



State of Oklahoma

OWRB
WATER RESOURCES BOARD
the water agency

Financial
Assessment of
the Oklahoma
Comprehensive
Water Plan
Drinking Water
Infrastructure

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Prepared by


FirstSouthwest
Member FINRA/SIPC



Financial Assessment of the Oklahoma Comprehensive Water Plan

Drinking Water Infrastructure

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Glossary of Terms

ARRA	American Recovery and Reinvestment Act
BEA	Bureau of Economic Analysis
CDM	Camp Dresser & McKee Inc.
CPI	Consumer Price Index
DWSRF	Drinking Water State Revolving Fund
FAP	Financial Assistance Program
MMD	Municipal Market Data
OWRB	Oklahoma Water Resources Board
OCWP	Oklahoma Comprehensive Water Plan
SRF	State Revolving Fund

Executive Summary

The Oklahoma Water Resources Board (“OWRB”) engaged FirstSouthwest in January 2011 to assist in providing services related to the financial assessment component of the Oklahoma Comprehensive Water Plan (“OCWP”). The scope of services related to this engagement was multi-faceted and relied significantly upon information prepared by Camp Dresser & McKee Inc. (“CDM”).

The primary objective of this engagement was to provide an assessment of the estimated funding gap between the identified drinking water infrastructure cost estimates over the next 50 years and available funding. It also included quantifying various funding strategies in an effort to minimize the funding gap. As part of this commitment, our scope of services included the following, all of which were integral components to meet the primary objective:

- **Review the OCWP**
Reviewing the plan prepared by CDM and other related studies
- **Conduct Financial and Programmatic Analysis of Existing Funding Programs**
Analyzing the OWRB Drinking Water State Revolving Fund and the Financial Assistance Program
- **Develop a Comprehensive Model**
Developing a model to be a tool in analyzing projected funding gaps and funding strategies
- **Prepare Financial Scenarios**
Using the comprehensive model to prepare various funding scenarios to assist the OWRB in evaluating alternatives
- **Quantify the Economic Impact of the Financial Investment in Oklahoma**

Integrating data and financial ratios compiled by others to quantify the economic impact of the infrastructure

- **Small Issuer Strategies**

Identifying the challenges that small issuers have in funding infrastructure and providing recommendations to better assist them

- **Summary Report Preparation**

Including detailed discussions and findings related to our engagement on this project

Review of the OCWP

As part of our undertaking, FirstSouthwest reviewed the OCWP 2012 Update prepared by CDM. Our analysis relies upon the information and assumptions included in the OCWP. We utilized the Drinking Water Infrastructure Needs Assessment as the foundation from which we prepared our analysis. While the identification of needs by region is a critical component in determining infrastructure costs, our analysis focused on the OCWP results on a statewide basis.

Most fundamentally, the foundation for the OCWP is the identification and supporting documentation related to identifying the future drinking water infrastructure capital expenditures of the State of Oklahoma (the “State”) to ensure that the State will be positioned to meet the water needs of its citizens during the next 50 years.

To position the State to meet the projected water demand, drinking water related infrastructure is required. The OCWP has identified estimated infrastructure costs over the next 50 years in three defined timeframes. For our analysis, we have made certain assumptions as to how that data is utilized.

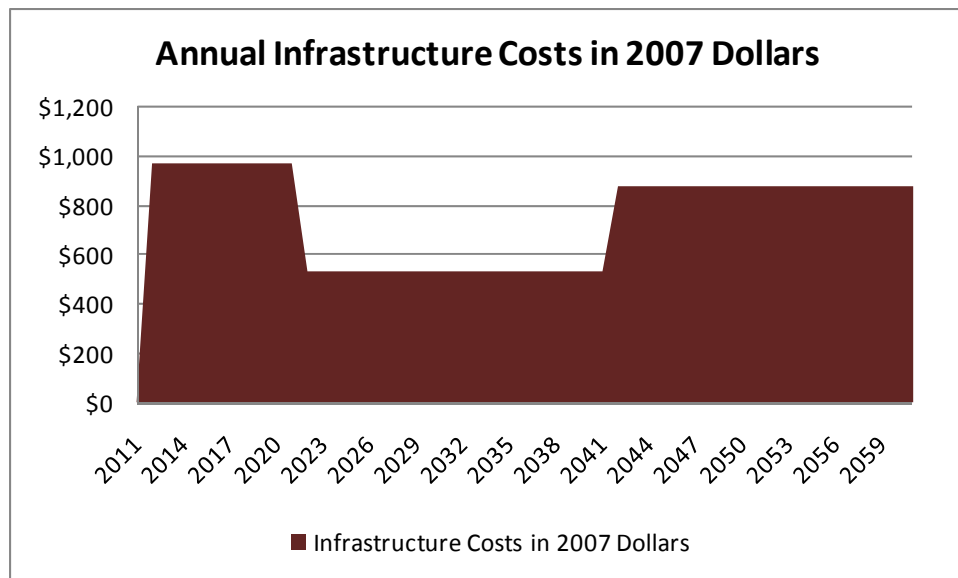
To transition this data for use in our model, we assumed the dollars of infrastructure cost would be applied proportionally over the years in each of the three periods. Therefore the

chart below is a summary of Table 1-1 found in the OCWP with the cost shown on an aggregate basis and on an average cost per year basis.

DRINKING WATER INFRASTRUCTURE NEED (All shown in Millions of 2007 Dollars)				
	Present - 2020	2021-2040	2041-2060	Total Period
Total Period Costs	\$ 9,680.00	\$ 10,610.00	\$ 17,500.00	\$ 37,790.00
Average Cost per Year	\$ 968.00	\$ 530.50	\$ 875.00	\$ 755.80

Additionally, as noted in the OCWP and in the charts above, the figures are in 2007 dollars. It is important to note the 2007 cost estimates will be impacted by inflation over time, increasing the costs in the year of construction. However, for purposes of our report and

consistency, we utilize and analyze the figures provided in the CDM Report, reflecting 2007 dollar costs. The following chart shows the impact of the projected infrastructure costs over the 50 year study period.

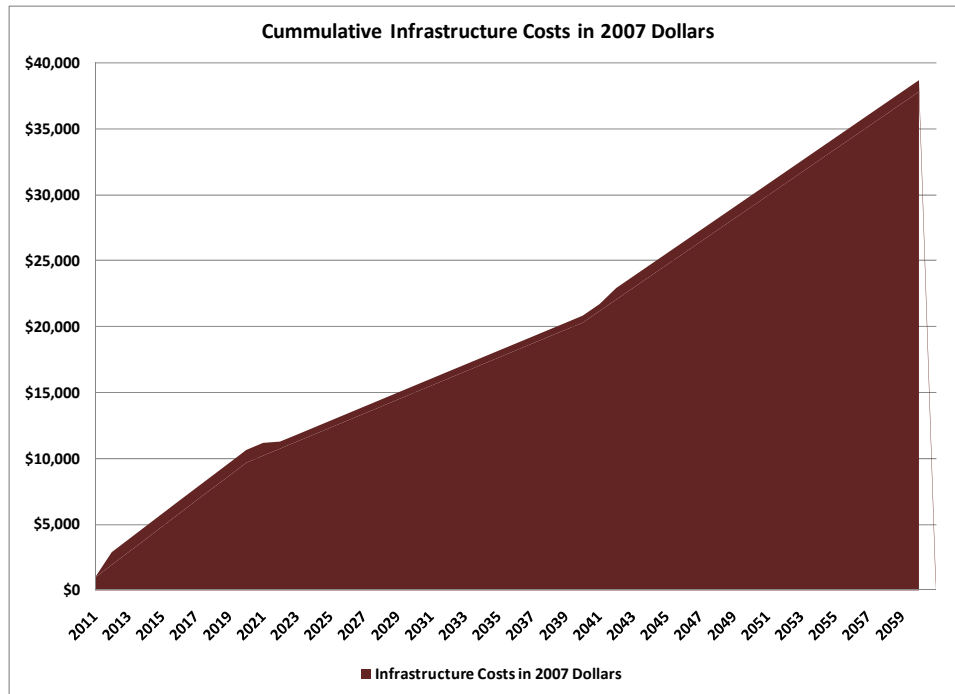


As the chart identifies, the \$37.903 billion in infrastructure costs do not occur evenly over the 50 year study period. The period of highest

average cost occurs in the first study period, Present to 2020, followed by the last 20 year period ending in 2060. The CDM Study verifies

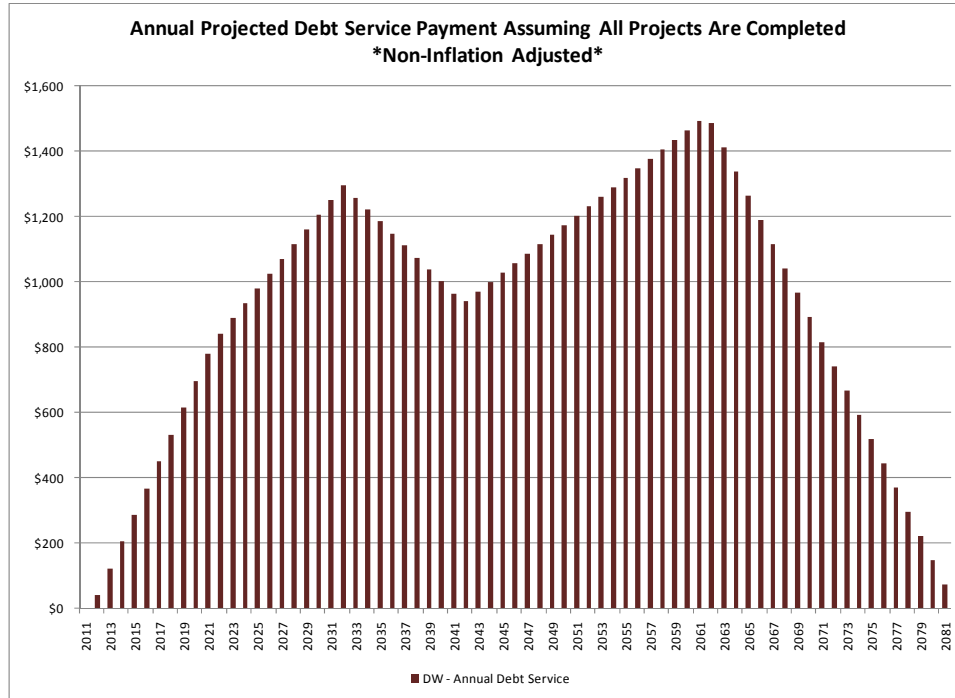
the need for funding to be available in the near term for infrastructure needs. The following is

a chart showing the accumulated infrastructure costs over the 50 year study period.



While the most cost effective method of paying for the infrastructure would be to fund it on an up-front lump sum basis with funds available. However given the cost of these types of infrastructure projects, this is rarely an option. Most often long-term infrastructure projects are funded with corresponding long-term debt. While this increases the overall cost of the project, it makes the annual costs more

affordable for the ratepayers. From a financing perspective we have assumed the communities finance the inflation adjusted infrastructure. If we assume bonds are needed to finance the entire list of infrastructure projects, and, for purposes of illustration, we assume a 20-year amortization at an average interest rate of 5.50%, the projected debt service costs are shown in the following chart.



Although some of the projected costs may be financed as pay/go operating expenses, the table above attempts to put into perspective the relative difference.

Conduct Financial and Programmatic Analysis of Existing Funding Programs

One avenue for funding the projected drinking water infrastructure is with the existing financing programs of the OWRB:

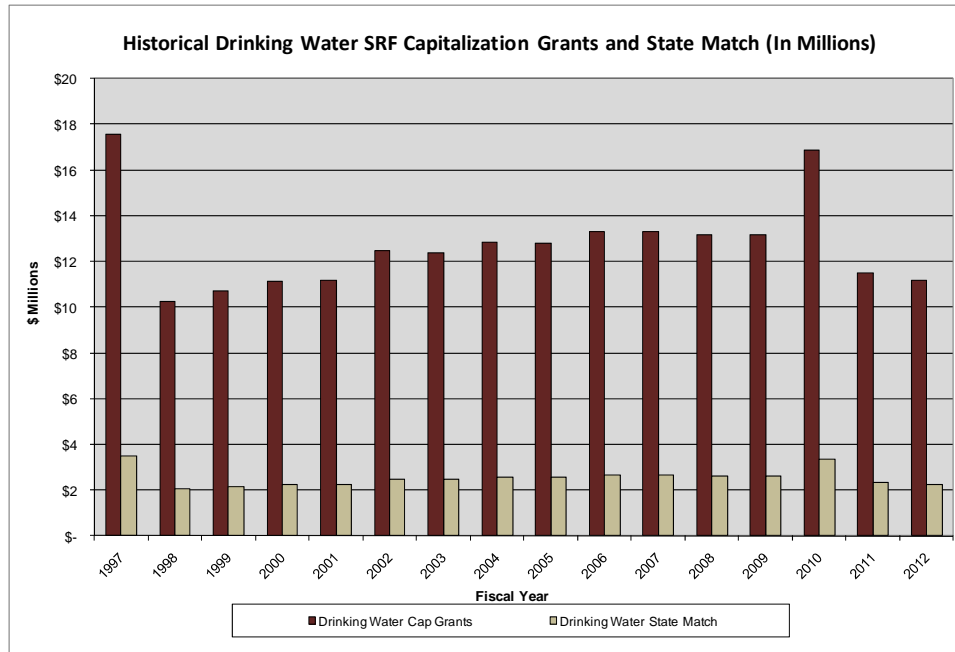
- Drinking Water State Revolving Fund (“DWSRF”)
- Financial Assistance Program (“FAP”)

The following provides overviews of both the DWSRF and the FAP programs, discussing them from both a programmatic and funding perspective.

Overview of the DWSRF Program

The DWSRF is a federal program that was created in response to the Safe Drinking Act amendments in 1996. In this program, the federal government has funded capitalization grants whereby states must match 20% of the federal dollars in order to receive the grant. The primary objective of this program is to protect public health by providing financial assistance, in the form of below-interest-rate market loans and/or grants to both publicly owned and privately owned water systems. The funds may be used for planning, design, development, construction, repair, extension, improvement, remodeling, alteration, rehabilitation, reconstruction or acquisition of all or a portion of a public water system. The definition excludes reservoirs and new infrastructure for growth-related projects. The OWRB began this program in 1999 and as of June 30, 2012 has received DWSRF capitalization grants in the amount of \$203.68 million and funded state match in the amount

of \$40.77 million in the years as outlined below:



With these capitalization grants and state match funds, the OWRB has issued DWSRF bond issues to leverage funds to meet existing program demand. To date, the DWSRF has issued \$408.08 million in bonds of which \$353.97 million is outstanding. With these combined sources of funding, \$747.26 million in total projects have been funded for 137 borrowers. The funding does not include additional federal capitalization of \$31 million received in 2010 as part of the American Recovery and Reinvestment Act (“ARRA”), which provided additional funds for grants related to water infrastructure. The OWRB sets the rates for DWSRF program borrowers at an interest rate equal to 70% of the

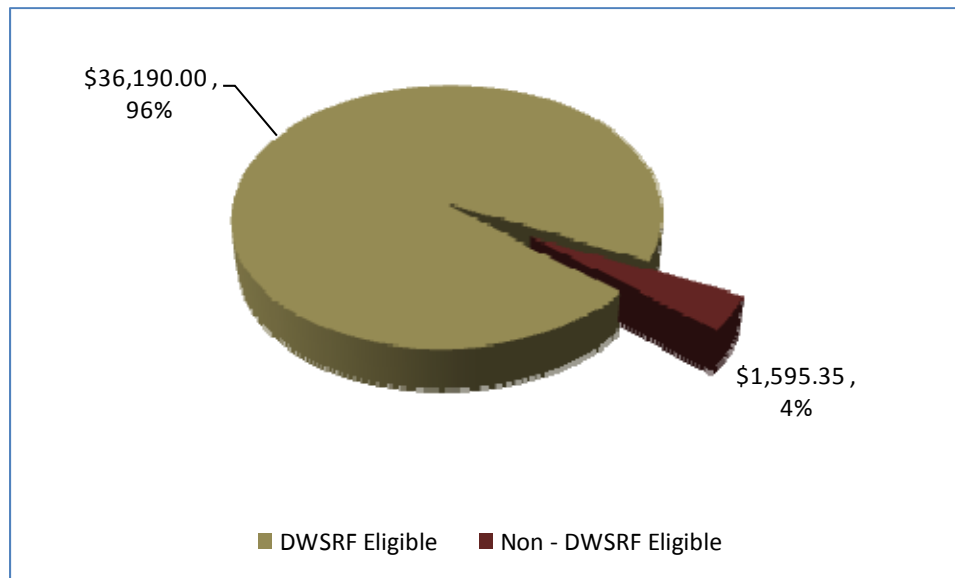
Municipal Market Data (“MMD”) AAA scale for each maturity plus 70 basis points. As of the date of this report, the program is rated AAA/Aaa/AAA, which are the highest ratings that can be achieved.

Understanding the DWSRF has limitations on the type of projects that can be funded, we requested that CDM assist in further refining the study summary to identify what projected infrastructure could be eligible for funding through the SRF. CDM’s findings are included in their report in Table 1-1 and are shown below.

DRINKING WATER INFRASTRUCTURE NEED (All shown in Millions of 2007 Dollars)				
	Present - 2020	2021-2040	2041-2060	Total Period
DWSRF Eligible	\$ 9,440.00	\$ 10,210.00	\$ 16,540.00	\$ 36,190.00
Non - DWSRF Eligible	\$ 240.00	\$ 400.00	\$ 960.00	\$ 1,600.00
Total Costs	\$ 9,680.00	\$ 10,610.00	\$ 17,500.00	\$ 37,790.00

The following chart shows that DWSRF-eligible projects comprise approximately 96% of the

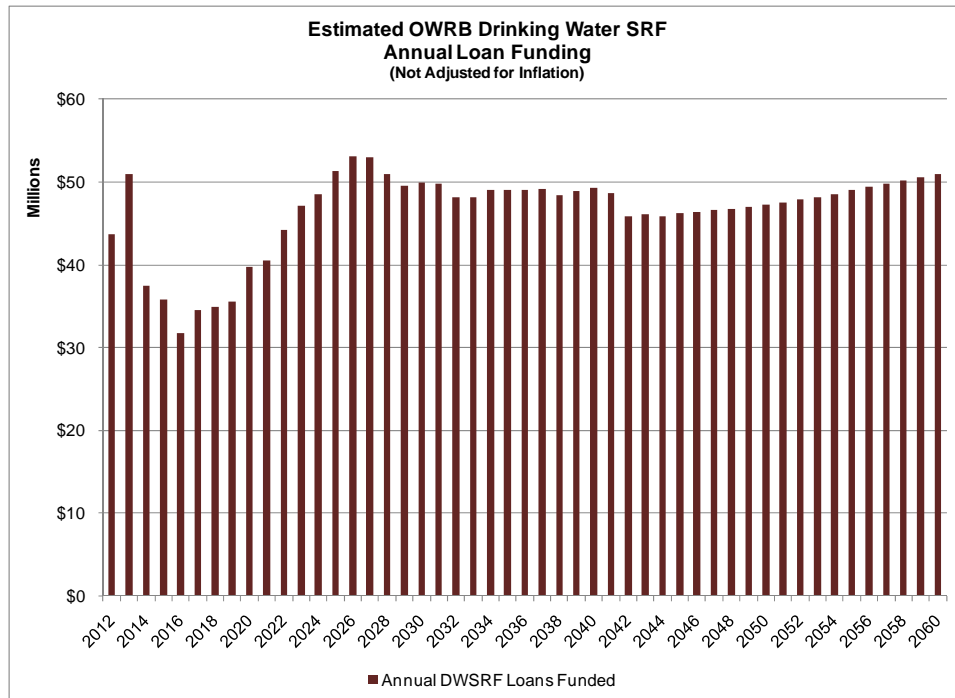
total projects, leaving 4% that are not eligible.



We projected the DWSRF funding capacity over the 50-year period for the OCWP. Many factors influence the capacity, the most important of which are the funding levels for capitalization grants from the federal government and the number of years that appropriations will be funded. As depicted in the chart on page 5, the most recent capitalization grant funding level shows an increase in 2010 over prior years. However, projections for 2011 and future years

show that the funding will return to 2009 levels and potentially lower. In an effort to be conservative, we have assumed that the capitalization grant for 2012 will return to approximately the same funding level as was realized in 2009, and that level of funding will continue until 2013, when we project the funding will cease.

Given these assumptions, we have estimated that the available annual and program capacity over the next 50 years will be as follows:



The table below shows the above information on a cumulative basis.

Drinking Water State Revolving Fund Cumulative Funding Capacity (All shown in Millions of 2011 Dollars)			
Present - 2020	2021-2040	2041-2060	Total Period
\$ 452.13	\$ 977.44	\$ 958.93	\$ 2,388.50

The total cumulative funding capacity of the DWSRF is \$2.3 billion, which is significantly less than the total projected infrastructure costs for drinking water projects. To this end, we do not see that the DWSRF will be able to have a meaningful impact in providing funding for the projects identified in the OCWP.

Overview of the FAP Program

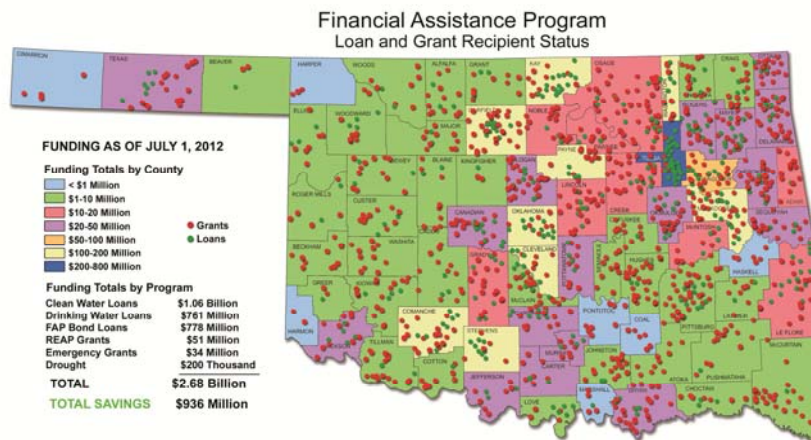
The FAP was created in 1985 by Oklahoma State Statues, specifically, Title 82, Section

1085.33, to create a Water Resources Fund for the purpose of providing a long-term, low-interest public water and wastewater loan program. This program provides borrowers two funding alternatives: (1) variable rate with three-month resets and the ability to convert to fixed rate, and (2) a fixed interest rate. To date the FAP has received \$22,275,589.45 in capitalization from the Statewide Water Development Revolving Fund

and additional appropriations tied to the Gross Production Tax. Like the DWSRF, the FAP has leveraged its funds and borrower loan repayments to provide additional funding capacity. The FAP has 18 issues outstanding in an aggregate amount of \$282,985,000.00. Since its inception in 1985, the program has funded more than \$777,630,000.00 to 343 loans. The FAP is also rated AAA by Standard & Poor's for its long-term rating and A-1+ for its short-term rating, each of which is the highest rating in its respective category.

The FAP, its program equity, projected capitalization and future capacity are noticeably less than that of the DWSRF

program. This is further evidenced in that as of July 27, 2012, both programs have funded projects in the amount of approximately \$750 million. However, the DWSRF has done so over the past 13 years, compared to the FAP's 27 years. Both programs have brought significant value and played a critical role in securing capital for communities throughout the State, funding a combined \$1.5 billion in water-related projects and is projected to have saved the communities over \$456 million in debt service costs. One of the most important contributions of these programs is that they have benefited both small and large communities across the State as shown on the map below.



Note that the above map includes projects funded through all of OWRB's infrastructure financing programs. Once of the financing programs, the Clean Water State Revolving Fund, is comparable to the DWSRF, but serves to fund clean water and wastewater projects.

As discussed, both the DWSRF and the FAP, with their current capitalization, are able to fund only a minimal amount of the identified drinking water infrastructure in the OCWP. Therefore, additional capitalization will be required to fill the funding gap. With regard to additional capitalization, however, we would not recommend commingling such funds with the DWSRF. The language in the Safe Drinking

Water Act states that once capitalization enters the SRF, it becomes subject to the Federal requirements and guidelines. Although 96% of the projects qualify for DWSRF funding, we believe integrating a new program into the DWSRF would reduce the flexibility the OWRB has in administering the program and ensuring the State program goals and objectives are realized. Additionally we would recommend

careful consideration of new capitalization being integrated into the existing FAP program. While the FAP program by statute permits all projects in the OCWP to be eligible for funding, the program indenture was created in 1985. Many evolutions in the legal and credit features have been realized in pooled loan programs. Should the FAP be the program where additional funding is integrated, we recommend that a comprehensive analysis and review of the legal and financial structure be undertaken to determine how the existing FAP program can be enhanced to derive the benefit of more flexible legal and credit features. Additionally, the legislation that created the FAP program is still a very viable legal framework for the creation of a new funding program. If a new program is developed, we recommend a new indenture that provides the most current legal and credit provisions, providing for optimal flexibility to respond to the highly dynamic debt and capital markets experienced during the past several years. We also recommend exploring the ability to leverage additional funding, to better narrow the gap between financing capacity and infrastructure needs. One way the State of Oklahoma has effectively utilized this concept is with the use of a Credit Enhancement Reserve Fund. This concept allows authorized bond capacity to be utilized in the event of a payment default. This allows for a lower cost of funds creating additional capacity to fund more infrastructure needs. We do not have additional recommendations related to the borrower credit analysis, loan administration and on-going surveillance, as the OWRB Staff has extensive expertise and history in this process and has been independently recognized by the rating agencies with the highest municipal ratings as recently as June 2012 with the recent issuance of the DWSRF bonds.

Develop a Comprehensive Model

FirstSouthwest believes that the foundation for analyzing any potential new funding program must begin with the creation of a multi-year, comprehensive strategic planning model. The variables for this model, should at a minimum, include:

- Projected Program Demand
- Underlying Borrower Loans
- Lending Rate Policies
- Investment of Funds

A multi-year model is critical to the development and implementation of a financial program and then, in the day-to-day management of the program. We have created a 50-year model to provide some level of quantification of leveraging capacity and debt service expenses related to various financial assistance scenarios on the projected drinking water infrastructure costs. Additionally, the model has been structured to be a dynamic tool to permit analysis of multiple “what if” scenarios as the OCWP continues into its last phases of the process. As was demonstrated in the effect of applying an inflation factor to the projected infrastructure costs, due to the compounding effect that is inherent in these programs, small changes on the front end can have significant impacts in 10 and 20 years, and especially over 50 years.

The model allows the simultaneous adjustment of several variables that provides the ability to analyze the impact of multiple scenarios. The goal was to create a management tool to make sound business decisions based on quantifiable impacts in various funding scenarios related to the goal of defining the funding gap and providing options for funding alternatives. Given the magnitude of the funding gap, we want to ensure that any proposed funding

sources and new program would optimize capacity, structure and ratings.

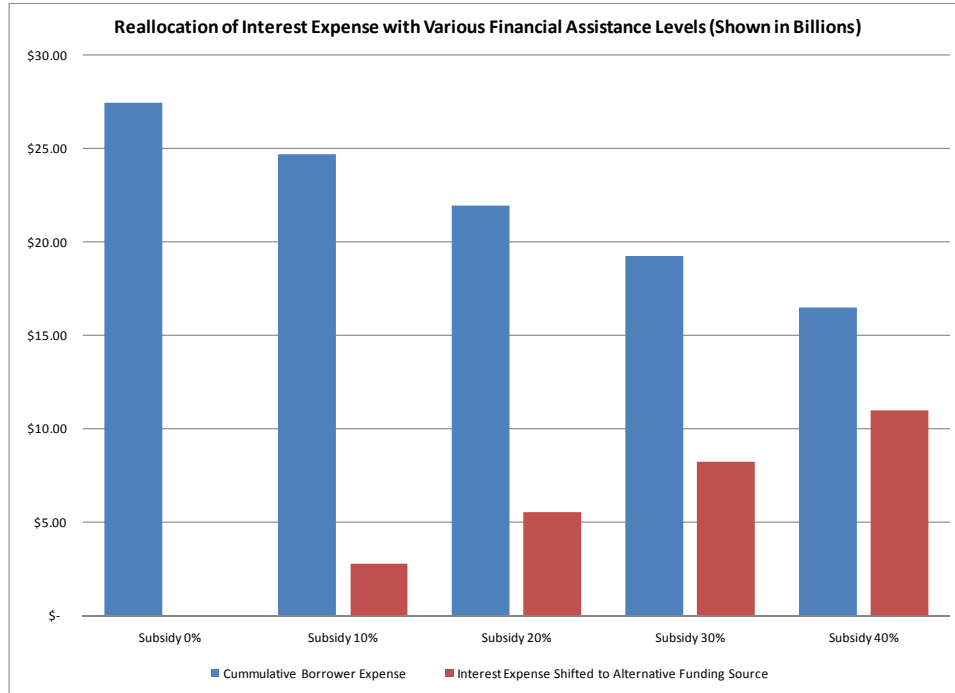
For purposes of this report, we have made the following assumptions in our model:

- The entire infrastructure costs are financed
- All costs are funded with 20-year debt issuances
- Debt issuances match the funding requirements identified in table on page 3
- Cost of issuance has been added to the issuance size calculated at a rate of 1.25% of the par amount
- Given the diversity of borrower size and ratings levels, and due to the 50-year time horizon, we have assumed a borrower and program interest rate of 5.50%
- The calculated financial assistance, solved to a 10%, 20%, 30% and 40% reduction in interest expense, is designed to cover 100% of the actual debt service *(a very important assumption that is discussed further in the section)*

- The defined analysis period is 70 years because it assumes the last projects funded in year 50 are funded with 20-year debt service

If the individual communities were to issue the debt on their own in the capital markets, to the extent that funding is available, along with the other assumptions noted above, the combined cost over a period of 70 years is more than \$65.832 billion. This is comprised of \$38.390 billion in principal and \$27.442 billion in interest.

If a program were created providing financial assistance or subsidizing the interest cost of the borrower in the amount of 10%, that would shift approximately \$3.8 billion of the interest expense from the borrower to the alternative funding source. We have completed such analysis for financial assistance levels, or subsidy levels, of 20%, 30% and 40%. To illustrate the impact of this analysis, we include the following chart:



To provide the data in a format consistent with the time horizons as identified in the OCWP, along with the inclusion of a fourth timeframe

of 2061 through 2081, please see the table below:

Allocation of Alternative Funding Source for Interest Subsidy by Defined Timeframes (Provided in \$ Millions)				
	Present to 2010	2021-2040	2041-2060	2061-2081
Subsidy 0%	-	-	-	-
Subsidy 10%	355.20	1,278.23	1,500.33	698.20
Subsidy 20%	562.26	2,265.47	2,609.33	1,297.92
Subsidy 30%	768.03	3,230.36	3,695.30	1,877.88
Subsidy 40%	972.43	4,172.29	4,757.60	2,437.78

To better understand the impact of these figures on an annual basis, we revised the chart above to show the average annual interest subsidy cost for each period. Please note there is a difference in the actual versus the average,

due to solving the debt on a level debt service basis. The detailed interest figures are available, however, we believe this summary provides a relative snapshot of the future projected requirements.

Allocation of Alternative Funding Source for Interest Subsidy by Average Annual Amount for each Timeframe (Provided in \$ Millions)				
	Present to 2010	2021-2040	2041-2060	2061-2081
Subsidy 0%	-	-	-	-
Subsidy 10%	35.52	63.91	75.02	34.91
Subsidy 20%	56.23	113.27	130.47	64.90
Subsidy 30%	76.80	161.52	184.77	93.89
Subsidy 40%	97.24	208.61	237.88	121.89

In reviewing source of financing for water and wastewater infrastructure in the State of Oklahoma over the past several years, it estimated that approximately 60% has been financed by the OWRB. Based on this information, the projected drinking water

infrastructure needs have been reduced to reflect 60% of the total projected. To this reduced amount, we have calculated what the equity requirements are for various interest subsidy levels. The chart below provides a summary of our findings.

DRINKING WATER INFRASTRUCTURE NEED (All shown in Millions of 2007 Dollars)				
	Present - 2020	2021-2040	2041-2060	Total Period
Total Period Costs	\$ 9,680	\$ 10,620	\$ 17,490	\$ 37,790
60% DWSRF FUNDED	\$ 5,808	\$ 6,372	\$ 10,494	\$ 22,741
Equity Needed @ 0% Subsidy	\$ 1,202	\$ -	\$ -	\$ 1,202
Equity Needed @ 20% Subsidy	\$ 1,635	\$ -	\$ -	\$ 1,635
Equity Needed @ 25% Subsidy	\$ 1,726	\$ -	\$ -	\$ 1,726
Equity Needed @ 30% Subsidy	\$ 1,834	\$ 22	\$ -	\$ 1,856
Equity Needed @ 35% Subsidy	\$ 1,932	\$ 46	\$ -	\$ 1,978
Equity Needed @ 40% Subsidy	\$ 2,041	\$ 77	\$ -	\$ 2,118

In an effort to assist in framing the funding necessary for providing some level of a subsidized program, we thought it would be helpful to calculate the amount necessary to fund \$1 billion in projects over the 50 year period. Our objective is to provide a figure that can be increased proportionally as various levels of project funding are being evaluated. For purposes of this analysis, we have assumed all of the prior assumptions except that the \$1

billion would be fund \$20,000,000 in projects each year over 50 years. We also show that analysis with various financial assistance or subsidy levels. In order to provide a relative comparison, the first chart below assumes the borrower’s portion of the financing cost for the \$1 billion in infrastructure. The chart immediately following shows the costs for subsidizing the interest component of the debt at various levels.

\$1 Billion Construction Funding Over 50 Year Period Cumulative Borrower Expense for Interest Subsidy by Defined Timeframes Non-Revolving Program (Provided in \$ Millions)					
	Present to 2020	2021-2040	2041-2060	2061-2081	Total
Subsidy 0%	44.70	267.25	289.51	122.04	723.49
Subsidy 10%	40.23	240.52	260.56	109.84	651.14
Subsidy 20%	35.76	213.80	231.61	97.63	578.79
Subsidy 30%	31.29	187.07	202.66	85.43	506.45
Subsidy 40%	26.82	160.35	173.71	73.22	434.10

\$1 Billion Construction Funding Over 50 Year Period Allocation of Alternative Funding Source for Interest Subsidy by Defined Timeframes Non-Revolving Program (Provided in \$ Millions)					
	Present to 2020	2021-2040	2041-2060	2061-2081	Total
Subsidy 0%	-	-	-	-	-
Subsidy 10%	4.47	26.72	28.95	12.20	72.35
Subsidy 20%	8.94	53.45	57.90	24.41	144.70
Subsidy 30%	13.41	80.17	86.85	36.61	217.05
Subsidy 40%	17.88	106.90	115.80	48.82	289.40

Based on the information above, if a program was to be established such that \$20,000,000 in projects were funded every year for 50 years, to fund 10% of the interest expense based on the assumptions outlined, the projected cost is \$72.35 million. We then highlight the impact for scenarios of increased levels of subsidy. As notes previously these figures can be multiplied on a per billion dollar basis to estimated the additional costs.

As the impact analysis of the OCWP is considered, the potential for the projects listed to be funded without any financial incentive will need to be evaluated. For example while the needs have been determined, what is the likelihood that the projects will be completed in the projected timeframe or even at all? It has been the experience of other programs those financial subsidies:

- Incentivize communities financially to move forward with projects

- Encourage communities by reducing the cost to the end ratepayer
- Influence communities by creating a partnership to share the debt service costs

The ability of strategic decisions to be made relative to creating an end result will be directly correlated to the investment of capitalization into a program.

As noted in the assumptions for the analysis, the calculation for the required interest rate subsidy is exactly equal to the amount necessary for 100% of the principal and interest payment. This assumption has been utilized for purposes of illustration, but actually is a critical decision in structuring the program from two primary perspectives:

- Perpetuity or Non-Perpetuity of the Program
- Credit and Rating Agency Implications

Perpetuity or Non-Perpetuity of the Program

By contributing only the amount of capitalization required to pay the debt service, the program will not build any equity and evolve into a revolving fund. While this minimizes the required capitalization, it also limits the utilization of each dollar to one use. A critical policy consideration and decision will be whether to overfund the minimum required amounts to build equity that can be utilized to fund additional projects again in the future. An example of a program in perpetuity is the DWSRF, as required by the Safe Drinking Water Act. To ensure perpetuity, the programs must preserve the capitalization grants and state

match funds. While this is not a requirement of pooled loan programs, many programs target or implement by policy guidelines and benchmarks for the creation of and maintenance of equity contributions so the funds revolve and continue beyond the target years.

To illustrate this point, we have taken the last table for the \$1 billion project funding scenario and applied a factor of 1.4 times to create a revolving fund scenario. The table below shows the projects at the various subsidy levels to achieve this coverage factor.

\$1+ Billion Construction Funding Over 50 Year Period					
TOTAL LOANS FUNDED					
Revolving Program (Provided in \$ Millions)					
	Present to 2020	2021-2040	2041-2060	Total Loans Funded	Annual Capacity
Subsidy 0%	200.00	455.55	484.10	1,139.65	24.20
Subsidy 10%	200.00	438.18	464.28	1,102.46	23.24
Subsidy 20%	200.00	421.51	442.27	1,063.79	22.29
Subsidy 30%	200.00	413.04	427.58	1,040.62	21.43
Subsidy 40%	200.00	400.28	409.18	1,009.46	20.64

The next chart shows the amount of capitalization that is required to fund the loans identified in the table above and to create a 1.40 times debt service coverage. As compared to the tables on the previous page, the funding of this capitalization occurs in the earlier years. What the total equity included in the table represents is the funding necessary to create a revolving fund that has the corresponding annual capacity in the table above. Although the capitalization is required earlier in the funding cycle, it also requires less capitalization. This is possible because of the additional funding that creates debt service

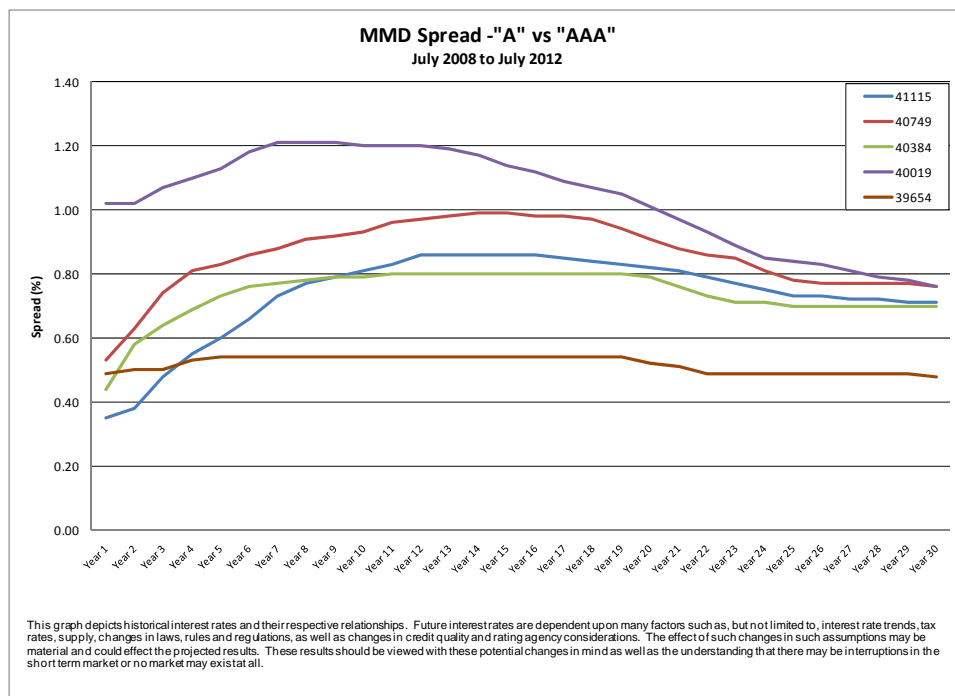
coverage that can be utilized to fund additional loans. As a result, the required future capitalization is off-set by the coverage amount. Additionally, in contrast to the previous scenarios, which do not revolve and provide no additional capacity at the end of the 50 years, the figures shown in the annual capacity are sustainable through and beyond the 50 year period. Another benefit of the debt service coverage is serving as a credit feature that would be instrumental in achieving a higher rating. This is explained in greater detail in the next section.

\$1+ Billion Construction Funding Over 50 Year Period				
Allocation of Alternative Funding Source for Interest Subsidy by Defined Timeframes				
Revolving Program (Provided in \$ Millions)				
	Present to 2020	2021-2040	2041-2060	Total Equity
Subsidy 0%	38.13	1.43	0.00	39.56
Subsidy 10%	47.17	4.92	0.00	52.09
Subsidy 20%	56.50	9.62	0.00	66.12
Subsidy 30%	65.74	18.86	0.00	84.60
Subsidy 40%	75.21	26.74	0.47	102.42

Credit and Rating Agency Considerations

Another important consideration when establishing a pooled loan program, is the targeted rating level. Historically credit spreads were such that the differential between various rating categories resulted in minimal impacts on the cost of funds. However, post 2008 and the dislocation of the financial markets, credit spreads have widened. To demonstrate the change that has occurred, the chart below shows the Municipal Market Data ("MMD"), a municipal industry index, interest rate spreads by maturity between AAA

and A rated credit credits in the second week of March over the past four years. In 2008, the spread was approximately 50 basis points or 0.50%. In 2009, however, the spreads had widened to approximately 120 basis points or 1.20% on the front end of the yield curve 80 basis points or 0.80% on the long end of the yield curve. In 2012, the spreads on the front have narrowed from the highs, but still remain just under 70 basis points on the long end of the yield curve. The chart on the next page shows the change in credit spreads as discussed over the past four years.



There is a direct correlation to the targeted ratings and the interest cost related to the debt service, potentially increasing the subsidy cost. Furthermore the source of the alternative funding will play a critical role in determining the rating. For example, the strength of the pledge and security for the repayment of the bonds is based on multiple factors for a revenue source, including:

- Position of Revenues in Flow of Funds
- Potential Volatility of the Revenues
- Historical Collections of the Revenues
- Revenues as a Percent Median Household Income
- Ability and Remedies to Enforce Payment and Collection

Based on the answers to the above questions, the annual revenues generated may have to exceed the annual dollars of debt service by a coverage factor to off-set potential volatility in the revenues received. The greater the perceived volatility, the larger the coverage factor required to achieve the same rating.

One of our clients, the Maryland Water Quality Financing Administration, legislatively created Bay Restoration Fee equal to \$2.50 per month per residential connection; commercial/industrial rates are higher. The collections from this fee are directly and indirectly through leveraging, being utilized to provide grants to assist funding wastewater system improvements in an effort to clean-up Chesapeake Bay. This fee, for example, was considered a stronger revenue than a fee based on consumption that would be affected by wet and dry years. The amount of the fee relative to the median household income was viewed favorable and although it is a flat fee, non-payment can result in shutting off water and wastewater service.

If the alternative source is a tax, the rating agencies generally view that as a stronger credit and may significantly reduce and even mitigate the need for debt service coverage for credit purposes. In some cases, having a tax or a general revenue pledge of a state as a pledge, even only as a backup security or source of funds, can reduce the required coverage and still lower the cost of funds.

Prepare Financial Scenarios

While we have endeavored to quantify what various potential levels of interest rate subsidies can be, we understood an aspect of this engagement would extend beyond submission of this report. We understand that as the OCWP continues with its last phases and policy decisions are formulated, that additional financial analysis will be required. With this in mind, we built our model to run multiple “what if?” scenarios adjusted for several variables simultaneously. Some of the various scenarios we might expect and are prepared to provide include:

- Assuming a defined level of capitalization, and at various subsidy levels, how much of the projected drinking water infrastructure can be funded?
- How is the funding capacity impacted by up-front capitalization versus capitalization over time?
- If the decision is made to create some level of revolving fund, what additional amounts of capitalization are required?
- What are the differences in the capacity levels with various revenue sources?
- Targeting certain ratings levels, how is the capitalization impacted?

While these are some of the questions we anticipate, we are positioned to answer other questions as they may arise.

A tangential aspect of this analysis, should the full project list be deemed too extensive to cover in this timeframe or with some form of capitalization for subsidy, is defining the subsidy level and then creating criteria that will prioritize the projects to determine which are funded. There are multiple criteria that can be factored into that process. We suggest that this be a component of the policy discussions going forward.

Quantify the Economic Impact of the Financial Investment in Oklahoma

The OWRB was very astute in understanding that the State of Oklahoma derived economic benefits from the ARRA capitalization, as previously discussed. As such, in a collaborative effort between the OWRB and Northbridge, an analysis quantifying the economic benefits is in process. To quote directly from the Investing in Oklahoma Communities report prepared by Northbridge with the OWRB dated 03/31/2010, we would like to highlight a discussion of the types of benefits derived by the State.

The benefits were divided into two tiers: benefits that were high priority for the community members and benefits that were a low priority for the community, but high priority for the OWRB. The final suite of benefits was as follows:

Tier I (Summarized)

- Impact of investment on economic growth
 - Jobs
 - Household earnings
- Increased productivity
- Increase in property values from enhanced water quality and infrastructure

- Reduction of health risks
- Value and types of recreation supported by projects
- Energy savings from plant upgrades
- Perceived impact on quality of life
- Sustainability of facilities
- Interest savings from SRF program

Tier II (Summarized)

- Population served by infrastructure/reduction in infrastructure needs
- Public valuation of water quality (willing to pay for improvements)
- Cost savings from advanced water treatment
- Protection of fish habitat
- Maintaining/improving waterbody beneficial uses

Some of the specific economic benefits identified in the report have been provided by The Bureau of Economic Analysis (“BEA”) and include:

- Economic Output
 - Estimates that for each additional dollar of revenue of the construction industry in Oklahoma, the increase in revenues in all industries in Oklahoma is \$2.37 in that year
- Household Earnings
 - Estimates that for each additional dollar of construction work performed in Oklahoma, there is a .7579 increase in earnings of households employed by all industries in Oklahoma
- Employment (Jobs)
 - Total Jobs - Estimates that \$1 million invested in construction creates 24.739 jobs

- For each construction job in Oklahoma created by projects, there are 2 jobs created in all industries
- Construction Jobs – Estimates that \$1 million invested in construction creates 11.8759 construction jobs in Oklahoma

Therefore base on the information in the study referenced above, for every \$1 billion in infrastructure projects, the State of Oklahoma is projected to realize the following benefits:

- Economic Output – An increase in revenues for all industries of \$2.37 billion
- Household Earnings – An increase of \$757.9 million in earnings of households employed by all industries in Oklahoma
- Employment (Jobs) –

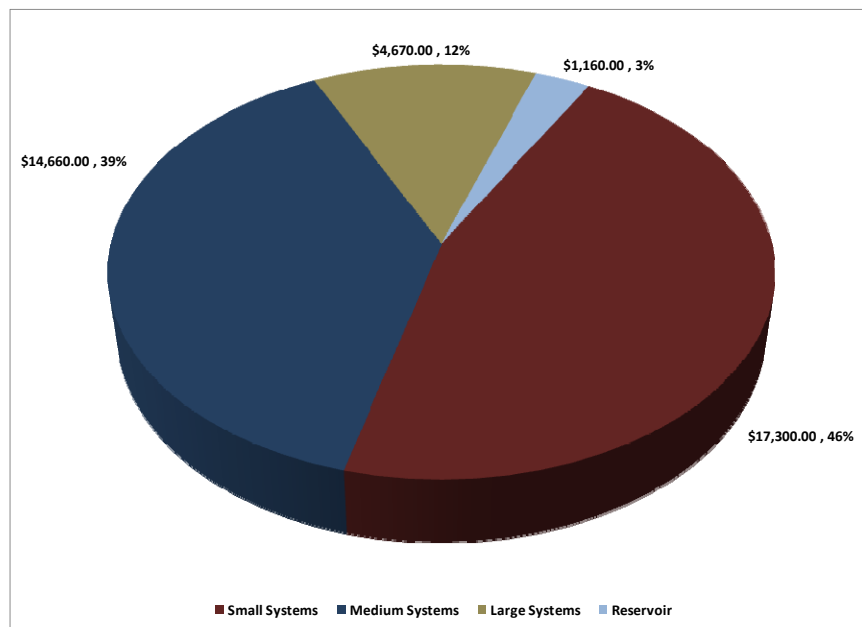
- Total Jobs - 24,739 jobs created
- Construction Jobs – 11,875 construction jobs created

The study provides compelling data for the focus of the OCWP to expand beyond the cost of infrastructure to realizing the economic benefits the State can derive from the implementation of drinking water projects. The implementation of the OCWP is an investment in the State of Oklahoma.

Small Issuer Strategies

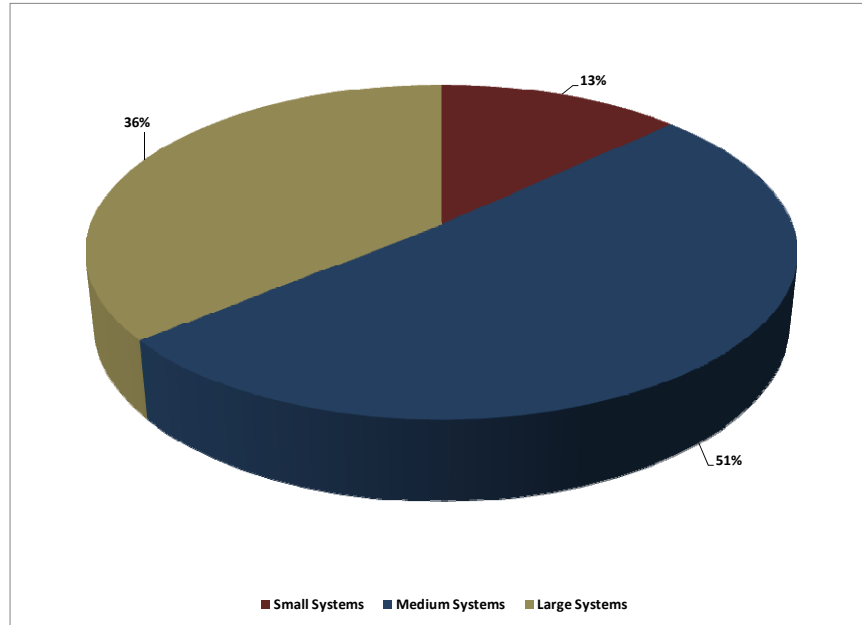
Upon review of the OCWP report, the information in Table 1-1 identifies that small providers have the largest overall drinking water infrastructure cost, comprising approximately 46% of the State’s needs.

The composition of the State’s needs by category is shown below:



While the Small Systems comprise 46% of the State’s infrastructure needs, they comprise

approximately 13% of the population as shown in the chart below.



Given the amount of funding attributed to small systems especially when understanding their representation of the population, we suggested that there be a defined strategy for how to fund their projects going forward. There are challenges in funding small systems and some of those challenges include:

- Credit and financial implications to the program due to the inclusion of low or non-rated credits;
- Difficulties meeting financial ratios and credit thresholds in the loan evaluation process by the OWRB
- Performance considerations relative to the ongoing surveillance requirements
 - Lack of audited financial statements

To the extent policy considerations and program goals include ensuring that small systems are provided funding at some level, the implications of the above can be factored into several aspects of the process. This can also be done in a manner to try to reduce the impact of the challenges. For example, an annual funding goal, either in the form of a fixed dollar amount

or a percent of the annual funding, can be embedded into the ranking criteria. This will ensure targeted funding levels are met and by defining the levels up-front, the capacity models can integrate this information and solve for the necessary coverage factor to ensure that rating goals are maintained throughout the program life.

Another concept for consideration would be to create a second smaller fund that would be comprised solely of direct loans, so that any communities with weak credit or financial circumstances would not impact the ratings or capacity for the larger financing program. This non-leveraged fund could also be a source of funding for any projects that have private activity components. This would prevent any tax related considerations from impacting the tax exempt status of the larger pool of loans. There could be integrated into the legal documents the ability for capitalization to either flow through the larger pool to the smaller pool or to permit capitalization to flow directly into the smaller pool of loans.

Summary

With the report, FirstSouthwest has endeavored to provide a comprehensive financial assessment of the OCWP. In an effort to summarize the items that we identified as significant, please see the highlights below:

- Economic Impact of Infrastructure Construction in the State of Oklahoma
 - With each dollar of infrastructure construction, all industries experience an increase in revenues of \$2.37 and all households an increase of earning of \$0.7579
 - With each \$1 million in construction, over 24 total jobs are created and for each \$1 million in construction over 11 construction jobs are created
- The OWRB's existing DWSRF and FAP currently do not have project capacity over the next 50 years in an amount that will significantly address the infrastructure needs
- The legal framework that permitted the FAP to be created provides a statutory foundation for the creation of another financial assistance program
- Providing financial assistance or subsidization incentivizes the financing of infrastructure
- In the creation of a financing assistance program, many factors must be evaluated

- Source of Capitalization
- Amount and Timing of Capitalization
- Security and Volatility of Capitalization
- Balance between Available Capitalization and Infrastructure Costs
- Targeted Program Ratings
- Required Coverage to Attain Target Ratings
- Revolving or Non-Revolving Fund
- Financial models have been developed as part of this engagement and were utilized to quantify the information contained in this report
- We are prepared to do additional analysis as the funding options continue to be evaluated in the finals phases of the OCWP
- Small Issuers comprise 46% of the drinking water infrastructure costs and given some of the challenges related to financing for small issuers, a strategy to be formulated relative to funding their projects as part of the process

FirstSouthwest greatly appreciates having the opportunity to be a part of the Oklahoma Comprehensive Water Plan process. We look forward to having discussing this report and to continue to be of assistance going forward.