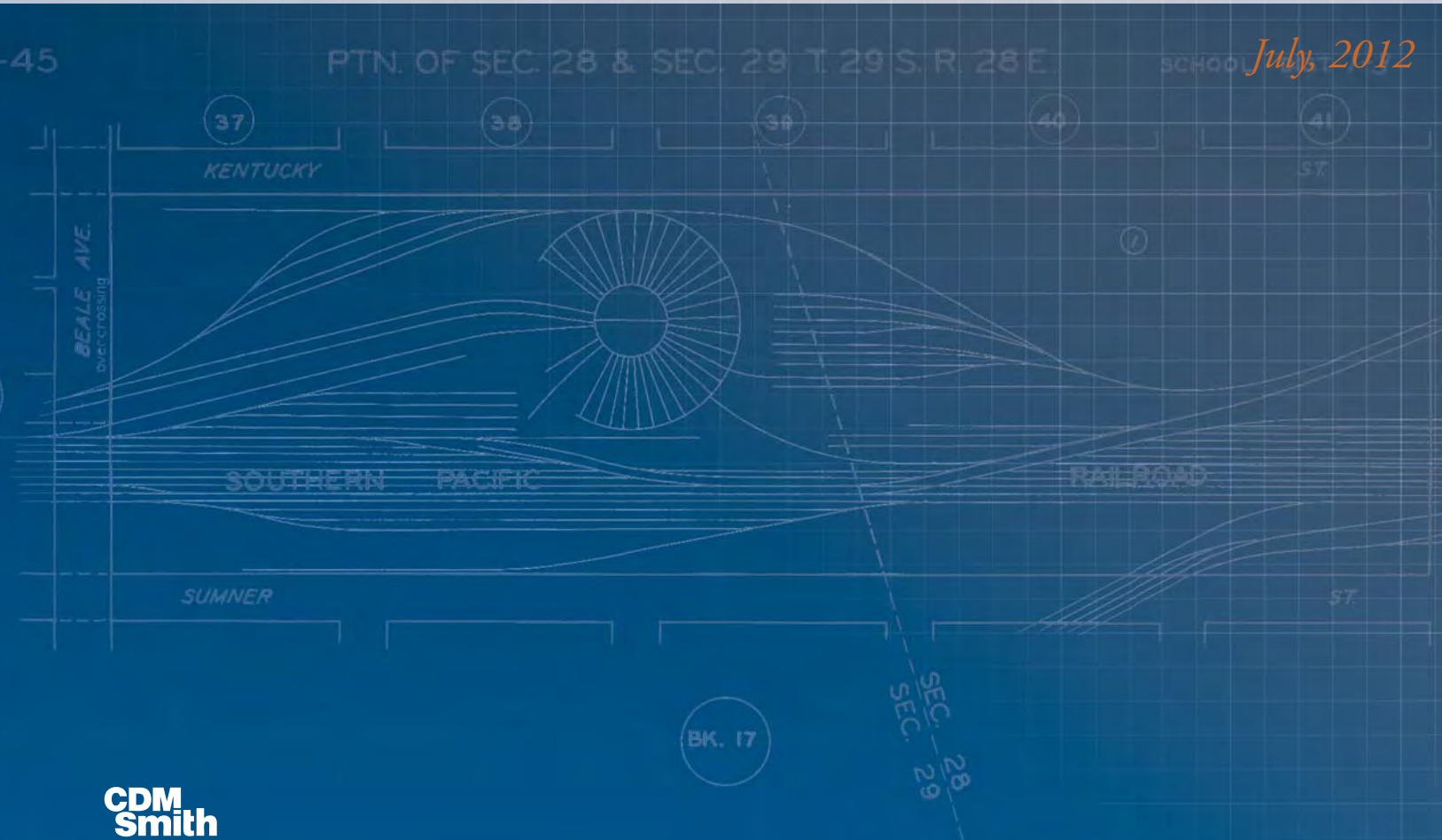




Kern Council  
of Governments

## KERN COUNTY RAIL STUDY PHASE II



# Table of Contents

<b>1. Introduction.....</b>	<b>1</b>
<b>2. SJVR and UP Lines Studied .....</b>	<b>1</b>
<i>San Joaquin Valley Railroad .....</i>	<i>1</i>
<i>UP Lone Pine Subdivision.....</i>	<i>5</i>
<b>3. Rail Shippers .....</b>	<b>7</b>
<i>Kern County Rail Shipper Survey .....</i>	<i>7</i>
<i>Commodities Handled .....</i>	<i>9</i>
<i>Shipper Comments on Rail Service Performance .....</i>	<i>10</i>
<b>4. Commodity Group Forecasts .....</b>	<b>13</b>
<i>Commodity Forecasts .....</i>	<i>13</i>
<i>Future Rail Shippers .....</i>	<i>14</i>
<b>5. Sustainability of SJVR Lines .....</b>	<b>15</b>
<i>Key Assumptions.....</i>	<i>15</i>
<i>Financial Pro Forma Evaluation.....</i>	<i>18</i>
<i>Shorthand for Sustainability .....</i>	<i>18</i>
<b>6. Net Liquidation Values .....</b>	<b>21</b>
<i>Right-of-Way Values .....</i>	<i>22</i>
<i>Track Values.....</i>	<i>22</i>
<i>Net Liquidation Value .....</i>	<i>24</i>
<b>7. Alternative Uses .....</b>	<b>24</b>
<i>Public Transit .....</i>	<i>25</i>
<i>Multi-use Trails.....</i>	<i>25</i>
<i>Roads.....</i>	<i>31</i>
<i>Add-on Rail Capacity .....</i>	<i>31</i>
<i>Livability and Mobility Benefits of Alternative Uses.....</i>	<i>32</i>
<b>8. Importance of Rail to Kern County and California .....</b>	<b>33</b>
<i>The Role of Short Lines in Kern County .....</i>	<i>33</i>
<i>Short Line Influence on Payrolls in Kern County.....</i>	<i>33</i>
<i>Modal Cost Comparisons.....</i>	<i>34</i>
<i>Benefits of Short Line Rail Service.....</i>	<i>37</i>
<i>Negative Impacts of Shifting from Rail to Truck.....</i>	<i>39</i>
<i>Benefits of Intermodal Transportation .....</i>	<i>40</i>
<b>9. Recommendations and Next Steps .....</b>	<b>41</b>
<i>Proactively Identify Rail Quality Service Issues and Solutions.....</i>	<i>41</i>
<i>Economic Development .....</i>	<i>42</i>
<i>Mixed-use Travel Development .....</i>	<i>42</i>
<i>South Bakersfield Rail Loop and Other Rail Concepts.....</i>	<i>42</i>
<i>Central California Railroad Authority .....</i>	<i>43</i>

**Appendix A: Shipper Survey Form**

**Appendix B: SJVR Surcharges**

## Tables and Illustrations

Table 1: SJVR and UP Lone Pine Subdivision Shippers in Study Area .....	7
Table 2: Rail Traffic of Survey Respondents .....	9
Table 3: Shipper Comments on Service Performance.....	10
Table 4: Inbound Shipper Ratings on Service Parameters .....	11
Table 5: Outbound Shipper Ratings on Service Parameters .....	11
Table 6: SJVR Financial Pro Forma 2012-2020.....	18
Table 7: Estimated Annual Carloads per Mile .....	19
Table 8: Value of Rights-of-Way .....	22
Table 9: Value of Rail .....	22
Table 10: Value of Tieplates and Joint Bars .....	23
Table 11: Value of Cross Ties .....	23
Table 12: Value of Turnouts .....	23
Table 13: Summary of Material Values.....	24
Table 14: Net Liquidation Value of SJVR Lines in the Bakersfield Area.....	24
Table 15: Alternative Use Costs .....	26
Table 16: Emissions (Grams per Ton-mile).....	35
Table 17: Energy Efficiency .....	35
Table 18: Safety Incident Ratios .....	36
Table 19: Modal Cost Comparisons.....	36
Figure 1: Rail Lines .....	4
Figure 2: UP Lone Pine Subdivision and Trona Railway.....	6
Figure 3: General Locations of Shippers Served by SJVR .....	8
Figure 4: Track Condition on Buttonwillow Subdivision at Enos Lane .....	17
Figure 5: Small Wooden Bridge Structure on Famoso Subdivision at Whisler Road .....	17
Figure 6: Amtrak Boxcars Stored on Arvin Subdivision North of Arvin .....	20
Figure 7: Track Conditions at Langford Avenue in Arvin.....	20
Figure 8: Buttonwillow Subdivision Right-of-Way at Buena Vista Road.....	27
Figure 9: Multi-Use Trail on Buttonwillow Subdivision .....	28
Figure 10: Oil City Subdivision at California Street.....	29
Figure 11: Multi-Use Trail on Norris Road/Oil City Subdivision .....	30
Figure 12: Add-on Rail Capacity Concepts for Kern County .....	32
Figure 13: Double-stack Intermodal.....	41

# Kern County Rail Study, Phase II

## Final Report

### 1. Introduction

In 2011, the Kern Council of Governments profiled rail operations in Kern County. Sought were details on the carrier operations, right-of-way ownership, right-of-way widths, operating rights of one railroad over another, and potential alternative concepts for certain rail rights-of-way. The railroads profiled included the Union Pacific Railroad (UP) and the BNSF Railway, both Class I or large railroad systems; and the San Joaquin Valley Railroad (SJVR) and the Trona Railway, both short lines or small railroads. The investigation culminated in the *Kern County Rail Study*.

This study is aimed at building on that earlier study, with a primary focus on the SJVR operations. It first describes the origin of the SJVR. The railroad's lines in the Bakersfield area and its operations on those lines as well as on the UP and BNSF are explained. Next, its existing traffic base is profiled, based on comments received from SJVR shippers. Growth in the traffic base is forecasted 10 years into the future.

Given assumptions of freight rates paid and operating costs, the study performs a *pro forma* financial evaluation of the SJVR's operations in the Bakersfield area. The result is an assessment of the line's profitability and thus sustainability over time. In addition, an estimate net liquidation value (NLV) of each SJVR line is presented.

This study also explores potential alternative uses of the selected SJVR rights-of-way, assuming continuing operations of the short line and/or non-operation of lines at risk of abandonment. These uses are discussed at a conceptual level, inclusive of potential public benefits.

The study concludes with recommendations and next steps.

As part of the study, current and future traffic volumes on the UP's Lone Pine Subdivision, between Mojave and Searles (the connection to the Trona Railway), are discussed as well.

### 2. SJVR and UP Lines Studied

#### San Joaquin Valley Railroad

The San Joaquin Valley Railroad was formed in the early 1990s out of former Southern Pacific Railroad (SP) lines and former Atchison, Topeka and Santa Fe Railway (Santa Fe) lines in the Central Valley. The SJVR is in the Western Region of RailAmerica, Inc., the largest operator of short lines in the U.S. Short.

The concept behind the SJVR was to operate various Central Valley branch lines over which SP and the Santa Fe were no longer interested in providing freight service due to declining profitability. While SP and Santa Fe may have been challenged to operate these lines at a profit, a short line operator with a lower cost structure might be able to do so, and therefore would be interested.

SJVR's owner, Kyle Railways, believed it could operate the lines profitably, and pursued lease agreements for the SP lines. The general structure of the SP short line negotiations for the lines were that SP would continue to own title the underlying parcels and would lease the operations to a short line. According to a former SP executive<sup>1</sup> who led the negotiation with Kyle Railways, this was the sort of deal that was struck. Kyle eventually was able to negotiate with the Santa Fe as well. As a practical matter, the traffic on the Santa Fe branches to be leased was not going to support another short line operation, so the SJVR was the only choice for these lines, too.<sup>2</sup>

In order to run its trains on the various lines efficiently, SJVR obtained trackage rights on the Santa Fe main line Bakersfield, and on the SP's main line between Bakersfield, Famoso, Goshen and Fresno.

On January 2, 1992, the SJVR began operations on these former SP and Santa Fe lines. Kyle Railways, now including the SJVR, was sold to States Rail in 1997, which in turn was acquired by RailAmerica in 2002. Today, portions of the former SP and Santa Fe lines around are owned by SJVR.

In 1995, the Santa Fe was acquired by the Burlington Northern Railroad, and today the merged railroad is known as BNSF Railway. In 1996, SP was acquired by UP, and today the merged railroad is known as the UP. SJVR agreements with the former Santa Fe and SP are in place today with the BNSF and UP railroads.

## SJVR Operations

SJVR operates on various lines in Kern County, shown in **Figure 1**, which are the main subject of this study. These include:

- **Buttonwillow Subdivision** (33 route miles), between Buttonwillow and Kern Junction. The line connects with UP at Kern Junction. This was a former SP line.
- **Sunset Subdivision** (20 route miles), between Levee and Gosford. A former portion of the line between Levee and Taft (17 miles) has been abandoned. This line was owned jointly by Santa Fe and SP.
- **Oil City Subdivision** (3 route miles), between Oil Junction and end of track at Maltha. The line connects with the UP Fresno Subdivision at Oil Junction. This was a former SP line.
- **Arvin Subdivision** (17 route miles), between Magunden, and a connection to the UP Mojave Subdivision, and end of track just south of Arvin. This was a former SP line.
- **Famoso Subdivision** (6 route miles), between Famoso and end of track at Hollis. This subdivision was a segment of the former Southern Pacific Railroad's Eastside Line, running from Famoso in the south to Fresno in the north. A former portion of the line (9 miles) between Hollis and the Tulare/Kern County Line has been abandoned. This was a former SP line.

<sup>1</sup> Graham Claytor, former SP Plant Rationalization executive, April 5, 2012.

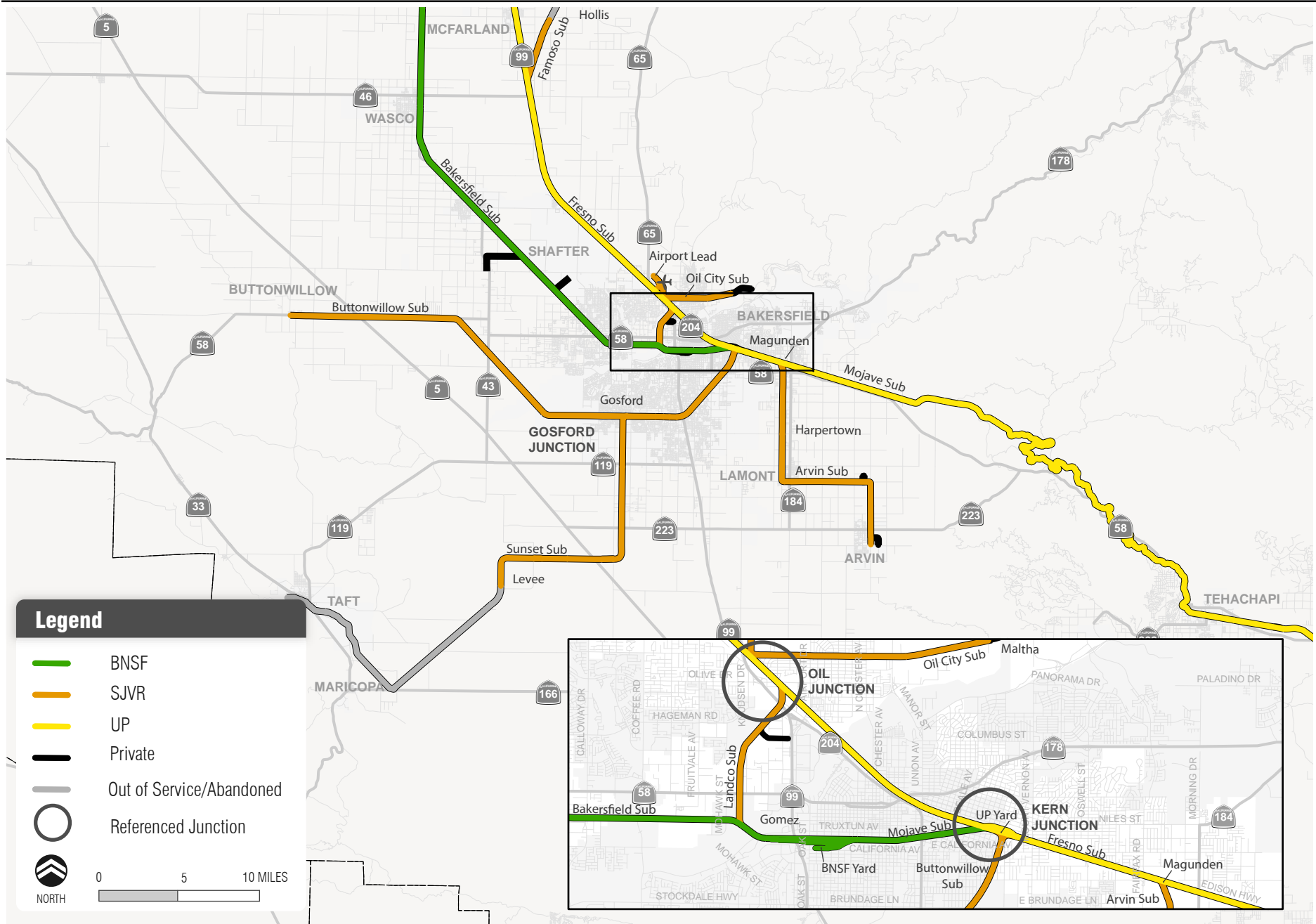
<sup>2</sup> Gary Laakso, former SP corporate attorney, April 10, 2012.

- **Landco Subdivision** (3 route miles), between Gomez, and a connection to the BNSF Bakersfield Subdivision, and Oil Junction, and a connection to the UP Fresno Subdivision. This was a former Santa Fe line.
- **Airport Lead** (2 miles), between Oil Junction and end of track just south of Merle Haggard Drive and just west of the Bakersfield Airport. This was a former SP line.

Via trackage rights, SJVR trains today operate on the BNSF's Bakersfield Subdivision between Bakersfield (site of the BNSF Bakersfield Yard) and Gomez; on the BNSF Mojave Subdivision between Kern Junction and Bakersfield; on the UP's Fresno Subdivision between North Bakersfield, Goshen and Fresno; and on the UP's Mojave Subdivision between North Bakersfield and Magunden. SJVR has rights to serve shippers on the UP's Fresno Subdivision between Bakersfield and Famoso.

As noted in the *Kern County Rail Study*, SJVR makes use of both the BNSF and UP yards in Bakersfield. Two SJVR trains a day depart the BNSF yard and travel west on the BNSF's Bakersfield Subdivision to Gomez; thence to the SJVR Landco Subdivision; and thence to the UP's Fresno Subdivision at Oil Junction. These trains serve shippers on the Famoso and Oil City Subdivisions, and on the Airport Lead. These trains also head south from Oil Junction on the UP's Fresno and Mojave Subdivisions to Kern Junction. One train serves shippers on the Arvin, Buttonwillow, and Sunset Subdivisions. Both trains return to the BNSF yard via Kern Junction and the BNSF's Mojave Subdivision.

# KERN COUNTY RAIL STUDY PHASE II



## UP Lone Pine Subdivision

The Lone Pine Subdivision (51 routes miles) runs between Mojave and end of track 3 miles northwest of Searles. More northern portions of the line have been abandoned. The line connects to the Trona Railway in Searles. The subdivision is linked to the UP's Mojave Subdivision main line in Mojave and thus to the national rail system. The UP runs a daily roundtrip on the Lone Pine Subdivision.

The Trona Railway is owned by Searles Valley Minerals, Inc. (SVM), and interchanges traffic to UP at Searles. Trona Railway's northeastern terminus is at Trona, 31 miles from Searles, where SVM's extraction and processing facilities are located. A map of the UP's Lone Pine Subdivision and Trona Railway appears as **Figure 2**. Only about 10,000 feet of the Trona Railway line are in Kern County.

As seen in Figure 2, rail lines once extended north from Searles to Ridgecrest to the Naval Air Weapons Station China Lake, but these have been abandoned. Reportedly, some trackage still exists on the weapon station.

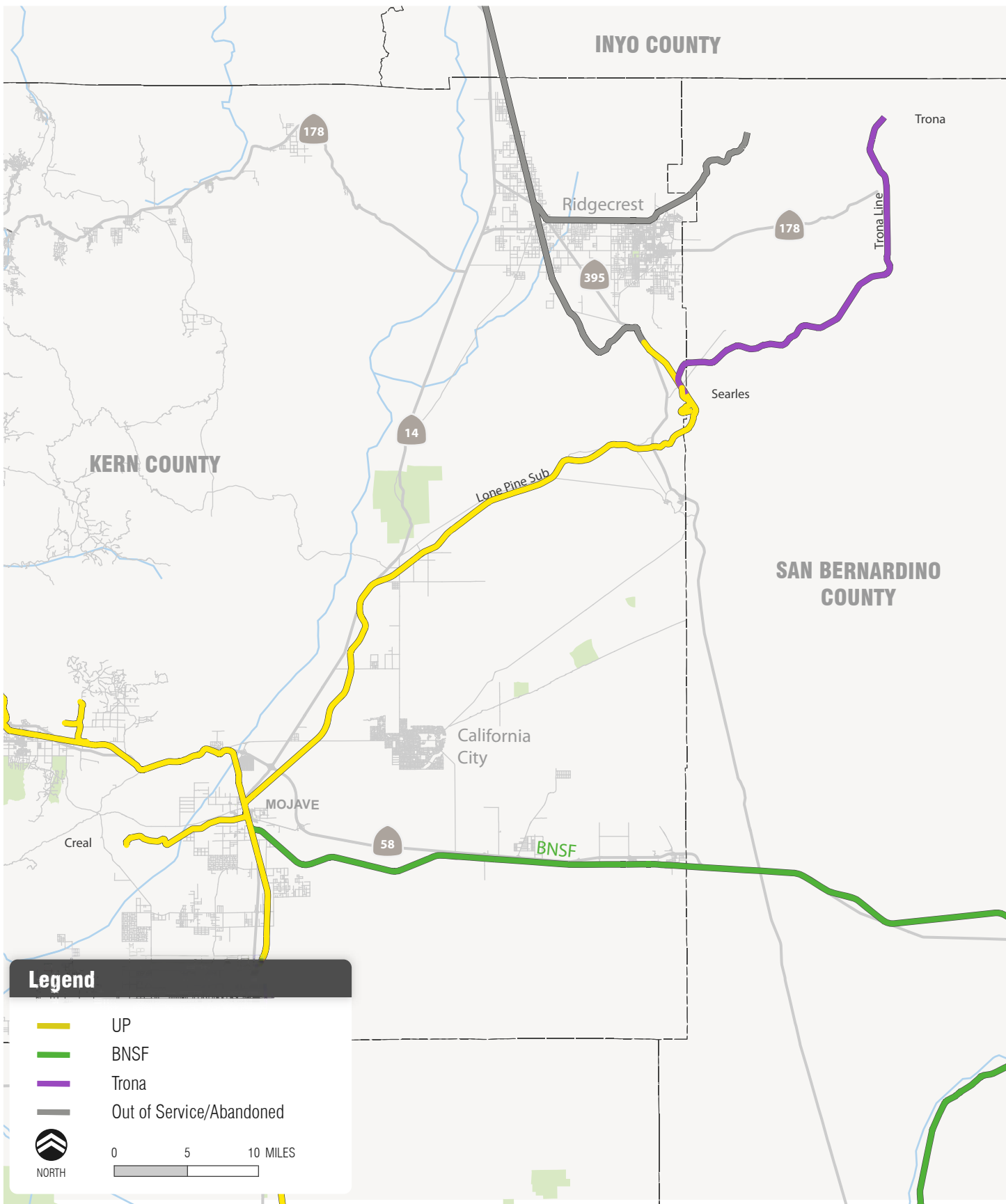


Figure 2 **UP Lone Pine Subdivision and Trona Railway**

### 3. Rail Shippers

#### Kern County Rail Shipper Survey

SJVR provided the study team with a list of 69 shippers on its lines. Subsequently, the team attempted to identify contacts at each shipper who are responsible for rail traffic. Some shippers appeared to have gone out of business or were otherwise unresponsive. Ultimately 51 shippers were sent surveys on Kern COG letterhead in November, 2011. There are only two rail shippers on the UP's Lone Pine Subdivision, and these shippers also were sent surveys. Shippers were contacted by telephone and e-mail after the distribution of surveys to encourage a robust response. The survey effort was concluded in March, 2012.

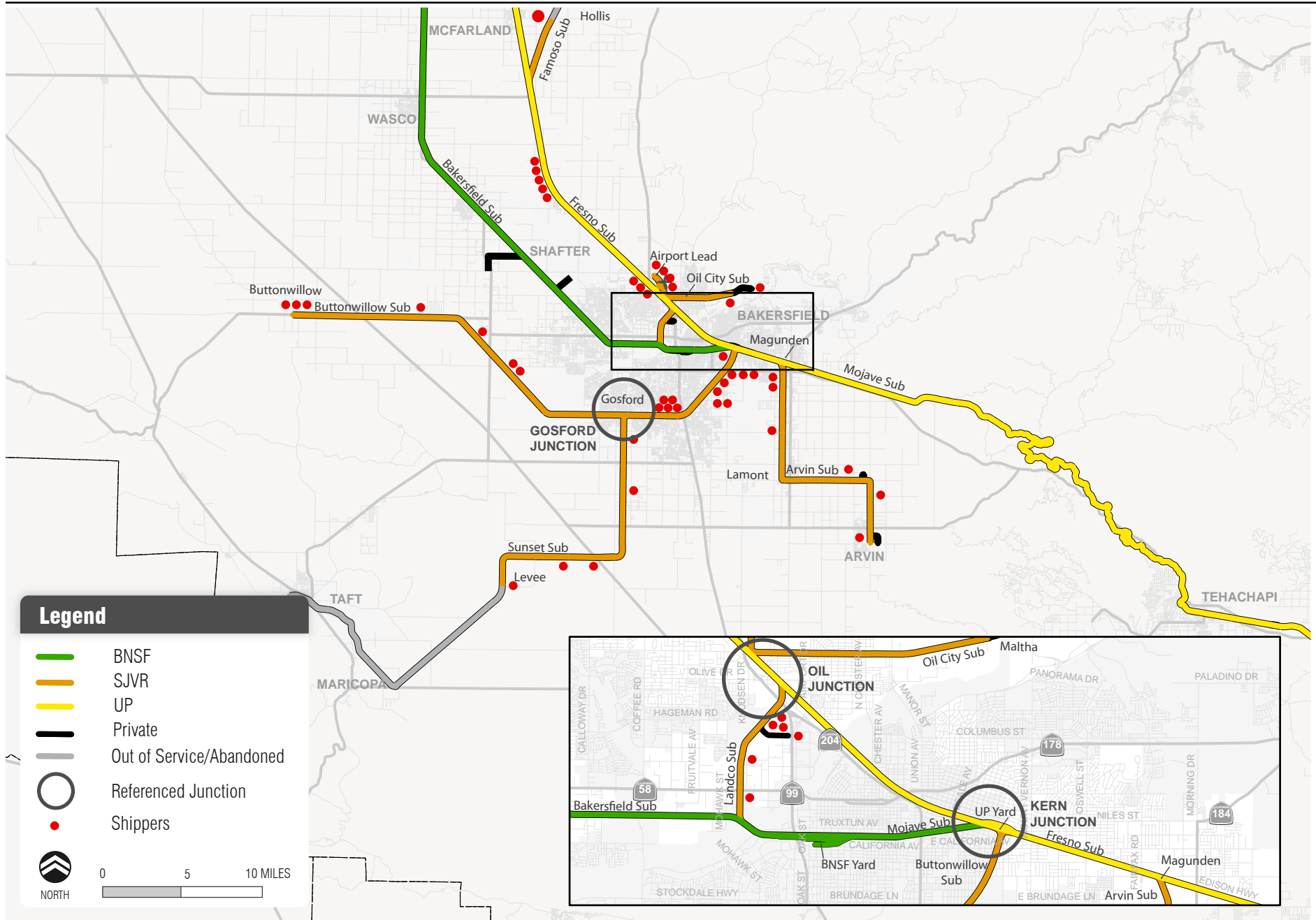
The shippers who were sent surveys are listed in **Table 1** below, according to the shipping location on the SJVR and UP in Kern County, as related by SJVR and/or the shippers themselves. The list also includes one shipper, Taft Manufacturing, not identified by SJVR but noted at Levee at the south end of the Sunset Subdivision during a field inspection in March. In total, 54 shippers are shown in the following table.

Shippers on the UP Fresno Subdivision between Bakersfield and Famoso, served by SJVR, are grouped with shippers on the SJVR Famoso Subdivision, as these shippers are served by a train that works both track segments. General locations of shippers served by SJVR are indicated in **Figure 3**.

**Table 1: SJVR and UP Lone Pine Subdivision Shippers in Study Area**

Buttonwillow Sub	Arvin Sub
84 Lumber	Gold Ribbon Potatoes
Banducci Farms	H. Lima
BJ Services	Heck Cellars
Buttonwillow Warehouse	Kern Oil & Refining Co.
Calply	Kern Ridge Growers
Frito-Lay	William Bolthouse Farms
Golden State Metals	
Harvel Plastics	Famoso Sub and Fresno Sub
Hondo Chemical	Baroid Drilling Fluids
Inergy Services	Bidart Brothers
J.G. Boswell Co.	Branch Warehouse
Kern Livestock Supplement	GAF
Kern Steel Fabrication	Great Lakes Chemical
Mid-Cal Materials	J.D. Rush
Pacific Wood Preserving of Bakersfield	The Scotts Company
Simplot Soilbuilders	West Coast Pipe Inspection
SOS Crane and Trucking	Vignolo Farms
United States Cold Storage	
W.A. Thompson	Landco Sub
	Amber Chemical
Sunset Sub	Asbury Transportation
Delta Trading	Baker Hughes Inc.
Richard Best Transfer Inc.	Big West Alon USA
Ridgeline Oil and Asphalt	Enterprise Products
Sharp Farm Service	San Joaquin Refining Co.
Taft Manufacturing	
	Airport Lead
	Crop Production Services (United Agri Products)
Oil City Sub	Kw Plastics
Alon Asphalt	McJunkin Redman
Tricor Refining, LLC.	Pactiv
	Schlumberger Technology Corp.
	UP Lone Pine Sub and Trona Railway
	Kemira Water Resources
	Searles Valley Minerals

# KERN COUNTY RAIL STUDY PHASE II



A copy of the survey instruments for the SJVR shippers appear in **Appendix A**. UP shippers moving carloads on the Lone Pine Subdivision received a similar document.

## Commodities Handled

Of the 53 surveys distributed, 30 were returned completed. The surveys revealed a wide diversity of traffic originating and terminating at shippers on the SJVR lines and on the Lone Pine Subdivision.

### SJVR Shipper Commodities

The list of commodities identified by the survey respondents on the SJVR includes the following categorized by two-digit Standard Transportation Commodity Codes (STCC) in yellow. Subcategories are listed below the highlighted STCC categories.

**Table 2: Rail Traffic of Survey Respondents**

Chemicals and allied products	Lumber and wood products
Liquid fertilizer	Crude oil
Polystyrene	Clay, concrete, glass or stone products
Chloropicrin	Industrial sand
Bromide	Waste or scrap materials
Farm products	Scrap metal
Tomato paste	Rubber or miscellaneous plaster products
Feed and supplements	Plastic extruded products
Agricultural commodities	PVC and PVC powder
Primary metal products	Food products
Raw steel products	Frozen foods
Fabricated metal products	Corn oil, baked potato flakes
Steel pipe	Other
H beams	Drywall, gypsum
Petroleum products	Oil and gas drilling supplies
LPG and natural gas	Alcohol, grain spirits
Specialty oils, e.g., lub oil, etc.	Building materials

The 28 SJVR shippers responding reported shipping and/or receiving a total of 14,000 carloads a year. Four reported seasonality to their shipments. These include agricultural, chemical, and petroleum products shippers, who presently generate about 1,600 annual carloads. The shipping seasons vary from carrier to carrier.

### UP Lone Pine Shipper Commodities

There are two shippers moving carloads on the UP Lone Pine Subdivision, and both responded to the survey. The commodities shipped inbound and outbound on the line include coal, soda ash (non-metallic minerals), and chemicals: sodium phosphate, sodium, sulfuric acid, ferrous chloride and ferric acid. The two shippers, SVM in Trona and Kemira Water Resources 2 miles northeast of Mojave, together generate approximately 16,000 carloads per year. The majority of carloads are SVM carloads interchanged between the Trona Railway and UP at Searles.

## Shipper Comments on Rail Service Performance

The survey asked shippers a series of questions pertaining to the rail service they receive from the SJVR in the Bakersfield area, and from the UP on the Lone Pine Subdivision. The questions focused on the following parameters:

- On-time delivery
- Cost (shipping rates)
- Loss and damage
- Equipment availability
- Service flexibility

The surveyed companies were asked to grade the importance of these factors to their businesses and the actual performance they received from the railroads.

Appearing below is a discussion of the results of the survey. Respondents were promised confidentiality. Thus, shippers are not identified with regard to specific comments. The discussion concludes with some observations with regard to the issues of the most concern to the shippers surveyed.

### On-Time Performance

On-time performance evaluates if the railroads have been able to provide on-time delivery service, and it is typically one of the most important service parameters. Reliable service enables shippers to more effectively manage their supply chains, reduce inventory carrying costs, and minimize the risk of stock-outs.

Shippers were asked to rate the actual performance against the importance of being on-time from 1 (least satisfied) to 10 (most satisfied) and from 1 (least important) to 10 (most important). **Table 3** presents the shippers' on-time performance responses for inbound and outbound rail service. The responses were averaged by the number of respondents. Twenty-five to 28 shippers offered comments on inbound shipments, and 13 to 15 on outbound shipments.

**Table 3: Shipper Comments on Service Performance**

Shipper	On-time Performance		Cost		Loss and Damage		Equip. Availability		Service Flexibility	
	Actual	Importance	Actual	Importance	Actual	Importance	Actual	Importance	Actual	Importance
Inbound	6	9	6	9	7	8	6	8	6	9
Outbound	6	9	5	9	7	8	6	8	5	8

In **Tables 4** and **5**, the number of inbound and outbound shippers ascribing a rating to actual performance and importance per the service parameters are noted.

**Table 4: Inbound Shipper Ratings on Service Parameters**

Inbound Shipper	On-time Performance		Cost		Loss and Damage		Equip. Availability		Service Flexibility	
Rating	Actual	Importance	Actual	Importance	Actual	Importance	Actual	Importance	Actual	Importance
1-2	2		5		1	2	3	2	2	
3-4	6		3		4		5		8	
5-6	8	1	7	2	3	3	6	6	7	3
7-8	7	5	8	4	7	5	5	4	8	9
9-10	5	22	2	19	11	17	7	14	3	16
Total	28	28	25	25	26	27	26	26	28	28

**Table 5: Outbound Shipper Ratings on Service Parameters**

Outbound Shipper	On-time Performance		Cost		Loss and Damage		Equip. Availability		Service Flexibility	
Rating	Actual	Importance	Actual	Importance	Actual	Importance	Actual	Importance	Actual	Importance
1-2	2	1	3	1	2	2	2	2	1	1
3-4	3		2		1		3		4	
5-6	3		4		3		1		6	
7-8	6	3	3	2	4	2	4	2	3	5
9-10	1	11	1	10	5	11	3	9	1	9
Total	15	15	13	13	15	15	13	13	15	15

For the inbound and outbound goods movement, the 9 rating indicates that on-time performance is in fact very important to Kern rail shippers. However, a 6 rating indicates a degree of dissatisfaction with the actual performance for both inbound and outbound shipments.

About 10 percent for respondents indicated that issues regarding on-time performance (e.g., missing a scheduled pick-up or delivery) were a major challenge in meeting their companies' rail transportation needs.

## Cost (Shipping Rates)

As seen in Table 3, the cost of rail service is of equal importance for shippers as is on-time performance. Indeed, for industries that have few transportation alternatives, such as agriculture and chemical companies, high shipping costs equate to higher costs for the products that they deliver. However, the 5 and 6 ratings for actual transportation costs for inbound and outbound shipments reflect shipper dissatisfaction.

About 20 percent shippers responding indicated that issues regarding rail transportation costs (e.g., high accessorial fees, or fees for other things than transportation) were a major challenge in meeting their companies' rail transportation needs.

## Loss and Damage

Loss and damage is an important aspect of the shipping quality. Although carriers usually have clear definitions for the liability of cargo loss and damage, a service reputation associated with a high degree of loss and damage will negatively affect a railroad's and the shipper's competitive advantage. Per Table 3, railroad loss and damage performance is better than other kinds of performance, and is almost equal to the importance ascribed to it by shippers. This finding holds true for both inbound and outbound shipments.

## Access to Rail System and Equipment Availability

This parameter is of equally high importance to shippers as loss or damage, but shippers rated actual performance in the mid-range. About 10 percent of shippers responding indicated issues regarding access and equipment availability as a major challenge in meeting their companies' rail transportation needs.

## Service Flexibility

Flexibility is increasingly required in transport systems, particularly in light of changes in supply chains and traffic patterns. Flexibility is the ability of a system to adapt to external changes, while maintaining satisfactory system performance. System performance is characterized by parameters such as capacity, level of service, maintainability, and profitability.<sup>3</sup> As seen in the Table 3 above, shippers rate the importance of service flexibility almost as high as on-time performance and cost. However, shippers rate actual performance in the mid-range.

## Summary of Shipper Comments on Service Performance

Shippers awarded their rail service mid-range ratings for all service parameters. However, shippers gave the lowest performance ratings for rates paid for rail transportation services, both inbound and outbound. It is worth noting that rate making for long haul transportation is not the purview of the SJVR. Rather, long haul rate making authority rests with the Class I carriers, BNSF and the UP, which pay SJVR a per-carload handling fee, as discussed in Section 6, to pick-up and deliver carloads at the request of the Class Is. That noted, SJVR can and does apply surcharges or accessorial fees for carloads at some freight stations, as noted in **Appendix B**.

The U.S. Surface Transportation Board (STB), the federal agency with oversight for freight railroad service performance and abandonments, reported that inflation adjusted rail rates increased in 2005, 2006 and 2007<sup>4</sup>. According to the STB, the upward trend is a significant change from prior years: inflation adjusted rail rates declined in every year but one from 1985 to 2004. The main factors driving the higher rates are higher costs faced by railroads and the declines of productivity gains. However, even with the recent rate increases, the STB found rail rates in the aggregate in 2007 remained 34.5 percent below the levels of rates as they existing in 1985.

In addition to the five performance parameters noted above, shippers were asked to list any others that were important to them. Two shippers identified communication with the railroad as highly important and ascribed it a 10 rating, the highest rating possible. On the other hand, these shippers gave actual communication with the railroad ratings of 2 and 6. To be sure, complaints about the poor state of communication with railroads are a relatively common shipper lament. At least for these two shippers, the gap between importance and performance is the widest of all gaps measured.

In response a question of how the overall efficiency of rail service be improved, five shippers pointed to the need for better communication with the railroad.

<sup>3</sup> *Concepts and Measurement of Transportation System Flexibility*, Morlok, E. K., 2003. Working Paper, Electrical and Systems Engineering Dept., University of Pennsylvania, Philadelphia, PA.

<sup>4</sup> *Study of Railroad Rates: 1985-2007*, Surface Transportation Board, Office of Economics, Environmental Analysis & Administration, Section of Economics, January 16, 2009.

## 4. Commodity Group Forecasts

The central element of this study is an assessment of the economic sustainability of SJVR lines in and around Bakersfield. To accomplish this assessment, SJVR's traffic base was forecasted over the 10-year period, from 2012 to 2022.

### Commodity Forecasts

Comments from SJVR shippers pertaining to growth in shipments over the next 10 years equated to just over 0.5 percent per year. UP Lone Pine Subdivision shippers see no growth. Presumably, this pessimistic view of the future reflects continuing shipper uncertainty with regard to the economy. While such sentiment is understandable, it is worth balancing it against other predictors. For one thing, the low estimate is well below current Gross Domestic Product (GDP) forecasts which for the short term predict growth rates between 2 to 2.4 percent per year. Further, it is a commonplace in freight railroading that rail traffic growth tracks reasonably well with the growth in the domestic economy.

Also, the half a percent annual growth figure is well below what other sources forecast for growth in rail borne commodities. The 2009 *Freight Bottom Line Report*, produced for the American Association of State Highway and Transportation Officials (AASHTO), predicted growth in rail tons handled at 1.8 percent per year between 2000 and 2020.

In their State Rail Plans<sup>5</sup>, Ohio (2010), Kansas (2011) and Mississippi (2011) forecasted growth rates at 1.3 percent, 1.2 percent and 1.3 percent respectively for interstate traffic originating and terminating on lines in their states through year 2030.<sup>6</sup>

These rail plans included more commodities than those generated by SJVR shippers in and around Bakersfield. A recent article in *Trains*<sup>7</sup>, a rail industry periodical, identified the major commodities handled by SJVR as falling into categories: petroleum products, farm products, and chemicals. The categories are consistent with survey responses of shippers, with the provision of one last category, "other," a catch-all for everything else.

According to the aforementioned State Rail Plans, these four categories will grow 1.6 percent per year through 2030, when commodity-specific growth rates are averaged.

It is useful as well to look at the recent experience of SJVR's parent, RailAmerica, Inc., the largest short line railroad holding company in the North America, operating a "portfolio of 40 railroads with 7,300 track miles in 27 states and three Canadian provinces."<sup>8</sup> RailAmerica achieved a 4 percent growth in carloads between 2009 and 2010. The 2009 and 2010 carload results were well below those achieved prior to the recent economic recession, but company's current performance points to a robust

<sup>5</sup> A State Rail Plan, as called for by the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and Public Law 110-432, typically list commodities handled by rail in a state and include forecasts of these shipments for 20 years into the future.

<sup>6</sup> Interstate inbound and outbound annual growth rates were weight averaged based on the year 2030 forecast.

<sup>7</sup> *The Triumph of Train NC-2*, by Fred Frailey, *Trains Magazine*, June 2010.

<sup>8</sup> 2010 Annual Report, RailAmerica, Inc.

rebound, which is likely to continue for the next few years as North American industries recover, retool and restock inventories.

Indeed, comments from several economists and short line operators heard at the April meeting of the American Short Line and Regional Railroad Association (ASLRRA) in late April in Indianapolis pointed to a 2 to 3 percent annual growth rate for carloadings<sup>9</sup>.

Recent UP carload history is also illustrative. In 2011 versus 2010, carloads of coal were up 5 percent; non-metallic minerals were up 20 percent; and chemicals were up 6 percent<sup>10</sup>. These are commodities handled on the UP Lone Pine Subdivision. This performance is consistent with an economic recovery, and can be expected to taper off gradually.

Thus, for the purpose of this forecast, a 3 percent annual growth rate in carloads is assumed for 2013 and 2014, and a 2 percent annual growth rate is assumed from 2015 to 2022 for shippers on SJVR and the UP Lone Pine Subdivision.

## Future Rail Shippers

SJVR acknowledged that it has been in consultation with various shippers who are interested in establishing rail-dependent industries on the lines. The railroad declined to identify these shippers, however, citing confidentiality concerns. On the other hand, the Kern Economic Development Corporation did identify one shipper interested in establishing a plant that would be served by SJVR. The study team subsequently contacted the shipper.

Not identified here for confidentiality concerns, the shipper envisions generating 110 carloads per week or 5,700 carloads per year. The shipper is looking at locating its new facility on the either Arvin Subdivision, the Buttonwillow Subdivision, or the Sunset Subdivision, potentially as soon as springtime 2013.

The Tejon Ranch Commerce Center north of Grapevine at the intersection of Interstate 5 and U.S. 99 was also contacted, as representatives there had voiced an interest in rail service for potential tenants. Today, the closest rail line to the facility is the Arvin Subdivision in Lamont, 19 miles to the north. Building a new rail line inclusive of land acquisition and exclusive of a grade separation over/under I-5 could cost about \$60 million (\$57 million for construction<sup>11</sup> and another \$2.4 million for land acquisition<sup>12</sup>). A grade separation could cost another \$20 million to \$40 million<sup>13</sup>.

Of the two opportunities, the former appears to be more realistically achievable than the latter, given cost of a new rail line. Even the former is to some extent speculative for the purposes of this study. Accordingly, the sustainability analysis that follows is based on existing shippers and the potential growth of their carload volumes.

<sup>9</sup> Per Randall Smith, CDM Smith, ASLRRA 2012 annual meeting attendee.

<sup>10</sup> <http://www.up.com/investors/reports/archive.cfm?year=2011>

<sup>11</sup> Assumes \$3 million per mile for single track construction, without signals.

<sup>12</sup> Based on land value estimates obtained from Kern County Tax Office. See Section 6, page 22.

<sup>13</sup> Conceptual lump sum estimate, depending on design. Estimate based on those for rail overcrossings of I-10 and UP lines developed for the *Houston Intermodal Terminal Access Study*, sponsored by the Houston-Galveston Area Council; this study is ongoing.

## 5. Sustainability of SJVR Lines

This section assesses the financial health of the SJVR operation in and around Bakersfield. The specific approach is, first, to estimate revenues from the aforementioned carloads forecasted to 2022; and then apply estimated operating costs. The result is an estimate of income for each line and an operating ratio of operating costs over revenues. From a railroad perspective, the lower the operating ratio, the better. Typically, an operating ratio at or below 80 percent is considered desirable for sustainable operations<sup>14</sup>. Here, sustainability means the ability of the railroad to both cover operating expenses and invest in infrastructure to enable profitable operations for the foreseeable future.

To perform the *pro forma* evaluation, the study team used a spreadsheet model developed by Deloitte & Touche, LLP, to assist short line operators determine if lines can be operated profitably. Access to this particular model was obtained through Robert Henry<sup>15</sup>, who was an executive of the Minnesota-based Twin Cities and Western Railroad (TCWR). This railroad operates 229 miles of track and serves some of the most productive agricultural counties in Minnesota and South Dakota. TCWR was named Short Line Railroad of the Year in 2008 by industry periodical *Railway Age*. Mr. Henry was a senior executive at the railroad at that time and used the model while at the TCWR. Subsequently, he joined Wilbur Smith Associates (now CDM Smith) and in March, 2012, led the financial analysis using the model, as described below.

### Key Assumptions

Key inputs to the short line model include carload estimates discussed above, along with the average fee generated for each carload handled, other or non-freight revenue, a maintenance program for track, crewing, fuel costs, and revenue/cost escalation.

- **Carloads.** According to Patrick Kerr<sup>16</sup>, an executive for RailAmerica, SJVR generates about 33,000 to 35,000 carloads per year in the Central Valley. The railroad's operations in the Bakersfield area generate about 60 percent of that. Conservatively, therefore, SJVR's carload volume in the study area is about 20,000 carloads per year.
- **Handling fee.** This is the amount of money that UP and BNSF pay SJVR for picking up and delivering carloads that are interchanged with the Class I carriers for furtherance on the national rail system. Handling fees vary by commodity and by carrier, and such detail is not available from the SJVR. The fees may further be complicated by legacy agreements between SP and Santa Fe for such things as reciprocal switching, where the former carriers agreed to spot cars for each other with the carrier receiving the line haul picking up the switch charge. Thus, conceptualizing an average per-car handling fee requires a simplifying assumption.

Mr. Henry noted that the current range paid by UP to short lines as a handling fee is between \$250 and \$350 per car; presumably BNSF likely pays SJVR in the same range.<sup>17</sup> The midpoint of

<sup>14</sup> [http://en.wikipedia.org/wiki/Operating\\_ratio](http://en.wikipedia.org/wiki/Operating_ratio)

<sup>15</sup> Mr. Henry is now Vice President of Operations of Dakota Plains, Inc., transporting crude oil and related products by truck and rail from North Dakota.

<sup>16</sup> Per telephone conversation, late March, 2012.

<sup>17</sup> No handling fee information was provided by SJVR or RailAmerica

\$300 is likely a reasonable surrogate for the average handling fee paid by the UP and BNSF. UP likely pays a lower fee on average given the volume on the lines, and BNSF likely pays something higher, as it did when the SJVR was initiated: Santa Fe paid SJVR \$250 per carload and UP \$225<sup>18</sup>. The handling fee is net of payments to the Class I's for use of their lines.

This \$300-per-car estimate compares well with rates paid SJVR estimated in three recent studies involving SJVR lines north of Kern County:

- \$350, per the *Tulare County Short Line Feasibility Study*, a master thesis developed by graduate business students at California State University Fresno in 2009.
  - \$350, per the *East Side Business Plan*, sponsored by the Tulare County Association of Governments, 2010.
  - \$280, per the *Business Plan for Operations of the SJVR in Fresno County*, sponsored by the Fresno Council of Governments, 2011.
- **Freight revenue.** This is the carload totals multiplied by the average per-car handling fee for long haul services.
  - **Surcharges, switching and demurrage.** This is a small figure assumed for accessorial fees or surcharges, along with switching and demurrage charges for shipper delays in loading and unloading. Surcharges cover the added costs for maintaining a lightly trafficked line, and as a result tend to discourage rail shipments. All of these charges are assumed to total to 1 percent of current freight revenue.
  - **Other revenue.** Analysis suggests that other or non-freight revenue totaled 5 percent of current SJVR freight revenue. Non-freight revenue would result from leases for such things as parcels on the right-of-way not needed for freight operations, and for fiber optic cables and pipelines.
  - **A maintenance program.** This analysis assumes that the SJVR installs 4,000 new ties per mile on its system in the study area. This figure can be considered the minimum that could support a low-speed short line operation. Indeed, maximum allowable operating speeds on SJVR line in the study are between 10 and 25 mph. For such an operation, a rule of thumb is that every third tie needs to be in good condition. The 4,000-ties-per-year program amounts to ensuring a new third tie every 19 years, well within a tie's estimate useful life of 25 to 30 years<sup>19</sup>. **Figure 4** shows a typical track section along the western end of the Buttonwillow Subdivision.
  - **Crewing.** The operating plan for the SJVR lines is the same as identified in the 2011 *Kern County Rail Study*, i.e., two trains per day. These trains are staffed with two-person crews.
  - **Capital upgrades.** The analysis assumes that \$1.7 million in bridge upgrades in years 2012 through 2015, which will serve to ramp up depreciation over four years. A small wooden bridge structure on the Famoso Subdivision can be seen in **Figure 5**.

<sup>18</sup> Graham Claytor, former SP executive.

<sup>19</sup> Typically there are about 2,800 ties per mile, and there are 83 miles of SJVR lines to be maintained. Assuming a 4,000-tie-per year program, it would take 58 years to replace every tie, and a third of that or 19 years to replace every third tie.

- **Fuel costs.** Diesel fuel for the SJVR locomotives is assumed to cost \$4 per gallon in the current year.
- **Revenue/cost escalation.** Revenues and costs are assumed to increase by an inflation rate of 2 percent per year.

**Figure 4: Track Condition on Buttonwillow Subdivision at Enos Lane**



**Figure 5: Small Wooden Bridge Structure on Famoso Subdivision at Whisler Road**



## Financial *Pro Forma* Evaluation

Given these inputs, the profitability of SJVR lines can be estimated with the aforementioned short line profitability model. In **Table 6**, SJVR operating revenues are matched against expenses for years 2012 through 2015, and then again for year 2022. The results show the profits will be achieved each year over 10 years, and will grow over time with increases in the traffic base. The operating ratio estimated for the 10-year period is around 70 percent, well below the desirable threshold of 80 percent.

**Table 6: SJVR Financial Pro Forma 2012-2020**

	2012	2013	2014	2015	2016	2022
Operating Revenue						
Freight revenue	\$ 6,000,000	\$ 6,364,800	\$ 6,749,283	\$ 7,085,626	\$ 7,371,886	\$ 9,349,334
Switching, demurrage and misc.	\$ 60,000	\$ 61,200	\$ 63,672	\$ 67,570	\$ 73,140	\$ 178,304
Other revenue	\$ 300,000	\$ 306,000	\$ 318,362	\$ 337,849	\$ 365,698	\$ 891,519
Total revenue	\$ 6,360,000	\$ 6,732,000	\$ 7,131,318	\$ 7,491,045	\$ 7,810,724	\$ 10,419,157
Operating expenses						
Administrative and general	\$ 385,739	\$ 496,076	\$ 510,777	\$ 532,822	\$ 559,718	\$ 999,808
Ways and structures	\$ 815,760	\$ 832,060	\$ 848,686	\$ 867,806	\$ 885,147	\$ 996,726
Maintenance of equipment	\$ 666,039	\$ 679,350	\$ 698,865	\$ 714,735	\$ 729,582	\$ 834,357
Transportation	\$ 2,817,837	\$ 2,945,530	\$ 3,080,103	\$ 3,204,414	\$ 3,310,068	\$ 4,057,646
Total operating expenses	\$ 4,685,374	\$ 4,953,016	\$ 5,138,432	\$ 5,319,776	\$ 5,484,515	\$ 6,888,537
Operating income before depreciation	\$ 1,674,626	\$ 1,778,984	\$ 1,992,886	\$ 2,171,269	\$ 2,326,209	\$ 3,530,620
Depreciation	\$ (50,333)	\$ (67,000)	\$ (83,667)	\$ (95,583)	\$ (99,167)	\$ (99,167)
Operating Income after depreciation	\$ 1,624,292	\$ 1,711,984	\$ 1,909,219	\$ 2,075,685	\$ 2,227,042	\$ 3,431,453
Operating ratio (expenses/revenue)	73.67%	73.57%	72.05%	71.02%	70.22%	66.11%

A noticeable trend is that the operating ratio declines over time. This result is due to the assumption that the existing operating plan can handle the increase in traffic over the period. In other words, productivity increases.

## Shorthand for Sustainability

Continued profitable and sustainable freight operations on short lines are dependent on numerous factors, but arguably the most important is traffic volume. The more traffic there is, the more revenue, which in turn provides the potential for faster, safer and generally more efficient service. With such service, shippers are happier as they become more competitive in their markets. Thus, a key measure of sustainable operations is a traffic figure, i.e., annual revenue carloads per mile.

## Carloads per Mile

Per a study entitled, *The Importance of Short Lines Railroads to Rural and Agricultural America*,<sup>20</sup> the sustainability of short lines can be assessed broadly using guidelines of annual carloads to miles of track. The guidelines were:

- <10 cars per mile - hopeless
- 10-20 cars per mile - marginal and doubtful
- 20-40 cars per mile - marginal to better
- 40-100 cars per mile - good chance of success
- More than 100 cars per mile - excellent chance of success

The carloads per mile generated on SJVR lines are estimated in **Table 7** below. The figures shown, obtained from SJVR, show the most recent three year average for the lines. SJVR groups Airport Lead traffic with the Oil City Sub traffic (i.e., 1,700 carloads); the split for the two lines below is assumed. Overall, SJVR achieves 236 carloads per mile on its operations in the study area. However, the carload totals on a line-by-line basis are not available from SJVR. They are assigned by line below based on the study team's on-site observation and professional judgment. Matching the estimated carloads per mile for each line per the guidelines noted above, all seven lines would appear to have a good chance of continued success, if not better than that.

**Table 7: Estimated Annual Carloads per Mile**

	Buttonwillow	Sunset	Arvin	Landco	Oil City	Airport Lead	Famoso
Annual carloads	7,200	3,200	3,500	3,400	1,000	700	600
Miles	32.7	19.8	16.9	3.0	3.2	1.8	5.6
Annual carloads per mile	220	162	207	1,133	313	389	107

At an estimated 207 carloads per mile, the Arvin Subdivision appears to be a solid performer. However, there is little business south of Harpertown, 4.5 miles south of Magunden and the junction with the UP main line.

The carloads-per-mile figure shown for the Famoso Subdivision includes carloads which SJVR handles to and from shippers along the UP's Fresno Subdivision between Bakersfield and Famoso, and thus is overstated to that extent. However, it is not practical to separate exclusively Famoso Subdivision carloads, as access to shippers on the UP main line provides SJVR revenue that enables a sustainable operation on the more northern Famoso Subdivision.

## Other Factors

Other factors pointed to the aforementioned study for sustainable short line operations include the number of shippers, reliance of several industries and commodities, the flexibility of labor, and track conditions, among others.

<sup>20</sup> Upper Great Plains Transportation Institute, North Dakota State University, 2003. Study borrowed guidelines from: Due and Meyer, *Success and Failure of Newly Formed Railroad Companies*, prepared for the U.S. Department of Transportation, 1988.

SJVR operations in Bakersfield are well positioned with regard to most of these factors. Six of the seven lines have numerous shippers. The exception is the Arvin Sub, with just two fairly large shippers between Harpertown and Magunden. Also, there is wide diversity of commodities on at least six lines. SJVR track conditions pale in comparison to the highly maintained Class I main lines in the area. The conditions are reflected in the low maximum allowable speeds on SJVR lines. Still, crews can make their runs in their allotted shifts.

### Likely Candidates for Abandonment

Of the various lines studied, the southern end of the Arvin Subdivision would appear the most likely candidate for abandonment. During the preparation of the Kern County Rail Study in 2010, Mr. Kerr related that crews only go south of Harpertown as needed, meaning that there are no regular, large shippers on the final 12.4 miles of track. Track class south of Harpertown is excepted, meaning that it does not meet FRA Class 1 safety standards. Indeed, the only railcars found by the study team in the March site visit was a string of former Amtrak boxcars being stored on the line just north of Arvin. These can be seen in **Figure 6**. Inferior track conditions further south at Arvin are seen in **Figure 7**.

**Figure 6: Amtrak Boxcars Stored on Arvin Subdivision North of Arvin**



**Figure 7: Track Conditions at Langford Avenue in Arvin**



Mr. Kerr also related that the Arvin Subdivision right-of-way is owned by SJVR and UP. If both railroads were to pursue the abandonment of the southern 12.4 miles south of Harpertown with the STB and ultimately abandon that line segment, they would be free to pursue the line segment's net liquidation value.

The study team concluded from the March site visit that carload volumes on the very western end of the Buttonwillow Subdivision, the very southern end of the Sunset Subdivision, and on the Famoso Subdivision are relatively light as well, though not to the degree as those of the Arvin Subdivision south of Harpertown. These track segments, too, conceivably could become candidates for abandonment.

### Trona Railway and UP Lone Pine Sustainability

The preceding analysis was focused on the SJVR, as that railroad is the primary focus of this study. At the same time, it seems clear that operations on the Trona Railway and UP Lone Pine Subdivision will be sustainable for the long term. While the two shippers on the lines felt that carload may not grow, they are still at 16,000 carloads per year today, a volume that will ensure profitable operations.

## 6. Net Liquidation Values

The net liquidation value (NLV) is the value of the assets of a rail property less the cost to remove and dispose of them. Typically this means the non-rail value of the right-of-way and the salvage value of track materials. In this analysis, the value of the track materials was estimated using current market values less the cost to salvage the materials, and value of the rights-of-way estimated by applying average market values for three property classifications - rural, residential, and commercial/industrial – in the study area.

## Right-of-Way Values

Conceptual values for rural, residential and commercial/industrial land uses were obtained from the Kern County Tax Assessors Office and applied to the rights-of-way utilized by the SJVR. The right-of-way values appear in **Table 8** below. The assumed land values were \$10,000, \$15,000, and \$45,000 per acre for rural, residential, and industrial property in the study area.

**Table 8: Value of Rights-of-Way**

Right-of-Way Summary		
Rail Line	Track Miles	Land Value
Buttonwillow Sub	32.7	\$ 5,611,900.00
Sunset Sub	19.8	\$ 2,620,000.00
Oil City Sub	3.2	\$ 1,164,000.00
Arvin Sub	16.9	\$ 2,266,400.00
Famoso Sub	5.6	\$ 694,400.00
Landco Sub	3.0	\$ 1,638,000.00
Airport Lead	1.6	\$ 261,000.00
		<b>\$ 14,255,700.00</b>

## Track Values

The value of track is broken down into four categories: rail, other-track-material (OTM) including tieplates and joint bars, crossties and turnouts. Each component is represented in the following spreadsheets along with the material values as estimated for the main track of each subdivision (industry spurs and other side tracks are not included). A summary sheet containing the cumulative net liquidated value of the material value, less the cost for its removal, for each subdivision and in total is also presented.

### Rail Value

The average or typical rail section for each line was determined from former SP track charts and/or visual inspection. The percentage quality (relay, reroll or scrap) of the rail was estimated using selective inspection photos. The unit value of the typical section was determined using current in-place prices portioned for weight and quality and totaled for the length of the line.

**Table 9: Value of Rail**

Rail							
Rail Line	Track Miles	Rail - Ave.Wt	%Relay	%Reroll	%Scrap	Unit Value per Track Mile	Total
Buttonwillow Sub - Buttonwillow to Bakersfield	32.7	85	5%	10%	85%	\$ 21,438.21	\$ 701,029.61
Sunset Sub - Levee to Gosford	19.8	80	0%	0%	100%	\$ 18,857.14	\$ 373,371.43
Oil City Sub - Maltha to Oil Jct	3.2	90	0%	0%	100%	\$ 21,214.29	\$ 67,885.71
Arvin Sub - Arvin to Magunden	16.9	80	0%	0%	100%	\$ 18,857.14	\$ 318,685.71
Famoso Sub - Hollis to Famoso	5.6	110	5%	20%	75%	\$ 28,435.00	\$ 159,236.00
Landco Sub - Landco to Oil Jct	3	136	10%	40%	50%	\$ 38,254.86	\$ 114,764.57
Airport Lead - Airport to Oil Jct	1.6	136	10%	40%	50%	\$ 38,254.86	\$ 61,207.77
							<b>\$ 1,796,180.81</b>

### Other Track Material Value (OTM) Value

Tie plate quantities are based on a 24-inch on-center crosstie spacing and number of joint bars is based on average rail lengths of 39 feet. The percentage quality, relay and scrap, of the plates and joint

bars were estimated using selective inspection photos. The unit price includes portioned relay and scrap prices per gross ton of the quantified materials at in-place values.

**Table 10: Value of Tieplates and Joint Bars**

OTM - Tieplates & Joint Bars									
Rail Line	Track Miles	Quantity (Ea)	% Relay	% Scrap	Bars (Pairs)	%Relay	%Scrap	Unit Value per Each	Total
Buttonwillow Sub - Buttonwillow to Bakersfield	32.7	172656	10%	90%	8855	10%	90%	\$ 9,661.55	\$ 315,932.63
Sunset Sub - Levee to Gosford	19.8	104544	10%	90%	5362	10%	90%	\$ 9,661.63	\$ 191,300.28
Oil City Sub - Maltha to Oil Jct	3.2	16896	10%	90%	867	10%	90%	\$ 9,662.45	\$ 30,919.84
Arvin Sub - Arvin to Magunden	16.9	89232	10%	90%	4576	10%	90%	\$ 9,661.38	\$ 163,277.40
Famoso Sub - Hollis to Famoso	5.6	29568	10%	90%	1517	10%	90%	\$ 9,662.17	\$ 54,108.13
Landco Sub - Landco to Oil Jct	3	15840	20%	80%	813	20%	80%	\$ 10,439.53	\$ 31,318.59
Airport Lead - Airport to Oil Jct	1.6	8448	20%	80%	434	20%	80%	\$ 10,441.02	\$ 16,705.63
									<b>\$803,562.50</b>

## Crosstie Value

The crosstie quantities are based on a 24-inch on-center tie spacing. The percentage of those in relay, landscape and scrap condition was estimated in the same manner as the other track components and a weighted unit value was determined. This unit value also includes the cost of disposal in an environmentally acceptable manner for those to be scrapped resulting in the negative value.

**Table 11: Value of Cross Ties**

Crossties							
Rail Line	Track Miles	Quantity (Ea)	%Relay	%Land-scape	%Scrap	Unit Value per Each	Total
Buttonwillow Sub - Buttonwillow to Bakersfield	32.7	86328	10%	15%	75%	\$ (0.65)	\$ (56,113.20)
Sunset Sub - Levee to Gosford	19.8	52272	10%	20%	70%	\$ (0.30)	\$ (15,681.60)
Oil City Sub - Maltha to Oil Jct	3.2	8448	10%	20%	70%	\$ (0.30)	\$ (2,534.40)
Arvin Sub - Arvin to Magunden	16.9	44616	5%	20%	75%	\$ (0.95)	\$ (42,385.20)
Famoso Sub - Hollis to Famoso	5.6	14784	5%	20%	75%	\$ (0.95)	\$ (14,044.80)
Landco Sub - Landco to Oil Jct	3.0	7920	10%	20%	70%	\$ (0.30)	\$ (2,376.00)
Airport Lead - Airport to Oil Jct	1.6	4224	20%	10%	70%	\$ 0.30	\$ 1,267.20
							<b>\$ (131,868.00)</b>

## Turnout Values

Turnout quantities were compiled from visual counts using Google Earth® aerial view at the time of this study and were based on the quality of the aerial to determine if a turnout existed. The unit price is based on a value for the frogs, switch plates and switch stands only.

**Table 12: Value of Turnouts**

Turnout				
Rail Line	Track Miles	Quantity (Ea)	Unit Value per Each	Total
Buttonwillow Sub - Buttonwillow to Bakersfield	32.7	23	\$ 2,500.00	\$ 57,500.00
Sunset Sub - Levee to Gosford	19.8	7	\$ 2,500.00	\$ 17,500.00
Oil City Sub - Maltha to Oil Jct	3.2	12	\$ 2,500.00	\$ 30,000.00
Arvin Sub - Arvin to Magunden	16.9	20	\$ 2,500.00	\$ 50,000.00
Famoso Sub - Hollis to Famoso	5.6	1	\$ 2,500.00	\$ 2,500.00
Landco Sub - Landco to Oil Jct	3.0	11	\$ 2,500.00	\$ 27,500.00
Airport Lead - Airport to Oil Jct	1.6	8	\$ 2,500.00	\$ 20,000.00
				<b>\$ 205,000.00</b>

## Net Material Value

A summary of the material values estimated for each study SJVR subdivision follows. The summary also contains the estimated cost to remove the materials for sale or disposal, and the difference represents the Net Liquidated Value of track materials. With today's steel market, pricing varies on a day-to-day basis. Therefore, consideration of current steel prices should be considered when using the \$2.1 million net liquidated value estimate shown below.

**Table 13: Summary of Material Values**

Material Value Summary				
Rail Line	Track Miles	Total Material	Total Cost for Removal	Net Value
Buttonwillow Sub - Buttonwillow to Bakersfield	32.7	\$ 1,018,349.04	\$ 182,656.00	\$ 835,693.04
Sunset Sub - Levee to Gosford	19.8	\$ 566,490.11	\$ 114,544.00	\$ 451,946.11
Oil City Sub - Maltha to Oil Jct	3.2	\$ 126,271.15	\$ 43,792.00	\$ 82,479.15
Arvin Sub - Arvin to Magunden	16.9	\$ 489,577.91	\$ 99,232.00	\$ 390,345.91
Famoso Sub - Hollis to Famoso	5.6	\$ 201,799.33	\$ 54,352.00	\$ 147,447.33
Landco Sub - Landco to Oil Jct	3.0	\$ 171,207.16	\$ 41,680.00	\$ 129,527.16
Airport Lead - Airport to Oil Jct	1.6	\$ 99,180.60	\$ 26,896.00	\$ 72,284.60
Total Material Value				<b>\$ 2,109,723.31</b>

## Net Liquidation Value

The summary of right-of-way and material values, less the costs for removal of materials appears **Table 14** below. The largest NLV is for the longest line, the Buttonwillow Subdivision.

**Table 14: Net Liquidation Value of SJVR Lines in the Bakersfield Area**

NVL Summary				
Rail Line	Track Miles	Land Value	Net Materials Value	Net Value
Buttonwillow Sub	32.7	\$ 5,611,900.00	\$ 835,693.04	\$ 6,447,593.04
Sunset Sub	19.8	\$ 2,620,000.00	\$ 451,946.11	\$ 3,071,946.11
Oil City Sub	3.2	\$ 1,164,000.00	\$ 82,479.15	\$ 1,246,479.15
Arvin Sub	16.9	\$ 2,266,400.00	\$ 390,345.91	\$ 2,656,745.91
Famoso Sub	5.6	\$ 694,400.00	\$ 147,447.33	\$ 841,847.33
Landco Sub	3.0	\$ 1,638,000.00	\$ 129,527.16	\$ 1,767,527.16
Airport Lead	1.6	\$ 261,000.00	\$ 72,284.60	\$ 333,284.60
				<b>\$ 16,365,423.31</b>

## 7. Alternative Uses

There are three basic potential alternative transportation uses of the SJVR rights-of-way. These are public transit, multi-use trails and streets. Most of the rights-of-way are 100 feet in width and could host continued railroad use as well as one of these other transportation uses. The Arvin Subdivision and the Airport Lead rights-of-way are 60 feet across or less, but the other rights-of-way are typically 100 feet (with some variation).

## Public Transit

For public transit to be a viable use it needs to conveniently serve markets (residential subdivisions, retail malls, schools and employment with good connections to downtown). A Light Rail Transit (LRT) system, like the Metro Blue line in Los Angeles, will cost more than \$25-30 million per mile (low side estimate for LRT) to construct. Diesel type LRT services might lower this cost to about \$15-20 million per mile, assuming use of existing rail lines. A busway-type Bus Rapid Transit (BRT) system, like the Orange Line in Los Angeles which uses a former SP branch line right-of-way, would also cost more than \$10-15 million per mile to construct<sup>21</sup>.

Operating subsidies would likely be high for these transit services which typically run on 15-minute intervals. The proposed BRT concept connecting California State University Bakersfield to downtown and thence to Bakersfield College does a good job of connecting major activity centers. However, none of the short line or branch line railroad rights-of-way offer a similar opportunity for connecting major activity centers; and, therefore, none would lend itself to cost efficient transit services for the foreseeable future.

The above noted, there may be potential for diesel type light rail, like the SPRINTER in northern San Diego County, for operating between Buttonwillow and Bakersfield on the Buttonwillow Subdivision in the longer term. The distance from end to end would be over 30 miles, and thus is comparable to SPRINTER's run between Oceanside and Escondido (SPRINTER is a diesel LRT system running on a former Santa Fe branch line over which freight service still runs). However, with residential densities thinning west of Buena Vista Road, this option would not appear viable anytime soon. While meriting mention, it probably does not merit further development as a concept in the current study.

## Multi-use Trails

The Buttonwillow Subdivision and the Oil City Subdivision might lend themselves to a multi-use trail sharing of the rail rights-of-way with trains. Development has spread west to Buena Vista Road on the Buttonwillow corridor, and a multi-use trail would allow pedestrians and bicyclists to safely travel independently of vehicular traffic on busy streets (like White Lane). From Buena Vista Road, the rail line goes immediately passed the Walmart at Gosford Road. It could transition into a bikeway on H Street, a designated bikeway, and or continue to South High School. Crossings at Hughes Lane and at H Street would need to be upgraded to provide safe crossings. For crossings of streets at unsignalized locations, the provision of a center median refuge area is proposed. These should be 10- to 14-feet-wide, and they could possibly be coordinated with the establishment of railroad quiet zone medians for the crossings.

### Buttonwillow Trail

The Buttonwillow Subdivision railroad tracks are primarily located in the northern portion of the railroad right-of-way west of Old River Road, and transition to the southern portion of the right-of-way between Old River Road and Gosford Road. Near Gosford Road there is a short double track segment. Tracks tend to be in the centerline of the right-of-way east to Stine Road where they shift to

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<sup>21</sup> Conceptual cost estimates based on those for LRT, diesel LRT and BRT developed for the *Harbor Subdivision Transit Study*, sponsored by the Los Angeles County Transportation Authority (Metro), 2007.

the southern portion of the right-of-way. Most of the rail spur line connections are located to the north of the Buttonwillow tracks.

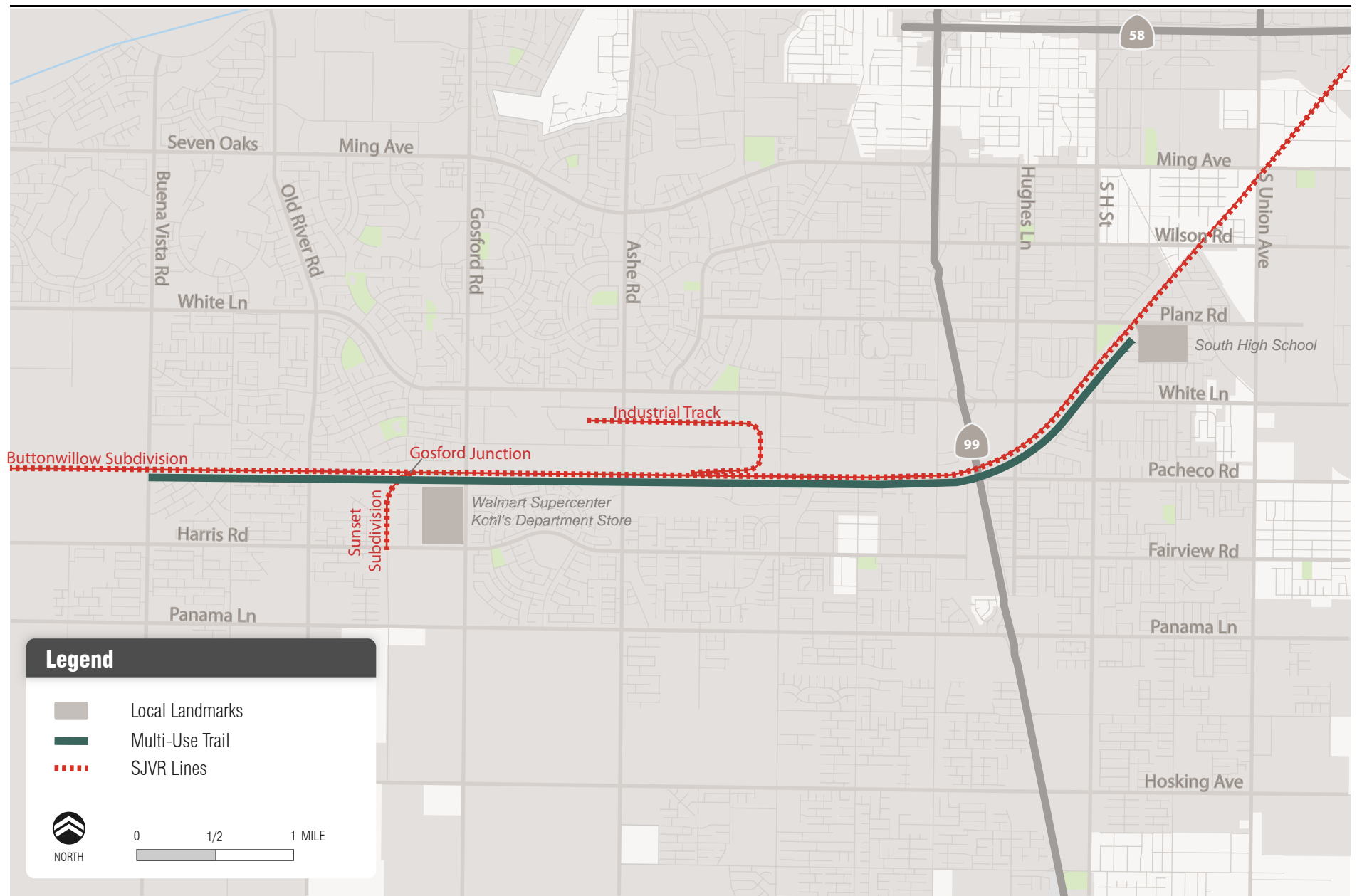
Constructing a 12-foot-wide multi-use path in the railroad right-of-way appears feasible between Buena Vista Road and H Street. The cost to construct a 6.8-mile path is estimated at \$7 million including \$4.1 million for paving, \$200,000 for right-of-way, \$500,000 for minor adjustments to the rail tracks (if needed), \$400,000 for upgrades to street crossings, \$200,000 for crossing of the canal near H Street, and \$1.6 million or 30 percent for contingencies and soft costs (design and construction management), as seen in the **Table 15** below. The Buttonwillow Subdivision right-of-way east of Buena Vista Road is seen in **Figure 8** below. A map of this trail concept appears as **Figure 9**.

**Table 15: Alternative Use Costs**

Alternative Use	Cost
<b><i>Buttonwillow Trail</i></b>	
Paving	\$ 4,100,000
Right-of-way	\$ 200,000
Track adjustments	\$ 500,000
Crossing upgrades	\$ 400,000
Canal crossing	\$ 200,000
Subtotal	\$ 5,400,000
Contingencies and soft costs	\$ 1,620,000
<b>Total</b>	<b>\$ 7,020,000</b>
<b><i>Oil City Trail</i></b>	
Paving	\$ 1,600,000
Right-of-way	\$ 100,000
Track adjustments	\$ 500,000
Traffic control upgrades	\$ 300,000
Subtotal	\$ 2,500,000
Contingencies and soft costs	\$ 750,000
<b>Total</b>	<b>\$ 3,250,000</b>

**Figure 8: Buttonwillow Subdivision Right-of-Way at Buena Vista Road**





## Oil City Trail

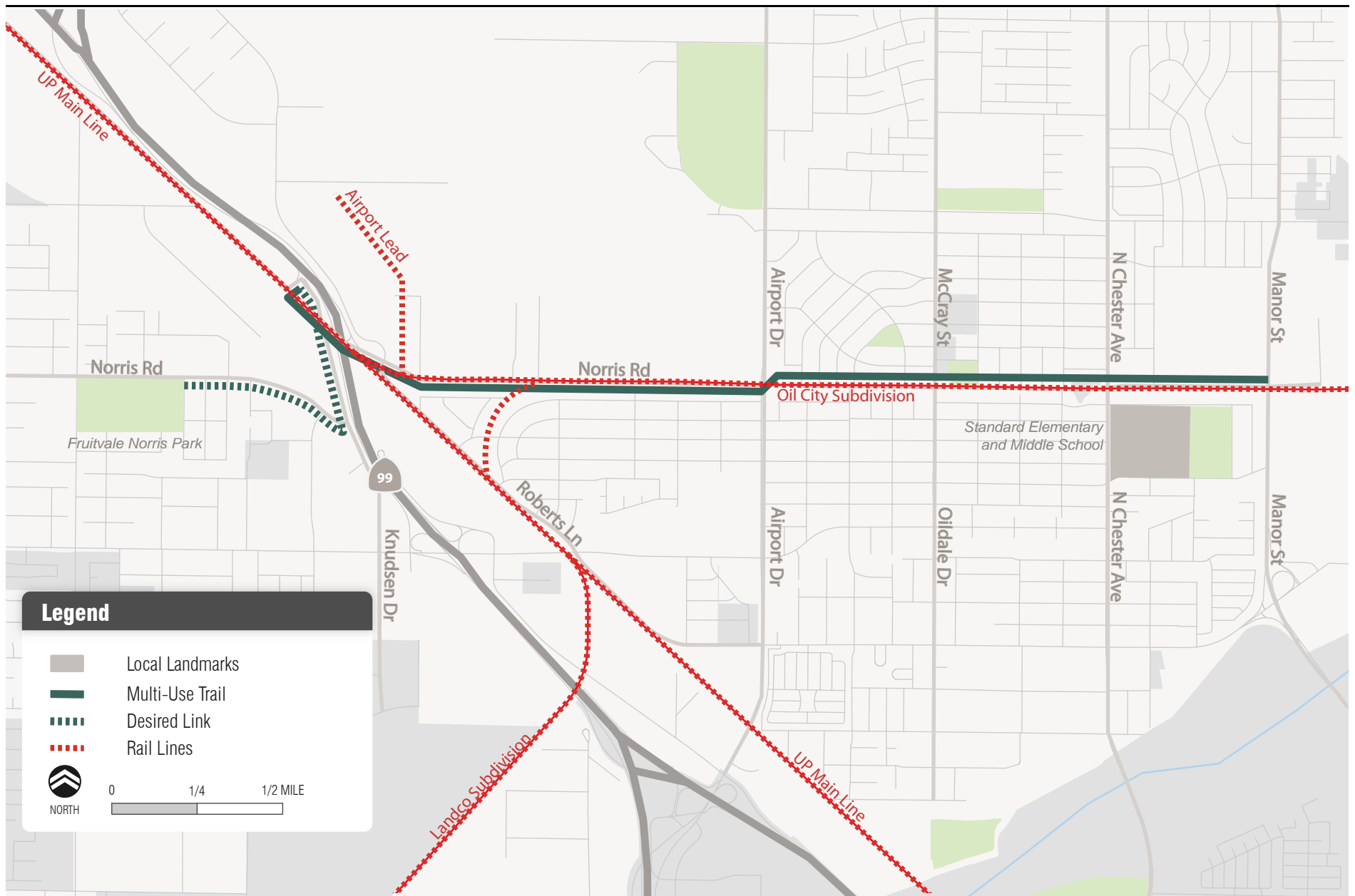
The Oil City Subdivision paralleling Norris Road might also support a multi-use trail, sharing right-of-way with the railroad. This path would have comparatively few traffic crossings west of Manor Street. On the east end it could be extended south to Bakersfield College via the Kern River Parkway Bike Trail. On the west end the trail could extend under Highway 99, connect with Knudsen Drive and thence continue to the Norris Road's bike path on the west side of Highway 99. The other rail rights-of-way in the region pass through heavy industry areas and seem less attractive for walking and biking use.

East of Airport Drive the rail tracks are located on the southern portion of the 100-foot-wide right-of-way, but the tracks transition to the northern portion of the right-of-way west of Airport Drive. Thus, east of Airport Drive the multi-use trail would logically be located in the northern portion of the rail right-of-way. About 20 feet of right-of-way would be desirable to host a 12-foot-wide paved surface and provide eight feet of buffer area between the trail and Norris Road traffic. West of Airport Drive the multi-use trail would either need to shift to the south side of the tracks, or the railroad tracks would need to be shifted slightly to the south. The most cost effective approach likely would be to eliminate the suggested eight-foot-wide buffer west of Airport Drive.

The trail would head west, past the signalized Roberts Lane intersection and under US 99 to terminate at the northern end of Knudsen Drive. Because Knudsen Drive serves as an exit for the southbound the US 99 freeway, vehicle speeds make use of Knudsen Drive problematic for cyclists. Nevertheless, the desired link for the trail would be along Knudsen Drive south to Norris Road; it would be constructed in a yet-to-be-determined manor. The Oil City Subdivision right-of-way west from California Street is seen in **Figure 10** below. A graphic of this trail concept appears as **Figure 11**.

**Figure 10: Oil City Subdivision at California Street**





The 2.6-mile Norris Road multi-use trail project from Manor Drive to Roberts Lane is estimated to cost \$3.3 million including \$100,000 for right-of-way, \$1.6 million for paving, \$300,000 for minor traffic control enhancements at five signalized intersections, \$500,000 for minor railroad related cost, and \$800,000 for soft costs and contingencies.

## Roads

None of the SJVR rights-of-way appear to present a credible opportunity for a new roadway. With the exception of the Landco Subdivision, there are roadways paralleling the rail routes with sufficient capacity for the foreseeable future. Having a minimum of 70 feet of width in places, the Landco Subdivision right-of-way does not have the ample width to allow a roadway, at least without shifting the busy rail line. Furthermore, planned roadway improvements (e.g., the Hageman Flyover, a funded road project at the north end of the subdivision; and the Mohawk Street extension, an unfunded road project near the south end of the subdivision) would enhance circulation in the area and lessen the need for any new roadway along the Landco Subdivision.

## Add-on Rail Capacity

In addition to such alternative uses, existing and abandoned rail rights-of-way south of Bakersfield conceptually could be employed to help build a rail loop running from Arvin, to Grapevine, and ultimately to Taft. The concept is seen in **Figure 12**. Realization of this concept would require a catalyst, which could include new rail served facilities and perhaps even an inland port or a green field rail intermodal facility where containers are transferred between truck and rail (see below). The costs for construction would be high, as suggested by the \$60 million plus estimate for a 19-mile extension of the Arvin Subdivision south to Grapevine (see page 14). The figure below indicates other rail line possibilities, including linking the Buttonwillow Subdivision with the BNSF and UP main lines north of Bakersfield, and reestablishing the East Side Line north of Hollis on the Famoso Subdivision.

If a concept like the aforementioned loop were to be implemented, a first step could be the establishment of a Memorandum of Understanding (MOU) between a public agency like Kern COG and the existing and abandoned rail right-of-way owners stating that these rights-of-way will be preserved for future transportation uses. Such an MOU could prevent uses of the rights-of-way that might preclude new or restored rail lines.

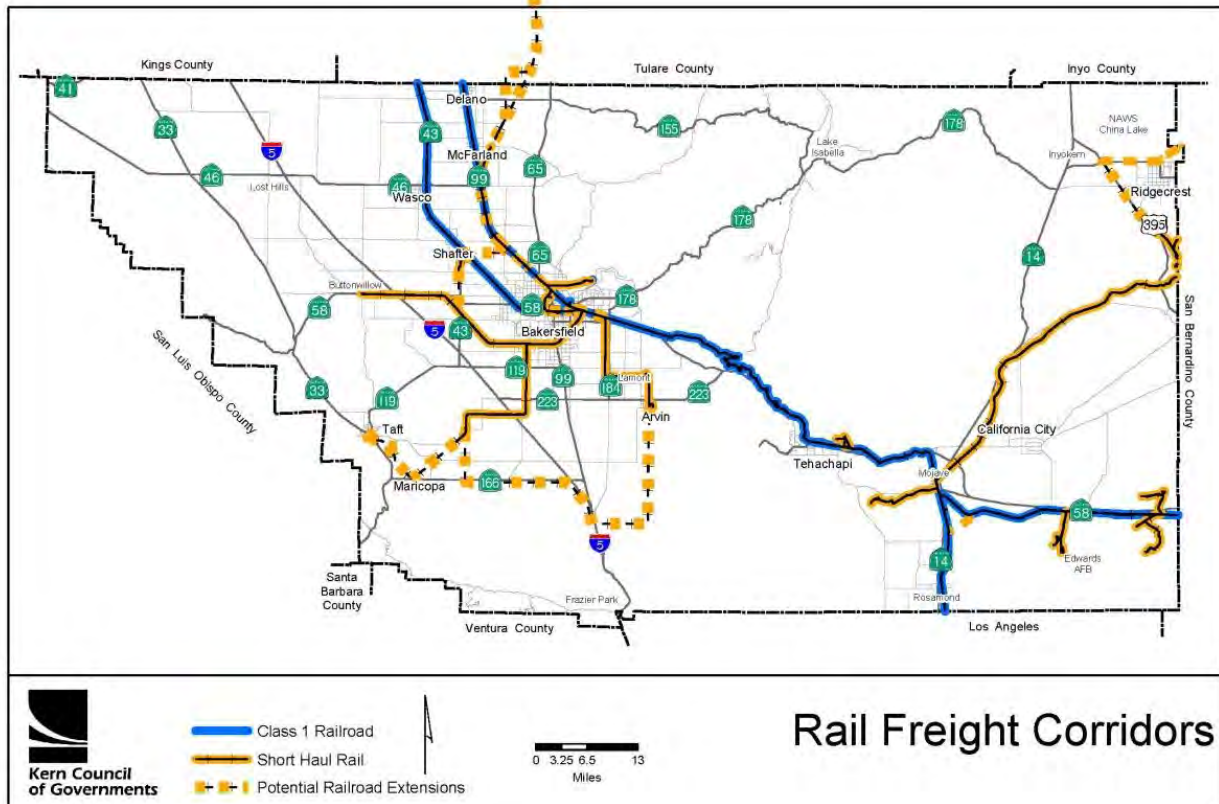
As noted, two types of facilities where transfers of containers between truck and rail occur are at inland ports and rail intermodal facilities.

- **Inland Port** – The term inland port has many different connotations ranging from a port facility located on the inland waterway system to a non-waterway site functioning as a destination or as an original for marine traffic. In most cases the marine traffic is comprised of containers, although it could also be comprised of bulk shipments. The magnitude of the inland port can also vary depending on the concept employed and can vary from entire metropolitan areas with multiple major transportation facilities and a high level of industrial, warehousing/distribution activity, to simply a single facility with a marine terminal connection, either rail or highway. A recent year study, *Inland Port Feasibility Study*, investigated Bakersfield as a potential site for an inland port<sup>22</sup>.

<sup>22</sup> Inland Port Feasibility Study, San Joaquin Council of Governments, 2003

- **Rail Intermodal Facility** – More common than inland ports, here trailers and containers delivered by truck are hoisted on and off specially constructed railcars, hence the term intermodal. The closest rail intermodal facilities to Bakersfield are in the Los Angeles area, the Bay Area, Stockton and Roseville. Intermodal facilities are discussed further in Section 8. Also, truck loads can be transloaded onto conventional railcars for the long haul. An example of such a facility, Railex in Delano, is discussed in Section 8 as well.

Figure 12: Add-on Rail Capacity Concepts for Kern County



Source: Kern COG Regional Transportation Plan, 2011.

## Livability and Mobility Benefits of Alternative Uses

The Oil City and Buttonwillow multi-use trails would enhance the safety and convenience of bicycling in these corridors by minimizing conflicts with high speed vehicle traffic. They would also expand the existing trail system in Bakersfield, and thus enhance mobility options.

## 8. Importance of Rail to Kern County and California

### The Role of Short Lines in Kern County

The two short lines operating in Kern County, the San Joaquin Valley Railroad and the Trona Railway, fulfill the same purpose: they provide their shippers with access to Class I railroads BNSF and UP and thereby to national and international markets. In so doing, they provide transportation choices, enhance economic competitiveness and support their surrounding communities with opportunities for economic development.

### Short Line Influence on Payrolls in Kern County

The 28 SJVR shippers, who responded to the survey, reported an employee total of 1,815, of which they described 1,391 (77 percent) as rail-dependent. Assuming that these shippers' employee totals are in direct proportion to the carloads generated (14,000 annual carloads reported by shippers versus a total 20,000 annual carloads estimated by SJVR), then the 1,391 jobs can be increased by 43 percent. Thus, it is reasonable to assume that SJVR shippers in the Bakersfield area have a rail-dependent employee total of 2,841.

SJVR jobs in Kern County are assumed at 10, a figure sufficient to account for the two crews and support personnel required to run the railroad's operations in the Bakersfield area. SJVR total employee count includes other operations, maintenance, and administrative personnel required to run SJVR entire operation in the Central Valley and who may live and work outside Kern County.

The two shippers whose traffic is handled on the UP's Lone Pine Subdivision, Kemira Water Resources and Searles Valley Minerals (SVM), reported employment of 667. Most of these are employees of the SVM facility in Trona, San Bernardino County. According to SVM, the vast majority of these jobs are rail-dependent. SVM's traffic is hauled by the Trona Railway, which it owns, between Trona and Searles, and thence by the UP from Searles to Mojave on the Lone Pine Subdivision.

This analysis assumes that 500 SVM and Kemira jobs are rail-dependent. The employees of the Trona Railway are assumed in this figure. While SVM workers might report for work in Trona, they most likely live in Mojave, California City, and Ridgecrest, all of which are in Kern County and where the workers' incomes are largely spent.

Assuming that all the aforesaid workers live in Kern County, there are about 3,350 Kern County residents whose jobs are dependent on shipments handled on the SJVR and the Trona Railway. Given an average annual income of \$47,000<sup>23</sup>, the job total equates to an annual payroll of about \$157.5 million.

Not included in the totals above are employees of BNSF and UP, and of shippers served by these Class I railroads in Kern County. Were these amounts included, the payroll influence of all railroads in Kern County would be higher.

<sup>23</sup> <http://quickfacts.census.gov/qfd/states/06/06029.html>

Lastly, the overarching conclusion from the surveys is that most jobs at rail-served facilities are dependent on rail shipments and rail service. The correlation is strong. Thus, as rail shipments increase in the county, so should payrolls and their economic stimulus impacts. This is to say, a 2 to 3 percent annual increase in shipments conceivably could result in a similar increase in jobs at rail shippers over the long term.

## Modal Cost Comparisons

### Private Costs

Shipments for which haulage by both rail and truck are viable options would tend to be of at least 50,000 pounds and traveling at least 500 miles. Less than truckload quantities (e.g., less than 50,000 pounds) going shorter distances would be more cost effectively handled by truck. On the other hand, large bulk shipments like fertilizer or liquefied natural gas (LNG) would be more effectively handled by rail. But between these two extremes, there are a myriad of shipments for which both rail and truck can compete for the shippers' transportation dollars. An illustrative example would be four truckloads or a flatcar full of lumber bound for a lumber yard in Bakersfield.

The lumber shipper's decision on which mode to use will most likely be driven by the price to be paid, as transit time for such semi-processed materials like lumber tends to be less importance for shippers. Here on balance, rail has an advantage. According to the 2003 report, *Economics of Truck and Rail Freight Transportation*<sup>24</sup>, the private cost to a trucking company (the cost out of the trucker's pocket) for shipments over 500 miles was 7.69 cents per ton-mile (T/M) in 2001. The cost per ton-mile is the cost of moving one ton one mile. This cost totals to 10.28 cents today (2012), assuming an annual inflation rate of 2.67 percent over the period<sup>25</sup>. On the other hand, in 2001 private costs for railroads totaled to 2.24 cents per ton-mile, or 2.99 today. That is to say, rail private costs are about 29 percent or almost a third of those of trucks.

### Public Costs

Highway maintenance costs are also known as public costs, as "they are borne by the public through taxes or other fixed-rate fees, and are used to provide an indirect but essential part of a particular good or service," per the aforementioned truck and rail cost report.

If shipments that are currently handled by rail were to shift to roadways, incremental impacts to the highways can be expected. Inversely, keeping the shipments on rail would avoid these impacts.

According to a 2007 report entitled, *A Modal Comparison of Domestic Freight Transportation Effects on the General Public*,<sup>26</sup> by the Texas Transportation Institute (TTI), "Higher levels of heavy truck traffic typically require significant capital expenditure on bridges, ramps, highway geometric features such as horizontal and vertical curves and shoulders, truck stops, weight stations, signage, etc., as well as higher routine maintenance costs."<sup>27</sup>

<sup>24</sup> Owen Kehoe, author, CEE591 Final Paper, December 8, 2003.

<sup>25</sup> Derived from the Consumer Price Index.

<sup>26</sup> Texas Transportation Institute, November 2007.

<sup>27</sup> Ibid., page 48.

Referencing the 1997 *Federal Highway Cost Allocation Study*<sup>28</sup>, the 2003 truck and rail cost report noted that trucks underpay their impacts on highways to the extent of 0.25 cents per ton-mile (assuming a cost base of 2001), or 0.33 cents today. Railroads operate on their own networks of track and yards, and thus have little impact on highways. Public investments do go toward private railroad improvements, but these investments for the most part pertain to grade crossing safety improvements and implementation or expansion of passenger rail, and do not materially impact the cost freight rail transportation.

## External Costs

These are environmental costs imposed on society as a result of truck and rail haulage. They include air pollution (from the line haul, idling and congestion), the cost of accidents, and noise. Monetization of these impacts is subjective, but the estimates cited here are based in hard realities. With regard to air pollution impacts of trucks versus trains, the key factors to consider are emissions generated and energy consumed.

- **Emissions.** On an overall basis, rail shipping generates a lower emissions profile versus shipping by truck. In **Table 16** below, diesel emissions by rail and truck are compared. The diesel emissions are hydrocarbons (HC), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), and particulate matter (PM). In particular, HC and NO<sub>x</sub> are also known as greenhouse gases (GHG), increasing quantities of which are blamed for exacerbating climate change. The figures below were compiled by TTI. These show that for each emissions component, trains generate lower amounts than do trucks on a ton-mile basis.

**Table 16: Emissions (Grams per Ton-mile)**

Mode	HC	CO	NO <sub>x</sub>	PM
Western Railroad	0.02423	0.06445	0.65423	0.01621
Truck	0.020	0.136	0.732	0.018

Source: Texas Transportation Institute

- **Energy Usage Savings.** Also on an overall basis, rail shipping is more energy efficient than shipping by truck. **Table 17** below compares fuel efficient in terms of ton-miles per gallon. The figures were compiled by TTI and are the result of dividing ton-miles generated by western railroads and truck haulage by gallons consumed by each mode. The results show that, for a gallon of diesel fuel, trains can carry a ton more than two-and-a-half times farther than trucks.

**Table 17: Energy Efficiency**

Mode	Ton-miles per Gallon
Western Railroads	413
Trucks	155

Source: Texas Transportation Institute

<sup>28</sup> U.S. Department of Transportation, Federal Highway Administration, 1997.

With regard to accidents, figures compiled by TTI show again that, on an overall basis, train accidents generate fewer fatalities, injuries and large-scale hazardous spills than trucks. Fatality and injury statistics for trains and trucks involve derailments and vehicular crashes and are shown in terms of billions of ton-miles. Hazardous materials spills are shown in terms of gallons spilled per millions of ton-miles.

**Table 18: Safety Incident Ratios**

Mode	Fatalities per Bill. T/M	Injuries per Bill. T/M	Gal. Spilt per Mill. T/M
Railroads	22.7	125.2	3.60
Trucks	155.0	2,171.5	6.08

Source: Texas Transportation Institute

The impact of noise pollution is perhaps the most difficult impact to measure. One-way noise impacts have been monetized to assess the difference in the real estate values of properties close to highways as opposed to those farther away. The same can be done for real estate near railroads. The basic premise is that the closer to the highway or railway, the lower the real estate value.

The 2003 truck and rail cost study determined that the external costs for trucks, when adjusted for inflation, total today to 1.15 cents per ton-mile for truck and 0.33 cents per ton-mile for rail.

## Cost Comparisons

Using the calculations above, it is possible to develop estimates of total private and non-private costs for truck and rail transportation. Given that these components are based on a variety of assumptions concerning a variety of variables, the estimates are best considered conceptual. Nevertheless, they support an important conclusion. That is, for a shipment for which the shipper has a viable choice between truck and rail, rail will produce a lower transportation cost – not only to the shipper, but to society as well.

**Table 19: Modal Cost Comparisons**

Mode	Private	Public	External	Total Non-private Costs	Non-Private to Private Costs
Rail	2.99	0.00	0.33	0.33	11.04%
Truck	10.28	0.33	1.15	1.48	14.40%

An illustrative example of the modal cost differential can be provided by a shipper arranging for a shipment of 200,000 pounds or 100 tons of lumber from a mill 500 miles from Kern County in Oregon to a lumber yard served by the SJVR in Bakersfield. The order would amount to four truckloads. The private costs for a trucker for this shipment would be:

$$(200,000 \text{ pounds} / 2,000 \text{ pounds}) \times 500 \text{ miles} = 50,000 \text{ ton-miles};$$

$$50,000 \text{ ton-miles} \times \$0.1028 = \$5,140$$

For a railroad, the private cost for the same shipment would be far less expensive. The 100-ton shipment could be handled by one flatcar.

$$50,000 \text{ ton-miles} \times \$0.029 = \$1,495$$

It is important to note that these are estimates of modal transportation cost, which do not account for the profit that would be sought by the transportation companies. Including profit, the cost paid by a shipper would be higher.

Beyond the private costs are the non-private costs, or rather the costs paid by society to support these shipments. These costs for truck amount to:

$$\text{Truck non-private costs: } \$5,140 \times 14.40\% = \$740$$

Again, shipment by rail results in a lower societal cost:

$$\text{Rail non private costs: } \$1,495 \times 11.04\% = \$165$$

## Benefits of Short Line Rail Service

While shipment by rail may be less costly to shippers and society, trains have their shortcomings, and trucks have their advantages. Shipping by truck may be more flexible, capable of handling large and small volumes. Also, trucks can be faster, going from dock-to-dock directly on speedy highways (outside urban areas), while trains can lumber from yard-to-yard between origins and destinations.

Still, the economic and the socio-environmental benefits of shipping by rail will ensure its attraction and survival for the indefinite future. The benefits of rail transportation that can accrue to Kern County, California, and the nation include the following.

### Economic Benefits

Kern County short line freight railroads including SJVR and Trona Railway provide access to the national rail system for shippers along their lines. In partnership with their Class I railroad connections (BNSF and UP), the short lines deliver cost advantages to shippers over trucks. Also, freight rail plays a significant role in relieving truck traffic on the state's highway system. These improved efficiencies can work to reduce congestion and improve California's ability to increase its development potential.

### Environmental Benefits and Energy Savings

Per the TTI statistics noted above, railroads emit fewer GHG and other emissions than truck on a ton-mile basis. Other studies have reached similar conclusions. The U.S. Environmental Protection Agency estimates that for every ton-mile, a typical truck emits three times more nitrogen oxides and particulates than a train. Related studies suggest that trucks emit six to 12 times more pollutants per ton-mile than railroads, depending on the pollutant measured. The American Society of Mechanical Engineers found that 2.5 million fewer tons of carbon dioxide would be emitted into the air annually if 10 percent of intercity freight now moving by highway were shifted to rail.

Amplifying the TTI findings, the American Association of Railroads (AAR) has noted that in 2008 one gallon of diesel fuel moved a ton of freight by rail 457 miles – four times the efficiency of trucks.

The American Association of State Highway and Transportation Officials (AASHTO) also noted that: if for each one percent of long-haul freight that currently moves by truck were moved by rail instead, fuel savings would be approximately 111 million gallons per year, and annual GHG emissions would fall by 12 million tons. If 10 percent of truck traffic went by rail – via intermodal movements involving both railroads and trucks – the cumulative estimated GHG reductions from 2007 to 2020 would be 210 million tons. Thus, shifting of traffic to the rail mode will reduce the energy intensity of transportation while somewhat insulating users from dramatic changes in fuel prices.

## Safety Enhancement

Freight rail transportation is also very safe and, as reported by the Federal Railroad Administration (FRA), the federal agency with oversight for the safety of the national rail system, the multi-year trend is positive with all reportable accidents (derailments, fatalities, injuries, etc., on the national rail system) declining by almost one-quarter between 2004 and 2011<sup>29</sup>.

## Land Use and Economic Development

The rail mode is less land intensive than other modes. Each line of track offers far more capacity than a highway lane. New control systems often allow rail capacity to be expanded without the need to add track. Because of peaking and the use of a highway lane in only one direction, highway expansion generally means adding at least two lanes, while rail expansion often requires just one additional track or sidings. Also, many rail rights-of-ways are wide enough to allow tracks to be added without requiring adjacent land. Finally as rail traffic grows, lightly-used rail lines could be upgraded for heavier loads and faster speeds. The improved service on these upgraded rail lines could become the focal point for local industrial investment and improved agricultural transport making online communities and their businesses more competitive.

Freight rail improvements can further economic development. More efficient access to the freight rail system, such new intermodal facilities (including freight warehouses or transfer facilities), and public support of short lines can lower transportation costs for shippers. Benefits resulting from freight rail investments can thus enhance the competitiveness of the state and the region. These benefits will serve to retain existing work forces and businesses, and attract new ones, bolstering economic development.

## Impacts of Technological Innovations

Importantly, technological improvements are being embraced by the rail industry. Today's locomotives emit fewer pollutants and thus are cleaner. They are also more fuel efficient, evidenced by new "genset" switching locomotives, as deployed on Pacific Harbor Line, the switching railroad in the Ports of Los Angeles and Long Beach. These have multiple diesel motors, versus a single prime mover, which can be turned on and off depending on the work load, and thus reduce diesel emissions and improve fuel efficiency. The net effect of more fuel efficient locomotives will be lower costs, which, when realized by shippers through lower transportation rates, can stimulate economic growth.

Another technological innovation in the offing is Positive Train Control (PTC), which refers to technologies designed to automatically stop or slow a train before certain accidents occur. PTC is designed to prevent collisions between trains and derailments caused by excessive speed, incursions by trains on tracks under repair and by trains moving over switches left in the wrong position. PTC

<sup>29</sup> <http://safetydata.fra.dot.gov/OfficeofSafety/publicsite/Query/tenyr2a.aspx>

systems are designed to determine the location and speed of trains, warn train operators of potential problems, and take action if operators do not respond to a warning.

The Rail Safety Improvement Act of 2008 required railroads to place PTC systems in service by December 31, 2015 on Class I railroad routes with over 5 million gross ton miles per mile with commuter or intercity passenger operations or any amount of toxic/poison-by-inhalation hazardous materials. PTC requirements currently exclude short lines and switching railroads which have no passenger service.

While the essential benefit of PTC in the near term will be the safety benefit (e.g., avoidance of train collisions), in the longer term PTC is expected to provide operational benefits generating higher revenues and lower costs. Specifically, by knowing the precise locations of trains on lines, railroads will be able to optimize line capacity (more trains handled with the existing infrastructure).

Predictably, lower transportation costs will cascade to shippers through lower transportation rates.

The operating benefits will be realized by the large railroads, like BNSF and UP, as short lines like SJVR are exempt from implementing PTC on their lines. This is to say, the savings which SJVR shippers will ultimately realize will be on the line haul portion of the rates, set by UP and BNSF, rather than on the switching or handling fee, paid to SJVR by BNSF and UP.

## Negative Impacts of Shifting from Rail to Truck

### Potentially Higher Transportation Costs

If rail options were no longer available to shippers who use rail service today, the shippers would have to consider whether or not shipments could be shifted to truck. For some commodities, the shift is plainly impractical. These would include large volumes bulk commodities which travel long strings of the same type of cars. In such a case, so many trucks would be required, and the cost differential would be so high, that trucking is not an economical option.

However, in the aforesaid example of the Bakersfield lumber yard served by the SJVR, were it to lose direct rail service, a shift to truck may be possible. One scenario might be that the Oregon lumber is railed to a team track or transload facility in Bakersfield on BNSF or UP and thence trucked to the lumber yard. In this case, the shipper would incur the added expense of a truck haul and transfer facility charge. At the same time, the handling charge (estimated on average of \$300 per carload) paid by BNSF and UP could be deducted in total or in part from the line haul rate from the Oregon lumber mill. In the end, there might be little or no change in the total delivered cost from origin to destination. If so, then such a shift truck to rail would be economically feasible in the eyes of the shipper.

For their part, 25 shippers offered the comment on what they would do if rail service at their facilities were to cease. Their responses, captured in the survey effort conducted for this study, were:

- Shift to truck: 15
- Close down: 4
- Shift to truck but possibly close down: 2
- Use a transload facility on a Class I: 2

- Shift to a Class I and do some truck: 1
- Customers would have to switch to truck: 1 (in this case, this shipper's customers pay the rail haulage costs)

In summary, most surveyed shippers see a shift to truck from rail as a real potential, if shipping by rail for them were no longer an option. However, six saw potential trouble: four predicted they would have to close to due higher costs, and two thought closure was a possibility if they switched to higher cost trucks.

### Potentially Higher Societal Costs

Beyond these micro-economic shipper considerations, shifting to truck would still drive new socio-environmental costs. As noted in the preceding discussion, the truck haulage from the transload facility to the lumber yard would increase diesel emissions, consume more energy, increase the risk of accidents and resultant fatalities and injuries, add more noise and congestion to city streets, and exacerbate roadway maintenance costs.

### Benefits of Intermodal Transportation

Rail intermodal transportation combines the service attributes commonly associated with truck service, with the cost advantages commonly associated with rail. A typical intermodal scenario would be as follow: a loaded container or truck trailer would be driven to a rail intermodal facility, where it would be loaded onto a flat-car (containers sometimes go in double-stack cars, where containers are loaded one on top of another) for haulage over hundreds if not thousands of miles, after which it would be unloaded and hauled by truck the final destination. At present, there is no rail intermodal facility in Bakersfield, either on BNSF, UP or SJVR. Intermodal shippers in the area make use of UP and BNSF intermodal facilities either in the Los Angeles area or Northern California (Oakland, Richmond, Stockton, Roseville, and Lathrop).

Freight warehouse operations and bulk transfer facilities also perform work that involves moving loads between truck and railcar. An example includes the Railex facility in Delano, where food products (e.g., fresh fruits and vegetables) received by truck are placed into refrigerated boxcars for a long haul to the northeastern U.S. Railex runs up to four unit trains per week, with transit time of about five days.<sup>30</sup> But railcars used in for transload operations tend to be traditional railcars (boxcars, gondolas, hopper cars, and tank cars), and railroads view this business as basic carload business. Railroads define intermodal in terms of moving trailers and containers on flatcars and double-stack cars to and from intermodal facilities located in major markets. **Figure 13** shows an overhead crane moving a container between a truck chassis and a double-stack car at a rail intermodal facility.

<sup>30</sup> *Final Freight, Rail and Infrastructure Study of Kern County*, Kern County Economic Development Foundation, March 2011.

**Figure 13: Double-stack Intermodal**

Source: Mi-Jack Products, Inc., product web site

As this study is focused on the SJVR and potential alternative uses of its rights-of-way, the feasibility and desirability of an intermodal facility in Bakersfield are not assessed here. Whether or not one makes sense for Bakersfield could be the subject of another study.

## 9. Recommendations and Next Steps

Findings of this study support recommendations for next steps in four areas, as described below.

### Proactively Identify Rail Quality Service Issues and Solutions

The shipper surveys discussed in Section 3 pointed out that good communication with a railroad was very important for some shippers and how big a challenge the lack of it posed for them. The shippers were not specific in how and why poor communication affects them so profoundly, but the reason more than likely lies with service quality. Also, the surveys did not identify with which railroad the problem lies: with SJVR which spots the cars and may assess surcharges (pending on the location of the shipper), or with the Class I's which haul the cars on their main lines. But since the serving railroad is SJVR, presumably the communication problem is with that carrier.<sup>31</sup>

If there is a communication problem with SJVR, it seems that Kern COG has an incentive to find ways to encourage this local railroad to improve on its communication. As noted, SJVR shippers account for a substantial portion of employment payroll in the county. If service problems can threaten these shippers, and indeed several shippers ventured that they may have to close their doors without rail service, then they threaten the economic stimulus the payroll represents. Several other shippers cited the only real alternative to rail would be to shift shipments to trucks, which would trigger higher public and external costs, as noted in the preceding section. Lastly, any perception of poor railroad service quality may deter new shippers from locating on SJVR lines in the county.

It would seem prudent for Kern COG to verify whether or not rail shippers in the county actually experience recurring inadequate service quality. One way to do so would be through participation in transportation industry forums such as the Central Valley Rail Shippers and Receivers Association. Such a forum provides the opportunity to find the root causes of problems, which in turn would

<sup>31</sup> Shippers' opinions and claims about service and communication were collected from the shipper survey; no other verification has been performed.

provide insight on how they could be effectively addressed. Public agency sponsored transportation planning initiatives, such as the *San Joaquin Valley Interregional Goods Movement Plan*<sup>32</sup>, likewise provide such opportunities to find solutions.

## Economic Development

This study found that most of the SJVR line segments in Kern County have sustainable operations. However, there is room for concern. In particular, the southern-most 12.4 miles of the Arvin Subdivision see infrequent use. From Harpertown southeast to Arvin, the line appears to be a likely candidate for abandonment. Also, the far ends of the Buttonwillow, Sunset and Famoso Subdivisions also have relatively light carload volumes. Owners of the line segments might be motivated to realize the line segments' net liquidation values.

At the same time, as previously noted, at least one shipper appears to be seriously considering establishing a plant capable of generating 5,700 carloads per year either on the Buttonwillow Subdivision, Sunset Subdivision, or the Arvin Subdivision. Locating the plant on the end of either of these track segments would ensure sustainable operations there.

Given the importance of rail transportation to Kern County, Kern COG could engage the SJVR, the Kern Economic Development Corporation, and the communities involved to craft strategies to attract rail-dependent industries to these line segments to enhance their profitable and sustainable operations into the future.

## Mixed-use Travel Development

The benefits of constructing multi-use trail facilities along the Buttonwillow and Oil City corridors are best understood and refined within the context of Kern County's bike and multi-use trail network. Opportunities to develop multi-use trails in these two corridors, therefore, should be explored when local bike plans are next updated.

## South Bakersfield Rail Loop and Other Rail Concepts

Noted in Section 7, these concepts should be explored with the railroads, existing rail shippers, economic development interests, potentially affected land owners, and regional planners to determine the extent to which they are needed and desired and, if they are, what the logical next steps would be.

Likewise, the feasibility and desirability of a rail intermodal facility should be explored, if sufficient demand for such a facility appears to exist. A starting point would be for Kern COG to engage the railroads to learn their perspectives on rail intermodal options for the region. A formal study would include:

- A survey of shippers about their rail intermodal needs and desires.
- An analysis of intermodal shipping costs from Bakersfield relative to existing routes (e.g., from Bakersfield by truck to Los Angeles, thence by rail intermodal to Chicago, thence by truck to destination).

<sup>32</sup> <http://www.sjvcogs.org/goods.html>.

- An assessment of whether or not a new Bakersfield rail intermodal facility would tap into induced demand (i.e., generate shipments that would not occur if there were no intermodal facility in Bakersfield).
- An analysis of the economic impacts (cost savings and job creation) and economic development impacts (business attraction) contingent with a new intermodal facility or inland port.

## Central California Railroad Authority

According to the foregoing analysis, the majority of route mileage operated and maintained by SJVR is in no danger of abandonment – the longest exception being the southern 12.4 miles of the Arvin Subdivision. Were this line segment, the southern end of the Sunset Subdivision, the far western end of the Buttonwillow Subdivision, and/or the Famoso Subdivision were to be abandoned, the rights-of-way likely would cease to serve as transportation facilities. Shippers on these line segments would be forced to shift to higher cost truck transport, if such a shift is economically possible. A predictable consequence of this shift would be more truck traffic on local highways, more highway maintenance expense, and worsening air quality.

Recently signed into law by Governor Jerry Brown, the Central California Railroad Authority “is intended to provide a structure and mechanism of last resort to prevent additional short-haul rail abandonments in Kern, Tulare, Kings and Fresno counties. Otherwise, the reversion of land ownership rights and subsequent environmental review processes create an insurmountable obstacle to reintroducing rail,” according to a fact sheet on the authority developed by Kern COG.

The authority is empowered to acquire lines abandoned by short lines and then lease the lines to operator(s) to provide rail service on the lines. The authority would use local funding sources to purchase the lines.

If SJVR were to move ahead with abandonment of any line segment in Kern County, Kern COG should investigate whether or not preserving the line segment as a transportation facility is in the public interest, and, if so, appeal to the authority to preserve freight rail service on the line.

## Next Steps

- Encourage communication between short-line rail operators, shippers, and economic development agencies through: stakeholder working groups in future planning efforts; participating in industry workshops/conferences; and becoming involved with rail related organizations (i.e. Central California Rail Shippers, Central California Railroad Authority, etc.).
- Explore rail intermodal options for the region.
- Explore options identified within this report of future potential uses for the southern portion of the Arvin Subdivision; work with the railroads, communities, and economic development agencies within this area, along with the Central California Railroad Authority.
- Provide the findings of this report to the Central California Railroad Authority and other agencies/groups to help provide base information for the preservation of rail corridors in Kern County.
- Work with SJVR and other agencies to prioritize rail projects along rail lines most at risk of abandonment (a list of proposed projects from SJVR is included in Appendix C). Add needed projects to the 2014 Kern Regional Transportation Plan.

## Appendix A

### Shipper Survey Form

# RAIL SHIPPER SURVEY

## Kern County Rail Study

Please note:

Your answers to the following questions will enable the Kern Council of Governments (Kern COG) to understand conditions for rail shippers and receivers on San Joaquin Valley Railroad (SJVR) lines in Kern County, and whether or not improvements in rail infrastructure (rail and roadbed) may be warranted. Specific comments regarding volumes shipped or received will be kept confidential and will be referenced only in a macro roll-up summary for the analysis of specific SJVR lines. Please mail the completed survey to the following address:

**Kern County Rail Study Survey Form**  
**c/o Justin Fox**  
**Wilbur Smith Associates**  
**201 Mission Street, Suite 1450**  
**San Francisco, CA 94105**

Alternatively, you can fill in a printed copy, scan it and e-mail it to [jfox@wilbursmith.com](mailto:jfox@wilbursmith.com) or complete the survey online at: <http://www.surveymonkey.com/s/KernRailSurvey> . If you prefer to provide responses verbally, please contact Justin Fox at 415-495-6201. Mr. Fox's extension is 216.

Company name: \_\_\_\_\_

Survey contact person's name: \_\_\_\_\_

Position: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

1. Is the address above your company's headquarters location? \_\_\_\_\_  
If not, where is your HQ? \_\_\_\_\_

2. Is this the rail shipping/receiving location for your company in Kern County? \_\_\_\_\_  
If not, where is it? \_\_\_\_\_

3. If the facility is in Kern County, how many employees work at this facility?  
\_\_\_\_\_

4. Of these, how many jobs are related and dependent on rail transportation at this facility?  
\_\_\_\_\_

5. What are the rail loading or unloading facilities at your rail shipping location (for example, rail spur, loading dock, racks for liquid shipments, etc.)?  
\_\_\_\_\_

6. What is the current rail service at your facility (day/s of week, time of day)?

---

7. Is the schedule or frequency of service adequate? If not, please explain.

---

8. What is the commodity shipped or received by rail?

---

9. What are your annual rail shipping/receiving volumes, in carloads and/or tons?

---

10. Please describe the trend in inbound and outbound rail shipments over the last 10 years?

---

11. What are your anticipated inbound and outbound rail shipment volumes for the next 10 years?

---

12. What is/are the origin/s of your inbound rail-borne commodity (city and state)?

---

13. What is/are the destination/s of your outbound rail-borne commodity (city and state)?

---

14. Is there seasonality to your rail shipments? If yes, please explain.

---

15. Are your shipments weather dependent? If yes, please explain.

---

16. What are your rail rates paid?

---

17. Are any of your commodities shipped or received by truck?

---

18. What are your annual truck shipping and receiving volumes, in truckloads and/or tons?

---

19. Why are trucks chosen for these shipments?

---

20. What are your trucking rates paid for these shipments?

---

21. Who has primary control over your freight?

<b>INBOUND</b>	a) Your company	b) Shipper	c) Third Party
<b>OUTBOUND</b>	a) Your company	b) Customer	c) Third Party

22. Please let us know how you feel about your **INBOUND** rail transportation service.

Please rank the following <b>INBOUND</b> factors:		Scale: 1 (least satisfied or least important) to 10 (highly satisfied or most important)									
On-time delivery	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10
Costs (rates)	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10
Loss and damage	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10
Equipment Availability	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10
Service Flexibility	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10
Other (_____)	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10

23. Regarding your **INBOUND** traffic, does the current rail service or infrastructure or a general lack of consistency of rail service force your firm to utilize more truck than rail for inbound? If yes, please explain.

---



---

24. Please let us know how you feel about your **OUTBOUND** rail transportation service.

Please rank the following <b>OUTBOUND</b> factors:		Scale: 1 (least satisfied or least important) to 10 (highly satisfied or most important)									
On-time pick-up	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10
Costs (rates)	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10
Loss and damage	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10
Equipment Availability	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10
Service Flexibility	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10
Other (_____)	Actual performance	1	2	3	4	5	6	7	8	9	10
	Importance to you	1	2	3	4	5	6	7	8	9	10

25. Regarding your **OUTBOUND** traffic, does the current rail service or infrastructure or a general lack of consistency of rail service force your firm to utilize more truck than rail for outbound? If yes, please explain.

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---

26. Do you have any expansion plans or have you recently completed an expansion? If yes, please explain.

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27. If rail shipments were to decrease or cease at your facility, what would be your response (shift to truck, truck to BNSF/UP transload facility, or another response)?

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28. Are there other impacts to you of a decrease or cessation of rail service at this facility?

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29. What are some of the challenges you currently face or anticipate in meeting your company's rail transportation and logistics needs?

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30. From a business perspective, what do you feel are some of the weak links in the rail transportation system currently available at your facility?

---

---

31. How can the overall efficiency of the rail service at your facility be improved?

---

---

32. Are there any capital, service, or competitive improvements that would increase your current use of railroad services? If yes, please explain.

---

---

33. If there is someone else you would suggest we contact to get his/her ideas and input, please let us know:

Name:

Contact information:

---

Thank you again for your time and comments.

## Appendix B

### SJVR Switching Fees and Surcharges

# Optional Services Catalog

## --Customer Switching and Accessorial Services



SJVR is a RailAmerica company

[www.railamerica.com](http://www.railamerica.com)

Please contact your local marketing  
representative if you have any  
questions concerning this service.

Mr. David Siegel

221 N. "F" Street

PO Box 937

Exeter, CA 93221

Phone: (559) 592-1857

[david.siegel@railamerica.com](mailto:david.siegel@railamerica.com)

This document is subject to the  
terms, conditions and guidelines  
provided in RailAmerica Tariff  
RA-1000.

The RA 1000 Section VI provides guidelines and provisions for switching and other accessorial charges. Please review these provisions as it applies to your business on the SJVR. Any charges not covered on this SJVR 7006 are subject to rules and provisions found in the RA 1000 Series Tariff.

# SJVR 7006-17

(Cancels All Previous Issues)

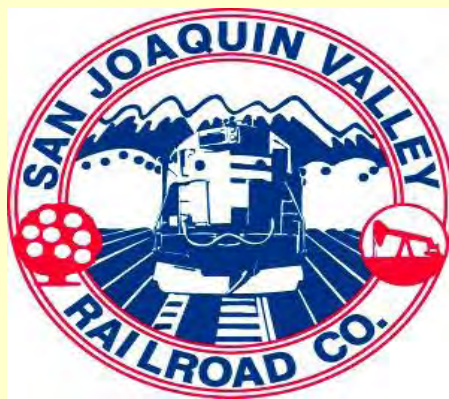
San Joaquin Valley Railroad

## Customer Switching

## Billing Guarantee

## Timely Invoicing

Our top priority is to provide safe, reliable transportation for our customers. Part of that commitment is to maintain a fluid and adequate supply of rail cars and to ensure that all railcar assets, both railroad and privately-owned, are utilized as optimally as possible.



## CHARGE SCHEDULE

Intra-Plant Switch	\$200	Item 1000
Intra-Terminal Switch	\$225	Item 1010
Inter-Terminal Switch	\$425	Item 1020
Diversion/ Reconsignment	\$350	Item 1650
<b>Car Switched from Constructive Placement Status</b>	<b>\$95</b>	
Error Moves	\$450	Item 1040
Car Released Without Bill of Lading	\$200	Item 1050
Special Switching Service	1-4 hrs \$1,000 4-8 hrs \$2,225 8-12 hrs \$290/hr	Item 1060
Special Train Charges	\$2,225	Item 1070
Closing Doors	\$175	Item 1080
Overload Charges	\$500	Item 1090
Empty Cars Ordered but Not Loaded	\$500	Item 1500
Cars Ordered and Cancelled While Enroute	\$150	Item 1510
Cars Received and Refused Due to Improper Condition	\$445	Item 1520
Empty/Loaded Cars Released but Not Available to Pull	\$500	Item 1530
Empty/Loaded Cars Ordered In But Unable to Place	\$500	Item 1540
Weighing	\$300 Industry Scales	

## BILLING GUARANTEES

As part of our efforts to streamline the billing process, we are committing to an expedited and simple billing process.

### BILLING – ON TIME

**ITEM 1100**

#### We commit to bill you on time

We will issue Customer Switching and Accessorial Services invoices monthly.

### BILLING DISPUTES

**ITEM 1110**

#### We commit to addressing disputed bills quickly

If you believe that there has been a billing error, we want to make it right as quickly as possible. To be eligible for this guarantee, you must submit your claim, in writing, within 30 days of the invoice date to: **Revenue Billing, 7411 Fullerton St. Ste 300, Jacksonville, FL 32256.**

Along with a brief description, your claim must include the car initial and number and the related invoice number. You may also submit your dispute electronically to:

[SVJR-billing@railamerica.com](mailto:SVJR-billing@railamerica.com)

### GUARANTEED ON-TIME RESPONSE ITEM 1120

#### If we don't respond within 30 days, your dispute will be accepted "as is."

We are committed to responding to your claim in a timely manner. If we do not respond to your dispute, in writing, within 30 days your dispute will be accepted as is.



# Optional Services Catalog

## --Customer Switching and Accessorial Services

## ADDENDUM 1 SJVR

**SURCHARGES:** The surcharge payments shown below are payable by the shipper or consignor on outbound shipments and receiver or consignee on inbound shipments at San Joaquin Valley Railroad Co. stations on shipments originating or terminating at said stations. These surcharge payments are to be collected by and accrue solely to the San Joaquin Valley Railroad Co. The surcharges established in the following table are not freight or other lawful charges within the meaning of section 7 of the uniform bills of lading and the execution of section 7 shall not in any way relieve the shipper/consignor nor receiver/consignee from liability for the payment of the surcharges set forth in this table. When more than one surcharge applies each surcharge will be assessed. All surcharge fees must be paid in advance.

<b>SJVR STATIONS</b>	<b>SURCHARGE</b>	<b>EFFECTIVE DATE</b>
South of Lindsay including Strathmore	\$2,850.00	10/7/2008
Lamont	\$3,675.00	4/21/2009
Patch	\$3,675.00	4/21/2009
Ribier	\$3,675.00	4/21/2009
Di Giorgio	\$3,675.00	4/21/2009
Arvin	\$3,675.00	4/21/2009
Hollis	\$2,439.00	07/01/2011
Levee	\$2,150.00	4/21/2009
Oxalis	\$909.00	08/01/2010
Lindsay (Exeter Sub Only)	\$956.00	05/15/2011
Ivanhoe	\$875.00	07/01/2011

# Optional Services Catalog-- Customer Switching and Accessorial Services

## ADDENDUM 1 SJVR

### Empty Cars Ordered and Not Used from the Union Pacific Railroad or BNSF Railroad

When an empty car is rejected by the shipper as being unfit for loading or if it is not the correct equipment ordered and the car was originally received from the BNSF or the Union Pacific Railroad, a charge of \$445 will be assessed to Union Pacific or BNSF. This item supersedes any other published charge for this activity.

### Call Outs/Car Repairs

When it is necessary for Carrier to close or open doors, hatches, gates or secure tie down devices on empty or loaded cars, a charge of \$175 will be assessed against the customer releasing said car. In addition, when Carrier is required to repair damage to cars caused by customer, all costs of repairs will be charged to the customer. Outbound loaded cars or released empty cars will not be moved unless all doors, hatches, gates and tie down devices are secured.

### Handling of Empty Freight Cars

*This provision will not apply when the empty movement is immediately preceded by a loaded revenue movement on SJVR and empty is returned to original interchange or if the empty movement is immediately followed by a loaded revenue movement on SJVR.*

This provision applies on all types of rail cars, including, but not limited to, cars provided by railroads, leased cars and cars bearing other than railroad reporting marks, but not including passenger train cars.

The charge for movement of empty cars is \$2.00 per mile, subject to a minimum of 150 miles. **SJVR** will not be responsible for the payment of any per diem or mileage charges, nor will **SJVR** absorb any switch charges. This rate will apply only to movement of cars in regularly scheduled train service.

If special train service is required for movements other than those listed above, charges contained in the Charge Schedule on page 2 of this Catalog will apply.

**SJVR's** maximum liability for loss and damage is \$100.00 per railcar.

### Ordering Cars by Specific Car Number

Customers ordering cars in by specific car number, versus date order as they were received in carrier's yard, will be assessed a charge of \$75.00 per car unless otherwise covered under a separate agreement.

### Railcars Rejected by Customer as Unsuitable For Loading Customer-refused Loaded Cars

Empty railcars rejected as unsuitable for loading and loaded railcars refused at destination without being unloaded are allowed two days of free time for inspection and release. Customers choosing to keep railroad-owned cars, or private cars on railroad property, beyond that time will be billed the Extended Asset Use charge as listed in the current SJVR Tariff.

### **METHOD FOR SUBMISSION OF FORWARDING INSTRUCTIONS**

SJVR will accept forwarding instructions through one of three methods at no charge; ShipperConnect (e-BOL), a Class I web site, or by making arrangements directly with third party logistics services providers to submit forwarding instructions on their behalf via a Class I web site or via EDI. SJVR will accept forwarding instructions to its Transportation Logistics Center (TLC) via fax (989-797-5171) or via email ([SJVR-cs@railamerica.com](mailto:SJVR-cs@railamerica.com)), subject to a \$35.00 charge per faxed or emailed bill of lading. This charge will be assessed to the online Customer of record with the railroad.

The SJVR reserves the right to reject as an unreasonable request for service, any "fax" or "email" forwarding instructions that are illegible, whether due to poor transmission quality, poor or illegible handwriting, or otherwise. SJVR will not accept delivery of forwarding instructions by US Mail, express service, personal delivery, or otherwise.

### **METHOD TO RELEASE EMPTY RAILCARS**

SJVR will accept empty release information using ShipperConnect™ at no charge. SJVR will accept empty release information to its Transportation Logistics Center (TLC) via fax (989-797-5171) or via email ([SJVR-cs@railamerica.com](mailto:SJVR-cs@railamerica.com)), subject to a \$35.00 charge per faxed or emailed release. This charge will be assessed to the online Customer of record with the railroad.

### **DATE AND TIME RECORD OF NOTIFICATIONS**

When electronic or mechanical devices are used to furnish forwarding instructions and/or empty release information to SJVR, the recorded date and time at which the instructions are received by SJVR will govern.

Appendix #

SJVR k

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# **SJVR**

## **Proposed Projects**

### **Sunset Subdivision**

- Replace 13 track miles of 75# bolted rail with 115# CWR
- Upgrade 14 switches to 115lb, including new ties
- Replace 9,600 crossties
- Upgrade 4 public road crossings

### **Buttonwillow Subdivision**

- Replace 20,400 crossties
- Surface 34 miles
- Replace 14.3 track miles of 75# bolted rail with 115# CWR
- Upgrade 2,600 TF of 115# rail, 2 turnouts at Wible Road for track capacity

### **Arvin Subdivision**

- Replace 7.5 track miles of 80# bolted rail with 115# CWR

### **Oil City Subdivision**

- Construct trans-load facility to trans load trucks to rail