

South Orient Rail Line Rehabilitation

Final Report



October 2012

Executive Summary



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Introduction

The Texas Department of Transportation (TxDOT) completed the acquisition of the South Orient Rail Line (SORR) in January 2001. TxDOT then entered into a Lease and Operating Agreement (Agreement) with Texas Pacifico Transportation, Ltd. (TXPF) which gave TXPF exclusive operating rights on the line. The initial term of the Agreement is 40 years, with five (5) renewal options of ten (10) years each. The Agreement has been amended on five separate occasions. TxDOT partnered with TXPF to secure funding for the rehabilitation of the rail line between San Angelo Junction (near Coleman) and the west side of San Angelo. This report serves as the Executive Summary for the more detailed project reports(s) that were developed at the completion of each phase of construction.

Rehabilitation Funding

On March 5, 2009, the Texas Transportation Commission approved \$14.01 million in American Recovery and Reinvestment Act (ARRA) funding for the rehabilitation of the line. These funds were combined with \$212,355 remaining from the 2004 Omnibus appropriation that was used between Paisano Junction and Presidio, and \$910,000 in TXPF matching funds from 2004 for the rehabilitation of the line.

On June 17, 2009, TxDOT and TXPF finalized an amendment to the Lease and Operating Agreement which requires TXPF to maintain any section of the line that is rehabilitated by TxDOT at the same or better condition than when the project was completed. TXPF also provided an additional \$4.6 million in funding for use in rehabilitating the line as required by this amendment.

The 2009 Texas Legislature appropriated \$3 million in General Revenue from the 2010-2011 budget for the rehabilitation of the line. The 2010 Federal Omnibus Act also includes \$1 million for the rehabilitation of grade crossings in San Angelo and an additional \$1 million for other rehabilitation work on the line.

As a result of these appropriations, TxDOT and TXPF entered into another amendment to the Agreement in which TXPF agreed to contribute \$400,000 in cash to the rehabilitation of the line in April 2011; contribute an additional \$400,000 in cash toward the rehabilitation of the line in August 2011; and to complete another \$600,000 in critical infrastructure repairs within 1 year of the effective date of the amendment.

Early in 2012, TxDOT contributed an additional \$700,000 in non-dedicated funds toward the projects due to unforeseen deficiencies below ground that were encountered as the work on various bridges progressed. This represented a 2.61% increase in overall project costs.



A summary of the cash rehabilitation funding that was secured for TxDOT and used in the rehabilitation of the line from San Angelo Junction to San Angelo is shown in the Table 1.

Table 1: San Angelo Junction – San Angelo Rehabilitation Funding

Year	Description	Funding
2004	Federal Omnibus Act (remainder)	\$ 212,356
2007	Texas Pacifico Contribution	\$ 910,000
2009	ARRA Funds (federal stimulus)	\$14,357,325
2009	Texas Pacifico Contribution	\$ 4,600,000
2010	FRA Appropriation – San Angelo crossings	\$ 1,000,000
2010	FRA Appropriation – track rehabilitation	\$ 1,000,000
2010	Texas Legislature (General Revenue)	\$ 3,000,000
2011	Texas Pacifico Contribution (April)	\$ 400,000
2011	Texas Pacifico Contribution (September)	\$ 400,000
2011	City of San Angelo	\$ 250,000
2012	TxDOT Non-Dedicated Funds	\$ 700,000
Total		\$26,829,681

In addition, TXPF contributed 20,000 cross ties to the rehabilitation that had been purchased in 2004 and not installed. The estimated value of those ties is \$1,200,000.

TxDOT Rehabilitation Approach

San Angelo Junction at the eastern part of the line is where most interchange occurs. The rail line sees the heaviest use from that location to San Angelo where the majority of the switching yard is located. It was also the most deteriorated and in need of significant investments when the rehabilitation began.

TxDOT used a phased approach in rehabilitating the east end of the SORR. The scope of work for rehabilitating the line varied from simple plans such as cross tie replacements and ballast installation, to more complex work such as new bridge constructions and grade crossing signal system improvements. The phased project approach was necessitated by the various deadlines associated with ARRA funds, which required some projects to be “shovel ready” at the time funds were allocated, and the varying complexity of the work which required additional time for plan development.



The project schedules are presented in the Table 2.

Table 2 – Project Schedules

Letting Date	Project Description	Project CSJ	Completion
7-7-2009	Tie & Rail Replacement	7107-09-001	6-2-2010
1-5-2010	Grade Crossing, Rail, Tie Replacement	7107-09-004	4-5-2011
1-6-2010	Ballinger Bridge Replacement	0907-13-008	5-19-2011
9-9-2010	Anchor Installation	7107-09-006	9-23-2011
8-9-2011	Bridges, Rail, Switches, Crossing Signals	7107-09-003	10-15-2012
9-9-2011	Interchange Track at San Angelo Jct.	7123-11-005	10-16-2012
TBD	San Angelo – Fort Stockton Improvements	7107-09-002	N/A

TxDOT Projects Completed

A chronological description of the rehabilitation projects completed for the SORR follows.

7107-09-001

The first rehabilitation project went to letting on July 7, 2009 and was completed and accepted on June 2, 2010. During this initial project, which was considered “shovel ready”, the following work was completed:

- 64,022 Crossties Replaced
 - 20,000 TXPF inventory ties installed
 - 44,022 contractor supplied ties installed
- 73.7 Miles of Track Surfacing
- 13,836 linear feet of excessively worn rail replaced
 - 9,416 lf TxDOT inventory rail installed
 - 4,420 lf contractor supplied rail installed
- 50,500 Tons of Ballast Installed & Regulated
- Project accepted and warranted; warranty expired June 1, 2011

7107-09-004

The second rehabilitation project went to letting on January 5, 2010 and was completed and accepted on April 5, 2011. During this project the following work was completed:

- 20,175 Crossties Replaced
- 902 Switch Ties Replaced
- 25,906 linear feet of excessively worn rail replaced



- 3,953 lf TxDOT inventory rail installed
- 21,953 lf contractor supplied rail installed
- 14,242 Tons of Main Track Ballast Installed & Regulated
- 4,548 Tons of Yard Track Ballast Installed & Regulated
- 29 miles of Track Surfacing
- 61 Timber Grade Crossings Reconstructed
- 59 Concrete Grade Crossings Reconstructed
- Project accepted and warranted through April 5, 2012

0907-13-008

The Ballinger rail bridge replacement project went to letting on January 6, 2010 and was completed May 19, 2011. During this project the following work was completed:

- New Concrete Bridge Structure Constructed
- New East & West End Approach Tracks Constructed
 - New turnouts constructed from main line to sidings
- New Bridge Tracks Constructed
- Existing Truss Bridge “Retired”
 - Rails, ties, wooden decks removed from truss bridge & approaches
 - Traffic barriers constructed on both ends
- Project accepted and warranted through May 18, 2012

7107-09-006

The anchor installation project went to letting on September 9, 2010 and was completed on September 23, 2011. The rail line was anchored to support 25 mph speeds. This required the installation of 383,170 anchors. The project was accepted and warranted through September 22, 2012.

7107-09-003

The third track rehabilitation project went to letting on August 9, 2011 and was completed on October 15, 2012. During this project the following work was completed:

- Replacement of a Fire Damaged Bridge in the city of San Angelo
- Replacement of a Deteriorated Bridge with Culverts near Talpa
- Repairs to 31 Additional Bridge & Drainage Structures
- Replacement of 13,083 lf of Rail in Curves
- Replacement of 51 Defective Switch Ties

- Repair of 71 Switch and Turnout Defects
- Upgrades to 8 Rail-Roadway Crossing Signal Systems to Support 25 mph train speeds
- Project accepted and warranted through October 14, 2012

7123-11-005

The project to construct an additional mile-long interchange track at San Angelo Junction went to letting on September 9, 2011 and was completed on October 16, 2012. During this project the following work was completed:

- Construction of Additional Interchange Track at San Angelo Junction
 - One mile from clearance point to clearance point
 - North side of main line, opposite side from existing interchange
 - Turnout from main line into interchange on both ends
 - Effectively tripled the interchange capacity
- Replaced Combination Timber/Cast/Corrugated Pipe Culvert with Concrete
- Constructed a Timber Crossing on Main Line at West End of New Track
- Project accepted and warranted through October 17, 2013

Future TxDOT Projects

The SORR is currently Class 2 (25 mph) track from San Angelo Junction to Sulphur Junction, which is located approximately 11 miles east of Fort Stockton. The line beyond Sulfur Junction is constructed of substandard (for current gross ton car loadings), 70# rail through Fort Stockton and continuing on to Alpine. TXPF trains have trackage rights to travel over Union Pacific tracks from Alpine to Paisano Junction, located 11 miles west of Alpine, where the South Orient connects to UP and travels south to Presidio. The international rail bridge, located at Presidio, burned in 2 separate fires in 2008 and 2009, making the rail border crossing at Presidio inoperable.

7107-09-002

TxDOT and TXPF are seeking additional funding for the upgrade of the line between Sulphur Junction and Fort Stockton. TxDOT Rail Division Staff has performed a preliminary inspection of this section of the line to determine infrastructure conditions and prioritize needs.

The project to rehabilitate the SORR between San Angelo Junction and Fort Stockton is



scheduled for letting in April 2014, assuming that funding is secured. The scope of work, plans and specifications for this project will be dependent upon the amount of funding that is available. If no funding is secured, TxDOT believes this section of the line will become inoperable within 5 to 10 years; however, that time frame could be extended if TXPF should realize adequate income to fund improvements independently.

TxDOT anticipates the scope of work for this project includes some work in each of the following areas:

- Rail Replacement
- Crosstie Replacement on the Main Line
- Crosstie Replacement in Fort Stockton Yard
- Ballast Installed & Regulated
- Bridge Repairs
- Grade Crossing Reconstructions

7124-01-001

As previously noted, the international rail bridge located on the South Orient at Presidio suffered severe damage during 2 separate fires in 2008 and 2009. TXPF is responsible for reconstructing the bridge at the original elevation and design. The development of this project includes:

- International Boundary & Water Commission (IBWC) stated that the bridge had to be raised approximately 9' in order to obtain a Presidential Permit to reconstruct the bridge. This would also require reconstructing the remaining bridge on the Mexico side and raising bridge approaches on both sides of the river for approximately 1 mile.
- TxDOT contacted the U.S. State Department and disputed IBWC's authority over any work at the bridge location. TxDOT's position is that since this bridge was authorized by an Act of Congress before the Presidential Permit process was established, no Presidential Permit was required. Various Federal regulations also supported that position.
- The U.S. State Department has agreed that a Presidential Permit is not required.
- TxDOT is assisting TXPF in project development by performing preliminary engineering, agency coordination, environmental review, and developing



construction plans.

- TxDOT has selected a consultant to perform surveying work as the 1st step in project development. The surveyors plan to begin work the week of November 27, 2012 and to complete survey work by December 14, 2012.
- Subsequent work on the U.S. side will include contracting for core samples on the U.S. side to aide in bridge design. Core locations will be identified after the survey report is reviewed by TxDOT.
- When survey work and core work is completed, TxDOT Bridge Division will begin developing preliminary plans for reconstruction of the bridge.
- TxDOT will coordinate plan development and approvals through the appropriate federal agencies.

Conclusion

The rehabilitation of the SORR between San Angelo Junction and San Angelo is complete. Trains began operating at 25 mph speeds on September 24, 2012. This section of the SORR exceeds FRA Class 2 (25 mph) track standards and TXPF is contractually required to maintain this section of the line in this condition for the remainder of the lease term. The improvement of the SORR has fostered increased rail-oriented economic development in the region, as detailed below:

- Monthly carloads interchanged averaged 189 during 2005 – 2009 (5 year period prior to the beginning of rehabilitation).
- As new customers began locating on the line in anticipation of improved service, the monthly carloads during 2010 – 2011 increased over the prior years, averaging 387 cars per month, a 68% increase.
- During 2012 (through August), average monthly carloads increased to 686 cars per month, a 77% increase over the 2010 – 2011 period; and a 263% increase over the 2005 – 2009 five year average.
- Using 686 cars per month as a baseline average, the impacts of no rail service to the US-67 corridor between San Angelo and Fort Worth are \$1,555,848 in pavement damage during the 1st year as a result of increased truck traffic. At a 3% annual growth factor, the impacts of no rail service to that corridor over a 20 year period would be \$41,806,218.



- TXPF's most recent projections show that SORR is on track to interchange 10,826 carloads in calendar year 2012; a 377% increase over the 2005 – 2009 averages.
- TXPF customers project that 38,881 carloads will be interchanged during 2013; a 1,614% increase over the 2005 – 2009 averages.

TXPF realized a small profit from operations for the 1st time during 2011. TXPF management has agreed to reinvest any profits in maintenance and rehabilitation of the line for the immediate future. Plans are being developed based upon projected revenues for the on-going maintenance of the rehabilitated portion of the line and for addressing critical needs, such as bridge component failures where work has not been previously completed. Additional investments will depend upon TXPF's future level of profitability and identified needs.

Photographs showing “before and after” conditions along the line between San Angelo Junction and San Angelo are included in the Appendix to this report.



New Siding at San Angelo Junction



MP 0.35, Switch 9001 Before & After





MP 4.08 – Crossing Before & After





MP 10 – Track Before & After with CWR





MP 13 – Track Before & After





MP 14.5 – Track Before & After





MP 16 – Track, Bridge Before & After





18.1 – Bridge Before & After





MP 23 – Track Before & After





MP 28.3 – Track Before & After





MP 30.6 – Track Before & After





MP 31 – Track Before & After





MP 33.7 – Track Before & After





MP 34.2 – Track Before & After





MP 37.6 – Bridge, Track Before & After





MP 44.7 – Track Before & After





MP 46.54 – Crossing Before & After





MP 51.2 – Track Before & After





MP 55 – Track Before & After





MP 72.53 – Crossing, Track Before & After





MP 715.1, Bridge During Construction & After





MP 715.34 – Crossing Before & After





San Angelo Yard – Before & After



