ESTIMATED ECONOMIC IMPACTS OF THE BUCKMAN DIRECT DIVERSION PROJECT

PRESENTATION TO THE BUCKMAN DIRECT DIVERSION BOARD
February 5, 2009

Dr. Lee A. Reynis, Director
UNIVERSITY OF NEW MEXICO
BUREAU OF BUSINESS AND ECONOMIC RESEARCH
303 Girard Blvd. NE
MSC06 3510 / Onate Hall
Albuquerque, New Mexico 87131
UNIVERSITY OF NEW MEXICO
BUREAU OF BUSINESS & ECONOMIC RESEARCH

Data Bank

FOR-UNM Economic Forecasting Service

Census Project

Demographic and economic estimates and projections, economic and fiscal impact analyses, government finance, surveys, policy studies, economic research…

BBER (505) 277-2216
Fax 277-7066
Data Bank 277-6626
Fax 277-2773
http://www.unm.edu/~bber/
THE BUCKMAN DIRECT DIVERSION PROJECT

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.
ECONOMIC CONTEXT
ANNUAL GROWTH IN NONFARM EMPLOYMENT
NEW MEXICO AND US

<table>
<thead>
<tr>
<th>Year</th>
<th>New Mexico</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>91</td>
<td>0.9%</td>
<td>1.0%</td>
</tr>
<tr>
<td>92</td>
<td>2.8%</td>
<td>2.0%</td>
</tr>
<tr>
<td>93</td>
<td>4.1%</td>
<td>3.8%</td>
</tr>
<tr>
<td>94</td>
<td>5.0%</td>
<td>4.1%</td>
</tr>
<tr>
<td>95</td>
<td>1.8%</td>
<td>1.6%</td>
</tr>
<tr>
<td>96</td>
<td>2.0%</td>
<td>1.4%</td>
</tr>
<tr>
<td>97</td>
<td>1.6%</td>
<td>2.1%</td>
</tr>
<tr>
<td>98</td>
<td>1.4%</td>
<td>1.7%</td>
</tr>
<tr>
<td>99</td>
<td>1.2%</td>
<td>1.7%</td>
</tr>
<tr>
<td>00</td>
<td>1.2%</td>
<td>1.9%</td>
</tr>
<tr>
<td>01</td>
<td>1.7%</td>
<td>2.3%</td>
</tr>
<tr>
<td>02</td>
<td>2.3%</td>
<td>2.9%</td>
</tr>
<tr>
<td>03</td>
<td>1.9%</td>
<td>1.3%</td>
</tr>
<tr>
<td>04</td>
<td>2.9%</td>
<td>0.5%</td>
</tr>
<tr>
<td>05</td>
<td>1.3%</td>
<td>0.8%</td>
</tr>
<tr>
<td>06</td>
<td>1.1%</td>
<td>0.9%</td>
</tr>
<tr>
<td>07</td>
<td>1.7%</td>
<td>-1.1%</td>
</tr>
<tr>
<td>08</td>
<td>1.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>09</td>
<td>0.5%</td>
<td>1.1%</td>
</tr>
<tr>
<td>10</td>
<td>1.7%</td>
<td>1.7%</td>
</tr>
<tr>
<td>11</td>
<td>1.2%</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

Source: FOR-UNM, Jan 2009
Global Insight, Jan 2009
Revised figures from The New Mexico Dept Workforce Solutions will show somewhat different patterns for 2007 and 2008, but the slowdown is undisputed.
METHODOLOGY
ECONOMIC IMPACTS OF BUCKMAN DIRECT DIVERSION PROJECT ON THE LOCAL ECONOMY

TRADITIONAL ECONOMIC IMPACT ANALYSIS

BBER uses IMPLAN, a proprietary model and set of state and county databases, that is widely used for this purpose. Model is based on an “input-output model” that enables estimation of direct, indirect and induced effects on output, employment and labor income. With IMPLAN, the analysis can go beyond the first round effects and quantify the “multiplier” impacts.

- Comparative static versus a dynamic analysis. Comparison between economy with and economy without the Buckman Direct Diversion Project. However, no attempt to analyze the qualitative changes that could be set in motion.

- Export base model focusing on injections into the spending stream (e.g., funding from federal stimulus package) & leakages from the spending stream (e.g., purchases of goods and services from outside the region).

- Distinguish one-time activity (e.g., BDD construction project) from permanent or on-going operations
ANALYSIS OF ECONOMIC IMPACTS OF BUCKMAN DIRECT DIVERSION PROJECT ON THE LOCAL ECONOMY

Estimating impacts of the project on the local economic region, which BBER has defined as including Santa Fe, Rio Arriba, Bernalillo and Sandoval Counties

Impacts of the Design & Construction Phase
- Professional service contracts
- Construction project
- Financing with taxes and fees
- Fiscal impacts and government spending

Impacts of Operating Phase
- On-going operations
- Financing with fees
- Fiscal impacts and government spending
IMPACTS OF THE BUCKMAN DIRECT DIVERSION PROJECT: DESIGN AND CONSTRUCTION PHASE, FY 08 - 11
### Buckman Direct Diversion Project

**ESTIMATED COSTS BY CATEGORY OF EXPENDITURE**

January 1, 2008 – June 30, 2011

<table>
<thead>
<tr>
<th>Main Contract</th>
<th>Amount ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design-Build Construction &amp; Engineering Contract</td>
<td>$181.52</td>
</tr>
<tr>
<td>Professional services</td>
<td>$12.62</td>
</tr>
<tr>
<td>Construction</td>
<td>$145.22</td>
</tr>
<tr>
<td>Contractor's Commission (profit) estimated at 15%</td>
<td>$23.68</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Miscellaneous</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Owners' Engineer (Engineering and DB Procurement)</td>
<td>$4.03</td>
</tr>
<tr>
<td>Acquisition of Permits &amp; Easements</td>
<td>$0.76</td>
</tr>
<tr>
<td>Utilities</td>
<td>$3.15</td>
</tr>
<tr>
<td>Legal/Administration</td>
<td>$1.53</td>
</tr>
<tr>
<td>Design-Build Taxes</td>
<td>$12.28</td>
</tr>
<tr>
<td>Other Project Costs</td>
<td>$6.34</td>
</tr>
<tr>
<td>Materials Escalation and Contingency Reserves</td>
<td>$6.73</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$216.34</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Services</td>
<td>$25.28</td>
</tr>
<tr>
<td>Construction</td>
<td>$178.78</td>
</tr>
<tr>
<td>Design-Build GRT</td>
<td>$12.28</td>
</tr>
</tbody>
</table>
Estimated Economic Impacts of BDD Spending on Professional Services Contracts

<table>
<thead>
<tr>
<th></th>
<th>Direct</th>
<th>Indirect</th>
<th>Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>$4,125,690</td>
<td>$2,089,863</td>
<td>$3,256,954</td>
<td>$9,472,507</td>
</tr>
<tr>
<td>Employment</td>
<td>36</td>
<td>23</td>
<td>32</td>
<td>90</td>
</tr>
<tr>
<td>Labor Income</td>
<td>$1,975,490</td>
<td>$820,529</td>
<td>$1,060,716</td>
<td>$3,856,735</td>
</tr>
<tr>
<td>FY 09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>$4,658,449</td>
<td>$2,359,732</td>
<td>$3,677,532</td>
<td>$10,695,712</td>
</tr>
<tr>
<td>Employment</td>
<td>40</td>
<td>26</td>
<td>36</td>
<td>101</td>
</tr>
<tr>
<td>Labor Income</td>
<td>$2,230,589</td>
<td>$926,485</td>
<td>$1,197,688</td>
<td>$4,354,763</td>
</tr>
<tr>
<td>FY 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>$3,834,795</td>
<td>$1,942,511</td>
<td>$3,027,313</td>
<td>$8,804,619</td>
</tr>
<tr>
<td>Employment</td>
<td>33</td>
<td>21</td>
<td>29</td>
<td>83</td>
</tr>
<tr>
<td>Labor Income</td>
<td>$1,836,202</td>
<td>$762,675</td>
<td>$985,927</td>
<td>$3,584,804</td>
</tr>
<tr>
<td>FY 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>$2,547,432</td>
<td>$1,290,398</td>
<td>$2,011,026</td>
<td>$5,818,856</td>
</tr>
<tr>
<td>Employment</td>
<td>22</td>
<td>14</td>
<td>20</td>
<td>55</td>
</tr>
<tr>
<td>Labor Income</td>
<td>$1,219,778</td>
<td>$506,640</td>
<td>$654,945</td>
<td>$2,381,364</td>
</tr>
</tbody>
</table>

Output $15.2 m -> $34.8 m
M = 2.3

Employment Average Annual
33 jobs -> 83 jobs
M = 2.5

Earnings $7.3 m -> $14.2 m
M = 2.0

UNM BBER estimates based on data provided for BDD Project
## Estimated Economic Impacts of the BDD Construction Project

### Buckman Direct Diversion Project Construction Impacts on Total Output

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

### Buckman Direct Diversion Project Employment Impacts from Construction

<table>
<thead>
<tr>
<th>Year</th>
<th>Direct Effect</th>
<th>Indirect Effect</th>
<th>Induced Effect</th>
<th>Total Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>34</td>
<td>54</td>
<td>24</td>
<td>113</td>
</tr>
<tr>
<td>2009</td>
<td>179</td>
<td>283</td>
<td>127</td>
<td>589</td>
</tr>
<tr>
<td>2010</td>
<td>387</td>
<td>611</td>
<td>273</td>
<td>1,270</td>
</tr>
<tr>
<td>2011</td>
<td>40</td>
<td>63</td>
<td>28</td>
<td>130</td>
</tr>
</tbody>
</table>

### Buckman Direct Diversion Project Labor Income Impacts

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

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

UNM BBER estimates based on data provided for BDD Project.
## Estimated Total Economic Impacts of Gross Receipts Tax and Water Rate Increases Used to Finance the BDD Construction Project

### All Estimated Impacts are Negative

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Estimated Impacts</th>
<th>City of Santa Fe Gross Receipts Tax</th>
<th>City of Santa Fe Water Rate Increases</th>
<th>Santa Fe County Gross Receipts Tax</th>
<th>Las Campanas Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Output</td>
<td>Employ</td>
<td>Earnings</td>
<td>Output</td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td>$9.9</td>
<td>70</td>
<td>$3.1</td>
<td>$0.7</td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td>$9.9</td>
<td>70</td>
<td>$3.1</td>
<td>$1.7</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td>$9.9</td>
<td>70</td>
<td>$3.1</td>
<td>$5.1</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td>$8.8</td>
<td>62</td>
<td>$2.0</td>
<td>$1.3</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td>$13.0</td>
<td>92</td>
<td>$3.0</td>
<td>$1.3</td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td>$17.6</td>
<td>124</td>
<td>$4.0</td>
<td>$1.3</td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td>$20.0</td>
<td>141</td>
<td>$4.6</td>
<td>$1.3</td>
</tr>
<tr>
<td>...</td>
<td></td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>2032</td>
<td></td>
<td>$10.0</td>
<td>71</td>
<td>$2.3</td>
<td>...</td>
</tr>
</tbody>
</table>
Estimated Fiscal Impacts

Gross Receipts Tax Revenues

Construction Contract
- Santa Fe County $3.01 Million
- State of New Mexico $9.27 "

Contracts for Professional Services
- Local governments in region $0.25 "
- State of New Mexico $0.32 "

Spending by Employees Supported
- Local governments in region $1.0 "
- State of New Mexico $1.2 "
## Estimated Total Economic Impacts of Local Government Spending Supported by Gross Receipts Tax Revenue Related to BDD Construction Project

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>$675,972</td>
<td>$2,268,448</td>
<td>$4,346,221</td>
<td>$675,229</td>
</tr>
<tr>
<td>Employment</td>
<td>7</td>
<td>24</td>
<td>45</td>
<td>7</td>
</tr>
<tr>
<td>Labor Income</td>
<td>$328,833</td>
<td>$1,103,506</td>
<td>$2,114,257</td>
<td>$328,471</td>
</tr>
</tbody>
</table>
OPERATING IMPACTS
## Estimated Economic Impacts of the BDD Operations

<table>
<thead>
<tr>
<th></th>
<th>Direct</th>
<th>Indirect</th>
<th>Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>$8,257,887</td>
<td>$4,453,778</td>
<td>$5,022,600</td>
<td>$17,734,265</td>
</tr>
<tr>
<td>Employment</td>
<td>36</td>
<td>46</td>
<td>49</td>
<td>130</td>
</tr>
<tr>
<td>Labor Income</td>
<td>$2,522,927</td>
<td>$1,868,451</td>
<td>$1,635,434</td>
<td>$6,026,812</td>
</tr>
</tbody>
</table>

### Multipliers:

- **Output**: 2.2
- **Employment**: 3.7
- **Labor Income**: 2.4
CONCLUSION: BUCKMAN DIRECT DIVERSION PROJECT WILL PROVIDE A MAJOR ECONOMIC STIMULUS TO THE LOCAL ECONOMY IN THIS PERIOD OF SERIOUS ECONOMIC DOWNTURN.
BDD Project will provide a major stimulus to the regional economy over the four year period beginning FY 08:

Even after taking into account the negative impacts of higher gross receipts taxes, higher water rates, and Las Campanas homeowner assessments ...

Net present value of local economic activity supported FY 08-11 $287 million

Net local employment gain FY 08-11 average 539 jobs

<table>
<thead>
<tr>
<th>Year</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 08</td>
<td>135</td>
</tr>
<tr>
<td>FY 09</td>
<td>623</td>
</tr>
<tr>
<td>FY 10</td>
<td>1,281</td>
</tr>
<tr>
<td>FY 11</td>
<td>118</td>
</tr>
</tbody>
</table>

Net present value of total labor earnings supported FY 08-11 $ 92.7 million
BBER's January 2009 forecast anticipates the worst recession in Albuquerque and New Mexico since the 1950s. No one knows when this economy will hit bottom.