



2016 South Orient Annual Inspection & Report

June 16 – 19, 2017

Rail Division

Introduction

The sixteenth annual review of the South Orient rail line (SORR), operated under lease by Texas Pacifico Transportation Company (TXPF), was conducted from June 12 thru 16, 2017. Staff of TxDOT's Rail Division performed this review with TXPF senior management via a hi-rail inspection of the line. A map of the SORR is included in the appendix.

Financial Review

The financial performance for the calendar year January 1, 2016, through December 31, 2016 shows positive income and substantial net profit from operating the rail line. Traffic has increased since TxDOT began the rehabilitation of the east end of the line in 2009. TxDOT has continued an annual program of track rehabilitation in a generally east-to-west direction and TXPF has contributed to capital improvements in the property. As in previous years, revenues were received from the interchange of cars with connecting railroads, switching services for customers, demurrage fees assessed on shippers and receivers for loading and unloading time periods, freight car storage for other car owners, and lease revenues assigned to TXPF. Expenses were categorized as operating, general and administrative, depreciation, interest and other.

Traffic

Shipments due to oil and gas exploration in the region continued to make up the largest share of traffic on the line in 2016. This traffic continued to grow despite reduced prices for hydrocarbons. Inbound sand received totaled 25,262 carloads, 3,158 more than the previous year. Crude oil shipments totaled 1040 carloads for the year, an increase of 624 compared to 2015. The total carloads interchanged were 30,565, which is an 18% increase from 2015. Wheat shipments totaled 1,369 carloads, up 44% over 2015. Table 1 shows the carloads moved by commodities since 2012 as well as the percent of change in each commodity and the total percent delta over the past year.

Traffic began increasing during the latter half of 2009, which is when TxDOT began the rehabilitation of the eastern portion of the line. Annual carloads averaged 2,031 from 2001 through 2009, with dramatic increases since. Traffic has grown in 2016 despite a forecast of less volume due to a drop in crude oil profit margins. Figure 1 shows the total carloads from 2012 to 2017, with 2017 being the projected annual carloads. Figure 2 shows carloads by commodity over the last 5 years and illustrates the continuing increases in sand, jump in grain, as well as the smaller variations in the other commodities.

Commodities	2012	2013	2014	2015	2016	Total	2015 to 2016 % change
Sand	6,506	15,269	22,906	22,104	25,212	91,997	14%
Crude Oil	2,214	5,787	1,422	416	1,040	10,879	150%
Steel	326	404	333	342	303	1,708	-11%
Grain	874	927	196	953	1,369	4,319	44%
Pipe	0	0	0	1,362	1,406	2,768	3%
Misc	729	1,171	503	726	1,185	4,314	63%
Totals	10,649	23,558	25,360	25,903	30,565	116,035	18%

Table 1: Carloads by Commodity since 2012

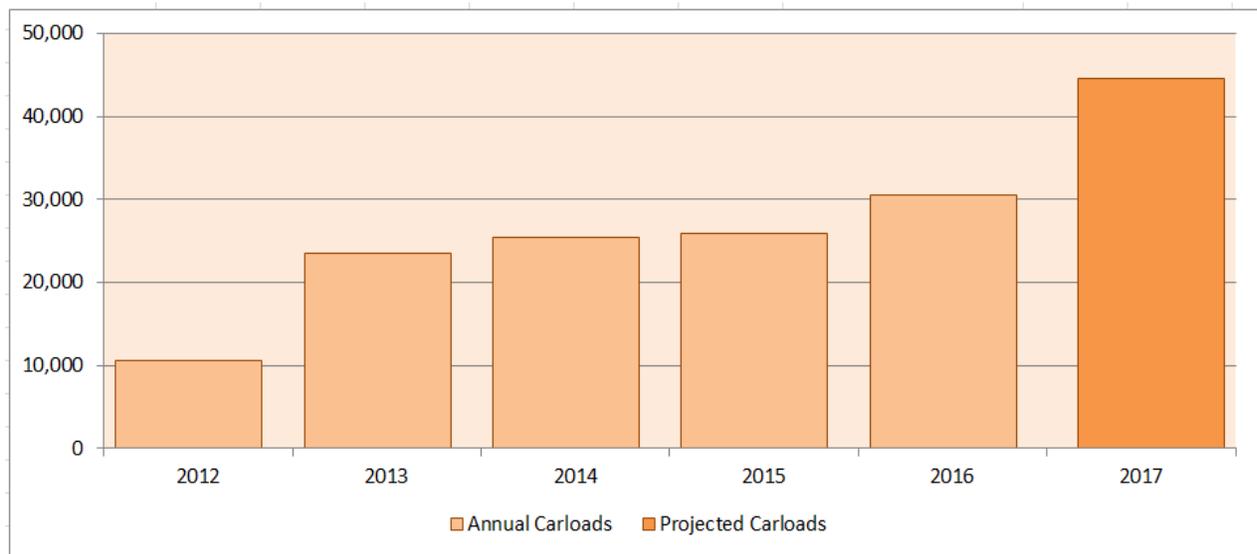


Figure 1: Total annual Carloads from 2012 to 2016 (actual) & 2017 (projected at 44,500)

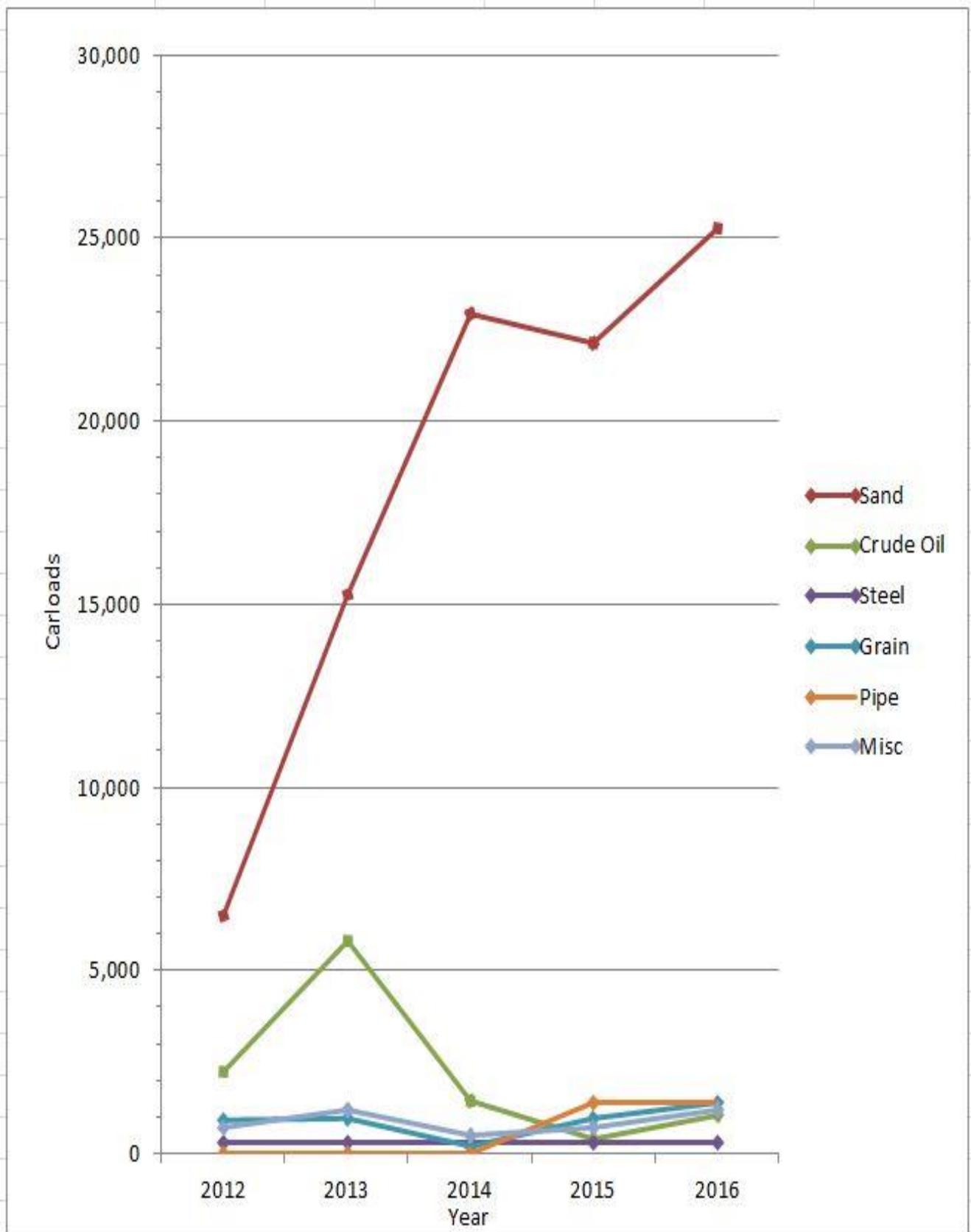


Figure 2: Total annual Carload trends by commodity 2012 to 2016

Shippers and Receivers

The number of businesses using rail service has increased dramatically since the rehabilitation of the line began in 2009. The list of current active shippers below is followed by pictures of some shipper facilities.

MP 37 - Elm Creek Grain, grain (wheat).

MP 37 - Wingate Gin, grain (wheat).

MP 38 - Buddy's Plant Plus, urea, fertilizer.

MP 38 - Muller Building Products, steel.

MP 53 - Kasberg Grain, grain (wheat, sorghum, corn).

MP 60 - Hudson Feeds, molasses.

MP 63 - Gaviion-Western Tower transloading, bone meal.

MP 70 - Angelo Pellets, cattle feed

MP 75 - City Lumber, lumber.

MP 75 - Hirschfeld Steel, steel

MP 714 - (San Angelo Yard) Preferred Pipeline-Tidewater Transloading, silica sand

MP 714 - (San Angelo Yard) Superior Silica Sands, silica sand

MP 715 - Pattison Sand-Pinnacle Sands Facility, silica sand

MP 716 - TriCoastal Trading-at Texas Tank Car, scrap

MP 720 - McCoy's, lumber

MP 771 - Superior Silica Sand-Texas Specialty Sand Facility transloading, silica sand

MP 771 - U.S. Silica-Texas Specialty Sand Facility transloading, silica sand

MP 775 - Vista Sand-Maalt transloading, silica sand

MP 790 - Superior Silica Sand, large Tidewater facility under construction, silica sand

MP 791 - Vista Sand-Maalt transloading, silica sand

MP 791 - Fairmount Santrol, silica sand

MP 791 – Pattison Sand-at Fairmount Santrol facility, silica sand

MP 821 - Cooper Natural Resources, hydrochloric acid

MP 839 - CARBO Ceramics transloading facility, ceramic sand

MP 868 - Pattison Sand, Titan Lansing transloading facility, silica sand

MP 868 - U.S. Silica, Titan Lansing transloading facility, silica sand

MP 868 - Prince Agri, Titan Lansing transloading facility, clay

MP 881 - (Fort Stockton yard) Superior Silica Sand, silica sand

MP 881 - (Fort Stockton yard) U.S. Silica-Texas Specialty Sand transloading, silica sand

MP 881 - (Fort Stockton yard) Vista Sand, sand



MP 791 - Maalt transloading facility, Big Lake



MP 791 - Transloading sand, Fairmount Santrol facility at Big Lake



Railcar-truck sand conveyor



MP 790 - Tidewater facility under construction, Big Lake



MP 868 - Titan Lansing transloading facility, Sulphur Jct.



MP 881 - Sand transloading at Fort Stockton yard

The facilities that have located on the line since 2009 have experienced a steady increase in traffic as their operations become more efficient and volumes increase. TXPF is working with additional new customers who have expressed an interest in transporting freight on the line which includes additional sand and crude oil facilities, as well as mining for granite, sulphur, and zeolite at other locations.

Operations and Maintenance

Texas Pacifico (TXPF), the contract operator for the South Orient, is owned by Grupo México. Grupo México is also the majority owner of Ferromex, the largest main line railroad in Mexico. Ferromex connects to the west end of the South Orient via the currently disrupted rail border crossing at Presidio.

TXPF's current timetable is dated July 17, 2016, and the railroad uses the General Code of Operating Rules.

The increased customer base and on-going economic development efforts continue to have a significant impact on TXPF staffing. TXPF now has 56 employees in Texas, and expects that employment will increase in the future as carload volumes grow.

Train crews and front-line managers work out of the San Angelo yard where the railcar storage yard and equipment servicing facilities are located. TXPF's main office is in the city of San Angelo.



TXPF Offices in San Angelo

The line between San Angelo Junction and Fort Stockton is covered by regular train operations. East of Big Lake, two to three trains are operated in each direction daily; west of Big Lake to Fort Stockton, one train is operated in each direction daily.

There are four to six crew starts per day. One crew is based at Fort Stockton and the rest are based at San Angelo. One of the San Angelo crews goes on duty at San Angelo Junction, and another crew works the yard at San Angelo. An additional crew may be based at Fort Stockton. The Fort Worth and Western Railroad delivers cars every day at San Angelo Junction, and three to four days per week there is a second delivery. The BNSF Railway also delivers cars daily at San Angelo Junction and sometimes there is a second delivery from them. Generally, more cars are interchanged with the Fort Worth and Western than with the BNSF.

Texas Pacific offers service on a car load and unit train basis and moves 286,000 gross-weight-on rail carloads between San Angelo Junction and Fort Stockton.

Trains now operate at 25 mph from San Angelo Junction to San Angelo (MP 2 to MP 69; MP715) and from west of San Angelo to Sulphur Junction (MP 723 to MP 869.4). The final 12 miles from Sulphur Junction to Fort Stockton have a maximum authorized speed of 10 mph. The railroad west of Fort Stockton to Presidio is not operated regularly and is classified as FRA Excepted Track. This portion of the railroad should be upgraded for regular service for the reopening of the international railroad bridge at Presidio and reestablishment of the interchange with Ferromex on the Mexican side.

TXPF has 29 locomotives leased from CIT. Three are MP15 model switchers, 10 are GP38 and GP40 model four axle road locomotives, and the remaining 16 are SD40, SD60 and SD90 model six axle road locomotives. The seven SD90 units are equipped for distributed power operation. Locomotive maintenance and servicing is performed by WABTEC.



MP 771 - Westbound TXPF freight train led by an SD90 4,300 hp locomotive

TXPF uses a number of other contractors. Balfour Beatty is the track maintenance contractor. Additional contractors are used for rehabilitation projects. Quality Signal handles signal maintenance, almost all of which is highway grade crossing signals. ASK Engineers is the bridge contractor. An ultrasonic rail flaw detector covers the line twice a year and vegetation control is performed approximately twice a year.

Infrastructure

Between 2009 and 2016, 114 miles of South Orient's 391 miles of line were rehabilitated by TxDOT. This program started at the east end of the line at San Angelo Junction and proceeded west to MP 777 near the Irion County-Reagan County line. The work has consisted of tie replacement, some rail replacement (mostly with continuously welded rail), new ballast, surfacing and lining, upgraded road crossings, plus bridge and culvert repair and replacement. Some of the rail which was replaced was 70, 85 and 90

lbs to the yard and 100 years old. The replacement rail was a minimum of 115 lbs per yard. TXPF has also performed additional rail replacement and bridge work with these limits, independently of the TxDOT work.



MP 20 - CWR rail relay



MP 33 - CWR rail relay



MP 61 - Reconstructed grade crossing



MP 735.1 - Grade crossing in poor condition, prior to reconstruction in the 2016-17 program

TxDOT's work on the east end of the line included rehabilitation work to 30 bridges, the replacement of a structurally deficient bridge with corrugated metal pipe, the replacement of a decayed, timber box culvert with corrugated metal pipe, other drainage repairs, and the replacement of a fire-damaged bridge at MP 715.1 with a concrete structure. Ties were also replaced on all open-deck bridges and on most ballasted deck bridges.



MP 715.1 - Bridge Replaced



MP 716.6 - Rehabilitated bridge structure



MP 777.9 - Bridge repair, replaced wooden stringers with steel girders

New passing sidings have been installed in several locations to accommodate the increased volume of trains. Highway grade crossing warning devices have been upgraded at many locations.



MP 42.6 - west end the new Fogleman Siding (7300 LF)



MP 797.5 - new siding

\$34.17 million has been expended on the nine TxDOT projects between 2009 and 2016. In addition, Texas Pacifico has expended \$29.8 million on other similar capital projects on the South Orient between 2012 and 2016. TXPF has expended additional funds on non-track related capital projects as well.



MP 13 – track rehabilitated 2017 by TXPF with 115 lbs. CWR

TxDOT's ninth and most recently completed rehabilitation project, executed between December 2015 and July 2016 from MP 735 to MP 776.9, covered tie replacement, additional ballast, rehabilitating road crossings, and alignment and surfacing. The cost of this project was \$2.77 million.

During 2016, TXPF upgraded 7.57 miles of main line track in San Angelo with welded rail and new ties for \$3.97 million, and replaced ties between from MP 777 to MP 849 for \$409,000.

For 2017, TxDOT let a project for the rehabilitation of 53.4 miles of the main line from MP 757.0 to MP 810.4. The federal portion of the funding for this \$5.36 million project comes from the National Freight Network Program. The project will include the replacement of 38,800 cross ties, replacement of 783 bridge ties, placement of 10,600 tons of ballast, reconstruction of 19 grade crossings, replacement of 1,112 feet of rail, and surfacing and alignment of the full 53.4 miles. The work is scheduled to be completed June, 2018.

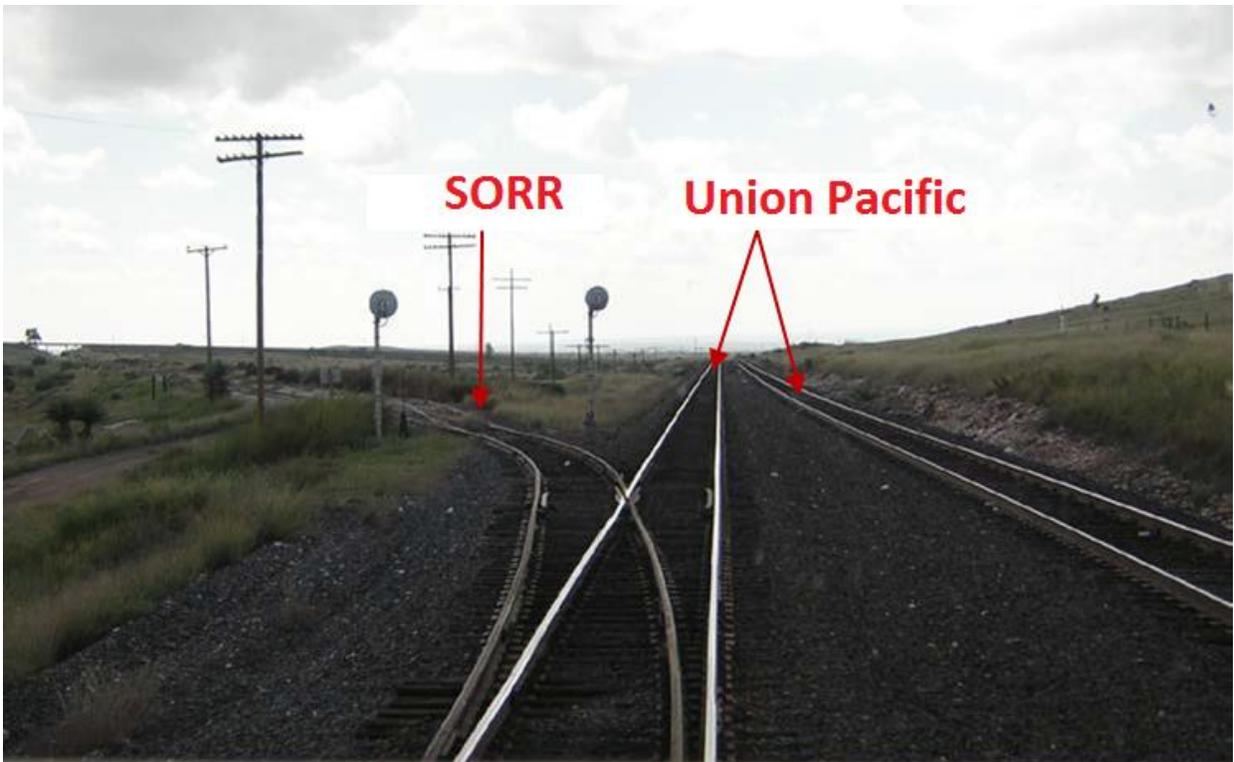
Since the bids for the MP 757.0-810.4 project came in below the estimate and \$4.64 million in the ask for National Freight Network Program funds are available, Rail Division is developing a project for letting in March 2018 to perform a similar rehabilitation on 37.4 miles beyond MP 810.4, pending approval by the Commission.

The objective of the rehabilitation program is to have a main line that efficiently supports existing and anticipated levels of traffic and conforms to FRA Class 2 track standards. TxDOT's agreement with TXPF is that TXPF maintain the rehabilitated portion of the railroad to the upgraded condition at TXPF's expense.

At present, the 137 miles of line beyond Fort Stockton has no regular service and speed is restricted to no more than 10 mph. The last revenue freight train to operate all the way to Presidio ran in 2006. On occasion, freight trains have operated on this part of the railroad in recent years. In 2016, pipe was shipped to Belding, 11 miles beyond Fort Stockton. Also in 2016, TXPF moved 596 carloads of pipe to MP 964 for an oil and gas project. This traffic required the use of the 11 miles of trackage rights between Alpine and Paisano Junction on the Union Pacific's Sunset Route main line. The tracks and signals providing access to the Union Pacific's Sunset Route main line remain in service.



MP 945.6 – Approaching westbound home signals at UP interlocking, Alpine Jct.



MP 956.76 - Paisano Junction (South Orient curving to the left, UP straight through)



MP 957 - Eastbound distant (approach) signal to Paisano Jct.



MP 968.0 - South of Paisano Junction

The line between Paisano Junction and the international bridge at Presidio has been subject to occasional wash outs and bridge damage. Minimal repairs and vegetation control have been made to keep the track passable by light equipment such as hi-rail vehicles. On this year's inspection trip, the full 72 miles were covered by the inspection team in two hi-rail pickup trucks.



MP 1019 – largest bridge on South Orient: 1,224' long; 73' high

Nevertheless, the section of track between MP 968 and Presidio still displays the benefit of TxDOT's rehabilitation project during 2005 and early 2006. Over 37,000 ties were installed with associated ballast and surfacing in this segment of the line.



MP 1024.8 – Curved track

At Presidio, the U.S. portion of the international bridge was destroyed by fire in 2008 and 2009. A portion of the Mexican part of the bridge has also been severely damaged. The International Boundary and Water Commission made improvements to the levee system in Presidio which has resulted in the tracks being buried in the levee. The entire bridge will need to be rebuilt to a higher elevation as the levee was raised nine feet since the bridge saw its last train operating over it in 2006.



MP 1029 - Timber Structure North of Levee



MP 1029 - Track Buried in Levee



MP 1029.2 - Remaining structure (Mexican portion) of the international bridge

Texas Pacifico is responsible for rebuilding the bridge. TXPF has developed the approved plans and specifications for the replacement bridge, and in conjunction with Ferromex, has worked the permits on the Mexican side. TxDOT has obtained the various U.S. government permits and approvals, with only the Coast Guard permit pending at the time of this report (June 2017). Bridge reconstruction is planned to start later this year, with the railroad infrastructure in place in 2018. TxDOT is coordinating project review and approval, including for the ancillary facilities required by US Customs and Border Protection (CBP) for inspecting the trains when they enter the country.



MP 1029 – View south towards Mexico from approx. future location of CBP facility



MP 1029 – TXPF VP Operations on South Orient property line



MP 1029 – View north towards Presidio

Prior to establishing regular freight service and the interchange of cars with Ferromex at Presidio, rehabilitation of the track plus bridge, culvert and embankment repair will be required from Presidio to approximately 11 miles beyond Fort Stockton.



MP 985.9 - Meandering bank erosion near bridge structure



MP 1008.4 - Erosion around wooden box culvert (undertrack drainage)



MP 1012.8 – Erosion at culvert

Recommendations

TXPF should continue to increase their customer base and aggressively pursue additional traffic. Both TXPF and TxDOT should continue to pursue funding for the rehabilitation of the line west of Sulphur Junction and the restoration of traffic across the border at Presidio.

Conclusions

TxDOT and TXPF have made significant investments in the improvement of the east end of the line which has increased train speeds and capacity. TXPF's pursuit of new customers has resulted in dramatic increases in traffic over the years, and their efforts to adapt to changing economic conditions have kept the South Orient Rail Line in operation and profitable. The public-private partnership between TxDOT and TXPF has revitalized a rail corridor that was slated for abandonment, resulting in improved transportation efficiency, economic development opportunities, increased employment in the region, and improved safety.

Appendix

- A. Conditions and Upgrades by Line Segment up to June 2017
- B. Map of the South Orient Railroad

Appendix A - Conditions and Upgrades by Line Segment up to June 2017

MP 0 – 72 San Angelo Subdivision

1. 90# jointed, 115# CWR,136# CWR rail manufactured 1917 – 2016
2. 20 Miles 115# ,136# CWR installed by TXPF(2016-2017)
3. 18,047 grade 5 ties installed by TXPF, (2003 – 2008)
4. 8,400 grade 5 ties installed by TXPF (2016 - 2017)
5. 27,500 tons of ballast placed by TXPF (2016 – 2017)
6. 20 Miles of surfacing done by TXPF (2016 – 2017)
7. 3,500 of track undercutting done by TXPF (2016 – 2017)
8. 2 = #10 115# turnouts installed be TXPF(2016)
9. 64,670 ties installed by TXDOT, (2009 – 2012)
10. Replaced worn rail with CWR in curves 4,5,6,24,27,28,36,39,40,41, by TXDOT (2009 – 2012)
11. 92 grade crossings reconstructed by TXDOT, (2009 – 2012)
12. Grade crossing renewals MP5.49, MP11.3. TXDOT (2016)
13. Grade crossing renewals MP6.11, MP67.16 TXPF (2016)
14. 1,393 ties replaced on open deck bridges by TXDOT, (2009 – 2012)
15. Misc. bridge repairs by TXDOT, (2009 – 2012)
16. Misc. bridge repairs by TXPF, (2016 – 2017)
17. 7.6 miles of new 136# CWR relay, 8,000 ties, 12,000 tons of ballast between MP 7 and MP 35, TXPF (2015)
18. Bridge Management Program – 29 bridges repaired between MP 4 and MP 910.9, (2015)
19. Replacement of timber stringers with HP steel stringers on multiple bridges TXPF (2016 – 2017)
20. Bridge replaced with CMP culverts at MP22.4 by TXDOT.
21. Bridge replaced with CMP culverts at MP23.1 by TXPF.
22. Timber box culvert replaced with CMP culvert at MP45.5 by TXDOT.
23. 7300 LF Fogelman siding constructed by TXPF (2015)
24. Signaled crossings installed MP70.3, MP61.3 by TXDOT, (2015 – 2016)
25. Ultrasound rail inspection and repairs done by TXPF, MP 0 to 882, (2015)

San Angelo Yard

1. 7,685 ties installed by TXDOT, 2010 – 2011 rehab
2. 4,548 tons of yard ballast installed (TXDOT)
3. Repairs to 18 yard switches (TXDOT)
4. 2,000 ties installed by TXPF (2016)
5. 30 switch stands replaced with ergonomic design (TXPF)
6. Wye curve track replaced with 136# rail panels (TXPF)
7. Badger Mining sand unloading facility in yard
8. Canopy installed over fuel bay, drainage improved, (2015)

MP 712 – 945 Big Lake Subdivision

1. 8,324 ties installed by TXDOT, (2010 – 2012)
2. 112# - 131# mixed wts jointed rail between MP722 – MP737
3. 112# - 131# mixed wts CWR between MP737 and MP846
4. 500 Ties installed between MP715 – MP721.5. (2015)
5. 12,500 Ties installed 5,000 tons of ballast, 402 LF of grade crossing renewal and 18 miles of surfacing completed by TXDOT. (2015)
6. 12,000 Ties installed 4,000 tons of ballast, 7 timber crossing's, and 18 miles of surfacing completed by TXDOT. (2016)
7. 24 grade crossings reconstructed with new track and concrete surfaces through San Angelo (TXDOT)
8. MP 715.8, location of SESCO superfund site adjacent to ROW
9. 589 ties replaced on open bridge at 716.6 (TXDOT)
10. Replaced fire damaged bridge at 715.1 with concrete structure (TXDOT)
11. 88 ties installed by TXPF, (2004)
12. Ties in good condition up to MP 757, then poor to fair condition (limited # of good) through MP 845
13. Signal Crossing installed MP 771.56, 2015 (TXDOT)
14. 131# CWR manufactured in 1984 (132# CWR 811 to 815)
15. 4,471 ties installed by TXPF, 2004 (MP 802 thru 855.6)
16. 70# jointed rail manufactured 1912 between mp869.7 – MP945
17. 20,007 ties installed by TXPF, 2004
18. 9,615 ties installed by TXPF, early 2013
19. 390' rail relay by TXPF, early 2013
20. MP 883 to MP 962, 22 bridges repaired, 2015
21. Timber stringer's replaced with HP steel stringers on multiple bridges by TXPF. (2016 – 2017)
22. Misc. bridge repairs on most bridges in this section. TXPF (2016 – 2017)

MP 957 – 1029.1 Alpine Subdivision

1. 90# jointed rail manufactured 1929
2. 3,362 ties installed by TXPF, 2003
3. Ties in poor to fair condition between MP957 and MP968.
4. 34,426 ties installed between MP968 and MP1029 – TXDOT 2006
5. Remaining ties in fair to good condition
6. MP 985.9 channel north side of bridge continues deterioration.
7. 3,125 ties installed by TXPF, 2003
8. All rock cuts in need of drainage improvements – silting in
9. Excepted track designation
10. Washouts at MP 1007.2; 1005.6 repaired by TXPF. (2016)

11. International bridge burned down south of levee, Feb 2008; north of levee, March 2009
12. Presidio Depot burned down February 23, 2011

Appendix B - Map of the South Orient Railroad

