

Return On Investment Brief

February 2013



RapidCity

ECONOMIC DEVELOPMENT

ROI Projection

Methodology

Jobs Impact Model

The model uses RIMS II multipliers supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, using 2010 (the most recent data set available) regional economic accounts for the South Dakota counties of Butte, Custer, Fall River, Lawrence, Meade, and Pennington. Inputs of job numbers, industry sectors, and wage estimates were supplied by the client organization.

The six target industries used in the analysis, as originally supplied by the client, are presented in the table below:

- 1 Business Services (professional and technical)
- 2 Finance and Insurance
- 3 Extractive Energy
- 4 Metalwork Manufacturing
- 5 Food and Beverage Manufacturing
- 6 Healthcare and Life Sciences

Not all of the types of jobs targeted fit precisely into available RIMS multiplier categories available for the area, so when necessary, multipliers from job categories that were the most appropriate surrogates were utilized to develop a more accurate weighted average multiplier. Specifically, finance and insurance and healthcare and life sciences categories were further divided. Using employment multipliers for each of these targets, a weighted average employment multiplier, based on numbers of jobs targeted, of 1.8527 was calculated. Using specific earnings multipliers for the target industries, a weighted average earnings multiplier of 1.5531 was calculated.

RIMS Impact Multipliers:

Industry	# jobs	Weight	Earnings multiplier	Weighted Earnings multiplier	Employment multiplier	Weighted Employment multiplier
1 Business Services (professional and technical)	27	27.0%	1.4102	0.3808	1.5901	0.4293
2 Insurance	11	11.0%	1.7044	0.1875	2.1736	0.2391
3 Securities and Investments	11	11.0%	1.6407	0.1805	1.8252	0.2008
4 Extractive Energy	13	13.0%	1.7335	0.2254	2.1855	0.2841
5 Metalwork Manufacturing	4	4.0%	1.5761	0.0630	1.7924	0.0717
6 Food and Beverage Manufacturing	3	3.0%	2.3214	0.0696	2.3730	0.0712
7 Healthcare (hospitals)	15	15.0%	1.4777	0.2217	1.7165	0.2575
8 Health Care Services	16	16.0%	1.4043	0.2247	1.8687	0.2990
Total	100	100%		1.5531		1.8527

Wage rates used in the analysis were also a weighted average of the targeted individual industry wage rates, based on the previous five years. A weighted average for the example of 100 jobs was calculated to be \$47,121 per year, which is approximately 40 percent higher than the average of all jobs in the area.

<u>Industry</u>	<u>Average Salary</u>	<u># Jobs in Last 5 Years</u>	<u>Weighted Wage Impact</u>
1 Business Services (professional and technical)	\$45,999	1,200	\$55,198,800
2 Finance and Insurance	\$36,125	1,010	\$36,486,250
3 Extractive Energy	\$57,291	609	\$34,890,219
4 Metalwork Manufacturing	\$46,284	169	\$7,821,996
5 Food and Beverage Manufacturing	\$53,650	136	\$7,296,400
6 Healthcare and Life Sciences	\$51,059	1,400	\$71,482,600
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		4,524	\$213,176,265
Weighted Average Wage	\$47,121		

Definitions

Primary Wage Rate – The primary wage rate is based on the weighting presented, and resulted in a targeted hourly wage rate for future jobs of \$22.65, which converted to an annual earnings level of \$47,121 based on 2,080 hours worked annually, consistent with standard state methodology.

Total Payroll – Total earnings of both direct and indirect jobs created, calculated using RIMS multipliers.

Total Jobs – Total of both direct and indirect jobs, calculated using RIMS multipliers

Calculated Indirect Jobs – The results of the model are back-tested to test the level of reasonableness, that is, will the results make sense to a person familiar with local conditions. In this case, the employment multiplier was not adjusted.

Calculated Indirect Wage Rate – The results of the model are back-tested to test the level of reasonableness, that is, do the results make sense to a person familiar with local conditions. In this case, the earnings multiplier was not adjusted.

Net Personal Consumption Expenditures – This figure reflects total payroll less area leakage, since the results are utilized in an area spending impact model. It also reflects personal tax and non-tax payments, personal savings, interest, and transfer payments.

Consumer Spending Model

The Consumer Spending Model predicts area consumer spending based on the results of the Jobs Impact Model. Spending patterns are based on national consumer spending exhibited by level of income, which has been shown to be more predictive than models based on geography alone. The Weighted Average Annual Wage is based on the hourly rate used in the Jobs Impact Model.

Note - Total figures will vary from projected consumer expenditures due to rounding.

Banking Impact Model

The Banking Impact Model uses 2012 FDIC local market share information, based on deposit potential created by the addition of area earnings resulting from new primary jobs. Deposit potential is based on a bank reserve requirement ratio of 15 percent.

Bank deposits are projected 15 years into the future, based on the assumption that the new jobs created exist for the same 15 year period, and are present valued back at a discount rate of 6.5 percent. Earnings at the individual bank level are based on a two percent “spread” of loan interest rates over rates paid on deposits.

Job Impact Model

The Jobs Impact Model is the base model on which overall impact, consumer expenditures, and banking impacts can be derived. An example of 100 jobs and targeted annual wage of \$47,121 was used. Multipliers representing the jobs targeted by the organization were aggregated to arrive at the employment and earnings multipliers used in the model.

Utilizing the inputs of 100 jobs, the \$47,121 average yearly salary (\$22.65 per hour), and aggregated employment and earnings specific to the area, the gross impact of those jobs materializing were calculated. This total impact, in terms of jobs and payroll, is presented in the summary on the following page.

In addition, in order to translate these total impacts into a more useful number for fundraising purposes, these total impacts were translated into Net Personal Consumption Expenditures, or the actual amount of money that would be spent in the local economy once these 100 jobs materialize. A deposit potential for area banks was also derived from these total impact numbers, to be used in the Bank Impact Model.

Number of New Primary Jobs	100
Primary Wage Rate Paid (hourly)	\$22.65
Total Direct Payroll	\$4,530,884
Total Payroll	\$7,036,911
Total Jobs	185
Calculated Indirect Jobs Created	85
Calculated Indirect Wage Rate Paid (hourly)	\$14.13
<u>Area Values</u>	
Personal Income	\$4,925,838
Disposable Personal Income	\$4,162,825
Net Personal Consumption Expenditures	\$3,889,744
Deposit Potential for Area Financial Institutions	\$608,050

Personal Income: Total Payroll less Estimated Leakage

Disposable Personal Income: Personal Income less Personal Tax and Nontax Payments

Net Personal Consumption Expenditures: Disposable Personal Income less Personal Savings, Interest, and Personal Transfer Payments

Deposit Potential: Personal Savings Rate less Deposit Leakage Estimate with area turnover (Reserve Req. Ratio)

Information Summary

This is the information from above that typically appears in the campaign brochure.

<p>The program is targeting an additional The primary jobs are expected to pay This economic activity is expected to generate \$ and and could result in</p>	<p>100 85 \$22.65 7,036,911 \$3,889,744 \$608,050</p>	<p>primary jobs which will create secondary jobs. an hour. in annual total earnings in annual area consumer expenditures in annual deposits for area banks.</p>
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Consumer Spending Model

The Consumer Spending model further breaks down the Net Personal Consumer Expenditures from the Jobs Impact Model into various spending categories. The spending patterns on the following pages reflect how people would typically spend the earnings from these jobs. The model is based on income level, which has been shown to be a better predictor of spending than geographic area or ethnicity.

The categories presented encompass all areas of spending, even though a narrow or overly specific minor category may not be listed, resulting in over \$3.8 million in consumer expenditures *per year*. Minor categories may not add up to a major category total because extraneous detail was excluded.

Industry impact at the consumer level can be estimated using the numbers presented. In other words, the 100 jobs in the targeted industries will likely result in over \$360,000 in vehicle purchases in the area. This information can then be customized in a presentation targeted towards those in the new and used car business.

How the money will likely be spent based on **earnings level** of target jobs Black Hills Region

Projected Consumer Expenditures	\$3,889,744
Expected Income Range of Primary Jobs	\$40,000 to \$49,999
Weighted Average Annual Wage	\$47,121

Area Expenditures

Food	\$536,739
Food at home	\$316,408
Cereals and bakery products	\$45,788
Cereals and cereal products	\$15,165
Bakery products	\$30,623
Meats, poultry, fish, eggs	\$80,325
Beef	\$24,949
Pork	\$16,241
Other meats	\$10,077
Poultry	\$13,991
Fish and seafood	\$11,251
Eggs	\$3,914
Dairy products	\$35,907
Fresh milk and cream	\$13,893
Other dairy products	\$22,014
Fruits and vegetables	\$51,267
Fresh fruits	\$15,850
Fresh vegetables	\$15,556
Processed fruits	\$10,664
processed vegetables	\$9,099
Other food at home	\$103,023
Sugar and other sweets	\$12,328
Fats and oils	\$8,805
Miscellaneous foods	\$51,267
Nonalcoholic beverages	\$27,884
Food prepared by consumer unit on out-of-town trips	\$2,739
Food away from home	\$220,331
Alcoholic beverages	\$39,820

Housing	\$1,245,282
Shelter	\$711,184
Owned Dwellings	\$447,902
Mortgage interest and charges	\$257,803
Property taxes	\$103,317
Maintenance, repairs, insurance, other expenses	\$86,782
Rented dwellings	\$233,735
Other lodging	\$29,645
Utilities, fuels, and public service	\$284,317
Natural gas	\$37,374
Electricity	\$104,491
Fuel oil and other fuels	\$10,371
Telephone services	\$98,034
Water and other public services	\$34,145
Household operations	\$54,789
Personal services	\$22,405
Other household expenses	\$32,384
Housekeeping supplies	\$53,028
Laundry and cleaning supplies	\$12,230
Other household products	\$28,177
Postage and stationery	\$12,621
Household furnishings and equipment	\$141,865
Household textiles	\$13,697
Furniture	\$32,678
Floor coverings	\$3,131
Major appliances	\$21,524
Small appliances, miscellaneous house wares	\$6,653
Miscellaneous household equipment	\$64,182
Apparel and services	\$148,225
Men and Boys	\$33,461
Men, 16 and over	\$25,829
Boys, 2 to 15	\$7,631
Women	\$58,898
Women, 16 and over	\$49,506
Girls, 2 to 15	\$9,392
Children under 2	\$8,316
Footwear	\$25,731
Other apparel products and services	\$21,818

Transportation	\$777,714
Vehicle purchases	\$360,631
Cars and trucks, new	\$139,419
Cars and trucks, used	\$213,189
Other vehicles	\$8,023
Gasoline and motor oil	\$146,170
Other vehicle expenses	\$243,225
Vehicles finance charges	\$39,722
Maintenance and repairs	\$67,019
Vehicle insurance	\$96,175
Vehicles rental, leases, licenses, other charges	\$40,309
Public transportation	\$27,786
Health care	\$257,216
Health insurance	\$132,570
Medical services	\$64,573
Drugs	\$50,484
Medical supplies	\$9,686
Entertainment	\$188,338
Fees and admissions	\$37,472
Television, radios, sound equipment	\$76,314
Pets, toys, and playground equipment	\$42,853
Other entertainment supplies, equipment, and services	\$31,700
Personal care products and services	\$52,148
Reading	\$12,621
Education	\$39,135
Tobacco products	\$40,603
Miscellaneous	\$67,802
Cash contributions	\$104,687
Personal insurance and pensions	\$379,416
Life and personal insurance	\$33,950
Pensions and social security	\$345,564
Total	\$3,889,744

Banking Impact Model

The Banking Impact Model can be more specific than the Consumer Expenditure Model, simply because information on the banking industry is more accessible than information in other industries. It is based on 2012 FDIC market share information, and assumes that the banks in the region maintain their respective share.

This model uses the deposits estimate provided by the Jobs Impact Model, and projects the “gross profit” banks would normally realize on these deposits 10 years into the future past the five initial years of the program of work. These 15 years are brought back to present day (T_0) at a discount rate of 6.5%. This “gross profit” is defined as the yield spread banks pay on deposits versus what they charge on loans, which in this case is estimated at a conservative two percent.

The last column of the banking model output provides some very powerful information on:

- ✓ Structuring the “ask”
- ✓ The level of investment justified
- ✓ The relative “ask” amount between banks
- ✓ Demonstrating not just the expected impact on the industry, as in the Consumer Expenditure Model, but an expected return for a specific bank, based on market share, and a rough idea of how much they will realize in bottom line earnings, not just top line revenue.

Black Hills Region SD

Institution Name	Relative Market Share Basis Total Institutions Total Offices	13 65	(in 000's) 2012 Deposits (as of 6/30/12)	Current Market Share (inc. non-FDIC)	Deposits Expected Annually By End of Program	Present Value of
						15 Yrs. of Cash Flow Realistic Earnings on Expected Deposits
1 Wells Fargo Bank, National Association			771,075	24.34%	\$147,990	\$23,610
2 First Interstate Bank			757,957	23.92%	\$145,472	\$23,208
3 Pioneer Bank & Trust			394,556	12.45%	\$75,726	\$12,081
4 U.S. Bank National Association			338,878	10.70%	\$65,040	\$10,376
5 Great Western Bank			284,590	8.98%	\$54,620	\$8,714
6 First National Bank			117,705	3.72%	\$22,591	\$3,604
7 Black Hills Community Bank, N.A.			99,298	3.13%	\$19,058	\$3,040
8 Dacotah Bank			75,611	2.39%	\$14,512	\$2,315
9 Security First Bank			45,914	1.45%	\$8,812	\$1,406
10 Farmers State Bank			34,878	1.10%	\$6,694	\$1,068
11 BankWest, Inc.			33,668	1.06%	\$6,462	\$1,031
12 Bank of the West			30,007	0.95%	\$5,759	\$919
13 First Western Federal Savings Bank			25,596	0.81%	\$4,913	\$784

TOTAL \$ 3,009,733 95% \$577,648 \$92,157

Total Area FDIC Deposits \$3,009,733
 Share of total FDIC market represented 100%
 NON-FDIC market allowance (CU) 5%
Total Market estimate \$3,168,140

Primary Jobs Worksheet Deposit Estimate	\$608,050
Length of Program	5
Model Time Period	15
Program Primary Job Goal/Example	100
New deposits created over model time period*	\$7,904,650

*This figure would not include deposits transferred in, because of employees relocating into the area, and does NOT include commercial accounts, which would magnify this estimate.

Assumptions for NPV Methodology

Deposit Spread 2%
 Discount Rate 6.5%
 Time Period After Program 10

Additional Impact Facts That May Prove Useful

Construction

- Every million dollars of construction in the area represents a one time final demand impact of \$ 1,732,400.

Targeted Industries

- Every job created in the targeted industries stimulates the need for an additional .85 jobs.
- Every dollar paid in earnings in the targeted industries stimulates the creation of another \$.55 in additional wages.