IMS WORLDWIDE INC.

Foreign-Trade Zone and Industrial Park Consulting and Marketing
Supply Chain and Security-Threat Assessments

Freight, Rail and Infrastructure Study of Kern County
Presented to: Kern County Economic Development Foundation
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Executive Summary

Kern County Economic Development Foundation (Kern EDF), Kern County Economic Development Corporation (Kern EDC) and the Kern Council of Governments (Kern COG) oversee the development of transportation and infrastructure solutions that result in economic growth and jobs development to the region including the cities of Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, Wasco and the large number of unincorporated communities throughout Kern County. This study is presented to the Kern economic development entities mentioned above as a report that presents the current freight, rail and transportation infrastructure of Kern County and the Central Valley of California, and outlines the feasibility of transferring current truck load volumes to railcar or rail intermodal for long-haul goods movement from California to other regions of the United States.

The report will summarize the current status of rail infrastructure in Kern County and the possibility of enhancing those facilities in order to convert more truck volume to rail volumes. Finally, the report provides a review of the benefits stream that would be available within Kern County and Central California if the efforts that result from this report do in fact, convert long-haul, out of state trucks to rail loads.

The Summation of this Report is very positive for the creation of a County Policy that supports and assists in a "truck to rail framework." There are many sizable enough accounts, with long enough "hauls" and frequent enough volumes for some of the trucks traversing Kern County to be transferred to domestic intermodal, and/or car-load quantities of goods which can and should be converted to rail. There are adequate "examples" of this for the County to review and once understood, create policies that would encourage more of this infrastructure development working in close proximity with rail service providers.

There are substantial economic and environmental benefits that would accrue to all of the stakeholders in the Central Valley. However, in order to get to these benefits, coordination of effort is the key ingredient. To a logistician, this is not rocket science; however, there are many moving parts, competitive issues and investments that must be made in order to succeed with the goal to convert certain lanes, certain products to long-haul rail instead of truck.

In the Central California, the movements of goods are predominantly movements tied to the magnitude of agricultural goods produced in the Central Valley. Drawing on prior reports and investigations into this sector of goods movements, IMS Worldwide, Inc. (IMSW) has been able to provide to Kern EDF, EDC and COG a profile of the highest volume of shippers in Kern County. IMSW has also identified three categories of shippers, who move goods outbound from Kern County, those who:

- Ship directly from a farm or production shed to a retail grocery distribution center,
- Ship from a farm or production shed to a processor or manufacturer of grocery, food chain products, and
- Ship from a farm or production shed to a wholesale food services distributor.

These sectors, coupled with a review of all manufacturing companies in the Bakersfield/Kern County region provide us with a broad view of the volume of shipments currently dominated by truck load or mixed truck load shipments which may be able to be converted to rail shipments. The key elements in this effort were to identify those products that can be converted from truck to rail, and we keyed our analysis on:

- The necessary infrastructure requirements or enhancements in the Central Valley to support this conversion,
- The density of origin-destination lanes for the rail carriers so that they can increase volumes on their rail networks,
- The volumes of import products that move into the Central Valley and how this sector would add to the opportunity of establishing rail service between the Central Valley and the ports at Oakland, Stockton and in the future Ports in San Pedro.

The Central California region as defined by the economic triangle of Oakland, Los Angeles and Bakersfield/Kern County represents a region where goods movements, transportation and mobility can be described by one word; "change." Change in the context of how goods/products flow, and how changes to the goods movement patterns will occur in the future. In the future, more changes are likely to occur that will continue to impact goods movements throughout California.

The recent economic recession altered the expected development in cargo-oriented buildings and infrastructure, and the higher unemployment rates and housing challenges continue to slow down economic development. These economic challenges have dramatically altered the pace of industrial development in California and the rest of the nation.

Infrastructure developments create a competitive "edge" for a region. However, the real value for a community is the number of jobs that are created as a result of the new infrastructure. Freight related industrial development has a clear, well defined outcome in terms of jobs creation. Within this report, IMSW will convey to Kern EDC, Kern EDF

and Kern COG some of the value proposition outcomes that result from creating jobs that are related to freight movement and logistics.

This report provides the following key Deliverables:

1. Work to identify shippers and receivers in Kern County whose volumes of movement of goods would sustain rail services.
2. Identify rail freight service benefits for such shippers and receivers identified above.
3. Provide an overview of the current infrastructure within the Central Valley, and Catalogue the infrastructure requirements necessary to convert the volumes of truck loads to rail loads and identify the lanes that are best suited for the effort to make this conversion.
4. Identify benefits to the Kern County Region from transition to rail services from truck freight; i.e., congestion, air quality, and road maintenance.
5. Identify the sectors of un-tapped capacity, using the empty containers that are back-hauled with no freight as a sector that can be penetrated to create shipments within these containers/vans so that there are no "empty legs" of transportation.

Report Findings

1. Work to identify shippers and receivers in Kern County whose volumes of movement of goods would sustain rail services.

There are three segments that were reviewed in order to identify key shippers and receivers in Kern County: Agricultural Producers, Importers and Manufacturers. In this study we have identified agricultural products as the target commodities for transferring large volumes of truck load cargo to rail load cargo. The reason for this focus is that crops grown in California, or imported into California, travel to the most heavily populated areas of the country-Texas and areas east of the Mississippi River. Consumers in these areas of the country seek fresh products from California, and there is now a proof-positive that a rail service can in fact compete with truck services to meet consumer demands. But the supply chains that support the agricultural industry are very distinct, and each supply chain offers a different challenge in terms of control over goods movements, the pace of goods movements and the destinations for goods movements.

Agricultural Industry in Kern County

In this section of the report, IMSW will provide an overview of the commodities, growers, shippers and decision makers who route freight to and from the Central Valley. IMSW conducted a review of the agricultural industry in the Central Valley. This review included six counties: (Fresno, Kern, Kings, Madera, Merced and Tulare). The gross product value of the agricultural products in 2008 was $20,784,973,800 with more than 6.5 million acres harvested.

County	Gross Product Value	Harvested Acres
Fresno	$5,662,895,000	1,337,770
Kern	$4,033,312,000	878,538
Kings	$1,760,168,000	864,328
Madera	$1,310,875,000	658,200
Merced	$2,999,701,000	1,159,926
Tulare	$5,018,022,800	1,608,358

Three distinct supply chains were identified as contributors to the overall volume of shipments of agricultural products leaving the Central Valley:

Supply Chain 1: The Grocery Distribution Supply Chain

This distribution system is the most simplistic of the supply chains. Growers, packers or packing contractors in Central California ship goods in truck loads or mixed truck loads to the distribution centers of the largest grocery retailers or grocery wholesalers across Canada and the United States. This system delivers large volumes of goods to multiple distribution centers for retail grocers who then distribute goods from within their own or contracted distribution center systems, resulting in goods on shelves for consumers to purchase at local grocery retail outlets. In almost every case, the buyer at the grocery retailer's offices ordered, managed and paid for the trucking services. The grower, packer or producer in the Central Valley was not involved in the decision process for moving goods between the California origins and the nation's retail grocery chains or distribution centers.

Supply Chain 2: The Value Added/Industrial Supply Chain

This distribution system is more complex as the location for value added services is highly fragmented geographically. Some value added services are conducted by farmers or farm associations in the Central Valley; other value added services are conducted closer to the point of consumption or to the consumption distribution delivery system. These industrial activities include a broad array of packing enhancements (party trays), slicing, peeling, grinding, sorting, manufacturing, baking, etc. California's raisins and carrots provide two differing examples of this system.

- Carrots are grown in the Central Valley and prepared into "finger foods" by spinning the carrots into bite sized carrots prior to the bagging and delivery to grocery distribution centers. The largest carrot growers perform this value added service in California; in fact it is part of their farm activity. The reality is that this value added activity adds another layer of captured income to the farmers and the leftovers are further processed by the growers at the farm to capture a third income stream from juice and concentrates.
- Raisins, however, have quite a different road between the grower and the consumer. Raisins are grown in Central California and stored, then shipped in bulk to the largest cold cereal packaging production centers in the U.S. Raisin

Bran cereal consumes some 46% of the total raisins produced. The manufacturing centers which produce the boxed cereals are located in numerous centers across the United States. Once packaged, the cereals enter another supply chain between manufacturing center and the grocery distribution center in order to supply the grocery retail outlets.

It should be noted that in this sector, truck loads of goods move at the buyers arrangement, schedule and cost; very little seller-arranged transportation responsibility was identified as part of the processing or value added sector. This statement reflects the segment of transportation between the farm and the first value added production or processing center, not the secondary move after the processing center between the processor or valued added service provider and the grocery distribution or wholesale receiver.

Supply Chain 3: The Food Services Supply Chain

This distribution system closely mirrors the value added supply chain. However, the destinations for these goods post-processing or manufacturing enter the restaurant/hospital and institutional supply chains. This supply chain is designed specifically to manage the movement of goods to restaurant/hospital and institutional distribution entities or to the distribution systems of the larger restaurant distributors. In some cases, restaurants must supplement their direct distribution of goods within their own closed supply loop to support spikes in demand or local "flavor demands" by using a third party restaurant services supply group.

Lettuce, for example, fits into all three categories of food, grocery and value added distribution.

- Lettuce is placed on "flats" to move from packing shed on truck/mixed truck loads to grocery distribution centers and then to retail outlets.
- Lettuce is also "bagged" into various versions of washed and prepared salads for consumers. This occurs locally or regionally (Fresh Express and Dole Foods in Salinas, CA) and is then shipped to grocery distribution centers and on to consumers at their retail grocery center.
- Lettuce is also "bagged" into bulk bags for retail, food service-restaurants or bulk buyers (Sam's, Costco, Sysco, Performance Food Group). These products move into the value added delivery system or move separately into the food services distribution system. In this sector, most transportation decisions and controls are exerted over the goods movements by the buyer, not the seller or packer. This statement reflects the segment of transportation between the farm and the first value-added production or processing center, not the secondary move after the processing center between the processor or valued added service provider and the grocery distribution or wholesale receiver.

In some cases, farmers are now required by contract to provide year round, fresh produce to grocery and/or retail chains. This demand has resulted in the farmers seeking new locations to farm, or purchasing and controlling goods farmed around the world to supplement their domestic production. This produce is shipped under the farmer's custody to the grocery wholesalers and retailers across the U.S. with whom he has the contracts. However, these imported products are invisible to the consumer who buys the fresh produce at the local grocery counter. These goods have a dramatic impact on the overall context of freight movements into and out of the Central Valley as the farm community is now part of the import process as well as part of the burgeoning export of commodities grown in California and now shipped around the globe.

Following are the Top 10 foodservice distributors and the number of distribution center locations. The names within the table below contain hyperlinks to the website of the referenced foodservice distributors.

Foodservice Distributors	Number of Locations
Sysco	172
U.S. Foodservice	76
Performance Food Group	19
Gordon Food Services	18
Reinhart Food Service	17
Food Services of America	13
Maines Paper & Food Service	9
Shamrock Foods Co.	3
Ben E. Keith	6
Cheney Brothers, Inc.	2

Top Agricultural Commodities and Producers

Following are the top commodities and producers of crops that are grown in Kern County based on the permitting acres reported by the growers to the County Agricultural center These agricultural shipments leave the farm, packing shed or processing center in Kern County and transit to one of the three supply chain categories above, either to a grocery retail distribution center(s), a manufacturing or processing center(s) or to an institutional, grocery wholesaler(s). A great deal of information can be observed based on the particular "value-added" at the farm, packing shed or processing center in Kern County. Goods that are picked, sorted, cleaned and packed on "flats" (oranges, stone fruit, etc.) have very little value and labor added in Kern County. At the other end of the value-added spectrum, tomatoes processed into paste represent a labor center for Kern County. Above the value of the packing center where some tomatoes are sorted and packed on flats for grocery retail, this product also represents a labor value for producers in Kern County.

A strong recommendation to Kern County would be to identify those value-added processing centers that are not in California as prospects for re-location into Kern County rather than being located in other regions of the country. This business relocation effort will add new jobs to the employment roles in Kern County, making the investment in marketing to these companies a valuable return for Kern County's economic development stakeholders. Those commodities listed that have value-added processing done outside Kern County would be identified prospects for relocation to Kern County. The commodities listed below represent the agricultural products produced in Kern County, by acres and by farm permit. This, in many cases also provides the name of the shipper or processor-at the field level-in Kern County.

Identify value-added processors not located in California in an effort to relocate their processing activities within the state.

COMMODITY	QUANTITY	UNITS	PERMITTEE
ALMOND	4,054.00	Acres	D&J FARM MANAGEMENT
ALMOND	6,680.40	Acres	FARMLAND MANAGEMENT SERVICE
ALMOND	10,659.33	Acres	GARDINER FARMS
ALMOND	3,486.00	Acres	HEIN RANCH COMPANY
ALMOND	9,686.00	Acres	MARICOPA ORCHARDS
ALMOND	36,731.33	Acres	PARAMOUNT FARMS-BELRIDGE RANCH
ALMOND	4,351.90	Acres	PAUL FARMS MGMT
ALMOND	11,819.00	Acres	SANDRIDGE FARMS
ALMOND	16,752.00	Acres	SOUTH VALLEY FARMS
ALMOND	4,449.00	Acres	STARRH & STARRH COTTON GROWERS
COMMODITY	QUANTITY	UNITS	PERMITTEE
CARROT	2,673.00	Acres	BLACKWELL LAND L.L.C
CARROT	27.00	Acres	BUTTONWILLOW LAND & CATTLE CO.
CARROT	784.50	Acres	BUTTONWILLOW LAND & CATTLE CO.
CARROT	7,921.00	Acres	CRYSTAL ORGANIC FARMS, LLC
CARROT	1,992.85	Acres	D. M. CAMP
CARROT	9,227.68	Acres	GRIMMWAY ENTERPRISES
CARROT	2,450.00	Acres	KERN RIDGE GROWERS
CARROT	2,839.50	Acres	KIRSCHENMANN FARMS
CARROT	2,200.32	Acres	MITCHELL FARMS
CARROT	1,152.00	Acres	SCOTT KIRSCHENMANN
CARROT	817.00	Acres	SON RISE FARMS
COMMODITY	QUANTITY	UNITS	PERMITTEE
GRAPE	3,200.00	Acres	7TH STANDARD RANCH CO.
GRAPE	2,313.79	Acres	ANTHONY VINEYARDS
GRAPE	2,081.00	Acres	CASTLE ROCK FARMING & TRANSPRT
GRAPE	2,613.10	Acres	DELANO FARMS COMPANY
GRAPE	5,516.50	Acres	GIUMARRA VINEYARDS & FARMS
GRAPE	2,808.00	Acres	HRONIS, INC.
GRAPE	1,987.00	Acres	JAKOV P. DULCICH & SONS
GRAPE	3,999.76	Acres	M. CARATAN, INC.
GRAPE	4,005.27	Acres	SUNVIEW VINEYARDS OF CA, INC.
GRAPE	4,700.63	Acres	SUNWORLD INTERNATIONAL LLC

COMMODITY	QUANTITY	UNITS	PERMITTEE
GRAPE, RAISIN	171.00	Acres	ALANIZ FARMS
GRAPE, RAISIN	635.50	Acres	C & A FARMS
GRAPE, RAISIN	240.00	Acres	C. A. READE RANCHES
GRAPE, RAISIN	645.00	Acres	DOABA FARMING COMPANY
GRAPE, RAISIN	718.00	Acres	HARBINDER S BRAR FMLY L PRT II
GRAPE, RAISIN	300.00	Acres	SANDRIDGE FARMS
COMMODITY	QUANTITY	UNITS	PERMITTEE
POTATO	1,864.50	Acres	BUTTONWILLOW LAND & CATTLE CO.
POTATO	1,877.00	Acres	CRYSTAL ORGANIC FARMS, LLC
POTATO	990.00	Acres	CSS POTATO FARMS LLC.
POTATO	4,595.53	Acres	GRIMMWAY ENTERPRISES
POTATO	778.00	Acres	H & H FARMS-
POTATO	1,786.00	Acres	JOHNSTON FARMS
POTATO	3,934.00	Acres	KIRSCHENMANN FARMS
POTATO	1,239.00	Acres	LEHR BROTHERS, INC.
POTATO	1,047.00	Acres	SANDHILL FARMS
POTATO	1,568.60	Acres	WHEELER FARMS
COMMODITY	QUANTITY	UNITS	PERMITTEE
TOMATO PROCESS	491.10	Acres	CAUZZA BROS.
TOMATO PROCESS	1,206.00	Acres	CRYSTAL ORGANIC FARMS, LLC
TOMATO PROCESS	515.07	Acres	GRIMMWAY ENTERPRISES
TOMATO PROCESS	502.70	Acres	HARRIS FARMS, INC
TOMATO PROCESS	7,562.00	Acres	J. G. BOSWELL CO,
TOMATO PROCESS	1,522.60	Acres	OPAL FRY & SON
TOMATO PROCESS	485.00	Acres	S AND H FARMS
TOMATO PROCESS	503.00	Acres	TRI-FANUCCHI FARMS, INC.
TOMATO PROCESS	752.30	Acres	WALKER FRY RANCH
TOMATO PROCESS	1,173.95	Acres	WEGIS RANCH

Importers in Kern County

In this section of the report, IMSW will provide a roster of the top importers in Kern County who receive freight from the major California Ports of Long Beach, Los Angeles, Newark, Norfolk, Oakland, New York, Charleston, Philadelphia, Houston and Seattle as part of the report deliverable. These companies, below, receive containers loaded with consumer goods manufactured overseas and delivered by truck or rail/truck from the port of entry. Kern County as a destination for containers is dominated by volumes from the Ports of Los Angeles and Long Beach, however, this profile of container receivers demonstrates the globalization of trade and demonstrates Kern Counties role in that trade.

Port of Long Beach

1. Ikea Wholesale, Inc. Lebec, CA
2. Sunshine Metal Clad Bakersfield, CA
3. Sierra Intl Machinery Bakersfield, CA
4. Four Star Fruit Inc. Delano, CA
5. Argo Chemical Inc. Bakersfield, CA

6. GWC Valve International Bakersfield, CA
7. Insect Lore Products Shafter, CA
8. Jims Supply Co. Bakersfield, CA
9. Edsal Sandusky Corp Arvin, CA
10. Don Genovese Warehouse Bakersfield, CA

Port of Los Angeles

1. Ikea Wholesale, Inc. Lebec, CA
2. Pandol Bros Inc. Delano, CA
3. Four Star Fruit Inc. Delano, CA
4. GWC Valve International Bakersfield, CA
5. Serranos Furniture Delano, CA
6. PRC – Desoto International Mojave, CA
7. Camping World, Inc. Bakersfield, CA
8. Insect Lore Products Shafter, CA
9. Jims Supply Co. Bakersfield, CA
10. Sunview Marketing Delano, CA

Port of Newark

1. Ikea Wholesale, Inc. Lebec, CA
2. Sierra Intl Machinery Bakersfield, CA
3. Dreyer's Grand Ice Cream Bakersfield, CA
4. Paramount Citrus Assoc. Delano, CA
5. U.S. Borax Inc. Boron, CA
6. Serranos Furniture Delano, CA
7. Rio Bravo Tomato Co. Buttonwillow, CA
8. Mark Sheffield Construction Bakersfield, CA
9. Schokinag Chocolate NA Bakersfield, CA
10. Stockdale Ceramic Tile Bakersfield, CA

Port of Norfolk

1. Ikea Wholesale, Inc. Lebec, CA
2. Schokinag Chocolate NA Bakersfield, CA
3. U. S. Borax Boron, CA

Port of Oakland

1. Ikea Wholesale, Inc. Lebec, CA
2. Sunshine Metal Clad Bakersfield, CA
3. Western Oilfield Supply Bakersfield, CA
4. Schokinag Chocolate NA Bakersfield, CA
5. Serranos Furniture Delano, CA

Port of New York

1.	Serranos Furniture	Delano, CA
2.	Ikea Wholesale, Inc.	Lebec, CA
3.	Schokinag Chocolate NA	Bakersfield, CA
4.	Rhino Valve USA	Bakersfield, CA
5.	U.S. Borax	Boron, CA

Port of New York

1.	Ikea Wholesale, Inc.	Lebec, CA
2.	Schokinag Chocolate NA	Bakersfield, CA
3.	PRC Desoto International	Mojave, CA
4.	Schlumberger Technology	Bakersfield, CA
5.	U.S. Borax	Boron, CA

Port of Philadelphia

1.	Pandol Bros. Inc.	Delano, CA
2.	Delano Farms Co	Delano, CA
3.	Four Star Fruit Inc.	Delano, CA
4.	Sunview Marketing Intl.	Delano, CA
5.	Moroni Inc.	Pico Rivera, CA

Port of Houston

1.	Ikea Wholesale, Inc.	Lebec, CA
2.	GWC Valve International	Bakersfield, CA
3.	Schokinag Chocolate NA	Bakersfield, CA

Port of Seattle

1.	Ikea Wholesale, Inc.	Lebec, CA
2.	Insect Lore Products Inc.	Shafter, CA
3.	Schokinag Chocolate NA	Bakersfield, CA
4.	GWC Valve International	Bakersfield, CA
5.	Western Oilfield Supply	Bakersfield, CA

Manufacturers in the Kern County

Kern EDC provided a roster of manufacturing companies in the region to IMSW as part of this study which is attached as an exhibit. The manufacturer's roster was reviewed and many interviews were conducted with these companies in Kern County. The roster was sorted by the largest employer with 110 staff members to the smallest companies with just one or two employees. Many of the companies were eliminated by virtue of their role as a local production or support center for the oil related industries in the region,

machine shops, fabricators, tool manufacturer's and oil/gas tank or water well drillers were not contacted. Also, jewelry shops, cabinet shops, pool table manufacturers and orthodontic labs were not included in the surveys.

IMSW sought to identify those shippers in Kern County who shipped significant volume of goods nationwide or within California by full truck loads from their facilities. This effort was conducted in order to identify the volume of trucks that move manufactured or value-added production parts out of Kern County. The intention was to add these truck load volumes into the summary of the agricultural sectors volumes (presented in the next section) and provide a fully blended volume of trucks between Kern County, the Central Valley and the nation.

Unfortunately, only three manufacturing companies reported truck load volumes or rail volumes outbound from Kern County to national destinations. Many truck load volumes were reported within the county, region and state, however these were not considered as part of this study. The volume of trucks that these companies reported, however, is not significant enough to add to the overall volume of agricultural products moving by truck out of Kern County or the Central Valley.

- UPF Corporation reported truck load volumes, but would not provide destination information for their shipments;.
- Delano Growers Products ships truck and rail volume, bulk products with seasonality peaks of 10-15 trucks per day.
- Henway Inc. also produces truck load volumes. However, they reported that all truck load shipments are coordinated by the customer and Henway Inc. does not participate in the carrier selection or destinations for goods.

Many of the other companies interviewed reported high volumes of less-than-truck load shipments, using national carriers or FedEx or UPS services for air, expedited or ground shipments.

IMSW also reviewed the data samples from the recent Tioga/KOA Truck Origin/ Destination Study (KOA Study) as part of our effort to capture and understand how truck traffic moves into and out of the region. The KOA study provided only a city origin/destination description and only provided a general overview of the commodity being transported. In an effort to identify the volumes of truck traffic into and out of the region, IMSW created a chart specifically for Bakersfield as an origin for goods movements, which is included as an exhibit to this report. This chart shows the destination state, the products or commodities moving out of Bakersfield and the reason given for the route selection. Significant in the findings was the volume of empty trucks that move within California and between California and neighboring states.

Total Truck Volumes/Empties and Percentages based on Commodity Load

	Total U.S. Trucks	% of Trucks
Agriculture	293	47.33%
Bulk	162	26.17%
Finished Goods	66	10.66%
Empties	98	15.83%
Total Trucks	**619**	

	Total CA Trucks	% of Trucks
Agriculture	54	20.61%
Bulk	101	38.55%
Finished Goods	37	14.12%
Empties	70	26.72%
Total Trucks	**262**	

The highest volumes of empty trucks operate within California and to/from neighboring states.

Attached in the appendix are four data summaries which demonstrate the volume of goods shipped out of Bakersfield as an example of the volumes, loaded and empty trailers, commodities and decision process for routing cargo. These summaries provide two weeks of actual truck volume from the actual study and an estimation of an "annualized" volume of total trucks. The annualized volumes provide an indication of where there is clear density between the origin-destination of Bakersfield and large, dense lanes where rail loads would provide the rail carriers with added density. These lanes represent significant corridors for eliminating truck traffic and replacing trucks with rail services.

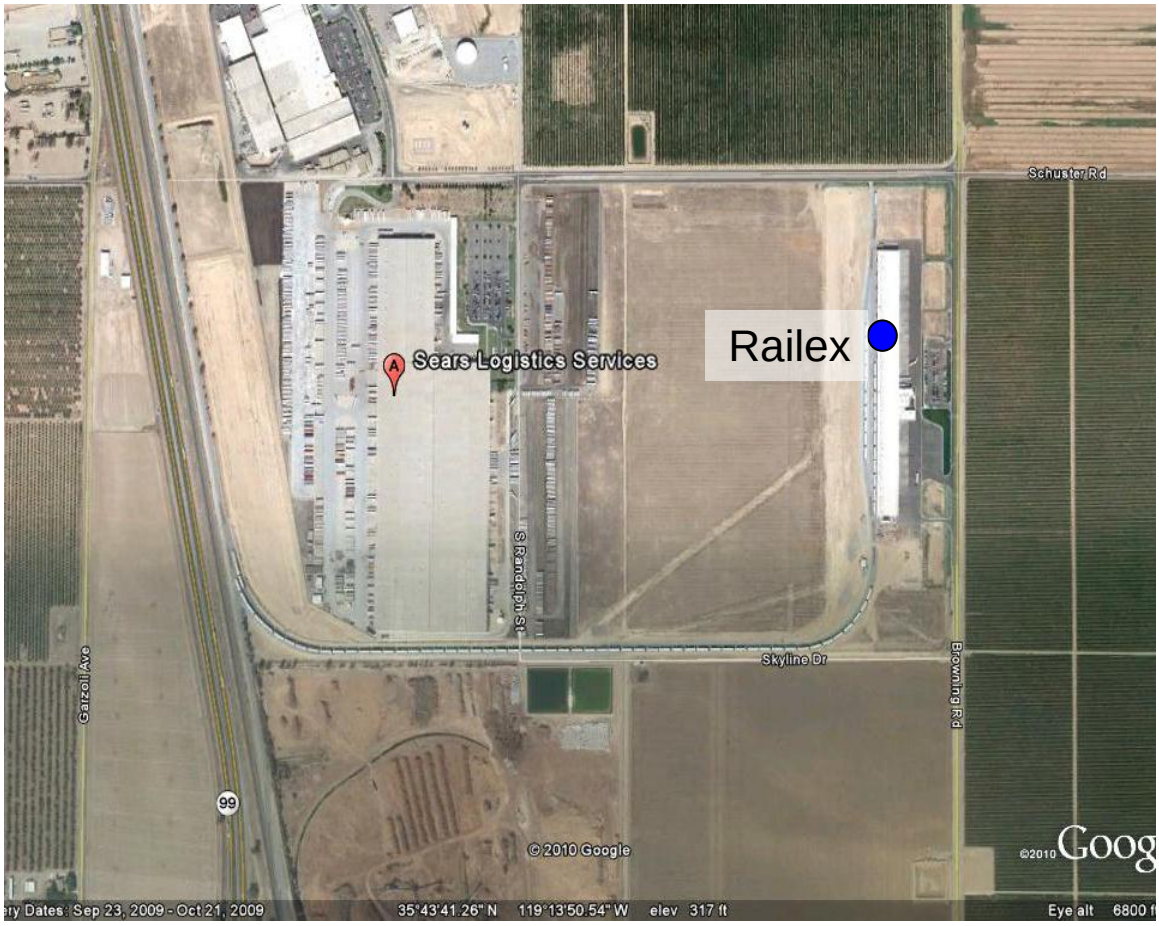
2. Identify rail freight service benefits for such shippers and receivers identified above.

A key deliverable for this report was to identify the freight service benefits for shippers and receivers in Kern County whose volumes of goods movement would sustain transfer or conversion from truck freight movements to rail load movements. Two examples of how shippers benefit by conversion from truck to rail can be found in Kern County in the Railex and Fresh Logistics/Bolthouse operations. Both of these entities offer a perspective on the infrastructure necessary to successfully transition truck freight to rail loads in a competitive environment. As a single origin-destination pair, both Railex and Fresh Logistics have successfully removed a large numbers of trucks which in the past would have departed from the Kern County Region for destinations in Chicago and U.S. Northeastern regions (served out of New York).

Railex, located in Delano, California is one example of an effort to successfully convert truck traffic to railcar traffic. Railex was incorporated in 2004 and operates refrigerated distribution centers in Schenectady, NY; Wallula, WA and Delano, CA. The company links the growers and producers in western states with distributors and consumers in the large metro markets of the northeast. The company operates up to four weekly refrigerated unit trains between the west coast refrigerated centers and the northeast refrigerated terminal. The service provides a transit time of less than five days which competes with truck services between these origins/destination. Railex ships fresh fruits, vegetables, frozen food, food ingredients and beverages as well as other commodities including; pharmaceuticals, cosmetics, nursery stock and packaging materials. Consolidation, de-consolidation and pick-up/delivery services are also offered at both ends of the supply chain. For all practical purposes, the rail line operated by Railex links the needs of growers, producers, shippers and manufacturers with retail and food services distributors. In the future, the company expects to expand their operations to include locations within Pennsylvania, North Carolina, Georgia and Florida.

Each train that Railex moves from Delano eliminates as many as 250 trucks from the roads. This important fact is also an important calculator to keep in perspective as Railex makes good on expansion into other markets for service and distribution. Railex also provides additional services which make it a valuable partner for the grower or producer. At origin or destination locations, Railex will sort lots by grade, label and package goods for store specific brands and allow the shippers to store inventory at the destination for a few days in order to provide sales/purchase transactions and the corresponding fulfillment to occur in less than 24 hours. This has been an extremely successful venture which provides a unique benefit to the producers and growers in Central California and to the distributors and stores/customers at destinations where the produce is readily available and fresher. The supply chain remains flexible and elastic across the entire array of custodians from the farmer to the consumers.

What is unique about this project is that Railex utilizes a rail line that could be expanded and other users could share the benefits of utilizing rail trackage service into the industrial park/land available around the Railex property in Delano. Other shippers who share the same outbound destinations with the Railex-New York market could benefit by linking their shipments in railcars to the current Railex trains that transit out of Delano.



Railex provides an example of how a rail services company can successfully provide an alternative services model to the farms and producers in the Central Valley. This service is successful because it benefits the farmer, the producer, the community and the environment, distributor and finally, the consumer by delivering fresher produce for which premium prices can be requested. Fresh produce sells at a premium and by offering consistent delivery of goods between the farms and consumers, the consumer can benefit from a fresher product and the retailer by a higher price. Railex's model provides an example of "how to" build a successful joint venture between two rail carriers, establish a distribution strategy that solves a delivery problem for local farmers, and a distribution strategy for producers and consumers within the current markets served.

Railex also provides the Kern EFD, Kern EDC and the Kern COG with a dilemma, or perhaps an opportunity. The rail line that operates into Railex was built and is owned by Railex. If the line were to be purchased by the City of Delano or another entity and the rail line was to be made public, other users and developers could be brought into a discussion favoring developments in the contiguous area, where the railcar users could benefit by having a location on a common rail line. Railex and any new users who locate on this line (or its expansion) would provide an income stream from the rail operations and trackage fees to Delano or another entity. It also provides a platform for marketing

the property to other potential users, thereby creating an opportunity for job creation and further economic growth in the region.

There is a measurable impact to local employment driven by freight oriented industrial development.

For each one million square foot distribution center developed, approximately 300-400 direct, full time staff are required and an additional 400 indirect jobs "outside the walls" of the distribution or logistics center are added. These employment opportunities are available within this region, as will be noted later in this report. There are thousands of truck transits from the Central Valley to key markets in the U.S. where adequate density exists to make a favorable proposition for Railex or other rail carriers to enter into the agricultural sector and provide intermodal or railcar load services between Kern County origins and destinations.

Fresh Logistics Rail Services

Fresh Logistics Services (Salinas, CA), an affiliate of Bolthouse Farms, operates intermodal and carload rail services between Bakersfield, CA and Hodgkins, IL. Intermodal loads from Bakersfield on this train are available on the 4th morning; the train operates 6 days per week and provides access to GPS tracking and temperature control information. Intermodal equipment fits into the domestic container sector, allowing a truck loaded in California at a farm to be loaded onto a railcar, then unloaded at destination and with contacts still intact, delivered to destinations in and around the Chicago region.

Fresh Logistics Services also offers super-reefer boxcar services between California and Illinois which provides a process for shipping heavy commodities from farm to market. This service operates with the intermodal train, 6 days per week with transit time between rail served building sites of 5-6 days between delivery to Fresh Logistics and availability from Fresh Logistics at destination. Commodities that are part of this shipment program include carrots, cantaloupe, celery, salad dressings, juices, lemons, onions, oranges and potatoes. Bolthouse Farms, one of the largest farm groups in the Central Valley declined to participate in this study citing internal policy and protection of proprietary information on their logistics services.

Fresh Logistics Rail Services provides a second example of an existing truck to train conversion in Kern County and should be included in the recommendations regarding marketing to support Fresh Logistics in parallel with the Railex recommendations.

In order to compete with truck load services, the railroad must provide a competitive transit time between origin and destination. Both examples above provide a vision of how rail systems can in fact, compete with long-haul trucks. The rail line must also be able to deliver to destinations with competitive freshness and without damage.

Railex, at the early stages of their program, endured some push-back from farmers as the packaging and dunnage used in transporting goods from Delano to New York was not effective and some increased damages were incurred. By immediately addressing this situation, Railex was able to retain a competitive transit and freshness deliverable to their clients. The added benefit of having goods "sold in transit" while on the railroad has created an advantage for Railex users. Shippers have the added flexibility of selling products or re-configuring product orders for new destinations at the end of the supply chain (while goods are in transit) rather than in California before loading on a truck. Additionally, Railex users gain added benefits from the value-added services provided at the destination; re-packaging, re-labeling, mixing store loads and delivery.

Railex and Fresh Logistics also allow clients visibility into the tracking of the train by GPS and clients can also observe or download refrigeration reports on-line while the train is in transit. This assurance of freshness, coupled with the integrity of cold verification, provides users with the added benefit of knowing the condition of products upon arrival at its destination.

3. Provide an overview of the current infrastructure within the Central Valley, and catalogue the infrastructure requirements necessary to convert the volumes of truck loads to rail loads and identify the lanes that are best suited for the effort to make this conversion.

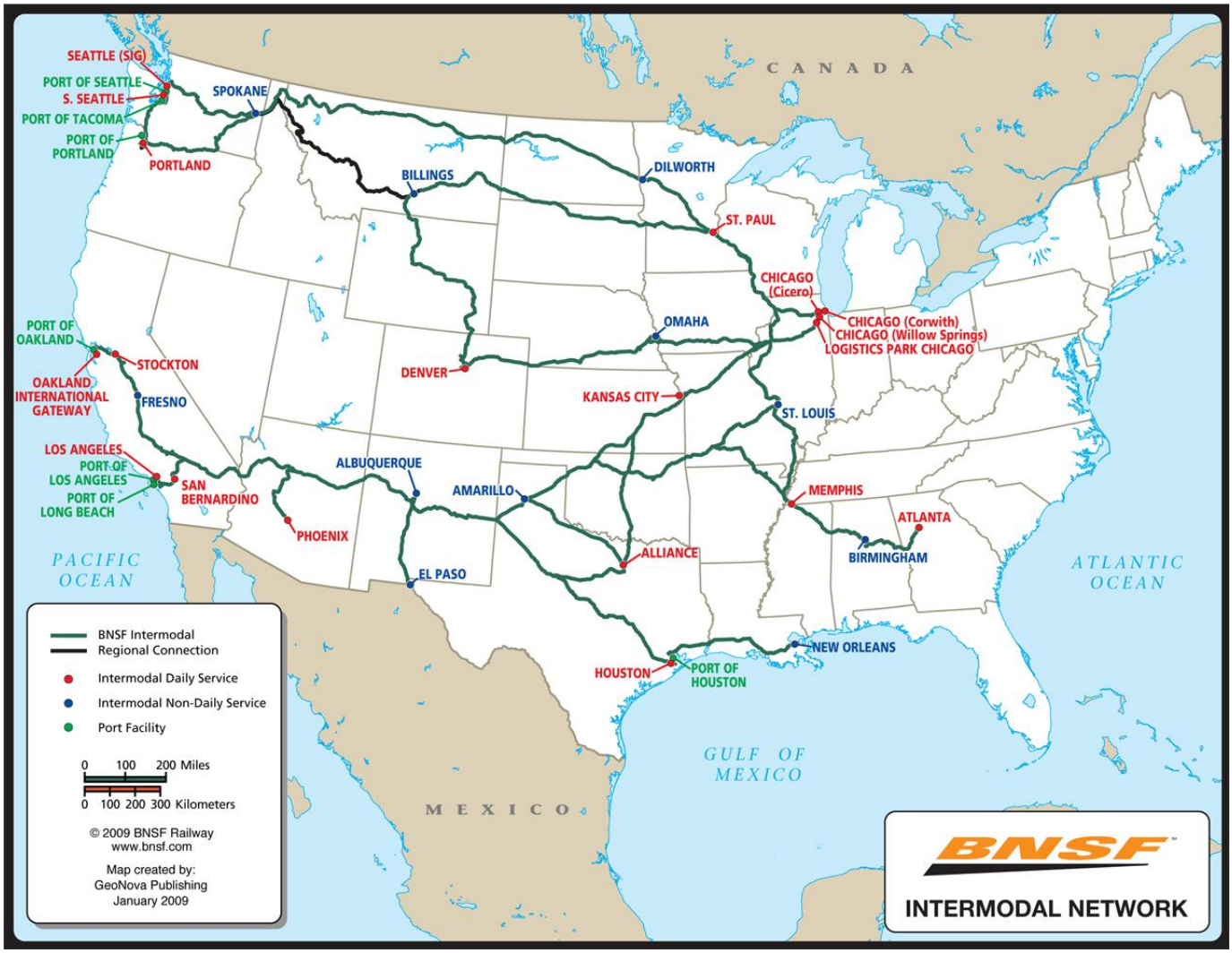
Inventory of Current Rail Assets in Kern County

This section of the report provides an overview of the current inventory of rail assets and rail services in Kern County. There are two Class 1 rail carriers who operate in Kern County and one short line rail carrier who connects local industrial users with the Class 1 carriers. Currently, the rail service users in Kern County are all car-load users, intermodal users are served by way of trucks either directly from the ports or from the regional intermodal facilities either in Fresno, Lathrop or Stockton.

Burlington Northern Santa Fe Railroad (BNSF)

BNSF has an established route from Oakland, CA to Bakersfield, CA which consists of 314 miles of rail and operates on UP's lines from Oakland, CA to Richmond, CA then on BNSF owned lines from Richmond, CA to Bakersfield, CA.

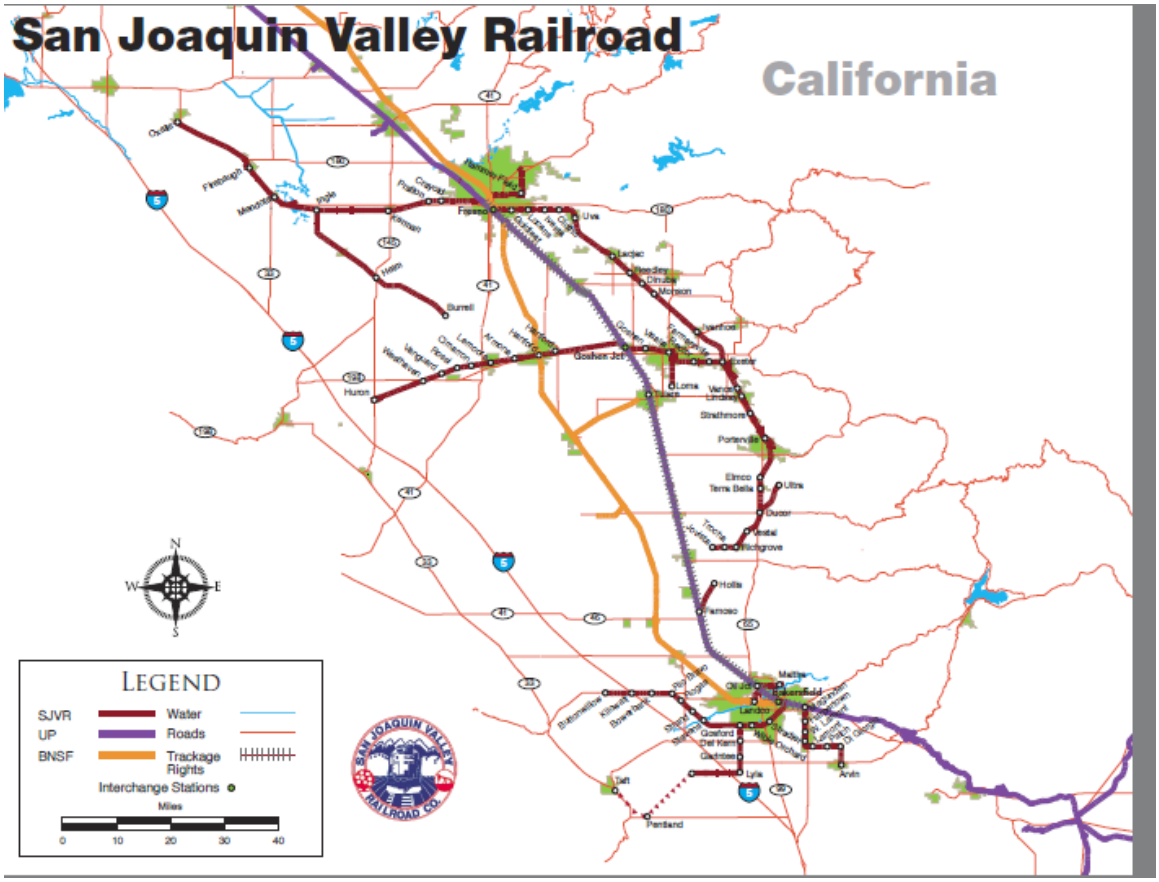
BNSF operates an intermodal terminal in Fresno, CA, and Stockton, CA. A railroad intermodal facility is designed for the loading and unloading of containers and trailers to and from flat cars for movement on the railroad and subsequent movement on the street or highway. Intermodal ramps generally are located in cities with high volumes as a destination or origin for containerized goods. Historically, the major rail carriers do not operate intermodal facilities in closer proximity than 250 miles of other intermodal facilities. The expectation exists at port or near port locations where high volumes of goods are moved out of a port and then mixed at another intermodal facility for long-haul transportation inland to major destinations/markets along the carrier's network.



Union Pacific Railroad

UP operates from the Port of Oakland over the Altamont Pass to the San Joaquin Valley and then on to Bakersfield, CA (326 miles). UP operates an intermodal terminal in Lathrop, CA and operates a paper ramp, the Hawk Fresno Ramp, in Fresno, CA. A paper ramp is a facility that connects rail-truck or truck-rail movements. UP combines the rail and drayage into a single transportation package. Containers are shipped via rail from one terminal to another. After that, a contracted drayage firm drays the container to the paper ramp operator's lot for customer pickup. The process also works reverse as well; shipment can originate with the truck movement and then move to the rail portion of the movement.

San Joaquin Valley Railroad (SJVR)



The SJVR, owned by Rail America, operates 417 miles of track in Southern California. SJVR interchanges with the UP Railroad at Fresno, Goshen Junction and Bakersfield, CA and the BNSF at Fresno and Bakersfield, CA. The SJVR operates two rail spurs in Fresno, west connecting Oxalia, Ingle, Burrell and Fresno, and east connecting Exter and Jovista to the south and Hanford and Huron to the west. In Bakersfield, SJVR connects Buttonwillow and Lyla at Gosford as well as Arvin and Magunden. To the east, SJVR operates a connection to Maltha, Oil Junction and Landco. SJVR also operates a connecting line between Hollis and Famoso on the UP line. These connections provide shippers with access to rail services, primary commodities served on the SJVR include petroleum products, cattle feed, building products, tomato paste, consumer products, dry and liquid fertilizer products. Users on the SJVR network can use either UP or BNSF for inbound or outbound services. SJVR will switch railcars to both networks either at Bakersfield or Fresno. Rates between carriers have been equalized so that shippers have access to either carrier's network and can effectively connect with markets as destinations and receive goods from either carrier's origins.

Preserving the services and tracks on the SJVR network will be a critical element to the Kern County region's economic future.

Transload Rail Partners

Transload Facilities in the Central Valley are facilities that provide access to railcar loaded freight users who do not have a rail line at/to their facility. Bulk or other industrial shippers can utilize the services of a third-party transloaders, who load or unload products at a shared facility and can deliver or load/unload a shipper's product at the transload facility. This allows a heavy/bulk/industrial shipper access to the rail networks of BNSF or UP, switched by a short-line carrier to load or unload products without having a rail line at their farm or facility. The rail carriers utilize transloaders as a partner on their line or a shared line to allow access to users who do not have sufficient volumes or who are located "too far" from the main line to make rail access an economical or feasible proposition for the rail carriers.

Transloaders, to some extent are freight aggregators, an important service provider to both the rail carrier and the shipper or receiver. By aggregating multiple rail users at a single facility, the transloaders gains enough volume to be viable. The rail carrier can access aggregated cargo from one location at an economical price point. This arrangement offers shippers who do not have rail lines to their facilities with access to rail services to reach their national customers. This aggregation, as will be noted later in this report, is an important element for Kern County to include within their strategic plan, as it creates a secondary value point for the rail carriers who are seeking to access more customers at fewer points on their networks

UP partners with transloaders to offer carload-based distribution solutions that utilize an extensive network of transload facilities. These competitive and convenient distribution solutions provide options for customers seeking the optimal service, price, and volume package and flexibility. This service bundles rail, transloading and truck delivery to provide an integrated service product with an all-inclusive price-point. Pricing is available by carload, truck load or by weight. UP Distribution Services offers users:

- Railcar Unloading (Destination Transloading)
- Railcar Loading (Origin Transloading)
- Trucking at origin/destination

UP Distribution Services operates 13 transload facilities in the greater Los Angeles Basin, 1 facility in Redding, CA and one in the northern Central Valley.

BNSF utilizes the following transload partner within Bakersfield.

- Bakersfield QDC, 32535 Seventh Standard Rd., Bakersfield, CA 93312

Rail America, SJVR operates the following transload facilities within the Central Valley.

- Bakersfield, CA - Branch Warehouse (Warehouse)
- Bakersfield, CA - Delta Trading (Transloader)
- Bakersfield, CA - H. Lima Company (Transloader)
- Bakersfield, CA - Mid-Cal Materials, Inc. (Transloader)
- Bakersfield, CA - Richard Best Transfer, Inc. (Transloader)
- Bakersfield, CA - Sun-Gro Commodities Inc. / Whisler Offload and Storage (Transloader)
- Dinuba, CA - Richard Best Transfer Inc. (Transloader)
- Exeter, CA - Hobbs Container Company, Inc. (Transloader)
- Hanford, CA - Souza's Enterprises, Inc. (Bulk)

This inventory of the current rail and related service providers demonstrates that there is already significant conversion of truck freight to rail freight, or in other cases, conversion of long-haul railcar/bulk or tank rail volumes converted locally for delivery in the Central Valley. Users who do not have a rail siding can still book and ship long-haul commodities to and from the Central Valley by using the services of the local transloaders. These transloaders employ local staff and contribute to the local and regional economies in Kern and neighboring counties. It is also clear that the rail carriers recognize the need to offer transload services as a means to access the carrier's network if the user does not have the scale of shipments or is not located at/near one of the carriers or short-line network. By having a neutral short-line partner such as SJVR, the carriers, shippers and users are linked to the nations markets.

Wal-Mart's operations in Porterville and Victorville provide an excellent example of how this company has faced and defeated the empty loads challenges in their networks. Goods moving from the Los Angeles or Long Beach ports are transloaded in Los Angeles (out of an international container to a domestic Wal-Mart truck) for transit to their distribution centers. Wal-Mart reloads the trucks in Porterville and Victorville with loads returning to their stores in Central and Southern California and do not operate empties as part of their overall transportation strategy in California. By adding the cost of transloading at the ports, Wal-Mart is able to fully utilize their assets and as a good steward, reduce congestion and pollution within their distribution, fulfillment and import strategies.

Wal-Mart has also addressed the matter of efficiency in their supply chain by understanding that efficiency also has a payback in environmental stewardship. As will be noted later in this report, trucks operate in the range of delivering up to 130 ton-miles per gallon of fuel (some operate as low as 104 ton-miles/gallon). Wal-Mart's fleet has demonstrated that through operating efficiencies and load planning, it is possible for a fleet to operate in the 260 ton-miles/gallon range. By contrast, rail ton-miles/gallon range up to 450 ton-miles/gallon. Eliminating empties, filling backhauls and operating efficient trucks with higher fuel economy (above 7 miles/gallon) all contribute to these incremental savings, which across their fleet add up to significant value to the retailer.

4. Identify the benefits for the Kern Region from transition to rail services from truck freight

Kern County will receive immediate and direct benefits as a result of transitioning large volumes of cargo from truck to rail services. These benefits accrue as more trucks are replaced with train services, and the benefits can be found in congestion mitigation, air quality improvements and reduction in road and highway maintenance. The benefits for each of these elements are outlined below, as well as some estimations of how removing trucks from the highway and replacing certain corridors with rail service benefit Kern County in all three categories.

Congestion

Building on the success of Railex and Fresh Logistics, each railcar loaded with produce which exits the Central Valley eliminates up to eight long-haul trucks. Short-haul trucks are still used to move goods from the farm to the rail loading centers, but these are relatively short moves. These are also one-way moves, so the benefit of having a strong back-haul at the Railex facility would possibly provide the delivering truck with an outbound load from Railex to a local/regional destination. This would provide a higher utilization of local/regional trucks delivering goods to/from Railex. As was observed in the review of data sorted from the KOA study, intra-California empties represent a significant volume of trucks that move on the highways in the Central Valley.

The ability to accelerate new market development by Railex or through a Class I carrier intermodal entry into the agricultural market sector would increase the effectiveness of this program. Benefits include the elimination of up to 250 long-haul trucks per train for each destination. Adding new destinations to the Railex service or creating other such rail solutions for the agricultural sector becomes increasingly important as it mitigates congestion in the Central Valley. This eliminates long-haul trucks whose efficiencies pale against the efficiencies of long-haul train transportation.

Air quality

The Federal Railroad Administration has produced the following calculation examples regarding the efficiencies of rail and truck modes of transportation.

Rail Fuel Efficiency Calculation

$$\text{Ton-Miles Per Gallon} = \frac{\text{Payload x Distance}}{\text{Fuel Consumed by Loaded Car}} = \frac{\text{91 tons x 910 miles}}{\text{183.1 Gallons}} = \text{452 ton/miles/gallon}$$

Truck Fuel Efficiency Calculation

$$\text{Ton-Miles Per Gallon} = \frac{\text{Payload x Distance}}{\text{Fuel Consumed}} = \frac{\text{16.6 tons x 320 miles}}{\text{48 Gallons}} = \text{104 ton/miles/gallon}$$

Rail Fuel Efficiency Calculations

IMSW has located a carbon footprint analyzer which makes available a tool to determine the tons of truck emissions based on weight, distance traveled and volume. It provided a base-line estimate of the emissions savings that could occur if trucks were replaced by either intermodal or railcar service. From the KOA study, IMSW has selected three destinations as examples based on a dense and heavy volume of shipments. The destinations selected are for volumes of trucks to Texas, Florida and the Northeastern U.S. The assumptions are that trucks leaving Bakersfield would be loaded with 35,000 pounds of products, and options are provided to demonstrate the current (truck only) emissions profile, an intermodal profile (BNSF or UP intermodal network) and the railcar load profile (Railex, BNSF or UP industrial products, railcar network).

Converting trucks to rail will have a dramatic and immediate impact in terms of reducing emissions.

Example 1: Bakersfield to Houston, Texas

Based on 20,930 tons of annualized freight shipped over the course of one year based on the KOA study indicating 46 trucks leaving Bakersfield to Texas during the two week study period (1662 miles):

- Current truck CO2 emissions = 3646.86 tons.
- A 100% shift to **intermodal** rail transportation would reduce CO2 emissions to 1,177.20 tons reducing emissions by 2,469.66 tons.
- A 100% shift to **railcar** transportation would reduce CO2 emissions to 941 reducing emissions by 2,705 tons.

Example 2: Bakersfield to Winterhaven, Florida

Based on 10,921 tons of annualized freight shipped over the course of one year based on the KOA study indicating 24 trucks leaving Bakersfield to Florida during the two week study period (2559 miles):

- Current truck CO2 emissions = 2930.49 tons.

- A 100% shift to **intermodal rail** transportation would reduce CO2 emissions to 945.68 tons reducing emissions by 1,984.81 tons.

- A 100% shift to **railcar** transportation would reduce CO2 emissions to 756.54 tons reducing emissions by 2,173.95 tons.

Example 3: Bakersfield to Northeastern U.S.

Based on 20,475 tons of annualized freight shipped over the course of one year based on the KOA study indicating 45 trucks leaving Bakersfield to Northeastern U.S. markets during the two week study period (2878 miles):

- Current truck CO2 emissions = 5,141 tons

- A 100% shift to **intermodal rail** transportation would reduce CO2 emissions to 1,994 tons reducing emissions by 3,147 tons

- A 100% shift to **railcar** transportation would reduce CO2 emissions to 1,595 tons reducing emissions by 3,546 tons.

IMSW believes that a target of 30% reduction of truck traffic on these corridors is possible, perhaps a higher percentage in future years, depending on how much traffic could be moved from truck to intermodal or direct to railcar, that estimate could be higher.

These examples are higher density corridors where long-haul volumes would benefit the rail carrier's system and network. However, this is only three origin-destination pairs out of the entire volume of trucks identified in the KOA study. The KOA study also indicates a higher percentage of empty trucks moving between neighboring states as well as within California. These short haul transfers, based on their volume alone, may represent another distinct opportunity to reduce truck traffic and eliminate empties on the highways by moving short-haul truck freight to short-haul rail or intermodal freight.

Road Maintenance

1. The relationship between axle weight and inflicted pavement damage is not linear but exponential. For instance, a 10,000 lb single axle needs to be applied to a pavement structure **more than 12 times** to inflict the same damage caused by one repetition of an 18,000 lb single axle load.
2. Similarly, a 22,000 lb single axle load needs to be repeated less than half the number of times of an 18,000 lb single axle to have an equivalent effect.

- An 18,000 lbs single axle does **over 3,000 times more damage** to pavement than a 2,000 lb single axle .
- A 30,000 lb single axle does about **67 times more damage** than a 10,000 lbs single axle .
- **A 30,000 lb single axle does about 11 times more damage than a 30,000 lb tandem axle .**
- Heavy trucks and buses are responsible for a majority of pavement damage. Considering that a typical automobile weighs between 2,000 and 7,000 lbs (curb weight), even a fully loaded large passenger van will generate far less damage than a fully loaded tractor and trailer.

This rather complex discussion of how truck weights impact road damage and accelerates the need for road maintenance provides Kern County with information related to the amount of damage that is done by loaded trucks on local highways. The relationship between tandem axles and single axles is dramatic, yet single axle truck/trailers largely populate the sector of goods that move between the field and local packing sheds. Local delivery single axle trucks are included in this sector, while tandem axles are not utilized for local delivery or farm to packing shed deliveries, as it is these single axle trucks that are far more destructive than tandem axle trucks.

This report is focused on removing long-haul trucks from highways and replacing those trucks with railcar or intermodal loads. While local trucks are still required to haul between the current rail loading centers and the farms or packing sheds, as volumes increase and new rail carrier services are expanded or added, the net effect will be that longer-haul tandem axle trucks will be displaced with rail loads. The result will be that many of the single axle trucks will remain in service, compounding the challenge of predicting the effect of this transition on local highway maintenance requirements.

5. Identify the sectors of untapped capacity, using the empty containers that are back-hauled with no freight as a sector that can be penetrated to create shipments within these containers/vans so that there are no "empty legs" of transportation.

Empty intermodal containers which transit Central California represent a significant challenge in terms of road congestion and damage.

Intermodal goods movement provides an efficient model for moving goods from global origins on a supply chain system to destinations without unloading the goods between the origin and destination points, which is also known as an Inland Port Intact (IPI) move. Containers used to ship products in this context are largely owned by the ocean or steamship carrier. One key priority for the carrier is to manage their (container) inventory carefully so that the containers can be returned, empty or full, to manufacturing centers for another load of goods to movement. The carrier's desire to fully utilize their inventory, and their reluctance to share containers with other carriers, is where there is an impact to locations inland from the port like Kern County.

If a shipment from "Carrier A" is offloaded from a ship in Oakland for an IPI move to Bakersfield, a truck will be arranged for by the carrier or a third-party logistics service provider to haul the loaded container from Oakland to Bakersfield. Carrier A prefers that the driver wait (normally three hours are provided before a demurrage charge) for the container to be unloaded in Bakersfield, then the driver moves the empty back to Oakland. In some cases, far more often than is desired, the driver drops the container in Bakersfield and faces two options: bobtail (truck without trailer or container) back to Oakland or look for another load moving outbound as an export from Bakersfield to Oakland. Lacking another load, the truck moves empty back to Oakland. When the container is emptied in Bakersfield, the carrier or third-party is notified, and another truck, normally empty unless another truckload is available in Oakland, transits to Bakersfield to pick up the now empty container for transit back to Oakland. In this worse case scenario, four truck trips are required between Oakland and Bakersfield to service one container load.

Carrier B, who may also have loads moving between Oakland and Bakersfield will not allow Carrier A's load to be loaded into their container, so they operate in a separate 'silo" moving loaded and empty trailers within their own closed system between Bakersfield and Oakland. This rather challenging process occurs many times each day, between the Central Valley and ports of Oakland, Los Angeles and Long Beach. Some, but not all trips, are loaded in both directions between the port cities and Bakersfield. Eliminating even a small percentage of the empty transits would have a dramatic and immediate impact on highway congestion, pollution and highway safety. IMSW has observed that smaller shippers or receivers, in more remote locations who receive or ship through the Port of Oakland are more likely to operate less efficiently. Larger shippers who ship or receive goods through the Southern California ports usually have sufficient density and volume to warrant a load or empty in both directions and do not have the scale of bobtails that appear in smaller users in Central California.

One consideration as a solution for this problem would be to operate a Container Storage Yard (CY) in the Central Valley. This would be a location where many carriers would agree to store their containers in the Central Valley, offering this facility as a destination for empties returning from an unload activity, or for empties that need to be loaded locally. A CY, established and operated as a center for the carriers to store containers, provides them a secure location where their inventory is available and could be repaired. It would also provide a location where the carriers can control their inventory which is a critical step towards removing the volume of empty container/truck trips between the ports and the Central Valley.

This would also provide the genesis of a solution for equipment staging for domestic intermodal containers which are used by domestic trucking firms and the rail carriers. Domestic containers differ from international containers in

The rail carriers' Intermodal Marketing Companies represent significant strategic marketing partners for Kern County's rail development effort.

length and in construction, and the rail carriers treat domestic and international containers differently in their networks. Providing access to a location where there is equipment staged for loading and inventory can be adjusted based on seasonality for national consumption is an important first step to adding value to the Central Valley as a logistics center for the rail carriers.

The rail carriers operate a division for developing business in their intermodal products commonly called an Intermodal Marketing Company (IMC). These business development companies coordinate all aspects of the intermodal move while providing the shipper or receiver with a single point of contact within the railroad operations and sales programs. The carriers provide the IMC as a means to offer small and medium shippers with a partner to assist them in moving goods within the rail network, door-to-door if necessary or required. The IMC becomes a third-party logistics service provider to the rail carrier's clients. They manage the pace of cargo in transit, arrange for trucks, and the loading, unloading or transloading at points in the supply chain.

The benefit of having an IMC as a partner is that those lanes that are identified as heavy one-way on the rail network would be visible to the IMC partner. These partners can work with shippers or receivers in the Central Valley to make rail intermodal competitive with trucks in terms of rate or transit time, or both. The IMC can also coordinate goods movement outside the rail carrier's network, coordinating traffic to/from multiple origin/destination points across the U.S., Canada or Mexico. The IMC also provides a resource for the shipper to coordinate equipment requirements for single or multiple moves, either using the rail carrier's equipment, other rail carrier's equipment under sharing agreements or the shipper/receivers equipment for the intermodal movements.

The IMC provides a useful partnership for Kern County to begin to implement the outcome of this study. This partnership would begin by identifying a specific lane or lanes that are known to represent the necessary density for the rail carriers utilizing the help of the IMC. Both inbound and outbound lanes could be addressed in order to build the necessary balance to make this transition valuable to the carrier and to eliminate trucks in Kern County further benefiting the region.

We identified that an estimated 2,548 trucks annually operated without a load exiting Bakersfield to locations within California and other U.S. destinations. This volume only represents trucks exiting Bakersfield and not the entirety of empties reported in the KOA study. This target sector represents an immediate opportunity for Kern County and other stakeholders to begin addressing a strategy to better utilize transportation assets in the region.

Conclusions and Recommendations:

1. Kern County EDF, Kern EDC and the Kern COG should make every effort to support the current rail ventures (Railex and Fresh Logistics/Bolthouse) by marketing these cost-saving programs as a beneficial service for all growers and agricultural shippers in the Central Valley.
2. Evaluate the benefits of acquiring the railroad tracks that operate between the main line and Railex for the prospect of gaining new industrial development and tenants-employers on or near those tracks. This development strategy would have an added benefit of supporting the back-haul challenges now facing Railex.
3. Agree to co-market any new destinations created by the current rail carriers which they are offering to growers, producers and processors in central California in an effort to enhance density on their new services and routes. As rail carriers implement their agricultural strategies, include their new services in the local and regional marketing efforts to Kern County and Central California's producers.
4. Identify and market Central California and Kern County as a destination back into California, from those new service points that the rail carrier's are shipping California produce to, for back-haul economies instead of Los Angeles or the High Desert. Work with the rail carriers to assist them in gaining a balance between origin-destinations in both directions between Kern County -Central California and East Coast and Texas destinations.
5. Market the current services of the listed transload service providers in Kern County. By moving more business to the transloaders sites, stakeholders and decision makers in Kern County effectively eliminate long-haul trucks moving into or out of Kern County.
6. Develop and maintain a relationship with the Class 1 rail carriers and their IMC sales and development staff will keep Kern County stakeholders informed of how and when the rail carriers will begin to transition to their new agricultural strategy for Central California. It will also provide Kern County with an advocate within the rail carrier(s) to assist in marketing to the shippers who represent the best origin-destination pairs to begin implementing their strategy.
7. Find a funding mechanism (state, federal, EPA, DOT) to "incent" growers, shippers and buyers of produce to switch from truck to rail services.
8. Initiate discussions with those highest volume producers, growers and processors in Kern County that IMSW has identified, and begin an interview process with these shippers to catalogue their decision "matrix". This recommendation is presented in order to understand what reasons are presented for using truck rather than railcar or intermodal shipping. As new lanes are added by the rail operators, converting these products to rail will require overcoming the pre-disposition to select trucks over rail services based on habit.
9. Maintain close contact with the rail carriers with respect to their timing for implementation of new services from Central California specifically if they become open to a review of utilizing a facility as their anchor in Kern County.
10. Catalogue the largest railcar load users in Kern County and the region in order to evaluate the possibility of developing a rail served logistics center; by aggregating

these users into one location, the development gains needed traction, new industrial users are centrally located and the rail carrier has adequate density to and from this site to be economically viable. This is an alternative development strategy for Kern County stakeholders.

11. Identify value added processors or manufacturers who operate businesses outside California but provide a service that could be performed in California. This strategy of retaining value-added services in the food and agricultural industry in California provides a basis for growing employers and creating new jobs.
12. Begin the process of "chipping away' at that number of trucks that leave Kern County and identify the heaviest origin-destination pairs with the rail carriers. Developing this level of relationship within the rail carriers will accelerate the transition of goods from truck to rail service and Kern County will be able to articulate the values associated with this transfer as well as market the new services as they come on line in Kern County. This will also benefit Kern County and Central California by increasing employment in those value added services related to transferring from truck to rail; it will reduce truck volumes, mitigate some congestion, reduce road damage and improve air quality in the region.

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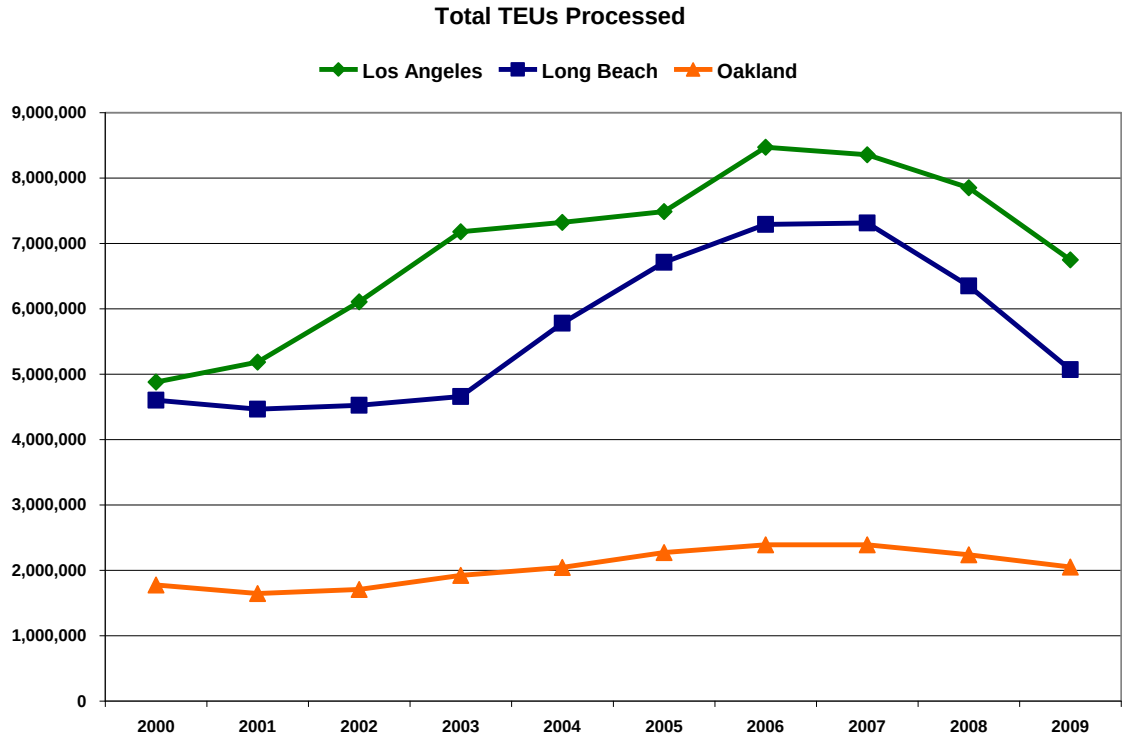
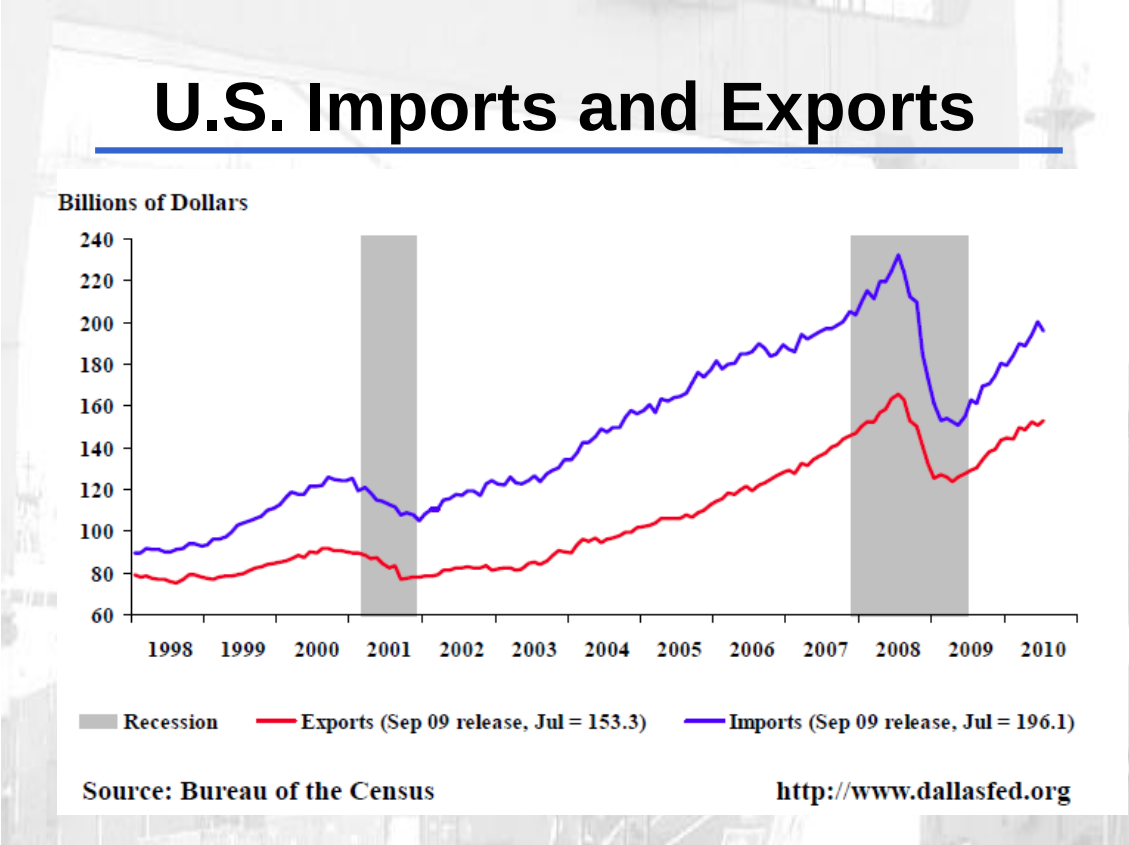
- Journal of Commerce, October 11, 2010
- American Shipper, December, 2010, Forecast for 2011, *Better, Not Great*, Walter Kemmsies, *Moderation the Word for 2011*, Chris Dupin

Economic Impact on International Trade and Kern County

None of these reports, studies, economic strategies or other prior planning activities could have predicted the current economic challenges facing communities in California, nor the downturn in trade that has made developing infrastructure related to port and import trade such a difficult task. Over the last few years, the Ports of Long Beach, Los Angeles and Oakland have experienced the following performance in terms of containerized trade, and have not yet regained the losses that have occurred since the peak volumes of 2006-2007.





Gross Domestic Production (GDP) has been historically a predictor of global trade and global trade growth. This historical relationship has seen trade growth at 2-2.5 times the growth of GDP, however, the current economic malaise in the Untied States has changed the relationships between these two economic indicators. There is currently not enough trade data to "reconfigure" this relationship. The current growth of trade and GDP suggest that the context of trade today is a "new normal" and that it will take years before import and port trade begin to drive industrial development outside the key port gateways. Thus, the results of this study are even more important to Kern County as local trade, generated in the agricultural sector, will drive development and demand for infrastructure expansion **until** international trade volumes return to and sustain 5-6% annual growth.

With GDP hovering at 2%, (2.7 for 2010, 2.4 percent for 2011) it is expected that trade growth will not exceed 3-4.5%, this will cause an array of challenging headwinds for not only the West Coast ports but all of California in terms of economic growth and recovery. The western coastal ports also face another challenge, holding market share in terms of containerized trade after the opening of the expanded Panama Canal locks in 2014. There are some indications that as much as 6-8% market share may shift to eastern ports as larger ships are deployed after the expansion of the Panama Canal is completed. The completion of the Panama Canal expansion will provide a trade lane for larger ships to transit the Canal. The larger ships will provide a value to the ocean carrier, as they will

be able to load two or three times the cargo on these ships providing the carriers with a marginal increase in costs over the current ships which are limited to 4500 TEUs in the current Panama Canal locks.

What is not clear as a result of the Canal expansion is the affect it will have on the East and West Coast ports. It is expected that it may take several years for the a gradual transition from West Coast ports to East Coast ports, but the new all-water capacity will likely create an opportunity to reconfigure some supply chains in favor of eastern ports over western ports. Currently, large volumes of cargo enter the United States marketplace through the western ports of Los Angles, Long Beach and Oakland, with much of this cargo moving inland by rail directly from the ports or near-port intermodal facilities. A significant shift in goods flow from western to eastern port destinations would be met immediately by a rate reduction from the western rail carriers who would seek to retain market share on their profitable inland rail systems. The western rail carriers will make rate concessions in order to maintain their current volumes, so any shift will be met with a concerted effort to keep their market share.

On October 11, 2010, the Journal of Commerce published the following comments regarding the Panama Canal expansion impact on the East Coast:

- *"In short, it appears the recession has changed the picture considerably for the East Coast"*
- *"Prior to the economic and trade recession, the canal was seen as a game-changer for the East Coast, with studies forecasting an immediate shift in market share as soon as the expansion is completed. No longer."*

What is more likely, however, is that much of the cargo that will shift has already shifted from western ports to eastern ports. The new ships that carry larger loads of cargo will have a more dramatic impact on the eastern ports. Those with only regional capacity will be segregated from those with the necessary infrastructure to support the larger ships and move goods efficiently and competitively both on a regional and national platform. Many of the eastern ports are working on their own capacity challenges to accommodate the larger ships; some ports will be prepared on time with port, terminal and inland capacity, other ports will require years and billions in investments in order to gain market share in the new mega-ship operating venue.

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