2017

Association of Idaho Cities Municipal Utility Survey

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EXECUTIVE SUMMARY

The Association of Idaho Cities is pleased to share the 2017 Municipal Utility Survey. This report contains information on municipal services, billing, system characteristics and rates, asset management and fiscal capability assessments, and stormwater/drainage/floodway management.

The information is aggregated into easy-to-read summary tables that present averages, percentages, counts, and other data to capture survey question response. Results are categorized into five city populations:

- Less than 1,000;
- 1,000-4,999;
- 5,000-14,999;
- 15,000-49,999;
- 50,000 or more.

This is the second AIC utility survey. The first survey was conducted in 2010. With assistance from a Survey Focus Group, this second survey has been expanded to include additional topics relative to utility operations and financial capability analysis. A similar survey is planned for implementation once every five years.

Similar to the 2010 survey, AIC advises cities in the strongest possible terms NOT to set rates based solely on what another city charges. A city's utility rates must reflect the cost of operating the specific system in light of the unique needs for future expansion and system upgrades. Setting rates based on what other cities charge can be a tragically costly decision.

The following provides a brief summary of the findings from the 2017 Municipal Utility Survey regarding drinking water and waste/reclaimed water utilities.

Service Characteristics & Billing

- 156 of Idaho cities provide drinking water services; 81% of these serve populations that are less than 5,000;
- 114 of Idaho cities provide waste/reclaimed water treatment services; 75% of these serve populations that are less than 5,000;
- right-of-way use agreements between cities and privately held utilities, also called "franchise agreements," generally increase with city population size;
- 92% of the responding cities bill on a monthly basis;
- only 10% of the responding cities contract out billing services, and over 89% of the responding cities rely upon propriety billing software;
- roughly half of the responding cities require the account to be in the owner's name;
- a majority of responding cities do not have automatic CPI/Income rate adjustments;
- it is generally more common for larger cities to have rate revenue to debt service requirements;
- as city populations increase, the late fees charged generally increase;
- the overall percentage of connections served outside of corporate boundaries are quite small for both drinking water and waste/reclaimed water services.

Drinking Water

- average drinking water rates decrease as the cities' populations increase;
- average drinking water bills for residential customers were highest for smaller cities, at about $33, while bills were lower for cities with populations of 15,000 or more at about $16-$18;
- the average drinking water bill increase from 2010 to 2017 is $5.60, but for the varying city sizes, the increase ranges from $1.92 to $9.37;
- in general, as city size increases so does the percentage of responding cities that offer waivers;
- most Idaho cities increased their drinking water rates within the past 2 years, with capital improvements cited as the top reason, followed by treatment and labor costs;
- Idaho cities are generally split 50:50 between applying either a flat rate or an inclining block rate structure for drinking water;
- predominant drinking water sources for Idaho cities rely on various ground water aquifers (84% of cities; 95% of Idaho's population);
- as a city's population increases, the percentage of those served by drinking water outside of corporate boundaries decreases;
- the most challenging issues facing Idaho cities that provide drinking water services appear to shift from small customer base impacts for smaller cities to water curtailment risks and challenging regulatory requirements for larger cities.

Waste/Reclaimed Water

- average monthly bills for residential customers were generally similar among all city sizes, at about $36, with a slight average decrease to $28 for the largest cities; however, the range in bills decreased as city size increased;
- the average waste/reclaimed water bill increase from 2010 to 2017 is $5.93, but for the varying city sizes, the increase ranges from $2.73 to $11.60;
- most Idaho cities increased their waste/reclaimed water rates within the past 2 years, with treatment costs and capital improvements cited as the top reasons, followed by State or Federal mandates, inflation, and labor costs;
- the majority of Idaho cities charge a flat rate for waste/reclaimed water serviced (70%), followed by metered winter average consumption (16%);
- all Idaho cities providing waste/reclaimed water services treat to an equivalent "secondary" treatment standard; as a city's population increases more advanced or tertiary treatment is provided;
- as a city's population increases, the percentage of those served waste/reclaimed water service outside of corporate boundaries increases;
- the most challenging issues facing Idaho cities that provide drinking water services appear to shift from small customer base impacts for smaller cities to challenging regulatory requirements for larger cities; inadequate or aging infrastructure impacted the majority of cities statewide.

Special Thanks & Acknowledgements

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- City of Idaho Falls, Chris Fredericksen
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Responding Cities

Aberdeen
Albion
Ammon
Arco
Arimo
Ashton
Athol
Bancroft
Bellevue
Blackfoot
Bloomington
Boise
Bonners Ferry
Buhl
Burley
Butte City
Caldwell
Cambridge
Carey
Cascade
Castleford
Challis
Chubbuck
Clark Fork
Clayton
Clifton
Coeur d'Alene
Cottonwood
Council
Craigmont
Crouch
Dalton Gardens
Dayton
Deary
Declo
Dietrich
Dover
Downey
Driggs
Dubois
Eagle
East Hope
Eden
Elk River
Emmett
Fairfield
Ferdinand
Fernan Lake
Filer
Firth
Franklin
Fruitland
Garden City
Genesee
Glenns Ferry
Gooding
Grace
Grand View
Grangeville
Greenleaf
Hailey
Hansen
Harrison
Hauser
Hayden
Hazelton
Heyburn
Homedale
Horseshoe Bend
Huetter
Idaho Falls
Inkom
Iona
Island Park
Jerome
Juliaetta
Kamiah
Kellogg
Kendrick
Ketchum
Kimberly
Kooskia
Kootenai
Kuna
Lapwai
Lava Hot Springs
Leadore
Lewiston
Lewisville
Mackay
Malad
Malta
McCall
Melba
Menan
Meridian
Middleton
Minidoka
Montpelier
Moscow
Mountain Home
Moyie Springs
Mullan
Nampa
New Meadows
New Plymouth
Newdale
Nezperce
Notus
Oakley
Onaway
Orofino
Osburn
Paris
Parker
Parma
Paul
Payette
Peck
Pierce
Pinehurst
Placerville
Plummer
Pocatello
Ponderay
Post Falls
Potlatch
Preston
Priest River
Rathdrum
Reubens
Rexburg
Rigby
Riggins
Ririe
Roberts
Rupert
Salmon
Sandpoint
Shelley
Shoshone
Smelterville
Soda Springs
Spencer
Spirit Lake
St. Anthony
St. Maries
Star
Stateline
Stites
Sugar City
Teton
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Ucon
Victor
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Weiser
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Weston
White Bird
Wilder
Winchester
Worley

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CHAPTER 1: INTRODUCTION

In the spring of 2017 the Association of Idaho Cities (AIC) surveyed its member cities to obtain information about city services, utility rates and other system characteristics for water, waste/reclaimed water, and other city-provided services (e.g., stormwater, irrigation, electricity, street lights, and solid waste). Survey results can enable cities to compare their current policies and practices to other cities throughout the State. The survey results are also used by AIC to advocate for cities at the State level. AIC gives cities access to the aggregated results so they can use it as a reference and for comparison to other cities' rates and data.

This is the second AIC utility survey. The first survey was conducted in 2010. With assistance from a Survey Focus Group, this second survey has been expanded to include additional topics relative to utility operations and financial capability analysis. A similar survey is planned for implementation once every five years.

Similar to the 2010 survey, AIC advises cities in the strongest possible terms NOT to set rates based solely on what another city charges. A city's utility rates must reflect the cost of operating the specific system in light of the unique needs for future expansion and system upgrades. Setting rates based on what other cities charge can be a tragically costly decision.

Survey Response Characteristics

AIC sent out a preliminary survey to find out which services cities provide and which are provided by private or regional cooperatives, whether franchise agreements are in place, and to identify appropriate city staff contacts for the full survey. All 200 cities received the preliminary survey and 141, or 71%, responded.

The preliminary survey was followed by a full survey, also distributed to all 200 Idaho cities. The response to the full survey was also quite strong; representing approximately 92% of residents living in incorporated cities and 64% of all residents living in the State of Idaho. Idaho cities that responded to at least one of these surveys represent approximately 95% of all residents living in incorporated cities, and 66% of all residents living in the State of Idaho. Every county except Power had at least one responding city, and all cities with 5,000 or more residents, with the exception of one, responded.

Table 1.1: Response Rate of Both Preliminary and Full Surveys by City Size

Population	# of City Responses	# of Idaho Cities	Response Rate
<1,000	87	118	74%
1,000-4,999	45	49	92%
5,000-14,999	18	18	100%
15,000-49,999	8	8	100%
>50,000	7	7	100%
Total	165	200	83%

Overview: Idaho City Utility Services

Additional data on all Idaho cities can be obtained via other sources, depending on city size and which utilities are provided. The following tables draw upon responses to both the preliminary and full survey, and presents information obtained via a variety of sources for Idaho cities.

Table 1.2: City Provided Utility Services[1] – All Cities

Utility Service	<1,000	1,000-4,999	5,000-14,999	15,000-49,999	>50,000	Total
Total Cities	118	49	18	8	7	200
# Drinking Water	87	40	15	8	6	156
% Drinking Water	74%	82%	83%	100%	86%	78%
# Waste/Reclaimed	51[2]	35[3]	15[4]	7	6	114
% Waste/Reclaimed	43%	71%	83%	88%	86%	57%
# Electric	2	3	4	0	1	10
% Electric	1.7%	6.1%	22%	0%	14%	5%

Table 1.3: City Provided Services – Responding Cities

Services	<1,000	1,000-4,999	5,000-14,999	15,000-49,999	>50,000	Total
Total Cities Providing Drinking Water	87	40	15	8	6	156
Survey Response	44	28	8	4	4	88
% Drinking Water Response	51%	62%	53%	50%	67%	56%
Total Cities Providing Waste/Reclaimed Water	51	35	15	7	6	114
Survey Response	31	29	12	6	6	84
% Waste/Reclaimed Water Response	61%	83%	80%	86%	100%	74%
Total Cities Providing Electricity	2	3	4	0	1	10
Survey Response	1	2	4	0	1	8
% Electricity Response	50%	67%	100%	NA	100%	80%

Table 1.4: Other City Provided Services – Responding Cities

Services	<1,000	1,000-4,999	5,000-14,999	15,000-49,999	>50,000	Total
# Irrigation	15	13	7	2	4	41
% Irrigation	17%	29%	39%	25%	57%	25%
# Solid Waste	37	27	11	7	7	89
% Solid Waste	43%	60%	61%	88%	100%	54%
# Street Lights	49	31	13	6	6	105
% Street Lights	56%	69%	72%	75%	86%	64%

A right-of-way use agreement, also called a "franchise agreement" is a legal arrangement between a city and another entity in compensation for the use of the city's right-of-way. These agreements take the form of a contractual agreement negotiated individually by a city and a utility provider; codified by an

[1] Sources: Idaho Department of Environmental Quality, U.S. Environmental Protection Agency, Idaho Public Utilities Commission

[2] Twelve (12) (4) with Re-use/Land Application only.

[3] Four (4) with Re-use/Land Application only.

[4] Two (2) with Re-use/Land Application only.

ordinance approved by the city council. These agreements outline the fee charged, terms and conditions, as well as any special services provided by either party.

These agreements ensure that companies and their customers that receive special right-of-way use are paying fees to reimburse local governments for use of public property, and to prevent general taxpayers from subsidizing extraordinary use. The revenue provided to a city from this type of agreement is based on a percentage of the customer sales revenue for customers located within the city's incorporated boundaries. In light of Idaho's restrictive property tax system, the assessment of fees with these agreements has a beneficial impact on a city government's fiscal capacity. Table 1.5 demonstrates how the presence of these agreements generally increase with population size.

Table 1.5: Electricity and Natural Gas Utility Services[5] – All Cities

Services	<1,000	1,000-4,999	5,000-14,999	15,000-49,999	>50,000	Total
Electricity by City	2	3	4	0	1	10
Electricity by Other	116	46	14	8	6	190
Right-of-Way Use Agreement	42	28	15	7	5	97
% of Cities with Agreements	37%	62%	94%	88%	83%	51%
Natural Gas by Other	37	34	18	8	7	104
Right-of-Way Use Agreement	22	33	18	8	6	87
% of Cities with Agreements	59%	97%	100%	100%	86%	84%

Organization of this Report

The remainder of this report is organized into five chapters and a few appendices:

Chapter 2 discusses cities' utility billing in general. It includes topics related to the frequency of billing, how payments are accepted, overall fee structure, how fees are enforced, rate revenue data, and information related to billing credits and adjustments.

Chapter 3 contains drinking water rates and system characteristics. Rate topics include how each utility's rate structure is set up; when rates have changed; why they have changed; and the average bill for a resident based on a representative service amount. System characteristics address drinking water sources, connections, and water conservation management, among other issues.

Chapter 4 contains waste/reclaimed water rates and system characteristics. Rate topics include how each utility's rate structure is set up; when rates have changed; why they have changed; and the average bill for a resident based on a representative service amount. System characteristics address treatment technologies, connections, waste management, and other issues.

Chapter 5 contains solid waste collection rates and system characteristics. Rate topics include how each utility's rate structure is set up; when rates have changed; why they have changed; and the average bill for a resident based on a representative service amount. System characteristics address collection programs, accounts, and other issues.

[5] Source: the Idaho Public Utilities Commission, June 2017.

Chapter 6 reviews survey responses regarding asset management and financial capabilities. It summarizes how many cities have asset management plans for drinking water, waste/reclaimed water and solid waste collection. This chapter also includes a brief analysis of current financial impacts of water programs and financial capabilities for cities with populations greater than 5000.

Chapter 7 reviews survey responses regarding stormwater, floodway, and drainage regulations and policies. It summarizes how many cities have adopted ordinances or policies and how these programs and currently funded.

The report also includes an appendix with the survey instrument and elaborates on the methodology, the survey design, and data editing and analysis.

CHAPTER 2: UTILITY BILLING

The survey asked cities about the characteristics of how they bill their customers. Questions addressed the frequency of billing, how payments are accepted, overall rate structure, how fees are enforced, rate revenue data, and information related to billing credits and adjustments.

Billing

Most cities bill customers monthly, while only a few bill bi-monthly, quarterly or another timeframe. Most of the cities that did not bill monthly are less than 25,000 in population (Table 2.1). These results are similar to those obtained during the 2010 survey.

Table 2.1: Number of Cities per Billing Frequency – Responding Cities

Population	Monthly	Bi-Monthly	Quarterly	Other	n	# Responding vs. All
<1,000	49	0	2	2	55	63%
1,000-4,999	32	0	0	0	32	80%
5,000-14,999	14	1	0	0	15	100%
15,000-49,999	7	0	0	0	7	88%
>50,000	4	2	0	0	6	100%
Total	**106**	**3**	**2**	**2**	115	58%

Not surprisingly, all cities accept cash and check as a form of payment. Smaller cities predominately accept cash, check and money orders while larger cities have higher percentage rates of accepting all forms of payment (Table 2.2). The survey results show that as the population size increases, the payment methods accepted diversified. It is consistent, regardless of city size, that e-checks are the least likely accepted form of payment.

Table 2.2: Percentage of Cities that Accept Methods of Payment – Responding Cities

Population	Cash	Check	Credit Card/Debit	Money Order	Direct Deposit	e-Check	n	# Responding vs. All
<1,000	98%	100%	47%	91%	13%	21%	55	63%
1,000-4,999	100%	100%	84%	100%	13%	44%	32	80%
5,000-14,999	100%	100%	93%	87%	73%	73%	15	100%
15,000-49,999	100%	100%	100%	71%	57%	57%	7	88%
>50,000	100%	100%	100%	100%	50%	50%	6	100%

A few cities are starting to offer their customers paperless billing as a convenient way for customers to receive, view and pay bills while also "going green." The survey results indicate that the cities of various populations provide paperless billing (Table 2.3).

In addition to paperless billing, the survey also asked cities if they contract out billing. Results show that while relatively few cities contract out billing, many of the cities that do are less than 15,000 in population. A majority of cities that don't contract out billing (i.e., do their own billing) use proprietary software. The responses contained a wide variety of software identified. The most popular proprietary software includes Caselle (27%) and Black Mountain Software (23%), followed by QuickBooks (10%).

Table 2.3: Characteristics of Billing Services (# of Cities Using)

Population	Paperless	Contract Out	Proprietary	Non-Proprietary	n	# Responding vs. All
<1,000	10	3	44	5	55	63%
1,000-4,999	7	1	31	1	32	80%
5,000-14,999	13	7	15	0	15	100%
15,000-49,999	6	1	7	0	7	88%
>50,000	5	0	6	0	6	100%
Total	41	12	103	6	115	58%

Account Features & Fees

Roughly half of cities require the account to be in the property owner's name. Similarly, about half of cities will still charge either a base rate or a vacancy rate when a property is unoccupied.

Table 2.4: Characteristics of Account Features – Responding Cities

Population	Must be in Owner's Name	Close Account Upon Vacancy	Vacancy/Base Rate	Does Not Handle	n	# Responding vs. All
<1,000	49%	13%	53%	22%	55	63%
1,000-4,999	67%	27%	55%	18%	32	83%
5,000-14,999	40%	47%	60%	27%	15	100%
15,000-49,999	80%	60%	40%	0%	6	63%
>50,000	50%	33%	50%	17%	6	100%
Total	54%	25%	54%	20%	114	57%

When an account holder has a late payment or nonpayment, cities use several methods of enforcement to address the issue. Table 2.5 indicates the most popular method of enforcement is to disconnect or stop the utility service, followed by administering a late fee. Although not as highly used, liens on property, penalties, and collections are other commonly used methods.

While disconnecting the water service is a common method of enforcement, most cities wait three to four weeks before disconnecting a customer's service (Table 2.6). The average late fee appears to increase with population (Table 2.7).

Table 2.5: Percent of Responding Cities that Use Methods of Enforcement for Late or Nonpayment – Responding Cities

Population	Late Fee	Disconnections	Collections	County-Enforced Lien	Penalties & Interest	None	Other	n
<1,000	85%	94%	26%	60%	34%	2%	0%	53
1,000-4,999	84%	97%	41%	44%	41%	0%	0%	32
5,000-14,999	90%	100%	90%	30%	50%	0%	0%	10
15,000-49,999	57%	57%	29%	14%	43%	0%	0%	7
>50,000	100%	100%	100%	0%	67%	0%	0%	3
Total	84%	93%	39%	48%	39%	1%	0%	105

Table 2.6: Average Number of Days Prior to Late Fee – Responding Cities

Population	# Days	n
<1,000	26	43
1,000-4,999	27	28
5,000-14,999	13	5
15,000-49,999	32	4
>50,000	16	2
Statewide Average	23	82

Table 2.7: Average Late Fee – Responding Cities

Population	Late Fee	n
<1,000	$ 8.95	43
1,000-4,999	$ 7.58	32
5,000-14,999	$ 6.36	9
15,000-49,999	$ 10.25	5
>50,000	$ 22.50	2
Statewide Average	$ 11.13	91

Table 2.8: Percentage of Cities with Automatic CPI/Income Adjustment – Responding Cities

Population	Drinking Water	n	Waste/Reclaimed Water	n	Solid Waste	n	Electricity	n
<1,000	11%	44	21%	38	25%	20	0%	2
1,000-4,999	50%	28	17%	29	6%	17	25%	4
5,000-14,999	0%	8	0%	14	18%	11	0%	4
15,000-49,999	50%	4	29%	7	33%	6	0%	0
>50,000	0%	4	0%	5	0%	0	100%	1
Total	24%	88	16%	93	19%	54	18%	11

General Rate Characteristics

The survey results show that a majority of responding cities (76 percent for drinking water, 84 percent for wastewater, 81 percent for solid waste, and 82 percent for electricity) do not have an automatic CPI/Income adjustment (see Table 2.8, previous page). Cities with a population range of less than 1,000 and 1,000-4,999 represent the highest percentage of cities that automatically adjust rates for inflation. None of the cities with a population of 50,000 or more automatically adjust rates for inflation.

Cities sometimes require a percentage of their rate revenue to be used for debt service, which is a way to cover the payment of interest and principal on existing debt for water infrastructure projects. As Table 2.9 shows, it is more common for larger cities to have rate revenue to debt service requirements.

The following chapters highlight survey responses for the drinking water, waste/reclaimed water, and solid waste rates and system characteristics. Survey responses are presented in two main subsections for each system. The first sections, "Rates and Rate Changes," summarizes average rates, when cities have updated rates, how rates have changed, why they have changed, and pricing structures. The second sections, "System Characteristics," describes facilities, age, operational capacity, and types of programs.

Table 2.9: Percentage of Cities with Rate Revenue to Debt Service Requirements – Responding Cities

Population	# Cities	n	% of Respondents
<1,000	17	53	32%
1,000-4,999	14	32	44%
5,000-14,999	4	10	40%
15,000-49,999	2	4	50%
>50,000	2	2	100%
Total	39	101	39%

CHAPTER 3: DRINKING WATER SYSTEM RATES AND CHARACTERISTICS

Drinking Water Rates and Rate Changes

The survey asked cities what a residential customer would be charged for using 5,000 gallons of water as measured by a ¾″ meter. Even though cities may offer different pricing structures that do not fit this scenario, this amount was chosen as a way to provide a best possible comparison among cities. If cities did not have a pricing structure that would allow them to bill for exactly 5,000 gallons, they listed the lowest billing amount that would include the 5,000 gallons.

It's important to note that the values reported below are just that, values. Assumptions cannot be made that a utility is in the black or red. In other words, a lower value does not necessarily suggest a utility is meeting its maintenance and operating costs, and generating enough revenue to fund capital investments. Similarly, a higher value does not necessarily suggest a city is generating more revenue than it needs.

The average water bills for residential customers were higher for smaller cities, at about $33, while bills were lower for cities with populations of 15,000 or more at about $16-$18. This makes sense as the economy of scale is more favorable for larger utility operations.

Table 3.1: Average Drinking Water Rates[6]

Population	Rate	n	Standard Deviation	# Responding vs. All
<1,000	$ 33.16	47	$ 14.08	54%
1,000-4,999	$ 31.63	27	$ 10.77	68%
5,000-14,999	$ 27.94	9	$ 12.47	60%
15,000-49,999	$ 16.31	3	$ 3.96	38%
>50,000	$ 18.87	3	$ 9.60	50%
Statewide Average	$ 25.58	89	$ 10.18	57%

When adjusted for inflation, the average 2010 water bill for all city sizes is lower than the 2017 average (Table 3.2). Overall, the average increase from 2010 to 2017 is $5.60, but for the varying city sizes, the increase ranges from $1.92 to $9.37. It is important to note that every city of this size that participated in both the 2010 and 2017 survey reported a higher bill in 2017 than in 2010. Table 3.2 also shows the lowest and highest 2017 average bill for each city size.

Table 3.2: Drinking Water Rate Comparisons[7] - Responding Cities

Population	2010	2010 Low	2010 High	2017	2017 Low	2017 High	Average Change	n
<1,000	$ 32.60	$ 11.07	$ 59.40	$ 35.54	$ 3.75	$ 67.69	$ 2.94	28
1,000-4,999	$ 25.46	$ 10.26	$ 40.23	$ 27.38	$ 10.54	$ 45.80	$ 1.92	14
5,000-14,999	$ 22.69	$ 11.00	$ 39.96	$ 27.59	$ 8.05	$ 44.25	$ 4.89	12
15,000-49,999	$ 12.61	$ 3.00	$ 20.41	$ 21.98	$ 3.00	$ 48.58	$ 9.37	4
>50,000	$ 13.66	$ 5.00	$ 20.41	$ 22.53	$ 5.00	$ 48.58	$ 8.87	6
Total Average	$ 21.40			$ 27.00			$ 5.60	64

Generally speaking, as city size increases so does the percentage of cities that offer waivers for those cities that responded (Table 3.3). Cities had the opportunity to elaborate on what types of customers received waivers. Low income and senior citizens were by far the most frequent type of customer to receive a waiver (3.4). When it comes to credits and adjustments for drinking water billing errors and leaks, a majority of the responding cities provide adjustments for both.

[6] City's customer charge for 5,000 gallons of drinking water per month by a 3/4" meter (individual connection).
[7] 2010 rates were adjusted based on the "cost of living adjustments" (COLA) developed for the State of Idaho for PERSI retirees. The COLA is tied to the Consumer Price Index (CPI-U) for the 12 months ending August of the current year. From 2011 to 2017 the cumulative COLA was 7%. https://www.persi.idaho.gov/Retirees/COLA.cfm

Table 3.3: Percentage of Responding Cities That Provide Credits and Adjustments – Drinking Water

Population	Waivers for Certain Customers	Only Billing Errors	Only Leaks	Both Billing Errors and Leaks	None	Total Respondents
<1,000	10%	10%	0%	85%	5%	20
1,000-4,999	22%	11%	11%	61%	17%	18
5,000-14,999	60%	10%	0%	90%	0%	10
15,000-49,999	67%	0%	0%	100%	0%	3
>50,000	67%	33%	0%	67%	0%	3
Total	30%	11%	4%	78%	7%	54

Table 3.4: Special Customer Waivers and Discounts for Responding Cities – Drinking Water

Population	# Cities	n	Types	% of Respondents
<1,000	8	55	Seniors, Nonprofits, Low Income/Hardship, Extended Re-Payment Plans	15%
1,000-4,999	5	32	Low Income, Seniors, Circuit Breaker Customers	16%
5,000-14,999	6	10	Low Income, Seniors, Circuit Breaker Customers	60%
15,000-49,999	2	4	Seniors, Circuit Breaker	50%
>50,000	1	2	Low Income	50%
Total	22	103		21%

Most cities have changed their rates within the last three years. In fact, 2016 was the most common year for rate changes for all city sizes. Only six cities have not adjusted their rates within the last 10 years, and almost all cities increased their rates, with the exception of five. The results illustrate that customers can continue to expect water rates to increase over time.

Table 3.5: Average Rate Update and Percent Change for Responding Cities – Drinking Water

Population	Year	Mode	% Change	n	Comments
<1,000	2014	2016	7.7%	44	Note: 1 decreased rates
1,000-4,999	2015	2016	12%	23	Note: 3 decreased rates
5,000-14,999	2015	2016	10%	8	
15,000-49,999	2015	2015	4.2%	3	Note: 1 decreased rates
>50,000	2015	2015	4.8%	6	

The survey asked respondents to elaborate on why their rates increased and provided the option to select multiple reasons. Overall, inflation and capital improvement were the top reasons for rate changes. Treatment costs and labor costs also were significant reasons for rate changes. Table 3.6 further depicts the breakdown of the catalysts for change.

Table 3.6: Catalysts for Drinking Water Rate Changes – Responding Cities

Population	State or Federal Mandates	Inflation or CPI	Treatment Costs	Labor Costs	Capital Improvements	Reason Unknown	Other	n
<1,000	10%	40%	46%	36%	54%	8%	8%	50
1,000-4,999	14%	46%	36%	54%	57%	0%	4%	28
5,000-14,999	7%	47%	53%	47%	73%	0%	13%	15
15,000-49,999	0%	100%	40%	80%	60%	0%	0%	5
>50,000	25%	50%	25%	50%	75%	0%	0%	4
Total	11%	46%	43%	45%	59%	4%	7%	102

The pricing structure a city uses to bill its customers can influence how customers use water. For example, a flat rate provides no incentive to conserve water while an inclining block rate is going to be more expensive for a customer as the amount of water usage increases. Idaho cities are generally split 50:50 between applying either a flat rate or an inclining block rate structure. Only one city offers a declining block rate. The most common identified pricing structure in the "other" category is a base rate with usage rates added on. Based on this information, with the high incidence of cities using inclining block rates, it is clear that many cities charge customers more as their water usage increases.

Table 3.7: Drinking Water Rate Structures – Responding Cities

Population	Flat Rate	Inclining Block Rate(s)	Declining Block Rate(s)	Other	n
<1,000	48%	52%	0%	0%	50
1,000-4,999	48%	48%	0%	3%	29
5,000-14,999	50%	40%	0%	10%	10
15,000-49,999	0%	80%	20%	20%	5
>50,000	67%	33%	0%	0%	3
Total	46%	51%	1%	3%	97

Drinking Water System Characteristics

Ground water is the predominant source of drinking water within Idaho (Table 3.8), and provides drinking water for 95% of Idaho citizens.[8] Although the quality of ground water in Idaho is generally good, ground water quality monitoring by the IDEQ shows that in specific areas of the State, Idaho's ground water has been significantly degraded.[9] Nitrate is one of the contaminants responsible for this degradation and is one of the most widespread ground water contaminants in Idaho. High levels of nitrate in drinking water are associated with adverse health effects. Established drinking water standards include 10 milligrams of nitrate per liter of water (10 mg/L). The presence of arsenic is another concern in some regions for both drinking water and waste/reclaimed water facilities.

[8] IDEQ, http://www.deq.idaho.gov/water-quality/ground-water/, accessed July 31, 2017.
[9] IDEQ, http://www.deq.idaho.gov/media/1117846/ranking-list-2014.pdf, accessed July 31.2017.

Table 3.8 Drinking Water Source – Responding Cities

Population	Ground Water	Surface Water	n
<1,000	89%	22%	45
1,000-4,999	71%	32%	28
5,000-14,999	86%	21%	14
15,000-49,999	100%	0%	4
>50,000	100%	0%	5
Total	84%	23%	96

Cities were asked about the number of connections served both within and outside of the service territories for their residential, commercial, and industrial customers. Results of the responding cities demonstrate that as a city's population increases, the percentage of those served drinking water outside of corporate boundaries decreases.

Table 3.9: Drinking Water Service Connections – Responding Cities

Population	Residential - Inside	Residential - Outside	Commercial - Inside	Commercial - Outside	Industrial - Inside	Industrial - Outside	Total	Population of Responding Cities	#/Connection	n
<1,000	88.5%	4.1%	7.0%	0.18%	0.24%	0.01%	15,190	22,826	1.5	47
1,000-4,999	87.1%	3.9%	8.5%	0.36%	0.14%	0.02%	33,297	69,639	2.1	29
5,000-14,999	89.0%	1.7%	8.7%	0.43%	0.10%	0.05%	54,633	143,234	2.6	15
15,000-49,999	89.5%	0.3%	10.2%	0.00%	0.03%	0.00%	64,498	197,642	3.1	6
>50,000	91.5%	0.2%	8.2%	0.04%	0.02%	0.02%	107,433	290,920	2.7	4
Total	89.8%	1.2%	8.7%	0.2%	0.1%	0.0%	275,051	724,261	2.6	101

The percentage of cities that have water conservation, source water protection, and leak detection programs (Table 3.10) does not appear to the dependent upon population size. This suggests that Idaho cities are responding to regional or local drinking water resource issues as they consider the implementation of these types of programs.

Cities were also asked about the most challenging issues they faced as they provided drinking water services (Table 3.11). Challenges relating to a small customer base impacted more of the smaller cities, while the effects of inadequate or aging infrastructure impacted the majority of cities statewide. Responding cities with large populations (i.e., >50,000) indicated that they are facing challenges pertaining to water curtailment risks and challenging regulatory requirements.

Table 3.10: Drinking Water Service Programs – Responding Cities

Population	Conservation	Source Water Protection	Leak Detection	n
<1,000	19%	86%	51%	43
1,000-4,999	52%	72%	34%	29
5,000-14,999	29%	86%	50%	14
15,000-49,999	75%	50%	100%	4
>50,000	60%	60%	80%	5
Total	35%	79%	49%	95

Table 3.11: Drinking Water – Most Challenging Issues for Responding Cities

Population	Small Customer Base	Inadequate Funding	Limited Access to Additional Funding for Reserves	Inadequate Water Supply	Junior Water Rights or Risk of Curtailment	Inadequate Water Quality	Aging or Inadequate Infrastructure	Incomplete AsBuilt Plans or System Records	Limited Access to Operations and/or Maintenance Staff	Challenging Regulatory Requirements	Small Pool of Governing Officials	Limited Access to Certified Laboratory Services	Other:	n
<1,000	75%	55%	39%	11%	7%	2%	59%	25%	5%	34%	20%	5%	0%	44
1,000-4,999	39%	57%	25%	4%	18%	0%	75%	36%	18%	36%	11%	7%	7%	28
5,000-14,999	21%	29%	0%	14%	21%	0%	79%	29%	14%	14%	0%	0%	0%	14
15,000-49,999	0%	40%	20%	20%	0%	20%	60%	0%	0%	60%	0%	0%	0%	5
>50,000	0%	0%	0%	25%	75%	0%	75%	25%	50%	100%	0%	25%	25%	4
Total	49%	48%	26%	11%	15%	2%	67%	27%	12%	36%	13%	5%	3%	95

CHAPTER 4: WASTE/RECLAIMED WATER SYSTEM RATES AND CHARACTERISTICS

Waste/Reclaimed Water Rates and Rate Changes

Similar to drinking water service, the survey asked cities what a residential customer would be charged for a similar volume of wastewater. Cities that provide wastewater/reclaimed water service were asked to "please provide the city's average monthly residential wastewater charge for a customer that uses an average 5,000 gallons of drinking water per month during the winter months." Even though cities may offer different pricing structures that do not fit this scenario, this amount was chosen as a way to provide a best possible comparison among cities. If cities did not have a pricing structure that would allow them to bill for exactly 5,000 gallons, they listed the lowest billing amount that would include the 5,000 gallons.

The average monthly bill for a residential customer was generally similar among all city sizes, at about $36, with a slight average decrease to $28 for the largest cities. However, the range in bills decreased as

city size increased. Similar to the situation for drinking water services, this makes sense as the economy of scale is more favorable for larger utility operations.

Table 4.1: Average Waste/Reclaimed Water Rates – Responding Cities

Population	Rates	n	Standard Deviation	# Responding vs. All
<1,000	$ 38.38	31	$ 15.70	100%
1,000-4,999	$ 39.47	26	$ 16.47	87%
5,000-14,999	$ 42.10	12	$ 16.88	100%
15,000-49,999	$ 35.85	5	$ 10.48	71%
>50,000	$ 27.83	5	$ 6.27	83%
Statewide Average	$ 36.73	79	$ 13.16	92%

When adjusted for inflation, the average 2010 rate for all city sizes is lower than the 2017 average (Table 4.2). Overall, the average increase from 2010 to 2017 is $5.93; but for the varying city sizes the increase ranges from $2.73 to $11.60. It is important to note that every city of this size that participated in both the 2010 and 2017 survey reported a higher bill in 2017 than in 2010. Table 3.15 also shows the lowest and highest 2017 average bill for each city size.

Table 4.2: Waste/Reclaimed Water Rate Comparisons[10] - Responding Cities

Population	2010	2010 Low	2010 High	2017	2017 Low	2017 High	Average Increase	n
<1,000	$ 31.83	$ 14.31	$ 48.60	$ 43.43	$ 21.73	$ 75.00	$ 11.60	16
1,000-4,999	$ 43.24	$ 18.36	$ 87.26	$ 46.09	$ 20.67	$ 80.94	$ 2.85	14
5,000-14,999	$ 28.30	$ 9.00	$ 49.14	$ 35.03	$ 9.00	$ 66.18	$ 6.73	10
15,000-49,999	$ 19.58	$ 3.00	$ 36.29	$ 22.31	$ 3.00	$ 46.30	$ 2.73	4
>50,000	$ 21.76	$ 6.00	$ 36.29	$ 27.52	$ 6.00	$ 46.30	$ 5.76	7
Total	$ 28.94	$ 10.13	$ 51.52	$ 34.87	$ 12.08	$ 62.94	$ 5.93	51

Also, similar to drinking water services, most cities have changed their waste/reclaimed water rates within the last three years. As for drinking water, 2016 was the most common year for rate changes for all city sizes. Only two cities have not adjusted their rates within the last 10 years, and almost all cities increased their rates, with the exception of one. The results illustrate that customers can continue to expect waste/reclaimed water rates to increase over time.

[10] 2010 rates were adjusted based on the "cost of living adjustments" (COLA) developed for the State of Idaho for PERSI retirees. The COLA is tied to the Consumer Price Index (CPI-U) for the 12 months ending August of the current year. From 2011 to 2017 the cumulative COLA was 7%. https://www.persi.idaho.gov/Retirees/COLA.cfm

Table 4.3: Average Rate Update and Percent Change for Responding Cities – Waste/Reclaimed Water

Population	Year	Mode	% Change	n	Comments
<1,000	2013	2016	21%	28	
1,000-4,999	2015	2016	11%	22	Note: 1 decreased rates
5,000-14,999	2015	2016	12%	11	
15,000-49,999	2016	2016	5.5%	5	
>50,000	2016	2016	6.4%	5	

Respondents were asked to elaborate on why their waste/reclaimed water rates increased and were provided the option to select multiple reasons. For waste/reclaimed water rate changes the treatment costs and capital improvements were the top reasons for rate changes. State or federal mandates, inflation or CPI, and labor costs caused increased rates for cities with larger populations. Table 4.4 further depicts the breakdown of the catalysts for change.

Table 4.4: Catalysts for Waste/Reclaimed Water Rate Changes – Responding Cities

Population	State or Federal Mandates	Inflation or CPI	Treatment Costs	Labor Costs	Capital Improvements	Reason Unknown	Other	n
<1,000	27%	16%	51%	43%	70%	3%	5%	37
1,000-4,999	39%	46%	54%	39%	64%	4%	4%	28
5,000-14,999	21%	36%	86%	57%	79%	0%	7%	14
15,000-49,999	83%	83%	83%	83%	67%	0%	0%	6
>50,000	80%	60%	100%	60%	100%	0%	0%	5
Total	37%	36%	62%	48%	71%	2%	4%	90

Pricing structures for direct consumption of water can more easily influence customers' use of drinking water. However, waste/reclaimed water treatment costs do not easily translate to conservation incentives. Even so, the installation of more efficient potable water fixtures such as toilets and shower heads in newer housing stock have led to significant reductions in domestic water discharges to waste/reclaimed water systems. And, these reductions in treated water volumes have led to significant utility savings. As for the application of cost-causation and associated rate structures for waste/reclaimed water systems in Idaho, the most common type of pricing structure for medium to smaller cities is a non-metered flat rate, followed by metered average winter consumption, metered monthly and metered average annual discharge. Based on this information, it is clear that many of the largest cities charge customers more as their waste/reclaimed water treatment demands increase.

Table 4.5: Waste/Reclaimed Water Rate Structures – Responding Cities[11]

Population	Non-Metered	Metered Winter Average Consumption	Metered Monthly Discharge	Metered Average Drinking Water	n
<1,000	92%	3%	5%	0%	37
1,000-4,999	75%	14%	4%	7%	28
5,000-14,999	29%	50%	7%	14%	14
15,000-49,999	60%	0%	40%	0%	5
>50,000	0%	40%	0%	60%	5
Total	70%	16%	7%	8%	89

Waste/Reclaimed System Characteristics

EPA has established minimum, technology-based requirements for publicly owned treatment works (POTWs). These minimum requirements are called "secondary" treatment standards and include five-day biochemical oxygen demand (BOD5), total suspended solids (TSS) removal, and pH. In addition, secondary treatment standards provide alternative standards established on a case-by-case basis for treatment facilities considered equivalent to secondary treatment (trickling filters and waste stabilization ponds).

Idaho cities with waste/reclaimed water treatment plants must comply with these minimum requirements when seeking authorizations to discharge to surface water bodies. Other methods to dispose of municipal waste include evaporation ponds, land application for agricultural crops, and re-use of treated waste water for irrigation or other non-potable uses. As city size increases, cities provide more advanced or tertiary treatment (Table 4.6).

Table 4.6: Waste/Reclaimed Water Treatment Technology – Responding Cities

Population	Primary	Secondary	Tertiary	Nitrogen Removal	Phosphorus Removal	Land-Application	Evaporation	n	# Dischargers
>1,000	100%	81%	19%	13%	6%	37%	10%	30	16
1,000-4,999	100%	94%	69%	31%	25%	23%	15%	26	16
5,000-14,999	100%	100%	44%	33%	56%	9%	9%	11	9
15,000-49,999	100%	100%	100%	100%	100%	25%	0%	4	3
>50,000	100%	100%	100%	100%	100%	40%	0%	5	3
Total	100%	91%	51%	34%	34%	28%	11%	76	47

Cities were asked about the number of connections served both within and outside of the service territories for their residential, commercial, and industrial customers. Results of the responding cities demonstrate that as a city's population increases, the percentage of those served with waste/reclaimed water service outside of the corporate boundaries appear to increase. While this appears to be

[11] Some of the responding cities are served by districts. These responses are also included here.

different from the trend shown for drinking water services outside of corporate boundaries, the overall percentage of connections served outside of corporate boundaries are quite small for both drinking water and waste/reclaimed water services.

Table 4.7: Waste/Reclaimed Water Service Connections – Responding Cities

Population	Residential - Inside	Residential - Outside	Commercial - Inside	Commercial - Outside	Industrial - Inside	Industrial - Outside	Total	Population of Responding Cities	#/Connection	n
<1,000	84.1%	7.6%	7.7%	0.24%	0.34%	0.02%	10,152	16,221	1.6	34
1,000-4,999	87.8%	2.6%	8.9%	0.45%	0.17%	0.03%	25,560	64,489	2.5	27
5,000-14,999	88.7%	1.3%	9.7%	0.09%	0.12%	0.03%	47,001	116,927	2.5	13
15,000-49,999	77.6%	14.0%	8.4%	0.00%	0.02%	0.00%	65,983	170,114	2.6	5
>50,000	88.3%	6.5%	5.1%	0.00%	0.04%	0.00%	114,103	290,920	2.5	4
Total	85.5%	7.1%	7.2%	0.1%	0.1%	0.0%	262,799	658,671	2.5	83

With increases in population, the percentage of cities that have industrial wastewater pretreatment program increases (Table4.8). Cities of less than 1,000 had the lowest percentage at 5 percent and cities with a population of 5,000-14,999 and 50,000 or more had the highest percentages (i.e., 85% and 100% respectively). All significant industrial users are required to comply with pretreatment requirements so as to protect POTWs. And, POTWs are required to conduct an inventory once every permit cycle if no significant industrial users or processes have been previously identified, and annually if their presence is already documented. At this point in time there are twelve EPA-approved Pretreatment Programs in Idaho including: Boise, Caldwell, Nampa, Coeur d'Alene, Sandpoint, Burley, Twin Falls, Pocatello, Lewiston, Blackfoot, Idaho Falls and Rexburg.[12]

Requirements to the treatment and disposal of biosolids apply to all POTWs. However, many smaller systems are not faced with the need to actively manage biosolids. In general, as city size increases the percentage of cities that actively apply biosolids also increases.

Table 4.8: Waste/Reclaimed Water Service Programs – Responding Cities[13]

Population	Pretreatment	BioSolids	n
>1,000	5%	8%	39
1,000-4,999	35%	15%	26
5,000-14,999	85%	23%	13
15,000-49,999	40%	100%	5
>50,000	100%	60%	5
Total	33%	20%	88

Cities were asked about the most challenging issues they faced as they provided waste/reclaimed water services (Table 4.9). Similar to drinking water services, challenges relating to a small customer base

[12] Personal communication from Michael Le, EPA Region 10 Pretreatment/Biosolids Coordinator on August 7, 2017.
[13] Some of the responding cities are served by districts. These responses are also included here.

impacted more of the smaller cities, while responding cities with medium and large populations (i.e., >15,000) indicated that they are facing challenges pertaining to regulatory requirements. In general, the impacts of inadequate or aging infrastructure impacted the majority of cities statewide.

Table 4.9: Waste/Reclaimed Water – Most Challenging Issues for Responding Cities

Population	Small Customer Base	Inadequate Funding	Limited Access to Additional Funding for Reserves	Inadequate Water Supply	Aging or Inadequate Infrastructure	Incomplete AsBuilt Plans or System Records	Limited Access to Operations and/or Maintenance Staff	Challenging Regulatory Requirements	Small Pool of Governing Officials	Limited Access to Certified Laboratory Services	Other:	n
<1,000	64%	53%	33%	3%	47%	28%	19%	53%	22%	8%	6%	36
1,000-4,999	50%	69%	35%	0%	58%	23%	23%	62%	23%	8%	4%	26
5,000-14,999	29%	7%	7%	0%	79%	43%	14%	50%	7%	0%	0%	14
15,000-49,999	0%	43%	29%	14%	57%	29%	0%	100%	14%	0%	0%	7
>50,000	0%	20%	20%	0%	60%	20%	40%	80%	0%	20%	0%	5

CHAPTER 5: SOLID WASTE COLLECTION RATES AND CHARACTERISTICS

Solid Waste Rates and Rate Changes

The survey asked cities what a residential solid waste customer would be charged for a 65-gallon trash bin as a way to provide a comparison among cities. The relative rates across the State, and among various city sizes, was quite similar.

Table 5.1: Average Solid Waste Collection Rates – Responding Cities

Population	Monthly Rate	n	Standard Deviation
<1,000	$ 16.91	20	$ 5.67
1,000-4,999	$ 14.62	15	$ 6.93
5,000-14,999	$ 15.33	6	$ 2.82
15,000-49,999	$ 18.41	5	$ 6.02
>50,000	$ 13.98	5	$ 3.47
Statewide Average	$ 15.85	51	$ 4.98

When adjusted for a cost of living increase the average 2010 rate of cities that responded to both the 2010 survey and the 2017 survey is generally lower than the 2017 average (Table 5.2). There are a few exceptions, however. Ten of the responding cities show that the 2017 rates are less than the 2010 when adjusted for the cost of living increase. Overall, the average increase from 2010 to 2017 is $2.14.

Table 5.2: Solid Waste Collection Rate Comparisons for Responding Cities

2010	2010 Low	2010 High	2017	2017 Low	2017 High	Average Increase	n
$ 14.19	$ 5.21	$ 20.04	$ 16.32	$ 8.00	$ 28.49	$ 2.14	33

Also, similar to water services, most cities have increased their solid waste collection rates within the last three years. The most common year for rate changes for all city sizes was 2016. Only two cities that responded have not adjusted their rates within the last 3 years, and almost all cities increased their rates, with the exception of one. The results illustrate that customers can continue to expect solid waste collection rates to increase over time.

Table 5.3: Average Rate Update and Percent Change for Responding Cities – Solid Waste Collections

Year	Mode	% Change	n	Comments
2015	2016	7.4%	41	Note: 1 decreased rates

The survey asked respondents to elaborate on why their solid waste collection rates increased and were provided the option to select multiple reasons. For solid waste collection the top reasons for rate changes included inflation or CPI, contract negotiations, and labor costs (Table 5.4).

Table 5.4: Catalysts for Solid Waste Rate Changes – Responding Cities

State or Federal Mandates	Inflation or CPI	Treatment Costs	Labor Costs	Capital Improvements	Contract Negotiated Increases	Other	n
33%	81%	23%	71%	39%	81%	3%	31

Cities were asked about the solid waste collection rate structures. The majority of the responding cities charge a flat monthly rate with a volume limit.

Table 5.5: Solid Waste Collection Rate Structures – Responding Cities

Flat Rate – No Volume Limit	Flat Rate – Volume Limit	Per Service[14]	n
21%	69%	8%	51

Solid Waste System Characteristics

Solid waste collection within Idaho is characterized by municipal collection, either under contract or with a city-owned fleet, with waste delivery to county-owned and operated landfills. Supplemental services that divert waste into other programs (i.e., recycling, hazardous waste collections, and compost) are provided to residents within 47% of the responding cities with populations greater than 5,000, and 9% of those with populations less than 5,000. Large object collection services are provided by roughly two-thirds of those cities that responded to the survey.

Table 5.6: Solid Waste Collection Services – Responding Cities

Population	Additional Trash/Large Object	Waste Diversion[15]	n
<5,000	60%	9%	35
>5,000	79%	47%	19
Total	67%	22%	54

[14] Includes trash, recycling, hazardous waste, and large object collections.
[15] Recycling and hazardous waste collections.

Cities were asked about the number of collection accounts within and outside of the service territories for their residential, commercial, and industrial customers.

Table 5.7: Solid Waste Collection Accounts – Responding Cities

Population	Residential - Inside	Residential - Outside	Commercial - Inside	Commercial - Outside	Industrial - Inside	Industrial - Outside	Population of Responding Cities	n
>1,000	4,637	126	497	3	13	1	9,929	21
1,000-4,999	11,215	1,419	1,124	9	5	4	30,937	13
5,000-14,999	27,561	56	1,601	4	15	0	56,193	6
15,000-49,999	61,315	0	5,774	0	0	0	170,114	5
>50,000	96,277	0	4,890	0	27	0	290,920	4
Total	201,005	1,601	13,886	16	60	5	558,093	49

Cities were asked about the most challenging issues they faced as they provided solid waste collection services (Table 5.8). Similar to other utility services, challenges relating to a small customer base impacted many of the responding cities, followed by inadequate or aging infrastructure.

Table 5.8: Solid Waste Collection – Most Challenging Issues for Responding Cities

Small Customer Base	Inadequate Funding	Limited Access to Additional Funding for Reserves	Aging or Inadequate Infrastructure	Limited Access to Operations and/or Maintenance Staff	Challenging Regulatory Requirements	Small Pool of Governing Officials	Limited Access to Landfill Facilities	Other:	n
69%	24%	9%	47%	15%	18%	3%	12%	24%	34

CHAPTER 6: ASSET MANAGEMENT AND FINANCIAL CAPACITY

Asset Management

Many cities are starting to use asset management with the objective of managing infrastructure capital assets to minimize the total cost of owning and operating the assets, while delivering the desired services. This survey examines how many Idaho cities are utilizing asset management for drinking water, waste/reclaimed water, solid waste, and electricity (Table 6.1). The presented results only include information from the cities that responded to the 2017 survey, and do not include cities who responded "not applicable" (N/A).

In general, as the city size increases, the percentage of cities with asset management plans also increases. All cities that responded with populations of 50,000 or more have a waste/reclaimed water asset management plan, 80% have drinking water asset management plans, and 100% have electricity asset management plans. However, the percentages of cities with asset management programs drop off significantly for cities with populations less than 50,000 for most services other than electricity.

Table 6.1: Cities with Asset Management Programs – Responding Cities

Population	Drinking Water	n	Waste/ Reclaimed Water	n	Solid Waste	n	Electricity	n
<1,000	30%	47	31%	39	4%	25	0%	3
1,000-4,999	48%	27	44%	27	33%	15	50%	4
5,000-14,999	64%	14	64%	14	29%	7	100%	2
15,000-49,999	50%	4	33%	6	0%	6	0%	0
>50,000	80%	5	100%	5	40%	5	100%	1

Cities were asked about their operational capacities at this time for drinking and waste/reclaimed water facilities. A review of system's operational capacity, in light of population or growth in services, is an important facility planning tool for Idaho cities. Survey results demonstrate that most cities' current operational capacities are between 50% and 85% at this time for both drinking and waste/reclaimed water systems. However, the relatively high percentage of those cities that responded with operational capacity at 80% or more suggests that, for those cities with an increasing number of connections, significant capital investments are likely needed to accommodate future system growth.

Table 6.2: 2017 Operational System Capacities for Drinking Water – Responding Cities

Population	Average	Max	Standard Deviation	Mode	n >= 80%	Total n
<1,000	65%	120%	26%	50%	9 or 32%	28
1,000-4,999	65%	100%	21%	50%	7 or 33%	21
5,000-14,999	68%	95%	19%	75%	3 or 27%	11
15,000-49,999	70%	92%	21%	NA	1 or 33%	3
>50,000	67%	93%	21%	NA	1 or 25%	4

Table 6.3: 2017 Operational System Capacities for Waste/Reclaimed Water – Responding Cities

Population	Average	Max	Standard Deviation	Mode	n >= 80%	Total n
<1,000	63%	100%	27%	80%	12 or 46%	26
1,000-4,999	63%	100%	24%	50%	8 or 35%	23
5,000-14,999	73%	180%	38%	50%	2 or 18%	11
15,000-49,999	51%	63%	15%	NA	0 or 0%	4
>50,000	62%	90%	21%	NA	1 or 20%	5

There appears to be no strong correlation between city size and the average age of water or waste/reclaimed water facilities (i.e., based on the year of the most recent significant upgrade). However, up to 30% of cities with populations of less than 5,000 do not expect to reach full capacity, most likely due to population decreases.

Table 6.4: Average Age of Facility and/or Major Upgrades – Responding Cities

Population	Drinking	Years	n	Waste/Reclaimed	Years	n
<1,000	1995	22	31	1993	28	28
1,000-4,999	1989	28	19	1990	27	19
5,000-14,999	1995	22	8	1990	27	9
15,000-49,999	1990	27	4	1996	21	4
>50,000	1981	36	3	2005	12	4

Table 6.5: Average Time until System is at Full Capacity – Responding Cities

Population	Drinking	Unknown	Never	n	Waste/Reclaimed	Never	n
<1,000	2027	48%	22%	27	2037	17%	12
1,000-4,999	2042	17%	30%	23	2044	25%	12
5,000-14,999	2037	9%	0%	11	2033	0%	10
15,000-49,999	2035	0%	0%	4	2039	0%	4
>50,000	2045	0%	0%	4	2034	0%	3

Financial Capability

Just over half of Idaho cities provide waste/reclaimed water treatment facilities, while 78% provide drinking water. Further, over 99% of all Idaho cities are faced with drainage and stormwater management for their impervious surfaces, including streets, parking lots, and buildings. These varied responsibilities require Idaho cities to play important roles as the primary implementers of the Clean Water Act and the Safe Drinking Water Act.

Most, if not all, Idaho cities are facing complex water quantity and quality issues that may be heightened by the need to address population growth or decline, source water supply needs or quality, challenging regulations, and aging infrastructure. To address these complex issues, Idaho cities make investments in the waste/reclaimed water, drinking water, and drainage infrastructure through capital projects that may rehabilitate existing systems, improve operation and maintenance, or be implemented to address emerging regulatory requirements. However, Idaho cities and their utility customers frequently find themselves facing difficult economic challenges with limited financial capabilities.

As part of the survey cities were asked about the number of residential drinking water connections, annual revenue, and total debt. With these figures AIC was able to calculate the ratio of debt to annual revenue per residential connection for each of the responding cities. The aggregated results of this review are presented in Table 4.6. Results of these simple comparisons show how, in general, cities with smaller populations carry more debt (i.e., as described by the “debt to revenue” ratio, per residential connection.

Table 6.6: Debt to Revenue Ratio per Residential Connection for Responding Cities – Drinking Water

Population	Average Annual Revenue per Residential Connection	Average Total Debt per Residential Connection	Debt to Revenue Ratio	n
<1,000	$ 476	$1,354	2.8	42
1,000-4,999	$ 398	$1,100	2.8	29
5,000-14,999	$ 513	$1,815	3.5	10
15,000-49,999	$ 472	$ 354	0.8	5
>50,000	$ 267	$ 34	0.1	3
Statewide Average	$ 425	$ 932	2.2	89

Cities were asked about the number of residential waste/reclaimed water connections, annual revenue, and total debt as well. The ratio of debt to annual revenue per residential connection for responding cities is presented in Table 6.7. Similar to drinking water services, results of these simple comparisons suggest that the cities with smaller populations are shouldering more debt per residential connection.

Table 6.7: Debt to Revenue Ratio per Residential Connection for Responding Cities – Waste/Reclaimed Water

Population	Average Annual Revenue per Residential Connection	Average Total Debt per Residential Connection	Debt to Revenue Ratio	n
<1,000	$ 427	$ 1,683	3.9	34
1,000-4,999	$ 811	$ 2,719	3.4	28
5,000-14,999	$ 692	$ 2,225	3.2	13
15,000-49,999	$ 541	$ 1,201	2.2	5
>50,000	$ 354	$ 263	0.7	4
Statewide Average	$ 565	$ 1,618	2.9	84

The ratio of debt to annual revenue per residential account for responding cities for solid waste collection is presented in Table 6.8. Due to the small number of responding cities, these results are aggregated in to a statewide average.

Table 6.8: Debt to Revenue Ratio per Residential Account for Responding Cities – Solid Waste

Average Revenue	Average Debt	Debt to Revenue Ratio	n
$ 229.30	$ 20.31	0.09	29

Guidance issued by the EPA in 2014[16] recognizes and seeks to address these financial capability challenges and suggests ways the State might develop and implement new approaches for Idaho cities to achieve water quality goals at lower costs and in ways that address the most pressing problems first. This EPA guidance recognized that long-term approaches to meeting Clean Water Act objectives should be sustainable and within a local government or authority's financial capability; and that financial capability includes Safe Drinking Water Act obligations as well. In short, EPA recognized that the

[16] Financial Capability Assessment Framework for Municipal Clean Water Act Requirements. US EPA. 2014. https://www.epa.gov/sites/production/files/2015-10/documents/municipal_fca_framework.pdf , accessed 8/17/2017.

financial capability of Idaho cities and other relevant factors are important to consider when EPA or the State develop schedules for infrastructure project requirements in permits or enforcement actions to help protect human health and the environment.

A "financial capability assessment" can be used by Idaho cities, EPA, and States authorized as Clean Water Act permitting authorities. A process for evaluating parameters that measure an Idaho city's financial capability was outlined in a 1997 EPA guidance.[17] A two-phase approach was presented. The first phase identified the financial impact of costs (i.e., utility rates) on individual households as a percentage of local median household income (MHI). The value for this indicator characterizes whether the costs impose a "low," "medium," or "high" financial impact on residential users.

Table 6.9: Residential Financial Capability Indicators

Financial Impact	Low	Mid-Range	High
Residential Indicator (% of MHI)	< 1.0%	1.0 - 2.0%	> 2.0%

The second phase identified six factors used to evaluate debt, socioeconomic, and financial conditions that affect a city's financial capability. These indicators characterize a city's financial capability as "strong," "mid-range," or "weak."

Table 6.10: City Financial Capability Indicators

Debt Indicators		Strong	Mid-Range	Weak
1.	Bond Ratings (General Obligation &/or Revenue Bond Fund)	AAA, AA, A	BBB	BB, B, CCC, CC, C, D
2.	Overall Net Debt as % of Full Market Property Value	< 2%	2 - 5%	> 5%

Socioeconomic Indicators		Strong	Mid-Range	Weak
3.	Unemployment Rate	More than 1% below National Average	+/- 1% of the National Average	More than 1% above the National Average
4.	Median Household Income (MHI)	More than 25% above Adjusted National MHI	+/- 25% of the Adjusted MHI	More than 25% below Adjusted National MHI

Financial Management Indicators		Strong	Mid-Range	Weak
5.	Property Tax Revenue Collection Rate	> 98%	94 - 98%	< 94%
6.	Property Tax Revenues as % of Full Market Property Value	> 2%	2 - 4%	> 4%

[17] Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development. US EPA. 1997. https://www3.epa.gov/npdes/pubs/csofc.pdf, accessed 8/17/2017.

As part of the 2017 survey AIC obtained medium household income (MHI) for those cities with populations greater than 5,000 from the US Census. In conjunction with reported drinking water and waste/reclaimed water rates from survey respondents, AIC was able to compare the combined rates to the 2016 MHI (Table 6.11). The percent population change between 2010 and 2016 is also presented for these cities for additional insight.

Please note that 16 out of the 19 responding cities have either "high" or "mid-range" financial impact due to the current utility rates for drinking water and waste/reclaimed water. Also, of the five cities with a "high" financial impact due to rates, two are also experiencing population decreases – which is likely creating additional fiscal challenges for these cities and their residents.

As with other data presented in this report, please remember that these responses are voluntary and are not representative of a statistically significant or scientifically valid data set. Furthermore, it is not possible to draw conclusions about similar cities that did not participate. However, this type of information for individual cities should be carefully assessed in light of facility and community planning.

Table 6.11: Residential Financial Capabilities for Responding Cities

	2016 Population	% Population Change (2010-16)	Combined Annual Drinking & Waste/Reclaimed Rates	Medium Household Income (MHI)	% of MHI
City 1	7984	8.4%	$ 1,380	$ 31,979	4.3%
City 2	25322	6.4%	$ 1,080	$ 34,121	3.2%
City 3	5397	-2.0%	$ 912	$ 28,988	3.1%
City 4	5136	-7.5%	$ 936	$ 34,468	2.7%
City 5	10464	1.2%	$ 867	$ 35,820	2.4%
City 6	11602	5.7%	$ 700	$ 38,086	1.8%
City 7	14644	5.2%	$ 896	$ 50,368	1.8%
City 8	11890	1.3%	$ 623	$ 38,406	1.6%
City 9	31865	15.6%	$ 713	$ 49,045	1.5%
City 10	7414	-0.3%	$ 588	$ 41,250	1.4%
City 11	60211	6.0%	$ 618	$ 44,580	1.4%
City 12	53149	14.9%	$ 546	$ 41,048	1.3%
City 13	48260	9.4%	$ 480	$ 41,927	1.1%
City 14	91382	12.0%	$ 432	$ 40,060	1.1%
City 15	17902	3.9%	$ 565	$ 57,417	1.0%
City 16	95623	27.3%	$ 616	$ 63,023	1.0%
City 17	7168	29.8%	$ 421	$ 45,391	0.9%
City 18	13840	-2.6%	$ 395	$ 46,739	0.8%
City 19	8218	6.9%	$ 517	$ 61,549	0.8%

CHAPTER 7: STORMWATER, FLOODWAY, DRAINAGE

Most Idaho cities are faced with drainage and stormwater management for their impervious surfaces, including streets, parking lots, and buildings. Additionally, all Idaho cities are required to comply with federal stormwater permitting requirements for construction sites greater than 1 acre and for city

owned or operated industrial facilities regulated under the Multi-Sector General Permit for Industrial Stormwater Discharges.

Idaho cities were asked a few questions in the 2017 survey to help AIC assess how our member cities are grappling with these and other emerging drainage or floodway management and compliance issues. Questions included whether policies or ordinances have been adopted in order to guide city staff, officials, or residents regarding management practices for stormwater/drainage, floodways/floodplains, construction site erosion, and new development or redevelopment (i.e., permanent drainage controls) (Table 7.1). The survey also asked whether the city had been designated as a municipal separate storm sewer system (MS4). Other questions focused on funding sources for city-owned facilities (Table 7.2) and city-regulated drainage management programs (Table 7.3). AIC also requested a list of the most challenging issues facing Idaho cities with regards to stormwater or drainage management (Table 7.4).

Survey results show that:

- responding Idaho cities with populations greater than 5,000 have consistently adopted these types of policies or ordinances, while those smaller than 5,000 have not;
- funding sources for most Idaho cities for both city-owned and city-regulated drainage management rely heavily on general funds and utility fees paid for waste/reclaimed water;
- as the city population increases, more Idaho cities also recover some city-regulated costs through permit fees; and,
- the two 'most challenging' issues facing Idaho cities for stormwater/drainage management include insufficient funding and aging or inadequate infrastructure.

Table 7.1: Policies or Ordinances Adopted by City Size – Responding Cities

Population	Stormwater/Drainage	Floodway/Floodplain	Construction Site Erosion Control	New Development /Redevelopment	MS4?[18]	n
>1,000	24%	49%	22%	31%	0%	59
1,000-4,999	44%	65%	38%	53%	0%	34
5,000-14,999	73%	87%	60%	100%	13%	15
15,000-49,999	100%	100%	100%	100%	67%	6
>50,000	100%	100%	100%	100%	83%	6
Total	43%	63%	39%	53%	9%	120

Table 7.2: City-Owned Facility Operation, Maintenance, and Drainage Management Funding Sources – Responding Cities

Population	General Fund	Street Department	Property Taxes	Utility Fees	Special Grants	Special Assessments	Conventional Debt	Unknown	n
>1,000	70%	9%	2%	12%	16%	2%	0%	7%	43
1,000-4,999	60%	4%	0%	24%	12%	4%	8%	4%	25
5,000-14,999	53%	13%	0%	47%	20%	0%	0%	0%	15
15,000-49,999	83%	17%	0%	50%	17%	0%	0%	0%	6
>50,000	75%	25%	25%	25%	0%	25%	0%	0%	4
Total	66%	10%	2%	24%	15%	3%	2%	4%	93

[18] MS4 = municipal separate storm sewer system, designated as a regulated system that requires a permit to discharge into waters of the US by the US EPA.

Table 7.3: City-Regulated Drainage Management Funding Sources – Responding Cities

Population	General Fund	Permitting Fees	Street Department	Special Grants	Special Assessments	Utility Fees	Conventional Debt	Unknown	None	n
>1,000	62%	11%	3%	3%	3%	16%	0%	8%	11%	37
1,000-4,999	48%	14%	10%	10%	0%	24%	5%	0%	19%	21
5,000-14,999	60%	20%	7%	13%	0%	47%	0%	0%	0%	15
15,000-49,999	50%	67%	17%	0%	17%	33%	0%	0%	0%	6
>50,000	50%	75%	25%	0%	25%	25%	0%	0%	0%	4
Total	57%	20%	7%	6%	4%	25%	1%	4%	10%	83

Table 7.4: Most Challenging Issues Facing Idaho Cities with Stormwater or Drainage Management Responsibilities – Responding Cities

Population	Inadequate Funding	Aging or Inadequate Infrastructure	Limited Access to Reserves	Incomplete As-Built Plans or System Records	Limited Access to Technical and/or Regulatory Compliance Staff	Challenging Regulations	Limited Access to Operation and Maintenance Staff	Small Pool of Governing Officials	Other	None	n
>1,000	62%	33%	13%	11%	11%	13%	13%	20%	9%	13%	45
1,000-4,999	80%	70%	27%	43%	17%	30%	20%	17%	3%	7%	30
5,000-14,999	60%	67%	13%	33%	0%	40%	27%	0%	13%	0%	15
15,000-49,999	80%	40%	60%	0%	40%	80%	40%	0%	40%	0%	5
>50,000	75%	75%	0%	25%	0%	75%	25%	0%	0%	0%	4
Total	69%	52%	19%	24%	12%	28%	19%	14%	9%	8%	99

Appendix A: Survey Design and Administration

The Association of Idaho Cities (AIC) worked with a focus group to revise the 2010 survey in preparation for the 2017 version. Through the survey design process, AIC spoke with each focus group member and shared a draft version of the 2017 survey. With help from the focus group members, AIC developed new questions, reviewed and revised questions from the previous survey, and discussed survey administration strategies.

After gathering feedback, AIC transferred the survey questions into Google Forms to develop an online survey.[19] AIC then developed a list of city clerks or appropriate counterparts for all Idaho cities. AIC used these contacts to send the survey link to 200 Idaho cities. The survey invitation described the survey, its significance, and how to complete it. The city clerks or counterparts were asked to complete the survey. To help facilitate access to city staff more familiar with drinking water, waste/reclaimed water, solid waste, irrigation, or electricity services, AIC instructed interested cities on how to obtain their city-unique URL for their survey response. Each city generally only had one submission.

As communicated in the 2010 survey, limitations exist due to the informational and voluntary nature of the survey. The responses are not representative of a statistically significant or scientifically valid data set. Because the responses are voluntary, one cannot draw conclusions about similar cities that did not participate. Even for the cities that did respond, it is not accurate to make comparisons for similarly sized systems due to differences in population served, physical design, economic climate, rates and charges, among other unique characteristics.

Data Editing and Analysis

Data editing involved review and adjustment of the data collected from survey respondents. The purpose of the editing was to control the quality of the data and foster accurate city representation. This included converting values into appropriate units or rates and interpreting vague data. Editing was a two-step process. The first step involved unit conversions for all values that were not submitted in the desired unit. Sometimes, assumptions were necessary to convert the data into the desired format. The second step involved flagging all data that was unclear or anomalistic. If a city had flagged values, AIC staff conducted additional research to confirm the value. If this was not possible, the specific response to the specific question was removed prior to analysis. As noted in the report, some information was available and easily obtained for Idaho cities. AIC drew upon these sources and included this information where possible.

Data analysis involved calculating averages, percentages, and counts among other methods for various survey questions. Results were categorized into five city populations:

- Less than 1,000;
- 1,000-4,999;
- 5,000-14,999;
- 15,000-49,999;
- 50,000 or more.

[19] A blank 2017 AIC Utility Survey form that includes all of the questions can be found using this link: https://goo.gl/forms/Vo7j04f25Vf7Rgb42.