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University of New Mexico
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ESTIMATED ECONOMIC IMPACTS OF THE BUCKMAN DIRECT DIVERSION PROJECT

A Study for the Buckman Direct Diversion
Board

January 30, 2009

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January 30, 2009

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ESTIMATED ECONOMIC IMPACTS OF THE BUCKMAN DIRECT DIVERSION PROJECT

Introduction

The Buckman Direct Diversion (BDD) Project will provide an additional source of water supply for the Santa Fe area. It includes a diversion structure on the Rio Grande, pumping stations, pipelines and a new water treatment plant. The City of Santa Fe and Santa Fe County, with Las Campanas as a limited partner, are building the BDD to access San Juan-Chama Project water contracted to the City and the County and water associated with native Rio Grande water rights. The BDD water treatment plant will prepare the City and County water for use by residents and businesses. The design-build contractor is a joint venture between CH2M Hill and Western Summit Constructors. Construction began in September 2008 and will continue until the project is operational, expected before the summer in 2011. The project budget for the fiscal years commencing July 1, 2008, through project construction completion is \$216 million. Prior to FY 08, professional services for planning, conceptual and preliminary design, compliance with federal environmental law, acquisition of state and federal permits, and competitive procurement of the design and build contractor cost an additional \$13 million.

The City and the County constituted the Buckman Direct Diversion Board to oversee implementation of the project. Project Manager Rick Carpenter recently contracted the University of New Mexico Bureau of Business and Economic Research to analyze the economic and fiscal benefits of the project on the local economic region, which BBER defines to include Santa Fe, Bernalillo, Sandoval and Rio Arriba counties.

The economic and fiscal impact analysis presented here builds on previous studies performed by BBER over the years and is based on a generally accepted method of measuring the one-time and on-going economic impacts of major projects on regional economies. In this analysis, BBER makes use of the IMPLAN-Pro 2 Model and associated databases, both of which are widely used for this purpose. To analyze the economic impacts of a project, BBER employs a method that can be described as an "export-base" method. Expenditures supported by out-of-region sources (e.g., federal dollars) are considered as fully having a tangible impact on a local economy. On the other hand, expenditures supported by revenues from in-region sources (e.g., from new taxes or rates) need to be offset by the estimated expenditures lost had these in-region revenues flowed to other economic activities.

The analysis is a comparative static analysis. Implicitly, we look at the region over time with and without the Buckman Direct Diversion Project, but we are only concerned with the effects of the additional spending, employment and income supported by the dollars directly spent on the project during the design and

construction phase and, once the project is up and running, during the operating phase.

This analysis does not consider at all the potential economic value of creating a drought reserve in the aquifer, similar to Albuquerque. The City of Santa Fe has previously (as recently as 2002) faced drought conditions that necessitated stringent limitations to reduce water consumption. Our analysis does not address nor do we attempt to quantify the potential economic costs of the severe restrictions on water use that may be necessary in the future in the absence of the BDD Project. A community with too little water that does not deal proactively with the possibility of severe water shortages creates a climate of uncertainty about the drought restrictions that may periodically have to be implemented. Such an environment is surely a discouragement to investment. Not addressed here are the benefits of the economic investment that may occur to create jobs and provide additional economic activity once this uncertainty is removed.

Economic Context

The US economy has officially been in recession since December 2007. The economy lost jobs on a seasonally adjusted basis in every month of 2008. The net job loss during 2008 was 2.6 million, with 1.9 million jobs lost within the past four months.¹ The unemployment rate in December stood at 7.2 percent, the highest rate seen since 1993.

The national recession is having an affect on New Mexico. Statewide, the seasonally adjusted unemployment rate was 4.3 percent in November 2008, up from 3.3 percent in November 2007, according to the Department of Workforce Solutions.² Year-over-year job growth in November 2008 was negative 0.3 percent, representing a job loss of 2,500 jobs. This is the first time the state has experienced year-over-year employment declines since June 1991. Employment sectors with major job losses in New Mexico included manufacturing, which lost 2,800 jobs between November 2007 and November 2008, and construction, which lost 1,300 jobs over the same period. The only sectors with strong year-over-year job growth are health care and government, with the strength in government concentrated in local government, specifically tribal enterprises.

Two areas within the state that have been hit very hard are the Albuquerque Metropolitan Statistical Area (MSA), comprised of Bernalillo, Sandoval, Torrance and Valencia Counties, where employment is concentrated in Albuquerque and Rio Rancho, and the Santa Fe MSA, which consists of Santa Fe County, with employment concentrated within the City of Santa Fe.

¹ US Bureau of Labor Statistics, *Employment Situation: December 2008*, and data pulled from their website, <http://www.bls>, January 9, 2008.

² All current employment numbers for New Mexico and New Mexico MSAs are from the November, 2008, *Labor Market Review*.

According to the New Mexico Department of Workforce Solutions, the seasonally adjusted unemployment rate in the Santa Fe MSA was 3.6 percent in November, up from 2.6 percent in November 2007. Year-over-year job growth was negative 0.9 percent, representing a loss of 600 jobs out of a total of 65,700 in November 2007. Santa Fe has now experienced year-over-year job losses since June 2008 -- the first instance of negative growth since April 2001. Within the Albuquerque MSA, unemployment in November 2008 was 4.4%, up from 3.3% a year earlier. Employment in the Albuquerque MSA has been contracting on a year-over-year basis since August 2008, with employment down 2,700 jobs in November from the 399,000 thousand in November a year ago.

Methodology

To analyze the economic impact of the Buckman Direct Diversion Project, BBER used IMPLAN Pro 2.0. IMPLAN is a regional economic modeling and impact analysis application that works with IMPLAN's proprietary input-output databases that capture the multipliers for the state and its 33 counties. The IMPLAN model can be used to calculate how much of any given expenditure remains in a particular county or in the state and traces the economic impact on New Mexico industries.³ Because future price and wage increases are unknown, BBER typically models economic impacts in constant dollars, eliminating the potential distorting effect of assumed future inflation rates.

IMPLAN provides estimates of impacts for **output, employment, labor income** and **value added**. The first three types of estimates are included in the analysis that follows. **Output** refers to local receipts. In the case of a construction contract, the local receipts are the contractor's receipts. However, if the local office running the contract must turn a certain percentage over to headquarters located elsewhere, this overhead or profit is not available to be spent locally and is excluded from the analysis. **Employment** refers to the average number of individuals employed locally during a year. This may include people who are self-employed as well as people who are wage and salary workers. **Labor income** equates to total earnings, and includes wages and salaries as well as supplements to wages and salaries (basically benefits paid by the employer), and individual proprietor income.

Modeling with IMPLAN starts with estimates of the **direct impacts** of the project. In the case where the project is a construction project, direct output refers to the local contractor's receipts. These receipts, after taxes, are generally available to be spent locally – e.g., on labor, on goods and services – but, depending upon availability, a large proportion of these receipts may be spent outside the region and outside the state. Direct employment refers to the people directly employed by the local contractor, which may include independent contractors as well as wage and salary workers. Direct labor income refers to the total labor costs to the contractor, and may

³ BBER's version of IMPLAN uses the 2004 database. Values were then inflated and expressed in 2008 dollars.

include self employment income. As is true of output, labor income is a pre-tax concept.

IMPLAN uses a variety of data sources to estimate the total economic impacts of economic activity, which includes impacts beyond the direct impacts. These additional impacts occur in two ways. **Indirect impacts** are a result of expenditures by the project on local goods and services. These expenditures are a demand for the goods and services of other companies, which must then purchase additional goods and services and perhaps hire additional employees to produce additional product to meet the additional demand. The sum total of these iterative purchases and employee hiring is termed the indirect impact of the activity.

The second way in which additional economic activity occurs is through **induced impacts**, which are a result of the spending of project employees and of spending by other employees supported as businesses gear up to satisfy the project's demand for goods and services.

These two impacts combined with the initial activity provided by the project's expenditures yield the total economic activity supported by the project's expenditures. If the source of funding is all from outside the region, these impacts reflect the impact of the project on the region. Frequently, BBER looks only at the economic activity supported directly or indirectly by dollars flowing into the region from outside. In the case of the Buckman project, major funding comes from new local taxes and increased water rates, so it is necessary to model the impacts of these new local funding streams.

Most of the data for the study were provided by Rick Carpenter, Senior Water Resources Coordinator, City of Santa Fe, and Buckman Direct Diversion Project Manager. BBER also had lengthy conversations/communications with the City Finance Director David Millican, Water Division Director Gary Martinez, BDD Project consultant Norm Gaume, and BDD Board Engineer Mark Ryan. The data provided included the total cost of the project, the estimated number of construction employees as well as the number of permanent employees that will be needed once the BDD becomes operational, anticipated material and equipment costs for the project, estimates of the amounts of the design and construction contract to be expended within and outside of the region, BDD cash flow estimates and sources of funding.

While the project is sited in unincorporated Santa Fe County, this analysis includes Santa Fe, Sandoval, Bernalillo and Rio Arriba counties as one local economic region. The four counties provide a reasonable functional economic area (i.e., a semi-self sufficient economic unit), including people who live in one county and work and/or shop in another. For example, in 2000, there were 2,567 people who lived in Bernalillo County and worked in Santa Fe County, while 3,698 from Santa Fe County worked in Bernalillo County. Sandoval County had 1,357 working in Santa Fe and 19,875 working in Bernalillo County. Bernalillo County had 9,280 working in

Sandoval County. Rio Arriba County had 3,281 who commuted to Santa Fe.⁴ BBER's general rule is that if an industry is located in one county and the workers reside in another adjacent county, we should include both counties as one region. The local economic region includes three of the top four largest municipalities in terms of population in the state, specifically Albuquerque, Rio Rancho and Santa Fe. The focus on the four counties in this instance also reflects the project team's commitment to using local firms. Many of the professional service contracts for the project are with businesses from Albuquerque. It is expected that the construction crews for the project will draw from Santa Fe as well as Rio Arriba, Bernalillo and Sandoval counties and that many of the vendors will be from the four-county area. It is therefore reasonable to assume that the four counties as a region will capture most of the local economic impact associated with the BDD Project.

Estimated Economic Impacts of the Buckman Direct Diversion Project

Total expenditures during the construction phase of the BDD Project from January 1, 2008 through project completion are estimated to be \$216.3 million. Table 1 provides a breakdown of the costs associated with this construction phase. The design-build contract is for \$181.5 million. Note that this phase includes substantial expenditures for professional services (\$25.8 million), including architectural and engineering services, procurement and oversight of the design-build contract, and for legal and administrative services. It also includes a \$3 million payment to the Public Service Company of New Mexico (PNM) as a contribution toward the \$12 million in utility infrastructure that they are constructing to support the BDD Project. As noted above, the project has made an effort to use local sources of supply to the extent possible.

In modeling the economic impacts we have assumed a project schedule consistent with actual spending to date and the spending plan made available to us earlier this month.

⁴ US Census Bureau, Census 2000 County-to-County Worker Flow Files (<http://www.census.gov/population/www/cen2000/commuting/index.htm1#NM>) accessed 1/30/09.

Table 1: Buckman Direct Diversion Project: Estimated Costs by Category of Expenditure, January 2008 through Construction Completion in 2011

Buckman Direct Diversion Project Costs	Amount (\$ millions)
Main Contract	
Design-Build Construction & Engineering Contract	\$181.52
Professional services	\$12.62
Construction	\$145.22
Contractor's Commission (profit) estimated at 15%	\$23.68
Miscellaneous	
Owners' Engineer (Engineering and DB Procurement)	\$4.03
Acquisition of Permits & Easements	\$0.76
Utilities	\$3.15
Legal/Administration	\$1.53
Design-Build Taxes	\$12.28
Other Project Costs	\$6.34
Materials Escalation and Contingency Reserves	\$6.73
TOTAL	\$216.34
Activities	
Professional Services	\$25.28
Construction	\$178.78
Design-Build GRT	\$12.28

Professional Services Contracts

Table 2 summarizes the estimated impacts of spending on professional services contracts from FY 08 through FY 11. During this period, it is expected that \$25.8 million will be spent on professional services contracts, primarily for architectural and engineering services. This is in addition to the amounts spent from FY 02 through FY 07. However, while the majority of expenditures will be with local firms, some of the activity will take place elsewhere, e.g., at the company headquarters in another state. The analysis only considers those proportions of professional service contracts that have or will be performed by individuals or teams working within the four-county region in New Mexico.

Table 2. Estimated Economic Impacts of BDD Spending on Professional Services Contracts

FY 08				
	Direct	Indirect	Induced	Total
Output	\$4,125,690	\$2,089,863	\$3,256,954	\$9,472,507
Employment	36	23	32	90
Labor Income	\$1,975,490	\$820,529	\$1,060,716	\$3,856,735
FY 09				
	Direct	Indirect	Induced	Total
Output	\$4,658,449	\$2,359,732	\$3,677,532	\$10,695,712
Employment	40	26	36	101
Labor Income	\$2,230,589	\$926,485	\$1,197,688	\$4,354,763
FY 10				
	Direct	Indirect	Induced	Total
Output	\$3,834,795	\$1,942,511	\$3,027,313	\$8,804,619
Employment	33	21	29	83
Labor Income	\$1,836,202	\$762,675	\$985,927	\$3,584,804
FY 11				
	Direct	Indirect	Induced	Total
Output	\$2,547,432	\$1,290,398	\$2,011,026	\$5,848,856
Employment	22	14	20	55
Labor Income	\$1,219,778	\$506,640	\$654,945	\$2,381,364

UNM BBER estimates based on data provided for BDD Project

Over the four years, additional output in the four-county area supported as a result of these contracts is estimated to be \$38.4 million in 2008 dollars. The contracts boost employment by an average of 83 jobs per year, with a total gain in labor income of \$14.2 million over the four years. BBER is estimating that the BDD professional services contracts will generate over \$250 thousand in local gross receipts tax revenue for taxing jurisdictions, counties and municipalities in the four-county area and more than \$320 thousand for the state. Included in the economic impact calculations but not in the gross receipts estimates are the gross receipts taxes on the \$12.6 million in professional services that are part of the design-build contract.

Construction Phase

The impacts associated with the construction of the BDD Project are summarized in Table 3. Included in the estimated impacts are those associated with the major construction work that the Public Service Company of New Mexico (PNM) is doing to provide electric power to the BDD. While the total cost of the PNM project is over \$12 million, we have only included \$3 million of that cost here because this is the amount of PNM's work that is directly supported by the BDD Project and is included in the BDD financing plan. Any additional amounts will have to be supported by PNM, which derives the revenue to support its capital program from PNM's rate-payers.

Table 3. Estimated Economic Impacts of the BDD Construction Project

Buckman Direct Diversion Project Construction Impacts on Total Output

Year	Direct Effect	Indirect Effect	Induced Effect	Total Effects
2008	\$8,348,266	\$6,029,005	\$2,163,760	\$16,541,032
2009	\$43,449,996	\$31,379,001	\$11,261,666	\$86,090,662
2010	\$93,692,009	\$67,663,105	\$24,283,733	\$185,638,847
2011	\$9,608,607	\$6,939,207	\$2,490,424	\$19,038,238
Total	\$155,098,878	\$117,713,686	\$46,702,227	\$286,573,804

Buckman Direct Diversion Project Employment Impacts from Construction

Year	Direct Effect	Indirect Effect	Induced Effect	Total Effects
2008	34	54	24	113
2009	179	283	127	589
2010	387	611	273	1,270
2011	40	63	28	130

Buckman Direct Diversion Project Labor Income Impacts

Year	Direct Effect	Indirect Effect	Induced Effect	Total Effects
2008	\$2,016,106	\$2,165,842	\$818,677	\$5,000,625
2009	\$10,493,174	\$11,272,498	\$4,260,947	\$26,026,619
2010	\$22,626,620	\$24,307,091	\$9,187,956	\$56,121,668
2011	\$2,320,479	\$2,492,820	\$942,273	\$5,755,571
Total	\$37,456,379	\$40,238,251	\$15,209,853	\$92,904,483

Assumes total labor compensation is 21% of total construction project.

UNM BBER estimates based on data provided for BDD Project

Altogether, construction spending within the region will support \$286.6 million in additional output over the period. The project will directly employ an average of 160 people per year for four years, with the greatest impact in FY 09 when the direct employment is estimated to average 387. The total number of jobs supported directly and indirectly will average more than 500 per year, with total labor income of \$93 million over the life of the project. The construction contract is expected to generate almost \$3 million in gross receipts tax revenues for Santa Fe County and \$9 million for the State of New Mexico, not counting the revenues on the PNM construction project to support BDD. Spending by employees supported directly and indirectly by the project and including professional services contracts and construction, should generate an additional \$1 million in gross receipts taxes for local governments in the four-county area over the four year period.

Operations

The Buckman Direct Diversion Project will be operational in Fiscal Year 2012. Estimated annual operating and maintenance costs for the facility are estimated at \$8.25 million. The facility itself will directly employ 26 people, with a base wage over \$41 thousand and total compensation per employee of just under \$65 thousand. Annual operating and maintenance expenditures associated with the project are estimated at \$7.2 million, with an additional \$1 million going for legal and administrative services and insurance. Table 4 summarizes the estimated economic

impact of project operations on the four-county region. Total output supported is \$17.7 million in 2008 dollars, with 130 permanent employees and \$6.0 million in labor income per year. Because the BDD Project is a government project, the local gross receipts tax revenue on purchases will be relatively small, since government purchases of services, which are subject to tax (as opposed to goods, which are not), are relatively limited. Including spending by employees supported directly or indirectly, BBER estimates that local gross receipts tax revenues associated with operations should be less than \$75 thousand annually. There will be governmental gross receipts on water sales, but these revenues go to the State, where they help support the activities of the New Mexico Finance Authority.

Table 4. Estimated Annual Economic Impacts of the BDD Project Operations

Estimated Annual Economic Impacts of the BDD Operations

	Direct Effect	Indirect Effect	Induced Effect	Total Effects
Output	\$8,257,887	\$4,453,778	\$5,022,600	\$17,734,265
Employment	36	46	49	130
Labor Income	\$2,522,927	\$1,868,451	\$1,635,434	\$6,026,812

Direct effects include those for on-going legal and administrative services and insurance.

Impacts of Project Funding

The BDD Project is owned by the City of Santa Fe and Santa Fe County. Las Campanas is a limited partner. The revenues to support the project include grants (e.g., from the New Mexico Finance Authority (NMFA) and the New Mexico Economic Development Department), a 2% interest loan from the NMFA, and a small grant from the United States Bureau of Reclamation. The City of Santa Fe is using two sources: \$36.5 million from a quarter cent capital outlay gross receipts tax that went into effect on July 1, 2005 specifically with this project in mind and a scheduled set of increases in water rates and charges that will support over \$60 million in bond issues as well as operating expenses. Since Santa Fe County does not yet have a customer rate base, the County is meeting its commitment by reallocating capital outlay monies and through a 0.0625% environmental gross receipts tax in the unincorporated area that went into effect on January 1, 2008. Las Campanas will meet a \$12 million commitment by assessing homeowners. Other revenue sources are possible, including between \$6 and \$9 million from the new federal stimulus package. Where the funding comes from outside the area (e.g., state and federal government) or where revenues from existing fees or taxes are reprogrammed to finance the BDD Project, the economic impacts on the four counties may be considered minimal.

In terms of funding, it is relevant to discuss economic impacts that arise when funding requires putting in place new taxes or fees that will reduce discretionary income and associated local spending. With respect to Las Campanas, it is reasonable to

assume that many of the homes are second homes and that the additional fees will have minimal effect on local expenditures. For purposes of analysis, we have assumed that 50% of the \$12 million is exported and that the remainder is paid over a twenty year period, resulting in a small net annual reduction in local spending. The total impact on spending is a little over \$400 thousand per year for 20 years.

Beginning July 1, 2005, the City of Santa Fe put in place a quarter cent Municipal Capital Outlay Gross Receipts Tax to fund water projects. The first project to be funded is the BDD Project. The tax raises roughly \$7.5 million annually.⁵ BBER assumes 5 years of receipts to reach the first City target of \$35.6 million by FY 10.⁶ Through FY 07, the tax had raised \$13.3 million toward this objective. BBER's analysis considers the impacts of the additional annual amounts needed to reach the revenue target. We assume the increased tax reduces discretionary local spending and model accordingly.

In addition, the analysis assumes a scenario in which water rates will be increased by 9.5% per year for 5 years and then held constant. The higher rates will support the issuance of \$50 million in revenue bonds in FY 10 and an additional \$10.5 million in FY 12 as well as meeting the City's obligations to cover on-going operating expenses once the facility is up and running. Both residential and non-residential rates will be raised. The incidence of a rate increase on non-residential customers is a subject for debate, but here we assume that the impact falls primarily on their employees. BBER was provided with estimates of the revenues to be raised if the City proceeds with successive 9.5% rate increases for five years.⁷ The analysis indicates that total local spending (output) will be depressed by almost \$65 million during the design and construction phases of the projection, by \$13.4 million in FY 12, by \$17.9 million in FY 13 and by \$20.4 million every year beginning in FY 14.⁸ It should be noted that the bonds issued to support the City's contribution to constructing the BDD Project are likely to have a 20 year maturity. BBER calculates that roughly half of the additional revenues raised by the rate increase will go in support of the bonds – to pay principal and interest and to provide the 1.5 coverage required in the bond documents. Once these bonds are paid off, the BDD Project will only require that water rates be sufficiently high to cover the City's portion of the operating expenses associated with the BDD facilities. It should be noted that on January 28, 2009, the City Council put in place water rates somewhat lower than those assumed in the analysis, so BBER's analysis overstates somewhat the negative impacts.

⁵ Based on figures available from the Department of Finance on the City of Santa Fe website, <http://www.santafenm.gov/index.asp?nid=300>.

⁶ Based on conversations with Gary Martinez, City of Santa Fe Water Division director, and on material presented on the city of Santa Fe Water Division webpages, including those dealing with the BDD, <http://www.santafenm.gov/index.asp?NID=1028>.

⁷ BBER appreciates the assistance of Gary Martinez in putting together these figures.

⁸ The figures are in current dollars and assume no growth in the rate base beyond FY 2008. BBER is reporting all other figures in constant 2008 dollars. Fixed obligations in future years would be smaller if deflated back to 2008. One can view the effects as at least partially offsetting.

Santa Fe County has been meeting its obligations during the construction phase by re-programming gross receipts tax dollars that would have supported other capital outlay. However, as mentioned above, beginning January 1, 2008, the County imposed a 0.0625% environmental gross receipts tax in the unincorporated area. The County needs to cover a \$12 million commitment to the project. The tax raises \$1 million per year. BBER's analysis assumes the BDD Project claims 12 years of tax revenues from this source and models as described above.

Impacts of Additional Gross Receipts Tax Revenues

The BDD Project is a major project that will generate considerable gross receipts tax revenues for counties and municipalities within the region. As noted above, the construction project alone should add some \$3 million to Santa Fe County coffers. The construction project is being undertaken in a region that has experienced an almost unprecedented downturn. Local government revenues are flat or declining, necessitating hard decisions about programs and personnel. In this environment, revenues directly or indirectly related to a major project like the BDD can be critical to maintaining levels of service. We have assumed that the additional revenues support additional government spending and have modeled the impacts of this spending on output, employment and labor income. Particularly during the construction phase, the additional revenues provide critical support for local government operations with attendant positive effects on local spending and job creation. These positive effects mitigate some of the negative effects associated with higher taxes and fees.

Net Impacts

The funding flows associated with a project on the scale of the Buckman Direct Diversion Project may be expected to impact a regional economy both positively and negatively through a complex set of channels as discussed in previous sections. In the case of the BDD, the local economies in the region continue to be positively affected by spending on professional services contracts even as the \$181.5 million construction project ramps up. The regional economy is currently in recession. Major businesses have announced layoffs and closures. The inability to raise sufficient capital to finance planned expansions and a deteriorating global economy have resulted in many construction projects being put on hold. In this environment, the BDD promises some much needed economic stimulus directly and indirectly to the economies of Santa Fe, Bernalillo, Sandoval and Rio Arriba counties. The overall impacts are likely to be greater in a slack economy where resources are underutilized, since the effects on prices – e.g., for labor services and materials – will be restrained and the project can proceed without shutting down other activities that might otherwise compete for the same resources. Moreover, the deteriorating labor market situation and rising unemployment rates reduce substantially the need to bring in construction and other crews from outside the area.

The net economic impacts of the Buckman Direct Diversion Project reflect the positive economic stimulus of additional project spending and employment in a region which is currently experiencing an economic downturn. During the design and construction phases of the project, the overall economic impact on the region is large and positive. This is true even if the City of Santa Fe had proceeded with plans to implement annual 9.5% water rate increases beginning this fiscal year in addition to the quarter cent gross receipts tax that went into effect on July 1, 2005. As is indicated in the right-most columns of Table 5 below, the project promises directly and indirectly to bring some \$290 million in net additional spending to the region during the four-year construction period, with a net average pick-up in employment of over 500 jobs. All dollar economic impacts are presented in constant 2008 dollars. Cumulative impacts are presented in present value terms and are discounted using a real rate of interest (2.5%) that reflects the cost of government financing.

The combination of a small County gross receipts tax increase, City water rate increases and owner assessments by Las Campanas result in slightly negative net economic benefits after the Buckman Direct Diversion facility begins operations, specifically in FY 2013 until the bonds are paid off in 2032. By 2012, however, the regional economy should be in recovery and no longer in need of stimulus. Indeed, the project, by investing in critical infrastructure that is necessary for an adequate water supply, the lack of which is a major constraint on investment for economic development and jobs, should encourage future investment in the region. Even in this simple comparative static model, the cumulative impact of the project is found to be large and positive in every year.

While the project will provide an immediate economic stimulus to one of the hardest hit areas in the state, these short term effects are likely to be eclipsed by the more important and longer-term economic benefits of creating a reliable, sustainable water supply with substantially increased drought protection.