FINAL REPORT

Salinas Valley Truck to Rail Intermodal Facility Feasibility Study

Submitted to:

Association of Monterey Bay Area Governments

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1. Executive Summary

1.1 Study Objectives – Introduction

The agricultural industry in the Salinas Valley of Monterey County acts as one of the principal economic engines in the county and thus, keeping it vital and competitive is of utmost importance to the region. One of the key factors in maintaining this competitiveness centers on providing additional methods of shipping the products to the main markets, which are primarily located in the eastern U.S. With upward pricing pressure on the trucking industry due to rising fuel costs, and other factors that will be discussed in further detail in this report, agricultural shippers are looking for alternatives for their transportation needs; the rail system is one of the main options available.

The main purpose of this study is to analyze the potential for building and operating a truck-to-rail intermodal facility to support the movement of perishable, agricultural products from this region. This study builds off of a previous study commissioned by the Grower-Shipper Association of Central California in the fall of 2008 which showed there was both a desire on the part of the growers/shippers in the Salinas Valley to expand methods of shipping from truck only and that rail would be a cost competitive option, providing costs savings to the shippers. This study also showed the impact of the significant number of trucks leaving the Salinas Valley on the air quality, roadway congestion, safety and quality of life in this region and that a reduction of this movement of trucks would have significant benefits in these areas as well. Based on these preliminary findings, it was determined that additional analysis was required, bringing about the study introduced here.

The key areas of analysis for this study are: 1) site selection for the intermodal facility, 2) coordination with the Union Pacific Railroad, 3) market feasibility and supply chain analysis, 4) preliminary business model with operations planning, terminal site layout and truck trip reduction analysis, and 5) preliminary environmental assessment of the two sites selected in the site selection analysis (step 1 above). The consulting team combined their understanding of freight movement and supply chain issues with their knowledge and experience in designing various types of rail facilities throughout the U.S. for the UP railroad and other Class I railroads.

1.2 Key Findings

There is a growing trend in this country of using intermodal rail to move goods, including perishable products, across the country.

Using intermodal rail will provide an alternative transportation option allowing the produce industry to remain competitive.

Based on the research done by the consulting team, the opportunity to utilize intermodal rail for a certain portion of the products moving from the Salinas Valley is very compelling. With the changes in the trucking industry creating more potential truck shortages and rising costs, the produce industry in the Salinas Valley needs to find new methods to move their product to U.S. east coast markets in order to remain competitive. The intermodal service analyzed in this study will provide a cost effective, viable transportation alternative; which in turn will provide an opportunity for this important sector of the regional economy to remain competitive in these markets. This alternative will also allow the grower/shippers to spread their risk from relying only on trucking. With the pressure on this industry to remain competitive with other growing regions in the U.S., it is imperative that other viable methods of moving this produce be developed. This option provides a solution to the problem, with proven examples in other parts of the U.S.

By taking a certain portion of trucks moving produce from this region off the road, significant emissions reductions will be realized.

With increasing pressure on the roadways in this region, taking trucks off the road will provide significant benefits in reducing both congestion and emissions.

Based on the analysis done for this study, greenhouse gas emissions will be reduced by ***59 percent***. Other pollutants will be reduced by an average of ***35 percent.*** Moving large quantities of freight via rail provides significant benefits to the air quality of the region, as shown by the emissions reduction analysis in section 4.5 of this report. Additionally, by taking some of these trucks off the road, congestion on key transportation corridors like Highway 101 will be reduced, thereby improving the flow of traffic and improving the safety of the roadways in this area.

2. Site Selection

2.1 Methodology

In the evaluation of the potential sites for the intermodal terminal facility, the consulting team used GIS (Geographic Information Systems) analytical methods which involved developing a suitability map. This process involved three basic steps: 1) stating the objective, 2) establishing the criteria, and 3) performing the analysis.

Step 1 – Stating the Objective

In this project, the challenge was to find the most suitable location (or locations) for an intermodal rail facility within the given study area in the Salinas, CA area (See Figure 2-1). The purpose of the suitability analysis was to find the most optimal sites for rail served industry using a set of criteria developed in cooperation with the technical working group. The resulting map shown below, is called a "ranked suitability map" because it displays a relative range of values demonstrating the suitability of each location, with the most suitable locations shown in green and the least suitable shown in red. The criteria used will be delved into further in section 2.2.

Step 2 – Establishing the Criteria

The first step in getting to a ranked suitability map was to break down the most important considerations to fulfill the objectives for this particular project. This part of the process involved the team determining what criteria would need to be measured to determine the best site; each site was ranked according to several factors:

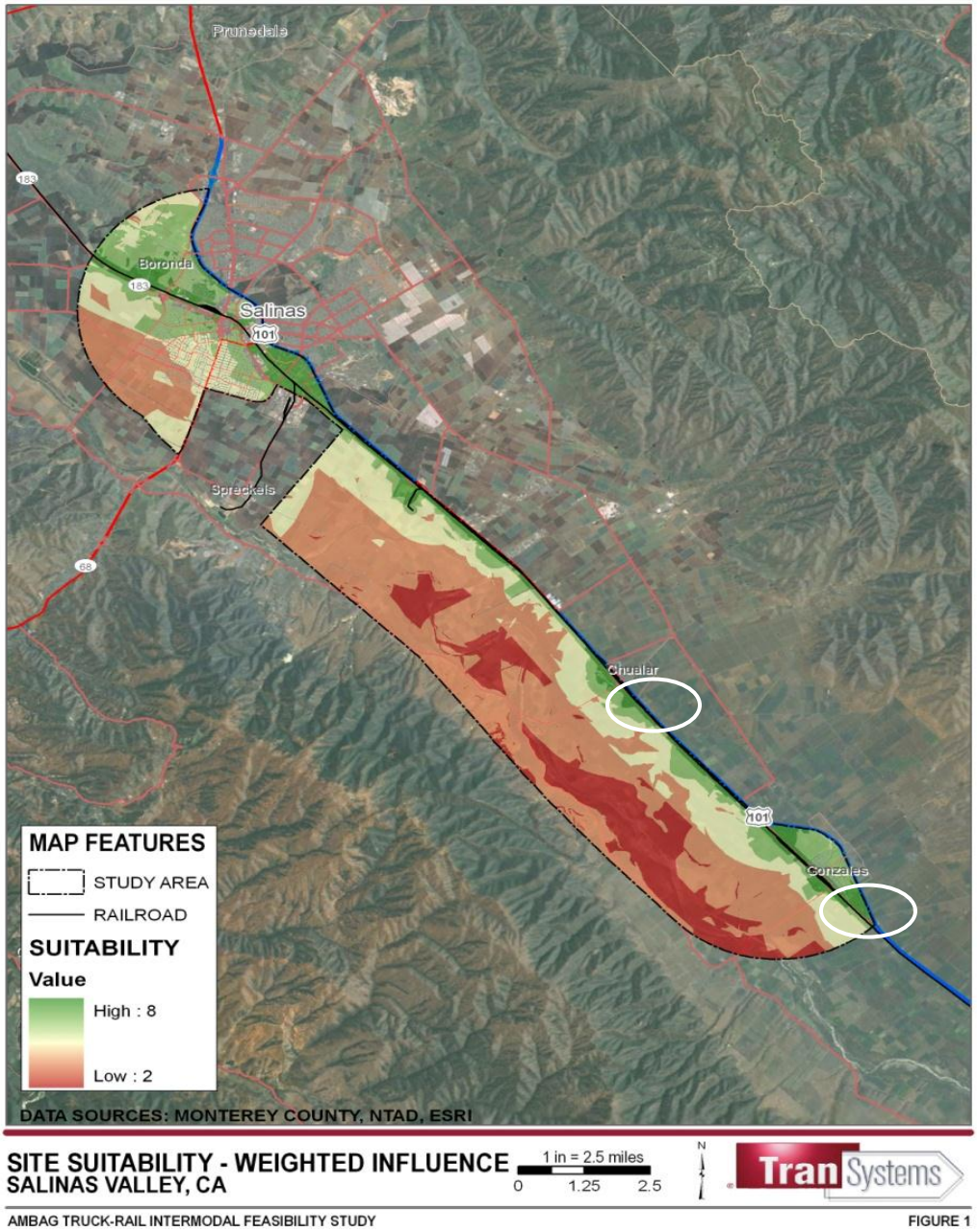
- Its location relative to the existing railroad tracks
- Ease of access to the main roadways (highway 101 and other frontage roads)
- Topography
- Proximity to existing produce cooler locations
- Cost of land as it related to soils
- Current zoning
- Access to site using existing "at-grade" rail crossings

Step 3 – Performing the Analysis

In order to produce the ranked suitability map from the established criteria, each criterion was broken up into subclasses or criteria classes. For instance, the criterion of roads was divided into nine criteria classes based on 750 foot intervals, assuming that at every 750 feet there was significant enough difference in suitability. A classification value was assigned to each criteria class, based on a scale of one to nine, with nine being the best or most suitable. For instance, in the case of the criterion of roads assuming that at every 750 feet there was significant enough difference in suitability that the value assigned to the area should be decreased. On the basis that being closer to existing roads makes a site more suitable, the zero to 750 foot interval is ranked as a nine, while the 750 to 1,500 foot interval was ranked as an eight and so on, with the greater than 6,000 foot interval receiving the low ranking of one. Often, suitability ranking is based on a subjective measure and/or supported by applicable ancillary data; therefore, a similar ranking was assumed for all the other criteria, with minor adjustments made based on ancillary data. The last step was to combine all of the criteria into one map. To account for the fact that some objectives (criteria) were more important than others in establishing the most suitable area for rail served industry, each criteria map must be ranked overall, with the criteria with more impact on the site selection given a higher percentage influence (or weight) than the other criteria. The end results are the "ranked suitability maps" shown in Figures 2-2 through 2-5. Based on the analyses completed by the consulting team, the two top ranked intermodal facility sites selected are:

- Chualar, CA
- Gonzales, CA

Figure 2-1: Suitability Study Area



2.2 Checklist

Using the methodology discussed in Section 2.1, the consulting team prepared the criteria weighting checklist and presented it for comment and discussion to the technical working group on October 4, 2010. Based on some feedback from the technical working group, higher weighting factors were put on rail access, zoning and highway access. The feedback was incorporated into the checklist and the updated version is shown below in Table 2-1.

Table 2-1: Criteria Weighting Checklist

Criteria	Weighting Factor (%)	Sub Criteria	Ranking
Rail Proximity	15	0 - 0.1 miles	9
Data Source: 2010 National Transportation Atlas		0.1 - 1 miles	4
Database (NTAD)		1 - 12 miles	1
Compatibility with Zoning	12	Other	1
(Data Source: California Resource Agency via		Agricultural	2
California Spatial Information Library - CASIL)		Industrial	9
		High Density Commercial	7
		Low Density Commercial	8
		High Density Residential	3
		Medium Density Residential	3
		Low Density Residential	3
		Open Space and Public Lands	4
		Water	0
		Urban Reserve	2
		Planned Development	1
		Mixed Use Residential and Commercial	5
		Very Low Density Residential	3
Proximity to Public At-Grade Crossings	10	0 - 1000 ft	9
Data Source: Federal Railroad Administration (FRA)		1000 - 2000 ft	8
		2000 - 3000 ft	5
		3000ft - <	1
Proximity to Siding	10	0 - 1000 ft	9
Data Source: 2010 National Transportation Atlas		1000 - 2000 ft	8
		2000 - 3000 ft	5
		3000 ft - <	1
Highway Proximity	10	0 - 0.1 miles	9
Data Source: Monterey County		0.1 - 1 miles	4
		1 - 12 miles	1
Highway Access	10	0 - 1 miles	9
Data Source: TeleAtlas via Environmental Systems Research Institute (ESRI)		1 - 2 miles	6
		2 - 5 miles	3
		5 -12 miles	1
Proximity to Cooler Locations	8	0 - 1 miles	9
Data Source: Growers and Shippers Association (GSA) via Steve Collins		1 - 2 miles	6
		2 - 5 miles	3
		5 -15 miles	1
Adequacy of Area between Rail and Highway	6	500 ft - <	9
Data Source: 2010 National Transportation Atlas		0 - 499 ft	1
Database (NTAD) & ESRI			

Criteria	Weighting Factor (%)	Sub Criteria	Ranking
Adequacy of Existing Road Infrastructure	5	0 - 0.14 miles (0 - 750 ft)	9
Data Source: Monterey County		0.14 - 0.28 miles (750 - 1500 ft)	8
		0.28 - 0.43 miles (1500 - 2250 ft)	7
		0.43 - 0.57 miles (2250 ft - 3000 ft)	6
		0.57 - 0.71 miles (3000 ft - 3750 ft)	5
		0.71 - 0.85 miles (3750 ft - 4500 ft)	4
		0.85 - 0.99 miles (4500 ft - 5250 ft)	3
		0.99 - 1.14 miles (5250 ft - 6000 ft)	2
		1.14 - 1.28 miles (6000 ft - 6750 ft)	1
Cost to Develop as Relates to Soils	5	CH	1
Data Source: Soil Survey Geographic (SSURGO)		CL	9
via National Resource Conservation Service (NRCS)		CL-ML	9
		ML	9
		SM	9
		NA	1
Potential for Flooding	5	X (Areas outside of the 100 year flood zone)	9
Data Source: Federal Emergency Management		X500 (Outside 500 year flood zone)	4
Agency (FEMA) via GeoCommunity		ANI (Area Not Included - not mapped by FEMA)	1
		A (Inside 100 year flood zone)	1
Topography (% Slope)	4	0% - 2%	9
Data Source: U.S. Geological Survey (USGS) via		2% - 4%	6
California Spatial Information Library (CASIL)		4% - 6%	3
		6% - <	1
Total Weight	**100**		

Notes and Legend:
Ranking: Sub criteria is ranked on a scale of 1 to 9: 9 = criteria has very high favorability; 1= criteria has extremely low favorability.
Weighting: Criteria are weighted by percentage of influence on the overall model; influence of all criteria totaling 100%.
Assumptions: Some typical site selection factors are not used in this analysis as all sites share the same parameters. These types of factors are: tax structure, development costs and incentives, labor force cost, etc.

2.3 Maps

Based on feedback received from the technical working group in the kickoff meeting on August 16, 2010, candidate sites were identified. It was agreed that any site south of Gonzales, CA was too far from the cooler locations and primary growing areas. The area around the town Spreckels was also ruled out as it is too far from Highway 101, the rail line and is in the prime Blanco growing area. The area near the town of Soledad was also ruled out as being too far south. The Boronda Meadows area was discussed but deemed unsuitable as truck access would be an issue. The area south of Salinas, contiguous and to the west of the rail line, west of Highway 101 was deemed to be the most suitable (south of the Firestone business park). Chualar was deemed to be an outstanding option. Gonzales was also one of the areas that seemed suitable. Based on this feedback, the team, using our GIS expertise, created suitability maps for each of the areas of interest as shown in Figures 2-2 through 2-5.

Figure 2-2: South Salinas Area

SOUTH SALINAS SITE SUITABILITY
SALINAS VALLEY, CA

1 in = 0.4 miles
0 0.2 0.4

N

TranSystems

AMBAG TRUCK-RAIL INTERMODAL FEASIBILITY STUDY

FIGURE 2

Figure 2-3: Firestone Area

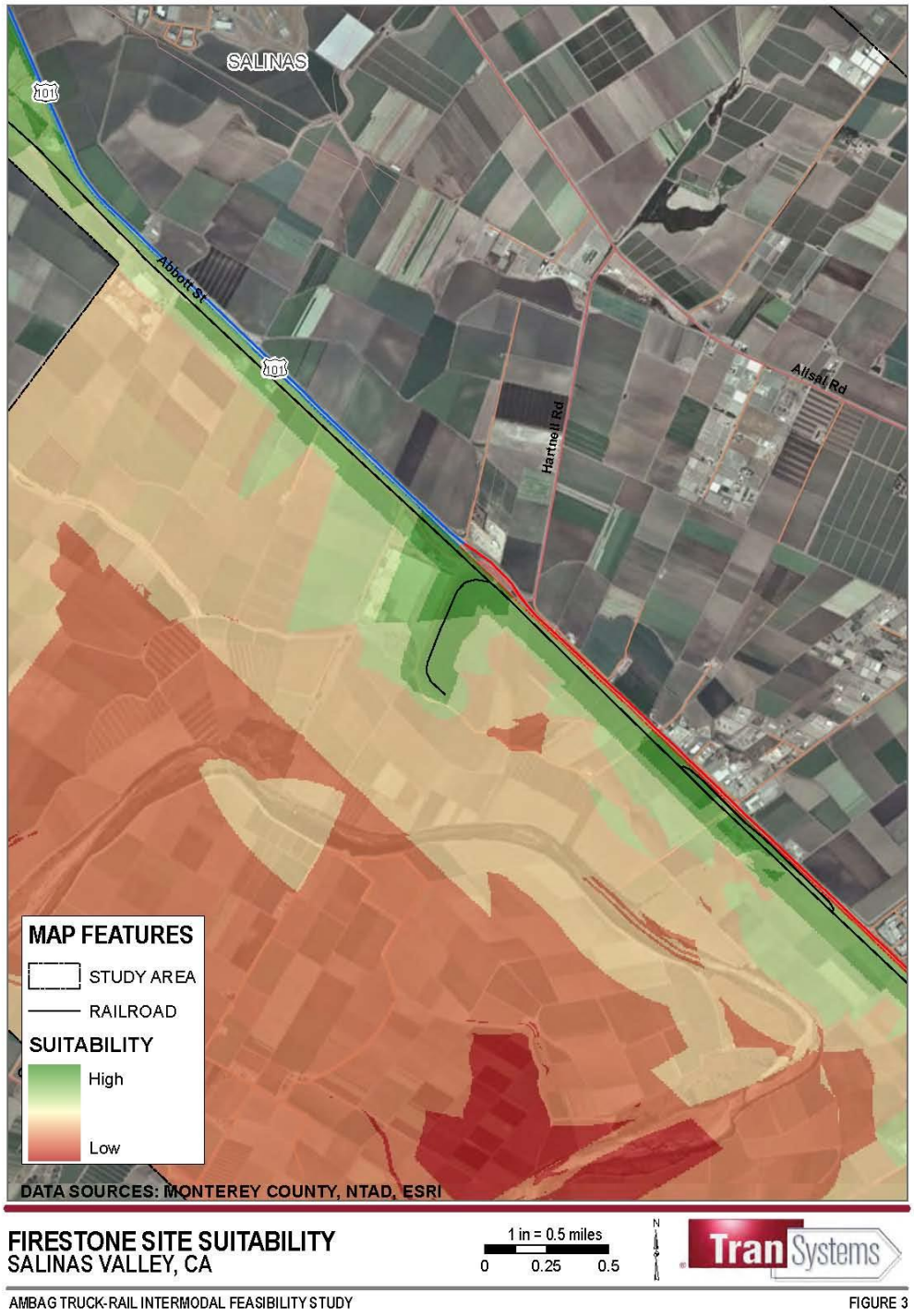


Figure 2-4: Chualar Area

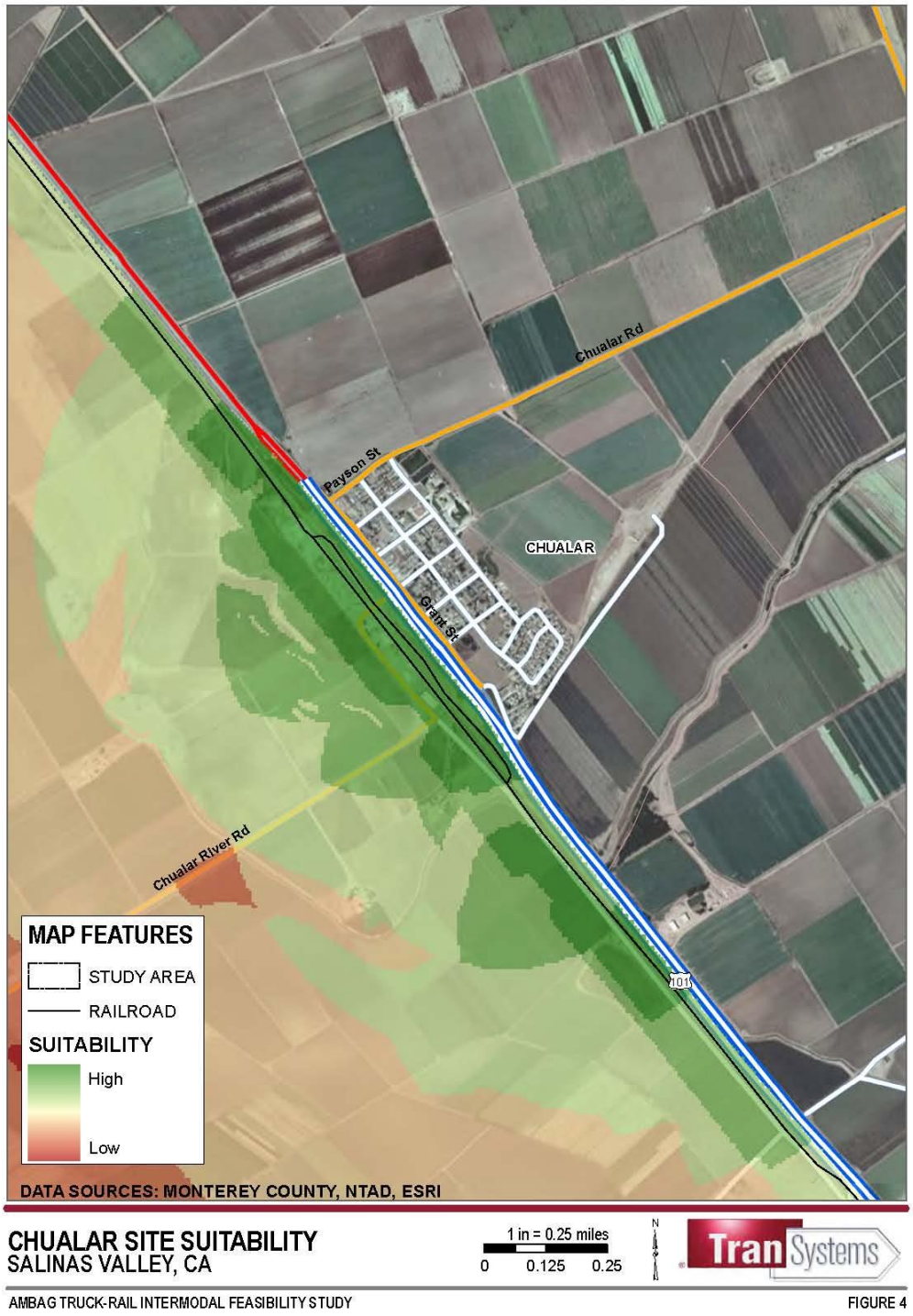
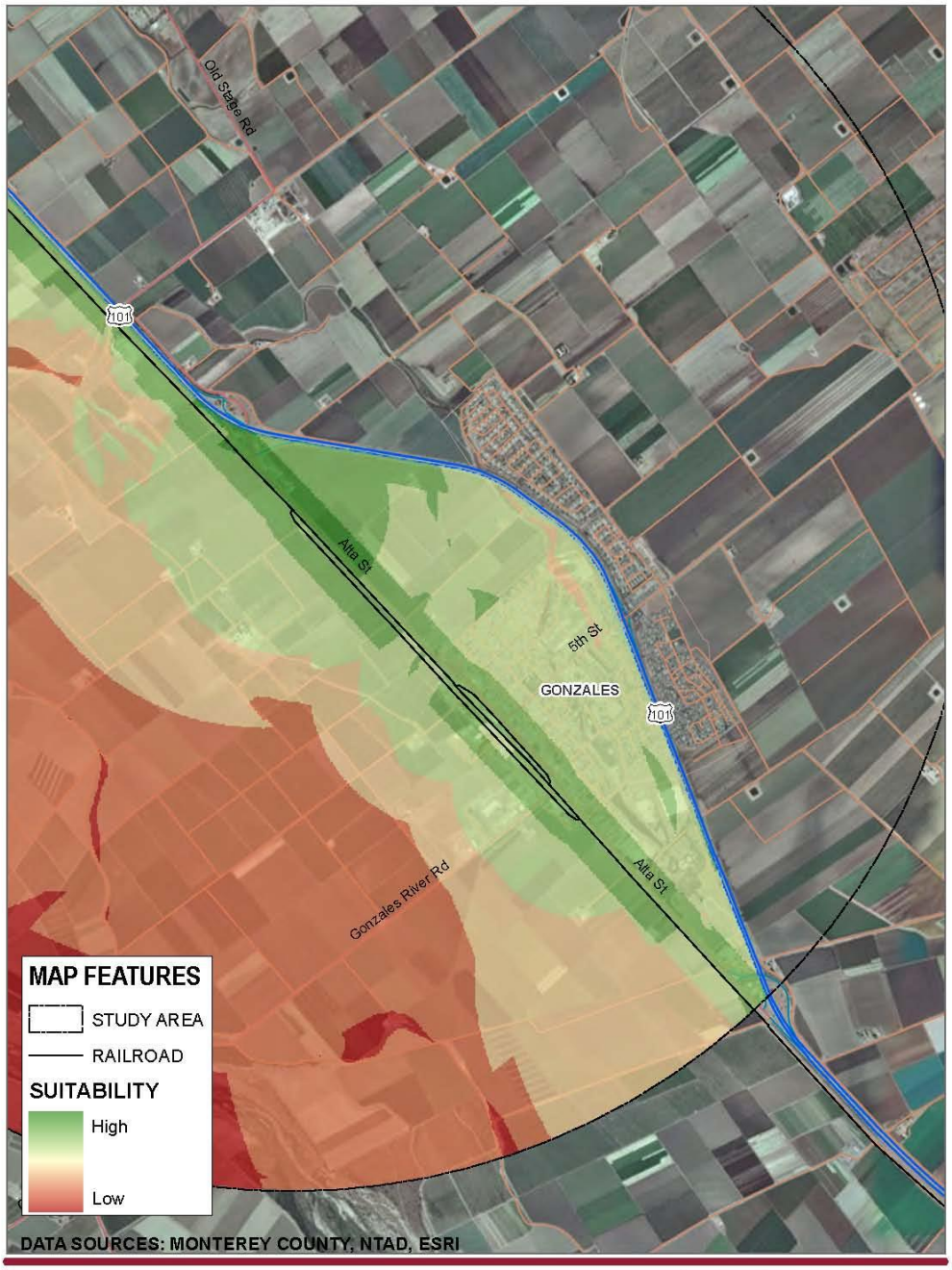


Figure 2-5: Gonzales Area



GONZALES SITE SUITABILITY
SALINAS VALLEY, CA

1 in = 0.5 miles
0 0.25 0.5

N

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AMBAG TRUCK-RAIL INTERMODAL FEASIBILITY STUDY

FIGURE 5

3. Railroad Coordination

TranSystems has worked with the UP Railroad on many projects throughout the country, with many of those located in California and led by the staff in the Oakland office. This relationship was instrumental in working with them on gaining support for the Salinas Valley Intermodal Terminal Facility. Initially, the consulting team provided background information on what the project was to entail and to get feedback on the UP Railroad interest in providing service to and from this proposed facility. Our team worked through Paul MacDonald, Regional Director – West, Network and Industrial Development and Eric Watkins, Regional Manager Industrial Development to present the information on what this project would entail and to get initial feedback on the UP's interest in supporting this effort. The initial information provided to the UP was developed based on either refrigerated boxcar service or intermodal rail service as the final service type had not yet been determined at the inception of the project. The consulting team put together a background information document in early November 2010 which was given to the UP for their consideration and comment. The information included project background, anticipated volumes, service options, parcel size, questions for the UP and anticipated next steps. A copy of this document can be found in Appendix B.

Subsequently, in the process of formulating the pricing analysis and working with Ryan Kolb of the UP Railroad pricing and contracting group, we were advised by UP that they would be precluded from providing service for refrigerated boxcars due to contract commitments already in place in California. From this point on, the analysis focused on intermodal service options. Subsequent meetings and discussion were held with the UP over the course of the project development (copies of meeting notes and additional information provided to the UP are also found in Appendix B). Most recently, the team met with Paul MacDonald again, and the railroad maintains their strong interest in the project. As a result of that meeting, the UP agreed to meet with the key stakeholders of the project to discuss in more detail their level of interest and potential engagement. We are trying to set up a meeting between the UP Railroad, the Grower Shipper Assoc. and other public stakeholders for some time in September or October of 2011.

4. Market Analysis

4.1 Introduction

In order to determine the feasibility for the Salinas Valley Intermodal Rail Facility, the consulting team took a multi-pronged approach to analyzing the market potential for this proposed service. As we began this research we were not aware of the contractual restriction the UP Railroad had on offering boxcar service from Salinas (referenced in Section 3 above) so we analyzed both boxcar and intermodal rail service. Some of the key issues were:

- What are the products suitable for this service, including shipments size and frequency
- Competing services and what makes them competitive
- What is the cost comparison, truck versus rail, on a per package basis
- What transit times are required to be competitive with truck
- What are the railroads doing to provide services that are competitive with truck
- What type of equipment is available (boxcar versus intermodal refrigerated container)
- What type of service will the railroad be willing to offer

To address these important issues, the consulting team used their industry experience and industry contacts to carry out the research. In addition, the stakeholder focus groups and meetings were integral in ensuring complete understanding of the issues. During the process of getting feedback from the stakeholders, an additional step was added to the analysis which involved researching the locations of the seven top produce customers' receiving distribution centers and mapping these locations with respect to the three intermodal rail facilities (Baltimore, MD; Philadelphia, PA and Chambersburg, PA) being considered for the destination for the train service. This information is presented in Section 4.3 below. The stakeholders also wanted to gain a better understanding of overall population coverage from these intermodal facilities and this analysis is presented in Section 4.4.

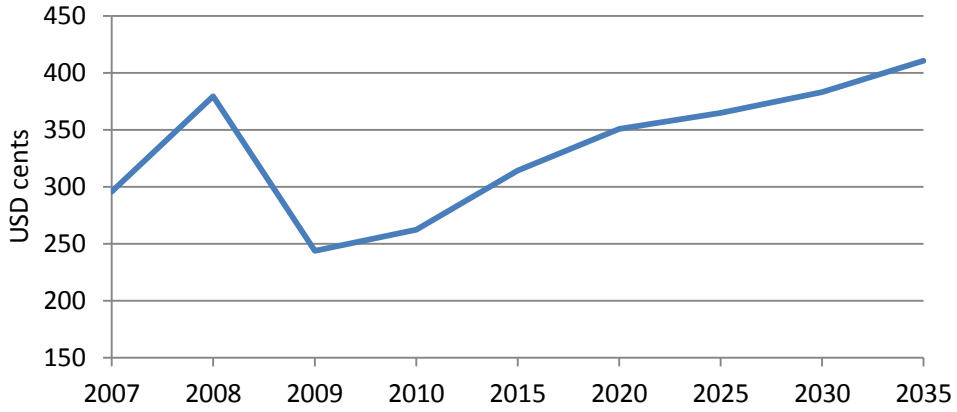
To determine the air quality benefits to this proposed facility, the team analyzed the total truck trips that would be reduced using this service and then performed an emissions analysis to determine the overall air quality changes as a result of this service. This analysis is shown in Sections 4.5 and 4.6.

4.2 Truck versus Intermodal Cost and Service Comparison

Based on the preliminary research done by Dr. Jonathan Munn for the Grower Shipper Association, volume estimates were provided for the overall export of produce from the Salinas Valley to major population centers in the East and Midwest U.S. This volume estimate was revalidated for the purposes of this study and was the basis for understanding the volume potential to be used in the analysis. During the research of service options that would work for the agricultural produce commodities coming from this region and in evaluating competitive services such as the Railex service from Delano, CA, it was determined that rail boxcar service was not going to be a possibility due to conflicting contract commitments with the UP Railroad (as mentioned above). This conclusion was supported by the grower/shipper stakeholders who advised during the focus group meetings that the products moving from Delano are much heavier and denser and thus, more suitable to boxcar service whereas the products from the Salinas Valley are lighter and less dense, and thus more suitable to intermodal 53' container service.

TranSystems believes that the most urgent consideration driving the truck to rail shift is the volatile trucking outlook. Rising diesel prices and looming driver shortages are creating an uncertain future for truck availability and cost. In fact, the "Journal of Commerce" reported on June 28, 2011 that according to a survey of trucking lines done by "Transport Capital Partners", truckload rates have raised 5 – 15 percent in the first half of 2011 with more increases expected in the second half of 2011. The factors contributing to these increases are shortages of equipment and drivers and the increase in diesel fuel prices. The fuel price changes forecasted by the U.S. Energy Information Administration (EIA) predicted diesel fuel would slowly increase from a low of about $2.50 per gallon in 2010, reaching a high of $3.75 per gallon in 2030 (see Figure 4-1 below).

Figure 4-1: Diesel Fuel Price Forecast, 2010



Source: US Energy Information Administration Annual Energy Outlook, 2010, Table 12

Actual fuel prices have already exceeded the EIA projections in 2011, as diesel fuel reached a high of almost $4.00 per gallon in April of this year and has now tapered off to about $3.90 as of week ending June 24, 2011. These levels were not expected until after 2020 according to EIA projections. Current diesel prices represent approximately a $1.00 per gallon increase from one year ago, creating significantly higher costs for long haul trucking. This combined with three main factors creating driver shortages (changes in hours of service rules, tougher rules on driver's license documentation requirements and changes to the Federal Motor Carrier Safety rules) have pushed an increase in the demand for intermodal and traditional rail services. The grower/shipper stakeholder group echoed this sentiment in the focus group meetings and see a definite need for an additional mode of transport for their produce, provided the cost and service levels are competitive.

In order to determine if this type of service would be feasible for the Salinas Valley produce shippers, we looked at other similar services operating around the country. One service that has recently started from Quincy, WA to Chicago, IL has been quite successful in building up a viable business. They offer daily departures, a transit time of 3.5 days (4.5 days for door service), move 200 x 53' intermodal refrigerated containers on a monthly basis with a limited backhaul of frozen meat and blueberries. The cost of the origin rail infrastructure was approximately $6 million. We also looked at the Railex facility in Delano, CA. However, after determining that refrigerated rail boxcar service could not be offered from Salinas, we focused our efforts on the intermodal service option and the costing comparisons with over the road trucking. We have included the presentations from the focus group meetings in Appendix E – Presentations.

Commodity Analysis by Mode

TranSystems conducted a cost comparison between intermodal 53' containers, over the road 53' trailers and 64' boxcars, for representative commodities shipped from the Salinas Valley (see the following section, "Equipment Types" for a complete description of boxcar and 53' containers).

Broccoli and lettuce were analyzed as these two commodities were identified as being suitable for the intermodal rail option. Certain high volume commodities moving from the Salinas area, like strawberries, are not eligible to move via rail because even a slightly extended transit exceeds cross-country delivery thresholds required for this highly perishable commodity. Based on using the 96" pallet in each of the modes of transportation, the intermodal container costs are competitive. See Tables 4-1 and 4-2 for the cost comparisons. These results are preliminary as our analysis does not

include the destination transportation delivery cost nor does it include the backhaul freight that might offset charges included in rates to reposition empty containers back to California. The cost comparison serves to show in more detail than had previously been shown, that this type of service would be competitive and would provide a workable alternative to over-the-road truck transport for produce from Salinas to the eastern U.S.

Table 4-1 displays weight and per package comparisons for boxcar, 53' intermodal container and 53' van loads. On a price per package basis of $4.39 per package, the 53' intermodal container is the lowest cost mode. The rates used for this comparison were obtained from the UP Railroad for boxcar rates (tariff rate for frozen vegetables), CR England trucking for the 53' intermodal container rate and the interviews with members of the Grower Shipper Assoc. for the 53' van rates.

Table 4-1: Palletized Cost Comparison – Broccoli

	64' Boxcar	53' Intermodal Container	53' Van Truck
Pallet Size	96"	96"	96"
Cartons	2128	1568	1680
Transportation Cost	$13,000	$6,877	$7,953
Per Package	$6.11	$4.39	$4.73
Pounds Per Carton	22	22	22
Load Weight in Pounds	46,816	34,496	36,960

Source: TranSystems, UP Railroad, C.R. England, Grower Shipper Assoc. members

Table 4-2 displays a cost comparison for iceberg lettuce. Shipments in 53' intermodal containers results in the lowest cost per carton as compared to 64' boxcar or 53' vans.

Table 4-2: Palletized Cost Comparison – Iceberg Lettuce

	64' Boxcar	53' Intermodal Container	53' Van Truck
Pallet Size	96"	96"	96"
Cartons	1520	1000	1000
Transportation Cost	$13,000	$6,877	$7,953
Per Package	$8.55	$6.88	$7.95
Pounds Per Carton	40	40	40
Load Weight in Pounds	60,800	40,000*	40,000*

Source: TranSystems, UP Railroad, C.R. England, Grower Shipper Assoc. members

**40,000 lb. average load factor is an estimate based on commodity type – exact load weight information was not available.*

TranSystems evaluated the cost differential between transporting produce by truck using 53' refrigerated trailers and 53' intermodal refrigerated containers loaded onto railcars. The baseline route for the analysis originates in the Salinas Valley, CA and terminates at a point in the US Northeast, such as a location in Pennsylvania, Maryland or New York. This lane aligns with a current strategy to deliver produce as close as possible to a majority of customers in the eastern United States. Broccoli and lettuce were selected as suitable cargoes, due to their ability to maintain freshness while withstanding the slightly longer transit time required for rail transportation.

Our analysis shows a 13.5 percent cost savings using 53' containers shipped by rail vs. 53' trailers trucked over the road, and a per-package savings of 7.2 percent and 13.5 percent respectively for lettuce and broccoli. It is TranSystems' opinion that truck driver shortages and increasing fuel costs increase the outlook for transportation cost savings of using the 53' intermodal service going forward.

Table 4-3: Summary of Estimated Cost Savings

Rate Basis	53' intermodal Savings over 53' Over the Road Trailers
Per Trailer	13.5%
Lettuce Per Package	7.2 %
Broccoli Per Package	13.5%

Source: TranSystems

Equipment Types

The consulting team also analyzed various types of equipment being used for refrigerated rail transport, to show the method of handling these types of equipment and to show the load factors. Figure 4-2 shows the comparison of a refrigerated intermodal container versus a refrigerated rail boxcar with the load capacity comparison shown in Table 4-3.

Figure 4-2: Equipment Type Comparison

Source: ColdTrain and Railex websites

Table 4-4: Load Capacity Comparison

53' Refrigerated Intermodal Container	64' Refrigerated Rail Boxcar	53' Over the Road Truck
43,500 lbs. load capacity (80,000 lbs including tractor)	192,000 lbs. load capacity	45,000 lbs. load capacity (80,000 lbs. including tractor)
Length: 49' 9.7" Width: 8' 1.25" Height: 8' 7.03"	Length: 64' Width: 8' 1.25" Height: 11' 9"	Length: 52' 6" Width: 8' 1.25" Height: 8' 7.03"

Source: C.R. England, UP Railroad website

Figure 4-3 below shows handling methods used in the Quincy, WA facility for moving intermodal containers around the facility (figure on the left) and for moving the double stack cars within the facility (figure on the right). It would be anticipated that similar equipment would be used for this facility as outlined in our operational analysis in Section 5.

Figure 4-3: Intermodal Container Handling Equipment

Source: Coldtrain website

4.3 Supply Chain Analysis

In the process of our focus group meetings, questions came up from the grower/shipper attendees about how the intermodal container destination delivery process would work. From the feedback gathered in the meetings, it became evident that a macro level supply chain analysis was necessary to further determine the viability of this type of service for the largest produce customers in the Northeast U.S. The main customers identified were: Wal-Mart, Supervalu, Safeway, Kroger, Delhaize America, Costco and C&S Wholesale. The consulting team determined all the produce distribution center locations in the Northeast U.S. for these seven top produce customers and plotted them geographically, relative to the three proposed intermodal destination locations on the CSX network: Philadelphia, PA; Chambersburg, PA and Baltimore, MD. In addition, benchmark trucking rates from these three facilities to all of the identified produce distribution centers were researched and are provided in Appendix H. With the help of the AMBAG GIS team, population coverage estimates were calculated from each of these intermodal facilities mentioned above. The population coverage areas were based on a 200 mile and 400 mile service area (4 hour and 8 hour trucking coverage). These maps are shown in Figures 4-4 through 4-6 with the population coverage information shown in Table 4-4.

Each of the intermodal facilities can provide access to the majority of the produce distribution centers with 24 of the 28 total covered in the 400 mile service area from Baltimore and Philadelphia and 23 of the 28 covered within the 400 mile service area from Chambersburg. The main advantage Baltimore and Philadelphia have over Chambersburg is shown in the difference in population coverage for the 200 mile service area with Philadelphia providing access to the largest number of people in the Northeast region. However, when comparing the produce distribution center coverage for these top seven produce customers, Baltimore has the best coverage within the 200 mile service area, covering 14 of the 28 DC's. Philadelphia by comparison only covers 11 of the 28 and Chambersburg covers 13 of the 28. These factors along with the analysis of the total cost and

total transit of the entire move (intermodal rail plus destination trucking) will be key determinants of which destination intermodal terminal would provide the best solution.

Figure 4-4: Baltimore Market Coverage

Figure 4-5: Chambersburg Market Coverage

CHAMBERSBURG, PA
200 & 400 MILE SERVICE AREA

1 in = 100 miles
0 50 100

AMBAG TRUCK-RAIL INTERMODAL FEASIBILITY STUDY

Figure 4-6: Philadelphia Market Coverage

Table 4-5: Population Coverage from Intermodal Destinations

Site	Population Current Year (2000 Census)	Population Future Year (2007 Census Estimate)	Growth in Population
Baltimore - 200 mile radius	40,621,930	42,447,734	4.5%
Baltimore - 400 mile radius	82,298,149	85,281,040	3.6%
Chambersburg - 200 mile radius	29,934,939	31,377,709	4.8%
Chambersburg - 400 mile radius	81,331,267	84,282,083	3.6%
Philadelphia - 200 mile radius	44,331,035	46,207,510	4.2%
Philadelphia - 400 mile radius	75,164,972	77,843,544	3.6%

Source: Economic and Social Research Institute (ESRI) and TranSystems

4.4 Truck Trip Reduction Analysis - Differences in Truck-Miles per Year Due to Use of Intermodal Option

Using the truck mileage distribution of truck shipments to the 28 top destinations on the Eastern Seaboard of Grower Shippers Association freight (Grower Shipper Association is made up of the key agricultural producers/shippers in the Salinas Valley region), the following provides a comparison of that mileage to an alternative case in which the majority of those shipments are sent via intermodal rail from the Salinas Valley, CA to Philadelphia, PA and then shipped by truck to those same Eastern Seaboard destinations. The change in the distribution of truck mileage will be used to calculate a portion of the net environmental benefits of making a switch from transcontinental highway truck to a truck-rail-truck mode of shipment.

Base Case

The truckloads of Growers Shippers Association identified for transfer from transcontinental highway to intermodal rail service number 180 per day, five days per week, or a total of 46,800 truckloads per year. Based on the top 28 customer destinations, these truckloads have the following distribution by length of haul (shown below in Table 4-5):

Table 4-6: Truckloads Identified for Transfer to Intermodal Rail

Truck Highway Length of Haul	Estimated* Number of Truckloads per Year	Estimated** Truckload-Miles per Year
2,501 to 2,600 miles	1,671	4,262,143
2,601 to 2,700 miles	1,671	4,429,286
2,701 to 2,800 miles	3,343	9,192,857
2,801 to 2,900 miles	10,029	28,581,429
2,901 to 3,000 miles	18,386	54,237,857
3,001 to 3,100 miles	3,343	10,195,714
3,101 to 3,200 miles	3,343	10,530,000
3,201 to 3,300 miles	1,671	5,432,143
3,301 to 3,400 miles	3,343	11,198,571
TOTAL	46,800	138,060,000

*Based on truck mileage from Salinas CA to top 28 customer locations on the Eastern Seaboard, ranging from 2,522 to 3,349 miles (Source: Google Maps)
**The product of the midpoint of each mileage segment times the estimated truckloads per year

As shown, the total truckload-miles per year by the target truckloads are an estimated 138,060,000. If these loads were to switch to intermodal service from the Salinas Valley to Philadelphia, there would be a short truck dray from the origin cooler locations (as identified by the Grower Shipper Association) to the intermodal terminal site averaging 8.5 miles (for purposes of this analysis we used a point halfway between Salinas and Gonzales as the terminal site as not been determined as yet). Therefore, the total annual truck-miles associated with the origin dray would be 46,800 truckloads per year X 8.5 miles per dray = 397,800 truckload-miles per year.

Based on initial feedback obtained from the UP Railroad, the proposed intermodal service would run from the Salinas Valley, CA to Chicago IL via the UP, transferring to the CSX in Chicago, using the UP/CSX Express Lane Expedited service. This would be a straight transfer ("steel-wheel interchange") between the two railroads, involving no truck movement within Chicago. The routing would then be completed to the CSX intermodal ramp in either Philadelphia, PA; Chambersburg, PA or Baltimore, MD (for purposes of this calculation, we have used Philadelphia as the destination). The total estimated rail distance is 3,300 miles. Therefore, the total annual truckloads eligible for conversion to rail are 46,800 per year X 3,300 mile rail length of haul = 154,440,000 trip-miles per year. Finally, the shipments by truck from the Philadelphia, PA intermodal rail ramp to the final destinations are estimated to be distributed by length of haul as follows (shown below in Table 4-6):

Table 4-7: Distribution of Destination Truck Trips by Length of Haul

Truck Highway Length of Haul	Estimated* Number of Truckloads per Year	Estimated** Truckload-Miles per Year
51 to 100 miles	6,686	501,429
101 to 150 miles	6,686	835,714
151 to 200 miles	3,343	585,000
201 to 250 miles	6,686	1,504,286
251 to 300 miles	8,357	2,298,214
301 to 350 miles	3,343	1,086,429
351 to 400 miles	5,014	1,880,357
401 to 450 miles	5,014	2,131,071
3,301 to 3,400 miles	1,671	793,929
TOTAL	46,800	11,616,429

*Based on truck mileage from Philadelphia PA to top 28 customer locations on the Eastern Seaboard, ranging from 54 to 458 miles (Source: Google Maps)
**The product of the midpoint of each mileage segment times the estimated truckloads per year

As shown, highway truck shipments from the Philadelphia rail ramp to the Eastern Seaboard destinations total an estimated 11,616,429 truckload-miles per year. Therefore, the net reduction in highway truckload-miles by switching 46,800 truckloads per year from transcontinental highway to a truck-rail-truck transport mode is 138,060,000 – 11,616,429 – 397,800 = 126,045,771 truckload miles. In computing the environmental benefits of this reduction (as outlined in Section 4-5), we have taken into consideration the calculation of separate estimates for each of the truck mileage segments listed above. In addition, to this net reduction in truck-related pollution, we have added

the effect of the 46,800 truckloads per year shipped via rail (associated rail emissions) from Salinas Valley, CA to Philadelphia, PA via Chicago, IL.

4.5 Emissions Reduction Analysis

Based on the information presented in Section 4-4, the TranSystems' consulting team calculated the estimated emissions reductions that would be brought about by the transfer of freight from truck to rail, made possible by the proposed Salinas Valley Intermodal Rail Service. After describing the methodology and the various assumptions that were made to develop truck and rail emission rates, a summary table showing the results of the analysis is included in the results below. The results provided include annual emissions from truck as well as rail, and shows annual emissions reductions resulting from the intermodal rail service option.

TRUCK SHIPMENT EMISSIONS

Emissions model:

The emissions reduction due to the transfer of freight from trucks to rail was estimated with the Motor Vehicle Emission Simulator (MOVES) model[1]. MOVES is the U.S. Environmental Protection Agency (EPA) recommended emission model for on-road vehicles. The data included in this model comes from many sources including EPA research studies, Census Bureau vehicle surveys, Federal Highway Administration travel data, and other federal, state, local, industry and academic sources. The latest version of the model, MOVES2010a (released in August 2010) was used, along with the latest available default database MOVESDB200100830.

Simulation scale:

The MOVES model can be run at three different scales: national, county, or project-level. At the national scale, EPA's default national database is used along with default state and local allocation factors. In this analysis, trucks ship freight from the Salinas Valley, CA to Philadelphia, PA; thus crossing the entire nation. They are subject to a wide range of temperature and humidity conditions, as well as road types and driving patterns. The national scale is therefore the most appropriate modeling level for this simulation.

Vehicle types:

MOVES combination-unit trucks were selected (gasoline and diesel) for this analysis. Both short-haul and long-haul trucks were modeled in order to develop different emission rates for origin/destination vs. transcontinental trucks. The MOVES model defines short-haul trucks as vehicles driving 200 miles or less. Thus, all emissions from origin trucks (8.5 miles per trip) and some of the emissions from destination trucks (trip < 200 miles) were calculated using the single unit short-haul trucks emissions rates, while all transcontinental emissions (and destination emissions from trips > 200 miles) were calculated using the single unit long-haul trucks emissions rates.

Emissions types:

TranSystems developed emissions rates in g/mile for exhaust and evaporative emissions that occur while vehicles are driving on "real roads". Emission rates for emissions occurring when a vehicle starts are expressed in g/start. Finally, emissions occurring while a truck is in extended idling (defined as idling for more than 30 minutes; long-haul trucks only) are expressed in g/hour (i.e. grams per hour spent in the extended idling mode). To calculate annual emissions due to shipments sent via trucks, those emission rates were multiplied by the total truckload-miles (for rates in g/mile), by the total number of starts (for rates in g/start), and by total number of hours spent in the

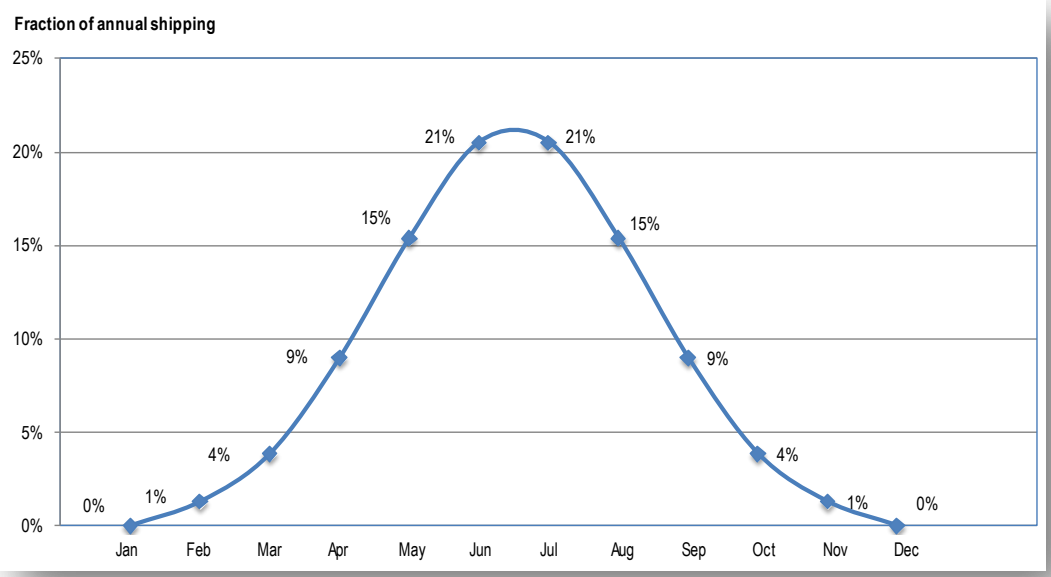
[1] EPA, MOVES (Motor Vehicle Emission Simulator); http://www.epa.gov/otaq/models/moves/index.htm

extended idling mode[2]. TranSystems assumed that trucks would stop every 550 miles (Federal Hours of Service rules require a 10-hour rest after 11 hours of driving[3], which represents 550 miles at an average of 50 miles per hour). At every stop, TranSystems assumed that 36% of trucks would stop (and thus need to start again) while the rest of the trucks would keep the main engine on and do 11 hours of extended idling in order to provide refrigeration for the produce (a 2006 survey prepared by the American Transportation Research Institute for the for the New York State Energy Research and Development Authority found that 36% of respondents used on-board idle reduction technologies[4]).

Time aggregation level:

Given the specific travel patterns associated with the agricultural sector, emission rates for each month were necessary. This was important because trucks do not ship produce at the same rate throughout the year. A normal distribution was assumed for the monthly shipping distribution, with no shipping in December and January, and a shipping peak in June and July. Figure 4-7 below provides the percentages used to weigh monthly emission rates in order to compute annual emission rates. For VOC evaporative emissions, the model performed calculations for every hour of the year (and subsequently aggregated the output at a monthly level). For all other emissions, calculations were directly performed at the monthly level.

Figure 4-7: Truck monthly shipping distribution



Pollutants:

The MOVES model can be used to estimate emissions of criteria air pollutants, greenhouse gas emissions, and mobile source air toxics. For this analysis, the following pollutants were included: Particulate Matter (PM2.5 and PM10), Carbon Monoxide (CO), Nitrogen Oxides (NOx), Volatile Organic Compounds (VOC), and Greenhouse Gases (GHG) including Carbon Dioxide (CO_2),

[2] Refueling emissions were not included in the total truck emissions, since those are usually assigned to fueling stations, rather than vehicles.

[3] U.S. Department of Transportation, Federal Motor Carrier Safety Administration; http://www.fmcsa.dot.gov/rules-regulations/topics/hos/index.htm

[4] New York State Energy Research and Development Authority, "Idle Reduction Technology: Fleet Preferences Survey", February 2006.

Methane (CH_4), and Nitrous Oxide (N_2O). GHG emissions were provided in CO_2 equivalent (CO_2e).

RAIL SHIPMENT EMISSIONS

To estimate the emissions that might be associated with replacing the transcontinental portion of the truck trips with rail, line haul locomotive emission factors in terms of grams per gallon representative of the mix of the locomotive fleet in 2010 were used. EPA has estimated the average emission factors for locomotives by calendar year, factoring in the emission standards applicable by model year and the populations of locomotives of each model year expected to be in place in a given calendar year.[5] These resulting emission factors in grams per gallon for 2010 are shown in the table below.

EPA has also noted that based on data collected by the Association of American Railroads, approximately one gallon of fuel is consumed when hauling 400 ton-miles of freight. Thus, the activity data, provided in terms of truckload-mile equivalents were converted to an estimated volume of locomotive diesel fuel needed to carry the additional loads. While there is no standard weight of a container moved by rail or freight truck, for this analysis, we have assumed a weight of 50,000 pounds or 25 tons.

Table 4-8: Line Haul Emission Factors

Pollutant	Calendar Year 2010 Large Line Haul Average Emission Factor (grams per gallon)
HC	8.3
CO	27.8
NOx	157
PM10	4.7
PM2.5	4.6
CO2e	10,314

Source: U.S. EPA, Office of Transportation and Air Quality

EMISSIONS REDUCTION

Table 4-1 below shows the annual emissions from the baseline scenario in which all goods are shipped across the country via truck. Table 4-2 shows the emissions from the control scenario where the transcontinental portion of the trip is replaced by rail. The emissions in this table are broken down by emissions associated with the origin dray, the transcontinental shipping via rail, and the final destination dray. Details regarding emissions by truck length of haul and all calculations are included in the spreadsheet included in Appendix C. The emissions reduction achieved by switching from truck freight to the intermodal option were calculated by adding the truck origin dray and final destination emissions to transcontinental rail emissions, and subtracting this total to the transcontinental truck emissions. Emissions reductions are listed on Table 4-3: this analysis showed

[5]U.S. EPA, Office of Transportation and Air Quality, "Emission Factors for Locomotives," EPA-420-F-09-025, April 2009.

that greenhouse gas emissions (CO_2 equivalent) can be decreased by 59%, and criteria pollutants can be decreased by 12% for NOx, 34% for VOC, 42% for CO, 45% for PM10 and 41% for PM2.5.

Table 4-9: Annual truck emissions from baseline scenario with transcontinental shipping via truck

Emission Source	Total Annual Emission (US Tons)					
	VOC	CO	NOx	PM10	PM2.5	CO2e
Transcontinental emissions via truck	154	599	2,113	108	96	334,030

4-10: Annual emissions from the control scenario with transcontinental shipping via rail

Emission Source	Total Annual Emission (US Tons)					
	VOC	CO	NOx	PM10	PM2.5	CO2e
Origin truck emissions	0.2	1.5	4.8	0.3	0.2	881
Transcontinental rail emissions	88	296	1,670	50	49	109,746
Destination truck emissions	13	51	177	9	8	27,960
Total annual emissions for control scenario	102	348	1,853	59	57	138,587

4-11: Annual emissions reductions achieved through the transfer of freight from trucks to rail

	Total Annual Emission (US Tons)					
	VOC	CO	NOx	PM10	PM2.5	CO2e
Total annual emissions (US tons)	51.9	250.9	260.5	48.3	39.3	195,443.2
Percentage reduction in emissions	33.8%	41.9%	12.3%	44.9%	40.9%	58.5%

Based on the total annual reduction of emissions as shown above, the proposed Salinas Valley Intermodal Rail Service would provide a significant reduction in annual emissions.

5. Business Model

5.1 Operational Requirements Train Service between the Salinas Valley and East Coast Intermodal Locations (still to be determined)

The train service requirements are what drive the facility and resources necessary for both the terminal services and the drayage operation to and from the Salinas Intermodal Terminal and the east coast destination intermodal terminals. These requirements are designed to meet the service needs which in this case are defined as, relatively speaking, "equivalent to truck". Our definition of "equivalent to truck" is "service and transit time that doesn't significantly deviate from truck". Depending on the agreed upon service plan with the rail carriers and key stakeholders, the operating plan that will be further developed in subsequent phases of this project will set the stage

and provides the tools to complete the modifications necessary to meet the railroad, terminal operators, and potential drayage operations requirements.

The following recommendations are provided in bullet form based on TranSystems' initial understanding of the operational requirements:

- We recommend that the operating entity (that will be established during subsequent phases of this project) make a formal request to the UP Railroad to provide train service between the Salinas Valley Intermodal Rail Facility and the specifically chosen east coast intermodal location (Philadelphia, Baltimore and Chambersburg are the ones under consideration at this time) for five trains per week in each direction. This level of train service is based on carrying 180 intermodal 53' containers per train, 5 days a week, from the Salinas Valley. This is a total volume per year, each direction, of approximately 46,800 x 53' containers.

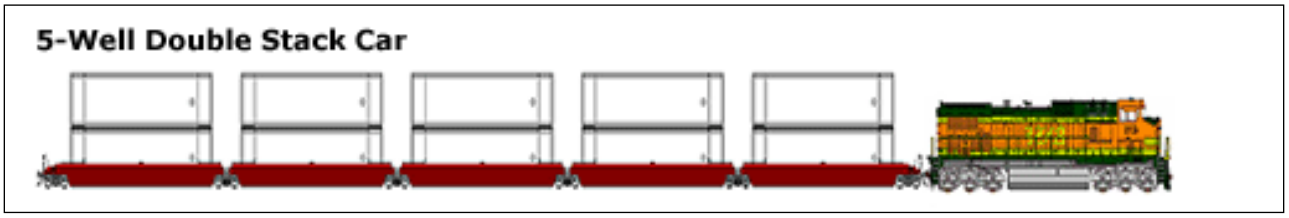
- As part of the request to the UP for train service, the Salinas Valley Intermodal Rail Service should also request that the UP provide the locomotive power, the train crews and all maintenance of the locomotive units and their communications. Based on preliminary discussions with the UP, we have assumed that the operating entity will lease or buy the cars that will be used for this service. This approach works well with single origin and destination moves and can be successfully implemented with good car management systems and agreements.

- We recommend that the UP crews operate the trains directly to and from the intermodal facility, including the interchange movements through some sort of train operating rights agreement in order to minimize any operationally related delays.

- Short haul train lengths should be limited to the existing siding lengths of the loaded train to avoid additional infrastructure development on the UP mainline.

- For more efficient operation, a private fleet of 5-well double stack rail cars should be used (as shown in Figure 6-1 below).

Figure 5-1: 5-Well Double Stack Car



Source: BNSF Railway website

- Electronic data interchange is essential to the success of this operation. The systems selected by the operating entity and/or its partners need to be compatible with the UP train management systems.

5.2 Equipment and Terminal Considerations

- Based on the small number of specialized customers on the originating western terminal, it could be very advantageous to have both the terminal services and the drayage services under the same third party control. This would allow the operator to streamline the terminal services and the pickup and delivery efforts of both the eastbound and westbound movements.

- The intermodal facility operation should be competitively bid out to operators.

- The facility should be laid out with two approximately 5,400 foot (minimum) receiving/departure and working tracks, with the ability to add an additional 5,400 foot track in the future.

- 53' container and chassis equipment ownership and or supplier agreements are an important element of the operation and will need to be taken into consideration.

- Terminal operating equipment, lift equipment, hostler tractors, and potential small switch engines for movement of double stack rail cars within the terminal are also items to consider in the development of an overall operating plan.

- There should be some ability for storage of empty inbound 53' containers on the facility. The exact storage requirements will be more fully assessed in the next phase of this project. Stacking and double handling of units should be kept to a minimum for the type of service currently under consideration.

- Refrigerated container washing facilities may also be a component of the terminal operation.

- The layout of the facility should be able to accommodate both side loader and gantry crane operations. Pictures of the two types of lift equipment are displayed below with additional data concerning lift equipment options to be developed in subsequent phases of work on this project.

- Truck fueling and minor locomotive maintenance areas should be provided on site for the locomotives at the Salinas Valley Intermodal Terminal.

- There should be a truck entrance and exit facility built, to allow for a minimum of 5 minutes per inspection of the units entering and exiting the facility without having trucks queuing onto local roads.

- An operations building should be designed so that it can accommodate the administrative portion of the work as well as wash and locker facilities for the outdoor operations including, but not limited to, lift equipment operators, hostler drivers, and equipment maintenance personnel.

- The facility should be lit to allow for night operations. This will depend on the train service plan and the loading operations requirements.

- Transload track opportunities for non-intermodal freight should be considered and explored as well as any necessary warehouse infrastructure required for potential backhaul cargo (i.e. UPS and/or FedEx cargo).

6. Conceptual Site Layout

6.1 Overview

TranSystems prepared conceptual rail layouts for the sites in Gonzales and Chualar determined to be optimal from the site selection phase. These layouts show the approximate improvement area, the track layout, the proposed facility entrance and the approximately parcel boundaries of the affected parcels. In the case of both sites, a linear track facility, adjacent to the existing main line is being proposed as this is the most efficient track layout for spotting rail cars and requires the least amount of real estate. Based on feedback received from Union Pacific Railroad, the track configuration for both sites includes a main line turnout at both ends of the facility to allow UP access from either direction. Two tracks are proposed for the facility; a receiving and departure track, so the facility can chamber an empty train.

Where possible, the sites have been located so as to avoid the construction of new at-grade crossings. New at-grade crossings are regulated by the California Public Utilities Commission (CPUC) and require a new crossing application. This process can take more than six months to complete and requires both the Railroad and local agency concurrence.

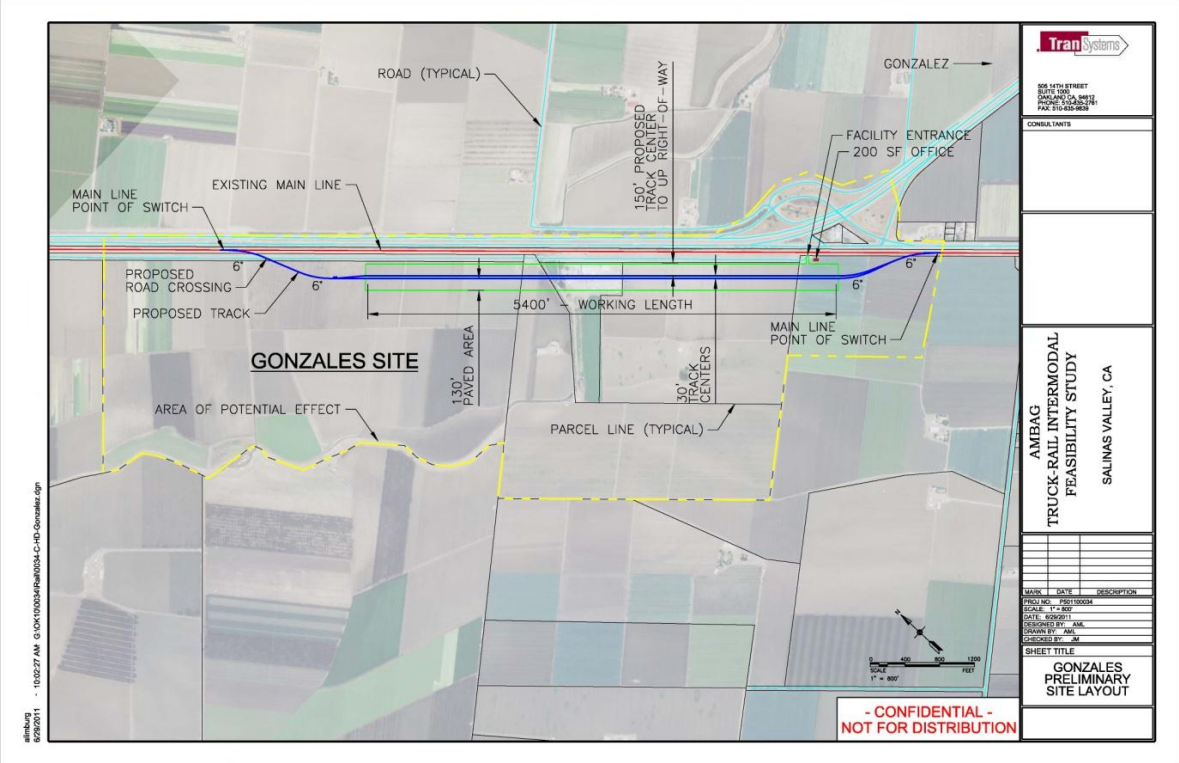
These conceptual layouts were developed in order to illustrate a suggested basic layout for each site for discussion with the Railroad and other stakeholders (for a larger diagram of each of the site layouts, please refer to Appendix F). A more detailed analysis of truck routes, infrastructure improvements and site constraints is necessary and should be undertaken in the next phase of the project. The site locations do not correspond to the exact areas identified on the suitability maps, as a number of site-specific criteria were considered in the site placement as described below.

A summary of each site is as follows:

Gonzales

- The site is proposed at the northern limits of Gonzales, (see Figure 6-1) on the west side of the main line, in order to avoid the area near the cemetery and the wineries at the south side of town.
- The Gonzales site was located further to the north than shown on the Suitability Maps in order to avoid impacts to Corda Road and the developed parcel immediately north of Corda Road on the west side of the main line.
- The site access is proposed off of Foletta Road, where it crosses the existing Union Pacific Railroad main line. This would avoid a new at-grade crossing at the south end of the site. Improvements to this crossing will likely be needed to accommodate the increased traffic flow associated with the development.
- The facility entrance will be located a sufficient distance from Foletta Road to prevent trucks from queuing on the adjacent public roads.
- The north main line rail connection will require a new at-grade crossing through Foletta Road.
- Acquisition of a developed parcel is shown. Other options that could mitigate impacts to the developed parcel include moving the proposed site further north, or construction of a looped track facility. Moving the site north would result in an additional at-grade crossing on the south end. A looped track would pose operational challenges associated with loading rail cars in a curve. These options and their impacts to developed properties will need to be examined in greater detail in the next phase of the project.

Figure 6-1: Gonzales Conceptual Site Layout

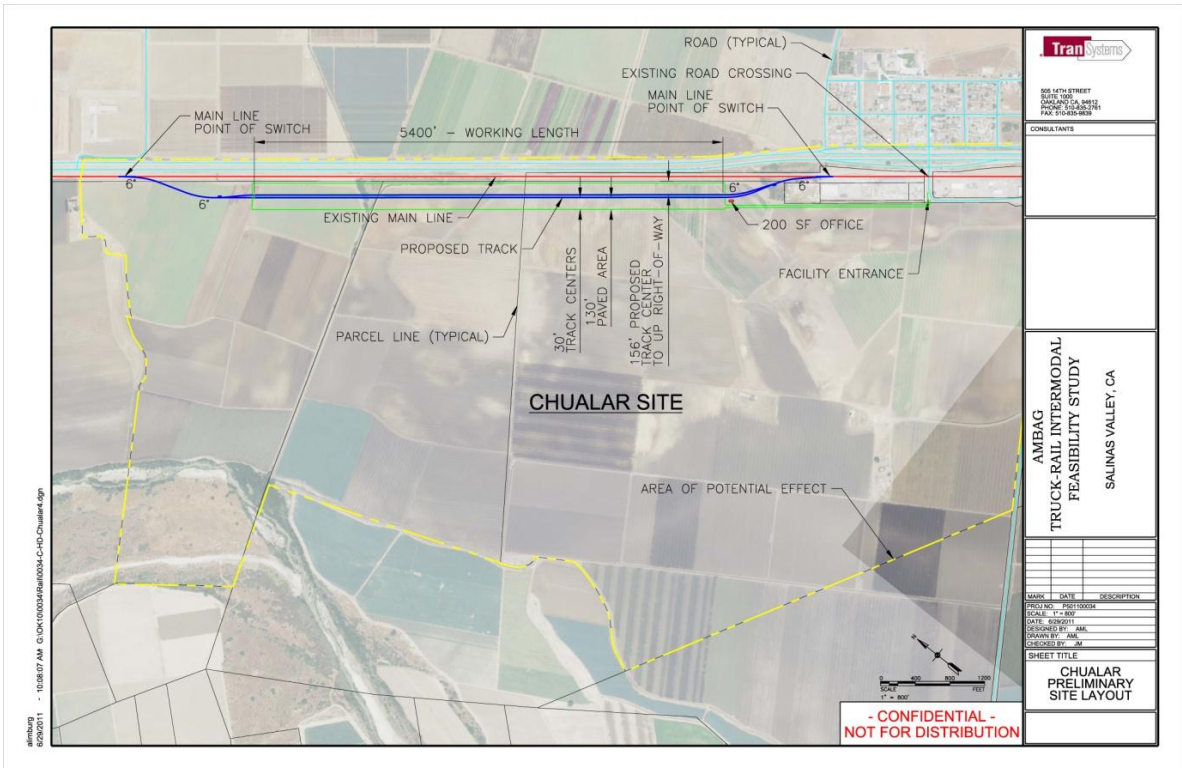


Source: TranSystems

Chualar

- The site is proposed on the west side of town, (see Figure 6-2) west of the Union Pacific Railroad main line.
- The site access is proposed off of Chualar River Road, where it crosses the main line. This avoids a new at-grade crossing. Improvements to this crossing will likely be needed to accommodate the increased traffic flow associated with the development.
- The facility entrance will be located a sufficient distance from Chualar River Road to prevent trucks from queuing on the adjacent public roads.
- The north main line rail connection will not require a new at-grade crossing.

Figure 6-2: Chualar Conceptual Site Layout



Source: TranSystems

The concept layouts have been provided to the Union Pacific Railroad and general feedback has been received; however formal approval of these layouts has not been granted. At this next stage of design, a formal submittal to Union Pacific Railroad will be necessary in order to obtain service approval. The submittal will need to meet the UPRR guidelines for industry track construction.

6.2 Preliminary Cost Estimate

Based on our experience with intermodal facility our high level cost estimate for this facility is approximately $150k to $250k per acre, depending on the area and thickness of paving and the extent of earthwork. Pavement will be one of the largest costs on this project. Both sites as proposed are roughly 80 acres, so the total project cost would be between $12M and $20M.

7. Environmental Review

The full environmental review and checklist can be found in Appendix H – the project description and summary statement are included in this section of the report.

Project Description

The Association of Monterey Bay Area Governments (AMBAG) is proposing the construction of a truck-to-rail intermodal transport facility to ship agricultural goods cross-country.

Purpose and Need

The purpose of this project is to:

- Improve the mobility of agricultural produce (eastward) and dry goods (westward).
- Decrease cross-country transportation via diesel trucks.
- Preserve regional deteriorating roadways and improve regional air quality.

Agriculture serves as the leading industry within the Central Salinas Valley (Monterey County, 1986, p. 82). Currently, the nearest connection to an intermodal yard is located in the San Francisco Bay area (AMBAG, 2010a, p. 48). A more accessible link to the national rail system would make Monterey County a more desirable connection for agricultural transport. The intermodal system would increase efficiency and maintain competitiveness within the industry. Additionally, the use of rail instead of diesel truck would reduce vehicle miles traveled, and emissions released during these trips (AMBAG, 2010b, p. 3).

Description of Work

Regardless of the site chosen, the proposed project would occupy150-200 acres. Of this total area, 60 percent would be paved for an access road and loading (dimensions 130 by 5400 feet). The remaining would be reserved for drainage purposes. Two loading tracks parallel to the existing Union Pacific (UP) main line would be installed (5400 feet of working length). Additionally, an office building would be built, occupying approximately 200 square feet. The site will also provide facilities for truck fueling, minor locomotive maintenance, and washing refrigerated containers.

Alternatives

To determine potential sites for the project, AMBAG prioritized preferred traits and created a ranked suitability map using the Geospatial Information System (GIS). From this, they identified two areas within Monterey County as the most suitable: Chualar and Gonzales. (See *Figure 1* and *Figure 2 in Appendix H).* Alternative layouts were discussed, but after careful consideration, were rejected for reasons summarized below. At the present time, the options being considered are Alternative A, Alternative B, and the No Build Alternative.

Alternative A: Chualar

Alternative A is located within Chualar, formally a census-designated place, an unincorporated community area within Monterey County. The existing community is located on the northeast side of US 101. The project site would occupy space 500 feet to the southwest from the community, north of Chualar River Road, and west of existing US 101 and UP rail. (See *Figure 3 in Appendix H).*

Trucks would use existing on/off-ramps, but interchange improvements will be necessary. To reach the site, trucks traveling southbound on US 101 would take exit 317, turn right on Chualar River Road, and make another right onto the access road (passing existing industrial businesses) that would lead them north toward the entrance of the facility. Upon leaving the facility, these southbound trucks would travel south on the access road, make a left on Chualar River Road, and a right to merge onto US 101-S. These trucks would not need to pass through the main community area, only through existing industrial businesses along the access road. (See *Figures 5a, 5b in Appendix H).*

Trucks traveling northbound on US 101 would take exit 317, merge onto Grant Street (passing through the community of Chualar), turn left onto Chualar River Road, then right onto the access road (passing existing industrial businesses) that would lead them north toward the entrance of the facility. Upon leaving the facility, these northbound trucks would travel south on the access road, make a left on Chualar River Road, turn left onto Grant Street (once again passing through the community), and then merge onto US 101-N. (See *Figures 5c, 5d in Appendix H.)*

Additionally trucks use of the interchange may require improvements to the Chualar Interchange. Anticipated improvements would be ramp widening, intersection widening and widening the overcrossing to allow truck turning movements. The above traffic recommendations are based on site visits; during the CEQA analysis a full traffic study should be completed. Depending on the scale of the interchange improvements, an Environmental Impact Report may be required.

Alternative B: Gonzales

Alternative B is located within the boundaries of Monterey County, further south than Alternative A. Alternative B is located about 1 mile northwest of the city of Gonzales, but is not located within city limits. The project would occupy space on the southwest side of US 101, UP rail, and Foletta Road. The new track construction would need to include a crossing for the new track to cross Foletta Road. (See *Figure 4 in Appendix H.)*

Trucks would use existing freeway on/off-ramps, but interchange improvements may be necessary. To reach the site, trucks traveling southbound on US 101 would take exit 313, turn right at Foletta Road, and another right to enter the facility. Upon leaving the facility, these southbound trucks would exit the facility, take a left on Foletta Road, right on Alta Street, and a left onto the on-ramp to US 101-S. (See *Figures 6a, 6b in Appendix H.)*

Trucks traveling northbound on US 101 would take exit 313, loop through the off-ramp, then make a right at Alta Street, merge onto Foletta Road, then enter the facility. Upon leaving the facility, these trucks would take a left on Foletta Road, right on Alta Street, left onto the on-ramp, and merge onto US 101-N. (See *Figures 6c, 6d in Appendix H.)*

Additionally trucks use of the interchange may require improvements to the Foletta Road interchange. Minor improvements may be required to the on and off ramps to accommodate truck turns to access the project site. The above traffic recommendations are based on site visits and during the CEQA analysis a full traffic study should be completed. Depending on the scale of the interchange improvements, an Environmental Impact Report may be required.

No Build Alternative

Existing conditions would remain. Goods would continue to be shipped by diesel trucks. Highways will deteriorate, and rising fuel prices will contribute to an increase in food prices.

**Alternative Site Locations Considered but Rejected*

Two additional project layouts were carefully considered but rejected.

In Chualar, an alternative site layout included the installation of a frontage road. In this potential scenario, a frontage road would be built to provide truck access at the north end of the facility, with the goal of re-routing truck traffic around the community. This option was rejected for its heightened cost and environmental requirements.

Closer to the city of Gonzales, an alternative layout was rejected to avoid impacting an existing cemetery, businesses, and wineries.

Summary Statement for Preliminary Environmental Assessment Report (PEAR)

Alternative A and Alternative B

Both sites would likely require an Initial Study (IS) leading to a Mitigated Negative Declaration (MND). The technical studies would focus on the potential impacts relating to the truck-to-rail facility.

Monterey County's Planning Commission must approve by vote any change of agricultural to industrial land use. A land use study would determine effects of land use change to existing and neighboring land. More specifically, potential impacts due to the conversion of valuable farmland would be addressed.

Since the traffic circulation plan during facility may heavily impact the community, a traffic analysis would be required.

A Historical Resources Evaluation Report (HRER) and a Historic Property Survey Report (HPSR) would be needed along with an Archaeological Survey Report. If a property is eligible for the California Register of Historic Places, coordination with Section 106 would be necessary.

Because the site is located within the 100-year floodplain delineation, a Floodplain Evaluation Report and a Location Hydraulic Study would be required.

Because the site would add impervious pavement and incur heavy truck traffic, a water quality study would evaluate impacts to groundwater recharge rates and water quality.

Vicinity to important soils, minable minerals, and faults triggers the need for a geotechnical report focusing on geology, soils, seismic hazards, and topography. If the area is a geologically sensitive area, special ordinances would need to be adhered to and local building permits would need to be obtained.

Due to proximity to rail lines and old buildings, an initial site assessment should be completed to identify potential hazardous materials that could harm workers or the community.

An Air Quality Technical Report would address impacts both during construction (fugitive dust emissions) and during site operation (due to increase in highway capacity). It would discuss the level of GHG emissions.

A complete biological study would evaluate the impact to special status species, native vegetation, and potential habitat zones. Because the project encroaches on wetlands, a 401 Certification/404 Permit would be necessary from the ACOE. Consultation with the DFG would be required for a Streambed Alteration Agreement (Code 1600).

Individual Requirements

**Both alternatives require aforementioned studies, in addition to the following requirements:*

Alternative A: Chualar

Since the Chualar site is in close proximity to sensitive receptors, a Noise Study Report would be needed.

Alternative B: Gonzales

If the biological study indicates the presence of the threatened species, Section 7 (Endangered Species Act) compliance would be required.

8. Conclusions and Recommendations

Produce shippers in the Salinas Valley face increasing truck rates to get their commodities to East Coast and Midwest markets and must find viable alternatives for their shipping needs. The only viable solution is to use rail service for a portion of these shipments, not only to provide enough transportation capacity and reduce costs but also to mitigate some of the risk associated with relying on one mode of transport for the agricultural products that form such a critical part of the Salinas Valley economy. This study builds upon past studies and further validates the cost competitiveness of an intermodal rail service to meet these alternative transport goals. It has also created a framework for a more detailed analysis in the next phase of the project.

In addition to the economic viability of this project, the emissions reduction that could be achieved by switching a portion of the produce moving via truck to rail is also a compelling factor. In other studies done by TranSystems with shippers using truck and rail, the single largest impact to addressing air pollution standards is shifting freight from truck to rail. The Salinas Valley and the Highway 101 corridor in particular are also facing increasing congestion from both truck and automobile traffic. This intermodal rail service would assist in reducing the number of trucks using the local roadways by at least 10 percent. The small, incremental increase in truck traffic created by this facility will only impact a very short section of the local roadways and depending on what frontage road access could be created; most of the traffic could be kept off Highway 101 altogether. Rail creates a much cleaner way to move some of the produce out of the region. In addition, the railroads' level of service has improved over time, making it an ideal choice for transporting time-sensitive agricultural commodities.

Since it was established in this study that intermodal service is the only feasible option for rail service (versus boxcar service as was originally considered), the infrastructure requirements are therefore greatly reduced. For a boxcar service, a refrigerated, multi-temperature facility would need to be built at both the origin and destination sites. Whereas, with an intermodal facility, the main infrastructure required is adequate space for handling the trailers and chassis (wheels). This is a much lower cost option and can be developed in stages in order to meet the volumes as they increase from an initial facility start-up to a more fully established build-out condition.

There are various aspects of this service that will require more analysis in the next phase of work effort. Some of these elements are:

- Cost Analysis – A more detailed cost/benefit analysis, including:
    - Cash flow that can be generated, total cost of transit intermodal rail plus destination trucking for the East Coast Distribution Center deliveries)
    - Backhaul freight opportunities
    - UP Rail pricing for produce as benchmark rates were used in this analysis
    - Capital/operating cost for facility
    - Equipment cost
    - Cost of capital
    - Return on investment
- Site/Rail Layout Design – Basic conceptual design was done for this report and this will need to be developed in further detail. Formal UP Railroad approval will also be required.
- Site Due Diligence – Each of the site constraints identified in this study will need to be further evaluated from a feasibility, cost and schedule perspective. In addition, a detailed permit evaluation will be necessary.
- Environmental Review – a full environmental evaluation will be needed.

- Operational Analysis – A more detailed operations plan, including evaluation of operating entities will be required.

In summary, this is the right time to move forward with the use of rail for the shipment of agricultural products from the Salinas Valley region. With more scrutiny of carbon emissions, rising truck prices and potential truck shortages, this economically important industry must find other transportation options, and an intermodal rail service would provide a viable solution to these issues.

9. Appendix A – Meeting Minutes

Association of Monterey Bay Area Governments (AMBAG)

Salinas Valley Truck-Rail Feasibility Study

Monterey, California

Monday August 16, 2010 - 3:30 p.m.

Kick-Off Meeting

AMBAG Office

445 Reservation Road

Marina, CA 93933

Objective of meeting: Kick off meeting and review of project plan

Attendees

AMBAG: *Randy DeShazo*

Growers and Shippers Association (GSA): *Steve Collins*

Monterey County: *Jim Cook*

City of Salinas: *Jeff Weir*

Transportation Agency for Monterey County (TAMC): *Hank Myers*

TranSystems: *Anne Landstrom, Jon Marshall, Joe Geraty*

Meeting Notes

- Randy – two groups involved in project: 1) staff level oversight, 2) Elected Officials / Policy Makers – selected by John Doughty (AMBAG Director)
  - Lou Calcagno (Monterey County Supervisor – District 2)
  - Simon Salinas
  - Jim Bogart, President GSA. Steve thought that there was no role for him
- Randy overseeing TS effort, logistical questions, meetings, day-to-day coordination.
- Randy - Goal of Study
  - Identify the preferred site
  - Backup the preferred site with market analysis
  - Economically makes sense.
  - Air benefit

- AMBAG has a lot of data. Can provide:
  - industrial data
  - central coast commercial flows study
  - freight needs. Have specific company information.
- Jeff Weir would like to identify new and potential site locations.
- Show 101 connections as dots on future maps
- Schedule – overview.
  - Firm up technical workgroup meeting dates in the next couple weeks (**Action – TS and AMBAG**)
  - No Friday meetings. Monday's at 3:30 p.m. works well (Steve – has commitment Monday's at 1pm)
- Final presentation. Policy makers will likely drive the date
  - Steve – include the stakeholder that would build the facility.
  - Possibly at GSA office.
- Study area – line across south Salinas. Straight line to 101.
- Candidate sites
  - South of Gonzales – out. Don't want to go that far.
  - Leave Gonzales in. Steve has client that owns 300 acres (zoned, flat, competitively priced)
  - Spreckels – no good.
  - Heavy emphasis out of Blanco area. ($35 - $40k / acre). Not good rail access.
  - South Salinas contiguous to rail line. West of the rail line to avoid overpasses, etc.
  - Chualar – outstanding option.
  - Soledad – out
  - Boronda Meadows site. Truck access is an issue. Good rail access.
  - From Firestone south – study area.
  - Salinas Yard – Market street will be an issue with traffic.
- Lou Calcagno supports this project in the City of Salinas
- UPRR contacts Jeff Weir has been in contact with.
  - Paul MacDonald, Network and Industrial Development
  - Wes Lujan, Public Affairs. Wes has been reassigned to Chicago area.
  - Include Intermodal in discussion.
- Steve Collins wants another meeting with GSA to discuss project
  - Agricultural folks will want to own this.
  - Need to confirm that there is the rolling stock to support this.
- Jeff Weir inquired as to whether are we talking to RailEx.
  - TS indicated, yes. This will be part of the Business Case analysis.
- Tom Nunes – stakeholder.
  - Ship product via Railex out of Delano.
  - Pencils out to truck to Delano. Empty backhaul.

  - They were driving to Walla Walla and it worked.
  - Using special rail ex cars. (length poss. 64')
  - Load in Salinas. Cool. Shrink wrap. Ship to Delano. Unload in NY. Reload in truck. To customer.
  - Only certain commodities being shipped.
- Ideal Operations:
  - Plant container at cold storage. Hydrovac to box. Truck to train. To destination. Onto consumer truck.
- Confirm if reefers can be double stacked (**Action – TS**)
- 64' Railex box only gets 2.5 trucks. Intermodal box is equivalent to a line haul truck.
- Need to consider the truck reduction given the air board involvement (**Action – TS**)
- Cambridge Systematics is developing a model for truck trips and rail trips based on the split of commodities. Forecasting tool.
  - Incorporate into travel demand model. Help with emissions model.
- Steve Collins - If new facility yields same transportation cost as current, wouldn't consider it.
- Salinas Valley used to ship by rail. Advancement in cooling / hydovac / forced air cooling. Trucks are more convenient.
- Problem with trucks – cost of oil. $1 diesel increase adds big cost.
- Steve will give the GSA diesel price sensitivity data (**Action – GSA**)
- Currently POS is Salinas Valley.
  - With Rail POS is at destination. Gives the shippers control over release of product timing. Better market control. (referred to as FOB price point)
- Timeframe difference train vs. truck – 1 day.
- Existing data
  - IMPLAN model – AMBAG.
  - Geocoded data on Firms including, size, sales, employees.
  - Freight bottlenecks.
  - Steve Collins will provide everything he has. Looked at sites and investors - confidential (**Action – GSA**)
  - Steve - Dr. Johnathan Mun's Economic study. All background data for report.
  - Steve : Best data – sit with Jim Bogart. Very interested builders. Interested in any site that makes sense.
- Randy - Covering ownership models.
- Lou Huntington is a stakeholder. (not to be disclosed yet).
- Need to discuss the timing of the release of the final report given the potential property acquisition elements. Don't want real estate prices to spike.
- Land Use is a key issue. Everything west of the rail lines is productive agricultural land.
  - Need stakeholder buy in.
  - Re-zone required.

- Jeff Weir - 100 acre minimum site. 200 acres (ideal). The larger acreage would better support a re-zone.
- Jeff Weir - #1 cost element – Road improvements.
- Tiger II – application timing. (**Action- TS**)
- Site Selection criteria – share at next meeting (**Action – TS**)
- Market Analysis Overview (Joe):
  - List of contacts (from GSA – use this data)
  - Evaluate key issues.
  - Develop questionnaire (price point)
  - Possible Focus group (Steve Collins says yes, pull them into one room.).
  - Discuss needs, desires, ROI, cash versus debt, Government intervention.
  - State grants. How much government involvement surrounding funding is desired.
- Significant change in market. Growing locally. Moving into east coast heavily.
  - Result of deterioration of local economies.
  - Local officials are looking for local growers.
- Jim Cook - Examine how we can lock in other goods movement trends into our study.
  - Look at backhaul. Railex has some insight to offer.
  - China traffic. Review changes in the industry that this facility can capture (**Action – TS**)
  - More outreach from China into the Salinas Valley.
- Railroads - Need to get product out of the Ports.
- Technical work group meeting 2 – possibly 9/13. (**Action – TS**)
- Jeff Weir - Delano went through an extensive process for Railex. Investigate incentives that were used.

Association of Monterey Bay Area Governments (AMBAG)

Salinas Valley Truck-Rail Feasibility Study

Monterey, California

Monday October 4, 2010 - 2:00 p.m. to 3:30 p.m.

Review Meeting No.1

AMBAG Office

445 Reservation Road

Marina, CA 93933

Objective of meeting: Review meeting to discuss site suitability criteria, review basic rail schemes.

Attendees

AMBAG: *Randy DeShazo*

Growers and Shippers Association (GSA): *Steve Collins*

Monterey County: *Jim Cook*

City of Salinas: *Jeff Weir*

Transportation Agency for Monterey County (TAMC): *Hank Myers*

TranSystems: *Anne Landstrom, Jon Marshall*

Meeting Notes

- Next meeting: **Monday Nov 15, 2010, 2pm-3:30pm**
  - Community Development conference room, Salinas, 65 West Alisal.
- AMBAG GIS Map - Ag businesses within 10 miles of sites.
  - Size of business based on volume
  - Put Kirsten Ward (TS) in touch with Randy DeShazo re: GIS data.
  - GSA would be excited
  - Dry storage also good.
  - Do they want it.
  - GSA could own jointly
- Ocean Mist, Dole, T&A – vertically integrate. Appeals to GSA.
- Only ship straight loads – no split loads or cauliflower
  - Lettuce
  - Broccoli
- Possibly add new cooling operation at Transload facility
  - Not taking enough volume away from existing cooler facilities to be an issue
  - 8% max volume of existing freight to new transload
- More need for cooling capacity. Focus on value added
  - Under capacity in coolers currently
- Division of ownership will need to be determined. Address competition between growers
  - Will need to limit participation.
  - 7 or 8 big players.
  - LLP agreements
- Possibly attract wine industry

- 60 cars per train. 3 trucks per car. 1 train per day.
  - 2500 / day trucks currently peak
- Physical load time for product will be an issue.
  - Delano – 19 hour turn time.
- Decision making on ultimate site selection.
  - It will be a policy maker decision (Jeff W.)
  - Evaluate 2 possible sites, maybe a third.
  - Preferred site, alternate site, third site.
- Jeff/Jim – concerned that upgrading existing crossings may be an issue.
  - Get confirmation from UPRR (**Action – TS**)
- Discussion of Rail Concepts
  - Liked option C and B.
  - Option C – 50 acres min.
  - Option B – 80 to 100 acres
- Trucks use 101 to move from field to cooler locations
- District 5 Caltrans
  - Neglected corridor in the State
  - Caltrans working with MPO's
  - Promote 101 as an export corridor
  - Produce and wine
- Food safety is a big concern.
  - No oil, soap, fertilizer
  - Homeland Security, FDA
- Bringing Caltrans in, may not appeal to growers.
- ROI needs to make sense for GSA
- Team Schedules:
  - Possibly have GSA stakeholder meeting before Oct 22 (Anne vacation)
  - Oct 15 to 23 – Steve Collins vacation
  - GSA meeting – Nov 4 or 5
- Bogart, Simone, Lou, Dennis Donahue (mayor Salinas) – possibly next week.
  - Salinas City Hall
  - Candidate sites are in Simone's district.
- Look at Land Use policy

  - Don't just look at zoning.
  - Do overlay with zoning once preliminary site suitability analysis is complete (**Action – TS**)
- Jeff Weir – higher rating on rail and zoning, highway access
  - Revise suitability criteria (**Action – TS**)
- Policy makers – articulate site suitability in 2 minutes or less.
  - Describe at a high level
  - Focus on constructability of site, ROI
- Possible interest in new origin point.
- A lot of interest in moving to southeast (Florida)
- Jeff Weir – UP/BN looking for more intermodal facilities
  - Discuss with UPRR (**Action- TS**)

Association of Monterey Bay Area Governments (AMBAG)

Salinas Valley Truck-Rail Feasibility Study

Monterey, California

Tuesday November 30, 2010 - 2:00 p.m. to 3:30 p.m.

GSA Stakeholder Meeting

GSA Office

512 Pajaro Street

Salinas, CA 93902

Objective of meeting: Review meeting to discuss GSA needs and expectations and summary of transportation cost analyses to-date.

Attendees

AMBAG: *Randy DeShazo*

Growers and Shippers Association (GSA): *(see sign in)*

TranSystems: *Anne Landstrom, Jon Marshall, Joe Geraty*

Meeting Notes

- Presentation – Joe / Anne
- Introductions
- Fuel prices / trucker shortage – catalyst for project
- Background
  - MST/City of Salinas/County – Rail made sense
  - Regulatory, statutory, cost considerations.
  - Phase 1 – 30,000 foot level
  - Phase 2 – 1,000 foot level
  - Phase 3 – implementation.
- Idea of hydro vacs in new facility – cut field transportation down
- Rail Ex experience - Tom
  - Tom – receivers request. Seasonal moves
  - Cost and storage
  - Don't source RailEx directly. Customers source RailEx. Buyer controlled.
  - FOB Salinas
- How many loads per week to justify the facility? 250 trucks per week.
- Potatoes, onions, carrots, celery. Can't cube out on a truck. Big savings.
- FedEx or UPS partner to get items on backhaul that are not a food safety issue.
- Are truckers equipped to handle intermodal containers.
- Intermodal vans out of Salinas by truck? Jim Bogart would know. Increasing/decreasing? TOFC.
- Tom - $8000 highest truck cost. Average is much lower. ($1000 high)
  - Data is tracked.
  - High-low monthly numbers.
- Dense items yield better return on rail.
- Frozen meat backhaul – not first choice.
- Boxcar isn't going to work for Salinas. Product isn't dense enough.
- Celery, cauliflower also included.
- Need to get forward distribution worked out for this to work – Jamie.
- Some straight loads exist (lettuce, celery thanksgiving). Most loads are mixed.
  - Want to cube out
  - Don't want to weigh out
  - Mix perishable with non-perishable.
  - You can cube out with spring mix – but perishable. Mix with our heavier products.
  - Strawberries are same.

  - Depends on transit time.
- More than 1 train stop? Possible. Drop cars in Chicago. Continue on to New York.
- Re-distribution facility to bypass logistics companies would be key.
- You have to mix product. Average load is 350 cartons per truck. Not a full truck.
- Maximum travel time without any stops. Fifth morning arrival is acceptable.
- Depends on end destination.
  - RailEx – Rotterdam, NY
  - Reach population density within hours.
- Map Intermodal terminals. Likely through UP-CSX.
- New York is too far. Harrisburg, Pennsylvania would be better. How far back west would you place the destination?
  - Cost for product from Harrisburg to New York.
- Try to emulate a truck.
- No drayage transportation cost in Salinas
- Do population density analysis. Evaluate transportation cost.
  - $2M within 2 hours
  - $4M within 4 hours
  - $8M within 8 hours
  - Can evaluate and eliminate product types.
- Overlay DC's
  - Wal-mart
  - Costco
  - Kroger
  - Safeway/VONS (and banners)
  - SuperValue (and banners)
  - Food Lion. (Delhaize)
- Make some assumptions on cost. Don't show $6800. Show a backhaul cost.
- Marketing survey would be needed if we move to next step.
- If intermodal – can deliver direct to customers. 3PL service. Would be part of the deal.
- Can we sell it to the ultimate customers? Understanding your customers' needs.
- C.H. Robinson – Logistics. Broker.
- Truck flexibility and speed beat out rail in the past.
  - Terminal market
- Cooling facility?
  - Don't see need given mixed products.
- C&S Wholesale and Stop 'n Shop.

- RailEx customers. Can contact them.

Association of Monterey Bay Area Governments (AMBAG)

Salinas Valley Truck-Rail Feasibility Study

Monterey, California

Monday February 28, 2011 - 3:00 p.m. to 4:30 p.m.

Stakeholder Update Meeting

Monterey County Office

168 West Alisal Street, 3rd Floor

Salinas, CA 93901

Objective of meeting: Review meeting to discuss GSA focus meeting, DC Analysis, Railroad update and finalize site selection.

Attendees

See Sign-in sheet

Meeting Notes

- Review of GSA focus group meeting presentation
- Hank – what is the effect on market trends at this time.
  - Anne: reduced trucker workforce is increasing demand.
- Hank – demand from China – wheat, corn. More exports.
- Steve – specialty crop perishables. Can barely get to the pacific rim.
  - Air freight cherries and strawberries.
- John D. – dead head loads coming back are a concern.
- GSA sells FOB –
  - Cost differential in shipping by rail is a great benefit
- Boxcar Loads
  - Off the table.
  - UPRR has pre-existing contract that prevents boxcar service
  - GSA did not favor boxcar.
- Intermodal – packing/cooling happens offsite.

  - Loaded and not touched until it reaches ultimate DC.
  - Big advantage
- Possible $10k loads in 3 months. Makes rail very economical.
- Current economics will work with a dead-head return
  - 10 to 15% backhaul potential which is not included in the current cost model
- Strategic Advantages
  - Few drivers/requirements
  - Higher diesel costs
- Public versus private money
  - Offsite improvements could have public funding source.
- Steve – process is taking a long time
  - GSA may want to pick up the pace
- New AMBAG Logo
- Review of DC analysis
  - 3 intermodal facilities examined
  - All CSX facilities
  - 7 customers' produce warehouses evaluated based on input from Tom Nunez
  - 2010 census data not yet available. Could be updated in 4 to 5 months when data is published
  - Likely between Baltimore and Chambersburg.
  - Chambersburg makes most sense to Steve Collins.
  - Costs are based on truckload.com and include average fuel.
- GSA talked to FedEx about the backhaul
- Jeff Weir – have a separate meeting with UP to talk about Ancillary and/or agg support at the proposed facility (**Action – TS**)
- How will the report be published
  - When to involve land owners? Do they want to be partners
  - GSA is looking at putting together a fund and buy the property
- Steve – Chualar is better than Gonzales.
  - Unincorporated
  - Tax benefits
  - Major growers are in the north. Closer to cooling facilities
- Chualar concerns
  - offsite improvements – frontage road cost
  - From firestone to Chualar
  - Vertical clearance at overpass
- Grade separation – will it be required.
- Need to know deal killers in this study

  - Traffic infrastructure / maneuvering
- Salinas south traffic not an issue
  - Soledad north is the issue.
- Look at additional scope for cost and CEQA analysis of the two preferred sites (**Action – TS**)
- TAMC has frontage road project on east side of main line.
- Facility size
  - Account for possible future cooling at this facility
  - Intermodal expansion.
- Interdepartmental review committee meeting for side-by-side comparison of two site.
  - TS to contact Jim when basic comparison is complete (**Action – TS**)
  - Jim Cook will set-up meeting to give us feedback.

10. Appendix B – UP Railroad Information Requests

Association of Monterey Bay Area Governments (AMBAG)

Salinas Valley Truck-Rail Feasibility Study

Monterey, California

Thursday November 4, 2010

Union Pacific Railroad - Informational Packet and Information Request

I. Background of Project

AMBAG (Association of Monterey Bay Area Governments) which is the MPO for the Monterey County region; initiated this study as a result of some previous research done by the Grower-Shipper Association of Central California (which represents the big growers in the Salinas Valley). The agricultural industry in the Salinas Valley has been facing issues on having adequate methods of shipping their product to centralized markets (particularly in the eastern U.S.) and commissioned a study to look at the possibility of using rail for some of the shipments of produce to eastern markets. The results of this very preliminary study indicated that rail could be a viable option from both a service and rate standpoint and as a result, this more detailed terminal concept study was initiated as an RFP and TranSystems was awarded the contract.

The primary funding for this study comes from the Monterey Bay Unified Air Pollution Control District as there is also a desire by the public stakeholders to eliminate truck trips in the Salinas Valley in order to improve air quality and reduce roadway congestion, particularly along Highway 101. Possible funding sources for the ultimate terminal construction could come primarily from some of the larger members of the GSA.

II. Anticipated Volumes for Rail Service:

a. Via Boxcar : 60 boxcars (unit train), 3 trains per week at initiation of service moving to 6 trains per week
b. Via Intermodal Train: 180 – 200, 53' reefer intermodal units per train, 3 trains per week to start then moving to 6 trains per week in ultimate build-out.

III. Service Options:

a. If this is a boxcar service, transload facilities, some storage and the possibility of value add facilities for cooling, packing and other services
b. For intermodal – primarily a transload and loading facility
c. Use of a third party operator for the terminal would be the preference – we will be developing this as part of our business concept recommendations

IV. Size of Terminal

a. 50 to 100 acres depending on which model is chosen and which services will need to be included.

V. Questions for Union Pacific Railroad:

a. We have researched boxcar types and notice some 72' reefer boxcars – are they an option for this service?
b. We assume a unit train to be 60 cars – if using 72' boxcars, is that correct?
c. Our assumption (based on preliminary research) is that the boxcar rate for unit train quantities from Salinas to New York would be approximately $16,000 – is this accurate?
d. Would there be any difference in the feasibility of a boxcar and an intermodal terminal at this location based on the volumes indicated above?
e. What would be the transit time (Salinas to New York) for boxcar service? What would be the transit for intermodal service?
f. Would the frequency of 3 trains per week at the start then moving to 6 trains per week be feasible for boxcar? Would this frequency be feasible for intermodal service?
g. We would assume a drop-and-pull rail service configuration with the capacity to handle a loaded and empty train, with manual double-ended No.15 switches. Is this acceptable?
h. Could the rail infrastructure that is not used for active loading/unloading be constructed in the UPRR right-of-way?
i. Would a separate runaround track be required, or would runaround on the mainline be acceptable?
j. In general, would UP offer their concurrence in a CPUC application to upgrade an existing at-grade crossing to facilitate access to the new terminal?
k. What other rail infrastructure requirements do you anticipate?
l. Attached are 3 candidate sites that have been identified based on a preliminary site selection screening and stakeholder input. Would any/all of these sites be acceptable to UP?

VI. Next Steps

The following is a summary of next steps and anticipated timelines:

a. GSA Focus Group meeting – development of specific market requirements (**schedule - mid Nov '10**)
b. AMBAG Stakeholder meeting – possible UP attendance (**schedule - 3rd week Nov '1**0)
c. Business Concept development (**schedule – ongoing**)
d. Environmental Screening of preferred site (**schedule – Dec '10**)
e. Preliminary report (**schedule - end Dec '10**)
f. Final report (**schedule mid Jan '11**)

Association of Monterey Bay Area Governments (AMBAG)

Salinas Valley Truck-Rail Feasibility Study

Monterey, California

Revised Wednesday November 24, 2010

Union Pacific Railroad - Informational Packet and Information Request

VII. Background of Project

AMBAG (Association of Monterey Bay Area Governments) which is the MPO for the Monterey County region; initiated this study as a result of some previous research done by the Grower-Shipper Association of Central California (which represents the big growers in the Salinas Valley). The agricultural industry in the Salinas Valley has been facing issues on having adequate methods of shipping their product to centralized markets (particularly in the eastern U.S.) and commissioned a study to look at the possibility of using rail for some of the shipments of produce to eastern markets. The results of this very preliminary study indicated that rail could be a viable option from both a service and rate standpoint and as a result, this more detailed terminal concept study was initiated as an RFP and TranSystems was awarded the contract.

The primary funding for this study comes from the Monterey Bay Unified Air Pollution Control District as there is also a desire by the public stakeholders to eliminate truck trips in the Salinas Valley in order to improve air quality and reduce roadway congestion, particularly along Highway 101. Possible funding sources for the ultimate terminal construction could come primarily from some of the larger members of the GSA.

VIII. Anticipated Volumes for Rail Service:

a. Via Boxcar : 60 boxcars (unit train), 3 trains per week at initiation of service moving to 6 trains per week
b. Via Intermodal Train: 180 – 200, 53' reefer intermodal units per train, 3 trains per week to start then moving to 6 trains per week in ultimate build-out.

IX. Origins and Destinations:

a. Origin of product will be the Salinas Valley – from Castroville, CA to Greenfield, CA
b. Destination of the product will be the Eastern Seaboard

X. Total Volume and Product Types:

a. Total volume of produce moving out of the Salinas Valley during peak season is 2200 trucks per day – the volume for this service would be approximately 8- 10% of this total or 175 – 220 Truck equivalents per day
b. The product types will be: Iceberg Lettuce, Artichokes and Broccoli

XI. Service Options:

a. If this is a boxcar service, transload facilities, some storage and the possibility of value add facilities for cooling, packing and other services
b. For intermodal – primarily a transload and loading facility
c. Use of a third party operator for the terminal would be the preference – we will be developing this as part of our business concept recommendations

XII. Size of Terminal

a. 50 to 100 acres depending on which model is chosen and which services will need to be included

XIII. Questions for Union Pacific Railroad:

a. We have researched boxcar types and notice some 72' reefer boxcars – are they an option for this service?
b. We assume a unit train to be 60 cars – if using 72' boxcars, is that correct?
c. Our assumption (based on preliminary research) is that the boxcar rate for unit train quantities from Salinas to New York would be approximately $16,000 – is this accurate?
d. Would there be any difference in the feasibility of a boxcar and an intermodal terminal at this location based on the volumes indicated above?
e. What would be the transit time (Salinas to New York) for boxcar service? What would be the transit for intermodal service?
f. Would the frequency of 3 trains per week at the start then moving to 6 trains per week be feasible for boxcar? Would this frequency be feasible for intermodal service?
g. We would assume a drop-and-pull rail service configuration with the capacity to handle a loaded and empty train, with manual double-ended No.15 switches. Is this acceptable?
h. Could the rail infrastructure that is not used for active loading/unloading be constructed in the UPRR right-of-way?
i. Would a separate runaround track be required, or would runaround on the mainline be acceptable?
j. In general, would UP offer their concurrence in a CPUC application to upgrade an existing at-grade crossing to facilitate access to the new terminal?
k. What other rail infrastructure requirements do you anticipate?
l. Attached are 3 candidate sites that have been identified based on a preliminary site selection screening and stakeholder input. Would any/all of these sites be acceptable to UP?

XIV. Next Steps

The following is a summary of next steps and anticipated timelines:

a. GSA Focus Group meeting – development of specific market requirements (**schedule - mid Nov '10**)
b. AMBAG Stakeholder meeting – possible UP attendance (**schedule - 3rd week Nov '1**0)
c. Business Concept development (**schedule – ongoing**)
d. Environmental Screening of preferred site (**schedule – Dec '10**)
e. Preliminary report (**schedule - end Dec '10**)
f. Final report (**schedule mid Jan '11**)

11. Appendix C – Background Information on Emissions Study

ambag_emissions analysis_withrail.xlsx

12. Appendix D – Environmental Assessment Report and Checklist

13. Appendix E – Presentations

14. Appendix F - Conceptual Site Layouts

15. Appendix G – Field Photos

16. Appendix H – Trucking Rates to Distribution Centers