

APPENDIX F-F

Predicted Employment and Economic Impact Analysis

Thomas Carroll and
Associates, Ltd

8935 South Pecos Road Phone: (702) 263-8044
Suite 22-C Fax: (702) 263-8740
Henderson, NV 89074

E-mail: Statisticalforensics@gmail.com

Web-page: thomascarrollandassociates.com

DESERT XPRESS: PREDICTED EMPLOYMENT AND ECONOMIC IMPACT ANALYSIS

At the request of DesertXpress, Thomas Carroll and Associates' chief economist Thomas Carroll (Ph.D., Economics, Syracuse University, 1973); with assistance from associate economist Michael Madison (B.A., Economics, University of Nevada, Las Vegas, 2010), prepared the following employment and economic impact analysis of the proposed Desert Xpress high speed rail project. The following section provides a synopsis of Dr. Carroll's credentials for preparing such a report. To view Dr. Carroll's cv visit www.thomascarrollandassociates.com.

THOMAS CARROLL & ASSOCIATES, FOUNDED 1995

Chief Economist Thomas M. Carroll, Ph.D., Economics, Syracuse University, 1973, has been a professor of economics at UNLV since August 1986 and chief economist at Thomas Carroll and Associates since its incorporation in 1995. Dr. Carroll participated in his first economic impact study while a Ph. D. student at Syracuse University when he worked as a research associate and later a research fellow at the Educational Policy Research Center (EPRC) in 1973. While at EPRC Dr. Carroll consulted with the US Office of Education on the Nixon Administration initiative, *Career Education*. After leaving Syracuse University Dr. Carroll spent two years at California State University Northridge, followed by eleven years at Memphis State University (now the University of Memphis). At Memphis Dr. Carroll completed a study on the employment impact of the 1964 Civil Rights Act on Memphis, Tennessee, employment patterns (for the Memphis State University Center for Manpower Research) and helped design a congestion alleviation charge for the Inland Waterway System for the Memphis State Bureau of Business Research. After coming to UNLV in 1986, Dr. Carroll worked closely with the late director of the Center for Business and Economic Research, Keith Schwer. Together they studied the economic impacts of the Nevada Test Site, Nellis Air Force Base, the Fallon Naval Air Station and the Hawthorne Armory as part of the Special Nevada Report ("The Nevada Regional Models: Forecasting and Simulation," *Nevada Review of Business and Economics*, Fall, 1990). Drs. Carroll and Schwer also collaborated on "Estimating the Employment Impacts of a Hub Airline Serving a Tourist Destination: The Case of America West Airline and Las Vegas Nevada," *International Journal of Public Administration*, 1994. Dr. Schwer and I collaborated with Dr. William T. White on a report of the impact of a water-imposed secession of construction on the Clark County economy on behalf of the Southern Nevada Water Authority.

Our consulting practice has performed economic analysis for parties (either plaintiffs or defendants) engaged in personal injury, wrongful deaths, discrimination, business damage, breach of contract, eminent domain and construction defect litigation. We also evaluate business startups, product development, and economic growth issues for public and private clients.

SUMMARY

To estimate the employment impact of the Desert Xpress train proposed to connect Las Vegas Nevada and Victorville California we used weekly earnings data from the Monthly Earner Study of the *Current Population Survey* to predict the number of full time equivalent jobs in construction and real estate for Clark County Nevada and San Bernardino County California for 2011, 2012, and 2013. We extracted monthly data for primary employment (agriculture, mining, construction, manufacturing, wholesale trade and military bases) and for secondary employment (retail trade and services) from the *Current Population Survey* from May 2004¹ through December 2009. We then arranged the data by month and place (either metropolitan area or rural area of each state) to generate a panel data set. We used a random effects regression to predict the change in secondary employment due to variations in basic (e.g., construction or real estate) employment. We inferred that each new basic job would create 0.94 additional secondary jobs. Our preliminary estimates are that the construction phase of the Desert Xpress project will generate 17,469 primary jobs (payroll = \$1.33 billion) in Clark County and 28,384 primary jobs (payroll = \$2.16 billion) in San Bernardino County. Expected secondary employment is 16,432 (payroll = \$852 million) for Clark County and 26,699 (payroll = \$1.52 billion) for San Bernardino County. Summing yields 88,984 total jobs with projected payrolls of \$5.87 billion.

Primary Employment				
	2011	2012	2013	3 yr. Total
Clark County				
Employment	3,613	8,763	5,093	17,469
Payrolls	\$266,013,520	\$665,033,800	\$399,020,280	\$1,330,067,600
San Bernardino County				
Employment	5,898	14,238	8,248	28,384
Payrolls	\$432,063,600	\$1,080,159,000	\$648,095,400	\$2,160,318,000
Total				
Employment	9,511	23,001	13,341	45,853
Payrolls	\$698,077,120	\$1,745,192,800	\$1,047,115,680	\$3,490,385,600

¹ The indicators for metropolitan areas, drawn from the 2000 Census, were modified between April and May 2004.

DESERT XPRESS:

EMPLOYMENT AND ECONOMIC IMPACT ANALYSIS

Secondary Employment				
	2011	2012	2013	3 yr. Total
Clark County				
Employment	3,398	8,243	4,791	16,432
Payrolls	\$170,905,624	\$426,334,386	\$255,213,368	\$852,453,377
San Bernardino County				
Employment	5,548	13,393	7,758	26,699
Payrolls	307,765,236	\$763,950,588	\$455,791,189	\$1,527,507,013
Total				
Employment	8,946	21,636	12,549	43,131
Payrolls	\$478,670,860	\$1,190,284,974	\$711,004,557	\$2,379,960,390

ASSUMPTIONS

DesertXpress provided the following assumptions upon which we have based our calculations. The construction phase of the Desert Xpress project is to be completed over a three year period, with 20% of the work to be done in 2011, 50% in 2012, and the remaining 30% in 2013. The budgetary assumptions for work to be done and the percent of that budget going to labor can be found in the following table. The labor force associated with the Civil/Track Work, Electrical Work, Maintenance Facilities, Control/Signal Work, and Stations portions of the project are to be staffed entirely by union employees. Project Management and Environmental Mitigation work will be staffed by white collar non union labor.

Description	% to			% to		
	Clark County, NV	Primary Labor	Amount to Primary Labor	San Bernardino County, CA	Primary Labor	Amount to Primary Labor
Civil/Track Work	\$1,017,714,000	80%	\$814,171,200	\$1,890,041,000	80%	\$1,512,032,800
Electrical Work						
Primary Distribution	\$39,900,000	60%	\$23,940,000	\$74,100,000	60%	\$44,460,000
Traction Power and Overhead Contact Systems	\$136,150,000	60%	\$81,690,000	\$252,850,000	60%	\$151,710,000
Maintenance Facilities						
Las Vegas (Wigwam) Facility	\$23,718,000	60%	\$14,230,800			
Baker MOW Facility				\$4,952,000	60%	\$2,971,200
Victorville (Site 3) Facility				\$91,541,000	60%	\$54,924,600
Control/Signal Work	\$155,050,000	60%	\$93,030,000	\$287,950,000	60%	\$172,770,000
Train Sets/Equipment	\$179,200,000	0%		\$332,800,000	0%	
Stations						
Las Vegas Central Station	\$212,726,000	60%	\$127,635,600			
Victorville Station (Site 3)				\$242,368,000	60%	\$145,420,800
Project Management						
Project Management Oversight	\$160,000,000	80%	\$128,000,000	\$40,000,000	80%	\$32,000,000
Professional Services	\$40,000,000	80%	\$32,000,000	\$10,000,000	80%	\$8,000,000
Contingency	\$77,000,000	0%		\$154,244,000	0%	
Environmental Mitigation	\$21,210,000	60%	\$12,726,000	\$42,421,000	60%	\$25,452,600
ROW Acquisition	\$52,880,000	5%	\$2,644,000	\$211,520,000	5%	\$10,576,000
Total	\$2,115,548,000		\$1,330,067,600	\$3,634,787,000		\$2,160,318,000

DETAILED EMPLOYMENT IMPACTS

Table 1a on page 9 shows the calculation of primary (i.e., construction and real-estate) employment for 2011, 2012 and 2013 in Clark County. The first column shows each type of expenditure and the expenditures on primary labor are shown for 2011 (column 2), 2012 (column 5), and 2013 (column 8). The average wage rate for the construction industry in Nevada (including fringe benefits) for 2011 (column 3), 2012 (column 6) and 2013 (column 9) are taken from page 23. The first equation on page 20 finds a 4.5% higher wage for union workers in the construction industry living in Nevada than the national average. Dividing the expenditure on labor by the average wage rate yields the employment for each expenditure class by year. Adding the employment for each category yields total employment of 17,469 for the three-year period. Adding the total wage payments for each year yields the 3 year increase in wages for primary workers, equal to \$1,330,067,600.

Table 1b on page 10 continues the analysis for Clark County by evaluating the secondary employment (e.g., retail and service workers) that would be generated by the construction employment. The first equation on page 22 implies that for each extra primary worker, labor markets tend to generate an extra 0.94 secondary workers. Multiplying the primary employment in Table 1a by 0.94 generates the predicted secondary employment in 2011 (3,398), 2012 (8,243) and 2013 (4,791) for a total of 16,432. The descriptive statistics on page 21, under the heading Secondary Workers, imply that the average wage rate for secondary workers in 2009 was \$795.38 (\$41,360 in full-time equivalent earnings). The equation on the top of page 21 implies that the elasticity of the wage rate for secondary workers with respect to the cost of living is 0.937. Multiplying this elasticity by the predicted consumer price index for 2010, 2011, 2012 and 2013 (as shown on pages 27 and 28) implies that the average earnings (including fringe benefits) for secondary workers will be \$50,295 in 2011, \$51,720 in 2012, and \$53,270 in 2013. Multiplying secondary employment for each year by the average secondary pay for each year implies total wage payments of \$170,905,624 in 2011, \$426,334,386 in 2012, and \$255,213,368 in 2013, for a total pay to secondary workers equal to \$852,453,377. Adding primary and secondary workers together, we predict that total Clark County employment generated by Desert Xpress will be 33,901 workers, and a total of \$2,182,520,977 in payrolls.

Table 2a on page 11 computes the impact of construction expenditures on construction wages and employment for San Bernardino County. Using the average annual earnings of construction and real-estate workers, we predict 5,898 jobs in 2011 (\$432,063,600 in payrolls), 14,238 jobs in 2012 (\$1,080,159,000 in payrolls), and 8,248 jobs in 2013 (\$648,095,400 in payrolls) in 2013. Summing yields 28,384 jobs and a total construction payroll of \$2,160,318,000 over the three-year construction period.

Table 2b on page 12 performs the same calculations for secondary employment for San Bernardino County implying 5,548 jobs in 2011 (payroll of \$307,765,236), 13,393 jobs in 2012 (payroll of \$763,950,588) and, 7,758 jobs in 2013 (payroll of \$455,791,189), for a total of 26,699 secondary jobs (\$1,527,507,013 in wages and fringe benefits). Adding construction and secondary employment effects, we predict an addition of 55,083 total jobs, with a payroll of \$3,687,825,013 for San Bernardino County.

Table 3a on page 13 combines construction expenditures for Clark and San Bernardino Counties for 2011, finding 9,511 total construction jobs, with earnings (wages and fringe benefits) equal to \$698,077,120. Table 3b on page 14 makes the same computation for 2012, finding 23,001 total construction jobs, with earnings (wages and fringe benefits) equal to \$1,745,192,800. Similarly, table 3c from page 15 combines construction expenditures for Clark and San Bernardino Counties for 2013, finding 13,341 total construction jobs, with earnings (wages and fringe benefits) equal to \$1,047,115,680. The projected 3 year increase to construction jobs for Clark and San Bernardino Counties are 45,853 with earnings (wages and fringe benefits) equal to \$3,490,385,600.

Table 3d on page 16 shows the combined secondary employment for 2011, equal to 8,946 secondary jobs and payrolls of \$478,670,860. Table 3e from page 17 shows the combined secondary employment for 2012, equal to 21,636 secondary jobs and payrolls of \$1,190,284,974. Table 3f from page 18 shows the combined secondary employment for 2013, equal to 12,549 secondary jobs and payrolls of \$711,004,557. The projected 3 year increase to secondary jobs for Clark and San Bernardino Counties are 43,131 with earnings (wages and fringe benefits) equal to \$2,379,960,390. Adding the total construction and secondary employment yields 88,984 total jobs and \$5,870,345,990 total wages and fringe benefits.

STATISTICAL ANALYSIS OF WAGES AND EMPLOYMENT

The first equation on page 19 predicts the average hourly wage rate for construction workers based on the monthly consumer price index and the monthly unemployment rate. This equation predicts that for each 1% increase in the cost of living (the consumer price index), the average wage rate for workers in the construction industry increases by 1.05% (which is significantly greater than zero but not significantly greater than 1). The descriptive statistics after the first equation predicts that the average weekly pay for construction workers in 2009 was \$851.40.

The second equation on page 19 predicts the average hourly wage rate for union construction workers based on the monthly consumer price index and the monthly unemployment rate. This equation predicts that for each 1% increase in the cost of living (the consumer price index), the average wage rate for workers in the construction industry increases by 1.01%. The descriptive statistics after the first equation predicts that the average weekly pay for union construction workers in 2009 was \$1,073.93.

The first equation on page 20 predicts the average hourly wage rate for union construction workers based on the monthly consumer price index, the monthly unemployment rate, and an indicator variable for those living in Nevada. This equation predicts that for each 1% increase in the cost of living (the consumer price index), the average wage rate for union workers in the construction industry increases by 1%. The equation also predicts that

living in Nevada has a statistically significant and positive 4.5% affect on the earnings of these workers².

The second equation on page 20 predicts that the elasticity of hourly wages in the real-estate industry with respect to the cost of living is 0.87. The descriptive statistics below the second equation imply that in 2009 the average weekly pay in the real-estate industry was \$802.60.

The first equation on page 21 implies that the elasticity of the average wage rate for workers in secondary jobs (e.g., retail trade and services) with respect to the cost of living is 0.937. The descriptive statistics imply that the average weekly pay was \$795.38.

The second equation on page 21 implies that secondary workers living in California earn on average 10.3% more in wages than the national average³. This equation also predicts that for each 1% increase in the cost of living (the consumer price index), the average wage rate for secondary workers increases by .92%, when the affect of living in California is accounted for.

The first equation on page 22 shows the panel regression (random effects model) that predicts the number of secondary jobs for each job in the primary (export) sector: agriculture, mining, construction, manufacturing and military bases. The data relate the number of basic and secondary jobs across 330 locations (metropolitan areas and the rural areas of states) between May 2004 and December 2009. The equation indicates that if one city creates one additional basic job (e.g., from government financed construction), that city will generate an additional 0.94 job in the secondary sector. Of the unexplained (stochastic) variation in secondary employment, 95.4% is due to difference in labor markets, while only 4.6% is due to variations over time within labor markets.

PREDICTING WAGE AND EMPLOYMENT CHANGES

Page 23 shows our calculations of future annual wage and fringe benefits for construction, real estate, and secondary workers. From page 25 we find that the fringe benefit rate in 2009 was 23.78%; because this time-series takes a random walk, we assume that the fringe benefit rate will remain constant through 2013. On page 27 we estimate that the inflation rate will average 2.71% in 2011, 3.02% in 2012, and 3.20% in 2013. Starting with the average construction (industry) annual wage of \$44,273, we add the fringe benefits and predict construction wages from 2010 through 2013, based on an elasticity of 1.0545. We take the 2009 average union construction wage of \$55,844 (national average) and \$58,362 (adjusted for living in Nevada), adjust for elasticity of 1.01 and 1 respectively, and apply the fringe benefit rate. We take the average real-estate (industry) wage of \$41,735, apply the fringe benefit rate, and adjust for an elasticity of 0.8712. Finally, we start with the average

² Living in California does not have a statistically significant impact on wages for union construction workers

³ Living in Nevada does not have a statistically significant impact on wages for secondary workers

secondary wage of \$41,360 (nationally) and \$45,616 (adjusted for living in California), add fringe benefits, and then adjust future wage predictions by the elasticity of 0.94 for each.

Pages 24 and 25 show the historical data on personal income, including wage and salaries and fringe benefits that we used to compute the fringe benefit rate. Pages 26 and 27 show the consumer price index from April 1913 to 2010, the inflation rate (the percent change in the consumer price index) from April 1914 to April 2010, and the unemployment rate from May 1948 to May 2010. Page 27 shows the predicted future inflation, cpi, and unemployment rates, based on the equations on pages 29 and 30.

Page 29 shows that the inflation rate does not follow a random walk and that it can be predicted by the equation $d\hat{p}ci_t = 1.53\% + .5514dcpi_{t-1}$, where $d\hat{p}ci_t$ is the predicted inflation rate for the current year and $dcpi_{t-1}$ is the inflation rate for the previous year. Page 30 confirms that the unemployment rate does not follow a random walk and that it can be predicted by the equation $ue_t = 1.86\% + .682ue_{t-1} + .177(ue_{t-1} - ue_{t-2})$, where ue_t is the predicted unemployment rate in year t , ue_{t-1} is the unemployment rate in the previous year, and ue_{t-2} is the unemployment rate two years ago.

Finally, page 31 confirms that the fringe benefit rate follows a random walk, implying that the best predictor of future fringe benefit rates is its last known value, which was 23.78% in 2009.

Desert Xpress:
Employment Impact Analysis

Table 1a: Clark County 3 Year Effect to Primary Employment and Output

Description	Amount to Primary Labor in 2011	2011 Average Annual Wage	2011 Increase in Primary Workers	Amount to Primary Labor in 2012	2012 Average Annual Wage	2012 Increase in Primary Workers	Amount to Primary Labor in 2013	2013 Average Annual Wage	2013 Increase in Primary Workers
Civil/Track Work	\$ 162,834,240	\$76,146	2,138	\$ 407,085,600	\$78,457	5,189	\$ 244,251,360	\$80,974	3,016
Electrical Work									
Primary Distribution	\$ 4,788,000	\$76,146	63	\$ 11,970,000	\$78,457	153	\$ 7,182,000	\$80,974	89
Traction Power and Overhead Contact Systems	\$ 16,338,000	\$76,146	215	\$ 40,845,000	\$78,457	521	\$ 24,507,000	\$80,974	303
Maintenance Facilities									
Las Vegas (Wigwam) Facility	\$ 2,846,160	\$76,146	37	\$ 7,115,400	\$78,457	91	\$ 4,269,240	\$80,974	53
Baker MOW Facility									
Victorville (Site 3) Facility									
Control/Signal Work	\$ 18,606,000	\$76,146	244	\$ 46,515,000	\$78,457	593	\$ 27,909,000	\$80,974	345
Train Sets/Equipment Stations									
Las Vegas Central Station	\$ 25,527,120	\$76,146	335	\$ 63,817,800	\$78,457	813	\$ 38,290,680	\$80,974	473
Victorville Station (Site 3)									
Project Management									
Project Management Oversight	\$ 25,600,000	\$60,773	421	\$ 64,000,000	\$62,711	1,021	\$ 38,400,000	\$64,825	592
Professional Services	\$ 6,400,000	\$60,773	105	\$ 16,000,000	\$62,711	255	\$ 9,600,000	\$64,825	148
Contingency									
Environmental Mitigation	\$ 2,545,200	\$60,773	42	\$ 6,363,000	\$62,711	101	\$ 3,817,800	\$64,825	59
ROW Acquisition	\$ 528,800	\$47,098	11	\$ 1,322,000	\$48,339	27	\$ 793,200	\$49,685	16
Total	\$ 266,013,520		3,613	\$ 665,033,800		8,763	\$ 399,020,280		5,093
						3 year increase in Primary Workers			17,469
						3 year increase to wages to Primary Workers			\$ 1,330,067,600

Desert Xpress: Employment Impact Analysis

Table 1b: Clark County 3 Year Effect to Secondary Employment and Output									
Description	Secondary Jobs Created in 2011	2011 Average Annual Wage	Wages to Secondary Jobs in 2011	Secondary Jobs Created in 2012	2012 Average Annual Wage	Wages to Secondary Jobs in 2012	Secondary Jobs Created in 2013	2013 Average Annual Wage	Wages to Secondary Jobs in 2013
Civil/Track Work	2,011	\$50,295	\$ 101,168,635	4,881	\$51,720	\$ 252,427,410	2,837	\$53,270	\$ 151,144,154
Electrical Work									
Primary Distribution	59	\$50,295	\$ 2,974,776	144	\$51,720	\$ 7,422,410	83	\$53,270	\$ 4,444,263
Traction Power and Overhead Contact Systems	202	\$50,295	\$ 10,150,771	490	\$51,720	\$ 25,327,345	285	\$53,270	\$ 15,165,073
Maintenance Facilities									
Las Vegas (Wigwam) Facility	35	\$50,295	\$ 1,768,314	85	\$51,720	\$ 4,412,148	50	\$53,270	\$ 2,641,830
Baker MOW Facility									
Victorville (Site 3) Facility									
Control/Signal Work	230	\$50,295	\$ 11,559,876	558	\$51,720	\$ 28,843,224	324	\$53,270	\$ 17,270,251
Train Sets/Equipment Stations									
Las Vegas Central Station	315	\$50,295	\$ 15,859,956	765	\$51,720	\$ 39,572,419	445	\$53,270	\$ 23,694,494
Victorville Station (Site 3)									
Project Management									
Project Management Oversight	396	\$50,295	\$ 19,928,627	960	\$51,720	\$ 49,650,098	557	\$53,270	\$ 29,681,869
Professional Services	99	\$50,295	\$ 4,982,157	240	\$51,720	\$ 12,412,524	139	\$53,270	\$ 7,420,467
Contingency									
Environmental Mitigation	39	\$50,295	\$ 1,981,342	95	\$51,720	\$ 4,936,306	55	\$53,270	\$ 2,951,027
ROW Acquisition	11	\$50,295	\$ 531,169	26	\$51,720	\$ 1,330,501	15	\$53,270	\$ 799,938
Total	3,398		\$ 170,905,624	8,243		\$ 426,334,386	4,791		\$ 255,213,368
									3 year increase in Secondary Workers 16,432
									3 year increase to wages to Secondary Workers \$ 852,453,377
									3 year increase to all workers 33,901
									3 year increase to wages to all workers \$ 2,182,520,977

Desert Xpress:
Economic Impact Analysis

Desert Xpress:
Employment Impact Analysis

Table 2a: San Bernadino County 3 Year Effect to Primary Employment and Output

Description	Amount to Primary Labor in 2011	2011 Average Annual Wage	2011 Increase in Primary Workers	Amount to Primary Labor in 2012	2012 Average Annual Wage	2012 Increase in Primary Workers	Amount to Primary Labor in 2013	2013 Average Annual Wage	2013 Increase in Primary Workers
Civil/Track Work	\$ 302,406,560	\$73,936	4,090	\$ 756,016,400	\$76,591	9,871	\$ 453,609,840	\$79,343	5,717
Electrical Work									
Primary Distribution	\$ 8,892,000	\$73,936	120	\$ 22,230,000	\$76,591	290	\$ 13,338,000	\$79,343	168
Traction Power and Overhead Contact Systems	\$ 30,342,000	\$73,936	410	\$ 75,855,000	\$76,591	990	\$ 45,513,000	\$79,343	574
Maintenance Facilities									
Las Vegas (Wigwam) Facility Baker MOW Facility	\$ 594,240	\$73,936	8	\$ 1,485,600	\$76,591	19	\$ 891,360	\$79,343	11
Victorville (Site 3) Facility	\$ 10,984,920	\$73,936	149	\$ 27,462,300	\$76,591	359	\$ 16,477,380	\$79,343	208
Control/Signal Work	\$ 34,554,000	\$73,936	467	\$ 86,385,000	\$76,591	1,128	\$ 51,831,000	\$79,343	653
Train Sets/Equipment Stations									
Las Vegas Central Station Victorville Station (Site 3)	\$ 29,084,160	\$73,936	393	\$ 72,710,400	\$76,591	949	\$ 43,626,240	\$79,343	550
Project Management									
Project Management Oversight Professional Services Contingency	\$ 6,400,000 \$ 1,600,000	\$60,773 \$60,773	105 26	\$ 16,000,000 \$ 4,000,000	\$62,711 \$62,711	255 64	\$ 9,600,000 \$ 2,400,000	\$64,825 \$64,825	148 37
Environmental Mitigation	\$ 5,090,520	\$60,773	84	\$ 12,726,300	\$62,711	203	\$ 7,635,780	\$64,825	118
ROW Acquisition	\$ 2,115,200	\$47,098	45	\$ 5,288,000	\$48,339	109	\$ 3,172,800	\$49,685	64
Total	\$ 432,063,600		5,898	\$ 1,080,159,000		14,238	\$ 648,095,400		8,248
						3 year increase in Primary Workers			28,384
						3 year increase in wages to Primary Workers			\$ 2,160,318,000

Desert Xpress:
Economic Impact Analysis

Desert Xpress:
Employment Impact Analysis

Table 2b: San Bernadino County 3 Year Effect to Secondary Employment and Output									
Description	Secondary Jobs Created in 2011	2011 Average Annual Wage	Wages to Secondary Jobs in 2011	Secondary Jobs Created in 2012	2012 Average Annual Wage	Wages to Secondary Jobs in 2012	Secondary Jobs Created in 2013	2013 Average Annual Wage	Wages to Secondary Jobs in 2013
Civil/Track Work	3,847	\$55,471	\$ 213,412,786	9,285	\$57,043	\$ 529,631,129	5,378	\$58,751	\$ 315,946,666
Electrical Work									
Primary Distribution	113	\$55,471	\$ 6,275,216	273	\$57,043	\$ 15,573,339	158	\$58,751	\$ 9,290,135
Traction Power and Overhead Contact Systems	386	\$55,471	\$ 21,412,799	932	\$57,043	\$ 53,140,606	540	\$58,751	\$ 31,700,548
Maintenance Facilities									
Las Vegas (Wigwam) Facility									
Baker MOW Facility	8	\$55,471	\$ 419,364	18	\$57,043	\$ 1,040,745	11	\$58,751	\$ 620,847
Victorville (Site 3) Facility	140	\$55,471	\$ 7,752,221	337	\$57,043	\$ 19,238,854	195	\$58,751	\$ 11,476,764
Control/Signal Work	440	\$55,471	\$ 24,385,269	1,061	\$57,043	\$ 60,517,451	614	\$58,751	\$ 36,101,138
Train Sets/Equipment Stations									
Las Vegas Central Station									
Victorville Station (Site 3)	370	\$55,471	\$ 20,525,122	893	\$57,043	\$ 50,937,640	517	\$58,751	\$ 30,386,389
Project Management									
Project Management Oversight	99	\$55,471	\$ 5,494,855	240	\$57,043	\$ 13,689,858	139	\$58,751	\$ 8,184,084
Professional Services	25	\$55,471	\$ 1,373,714	60	\$57,043	\$ 3,422,464	35	\$58,751	\$ 2,046,021
Contingency									
Environmental Mitigation	79	\$55,471	\$ 4,370,573	191	\$57,043	\$ 10,888,827	111	\$58,751	\$ 6,509,569
ROW Acquisition	42	\$55,471	\$ 2,343,318	103	\$57,043	\$ 5,869,676	60	\$58,751	\$ 3,529,027
Total	5,548		\$ 307,765,236	13,393		\$ 763,950,588	7,758		\$ 455,791,189
3 year increase in Secondary Workers									26,699
3 year increase to wages to Secondary Workers									\$ 1,527,507,013
3 year increase to all workers									55,083
3 year increase to wages to all workers									\$ 3,687,825,013

Desert Xpress:
Employment Impact Analysis

Table 3a: 2011 Aggregate Effect to Primary Employment and Output

Description	Amount to Primary Labor in 2011 (NV)	2011 Average Annual Wage (NV)	2011 Increase in Primary Workers (NV)	Amount to Primary Labor in 2011 (CA)	2011 Average Annual Wage (CA)	2011 Increase in Primary Workers (CA)	Amount to Primary Labor in 2011	2011 Increase in Primary Workers
Civil/Track Work	\$ 162,834,240	\$76,146	2,138	\$ 302,406,560	\$73,936	4,090	\$ 465,240,800	6,229
Electrical Work								
Primary Distribution	\$ 4,788,000	\$76,146	63	\$ 8,892,000	\$73,936	120	\$ 13,680,000	183
Traction Power and Overhead Contact Systems	\$ 16,338,000	\$76,146	215	\$ 30,342,000	\$73,936	410	\$ 46,680,000	625
Maintenance Facilities								
Las Vegas (Wigwam) Facility	\$ 2,846,160	\$76,146	37				\$ 2,846,160	37
Baker MOW Facility				\$ 594,240	\$73,936	8	\$ 594,240	8
Victorville (Site 3) Facility				\$ 10,984,920	\$73,936	149	\$ 10,984,920	149
Control/Signal Work	\$ 18,606,000	\$76,146	244	\$ 34,554,000	\$73,936	467	\$ 53,160,000	712
Train Sets/Equipment Stations								
Las Vegas Central Station	\$ 25,527,120	\$76,146	335		\$73,936		\$ 25,527,120	335
Victorville Station (Site 3)				\$ 29,084,160	\$73,936	393	\$ 29,084,160	393
Project Management								
Project Management Oversight	\$ 25,600,000	\$60,773	421	\$ 6,400,000	\$60,773	105	\$ 32,000,000	527
Professional Services Contingency	\$ 6,400,000	\$60,773	105	\$ 1,600,000	\$60,773	26	\$ 8,000,000	132
Environmental Mitigation	\$ 2,545,200	\$60,773	42	\$ 5,090,520	\$60,773	84	\$ 7,635,720	126
ROW Acquisition	\$ 528,800	\$47,098	11	\$ 2,115,200	\$47,098	45	\$ 2,644,000	56
Total	\$ 266,013,520		3,613	\$ 432,063,600		5,898	\$ 698,077,120	9,511

Desert Xpress:
Employment Impact Analysis

Table 3b: 2012 Aggregate Effect to Primary Employment and Output

Description	Amount to Primary Labor in 2012 (NV)	2012 Average Annual Wage (NV)	2012 Increase in Primary Workers (NV)	Amount to Primary Labor in 2012 (CA)	2012 Average Annual Wage (CA)	2012 Increase in Primary Workers (CA)	Amount to Primary Labor in 2012	2012 Increase in Primary Workers
Civil/Track Work	\$ 407,085,600	\$78,457	5,189	\$ 756,016,400	\$76,591	9,871	\$ 1,163,102,000	15,059
Electrical Work								
Primary Distribution	\$ 11,970,000	\$78,457	153	\$ 22,230,000	\$76,591	290	\$ 34,200,000	443
Traction Power and Overhead Contact Systems	\$ 40,845,000	\$78,457	521	\$ 75,855,000	\$76,591	990	\$ 116,700,000	1,511
Maintenance Facilities								
Las Vegas (Wigwam) Facility	\$ 7,115,400	\$78,457	91				\$ 7,115,400	91
Baker MOW Facility				\$ 1,485,600	\$76,591	19	\$ 1,485,600	19
Victorville (Site 3) Facility				\$ 27,462,300	\$76,591	359	\$ 27,462,300	359
Control/Signal Work	\$ 46,515,000	\$78,457	593	\$ 86,385,000	\$76,591	1,128	\$ 132,900,000	1,721
Train Sets/Equipment Stations								
Las Vegas Central Station	\$ 63,817,800	\$78,457	813				\$ 63,817,800	813
Victorville Station (Site 3)				\$ 72,710,400	\$76,591	949	\$ 72,710,400	949
Project Management								
Project Management Oversight	\$ 64,000,000	\$62,711	1,021	\$ 16,000,000	\$62,711	255	\$ 80,000,000	1,276
Professional Services Contingency	\$ 16,000,000	\$62,711	255	\$ 4,000,000	\$62,711	64	\$ 20,000,000	319
Environmental Mitigation	\$ 6,363,000	\$62,711	101	\$ 12,726,300	\$62,711	203	\$ 19,089,300	304
ROW Acquisition	\$ 1,322,000	\$48,339	27	\$ 5,288,000	\$48,339	109	\$ 6,610,000	137
Total	\$ 665,033,800		8,763	\$ 1,080,159,000		14,238	\$ 1,745,192,800	23,001

Desert Xpress:
Employment Impact Analysis

Table 3c: 2013 Aggregate Effect to Primary Employment and Output

Description	Amount to Primary Labor in 2013 (NV)	2013 Average Annual Wage (NV)	2013 Increase in Primary Workers (NV)	Amount to Primary Labor in 2013 (CA)	2013 Average Annual Wage (CA)	2013 Increase in Primary Workers (CA)	Amount to Primary Labor in 2013	2013 Increase in Primary Workers
Civil/Track Work	\$ 244,251,360	\$80,974	3,016	\$ 453,609,840	\$79,343	5,717	\$ 697,861,200	8,733
Electrical Work								
Primary Distribution	\$ 7,182,000	\$80,974	89	\$ 13,338,000	\$79,343	168	\$ 20,520,000	257
Traction Power and Overhead Contact Systems	\$ 24,507,000	\$80,974	303	\$ 45,513,000	\$79,343	574	\$ 70,020,000	876
Maintenance Facilities								
Las Vegas (Wigwam) Facility	\$ 4,269,240	\$80,974	53				\$ 4,269,240	53
Baker MOW Facility				\$ 891,360	\$79,343	11	\$ 891,360	11
Victorville (Site 3) Facility				\$ 16,477,380	\$79,343	208	\$ 16,477,380	208
Control/Signal Work	\$ 27,909,000	\$80,974	345	\$ 51,831,000	\$79,343	653	\$ 79,740,000	998
Train Sets/Equipment Stations								
Las Vegas Central Station	\$ 38,290,680	\$80,974	473				\$ 38,290,680	473
Victorville Station (Site 3)				\$ 43,626,240	\$79,343	550	\$ 43,626,240	550
Project Management								
Project Management Oversight	\$ 38,400,000	\$64,825	592	\$ 9,600,000	\$64,825	148	\$ 48,000,000	740
Professional Services	\$ 9,600,000	\$64,825	148	\$ 2,400,000	\$64,825	37	\$ 12,000,000	185
Contingency								
Environmental Mitigation	\$ 3,817,800	\$64,825	59	\$ 7,635,780	\$64,825	118	\$ 11,453,580	177
ROW Acquisition	\$ 793,200	\$49,685	16	\$ 3,172,800	\$49,685	64	\$ 3,966,000	80
Total	\$ 399,020,280		5,093	\$ 648,095,400		8,248	\$ 1,047,115,680	13,341
3 year increase in Primary Workers								45,853
3 year increase to wages to Primary Workers								\$ 3,490,385,600

Desert Xpress:
Employment Impact Analysis

Table 3d: 2011 Aggregate Effect to Secondary Employment and Output

Description	Secondary Jobs Created in 2011 (NV)	2011 Average Annual Wage (NV)	Wages to Secondary Jobs in 2011 (NV)	Secondary Jobs Created in 2011 (CA)	2011 Average Annual Wage (CA)	Wages to Secondary Jobs in 2011 (CA)	Secondary Jobs Created in 2011	Wages to Secondary Jobs in 2011
Civil/Track Work	2,011	\$50,295	\$ 101,168,635	3,847	\$55,471	\$ 213,412,786	5,859	\$ 314,581,421
Electrical Work								
Primary Distribution	59	\$50,295	\$ 2,974,776	113	\$55,471	\$ 6,275,216	172	\$ 9,249,992
Traction Power and Overhead Contact Systems	202	\$50,295	\$ 10,150,771	386	\$55,471	\$ 21,412,799	588	\$ 31,563,570
Maintenance Facilities								
Las Vegas (Wigwam) Facility	35	\$50,295	\$ 1,768,314				35	\$ 1,768,314
Baker MOW Facility				8	\$55,471	\$ 419,364	8	\$ 419,364
Victorville (Site 3) Facility				140	\$55,471	\$ 7,752,221	140	\$ 7,752,221
Control/Signal Work	230	\$50,295	\$ 11,559,876	440	\$55,471	\$ 24,385,269	669	\$ 35,945,145
Train Sets/Equipment Stations								
Las Vegas Central Station	315	\$50,295	\$ 15,859,956				315	\$ 15,859,956
Victorville Station (Site 3)				370	\$55,471	\$ 20,525,122	370	\$ 20,525,122
Project Management								
Project Management Oversight	396	\$50,295	\$ 19,928,627	99	\$55,471	\$ 5,494,855	495	\$ 25,423,482
Professional Services Contingency	99	\$50,295	\$ 4,982,157	25	\$55,471	\$ 1,373,714	124	\$ 6,355,871
Environmental Mitigation	39	\$50,295	\$ 1,981,342	79	\$55,471	\$ 4,370,573	118	\$ 6,351,915
ROW Acquisition	11	\$50,295	\$ 531,169	42	\$55,471	\$ 2,343,318	53	\$ 2,874,487
Total	3,398		\$ 170,905,624	5,548		\$ 307,765,236	8,946	\$ 478,670,860

Desert Xpress:
Employment Impact Analysis

Table 3e: 2012 Aggregate Effect to Secondary Employment and Output

Description	Secondary Jobs Created in 2012 (NV)	2012 Average Annual Wage (NV)	Wages to Secondary Jobs in 2012 (NV)	Secondary Jobs Created in 2012 (CA)	2012 Average Annual Wage (CA)	Wages to Secondary Jobs in 2012 (CA)	Secondary Jobs Created in 2012	Wages to Secondary Jobs in 2012
Civil/Track Work	4,881	\$51,720	\$ 252,427,410	9,285	\$57,043	\$ 529,631,129	14,165	\$ 782,058,539
Electrical Work								
Primary Distribution	144	\$51,720	\$ 7,422,410	273	\$57,043	\$ 15,573,339	417	\$ 22,995,749
Traction Power and Overhead Contact Systems	490	\$51,720	\$ 25,327,345	932	\$57,043	\$ 53,140,606	1,421	\$ 78,467,951
Maintenance Facilities								
Las Vegas (Wigwam) Facility	85	\$51,720	\$ 4,412,148				85	\$ 4,412,148
Baker MOW Facility				18	\$57,043	\$ 1,040,745	18	\$ 1,040,745
Victorville (Site 3) Facility				337	\$57,043	\$ 19,238,854	337	\$ 19,238,854
Control/Signal Work	558	\$51,720	\$ 28,843,224	1,061	\$57,043	\$ 60,517,451	1,619	\$ 89,360,674
Train Sets/Equipment Stations								
Las Vegas Central Station	765	\$51,720	\$ 39,572,419				765	\$ 39,572,419
Victorville Station (Site 3)				893	\$57,043	\$ 50,937,640	893	\$ 50,937,640
Project Management								
Project Management Oversight	960	\$51,720	\$ 49,650,098	240	\$57,043	\$ 13,689,858	1,200	\$ 63,339,955
Professional Services Contingency	240	\$51,720	\$ 12,412,524	60	\$57,043	\$ 3,422,464	300	\$ 15,834,989
Environmental Mitigation	95	\$51,720	\$ 4,936,306	191	\$57,043	\$ 10,888,827	286	\$ 15,825,133
ROW Acquisition	26	\$51,720	\$ 1,330,501	103	\$57,043	\$ 5,869,676	129	\$ 7,200,177
Total	8,243		\$ 426,334,386	13,393		\$ 763,950,588	21,636	\$ 1,190,284,974

Desert Xpress:
Employment Impact Analysis

Table 3f: 2013 Aggregate Effect to Secondary Employment and Output

Description	Secondary Jobs Created in 2013 (NV)	2013 Average Annual Wage (NV)	Wages to Secondary Jobs in 2013 (NV)	Secondary Jobs Created in 2013 (CA)	2013 Average Annual Wage (CA)	Wages to Secondary Jobs in 2013 (CA)	Secondary Jobs Created in 2013	Wages to Secondary Jobs in 2013
Civil/Track Work	2,837	\$53,270	\$ 151,144,154	5,378	\$58,751	\$ 315,946,666	8,215	\$ 467,090,820
Electrical Work							0	
Primary Distribution	83	\$53,270	\$ 4,444,263	158	\$58,751	\$ 9,290,135	242	\$ 13,734,398
Traction Power and Overhead Contact Systems	285	\$53,270	\$ 15,165,073	540	\$58,751	\$ 31,700,548	824	\$ 46,865,622
Maintenance Facilities								
Las Vegas (Wigwam) Facility	50	\$53,270	\$ 2,641,830				50	\$ 2,641,830
Baker MOW Facility				11	\$58,751	\$ 620,847	11	\$ 620,847
Victorville (Site 3) Facility				195	\$58,751	\$ 11,476,764	195	\$ 11,476,764
Control/Signal Work	324	\$53,270	\$ 17,270,251	614	\$58,751	\$ 36,101,138	939	\$ 53,371,389
Train Sets/Equipment Stations								
Las Vegas Central Station	445	\$53,270	\$ 23,694,494				445	\$ 23,694,494
Victorville Station (Site 3)				517	\$58,751	\$ 30,386,389		
Project Management							0	
Project Management Oversight	557	\$53,270	\$ 29,681,869	139	\$58,751	\$ 8,184,084	697	\$ 37,865,953
Professional Services	139	\$53,270	\$ 7,420,467	35	\$58,751	\$ 2,046,021	174	\$ 9,466,488
Contingency							0	
Environmental Mitigation	55	\$53,270	\$ 2,951,027	111	\$58,751	\$ 6,509,569	166	\$ 9,460,596
ROW Acquisition	15	\$53,270	\$ 799,938	60	\$58,751	\$ 3,529,027	75	\$ 4,328,965
Total	4,791		\$ 255,213,368	7,758		\$ 455,791,189	12,549	\$ 711,004,557
3 year increase in Secondary Workers								43,131
3 year increase to wages to Secondary Workers								\$ 2,379,960,390
3 year increase to all workers								88,984
3 year increase to wages to all workers								\$ 5,870,345,990

Desert Xpress:
Employment Impact Analysis

Construction Industry

reg lwage lcp i lue if const==1, cluster(time)

Linear regression	Number of obs =	49770
	F(2, 71) =	153.29
	Prob > F =	0
	R-squared =	0.0151
	Root MSE =	0.43095

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P>t	[95% Conf. Interval]	
lcp i	1.054537	0.06026	17.5	0	0.934382	1.174691
lue	0.14145	0.025996	5.44	0	0.089617	0.1932842
cons	-3.104296	0.333598	-9.31	0	-3.76947	-2.439121

su wklypay if construction==1 & year==2009

Variable	Obs	Mean	Std. Dev.	Min	Max
wklypay	9335	851.3965	520.1919	0	2884.61

Union Workers in the Construction Industry

reg lwage lcp i lue if const==1 & union==1, cluster(time)

Linear regression	Number of obs =	9309
	F(2, 71) =	68.62
	Prob > F =	0
	R-squared =	0.0164
	Root MSE =	0.41235

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
lcp i	1.009939	0.087291	11.57	0	0.835885	1.183993
lue	0.095278	0.047689	2	0.05	0.000188	0.1903681
cons	-2.464598	0.493003	-5	0	-3.447618	-1.481578

su wklypay if construction==1 & union==1 & year==2009

Variable	Obs	Mean	Std. Dev.	Min	Max
wklypay	1570	1073.931	497.8953	0	2884.61

Desert Xpress:
Employment Impact Analysis

Union Workers in the Construction Industry with Affect Adjustment for Living in Nevada

. reg lwage lcpilue nevada if construction==1 & union==1, cluster(time)

Linear regression

Number of obs =	9309
F(3, 71) =	50.55
Prob > F =	0
R-squared =	0.0168
Root MSE =	0.41229

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
lcpilue	1.003667	0.087247	11.5	0	0.829702	1.177632
lue	0.094499	0.047568	1.99	0.051	-0.00035	0.1893474
nevada	0.045075	0.019467	2.32	0.023	0.00626	0.0838904
_cons	-2.431792	0.492342	-4.94	0	-3.413494	-1.45009

Real Estate Industry

reg lwage lcpilue if realestind==1, cluster(time)

Linear regression

Number of obs =	6162
F(2, 71) =	39.15
Prob > F =	0
R-squared =	0.0128
Root MSE =	0.40195

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P>t	[95% Conf. Interval]	
lcpilue	0.871159	0.098673	8.83	0	0.674411	1.067907
lue	0.046368	0.042346	1.09	0.277	-0.038067	0.1308035
cons	-2.201753	0.539782	-4.08	0	-3.278049	-1.125458

su wklypay if realestind==1 & year==2009

Variable	Obs	Mean	Std. Dev.	Min	Max
wklypay	2205	802.5956	620.6943	0	2884.61

Desert Xpress:
Employment Impact Analysis

Secondary Workers

reg lwage lcpilue if secondary==1, cluster(time)

Linear regression	Number of obs =	304074
	F(2, 71) =	473.87
	Prob > F =	0
	R-squared =	0.011
	Root MSE =	0.47427

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P>t	[95% Conf. Interval]
lcpilue	0.937092	0.041318	22.68	0	0.854706 1.019478
lue	0.03285	0.020951	1.57	0.121	-0.008925 0.0746237
cons	-2.525984	0.243892	-10.36	0	-3.01229 -2.039678

su wklypay if secondary==1 & year==2009

Variable	Obs	Mean	Std. Dev.	Min	Max
wklypay	88835	795.3791	611.8022	0	2884.61

Secondary Workers with Affect of Living in California

. reg lwage lcpilue california if secondary==1, cluster(time)

Linear regression	Number of obs =	304074
	F(3, 71) =	533.79
	Prob > F =	0
	R-squared =	0.0141
	Root MSE =	0.47354

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]
lcpilue	0.929091	0.040981	22.67	0	0.847377 1.010805
lue	0.034532	0.020801	1.66	0.101	-0.006944 0.0760081
california	0.102907	0.004069	25.29	0	0.094795 0.1110191
_cons	-2.493759	0.241783	-10.31	0	-2.975859 -2.011658

Desert Xpress:
Employment Impact Analysis

xtreg secondary basic, re

Random-effects GLS regression	Number of obs =	20591
Group variable: place	Number of groups =	330
R-sq: within = 0.3003	Obs per group: min =	4
between = 0.8908	avg =	62.4
overall = 0.8804	max =	68
Random effects u_i ~ Gaussian	Wald chi2(1) =	10035.46
corr(u_i, X) = 0 (assumed)	Prob > chi2 =	0

secondary	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
basic	0.940635	0.00939	100.18	0	0.922231	0.9590383
_cons	82.14173	4.679492	17.55	0	72.9701	91.31337
sigma_u	82.10699					
sigma_e	17.95275					
rho	0.954373 (fraction of variance due to u_i)					

reg lsecondary vlconst sblconst lconst

Source	SS	df	MS	Number of obs =	20591
				F(3, 20587) =	29605.79
Model	20796.34	3	6932.113	Prob > F =	0
Residual	4820.389	20587	0.234147	R-squared =	0.8118
				Adj R-squared =	0.8118
Total	25616.73	20590	1.244134	Root MSE =	0.48389

lsecondary	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
vlconst	0.025351	0.013339	1.9	0.057	-0.000795 0.0514973
sblconst	-0.024474	0.014557	-1.68	0.093	-0.053007 0.0040585
lconst	0.83608	0.002834	295.05	0	0.830526 0.8416344
_cons	2.604671	0.00706	368.94	0	2.590833 2.618509

Desert Xpress:
Employment Impact Analysis

Fringe benefit rate	23.78%		
inflation rate April 2009 to April 2010	2.24%		
inflation rate 2010 to 2011	2.71%		
inflation rate 2011 to 2012	3.02%		
inflation rate 2012 to 2013	3.20%		
2009 Average Construction Wage	\$44,273	2009 Average Union Construction Wage	\$55,844
construction wage elasticity to inflation	1.05	construction wage elasticity to inflation	1.01
Annual Construction wage & fringes		Annual Union Construction wage & fringes	
2010	\$59,084	2010	\$71,375
2011	\$60,773	2011	\$73,936
2012	\$62,711	2012	\$76,591
2013	\$64,825	2013	\$79,343
2009 Average Union Construction Wage	\$58,362	2009 Average Real Estate Wage	\$41,735
Union construction wage elasticity to inflation	1.00	real estate wage elasticity to inflation	0.87
Wage differential for Nevada Workers	4.51%	Annual Real Estate wage & fringes	
NV Annual Union Construction wage & fringes		Annual Real Estate Wage & Fringes	
2010	\$74,129	2010	\$46,012
2011	\$76,146	2011	\$47,098
2012	\$78,457	2012	\$48,339
2013	\$80,974	2013	\$49,685
2009 Average Secondary Wage	\$41,360	2009 Average Secondary Wage	\$45,616
secondary wage elasticity to inflation	0.94	secondary wage elasticity to inflation	0.94
Annual Secondary Wage & Fringes		Wage differential for California workers	10.29%
2010	\$49,049	Annual Secondary Wage & Fringes for California workers	
2011	\$50,295	2010	\$54,097
2012	\$51,720	2011	\$55,471
2013	\$53,270	2012	\$57,043
		2013	\$58,751

Desert Xpress:
Employment Impact Analysis

Tax and Fringe Benefit Rates, 1929- 2009

expressed in Billions of current dollars

<u>Year</u>	<u>Personal Income</u> billions	<u>Personal Taxes</u> billions	<u>Tax Rate</u> percent	<u>Wages & Sararies</u> billions	<u>Fringe Benefits</u> billions	<u>FB Rate</u> percent
1929	\$84.9	\$1.7	2.00%	\$50.5	\$0.7	1.39%
1930	\$76.1	\$1.6	2.10%	\$46.2	\$0.7	1.52%
1931	\$65.2	\$1.0	1.53%	\$39.2	\$0.6	1.53%
1932	\$49.9	\$0.7	1.40%	\$30.5	\$0.6	1.97%
1933	\$46.8	\$0.8	1.71%	\$29.0	\$0.5	1.72%
1934	\$53.7	\$0.9	1.68%	\$33.7	\$0.6	1.78%
1935	\$60.3	\$1.1	1.82%	\$36.7	\$0.7	1.91%
1936	\$68.6	\$1.3	1.90%	\$42.0	\$1.0	2.38%
1937	\$74.1	\$1.9	2.56%	\$46.1	\$1.8	3.90%
1938	\$68.4	\$1.9	2.78%	\$43.0	\$2.0	4.65%
1939	\$72.9	\$1.5	2.06%	\$46.0	\$2.2	4.78%
1940	\$78.4	\$1.7	2.17%	\$49.9	\$2.3	4.61%
1941	\$96.0	\$2.3	2.40%	\$62.1	\$2.7	4.35%
1942	\$123.4	\$4.9	3.97%	\$82.1	\$3.2	3.90%
1943	\$152.1	\$16.7	10.98%	\$105.6	\$3.8	3.60%
1944	\$166.0	\$17.7	10.66%	\$116.9	\$4.5	3.85%
1945	\$171.6	\$19.4	11.31%	\$117.5	\$5.8	4.94%
1946	\$178.6	\$17.2	9.63%	\$112.0	\$7.6	6.79%
1947	\$190.9	\$19.8	10.37%	\$123.1	\$7.0	5.69%
1948	\$209.7	\$19.2	9.16%	\$135.5	\$6.4	4.72%
1949	\$207.0	\$16.7	8.07%	\$134.8	\$7.1	5.27%
1950	\$228.9	\$18.9	8.26%	\$147.2	\$8.0	5.43%
1951	\$257.9	\$27.1	10.51%	\$171.5	\$9.8	5.71%
1952	\$275.2	\$32.0	11.63%	\$185.7	\$10.5	5.65%
1953	\$291.7	\$33.2	11.38%	\$199.1	\$11.2	5.63%
1954	\$294.3	\$30.2	10.26%	\$197.3	\$11.9	6.03%
1955	\$316.0	\$32.9	10.41%	\$212.2	\$13.5	6.36%
1956	\$339.5	\$36.6	10.78%	\$229.0	\$15.5	6.77%
1957	\$358.5	\$38.9	10.85%	\$240.0	\$17.6	7.33%
1958	\$368.9	\$38.5	10.44%	\$241.3	\$18.2	7.54%
1959	\$392.3	\$42.3	10.78%	\$259.8	\$21.1	8.12%
1960	\$411.3	\$46.1	11.21%	\$272.9	\$23.6	8.65%
1961	\$428.8	\$47.3	11.03%	\$280.5	\$24.8	8.84%
1962	\$456.4	\$51.6	11.31%	\$299.4	\$27.8	9.29%
1963	\$479.5	\$54.6	11.39%	\$314.9	\$30.4	9.65%
1964	\$514.3	\$52.1	10.13%	\$337.8	\$32.9	9.74%
1965	\$555.5	\$57.7	10.39%	\$363.8	\$35.7	9.81%
1966	\$603.8	\$66.4	11.00%	\$400.3	\$42.3	10.57%
1967	\$648.1	\$73.0	11.26%	\$429.0	\$46.1	10.75%
1968	\$711.7	\$87.0	12.22%	\$472.0	\$52.3	11.08%
1969	\$778.3	\$104.5	13.43%	\$518.3	\$59.3	11.44%
1970	\$838.6	\$103.1	12.29%	\$551.6	\$65.7	11.91%

Prepared by

Thomas Carroll Associates

10/6/2010

Desert Xpress:
Employment Impact Analysis

Tax and Fringe Benefit Rates, 1929- 2009

expressed in Billions of current dollars

1971	\$903.1	\$101.7	11.26%	\$584.0	\$74.4	12.74%
1972	\$992.6	\$123.6	12.45%	\$638.8	\$86.4	13.53%
1973	\$1,110.5	\$132.4	11.92%	\$708.8	\$102.5	14.46%
1974	\$1,222.7	\$151.0	12.35%	\$772.8	\$118.0	15.27%
1975	\$1,334.9	\$147.6	11.06%	\$814.7	\$134.3	16.48%
1976	\$1,474.7	\$172.3	11.68%	\$899.6	\$159.6	17.74%
1977	\$1,632.5	\$197.5	12.10%	\$994.1	\$186.4	18.75%
1978	\$1,836.7	\$229.4	12.49%	\$1,120.3	\$214.9	19.18%
1979	\$2,059.5	\$268.7	13.05%	\$1,253.5	\$245.0	19.55%
1980	\$2,301.5	\$298.9	12.99%	\$1,373.5	\$274.2	19.96%
1981	\$2,582.3	\$345.2	13.37%	\$1,511.3	\$308.3	20.40%
1982	\$2,766.8	\$354.1	12.80%	\$1,587.5	\$332.1	20.92%
1983	\$2,952.2	\$352.3	11.93%	\$1,678.0	\$358.0	21.33%
1984	\$3,268.9	\$377.4	11.55%	\$1,844.7	\$400.5	21.71%
1985	\$3,496.7	\$417.3	11.93%	\$1,982.8	\$429.2	21.65%
1986	\$3,696.0	\$437.2	11.83%	\$2,102.3	\$455.3	21.66%
1987	\$3,924.4	\$489.1	12.46%	\$2,256.3	\$479.4	21.25%
1988	\$4,231.2	\$504.9	11.93%	\$2,439.8	\$514.4	21.08%
1989	\$4,557.5	\$566.1	12.42%	\$2,583.1	\$548.3	21.23%
1990	\$4,846.7	\$592.7	12.23%	\$2,741.1	\$585.1	21.35%
1991	\$5,031.5	\$586.6	11.66%	\$2,814.5	\$623.9	22.17%
1992	\$5,347.3	\$610.5	11.42%	\$2,973.5	\$673.6	22.65%
1993	\$5,568.1	\$646.5	11.61%	\$3,076.6	\$714.1	23.21%
1994	\$5,874.8	\$690.5	11.75%	\$3,230.8	\$750.1	23.22%
1995	\$6,200.9	\$743.9	12.00%	\$3,418.0	\$760.8	22.26%
1996	\$6,591.6	\$832.0	12.62%	\$3,616.3	\$771.4	21.33%
1997	\$7,000.7	\$926.2	13.23%	\$3,876.6	\$792.0	20.43%
1998	\$7,525.4	\$1,026.4	13.64%	\$4,181.6	\$842.3	20.14%
1999	\$7,910.8	\$1,107.5	14.00%	\$4,460.0	\$888.8	19.93%
2000	\$8,559.4	\$1,232.3	14.40%	\$4,827.7	\$961.2	19.91%
2001	\$8,883.3	\$1,234.8	13.90%	\$4,952.2	\$1,027.1	20.74%
2002	\$9,060.1	\$1,050.4	11.59%	\$4,997.3	\$1,113.5	22.28%
2003	\$9,378.1	\$1,000.3	10.67%	\$5,139.6	\$1,228.0	23.89%
2004	\$9,937.2	\$1,047.8	10.54%	\$5,425.7	\$1,282.7	23.64%
2005	\$10,485.9	\$1,208.6	11.53%	\$5,701.0	\$1,359.1	23.84%
2006	\$11,268.1	\$1,352.4	12.00%	\$6,068.9	\$1,406.9	23.18%
2007	\$11,894.1	\$1,490.9	12.53%	\$6,408.9	\$1,453.8	22.68%
2008	\$12,238.8	\$1,432.4	11.70%	\$6,545.9	\$1,496.6	22.86%
2009	\$12,072.1	\$1,107.6	9.17%	\$6,330.6	\$1,505.7	23.78%

Source: <http://www.bea.gov/national/nipaweb>

Desert Xpress:
Employment Impact Analysis

Year	CPI	Inflation	UE
1913	9.8		
1914	9.9	1.02%	
1915	10	1.01%	
1916	10.4	4.00%	
1917	12	15.38%	
1918	14.1	17.50%	
1919	16.2	14.89%	
1920	19.5	20.37%	
1921	18.4	-5.64%	
1922	16.9	-8.15%	
1923	16.8	-0.59%	
1924	17.2	2.38%	
1925	17.2	0.00%	
1926	17.9	4.07%	
1927	17.4	-2.79%	
1928	17.1	-1.72%	
1929	17.1	0.00%	
1930	17	-0.58%	
1931	15.7	-7.65%	
1932	14.1	-10.19%	
1933	12.7	-9.93%	
1934	13.3	4.72%	
1935	13.7	3.01%	
1936	13.8	0.73%	
1937	14.1	2.17%	
1938	14.1	0.00%	
1939	13.9	-1.42%	
1940	14	0.72%	
1941	14.1	0.71%	
1942	15.8	12.06%	
1943	16.9	6.96%	
1944	17.4	2.96%	
1945	17.8	2.30%	
1946	18.1	1.69%	
1947	21.5	18.78%	
1948	23.5	9.30%	3.8
1949	23.8	1.28%	4.7
1950	23.5	-1.26%	6.4
1951	25.7	9.36%	3.4
1952	26.3	2.33%	3.1
1953	26.5	0.76%	2.6
1954	26.9	1.51%	5.2
1955	26.7	-0.74%	4.7
1956	26.8	0.37%	3.9
1957	27.7	3.36%	3.9
1958	28.6	3.25%	6.4
1959	28.9	1.05%	5.9
1960	29.4	1.73%	4.8
1961	29.8	1.36%	6.9

Desert Xpress:
Employment Impact Analysis

Year	CPI	Inflation	UE
1962	30.1	1.01%	5.5
1963	30.4	1.00%	5.9
1964	30.9	1.64%	5.4
1965	31.2	0.97%	5.1
1966	32	2.56%	3.8
1967	32.9	2.81%	3.8
1968	34.2	3.95%	3.8
1969	35.8	4.68%	3.4
1970	38	6.15%	4.2
1971	39.9	5.00%	5.9
1972	41.3	3.51%	5.7
1973	42.9	3.87%	5
1974	47.2	10.02%	5.2
1975	52.5	11.23%	8.1
1976	55.8	6.29%	7.7
1977	59.1	5.91%	7.6
1978	62.9	6.43%	6.3
1979	69.1	9.86%	5.9
1980	78.9	14.18%	6.3
1981	87.9	11.41%	7.4
1982	94.6	7.62%	8.9
1983	97.9	3.49%	10.4
1984	102.4	4.60%	7.8
1985	106	3.52%	7.2
1986	109.3	3.11%	7.2
1987	111.6	2.10%	6.6
1988	116	3.94%	5.7
1989	121.6	4.83%	5.2
1990	128	5.26%	5.3
1991	134.8	5.31%	6.6
1992	138.6	2.82%	7.4
1993	143.1	3.25%	7.1
1994	146.7	2.52%	6.6
1995	150.9	2.86%	5.4
1996	154.9	2.65%	5.5
1997	159.6	3.03%	5.2
1998	161.9	1.44%	4.6
1999	164.5	1.61%	4.4
2000	169.8	3.22%	4.1
2001	175.8	3.53%	4.2
2002	177.8	1.14%	5.7
2003	183.1	2.98%	5.9
2004	186.2	1.69%	5.6
2005	191.8	3.01%	5.4
2006	198.7	3.60%	4.8
2007	203.5	2.42%	4.5
2008	211.7	4.03%	4.8
2009	212.2	0.24%	8.2
2010	216.7	2.14%	9.7

Desert Xpress:
Employment Impact Analysis

Year	CPI	Inflation	UE
2011	222.6	2.71%	8.75
2012	229.3	3.02%	7.66
2013	236.7	3.20%	6.90
2014	244.5	3.29%	6.43
2015	252.6	3.34%	6.17
2016	261.2	3.37%	6.02
2017	270.0	3.39%	5.95
2018	279.2	3.40%	5.91
2019	288.7	3.40%	5.88
2020	298.5	3.41%	5.87
2021	308.7	3.41%	5.87
2022	319.2	3.41%	5.86
2023	330.1	3.41%	5.86
2024	341.3	3.41%	5.86
2025	353.0	3.41%	5.86
2026	365.0	3.41%	5.86
2027	377.5	3.41%	5.86
2028	390.3	3.41%	5.86
2029	403.6	3.41%	5.86
2030	417.4	3.41%	5.86
2031	431.6	3.41%	5.86
2032	446.3	3.41%	5.86
2033	461.5	3.41%	5.86
2034	477.3	3.41%	5.86
2035	493.5	3.41%	5.86
2036	510.4	3.41%	5.86
2037	527.8	3.41%	5.86
2038	545.7	3.41%	5.86
2039	564.3	3.41%	5.86
2040	583.6	3.41%	5.86
2041	603.5	3.41%	5.86
2042	624.0	3.41%	5.86
2043	645.3	3.41%	5.86
2044	667.3	3.41%	5.86
2045	690.1	3.41%	5.86
2046	713.6	3.41%	5.86
2047	737.9	3.41%	5.86
2048	763.1	3.41%	5.86
2049	789.1	3.41%	5.86
2050	816.0	3.41%	5.86
2051	843.8	3.41%	5.86
2052	872.5	3.41%	5.86
2053	902.3	3.41%	5.86
2054	933.0	3.41%	5.86
2055	964.8	3.41%	5.86
2056	997.7	3.41%	5.86
2057	1031.7	3.41%	5.86
2058	1066.9	3.41%	5.86
2059	1103.3	3.41%	5.86
2060	1140.9	3.41%	5.86

Desert Xpress:
Employment Impact Analysis

dfuller inf, regress lags(0)

Dickey-Fuller test for unit root Number of obs = 96

----- Interpolated Dickey-Fuller -----

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	-5.219	-3.516	-2.893	-2.582

MacKinnon approximate p-value for Z(t) = 0.0000

D.inf	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
inf					
L1.	-0.44859	0.085947	-5.22	0	-0.6192368 -0.2779371
_cons	0.015291	0.0053164	2.88	0.005	0.0047351 0.0258466

reg inf l.inf

Source	SS	df	MS	Number of obs =	96
Model	0.078286	1	0.07828611	F(1, 94) =	41.16
Residual	0.178781	94	0.001901921	Prob > F =	0
Total	0.257067	95	0.002705965	R-squared =	0.3045
				Adj R-squared =	0.2971
				Root MSE =	0.04361

inf	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
inf					
L1.	0.551413	0.085947	6.42	0	0.3807632 0.7220629
_cons	0.015291	0.0053164	2.88	0.005	0.0047351 0.0258466

Desert Xpress:
Employment Impact Analysis

dfuller ue, regress lags(1)

Dickey-Fuller test for unit root Number of obs = 61

----- Interpolated Dickey-Fuller -----

Test	1% Critical	5% Critical	10% Critical
Statistic	Value	Value	Value
Z(t)	-2.981	-3.565	-2.596

MacKinnon approximate p-value for Z(t) = 0.0367

D.ue	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
ue						
L1.	-0.31767	0.1065785	-2.98	0.004	-0.5310099	-0.1043298
LD.	0.17683	0.1351376	1.31	0.196	-0.0936772	0.4473374
_cons	1.861704	0.6148992	3.03	0.004	0.6308491	3.092558

reg ue l.ue l.d.ue

Source	SS	df	MS	Number of obs =	61
Model	76.93981	2	38.4699049	F(2, 58) =	29.81
Residual	74.8533	58	1.29057412	Prob > F =	0
Total	151.7931	60	2.52988515	R-squared =	0.5069
				Adj R-squared =	0.4899
				Root MSE =	1.136

ue	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
ue						
L1.	0.68233	0.1065785	6.4	0	0.4689901	0.8956702
LD.	0.17683	0.1351376	1.31	0.196	-0.0936772	0.4473374
_cons	1.861704	0.6148992	3.03	0.004	0.6308491	3.092558

Desert Xpress:
Employment Impact Analysis

dfuller tx, regress lags(0)

Dickey-Fuller test for unit root Number of obs = 80

----- Interpolated Dickey-Fuller -----

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	-2.129	-3.538	-2.906	-2.588

MacKinnon approximate p-value for Z(t) = 0.2328

D.tx	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
tx						
L1.	-0.06603	0.0310076	-2.13	0.036	-0.1277611	-0.0042982
_cons	0.007849	0.0033091	2.37	0.02	0.0012606	0.0144365

dfuller tx, regress lags(1)

Dickey-Fuller test for unit root Number of obs = 80

----- Interpolated Dickey-Fuller -----

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	-0.726	-3.538	-2.906	-2.588

MacKinnon approximate p-value for Z(t) = 0.1620

D.fbr	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
fbr						
L1.	-0.0061	0.0084095	-0.73	0.47	-0.0228448	0.0106392
_cons	0.003496	0.0012619	2.77	0.007	0.0009842	0.0060086

. dfuller r, lags(0)

Dickey-Fuller test for unit root Number of obs = 28

----- Interpolated Dickey-Fuller -----

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	-0.66	-3.73	-2.992	-2.626

MacKinnon approximate p-value for Z(t) = 0.8569

ADDENDUM TO DESERT XPRESS: PREDICTED EMPLOYMENT AND ECONOMIC IMPACT ANALYSIS

At the request of DesertXpress Enterprises, LLC, Thomas Carroll and Associates' chief economist, Thomas Carroll (Ph.D., Economics, Syracuse University, 1973); with assistance from associate economist Michael Madison (B.A., Economics, University of Nevada, Las Vegas, 2010), prepared an employment and economic impact analysis of the proposed DesertXpress high speed rail project dated October 6, 2010. Following is an Addendum to that report.

The first table on pages 3 and 4 summarize the findings of the economic and employment impact study done by Thomas Carroll & Associates on behalf of Desert Xpress. This study found that the proposed Desert Xpress high speed rail project will bring an increase in primary employment spending of \$1,330,067,600 in Clark County, Nevada and \$2,160,318,000 in San Bernardino County, California.¹ Additionally, Desert Xpress is projected to increase spending in secondary employment in Clark County by \$856,203,699 and \$1,552,444,889 in San Bernardino County.

The second table on pages 3 and 4 use final demand output multipliers provided by the Bureau of Economic Analysis, Regional Input - Output Modeling System (RIMSII).² Based on these multipliers and the assumptions of spending provided by Desert Xpress, we find an additional \$779,579,438 will be spent into the economy in Clark County and \$1,882,092,709 in San Bernardino County. I used data from the Bureau of Economic Analysis State and Regional GDP³ to find employment multipliers for each industry identified by RIMSII to find the expected amount of the induced spending that will go to labor spending. Clark County can expect \$346,528,619 in labor expenditures from the induced spending, and San Bernardino County can expect \$852,042,154 of its induced spending to be spent on labor.

¹ All findings are based on the assumptions provided by Desert Xpress as found on page 3 of the Predicted Employment and Economic Analysis

² <http://www.bea.gov/regional/rims/index.cfm>

³ <http://www.bea.gov/regional/gsp/>

PRIMARY, SECONDARY, AND INDUCED IMPACTS TO CLARK AND SAN BERNARDINO COUNTIES

The following two tables sum the expected economic increase in Clark and San Bernardino Counties as the result of the construction phase of the Desert Xpress Project. Clark County is expected to benefit by \$2,965,850,737 and San Bernardino can expect \$5,594,855,597 in benefit.

Primary Employment	\$ 1,330,067,600
Secondary Employment	\$ 856,203,699
Induced Spending	\$ 779,579,438
Total Impact to Clark County Economy	\$ 2,965,850,737

Primary Employment	\$ 2,160,318,000
Secondary Employment	\$ 1,552,444,889
Induced Spending	\$ 1,882,092,709
Total Impact to San Bernardino Economy	\$ 5,594,855,597

Clark County: Aggregated Effect to Employment and Output in 2010 Dollars

Description	Clark County, NV	% to Primary Labor	Amount to Primary Labor	2010 Average Annual Wage	Increase in Primary Workers	Secondary Jobs Created	Average Annual Wage	Wages to Secondary Jobs
Civil/Track Work	\$ 1,017,714,000	80%	\$ 814,171,200	\$ 74,129	10,983	10,331	\$49,049	\$ 506,733,507
Electrical Work	\$ 39,900,000	60%	\$ 23,940,000	\$ 74,129	323	304	\$49,049	\$ 14,900,061
Primary Distribution Traction Power and Overhead Contact Systems	\$ 136,150,000	60%	\$ 81,690,000	\$ 74,129	1,102	1,037	\$49,049	\$ 50,843,189
Maintenance Facilities	\$ 23,718,000	60%	\$ 14,230,800	\$ 74,129	192	181	\$49,049	\$ 8,857,134
Las Vegas (Wigwam) Facility Baker MOW Facility Victorville (Site 3) Facility	\$ 155,050,000	60%	\$ 93,030,000	\$ 74,129	1,255	1,180	\$49,049	\$ 57,901,112
Control/Signal Work Train Sets/Equipment Stations	\$ 179,200,000	0%	\$	\$				
Las Vegas Central Station Victorville Station (Site 3)	\$ 212,726,000	60%	\$ 127,635,600	\$ 74,129	1,722	1,620	\$49,049	\$ 79,439,355
Project Management	\$ 160,000,000	80%	\$ 128,000,000	\$ 59,084	2,166	2,038	\$49,049	\$ 99,952,527
Project Management Oversight Professional Services Contingency	\$ 40,000,000	80%	\$ 32,000,000	\$ 59,084	542	509	\$49,049	\$ 24,988,132
Environmental Mitigation	\$ 21,210,000	60%	\$ 12,726,000	\$ 59,084	215	203	\$49,049	\$ 9,937,468
ROW Acquisition	\$ 52,880,000	5%	\$ 2,644,000	\$ 46,012	57	54	\$49,049	\$ 2,651,214
Total	\$ 2,115,548,000		\$ 1,330,067,600		18,558	17,456		\$ 856,203,699
							Increase in Workers \$	36,014
							Increase to Wages \$	2,186,271,299

	Construction Multiplier*	Construction Spending	Induced Spending	Employment Multiplier	Amount to Employment
Agriculture, forestry, fishing, and hunting	0	\$2,115,548,000	\$0	0.2289653	\$0
Mining	0.0043	\$2,115,548,000	\$9,096,856	0.2584085	\$2,350,705
Utilities*	0.0065	\$2,115,548,000	\$13,751,062	0.3027847	\$4,163,611
Manufacturing	0.0813	\$2,115,548,000	\$171,994,052	0.331744	\$7,057,995
Wholesale trade	0.024	\$2,115,548,000	\$50,773,152	0.4781621	\$24,277,797
Retail trade	0.0513	\$2,115,548,000	\$108,527,612	0.368414	\$39,983,092
Transportation and warehousing*	0.0162	\$2,115,548,000	\$34,271,878	0.5420351	\$18,576,561
Information	0.0127	\$2,115,548,000	\$26,867,460	0.2746995	\$7,380,478
Finance and insurance	0.0184	\$2,115,548,000	\$38,926,083	0.1747405	\$6,801,963
Real estate and rental and leasing	0.0288	\$2,115,548,000	\$60,927,782	0.0693986	\$4,227,535
Professional, scientific, and technical services	0.0766	\$2,115,548,000	\$162,050,977	0.6649545	\$107,756,526
Management of companies and enterprises	0.0121	\$2,115,548,000	\$25,598,131	0.8459958	\$21,655,911
Administrative and waste management services	0.0162	\$2,115,548,000	\$34,271,878	0.7932045	\$27,184,608
Educational services	0.0001	\$2,115,548,000	\$211,555	0.7963862	\$168,479
Health care and social assistance	0.0006	\$2,115,548,000	\$1,269,329	0.7708488	\$978,461
Arts, entertainment, and recreation	0.0017	\$2,115,548,000	\$3,596,432	0.255232	\$917,924
Accommodation	0.0027	\$2,115,548,000	\$5,711,980	0.5524346	\$3,155,495
Food services and drinking places	0.0036	\$2,115,548,000	\$7,615,973	0.6934112	\$5,281,001
Other services*	0.0114	\$2,115,548,000	\$24,117,247	0.6058103	\$14,610,477
			\$779,579,438		\$346,528,619

*Construction Multiplier provided by Bureau of Economic Analysis, RIMSII. Final Demand Output Multipliers - industry aggregations

Region: Las Vegas-Paradise, NV Metropolitan Statistical Area (Type I)

Series: 2002 U.S. Benchmark I-O data and 2007 Regional Data

San Bernardino County: Aggregated Effect to Employment and Output in 2010 Dollars

Description	San Bernardino County, CA	% to Primary Labor	Amount to Primary Labor	2010 Average Annual Wage	Increase in Primary Workers	Secondary Jobs Created	Average Annual Wage	Wages to Secondary Jobs
Civil/Track Work	\$ 1,890,041,000	80%	\$ 1,512,032,800	\$71,375	21,184	19,927	\$54,097	\$ 1,077,968,321
Electrical Work	\$ 74,100,000	60%	\$ 44,460,000	\$71,375	623	586	\$54,097	\$ 31,696,714
	\$ 252,850,000	60%	\$ 151,710,000	\$71,375	2,126	1,999	\$54,097	\$ 108,158,086
Maintenance Facilities								
Las Vegas (Wigwam) Facility	\$ 4,952,000	60%	\$ 2,971,200	\$71,375	42	39	\$54,097	\$ 2,118,247
Baker MOW Facility	\$ 91,541,000	60%	\$ 54,924,600	\$71,375	770	724	\$54,097	\$ 39,157,205
Victorville (Site 3) Facility	\$ 287,950,000	60%	\$ 172,770,000	\$71,375	2,421	2,277	\$54,097	\$ 123,172,319
Control/Signal Work	\$ 332,800,000	0%						
Train Sets/Equipment								
Stations								
Las Vegas Central Station	\$ 242,368,000	60%	\$ 145,420,800	\$71,375	2,037	1,916	\$54,097	\$ 103,674,349
Victorville Station (Site 3)								
Project Management								
Project Management Oversight	\$ 40,000,000	80%	\$ 32,000,000	\$60,773	527	495	\$54,097	\$ 26,793,608
Professional Services	\$ 10,000,000	80%	\$ 8,000,000	\$60,773	132	124	\$54,097	\$ 6,698,402
Contingency	\$ 154,244,000	0%						
Environmental Mitigation	\$ 42,421,000	60%	\$ 25,452,600	\$60,773	419	394	\$54,097	\$ 21,311,469
ROW Acquisition	\$ 211,520,000	5%	\$ 10,576,000	\$46,012	230	216	\$54,097	\$ 11,696,168
Total	\$ 3,634,787,000		\$ 2,160,318,000		30,509	28,698	\$ 1,552,444,889	\$ 59,206
							Increase in Workers \$	\$ 3,712,762,889

	Construction Multiplier*	Construction Spending	Induced Spending	Employment Multiplier	Amount to Employment
Agriculture, forestry, fishing, and hunting	0.0036	\$3,634,787,000	\$13,085,233	0.146715	\$1,919,800
Mining	0.0104	\$3,634,787,000	\$37,801,785	0.1307486	\$4,942,530
Utilities*	0.0116	\$3,634,787,000	\$42,163,529	0.1709525	\$7,207,961
Manufacturing	0.2055	\$3,634,787,000	\$746,948,729	0.4610934	\$344,413,129
Wholesale trade	0.0417	\$3,634,787,000	\$151,570,618	0.5181238	\$78,532,345
Retail trade	0.0521	\$3,634,787,000	\$189,372,403	0.4156678	\$78,716,010
Transportation and warehousing*	0.0321	\$3,634,787,000	\$116,676,663	0.4015428	\$46,850,674
Information	0.013	\$3,634,787,000	\$47,252,231	0.3456241	\$16,331,510
Finance and insurance	0.0172	\$3,634,787,000	\$62,518,336	0.6008259	\$37,562,636
Real estate and rental and leasing	0.0287	\$3,634,787,000	\$104,318,387	0.05564	\$5,804,275
Professional, scientific, and technical services	0.0526	\$3,634,787,000	\$191,189,796	0.6054006	\$115,746,417
Management of companies and enterprises	0.0068	\$3,634,787,000	\$24,716,552	0.2709534	\$6,697,034
Administrative and waste management services	0.0201	\$3,634,787,000	\$73,059,219	0.6826277	\$49,872,246
Educational services	0.0002	\$3,634,787,000	\$726,957	0.8495705	\$617,602
Health care and social assistance	0.0007	\$3,634,787,000	\$2,544,351	0.7829259	\$1,992,038
Arts, entertainment, and recreation	0.001	\$3,634,787,000	\$3,634,787	0.6621226	\$2,406,675
Accommodation	0.0029	\$3,634,787,000	\$10,540,882	0.5107329	\$5,383,575
Food services and drinking places	0.0039	\$3,634,787,000	\$14,175,669	0.6434541	\$9,121,393
Other services*	0.0137	\$3,634,787,000	\$49,796,582	0.7615845	\$37,924,305
			\$1,882,092,709		\$852,042,154

*Construction Multiplier provided by Bureau of Economic Analysis, RIMSII. Final Demand Output Multipliers - Industry aggregations
 Region: Riverside-San Bernardino-Ontario, CA Metropolitan Statistical Area (Type I)
 Series: 2002 U.S. Benchmark I-O data and 2007 Regional Data