

**U.S. Department of Transportation**

**National Infrastructure Investments Grant Program**

**“TIGER II”**

**GRANT APPLICATION**

**Project Name:** South Orient Rehabilitation – San Angelo to Fort Stockton

**Project Type:** Rural Freight Rail Transportation Project

**Funds Requested:** \$19,310,000

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**Supporting Documentation can be found at: [www.txdot.gov/business/rail/tiger.htm](http://www.txdot.gov/business/rail/tiger.htm)**



## **I. Project Description**

The project is designed to rehabilitate a portion of the state-owned South Orient rail line (SORR) from railroad Milepost (MP) 721.52 in Tom Green County (near Knickerbocker Road west of San Angelo, Texas) to MP 882.84 (near U.S. 385 west of Fort Stockton, Texas) in Pecos County. There are two separate segments in this project. This first segment is constructed of predominantly 112# rail from west of San Angelo (MP 721.52) to Sulphur Junction (MP 869.4). There is jointed rail from MP 721.52 to 738.1 and that portion is operated as Excepted Track (10 mph) between those mileposts. There is continuously welded rail (CWR) from MP 738.1 to MP 869.4 and that segment is operated as Class 2 track (25 mph) between those points. This segment is in need of rehabilitation to address existing slow order locations (MP 726 - 727; MP 733.9 - 735.3; MP 737 - 738; MP 777.8 - MP 778.2), address the Excepted Track conditions, and to achieve and maintain the Class 2 status. In this segment of the rail line (MP 721.52 – 869.4), the project will consist of:

1. Install 70,000 crossties
2. Install and regulate 88,200 tons of ballast
3. Surface and align 147.88 miles of track
4. Re-plank 41 highway/rail grade crossings in poor condition (1,125 linear feet)
5. Repair 32 bridges as needed

The second line segment of the project is constructed of 70# jointed rail and begins at Sulphur Junction (MP 869.4) and ends west of Fort Stockton (MP 882.84). This segment of the project is currently designated Excepted Track (10 mph), which limits hazardous materials movements to five cars per train and prohibits the movement of occupied passenger cars. This segment of the line is in need of significant rehabilitation to raise the line from Excepted Track to Class 2 status. In this segment of the rail line (MP 869.4 – 882.82), the project will consist of:

1. Install 45,000 crossties
2. Replace 144,672 linear feet of 70# rail with 112# (or higher) CWR
3. Replace four 70# turnouts with 112# (or higher) at Fort Stockton
4. Install and regulate 12,800 tons of ballast
5. Surface and align 15 miles of track (including yard/siding work)
6. Repair 8 bridges as needed

The project area encompasses a large oil and gas development region as well as a wind turbine development area. Some energy and mining companies have already located at Fort Stockton and use the line for non-hazardous, non-time sensitive materials movements. Other large energy and mining companies have expressed their interest in locating facilities in the region and are dependent upon rail transportation. Currently hazardous materials (petroleum/natural gas) movements over the SORR are limited by regulation to 5 freight cars



per train due to poor track conditions, and speeds are limited to 10 mph from MP 868.0 to MP 882.82 (and beyond to MP 1029). Operational impacts from the condition of the tracks and speed limitations prohibit the use of the SORR for transporting hazardous materials and also make the line non-competitive with other modes of transportation for the movement of some minerals and other traffic. It is important that the SORR be rehabilitated in order to support the development of minerals and energy resources in the region, improve service to existing customers, and foster economic development opportunities in this economically disadvantaged region of west Texas. Improving the rail line will also encourage the diversion of freight from the highway to rail.

*a. Project Schedule*

The rail rehabilitation portion of the project is “shovel ready” and can be scheduled for letting when funding is secured. Assuming the TIGER grant is approved for \$19.31 million as requested, the project would be completed by the summer of 2012, as shown in Table 1.

<b>Task</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b>Plan &amp; Specification Development (completed)</b>	<b>Jan - Feb</b>			
<b>Environmental Approval (complete)</b>	<b>Jan - Jun</b>			
<b>STIP Revision (complete)</b>	<b>Jan - Apr</b>			
<b>TIGER II Grant</b>		<b>Jul - Oct</b>		
<b>Project Letting</b>		<b>Dec</b>		
<b>Construction</b>			<b>Jan - Dec</b>	<b>Jan - Jun</b>

**Table 1**

Any delays in the TIGER approval and appropriation process would result in similar delays in project implementation.

*b. Transportation Challenges Addressed*

The South Orient rail line (SORR), approximately 391 miles in length, is a state-owned facility that extends from San Angelo Junction (in Coleman County, 5 miles southwest of Coleman) through San Angelo to Presidio at the Texas/Mexico border. This is the only rail line providing service to the cities and businesses located along the route. The rail line was the subject of abandonment applications until 2001, when TxDOT completed the purchase of the SORR. At the time of acquisition, the entire line was classified as “Excepted Track”, limiting train speeds to 10 mph with no occupied passenger equipment and restricting hazardous materials to 5 cars per train. TxDOT is using \$14.09 million in ARRA funds, \$3.0 million in state funds, \$1,122,355 remaining from a prior project, \$250,000 in local funds, and \$4.6 million in contributions from the lessee of the line to rehabilitate the eastern portion between San Angelo Junction (MP 0) and San Angelo (MP 721.52). This



rehabilitation includes the installation of over 70,000 cross ties, the replacement of worn rail, reconstruction of 103 at-grade rail-roadway crossings, the replacement of a truss bridge at Ballinger, and other necessary bridge and drainage repairs. When completed in the summer of 2011, this section of the line will be operable at Class 2 (25 mph).

The SORR serves numerous local and regional businesses located along the route, including agricultural interests, steel manufacturers, mining businesses, energy resources, and other miscellaneous customers. It also has one of five rail border crossings between Texas and Mexico, and one of eight between the U.S. and Mexico. The rehabilitation of the SORR from San Angelo to Fort Stockton will allow train operations at 25 mph speeds from Fort Stockton to San Angelo Junction, where the SORR interchanges with BNSF Railway and FWR Railway. These track speeds are necessary in order to make the SORR competitive with truck transportation and to provide rail service to economic development opportunities in the region. The rehabilitation of the line to remove the Excepted Track status is also necessary to enable the efficient movement of hazardous materials, particularly petroleum and natural gas products, along the route. Several mining businesses have requested rates for the transportation of petroleum products to/from the Fort Stockton region. The line cannot support the movement of these hazmat cars in the volumes requested due to the operational impacts of the Excepted Track status. The project will also facilitate the continued development of energy resources in west Texas, assisting in making the nation energy independent. Development of natural resources in the region has been hampered due to the lack of efficient and competitive rail service.

Another potential transportation benefit from the project will be the development of intermodal connections at Fort Stockton between trucking operations on Interstate 10 and rail operations on the South Orient. The Fort Stockton Economic Development Corporation (FSEDC) owns approximately 26 acres of land immediately adjacent to the rail yard and tracks in Fort Stockton. FSEDC has leased some of that property to a major mining company for receipt of materials in support of its mining operations. FSEDC is also interested in developing a multimodal distribution facility that would enable commodities to be shipped into west Texas via the SORR and then transferred to truck for distribution throughout the region. Fort Stockton is strategically located on Interstate 10, a major east-west trade route across the southern United States. Other major highways serving Fort Stockton and the region include U.S. 67; U.S. 285; U.S. 385; and State Highway 18. These roadways connect Fort Stockton with the other cities in west Texas that could benefit from a regional distribution center.

### *c. Freight Volumes*

Freight volumes on the SORR have been limited due to the deteriorated condition of the infrastructure, which has restricted train speeds to 10 mph and impacted opportunities to increase business along the route. The SORR has experienced an increase in traffic despite the condition of the infrastructure, due to substantial agricultural harvests and mining developments in the region. In 2001, a total of 2,519 carloads were interchanged on the line. In 2008, the number of carloads interchanged had risen to 2,974 – an 18% increase. In 2007,



a total of 144 carloads of wind tower components were delivered to Fort Stockton. In 2008, that traffic had increased to 196 carloads along with an additional 283 carloads of pipe for energy development in the region. Late in 2009, the TexSand Company leased land adjacent to the rail yard in Fort Stockton and is receiving approximately 15 carloads of fracture-sand per week to use in mining petroleum products. That traffic is projected to increase to 40 carloads per week in the near future. A recent study completed for the Fort Stockton Economic Development Corporation projected that 3,808 additional carloads would be added to the SORR in the first year if the line were rehabilitated to Fort Stockton. Traffic is also expected to increase dramatically as a result of the decision by the Martifer-Hirschfeld Energy Corporation to locate a wind tower production facility on the line, which will receive inbound raw materials and ship tower components out, some of which could travel to the Fort Stockton area.

## **II. Project Parties**

The SORR is owned by the Texas Department of Transportation (TxDOT) on behalf of the state of Texas. TxDOT's workforce of more than 12,000 employees is made up of engineers, administrators, designers, architects, sign makers, accountants, purchasers, maintenance workers, travel counselors and many other professionals. Headquartered in Austin, TxDOT has 21 divisions and offices in the capital area. Four regional support centers provide operational and project delivery support for the agency's 25 geographical districts.

TxDOT leased operations on the SORR line to Texas Pacifico Transportation Company, Ltd. ("TXPF"). Under the terms of the agreement, TxDOT became the railroad's permanent owner and TXPF obtained a 40-year operating lease with renewal options. TXPF has invested over \$8 million in track rehabilitation in critical locations to keep the line operable at 10 mph. TXPF is a subsidiary of Grupo Mexico, who also owns 73% of Ferromex, the Mexican railroad company that connects with SORR at Presidio. The ownership of the line by TxDOT and the lease to TXPF makes this a true public-private partnership, with international implications.

### *Geospatial Data*

Beginning of Project: Knickerbocker Road, San Angelo, Tx., MP 721.52; DOT # 18 771 H

Latitude: 31.40771

Longitude: -100.47825

Elevation: 1,837.82

End of Project: US Highway 385, Fort Stockton, Tx. MP 882.84; DOT # 18 984 T

Latitude: 30.88271

Longitude: -102.89104

Elevation: 2,936.81

A map of the project area is shown in Figure 1 and at [www.txdot.gov/business/rail/tiger.htm](http://www.txdot.gov/business/rail/tiger.htm).



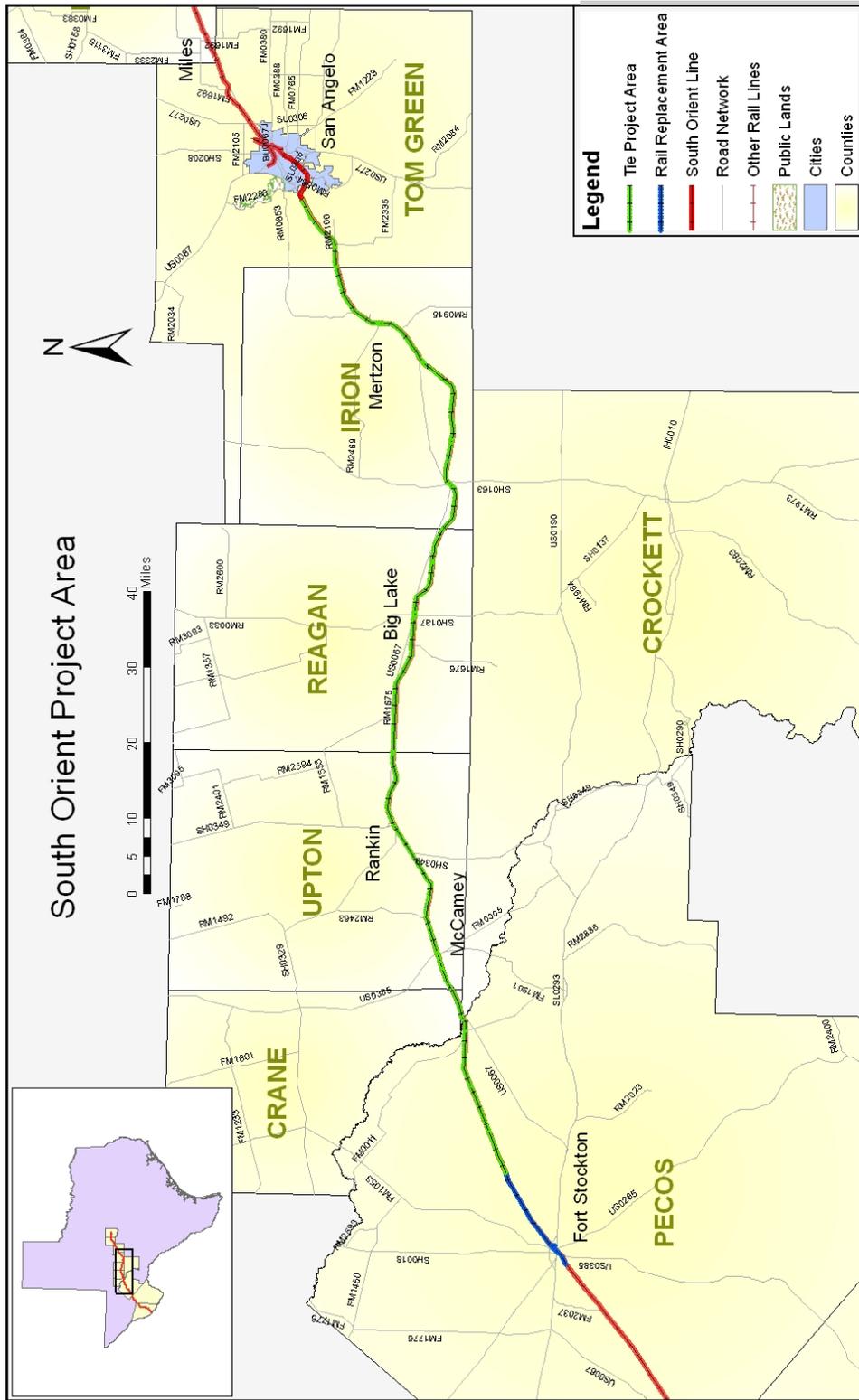


Figure 1 – Location Map



### **III. Grant Funds and Sources/Uses of Project Funds**

The \$25,945,871 rehabilitation of the line from San Angelo through Fort Stockton would be funded by a \$19.31 million TIGER II grant, \$5,635,871 in funding from TXPF, and \$1,000,000 from a 2010 FRA Congressional appropriation in the Omnibus Bill. The TIGER II grant would fund 74.4% of project costs; TXPF's matching funds would provide 21.7% of project costs; and the 2010 Congressional Appropriation would provide 3.9% of total project costs. TXPF provides matching funds for TxDOT rehabilitation projects in accordance with contract amendments that are executed once funding is secured. TXPF's Managing Director, Hilario Gabilondo, has provided a letter of support for this application. The cost of developing plans, specifications, estimates, and environmental clearances for the project has been absorbed by TxDOT. All TIGER II funds and local contributions will be used for actual construction of the project and construction management activities.

The project estimate is shown in Table 2.

<b>Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit Cost</b>	<b>Total</b>
Rail Replacement	Linear Foot	144,672	\$48.99	\$7,087,481
Turnouts	Each	4	\$200,000.00	\$800,000
Tie Removal & Replacement	Each	115,000	\$72.93	\$8,386,950
Ballast Delivery & Regulating	Ton	101,000	\$29.81	\$3,010,810
Ballasted Track Surfacing & Alignment	Mile	160.00	\$5,413.00	\$866,080
Timber Road Crossing Replacement	Linear Foot	1,125	\$600.00	\$675,000
Bridge Repairs	Lot	40	-	\$4,320,000
Mobilization		1	\$119,550.00	\$119,550
Subtotal				\$25,265,871
Construction Management				\$680,000
<b>Total</b>				<b>\$25,945,871</b>

**Table 2: Project Quantities and Estimate**

#### *a. Technical Feasibility*

The plans, specifications, and estimates for the tie and rail replacement project have been completed. The tie and rail replacement project was environmentally cleared on March 13, 2009. The project is composed of typical railroad infrastructure rehabilitation work and is within the technical abilities of many contractors in the state of Texas. Contract negotiations and signatures typically take 8 weeks from the letting date, making this a "fast track" project. The tie and rail replacement project is "shovel ready" when funded. The federal wage rate requirement is included by TxDOT as a contractual requirement with contractors.



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*b. Legislative Approvals*

TxDOT owns the SORR and no additional legislative authority or approval is necessary for the administration of a TIGER II grant for the rehabilitation of the line. Letters of support for the project have been received from numerous businesses and other entities and are available for review on the website. The following legislators and elected officials have provided letters of support:

Congressman K. Michael Conaway  
State Representative Drew Darby  
Judge Vicki Bradley, Upton County  
Judge Joe Shuster, Pecos County  
Harold Dominguez, San Angelo City Manager

Congressman Ciero Rodriguez  
State Senator Robert Duncan  
Judge M. Brown, Tom Green County  
Alvin New, Mayor, City of San Angelo

*c. Statewide Transportation Improvement Program*

The project was added to the Statewide Transportation Improvement Program (STIP) in May 2009 and is included in the current STIP.

*d. Financial Feasibility*

TxDOT has a long history of managing federal appropriations and has adequate staff to administer the grant funding and manage the construction projects.

On June 15, 2009, the Lease and Operating Agreement between TxDOT and TXPF for the SORR was amended as agreed to by both parties. Article V, “Duty to maintain rail line” states:

“...Lessee must maintain a segment in the same or better condition, as compared to the segment’s condition when the upgrade was completed by the State.”, and;

“Lessee must not allow the condition of the track (including the alignment and profile of the rails) to deteriorate in any substantial manner or form.”, and;

“Lessee must undertake all maintenance and repairs needed to satisfy this requirement. If Lessee or FRA issue a “slow order”, designate track as “excepted”, or otherwise prohibit rail operations at speeds of 25 mph or greater, the Lessee must repair and rehabilitate the line within 60 days (unless Lessee and the State agree in writing to another deadline) so that FRA requirements allow rail operations at 25 mph or greater. The requirements of this paragraph apply to milepost 869.4 (Sulphur Junction) to milepost 882.84 (Fort Stockton) only if the State upgrades the segment to permit speeds of at least 25 mph, and the track satisfied the Class 2 track requirements of the FRA.”

These contractual agreements guarantee that the rail line will remain at 25 mph after the rehabilitation is complete, making this a sustainable project with financial feasibility and long-term benefits.



## **IV. Selection Criteria**

### *a. Long-Term Outcomes*

No Build - The existing, poor condition of the line threatens the economic growth and stability of the region. Several agricultural co-ops are served by the rail line which could face insolvency if rail service ceased and their commodities had to be diverted to truck. Other shippers include steel manufacturing, mining, energy, and other miscellaneous businesses that would be adversely impacted if rail service were not available. Economic development interests have promoted the availability of rail service, which was integral to bringing the Martifer-Hirschfeld Energy Corporation to San Angelo. The economic stability and growth of the region relies on the continuation and improvement of rail service on the SORR.

Build - The scope of work for this project and associated funding levels are appropriate for improving track speed to 25 mph, which would allow increased, improved service on the line. The stabilization of the infrastructure at 25 mph would allow the line to be competitive with truck transportation of most commodities into and out-of the region. The investment of funds to allow 25 mph speeds therefore provides for an efficient, effective, and safe rail service provider in the region. This level of investment is adequate for existing and projected needs without “over investment” in unnecessary higher speeds.

Regional Effort - This project is part of a regionally focused effort to improve rail service and is a component of the rehabilitation of the SORR. It has broad, regional support from the twelve counties that the line passes through and the communities and citizens in those locations. The project also has the support of the connecting railroads (BNSF, FWWR), as well as state officials from other regions. International support also exists from the operator’s parent company (Grupo Mexico) and the Martifer-Hirschfeld Energy Corporation. The project includes a potential NAFTA trade corridor through the connections with Ferromex at Presidio.

#### *i. State of Good Repair*

The SORR is a state-owned transportation asset that is managed by TxDOT through a lease agreement with TXPF. The lease requires TXPF to maintain any segment of the line that is rehabilitated by TxDOT in the same or better condition as when the project is completed. This agreement provides for a sustainable improvement to the rail line when the project is completed. TxDOT has staff with maintenance and operational experience in the railroad industry that routinely monitors TXPF’s performance and compliance with all provisions of the lease. The rehabilitation of the line using TIGER II funds will bring the line into a state of good repair and maintain it in that condition beyond the expected lifespan of the materials used in the rehabilitation project.



Quantifiable Metrics - The success of the project can be established and measured by the following criteria:

1. The project area has four separate locations between San Angelo (Mp 721.52) and Sulphur Junction (MP 869.4) where 10 mph slow orders exist due to deteriorated tie conditions causing poor alignment and profile of the rail. The total distance of the slow orders is currently 3.8 miles and track conditions will continue to deteriorate if it is not rehabilitated. *This condition will be alleviated by the project and will not recur due to TXPF's contractual maintenance obligations.*
2. The project includes 15.0 miles of 70# jointed rail (including yard tracks) which is classified as Excepted Track. This restricts the track to 10 mph with no more than five hazardous materials cars per train. The project includes the replacement of the 70# jointed rail with 112# (or higher) CWR and the replacement of defective ties in this segment. *The project will raise the Excepted Track to Class 2 (25 mph) and will be maintained at that classification due to TXPF's contractual maintenance obligations.*
3. The project includes the installation of rehabilitation of an additional 147.88 miles of track where 112# rail currently exists. This area is in need of a significant crosstie replacement, ballast, and surfacing project to prevent further deterioration and lowering of the existing 25 mph speed. *The project will provide for the rehabilitation of this segment and will be maintained at that classification due to TXPF's contractual maintenance obligations.*
4. TxDOT and FRA Region 5 officials have discussed using an FRA track geometry car to review track conditions on a periodic basis to assist in monitoring track conditions. *FRA has agreed to assist TxDOT in monitoring the track conditions, once rehabilitated, by utilizing an FRA track geometry car for analysis of the line.*
5. In addition, TxDOT will have a project manager on-site with the construction contractor daily through the duration of the project to ensure that all construction methods and materials meet or exceed the plans and specifications for the project.

#### *ii. Economic Competitiveness*

To assess the viability of the SORR for a TIGER II Discretionary Grant, a cost-benefit analysis on the rehabilitation project was completed. The cost-benefit analysis assesses the benefits to society of the project relative to the costs of the project. For the assessment, the benefits from the planned rail line improvements are measured relative to a “base” case of the maintenance of the rail line under existing operational conditions. The benefits that have been assessed result from the improvement in the relative competitiveness of the rehabilitated railway as compared to shipping by truck. As such, under the project improvements, more freight is shipped by rail as freight is diverted from highway transport.

Several public benefits (and dis-benefits) associated with shipping by rail have been identified and quantified over a twenty year period. These effects are measured for both the



base case and alternate cases and the net effect (or benefits) monetized. These benefits include:

**Benefit #1 - The reduction in transportation or shipping costs to shippers:** this benefit captures the cost savings experienced by shippers as they ship by rail instead of truck. A given amount of cargo is typically more expensive to ship by truck than by rail. The increased rail capacity stemming from the project allows cargo to be diverted from truck to rail freight, and thus shipped at a lower cost.

**Benefit #2 - The change in inventory costs for shippers:** this benefit category captures the change in shipping time and resulting inventory cost that arises from the diversion of freight from truck to rail. While cheaper, the rail trip may take longer for some shipments.

**Benefit #3 - The highway congestion relief benefits:** as freight is diverted from truck to rail transit because of the project, truck travel will decrease in the region, *ceteris paribus*. A truck takes up more physical space on the road than a car and typically operates at lower speeds depending on grades, tonnage, operating characteristics, and speed limits. Reducing the amount of truck travel will lead to a decrease in highway congestion and an increase in time savings for the regional population.

**Benefit #4 - The highway maintenance cost savings:** heavy trucks put a great deal of physical wear and tear on roads, and the roads must be maintained at the taxpayer's expense. Diverting freight from truck to rail and reducing the amount of truck travel will lead to less required highway maintenance and associated costs. This cost reduction benefit is quantified by taking the difference between the highway maintenance costs avoided if freight is diverted from truck to rail and the expected incremental railroad maintenance costs associated with the increased rail activity.

**Benefit #5 - Safety benefits:** highway accidents should diminish as freight is diverted from trucks to railcars, rail accidents should increase in turn. Rail and truck travel have their own respective accident frequency and associated cost levels, and this benefit category captures the change in safety costs.

**Benefit #6 - Emission savings:** this benefit category captures the emissions quantities that result from the diversion of truck freight to rail.

Other benefits may also accrue to the project improvements such as noise benefits but have not been quantified due to limitations of data.

The benefits streams and project related costs are monetized over a twenty year period the Net Present Value of these streams derived using real discount rates of 7 percent (and 3 percent as an alternative). Table 3 provides a summary of the benefits in total and by benefit category. Total benefits are estimated to be \$70.3 Million with the main project benefits



being transportation cost savings for shippers, safety benefits and highway maintenance cost savings.

Benefit Category	Benefit #	PV Over 20 Years	
		7%	3%
Transportation cost saving from diverting trucks to rail	1	\$21,529,255	\$35,202,318
Increased inventory cost from diverting trucks to rail	2	-\$1,144,161	-\$1,870,808
Congestion cost saving from diverting trucks to rail	3	\$5,189,552	\$8,485,397
Maintenance cost saving from diverting trucks to rail	4	\$21,063,237	\$34,440,335
Safety saving from diverting trucks to rail	5	\$20,736,893	\$33,906,733
Emission saving from diverting trucks to rail	6	\$2,973,880	\$5,484,111
<b>Total</b>		<b>\$70,348,656</b>	<b>\$115,648,086</b>

**Table 3: Summary of Project Benefits**

The benefits exceed the total value of project cost and results in a Net Present Value for the project of \$46.9 M. The total project benefits are three times that of the total project costs and therefore the benefit cost ratio is 3.00. The project economic indicators are more much favorable using the 3 percent discount rate as shown in Table 4.

Economic Indicators	7%	3%
<b>Total Costs</b>	\$23,455,303	\$24,823,319
<b>Total Benefits</b>	\$70,348,656	\$115,648,086
<b>NPV</b>	\$46,893,353	\$90,824,767
<b>ROI</b>	200%	366%
<b>B/C</b>	3.00	4.66

**Table 4: Summary of Project Economic Indicators**

In addition, for the cost benefit analysis quantification, the \$25.9 million total project cost has been spread equally between 2011 and 2012. Under the 7% discount rate, the SORR project yields a benefit to cost ratio of 3.0 to 1 and a 200% return on investment (ROI)<sup>1</sup> as shown in Table 5.

Cost Categories	Current \$
Funds Requested	\$19,310,000
Total Cost	\$25,945,871
Year 2011 Cost	\$12,972,936
Year 2012 Cost	\$12,972,936

**Table 5: Summary of Project Costs**

<sup>1</sup> At a 3% discount rate the project produces \$116 million in benefits for a benefit to cost ratio of 4.7 and a RIO of 366%.



The logic and the assumptions behind these benefit calculations are provided in the Cost Benefit Analysis document available for review at [www.txdot.gov/business/rail/tiger.htm](http://www.txdot.gov/business/rail/tiger.htm).

Sensitivity Analysis - While the benefit cost analysis results are quite positive, it is recognized that these estimates are point estimates and do not reflect the statistical uncertainty underlying the assumptions. To test the strength of the benefit cost analysis results, sensitivity analysis is conducted on some of the key assumptions driving the monetization of public benefits. For each of these assumptions, the percent change in the input value required to yield an NPV of zero as opposed to the base estimate of \$46.9 M is estimated. As indicated in Table 6, these input assumptions would have to change drastically to yield a break even NPV. For example, the estimate of carloads diverted to rail would have to be reduced by 67 percent for the NPV to be zero.

Variable	Base Value	Value Required for NPV = 0	% Change Required
Percentage reduction in diverted carloads	0%	67%	-67%
Transportation cost savings from rail relative to truck	15%	-26%	-273%
Trucks per rail Car	3.00	1.37	-54%

**Table 6: Sensitivity Analysis of Key Model Variables**

Energy Related Development - West Texas has significant oil, natural gas, and wind resources, which provide significant employment potential. The Texas energy sector is a significant contributor to the Texas economy and the State Comptroller estimated that in 2006 Texas's energy sector employed nearly 375,000 people who earned more than \$35 billion in wages (Texas comptroller of Public Accounts, 2008).

The Texas Railroad Commission estimated that counties in the SORR area produced 12,152,160 billions of barrels (BBL) of oil and 76,748,929 million cubic feet of gas from January to July 2009. Table 7 illustrates the natural wells that have been developed around the project area.

County	Oil Production BBL	Gas Production MCF
<b>Crockett</b>	1,208,230	40,195,247
<b>Crane</b>	781,947	1,018,639
<b>Irion</b>	1,065,705	1,426,070
<b>Pecos</b>	979,947	17,563,860
<b>Reagan</b>	2,399,934	573,986
<b>Tom Green</b>	204,261	585,620
<b>Upton</b>	5,512,136	15,385,507

**Table 7: Oil and Gas Production January – July 2009.**

(Source, Texas Railroad Commission, Oil & Gas Production Data Query)



In addition, the West Texas (Ouachita) Overthrust Resource Play is a geologic area, characterized by natural gas production from shallow wells and covers the entire SORR area. The Ouachita Overthrust Resource Play will continue to be a significant contributor to the local economy through natural gas production. Multiple news reports throughout 2008 and 2009 have highlighted significant investment in natural gas development throughout this region with Vortex Resources experiencing a 100% success rate on its initial drilling program (Mining Top News, 2008). SandRidge Energy Inc, noted that it had over 600,000 acres of unevaluated land in the Ouachita area and that they were planning to drill 6 exploratory wells across this prospect in 2010. SandRidge has a facility located in Fort Stockton and has requested rates for movement of materials from TXPF. Budgets for this exploratory drilling were \$18 million (Seeking Alpha Stock Market News, 2009). Friendly Energy Exploration acquired ten natural gas drilling sites and optioned an additional 40 sites in Crockett County Texas in 2008 (Mining Top News, 2008).

Finally, West Texas has significant wind and other renewable energy capacity. According to ORCA, Texas has more potential than any other state to produce renewable energy from the sun, wind, crops, and crop and forest waste. The American Wind Energy Association has ranked Texas's potential capacity for wind energy at 136,100 MW. Texas now leads the nation as the number one producer of wind energy. Production leaped from 180MW in 1999 to 7,115 MW as at December 2008. There are over 4,881 commercial wind turbine units on 72 wind farms in Texas Competitive Renewable Energy Zones which cover the main area where the SORR operates. These energy development efforts can provide a significant increase in traffic on the SORR if it is rehabilitated, or can have a significant, negative impact on the highway system if moved by truck.

According to the Texas State Technical College at Sweetwater's President, "*five years ago our largest program was nursing, but that's been eclipsed in the last few years by our wind technician program*" (Eddins and LoBianco, 2009). In the past three years, TXPF has moved 340 carloads of wind towers from off-line to Fort Stockton for unloading and installation in the region. The Martifer-Hirschfeld facility could capitalize on wind tower development needs within the region, which could greatly increase the amount of traffic moving from San Angelo to Fort Stockton. This would provide additional economic stimulus to the region, create additional jobs, and promote energy independence. According to the Texas Office of Rural and Community Affairs (ORCA) the energy and renewable energy development has re-energized many West Texas communities, with new jobs, tax revenues and landowner royalties for farms and ranchers.

Finally, Fort Stockton's Economic Development Corporation (FFSEDC) reviewed the SORR's potential to promote economic growth in rural West Texas. The report undertook an economic analysis that focused on job creation, but FSEDC noted that measuring job retention was also a critical component for rural counties in Texas. The FSECC noted that the trend for declining populations in rural communities had intensified since the 2000 US Census and it was important for the counties along the SORR to ensure that existing jobs were retained. FSEDC noted that *'the retention of existing jobs is as important as or even*



*more important than the creation of new ones. Further development of the south Orient will almost certainly make a positive contribution to the effort to strengthen job retention in the region, in addition to new job creation” (FSEDC, 2008).*

Efficient Freight Transportation - Texas’s energy sector significantly impacts state and rural roads. For example, installation of wind turbines requires the delivering of the windmill tower, the generator, the hub, and the blades to the site. Currently, most of these components are imported from countries such as China and India, through the ports of Houston, Freeport, and Corpus Christi. From the ports, the components are transported by truck or rail to one of the five competitive renewable energy zones in Texas. TxDOT usually routes the trucks transporting these components over the Interstate Highway system, specifically IH-37, IH-45, and IH-10. Any opportunities that arise to ship these products over rail should be actively encouraged as a mechanism to improve highway efficiency, reduce emissions, and drive down the costs of moving these large items of machinery and movable parts. Part of the rationale for locating the Martifer-Hirschfeld Energy Systems manufacturing plant in San Angelo was to take advantage of San Angelo’s geographic location on the wind corridor, and to utilize the SORR to transport these oversize overweight components to Fort Stockton or other Class I networks for distribution throughout Texas and the U.S.

Research conducted by TxDOT (Project 0-4169) identified the impact of major truck traffic generators, including the oil and gas sector, on rural roads in Texas, and conducted extensive surveys of rural stakeholders and rural truck trip generators. The research found that the oil and gas industry was a major truck trip generator in West Texas. This is because developing and prepping a well necessitates the movement of equipment, water to the site, and brine water from the site. The greater demands on the rural roads, impact local district budgets and require continued maintenance to counteract these effects. Again an opportunity exists to divert truck traffic to the railways, with associated economic and safety benefits.

### *iii. Livability*

The SORR runs through eleven counties in West Texas: Brewster, Coleman, Crane, Crockett, Irion, Pecos, Presidio, Reagan, Runnels, Tom Green, and Upton. Oil and gas, to a great extent, provided this area with income throughout the early part of the 20<sup>th</sup> century, but as oil production economics changed during the 1980’s and 1990s production significantly dropped. A resurgence in oil drilling occurred when gas prices surged upwards during the early 2000’s, and this was coupled with the development of new natural gas fields that could now be accessed due to the development of new drilling technologies.

For the purposes of this application the potential counties that will be immediately impacted are Crane, Crockett, Irion, Pecos, Reagan, Tom Green, and Upton. These counties cover two Workforce Development Areas (WDA) set out by the Texas Workforce Commission: The Concho Valley WDA, and the Permian Basin WDA. Crockett, Irion, Reagan, and Tom Green fall in the Concho Valley WDA and Crane, Pecos, and Upton counties fall in the Permian Basin WDA. Small cities (under 3000 population) that fall within this area are Barnhart, Big Lake, Carlsbad, Christoval, Coyanosa, Crane, Eldorado, Imperial, Iraan,



McCamey, Metzton, Ozona, Rankin, and Sheffield. Medium cities in this area (over 6,000 population) are Fort Stockton, and San Angelo, which is also a metropolitan statistical area. Table 8 provides demographic information for San Angelo and Fort Stockton.

City	Population 2008 Estimated	Income Per Capita (2007 estimated)	% Ethnicity (Hispanic)	Persons Below Poverty % (2007)	Median Age	Enterprise Zone
<b>Fort Stockton</b>	<b>7,526</b>	<b>15,308</b>	<b>69.9</b>	<b>22.3</b>	<b>32.9</b>	<b>Yes</b>
<b>San Angelo</b>	<b>91,880</b>	<b>20,291</b>	<b>33.2</b>	<b>16</b>	<b>32.8</b>	<b>Yes</b>

**Table 8: Demographic Data for Fort Stockton and San Angelo**

The populations of cities in between IH-20 and IH-10 from Fort Stockton to San Angelo (from 2000 US Census) can be seen in Table 9. There are also four ‘ghost towns’ in this area that have been abandoned over the past thirty years.

<b>Barnhart</b>	105	<b>Imperial</b>	408
<b>Big Lake</b>	2,666	<b>Iraan</b>	1,228
<b>Carlsbad</b>	1,322	<b>McCamey</b>	806
<b>Christoval</b>	431	<b>Mertzton</b>	245
<b>Coyanosa</b>	138	<b>Ozona</b>	3,232
<b>Crane</b>	3,194	<b>Rankin</b>	749
<b>Eldorado</b>	1,853	<b>Sheffield</b>	600

**Table 9: Populations of Towns Near SORR Between IH 10 and IH 20**

Aside from Tom Green County, all but one of these counties has small populations, averaging in the range of 3,000-4,000 residents, with attrition occurring over the past twenty years. Pecos County has over 16,000 residents and Tom Green (where San Angelo is located) has over 100,000 residents. By far the largest city in this area is San Angelo with a population of 91,000. Most of these counties are largely minority communities and earn less than the median average income that is seen in many other Texas regions. Pecos County, for example, has a 21.8% poverty rate. These can be classed as economically disadvantaged communities.

According to the Texas Workforce Commission the state average (mean) wage is \$39,316 (or \$18.09 per hour). According to the US Census Bureau, the per capita income for Texas was \$37,187 in 2007. As Table 10 (below) shows, all the counties in this area have lower per capita incomes, with Pecos County having a low per capita income of \$19,306 per year. One of the reasons that the per capita income for this region varies quite widely is because of the revenues and royalties which are earned from oil and gas drilling, and wind farm development. It should be noted that when reviewing median income that the data may be

skewed by the oil and gas revenues/royalties. Table 10 provides demographic data on these counties and shows that the region has a large Hispanic population, a youthful population, and relatively high poverty rates, with Pecos having a poverty rate of 21.8%. The rehabilitation of the rail line will enhance energy-related and support services economic development opportunities, bringing additional jobs and businesses to the area as a result of an improved regional freight rail transportation system that connects to two Class 1 railroads.

County	Population 2008 Estimated	County Size (square miles)	Population Density per square mile (2000)	Income Per Capita	% Ethnicity (Hispanic)	Persons Below Poverty % (2007)	Median Age
Crane	4017	786	5.1	29,186	52.4	10.4	36.5
Crockett	3802	2808	1.5	23,317	59.4	15	40.8
Irion	1699	1052	1.7	31,785	25.9	8.1	40.1
Pecos	16307	4764	3.5	19,306	64.1	21.8	32.7
Reagan	3086	1175	2.8	33,478	54.7	9.6	37
Tom Green	107864	1522	68.3	31,090	34.6	15.9	34.4
Upton	3149	3031	2.47	33,421	47.2	15.2	42.3

**Table 10: Demographic Data for Counties Along the SORR**

Sources: US Census Quick Facts and Texas Association of Counties

#### *iv. Sustainability*

From a sustainability standpoint, the rehabilitation of the SORR will encourage the manufacture and development of new energy industries in west Texas that will have multiple benefits for many generations from air quality improvements, sustainability, economic growth, and reductions in the use of greenhouse gas hydrocarbons. The Texas consumer advocacy group “Public Citizen” estimated that for each \$3 invested in wind-power generation the state could see an \$8 reduction in electric costs (Galbraith, 2008). Utilizing wind power will also provide air quality benefits to the state. Currently the major metropolitan areas of Austin, Dallas Fort Worth, El Paso, Houston, and San Antonio are in non-attainment status.

A sustainable Texas energy sector has to be served and facilitated by a sustainable transportation system. In many instances wind tower manufacturing companies have had to develop specialized transport groups to handle the hauling of the oversize/overweight equipment and machinery where rail transport is not readily or easily available. These movements have significant impacts on Texas’s road system. The Martifer-Hirschfeld facility will be located adjacent to the SORR and will be able to move wind equipment by rail to locations throughout Texas and the U.S. Rehabilitating the SORR will provide

efficient rail transportation to the west Texas region in support of energy development efforts and will contribute to Texas’s commitment to a sustainable future.

*v. Safety*

The rehabilitation of the SORR will provide safety improvements to the region by diverting freight from highway to rail, enabling rail movements of hazardous materials, and improving highway-rail grade crossing surfaces.

Reduced truck traffic - A report entitled “*Potential Economic Impact of the South Orient Railroad*” was produced by Bomba & Associates, Inc. for the Fort Stockton Economic Development Corporation in 2007, using data reported by the University of Texas’ Center for Transportation Research and the Fort Stockton Economic Development Corporation. The study projected that the rehabilitation of the line to Fort Stockton would increase rail cars on the line in the first year as shown in Table 11<sup>2</sup>.

Commodity	Carloads	Equivalent Trucks
Limestone Aggregate	1,300	3,990
Gravel	1,300	3,990
Processed Livestock Feed	150	450
Diesel Fuel	48	144
Corn & Milo	120	360
Cottonseed	500	1,500
Feed Grains	120	360
Drilling Fluids	200	600
Wind Towers	70	70
<b>Total</b>	<b>3,808</b>	<b>11,464</b>

**Table 11: Carload – Truck Equivalency**

According to the report, these goods would travel in a northeast/southwest direction between Fort Stockton and Fort Worth. Truck traffic would most likely use U.S. 67, which has a single lane in each direction for the majority of this rural route. The SORR parallels U.S. 67 in the region and can provide a rail alternative for the movement of goods in the corridor. The diversion of 11,464 trucks from highway to rail on this rural route would have a positive impact on vehicular safety in the region. These volumes would increase over time as economic conditions improved.

<sup>2</sup> Note that the original report by Bomba & Associates used 3.5 truck loads per rail car. This application uses a more conservative 3.0 truck loads per rail car.

The information presented in the report was used to determine the impact on U.S. 67 as a result of the 3,808 carloads being moved by truck. The analysis used the FHWA’s Highway Cost Allocation Study (updated May 2008) methodology. A conservative diversion of 3.0 trucks per rail car was assumed, though sometimes a 4-to-1 ratio is used. This analysis was only performed on the length of the SORR between San Angelo Junction and Fort Stockton and did not include the impact to additional highways that do not parallel the SORR, even though the commodities being shipped were originating or terminating at a destination that is not located on the SORR. Table 12 shows that the railcars that could be moved over the SORR from San Angelo Junction to Fort Stockton represent over 2.7 million vehicle-miles-traveled by trucks on an annual basis.

<b>Estimated Additional VMT Due to Modal Shift from Rail To Highway</b>									
<b>South Orient Railroad from San Angelo to Fort Stockton</b>									
<b>Annual</b>	<b>Total Loaded Railcars</b>		<b>Avg. Truckloads per Railcar</b>		<b>Total Trucks</b>		<b>Route Mileage*</b>		<b>Truck Mileage</b>
<b>Inbound</b>	<b>1,208</b>	<b>x</b>	<b>3.0</b>	<b>=</b>	<b>3,624</b>	<b>x</b>	<b>237.8</b>	<b>=</b>	<b>861,787</b>
<b>Outbound</b>	<b>2,600</b>	<b>x</b>	<b>3.0</b>	<b>=</b>	<b>7,800</b>	<b>x</b>	<b>237.8</b>	<b>=</b>	<b>1,854,840</b>
							<b>Total</b>	<b>=</b>	<b>2,716,627</b>

**Table12: Estimated Avoided Truck VMT in Corridor**

Improved grade crossings - The project area includes 41 highway/rail at-grade crossings which are in “poor” or “bad” condition. These crossings present a hazard to vehicular traffic, which is susceptible to damage from the rough condition of the crossing surface. This also causes most drivers to cross the tracks at extremely low speed, which can contribute to vehicular-train accidents. The scope of the project includes removing the existing crossing, rehabilitating the subgrade and cross ties, and replacing the crossing with a new timber surface.

Potential crossing closures - Several small communities have multiple at-grade crossings in the project area. If funding for the project is secured, TxDOT will discuss the possibility of crossing closures with those communities, providing an improved concrete crossing in exchange for closure of one or more redundant crossings. TxDOT had success with this process in 2005, when Fort Stockton agreed to close three crossings in exchange for two improved, concrete surfaces. Similar success may be possible in other communities in the project area.

Hazardous materials movement - Rail is the safest way to transport hazardous materials, with 99.99% of shipments arriving at their destination safely. Several companies have expressed an interest in shipping fuel into the region via rail as opposed to truck. One shipper

projected they would ship 15 carloads of diesel fuel into Fort Stockton each week if the SORR would support the movement of hazardous materials. The rehabilitation of the SORR would allow the transportation of these materials by the safest method available.

*b. Job Creation and Economic Stimulus*

The SORR traverses an alignment across the southwestern region of the state of Texas, winding from the center of the state near Coleman through San Angelo and Fort Stockton towards Marfa, Alpine, and finally Presidio at the Mexican border, just west of Big Bend National Park.

The impact of the project construction expenditures on the economy of the United States was estimated using two different approaches: (i) using IMPLAN economic impact software with 2007 United States data; and (ii) based on the employment impact multiplier recommended by the Council of Economic Advisors (CEA), one job per \$92,000 of government expenditures, or 10.8 jobs per \$1 million of government expenditures. To be conservative, we have summarized the lower of the two estimates of job growth shown in Table 13 as recommended by the CEA.

The cumulative impact of the project amounts to 274.6 job-years, including 175.8 direct and indirect job-years and 98.9 induced job-years. During the construction period, the project will thus generate on average 156.9 jobs each year that would last the entire year.

<b>Effect Type</b>	<b>Total Job-Years</b>	<b>Average Number of Jobs per Year*</b>
Direct and Indirect	175.8	100.4
Induced	98.9	56.5
<b>Total</b>	<b>274.6</b>	<b>156.9</b>

**Table 13: Employment Impact of Project Expenditures Based on CEA Employment Multiplier, Number of Jobs-Years Created, by Quarter, Total, and Annual Average**

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

As other border gateways and Pacific coast ports become increasingly congested, planners have considered alternate routes to permit more efficient goods movement. The underutilized status of the SORR has surfaced as an asset, but the age of the infrastructure does not allow it to operate efficiently. The purpose of this section is to provide evidence of the potential economic stimulus that could exist if infrastructure improvements were made to the SORR.

The economic stimulus analysis consisted of four components. The first identified the impact area for the proposed improvements. Second, commodities that might become cargo were

identified, and the number of cars per year was estimated. Third, estimates of the direct economic impact of the rail activities were developed. Finally, IMPLAN was used to generate estimates of the proposed project's impacts.

The future cargoes for the SORR impact analysis were derived from a variety of sources, but primarily from a 2005 Center for Transportation Research study and data that was collected on shippers who enquired about shipping on SORR and were provided a rate quote by TXPF. The estimates for future cargo movement acted as a proxy for future rail car activity. It is obviously unknown which of these cargoes would materialize, but it is also important to consider that future freight will also likely occur outside of current analysis. These speculative rail volumes are assumed to reflect the likely rail volume on the SORR.

While simultaneously identifying cargo types, estimates for the anticipated number of rail cars were also calculated for the 5 year analysis period. The commodity prices for the different cargo types used in the economic analysis were derived from many sources such as the US Geological Survey, the USDA, and the Wall Street Journal. Commodity prices were kept constant throughout the forecast period, assuming unpredictable fluctuations that normally occur due to supply and demand corrections.

The IMPLAN model accounts only for backward economic linkages, so the expected areas of forward economic linkage are commodity production stimulated by new demand, the storage and distribution of goods, rail transportation, truck transportation, and new facility construction. The analysis assumed that only a portion of the SORR commodities would be stimulated by the railroad's improvement, with the remainder being a redirection of existing supply. New output for goods already in production, including agriculture products, was assumed at twenty percent of the amount shipped. Many shipped commodities will require consolidation, storage, and distribution, which subsequently requires physical infrastructure. It was assumed that between 1 and 5 percent of the commodities' total estimated value would account for this expense.

Rail transport costs were entered as a direct economic impact for each forecast year. The cost is highly dependent on the distance that individual commodities must travel. Furthermore, the cost for moving general cargoes varies depending on which section of SORR is used. In finding the cost of rail freight movement beyond the reach of the SORR required referencing UPRR (Union Pacific Railroad) online rates, which tended to be very high, as rail is not generally competitive with trucks for distances less than 500 miles. Finally, the estimates of rail transport costs included fuel surcharges, but did not include any other fees that a shipper might encounter.

The complete movement of goods frequently requires several transfers between modes. The analysis seen here assumed short haul truckers would charge \$5.00/mile for deliveries to and from the railhead. Much higher rates were assumed for the movement of solar arrays and wind turbines due to their complexity in transport.

Some cargoes carried on the SORR will require construction of new facilities for the distribution and consolidation of goods. There are also plans to construct a solar panel manufacturing facility near Fort Stockton, provided adequate rail service can be obtained. The combined costs for these facilities results in \$22 million in costs in the first year of analysis.

The economic impact analysis performed demonstrates that improvements to the SORR will produce benefits that will significantly exceed the costs. These benefits will be seen across all segments of the economy, from workers to companies to government. The consistency in output after Year 3 also indicates that the expanded output has permanence and is not simply a product of investment. Given the positive benefits that could accrue as a result of improvements to the SORR, funding the project will capitalize on economic prospects. Tables 14 through 19 show the impact and benefits of an improved SORR.

*Estimated Regional Economic Impact of the Improved South Orient Railroad  
Direct, Indirect, Induced, and Total Output*

Baseline Scenario				
Year	Direct Output	Indirect Output	Induced Output	Total Output
1	\$153,774,368	\$29,540,551	\$50,474,483	\$233,789,403
2	\$48,152,169	\$7,737,545	\$11,417,036	\$67,306,750
3	\$105,823,506	\$17,710,433	\$25,920,585	\$149,454,523
4	\$111,871,411	\$18,632,615	\$27,367,140	\$157,871,166
5	\$113,082,835	\$18,582,560	\$27,168,035	\$158,833,429

**Table 14**

*Estimated Economic Impact of the Improved South Orient Railroad on the Study Area  
Federal, State, and Local Employment*

Baseline Scenario				
Year	Direct Employment	Indirect Employment	Induced Employment	Total Employment
1	1146.8	213.7	443.0	1803.4
2	218.7	54.5	100.2	373.4
3	406.3	124.4	227.5	758.2
4	440.8	131.0	240.2	812.0
5	438.6	130.6	238.4	807.6

**Table 15**

*Estimated Economic Impact of the Improved South Orient Railroad on the Study Area  
Federal, State, and Local Taxes*

Baseline Scenario						
Year	Employee Compensation	Proprietary Income	Household Expenditures	Corporations	Indirect Business Tax	Total
1	\$7,425,823	\$808,197	\$8,101,205	\$2,197,927	\$5,368,305	\$23,901,457
2	\$1,820,079	\$131,960	\$1,831,758	\$759,699	\$1,466,130	\$6,009,626
3	\$4,336,662	\$225,546	\$4,157,720	\$2,176,196	\$3,656,062	\$14,552,186
4	\$4,546,646	\$246,734	\$4,389,907	\$2,233,587	\$3,811,987	\$15,231,862
5	\$4,513,185	\$248,056	\$4,357,971	\$2,215,940	\$3,789,864	\$15,125,017

**Table 16**

*Estimated Economic Impact of the Improved South Orient Railroad on the State of Texas  
Direct, Indirect, Induced, and Total Output*

Year	Direct Output	Indirect Output	Induced Output	Total Output
1	\$179,945,856	\$39,493,665	\$61,857,217	\$272,296,738
2	\$78,334,957	\$17,722,663	\$23,985,759	\$120,043,379
3	\$166,606,261	\$37,520,516	\$47,769,643	\$251,896,421
4	\$184,965,351	\$41,496,156	\$53,969,444	\$280,430,950
5	\$186,165,793	\$41,384,416	\$53,511,897	\$281,062,103

**Table 17**

*Estimated Economic Impact of the Improved South Orient Railroad on the State of Texas  
Direct, Indirect, Induced, and Total Employment*

Year	Direct Employment	Indirect Employment	Induced Employment	Total Employment
1	1,234.4	229.6	490.8	1954.7
2	466.1	98.7	190.3	755.1
3	899.0	202.4	379.0	1480.4
4	1026.1	225.9	428.2	1680.1
5	1020.0	225.4	424.6	1669.9

**Table 18**



*Estimated Economic Impact of the Improved South Orient Railroad on the State of Texas  
Federal, State, and Local Taxes*

Year	Employee Compensation	Proprietary Income	Household Expenditures	Corporations	Indirect Business Tax	Total
1	\$8,170,997	\$963,199	\$8,911,339	\$2,652,151	\$6,324,345	\$27,022,032
2	\$3,243,064	\$346,238	\$3,455,495	\$1,291,042	\$2,728,465	\$11,064,304
3	\$6,603,788	\$636,665	\$6,881,980	\$3,155,266	\$5,977,761	\$23,255,461
4	\$7,407,128	\$738,904	\$7,775,134	\$3,401,624	\$6,598,453	\$25,921,243
5	\$7,340,054	\$734,200	\$7,709,215	\$3,379,040	6,555,543	\$25,718,051

**Table 19**

*c. Innovation*

The preservation and continued operation of the SORR has required an innovative approach by TxDOT since the acquisition of the line was considered. The Texas Legislature appropriated \$6 million toward the \$9.5 million sale price for the line. TxDOT entered into an agreement with Grupo Mexico, a large mining conglomerate, to provide the remaining \$3.5 million necessary to purchase the line; and Texas Pacifico Transportation, Ltd. was formed to operate and maintain the SORR. Grupo Mexico is also the majority owner (73%) of Ferromex, the railroad operating in Mexico that connects to the SORR in Presidio. TxDOT believes this corporate relationship can foster the use of the line for NAFTA traffic, providing an additional route for rail movements between the U.S. and Mexico.

TxDOT has taken an innovative approach to the rehabilitation and maintenance of the line by securing additional funds from TXPF (of at least 20%) for each project using state or federal funds. The lease agreement has also been amended and requires TXPF to maintain each segment of the line in the same or better condition as it is when a TxDOT project is completed. This contractual requirement insures that the funds invested by TxDOT provide a long-term benefit by maintaining the line in perpetuity.

The ownership of the line by TxDOT and the rehabilitation also are an innovative method of providing for economic development opportunities and alternative energy development in Texas in an other wise under served, economically disadvantaged region of the state.

*d. Partnership*

TxDOT's ownership of the SORR and the lease agreement with TXPF constitute a true public-private partnership to provide essential transportation services to a large region in west Texas. This public-private partnership has international implications due to Grupo Mexico's ownership of both TXPF and Ferromex. This partnership has the potential to route NAFTA traffic across the SORR to the Dallas/Fort Worth metroplex and beyond. TXPF has invested approximately \$8 million in addressing critical deficiencies to keep the line operational. It is estimated that rehabilitating the line to 25 mph speeds will require a \$5,000 per mile annual maintenance program to keep the line in good condition.



The rehabilitation of the SORR is also part of a broader state and local partnership for economic development in the region. The city of San Angelo partnered with the state to provide economic incentives to the Martifer-Hirschfeld Energy Corporation, which resulted in the selection of San Angelo as the site for their new wind tower production facility. A key component of their site selection was the availability of rail service, which required TxDOT to rehabilitate the line from San Angelo Junction to San Angelo. The city of San Angelo has also partnered with TxDOT to rehabilitate road crossings during the project.

The rehabilitation of the line from San Angelo to Fort Stockton is necessary for further economic development in the region and to allow the shipment of wind tower components from San Angelo south to Fort Stockton, which is located in a region of intense wind farm development. Wind farms in west Texas have been located in mountainous areas near Fort Davis, Big Spring, Sweetwater, and the mesas near Fort Stockton. Rail transportation of the tower components from San Angelo south to Fort Stockton would divert oversized loads from the region's highways to the SORR.

The rehabilitation of the line to Fort Stockton will also provide for the development of additional industries in support of energy production and other new industrial developments. There are abundant petroleum and natural gas resources in the region which are in the process of development. Several companies have contacted TXPF and requested rates for the shipment of diesel fuels from refineries to Fort Stockton for use in their mining equipment. Quantities as high as fifteen carloads per week were projected by one shipper. TXPF has not been able to provide this service due to hazardous materials movement restrictions that exist from the Excepted Track status of the rail line. Rehabilitation of the line would enable these materials to be diverted from truck to the SORR.

## **V. Project Readiness and NEPA**

TxDOT has completed the project development process for the track rehabilitation and has plans and specifications completed and ready for letting. On October 26, 2004, TxDOT and FHWA signed a "Programmatic Agreement for the Review and Approval of NEPA Categorically Excluded Transportation Projects" that prescribes the level of documentation required in the NEPA process. Blanket Categorical Exclusion and Programmatic Categorical Exclusion (PCE) actions meeting the criteria established under the agreement are deemed approved by FHWA. TxDOT has completed an environmental study of the project and project area in accordance with NEPA requirements and the Programmatic Agreement procedures. The state environmental approval was issued on March 13, 2009 as a PCE. Further coordination with the Surface Transportation Board (STB) is not required since the STB does not perform an environmental review of a track rehabilitation project on existing right-of-way. Coordination with the Federal Railroad Administration (FRA) is not required unless FRA provides funding for the specific project. If the project is funded through the FRA, an FRA Environmental Checklist will be submitted with the Categorical Exclusion document that has already been approved by TxDOT under the FHWA Programmatic



Agreement. The environmental study is available for review at the web site at [www.txdot.gov/business/rail/tiger.htm](http://www.txdot.gov/business/rail/tiger.htm).

## **VI. Federal Wage Rate Certification**

The federal wage rate certification is attached.

## **VII. Summary**

The rehabilitation of the SORR from San Angelo to Fort Stockton will provide for continued development of energy resources in the region and economic development opportunities for counties in west Texas that have low per-capita income and a high percentage of the population living below the poverty level. The economic analysis shows that the rehabilitation of the SORR would create 807 new jobs in this economically distressed region within the first five years and would have a \$158 million positive economic impact to the area. The “shovel ready” status of the project would cause the immediate creation of construction jobs while stimulating local economies and providing an incentive for businesses to begin planning for improved rail service in the region. The estimated impacts to the highway system alone show a savings of almost \$45 million (\$28 million in pavement maintenance) on an annual basis from the rehabilitation of the line. The project will have positive direct and indirect impacts on the economy, employment levels, tax revenues, and highway costs. The project has strong partnerships and collaboration between the state, regional and local government, private businesses, and includes an international public-private partnership for the preservation and operation of the SORR. The project will maintain the rail line in a state of good repair through a contractual agreement that requires the lessee to keep the rail line in the improved condition once the project is completed. It will improve the long-term efficiency and reliability of this transportation resource and contribute to the economic competitiveness of the region and state. It will provide additional transportation choices for energy and other businesses in the region and avoid adverse environmental impacts by encouraging the diversion of freight from highway to rail and prevent the diversion of existing freight from highway to rail. The project is a component so the state rail plan, is included in the TIP, and is technically and financially feasible. The project has broad support in the region and the state and would be an appropriate use of \$19.31 million in TIGER II funds as requested.



## Federal Wage Rate Certification

The Texas Department of Transportation certifies that it will ensure compliance with the requirements of Subchapter IV of Chapter 31 of Title 40, United States Code (federal wage rate requirements), as required by the FY 2010 Appropriations Act for any projects that receive federal funding under the TIGER II program.



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William E. Glavin, P.E.  
Rail Division Director  
Texas Department of Transportation

8/19/10

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Date