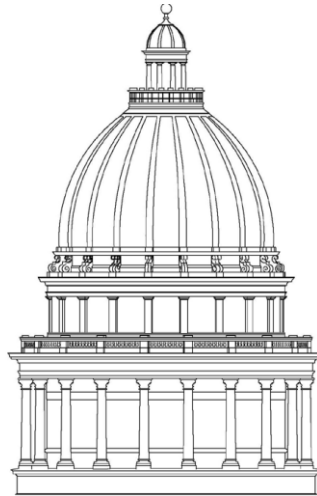


REPORT TO THE  
**UTAH LEGISLATURE**

Number 2019-05



**A Performance Audit of the  
Repayment Feasibility of the  
Lake Powell Pipeline**

August 2019

Office of the  
LEGISLATIVE AUDITOR GENERAL  
State of Utah





STATE OF UTAH

# Office of the Legislative Auditor General

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Senator Karen Mayne • Senator Evan J. Vickers • Representative Brian S. King • Representative Francis D. Gibson

KADE R. MINCHEY, CIA, CFE  
AUDITOR GENERAL

August 2019

TO: THE UTAH STATE LEGISLATURE

Transmitted herewith is our report, **A Performance Audit of the Repayment Feasibility of the Lake Powell Pipeline** (Report #2019-05). A digest is found on the blue pages located at the front of the report. The objectives and scope of the audit are explained in the Introduction.

We will be happy to meet with appropriate legislative committees, individual legislators, and other state officials to discuss any item contained in the report in order to facilitate the implementation of the recommendations.

Sincerely,

A handwritten signature in black ink that reads "Kade minchey".

Kade R. Minchey, CIA, CFE  
Auditor General



# Digest of A Performance Audit of the Repayment Feasibility of the Lake Powell Pipeline

The 2006 Lake Powell Pipeline Development Act authorized the state Board of Water Resources to build the Lake Powell Pipeline Project (LPP) subject to funding. The purpose of the pipeline is to meet future water needs for the rapidly growing population of southwestern Utah. This audit was requested to determine the ability of Washington County Water Conservancy District (WCWCD or district) to pay back the cost of the \$1.43 billion (2015 dollars) pipeline. Washington County's future needs for water and the availability of water in the county and Lake Powell were not within the scope of this audit. Generally, in forecasting, there is relative confidence in projecting over short time periods. Forecasting over long time horizons leads to large uncertainty. Accordingly, we recognize that these estimates could change over the next 50 years requiring updates to the analysis and projections. We could update the analysis and projections if requested to do so by the Legislative Audit Subcommittee.

## Chapter II Based on Currents Estimates, WCWCD Has Potential to Generate Sufficient Revenue to Repay Pipeline

**Potential Revenues Appear Sufficient to Repay State with Accommodating Repayment Model.** WCWCD has the potential to generate sufficient revenue to repay the cost of the LPP. The ability to generate this revenue growth is dependent on planned rate and fee increases occurring coupled with the realization of estimated population growth set forth by the Kem C. Gardner Policy Institute. If projected population increases are realized and planned fee increases are implemented, potential revenue can dramatically increase in future years. WCWCD has planned to generate additional revenue by increasing impact fees, water rates, and the property tax rate. This report modeled three repayment structures to provide context to the question of WCWCD's ability to repay ([click here](#) for an interactive figure). While we do not know whether any of these payment structures will be the final repayment terms, they serve as a reference point. However, WCWCD's ability to repay the state, especially in the first 15 years, will largely depend on how the state structures the repayment terms and conditions. In addition, the final costs of the LPP, costs of other water projects the district has planned, and WCWCD ability to increase rates will affect its ability to repay the state.

**Revenue Sources Are Susceptible to Future Uncertainty.** While WCWCD has the potential to generate sufficient revenue to repay the LPP's cost, revenue is dependent on many factors WCWCD does not control. WCWCD will rely on three sources of revenue to repay the pipeline cost: impact fees, water sales, and property taxes. Impact fees are

influenced by population and economic growth. The growth from water sales will be dependent on population growth and changes in water consumption. Property taxes are subject to changes in taxable value but will provide the district with a more stable source of revenue. WCWCD should allow for flexibility in the plan to lessen the impact on taxpayers as well as be able to generate enough revenue during economic downturns.

### **Chapter III**

## **Pipeline Payback Uncertainties Could Have Large Fiscal Implications for the State**

**Pipeline Payback Requirements Are Not Fully Defined in Statute.** The Lake Powell Pipeline Development Act leaves questions unanswered concerning repayment of pipeline costs to the state. These uncertainties in the act's repayment requirements could seriously impact the state's repayment revenues and the district's ability to pay. We specifically address three issues and their financial impact:

- It is unclear if including the state's bond interest costs is required as part of the district's repayment. Including the state's bond interest costs could mean more than half a billion dollars more in repayments from the district to the state.
- It is unclear if project costs can be divided among contracts and thus defer some costs to future repayments. If some project costs cannot be deferred to future repayments, the district may not be able to pay for the project.
- There is no set limit when repayment must start on the last 30 percent of water. Without a set limit when the district must begin repayment of the remaining principal, repayment of up to 30 percent of pipeline costs might not begin repayment for an indefinite period.

If the statute is left unchanged, these uncertainties will ultimately be addressed by the Board of Water Resources. The Legislature should consider clarifying the act to answer these questions which would give them more financial control over such large amounts of state funds.

**Clarifying and Finalizing Repayment Terms Would Facilitate Repayment Planning.** Clarifying how costs can be divided among contracts, whether the state's interest costs will be reimbursed, and when the entire project is expected to be paid off can aid the state and district in planning the financing of the pipeline. As pipeline construction comes closer to its start, the financing model to pay for the project will need to be developed. A clearer understanding on payback expectations would aid in designing a funding model. If the Legislature chooses not to clarify some questions in statute, then the Board of Water Resources should act within its authority to formalize answers to the remaining questions, as well as address other repayment concerns that affect financing.

# REPORT TO THE UTAH LEGISLATURE

Report No. 2019-05

## **A Performance Audit of the Repayment Feasibility of the Lake Powell Pipeline**

August 2019

Audit Performed By:

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# Chapter I

## Introduction

The 2006 Lake Powell Pipeline Development Act authorized the state Board of Water Resources to build the Lake Powell Pipeline Project (LPP) subject to funding. The purpose of the pipeline is to meet future water needs for the rapidly growing population of southwestern Utah. This audit was requested to determine the ability of Washington County Water Conservancy District (WCWCD or district) to pay back the cost of the \$1.43 billion (2015 dollars) pipeline. Washington County's future needs for water and the availability of water in the county and Lake Powell were not within the scope of this audit.

### **2006 Lake Powell Pipeline Development Act Authorized LPP Project**

The 2006 Lake Powell Pipeline Development Act authorized the Board of Water Resources to do the following:

- Make rules
- Build the Lake Powell Pipeline project, as funded by the Legislature
- Contract for the sale of developed water and operation of the project

The act also authorizes the building of hydro-electric generating plants and established an enterprise fund for the operation and maintenance of the project. This audit assumes the LPP will be built and examines the potential future revenues generated by WCWCD to pay back the cost of the project.

### **LPP to Be Funded by the State and Repaid by Districts**

The 2006 LPP legislation directed the Board to construct the project as funded by the Legislature and water districts receiving the water to pay the state back, through the purchase of project water. WCWCD will be the main payer on the LPP project, seeking to receive 82,249 acre-feet of water per year from the pipeline, which is more than double their current capacity. Kane County Water

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**This audit was requested to determine the ability of Washington County Water Conservancy District to pay back the cost of the pipeline.**

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**WCWCD will be the main payer on the LPP project.**

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**As of March 2019, the state has expended nearly \$38 million in preliminary costs for the LPP.**

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Conservancy District (KCWCD) is a minor pipeline partner receiving 4,000 acre-feet of water.

Since WCWCD will receive 95 percent of the water from the Lake Powell Pipeline, this audit focuses on the conservancy district's ability to pay the pipeline's cost by projecting its potential revenues given its rate increase plans (as will be explained in Chapter II). As of March 2019, the state has expended nearly \$38 million for preliminary design engineering services, permitting, and environmental and cultural studies for the LPP. However, the process to pay back the cost of the project is not clear in statute. The funding and payback questions of the LPP will be addressed in Chapter III of this report.

### **WCWCD Has an Agreement with Cities To Fund Capital Projects**

In a 2006 agreement with Washington County municipalities<sup>1</sup>, WCWCD is allowed to charge impact fees for new construction and a surcharge fee for all connections in each city. In this agreement, the cities adopt the district's capital facilities plan with respect to development and debt service. Since WCWCD plans to pay for much of the pipeline with impact fees, this agreement is necessary to ensure rights to impact fees on all new construction in these cities.

## **Lake Powell Pipeline Is in Approval Process**

Currently, the Federal Energy Regulatory Commission (FERC) is the lead federal agency for developing the environmental impact statement (EIS) for the pipeline. The earliest feasible construction start is in the mid-2020s, with the earliest completion expected in 2028. However, several factors could delay the completion date.

Currently there are two requests for proposals being studied that are expected to further the project along. The first is looking at the price elasticity of increasing water rates and impact fees in Washington County, while the other is looking at financing and repayment options for the project.

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<sup>1</sup> St. George, Washington, Ivins, Hurricane, Santa Clara, Toquerville, LaVerkin, Virgin, Leeds, and Apple Valley

## Environmental Impact Statement Is Still Being Conducted

The Lake Powell Pipeline is currently in the approval process, waiting for the completion of the draft EIS, which is expected to be completed in the fall of 2019. Figure 1.1 shows the approval process and what steps still need to be completed.

**Figure 1.1 LPP Project Timeline.** The Lake Powell Pipeline project is currently waiting for the completion of the draft Environmental Impact Statement.

- 2006 Lake Powell Pipeline Dev. Act Passed the Utah State Legislature
- 2007-2017 Research/studies and preliminary design
- 2015 Preliminary license application submitted
- 2017 FERC issues REA
- As of **June 2019** FERC develops draft Environmental Impact Statement (EIS)
- Estimated Fall 2019 FERC releases draft EIS
- Estimated Fall 2020 FERC releases final EIS
- Estimated Late 2020 Records of Decision
- Estimated Late 2020-2022 Project Design
- Estimated 2022-2023 Financing Plan
- Estimated 2023-2028 Start Construction
- Estimated 2028 Earliest Completion Date



*Source: Ipputah.org and Utah Division of Water Resources*

The 2006 Lake Powell Pipeline Development Act initiated the preliminary processes of design and licensing. The next step in the approval process is the draft EIS and then a final EIS report. Earliest expected completion date for the project is 2028 with some parties suggesting a more realistic completion date around 2030. Chapter II of this report looks at the potential revenues available, while Chapter III looks at repayment requirements in statute, both of which determine WCWCD's feasibility of repayment.

## Pipeline Route Still to Be Finalized

As Figure 1.2 shows, there are three possible pipeline routes. The south alignment for the pipeline is DWRE's proposed action, however the final determination on the pipeline route will wait till the conclusion of the permitting process by federal agencies.

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**The LPP is waiting for the completion of the draft Environmental Impact Statement.**

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**The earliest expected completion date for the project is 2028.**

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**Figure 1.2 Final Pipeline Route Is Yet to Be Determined. The light blue line shows the preferred route for the LPP.**



Source: DWRe

As the map shows, the approximately 140-mile pipeline will begin near the Glen Canyon Dam at Lake Powell and terminate at the Sand Hollow Reservoir in Washington County. Much of the land the pipeline crosses is BLM land and large portions of the pipeline pass through Arizona. The 69-inch diameter pipe will provide 86,249 acre-feet of water per year from Lake Powell to Washington County and Kane County when completed. The pipeline will pump water from Lake Powell and over the highest elevations of the pipeline. On the downhill portions, several power generating stations are planned.

**Pipeline Participants Have Changed**

The original participants in the Lake Powell Pipeline Development Act were the Central Iron County Water Conservancy District, Kane County Water Conservancy District, and WCWCD. The statute also allowed the Board of Water Resources to contract with Arizona if it decided to participate in the project. The Central Iron County Water Conservancy District has since decided not to be part of the LPP. While Arizona has not opposed the pipeline, they have not requested to participate.

**Current Cost Estimates Are Preliminary Until EIS and Final Project Design Are Completed**

A 2015 engineering study placed the project’s initial construction cost estimate at \$1.43 billion, with a range from \$1.14 to \$1.86 billion. These estimates were based on the largest impact with maximum assets that could be considered in the project to ensure

**The approximately 140-mile pipeline will begin near Glen Canyon Dam and terminate at the Sand Hollow Reservoir in Washington County.**

**The Central Iron County Water Conservancy District has decided not to be part of the LPP.**

**A 2015 engineering study places the initial cost estimate of the project at \$1.43 billion.**

everything was included in the permitting process. Future cost-benefit analyses may reduce the need for some assets and thus reduce the project's cost. However, given the long timeframe before construction starts, inflation alone could increase the pipeline's construction cost to \$2.4 billion by 2025, while other factors could increase the cost even more. Again, since the cost of the pipeline is not yet finalized and the financing structure has yet to be determined, this audit examines the future revenue potential of the WCWCD to assess its ability to pay for the project.

### **Population Growth Is the Driving Factor For LPP Need**

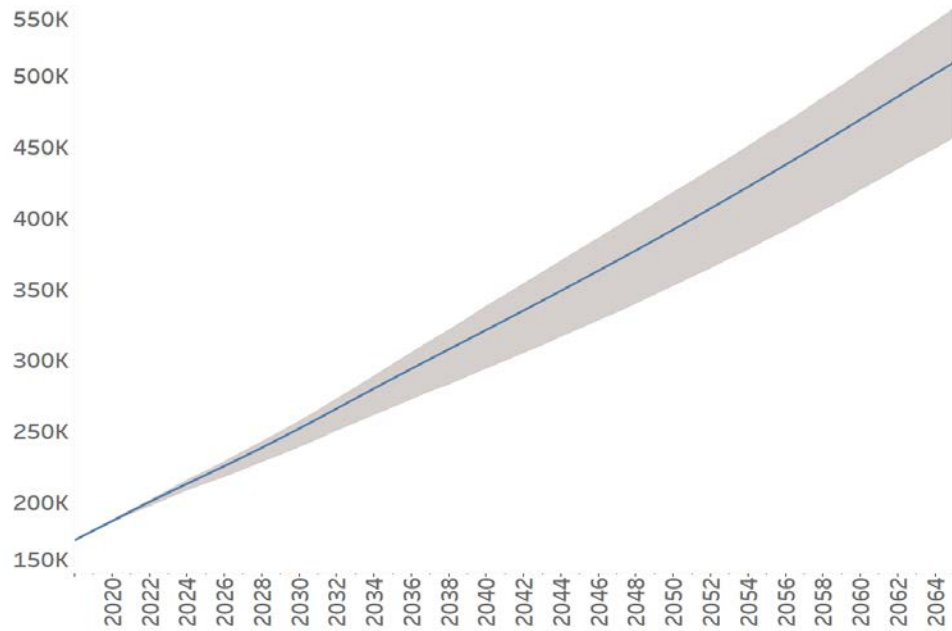
For this audit, we used the best population growth projection data obtainable. The University of Utah's Kem C. Gardner Institute's population projections show that Washington County has a 2018 baseline population of 173,000. During peak seasons, the county could have a third more seasonal and overnight visitors. As shown in Figure 1.3, the Gardner Institute projects Washington County's population to increase to just over 500,000 permanent residents by 2065. We did not audit the institute's population projection information but did review it for consistency.

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**The Gardner Institute projects Washington County's population to increase to just over 500,000 permanent residents by 2065.**

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**Figure 1.3 Washington County Population Is Expected to Triple by 2065.** County population is expected to increase from 173,000 in 2018 to 509,000 in 2065.



Source: Kem C. Gardner Institute

**The Census Bureau has identified Washington County as one of the fastest growing areas in the nation.**

The Census Bureau has identified Washington County as one of the fastest growing areas in the nation. Continued rapid population growth of Washington County will put pressure on existing water sources. The LPP will provide up to 82,249 acre-feet of water for the growing population as well as be a secondary non-local water source. Our analysis of the district’s ability to pay back the cost of the pipeline used the Gardner Institute’s population growth projections for Washington County as one of the driving factors for future revenues.

### **Kane County to Receive Small Portion of LPP Water**

Kane County Water Conservancy District (KCWCD) has sought to receive five percent or 4,000 of the 86,000 acre-feet of water that will be provided by the pipeline. The most northern pipeline route went farther into Kane County, eliminating the need for a long branch line. The proposed southern route requires a much longer Kane County branch line estimated by DWRe to cost \$13.5 million. Additionally, the district will also have to pay a portion of the costs of the pipeline up to their branch. KCWCD’s original understanding of their share of pipeline costs was \$25 million. With increased costs overall, their share could be \$40 million based on current cost



estimates but could change as engineering specifications are finalized. Regardless of KCWCD's decision, they could benefit from a revenue plan to pay for its share of the project. Because WCWCD will be paying for over 95 percent of the project, this audit focused on WCWCD's ability to pay.

## **Audit Scope and Objectives**

We were asked to examine the ability of WCWCD to pay for the LPP. However, this report does not address water availability or need in the district or Washington County. In Chapter II, we discuss the revenues WCWCD would need to generate, given planned rate increases and the Kem C. Gardner Institute's projected population growth. Chapter III discusses the Lake Powell Pipeline Development Act and issues to consider regarding the payback process.

Since the LPP is partway through the permitting process, only preliminary costs estimates have been developed and the financing plan is yet to be determined. Therefore, our analysis uses a revenue model to determine the future potential revenues available to pay for the pipeline. In conducting our analysis, we relied on several key assumptions. We carefully considered each variable in our calculations but did not fully audit each variable for accuracy provided by other entities. We believe these assumptions represent the current best information available. Our assumptions include the following:

- The preliminary engineering cost estimates with a yearly inflationary cost factor are reasonable projections of the final cost of the pipeline.
- Population growth in Washington County will follow estimates projected by the Kem C. Gardner Institute.
- Final project financing interest rates will be 3 percent.
- Conservation and price elasticity will reduce water consumption by 15 to 25 percent per capita by 2065.
- Engineering estimates of Washington County's reliable supply of municipal water are reasonably accurate.

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**This report does not address water availability or need in the district or Washington County.**

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- Operation/maintenance and replacement costs of the pipeline are adequately represented by the April 2016 Final Study Report 10.
- The WCWCD will make a 10 percent down payment on the pipeline by 2028.
- The final financing model chosen will defer some costs until later revenues are available.
- Other future WCWCD water projects (not discussed in this report) will be completed only as revenues and financing are available.

For a project spanning more than 50 years, with many financing details still unclear, we recognize that many of these variables could change substantially, which would affect the conclusions in this report. If these assumptions change, we would gladly provide an updated analysis if requested to do so by the Legislative Audit Subcommittee.

## **Chapter II**

# **Based on Current Estimates, WCWCD Has Potential to Generate Sufficient Revenue to Repay Pipeline**

Our analysis shows Washington County Water Conservancy District (WCWCD or district) has the potential to generate sufficient revenue to repay the Lake Powell Pipeline (LPP) costs. However, depending on financing terms, population growth, and planned rate and fee increases occurring, the first 10 to 15 years present the most challenge for repayment. Further our conclusion is based on many assumptions supported by the best information we could obtain (key assumptions are listed in Chapter I). Assumptions, such as population growth and water conservation, are based on current projections and estimates. Other assumptions, such as repayment structure and final construction cost, are based on estimates since they have not been finalized. Generally, in forecasting, there is relative confidence in projecting over short time periods. Forecasting over long time horizons leads to large uncertainty. Accordingly, we recognize that these estimates could change over the next 50 years, which would affect repayment. If the final repayment structure or other assumptions are significantly different from current assumptions, we could update the analysis and projections if requested to do so by the Legislative Audit Subcommittee.

### **Potential Revenues Appear Sufficient to Repay State with Accommodating Repayment Model**

WCWCD has the potential to generate sufficient revenue to repay the cost of the LPP. The ability to generate this revenue growth is dependent on planned rate and fee increases occurring coupled with the realization of estimated population growth set forth by the Kem C. Gardner Policy Institute. If projected population increases are realized and planned fee increases are implemented, potential revenue can dramatically increase in future years. WCWCD has planned to generate additional revenue with the following increases:

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**The first 10 to 15 years present the most challenge for repayment of the Lake Powell Pipeline.**

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**If assumptions are significantly different from current assumptions, we could update the analysis and projections if requested by the Legislative Audit Subcommittee.**

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**The ability to generate increased revenue is dependent on planned rate and fee increases occurring coupled with the realization of estimated population growth.**

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- Impact fees are planned to increase up to \$1,000 annually from the 2017 fee of \$7,417 through 2026, reaching \$15,448
- Wholesale water rates are planned to increase \$0.10 annually from the 2016 rate of \$0.84 to \$3.84 per 1,000 gallons
- Property taxes are planned to increase from the 2018 rate of 0.0648 percent to 0.1 percent by 2025

Additionally, we modeled three hypothetical repayment structures in this report to provide context to the question of WCWCD's ability to repay.

- Payment structure 1 – Straight-line payment over 50 years. Shown in Figure 2.1
- Payment structure 2 – Based on WCWCD and Division of Water Resources (DWRe) understanding of Lake Powell Pipeline Development Act<sup>2</sup> with repayments spanning over 79 years
- Payment structure 3 – Same model as payment structure 2 with capitalized interest. The capitalization of interest adds interest costs for unpaid portions of the pipeline to the principal amounts that the district would pay on. Capitalization of interest essentially increases the principal balance of which WCWCD would be expected to repay. This issue is further discussed in Chapter III.

While we do not know whether any of these payment structures will be the final repayment terms, they serve as a reference point. Payment structure 2 is based on WCWCD's planned draws of water and the agreed upon terms between Washington County and DWRe. This issue will be discussed further in Chapter III. However, WCWCD's ability to repay the state, especially in the first 15 years, will largely depend on how the state structures the repayment terms and conditions<sup>3</sup> (discussed in more detail in Chapter III). In addition, the final costs of the LPP, costs of other water projects the district has planned, and WCWCD ability to increase rates will affect its ability to

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**WCWCD's ability to repay the state will largely depend on the repayment model.**

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<sup>2</sup> Detailed in letters between WCWCD and DWRe on August 14, 2008 and October 14, 2008

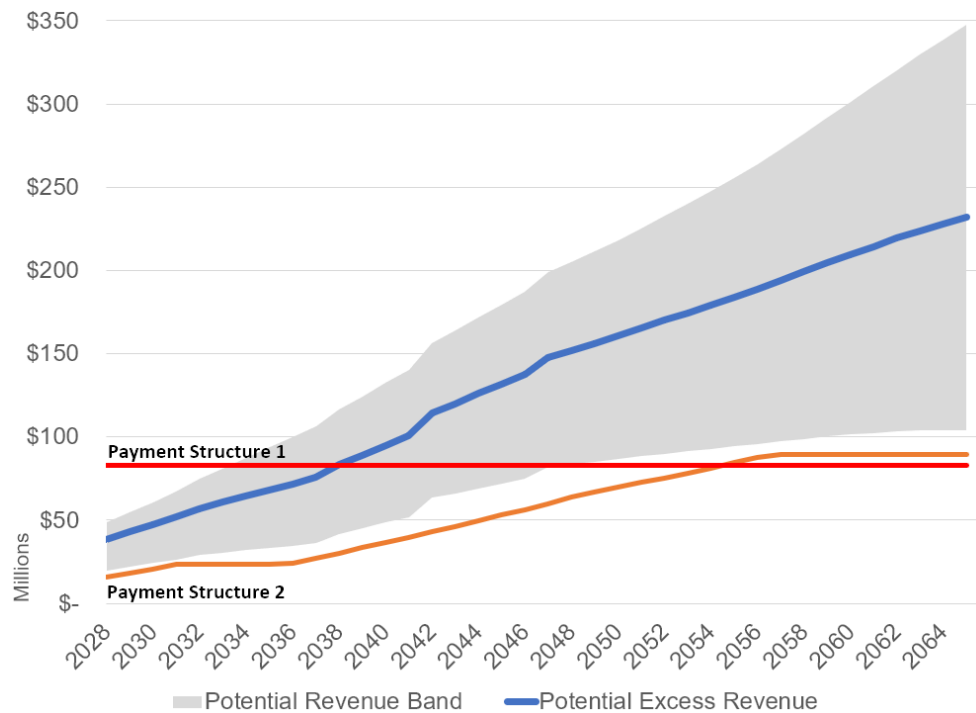
<sup>3</sup> Interest rate, repayment periods, financing costs, and if interest is capitalized

repay the state. WCWCD is building reserves for future water projects to address uncertainty and ability to repay. WCWCD should consider adopting a formal plan for repayment of the LPP that minimizes the financial impact on taxpayers and water users.

### **Potential Revenues to Pay for LPP Dramatically Increase in Future Years**

WCWCD's potential excess revenue, or revenue available to pay for LPP and other future water projects, will increase rapidly as significant rate increases are multiplied by population increases projected to nearly triple by 2065. Because population projections are made decades in advance, they are susceptible to wide variability. Our revenue model accounts for variability by including high and low bands. The further out the projections, the higher the uncertainty of population growth and revenue received. Figure 2.1 shows the growth in total potential excess revenue compared to payment structure 1 (red line) and payment structure 2 (orange line) as reference. Since the repayment structure has not been finalized, this section also refers to payment structure 3 but is not shown in Figure 2.1 ([click to review all models](#)). The likelihood of implementing any of the models is unknown but provided for context to evaluate repayment feasibility.

**Figure 2.1 Yearly Potential Excess WCWCD Revenue to Pay for LPP and Other Water Projects.** Population growth with planned rate and fee increases steadily increases revenue over the next 50 years and appears sufficient to cover LPP payments after 2039. The blue line is the potential revenue projected. The grey bands show the high and low revenue potentials. The interactive model shows a third payment structure.



Source: Auditor Generated  
 For More Information click the following link for an interactive figure:  
<https://public.tableau.com/profile/utah.legislative.auditor.general.s.office#!/>

Our analysis projects potential excess revenues to pay for the LPP and other projects from 2028 through 2065 with a band of potential high revenue and low revenue (grey band). The blue line is based on baseline population projections and planned rate and fee increases. The projected excess revenue is the sum of three main revenue sources: impact fees, water sales, and property taxes, less the forecasted expenses. Excess revenue increases over the 40 years; after 2039, revenue will likely be sufficient to cover repayment in all repayment models.

This figure is based on multiple assumptions, to adjust the assumptions [CLICK HERE](#) for an interactive figure.

## **Depending on Payment Structure LPP Repayment Will Likely Be Difficult for the First 15 Years**

Looking at the baseline estimate (blue line) compared to the straight-line payment (red line) in Figure 2.1, after 2039, WCWCD should begin generating enough revenues to cover debt service. Assuming a straight-line repayment model, it may be difficult for WCWCD to generate sufficient revenue to make payments prior to 2039. Comparing the red line to the bottom of the grey band shows it could be as late as 2051 before WCWCD would generating enough revenue.

Figure 2.1 compares potential excess revenue to payment structures 1 and 2. A third payment structure was also modeled in the interactive model. All three financing structures assume the cost of the project by 2025 to be between \$1.8 and \$2.4 billion with an interest rate of 3 percent and a 10 percent down payment from the district.

As will be discussed in Chapter III, repayment has not been finalized. Payment structures shown in Figure 2.1 are not certain to be used but is shown in figures as a reference point for repayment feasibility. Delayed completion or payment deferral of the LPP would make it more likely that WCWCD would be able to afford straight-line payments from the start of the project. Delayed completion of the pipeline could result in a higher cost of the project due to inflation.

Revenues were calculated using population growth estimates provided by the University of Utah's Kem C. Gardner Institute and WCWCD's planned price and fee increases. These revenue estimates will be discussed in further detail later in this chapter. All projections are based on the best available data. As better numbers become available, we can update our projections as requested by the Legislature.

In our revenue model, district expenses were calculated based on current expenses increased annually at a rate of inflation. The projected expenses for WCWCD include current obligations and debt services. Additionally, we added the annual cost of water withdrawn from Lake Powell paid to the Bureau of Reclamation and operation, maintenance, repair, and replacement (OMR&R) of the LPP.

**WCWCD Could Ease Burden on Taxpayers and Water Users as Sufficient Revenue Is Met.** According to population growth and

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**Prior to 2039, it may be difficult for WCWCD to generate sufficient revenue to make straight-line payments.**

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**Delayed completion or payment deferral of the LPP would make it more likely that WCWCD would be able repay.**

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**Revenues were calculated using Kem C. Gardner Institute's population estimates and WCWCD planned rate increases.**

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rate increases, Figure 2.1 shows that WCWCD could potentially generate more revenue than needed in the later years. Depending on financing terms and population growth, WCWCD could potentially reduce the rate of increases. Since WCWCD could potentially generate large excess revenue, we believe WCWCD should consider a repayment plan limiting the financial impact on taxpayers and water users to generate sufficient revenue. Actual increases will be discussed later in this chapter but increasing all three revenue sources will have an impact on taxpayers and water users. Utilizing a repayment plan, weighing the impacts, will benefit WCWCD once the repayment terms are set.

**Best Estimates for Operation, Maintenance, Repair, and Replacement Were Used but Are Still Uncertain.** The projected expenses include the cost of OMR&R for the LPP. The cost of OMR&R used in our analysis is based on the Lake Powell Pipeline Project Final Study Report 10 (Study Report 10) completed by the Board of Water Resources however these estimates are preliminary in nature. This estimate includes the net cost of pumping, OMR&R, and potential revenue from power generation. While these are the best estimates we could find, we recognize that the cost of OMR&R could be higher. Higher costs would affect WCWCD's ability to repay and delay when they would generate enough revenue to pay straight-line payments. Other factors could also potentially affect WCWCD's ability to generate enough revenue to pay back the LPP as will be discussed later in this chapter.

**Ability to Repay in the First 15 Years Will Depend on Repayment Model Which is Unclear in Utah Code**

Although the Division of Water Resources (DWR) and WCWCD have an understanding of what the law for repayment entails, Utah Code is unclear as to the actual model of repayment. WCWCD's ability to repay is largely dependent on the repayment model. The district would likely not be able to collect sufficient revenue in the early years, assuming straight-line payments. Payment structure 1, straight-line payment, would be difficult for WCWCD prior to 2039 and would limit its ability to pay for additional maintenance and other projects. Some form of deferment would allow payments to match revenues but could mean the state may wait longer than 50 years to receive full repayment of pipeline costs. This issue will be further discussed in Chapter III.

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OM&R cost estimates used are preliminary in nature.

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Payment structures 2 and 3 allow for deferred costs allowing payments to grow with increasing revenues. They allow for lower payments in the first 15 years, after which payments increase. These payment structures are based on WCWCD and DWRe understanding of the Lake Powell Pipeline Development Act. These payments increase as more water is drawn. Payment structure 3, accruing interest on unpaid balances, makes it difficult for WCWCD to repay. Comparing payment structure 3 to the baseline scenario, WCWCD has the potential to cover the cost of the LPP but would not have much revenue for additional projects. Compared to the lowest revenue scenario, WCWCD's potential excess revenue may not be sufficient. Capitalizing interest would increase WCWCD's total payment over the life of the loan by over \$2.2 billion at a 3 percent interest rate.

Additionally, WCWCD has a tentative plan for 21 projects in addition to the LPP totaling over \$700 million in 2016 dollars. These projects are planned at various points over the next 50 years. They would be built as needed. Our model includes projects planned prior to 2028 totaling over \$200 million. These projects are planned to occur prior to the earliest completion of the LPP. WCWCD would need to generate sufficient revenue to cover both the cost of the LPP and new projects.

### **WCWCD Is Building Reserves for LPP**

WCWCD anticipates making a \$200 million down payment on the LPP. If construction on the pipeline does not begin until 2025, WCWCD administrators stated that they could have up to \$250 million for a down payment. The three repayment structures account for a 10 percent down payment. To accrue this down payment, the district has raised water rates and property taxes to increase year-end fund balances. As Figure 2.2 shows, WCWCD's cash-on-hand has been increasing every year over the last five years.

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**WCWCD has tentative plans for 21 projects totaling over \$700 million in 2016 dollars in addition to the LPP.**

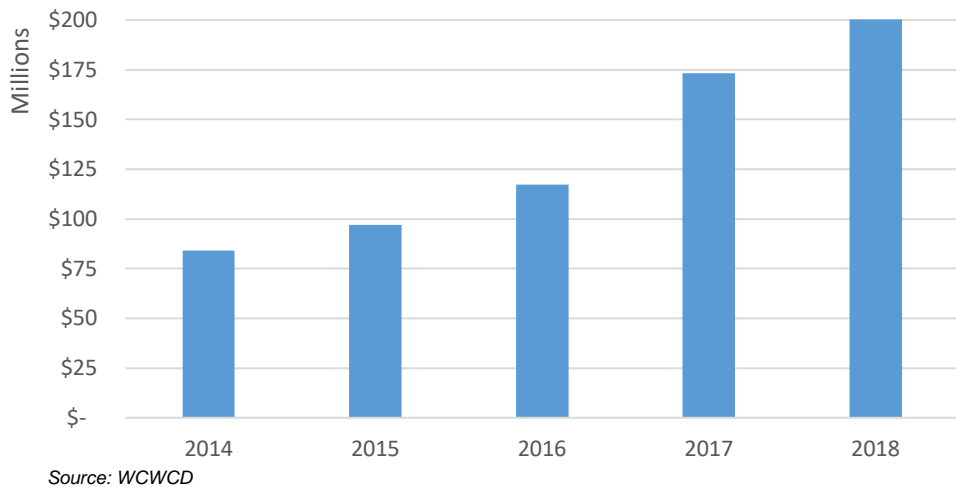
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**WCWCD anticipates making a \$200 million down payment and could have as much as \$250 million by 2025.**

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**Figure 2.2 WCWCD Cash-On-Hand Has Been Growing for the Last Five Years.** The WCWCD has been building up its cash-on-hand, which was more than \$200 million in 2018.



As of December 2018, WCWCD reported having \$202 million in cash-on-hand, \$100 million of which is available to fund the LPP. Our analysis shows that WCWCD has the potential revenues needed to fund the LPP, and that the district has been positioning itself to afford the debt service. The early years of the pipeline pose a challenge for WCWCD to repay the state, as shown in Figure 2.1. As population increases, revenues are modeled to be more than sufficient. To be able to afford the pipeline costs in the early years, when revenues would be at their lowest, the payment structure and financing model will likely need to defer payment of some costs of the pipeline to later years. This will be discussed further in Chapter III.

### **Revenue Sources Are Susceptible to Future Uncertainty**

While WCWCD has the potential to generate sufficient revenue to repay the LPP’s cost, revenue is dependent on many factors WCWCD does not control. As mentioned, WCWCD will rely on three sources of revenue to repay the pipeline cost: impact fees, water sales, and property taxes. Impact fees are influenced by population and economic growth. The growth from water sales will be dependent on population growth and changes in water consumption. Property taxes are subject to changes in taxable value but will provide the district with a more stable source of revenue. WCWCD should allow for flexibility in the

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**WCWCD will rely on impact fees, water sales, and property taxes for the LPP.**

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plan to lessen the impact on taxpayers as well as be able to generate enough revenue during economic downturns.

### **Impact Fees Are Largely Influenced By Population and Economic Growth**

WCWCD administrators state that they plan to use impact fees to generate 75 percent of the cost of the LPP. While this plan may shift the pipeline cost to new growth, impact fees are dependent on growth and economic conditions. Impact fees are onetime charges on new construction to mitigate the impact of new development and growth. Impact fees are charged per equivalent residential connection (ERC). The type of building and amount of growth will influence the number of ERCs added.

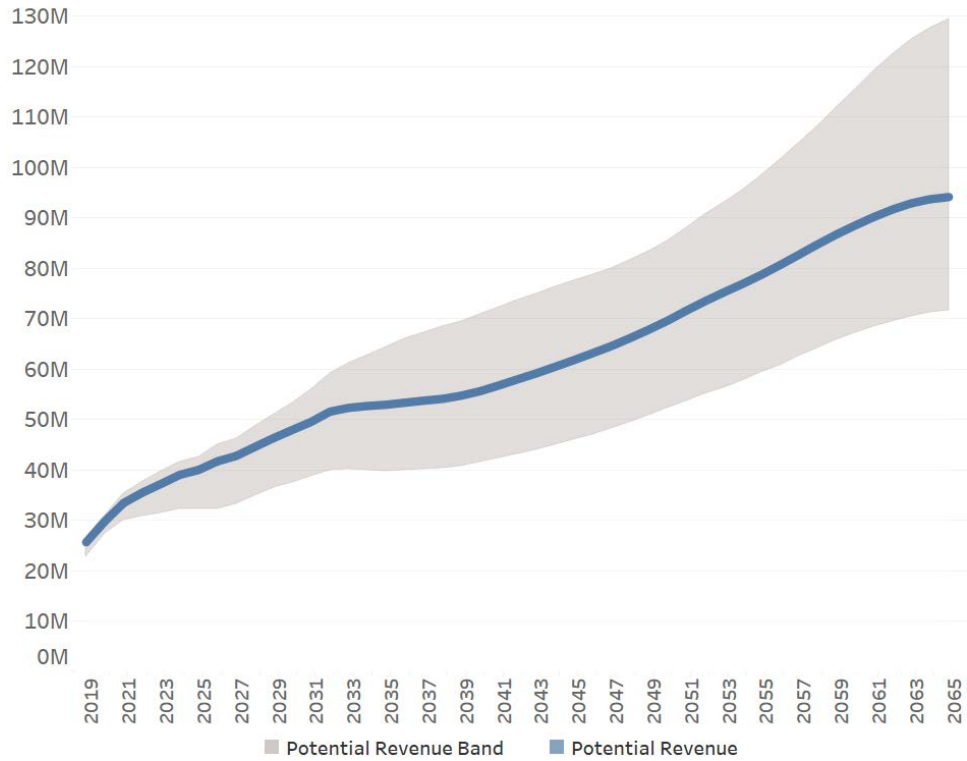
Our model of revenue from impact fees assumes continued growth in population, as projected by the Kem C. Gardner Policy Institute. As population increases, the number of ERCs will proportionally increase. Additionally, our model assumes WCWCD will be able to increase the impact fee beyond the planned increase to \$15,448. The model is not based on WCWCD's stated goal to generate 75 percent of the project cost from impact fees. Figure 2.3 shows the potential growth of annual revenue generated from impact fees.

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**Impact fees are dependent on growth and economic conditions.**

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**Figure 2.3 Potential Yearly Revenue from Impact Fees Will Likely Increase Over the Next 50 Years.** Assuming growth in population and impact fee charges, WCWCD could potentially generate nearly \$95 million a year by 2065.



Source: Auditor Generated

The large initial revenue increase reflects the impact fee increase from \$9,417 to \$15,448 by 2026. After 2026, the revenue model assumes a more gradual increase. While our model of revenue from impact fees shows constant growth, periods of rapid growth or recessions would greatly affect revenue. Actual revenue from impact fees is volatile, with high revenue during rapid growth and low revenue during recession years. Our revenue model does not forecast specific recession periods but smooths periods of rapid growth and downturns to show likely long-term trends.

**A Recession or Slow Population Growth Would Limit WCWCD’s Ability to Generate Sufficient Revenue from Impact Fees.** A recession would likely result in slow growth leading to less new construction. During the most recent recession, from 2008 to 2011, an annual average of 751 residential building permits were issued. The annual average from 2000 to 2018 was 1,928 residential building permits. As with the most recent recession, this would have

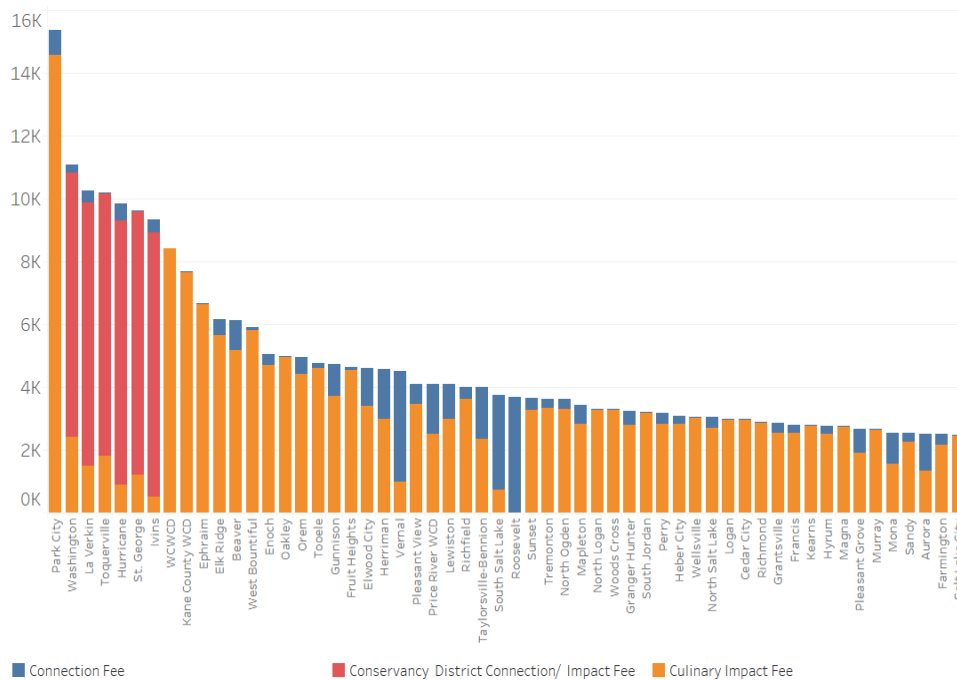
**During the most recent recession an average of 751 residential building permits were issued compared to an average of 1,928 from 2000 to 2018.**

resulted in less revenue from impact fees. While we cannot predict when a recession might occur, it is likely that multiple slow growth periods will occur over the next 50 years, thus, our projections have smoothed out periods of rapid growth and recessions. A recession in the early years of repayment would be especially challenging on WCWCD's ability to make payments.

**A recession in the first 15 years would be especially challenging to WCWCD's ability to repay the state.**

**Washington County Already Has Some of the Highest Impact Fees in the State, but Planned Increases Will Nearly Double the Fee from 2018 to 2025.** Our model assumes WCWCD will carry out its planned increases from \$9,417 in 2019 to \$15,448 by 2026 as planned. While we cannot project what the highest impact fee will be, it will likely increase once the final cost of the LPP is determined. After 2026, our models assume the fee will gradually increase.<sup>4</sup> Currently, WCWCD has some of the highest water impact fees in the state. Figure 2.4 shows the culinary impact fees charged in the state.

**Figure 2.4 Culinary Water Impact Fees.** Washington County has some of the highest water impact fees in the state; its ability to charge even higher fees is a key assumption for revenue growth.



Source: GOMB

<sup>4</sup> Low estimate assumes 1 percent increase, Baseline assumes a 1.5 percent increase, and the high estimate assumes 2 percent annual increase in impact fees.

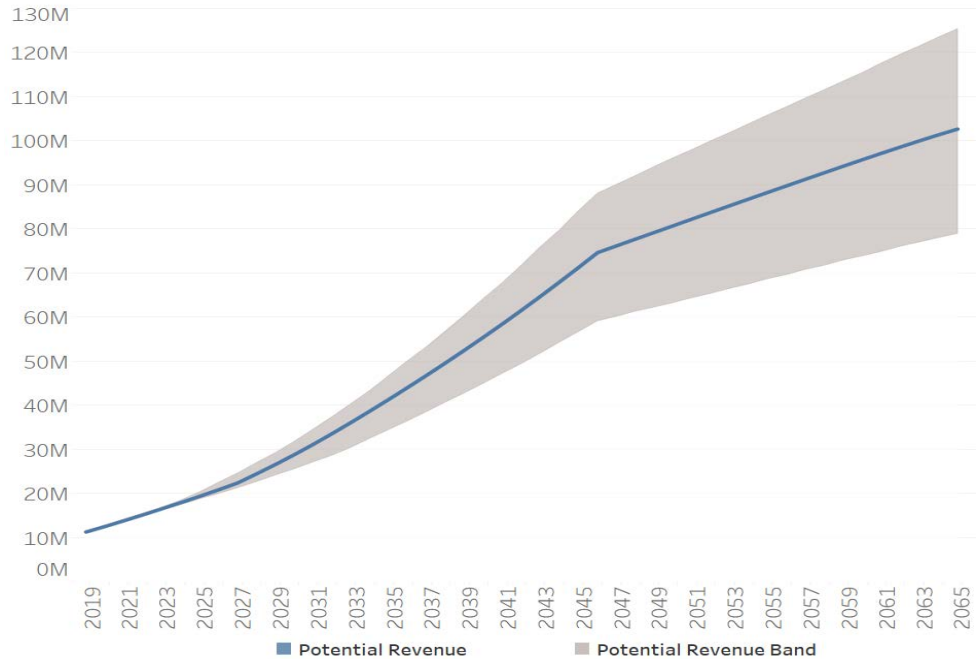
**In St. George, the total impact fee is just over \$19,000 while the average of other Utah cities is \$12,000.**

While Washington County’s water impact fees may be among the highest rates in Utah, the county has continued to be one the fastest growing areas in the state and country. St. George’s total impact fee (including water and other fees) is just over \$19,000 while the average total impact fee of other Utah communities is just over \$12,000. As stated earlier, WCWCD plans to raise its impact fee another \$6,000 by 2026 from the 2019 fee and continue increases as needed. WCWCD’s ability to charge higher impact fees are a key assumption to the growth in revenue.

**Potential Revenue from Water Rates Is Dependent on Water Use and Population Growth**

Potential revenue from water sales increases as population grows. With the rapid growth projected and increased rates, revenue will increase significantly in the early years. Figure 2.5 shows the growth in potential revenue from water sales.

**Figure 2.5 WCWCD’s Potential Yearly Revenue from Water Sales Increases with Population Growth.** Revenue from water sales grows with population and rate increases.



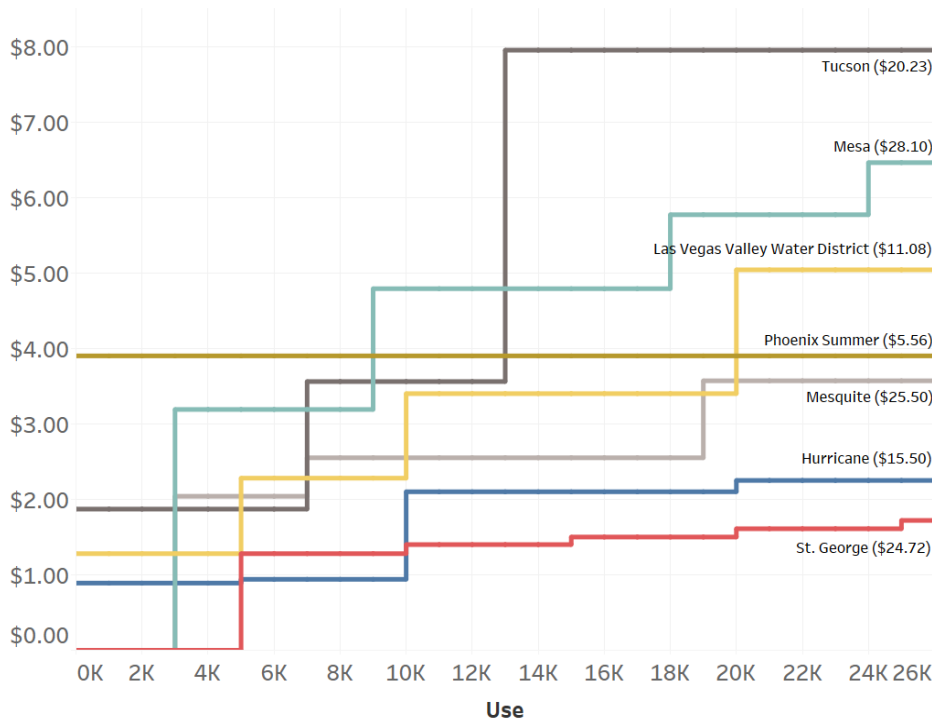
Source: Auditor Generated based on population projections and conservation

Water revenue increases over the first 30 years, then increases at a slower rate once water rate increases stop. Increases are largely due to \$0.10 per 1,000 gallons annual increases anticipated by WCWCD. The increased water rates coupled with population growth rapidly increases potential revenue. In the model, water rates were increased according to WCWCD's plans, from \$0.10 per 1,000 gallons a year to \$3.84 per 1,000 gallons by 2045. This increase would amount to a 357 percent increase over a 30-year period to the wholesale rate, \$0.84 to \$3.84 per 1,000 gallons.

**WCWCD has planned to increase water rates to \$3.84 by 2045, a 357 percent increase over 30 years.**

Currently, cities in Washington County have low water rates compared to cities in other states. Figure 2.6 shows the block rate structures of two Washington County cities compared to five out-of-state cities.

**Figure 2.6 Water Rate Structures.** Washington County cities have lower rates than surrounding desert cities in other states. The base rates are noted in the parenthesis follow the city names.



Source: Auditor Generated  
 Note: Base rates are noted in the parenthesis following the city name

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**Rates in Washington County are between 30 and 85 percent lower than other desert cities.**

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Figure 2.6 shows the retail rates of selected cities. While the rates do not equal the wholesale rates, increases in the wholesale rate will affect the retail price. Retail prices are what ultimately affect the water users. We note that other factors affect actual rates, such as sales taxes, property taxes, and cost to deliver water. Figure 2.6 shows what other desert cities pay for water. Rates per 1,000 gallons in Washington County are 30 to 85 percent lower than cities displayed in Figure 2.6. These rates will increase gradually over the next 30 years with WCWCD water rates likely becoming more equivalent with other cities' current rates.

**Slow Population Growth Would Reduce Overall Demand for Water, Reducing Potential Water Revenue.** The model assumes population will continue to grow over the next 50 years as projected by the Kem C. Gardner Policy Institute. If population were to grow slower than projected by the institute's lowest growth estimates, water demand would be less than projected and would ultimately reduce the revenue received from water sales. Our revenue model accounts for some slow growth with the lower grey band shown in Figure 2.5, however, slower growth than projected would result in lower revenue than estimated.

**Growth in WCWCD Water Sales Is Dependent on Municipalities' Reliable Supply.** An important assumption used in our model is that municipalities will rely on WCWCD for water needs beyond their estimated reliable supply. The reliable supply of each municipality will influence the amount of water needed from WCWCD. We relied on supply estimates from the DWRe 2017 Municipal and Industrial Water Use Databases and MWH's Water Needs Assessment. Each study estimated different supplies for municipalities in Washington County. If municipalities have more supply than estimated or can develop additional sources of water, that could result in less water sold by WCWCD and lower revenue. While our model accounts for different estimated reliable supplies, it does not account for development of water rights not currently owned by municipalities.

**Further Water Conservation than Predicted Would Reduce Water Demand, thus Reducing Potential Water Revenue.** A fundamental economic principle says that, as the price increases for a good, the quantity demand for that good generally decreases. While we believe this principle will hold true for water sales, the magnitude

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**We assume that municipalities will rely on WCWCD for water needs beyond their estimated reliable supply.**

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of the decrease or price elasticity is unclear. To consider the potential decrease in water use due to price increases and other impacts, our model included a water conservation factor. Early planned price increases of \$0.10 per year will have a greater percentage increase than later years. A price elasticity study of water in Washington County is currently being conducted and will provide insight as to the effect of pricing on water use. This study's result will give policymakers a better idea of the effect of price increases on water sales.

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**Early planned price increases of \$0.10 per year will have a greater impact than later price increases.**

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Our model does include water conservation through 2065. Our projections assumed different levels of conservation, ranging from 15 to 25 percent<sup>5</sup> by 2065. This conservation range was based on conversations with DWRE, WCWCD, and the *Water Needs Assessment: Demand and Supply Update* submitted to the Federal Energy Regulation Commission (FERC). The model focuses only on culinary water sales, reducing water use from the 2015 per capita of 229 gallons per capita per day. However, if water conservation occurs at a faster rate than projected in our model, that would further reduce revenues.

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**Our revenue model included water conservation through 2065.**

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**Further Surcharge Fee Increases Could Allow for More Revenue Potential.** Our analysis limited water rates to stated increases planned by WCWCD. However, the district also charges a surcharge fee of a \$1.75 per month per connection in all cities served and could increase this surcharge fee as Las Vegas has done. The Southern Nevada Water Authority (SNWA) charges three different surcharges that vary by use and meter size.

- Reliability Surcharge – 0.25% of the total residential water bill
- Commodity charge - \$0.48 per 1,000 gallons
- Infrastructure charge - \$0.4306 charged daily, totaling just over \$13 a month in 2018

SNWA surcharges are currently much higher than WCWCD's rate. Increases in WCWCD's surcharge would also increase future revenue that is not affected by decreased use, providing steady revenue. Our

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**SNWA's surcharges are currently much higher than WCWCD's surcharge.**

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<sup>5</sup> Conservation Estimates

Conservation Estimate	Low	Baseline	High
Water Use Reduction	15%	20%	25%

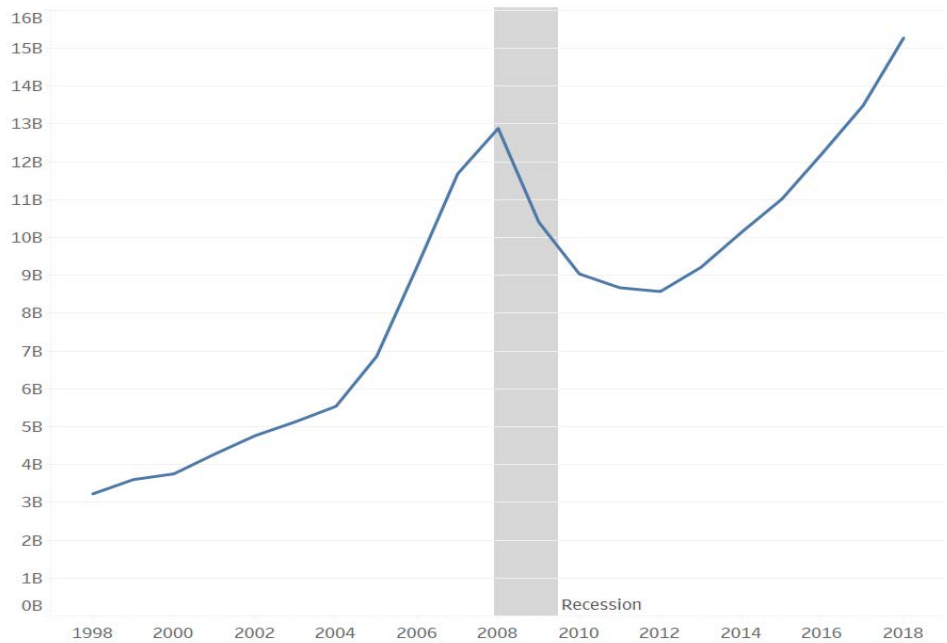
Source: *Lake Powell Pipeline Water Needs Assessment: Demand and Supply Update submitted to FERC.*

model accounts for revenue from water surcharges but the only growth in this revenue is from additional connections added. We held the monthly fee of \$1.75 unchanged for the next 50 years. Increasing the surcharge would increase potential revenue.

### Property Taxes Provide a Reliable Revenue Source

Property taxes provide a reliable source of revenue. Over the past 20 years, total property values in Washington County have increased on average by 8.8 percent annually. Figure 2.7 shows the growth in total property values for Washington County.

**Figure 2.7 Washington County’s Total Property Values Have Increased Nearly Five Times Since 1998.** Washington County’s growth in total property value has increased from \$3.2 billion to nearly \$15.3 billion in 2018.



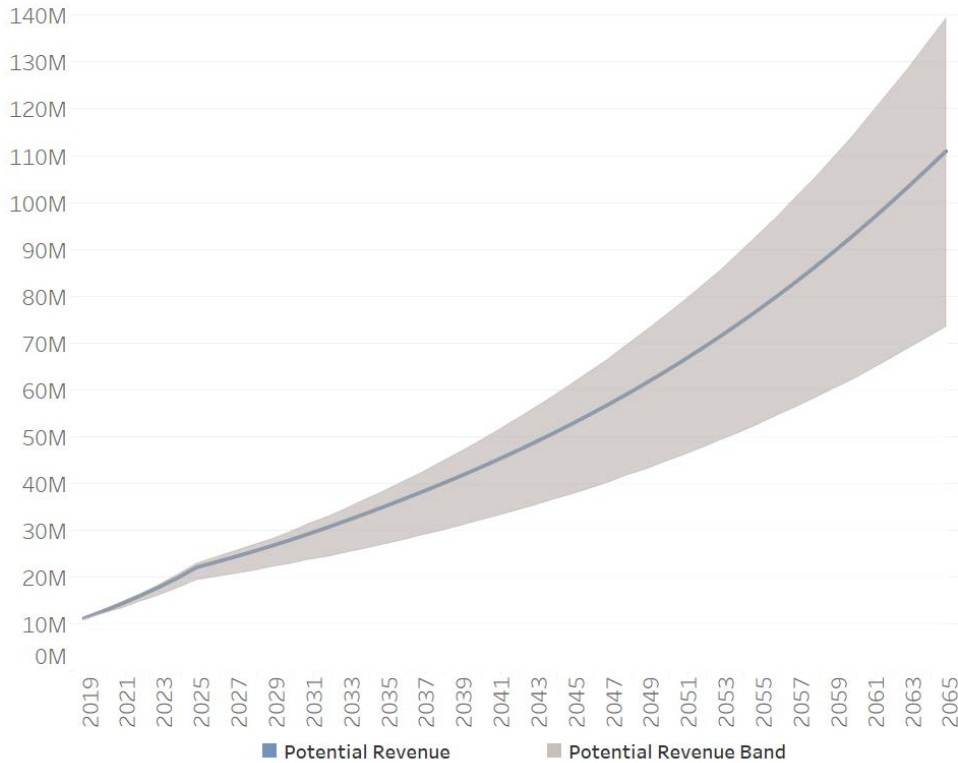
Source: Auditor Generated

Washington County’s total property value has increased nearly five times since 1998, totaling nearly \$15.3 billion. Our models assume an average annual growth of 4.31 percent over 50 years, well below the average annual growth over the past 20 years. Growth in total taxable property values will come from appreciation in property values and new property growth. Figure 2.8 shows the yearly potential revenue WCWCD can collect from property taxes over the next 50 years.

Over the past 20 years total property values in Washington County have increased on average by 8.8 percent annually. We assume an average of 4.31 percent over 50 years in our model.

Washington County’s growth in total property values has increased nearly five times since 1998.

**Figure 2.8 WCWCD’s Yearly Potential Revenue from Property Tax Increases Show Strong Growth.** Property tax revenue has the potential to increase to \$110 million per year by 2065 according to our baseline estimates (blue line).



Source: Auditor Generated

Figure 2.8 shows WCWCD’s estimated annual revenues from property taxes starting at approximately \$11.4 million in 2019 as the rate is increased from the current 0.069 percent to approximately \$110 million at the maximum allowed rate of 0.1 percent in 2065. An increase to the maximum rate would be an increase of just over \$50 a year on a house valued at \$300,000 in Washington County. If WCWCD can collect sufficient revenues with a rate below the maximum, it would allow the rate to be increased during economic downturns to provide the same revenue as the previous year. If WCWCD relies on the property taxes generated at the highest allowable rate, the district risks short-falls in the event of a downturn when total taxable property amounts decrease. However, if total property value growth continues for the next 10 years as it has for the past 20 years, property tax revenues could increase faster than projected in our model.

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**An increase to the maximum property tax rate would be an increase of just over \$50 a year on a house valued at \$300,000 in Washington County.**

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**A Legislative Increase in the Maximum Allowed Property Tax Rate Would Increase Potential Revenue.** Currently, WCWCD can charge a maximum property tax rate of 0.1 percent, which is a higher tax rate than other water conservancy districts across the state can charge. The Lower Colorado water conservancy districts, including WCWCD, can charge a maximum rate of 0.1 percent while conservancy districts in the rest of the state can charge a maximum rate of only 0.04 percent. Our property tax revenue model is based on the statutory maximum rate of 0.1 percent. If need arises, the Legislature could decide to increase this rate. However, as noted, currently WCWCD can charge a higher property tax than other water conservancy districts.

### **Recommendations**

1. We recommend that Washington County Water Conservancy District consider a Lake Powell Pipeline repayment plan considering the financial impact on taxpayers and water users while generating enough revenue in the event of an economic downturn.

## **Chapter III**

# **Pipeline Payback Uncertainties Could Have Large Fiscal Implications For the State**

The 2006 Lake Powell Pipeline Development Act (LPPDA or act) requires repayment of the pipeline preconstruction and construction costs, but the repayment process described in statute leaves some questions unanswered. For example, uncertainties include the following:

- Will the state be reimbursed the full cost to bond?
- How will costs be divided among contracts?
- How long will it be before repayment must be complete?

Answers to these questions could have an impact of billions in potential repayments from the district to the state. We express no opinion on how the repayment of the pipeline should be structured, but the Legislature should consider clarifying some of these uncertainties to exercise more financial control over state funds and provide more direction for those planning the financing of the project. If no action is taken the Board of Water Resources has rule making authority.

### **Pipeline Payback Requirements Are Not Fully Defined in Statute**

The LPPDA leaves questions unanswered concerning repayment of pipeline costs to the state. At our request, attorneys in the Office of Legislative Research and General Counsel reviewed the language of the act concerning repayment and concluded the following:

The absence of a definition for “reimbursable” costs coupled with references to paying preconstruction and construction costs and even operation, maintenance, repair, and replacement costs creates ambiguity in determining repayment obligations.(see Appendix A)

Including a definition of reimbursable costs in the statute would help to clarify some passages in the act. However, other significant

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**How these questions are answered could have an impact of billions in potential repayments from the district to the state.**

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**The Office of Legislative Research and General Counsel reviewed the act and says there is “...ambiguity in determining repayment obligations.”**

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ambiguity remains. These uncertainties in the act's repayment requirements could seriously impact the state's repayment revenues and the district's ability to pay. We specifically address three issues and their financial impact:

- It is unclear if including the state's bond interest costs is required as part of the district's repayment. Including the state's bond interest costs could mean more than half a billion dollars more in repayments from the district to the state.
- It is unclear if project costs can be divided among contracts and thus defer some costs to future repayments. If some project costs cannot be deferred to future repayments, the district may not be able to pay for the project.
- There is no set limit when repayment must start on the last 30 percent of water. Without a set limit when the district must begin repayment of the remaining principal, repayment of up to 30 percent of pipeline costs might not begin repayment for an indefinite period.

If the statute is left unchanged, these uncertainties will be addressed by the Board of Water Resources (or board). The Legislature should consider clarifying the act to answer these questions which would give them more financial control over such large amounts of state funds.

### **State May Not Recover Millions Because Statute Does Not Require that State Bonding Costs Be Repaid**

Because the LPPDA does not require that the state's bond interest costs be repaid, the state may not be repaid over a half billion dollars in potential financing costs. Section 73-28-402 of the LPPDA authorizes the board to contract with the districts to "...repay the preconstruction and construction costs within 50 years from the date of...the delivery of developed water to the district." The act does not specifically state that the state's financing costs for the original principal must be repaid. Assuming the preconstruction and construction costs for the pipeline will be \$2 billion and the district plans to make a \$200 million down payment, the state will then bond for \$1.8 billion. On a 20-year bond at a 3 percent interest rate, the state will pay nearly \$620 million in interest costs. In our opinion, the act does not address the state's financing costs, so the board may, but

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**If the statute is left unchanged, these uncertainties may ultimately be answered by the Board of Water Resources.**

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**On a twenty-year bond at 3 percent interest rate, the state will pay nearly \$620 million in interest costs.**

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**The act does not specifically require that the state's financing costs for the original principal be repaid.**

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is not required to, include these costs as part of preconstruction and construction costs.

As statute is currently written, it is possible the state will not be repaid the interest cost. Accordingly, the inclusion of the state's financing costs in any repayment plan will have a large impact on the districts' total repayments. Therefore, the Legislature should consider amending the statute to include the state's bond interest costs in the repayment of pipeline costs.

**Capitalization of Interest is Not Mentioned in Statute.** While the LPPDA does require the Board of Water Resources to set a repayment interest rate on the Lake Powell Pipeline costs, it does not specify whether interest costs should be capitalized. The capitalization of interest adds interest costs for unpaid portions of the pipeline to the principal amounts that the district would pay on. Since the district will not make payments during the construction period and may not have sufficient revenues early on to make straight line payments, the state will carry the debt rather than investing the money or bonding for other projects. These unpaid balances will be substantial during construction and some may be carried by the state for many years before the district begins repayment.

If interest is capitalized, depending on payment and capitalization schedules, the amount that would be repaid by the district could increase dramatically and negatively impact their ability to repay. Payment structure three discussed in Chapter II (shown here [CLICK HERE](#)) shows that depending on revenue estimates, WCWCD may have difficulty paying for the pipeline if interest is capitalized. However, interest capitalization would encourage faster repayment and maintain the buying power of money that would otherwise decrease due to inflation. While DWRe has not capitalized interest on state projects they have funded in the past 30 years, the federal Bureau of Reclamation does charge and capitalize interest during the construction of water projects for municipalities. While we do not express an opinion on whether interest should be capitalized, this is an important factor that should be considered by policy makers.

### **LPPDA's Lack of Clarity for Repayment Has Significant Financial Impact**

Because there is ambiguity in the repayment process outlined in statute, the Board of Water Resources may ultimately set the terms.

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**The Legislature should consider including in statute the state's bond interest costs as part of the repayment of pipeline costs.**

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**If interest is capitalized, depending on payment and capitalization schedules, the amount that would be repaid by the district could increase dramatically.**

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The act gives the board authority to “...allocate project costs based on the economic costs...” and grants the board authority to determine terms of repayment, to “...establish prices for developed water...” and “...establish a reasonable time period for the districts to offer to purchase water.”

The Legislature could correct the uncertainty of repayment by clarifying statute on the inclusion of state bond interest costs. In Figure 3.1, we demonstrate the impact of including the state’s interest costs in repayment and the impact of charging the district interest once water is drawn for each block. In all three scenarios, the timing of payments is the same and based on multiple contracts over 85 years, as shown in Figure 3.3 in the next section. Repayment plans below have up to three components of repayment: A. the original bond amount; B. the state’s financing costs, and C. interest charged to the district.

**Figure 3.1 is a simplified simulation of repayment, not expected reimbursements.**

**Figure 3.1 Three Different Repayment Plans Have Vastly Different Financial Outcomes for the State.** Including state borrowing costs and charging interest to the district have large financial impacts on repayment. We take no position on these repayment plans but provide this simplified simulation to show the great variability in payment amounts due to uncertainty in terms.

Hypothetical Repayment Plan	Terms of Repayment	Principal Repaid by District	State Interest Revenue	Sum of Repayments to State
1	A. Original bond amount B. State's financing costs C. 3% interest charged district	\$2.4 billion	\$2.2 billion	\$4.6 billion
2	A. Original bond amount C. 3% interest charged district	\$1.8 billion	\$1.6 billion	\$3.4 billion
3	A. Original bond amount B. State's financing costs	\$2.4 billion	\$0	\$2.4 billion

*Source: Auditor Generated*

Starting with an estimated original project cost of \$2 billion minus a \$200 million down payment by the district, the state would bond for \$1.8 billion over 20 years. At a 3 percent interest rate on the bond,



total interest costs to the state would be just under \$620 million. In hypothetical Plan 1, the state would not only require repayment of the initial bond principal (A) but also the state's financing costs of \$620 million (B), totaling \$2.4 billion in principal for the project. The district would also pay interest (C) as water is drawn, as will be explained in Figure 3.2. Over an 85-year repayment period, the state would receive \$4.6 billion from the district. In this plan, the state would receive over \$2.2 billion in interest payments on the \$2.4 billion in total state costs.

In hypothetical Plan 2, the district would only pay the original bond amount of \$1.8 billion (A) and would be charged 3 percent interest as water is drawn (C). Over the same 85-year repayment period the state would receive just over \$3.4 billion from the district. Of the \$3.4 billion in payments, \$1.6 billion would be the interest received by the state. This plan provides \$1.2 billion less in total repayments than would be received with Plan 1.

In hypothetical Plan 3, the district would pay the state's original bond (A) and financing costs (B) totaling \$2.4 billion but would pay no interest over 85 years as water is drawn. In this plan, the board would not capture interest from the district. Though the Board of Water Resources is required to "...charge a reasonable interest rate for the unpaid balance of reimbursable preconstruction and construction costs," this plan is shown here to demonstrate the large effect that charging no or low interest to the district would have on total reimbursements.

In our examples we used the maximum 20-year bond period as allowed under the Utah Constitution, however the state typically does not bond more than 15 years. Bonding for 15 years would reduce the state's bond interest costs on the LPP but increases yearly obligations. Again, the examples in Figure 3.1 are simplified simulations, not expected reimbursements from the district. They are included here to demonstrate the impact that decisions to include the state's financing costs in repayment and charging interest to the district would have on total reimbursements to the state. We recommend that the Legislature consider clarifying in statute the repayment terms for state bond interest costs for the Lake Powell Pipeline project.

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**The Board of Water Resources is required to "charge a reasonable interest rate for the unpaid balance of reimbursable preconstruction and construction costs."**

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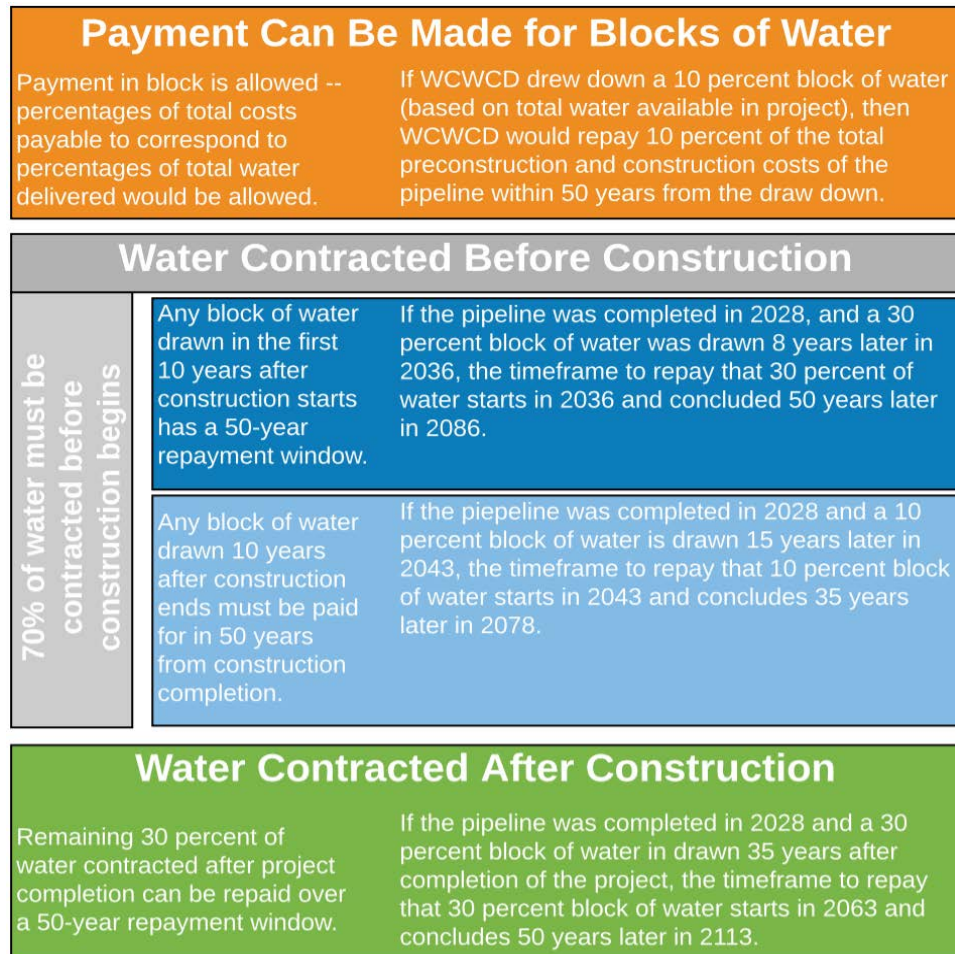
The Division of Water Resources and WCWCD have detailed their understanding of the LPPDA concerning repayment in formal letters.

LPPDA requires that 70 percent of water be contracted before construction begins.

### Statute Is Unclear How Costs Are to Be Divided Among Multiple Repayment Contracts

Because of LPPDA’s ambiguity for payback requirements, some entities involved in the project have made their own interpretations of the statute. The act requires that 70 percent of the available water in the pipeline be contracted before construction starts and sets payback requirements that differ from those required for the 30 percent of water contracted after construction. The Division of Water Resources (DWRe) and WCWCD have detailed their understanding of the LPPDA concerning repayment in formal letters<sup>6</sup>. Their interpretation of the statute is diagrammed in Figure 3.2.

**Figure 3.2 District LPP Repayment Understanding Developed by Two Stakeholders.** The following diagram explains WCWCD’s and DWRe’s understanding of the LPPDA repayment process.

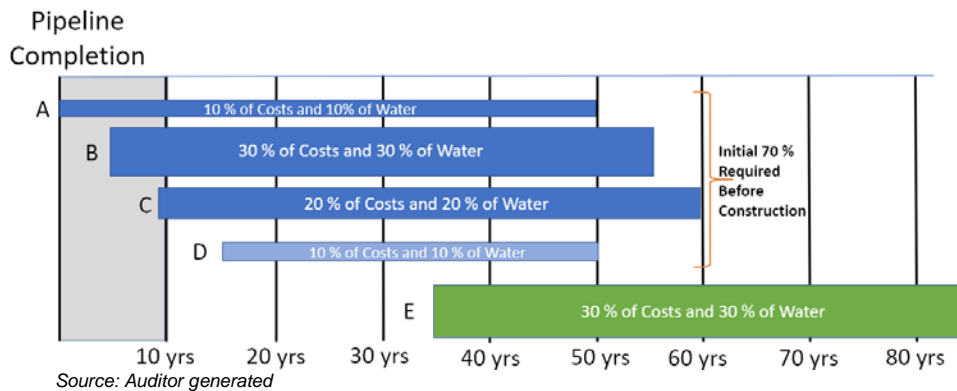


Source: Auditor Generated

<sup>6</sup> Detailed in letters between WCWCD and DWRe on August 14, 2008 and October 14, 2008

To demonstrate the district's and DWRe's interpretation of the act's repayment plan, Figure 3.3 shows an example of five different blocks of water with their timeline of repayment in corresponding pipeline construction costs. In this graph, block colors correspond to Figure 3.2. The LPPDA requires that 70 percent of the water available through the pipeline be contracted prior to construction as shown by the light and dark blue blocks.

**Figure 3.3 LPP Possible Payback Scenario.** For any blocks of water (dark blue) that begin delivery and payback in the first 10 years from pipeline completion (shaded portion), WCWCD has up to 50 years for payback. Any blocks of water (light blue) that are part of the initial 70 percent that begin delivery and payback after ten years have up to 50 years from pipeline completion to be paid back.



Block C shows that the payback time for the first 70 percent of contracted water must be paid off no more than 60 years after the completion of the project. If less than the 70 percent of initially contracted water is delivered within the first ten years, the act requires any remaining water delivered to be repaid within 50 years of project completion as shown with block D (light blue). Block E (shown in green) is an example of a contract signed after completion of the project. In this case, the water delivery and repayment does not start until 35 years after completion of the pipeline and will not be paid off until 85 years after project completion.

This pay-as-you-go payback model that allows for at least two contracts and separates costs by the percent of water drawn in blocks is assumed by the district but not clearly stated in statute. The Office of Legislative Research and General Counsel reports the following:

Figure 3.3 is a simplified payback scenario that gives examples of paying back pipeline costs in blocks.

This pay-as-you-go payback model that allows for at least two contracts and separates costs by the percent of water drawn in blocks is assumed by the district but not clearly stated in statute.

The statute is not clear as to whether there will be one or multiple contracts for different portions of developed water....The Act is silent as to whether the original 70% required to be contracted for under Section 73-28-202 is treated differently from paying the remaining 30%. (see Appendix A)

We agree with the Office of Legislative Research and General Counsel that some LPPDA repayment requirements are not clear. We can find no direct statement in statute between receiving delivery of a percentage of total water and paying an equal percentage of total costs, though that could be implied, as the district's interpretation shows. The repayment interpretation shown in Figure 3.3 is one way to understand the statute, but a more simplified interpretation may make it difficult for WCWCD to repay pipeline costs, as discussed next.

### **Possible Interpretation of LPPDA Repayment Requirements Would Limit District's Ability to Repay**

As we have mentioned in Chapter II, taking on repayment of large portions of pipeline costs early on would be difficult for the district. Since the Office of Legislative Research and General Counsel reports that "the Act is silent as to whether the original 70% required to be contracted for under Section 73-28-202 is treated differently from paying the remaining 30 percent," this opens the possibility for other interpretations. An alternative interpretation of the act could require the district to begin repaying 70 percent or more of all costs once water is delivered soon after project completion.

Before pipeline construction begins, the LPPDA requires a contract to be signed that will obligate the districts to purchase at least 70 percent of the water from the project. Utah Code 73-28-202 states the following:

- (1) Except as provided in Subsection (3), the board may not expend money for construction costs for any phase of the project until:
  - (a) the board has contracted with the districts for the sale of at least 70% of the water developed by that phase of the project;

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**An alternative interpretation of the act could require the district to begin paying 70 percent or more of all costs once water is delivered soon after project completion.**

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Further, *Utah Code 73-28-402* requires contracts signed before completion of the project, which would include the contract for 70 percent of the water, to be paid within a 50-year period once the contracted water is delivered:

The board and each district shall establish by contract the timing and amount of developed water to be delivered to the district.

- (2) If a contract was made before the project's completion, the district shall repay the preconstruction and construction costs within 50 years from the date of:
  - (a) the delivery of developed water to the district during the first ten years after the project is completed; or
  - (b) the project's completion for any developed water delivered to the district after the tenth anniversary date of the project's completion

In our opinion, these statutes could be interpreted to say that once water is delivered soon after completion of the pipeline, the district has 50 years to pay for the 70 percent of water it contracted prior to construction. Since costs are not specifically attached to the percent of water contracted, it is not clear how much of total costs must be paid.

If the district is required soon after construction to begin repayment of 70 percent of pipeline costs, given the current model they may have a difficult time making straight-line payments, as demonstrated in Chapter II. Our concern is that the act's ambiguity in the repayment process could be interpreted such that it would be difficult for the district to repay the pipeline costs. The Legislature should consider clarifying statute as to whether pipeline costs can be divided into separate repayment contracts and blocks to facilitate the district's ability to repay.

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**Our concern is that the act's ambiguity in the repayment process could be interpreted such that it would be difficult for the district to repay the pipeline costs.**

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**Unlike the first 70 percent of contracted water, there are no time limits when the last 30 percent of water must be contracted and repaid.**

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### **Statute Does Not Specify When the Final 30 Percent Of Water Must be Contracted and Repaid**

Requiring a limited period for total payback of pipeline costs or requiring that the payment of the remainder of pipeline costs must begin by a specified period would further ensure all state costs are eventually repaid. In Figure 3.3, scenario E represents a contract that begins drawing water 35 years after completion of the pipeline. Payback for this contract could last up to 50 years and, in this example, the entire pipeline might not be completely paid off until 85 years after project completion. Unlike the first 70 percent of contracted water, there are no time limits when the last 30 percent of water must be contracted and repaid.

Though unlikely, the act leaves open the possibility that up to 30 percent of the water, thus possibly 30 percent of the costs of the pipeline, may never be paid off. The Legislature should consider establishing a time limit when repayment for the remaining 30 percent of pipeline costs must begin.

**U.S. Code Limits the Payback Period of all Water Supply Construction Costs to 50 Years.** The code allows up to 30 percent of the costs of water projects to be allocated to future demand. It also allows for “no payment need be made with respect to storage for future water supply until such supply is first used, and no interest shall be charged on such cost until such supply is first used.” However, the code does not allow the interest-free period to exceed ten years and all construction costs must be repaid within 50 years. Federal water project payback requirements may have been used as a basis for the LPPDA and should inform but need not limit the Utah Legislature from pursuing a payback model for the LPP that is in the state’s best interest.

### **Clarifying and Finalizing Repayment Terms Would Facilitate Repayment Planning**

Clarifying how costs can be divided among contracts, whether the state’s interest costs will be reimbursed, and when the entire project is expected to be paid off can aid the state and district in planning the financing of the pipeline. As pipeline construction comes closer to its start, the financing model to pay for the project will need to be developed. A clearer understanding on payback expectations would aid

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**A clearer understanding on payback expectations would aid in designing a funding model.**

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in designing a funding model. If the Legislature chooses not to clarify some questions in statute, then the Board of Water Resources should act within its authority to formalize answers to the remaining questions, as well as address other repayment concerns that affect financing.

For simplicity, financing scenarios in this chapter assume that the state would finance the entire cost of the project except for a down payment from the district. However, other viable financing options for the LPP are currently being considered:

- Water Infrastructure Restricted Account (WIRA) *Utah Code* 73-10g-103: A portion of sales tax is deposited into the WIRA that may be used for the development of the state’s undeveloped share of the Bear and Colorado rivers. The WIRA account is projected to accumulate \$502 million by 2028.
- Water Infrastructure Finance and Innovation Act (WIFIA): This federal program, created by the U.S. Congress in 2014 to provide low interest funding particularly for larger water infrastructure projects, could be used to fund up to 49 percent of the project.
- Individual bonding by districts: Individual bonding by districts would reduce the amount the state has to bond but may require straight-line payments that would start when construction begins, making it more difficult for the district to afford.

By relying on several funding sources, the financial risks of the LPP would be spread out, decreasing the state’s outlays and financing costs.

Clarifying and formalizing the pipeline repayment process would provide certainty of expectations for the state and district. An example of this is the expected amount of down payment by the district for the pipeline. In a 2008 letter to the Division of Water Resources, WCWCD wrote they were “...expecting to be able to make an initial down payment of up to \$200 million” for the LPP. Recent discussions with WCWCD reveal they believe they could have up to \$250 million for a down payment if construction did not begin until 2025. Knowing the expected amount of down payment allows the district to plan for it and the state to know how much of the project will need to be financed. The Board of Water Resources should formalize

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**Besides state bonding, other funding options for the LPP are currently being considered.**

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**Relying on several funding sources would spread out the financial risks of the LPP, decreasing the state’s outlays and financing costs.**

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**The Board of Water Resources should formalize expectations for those items they have authority.**

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expectations on down payments, potential interest rates, and other factors so that state and district planners have better information when planning the pipeline's financing.

## **Recommendations**

1. We recommend that the Legislature consider clarifying in statute the terms for repayment including state bond interest costs for the Lake Powell Pipeline.
2. We recommend that the Legislature consider clarifying in statute how repayment costs can be divided among and within repayment contracts.
3. We recommend that the Legislature consider clarifying in statute final repayment time frames for outstanding pipeline reimbursable costs.
4. We recommend that the Board of Water Resources clarify and formalize the repayment process prior to funding for those items over which they are given statutory authority for the LPP.
5. We recommend that the Board of Water Resources clarify down payment expectations for participating districts.
6. We recommend that the Legislature consider whether multiple sources of funding for the Lake Powell Pipeline would be in the best interests of the state.



## **Appendix A**

### **Office of Legislative Research and General Counsel Legal Opinion**





April 3, 2019  
Kade Minchey  
Legislative Auditor General  
W315 State Capitol Complex  
Salt Lake City, UT 84114

RE: Repayment under Title 73, Chapter 28, Lake Powell Pipeline Development Act

At your request, our office reviewed Title 73, Chapter 28, Lake Powell Pipeline Development Act (Act), to determine whether certain water conservancy districts' (Districts) responsibility to reimburse the State for costs associated with the Lake Powell Pipeline project (Project) is clearly outlined in statute. In sum, the Act grants the Board of Water Resources (Board) significant authority to determine how the State is to be reimbursed for the preconstruction and construction costs of the Project. The Act is also ambiguous in relation to some aspects of the issue. A detailed discussion of the Act's provisions relating to repayment of preconstruction and constructions costs follow.

### **Terminology**

In several places in the Act, the statute refers, without definition, to "reimbursable" costs or "nonreimbursable" costs. In other places, the Act refers to a District "repay[ing]" preconstruction and construction costs. "Preconstruction costs" and "construction costs" are defined. In at least one section, Section 73-28-401, the Act refers to the Board allocating "project costs" which is defined to include preconstruction costs; construction costs; and project operation, maintenance, repair, and replacement costs. The absence of a definition for "reimbursable" costs coupled with references to paying preconstruction and construction costs and even operation, maintenance, repair, and replacement costs creates ambiguity in determining repayment obligations.

### **Terms of Repayment**

Section 73-28-401 provides that the Board shall allocate project costs based on the economic costs and benefits of the developed water and electricity among specific water uses. In addition to allocating project costs, the section also provides that the State shall pay the nonreimbursable costs allocated to recreation and fish and wildlife. This gives the Board authority to allocate project costs and to determine what is nonreimbursable.

The breadth of the Board's authority to determine terms of repayment is found in other provisions of the Act. For example, Section 73-28-104 grants the Board rulemaking authority to:

- establish prices, in consultation with the committee and in accordance with Section 73-28-403, for developed water sold to the Districts and electricity made available by the Project;

- establish procedures for reviewing offers to contract for the sale of developed water and electricity;
- establish the interest rate for repayment of preconstruction and construction costs;
- establish a reasonable time period for the Districts to offer to purchase water; and
- administer and operate the Project.

The Act also provides methods of covering costs. For example, in Subsection 73-28-203(3) the Act provides that the Board shall deposit revenues received from the sale of electricity designated for the repayment of preconstruction and construction costs and interest into the Water Resources Conservation and Development Fund; revenues received from the sale of electricity designated for Project operation, maintenance, repair, and replacement costs into the Lake Powell Pipeline Project Operation and Maintenance Fund; and any additional revenues received from the sale of electricity into the Water Resources Conservation and Development Fund. Section 73-28-404 also provides for deposits of money into different funds depending on where it comes from or how it is designated. Although the statutory language is not clear who makes the determination, it is arguably the Board or the contracts that determine which revenue goes into which fund.

The issue of where to deposit money also raises the issue of how obligations to pay for operation, maintenance, repair, and replacement costs and the repayment of preconstruction and construction costs are addressed. For example, under Section 73-28-403, the Board establishes prices for the developed water sold to the Districts and electricity sufficient to:

- recover the *reimbursable* preconstruction costs, construction costs, and interest;
- pay for operation and maintenance costs;
- accumulate an adequate reserve for repair and replacement; and
- allocate the proportionate cost of the project facilities required to deliver the developed water to each District.

Finally, under Section 73-28-405, the Board must convey the Project's title and its associated water rights to the Districts if certain conditions are met. These conditions include the State being fully compensated for the State's *reimbursable* costs and the Districts entering into an agreement with each other and the Board that would ensure the continued operation, maintenance, repair, and replacement of the Project.

### **Timing of Repayment**

Section 73-28-402 provides that the Board and each District shall establish by contract the timing and amount of developed water to be delivered to the District. The statute is not clear as to whether there will be one or multiple contracts for different portions of developed water.

Knowing whether multiple contracts can be used is critical to understanding the timing of repayment. Section 73-28-402 establishes repayment time periods based on when the relevant contract is executed. If executed before the Project's completion date, a 50-year repayment period begins with the delivery of developed water to the District during the first 10 years after the Project is completed, or the Project's completion for any developed water delivered to the District after the tenth anniversary date of the Project's completion. If a contract is executed after the Project's completion date, the District shall repay the preconstruction and construction costs within a period not to exceed 50 years from the date that the contract was made. The Act is silent as to whether the original 70% required to be contracted for under Section 73-28-202 is treated differently from paying the remaining 30%. The assumption may be that the remaining 30% is a





different contract entered into after completion of the Project and therefore would have to be repaid based on the date the contract is executed.

### Scope of Analysis

The analysis of this letter is based solely on the language of the Act. The Board's limited rules addressing the Act, *see* R653-2-8 (Description of Water Infrastructure Restricted Account (WIRA)), are not included in this analysis. No case law was found on the issue of repayment of preconstruction and construction costs. A FERC opinion stated without explanation that the "beneficiaries of the project, ...are required by the act to reimburse the state for the costs of developing the project." There are statutes outside the Act that address funding such as Section 59-12-103, which directs revenue to be deposited into the Water Resources Conservation and Development Fund for certain purposes of the Project. Section 73-10g-106 provides that any money used to construct water infrastructure to develop the state's share of the Bear and Colorado Rivers are subject to the repayment provisions of Title 73, Chapter 26, Bear River Development Act, and the Act. Finally, this letter is not a comprehensive analysis of the Act but is focused on the narrow issue of repayment of preconstruction and construction costs of the Project.



Patricia Owen  
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## **Agency Responses**







July 22, 2019

Kade Minchey, CIA, CFE  
Auditor General  
Office of the Legislative Auditor General  
W315 State Capitol Complex  
Salt Lake City, UT 84114

Dear Mr. Minchey,

We appreciate the legislative auditor's efforts to prepare *A Performance Audit of the Repayment Feasibility of the Lake Powell Pipeline* (audit). The auditors were professional, responsive and thorough. We're grateful for their work as well as the legislators who initiated this analysis.

We are pleased that the audit confirmed that the Washington County Water Conservancy District (district) can generate sufficient revenue to repay the Lake Powell Pipeline (LPP) costs. The district has already initiated several mechanisms to ensure the financial viability of this project. Those efforts include, but are not limited to:

- Saving money for a project down payment, which is not required by statute;
- Enacting a general capital financing strategy that allows for the systematic increase of revenue (i.e., impact fees, water rates and property taxes) to generate additional funding to reduce/repay project costs, without placing undue burdens on those who pay the fees;
- Creating an additional, secure revenue source (i.e., a monthly surcharge on each water connection) that can be used to offset potential revenue deficiencies from other funding sources; and
- Completing an independent third-party analysis on the district's current general financing strategy and resulting revenue capacity, which was shared with the Governor's Executive Water Finance Board in 2018.

As the LPP project continues to progress, additional efforts will be made to reduce cost, such as value engineering the final design and breaking the project into multiple components to allow local contractors the opportunity to competitively bid services. Additional information on the project's costs will become available as the required environmental Records of Decision are issued and the project advances to a final design. We are committed to managing and reducing expenses to minimize borrowing costs and potential financial impacts to taxpayers.

While we appreciate the analysis on various hypothetical repayment scenarios listed on page 10 of the report, it should be noted that the financing terms specified in the 2006 Lake Powell Pipeline Development Act (act) are not based on straight-line payments nor does the act require the capitalization of interest; therefore, payment structure two is the only option that complies with statute.

Furthermore, the capitalization of interest is inconsistent with how the state has historically financed projects and, as noted in the audit, is not contemplated by nor called for in the act.

In addition, we appreciate the risk assessment performed by the auditors in identifying potential scenarios in which the district may not be able to pay for the LPP, such as a reduction in growth that may decrease planned revenue. While that is a potential risk, we consider the greater and more likely risk to be growing faster than projected – as we have done for the past 50 years – and having an inadequate water supply to support our population and economy. Growing at a faster rate would increase planned revenue, which is not stated in the audit. It is unclear why only the downside risk of population growth is included in the audit, but the risk of faster growth and the potential for water resource instability is omitted.

Every project funded by the state of Utah, including funds for education, roads, airports, etc., shares similar financial risks as investments in water infrastructure. That said, unlike investments in education and transportation, water projects are repaid. Suggestions that water projects should be subject to additional conditions and/or repayment terms not typical in other state financing endeavors are counterproductive. Certainly, if law makers had intended to include such “special conditions,” they could have written those conditions in the act. They chose not to; and, to add them after the fact, is inappropriate and inconsistent with a plain reading of the statute.

As requested, we have reviewed the audit and are providing our feedback to both the recommendations and report in general. Again, we are grateful for the opportunity to respond and believe the audit and our accompanying response will be an important resource for those considering the district’s ability to pay for the LPP. Our feedback is outlined below.

### **District Response to Recommendations**

We agree with the recommendation to prepare a formal repayment plan for the LPP once the financing terms and costs are finalized, considering the financial impact on taxpayers and water users while generating enough revenue in the event of an economic downturn. This plan is already scheduled to be completed in advance of construction when the project cost, interest rates, financing terms and other market factors are known.

We agree with the recommendations to clarify the terms for repayment, how repayment costs can be divided among and within repayment contracts and the final repayment time frame for outstanding pipeline reimbursable costs; however, we default to legislators on if

this requires an additional statute or if this falls under the statutory authority given to the Utah Board of Water Resources in the act. This effort should consider the formal correspondence between the district and Utah Division of Water Resources (division), in which some of these terms have already been clarified. The district has relied on these determinations and has progressed with the project based on its reasonable interpretation of the act and subsequent correspondence with the division that confirmed our understanding. In addition, the Bureau of Reclamation's (Reclamation) financing model should be reviewed as it provided sample guidelines that legislators adopted in the act. For example, the division of repayments (referred to as "block notices" by Reclamation) allows for water to be paid in blocks as delivered, and the 50-year repayment timeframe from the date of water delivery is also realized in Reclamation's model.

We agree that it would be beneficial to formalize the repayment process, including any expectation of a down payment, with the Board of Water Resources for items in which they are given statutory authority. We anticipate this will be part of the formal repayment plan previously mentioned and formalized in the contract with the state.

We agree with the recommendation that multiple sources of funding for the LPP should be considered, but options that impose limitations and/or significantly increase project costs should not be pursued as that is not in the best interest of those who will ultimately pay for the project, much less, all those who will ultimately benefit from it.

## **District Response to Report**

### *Introduction & Chapter 1*

Pg. i and 1

- The audit reads: "The 2006 Lake Powell Pipeline Development Act (act) authorized the state Board of Water Resources to build the Lake Powell Pipeline Project (LPP) subject to funding." The act itself reads "The board [of Water Resources] shall construct the project as funded by Legislature." The language used in the audit questions if the project will be funded, whereas in the act considers how, not if, the funding will occur.

### *Chapter 1*

Pg. 5

- While population growth does drive the need for the LPP, having a second, more reliable water supply is also critical. Most of Washington County's residents are dependent on a single water source of variable quantity and quality – the Virgin River basin.

## Chapter 2

### Pg. 10

- As previously stated, the financing terms specified in the act are not based on straight-line payments nor does the act require the capitalization of interest; therefore, payment structure two is the only option that complies with statute and the interpretation of that statute provided by the agency in authority. Payment structure three is clearly inconsistent with both the act and interpretations of that statute previously provided by the division.

The act, which was modeled after the Bureau of Reclamation's financing terms, allows the participating districts to take the water down in multiple blocks and allocates a repayment period for each water block. This model allows for payments to increase with growing revenue, and it equitably enables multiple generations of water users to repay project costs, rather than burdening the current generation with the full project cost. Clearly, the concept of building a water system solely for people who live in a region today is illogical, as the people for whom the system would be constructed would not reside in the area but for the presence of safe, secure and sufficient water resource.

This interpretation of the payment scenario was confirmed in formal correspondence between the district and the division. We have relied on this interpretation in moving forward with the project.

### Pg. 12

- The caption for Figure 2.1 reads that revenue is "sufficient to cover LPP payments after 2039," but does not clarify that is only based on the hypothetical straight-line payment scenario one. The district's ability to make LPP payments based on current law (scenario two) indicates sufficient revenue to cover LPP payments in 2028, as depicted in the figure, to coincide with the project's anticipated completion date. It is unknown why the caption only highlights the conditions under payment scenario one.

### Pg. 13

- Project delays may result in a higher cost due to inflation, but it also allows more time to generate revenue for a down payment, which would reduce financing costs.

### Pg. 14

- As a not-for-profit public agency, the district will continue managing revenue and expenses to ensure adequate funds are available to secure, treat and deliver water while meeting debt obligations without generating "large excess revenue." The district's current capital financing strategy was developed to demonstrate capacity if all revenue increasing mechanisms were employed to their full extent to cover the costs of all current district project including, but not limited to, the LPP. Adjustments will be made as needed to ensure an appropriate balance.

- The audit reads that Utah code is “unclear as to the actual model of repayment.” This is not the case. The act is not unclear relative to the model of repayment; the act is silent as to the model of repayment. This and countless other details are left to the administrative agency, in this case the Utah Division of Water Resources, to provide a reasonable interpretation. They have provided such an interpretation, and the district has relied upon it.

Pg. 15

- Funding for the district’s projects that will precede the LPP will not interfere with project repayment or the anticipated down payment. The audit reports “projects planned prior to 2028 totaling over \$200 million.” Nearly half of the district’s \$200 million-plus cash on hand at the end of 2018 will be used to fund these projects. When possible, the district pays for projects upfront to minimize financing costs and save taxpayers money.

Pg. 20

- The auditor correctly clarifies that the potential increase in water rates from \$1.24 (2019 rate) to up to \$3.84 (2045 rate) per 1,000 gallons is exclusive to the district’s wholesale water rate. This is an important point because water users pay a blended rate of district and municipal fees. A percent increase to the district’s wholesale rate does not equate to an equal percent increase to the water user.
- The auditor included retail water “base rates” in Figure 2.6 which is appropriate given that is a cost to water users. While our municipal water rate tier structure may be lower compared to the other listed desert cities, the base rates of our municipal partners, which range from approximately \$15 to \$32, are comparable to or higher than the listed cities.

### *Chapter 3*

Pg. 27

- The concept of “full cost to bond” appears to contemplate opportunity cost of state funds and capitalization of state interest costs, even when no interest cost is actually borne by the state. We are unaware of anywhere in Utah’s municipal finance history where the “full cost to bond” has been applied nor is this contemplated by the act.

The Office of the Legislative Fiscal Analyst, who establishes and balances the state’s budget as directed by legislators, “[does] not measure a bill’s...non-fiscal impacts like opportunity costs.”<sup>1</sup>

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<sup>1</sup> Utah State Legislature, Office of the Legislative Fiscal Analyst website: <https://le.utah.gov/lfa/index.htm#>

While opportunity cost is rarely, if ever, considered, what is commonly considered are the economic and fiscal benefits to the state, which include, but are not limited to the following factors:

- Sales tax revenue supported by the LPP is estimated to generate more than \$9.4 billion between 2026 and 2060, 78% of which would inure to the state<sup>2</sup>
- Income tax revenue supported by the LPP is estimated to generate more than \$11 billion between 2026 and 2060<sup>3</sup>
- Water from the LPP (based on conservative 2016 estimates) would annually support approximately:
  - 102,000 jobs<sup>4</sup>
  - 106,000 businesses<sup>5</sup>
  - More than \$9 billion in personal income<sup>6</sup>
  - Nearly \$4 billion in wages and salaries<sup>7</sup>
  - More than \$9 billion in gross domestic product<sup>8</sup>
- In addition, there are one-time construction impacts to the economy. An estimated \$1 billion project in Washington County, UT would generate approximately<sup>9</sup>:
  - 10,000-plus jobs
  - \$425 million-plus in wages
  - \$1.5 billion-plus in economic output

As previously mentioned, state investments in water infrastructure are repaid. In addition, several water infrastructure projects continue to generate annual state revenue. For example, Quail Creek and Sand Hollow state parks, water storage projects fully paid by water users in Washington County, return millions of dollars in revenue to the state annually.

Pg. 29

- We appreciate the auditor’s note that the division has never capitalized interest on state projects they have funded, meaning more than 1,000 water projects in Utah have been funded without capitalized interest. In addition, the state has a tradition of offering loans at a subsidized or low-interest rate. Given these well-established traditions, it’s unclear why the LPP would be subject to different conditions that would complicate funding for a project that would benefit the state.

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<sup>2</sup> The Economic and Fiscal Implications of Water Policy in Washington County, UT, June 13, 2018

<sup>3</sup> The Economic and Fiscal Implications of Water Policy in Washington County, UT, June 13, 2018

<sup>4</sup> U.S. Bureau of Labor Statistics

<sup>5</sup> U.S. Bureau of Labor Statistics

<sup>6</sup> U.S. Bureau of Economic Analysis

<sup>7</sup> U.S. Bureau of Labor Statistics

<sup>8</sup> U.S. Bureau of Economic Analysis and the St. George Metropolitan Statistical Area, coterminous to Washington County, UT

<sup>9</sup> Water Stability in Washington County, UT: A Review of Economic, Fiscal and Development Impacts, 2013

The audit reads “the federal Bureau of Reclamation does charge and capitalize interest during the construction of water projects for municipalities.” To clarify, Reclamation charges two types of interest: interest during construction (IDC) and interest on investment (IOI). IDC is charged on construction costs quarterly and is capitalized. When the construction is “substantially” complete, the costs, including IDC are transferred to a “plant in service” capital account and depreciation begins. At that point, Reclamation starts collecting payment and IOI, which is not capitalized. IDC works like a construction loan when building a house, and IOI works like a mortgage loan.

As indicated in the audit, “depending on payment and capitalization schedules, the amount that would be repaid by the district could increase dramatically,” so if the state is going to depart from historical precedent relative to capitalizing interest, it’s critically important that the way that will be applied is clearly presented.

Pg. 36

- Based on the Kem C. Gardner’s 2017 population projections for Washington County, which are significantly lower than actual historical and current growth rates, and projected water demand, it is anticipated that the full 82,249 acre feet of water from the LPP will be contracted and in use by the mid-2050s. We do not foresee a scenario in which the district does not contract for and repay 100 percent of the water.

Again, we express our appreciation to our legislators and the auditors involved in this analysis. We’re grateful for the time and resources dedicated to this important topic and look forward to additional discussions on the LPP financing and repayment as the project continues to progress.

Respectfully,



Ronald W. Thompson  
General Manager



Zachary D. Renstrom  
Deputy General Manager





June 21, 2019

Kade Minchey, CIA, CFE  
Auditor General  
Office of the Legislative Auditor General  
W315 State Capitol Complex  
Salt Lake City, UT 84114

Dear Mr. Minchey,

I appreciate the opportunity to review and provide a response to "A Performance Audit of the Repayment Feasibility of the Lake Powell Pipeline."

As the House Sponsor of the Lake Powell Pipeline Development Act, I'd like to share a little "inside baseball" on the analysis that was performed in the 2006 crafting of the legislation.

Because we did not have a state blue print to follow for funding major water infrastructure projects, we purposely looked at the Bureau of Reclamation's financing of infrastructure projects over much of the last century. This process helped us define the roles of the state, Board of Water Resources and participating water districts – it was determined the state would assume the Bureau of Reclamation's role on the LPP, including assistance with financing and help in the early years of repayment; the Utah Board of Water Resources would oversee the construction and management of the project as well as establish the financing terms "for repayment of preconstruction and construction costs"; and Washington and Kane counties would reimburse the state costs of the project, in line with how the state has managed other smaller water projects.

All the items referred to as "uncertain" in the audit were intended to be resolved by the Board of Water Resources and the act delegates this authority. The LPP is a state water project so it's appropriate this stewardship is placed on the Board of Water Resources – the act reads that the "board shall construct...own, operate and maintain the project until the title is transferred." It was also the intent of the act that the Board of Water Resources would define the repayment terms and "construct the project as funded by Legislature." Additional legislation is anticipated as the project advances and the funding and repayment terms are determined.

"Lost opportunity costs" were not considered as that is not a practice of state financing in Utah, in 2006 or today. In addition, the capitalization of interest was not mentioned in the statute because we did not intend to capitalize interest, consistent with the well-established lending practices of the Utah Board of Water Resources.

I hope this letter provides some additional clarification. Again, I appreciate the opportunity to participate in this process and am happy to provide any additional information that may assist in your efforts.

Sincerely,



David Clark





GARY R. HERBERT  
Governor

SPENCER J. COX  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

BRIAN C. STEED  
Executive Director

### Division of Water Resources

ERIC L. MILLIS  
Division Director

June 21, 2019

Kade R. Minchey, CIA, CFE  
Auditor General  
Office of the Legislative Auditor General  
315 House Building State Capitol Complex  
PO Box 145315  
Salt Lake City, Utah 84114-5315

RE: Response to "Performance Audit of the Repayment Feasibility of the Lake Powell Pipeline"

Mr. Minchey:

Thank you for the opportunity to respond to your Report Number 2019-05 "A Performance Audit of the Repayment Feasibility of the Lake Powell Pipeline." We have reviewed the report and have the following comments:

### **Chapter II Recommendation Responses: Based on Current Estimates, WCWCD Has Potential to Generate Sufficient Revenue to Repay Pipeline (page 25)**

**Recommendation 1:** We agree with the recommendation that, once LPP project costs and financing terms are finalized, Washington County Water Conservancy District consider a repayment plan that considers financial impact on taxpayers and water users while generating enough revenue in the event of an economic downturn. This will provide added surety that the project costs can be repaid. Our understanding is that WCWCD has always planned on producing such a repayment schedule after the design and financing plan are finalized.

### **Chapter III Recommendation Responses: Pipeline Payback Uncertainties Could Have Large Fiscal Implications For the State (page 38)**

**Recommendation 1:** We agree that the Legislature consider clarifying the repayment terms. Considerations such as whether or not to include state bond interest costs will affect the districts repayment amounts. The inclusion of state borrowing costs has not been included in past projects funded by the Board of Water Resources and would be a departure from past funding practices.



June 21, 2019

Subject: Response to "Performance Audit of the Repayment Feasibility of the Lake Powell Pipeline"

**Recommendation 2:** We agree that the Legislature consider clarifying how costs are divided among repayment contracts. We believe the block repayment concept will be critical to the successful repayment of the project, especially during the first 15 years after project completion.

**Recommendation 3:** We agree that the Legislature consider clarifying the final repayment timeframes. This could help ensure that the project repayment period is reasonable for the Districts and the State.

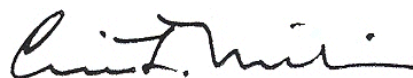
**Recommendation 4:** We agree that the Board clarify and formalize the repayment process for the LPP. It has always been our intention that when the project is ready for financing, the Board would formalize the repayment process, as authorized by statute.

**Recommendation 5:** We agree that the Board clarify the down payment expectations for participating Districts. As you mentioned in your report, the Division and Districts have planned on a 10% down payment, but this amount will need to be reviewed and finalized by the Board to set clear and reasonable expectations for the Districts.

**Recommendation 6:** We agree that the Legislature consider whether multiple sources of funding for the LPP would be in the best interests of the state. We currently have a consultant looking into possible financing options for large water infrastructure projects like the LPP. The results of this study will be presented to the Legislature after completion.

Thank you for the many hours spent by you and the audit team (Benn Buys, August Lehman, and Tyson Cabulagan) to gain an understanding of this project that is so important for Utah's future. We are confident that implementing the recommendations contained in your report will result in improvements to the project.

Sincerely,



Eric Millis, Director  
Utah Division of Water Resources