

Analysis of the Cost of a Bay-Delta Conveyance Structure: Rate Impacts to Santa Barbara County

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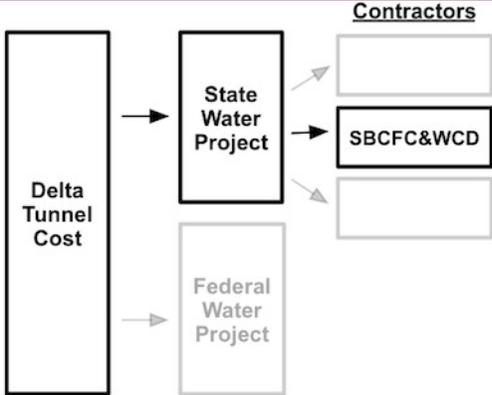
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EXECUTIVE SUMMARY

In this white paper we summarize our analysis of the impacts of the costs of the Bay-Delta conveyance structure and related costs on Santa Barbara County Flood Control and Water Conservation District ratepayers (SBCFC&WCD). Our study has two scenarios: a low-cost scenario and a high-cost scenario. For each, we conduct two analyses. In the first, we assumed the state and federal water projects would evenly split the costs (“50/50”), in the second, we assumed the federal water project would pay none of the costs and that the state project would pay 100 percent (“SWP 100”). We also assumed the State Water Project would pass their costs on to contractors, including the SBCFC&WCD (see Figure 1 below).

Figure 1. Flow of Costs of the Bay-Delta Conveyance Structure to Santa Barbara County Flood Control and Water Conservation District



Source: ECONorthwest

We summarize the results of our analysis in Table 1 below. It shows the cumulative total of principal and interest amounts that SBCFC&WCD would pay and the total per customer, in 2012 dollars, as well as the peak annual *increase* in water rate per SBCFC&WCD customer. That is, the costs in Table 1 would be *in addition* to non-tunnel charges that SPCRC&WCD customers currently pay and would continue paying in the future.

Table 1. Summary of Costs of the Bay-Delta Conveyance Structure to SBCFC&WCD Ratepayers

	Low-Cost Scenario		High-Cost Scenario	
	50 / 50	SWP 100	50 / 50	SWP 100
Total Principal and Interest Payments (in millions of 2012 dollars)	\$766.6	\$1,533.3	\$2,563	\$5,127
Total Increase per Ratepayer (in 2012 dollars)	\$6,431	\$12,862	\$21,503	\$43,006
Peak <i>Increase</i> in Annual Rates ^a	\$287	\$574	\$960	\$1,920

Source: ECONorthwest

Notes: ^a The rates shown are the expected annual rates paid by Santa Barbara ratepayers in 2019, the first year of rate impacts and the year rates will reach their anticipated peak. In subsequent years, rate impacts decline.

PURPOSE OF OUR ANALYSIS

In this white paper we describe the results of our analysis of the impacts of the costs of a Bay-Delta conveyance structure and related costs on water ratepayers in Santa Barbara. For the purposes of our analysis, we refer to the conveyance structure and related costs as “the tunnel.” We describe our analysis in the form of responses to the four questions listed below. You’ll find the details of our analysis in the accompanying spreadsheet to this white paper.

QUESTION 1: WHAT WOULD THE TUNNEL COST?

This first question addresses the cost of building and operating the tunnel that ratepayers, including those in Santa Barbara, would ultimately bear the burden of paying. Given the preliminary nature of the available cost information, we conducted our analysis using two scenarios: a low-cost scenario and a high-cost scenario. We relied on information in the February 2012, *Administrative Draft of the Bay Delta Conservation Plan* (BDCP) for the low-cost scenario. We obtained data on the high-cost scenario from Steve Kasower’s 2009 report on the costs of conveyance alternatives.¹

A. Low-Cost Scenario

Chapter 8 of the BDCP includes information on the estimated capital (construction) and operations and maintenance (O&M) cost of the tunnel and related expenses. Table 8-52 shows the BDCP costs by “funding source,” or the entities that would pay portions of the total tunnel costs. The two largest funding sources are the state and federal water projects.

We assumed that the state project would pass their tunnel-related costs on to their contractors (their customers), including the Santa Barbara County Flood Control and Water Conservation District (SBCFC&WCD).

According to BDCP Table 8-52, the state project’s portion of tunnel construction and O&M costs, and related mitigation costs, is \$8.631 billion. The federal water project would pay the same amount, \$8.631 billion.² Total funding from these two sources sums to \$17.262 billion. Analysts who prepared the BDCP assumed that the state and federal projects would share the same cost burden. The analysts recognized, however, that this might not be the case.

“State and federal water contractors have not agreed upon a specified allocation of costs for BDCP. The current assumption is that participating state and federal contractors would share the costs allocated to the state and federal contractors equally (50% each) ... As actual cost allocations are determined, this assumption may change.”³

¹ Kasower, S. 2009. *The Sacramento San Joaquin Delta 2009. An Exploration of Costs, Examination of Assumptions, and Identification of Benefits. Draft.* Strategic Economic Applications Company.

² This figure likely underestimates the full cost to the state and federal water projects because it does not include costs for “program administration,” and “monitoring, research, adaptive management, and remedial measures.” According to BDCP Table 8-52, on page 8-67, the water projects would pay these costs but analysts have not yet estimated the amounts of these costs.

³ ICF International. 2012. *Administrative Draft Bay Delta Conservation Plan*, page 8-90. (BDCP, 2012)

The total for the low-cost scenario is \$17.262 billion. We conducted two analyses based on this cost. The first analysis assumes a 50%-50% split of the \$17.262 billion between the state and federal water project. We refer to this as the “50/50” analysis. We also ran the analysis assuming that the federal water project would pay none of the tunnel costs and that the state project would pay \$17.262 billion. We refer to this as the “SWP 100” analysis.

We adjusted the \$17.262 billion amount to account for likely inflation of construction costs between the time of the cost estimate, 2010, and the estimated year construction would begin, 2016. According to the BDCP, operating costs account for approximately \$4 billion of the \$17 billion. We calculated a low-cost estimate in 2016 of \$20.6 billion by subtracting out operating costs and applying the producer price index for heavy-industry construction to the remainder. We then added back in the operating costs. That is, we inflated only the construction costs portion of the total cost.⁴

Using the method described above, we conducted two analyses of our low-cost scenario. In the first, the “50/50” analysis, we assumed that the SWP would pay half the \$20.6 billion cost in 2016, or \$10.3 billion. In the second, the “SWP 100” analysis, we assumed that the SWP would pay the full \$20.6 billion cost.

B. High-Cost Scenario

Steve Kasower⁵ reports a cost for conveyance and other related costs of \$53.8 billion, in 2009 dollars. We adjusted this cost to 2016 dollars using the same method described above under the low-cost scenario.⁶ Using this method we estimated a construction cost of \$68.9 billion in 2016. We conducted a “50/50” and “SWP 100” analysis, also as described above under the low-cost scenario. In the “50/50” analysis, we assumed that the SWP would pay half the \$68.9 billion cost in 2016, or \$34.45 billion. In the second, the “SWP 100” analysis, we assumed that the SWP would pay the full \$68.9 billion cost.

⁴ U.S. Bureau of Labor Statistics. Producer Price Index Industry Data, Materials and Supply Inputs to Other Heavy Construction. <http://bls.gov>. See accompanying spreadsheet for details.

⁵ Steve Kasower is an expert in water-resource projects from the political, economic, and regulatory perspectives. He was a Senior Research Economist with the University of California, Santa Cruz, the founder and principal of Water Energy Partners Company, and currently serves as the Chief Executive Officer of the Digital Transportation Corporation.

⁶ We assumed operations costs are the same as the low-cost scenario, approximately \$4 billion. We subtracted this amount from the \$53.8 billion, applied the construction-cost inflator to the remainder, and then added back the operations costs. The result is \$68.9 billion.

QUESTION 2: HOW TO DISTRIBUTE TUNNEL COSTS AMONG STATE WATER CONTRACTORS?⁷

To answer this question we assumed that individual state water contractors would pay a portion of the state water project's tunnel costs equivalent to their share of total revenues paid to the state water project. According to a bond prospectus issues by the California Department of Water Resources (DWR), the SBCFC&WCD accounted for approximately 4.23 percent of the state water project's revenues, on average during 2004 through 2008.⁸ Using this information we assumed that SBCFC&WCD would pay approximately 4.23 percent of the state water project's tunnel-related costs described above under question 1 and used the 4.23 percent figure in our 50/50 and SWP 100 analyses.

QUESTION 3: HOW WOULD THE STATE WATER PROJECT FINANCE ITS PORTION OF THE TUNNEL COSTS?

The BDCP includes a description of an analysis of the costs of financing the construction and operation of the tunnel and related mitigation costs that the state and federal water projects would pay. According to this analysis, the projects would fund their tunnel costs by selling four revenue bonds. Each bond would fund a portion of the construction, O&M, and related costs. The water projects would pass their bond costs on to their contractors. All of the bonds have a 40-year pay-back period, with interest rates ranging from 6.132 to 6.135 percent.⁹ Based on the information in the BDCP, we assumed Santa Barbara would require one 40-year bond and, to be conservative, assumed it would carry the lowest interest rate, 6.123 percent.

QUESTION 4: WHAT WOULD BE THE IMPACT ON SANTA BARBARA RATEPAYERS?

We need one additional piece of information to answer question 4: the number of Santa Barbara ratepayers that would pay the bond costs as an increase in their water rates. Using the Central Coast Water Authority's estimates of water connections, we estimate the SBCFC&WCD had 95,394 water connections in 2010.¹⁰ Using data from the U.S. Census on projected population increases in California, we estimate the annual increase in Santa Barbara water customers through 2060, the life of the bond. We then calculated the average cost per customer, per month, and per year, over the life of the bond.

⁷ Our analysis focuses on the impacts of the cost of the tunnel on water ratepayers in Santa Barbara. Our analysis does not address any potential impacts on water users supplied by the federal Central Valley Project.

⁸ State of California Department of Water Resources. 2009. Central Valley Project Water System Revenue Bonds Series AF. March 10. Page 54.

⁹ BDCP, 2012, Chapter 8.

¹⁰ Central Coast Water Authority. 2011. Comprehensive Annual Financial Report. Accessed 1 July 2012, from: <http://www.ccwa.com/docs/2011%20CAFR.pdf>; Central Coast Water Authority. 2010. Urban Water Management Plan. Accessed 1 July 2012, from: <http://www.ccwa.com/Archives/UWMPs/uwmp-2010.pdf>.

RESULTS

The “Final Rates” page of the accompanying spreadsheet shows the increased monthly and annual costs for Santa Barbara ratepayers. That is, the costs calculated in our analysis would be in addition to non-tunnel charges that SBCFC&WCD customers currently pay and would continue paying in the future.

The rates peak in the first year of the bond pay-off period and decline in subsequent years. Under the low-cost scenario, the peak cost for the “50/50” analysis is an increase of approximately \$287 per year. The peak cost for the “SWP 100” analysis is an annual increase of \$574. The comparable results for the high-cost scenario are, a peak cost of \$960 per year for the “50/50” analysis, and \$1,920 per year for the “SWP 100” analysis. See the accompanying spreadsheet for the details of this analysis.