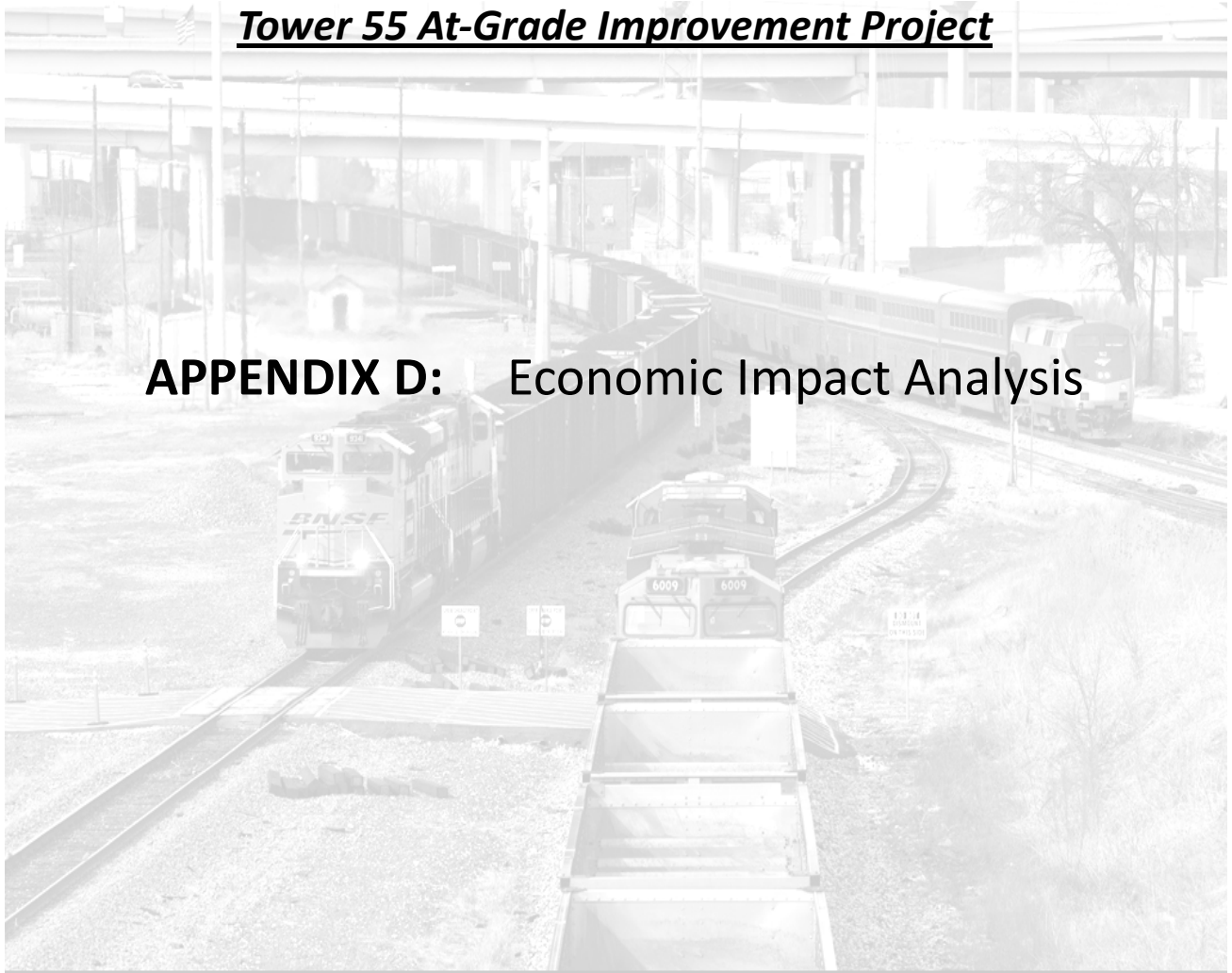




AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009
TRANSPORTATION INVESTMENT GENERATING ECONOMIC RECOVERY
“TIGER”
DISCRETIONARY GRANT APPLICATION

Tower 55 At-Grade Improvement Project

APPENDIX D: Economic Impact Analysis



Website: www.bnsf.com/communities/govtaffairs/tower55/intro.pdf



BUILDING AMERICA®

1: TOWER 55 (FORT WORTH) AT-GRADE IMPROVEMENT PROJECT ECONOMIC IMPACT RESULTS –AUGUST 28, 2009

ECONOMIC IMPACTS DURING CONSTRUCTION OF THE FACILITY

Table 1 shows the estimated cost of the proposed facility (as of August 28, 2009) classified by broad type of costs. As Table 1 shows, the total costs including the costs of Engineering and Construction are estimated at \$93,682,596. Table 2 shows the quarterly distribution of project costs developed based on the anticipated construction schedule of the project, in percentage terms. As the table shows, the project is expected to be completed over a period of about 2.5 years but the preponderance of the work is completed over a period of 2.25 years.

BNSF Railway (BNSF) and Union Pacific Railroad (UPRR) intend to source materials domestically, based upon BNSF's and UP's belief of the capacity of domestic suppliers to meet the aggressive construction schedule desired for TIGER job-stimulus criteria, and to supply materials that create the lasting value and low life-cycle costs that are sought by the TIGER program. Therefore, the economic impact analysis assumes that all expenditures shown in Table 1 would be made domestically.

Impacts of Construction Activity

Overall Impact on Economic Activity in the United States

In order to estimate the impact of construction activity, the expenditures shown in Table 1 were simulated with the IMPLAN economic impact software using the 2007 data for the United States. The reported results represent thus estimates of impacts generated across all of the U.S.

Table 3 shows the classification of the project cost categories into industrial sectors. Comparing this table with Table 1, it can be seen that the majority of costs will fall into the construction industry. A relatively small fraction of the costs related to planning and engineering was classified into the architectural, engineering, and planning services industry.

Table 4 shows the quarterly employment impact of the project construction estimated by IMPLAN. As the table shows, the estimated employment impact, or the number of job-years created each quarter, ranges from a total of 44 job-years in Q1 of 2010 to 352 job-years during year 2011. The cumulative impact of the project (i.e., the sum across all quarters) amounts to 1,942 jobs-years of employment including 430 direct job-years, 211 indirect job-years, and 463 induced job-years. During the 2.25-year construction period, the project will thus support each year on average 863 jobs that would last the entire year.

Table 5 shows the employment impact estimated using the employment impact multiplier recommended by the Council of Economic Advisors (CEA), 1 job per \$92,000 of government expenditures, or 10.8 jobs per \$1 million of government expenditures. According to the CEA's recommendations, 64% of jobs created should be applied to Direct and Indirect jobs, while 36% should be applied to Induced jobs. As this table shows, according to these multipliers the

cumulative impact of the project amounts to 1,019 job-years, including 652 direct and indirect job-years, and 367 induced job-years. During the 2.25-year construction period, the project will thus support on average 453 jobs each year that would last the entire year.

Comparing the results reported in Table 4 and Table 5, it can be seen that the employment impacts estimated with IMPLAN are much higher than those based on the CEA-estimated multiplier. The difference may be due to certain methodological assumptions as well as the level of analysis. The CEA multipliers represents an industrial average, whereas the multipliers in IMPLAN are specific for the industries directly affected – construction and engineering and planning services – which tend to be relatively labor-intensive.

Table 6 shows the estimated effect on value added. As the table shows, the cumulative effect on GDP amounts to \$138.38 million, including \$24.15 million of direct GDP, \$22.39 million indirect GDP, and \$35.14 million of induced GDP. The quarterly impact over the period of analysis from Q1 2010 to Q4 2014 fluctuates in a pattern that corresponds to the patterns of employment impact. The average annual value added to the economy by the project during its 2.25-year construction amounts to \$61.50 million.

Table 1: Project Costs, by Category

| Cost Category | Amount |
|-----------------------------|---------------------|
| Planning | \$1,027,087 |
| Engineering | \$3,293,995 |
| Construction | \$87,700,000 |
| Project Management | \$1,661,514 |
| Engineering & Related Total | \$5,982,596 |
| Total All Costs | \$93,682,596 |

Table 2: Distribution of Project Costs, by Quarter, in Percent

| | Q1 2010 | Q2 2010 | Q3 2010 | Q4 2010 | Q1 2011 | Q2 2011 | Q3 2011 | Q4 2011 | Q1 2012 |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Construction | 1.9% | 5.6% | 5.6% | 5.6% | 19.1% | 19.1% | 19% | 19% | 5% |
| Engineering | 8.1% | 24.2% | 24.2% | 24.2% | 4.2% | 4.2% | 4% | 4% | 3% |

Table 3: Classification of Project Cost Categories into IMPLAN Industrial Sectors

| Cost Category | IMPLAN Industry Number | Industry Name |
|---|-------------------------------|--|
| Planning, Engineering, and Project Management | 369 | Architectural, engineering, and related services |
| Construction | 36 | Construction of other nonresidential structures |

Table 4: IMPLAN-Estimated Employment Impact of Project Expenditures: Number of Jobs-Years Created, by Quarter, Total, and Annual Average

| Effect Type | Q1 2010 | Q2 2010 | Q3 2010 | Q4 2010 | Q1 2011 | Q2 2011 | Q32011 | Q42011 | Q12012 | Total Job-Years | Average Number of Jobs per Year* |
|--------------|-----------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------------|----------------------------------|
| Direct | 16 | 49 | 49 | 49 | 132 | 132 | 132 | 132 | 35 | 430 | 191 |
| Indirect | 9 | 28 | 28 | 28 | 79 | 79 | 79 | 79 | 21 | 251 | 112 |
| Induced | 18 | 54 | 54 | 54 | 141 | 141 | 141 | 141 | 38 | 463 | 206 |
| Total | 44 | 132 | 132 | 132 | 352 | 352 | 352 | 352 | 94 | 1,942 | 863 |

NOTE: (*) Number of jobs lasting the entire year during the 2-year construction period

Table 5: Employment Impact of Project Expenditures Based on CEA Employment Multiplier, Number of Jobs-Years Created, by Quarter, Total, and Annual Average

| Effect Type | Q1 2010 | Q2 2010 | Q3 2010 | Q4 2010 | Q1 2011 | Q2 2011 | Q32011 | Q42011 | Q12012 | Total Job-Years | Average Number of Jobs per Year* |
|---------------------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|-----------|-----------------|----------------------------------|
| Direct and Indirect | 15 | 44 | 44 | 44 | 118 | 118 | 118 | 118 | 32 | 652 | 290 |
| Induced | 8 | 25 | 25 | 25 | 67 | 67 | 67 | 67 | 18 | 367 | 163 |
| Total | 23 | 69 | 69 | 69 | 185 | 185 | 185 | 185 | 50 | 1,018 | 453 |

NOTE: (*) Number of jobs lasting the entire year during the 2-year construction period

Table 6: IMPLAN-Estimated Value Added Impact of Project Expenditures Generated, by Quarter, and Total, in Millions of \$

| Effect Type | Q1 2010 | Q2 2010 | Q3 2010 | Q4 2010 | Q1 2011 | Q2 2011 | Q32011 | Q42011 | Q12012 | Total Value Added | Average Value Added per Year |
|--------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|---------------|-------------------|------------------------------|
| Direct | \$0.97 | \$2.91 | \$2.91 | \$2.91 | \$7.23 | \$7.23 | \$7.23 | \$7.23 | \$1.95 | \$40.57 | \$18.03 |
| Indirect | \$0.83 | \$2.48 | \$2.48 | \$2.48 | \$7.06 | \$7.06 | \$7.06 | \$7.06 | \$1.88 | \$38.40 | \$17.07 |
| Induced | \$1.37 | \$4.12 | \$4.12 | \$4.12 | \$10.70 | \$10.70 | \$10.70 | \$10.70 | \$2.87 | \$59.41 | \$26.40 |
| Total | \$3.17 | \$9.51 | \$9.51 | \$9.51 | \$24.99 | \$24.99 | \$24.99 | \$24.99 | \$6.71 | \$138.38 | \$61.50 |

Comments on the Type/ Quality of Jobs Created

Table 7 shows the IMPLAN-estimated cumulative employment impacts by industry. As the table shows, the largest impact is in the construction industry and the architectural, engineering and related services.

Specifically, the project is estimated to create (or preserve) 682 job-years of employment in the construction industry. The populations most likely to benefit from these expanded employment opportunity are local populations around the project area.

In addition, the project will create or preserve nearly 120 job-years of employment in the architectural, engineering and related services industry (47.8 direct, 68.9 indirect, and 3.5 induced). The jobs in this category can be considered high-quality with relatively high remuneration and experience, and high learning opportunities.

The project will also promote the creation and preservation of jobs for lower-income and lower-skill level workers. For example, as the table shows, the project will create or preserve 83 job-years in the food-services industry, and 23 jobs in the services to building industry. The project will also generate several jobs in various sectors of the retail industry, automotive repairs, truck transportation, and hotels.

The table also shows that the project will create or preserve several jobs in industries that provide support or inputs to the construction industry, for example, 5.2 jobs in ready-mix concrete manufacturing, 8.1 jobs in plate work and fabricated structural product manufacturing, 5.2 jobs in ornamental and architectural metal products manufacturing, and 3.6 jobs in wood-windows and doors and millwork manufacturing.

Table 7: IMPLAN-Estimated Employment Impact of Project Expenditures, Number of Jobs, by Industry (for Selected Industries), Cumulative over Project Construction Cycle

| IMPLAN Industry Number | Industry Description | Cumulative Employment Impact (Job-Years), by Type | | | |
|------------------------|--|---|----------|---------|-------|
| | | Direct | Indirect | Induced | Total |
| 36 | Construction of other new nonresidential structures | 682.4 | 0 | 0 | 682.4 |
| 369 | Architectural, engineering, and related services | 47.8 | 68.9 | 3.5 | 120.2 |
| 413 | Food services and drinking places | 0 | 13.6 | 69.5 | 83.1 |
| 319 | Wholesale trade | 0 | 21.3 | 28.3 | 49.6 |
| 360 | Real estate | 0 | 13.6 | 35.9 | 49.3 |
| 382 | Employment services | 0 | 24.3 | 19.1 | 43.5 |
| 394 | Offices of physicians, dentists, and other health practitioners | 0 | 0 | 31.3 | 31.3 |
| 329 | Retail - General merchandise | 0 | 3.4 | 21.2 | 24.5 |
| 324 | Retail - Food and beverage | 0 | 3.3 | 20.8 | 24.2 |
| 388 | Services to buildings and dwellings | 0 | 11.6 | 11.3 | 23 |
| 335 | Truck transportation | 0 | 12.6 | 8.2 | 20.9 |
| 414 | Automotive repair and maintenance, except car washes | 0 | 10.4 | 7.9 | 18.3 |
| 367 | Legal services | 0 | 8.5 | 9.2 | 17.6 |
| 354 | Monetary authorities and depository credit intermediation | 0 | 6.8 | 10.8 | 17.5 |
| 320 | Retail - Motor vehicle and parts | 0 | 2.8 | 14.6 | 17.4 |
| 356 | Securities, commodity contracts, investments, and related activities | 0 | 4.1 | 12.5 | 16.7 |
| 331 | Retail - Nonstore | 0 | 2 | 13.1 | 15.1 |
| 381 | Management of companies and enterprises | 0 | 7.6 | 7.5 | 15.1 |
| 368 | Accounting, tax preparation, bookkeeping, and payroll services | 0 | 7.9 | 6.5 | 14.4 |
| 357 | Insurance carriers | 0 | 2.4 | 10.8 | 13.2 |
| 327 | Retail - Clothing and clothing accessories | 0 | 1.5 | 11.6 | 13.1 |
| 330 | Retail - Miscellaneous | 0 | 1.8 | 10.3 | 12.1 |
| 39 | Maintenance and repair construction of nonresidential maintenance and repair | 0 | 6 | 5.6 | 11.7 |
| 323 | Retail - Building material and garden supply | 0 | 1.3 | 9.5 | 10.8 |
| 411 | Hotels and motels, including casino hotels | 0 | 3.8 | 6.6 | 10.4 |
| 374 | Management, scientific, and technical consulting services | 0 | 5.2 | 4.9 | 10 |
| 358 | Insurance agencies, brokerages, and related activities | 0 | 1.8 | 7.9 | 9.7 |
| 355 | Nondepository credit intermediation and related activities | 0 | 2.7 | 6.9 | 9.6 |
| 325 | Retail - Health and personal care | 0 | 1.3 | 7.9 | 9.3 |
| 351 | Telecommunications | 0 | 3.4 | 5.8 | 9.3 |
| 19 | Support activities for agriculture and forestry | 0 | 3.4 | 5.8 | 9.2 |

| | | | | | |
|--------------|--|--------------|--------------|--------------|----------------|
| 399 | Child day care services | 0 | 0 | 9.2 | 9.2 |
| 386 | Business support services | 0 | 4.9 | 4.2 | 9.1 |
| 417 | Commercial and industrial machinery and equipment repair and maintenance | 0 | 6.9 | 1.5 | 8.5 |
| 186 | Plate work and fabricated structural product manufacturing | 0 | 7.8 | 0.2 | 8.1 |
| 387 | Investigation and security services | 0 | 4.1 | 3.3 | 7.4 |
| 326 | Retail - Gasoline stations | 0 | 0.8 | 6.3 | 7.1 |
| 393 | Other educational services | 0 | 0.1 | 6.7 | 6.9 |
| 328 | Retail - Sporting goods, hobby, book and music | 0 | 1 | 5.5 | 6.5 |
| 372 | Computer systems design services | 0 | 3.3 | 2.4 | 5.7 |
| 321 | Retail - Furniture and home furnishings | 0 | 1.6 | 4 | 5.6 |
| 365 | Commercial and industrial machinery and equipment rental and leasing | 0 | 4.8 | 0.6 | 5.4 |
| 161 | Ready-mix concrete manufacturing | 0 | 5.1 | 0.1 | 5.2 |
| 187 | Ornamental and architectural metal products manufacturing | 0 | 4.8 | 0.3 | 5.2 |
| 340 | Warehousing and storage | 0 | 2.1 | 3.1 | 5.1 |
| 99 | Wood windows and doors and millwork | 0 | 3.3 | 0.3 | 3.6 |
| 163 | Other concrete product manufacturing | 0 | 2.8 | 0.1 | 2.9 |
| Total | | 730.2 | 429.6 | 782.6 | 1,942.5 |