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The Alameda Corridor

A White Paper

Prepared for

Alameda Corridor: A Blueprint for the Future?

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Ajay Agarwal
Genevieve Giuliano
Christian Redfearn

School of Policy, Planning and Development
University of Southern California
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Introduction

The Alameda Corridor began modestly as a low budget planning study in the early 1980s in response to anticipated rapid growth of trade through the Ports of Los Angeles and Long Beach. That planning study later evolved into one of the largest public works projects in the United States – a \$2.4 billion intermodal rail corridor. Construction of the corridor began in April 1997 and revenue operations commenced in April 2002. It is one of the few infrastructure mega-projects in recent years that has opened on time and within budget. The Alameda Corridor is a potential model of private-public partnership and innovative financing that may offer insights as to how large-scale infrastructure projects could be executed in the future. The questions of whether operating expectations have been met and whether the Alameda Corridor can or should be replicated elsewhere are the subject of this conference.

What is The Alameda Corridor?

The Alameda Corridor is a 20 mile long rail cargo expressway linking the ports of Long Beach and Los Angeles to the transcontinental rail lines near Downtown Los Angeles (figure 1). The corridor, which generally parallels Alameda Street along most of its route, is a series of bridges, underpasses, overpasses and street improvements that separate freight trains from street traffic and passenger trains. The



Figure 1 The Alameda Corridor

http://www.innovativefinance.org/projects/heavy_rail/ala_corr.asp

project’s centerpiece is the Mid-Corridor Trench which carries freight trains in an open trench that is ten miles long, 33 feet deep and 50 feet wide, between SR-91 in Carson and 25th Street in Los Angeles (www.acta.org).

Need for the Project

Growth in Domestic and International Trade

Domestic and international trade has become a significant part of the U.S. economy. More trade means more freight moving across the nation’s highways, railroads, airports, waterways and seaports. Between 1998 and 2020, U.S. international freight is forecasted to grow at the rate of 2.8 percent per annum, nearly doubling in volume. During the same period, U.S. domestic freight is forecasted to grow at the rate of 2.9 percent per annum. Maximum growth in total freight tonnage is anticipated in the west and south – 100 percent and 89 percent respectively – over current freight volumes (FHWA, 2002).

During 2000, the value of water-borne goods shipment exceeded all other modes of transport of international freight (see figure 2). In fact, the U.S. is the world’s largest maritime trading nation. It is clear that efficient port operations are critical to international trade and to the U.S. economy. Inefficient ports could seriously undermine U.S. competitiveness in international trade.

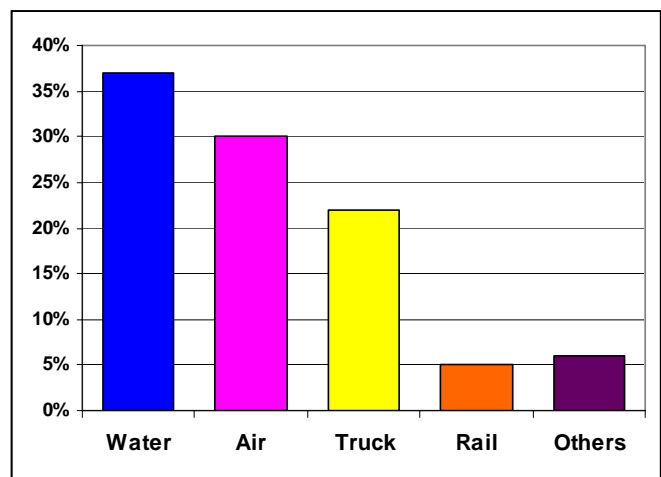


Figure 2 Transportation Distributions of U.S. Merchandise Imports and Exports by value in US Dollars

Source: Agarwal and Agarwal, 2002

Growth in Cargo at the San Pedro Ports

Together, the two San Pedro ports form the third busiest container facility in the world. About 35 percent of all waterborne container cargo in the U.S. depends on the San Pedro Bay ports to reach market (LACMTA, 2002). During the calendar year 2003, the San Pedro ports together handled close to 11.9 million TEUs

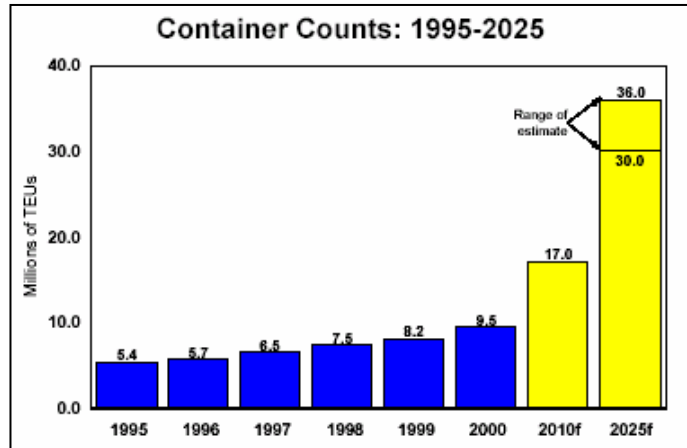


Figure 3 Projected Container Growth in San Pedro Bay (in million TEU)

Source: Southern California Freight Management Case Study, LACMTA, 2002

(Twenty-foot Equivalent Units, the standard measure of cargo volume)¹. Projections of growth in cargo volume at the two ports vary substantially, ranging from a doubling of volume to more than tripling: The Los Angeles County Metropolitan Transportation Authority (LACMTA) (2002) quotes Los Angeles County Economic Development Corporation (LAEDC) forecasts of combined container cargo growth at the San Pedro Bay ports to 17 million TEU by 2010 and between 30 and 36 million TEU by 2025; Erie (2004, p145) mentions that between 2000 and 2020, “containers through the San Pedro Bay Ports are forecast to increase 175 percent.” Either case represents significant growth in container cargo volume at the two ports. Truck trips to the two San Pedro Bay ports are projected to increase to 50,000 by the year 2010 and to 91,000 by the year 2020, (even) assuming that 30 percent of total cargo at ports will move directly from ship to rail without an intervening truck trip to a rail head (Agarwal and Agarwal, 2002).

Growth in international and domestic trade and accompanying growth in cargo volumes at the San Pedro Bay Ports will require additional improvement in port efficiency. More freight will

¹ Total based on figures from official websites of the two ports

move through the region, on railroads, trucks, and by air (see figure 4) and it will stress existing infrastructure. Better on-dock facilities, additional intermodal container transfer facilities near ports, shuttle freight trains between ports and the inland empire are some of the ways to accommodate container cargo growth while not putting additional pressure on highways linking ports with inland markets.

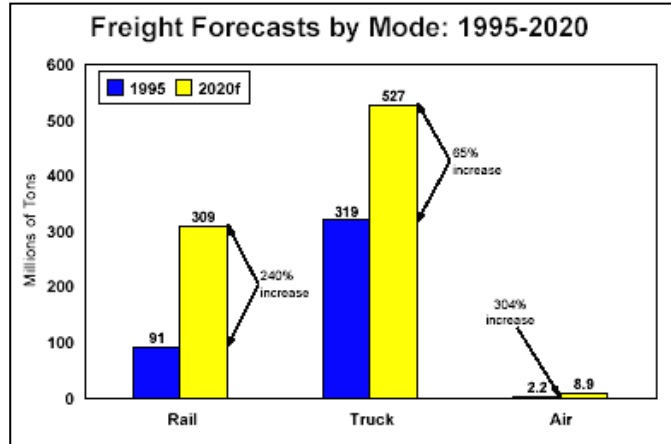


Figure 4 Freight Forecasts by Mode in Southern California

Source: Southern California Freight Management Case Study, LACMTA, 2002

Growth in Freight Traffic

Between 1995 and 2020, total goods movement by all modes (truck, railroad, ship, air) is forecasted to grow by over 80 percent in the Southern California Region. During the same period, heavy duty truck traffic is projected to grow by 65 percent, air cargo by 300 percent, and rail tonnage by 240 percent (LACMTA, 2002). Burgeoning NAFTA trade with Mexico, which is mostly trucked across borders, has put an additional load on region's highways.

Freight traffic growth poses some unique challenges to the Southern California transportation network, many parts of which are already congested. The situation is aggravated by poor intermodal connections between highways, railroads and marine terminals, and the paucity of capital to invest in the ageing rail network. The region's transportation infrastructure capacity will require expansion in these areas in order to accommodate the growth in passenger and

freight traffic. If the existing network is not expanded, traffic congestion will increase. With limited public funds available for infrastructure projects, there was then, as there is now, a growing need for private funding or public-private joint partnerships to build infrastructure projects. An innovative public-private partnership evolved to design and develop the Alameda Corridor.

Evolution of the Project

Overview of events before ACTA formed:

In October 1981, the Southern California Association of Governments (SCAG) created the Ports Advisory Committee (PAC) in response to growing concerns about the ability of the surface transportation system to accommodate increasing levels of traffic in the port area. PAC members included local elected officials, as well as representatives of the ports of Los Angeles and Long Beach, the U.S. Navy, the Army Corps of Engineers, affected railroads, trucking industry, and the

The Project Timeline

Based on information from the ACTA official website
www.acta.org

October 1981

SCAG forms Ports Advisory Committee (PAC)

December 1984

SCAG Executive Committee adopts PAC recommendations

February 1985

SCAG forms Alameda Corridor Task Force

August 1989

JPA formed by cities and ports of Long Beach and Los Angeles called the 'Consolidated Transportation Corridor Joint Powers Authority'

March 1991

Governing Board recommends agency name change to Alameda Corridor Transportation Authority (ACTA)

January 1993

ACTA Governing Board approves Plan for the Alameda Corridor

December 1994

Ports complete purchase of necessary rights-of-way from railroads for \$394 million

November 1995

National Highway System Designation Act becomes law and names Alameda Corridor a "high-priority corridor"

February 1996

Governing Board certifies federal EIS, and federal transportation officials approve permit to construct project

January 1997

Signing Ceremony of the \$400 million loan Department of Transportation loan for the Alameda Corridor

January 1997

ACTA Governing Board reduced to seven members

April 1997

Construction commences

October 1998

Governing Board approves Use and Operating Agreement with railroads

November 1998

ACTA dedicates first completed project of the Alameda Corridor, the Los Angeles River Bridge

February 1999

Private investors purchase last of \$1.16 billion in ACTA revenue bonds, completing the project's funding package

April 2002

Revenue operations begin

Los Angeles County Transportation Commission (LACTC).

In 1984, based on the PAC's recommendations, the SCAG Executive Committee adopted a plan for the consolidation of all port-related railroad traffic onto the former Southern Pacific San Pedro Branch. The proposed plan promised to augment train speeds in addition to reducing vehicular traffic delays at grade crossings, thus reducing air and noise pollution and improving safety.

In the 1980s, three major railroads – Santa Fe, Union Pacific, and Southern Pacific – carried freight from the San Pedro ports, using four separate routes. Rail lines crossed surface streets at grade at 200 points, creating traffic conflicts, safety hazards, and air and noise pollution at each point. Consolidating the four routes was vital to eliminating these problems. Initially, railroads were generally opposed to the proposal as it meant sacrificing privately owned rights-of-way. But railroads warmed to the idea once they were convinced that the project would speed trains and significantly reduce delays. Later, the railroads also agreed to pay a container-based fee to use the Corridor. The railroads agreed for two additional reasons as well. First, they received substantial benefit from the project in immediate cash from the ROW purchases, and in the future through a more efficient rail corridor. Second, the user charges were implemented uniformly, thus eliminating any competitive advantage for any one railroad.

In 1985, SCAG created the Alameda Corridor Task Force (ACTF), which included members of PAC with the addition of the California Public Utilities Commission (CPUC) and each of the

eight cities along the corridor. PAC worked on the institutional arrangements, funding, and developing consensus on various aspects of the project.

In 1989, the two San Pedro Ports provided the seed funding for design and environmental studies and also took the lead in creating an agency to oversee design and construction. During the same year, the cities of Los Angeles and Long Beach formed a Joint Powers Authority (JPA) called ‘Consolidated Transportation Corridor Joint Powers Authority.’ The JPA name was later changed to ‘Alameda Corridor Transportation Authority’ (ACTA). The goal of ACTA was to create a more efficient rail system that would reduce traffic delays and improve environmental quality along the corridor en route to the transcontinental rail system in downtown Los Angeles.

Evolution of ACTA Governing Board

The Alameda Corridor passes through jurisdictions of eight cities: Los Angeles, Long Beach, Vernon, Huntington Park, Lynwood, South Gate, Compton, and Carson (see figure 1). In addition to these cities, the Alameda Corridor involved private railroads, the two San Pedro Bay ports, the Los Angeles County Metropolitan Transportation Authority (LACMTA, previously Los Angeles County Transportation Commission), and other state, regional and local public agencies including SCAG. Coordination and consensus of various agencies involved was a complex process, but essential to the success of the project. The process of building consensus among the agencies is discussed in more detail later in this paper.

Formation of the governing board of ACTA was not simple. Each of the eight corridor cities believed that it deserved representation on the governing board. Initially, the governing board

was comprised of 16 members including representatives each from the corridor cities, ports and other agencies involved. The large size of the governing board led to repeated disagreements and disruption of meetings. ACTA could not make any significant decisions, and the project was more or less stalled. In 1997, after intense negotiations between the mid corridor cities, the ports and the cities of Los Angeles and Long Beach, the ACTA governing board was trimmed to seven members: two representatives each from the two San Pedro Bay Ports, one representative each from the Los Angeles and Long Beach City Councils, and a delegate from the LACMTA. Corridor cities were allowed detailed review and approval of changes to each city’s facilities. Cities, in turn, assured timely turnaround on city permits. The cities also received \$ 12 million in funds for mitigation of construction activities.²

Assembling Finances

The \$2.4 billion required for the Alameda Corridor came from a unique mix of public and private sources (see figure 5). In early days of ACTA, the LACTC, which later transformed into LACMTA, was responsible for programming state and federal funds in Los Angeles County.

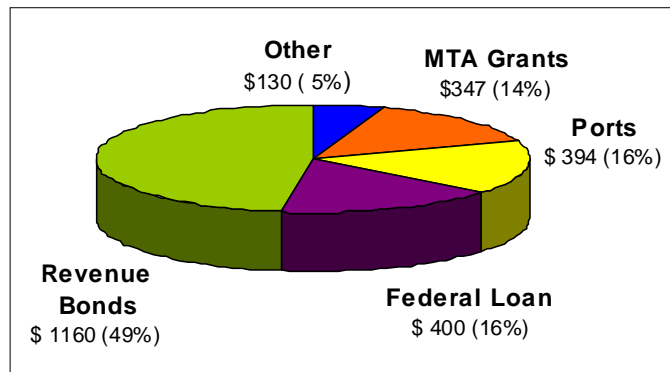


Figure 5. Sources of Funding (\$ amount in millions)

Data Source: www.acta.org

Initially, there was no category in which ACTA could compete for these funds. The Alameda Corridor was not a freeway, bus or commuter rail. ACTA lobbied with LACTC for two years to establish a category for goods movement projects on the basis that such projects are essential for

² For a detailed and insightful discussion of the institutional issues involved in the Alameda Corridor project, see Callahan, 2002.

reducing traffic congestion and pollution and maintaining a healthy regional economy. ACTA was also supported in these efforts by the California Transportation Commission. Eventually, LACMTA committed \$347 million in grants for the project.

In 1994, the San Pedro Ports purchased necessary rights-of-way (ROW) from railroads for \$ 394 million to assure impartial dispatching of trains once the corridor was operational, and also to get access and control to the railroad property. The purchase of ROW by the ports was an extraordinary commitment of cash for a project whose costs were unknown and whose financial viability remained unproven (U.S. Government, 2002; testimony of Jim Preusch). The ports also signed a Memorandum of Understanding (MoU) with the railroads which provided the basic structure for the 1998 operating agreement. One provision of the MoU was that the railroads would pay container fees and other user fees for use of the corridor.

In 1995, the National Highway System Designation Act designated the Alameda Corridor as a High Priority Corridor. Thereafter, ACTA was able to obtain a \$400 million federal loan from the Surface Transportation and Uniform Relocation Assistance Act of 1987 and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). ACTA issued \$1 billion in senior lien bonds, about half of which was tax exempt, and \$163 million in subordinate lien bonds, \$21 million of which was tax exempt. The blended cost of capital for the combined financing was near 6.5 percent.

User Fees for Revenue

The ports also negotiated construction, maintenance, and operations agreements with the railroads. In 1998, the ACTA Governing Board approved the use and operations agreement with railroads. Railroads agreed to pay a container-based user fee for access to the Alameda Corridor. The projected revenue stream allowed ACTA to finance the \$1.1 billion revenue bonds issue and also helped in securing the \$400 million federal loan. The user fee concept negotiated with the railroads as a part of the ROW purchase made it possible to create a debt repayment structure that would grow in the future as cargo and fee increases translated into higher revenues for ACTA. The rail corridor user fee and container charge system was essential to assembling and leveraging funding resources for the project without massive government grants generally associated with public infrastructure projects (U.S. Government, 2002; testimony of Jim Preusch).

Creating Consensus among Stakeholders

The Alameda Corridor involved several stakeholders, each with its own self interest: ports that were investing large sums of money, private railroads that were going to share a common ROW with their competitors, regional agencies like SCAG and LACMTA that were interested in easing traffic congestion, and above all cities through which the Corridor passed. It is interesting how ACTA resolved conflicts of interest between stakeholders and created a publicly acceptable project. Callahan (2002) describes ACTA as, “a story of cooperation emerging out of the politics of structural choice.”

ACTA was ridden with conflicts from the beginning, starting with the issue of representation on its governing board. As stated earlier, the governing board was initially comprised of representatives from the eight Alameda Corridor Cities, the two San Pedro ports, and regional agencies. The mid-corridor cities remained concerned about the local effects of construction activity, increased rail traffic, and other negative impacts on residents and businesses adjacent to the Corridor. They persisted with these concerns, arguing that while the benefits of the project were widely dispersed regionally and even nationally, its external costs and adverse impacts were highly concentrated in the areas through which the corridor passed. The dissenting cities were focused primarily on the local economic benefits of the project and felt that ACTA was not giving adequate attention to their economic development needs.

However, ACTA's main job was to build the corridor and not local economic development (Erie, 2004). However, ACTA tried to resolve this issue by including specific local economic development features in its program for the residents of local cities, including (Callahan, 2002):

- Commitment to employ local residents to perform at least 30 percent of all work hours
- Establishing training centers for at-construction and non-construction jobs for local residents.
- Commitment to enroll graduates of the training centers in union apprentice programs for jobs after the project.
- Funding a \$1.2 million program for the local youth including graffiti removal, trash pick-up, and other activities.

In addition to these, ACTA developed the Alameda Corridor Business Outreach Program to assist disadvantaged businesses in learning about and competing for work on the project. By 2000, ACTA had awarded more than 20 percent of contracts to the Disadvantaged Business Enterprises (Callahan, 2002).

The two San Pedro ports, which had invested significant amounts of money in the project, were wary of the uncooperative attitude of the mid-corridor cities. In 1995, the ports proposed a third amendment to ACTA's joint powers agreement, transferring financial powers to a newly created Finance Committee comprised of the LACMTA and the Ports and Cities of Los Angeles and Long Beach. This amendment was approved by the board, essentially voting the six mid-corridor cities out of power. In response, the mid-corridor cities filed a lawsuit against ACTA, which ACTA won. The governing board was ultimately reduced to its present form with seven members representing the major financial stakeholders: two each from the two San Pedro ports, one each from the cities of Los Angeles and Long Beach, and the LACMTA.

Despite having won the lawsuit, ACTA remained concerned about the attitude of dissenting cities. Cities still controlled construction permits and had to approve design elements that affected or could affect local communities. Dissatisfied cities could create significant delays to the project by not cooperating in the approval process.

In order to assuage the mid-corridor cities, ACTA negotiated settlements and memoranda of understanding (MOU) separately with each mid-corridor city. As a part of the settlement, the cities received significant monies for mitigation measures. The mid-corridor cities also received

25 percent of their engineering permit fee upfront (Callahan, 2002). In addition to the money for mitigation measures, ACTA also committed to several local economic development measures discussed earlier. In return, cities assured a timely turn-around of construction permits and agreed not to challenge the project's environmental impact report. Overall, ACTA succeeded in creating a publicly acceptable project by taking actions to accommodate the needs and concerns of various stakeholders.

Innovative Financing

The Alameda Corridor has a complicated and innovative finance package, with several funding sources and a dependence on a future revenue stream for debt repayment. The Alameda Corridor is innovative for its funding via a federal loan – not a grant – and for leveraging these federal dollars through backing loans. Getting the federal loan was not easy. ACTA had to lobby the Federal Government for two years to secure the loan once it had exhausted all other public funding sources. Two things worked in favor of ACTA at this juncture: first, the project was perceived to be environmentally friendly – including significant mitigation measures; and second it had been designated as a 'High Priority Corridor' in the National Highway System Designation Act. Ultimately, the federal Government not only offered an attractive low interest rate (at that time) on the loan, but also agreed to take a subordinate position on the bond.

The bonds offered by ACTA were unique in several ways. The bonds funded a project that was not entirely public; it also involved private railroads. Moreover, ACTA bonds did not offer a guaranteed return from a dedicated tax source as do most public infrastructure bonds. Bond payments were to come solely from the future revenue stream. Thus, investors risked losing

their investment in the event of project delays, project cancellation, or a failed or lower-than-projected revenue stream. ACTA would have to overcome the general perception that cost overruns and delays were inevitable with most public infrastructure projects. ACTA had to convince investors that unlike other public projects, the operations and management of the Alameda Corridor were in the hands of agencies who had themselves invested large sums of money in the project and thus had a vested interest in its completion and profitability. In the end, an upbeat economic setting accompanied by attractive projections of future ACTA revenue from growth in international trade and maritime cargo led to a successful placement of the ACTA bonds.

ACTA also received a grant from the LACMTA in exchange for the inclusion of an LACMTA representative on its board. The financing for the project evolved through unique accommodations to each of the funding entities.³

Design-Build Contracting

In conventional contracting of public infrastructure projects, the designer and the contractor are two separate agencies. But ACTA chose design-build contracting for building the project instead. In a design-build contract, the designer and the builder are one entity from the owner's perspective. Design-build contracting offers many advantages over conventional contracting, namely, greater flexibility in the selection of design, materials, and construction methods due to enhanced communication and cooperation between the designer and the contractor as they are truly the same team. (Fisher Jr, 2000)

³ See Callahan, 2002 for a comprehensive discussion on this point.

Design-build contracting can also shorten the total time required to complete a project, though the bidding period may be slightly longer than conventional contracting. Decisions are reached more quickly within the design-build team, so construction can begin even before all the design details are finalized. Because both design and construction are performed by the same agency, claims for design errors or construction delays due to design errors are often greatly reduced.

However, design-build contracting also poses some challenges (Fisher Jr, 2000) including issues in design expertise of design-build contractors and the way in which design-build contracting alters the designer's role. In conventional contracting, the designer is primarily responsible to the owner, and the owner tends to place a fair amount of trust in the designer's work. Since there are relatively few fully integrated design-build firms, the design-builder is frequently a general contractor who subcontracts with a design professional, making the designer primarily responsible to the contractor instead of to the owner. This structure could impair the designer's performance from the owner's perspective.

Anticipated Benefits and Actual Performance Since Completion

The Alameda Corridor was hailed by some as a project that would significantly reduce traffic congestion, air and noise pollution at the ports and surrounding region, especially the 710 freeway. ACTA claims the following specific benefits from the project (ACTA official website, www.acta.org):

- More efficient rail movement: reduction of train transit time from over 2 hours to 45 minutes, as well as increased train reliability
- Cut train emissions up to 28 percent and noise pollution from trains by 90 percent

- Eliminate conflicts at 200 at-grade rail crossings⁴ and thereby
 - reduce traffic delays at rail road crossings by 90 percent
 - reduce emissions from idling automobiles and trucks up to 54 percent
- Improved quality of life for over 2 million people in Southern California
- Foster local economic development in the Corridor Cities

ACTA claims that the Corridor has slowed the growth of port-bound truck trips on the freeways⁵ and reduced idling of trains in corridor, which has improved the air quality in the Southern California basin. However, in so far as we have been able to determine, presently there is no empirical evidence to support ACTA claims or quantify any benefits of the Alameda Corridor. Since its completion in 2002, no internal official performance reviews of the Alameda Corridor have been performed nor are any anticipated in the near future. However, official figures are available regarding average train traffic through the Corridor, as well as volumes of cargo transported and revenues earned.

1. Use of the Alameda Corridor

We were able to obtain information from ACTA on average daily train traffic and average annual volume of cargo.⁶ The average daily train traffic through the Alameda Corridor is approximately 38 trains.⁷ Train traffic through the Corridor varies by the day of the week,

⁴ This includes the at-grade crossings eliminated by consolidating tracks. Grade separations actually constructed are around 40

⁵ ACTA estimates that by the year 2010 port-bound truck trips will grow to 50,000 with the Alameda Corridor. Without the Alameda Corridor, ACTA estimates 63,000 port-bound truck trips.

⁶ This paragraph is based on personal email correspondence with Maria Melendres, ACTA Public Affairs.

⁷ Averages based on monthly figures

corresponding to arrivals of container vessels at the Ports. Generally, most vessels arrive between Thursday afternoon and Sunday, with most vessels departing from the ports by Monday. Hence, Tuesday and Wednesday are the ‘slower’ days of the Corridor while Thursday through Monday are comparatively busy. There are also monthly variations in port activity. Generally, the period between April/May through November/December is the busiest time of the year. There is a general increase in the port traffic corresponding to the overall increase in market demand for imported consumer goods during the Christmas season. The Alameda Corridor has a maximum capacity of more than 150 train trips per day; hence current traffic of 38 trains per day is far less than its maximum capacity.

Under the current Corridor agreement, the two railroads that service the San Pedro ports – the Union Pacific (UP) and the Burlington Northern Santa Fe (BNSF) – have binding agreements with ACTA to use the Alameda Corridor for access to the San Pedro ports. Railroads pay a ‘use fee’ for containers transported through the corridor. Even if some containers are carried on trucks to the transcontinental rail system in downtown Los Angeles, the railroads still pay ‘container charges’ to ACTA as if the containers were transported through the corridor. Hence, ACTA earns fees for all containers whether or not they are transported on rails between the ports and the transcontinental rail system in downtown Los Angeles.

During fiscal year 2002-03, the San Pedro Ports handled approximately 11.1 million TEUs – including empty containers. Approximately 3.0 million TEUs, about 27 percent of the total, were transported through the Alameda Corridor. Another 1.0 million TEUs were trucked to the rail yards in downtown Los Angeles (about ¼ of all “eligible” TEUs i.e. which paid the container

charges).⁸ The actual number of containers moved on the Alameda Corridor meets projections because the trade through ports has grown more than anticipated. However, the percentage of containers subject to fee on the Alameda Corridor falls below projections – 36 percent instead of 50 percent. ACTA, however, maintains that the current train traffic on the Alameda Corridor is consistent with what was anticipated. According to ACTA, the maximum capacity would be needed only if the ports reach their projected cargo volume of 36 million TEU per year in 2020.

There are two questions about the performance of the Alameda Corridor. First, why has the Corridor not attracted a larger share of port cargo, and second, why does one-fourth of cargo that is eligible for fee, pay the container charge and yet get trucked to the intercontinental rail system in downtown Los Angeles? There are several explanations to the rail market share question.

1. Export vs. local trade:

Trucks are primarily used for higher than average value freight and shorter than average length of haul. Presently, 80 percent of all freight tonnage originating in Southern California stays in the region (SCAG, 2003). In 1997, average length of haul was 288 miles for truck and 1525 miles for rail. More than 75 percent of all truck tonnage has a trip length shorter than 50 miles. For imports/exports, Southern California is the final market for nearly 25 percent of all imports coming through the ports. Another 25 to 35 percent of cargo makes its first stop within the Southern California region as part of a value-added process. Thus 50 – 60 percent of all import cargo is not a likely candidate for the Alameda Corridor.⁹ It is more efficient for shippers to truck short haul cargo than to move it on railroads: handling costs are lower and transit period

⁸ These are likely BNSF containers as BNSF does not have an intermodal container transfer facility at the ports

⁹ We were unable to obtain information on exports and empty containers.

shorter. Maurine Cecil, president of the Los Angeles Brokers and Freight Forwarders Association, says cargo is being sent by truck for speed's sake: local distribution goods can be moved in four to seven days by truck compared to seven to 10 days by rail (Long Beach Press-Telegram, 2003).

2. *Changes in relative costs:*

According to James C. Hankla, former CEO of ACTA, in the 18 years it took to design, fund and build the project, the economics of the Southern California shipping industry changed, making it cheaper and easier to move containers by truck than by train (The CalTrade Report, 2003). If the relative cost of truck has declined, a greater share of all cargo would be carried by truck, all else equal.

3. *The Los Angeles and East bottleneck:*

The Alameda Corridor ends in downtown Los Angeles. Beyond the Alameda Corridor, although there are more tracks, there is also significant additional rail traffic. From downtown Los Angeles, rail lines serving UP, BNSF and the Metrolink commuter trains head east to Pomona, Riverside and Colton, and southeast to Fullerton and beyond. As a result the rail network beyond downtown Los Angeles gets congested. Steven P. Erie argues that all the Alameda Corridor did was push the bottleneck north and east (Los Angeles Times, 08/22/03). East of Fullerton, the BNSF line connects with the northerly route at Colton. Colton rail yard, owned by UP, is the largest rail yard in Southern California, with more than 1,500 rail cars coming through on a typical day. SCAG (2003) estimates that train trips between LA and the Colton

Crossing will increase to 265 trips every day (100 passenger and 165 freight). Although the Colton Crossing is not congested now, with the anticipated growth in future it will be.

Two major rail improvement projects are proposed beyond the Alameda Corridor. One is the Alameda Corridor-East project, which consists of rail lines from the UP terminus of the Alameda Corridor to Colton Junction in San Bernardino County; and the other is the Orange County Gateway, along the BNSF main line through north Orange County. These are primarily grade separation projects and do not necessarily add track capacity.

The bottleneck explanation implies that the reduced travel time of trains within the Corridor is somehow offset by congestion to the east. That is, for some cargo, a direct haul by truck from port to inland intermodal facility is more efficient than using the Alameda Corridor. The lack of empirical evidence makes it impossible to judge the reasonableness of this explanation.

4. *High costs of intermodal:*

SCAG (2003, pp 18-20) gives a detailed description of the cost disparities between rail intermodal and trucking: “Rail intermodal service requires economical trucking (drayage) to a nearby rail intermodal terminal. Terminal and drayage costs are intermodal overhead that must be offset by a long, efficient line-haul trip to be time and cost competitive with over-the-road trucking. Drayage typically costs \$50 to \$250 on each end of the movement, or \$100 to \$500 in total. Terminal costs are typically \$30 to \$50 at each end, or \$60 to \$100 per move. Drayage and terminal handling add 8-24 hours of time compared to highway truckload service. In order to be cost competitive, intermodal needs a long length of haul at low rail line-haul costs to spread

or amortize those local trucking and terminal costs. The result is a strong competitive position over about 1000 miles and real cost advantages as the distance grows. Hence presently intermodal has very little presence in lanes of less than 750 miles, and almost none under 500 miles.”

5. Changing logistics patterns:

The Inland Empire of Riverside and San Bernardino counties is emerging as an inland harbor. Goods arrive at inland empire warehouses for sorting, repacking and shipment by both truck and train. Currently goods arriving at the ports are trucked from the harbor to huge distribution centers in Colton and San Bernardino, where they are consolidated and reorganized for easy delivery. There would be little attraction in hauling these shipments via rail if intermodal time and labor costs are high. A portion of the goods is then put back on trucks and drayed to rail yards, where it is finally put on trains for the trip east. Large numbers of Southern California’s less-than-truckload (LTL) trucking firms maintain their major cross-docks in the inland region. The Inland Empire’s location offers some key location advantages. First, almost every truck or rail shipment entering or leaving Southern California passes through the area, except those to the Northwest. Second, BNSF’s recently upgraded intermodal facility allows firms to lower their shipping times and increase the efficiency of their trucking fleets by avoiding long processing times at the congested rail yards near Long Beach and Los Angeles harbors (IEEP, 2003).

The question of why about one-fourth of rail cargo eligible for the container charge is trucked to the downtown rail yards is more difficult to answer. At 45 minutes it is likely that Corridor rail

travel time is shorter than truck.¹⁰ Therefore rail shippers are willing to pay the Corridor fee and incur greater line-haul travel time. If this choice makes financial sense, there must be other costs associated with using the Corridor. Possibilities include: 1) the absence of on-dock rail at some terminals, which would necessitate transport by some means to trains at the Corridor terminus; 2) differences in cargo handling costs, truck vs rail; 3) capacity constraints at the downtown rail yards; 4) inefficiencies associated with small lot cargo. At the Alameda Corridor conference, it was noted that the lack of near-dock intermodal transfer facility made it more economical for BNSF to truck its containers to the Los Angeles rail yards.

2. Revenues

During the Fiscal Year (FY) 2002-03 ACTA revenues were \$39 million for containers moved through the Corridor and another \$15 million for containers trucked to the Los Angeles downtown rail yards. ACTA met its revenue expectations and covered its annual debt service for FY 2002/03.

3. Reaction of users- railroads, shippers, and other stakeholders

ACTA reports no complaints from the railroads, shippers and others. It claims railroads are generally satisfied with the increased speed of trains between ports and the downtown Los Angeles rail system. Alameda Corridor has actually reduced the travel time for each train trip between ports and the downtown Los Angeles rail yard to 45 minutes as compared to 2-6 hours previously and significantly improved reliability of train service.

¹⁰ The total journey time may be more than 45 minutes depending on the time spent in processes to get the train moving.

Conclusion

The Alameda Corridor has been in operation for less than two years. Thus far, ACTA has been able to meet its revenue expectations. ACTA maintains that the Corridor is performing as anticipated. In terms of its impact on the heavy duty truck traffic in the region, however, Alameda Corridor's performance has been debatable. Media reports a general disappointment among the public regarding the Alameda Corridor's impacts.

According to ACTA, the Alameda Corridor project was intended to consolidate train traffic and eliminate at-grade conflicts, which it did successfully. It never was aimed at removing the truck traffic from the freeways.¹¹ Further, it may also be true that the full benefit of the Alameda Corridor cannot be realized until the complementary projects of the Alameda Corridor- East and Orange County Gateway are completed. In addition, there are demands for other region-wide transportation network improvements e.g. provision of truck-only lanes on major highways, shuttle trains between ports and intermodal container transfer facilities, more loading on docks and near docks, etc.

We were unable to find any independent performance reviews or studies that pass any conclusive judgment on the Corridor's performance. It would be premature and overly simple to accept it as a complete success or to write it off as a complete failure. It may be partially both: a success of public-private partnership in financing and building an infrastructure mega-project and a failure of a mega-project in living up to the mega-expectations generated during its development (particularly regarding reduction in traffic congestion). In either case, the Alameda Corridor

¹¹ John Doherty and others argue that expectations for the Alameda Corridor to reduce truck traffic are the result of political conflicts regarding the I-710 freeway expansion project.

offers a working example of exploiting a unique institutional structure and creative financing to build large infrastructure projects.

Another issue of some importance is the accounting of dispersed benefits and concentrated costs for such infrastructure projects. The mid-corridor cities were persistent in their protests about the disproportionate external costs of the project borne by local communities as compared to the very limited share of the projected benefits of the project. Erie (2004) states that ACTA oversold the economic benefits of the Alameda Corridor to the Corridor communities, creating unrealistic expectations. Indeed, overly optimistic forecasts of project benefits are routine among large infrastructure projects around the world (Flyvbjerg, Bruzelius and Rothengatter, 2003). Though ACTA was able to strategically manage local dissent in the short term, there is some sense that in the long run communities who accepted the project may be expected to protest again against traffic congestion, safety and pollution issues as goods movement through the Corridor continues to grow.

The Alameda Corridor is one element of a vast network of infrastructure responsible for moving goods and people throughout the region and country. It is clearly too much to ask that this one piece solve all of our transportation problems. Indeed, expectations for the immediate impact of the Corridor on local traffic – train and truck – may have become inappropriately high during design and development. Given the scale of the project and the scope of the network, we may have to wait for some time before passing judgment on the Alameda Corridor. The wait may be considerable; to date, we have found a surprising lack of independent, systematic analysis of the Alameda Corridor. Given its scale and significant role in the region's goods shipment network,

the Alameda Corridor merits careful study to determine to what extent expected benefits have been realized, and to explain observed project outcomes. This paper and conference are likely to be the beginning of a longer dialogue on the Corridor's cost and benefits.

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