



WEST PARK INLAND PORT SHORT-HAUL RAIL ANALYSIS

AN INTERIM REVIEW OF CURRENT ANALYSES

Submitted to:

Stanislaus County Economic Development Unit

Submitted by:



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I. Introduction

With the significant rise in import and export activity in the United States, port congestion at major ports has become a significant issue for shippers and receivers across the nation. Many firms have sought to redistribute their cargoes to secondary ports or to shift traffic to East Coast ports, or to Canadian and Mexican facilities where congestion is less of a threat.

Port authorities, anxious over the potential loss of jobs and revenues associated with this shift have sought to relieve congestion and cargo handling delays through capacity expansion, changes in working hours, and by shifting some activities farther inland, establishing remote distribution hubs where lower cost land, labor, and access can provide logistics advantage to regional shippers and receivers.

This concept of an "inland port" is not new, but there has been a distinct increase in exploring the concept since the late 1990's, when the breadth of port congestion issues gained national attention.

West Park Inland Port

Stanislaus County in California is located just east of the Port of Oakland, and serves as a gateway to the Central Valley Region. The Stanislaus County Economic Development agency, seeking to leverage the county's strategic location, its lower cost land and labor, and ready access to the former Crows Landing Naval Air Station, is exploring the possibility of constructing an Inland port to service the port of Oakland: the West Park Inland Port.

Review of Prior Work

To date, several preliminary and complimentary studies have been undertaken to evaluate the potential for constructing an inland port facility linked to the port of Oakland with short-haul rail service. With these early drafts of these studies recently complete, Stanislaus County contracted with Global Insight USA, Inc to provide a critical review of the work to date, in order to provide constructive feedback to the analysis team in the Crows Landing redevelopment.

The effort consisted of a review of several documents, including the following:

1. *West Park Inland Port Short Haul Rail and Inland Port Master Plan*, August 14, 2007
2. Attachment B: *Inland Port at Crows Landing and Fresno Vicinity: A report on Truck, Rail and Ramp Cost/Price Levels*
3. Attachment C: *Market Research Executive Summary; Prospective Patronage for a Short Haul Intermodal Rail Shuttle Service Between the Port of Oakland and Crows Landing*
4. Letter from Gerry Kamilos to Ms. Therese McMillan
5. Short Haul Rail/Inland Port: Trade Corridor Bond Program Issues – September 24, 2007
6. Letter from Dick Monteith (Stanislaus County Board of Supervisors) to Chairwoman Mary Nichols (California Air Resources Board)

7. Testimony of Gerry Kamilos; PCCP West Park, LLC at the Goods Movement Emission Reduction Incentive Program, October 10, 2007; Fresno, CA

These documents are provided in Appendix II to this report. The review was completed primarily by two individuals, Mr. Paul Bingham and Mr. Jim Blair. The individual resumes of these individuals are provided in Appendix I to this report.

The review panel referenced other research materials, industry contacts, and professional judgment in completing the review. These are referenced as footnotes in this report.

The review sought to address two primary areas: (1) are the basic assumptions and methodologies appropriate for the initial analyses and were they applied in a reasonable fashion [Technical Review], and (2) are the conclusions of the preliminary report consistent with the known facts, either those identified in the analysis or those identified externally? [Professional Review] The review is broadly divided into their own two sections, with more specific subsections contained in each.

II. Technical Review

As understood by the review panel, the basic goals of the project are twofold: (1) that there is a commercial opportunity to increase economic development in Stanislaus County through the redevelopment of the Crows Landing facility as an Inland Port supporting the port of Oakland, and (2) that there would be a positive regional environmental impact to shifting local container drayage activity from the port of Oakland to the West Park (redeveloped Crows Landing NAS facility). Based on our understanding of the freight activity in and out around the port of Oakland and Northern California, we have provided comments in both areas of interest.

Commercial Opportunity

The commercial opportunity for the West Park Inland port is focused primarily on Merced and Fresno counties. In the preliminary documents reviewed, two reports, both conducted by The Tioga Group¹ analyze the commercial viability of the West Park short-haul rail operation. These reports analyze two features of the commercial opportunity; the first of these being shipper interest in the short-haul rail concept, and the second comparing the relative costs of the West Park based short-haul rail operation versus the current truck-based pick-up and delivery operations based at the Port of Oakland.

Shipper Interest

The interest of regional customers to use the West Park facility is measured through a 'potential' shipper survey, the detailed results of which were not included in the review documents, although general conclusions are reported.

¹ Attachment B: Inland Port at Crows Landing and Fresno Vicinity: A report on Truck, Rail and Ramp Cost/Price Levels, and Attachment C: Market Research Executive Summary; Prospective Patronage for a Short Haul Intermodal Rail Shuttle Service Between the Port of Oakland and Crows Landing

This methodology is a generally accepted model of data gathering of this nature, but is insufficient alone as a measure of market demand. The survey conducted for the West Park project represents a loosely designed 'stated preference' model. The design is appropriate to telephonic surveys, although the focus on specific quantitative commitments would likely have resulted in many 'do not know' answers. The focus on quantitative is frequently employed in small-budget freight studies in order to project diversion rates to large – and difficult to survey – populations. The concern is that such surveys frequently suffer from 'response bias' – only those individuals who express interest in the alternative volunteer to be surveyed, making extrapolation to a larger population statistically inappropriate. In addition, such surveys often ignore potential external customers who, with the introduction of a new service, would relocate activity to the region in favor of other competing areas.

Thus, the limited set of draft conclusions offered by The Tioga Group is appropriate to the strength of the survey data, but insufficiently robust upon which to establish a commercial need for the West Park facility alone.

Augmenting this preliminary survey with selected focus groups, mail surveys, and research data could help strengthen the conclusions developed in The Tioga Group Survey, and give greater insight into the available market size, composition, and attractiveness. Second, it is recommended that additional survey and interview work be initiated with a sampling of "external" potential shippers and/or distribution firms to identify opportunities available through business attraction. Thirdly, evidence of commercial success of a comparable facility development elsewhere in the country would also improve the strength of the conclusions in a final report.

Cost Analysis

A preliminary comparative cost analysis for the West Park short-haul rail operations was also conducted by The Tioga Group. This research sought to compare the relative cost of the short-haul rail operation and the current truck-based operations to determine the economic attractiveness of the West Park Inland Port over the current pick-up and delivery scheme.

In this initial analysis The Tioga Group compared door-to-door operations using the short-haul rail and truck based alternatives, forecasting them over time, to determine the extent to which the West Park Inland Port could attract regional import and export activity through the facility. That analysis sought to develop break-even costs based on fixed rail operating costs and volume variability. The results project an operating deficit from a start-up in 2011 of between 1 and 3 years based on assumptions of congestion on the local connecting roadway network.

The methodology used in the Tioga analysis is reasonable in terms of approach, but should be enhanced before final project conclusions are developed. We evaluated the individual cost elements identified in the comparative cost analysis including train operating costs, drayage costs, container and chains costs, port handling fees, and trackage rights fees. In all cases, the costs appeared reasonable, although some – such as the projected UP trackage rights costs and the exclusion of "stem time" costs are based on very significant assumptions that if unrealized could impact the positive conclusions of the analysis considerably. As additional information in these areas is developed through negotiations with the rail carriers involved, the final economics will become clearer.

Cost Model

The forecasted cost model prepared by Tioga projects short haul rail based operations as compared to the current truck based pick-up and delivery scheme. This model holds rail and truck operating costs constant, with the notable exceptions of a "congestion inflator" which is reflected in Exhibit B of the supplied Attachment B (see Appendix II).

This inflator has the effect of raising average drayage costs 5% per annum for trucks operating directly out of the Port of Oakland. All trucks operating out of the West Park Inland Port facility are assumed to be exempt from this increasing congestion, although it is likely that some will traverse at least some of the same congested road network in providing local pick-up and delivery. The limited application of the congestion inflator would appear to favor the West Park plan inappropriately. This feature should be adjusted in subsequent analysis of the proposed service.

Conversely, none of the operating costs in the forecast model are inflated – even by some gross inflation metric such as the Producer Price Index (PPI). Global Insight's analysis of operating cost inflation factors suggest that truck operating costs will increase at a rate in excess of rail operating costs (as a percentage) due to projected increases in driver wages, fuel and insurance.

These cost inflators are not present in the Tioga model, and would have the effect of increasing the 'spread' between the short-haul rail alternative and the current all-truck operation, making the rail alternative more attractive. This adjustment should be incorporated in future versions of the comparative cost analysis.

Logistics Costs

Another factor absent in the preliminary model is a recognition of logistics and inventory handling costs inherent to the short-haul rail operation. Depending on ship arrival and departure times, the limited hours of port terminal operations and the once-per-day rail operation out of the West Park Inland Port could result in additional inventory carrying costs for shippers and receivers depending on the financial arrangements of the shipping transaction.

As an example, a container leaving the port of Oakland by ship at noon on Thursday might need to be in the gate by 4:00pm on Wednesday. For a shipper using the West Park facility, that means a Tuesday night train operation and a Tuesday afternoon release from the shipping facility. In this example, the shipper might incur nearly a day's additional inventory carrying cost – valued at an average of \$10.00 per day per container. For some commodities, the logistics costs could be substantially higher – such as retail products or electronic components – and corresponding diversion rates lower. Additional work is necessary in this area to fully quantify the impact of operational efficiency on shipper logistics costs.

While these issues call into question some of the specific numbers in the analysis, the overall conclusions of the cost model – based on the assumptions provided and the results obtained – are consistent with good modeling technique.

Operational Analysis

Within the reviewed documents, there is only minimal information on the proposed short-haul rail operation between the West Park Inland Port and the Port of Oakland. This lack of available detail suggests many of the specifics of the operation are yet to be resolved. It is also possible that much of the planning thus far has been conducted without the full cooperation of the connecting railroads, the Port of Oakland itself, and the regional dray operations. These issues should be resolved as soon as possible to insure that these impediments do not prevent the advancement of the project beyond the initial feasibility testing stage.

The service proposed in the West Park Inland Port Short Haul Report contemplates daily operating between the former Crows Landing NAS and the Port of Oakland, starting at one train per day and growing to six trains per day at full build out in 2021. The reported goal is to restrict short-haul freight to nighttime operation to reduce conflicts with Altamont Commuter Express (ACE) operations during daylight hours.

At a single train per day, the round-trip operations should not impact the local commuter schedules. At 81 miles one way, assuming a 20 mph average speed² for the train and two hours of unloading at destination, a single train set could make the round-trip in about 10 hours.

Multiple trains per day however could not likely be dispatched and returned to the West Park facility within this narrow operating window. Thus even a Phase II operational scale (3 trains per day) is likely to create some conflict with ACE operations. To mitigate the potential disruption of commuter operations, westbound trains from West Park and eastbound trains from Port of Oakland could be dispatched simultaneously. This operation would however, require twice the currently specified supply of locomotives and cars, significantly increasing the operating cost of the West Park facility and the associated logistics costs to shippers and container owners.

Similarly, these synchronized train operations would require that one-half the employed trainsets overnight at Oakland – a cost apparently not included in the current version of the cost model. At six trains per day, the conflicts with ACE operations are likely to be more numerous, requiring additional freight equipment and higher projected operating cost. While the West Park facility contemplates the storage of trains during commuter operations, the complimentary train sets at the Port of Oakland would consume approximately 1.5 miles of yard track capacity at full buildout, a cost that currently is not addressed in the Tioga Study either as a capital cost (which are generally excluded from the Tioga Study) or as an operating cost (which are generally included). Subsequent iterations of this cost analysis should provide additional detail on train operations, including the storage of equipment, the dispatching of trains, and contingency planning for inevitable train delays enroute to either one of the endpoint terminals.

² While proposed track speed is higher, actual train operations are frequently slower than available track speed. Even assuming a 30 mph average speed, the round trip cycle time would be nearly seven hours, after allowing a two-hour unload-load time at the Port of Oakland. Thus the addition of one or two additional trains is likely to create passenger-freight conflicts on the shared rail right of way during daylight hours.

Also missing from this preliminary version of the report is any agreement from the operating railroads, the Port of Oakland, or drayage operators on their willingness to provide the resources and support necessary to enable the West Park Inland Port operations to succeed. It would be appropriate at this point in the feasibility evaluation to establish a series of Memoranda of Understanding (MOU's) between the several parties that need to coordinate the short-haul train operations between the West Park facility and the Port of Oakland. These initial documents should be of limited scope, spelling out the allocation of estimated costs, distributing primary roles and responsibilities, establishing broad performance commitments, and establishing a timetable for more detailed discussions and negotiations. Such agreements will likely take some significant time to negotiate, but should be as soon as practical to insure project progress is not halted for lack of a single entity's cooperation. Based on the reviewed materials, there is little indication of support from the railroad owner, from the commuter agency, from local government jurisdictions or from the appropriate regulator agencies necessary to implement the project. The successful negotiation of these agreements should significantly help promote the project, and secure the cooperation and financing necessary for completion.

III. Professional Review

To complete the review, the panel has examined the project plan's conclusions in the context of externally-known market conditions. This section is organized to assess the success of the report in addressing the two basic goals of the project: (1) the commercial opportunity to increase economic development in Stanislaus County through the redevelopment of the Crows Landing facility as an Inland Port supporting the port of Oakland, and (2) that there would be a positive regional environmental impact to shifting local container drayage activity from the port of Oakland to the West Park (redeveloped Crows Landing NAS facility).

Commercial Opportunity

The report's survey-based analysis of the commercial opportunity for the West Park Inland Port is grounded first on the potential to serve shippers of export commodities, mostly agricultural, from the Central Valley, especially from Merced and Fresno counties, using the Port of Oakland. Given the large share of total Central Valley Port of Oakland-related traffic that is currently exports, this is appropriate as this is the primary potential market. The discussion of commercial opportunities also makes significant assumptions regarding the handling of imports and empty containers that are critical to the financial success of the development as projected. The framing of the export market in the introduction to the report contains an incorrect claim that Central Valley exports must flow through the Port of Oakland. Depending on the overseas destination, cost and volume, other ports (including the Port of Stockton or even Port Hueneme or the San Pedro Bay ports) are potential export gateways for Central Valley containerized agricultural exports. This inaccuracy should be corrected in subsequent versions of the analysis.

An analysis of regional import and export activity from Global Insight's proprietary databases suggest that additional field research is necessary to determine if there will be sufficient divertible freight volumes in the West Park Inland Port catchment area³ to sustain the short-haul rail operation if the proposed short-term operating cost subsidies are eliminated. Using our firm's U.S. Inland Trade Model, and isolating the import/export volumes for the Port of Oakland, we have identified the following volumes as a starting point for subsequent field analysis:

Figure 1
2006 Import Trucks Terminating in California Counties (Estimated)

	2006 Est. Daily Truck Units
Port of Oakland	
Outside West Park Catchment Area	1,200
West Park Catchment Area	100
Grand Total	1,300

Figure 2
2006 Export Trucks Originating in California Counties (Estimated)

	2006 Est. Daily Truck Units
Port of Oakland	
Outside West Park Catchment Area	400
West Park Catchment Area	50
Grand Total	450

Using this preliminary information as a starting point for subsequent analysis, a more detailed research effort must be undertaken to identify the population of available traffic for diversion to the West Park short-haul rail service. This will require significant additional effort, using both primary and secondary research tools, and would benefit significantly from the cooperation and data contributions of the Port of Oakland, the regional railroad and trucking partners, in addition to the efforts of an economic modeling firm.

³ A "Catchment area" is the region for which intermodal facilities can competitively draw from in attracting freight volumes. For the West Park Inland Port facility, we have included Stanislaus, Merced, Fresno, Mariposa, and Tuolumne counties in California.

Whereas most intermodal facilities capture only a fraction of the available regional freight volumes, the current economic and operating models for the West Park Inland Port facility would require capturing over 20% of the estimated 2011 volumes in the first year of the short-haul rail operation, and a significantly higher percentage of the identifiable truck traffic volumes at full build-out in 2021. The application of a tested mode diversion model to the enhanced market data would be a significant improvement in subsequent versions of the opportunity analysis.

Foreign Export Markets

The current draft of the short-haul rail report is missing a discussion of the future of foreign end-markets for Central Valley exports, especially for agricultural production. California producers increasingly face competition from foreign agricultural exporters in countries investing more than the U.S. is in infrastructure and technology to support increased agricultural exports. Evolving international trade liberalization and food consumption patterns are affecting U.S. producers, none of which is currently mentioned in the report. The continued growth in the U.S. population is acknowledged in the report but the resulting increase in domestic U.S. consumption of food, including impacts on the specific markets to which Central Valley producers are likely to sell their output is not. Given the importance of containerized agricultural exports to the Inland Port plans, a more thorough analysis of the Central Valley end markets should be commissioned for the project to put into context the potential for the facility to capture the export volumes forecast.

Import Market Demand

The discussion of the project financial analysis states that the West Park Inland Port development is predicated on moving large number of import containers to the site. Revenue from import handling (and the supply of empty containers generated by their de-stuffing) is a part of the plan which makes it profitable within just a few years. The objective of capturing substantial import traffic makes sense due to the overall heavy imbalance in U.S. container trade, with imported container volumes far exceeding exported container volumes nationally. While the Port of Oakland has traditionally been an export-dominated container port, in 2006, for the first time, import container traffic through the Port of Oakland exceeded the volume of loaded export containers. This trend is likely to continue over the long-term, despite the rebound in strength of U.S. exports in 2007. If the assumption holds that West Park Inland Port will be able to achieve a roughly balanced train operation (loaded both ways), then the rail service will benefit from the higher rail revenue slot utilization than is common for U.S. international intermodal rail traffic elsewhere. The report supports this assumption by listing characteristics and potential features of Crows Landing that might be reasons why receivers of imports would locate their distribution centers there. While features such as Free Trade Zone status may improve the attractiveness of the development for importers, it depends on what tenants can be convinced to invest there. Follow-up survey and interview work should attempt to specifically quantify what features are most desirable

Large distribution centers are logically identified as the target tenants for West Park Inland Port imports. The statement that attracting import distribution centers will create a significant number of new containers may be incorrect however, as the regional demand for the containerized imports is likely already there; it would just be shifted from handling through another location.

If it is believed that additional traffic volumes can be identified through forecast growth of the current industrial base, or through regional business attraction, additional study work in this area should be conducted. A comparative economic analysis of the West Park facility versus competing facilities should be added to subsequent versions of this report. There is little justification reported in the current analysis for assuming new distribution centers will be attracted to this location as compared with other potential Central Valley, or even Bay Area locations serving Northern California. The survey completed for the report was of existing shippers and receivers using trucking in the region, not importer managers outside the region who might build new Central Valley import distribution centers. These individuals should be surveyed for greater insight into the attractiveness of the West Park facility versus competing sites. Distribution center site location decisions are made considering final destination locations to be served, not just the access to the inbound shipment network. A more complete analysis of end-markets to be served by these distribution centers would better support the assumed import container volume captured by the West Park Inland Port and could be used in subsequent detailed financial justifications.

Seasonality of Trade

There is substantial seasonality in container trade, with goods imports peaking in October in the build-up to the holiday sales season, while exports of agricultural products can more closely track harvest times and the seasonal fluctuations in demands from end markets in the northern and southern hemispheres. Seasonal peaks in volume have led to the port congestion experienced in the U.S. previously, while the drop-off in traffic in the winter can see great underutilization of capacity that is near-full in October. These seasonal volume swings can distort financial viability of projects that are not adequately designed to handle peak season volumes, which can lead to frustrated customers and loss of market share to other modes or other facilities better equipped to deal with peaking volumes. The survey had questions in which seasonal use of the Port of Oakland might have been revealed but seasonality is not discussed in the survey results summary or elsewhere in the report. Because facilities do not operate day-to-day on annual average traffic volumes, future versions of the report documents should be amended to address the difficult operational and maintenance issues incurred during peak traffic volume months. Likewise, subsequent iterations of the financial plan should be adjusted to reflect the asset and cash-flow implications of seasonal shipping.

Empty Container Handling

The West Park Inland Port plan for Crows Landing wisely avoids basing the short-haul rail financial performance on significant handling of empty containers to and from the Port of Oakland. Instead Crows Landing is expected to itself have an empty container depot, providing carriers' empty containers to Central Valley export shippers, reducing the need for truck trips to the Port of Oakland to obtain or return an empty container. The primary benefit of providing this service is to help attract shippers to also use Crows Landing for their loaded shipments to the Port of Oakland. There are also significant environmental benefits estimated, discussed later.

The movement and handling of empty containers is an industry-wide problem but there are already innovations underway to improve container utilization and reduce empty container truck trips. Individual containers are still owned by individual steamship lines or lessors, but the chassis on which they are moved are increasingly being pooled to increase utilization and reduce

the size of the chassis fleet needed to handle the container traffic at ports. The Port of Oakland's SynchroMet™ is already reducing the need for port trips through an electronic virtual container yard, meant to increase street turns of empty containers away from the port, keeping truckers from having to go to the port until they have a container loaded for export.

The distribution of empty containers is not a closed loop for each U.S. container port either. The further inland an import container is taken from a port, the more likely it is to find its way back out of the country through another port, loaded or full. For Port of Oakland traffic that means some empty containers are not going to return to the port with a load and other containers loaded for export will not have originated as a Port of Oakland import load. Ultimately this means fewer truck trips are already being made to the Port of Oakland to obtain empty containers for export, reducing the baseline empty dray truck vehicle miles traveled. There was is no discussion of the impact of inland empty container routing in the report's analysis of empty container demand and supply. This issue should be addressed in subsequent analyses, particularly in light of the Port of Oakland's historical imbalances.

Environmental Impacts

The description of the positive environmental impacts from the Inland Port plan for Crows Landing development come directly from the substitution of truck vehicle miles traveled with cleaner and more efficient rail service for a portion of the current journey of each container to and from the Port of Oakland. The complexity of freight emissions modeling to fully take into account the changes to logistics practices, shipment sizes, frequencies and congestion from the phased development of the facility was not attempted for this plan, though this is not called for in a business case or development plan such as this. The reports' conclusions with respect to the environmental benefits estimated may consequently be subject to revision when more completely modeled. As this is a primary claimed benefit of the project, a more detailed environmental analysis, conducted by a reputable environmental engineering firm should be a defining element of subsequent versions of the analysis.

The inclusion of a depot and services to handle empty containers in the West Park Inland Port plan for Crows Landing reduces truck trips to and from the Port of Oakland carrying empty containers, reducing truck VMT and emissions. The description of the current operational practice for handling of empty containers, with storage and provision of empties (and associated container chassis) handled at the Port of Oakland however, may not be appropriate to use as the baseline against which to compare improvements resulting from the development of the inland port. There are active innovations at U.S. container ports to have shared chassis pools and virtual container yards for handling of empties reduce the port terminal truck trips associated with handling of this equipment. By the time the Inland Port would open in 2011 it is quite possible that electronic systems for location and provision of empties will already have reduced some of the current empty-handling truck trips associated with Port of Oakland shipments. These innovations should be addressed as the future "baseline" against which the West Park facility ought to be judged.

IV. Conclusions

Various articles and studies have been published on Inland Ports, including many which outline the critical success factors for these facilities. One 1999 article⁴, authored by Frank Harder of The Tioga Group, suggests that four elements must be present for a successful inland port. Harder identifies these as:

1. Sufficient Demand for intermodal freight transportation
2. Local supply of competitive motor carrier service
3. Practical basis for successful community relationships
4. Adequate public/private sector capital to fund development

Using these criteria to measure the potential success of the West Park Inland Port facility, the outlook for a successful terminal implementation is improving. The commitment of the Stanislaus County Economic Development Unit to building public support and to developing state funding for the project (critical success factors 3 and 4 above) are helpful, and the availability of local motor carrier service will likely follow development (critical success factor 2 above). The fundamental issue for the West Park Facility is the availability of sufficient demand for the inland port concept. The current analysis work has only begun to quantify this opportunity. Additional work in this facet of the analysis, along with the other suggested improvements will help improve the quality of the evidentiary data, and provide a more detailed and accurate picture of the feasibility of the West Park short-haul rail plan.

V. Report Update

On November 19, 2007, the members of the Global Insight review committee met with representatives of the Crows Landing redevelopment team to: (1) gain additional insight as to the status of the West Park project, (2) to discuss the findings of this report and how they could be incorporated into subsequent phases of the analysis, and (3) to plan a follow-up review of additional materials developed for the project.

The redevelopment team reported the status of their efforts, including a number of areas where they believe the analysis has progressed beyond the deliverables provided to the Global Insight review committee by the Stanislaus County Economic Development Unit. The redevelopment team further indicated that some of the issues identified in the review document would likely be resolved shortly through a series of ongoing negotiations.

³ Frank R. Harder, MPOs and Railroad Intermodal Terminals Successful Development Strategies, "Eno Transportation Foundation Transportation Quarterly, Quarterly, Volume 53, No 2, Spring 1999,

The redevelopment team acknowledged some of the weaknesses of the current analysis, and the review team helped to identify the resources and data necessary to advance the short-haul rail analysis to the point where a final feasibility evaluation for the West Park short-haul rail project could be completed.

The two teams felt some follow-up discussions were appropriate to measure the progress of the redevelopment analysis and to provide an objective review of the ongoing work. Global Insight committed to communicate the outcome of the meetings to the Stanislaus County Economic Development Unit, and to seek additional direction on any subsequent efforts.

Respectfully submitted,



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Previously, Mr. Bingham was Senior Associate in the Columbus Group's Transportation and Infrastructure Group where he managed economic analysis for economic studies incorporating trade forecasts and cargo transportation. Before that, he was Senior Associate in the Booz, Allen and Hamilton Commercial Freight Transportation Consulting Practice, managing the economic analysis of the Savannah River Deepening study for the Georgia Ports Authority and a strategy study for a large U.S. railroad. Mr. Bingham was also a Project Manager in the Transportation Consulting Practice at ICF Kaiser International, directing applications of trade forecasting and transportation analysis to a number of government transport infrastructure projects.

Recent project experience includes:

- Managed a forecast of statewide cargo flows in, to and through Oregon for the Oregon Department of Transportation's integrated transportation land use model project. This project followed an earlier freight forecast study managed by Mr. Bingham for the Portland, Oregon and Vancouver-Washington MPOs, along with Port of Portland and the Port of Vancouver, Washington.
- Managed the economic analysis and commodity flow forecasts for input to the Southern California Association of Governments' regional transportation plan. The forecasts included projections of international and domestic freight flows in, to and through the region by mode of transport and by origin and destination.
- Managed the economic analysis of a feasibility study of deepening Savannah Harbor for the Georgia Ports Authority. This work included construction of a benefit-cost model that captured the economic impact of the proposed improvements to access to the Port of Savannah. The analysis included forecasts of time savings and reduced transportation costs due to an increase in vessels able to use the port, as well as the costs of dredging and environmental mitigation required. Detailed transportation equipment financial operating cost models and cargo market forecasts were integrated in this model enable the assessment of project alternatives.
- Managed the international trade forecasts for a study of the market for container traffic in the South Atlantic region of the United States for the U.S. Army Corps of Engineers, South Atlantic Division. This regional economic analysis included analysis of the competitiveness of the region's ports for the transit of goods destined for inland points using models that incorporated

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Recent project experience includes:

- For the Mississippi Department of Transportation, he conducted an assessment of the state's rail lines, measuring the economic impact of public sector investment in each, picking winners and losers based on a multi-faceted evaluation process.
- For the Virginia Department of Rail and Public Transportation (DRPT), he conducted a thorough market study to determine the potential to divert highway traffic to an improved intermodal service for the I-81 corridor, including the design of the rail intermodal service, an evaluation of technology alternatives, and an analysis of rail infrastructure improvement costs.
- In a follow-on study for DRPT, Mr. Blair estimated the impact of I-81 tolls on commercial vehicle routing in Virginia.
- He has coordinated other freight planning analyses at the Federal, city, and MPO level, including studies of truck size and weight impacts, congestion mitigation, corridor capacity planning, economic development and economic impact analyses.
- He completed a corridor analysis project for the Keystone Corridor in Pennsylvania (Harrisburg – Philadelphia), analyzing truck and rail traffic patterns along the route, and assessing the economic benefit of state investment in overhead clearance improvements.
- Mr. Blair also served as Project Manager for a City of Chicago study to evaluate the current and future economic impact of rail freight activity on the City's economy, including labor, land use, business activity, highway congestion and commuter train activity.
- In another study for Chicago, he estimated the potential to attract high-value freight to specially equipped mass transit vehicles.
- For the Indiana Ports Commission and the Pioneer Valley (Massachusetts) MPO he has evaluated the opportunity to leverage rail-truck intermodal facilities for regional economic development.
- Mr. Blair has prepared evidence for two deregulation proceedings and five railroad merger applications.

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