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The Consolidated Transportation Corridor: Surface Access to the Ports of Long Beach and Los Angeles

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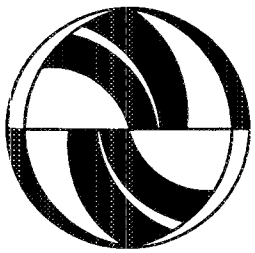

The Consolidated Transportation Corridor: Surface Access to the Ports of Long Beach and Los Angeles

John K. Parker

Final Report
UCTC No. 137

The University of California
Transportation Center

University of California
Berkeley, CA 94720

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The Consolidated Transportation Corridor: Surface Access to the Ports of Long Beach and Los Angeles

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Disclaimer

The ideas, data and opinions expressed in this report are those of the author. They are designed to inform, clarify and suggest possible courses of action on this important subject.

The contents of the report do not represent the views of the research sponsors: U.S. Department of Transportation, California Department of Transportation, University of California and California State University Long Beach (Graduate Center for Public Policy and Administration; Office of Research; Foundation).

EXECUTIVE SUMMARY

The United States is a major trading nation, and to a large degree its continued prosperity depends on maintaining and expanding international trade. The nation's seaports provide the key links to the world economy. Even so, the United States has no national plan for seaport development. Individual ports undertake expansion based on their own vision and resources.

On the west coast, the Ports of Long Beach and Los Angeles form the nation's busiest port complex and serve as the primary conduits of trade with the booming economies of the Pacific Rim countries. Serving the rapidly growing southern California region, the Ports of Long Beach and Los Angeles, together called the Ports of San Pedro, also ship nearly half of imports east of the Rockies, to destinations as distant as New York and Europe.

Projections made by the Ports through the year 2020 foresee more than a doubling of cargo, which led to a farsighted port development plan, the "2020 Plan", identifying nearly $5 billion in capital improvements to expand the land area of the Ports, construct necessary facilities, deepen and expand channels and ship berths, and add other necessary facilities. In 1982, analysis of the landside transportation requirements to serve the growing Ports led to the proposal for a Consolidated Transportation Corridor providing a six-lane truckway and two high speed railway tracks, all with needed grade separations, to connect the Ports to the major rail lines and freeways near downtown Los Angeles, some 22 miles north of the Ports.

This study describes the evolution of the Consolidated Corridor concept from origination through the early implementation phase, and analyses the public policy issues dealt with and yet to be faced. The major goal of the Consolidated Corridor is to minimize the adverse impacts on an already congested transportation system of the daily addition of 25,000 truck movements and 106 train movements to and from the Ports. A Joint Powers Authority (JPA) has been created to plan and construct, and operate if necessary, the Consolidated Corridor.

The JPA has funded a consulting engineering firm to determine whether a Corridor can be designed to handle 106 trains a day, and to present design alternatives for a surface compared to a depressed railway. The JPA is currently considering the question of whether it should purchase the existing railroad right-of-way and construct the corridor, or whether it should strive to get the three railroads to work out ownership issues among themselves. It is yet to be determined who would make the capital investments to construct the rail Corridor, and who would schedule, dispatch and switch trains. If the JPA moved forward to purchase the corridor and construct the needed improvements, it could then lease the Corridor to an association of the three railroads for operation, or operate it itself. Plans are to resolve these issues in 1991, with final decisions to be made in 1992 when environmental impact reports are completed.

Meanwhile, the issues of financing the Corridor are not yet resolved. With costs potentially reaching $899 million in 1989 dollars, no single source of funding is evident. Some $105 million in state funding appears to be available,

and the JPA is seeking $322 million in federal funding. unless additional state or federal funding is made available, the balance of $497 million would need to be funded through revenue bonds supported by fees and charges assessed against cargo moving through the Ports. The substantial costs of the Corridor are in addition to an estimate $4.8 billion needed to expand the Ports themselves.

The Ports of San Pedro have carried on an impressive planning and development program in the absence of a national plan for a system of seaports meshing with the highway and railroad systems. Further research should be conducted to determine what if any federal role would lead to a more rational and cost-beneficial system of seaports.

ACKNOWLEDGEMENTS

A study of such a complex undertaking as the Southern California Consolidated Transportation Corridor owes much to the individuals that graciously gave of their knowledge and ideas, and provided access to documents and other information not ordinarily available.

Special thanks is due to Professor Peter L. Shaw, Director of Transportation Research at the Graduate Center for Public Policy and Administration, California State University, Long Beach. Dr. Shaw identified the research need, conceived of the project and provided valuable advice and information throughout the course of the study. Special thanks is also due to Gil V. Hicks, General Manger of the Consolidated Transportation Corridor Joint Powers Authority, who gave unstintingly of his in-depth knowledge and insights in his present position, and earlier when he was with the southern California Association of Governments and then with the Port of Long Beach, More than any other person, Mr. Hicks knew the origins of the Consolidated Corridor and how it developed to the present.

Dr. Geraldine Knatz, Director of Planning for the Port of Long Beach, gave valuable information about the 2020 plan of the Ports and the development of the Corridor concept. Mr. Arthur P. Goodwin, Project Director, Consolidated Transportation Corridor, Port of Los Angeles, provided information and insight into the Port of Los Angeles Belt Line and the Intermodal Container Transfer Facility, and gave ideas on the financing of the Consolidated Corridor. Mr. Anthony C. Stapleton, District Manager of the Atchison, Topeka and the Santa Fe Railway Corporation supplied ideas on the operation of the Consolidated Corridor, and W.R. Blank of the Union Pacific Railroad gave useful insight into railroad operations and factors involved in successful Corridor operation. Mr. Eddy Handley, General Manager of the Houston Port Terminal Railroad Association contributed a valuable description of the successful operations of that joint venture of the Port and five railroads.

Mr. Kurt Brodke, Graduate Assistant at the Graduate Center for Public Policy and Administration conducted the national survey of ports and wrote the summary of findings incorporated as Appendix B. Mr. Robert Lowery Hanks, Jr., wrote the analysis of potential Corridor Financing incorporated as Appendix C.

Special note should be given to California State University Long Beach, Office of Research, and the Graduate Center for Public Policy and Administration for financial and staff support. For research coordination and liason with Caltrans and the U.S. Department of Transportation, appreciation is due to Dr. Melvin M. Webber, Director of the Transportation Center at the University of California, Berkeley.

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INTRODUCTION

The United States is a major trading nation, and to a large degree its continued prosperity depends on maintaining and expanding international trade. The nation's seaports provide the key links to the world economy, both for export and for import of the goods that daily flow among the trading nations.

Even though the nation's seaports are of vital importance to international trade, the United States has no national plan for the maintenance, modernization, and expansion of its seaports. Individual ports are left to their own resources in remaining economically viable and in planning and development to meet the growing demands for cargo handling capacity.

On the west coast, the Ports of Long Beach and Los Angeles are the primary conduits of trade with the Pacific Rim countries, the source of much of the nation's growth in international trade. Located immediately adjacent to each other, these strongly competitive ports share a common ocean access and depend on the same land transportation system.

Forecasts of port growth through the year 2020 envision substantial increases in cargo throughput, placing heavy demands on an already heavily used rail and highway network. Lacking a national plan that would integrate seaport development with the land transportation systems, the Ports of Long Beach and Los Angeles have taken the initiative to bring about the transportation improvements needed to accommodate growth in port activity.

During the 1980's, the ports and local agencies evolved a novel plan for constructing a consolidated rail and highway transportation corridor to tie the Ports into the regional and national highway and rail systems. Success in implementing the approach will require cooperation and funding assistance from local, state and federal governments, as well as collaboration of the three railroads serving the Ports.

Purpose

The purpose of the study is to describe the evolution of the consolidated transportation corridor approach and to identify and analyze the policy issues attendant upon the design, approval and implementation of the approach.

To accomplish the study purpose, certain policy questions need to be explored.

1. What gave rise to the need for improved landside transportation capacity?
2. How did the concept of a consolidated transportation corridor come about?
3. What agency, public or private, will construct the corridor?
4. Who will own, and who will maintain the corridor?
5. How will the user railroads share the trackage and who has the right of way?

6. What agency will dispatch the trains?
7. How will the various elements of the corridor be financed?
8. What will be the impact on port service and competition?
9. How could national port planning improve upon the status quo?

Significance

The research purpose and objectives are designed to open up important and significant policy questions involved in the development of port capacity to meet the growing needs of international trade. By considering the case of the Ports of Long Beach and Los Angeles, some light may be shed on the policy questions and directions that need to be taken to deal with the future of the nation's seaports.

Given the long lead times associated with obtaining approvals and financing for harbor improvements, and the lead times and intricacy of meshing maritime needs with intermodal systems landside, more ports are beginning to engage in long term strategic planning for development and operations. This future orientation of ports may provide the grassroots support for national planning for seaport development along the lines of the interstate highway program.

Whether or not national planning (and funding) occurs, the federal government and the State of California will be called upon to make significant investments in the construction of the consolidated transportation corridor of the Ports of Long Beach and Los Angeles. This study is intended to be of assistance in deciding the federal and state roles.

Research Approach

Research was performed between January, 1989 and July, 1990. To study the topic, several research approaches were used. A survey was made of major ports throughout the United States to determine whether any had taken or were planning a consolidated corridor approach. The results of that survey are included in an appendix.

A search of the literature was performed and a variety of books, reports an articles were reviewed.

Original planning and policy documents were identified and obtained from the Southern California Association of Governments, the Ports of Long Beach and Los Angeles, the Cities of Long Beach and Los Angeles, and the State of California. These documents included working papers, consulting and engineering study reports, official planning documents, and information releases.

Meetings of the Alameda Corridor Task Force and the Consolidated Transportation Corridor Joint Powers Authority were attended and both informal and formal interviews were conducted with key staff of the Ports of the Southern California Association of Governments. Interviews were also conducted with railroad officials.

Limitations and Constraints

The concept of the consolidated transportation corridor is continuing to evolve, with important design decisions to occur in 1991. Funding questions are only beginning to be addressed. The nature of railroad participation in funding and operations is not yet known. Thus, this study can not provide the final word on many of the policy issues to be dealt with in the future, but can reveal the policy options available and their relative merits.

Funding limitations precluded conduct of a conference focussed on meeting rail and highway needs for expanding ports, so that the creative input of officials from other ports and related agencies was not obtained. It would have been of interest to determine to what extent the problems addressed by the Ports of Long Beach and Los Angeles were common to other seaports, and to discover whether the consolidated corridor approach offered a solution to problems elsewhere.

Organization of the Study

This research report is organized into eight substantive chapters following this Introduction. The course of the report follows the chronological development of the corridor concept. Documentation is provided through endnotes, and all sources of information have been credited.

Important information is provided in three appendices, and relevant portions are brought forward into the text.

The Chapters are:

I - PORT PLANNING FOR THE YEAR 2020
II - SURFACE ACCESS: THE CONSOLIDATED CORRIDOR APPROACH
III - UPDATE OF THE 2020 PLAN
IV - ORGANIZING FOR ACTION
V - DESIGNING THE CONSOLIDATED TRANSPORTATION CORRIDOR
VI - RAIL OWNERSHIP AND OPERATION
VII - FINANCING THE CORRIDOR
VIII - TOWARD MORE RATIONAL DEVELOPMENT

The next section, Chapter I - PORT PLANNING FOR THE YEAR 2020, describes the Los Angeles region, the role of the Ports of Long Beach and Los Angeles, and the plans of the Ports for the future.

Chapter I

PORT PLANNING FOR THE YEAR 2020

Introduction

Traditionally, ports have served a defined "hinterland" within a limited geographic distance from the port. As that area has developed, the port has undergone concurrent development. In recent years, major east and west coast ports have increasingly served the nation as a whole in addition to their own hinterland. Containerization of cargo has contributed to that trend, making it economical to tranship containers from ship to rail to truck for delivery.

Planning for major ports has changed from planning to meet the needs of the hinterland, to planning to serve a growing national economy. The ports of the west coast serve the United States and all its trading partners throughout the vast Pacific Rim, while the ports of the east coast serve Europe and Africa. Thus, port planning must take into account material trends in international trade and economic growth.

On the west coast, the Ports of Long Beach and Los Angeles are the dominant ports serving the Pacific Rim countries, followed by the ports of Seattle, Portland, Tacoma and Oakland. The outlook is for continued growth in Pacific Rim trade, and the ports are undertaking long range planning and development to increase capacity to handle future demands.

The Los Angeles Region

The Los Angeles metropolitan region has grown to be the second most populous in the United States, surpassed only by the New York City region. Forecasts are for growth to continue at a rate almost twice the national average. Estimates are that the population will grow from 12.4 million people in 1984, to 18.3 million people in the year 2010. About 5.9 million additional people will be added to the six county region, more people than lived in the entire State of Indiana at the time of the last census. While immigration to the region will account for about a third of the population increase, two thirds will come from natural increase, making the population forecasts somewhat less likely to be impacted by unforseen events. Whatever the actual population reached by 2010, it is clear that there will be a major increase in population barring a catastrophic earthquake. Jobs are expected to increase by three million to a total of approximately nine million.[1]

The Security Pacific Bank and the County of Los Angeles have studied the booming regional economy of that part of the Los Angeles Region located within 60 miles surrounding downtown Los Angeles. With only 5% of California's land, the area makes up half of the state's total economy and has an impressive history of growth in population, employment and personal income. The 60-mile circle dominates the western United States. With a 1987 population of almost 13 million, the area ranks behind only three states -- California, New York and

Texas. In terms of gross product, the area would rank 11th among nations with a gross product of $228 billion placing it ahead of Brazil, India and Australia. In terms of per capita gross product, the area would rank second among nations, with per capita gross product of $19,060.[2]

The continuing rapid growth of the region has outpaced the ability of governments to provide the necessary infrastructure and services for maintenance of the quality of life. Most noticeable to residents is the failure of freeway and street improvements to accommodate the growing demand, with ever longer rush hours and dramatically decreased travel speeds. While the state and local governments are beginning to propose increased taxes and expenditures for freeways and streets, there is little reason to expect major improvements in transportation -- at best there will be less degradation of travel times than are forecast in the absence of greatly increased investments. Similar deficiencies exist in capacity for refuse disposal, water supply, schools and prisons. Despite the infrastructure inadequacies, the growth forecasts for the region assume a solution of the infrastructure problems.

One of the factors contributing to the region's growth is its role as the leading commercial and financial center linking continental U.S. markets to the booming economies of the Pacific Rim, and to elsewhere. Foreign trade is a significant contributor to the economy of the Los Angeles region today, a trend which is expected to increase. In 1990, approximately one million jobs in the Los Angeles region are estimated to be supported by import-export trade. Total employment at that time is estimated to be about 6.3 million jobs.[3]

The Ports of San Pedro

At the southern tip of Los Angeles, at the boundary with Long Bach, is the San Pedro Bay, the site of the adjacent ports of Long Beach and Los Angeles. These two ports are the first and second largest on the West Coast, far outstripping their competitors in trade volume. The combined complex, the Ports of San Pedro, are by most measures the busiest port complex in the United States, surpassing even New York/New Jersey.

Historically, the Ports of San Pedro have been import ports, unlike ports of the Pacific Northwest. This situation has been changing significantly as exports begin to close the gap with imports. In 1988, exports grew by 25% while import volume grew by only about 4%. Import volume was 1.57 million TEU's while export volume reached 1.0 million TEU's. (A TEU is a standardized measure for import-export volume in terms of how many 20-foot-long shipping containers would be filled.) Export growth is not expected to be as great in the future, and imports will continue to exceed exports for the foreseeable future.[4]

Some 140 nations trade through the Ports of San Pedro, with Japan, Korea, Taiwan, Indonesia and the Netherlands as the major markets. For the Port of Los Angeles, in 1986 these five countries accounted for 62% of all tonnage and nearly 70% of total dollar value. Japan alone was responsible for nearly 30% of all port traffic.[5]

Imports include a high proportion of finished goods, including automobiles and electronics goods and also including textiles (70% of all U.S. textile imports), clothing from Asia, and alcoholic beverages from Europe. Petroleum is a major import as well, much of it coastwise shipping from Alaska. Exports, in contrast, are mainly agricultural products from California -- fruits, vegetables and cotton.

Containerization of cargoes continues to proceed rapidly, with continuing increases in container shipping through the Ports of San Pedro. At the same time, the increase in oil costs over the past 16 years has increased the fuel costs for ships more than for rail. In addition, the larger ships used on the Pacific Ocean in many cases are unable to use the Panama Canal due to size limitations. Consequently, it has become more economical to transport goods from the Pacific Rim to U.S. west coast ports, transfer the containers to rail cars for transport to east coast and gulf ports, and then transport by ship to European and African ports. This same advantage applies to European goods bound for the west coast and Pacific Rim destinations. The rail portion of the intermodal system has become known as a "bridge." A "landbridge" applies to goods carried by ship at both ends of the bridge. A "minibridge" is the term used when the containers move by rail from a west coast to an east coast port and then by truck to an inland U.S. destination. When the containers are shipped directly from a west coast port to an inland destination by rail, the term "microbridge" is used.[6]

In recent years, the railroads have implemented double stack trains (DST's) which handle containers stacked two high on special, longer rail cars. This innovation has added to the attractiveness of intermodal (ship to train) transport. As a result, about 45% of the containers handled by the Ports of San Pedro are transported by rail to inland or east coast destinations. Landbridge and minibridge transport from the Ports of San Pedro to New York City can save 10-15 days over the all-water route through the Panama Canal, thus reducing inventory costs as well as providing a direct savings in transportation costs.[7]

At present, the great majority of containers are not directly loaded from ships to trains at the Ports of San Pedro. Instead, containers are unloaded onto the dock, then loaded on trucks that transport the containers to railyards for loading onto trains. Until 1987, all containers moving through the Ports of San Pedro destined for rail shipment were trucked some 20 miles to the major rail yards in central Los Angeles. In early 1987, the Ports and the Southern Pacific railroad opened a new Intermodal Container Transfer Facility (ICTF) on a 150 acre site about four miles from the Ports. While trucks still move the containers between ships and rail, the ICTF efficiently handles over 350,000 containers annually, reducing costs and lessening traffic congestion on the main routes into Los Angeles.

The next development in the intermodal system is the shift to on-dock rail, where containers are transferred directly between ships and rail cars, further reducing costs and delays. The Ports of San Pedro are moving toward on-dock rail which was introduced by the Port of Tacoma in 1981. In 1989, the Port of Long Beach opened the first on-dock rail facility. Also in 1989, it amended its Master Plan to provide for six on-dock rail facilities. These are to be capable of handling double-stack trains, typically of 20 cars each. The first four of

these facilities are to be operational by 1992. Construction plans call for grade separations within the Port area to allow improved traffic flows. The on-dock rail facilities are estimated to reduce in and out truck movements by 9,000 movements as well as yielding economic benefits.

The 2020 Plan

In the early 1980's, the Ports of San Pedro foresaw a continuing increase in cargo handled by the Ports, and joined with the U.S. Army Corps of Engineers to plan for meeting requirements through the year 2020. The planning effort began with forecasts of cargo increases and then proceeded to identify and analyze alternatives for improving channels and developing new land areas to serve the projected cargo increases.

The Corps of Engineers developed cargo forecasts in consultation with the Ports. They analyzed population, employment and income levels in the western states and both domestic and world regional price levels. Forecasts from various sources were used in a multiple regression model to forecast imports, exports, and coastwide receipts and shipments. These rough forecasts were reviewed with the Ports and major industry representatives and then adjusted. The resulting forecasts are presented in Table 1.

Table 1
Commodity Forecasts, Ports of San Pedro

Commodity Type	1980 Tonnage	2020 Tonnage (Projected)
Container	10,670,000	62,510,000
Break Bulk	8,380,000	11,030,000
Automobile	600,000	1,320,000
Petroleum	52,670,000	83,880,000
Other Liquid Bulk	650,000	1,080,000
Grain	2,950,000	6,100,000
Other Dry Bulk	7,600,000	57,290,000
TOTAL	85,520,000	223,210,000

Source: 2020 Plan, July, 1984

Using the foregoing commodity forecasts, the existing capacity of the Ports was determined and the additional acreage needed to meet forecasts for the year 2020 was estimated. The analysis of existing port facilities determined that the throughput of the Ports, when developed to the maximum, was an estimated 150,127,0000 short tons -- well above the 1980 tonnage. The shortfall of 73,083,000 tons was estimated to require an additional 2,600 acres of land to accommodate additional terminals, transportation, facilities and ancillary uses. Since the Ports were surrounded by urban development inland, the requirement was expressed in terms of new landfill to be created in the harbor through dredging, which would also enable the Ports to handle larger ships.[8] (see Figure 1.)

[INSERT FIGURE 1 ABOUT HERE]

The 2020 Plan also gave some attention to landside transportation requirements, noting that it was expected that by the year 2020, truck movements would increase from 7,200 movements a day to over 24,500 average daily movements. Due to existing traffic congestion, a need was seen for major improvements to the existing highway network. Additional major improvements to the railroads serving the Ports were envisioned, with an increase from 17 trains daily to a minimum of about 42 train movements daily in the year 2020.[9]

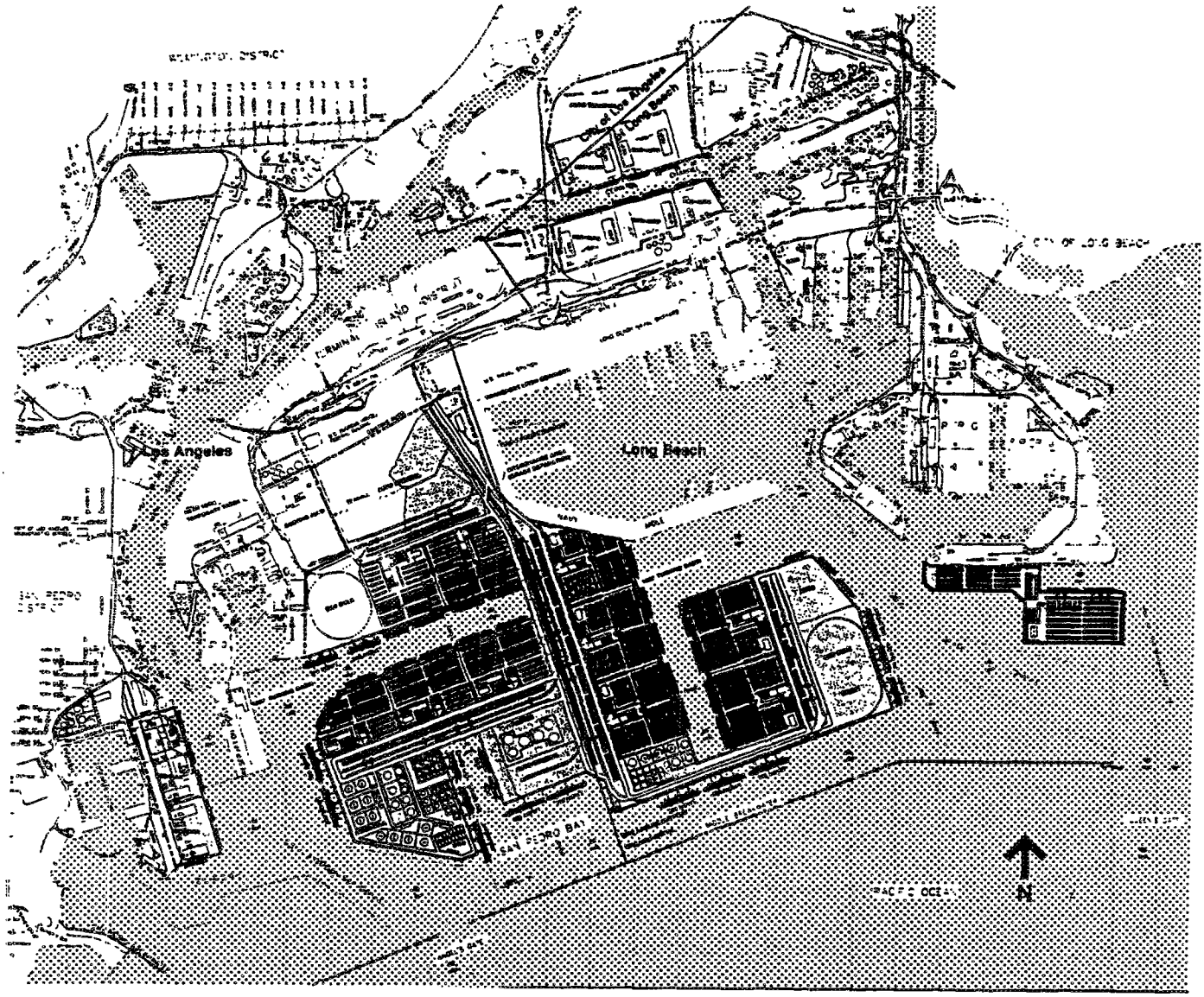
Conclusion

The Ports of San Pedro have taken farsighted planning action to increase operational capacity to meet projected demand through the year 2020. The massive port improvements envisioned are estimated to cost on the order of $4 billion. These plans are based on the continuing rapid growth in Southern California as well as continuing growth in the national economy and in international trade.

There is widespread political support for the growth of the ports, on the parts not just of the Cities of Long Beach and Los Angeles, but on the part of governments and private sector organizations throughout the Los Angeles region. The ports are important providers of jobs, in addition to providing capabilities essential to businesses dependent on international trade.

The Ports are financially self-sufficient, receiving no subsidies from their parent cities. For major capital improvements, they do seek federal grants, and to a lesser degree, state grants. In the main, however, capital investments are made from operating revenues.

The 2020 Plan concentrated on harbor and port improvements, and did not provide a blueprint for landside transportation improvements needed to service the expanded Ports operations.



LAYOUT OF 2020 PLAN IMPROVEMENTS BASED ON OFI STUDY
(Gray and black shaded areas are new landfill)

Figure 1.

CHAPTER II

SURFACE ACCESS: THE CONSOLIDATED CORRIDOR APPROACH

Introduction

The Ports of San Pedro are located about 22 miles south of the center of Los Angeles where the major rail yards are located and where branch lines connect to railroad main lines. Three existing railroad branch lines traverse this distance, running through urban industrial and residential areas. These branches lack grade separations, so that train movements stop east-west surface traffic in the southern half of the Los Angeles area.

Traffic interruptions due to train movements were at least annoying during the 1980's. With train movements predicted to grow threefold or more, the potential for train induced gridlock throughout a major part of the metropolitan area became a major concern.

The metropolitan planning organization for the Los Angeles region is the Southern California Association of Governments (SCAG) comprised of six counties and their cities. This Chapter reviews the efforts undertaken by SCAG in planning to integrate Port transportation requirements with the transportation systems of the metropolitan area.

The Rail Access Study

As early as July of 1981, the Southern California Association of Governments (SCAG) began focussing on the land-side access requirements of the growing Ports of San Pedro. It formed a Ports Advisory Committee to initially address an extension of the Terminal Island Freeway, which serves the Ports. After resolving that issue, in May of 1982 the Ports Advisory Committee turned to the issue of rail access to the Ports. Since the rial lines run through a number of cities in addition to Los Angeles and Long Beach, the Ports Advisory Committee had broad representation. Membership included local elected officials, city and port officials, Caltrans (the California Department of Transportation), the three railroads, the trucking industry, the Los Angeles County Transportation Commission, the U.S. Navy, the Army Corps of Engineers, Assemblyman David Elder, Senator Robert Beverly, and Congressman Glenn Anderson.[10]

In June of 1982, the Draft Environmental Impact Report for the Intermodal Container Transfer Facility identified two branches of the Southern Pacific railroad as being highly involved in future Port rail traffic, and proposed that as many trains as possible be routed along the San Pedro branch of the railroad. In September of 1982, the California State Assembly Transportation Committee held a public hearing on the feasibility of consolidating all port-related rail traffic along the SP San Pedro branch. The three railroads serving the Ports -- the Southern Pacific, the Union Pacific and the Santa Fe -- all described their plans and expressed doubts as to the feasibility and costs of concentrating high traffic volume on a single corridor. At the same meeting, SCAG staff presented several possible consolidated routes. The point was made that the Southern

Pacific San Pedro branch had not yet been demonstrated as the "best" route, even from an environmental point of view.[11]

Following this meeting, the SCAG Ports Advisory committee undertook a study of rail access to the Ports. Communities along the rail lines serving the Ports had intense concerns about potentially adverse impacts of increased rail traffic, such as noise, vibration, air pollution, and delays to street traffic at grade crossings. The purpose of the study was to analyze these issues, evaluate alternatives, and recommend a cost-effective program of rail improvements to meet projected demands and mitigate adverse environmental impacts. The study addressed operational feasibility, capital costs, traffic impacts and population impacts. It did not address institutional arrangements, financial feasibility or funding sources.

The rail access study area depicted in Figure 1 included the branch lines serving the ports and the main lines to which they connect.

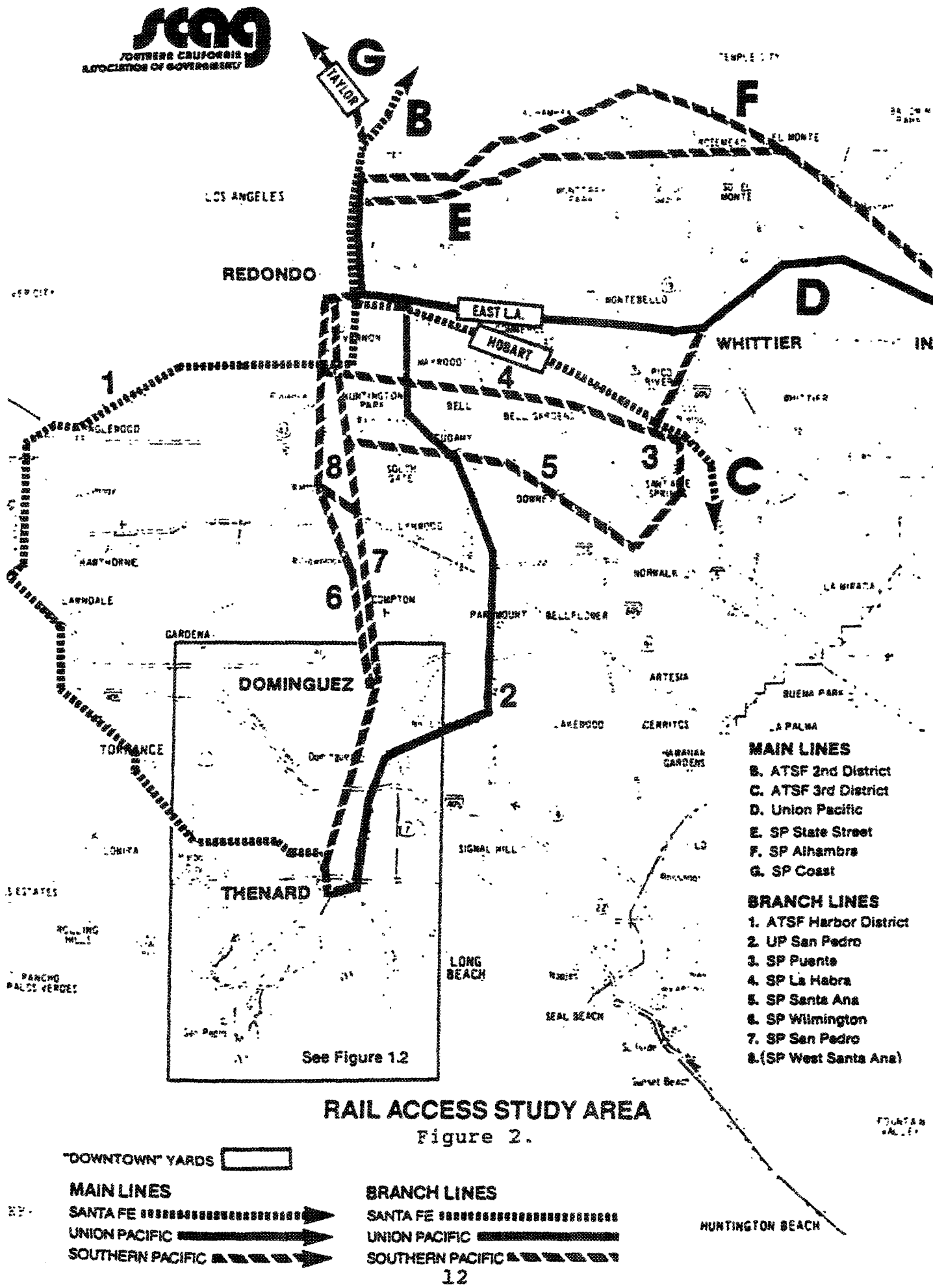
[INSERT FIGURE 2 ABOUT HERE]

The SCAG staff, which undertook the study with the assistance of consultants, analyzed six alternatives: the status quo, or each of the three railroads continuing to use their own lines; the consolidation of all through traffic of the three railroads on the Southern Pacific San Pedro line; and four other alternatives using different combinations of the existing rail lines. Each alternative was assessed under two scenarios, a low scenario with 37 trains a day and a high scenario with 71 trains a day.

For each of the alternatives, a simulation of operations was performed to analyze train movements. The alternatives were evaluated using the major criteria of railroad capital improvement costs, grade separation costs, vehicle hours of delay at streets not separated, and population impacts. Under the status quo, Sante Fe trains passed within 500 feet of about 16,000 people, while trains on the Southern Pacific San Pedro line (the consolidation route) passed within 500 feet of only about 8,000 people. Thus, population impacts were less along the consolidated route, and the majority of the other criteria favored the consolidated route, especially at the higher level of train traffic (71 trains a day) and at the lower levels of highway traffic delay at intersections.

The Consolidated Rail Corridor

The SCAG study strongly suggested the consolidated route. The proposed consolidated route featured double-tracking for thru train movements, 30 mile an hour speeds along most of the route (compared to about 15 miles an hour in the status quo), necessary additional connections, trackage and control systems, and grade separations at major streets and highways.



RAIL ACCESS STUDY AREA

Figure 2.

At the high level of train traffic, quantifiable benefits of the consolidated route included:

" a) A 32% reduction in train-weighted population impacts with a 36% reduction in train-weighted noise.

b) A net reduction in highway traffic delays of 2500-4100 vehicle hours per day (60-76%).

c) A 74% reduction in the number of train stoppages, which cause major disruptions to street traffic (i.e., times when trains must stop to allow other trains to pass).

d) A 29% reduction in train-hours of operation, and a comparable percentage reduction in locomotive emissions.

e) In addition, there are savings in grade separation costs ta the 100 vehicle hours delay per day (VHDD) and lower threshold levels." [12]

Total costs for the 71-train-a-day scenario were estimated in the range of $156-214 million including improvements to railroad tracks, signals, and grade separations, but not including noise walls.[13]

In October of 1984, the Ports Advisory Committee of SCAG gave its policy endorsement to development of a consolidated rail corridor along the Southern Pacific San Pedro Branch, with vigorous pursuit of mitigation of adverse economic and environmental impacts, including grade separations, sound walls, etc. (The railroad members of the Committee abstained from voting on these public policies). The Committee further called for implementation in increments, and recommended formation of a Task Force to guide further work on consolidation, replacing the Ports Advisory Committee in that role.

The Alameda Corridor Task Force

The Task Force was charged with developing more detailed technical analyses to support an Environmental Impact Report, with developing specific engineering designs for trackage and grade separations to be used in negotiation with individual jurisdictions, and with development of precise cost estimates based on engineering designs for use in funding requests. The Task Force was further charged with gaining a consensus on a specific program of phased improvements to enable negotiation of action agreements for implementation, and finally, the Task Force was charged with developing a financial plan for construction, including a strategy for funding.[14]

To bring together the technical and policy capabilities needed to carry out the charges to the Task Force, the Committee recommended membership of each of the cities along the proposed consolidated corridor route, along with the other major organizations involved. Regular membership of the Task Force included:

-California Department of Transportation (Caltrans)
-California Public Utilities Commission (PUC)
-Southern California Association of Governments (SCAG)
-Los Angeles County Transportation Commission (LACTC)
-County of Los Angeles
-City of Carson
-City of Compton
-City of Huntington Park
-City of Long Beach
-City of Los Angeles
-City of Lynwood
-City of South Gate
-City of Vernon
-Port of Long Beach
-Port of Los Angeles
-Long Beach Naval Shipyard
-U.S. Army Corps of Engineers
-Atchison, Topeka and Santa Fe Railway
-Southern Pacific Transportation Company
-Union Pacific Railroad
-California Trucking Association[15]

The SCAG study established the San Pedro line of the Southern Pacific Railroad as the preferred solution to the rail transport needs of the Ports through the year 2020. And SCAG established the Task Force -- subsequently named the Alameda Corridor Task Force because the San Pedro rail line parallels Alameda Street-- to carry forward with implementation. Gradually, as attention focussed on the construction of grade separations, and on improvements to surface traffic, the Task Force included in its vision reconstruction of Alameda Street to accommodate part of the 25,000 truck movements a day forecasted for the year 2020.

Noise Mitigation

The SCAG study did not take into account the cost of noise mitigation when it calculated costs for the different alternatives. In 1986, however, the Port of Long Beach completed a draft Environmental Impact Report that addressed noise mitigation in relation to a proposed on-dock intermodal container transfer railyard for stack train service. Stack trains (or "double-stacked" trains) use cars 266 feet in length with five platforms capable of carrying ten containers. These trains are somewhat quieter than normal since the longer cars result in fewer wheels and couplings in a train.

Measurements showed that the stack trains generated significant noise. At a distance of 30 feet, under ambient noise conditions of 61 decibels as the locomotive passed and up to 84 decibels as the stack cars passed. At a speed of 20 mph, it would take about five seconds for two locomotives to pass and just over three minutes for the rolling stock to pass a given point. At a distance of 50 feet, the different rail lines produced noise levels ranging up to 81 decibels. These noise levels would have a significant impact on residential areas through which the trains pass. Noise barriers (typically concrete block

walls) reduce noise impacts up to 20 decibels. To install noise walls along the Southern Pacific San Pedro rail corridor would cost at least $40 million, assuming protection of all impacted residential areas.[16]

Reaction to the Consolidated Corridor

Even before the final SCAG rail Access study was published, the Long Beach City Council, in April of 1984, endorsed the consolidated rail corridor, adding support for including improvements to Alameda Street to accommodate Port truck traffic. In testimony on the Environmental Impact Report for the 2020 land fills, the Long Beach Planning Director stated that:

"...City Council recommends that a phasing plan be developed which would link segments of the proposed landfill to implementation of specific recommended transportation improvements. Landfill should not be permitted to proceed until the transportation improvements needed to support that development are under way. Based on earlier studies by the Corps of Engineers and SCAG this means that a major portion of the landfill recommended in the 2020 plan could not commence until the Alameda corridor is improved as a consolidated rail line and a partially-limited access truck route. City Council reaffirms its support of the consolidated rail line and recommends that it be specifically included in the environmental document as a necessary mitigation measure."[17]

The consolidated corridor would divert the majority of rail traffic out of residential areas of Long Beach and away from the downtown area. The City of Compton, however, was greatly concerned about the Alameda Street consolidated corridor. In most other cities along the route the rails go through industrial areas, but in Compton they cut through commercial and residential areas. Compton opposed both the truck route on Alameda Street and the consolidated rail corridor, and remained concerned on into 1989. Specifically, the City was concerned about getting sufficient grade separations to mitigate the impact on surface street traffic.[18]

In general, the affected jurisdictions accepted the Alameda consolidation while the railroads remained uncommitted.

Conclusion

In the early 1980's the Southern California Council of Governments developed an innovative proposal to provide necessary landside transportation capacity to meet the growing needs of the Ports of San Pedro. SCAG formed a multi jurisdictional Task Force to move forward the proposed consolidated rail transportation corridor. The Alameda Corridor Task Force met frequently on into 1989, and succeeded in keeping the corridor concept alive. Its efforts resulted in inclusion of the Alameda Corridor in the plans of the Southern California Association of Governments, the Los Angeles (County) Transportation Commission, and the South Coast Air Quality Management District.

Without funding and without operating authority, the Alameda Corridor Task Force was unable to fulfill its charge to develop detailed technical analyses and specific engineering designs for trackage and grade separations. Lacking these elements, the Task Force was unable to devise an acceptable plan for financing construction.

Nevertheless, the Alameda Corridor Task Force built political support for the consolidated corridor approach and worked with the Ports and regional bodies to move the concept forward. It also played an important role in facilitating the formation of its successor body in 1989, the Consolidated Transportation Corridor Joint Powers Authority.

Chapter III

UPDATE OF THE 2020 PLAN

Introduction

Since the initial 2020 plan was unveiled in 1984, the Ports of San Pedro have undertaken a variety of detailed planning and engineering studies, and have completed a series of environmental impact reports toward implementing elements of the 2020 plan. In the course of these studies, plans have become more specific. Meanwhile, operational and facilities improvements undertaken are being made to conform to the 2020 plan.

Facilities and Infrastructure Requirements

In April of 1988, consultants to the Ports completed an Operations, Facilities, and Infrastructure (OFI) Requirements Study for the 2020 plan. It further defined the development of the landfill areas. It envisioned that, when the 2020 plan is implemented, the improvements will:

-Result in a 60% increase in capacity by optimizing maritime terminals and development of existing land.

-Accommodate approximately 200 million metric tons which represents a 150% increase over 1985 tonnage.

-Create new deep water channels 50 feet to 85 feet deep resulting from 225 million cubic yards of dredging.

-Add 2,400 acres of new landfill.

-Add 38 new high capacity state-of-the-art terminals.

-Add approximately 50 new berths.

-Add significant new infrastructure (roadways, rail, intermodal container transfer facilities, pipelines, utilities).

-Require $4.8 billion of expenditure from 1988 to 2020.[19]

The original 2020 Plan phasing of landfill creation and facilities and infrastructure was retained in the OFI study. Phase 1 was scheduled to begin in 1988 with about 60% of landfill to be completed by 1995 and construction of terminals to be completed in 2011. Phase 2 would begin in 2008 with landfill creation completed in 2014 and terminal development concluding in 2020. Dredging began in 1988 to create the first landfill area of Phase 1, a 147 acre landfill addition within the Port of Long Beach known as "Pier J." This new landfill, being created with fourteen million cubic yards of dredge material, will provide six berths as well as deepening the main channel to accommodate larger vessels. The Pier J landfill is scheduled for completion in 1991.

Also in 1988, although not a part of the 2020 Plan, the first office tower of the Greater Los Angeles World Trade Center was completed in downtown Long Beach near the Ports. To eventually provide 2.2 million square feet of space, the World Trade Center will provide a consolidated location for Ports related businesses as trade continues to grow.

Revised Cargo and Transportation Forecasts

As a basis for the OFI study and ongoing facilities improvements, the Ports updated the cargo forecasts originally performed by the Corps of Engineers in 1982. These 1987 forecasts were for essentially the same growth forecasted earlier. The estimates for 2020 were for nearly 200 million metric tons, and 8.8 million twenty-foot equivalent units (TEU's), up from somewhat over three million TEU's in 1987. These new forecasts resulted in the Ports increasing their estimate of daily trains from the high of 71 used in the SCAG study of rail access requirements to a new total of 106 trains a day to and from the Ports area.[20]

Port Transportation Improvements

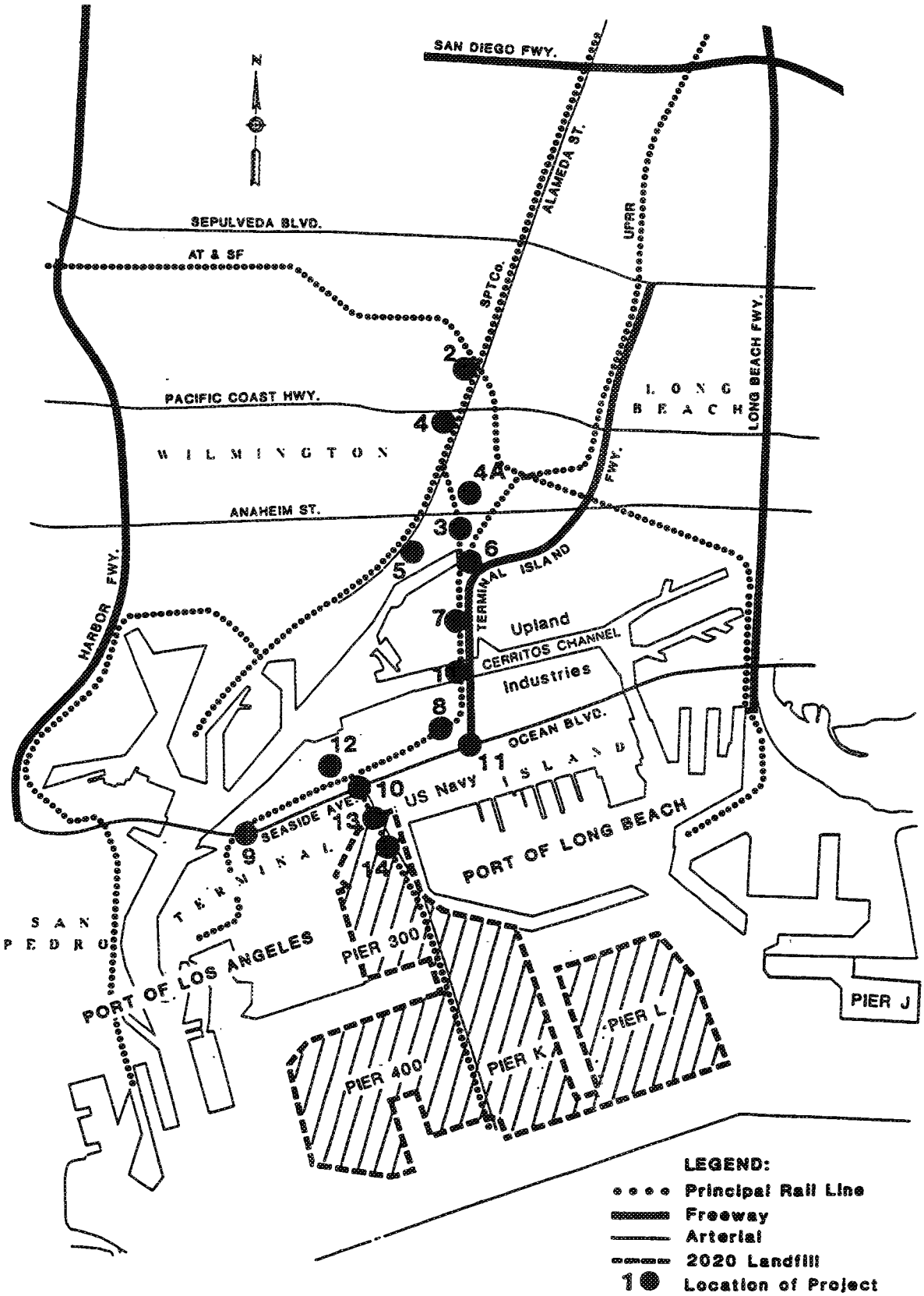
In concert with the OFI study, the Ports conducted a Terminal Island Transportation Study to design the rail and highway improvements needed within the Ports complex and in the adjacent commercial and industrial areas. The study had several purposes. First, to accommodate substantial increases in rail and highway traffic to and from the Ports. Second, to allow rail access to existing Port facilities for Southern Pacific and Santa Fe trains, and to provide access tracks for these two carriers as well as Union Pacific to the new landfills. Third, to eliminate rail/vehicular conflicts. Fourth, to maintain smooth traffic flows throughout the harbor and industrial areas. And finally, to maintain vehicular access to U.S. Navy facilities on Terminal Island.[21]

The study recommended fourteen improvement projects phased to be completed in the years 1990 to 2010 at a cost of about $120 million. On the landfill itself, the study proposed a transportation corridor along the boundary between Long Beach and Los Angeles, with rail and highway access grade separated. (See figure 3.) The separation was seen as necessary to accommodate 59 trains and 24,000 vehicles expected to be traveling to and from the landfill by 2020. The recommended rail corridor itself is to consist of two thoroughfare tracks and two holding tracks transitioning into a rail arrival/departure yard on the landfill with spurs leading to on-dock intermodal yards.

[INSERT FIGURE 3 ABOUT HERE]

The Terminal Island Study objectives specifically stated that design recommendations would be compatible with the planned Alameda Street Rail Consolidation Corridor and highway improvements along the Alameda Street route. The study recommended routes and improvements that would give all three railroads direct access to the Ports, with track arrangements that would preclude local switching by one carrier obstructing through access for either of the other two. The study also recommended seven grade separations near the Ports, and roadway

realignments and interchanges to handle the increased vehicular traffic. The roadway improvements were also compatible with the Alameda Street truck expressway planned by the Alameda Corridor Task Force of SCAG along with the Rail Consolidation Corridor.



TRANSPORTATION IMPROVEMENTS TO SERVE 2020 LANDFILL

Figure 3.

The recommended railroad improvements will improve access to Port facilities and eliminate rail/vehicular conflicts. The study noted the need for the railroads to develop new operating agreements to cover switching, joint trackage rights, and a centralized dispatching, train occupancy and interlocking system. It was expected that the improved rail network would encourage more freight to move by rail in preference to truck, yielding less traffic congestion and enhanced air quality. The study did not determine the sources of funding for the $120 million of recommended transportation projects, leaving the presumption that the Ports would finance the improvements from operating revenues.[22]

Conclusion

The more detailed planning for infrastructure improvements within the boundaries of the Ports that was accomplished during the 1980's included design of the Ports' terminus of the Consolidated Transportation Corridor. Major improvements were detailed for both rail operations and for truck traffic.

Also during the 1980's continued rapid growth in cargo through the Ports, and the revalidation of cargo forecasts through the year 2020, brought new credibility to the ambitious 2020 plan. What had at first seemed to be "blue sky" imagining by Port planners, now seemed to be essentially realistic preparation for a likely future. Landfill dredging began for Pier J, the first new landfill in the 2020 plan, and the beginning of on-dock rail occurred. Although little physical change could be seen, the Ports were moving to complete the detailed engineering designs and environmental impact reports that necessarily precede actual construction of the components of the 2020 Plan.

Chapter IV

ORGANIZING FOR ACTION

Introduction

From the time of its formation late in 1984 until the Spring of 1988, the Alameda Corridor Task Force endeavored to carry out the extensive implementation responsibilities given it at its inception. As a practical matter, the Task Force had neither the financial staff resources, nor the institutional structure to allow it to succeed. To expedite action on the Corridor, in March of 1988 the Task Force designated the Ports of Long Beach and Los Angeles to take the lead responsibility for the timely implementation of the Consolidated Rail Corridor project.[23] Meanwhile, the Task Force continued its work, focussing on institutional issues.

The Ports then retained Transportation Marketing Services (TMS) to evaluate the Alameda Consolidated Rail Corridor as the preferred route and to make recommendations concerning key operating and engineering issues involved in designing and building a workable Consolidated Corridor. The consultants proposed a strategic plan with the following sequence of action for the Corridor:

- -Formation of the entity to construct the Corridor
- -Conduct of valuation studies to enable negotiations with the railroads for acquisition of rights-of-way.
- -Concurrent conceptual engineering including investigation of a depressed route which would be preferred by the cities along the corridor.
- -Preparation of a comprehensive environmental impact report for the entire corridor.
- -Concurrent conduct of detailed engineering for the Corridor.
- -Management of construction, estimated at about 36 months.[24]

The Joint Powers Authority

Continuing the initiative begun in March of 1988, and with the benefit of the TMS Consolidated Rail Corridor Strategic Plan, the Ports of Long Beach and Los Angeles proposed to the Alameda Corridor Task Force the formation of a Joint Powers Authority (JPA) to implement the Consolidated Transportation Corridor (CTC). The Government Code of the State of California authorizes the formation of authorities to jointly exercise powers possessed by two or more cities. The cities of Long Beach and Los Angeles both have the powers to construct and operate ports and facilities related to ports.

Governance

As originally proposed by the Ports, the JPA would have had a governing board comprised of two representatives of the Port of Long Beach, two representatives of the Port of Los Angeles, and one representative of the Los Angeles County Transportation Commission. The six smaller cities along the CTC

strongly objected to being excluded from voting membership even though the Ports had offered membership on an advisory committee, and then had offered to have the six cities elect one member to the governing board. The six cities persisted, and in February the Ports offered a revised draft that included the six cities on the governing board of the JPA. Such membership was approved by the Alameda Corridor Task Force in February of 1989.[25] The Los Angeles Board of Supervisors then sought membership as did the Los Angeles City Councilmember from the Harbor District.

At its March meeting, the Alameda Corridor Task Force approved a revised governance structure for the JPA which was subsequently incorporated in the final JPA Agreement approved by the Cities of Long Beach and Los Angeles in July of 1989. Membership of the JPA governing board is fourteen voting members appointed as follows:

-Port of Long Beach, two members
-Port of Los Angeles, two members
-Los Angeles City Councilperson representing the Harbor District
-City of Long Beach Councilperson
-Los Angeles County Board of Supervisors member
-Los Angeles County Transportation Commission Member
-City of Vernon Councilperson
-City of Huntington Park Councilperson
-City of Lynwood Councilperson
-City of Southgate Councilperson
-City of Compton Councilperson
-City of Carson Councilperson[26]

The Ports had expressed concern during the discussions preceding the Agreement over control of Port funds. State law restricts expenditure of Port revenues to narrow purposes, and the Ports required assurance that the law would be followed. The solution advanced by the Ports after the initial expansion of governing board membership was to add a Finance Committee that would have to approve any expenditure of Port funds prior to any approval by the JPA governing board. Finance Committee membership is one of the Port of Long Beach governing board members, one of the Port of Los Angeles members, and the member from the Los Angeles County transportation Commission.[27]

The final element in the governance structure of the JPA was the inclusion of a Railroad Advisory Board with three members: one appointed by the Atchison, Topeka and Santa Fe Railway Company, one appointed by the Union Pacific Railroad, and one appointed by the Southern Pacific Transportation Company. The Advisory Board will make recommendations to the Governing Board on the plan and implementation of the CTC, and "...provide for the management, coordination and scheduling of operations of the rail aspects of the CTC." Further, the Advisory Board is to make recommendations and work with the JPA "...concerning all rail aspects of the CTC, prepare rail schedules and rail tariffs and resolve conflicts between the various railroads and make recommendations concerning possible contract operations." The railroads are thus given an official role in the development of the CTC as well as the leading role in the future operations of the rail corridor.[28]

Purpose

The purpose of the JPA is to exercise the powers of the Cities of Long Beach and Los Angeles "...for the implementation of the CTC by exploring alternative methods of financing and developing existing property, coordinating other governmental efforts, and possibly acquiring, constructing, maintaining, operating and leasing of the CTC and related facilities."[29]

The preamble of the Agreement clarifies the specific responsibilities of the JPA, contained in a number of "whereas's", many of which were included as a result of the deliberations of the Alameda Corridor Task Force.

The preamble spells out the intention that the street and railroad rights of way along Alameda Street between the Ports and the central Los Angeles area should be developed as a comprehensive transportation corridor. Specifically, a 150 foot wide railroad right-of-way approximately 20 miles long is to be acquired, and approximately 70 miles of tracks located within the Ports also are to be acquired. These tracks are to be improved, additional tracks are to be constructed, and either grade separations or depressed railways are to be constructed, along with acquisition of all related equipment. alameda Street itself is to be improved to handle a substantial proportion of the truck traffic otherwise using congested existing freeways. Other properties, real or personal, that are functionally related to the corridor are to be acquired. Together, all of these facilities are to be within the Corridor and to be specified in the Plan of the Consolidated Transportation Corridor.[30]

The preamble also stipulates the intention to coordinate all funding and construction while recognizing that other government entities and the railroads will be responsible for elements of the CTC. Recognition is given to the fact that the cities along the CTC have interests to be addressed by the JPA.

Working Committees

In addition to the Finance and Railroad Committees established in the Joint Powers Agreement, the JPA Board formed three ad-hoc committees to further the work of the JPA.

The Legislative Committee was given the responsibility of gaining and maintaining political support for the Corridor. Considerable political support had already been generated through the efforts of the preceding Alameda Corridor Task Force, the Ports themselves, and the cities of Long Beach and Los Angeles. Indeed, the strategic plans for the City of Long Beach and for the City of Los Angeles emphatically endorsed the Corridor which was also included in the Plan of the Air Quality Management District. The task of this Committee, however, was of far greater magnitude since it was charged with identifying and securing public funds, especially from the federal government and the state government. An active role in lobbying the state legislature and the Congress for special appropriations would be needed to generate the substantial funding support contemplated.

The Technical Review Committee was charged with responsibility for oversight of the development of the Plan of the Consolidated Transportation Corridor, and with review, evaluation and technical oversight of the Plan at its various stages. Concommitant with this technical role, the Committee was designated to play the leading role in the selection of consultants to develop the Plan and to monitor their schedules and progress.

The Budget and Planning Committee was given responsibility for preparing and maintaining an overall Financial Plan for the Corridor program and for monitoring both revenues and expenditures. In addition, this Committee is the focal point for coordination with the railroads. The Finance Committee, however, remains the key approval point for expenditures or commitments involving Port funds.

While organizing itself into committees, the governing body of the JPA maintains a monthly schedule of meetings so that committee work takes place regularly.

Work Program and Schedule

At its first meeting in August of 1989, the CTC JPA reviewed the following outline of the work program.[31]

1. Engineering
    a. Track configuration, connections and alternative alignments
    b. signalling systems
    c. Bridgework
    d. Grade separations/crossings
    e. Depressed trainway alternative
    f. Alameda Street widening
    g. Right-of-way
    h. Utilities
    i. Costs
    j. Phasing

2. Capacity Studies (operations analysis)
    a. Review of train projections and highway traffic projections
    b. Rail line capacity and Alameda Street capacity
    c. Storage and staging
    d. Local switching and other yard operations
    e. Passenger train interference

3. Ownership/operating Agreements
    a. Valuation studies
    b. Reciprocal trackage rights, short-line/beltline, or acquisition, either by lease or purchase
    c. Impartial dispatching and maintenance authority (operations control center)
    d. Equal access to corridor and to all port terminals
    e. Labor impact issues
    f. Liability issues

g. Interstate Commerce Commission review

4. Environmental Studies and Permitting
   a. Environmental impact report/environment impact statement
   b. Mitigations
   c. Permits
   d. Franchise agreements
   e. Development agreements

5. Financial Plan
   a. Shares for capital costs
   b. Shares for maintenance, dispatching, and other joint operating costs

6. Legislation
   a. Surface Transportation Assistance Act of 1992
   b. Senate Concurrent Resolution #96
   c. Planning and Conservation League bond issue

7. Construction and Construction Management

Further consideration of the necessary work led to focussing on major elements of work necessary to undertake construction. This resulted in the components and the schedule as shown in Figure 4. With construction beginning about August of 193, it was anticipated that completion of the Corridor could be accomplished by 1997 assuming no unusual delays and the availability of funding.

[INSERT FIGURE 4 ABOUT HERE]

Cost Estimates

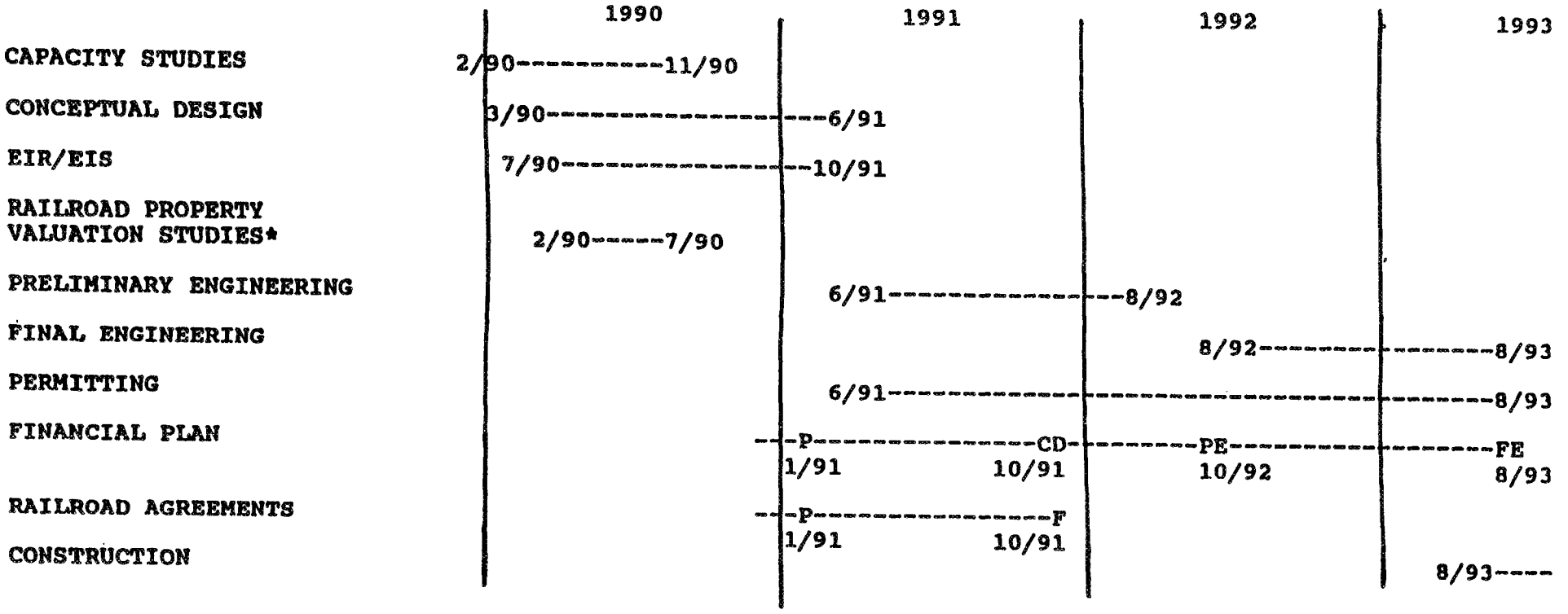
The initial study of the Southern California Association of Governments completed in 1984 had estimated Corridor costs to approximate $220 million. As mentioned earlier in this report, those estimates had been revised upwards with the passage of the years. In the fall of 1989, Port staff working with the CTC JPA made new estimates of the costs of the Corridor. In millions of 1989 dollars, the new cost estimates were:

Track and signal improvements	$100
16 grade separations @ $13 million	208
Alameda Street widening	50
20% contingency	72
Engineering, EIR, study and management	72
	$502 million

The above estimates do not include $117 million in federal funding previously obtained for separate but related widening of Alameda Street for about half of the distance from the Ports to the northern end of the Corridor, and for construction of three grade separations along Alameda Street near the Ports.[32]

CONSOLIDATED TRANSPORTATION CORRIDOR

PROJECT SCHEDULE



P = PRELIMINARY FINANCIAL PLAN; PRELIMINARY RAILROAD AGREEMENT.
CD = REVISED FINANCIAL PLAN, BASED ON COST ESTIMATES DERIVED FROM CONCEPTUAL DESIGN PHASE.
PE = REVISED FINANCIAL PLAN, BASED ON COST ESTIMATES DERIVED FROM PRELIMINARY ENGINEERING PHASE.
FE = REVISED FINANCIAL PLAN, BASED ON COST ESTIMATES DERIVED FROM FINAL ENGINEERING PHASE.
F = FINAL RAILROAD AGREEMENT.
* = IF REQUIRED.

Figure 4

Source; Consolidated Transportation Corridor Joint Powers Authority

Conclusion

The formation of the Consolidated Transportation Corridor Joint Powers Authority represented a milestone in the process of development of the Corridor. It required not only the development of political consensus on roles among the eight cities along the corridor and the County of Los Angeles, but also consent of the three railroads to be placed in a cooperative organization for carrying out their responsibilities in the Corridor.

The initial work program and schedule adopted by the CTC JPA was an ambitious one, given the magnitude of the work to be accomplished and the uncertainty of financing for the considerable costs of the Corridor. The JPA proceeded to meet monthly, with committee meetings in the interim, using staff support borrowed from the Ports of Long Beach and Los Angeles. This pattern continued until March of 1989 when the JPA selected Gil V. Hicks as Executive Officer. Gil Hicks had been the SCAG project officer for the original Consolidated Corridor Study, and subsequently transferred to the Port of Long Beach staff where he continued to play a major staff role in the work of the Alameda Corridor Task Force and then the CTC JPA. In the Spring of 1989, the Ports advanced the JPA seven million dollars to fund consulting studies and administrative expenses.

Chapter V

DESIGNING THE CONSOLIDATED CORRIDOR

Introduction

From 1984 to 1988, the general notion of the Consolidated Corridor was for a dual track, relatively high speed rail line between the Ports and the yards and mainlines near downtown Los Angeles. The details of the design were left unclear, and significant technical and policy questions went unanswered.

Would the Corridor concept put forth in the original SCAG study accommodate the revised estimate of 106 trains a day when the study performed simulations at the level of only 71 trains a day? How would industrial firms along the San Pedro line be served if the Corridor provided only tow high speed tracks? What would be the configuration of the improved Alameda Street and the rail lines? How could conflicts between the Corridor and the east-west Amtrack line be avoided? Should the rail lines be at surface, or depressed? What should be the configuration of the grade separations to maximize traffic flow on the improved Alameda Street?

This Chapter explores actions to resolve these and related issues, beginning in 1988 and continuing on beyond 1990.

The General Design Concept

In the 1988 strategic plan study by Transportation Marketing Services (TMS), the assumption was made that the three railroads would have equal access to the Corridor and to the new terminals. It was noted that "an equal access provision appears to be absolutely necessary to obtain an agreement among the railroads."[33] The Terminal Island study put forth the design for equal access.

The Corridor strategic plan envisioned construction of a dual track, grade separated route using trackage primarily along the Southern Pacific San Pedro Branch (which parallels Alameda Street), and also including portions of the Union Pacific's West Los Angeles Branch in downtown Los Angeles and Union Pacific's branch onto Terminal Island in the Port complex. The proposal included 18 new grade separations at major streets. Based on earlier studies of cargo and transportation forecasts, TMS estimated the number of trains for each carrier if the Transportation Corridor is built with equal access of each carrier to new terminals. The results are shown in Table 2, which understates market share in the present for the Santa Fe and Union Pacific railroads since much of their cargo is trucked to downtown Los Angeles rail yards for loading onto trains.

TABLE 2

MARKET SHARE PROJECTIONS, BY RAILROAD, BASED ON ESTIMATED DAILY THROUGH TRAINS TO AND FROM PORTS OF LOS ANGELES AND LONG BEACH

YEAR:	Present		1995		2010		2020	
Railroad	Trains	%	Trains	%	Trains	%	Trains	%
Santa Fe	4	13	10	23	16	23	28	26
Southern Pacific	18	58	23	52	29	41	41	39
Union Pacific	9	29	11	25	25	36	37	35
TOTALS	31	100	44	100	70	100	106	100

SOURCE: Transportation Marketing Services (TMS), 1988

While the TMS study estimated increased business for all three carriers, it also raised the question whether the Consolidated Rail Corridor could handle 106 trains daily, noting that the SCAG traffic simulations in 1984 dealt with a maximum of 71 trains a day. TMS called for detailed trackage and operating studies to confirm that a design could be developed that would accommodate 106 trains a day, or to identify the number that would have to use alternative routes.[34] It should be noted that plans for the Corridor assume that the several existing branch lines would remain operational and could, to some extent, accommodate trains beyond the capacity of the corridor.

The TMS study team developed a conceptual design intended to handle the projected 106 trains a day. The basic features were:

"-Double track, reverse-signalled with centralized traffic control (CTC), equipped throughout with controlled universal crossovers located at three-mile intervals.
-Drill and yard trackage separate from main tracks.
-Equal and adequate access to all port terminals.
-Connections to all intersecting branch lines and to all main line routes emanating from downtown Los Angeles.
-All signalled movements within the Rail Corridor to be controlled from a single point.
-Grade separations of all major surface streets, and closure of most, if not all, at-grade crossings of minor streets."[26]

TMS also prepared an illustrative track configuration showing new and upgraded connections to existing trackage, and also proposed construction to

minimize interference of AMTRAC passenger trains at a track crossing near downtown Los Angeles.

Toward a Definitive Design

When the Joint Powers Authority was formed in August of 1989, the development of a definitive design for the Corridor was at the top of its agenda. On November 9, 1989, the Governing Board of the CTC JPA authorized issuance of a Request for Proposals seeking a qualified engineering firm to produce the "Plan of Consolidated Transportation Corridor." The RFP called for addressing the major areas of concern in the overall development of the Corridor including highway and rail capacity studies, conceptual engineering design of the highway, grade separations, and rail improvements -- and an alternative depressed train way. The RFP also called for preparation of the Environmental Impact Report and Statement for the Plan. The $6 million study is scheduled for completion by July of 1992, including completion of the environmental review process.[35]

[INSERT FIGURE 5 ABOUT HERE]

Highway Capacity and Level of Service

Two north-south freeways originate in the vicinity of the Ports of San Pedro and terminate in the complex of freeways in the central part of Los Angeles. The Harbor freeway begins near the Port of Los Angeles and extends about twenty miles north. The Long Beach Freeway begins near the Port of Long Beach, several miles to the east of the Harbor Freeway, and also extends some twenty miles north. Both freeways carry high volumes of trucks from the Ports in addition to other traffic.

The objective of improving Alameda Street is to provide a facility that can favorably compete with the existing parallel freeways and can carry a major part of the projected increase in Port generated truck traffic through the year 2020. The southern end of Alameda Street is being widened to six lanes with Federal Ports Access Demonstration funding. Justification for further improvements of Alameda Street, whether to an improved four lane street or an improved six lane street, has not yet been conclusively established. Consequently, the consultants are to accomplish thorough studies to determine the demand for an improved Alameda Street and to predict levels of service on Alameda Street and the two parallel freeways.

This analysis will entail assembling existing data on truck and automobile traffic volumes for Alameda Street and the two flanking parallel freeways, and for major east-west streets and highways crossing Alameda Street. Taking into account other planned transportation projects in the area and projected land use and development, predictions are to be made of future traffic volumes and the level of service for Alameda Street and its intersections. Measures of performance are to include volume/capacity ratios, intersection capacity utilization, and travel time and delay. Travel time estimates are to be made for the Harbor Freeway and the Long Beach Freeway.

Consolidated Transportation Corridor (CTC)

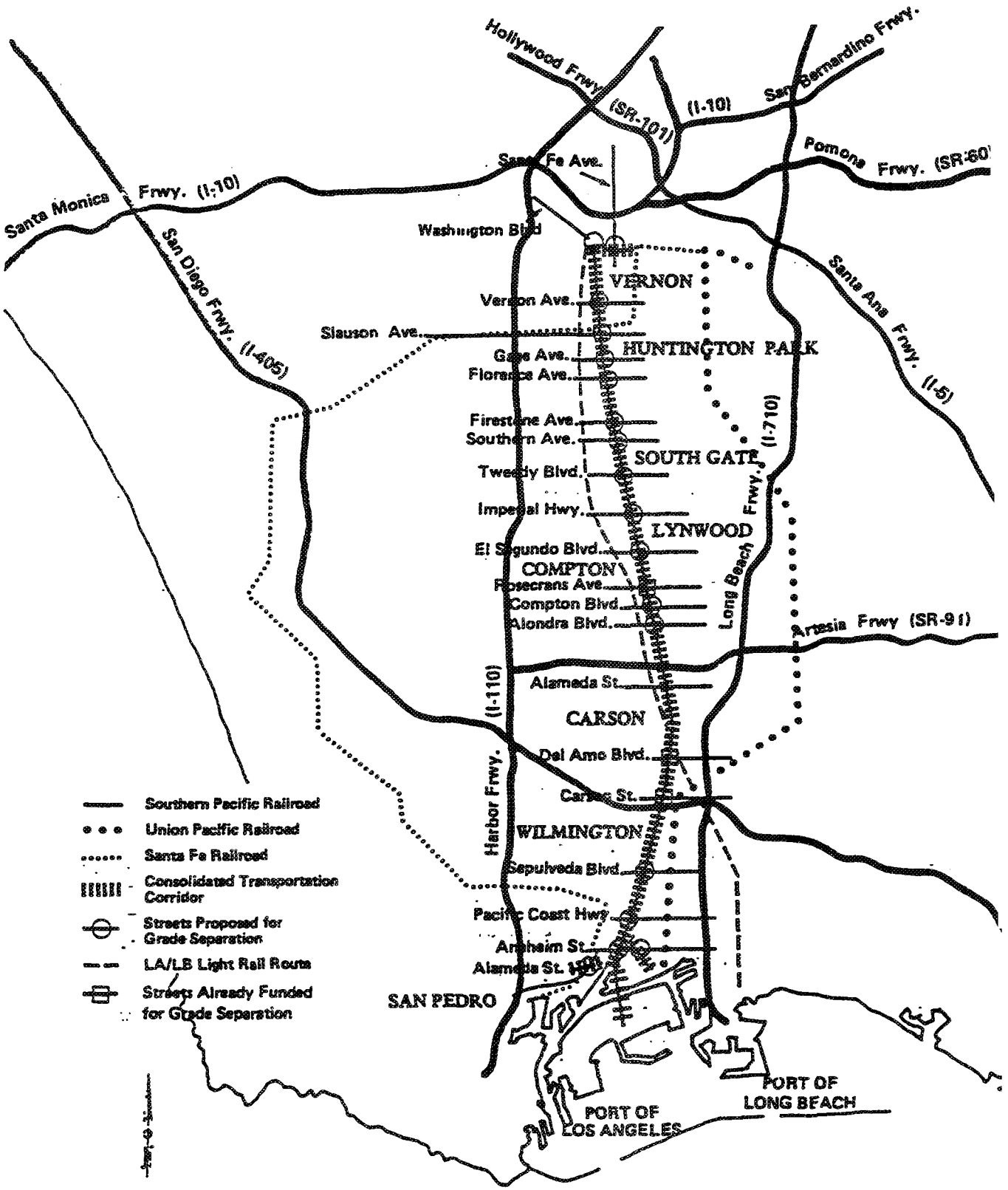


Figure 5

Source: CTC Joint Powers Authority, May, 1990

These analyses are to be made for different scenarios, including no improvement, improvement to four lanes, improvements to six lanes with east-west grade separations, and improvements to four or six lanes with a depressed railway. The projections and analyses are intended to answer several important questions:

-Is widening Alameda Street from four lanes to six lanes justified by the projected vehicular demand along the corridor?
-To what degree will north-south traffic flow on Alameda Street be enhanced under the various scenarios?
-How will intersection level of service be improved by the proposed improvements along Alameda Street?
-To what degree will an improved Alameda Street compete with parallel freeways for truck traffic?

Conceptual Highway Design

On the assumption that there will be sufficient justification for improvement of Alameda Street, the RFP called for development of a recommended best approach for design of the Highway/Grade Separation Component of the Plan of the Consolidated Transportation Corridor. The recommended approach is to be compared subsequently to the alternative depressed railway.

Both a four lane and a six lane improvement are to be designed and evaluated in terms of requirements and costs. Upgrading is to be to the State of California standards. Right-of-way requirements are to be estimated and an inventory prepared of all parcels/structures that would have to be acquired. All costs are to be estimated, including right-of-way, relocation, engineering, construction, utility relocation, drainage, and grade crossing protection. The designs are to include improving connection of Alameda Street to the new Century freeway and the Santa Monica Freeway.

The largest component of the design element is for grade separations. The RFP called for identifying all street crossings that warrant grade separation based on the traffic projections obtained from the capacity analyses. Eighteen grade separations were specified as a minimum, including all major east-west streets along the Corridor. Attention was called to the design criterion adopted by the Alameda Corridor Task Force in June of 1988, which stated, "To the extent possible, grade separations should be designed to eliminate traffic signals on the Alameda Street Corridor." The suggested approach was a compressed diamond interchange in which north-south traffic would not have to stop for signals. This could be achieved by placing traffic signals on top of east-west overpasses.

A preferred design is to be recommended for each grade separation along with an estimate of all costs. The recommendations are to take into account the following goals:

-mitigating impacts of train traffic
-providing access to adjacent land uses
-minimizing property acquisitions
-minimizing overall project costs, and

-satisfying local concerns about aesthetics and community disruptions.

The RFP also called for recommendations for closing of smaller streets that would not logically be grade separated. Traffic engineering mitigations are to be recommended for minimizing the impacts on local businesses and communities. For those streets not recommended for grade separation or closure, requirements and costs are to be estimated for improving at-grade rail crossing protection.

All proposed designs are to be reviewed with the Authority's member agencies and jurisdictions, and with the railroads, the California Department of Transportation, and the California Public Utilities Commission.

Integration of Highways Results

The results of the capacity analyses and the highway and intersection design are to be integrated into a recommended best approach for improving Alameda Street and for building east-west grade separations. The best approach will later be compared to the best approach for building a depressed railway so that the governing board of the Authority may select the preferred alternative from the two basic concepts.

Railroad Capacity/Operations Analysis

The Southern California Association of Governments study that proposed the Consolidated Corridor in 1984 envisioned two future scenarios: the low scenario was for 37 trains a day while the high one was for 71 trains a day. During the remainder of the 80's, Port traffic was approaching the lower scenario of 37 trains a day envisioned for the year 2010. In 1988, the Ports increased their estimate of train traffic in 2020 to 106 trains a day to and from the Port areas.

Consequently, the first element of work called for in the RFP is for a review of estimates of train traffic. The estimates are to be refined for existing rail traffic -- port related trains, non-port related trains, and local switching movements -- by conferring with the Southern Pacific, Santa Fe, and Union Pacific railroads. Of vital importance, estimates of future train traffic are to be refined as necessary based on projected tonnage, projected port-related rail growth, and other assumptions provided by the Ports.

In consultation with the Ports, projected rail traffic is to be allocated to rail carriers and to specific port terminals. Estimates are to be made of running times for all rail lines, and turn-around times at Port terminals are to be estimated.

Given the foregoing information, two simulations are to be made for two scenarios. The first scenario is the status quo with all through trains using the rail carriers own lines. The second scenario is the CTC alternative with all Port-related trains using the CTC (some local trains would still use the

other lines to serve local industries). For each scenario, the simulation is to:

-quantify projected train delays for local and through trains, noting location, time of day, and type of train; sum total delays for a 24-hour period,
-estimate predicted number of stops per day by through trains at railroad crossings that could have significant impacts on street traffic and,
-estimate the number of train meets per day between through trains that would have significant impacts on traffic.

The consultants are to evaluate the ability of the consolidated corridor to handle projected levels of through train traffic, local switching, and terminal activity. To the extent that the planned corridor track configuration would yield unacceptable levels of delay, modifications are to be made to the trackage configuration and a resimulation is to be made to verify operational feasibility. If necessary to handle forecasted traffic, "overflow" trains may be routed onto existing rail lines.

Evaluations of several additional requirements are to be made. At the northern end of the corridor, needs are to be evaluated for storage or staging tracks for through trains en route to the consolidated corridor. At the Port end of the corridor, an evaluation is to be made of the capacity of all trackage leading into the Ports. An evaluation is to be made of the need for storage or staging tracks at the southern end of the corridor, and of the need for support trackage in Port terminal areas.

An evaluation is also to be made of potential interference of CTC trains with passenger trains and freight trains on "downtown" trackage.

Railroad Conceptual Design

Based on the capacity and operational analyses, a best approach for designing the railroad element of the Corridor, at-grade and with east-west grade separations, is to be recommended. All costs for the design are to be recommended. In arriving at the best approach, a number of major tasks must be accomplished.

To resolve concerns about possible interference with Amtrack trains, alternatives for grade-separated passenger and freight train corridors are to be evaluated. Right-of-way requirements are to be evaluated and all construction costs are to be estimated. Similarly, alternative alignments and track configurations are to be evaluated for both the northern and the southern ends of the Corridor. Right-of-way requirements are to be evaluated and construction costs estimated for all alternatives.

Required storing and staging trackage are to be designed, right-of-way requirements evaluated, and construction costs estimated.

The proposed track configuration and signal system for the "spine" of the Corridor is to be designed in coordination with the highway design effort. Clear identification is to be made of all right-of-way requirements, all track

locations, location of universal cross-overs, power switches and turnouts, drill tracks, and storage tracks. All costs are to be estimated. In addition, conceptual designs and cost estimates are to be prepared for sound walls and other mitigation measures that may be recommended by the Environmental Impact Report subcontractor. (The overall construction cost estimates for the CTC do not include the cost of sound walls.)

All of these designs are to be reviewed with the railroads, the member agencies and jurisdictions of the JPA, Amtrack, the California Department of Transportation, and the California Public Utilities Commission. Following these reviews, the consultant is to develop recommendations for the railroad element of the Plan of the CTC reflecting consensus on the best approach for designing the railroad at-grade with east-west grade separations. A phased implementation plan and schedule is to be prepared along with an analysis of the risks associated with project costs and schedule.

Conceptual Design for the Depressed Railway Alternative

The Corridor cities of Compton and Huntington Park have been strong proponents of a depressed railway to mitigate disruption to existing land uses and to reduce noise levels. As a result, the RFP calls for design for a depressed railway to begin in Compton at the south. Several major tasks are necessary. Because the route is through what have long been industrial areas, both existing data on soil conditions and data from additional soil borings are to be analyzed to determine conditions. The location of underground utilities, sewers and storm drains and any other underground infrastructure is to be determined.

The depressed railway design is to provide for a minimum of two tracks, a maintenance roadway and a walkway. Because it will be necessary to continue rail service to local industries, the design is to include an auxiliary track at-grade parallel to the depressed railway. Conceptual designs for east-west bridges for roadways crossing the depressed railway, compatible with plans to improve Alameda Street, are to be prepared.

Costs are to be estimated for right-of-way, and construction including: bridges, utility relocation, drainage, excavation, preparation of subgrade, tracks, signal and communications facilities, concrete bed, vertical walls, struts, fences, and any additional mitigations recommended by the EIR subcontractor.

All proposed designs are to be reviewed with interested parties, and the results of the depressed railway design are to be integrated to define a complete Plan of the CTC. This complete Plan for the depressed option is to be compared and contrasted with the at-grade Plan design. A recommendation as to these two alternatives is to be formulated for consideration by the JPA governing board.

Alternative Configurations

The consultants to the JPA for the capacity and conceptual engineering design studies prepared sketches illustrating the alternative configurations to

be studied, and they re presented here to show the design alternatives.

[INSERT FIGURE 6 ABOUT HERE]

Figure six represents typical grade separations and cross sections with four lanes of traffic on the west side of the railroad. Alameda Street also could be six lanes in this east-west grade separation scheme. The center lanes of traffic are free flow north and south bound. The turning movement connections to the east-west streets occur on top of the grade separation. The railroad has two mainline tracks with a local service spur track. The main advantage to this configuration is that traffic on Alameda STreet flows without interruption by traffic signals, making it a "quasi freeway." The greatest disadvantage is that the grade separations would necessarily take considerable property along the east-west streets, causing relocation of numbers of property owners. Aesthetically, the overpasses would not be attractive additions to the urban scene.

[INSERT FIGURE 7 ABOUT HERE]

Figure seven presents typical grade separations and cross sections with six lanes of traffic on Alameda Street with three traffic lanes in separate one-direction roadways with the railroad in the middle. Alameda Street traffic would be free flow with turning movements on top of the overpasses. The railroad would have two mainline tracks and a spur track for local services. As with the previous alternative, considerable property would have to be taken for construction of the grade separations and the overpasses would not be aesthetically pleasing structures. The advantage would be the uninterrupted flow of traffic on Alameda Street.

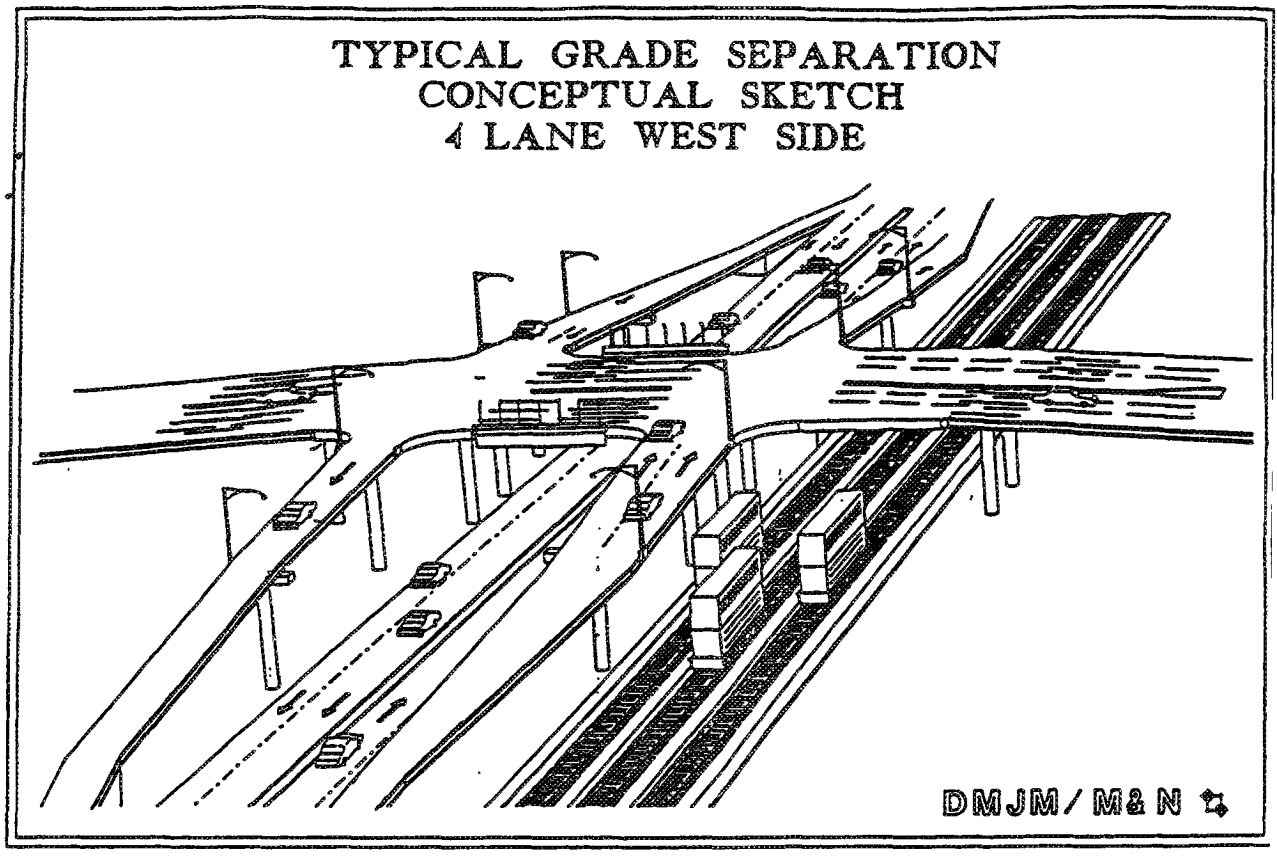
[INSERT FIGURE 8 ABOUT HERE]

Figure eight illustrates what a depressed railway could look like. The two mainline tracks would be depressed with a local spur on top along the surface. The Figure shows six lanes of traffic on Alameda Street, but in this case there would necessarily be traffic signals at east-west street crossings, slowing down traffic on Alameda Street. While this scheme avoids the massive overpasses called for in the other alternatives, it sacrifices traffic speeds on Alameda Street. It remains to be seen whether the depressed railway option is less or more costly than the surface railroad with massive grade separations.

Preparation of the Environmental Impact Report

The consultants are to prepare an Environmental Impact Report pursuant to the California Environmental Quality Act. Because federal funding will be sought for project elements, the report is also to meet the requirements of the National Environmental Quality Act. The report is to cover the Alameda Street alternatives including the status quo and both a four and a six lane option. Both the at-grade and the depressed railway options are to be covered. Specific studies to be conducted include:

-noise
-vibration



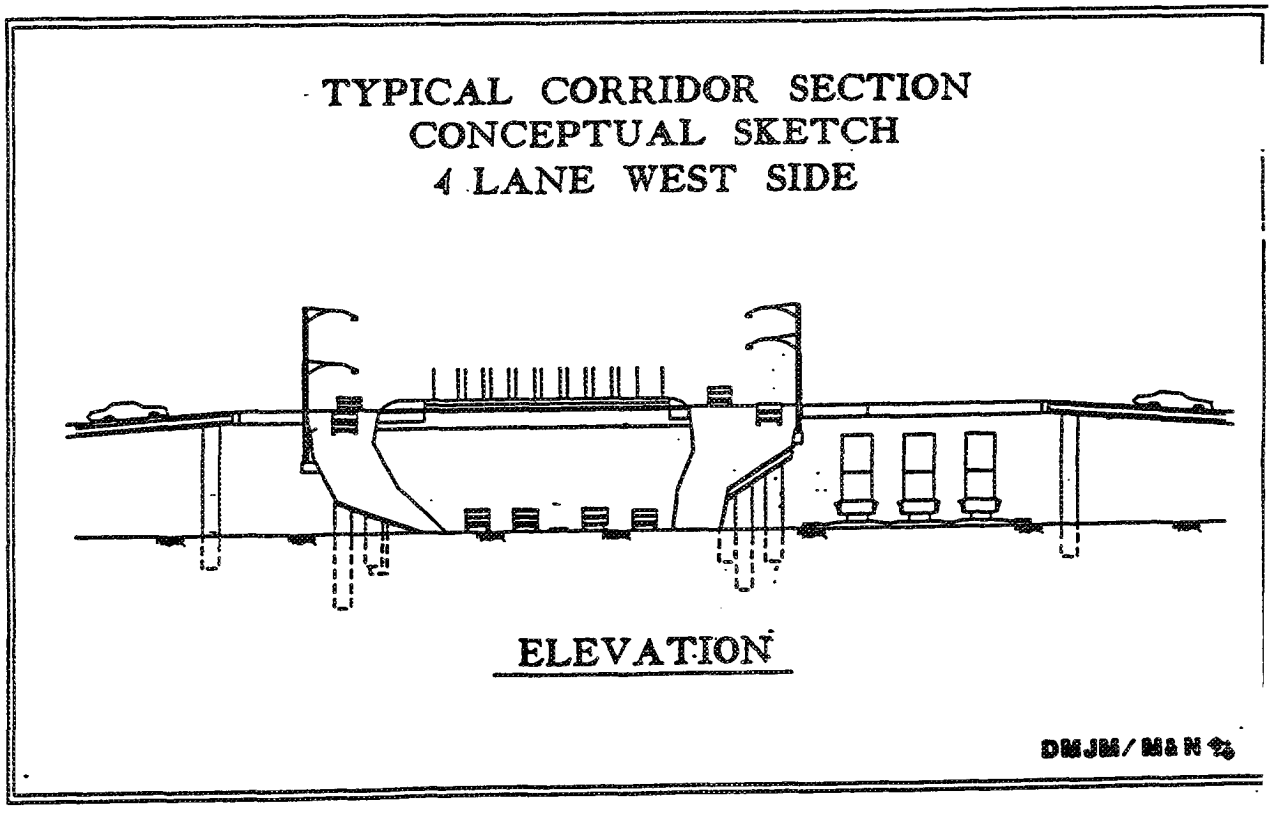
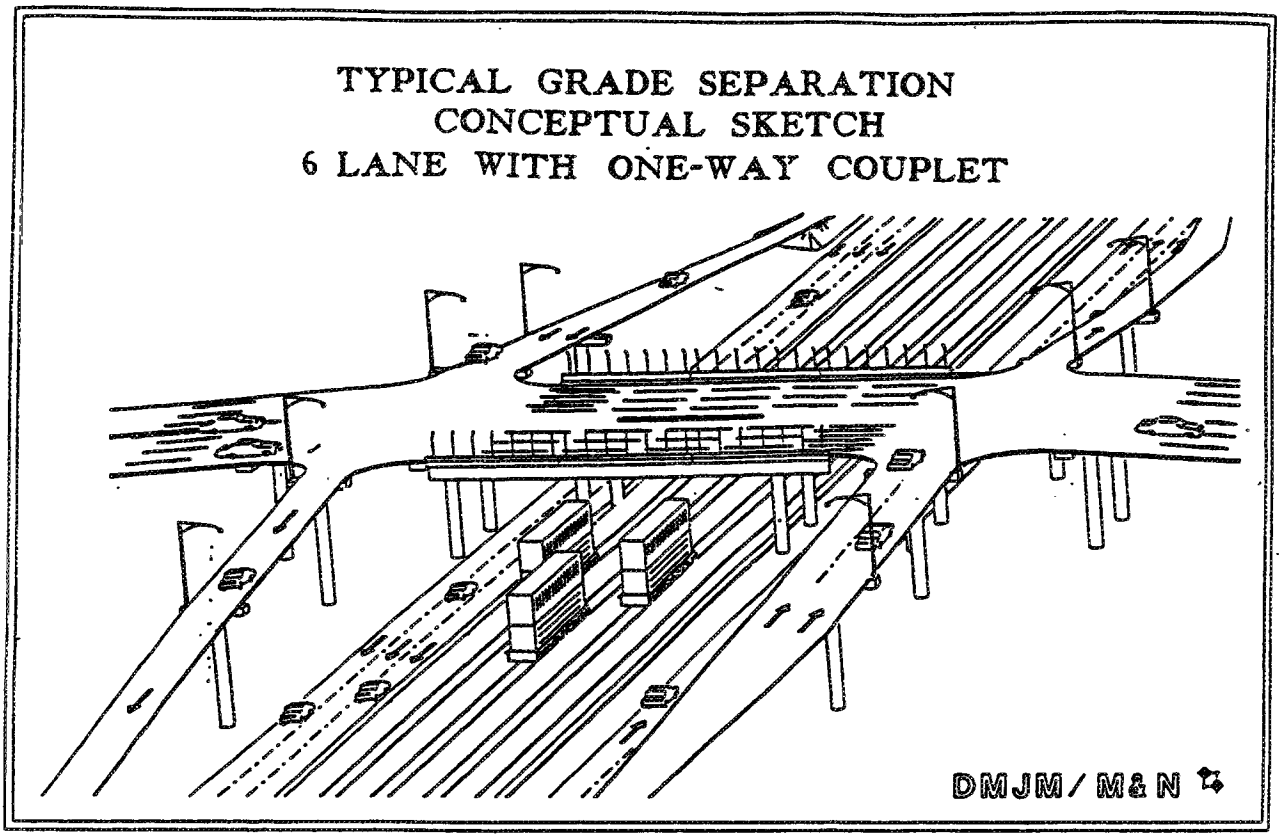


Figure 6

Source: CTC Joint Powers Authority, May 1990



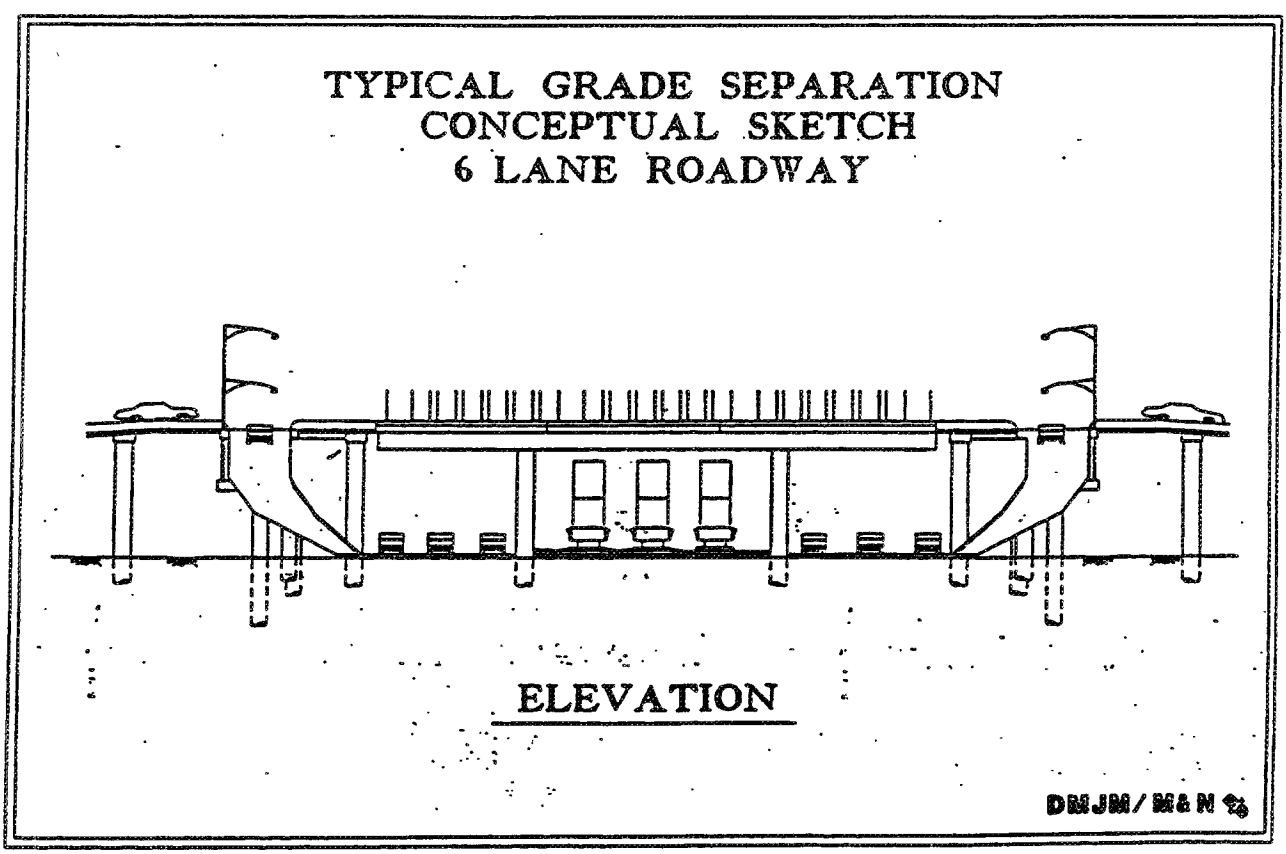


Figure 7

Source: CTC Joint Powers Authority, May, 1990

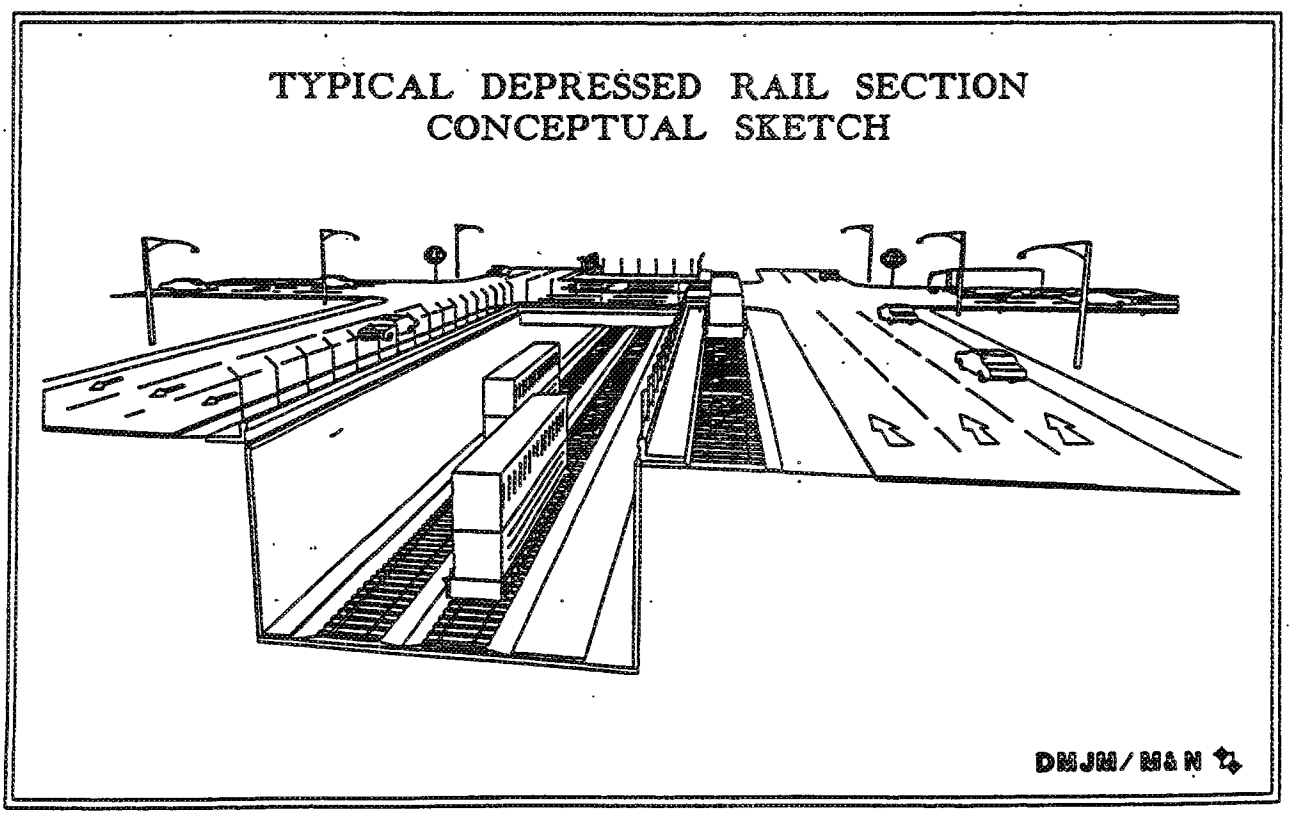


Figure 8

Source: CTC Joint Powers Authority, May, 1990

-air quality
-land use
-socioeconomic, and
-traffic, including vehicular delays at grade crossings.

As part of the Environmental Impact Report tasks, specific mitigation measures are to be identified and fed into the conceptual designs and cost estimates of the highway and rail elements of the Plan. The consultant is to develop a public participation program and conduct workshops and participate in public hearings on the Environmental Impact Report.

Conclusion

As a result of the work to be completed by the consultants, by July of 1992 the JPA will have the costs and benefits of alternative designs spelled out and will have a recommendation from the consultants as to the preferred design for the Plan of the Corridor, whether an at-grade or depressed railway. The JPA will thus be in a position to adopt the "Plan" and proceed with final engineering and construction, assuming that funding can be secured and that ownership and operating issues are resolved with the railroads. It remains to be seen whether the at-grade railway initially envisioned will win out over the environmentally less intrusive depressed railway option preferred by the cities with residential areas along the route.

Chapter VI

RAIL OWNERSHIP AND OPERATIONS

Introduction

Construction of the rail corridor raises a number of issues. Who is going to make the capital investment, and who will own the resulting improved Corridor? If the rail Corridor is to remain in railroad ownership, what would be the justification for public investment, or would it be necessary for the railroad to make the capital improvements?

Assuming questions of ownership are resolved, how will the Corridor be operated? How will neutral dispatching be achieved so that no one railroad has a competitive advantage over the others? What entity will be responsible for dispatching, and for maintenance of the Corridor?

These and related questions concerning operations have been referred to the three railroads in their role of the Advisory Railroad Operational Board of Control of the CTC Joint Powers Authority. The railroads have been asked to recommend a plan for operations with at least tentative agreement among themselves by January of 1991.

This Chapter will review experience of other ports, and the experience of the Port of Los Angeles in belt line operations. Ownership options will be explored, and methods of valuing railroad property will be discussed. Then, operating issues and alternatives will be analyzed, and recommendations will be put forward.

Experience at Other Ports

In the hope of gaining insight into how the Ports of San Pedro might deal with the Consolidated Corridor, a survey was made of other major ports in the United States. As far as could be determined from respondents, none of them had dealt with a situation directly paralleling the planned CTC. There were, however, two examples of railroad operations that have relevance.

Port of Tacoma, Washington

The City of Tacoma owns a "belt line" railroad that serves the Port of Tacoma and some 70 industries located along the Belt Line. The Tacoma Municipal Belt Line is a tariff railroad which operates autonomously with its own rates. Other railroads deliver and pick up rail cars from the entity. The Belt Line operates over 24 miles of track and conducts approximately $5 million a year in business.[36]

Port of Houston, Texas

The Port of Houston is served by the Port Terminal Railroad Association, which is composed of five member railroads and the Port Authority. The

Association was formed in 1924 to facilitate the flow of rail traffic in and out of the Port, and now handles 500,000 cars a year. The Association has some 400 employees, and has its own union agreements. Member railroads furnish locomotives by percentage of usage based on car counts. All railroads deliver cars to the Port's North yard where they are classified for makeup into trains for delivery. Tracks are leased from the Port, and the Association is responsible for maintenance and improvements. Monthly costs are computed as a cost per car and then charged to each railroad.[38]

Port of Los Angeles Belt-Line

In the 1920's, the Port of Los Angeles formed a Harbor Belt Line with the three railroads serving the Port. The Board of Control is comprised of members from the Southern Pacific (two members), the Union Pacific, the Santa Fe, and the Port of Los Angeles. Actual operations alternate monthly between the Southern Pacific and the Union Pacific. The Belt Line contracts with the railroads for maintenance of tracks. The total cost of the Belt Line for each year is prorated among the railroads based on proportionate number of cars. Trackage is owned by the Port of Los Angeles, the Southern Pacific, and the Union Pacific -- the Santa Fe owns no trackage.

By mutual agreement, unit trains -- basically trains with all one commodity such as petroleum or coke -- are delivered by each railroad directly to the terminal without using the Belt Line. The Belt Line handles about 24,000 cars a year.[39]

Railroad Property Valuation Studies

The work program of the CTC JPA calls for railroad property valuation studies to be conducted during 1990. These studies would be required if the JPA were to acquire the railroad property in the Corridor by lease or purchase, which likely wold be required if the Ports through the JPA are to make the significant capital improvements envisioned in the Corridor. The Ports would probably be prohibited by law from making the Corridor improvements unless they had an ownership interest.[40]

The Southern Pacific railroad, which owns the main right-of-way for the Corridor, had early taken the position that it would not set a lease or purchase price for its right-of-way but would expect to be made an offer. Determining the amount of such an offer is not a simple task since there are a variety of methods for estimating the value of railroad properties.[41] The smaller segments of right-of-way in the Corridor owned by the Santa Fe and the Union Pacific would, of course, be included in the valuation studies.

Railroad rights-of-way are unusual properties since they are by nature long and thin strips of real estate not readily suitable for most kinds of development and use. Yet, as urban transportation corridors they may have uniquely high value. If the JPA is not able to amicably negotiate an agreement to acquire the rights-of-way, there would be the possibility of condemnation by the JPA which would require solid justification of the dollar amount of compensation to be paid

to the railroads. Arrival at the lease or purchase value of the rights-of-way thus could be crucial to the implementation of the Corridor.

Railroad line valuation has a long history, including an elaborate set of valuations done by the Interstate Commerce Commission early in this century. These valuations and court cases have made the task of arriving at defensible valuations technically and legally complex. The following discussion of valuation methods relies heavily on the work of Transportation Marketing Services, Inc. in their 1988 Consolidated Rail Corridor Strategic Plan in which they recommended use of all of the following methods.

Net Liquidated Value

The Net Liquidated Value (NLV) assumes abandonment of the railway, sale of the hardware, and separate sale of the real estate. The Southern Pacific is not, of course, going to abandon the line, but it might argue that the fair market value of the right-of-way for non-rail uses would exceed its value for rail uses. The total amount of land represented by the right-of-way is considerable, yet the narrowness of the strip would limit the types of development that could be undertaken, thus decreasing the market value of the land even though it is in an urban area.

Original Cost Less Depreciation

Book value, or original cost less depreciation, is a method of valuation which may have little relevance to the current market since acquisition of land and construction of the railway took place in a much earlier time when costs were far lower than at present. Arriving at such a valuation is made difficult by the fact that the railroads are likely to refuse to open their books for inspection. An approximation of book value might be gained, however, by using the State Board of Equalization's assessed value of the rail lines.

Going Concern Value

Perhaps the most realistic method of valuation of the rail lines is to treat them as if they were to continue in rail use for freight and to calculate the "Going Concern Value." This value, as for any business, wold represent the discounted present value of the potential earnings of the business. Indeed, the projections by the Ports indicate increased traffic on into the future and hence an increasing earnings value.

A major technical problem in applying this method is how to determine how much of the total Port related revenues of the railroads should be allocated to the relatively short corridor segment of the total rail carrier's system. One possible approach is to determine the market value of each of the railroads and then apportion back to the corridor the applicable fraction of the total. The railroads, of course, could argue that the corridor value exceeds the average per mile value of the total system mileage. In any case, this method of valuation will require an appraiser who is thoroughly knowledgeable of rail revenues, costs, and market value.

Comparable Sales

It is common practice to appraise commercial and residential real estate on the basis of the sales price of comparable properties. This provides a realistic estimate of what price a particular property will bring when placed on the market. Compared to typical residential and commercial property, however, sales of railroad properties take place in dissimilar urban markets and vary considerably in the characteristics of the property sold. Nevertheless, sales of railroad property comparable to the corridor do take place around the country and offer an indication of marketplace values contrasted with abstract calculations of value. The appraiser, of course, must be competent to adjust for dissimilarities in arriving at a valuation for the corridor.

Negotiations

With the several estimates of value in hand, the JPA will be in a position to negotiate knowledgeably for acquisition of the right-of-way, whether by sale or lease. The railroads will, of course, seek the highest possible price while the JPA will seek a more economical price below the highest of their valuations. The simple fact that the JPA has had professional valuations of the property made will give credibility in the negotiations. If an agreeable transaction is not achieved through negotiations, the JPA will have the option to proceed to exercise eminent domain and take the property through a condemnation proceeding where the court will determine the compensation to be paid to the railroads. In that case, the valuation studies prepared for the JPA can be entered in evidence and are likely to be influential with the court. At its meeting of July 12, 1990, the JPA considered proceeding with a valuation study to provide the needed information.[42]

Railroad Issues and Operating Alternatives

At the time of preparation of the Consolidated Rail Corridor Strategic Plan in 1988, staff of Transportation Marketing services Inc. (TMS) explored with each of the three railroads their views and concerns concerning the Corridor, and their ideas as to operation of the Corridor. The railroads had been engaged in discussions of the Corridor since the Southern California Association of Governments' original study in 1984. The Santa Fe and the Union Pacific early gave cautious support to the concept, while the Southern Pacific carefully withheld approval of the concept.

Railroad Issues

By 1988, both the Santa Fe and the Union Pacific railroads were generally favorable to the Corridor proposal, but expressed several concerns. Both railroads considered it essential for all three railroads to have equal access to all future Port terminals, rather than to be restricted by the historical extension of trackage into the Ports. The Southern Pacific, in turn was concerned that the Corridor might take away business from the Intermodal Container Transfer Facility (ICTF) which had proven a huge success. The ICTF handled 315,000 containers in 1987, approaching design capacity of 350,000

containers so rapidly that the Southern Pacific began a major expansion of the facility in that year.

In addition to emphasizing equal access to all future terminals, both the Santa Fe and the Union Pacific called for an impartial operating authority to control movements of all three railroads in and out of the Ports, and preferably also to control ship movements. Neither railroad wanted to be in the position of being a tenant of the Southern Pacific. The Santa Fe identified the need for holding capacity in the Port areas for empty equipment, and the need for a solution to interference from Amtrack operation.[43]

Southern Pacific management in 1988 expressed skepticism about the Corridor and voiced a number of concerns. A major concern was that the Corridor might take business away from the Intermodal Container Transfer Facility (ICTF). The Southern Pacific naturally wants to protect existing and future investments in the ICTF.

Southern Pacific management had a number of other concerns. They were skeptical of the reasonableness and reliability of the assumptions underlying the traffic forecasts shown in the 2020 Plan. The Ports, however, had commissioned an updating of these forecasts in 1988 and confirmed the earlier forecasts. In addition, during the 1980's growth in traffic through the Ports was somewhat ahead of forecasts so that with the passage of time, the forecasts appear increasingly reasonable.

Southern Pacific was, of course, especially interested in the terms of sale of Corridor property, and requested that any proposed agreement submitted to it include a price for the property to be acquired as it would not set an asking price. The valuation study to be made by the CTC JPA in 1990 will provide the JPA with the information necessary to determine the price of an offer to the railroads, and will aid the JPA in deciding whether to seek a lease of rights-of-way or outright purchase. Further, the Southern Pacific also asked that any proposed agreement submitted to it include whether the railroads would be expected to contribute capital for Corridor construction.[44] The work program for the JPA plans for a preliminary financial plan in January of 1991, concurrent with a preliminary operating agreement with the railroads, at which time shares of capital costs for the Corridor will be addressed.

Southern Pacific also questioned whether the rail facilities within the Ports area were sufficient to handle switching, staging, and marshalling of the projected volume of traffic. The capacity studies being conducted in 1990, along with the facilities study of 1988 will either confirm sufficient capacity or lead to revisions to the plans to accommodate traffic through the Corridor and the Ports. Finally, Southern Pacific wanted assurance that they would have the continuing ability to serve current and future shippers along the San Pedro branch. This concern is being addressed in the design for the Corridor by providing a local track to serve businesses along the line in addition to the two through tracks of the Corridor.

Despite concerns raised by the railroads, their ability to share in the growth of Port business provides them a strong reason to cooperate. In the absence of rail improvements like those to be provided by the Corridor, it is

likely that the Ports of San Pedro would have lessened ability to compete with other west coast ports for increased business. The overburdened highway and street system could not efficiently absorb the number of trucks that would be required to move increased container traffic to downtown Los Angeles. Similarly, increasing rail traffic on the existing branches to the levels projected for the year 2020 would entail far greater investments in mitigation measures such as grade separations, noise walls and rail facilities improvements.

During the course of the TMS study in 1988, the Southern Pacific did agree with the other railroads on the principle of equal access by all three railroads to future terminals or facilities constructed to handle traffic to and from the Ports.[45] This agreement resolved one of the major issues among the railroads.

The Santa Fe and the Union Pacific had raised the second major issue, which was the need for an impartial operating authority to control movements of all three railroads into and out of the Ports.

Ownership Alternatives

Of strong interest to the railroads as well as to the Ports are the issues of ownership of the Corridor and its operation. The schedule for the JPA work program calls for these issues to be resolved through negotiations during the first ten months of 1991, with the intention that the railroads would initially propose a plan for ownership and operations by January of 1991.

The TMS study in 1988 addressed these issues and conducted interviews with the Ports and the railroads before arriving at their recommendations. TMS considered three alternative schemes of ownership. One possibility would be to have the railroads retain existing ownership and lease trackage rights to each other, which could require the railroads to make all capital improvements. Instead of leasing trackage from one another, the railroads could make reciprocal trackage agreements trading trackage rights at other points in their systems to achieve an agreement.[46] This could be a complex arrangement which TMS found to be of little attraction to the railroads.

The second alternative would be for the three railroads to form a jointly owned company with shared responsibility for capital improvements, maintenance and operating costs. At various locations in the U.S., railroads have formed such companies for operations of terminals and other facilities. Such an arrangement has worked will for the Port of Houston, for example. On a much smaller scale, the Port of Los Angeles Belt Line has been operating moderately well for decades. TMS found little enthusiasm on the part of the railroads for such an arrangement, perhaps partly because of the possibility of shared capital costs, and because of dissatisfaction with joint companies elsewhere.

The third alternative form of ownership, viewed with favor by the railroads and recommended by TMS, was for the Ports to form an independent organization to acquire the property and to accomplish construction of necessary improvements. Formation of the CTC JPA was a major step in this direction, and the valuation study will establish the basis for the JPA to lease or purchase the railroad property. If the JPA does decide to acquire the railroad property, it will

greatly simplify coordination of construction of the various elements of the Corridor as contrasted with the railroads separately making capital improvements while construction of the grade separations and widening of Alameda Street were being done by the JPA. If the JPA became owner of the Corridor, it could make the necessary improvements and then lease back the Corridor to an entity formed by the railroads for operations, or provide for operations itself.

Operating Alternatives

The question of what entity should operate the Corridor once constructed was also addressed by the TMS study. Based on discussions with the railroads, TMS concluded that Corridor operation required several characteristics. Overall operation, especially train scheduling and dispatching, must be neutral as to the three railroads. This issue is especially important to the railroads because timely delivery of cargo has become critically important now that container ships may be in Port for only 8-10 hours.[47] Thus, none of the railroads want to take the chance that another railroad might give priority to its own traffic to the detriment of others.

The second required characteristic was that the three railroads have equal access to the Corridor, equal in terms of usage costs as well as to priority of use. Simply put, the railroads did not want any railroad to gain a competitive advantage from the Corridor. A closely related requirement was that each of the railroads must have equal access to the new terminal facilities constructed by the Ports and thus equal opportunity to participate in market growth.

TMS considered, and discussed with the railroads, three alternatives for operation of the Corridor. The railroads preferred, and TMS recommended, the formation of an independent operating authority under the auspices of the Ports. The new operating authority would control all through movements of the three railroads as well as local Southern Pacific train movements in the Corridor. Close coordination would be needed with Port terminal operators to coordinate train movements with ship movements, as well as close coordination with main line dispatchers of the three railroads. Close coordination would also be needed with maintenance of the Corridor trackage and signal systems.[48]

Two options rejected by the TMS study were creation of an operating entity jointly owned by the railroads, and an arrangement where the railroads would grant trackage rights to each other, retaining dispatching. Although these were rejected in 1988, it is possible for the railroads to propose either of these alternatives to the JPA in January of 1991. For example, it would be possible for the JPA to acquire ownership of the trackage, construct needed improvements, and then lease the Corridor to an entity owned by the railroads which would accomplish operations by engaging a neutral third-party contractor. Or, the existing Port of Long Beach Belt Line could be strengthened and expanded to become the operator of the Corridor.

Cooperation of the railroad clearly is essential to success of the Corridor, no matter which methods of ownership and operation are chosen. During the 1980's, the Santa Fe and the Union Pacific were cautious in their support of the concept of the CTC, while the Southern Pacific carefully withheld its

approval of the Corridor. Gradually, in the late 1980's the Southern Pacific appeared to be accepting the inevitability of the CTC. Finally, speaking to the Long Beach Chamber of Commerce meeting on December 8, 1989, D. Michael Mohan, the President of the Southern Pacific Transportation Company, said his railroad would cooperate in the project to shift all waterfront rail traffic to Southern Pacific's Alameda Street Line. He did stipulate that Southern Pacific expected to receive full and fair compensation for its property and competitive position. At the same meeting, senior executives of the Santa Fe and the Union Pacific affirmed that they supported the consolidation.[49] Even so, by mid-1990, the Railroad Advisory Board of the JPA had not met and there was no evidence to suggest that the railroads were ready to take the lead in developing a plan for the ownership or operation of the Corridor. To be sure, the proposed CTC is only a tiny segment of the thousands of miles of tracks operated by the three railroads and surely not on the priority list of any of them. Whether the railroads will come up with a proposal by the JPA's target of January 1991 is questionable, but still possible. It is also possible that the Federal Railway Administration could facilitate discussions to avoid any possible violation of the Antitrust Act.[50]

Recommendations

Although closely related, the questions of ownership and operations involve separate considerations and are best addressed independently.

Ownership

The 1988 recommendation that an entity of the Ports acquire the Corridor right-of-way and construct all improvements appears to be the best resolution of the ownership question. The JPA is the requisite entity and possesses the necessary powers. The JPA should also acquire all trackage within the Ports so that a totally efficient system can be constructed to interface with the main yards and lines of the three railroads. The preferred form of ownerships is outright purchase rather than lease as the corridor will be essential to Port operations for the foreseeable future. Through ownership the JPA will not only facilitate efficient and compatible construction of the elements of the CTC, but also will be able to ensure equal access by the railroads to all Port terminals.

Operations

Ownership of the CTC by the JPA does not necessarily require operation by the JPA even though that was the recommendation of TMS in 1988 based on preferences of the railroads at that time. There is no evident compelling reason for the Ports themselves, or their entity the JPA, to go into the railroad business by operating the CTC.

This author recommends the Ports, the JPA and the railroads thoroughly consider the success of the Port of Houston and its five serving railroads in forming a jointly owned Association to handle all Port related rail operations. As was done in Houston, the JPA could lease the Corridor trackage to an

Association of the three Railroads, charging enough to recoup acquisition and construction costs, and allowing the Association to handle scheduling, dispatching, switching, and maintenance. The JPA would build and lease the necessary operations control center and systems to meet the operating needs of the railroads. While in Houston the Association provides crews and directly conducts operations, a similar Association for the CTC could contract with a third party operator for both operations and maintenance, thus gaining the operational neutrality sought by the railroads.

Conclusion

It seems unlikely that the railroads will voluntarily take the initiative in resolving the issues of Corridor ownership, financing, construction and operations. The work program and schedule of the CTC JPA envisions resolution of these issues in the first half of 1991, with the implicit assumption that the Railroad Advisory Board of the JPA will come up with at least the initial plan and agreement among the railroads.

The most straightforward approach may be for the JPA to move promptly with valuation studies, acquire the necessary railroad property, and proceed with construction of the CTC while continuing to press the railroads to create the operating entity and agreements. If the railroads are unwilling or unable to do so, the CTC JPA could contract with a third party operator to operate and maintain the CTC, charging the railroads on a per-car basis to recover capital investments and operating costs.

Chapter VII

FINANCING THE CORRIDOR

Introduction

Over the years beginning with the SCAG study in 1984, cost estimates for the CTC have been revised steadily upward. Beginning from an initial figure of $220 million, by May of 1990 JPA estimated had risen to $502 million for the Corridor itself, plus an estimated $297 million for improvements within the Ports themselves including grade separations, rail improvements, and highway improvements. At no time since origination of the Corridor concept has there been a financial plan for these substantial costs. In the work program of the JPA (Figure 4), a preliminary financial plan is called for in January of 1991, with subsequent refinements to be accomplished when more detailed cost estimates are available from the design engineering to be completed in 1991, and thereafter when the final engineering studies are completed.

In the cost estimates referred to above, the cost of acquiring railroad property in the Corridor has not been included, pending conduct of valuation studies and a policy decision that the JPA will in fact acquire Corridor ownership.

The JPA agreement gives the JPA the authority to issue revenue bonds (subject to approval of the cities of Long Beach and Los Angeles). Repayment of the bonds is anticipated from revenue generated by the CTC, or by pledges of revenues from the Ports or other agencies. Until revenue bonds can be issued, the JPA agreement provides for staff and consulting contract costs to be loaned to the JPA with repayment made to the Ports at such time as revenue bonds are issued.

At this time, major financing issues are unresolved. Who should pay for the construction of the CTC? Is it a federal, state or local responsibility? Should the railroads make capital investments in the rail facilities? What part of the costs should be borne by users of the Ports? To the extent possible at this time, this Chapter will examine these and related issues and suggest directions that may be taken by the JPA.

Investment Interests

The Ports of San Pedro do not just serve the cities of Long Beach and Los Angeles, but provide important services to the entire Los Angeles metropolitan region, the State of California, the western states, and to a large degree, the entire country. Thus there are multiple interests in the future of the Ports.

The National Interest

Approximately fifty percent of the container cargo that comes through the Ports is destined for points east of the Rockies, as far away as the east coast.

Container traffic is the fastest growing segment of Port activity, and a significant element of the requirement for port expansion.

Businesses and consumers throughout the United States benefit from the import and export activities of the Ports of San Pedro, and the national economy is linked to international trade, much of which moves through the largest and busiest of the nation's ports, the Ports of San Pedro. Thus there is a national interest in the continued growth and development of the Ports.

One measure of the Port's significance is in customs revenues derived from Port activity. In 1989, the Los Angeles District of the U.S. Customs Service collected $3,487,560,402, by far the largest part collected at the Ports of San Pedro, with a smaller part collected at the airports in the region.[51] If Port forecasts are correct, Port activity will more than double by the year 2020, providing necessary capital investments are made, thus producing a gain of approximately $3 billion a year in increased customs revenue. The federal government could well afford to make an investment of $892 million to finance the CTC as a means of gaining an annual increased income of $3 billion.

It may be argued that the federal government need make no investment in the Ports of San Pedro and rely instead on the hope that the Ports, or other ports on the west coast, will find the necessary funds to meet the demands of increasing international trade. Yet the seaports are essential to the national economy, certainly as essential as the interstate highway system, or any other of the objects of federal investment in infrastructure construction. This author is not suggesting that the entire cost of the Port's 2020 plan be funded by the federal government, although that might well be appropriate. The suggestion that is made is that the federal government fund a major part of the CTC, especially the grade separations and highway improvements that integrate landside truck transportation with the highway systems of the region and nation.

California's Interest

The robust and growing economy of the State of California also depends on international trade, and the Ports of San Pedro are by far the largest ports in the State. Estimates are that one million jobs in the Los Angeles region depend on the Ports. While estimates for the rest of the State are not available, an important number are supported in the large agricultural businesses throughout the state that export through the Ports of San Pedro. Consumer in the State benefit from imports, of course, while businesses benefit both from imports and exports. Because the economic benefits provided by the Ports are widely dispersed throughout the region and the State, there is good reason for the State of California to invest capital in the transportation infrastructure needed to integrate Port traffic into the transportation system. While no estimates are available of the revenues the State gains from Port activity, the State has a personal and corporate income tax that produces significant revenues from the jobs and businesses dependent on the Ports.

Local Interests

The Cities of Long Beach and Los Angeles, the owners of the Ports do not gain any revenue directly from the Ports. Instead, the Ports operate as non-profit entities generating sufficient revenues from operations to pay their ongoing costs and to meet ordinary needs for investments to accommodate growth. Long Beach and Los Angeles, as well as the other cities in the region, do benefit indirectly through the jobs and businesses made possible by Port activities.

The CTC Joint Powers Authority estimates the Corridor, by allowing the POrts to implement the 2020 Plan, will result in an estimated increase of $46 billion in economic output (gross sales) in the five county region over the period 2000 to 2020. By the year 2020, it is estimated that the CTC will have generated an additional 37,000 international trade related jobs, and that in the year 2020, the CTC will generate an estimated $966 million in additional wages, and $2.9 billion in additional economic output. Some 5,000 jobs will be generated during the years of construction of the Corridor.[52]

Port Users' Interests

The private sector users of the Ports have a direct interest in Port capacity expansion, including the maritime industry as well as the trucking and rail transportation industries, and all the importers and exporters served by those industries. In the normal course of business, these private businesses pay the costs of the Ports through a somewhat intricate system of fees, charges and leases administered by the Ports. The Ports lease terminals and facilities to private firms, and in addition assess charges against ships and the movement of cargo. The revenues collected by the Ports from private firms provide the means not only of paying for ongoing operations, but also the revenues needed to pay off revenue bonds used to finance major capital improvements. There is no available estimate of the benefits gained by private businesses from Port activities, except in the contributions by the Ports to gross economic activity cited above. Obviously, the profitability of the many businesses operative at the Ports, or dependent on the Ports will be enhanced by the growth in Port activity made possible by the CTC.

Costs to Be Financed

While different cost estimates for construction of the CTC have been given heretofore, it will be useful to enumerate here the estimated costs of constructing the Corridor, including a purely speculative number for the cost of acquiring the right-of-way from the railroads on the assumption that the JPA will conclude that ownership of the CTC is the best option. These cost estimates, while being used by the CTC JPA, may undergo substantial revision -- probably upward -- when more precise estimates are provided from the detailed engineering studies to be made in the future.

For present purposes, the cost estimates are shown in the following table:

Table 3
CONSOLIDATED TRANSPORTATION CORRIDOR
PROJECT COST ESTIMATES
(MILLIONS OF 1989 DOLLARS)

Consolidated Transportation Corridor		
Track and Signal Improvements		$100
16 Grade Separations @ $13 Million		208
Alameda Street Widening, N of SR 91		50
	Subtotal	$358
20% Contingency		$ 72
Construction Costs		$430
Engineering, EIR study, and Construction Management Costs		$ 72
	Subtotal	$502
Port Infrastructure Improvements		
Grade Separations, Rail Improvements, Highway Improvements in Harbor Areas		$297
	TOTAL	$799

Source: CTC JPA Southern California Consolidated Transportation Corridor. May 1990. P. 11.

It may be recalled that the $297 million in Port Infrastructure Improvements are needed to effectively and efficiently merge Port rail and highway access to the Corridor as recommended by the 1988 Operations, Facilities and Infrastructure study. To the total of $799 million we need to add a speculative estimate of $100 million for purchase of the rights-of-way from the railroads, bringing the total to be funded up to $899 million in 1989 dollars.

Sources of Financing

There is no single source of funding for the Corridor improvements. Conceivably, important funding could be obtained from the federal government, the state government, private capital markets through revenue bonds issued by the JPA, the railroads, and possibly Corridor cities to match federal and state funding. It will be useful to give special attention to federal, state and capital market financing before suggesting an overall financing plan.

Federal Funding Sources and Prospects

Directly related widening of Alameda Street, connecting the Terminal Island Freeway (SR 47) to the San Diego Freeway (I-405) four miles to the north, was funded through the federal Surface Transportation Assistance Act of 1982. A second phase of that project was funded by Congress in 1987 to extend the

widening of Alameda Street north to the Artesia Freeway (SR-91). Total funding for the two phases added up to $117 million.[53] These Ports Access Demonstration Projects were awarded by the U.S. Department of Transportation, which administers the Surface Transportation Assistance Acts.

Due to the importance of the Ports in international trade, the federal government is a highly likely source of funding for the development of the CTC. In April of 1990, representatives of the CTC JPA and elected officials of the Long Beach and Los Angeles City Councils traveled to Washington, D.C. to meet with officials of the Department of Transportation and their congressional delegations. An important part of the local delegation's proposal was a request for $322 million in federal assistance through reauthorization of the Surface Transportation Assistance Act scheduled for 1991, with funds to become available in 1992.[54] If this sum is provided by the federal government, it would pay for substantially all of the estimated costs of widening Alameda Street and constructing the grade separations along the Corridor, including contingencies, engineering, and construction management costs. This would leave rail improvements, and improvements within the areas of the Ports, to be otherwise funded.

The federal budget deficit reduction efforts pose the greatest threat to potential federal funding of the Corridor. Even with program cuts to reduce the deficit, funding of transportation projects like the Corridor may well continue, given the dedication of gasoline tax revenues to the Highway Trust Fund, and the substantial influence of the California congressional delegation in the funding process.

As discussed in the study appended as Appendix C, there are other potential funding programs administered by the Department of Transportation, but a grant of $332 million would likely preclude receiving the smaller amounts available through the more restrictive programs. The anticipated federal grant would require matching funds, which requirement would be met in the overall financing plan for the Corridor.

State Funding Prospects

In June of 1990 the voters of the State of California approved several ballot issues that provide bond funding authority for transportation projects. The somewhat complex set of Propositions will provide $80 million for Alameda Street grade separations within the Corridor, and $25 million for widening of a segment of Alameda Street. This $115 million will also serve to meet matching fund requirements assuming the requested $322 million in federal funding is approved, bringing total federal and state funding to $437 million.[55] This sum, barring effects of inflation, should be sufficient to fund the Alameda Street widening and grade separations, leaving rail improvements to be funded along with rail and highway improvements within the Ports, which are essential to the Corridor, but not part of the responsibility of the JPA.

Revenue Bonds

The Ports typically pay for facilities and infrastructure out of Port revenues, either by accumulating the necessary investment funds,or by issuing revenue bonds in the capital markets to construct the improvements and then paying off the bonds from Port revenues derived from charges from dockage, wharfage, demurrage, and lease of facilities. The Port of Long Beach is committed to a "mitigation fee" to be charged to each ton of cargo moving through the Ports for the purpose of paying costs of mitigating impacts of landside transportation by constructing the CTC. Thus far, the fee has been collected only on containers, at a rate of $2 a container, but in the future may be increased and levied against all cargo. It is important to terminal operators that both Ports assess the same fees, which will require a cooperative effort by the Ports to establish, collect and dedicate such fees.[56]

Assuming that the JPA takes the straightforward option of buying the Corridor right-of-way, constructing the improvements, and leasing the Corridor back to an Association formed by the three railroads for operations and maintenance, there would be a funding need of about $200 million dollars in capital investment. This investment in railroads would not be eligible for any federal or state funding known to the author, and hence would most likely be financed through revenue bonds to be paid off by a charge levied against the users on a carload basis.

The Ports have used revenue bonds in the past, and have expertise in the issuance and repayment of such bonds. Joint Powers Authorities such as the CTC JPA have authority to issue revenue bonds in the State of California, and local JPA's have made revenue bond issues in excess of $400 million.[57]

If no federal funding is forthcoming, it would still be possible for the Ports and the JPA to finance the Corridor through the issuance of revenue bonds and increasing fees on cargo to pay off the bonds.[58] Through use of mitigation fees assessed against all cargos to pay off the bonds, costs of the Corridor would be passed on to businesses and consumers throughout the Nation and overseas. While this would be an equitable arrangement in the abstract, it would tend to raise costs at the Ports of San Pedro in comparison to other west coast ports, putting them and their terminal operators at a competitive disadvantage.

Recommended Financing Plan

While there are a wide variety of potential funding sources of varying complexity and size, the recommended financing plan is to concentrate on several major elements, including those already being pursued by the Ports and the JPA.

Table 4
RECOMMENDED FINANCING PLAN
CONSOLIDATED TRANSPORTATION CORRIDOR

	Millions
Consolidated Transportation Corridor	
State Bond Issue Funds	$105
Federal Surface Transportation Assistance Act of 1991	$322
Subtotal available for grade separations and Alameda Street widening	$437
JPA Revenue Bond issue for railroad ROW purchase and improvements	$200
SUBTOTAL	$637
Port Infrastructure Improvements	
Issuance by the two Ports of revenue bonds for street and rail improvements within the Ports.	$297
TOTAL	$934

The foregoing financing plan does not call for contributions by the Corridor cities due to the fact that the principal benefit of the Corridor is to partially, although not entirely, alleviate the adverse impacts of Port generated traffic on the local communities. The improved Alameda Street will bring some benefits to the commercial areas of the cities, but not enough to warrant financing any significant part of the corridor costs.

Conclusion

The Consolidated Transportation Corridor and related rail and highway improvements within the Ports will cost on the order of $899 million in 1989 dollars. The important role the Ports play in the national economy warrants significant investment by the federal government in the Corridor. The amount sought by the JPA is $322 million. The State of California, which also benefits form Port economic contributions, is slated to proved $105 million in funding. The balance will likely be financed through issuance of revenue bonds to be paid off from user fees administered by the JPA and the Ports.

The funding discussed in this Chapter is by no means assured, with even the State funds necessarily going through a formal funding process, and the federal funds subject to the interplay of powerful forces in the U.S. Congress. If the entire project were to be funded through revenue bonds, the attendant increase in charges to users of the Ports could lessen the competitive position

of the Ports of San Pedro and in the long run cause a shift in traffic to northern west coast ports. Further, use of revenue bonds to fund the entire project costs would subtract from the bonding power of the Ports needed to finance other elements of construction under the 2020 Plan.

Thus, while financing is by no means assured, it does appear at this point that there are accessible sources of funding to construct the Consolidated Transportation Corridor.

Chapter VIII

TOWARD MORE RATIONAL DEVELOPMENT

Introduction

This study has intentionally focussed on the long term planning and development of the Ports of San Pedro, the busiest port complex in the United States. It may be useful as well, to give some thought to the future of the Ports of San Pedro beyond the year 2020, and to the circumstances faced by them and other ports throughout the nation.

A variety of significant policy questions come to mind. What is the total national requirement for port capacity through the year 202 and through 2050? To what extent does that capacity currently exist, or is under development? How will the shortfall, if any, be met? Assuming that there is a shortfall in capacity, which ports should be expanded? To what extent can the existing rail and highway systems accommodate such expansion, and what new landside transportation improvements are needed? Who will coordinate these developments to prevent inadequate capacities or wasteful duplication and to ensure that needs of the U.S. economy are met?

None of these important questions will be definitively answered in this Chapter, but some of them will be explored for further consideration by the reader, and a recommendation will be made for future research and action.

Fragmentation of Planning

By the year 2020, it is quite likely that the Ports of San Pedro will have completed the capacity developments called for in their 2020 Plan, including the attendant Consolidated Transportation Corridor, and will be handling more than double their 1990 traffic. The question arises, with the Ports operating at capacity, how will the next year's growth be handled? And what about the years after that? Will there be a 2060 plan for future expansion? We must keep in mind that the Ports and the CTC are located in an urban area that will be even more densely developed in the year 2020 than it is today. While expansion of Port facilities into the ocean through additional landfill creation my be possible, there is no easy way to expand landside transportation. The CTC is not being designed to accommodate future addition of railroad tracks or lanes of highway. Nor is there another route that could readily be developed as a new transportation corridor. The best that could be done would be to develop another railroad's right-of-way into dual tracks with grade separations throughout. That option would be far more expensive than the current CTC and have far greater adverse impacts on residential areas, even if political authorization could be gained and financing secured. It is perhaps more likely that the Ports of San Pedro would gradually concentrate on serving California while allowing freight bound for points east of the Rockies to be handled by other west coast ports -- assuming, of course, that other ports are willing and able to handle the growth.

This is not to take away from the farsighted planning and development initiatives being taken by the Ports of San Pedro. The basic difficulty is that each seaport plans independently of all others -- or, rather, may plan, for not all are noted for long range planning. In a sense, that planning is done in a vacuum, not knowing the plans of competing ports in many cases, and not knowing the systemwide plans of the railroads. Since the ports are public bodies, their approved plans do become public documents, and a diligent port planner can acquire the published plans of its competitors. Nevertheless, these independently conceived seaport plans do not necessarily add up to a rational plan for meeting the nation's needs for seaport and related necessary rail and highway development. This is especially true since some of the smaller ports located in less dense urban areas may lack the sophisticated planning capability needed to project future U.S. demand for imports and exports and allocate that to their own port's potential. An even if they see the potential, they may lack the financial ability to undertake the massive investments that are often needed for significant port capacity expansion.

The Case for Federal Planning

At the risk of drawing too broad a conclusion from a single case, it should be evident that one could expect greater efficiency if there were a national forecast of cargo handling capacity requirements available to all seaports and rail and truck carriers for use in their own planning. It would be reasonable for the federal government to encourage long range planning to meet future capacity requirements, perhaps through a grant program to fund conceptual plans, perhaps on a 40 year horizon to be updated every ten years. These plans, still individually prepared by the ports and taking into account the needs to interface with highways and railroads, could then be reviewed to determine whether the aggregate needs of the nation would be met by their implementation. If the plans taken together proposed greater capacity than needed, then cost-benefit studies could be made to determine which of the ports should be developed and to what degree.

The U.S. Department of Transportation takes the complacent view that past practices have provided nearly all the capacity needed for international trade and fails to recognize that meeting the needs of the next century will be a far more difficult and complex undertaking than meeting the needs of the last century.[59] With a more solid comprehension of the situation, the American Association of State Highway and Transportation Officials recently took the position that "AASHTO urges the Federal Government to develop a National Port and Waterways System which integrates water transportation with its necessary intermodal connections into a surface transportation system."[60]

Assuming a program of long range planning incentives were in operation, the U.S. Department of Transportation could provide funding for port development based on studies of cost and benefits to the nation as a whole, rather than on the current ad hoc basis. It should be possible, under such circumstances, to bring about an efficient meshing of the total transportation requirements for international trade, the seaports and the requisite highway and railroad infrastructures. While such a program of planning and construction incentives might not be large in comparison to highway programs, it could play an important

part in assuring future U.S. capacity for participating in international trade growth.

Recommendation

As the transportation industry is in the process of developing and putting forth its proposals to the federal government for a "2020" policy plan, it would be appropriate for the U.S. Department of Transportation to fund a study aimed at determining the relative merit of a national port planning and development program compared to the present practice of ad hoc port planning. Such a study should give careful consideration to the accomplishments under the present decentralized system of individual initiatives and not propose a new national program unless there is strong evidence to suggest such a program would be a significant improvement over the present method. The views of port directors and planners, as well as highway and railroad experts and experts from the U.S. Army's Corps of Engineers should also be solicited and given considerable weight before arriving at conclusions and recommendations.

Conclusion

The Ports of Long Beach and Los Angeles, the two largest ports on the west coast, have shown remarkable foresight and demonstrated unusual cooperation in developing the 2020 plan for port development, and in their roles in meeting landside requirements through the innovative Consolidated Transportation Corridor. It appears likely that the construction envisioned under these plans will be carried out, greatly modernizing and increasing the capacity of the nation's busiest port complex. These capacity increases will play an important part in enabling the continued growth of U.S. international trade, serving businesses and consumers throughout the United States.

Whether this growth in capacity could more cost-beneficially have been met through development of other west coast ports and their attendant landside infrastructure will probably never be known. It is suggested that a program of national planning for port development needs, which could be locally carried out, could be advantageous in allocating demand among ports so that federal funding priority could be given to those development projects which would provide needed capacity at the lowest net cost, including the costs of mitigation measures as well as impacts on the highway and rail networks.

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APPENDIX A

CONSOLIDATED TRANSPORTATION CORRIDOR JOINT POWERS AUTHORITY AGREEMENT August, 1989

Signature Copy
August, 1989

AGREEMENT NO. _____

JOINT EXERCISE OF POWERS AGREEMENT BETWEEN THE CITY OF LONG BEACH AND THE CITY OF LOS ANGELES TO BE KNOWN AS CONSOLIDATED TRANSPORTATION CORRIDOR JOINT POWERS AUTHORITY

This AGREEMENT, dated _____, 1989, is between the CITY OF LONG BEACH, a municipal corporation, duly organized and existing under a freeholders' charter and the Constitution and laws of the State of California, hereinafter referred to as "Long Beach," and the CITY OF LOS ANGELES, a municipal corporation, duly organized and existing under a freeholders' charter and the Constitution and laws of the State of California, hereinafter referred to as "Los Angeles";

WHEREAS, Long Beach and Los Angeles, acting by and through their respective Board of Harbor Commissioners, to more effectively operate their existing wharf and dock facilities for the promotion and accommodation of commerce, navigation and fishery, and in recognition of their concerns for the movement of commerce and its impact on the communities, require the development of a consolidated transportation corridor and other facilities related thereto; and

WHEREAS, Long Beach and Los Angeles are each empowered by law to acquire, construct, maintain, operate and lease such a corridor and such related facilities; and

WHEREAS, Long Beach and Los Angeles are of the opinion that the street and railroad rights of way areas along Alameda Street between southerly of the Santa Monica Freeway and the San Pedro Bay ports complex hereby made a part hereof, the property should be developed as a comprehensive transportation corridor and all related facilities linking the Port of Long Beach and the Port of Los Angeles to the central Los Angeles area, through an improved railroad and highway network, which may include but is not limited to:

1. The acquisition by purchase, lease, or other appropriate means the railroad right(s)-of-way of an area approximately 150 feet wide and approximately 20 miles long from the central Los Angeles area to the Port of Long Beach and the Port of Los Angeles;

2. The acquisition by purchase, lease, or other appropriate means the railroad right(s)-of-way of an area approximately 150 feet wide with approximately 70 miles of tracks, located within the Port of Long Beach and the Port of Los Angeles;

3. The improvement of railroad tracks and related equipment within and adjoining the right(s)-of-way;

4. The construction of additional railroad tracks;

5. The construction of highway/rail grade separations or depressed railways and the acquisition of related equipment;

6. The providing of site paving, drainage, lighting, fencing and utility systems within and adjoining the right(s)-of-way;

7. The improvement of Alameda Street between State Route 91 and Interstate 10 and adjoining intersections and related public streets to the specifications and requirements of appropriate governmental entities; and

8. The acquisition, construction and installation by purchase, lease or other appropriate means of other properties, real or personal, functionally related and subordinated thereto.

All such facilities shall be collectively within the Consolidated Transportation Corridor (the "CTC") and shall be contained and specified in the Plan of the Consolidated Transportation Corridor (the "Plan of the CTC").

WHEREAS, Long Beach and Los Angeles recognize that while other government entities, the Southern Pacific Transportation Company, the Union Pacific Railroad and the Atchison, Topeka and Santa Fe Railway Company will be responsible for the funding and construction of certain aspects of the CTC, it is the intention of Long Beach and Los Angeles to coordinate these aspects of the CTC; and

WHEREAS, Long Beach and Los Angeles recognize that the cities contiguous to the CTC and the railroads serving the Long Beach and Los Angeles area have certain concerns and interests in the CTC which must be considered and addressed by the Authority; and

WHEREAS, Long Beach and Los Angeles recognize the environmental importance of the CTC to potentially reducing vehicular traffic on existing freeway systems and improving air quality in the Southern California region; and

WHEREAS, it is deemed advisable for Long Beach and Los Angeles to enter into an agreement which will then ensure the implementation of the CTC by the preparation of the Plan of the CTC, exploring alternative methods of financing, acquisition, if necessary, construction, coordination of other governmental efforts and possible operation of the CTC and related facilities.

NOW, THEREFORE, it is agreed as follows:

Section 1. DEFINITIONS.

Except where the context otherwise clearly requires, the capitalized terms in this Joint Powers Agreement shall have the meanings specified in Schedule A attached hereto.

Section 2. PURPOSE.

This Agreement is made pursuant to the provisions of Article 1, Chapter 5, Division 7, Title 1 of the Government Code of the State of California (commencing with Section 6500, hereinafter called "Act") relating to the joint exercise of powers common to Long Beach and Los Angeles. Long Beach and Los Angeles each possess the powers referred to in the recitals hereof. The purpose of this Agreement is to exercise such powers for the implementation of the CTC by exploring alternative methods of financing and developing existing property, coordinating other governmental efforts, and possibly acquiring, constructing, maintaining, operating and leasing of the CTC and related facilities. Such purposes will be accomplished, and said common powers exercised, in the manner hereinafter set forth.

Section 3. TERM.

The term of this Agreement shall be fifty (50) years from the date the last party executes this Agreement.

Section 4. AUTHORITY.

A. Creation of Authority.

Pursuant to Section 6502 of the Act, there is hereby created a public entity separate and independent from the parties hereto, to be known as the "Consolidated Transportation Corridor Joint Powers Authority" (the "Authority") and the Authority shall be a public entity separate and apart from Long Beach and Los Angeles.

B. Governing Board.

The Authority shall be administered by a governing board of fourteen (14) members, each serving in their individual capacities and shall be called the "Governing Board of the Consolidated Transportation Corridor Joint Powers Authority" (the "Governing Board"). Two members are to be appointed by the Board of Harbor Commissioners of the City of Long Beach, and two members are to be appointed by the Board of Harbor Commissioners of the City of Los Angeles. The fifth member shall be the councilperson representing the Harbor District of Los Angeles. The sixth member shall be a councilperson from Long Beach and shall be appointed by the Mayor of Long Beach. The seventh member shall be appointed by the Los Angeles County Board of Supervisors and shall be a member of the Board of Supervisors with an alternative member also appointed by the Board of Supervisors. The eighth member shall be appointed by the Los Angeles County Transportation Commission. The representative of the Los Angeles County Transportation Commission appointed to the Governing Board shall not be a member

of or represent any other appointing authority to the Governing Board. The remaining six members shall be a councilperson appointed by and representing the city councils of the City of Vernon, the City of Huntington Park, the City of Lynwood, the City of South Gate, the City of Compton and the City of Carson, each city selecting one member.

Each member shall serve the terms below specified, at the pleasure of the appointing authority with the exception of the fifth member. Each member of the Governing Board shall serve a five (5) year term, except that the initial (i) terms of members appointed by the Board of Harbor Commissioners of Long Beach shall be a two (2) year term and a three (3) year term as determined by that Board; (ii) terms of members appointed by the Board of Harbor Commissioners of Los Angeles shall be a one (1) year term and four (4) year term as determined by that Board; (iii) the term of the fifth member shall continue so long as that member is the councilperson for the Harbor District of Los Angeles; (iv) terms of the sixth, seventh and eighth members shall be a three (3) year term, a four (4) year term and a five (5) year term to be determined by lot during the first meeting following their appointment; and (v) the terms of the remaining six members shall be a one (1), two (2), three (3), four (4) and two five (5) year terms to be determined by a lot during the first meeting following their appointment. Vacancies during a term and successors following expiration of the term of any member shall be filled in the same manner as the original appointments.

Members shall receive $50.00 per Governing Board meeting as compensation. Compensation for meetings shall be accumulated and will be paid with Authority's Revenues.

There shall be a three (3) member Finance Committee with one member appointed by the Long Beach Board of Harbor Commissioners from its two members, one member appointed by the Los Angeles Board of Harbor Commissioners from its two members, and the third member shall be the appointed member of the Los Angeles County Transportation Commission. The Finance Committee shall review and approve, by a majority vote, all matters involving the expenditure of funds provided by the Ports and/or funds from proceeds of bond issue(s) or other forms of indebtedness incurred or guaranteed directly or indirectly by the Ports prior to any action being taken by the Governing Board with respect to the use of those funds. Any decision of the Finance Committee regarding the expenditure of funds shall also be approved by the Governing Board. Funding received from any other source will not require review by the Finance Committee prior to consideration by the Governing Board. All funds received for implementation of the CTC can only be authorized and allocated in accordance with the Plan of the CTC.

The Governing Board shall authorize the expenditure of any and all Revenues of the CTC. Authorized expenditures shall include payments toward incurred debt, operations and maintenance of the CTC, expansion and construction of the facilities identified in the Plan of the CTC, reimbursements of member contributions, and other obligations.

C. Meetings of the Governing Board.

(1) Regular Meetings.

The Governing Board shall provide for its regular, adjourned regular and special meetings; provided, however, it shall hold at least one regular meeting in each year. The dates upon which, and the hour and place at which, any regular meeting shall be held shall be fixed by resolution and a copy of such resolution shall be filed with each member of the Governing Board, the Boards of Harbor Commissioners of Long Beach and Los Angeles, the Los Angeles County Board of Supervisors, the Los Angeles County Transportation Commission and the Mayors of Long Beach, Los Angeles, Vernon, Huntington Park, South Gate, Lynwood, Compton and Carson.

(2) Ralph M. Brown Act.

All meetings of the Governing Board, including without limitation, regular, adjourned regular and special meetings, shall be called, noticed, held and conducted in accordance with the provisions of the Ralph M. Brown Act (commencing with Section 54950 of the Government Code).

(3) Minutes.

The Secretary of the Governing Board shall cause to be kept minutes of the meetings, and any notices thereof, both regular, adjourned regular and special, and shall, as soon as possible after each meeting, cause a copy of the minutes to be forwarded to each member of the Governing Board, to the Boards of Harbor Commissioners of Long Beach and Los Angeles, to the Los Angeles County Board of Supervisors, to the Los Angeles County Transportation Commission and to the Mayors of Long Beach, Los Angeles, Vernon, Huntington Park, South Gate, Lynwood, Compton and Carson.

(4) Quorum.

A majority of the Governing Board shall constitute a quorum for the transaction of business, and a majority of the quorum present is required to take any action, except that less than a quorum may adjourn.

D. Officers.

The Governing Board shall elect one member the Chairman of said board and one member the Vice-chairman for its first year of operation or portion thereof and thereafter as of each successive July 1, the Governing Board shall elect a Chairman and Vice-chairman. The Governing Board shall appoint a Secretary who shall keep the official records and correspondence of the Authority. The Treasurer of the Authority and the Auditor/Controller of the Authority shall be selected in accordance with Section 6505.5 and Section 6505.6 of the Government Code. The Governing Board shall appoint an Executive Officer from the staffs of either Port who shall be responsible for the administration of the Authority and a General Counsel from the City Attorney's Office of Long Beach and/or Los Angeles who shall provide legal advice to the Authority. The Port of Long Beach or the Port of Los Angeles shall provide the staffs for and

to the Executive Officer, Treasurer, Auditor, Controller, Secretary and General Counsel positions until such time as the Authority has sufficient financial resources through its own Revenues, at which time these positions may be filled by staffs of any agency represented on the Governing Board.

E. Railroad Advisory Board.

The Authority shall establish an advisory board which will consider and make recommendations to the Governing Board on matters pertaining to development of the Plan of the CTC and implementation of the CTC. The advisory board shall be designated the Advisory Railroad Operational Board of Control ("AROBOC"). AROBOC will assist in the development of the Plan of the CTC and provide for the management, coordination and scheduling of operations of the rail aspects of the CTC. AROBOC shall consist of three (3) members, one member appointed by the Southern Pacific Transportation Company, one member appointed by the Atchison, Topeka & Santa Fe Railway Company, and one member appointed by the Union Pacific Railroad and any successors to the three railroads presently serving the Port of Long Beach and the Port of Los Angeles. AROBOC shall advise and make recommendations to and work closely with the Authority concerning all rail aspects of the CTC, prepare rail schedules and rail tariffs and resolve conflicts between the various railroads and make recommendations concerning possible contract operations.

Section 5. POWERS.

The Authority shall have the powers common to Long Beach and Los Angeles necessary for the development of the Plan of the CTC and the implementation of the CTC and related facilities and any other powers authorized by the Act, to wit: acquiring, constructing, reconstructing, rehabilitating, maintaining in whole or in part, and leasing or selling, in whole or in part, land, facilities and appurtenances necessary or convenient for the development and operation of a CTC, including the acquisition of such land, facilities, or appurtenances by lease, contract, or purchase or disposal of land by lease of any property of Authority; and to incur debts, liabilities or obligations required by the exercise of these powers which do not constitute debts, liabilities or obligations of Long Beach or Los Angeles, and to sue and be sued in its own name. The Authority shall further have the power to operate or cause to be operated facilities which have been acquired or constructed or caused to be acquired or constructed in whole or in part by the Authority together with the buildings and appurtenances necessary thereto. Said powers shall be exercised in the manner provided in said Act and, except as expressly set forth herein, subject only to such restrictions upon the manner of exercising such powers as are imposed upon the City of Los Angeles in the exercise of similar powers. The Authority may also issue revenue bonds or other evidence of indebtedness, pursuant to Article 2, Chapter 5, Division 7, Title 1 of the Government Code of the State of California (commencing with Section 6540, hereinafter called the "Bond Act") and any other applicable laws of the State of California, whether heretofore or hereafter enacted or amended.

Section 6. FISCAL YEAR.

The term "Fiscal Year" shall mean the Fiscal Year of the Authority as established from time to time by the Governing Board, being at the date of this Agreement the period from July 1 to and including the following June 30.

Section 7. DISPOSITION OF ASSETS.

At the end of the term hereof or upon the earlier termination of this Agreement, after three hundred (300) days' written notice of intent to terminate given by either party to the other and to the Authority, all real and personal property of the Authority, which is not removed by any third party operator of CTC or member of Authority who provided or contributed the real or personal property shall be sold by the Authority to the highest bidder with either party or member of the Authority having the right of first refusal based on the appraisal process set forth herein prior to the bidding process.

At least two hundred and seventy (270) days prior to the end of the term (whether by lapse of time or otherwise), each party shall appoint an appraiser and give notice to the other party of the appraiser appointed. The two appraisers shall appoint a third. If either party shall not have notified the other in writing of the appointment of its appraiser, the presiding judge of the Superior Court of the State of California for the County of Los Angeles shall, upon the request of either party, appoint the appraiser for the other party so in default. If the two appraisers so chosen shall be unable to agree upon this third appraiser within ten (10) days after the appointment of the second appraiser, the third appraiser shall be appointed by the presiding judge. Any vacancy shall be filled by the party who made the original appointment to the vacant place.

The appraisers shall file their opinions concerning the value of all real and personal property in writing with the parties within ninety (90) days after the appointment of the third appraiser. Such opinion shall take into consideration all of the factors and data relating to such value which may properly be considered in determining the fair value of all real property under the laws of eminent domain in the State of California. In the event any appraiser fails to file his opinion within said ninety (90) days, a new appraiser shall be appointed in the manner prescribed above. Upon the filing of the three opinions, the parties shall properly set a date for, and on said date, hold a public hearing. At such hearing, said opinions and such other evidence of the fair market value of all real and personal property as may be presented by the parties or others shall be received and considered. Based upon such evidence, the value of all real and personal property and the division of the other property of the Authority shall be fixed by the appraisers. This appraisal shall then be used by the parties as the basis for disposition of assets by sale to one party or the other or the sale of parts to one party or the other.

Each party shall pay the costs and expenses of the appraiser appointed by it together with fifty percent (50%) of the costs and expenses of the third

appraiser.

If for any reason neither party nor member of Governing Board elects to purchase the assets or any part thereof within the time period specified above, all real and personal property shall then be sold to the highest bidder or bidders. Any sale to a third party shall reserve for the benefit of the Ports of Long Beach and Los Angeles, the railroads then serving said Ports and the members of the Authority, such trackage rights as may be deemed reasonably required to assure that the purposes for which the Authority was created will be protected and implemented in perpetuity. Prior to such sale any real and personal property contributed by a party and the members of the Authority shall be returned to that party or members of the Authority. Any surplus cash after liquidation of all debts shall be distributed proportionately to the party or the member of the Governing Board contributing cash to the Authority.

Section 8. PLAN OF THE CTC, DESIGN AND CONSTRUCTION.

The Authority shall be responsible for the preparation of, coordination for, and approval of the Plan of the CTC. This plan shall address and analyze all practical aspects of how the CTC should be designed and operated including alternative rail, highway routings and prioritization of the plan's elements.

The Authority upon approval of the Plan of the CTC may commence the implementation of it in such phases as desired for implementation and construction of the CTC. However, said design plans for development must be in accordance with the certified environmental documents prepared in accordance with the California Environmental Quality Act, and or the National Environmental Policy Act and guidelines thereto for the development of the CTC. The Authority shall complete said design plans in accordance with the Plan of the CTC and then provide for the construction of the CTC and any ancillary structure or structures and site improvements shown on said plans. The Authority may also have design plans prepared for subsequent use, bid and award of one or more construction contracts by other authorized governmental entities.

The construction documents including design plans for the CTC and any ancillary structure or structures and site improvements shall be approved by the Authority if said improvements are to be constructed through contracts awarded by the Authority. The Authority shall call for competitive bids to let construction contracts for the CTC.

The construction contracts awarded by the Authority shall be administered by the Authority or its designee. The Authority shall establish procedures for the administration of such contract or contracts, the inspection and testing of materials and other contractual construction procedures.

The Authority shall reserve the right to make changes in the work in any construction contract or contracts. Said changes shall be made in the following manner:

A. By written modification of the construction contracts or contracts

ordered by the Authority.

B. By written change order signed by the Authority, its Executive Officer or designee.

C. Any change order issued by the Authority's Executive Officer or designee for changes in the work shall be limited to the extent permitted by law, but in no event exceed $100,000 or ten percent (10%) of the original contract amount, whichever is less. Any change order exceeding $100,000 must receive authorization from the Authority.

Section 9. REVENUE BONDS.

The Authority may issue revenue bonds in accordance with the Bond Act or other applicable law for the issuance of such bonds or other evidence of indebtedness (the "bonds") for the purpose of exercising its powers including refunding all or any of the bonds issued and raising funds necessary to carry out its obligations under this Agreement. Said bonds may be issued in one or more series to match construction phases, for refunded purposes or may be authorized in different amounts at different times.

The sale and issuance of such bonds by the Authority and any resolution authorizing such issuance shall be subject to the prior approval by resolution or ordinance of the Council of the City of Long Beach and the Council of the City of Los Angeles upon request by their respective Boards of Harbor Commissioners pursuant to Section 6547 of the Government Code. The refunding of any such bonds shall only require the approval of the Authority.

It is anticipated that such bonds will be payable from Revenues generated from the CTC, from one or more pledges of revenues from the Board of Harbor Commissioners of Long Beach and Los Angeles or pledges of revenues from other responsible agencies or, in addition, from any other legally available funds.

Section 10. CONTRIBUTIONS.

During the planning and organization of the Authority and after the formation of the Authority, the Ports have and will use public funds, personnel and equipment in furtherance of the objectives and purposes set forth in this Agreement. Pursuant to Government Code Sections 6504, 6512.1 and related provisions, the Authority is empowered after issuance of the bonds or after the receipt of monies from any other source to reimburse the Ports or other members of the Governing Board for all reasonable payments, advances, use of personnel and equipment which were provided prior to and after the issuance of the bonds or after receipt of monies from any other source. Such costs for personnel shall include actual costs of all services performed by officers and employees of Long Beach and Los Angeles, including burden and overhead costs, computed in accordance with the standard overhead rate procedure provisions of the Ports for

all officers and employees performing such services.

Section 11. CONSULTANTS.

Any contracts of Long Beach and/or Los Angeles with bond counsel, financial consultants, engineers, architects, and other consultants and advisors working on the CTC and/or its financing shall be binding on the Authority. Subject to limitations imposed by law, including but not limited to, the Internal Revenue Code of 1986, as amended, and any rules and regulations promulgated thereunder, the fees and expenses of such bond counsel, financial consultants, engineers, architects and other consultants and advisors incurred by Long Beach and/or Los Angeles before or after issuance of the bonds may be paid or reimbursed from the proceeds of such issue or from the receipt of monies from any other source.

Section 12. PERSONNEL.

The Authority shall request from the Port of Long Beach and/or the Port of Los Angeles the services of their personnel to serve the Authority ex-officio as may be necessary to carry out this Agreement and shall have the power to employ professional and technical assistance for the performance of this Agreement provided that adequate sources of funds are assured therefor. The cost of such personnel used by the Authority shall be reimbursed by the Authority in accordance with Section 10.

Section 13. ACCOUNTS AND REPORTS.

To the extent not covered by the duties assigned to any trustee, the Treasurer of the Authority shall establish and maintain such funds and accounts as may be required by good accounting practice or by any provision of any resolution of the Authority securing its bonds. The books and records of the Authority in the hands of the trustee or the Treasurer shall be open to inspection at all reasonable times. The Authority shall cause to be prepared annually a financial and operating report which shall be submitted to each member of the Governing Board, to the Boards of Harbor Commissioners of Long Beach and Los Angeles, to the Los Angeles County Board of Supervisors, to the Los Angeles County Transportation Commission and to the Mayors of Long Beach, Los Angeles, Vernon, Huntington Park, South Gate, Lynwood, Compton and Carson. The Authority, within 120 days after the close of each fiscal year, shall give a complete written report of all financial activities for such fiscal year to each member of the Governing Board, to the Boards of Harbor Commissioners of Long Beach and Los Angeles, to the Los Angeles County Board of Supervisors, to the Los Angeles County Transportation Commission and to the Mayors of Long Beach, Los Angeles, Vernon, Huntington Park, South Gate, Lynwood, Compton and Carson. The Auditor/Controller of the Authority shall cause an annual independent audit of the accounts and records of the Authority to be made by a certified public

accountant, all in accordance with and at the time or times required by law. Any trustee appointed under any resolution of issuance of the bonds of the Authority shall establish suitable funds, furnish financial reports and provide suitable accounting procedures to carry out the provisions of said resolution. Said trustee may be given such duties in said resolution as may be desirable to carry out this Agreement.

Section 14. FUNDS.

Subject to the applicable provisions of any indenture or financing agreement, which may provide for a trustee to receive, have custody of, and disburse Authority funds, the Treasurer of the Authority shall: (i) have the custody of and disburse Authority funds pursuant to the accounting procedures developed under Section 12 hereof, and (ii) as nearly as possible in accordance with generally accepted accounting procedures, make the disbursements required by this Agreement or to carry out any of the provisions or purposes of this Agreement.

Section 15. CALIFORNIA ENVIRONMENTAL QUALITY ACT AND NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE IS A CONDITION PRECEDENT TO THE CTC.

This Agreement describes a proposed Consolidated Transportation Corridor project and allocates responsibilities for its implementation. Entering into this Agreement does not constitute an adoption of the project or a commitment to carry out the project as those terms are used in the California Environmental Quality Act, Public Resources Code Section 21000 et seq. ("CEQA") and the National Environmental Policy Act, 42 U.S.C. Section 4321 et seq. ("NEPA"). Prior CEQA and NEPA compliance is a condition precedent to any party being committed to carry out any obligations set forth in this Agreement for which such compliance is required.

Section 16. NOTICES.

Notices hereunder shall be sufficient if delivered to:

Long Beach
Executive Director
Long Beach Harbor Department
P.O. Box 570
Long Beach, CA 90801

Los Angeles - Executive Director
Port of Los Angeles
P.O. Box 151
Los Angeles, CA 90733-0151

Authority - Secretary - At such address as Governing Board shall designate for such purpose.

Section 17. MISCELLANEOUS.

The section headings herein are for convenience only and are not to be construed as modifying or governing the language in the section referred to.

Whenever in this Agreement any consent or approval is required the same shall not be unreasonably withheld.

This Agreement is made in the State of California under the Constitution and laws of such State and is to be so construed.

Section 18. SEVERABILITY.

Should any part, term, portion or provision of this Agreement be by the courts decided to be illegal or in conflict with any law of the State of California, or otherwise be rendered unenforceable or ineffectual, the validity of the remaining parts, terms, portions or provisions shall be deemed severable and shall not be affected thereby, provided such remaining portions or provisions can be construed in substance to continue to constitute the agreement that the parties intended to enter into in the first instance.

Section 19. SUCCESSORS.

This Agreement shall be binding upon and shall inure to the benefit of the successors of the parties.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed and attested by their proper officers thereunder duly authorized, and their official seals to be hereto affixed, as of the day and year first above written.

CITY OF LONG BEACH, a municipal corporation

_____, 1989 By_____
City Manager

Approved as to form this _____ day of _____, 1989.

JOHN R. CALHOUN, City Attorney

By_____
EINAR PETERSEN
Senior Deputy

Ratified and Approved by the Board of Harbor Commissioners of the City of Long Beach this ____ day of _____, 1989 by Resolution No. HD-____.

BOARD OF HARBOR COMMISSIONERS
of the City of Long Beach

By_____
Acting Executive Director
Long Beach Harbor Department

Attest_____
Executive Secretary

CITY OF LOS ANGELES, a municipal corporation, acting by and through its Board of Harbor Commissioners

_____, 1989

By_____
Executive Director
Port of Los Angeles

Attest_____
Board Secretary

APPROVED AS TO FORM
_____, 1989
JAMES K. HAHN, City Attorney

By_____
GERALD F. SWAN, Assistant

6/5/89
stored: ctc.agt

SCHEDULE A

Act shall mean the Joint Exercise of Powers Act of the State of California, being California Government Code Sections 6500-6579.5, inclusive, as amended and supplemented.

Agreement shall mean the Joint Exercise of Powers Agreement by and between the Cities as originally executed and as supplemented and amended.

Authority shall mean the Consolidated Transportation Corridor Joint Powers Authority, a joint powers authority created by Long Beach and Los Angeles in accordance with the Joint Powers Agreement and the Act.

Cities shall mean Long Beach and Los Angeles.

CTC shall mean the Consolidated Transportation Corridor which is a program of a series of public street, railroad and other related construction improvements to facilitate the movement of both international and domestic cargoes through the Ports, the movement of people and the lessen impacts on the Members of the Authority of the projected increases in train movements and track and vehicular traffic.

Governing Board shall mean the Governing Board of the Authority established pursuant to the Joint Powers Agreement as constituted from time to time.

Long Beach shall mean the City of Long Beach, a charter city and municipal corporation duly organized and existing under a freeholders' charter and the Constitution and laws of the State of California.

Los Angeles shall mean the City of Los Angeles, a charter city and municipal corporation duly organized and existing under a freeholders' charter and the Constitution and laws of the State of California.

Parties shall mean the Cities.

Plan of the CTC (Consolidated Transportation Corridor) shall mean a concise, comprehensive report with drawings in sufficient detail to indicate the scope and extent of the improvements to be constructed for all elements within the CTC with said report approved by the Governing Board.

Ports shall mean the Port of Long Beach, and the Port of Los Angeles.

Port of Long Beach shall mean the Harbor Department, the City of Long Beach.

Port of Los Angeles shall mean the Harbor Department, the City of Los Angeles.

Revenues shall mean all receipts, income and other money received by the Authority from and or for the operation, use, passage or transit of all or part of the CTC as may be described, assigned or levied by the Governing Board.

APPENDIX B

SURVEY OF RAIL CONSOLIDATION EFFORTS

By:

Kurt Brodke
Graduate Assistant
Graduate Center for Public Policy and Administration
California State University, Long Beach

November, 1989

APPENDIX B

SURVEY OF RAIL CONSOLIDATION EFFORTS

Purpose and methodology of the Survey:

The Los Angeles/Long Beach rail consolidation effort involves a mixture of government agencies working toward a common goal. The decision-making apparatus for the consolidation plan is composed of the cities of Los Angeles and Long Beach working through their respective port authorities in cooperation with various cities and rail carriers.

In order to ascertain if the consolidation plan is unique to the Los Angeles/Long Beach region and if other ports across the United States are involved in similar efforts, a survey was sent to 30 ports across the United State in June of 1989. The survey asked three questions:

Q1. Has your port in the past combined rail service from two or more lines into a single rail line? (Yes or No).

Q2. Is your port currently served by two or more railroad lines? (Yes or No.)

Q3. If "yes" to 2 above, are there discussions of plans to combine rail service on a single railroad line? If "Yes", please describe the plan briefly...

Twenty-five of the 30 surveys were returned for a response rate of 83 percent. Table I summarizes port responses to the survey questions.

Follow-up phone calls were made to port officials regarding the survey responses. Not all ports were contacted, however. Ports which indicated "no" to questions one and two were excluded from the follow-up contact. Priority for the contacts was given to ports which indicated "yes" to questions one and two. Lower contact priority was assigned to ports which answered "yes" to either questions one or two.

The port officials were asked during the phone interviews to briefly describe the past and/or ongoing rail consolidation efforts. Answers varied, of course, based on local history and current political climate. Exhibit I details the responses given by the port officials interviewed.

Interview Conclusions

The interview responses indicate that the Los Angeles/Long Beach rail consolidation effort is unique to the Southern California area. Although reasons for this are not examined here, possible reasons include local history, land use patterns, and transportation networks. These factors have influenced the events leading up to the rail consolidation effort.

Different types of rail consolidation efforts are indicated in the interviews with port staff. In the Los Angeles, Long Beach plan, the ports are serving as intermediaries in the process. The actual legal agreement is between the cities of Los Angeles and Long Beach. Each city is using its respective port authority to facilitate the project.

Other types of rail consolidation efforts by different ports across the United States include:

-Port operated rail service: In this type of arrangement, the port owns and operates its own switching carrier. Several ports attempted to consolidate rail traffic through their respective belt line railroads.

-Port contracts with a private switching carrier for switching responsibility.

-Port and railroads form an Association to serve switching needs. In Houston's case, the Port and five railroads form an Association which meets switching needs.

None of these examples involve the complexity of the Los Angeles/Long Beach effort. They do, however, provide examples of possible institutional arrangements for consolidation. In most cases, consolidation involved either using a port-owned belt-line railroad, a private switching carrier, or an association of member railroads and the port.

TABLE I

SUMMARY OF QUESTIONNAIRES RETURNED

	PORT NAME	STATE	Q1:	Q2:	Q3:
1	Oakland	CA	N/A	Yes	N/A
2	Sacramento	CA	No	Yes	No
3	Richmond	CA	Yes	Yes	No
4	Humboldt	CA	No	No	N/A
5	San Diego	CA	No	Yes	No
6	Miami	FL	Yes	No	N/A
7	New Orleans	LA	No	Yes	No
8	Baltimore	MD	Yes	Yes	N/A
9	Detroit	MI	Yes	Yes	No
10	New York and New Jersey	NY	Yes	Yes	No
11	Toledo-Lucas County	OH	No	No	Yes
12	Cleveland-Cuyahoga County	OH	No	No	N/A
13	Coos Bay	OR	No	No	N/A
14	Astoria	OR	No	No	N/A
15	Philadelphia	PA	No	Yes	No
16	Houston	TX	Yes	Yes	N/A
17	Galveston	TX	No	Yes	No
18	Beaumont	TX	Yes	Yes	N/A
19	Anacortes	WA	No	No	N/A
20	Port Angeles	WA	No	No	N/A
21	Seattle	WA	No	Yes	No
22	Everett	WA	No	No	N/A
23	Bellingham	WA	No	No	Yes
24	Olympia	WA	No	No	No
25	Tacoma	WA	Yes	Yes	Yes

SUMMARY STATISTICS

		Q1:	Q2:	Q3:
Frequency of response:	Yes	8	14	3
	No	16	11	10
	N/A	1	0	12
	Total 25	25	25	
Percentage of response:	Yes	32%	56%	12%
	No	64%	44%	40%
	N/A	4%	0%	48%
	Total 100%	100%	100%	

EXHIBIT I

SUMMARY OF SELECT PORT RAIL PROJECTS IN THE U.S.

Port of Tacoma, WA

The port of Tacoma, Washington is currently served by a "belt line" railroad. The line is owned by the City of Tacoma through their public utilities authority and serves as a switching station for some 70 different industries which are located on the belt line property. The Tacoma Municipal Belt Line is a tariff railroad with its own rates and structure. Other rail carriers do not operate on the Line. The carrier has its own union contracts and operates autonomously. Other railroads deliver and pick up rail cars from the entity. The belt line is made up of 24 miles of track, and serves industries including the Port of Tacoma. About four years ago, the Port created a trial merger with the belt line for rail service to the Port's industry areas -- Port docks, warehouses, etc. The trial merger basis is still active.

The belt line currently conducts approximately $5 million a year worth of business. The City of Tacoma receives approximately eight percent of the yearly gross revenues or $400,000.

The belt line was started by the City of Tacoma in 1914 on trackage from a street car company owned by the City. From there it evolved into a short line industrial switching railroad. In the early 1900's, it was a street car company with some trackage to take workmen from the residential area of Tacoma to the port docks where they worked. The street cars gradually went out of existence but the trackage remained. It gradually evolved into its present position as an industrial switching carrier.

[Based on interviews with Paul Chilcote, Director of Strategic Planning, Port of Tacoma, WA and Gary Munson, Assistant Superintendent for the Tacoma Municipal Belt Line, August 1, 1989.]

Philadelphia Port Corporation, PA

Although the Philadelphia Port Corporation is not currently involved in any rail consolidation efforts, it is attempting to develop an intermodal yard with CSX and Conrail. CSX approached the Port officials in the past and expressed an interest in developing an intermodal yard. Unfortunately the Port land which is available for development does not meet the needs of a large intermodal yard. Other land which was available is currently owned by Conrail. According to a Port Official, Conrail has been reluctant to enter into an agreement with the Port and a competitor (CSX) over the development of a large intermodal yard. Negotiations are still in progress for the development of the intermodal facility.

[Based on an interview with Daniel Zibman, Marketing Director, Philadelphia Port Corporation, August 2, 1989.]

Toledo-Lucas County Port Authority

The Toledo-Lucas County Port Authority has discussed the possibility of a regional service railroad operating on the Port Authority's facilities. The Port owns about 650 acres which could be used for this purpose. However, CSX has exclusive switching rights for the property and has been reluctant to share these rights with other carriers. Carriers who want to use this property must pay a premium of $305 or $385 per rail car, which has kept the cost of operation too high for most cargo. The Port is in the process of discussing with CSX the possibility of having Ann Arbor Railroad, a small service switching carrier which has access to all four area railroads, use the Port property for a regional service railroad. The advantage to the Port would be access to all four major rail carriers in the area, greater market share, and increased efficiency. According to a Port official, the larger carriers tend to be less efficient when it comes to switching and service rail primarily because their largest market share comes from long rail hauls. A smaller rail line with a limited service area and purpose would be able to perform the operation more efficiently. Congestion would move off the docks faster, and the operation could be performed at less cost. Additionally, smaller carriers tend to be more careful in their negotiation of labor contracts; labor is often less expensive than the larger carriers.

[Based on an interview with John M. Loftus, Seaport Director, Toledo-Lucas County Port Authority, September 6, 1989.]

Port of Houston, TX

The Port of Houston is currently served by the Port Terminal Railroad Association. The Association is composed of five member railroads and the Port Authority. The Association provides switching on a neutral basis over right-of-way leased from the Port Authority. The Association was formed in the 1920's in order to facilitate the flow of rail traffic in and out of the Port. It provides equal access to industries in the area by the five member railroads. Assessment for rolling stock is by type and amount of cargo. Each line provides its own maintenance. The Port receives no revenues from the Association. According to a Port official, one of the reasons Houston handles such large traffic volumes is because of the smooth flow of traffic made possible by the Association.

[Based on an interview with James Pugh, Executive Director, Port of Houston, TX, September 7, 1989.]

Port of Beaumont Navigation District of Jefferson County, TX

The Port of Beaumont assumed switching responsibility from the four delivering carriers in 1986. The carriers drop off rail cars in the Port's exchange yard. A contractor employed by the Port switches the cars to the wharves and docks and back to the exchange yard when finished. Prior to 1986, the carriers had the responsibility of placing their rail cars at different areas

around the Port. The current contractor is paid a flat monthly fee for the switching service; the cost is passed through the Port to the carriers based on the percent of total cars the carriers have in place. The Port owns the trackage the contractor uses for switching services. Cost savings was the reason the Port decided to use a contractor for the switching services. The contractor could provide the service more economically than the carriers. The contract between the Port and the contractor includes track maintenance in addition to the switching responsibility.

[Based on an interview with Mark L. McAndrews, Marketing Representative, Port of Beaumont Navigation District of Jefferson County, TX, date of interview not available]

Port of Baltimore, MD

Although the Port of Baltimore has not been involved in any rail consolidation activity, significant private carrier consolidation has occurred in the region within the past five years. The Northeast rail corridor stretches from Washington, D.C. to Boston. Until several years ago, Amtrack and Conrail operated on the same trackage. Conrail's activity mainly involved freight transport. Unfortunately, the mixture of commuter and freight traffic led to significant congestion. The culmination of the congestion was an accident between Conrail and Amtrack cars several years ago. Under the direction of the Federal Railroad Administration, Conrail diverted its freight traffic to CSX rail lines. The CSX line runs parallel to the Northeast corridor from Washington, D.C. to Philadelphia. Conrail entered into an agreement with CSX for use of the trackage. The consolidation of the rail traffic, therefore, was motivated by congestion and safety considerations based on incompatible rail use (commuter versus freight).

[Based on an interview with David Ziolkowski, Manager of Intermodal Pricing and Tariffs, Port of Baltimore, November 10, 1989.]

Port of San Francisco, CA

The Port of San Francisco's effort at rail consolidation occurred in 1983-84 when the Port-owned San Francisco Belt Railroad attempted to consolidate rail traffic through the entire City of San Francisco. Three rail carriers were involved in the effort, the Southern Pacific, The Santa Fe, and the Western Pacific (now the Union Pacific). The attempt failed, however, because one of the carriers would not acquiesce to the agreement. The remaining two carriers were willing to participate but only if all three carriers were involved.

[Based on an interview with Lynn Cecil, Executive Vice-President of Kyle Railways, January 18, 1990.]

APPENDIX C

FINANCING THE CONSOLIDATED TRANSPORTATION CORRIDOR: A COMPREHENSIVE STUDY

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May 10, 1990

FINANCING THE CONSOLIDATED TRANSPORTATION CORRIDOR:

A COMPREHENSIVE STUDY

BY

ROBERT LOWERY HANKS, JR.

SUBMITTED IN SATISFACTION OF REQUIREMENTS FOR DIRECTED RESEARCH
SPRING TERM, 1990

PRESENTED TO DR. PETER SHAW, PROFESSOR OF PUBLIC POLICY AND ADMINISTRATION
CALIFORNIA STATE UNIVERSITY, LONG BEACH
MAY 10, 1990

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EXECUTIVE SUMMARY

This paper will focus on financing alternatives and techniques for the construction of the consolidated rail transportation corridor project along Alameda Street in Los Angeles County.

The project had its genesis in the early 1980's, with the realization that the ports of Los Angeles and Long Beach would be experiencing near exponential growth in cargo traffic, due primarily to increased trade with the Pacific Rim nations. Advances in container technology, and the concomitant need for on-dock or near-dock rail transfer facilities pointed to the need for greater attention being given to port access issues. In addition, increased citizen awareness and concern in alternative land uses, environmental concerns, and problems associated with ever-increasing levels of traffic congestion along Southern California's freeways led to hard questions about the role and nature of ports and port access. A study conducted by the Southern California Association of Governments (SCAG) in 1984 evaluated a number of alternatives for improving rail freight access to the Ports of Los Angeles and Long Beach, concluding that the best strategy for minimizing adverse impacts of Port-generated rail traffic would be to consolidate the train traffic serving the two facilities onto the Southern Pacific San Pedro rail branch, which parallels Alameda Street.[1] These three lines-the Southern Pacific, the Santa Fe, and the Union Pacific-are the nation's three largest railroads.

In 1987, the Southern Pacific, in joint venture with the Cities of Los Angeles and Long Beach through their respective harbor commissions,

constructed the world's largest intermodal container operation, referred to as the Intermodal Container Transfer Facility, or ICTF. The 200 acre facility, now fully developed by the Southern Pacific, is located approximately 4 miles from the port complexes. This facility was and remains the most advanced of its kind, inasmuch as its operations are almost totally automated from truck check-in to departure. The ICTF has been extremely successful, and represents an important step forward in reducing the number of trucks on Southern California highways destined to and from the two ports.

From its dedication in 1987, the ICTF has represented an important innovation in the movement of cargo from truck to rail, by specializing in container on flat car (COFC) movements only. Its success has not, however, overshadowed the continuing need for improved configurations and technology for rail port to loading operations; hence this paper.

This effort will represent an extension of the excellent research report issued by the California Transportation Commission in February, 1990, entitled Improving Access to California's Ports, which did devote a substantial and thoughtful portion of its contents to financing alternatives for port or port-related projects statewide. The focus in this paper, as mentioned previously, will be on the proposed consolidated transportation corridor project in Southern California, with the intent being to provide an overview of alternatives for financing the consolidation of the physical line facilities of three railroads under the governing authority of the Consolidated Transportation Corridor/Joint Powers Authority (hereafter referred to as the CTC/JPA).

Introduction: Structure of the Consolidated Transportation Corridor Joint Powers Authority

The CTC/JPA was created in 1989 by the Cities of Los Angeles and Long Beach to take the lead in planning and construction of the Corridor project. The composition of the CTC/JPA is broad-based; both the two major corridor cities, through their respective harbor commissions; a representative of the Los Angeles County Board of Supervisors, the Los Angeles County Transportation Commission (LACTC); six additional cities along the Corridor (Compton, South Gate, Huntington Park, Vernon, Carson, and Lynwood), and the California Department of Transportation (CALTRANS).[2]

It should be stressed, however, that the Cities of Long Beach and Los Angeles comprise the governing nucleus of the CTC/JPA, and as charter cities, have the greatest ability to access financing through the capital markets (discussed more fully later in the paper). Report recommendations on financing alternatives will be mindful of the challenges of, nevertheless, coordinating all of these entities, and sensitive to the varying degree that these entities could potentially contribute to the project from a fiscal perspective.

Financing recommendations will be developed through evaluation of: (1) potential access to the capital markets; (2) federal funding potential; (3) state funding potential; (4) local government contributions; (5) user fees and assessments at the Ports, and (6) rail line contributions.

Portions of the project have already been funded through the Surface Transportation Assistance Act of 1982, and are nearing completion. Approximately $58 million was authorized by Congress to widen and reconstruct Alameda Street connecting the Terminal Island Freeway (SR 47) to the San Diego Freeway (I-405) four miles to the north.[3] This activity

represents phase I improvements, whereas phase II funded by Congress in 1987 in the amount of $59 million, provides for extension of the Alameda Truckway to the Artesia Freeway (SR-91). Also funded are the widening of the Gerald Desmond Bridge, widening of Ocean Boulevard on Terminal Island, and construction of additional ramps at the Interstate 710 (I-710)/ Ocean Boulevard Interchange.[4]

In terms of financing the cost of the consolidated transportation corridor, history may well be in the making. In April, 1990, representatives of the CTC/JPA and elected officials of the Los Angeles and Long Beach City Council traveled to Washington, D.C. to meet with representatives of their respective congressional delegations. An important part of the local delegation's proposal was a request for $332 million in Federal assistance (through reauthorization of the Surface Transportation Assistance Act, scheduled for 1991). If the delegation is successful, the bulk of the $790 million estimated project cost will be borne in whole or in part by the Department of Transportation.

Let's now take a closer look at the project from the standpoint of geographic location, proposed direct and indirect benefits, and other factors.

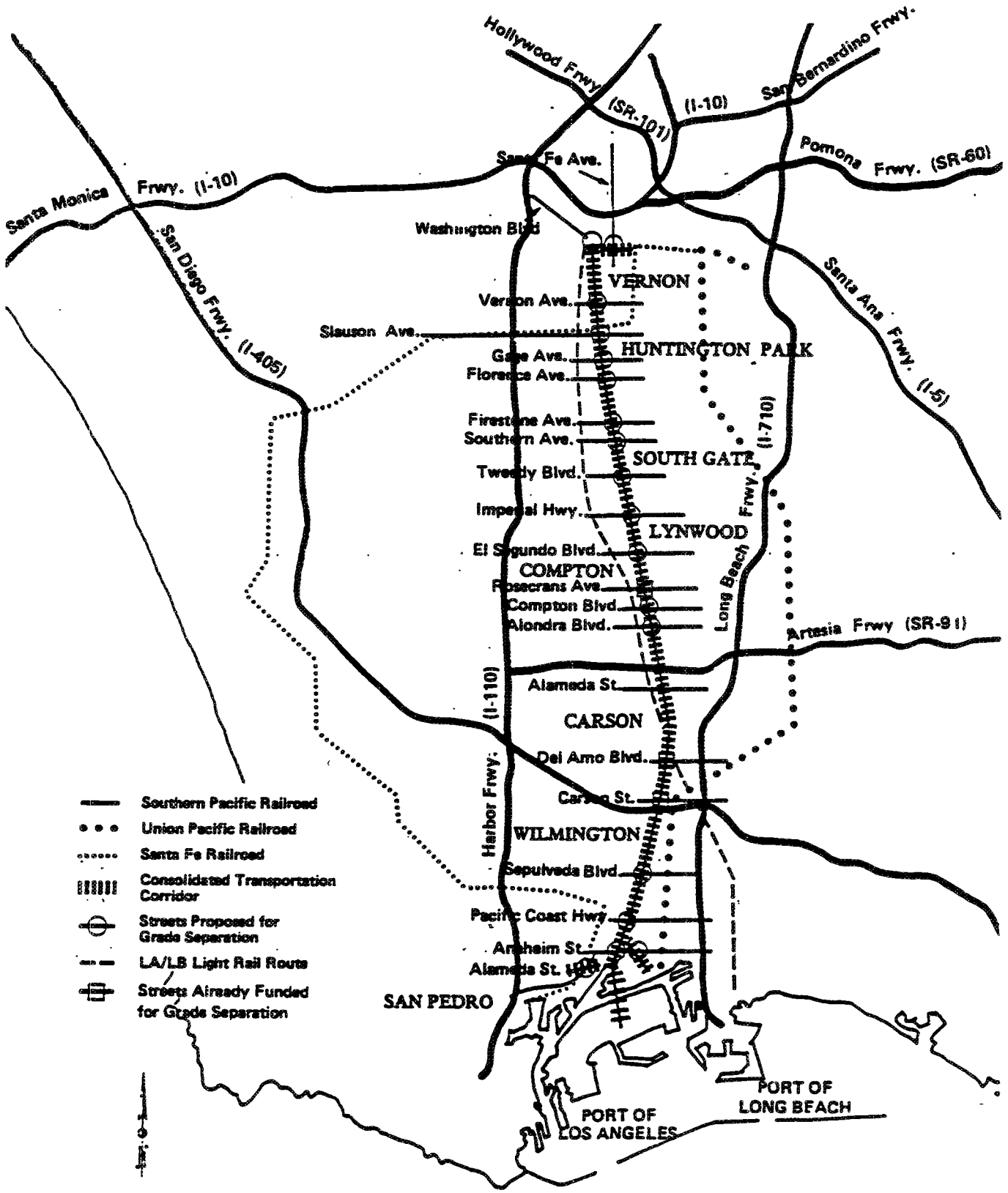
CHAPTER 1: PROJECT DESCRIPTION

As was partially explained in the Executive Summary, the Consolidated Transportation Corridor is a highly ambitious and complex project to improve access to the Ports of Long Beach and Los Angeles through the physical consolidation of the three rail lines that serve the ports along the Alameda Street right-of-way, extending from the individual lines' yards in central Los Angeles to areas adjacent to the ports, some twenty miles distant.

The project not only involves physical consolidation into a dual (two-track) configuration, but also involves physical improvements to Alameda Street itself, including track and signal upgrades, grade separations, physical widening of the thoroughfare north of Highway 91, and provision of on-street parking, bus stops, and driveway access.[5] Alameda Street is envisioned as expanded from its present four-lane capability to six lanes. Options will also be developed by the consultant now under hire to the CTC/JPA to provide for depressed rail lines along certain portions of the Alameda Street route in accordance with the wishes of several members of the governing board.[6] Exhibit 1 indicates the route of the proposed corridor and also indicates streets already funded for grade separation, including Carson Street/Alameda Street, Del Amo Boulevard/Alameda Street, and Rosecrans Avenue/Alameda Street.[7]

The future benefits of the corridor project appear multiple and substantial. For example, in October of 1984, the Southern California Association of Governments (SCAG) undertook a study of the proposed consolidation, and found that elimination of sixteen grade crossings and merger of the three lines (composed of the Santa Fe, Union Pacific, and Southern Pacific railroads) would result in a savings of 8,200 vehicle hours of delay per day.[8] By way of illustration, a typical intersection with 20,000 vehicles equates to 300 hours of delay per day. Gil Hicks, manager of transportation planning at the Port of Long Beach, estimates that successful completion of the corridor project will result in a 90% reduction in grade crossing delays, and a 48% reduction of impacted (that is, by adverse existing conditions) population along the route of the project.[9]

Consolidated Transportation Corridor (CTC)



Other benefits of the consolidated route included a 36% reduction in train-weighted noise; a 74% reduction in the number of train stoppages; a 29% reduction in train-hours of operation with a comparable percentage reduction in locomotive emissions,[10] and elimination of smaller street crossings and installation of grade separations, which should increase traffic safety and reduce accidents.[11]

There is also a possible indirect benefit in that improved highway access to and through the Corridor cities (Los Angeles, Long Beach, Carson, Compton, Lynwood, South Gate, Huntington Park, and Vernon) will encourage economic activity adjoining Alameda Street, and enhance redevelopment efforts within these cities.[12] The CTC/JPA itself has estimated that the Corridor project will generate 5,000 construction-related jobs; result in an increase of $46 billion in economic output (gross sales) in the 5-county Southern California area, over a 20-year period (2000-2020), and generate, by the year 2020, an additional 37,000 trade-related jobs, $966 million in additional wages, and $2.9 billion in additional economic output.[13]

Proponents also see significant "spillover" effects to adjacent areas of Southern California. One viewpoint held is that less truck traffic will tend to increase overall vehicle safety on the freeways; another, that concentration of financial resources on one acceptable rail route will provide the necessary improvements to eliminate the impacts from increased traffic on other rail routes in the region.[14]

The projected cost of the transportation corridor in terms of the total program of improvements is $799 million. The consolidated transportation

corridor itself is estimated at $502 million, including $100 million for rail improvements; 16 grade separations at $13 million each; physical improvements to Alameda Street (such as widening and laying of asphalt) at $50 million; $72 million for engineering, and $72 million for construction contingencies.[15]

The CTC/JPA has also identified an additional $297 million in improvements to the ports infrastructure, consisting of $135 million for improvements such as rail grade separations and various highway and rail improvements at the Port of Long Beach, and $162 million in similar improvements at the Port of Los Angeles.[16]

In terms of scheduled project buildout, it is estimated that the first three years (1990-1993) will be devoted to developing the necessary plans, obtaining necessary permits and clearances, preparation of required environmental impact reports, and development of an overall project strategy; whereas the construction period is estimated to extend an additional three to four years (1993-1996/97). As the CTC/JPA is envisioned to consist of a relatively lean skeleton staff, with the predominance of project coordination and construction monitoring expertise being provided by Ports staff, there will nevertheless appear to be a need to closely and accurately monitor overall development and construction progress, given this ambitious timetable.[17]

The Request for Proposal recently released by the CTC/JPA asked interested firms to develop a plan of action for the corridor project that would include, at a minimum, both highway and rail capacity studies; conceptual design of the highway, grade separations, rail, and depressed

train ways (as an option), and the environmental impact report.[18] The study will incorporate the comments of all governing board members of the CTC/JPA, and support the corridor project in toto. Completion of the project study is targeted for the Fall of 1991. The contract was recently awarded to DMJM, Inc.

A windshield survey of the project area was conducted in early March, 1990, encompassing the length of the twenty mile-plus corridor from the harbor to the downtown train yards in central Los Angeles. This informal survey was conducted for familiarization with the condition of pavement, location of grade separations, condition and extent of the right-of-way, type and frequency of adjacent land uses, traffic conditions at varying times of day (surveys were conducted at 7:30 a.m., or near peak-hour conditions; 12:30 p.m., and 5:30 p.m.), and the overall layout and relationships of site characteristics.

The survey revealed an extensive degree of pavement deterioration and wear; inefficient, ineffective, and outmoded intersections and turning lanes; poor traffic management techniques (inappropriate or non-existent signalling); extensive need for rehabilitation or replacement of grade crossings, and a multiplicity of outmoded, and in many cases, marginal competing small businesses and industrial uses along the corridor, including a large number of "mom-and-pop" operations abutting sleek industrial parks (for example, in the Rancho Dominguez area of Carson); and highly congested traffic conditions in many segments of the corridor, coupled with confused traffic direction and patterns. Overall visual appeal and land-use design is extremely poor; for example, some cities have allowed

new single family residential attached housing to occur abutting the Alameda corridor without a buffer, as part of their redevelopment project efforts. It should be noted that a number of governing boards' redevelopmen areas abut the proposed corridor area, such as the Lynwood Redevelopment Project Area "A", and the South Gate Redevelopment Area #1, which includes the HON industries project, federally funded with a Urban Development Action Grant (UDAG).

Congestion and the need for widening of the Corridor becomes particular acute upon approach to the Vernon city limits. Noise levels, particularly in view of increased use of double-stacked trains, appear to be substantial; consequently, noisewalls will probably be needed throughout the project area. However, the estimated cost of construction of such barriers along the Southern Pacific San Pedro corridor alone may be at least $40 million.[19] In addition, as the project is completed, and more on-dock and near-dock rail facilities are constructed, it would appear that the decibel level now impacting residential areas along the Corridor will increase even further.[20]

It has been suggested that purchase of the rail right-of-way should be included as an integral project cost. It is unknown whether the rail right-of-way has been recently appraised, in whole or in part, or what approach to market was used. Because of the difficulty in obtaining appraisal information from the railroads, there will be no detailed discussion of right-of-way valuation or condition in this paper. It should remain a distinct possibility, however, and future consultant studies should address this issue appropriately. It is the thesis of this

paper that the railroad's financial and programmatic support is invaluable to the success of this project. A fuller discussion of the right-of-way issue will be covered in the section of this paper pertaining to project financing.

The proposed corridor project crosses the most congested and heavily traveled areas of the Southern California basin. There appears to be little doubt that substantial positive benefits will accrue in terms of air pollution and traffic control with project buildout; nor is there any serious disagreement that completion of the rail corridor, because of its strategic location, will have a positive impact on the Los Angeles economy.

The overriding task ahead for the CTC/JPA is to develop a consistent, comprehensive, and high-quality marketing plan for the project, and develop strategic linkages with the investment community, railroads, and government funding agencies to complete the Corridor.

Successful completion of the Intermodal Container Transfer Facility demonstrated conclusively that the rail lines and local government, in partnership with the capital markets, can work together successfully to solve the transportation challenges facing Southern California in the next twenty years. The railroads' best interests are also served by successful completion of the corridor project, inasmuch as it will greatly enhance their ability to better share in the phenomenal growth of port business. Concomitantly, the Ports of Long Beach and Los Angeles cannot continue their growth without this ambitious effort. Let us now turn to the structure of the joint powers authority and the powers accruing to this body as they relate to financing the corridor project.

CHAPTER 2: STRUCTURE OF THE JOINT POWERS AUTHORITY

A joint powers authority established solely for the purpose of constructing a transportation corridor appears unique in the United States. Indeed, the consolidation plan itself appears to be the only one of its kind in the United States. In June of 1989, the California State University, Long Beach, School of Public Policy and Administration initiated a study, conducted by Mr. Kurt Brodtke, research assistant, to survey 30 ports across the United States.[21] Of the three questions included in the survey, one asked whether the port was in negotiations, or had plans to combine rail service in a single railroad line. Of the 25 responses received (an 83% response rate), none revealed any efforts toward rail consolidation.[22] In the CTC/JPA plan, the Cities of Long Beach and Los Angeles, through their respective harbor commissions, will physically plan, administer, and construct the Corridor, in cooperation and consultation with the other governing board members and the rail lines.

By way of illustration, other types of rail consolidation efforts by different ports across the United States include:

- Port operated rail service: In this type of arrangement, the port owns and operates its own switching carrier. Several ports have attempted to consolidate rail traffic through their respective belt line carriers.
- Port contracts with a private switching carrier for switching responsibility.
- Port and railroads form an association to serve switching needs impartially. In Houston's case, the Port of Houston and five railroads formed an association which meets their switching needs.[23]

It was found, as a result of the survey, that consolidation involved either using a port-owned belt line railroad, a private switching carrier,

or an association of member railroads and the port.[24] Which option, if any, would work best in the corridor project remains to be seen; the three lines serving the Ports of Long Beach and Los Angeles are highly competitive. Southern Pacific, although supportive of the corridor project, has expressed concern that completion of the Alameda Corridor may impact ICTF profits adversely.

Although there does not appear to be any precedent for a publicly owned and controlled belt line in Southern California, nor a publicly owned switching carrier, the successful relationship between the Ports of Los Angeles and Long Beach and the Southern Pacific in construction of the ICTF would indicate that the possibility exists for creation of a privately contracted, neutral switching authority that could efficiently and fairly assign traffic along the dual track corridor project. However, let's now return to the legal basis for the joint powers authority.

To quote from the "Joint Exercise of Powers Agreement Between the City of Long Beach and the City of Los Angeles, To Be Known As Consolidated Transportation Corridor Joint Powers Authority"[25]"...The Authority shall have the powers common to Long Beach and Los Angeles necessary for the development of the Plan of the CTC and the implementation of the CTC and related facilities and any other powers authorized by the Act, to wit: acquiring, constructing, reconstructing, rehabilitating, maintaining in whole or in part, and leasing or selling, in whole or in part, land, facilities, and appurtenances necessary or convenient for the development and operation of a CTC, including the acquisition of such land, facilities, or appurtenances by lease, contract, or purchase or disposal of land by

lease of any property of Authority; and to incur debts, liabilities, or obligations required by the exercise of these powers which do not constitute debts, liabilities or obligations of Long Beach or Los Angeles, and to sue and be sued in its own name."[26]

A joint powers authority, generically speaking, is empowered by Section 6500 of the California Government Code to issue bonds, notes, and commercial paper, and to enter into leases to acquire land and equipment, or to acquire or construct public facilities.[27] The joint powers authority may authorize the issuance of revenue bonds by ordinance subject to referendum, but without a vote of the electors within the public entities comprising the JPA.[28] According to Martha Riley, analyst with the California Debt Advisory Commission, this means that joint powers authorities could potentially be challenged by a referendum vote of the electors comprising the jurisdictions represented by the authority, but no election is required to enable the authority to initiate the issuance of revenue bonds.[29] The Code also provides that some, but not all members of a joint powers authority may participate in a bond issue, and that only those participants will be obligated to repay the debt.

Joint powers authorities may also issue securities pursuant to a resolution of the authority backed by loan agreements and/or bond purchase agreements with participating member agencies.[30]

Therefore, the joint powers authority is a flexible technique of organization; not all members need participate, authorities are empowered to finance public improvements utilizing a variety of methods, and an election is not necessary to issue debt.

In 1985, the California Legislature enacted the Marks-Roos Local Bond Pooling Act, which expanded even further the abilities of joint powers authorities to finance public capital improvements through pools, in three ways: by allowing public entities with different powers, such as cities and school districts, to enter into JPA agreements; by increasing the types of debt instruments which JPA's can utilize; and by expanding the purposes for which JPA's can issue debt.[31] The Marks-Roos Act also enabled JPA's to incur debt to acquire the debt obligations of local agencies.

The provisions of the Marks-Roos Act were again expanded by legislation (AB 1496, Peace), which became effective January 1, 1988. The bill expanded the agencies that may receive financing from a JPA under the Act, from just members of the authority to any city, county, authority, district, or public corporation in the State.[32] While these provisions are not directly applicable to the CTC/JPA at present, they could potentially be utilized if additional agencies, districts, or local governments desire to become financially and programmatically active in the corridor project in the future.

The California Debt Advisory Commission defines the CTC/JPA as a "joint-use facility JPA", or one which is formed by public entities with a common goal or need. JPA members, it is reasoned, can "pool" their economic and personnel resources to design, develop, and construct a joint-use facility, project, or service.[33] Benefits derived from the project are presumably distributed as equally as possible amont participating JPA members.

The first "pools" issued in California were of the joint-use facility type, primarily to construct capital improvements crossing jurisdictional lines, such as water and power transmission projects.[34] These pools overwhelmingly favored the issuance of revenue bonds, because the finished projects created a revenue "stream" sufficient to pay back the bonds. Joint-use facility pools have also successfully issued grant anticipation notes (GANS) and other types of short-term borrowings, lease-revenue bonds, and certificates of participation (COPS).[35]

Joint-use facility pools probably best allow for the coordination of planning and construction of large-scale projects, such as the Consolidated Transportation Corridor, by eliminating a piecemeal, narrow focus project approach. Project costs and benefits can potentially be shared by all project participants, and the large project also achieves economies of scale.

Joint powers authorities using this approach can be staffed and operated independently from the individual participating agencies, making joint-use facility projects a primary focus of the authority, where they might otherwise have lower priority from individual issuers.

The joint-use pool approach will require a high degree of coordination among participants to develop a project which will achieve the greatest benefit. For example, the CTC/JPA's sole legal reason for existence is construction of the rail corridor project.

It should not be construed that use of the joint-use approach would preclude more than one issuance of debt. The heart of the corridor project is in construction of grade separations, for example. Not all separations

can be built concurrently, due to traffic disruptions that would result along the route. Joint-use facility pools are permitted to issue a series of bonds for a given purpose.

A less advantageous approach for the CTC/JPA would be through use of the dedicated pool (also known as a designated or structured pool). Dedicated pools are single debt issuances where the participant, projects, and bond proceeds to be received by each participant are known, and can be easily identified at the time of issuance. Under this approach, JPA's may issue dedicated pools; participate in a JPA created by another association of public entities which issues dedicated pools for its members; participate in an existing JPA of public agencies which has previously issued dedicated pools, and which is willing to issue additional dedicated pools for new participants; or participate in a pool administered by the State of California.[36]

The primary difference between the joint-use and the dedicated pool approach is this: under the joint-use approach, the project would be structured out of the one entity, the JPA; whereas under the dedicated pool approach, bonds would be issued separately by the respective cities (Los Angeles and Long Beach) comprising the JPA, and their respective projects would be described separately in the official statement. A separate debt and maturity schedule would be calculated for each entity's project amortization.

There are distinct advantages in utilizing the dedicated pool approach, including lower interest rates, reduced costs of issuance, easier market access, and ability to obtain credit enhancements. Use of the dedicated pool, however, would break the corridor project into individual segments-

those projects of the City of Long Beach and those of Los Angeles. Further, there do not appear to be any statewide pools in existence or planned with which the CTC/JPA could "co-venture", or co-issue debt.[37] In addition, one requirement of the dedicated pool approach is that both cities would have to have their individual projects ready at the same time to enter into an obligation with the dedicated pool.[38] For example, bid estimates and financing documents for each participant in the CTC/JPA would of necessity have to be in readiness at the same time.

Differences in individual participant's credit risks would also need to be examined; without credit enhancement (in the form of bond insurance issued by an agency such as AMBAC, the American Municipal Bond Corporation, or a letter-of-credit) the credit rating and market perception of the pool will be only as strong as the participant with the lowest credit rating.

Inasmuch as the project will be in all likelihood constructed in a relatively compressed time schedule, and only by the two cities comprising the legal nucleus of the CTC/JPA, the dedicated pool approach appears unnecessary. Los Angeles and Long Beach generally enjoy excellent credit ratings by the major rating agencies, as do their respective Ports. It therefore appears that the joint-use facility approach is by far the most congruent with the CTC/JPA project philosophy and goals. On that premise, we will now examine specific techniques that could be utilized to raise project funds in the capital markets for the corridor project, and examine the history of port financing, specifically that of Long Beach.

CHAPTER 3: ACCESS TO CAPITAL MARKETS, HISTORY OF PORT FINANCING, AND FINANCING TECHNIQUES

A municipal revenue bond is a familiar concept to most American investors. The Dictionary of Finance and Investment Terms, published by Barron's Financial Guides, defines this issuance as a "bond issued to finance public works such as bridges or tunnels or sewer systems and supported directly by the revenues of the project. For instance, if a municipal revenue bond is issued to build a bridge, the tolls collected from motorists using the bridge are committed for paying off the bond. Unless otherwise specified in the indenture, holders of these bonds have no claims on the issuer's other resources".

According to the California Debt Advisory Commission's chief analyst, Martha Riley, the vast majority of joint-use facility issuances since 1985 have been of the traditional revenue type.[39] In 1986, five pools of this type issued $816,155,000 in revenue, also defined as public purpose bonds.[40] In 1987, one pool issued $200 million in revenue bonds, and in 1988, one pool issued $400 million in such bonds.[41]

To illustrate further, the Irvine Ranch Water District Joint Powers Agency successfully issued $400 million in revenue bonds to finance multiple capital improvements; and in 1986, the Local Government Finance Joint Powers Authority issued $451 million in certificates of participation (revenue backed) for multiple capital improvements. The Irvine issue was rated A+ by Standard and Poor's, whereas the certificates were unrated (as is true to form for certificates of participation).[42]

The Vacaville Public Financing Authority issued $76 million in straight revenue bonds for capital improvements in 1988, without rating, and in July

of 1990, the Southern California Public Power Authority will issue $40 million in revenue bonds for power generation and transmission purposes.

California ports have also been active in issuance of revenue bonds. For example, the Port of Oakland issued $158 million in this form in 1989, in two series, to refund short-term bond anticipation notes (BANS) issued in 1988 (defined more fully later in this paper). The obligations originally issued were used to finance the acquisition and installation of two new gantry cranes and other improvements at Oakland Airport.[43] In 1988, the Sacramento-Yolo Port District also issued refunding revenue bonds in the total amount of $13 million. Refunding bonds are used to retire the debt arising from prior issuances, in many cases to take advantage of more favorable interest rates. In this case, the District's 1980 Series A revenue bonds were discharged, the proceeds of which were originally used to finance the construction of a flat storage bulk warehouse facility and related facilities.[44]

There does, therefore, appear to be precedent for use of revenue bonds to finance large-scale projects, including port-related activities. Although use of revenue bonds is but one technique that could be used by the CTC/JPA to access the capital markets for financing corridor improvements, it appears to be far and away the most important and feasible method to raise large amounts of funds.

Coupled with the use of a joint-use facility pool approach, revenue bonds would offer unparalleled flexibility to the CTC/JPA in financing the corridor project. For example, the CTC/JPA could issue one or several reven bonds to finance the cost of corridor improvements, allowing construction t be staggered over a five-to-seven year buildout period.[45]

It appears then that the most feasible method for the CTC/JPA to pursue financing in the capital markets, defined as "markets where capital funds-debt and equity-are traded"[46], would be through issuance of revenue bonds. This paper will set forth both a "best-case" scenario, with the bulk of the financing coming through the Federal Government (explained in greater detail later), and a "worst-case" scenario, in which there will be subtantial reliance on other sources of financing corridor improvements. In either scenario, use of revenue bonds should play an important "lead", or, as the case may have it, "supporting" role in the project.

The challenge facing any entity contemplating issuance of revenue bonds is to devise a "revenue stream" sufficient enough to provide debt service on the bonds. A comfortable margin, one accepted by most rating organizations and bond firms, is a ratio of approximately $1.25-$1.50 of revenue for each $1.00 of debt.

Some specialists in port financing suggest an even higher ratio of net revenues to debt service, such as a rate covenant that requires net revenues of 1.5 to 1.75 times debt service.[47] The rate covenant sets forth requirements for the maintenance of rates and charges sufficient to produce adequate cash flow to provide for debt service payments in a timely manner.[48]

The covenant is an extremely important aspect of a revenue bond issue. For example, the rate maintenance covenant for the Sacramento-Yolo Port District provides that the District "covenants and agrees that it will take such action as may be necessary to maintain rates charged to users of the Facilities so as to produce...revenues...sufficient to pay operation and maintenance expenses of...debt service requirements on the Bonds".[49]

The District suffered a severe downturn in revenues in the three fiscal years 1982-1985, when operating expenses greatly exceeded revenues, necessitating a $3 million draw against operating cash reserves.[50] Rates must be set high enough to more than meet stated debt requirements in the issue. We will discuss further rate types and the setting of rates later in this paper.

The Ports of Long Beach and Los Angeles, on the other hand, are experiencing phenomenal growth, and appear to enjoy ample cash reserves. In the case of Long Beach, approximately $70-80 million is maintained.[51] The Port of Long Beach is readying a $242 million revenue bond issue as this paper is being written, to purchase rail property adjacent to the Port and start dredging and landfill improvements to physically expand the facility.[52]

It could probably as easily draw upon its cash reserves to purchase property, but has chosen instead to issue revenue bonds to meet its financing requirements.[53] Let us now discuss alternative "revenue streams" to meet bond financing needs.

Mr. John Kruse, Senior Accountant for the Port of Long Beach, suggests one scenario for a CTC/JPA "mitigation fee" to finance a prospective corridor issue. It may work as follows:

- Port charges imposed on shippers are based on MRT's (Metric Revenue Tons), based on weight or cubic measurement. For example, if a container contains steel balls, it will be assessed a "fee" on weight; rattan furniture would be assessed more rationally on cubic volume.

- A premium of 75¢ was assessed until recently on each ton of OCP (overland common point, or freight bound for destinations east of the Rockies). For every ton of OCP cargo, the 75¢ "premium" could be set aside to provide a revenue stream for the corridor project.

- o A problem with this approach has been in keeping track of MRT's for OCP destinations; more often than not, shippers do not provide OCP destination information on shipping documents. An alternative approach would be use of historical projections to generate the percentage of TEU's (twenty-foot equivalent units, a container definition) that are OCP.

- o When this historical approach is used, it appears that 35-40% of TEU's are OCP related. Applying this percentage in conjunction with the proposed 75¢ a ton setaside would generate approximately $2 million annually for the corridor project.

- o Port officials may, of course, decide to adjust the setaside amount to meet the financing needs of the corridor project, depending on what portion of the activity is financed through the capital markets.

Assuming that the bulk of the project's financing comes through the use of revenue bonds, and the project is currently estimated at approximately $799 million, the $2 million generated through this method would fall short of meeting hypothetical first year interest requirements alone on a revenue bond by approximately $27 million dollars (assuming a 7% coupon rate and a twenty year maturity), not to mention additional outlays for principal payments (if any) in the first year; costs of issuance (3-5% of total bonds, or approximately $2.4 million-$3.9 million); and required payments to one or several reserve accounts to guarantee payment to bondholders.

Needless to say, structuring of the fee used to generate sufficient debt service on any potential issue deserves enormous attention. We will delve into hypothetical financing later in the paper, in the "best-case, worst-case" scenarios.

Another approach to providing a revenue stream may be through gate fees assessed against all traffic coming into port terminals, most typically motor carriers. A TEU or other easily understood and quantifiable measurement could be used as the basis for assessment. Basis of assessment could also

be by type of cargo or ultimate destination. Gate fees would have the added advantage of enhancing user fee equity, by spreading a portion of the assessed fees to the motor carriers.

In a recent interview with Gil Hicks, this idea was advanced; he in turn pointed out that development of gate fee assessment information would be difficult, inasmuch as terminal information is proprietary, or generally unavailable to the public, and that consideration should be given to potential resistance to additional fees by motor carrier operators that apparently now pay a substantial amount in fees already.

Another approach would expand the potential assessment of fees to all TEU's through the Port, rather than limiting the fee only to OCP cargo. For example, the Port of Long Beach generated approximately 1.6 million TEU's in the fiscal year 1988-89, whereas the Port of Los Angeles generated approximately 1.8 million. Applying a flat fee per TEU, similar in concept to the ICTF's assessment of $30 per container load, could conceivably generate as much as $48 million annually for Long Beach, and approximately $57 million for the Port of Los Angeles. [54] Present annual debt service on existing bonds and subordinate lien debt is approximately $34 million annually, for which there is ample existing coverage (excluding the proposed $242 million issue, debt coverage is approximately 7.5 net, or $7.50 of revenue for each $1.00 of required coverage).[55] A flat TEU fee should more than provide sufficient coverage for a "worst-case" issue for the full cost of providing corridor improvements, or approximately $800 million; an issue

of this size would roughly require $66-67 million annually in principal and interest payments.[56] Sufficient administrative mechanisms and recordkeeping would have to be developed, however, to keep track of the assessment; and even more important, develop the mechanism for assessing the fee in the first place. It is assumed that the respective Ports' finance staff would be closely involved in developing this information and providing the assessment to the bond fiscal agent on behalf of the JPA.

Another approach to providing a revenue stream for a corridor issue may be through development of a rail car assessment fee. Again, a comprehensive study of rail car movements through the Ports, inbound and outbound, has not been formally prepared. There may be, however, sufficient available information on movements that could be integrated into an acceptable form to develop fiscal projections.[57]

Again, an equitable basis could be used in development of a rail car fee, such as tonnage, type of cargo, or a flat fee per car. A fuller exposition of this possibility will be reserved for the "best-case, worst-case" scenario concluding this paper.

At this juncture, it may be useful to consider the Ports' function as lessor, by analysis of the Port of Long Beach's operating performance. The Port operates as a landlord, leasing or assigning all docks, wharves, transit sheds, and terminals to shipping or terminal companies and other private firms for operation of such facilities.[58] The major sources of income to the Port of Long Beach are shipping services (wharfage, dockage, and special marine facilities rentals), leases, office and land rentals, and utility services.[59] Total operating revenues from leasehold income increased

from $63.7 million in 1985 to $95.5 million in 1989, a 50% increase,[60] whereas operating expenses rose from $24.1 million to $25.5 million in the same period, representing only a 6% increase. Property agreements within the Port area for industrial and commercial use constitute the Port's largest and most stable source of income. There are agreements within 102 private companies and five governmental agencies. Of these agreements, 21 are preferential assignments, 56 are leases, 31 are revocable permits, and 30 are area assignments.[61] Agreements for commercial property are based either on a flat rental or on a percentage of gross revenues, subject to a fixed minimum rental. Revenue from the majority of waterfront properties and facilities is based on tariff charges for wharfage, dockage, storage, and demurrage, with a guaranteed minimum return. Tariffs are set by the Board of Harbor Commissioners and published periodically.

The top ten revenue producers for the Port of Long Beach include: Long Beach Container, with annual revenue of $13.1 million; California United, with annual revenue of $9.1 million, and Metropolitan Stevedore, with annual revenue of $7.8 million. Total annual operating revenue for the fiscal year 1988-89 was $85.1 million. Other significant producers include Sea Land Services ($5.8 million) and International Transportation Services ($7.6 million).[62]

Total inbound cargo to the Port increased from 35 million metric revenue ton (MRT's) in 1985 to 49 million in 1989; total outbound cargo increased from 17.3 million to 19.8 million in the same period. Dockage revenue increased from $1,186 per vessel in 1985 to $1,781 in 1989, a 50% increase.

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There are six major container terminals at the Port at present: Sealand (with spaces for 19,112 containers in different configurations); Maersk Lines (with spaces for 4,260 containers); Long Beach Container Terminal (with spaces for 16,600 containers); International Transportation Services (with spaces for 16,800 containers, on-ground and chassis configuration); Pacific Container (with 12,000 container spaces), and California United Terminal (with 16,900 spaces).[63] Leasehold growth will be enhanced even further by future construction of on-dock intermodal rail yards.

As a final note, minimum future lease/rental income appears to be substantial, amounting to approximately $35-45 million yearly from 1990-1994 and a total of $331,513,000 for all years thereafter.

The next section of this paper will explore the history of Port capital market financings. The aforementioned leasehold information is provided to set the stage for this analysis, and to offer the suggestion that the possibility exists that in addition to the suggested revenue streams mentioned in the preceding pages, that sufficient leasehold interest and capacity exists for considering renegotiation or restructuring of existing leases as they come due, to provide another source of funds for a proposed corridor revenue bond issue. Inasmuch as all Port issues are underpinned by Port gross revenues, a portion of leasehold revenues could be formally set aside by the Harbor Commission to further "broad-base" revenue to be used to finance a Corridor issue.

The Port at present has two series of revenue bonds outstanding, the 1972 Bonds and the 1980 Bonds. The 1972 issue has $3,760,000 outstanding,

and is scheduled to mature in 1990 and 1991; whereas the 1980 issue is composed of both serial and term bonds. The serial portion, in the amount of $2,975,000, is scheduled to mature also in the above two years; whereas the $78,750,000 in term bonds are scheduled to mature from 1992 to 2003, and are subject to redemption at the option of the Board of Harbor Commissioners.[64] An interesting sidenote to the 1980 issue is that this bond included a 10 percent term provision due in 2002. The average life of this maturity will actually be 18 years rather than the 23-year stated maturity, because of an active sinking fund which will begin in 1992.[65] Simply put, interest-costs savings will be realized by the Port by reducing the average life of the issue. This technique is especially important in times of market turbulence, when investors' preferences for short maturities can be addressed through the use of rapid paydown of principal on a term maturity through the use of a sinking fund.[66]

In 1986, the Port additionally issued $19.8 million in Certificates of Participation (explained in greater detail later in the paper) to represent installment purchase payments by the Port for two fire boats and six container cranes.[67] Approximately $18.2 million remains outstanding on these two issues.

To summarize, the Port of Long Beach has enjoyed a successful history of financings in the capital markets to construct or acquire needed facilities and equipment. Its revenue structure appears sound, and sufficiently broad-based to meet future debt service requirements, including a partial or full issue for the corridor project, if that should be the direction of the CTC/JPA. There is every reason to believe that the Port of Los Angeles possesses an equally sound fiscal and administrative structure,

and that its revenue picture is as equally bright, in view of recent diversification of operations at that facility, and equally impressive cargo tonnage growth occuring.

In this section so far, the use of revenue bonds for financing the corridor has been analyzed, as have been potential "revenue streams", or user fees to meet debt service requirements for a hypothetical issue. Also analyzed briefly was the history of the Port of Long Beach capital market financings. Let's now turn attention to other potential financing tools available in the investment market, including a fuller explanation of the potential role of certificates of participation (mentioned previously), use of industrial development bonds, State bond programs, short-term borrowing, assessment districts, and other techniques in current use.

These alternatives, it is hypothesized, are less desirable from the standpoint of raising large amounts of funds for the corridor project, but could be used successfully in conjunction with a revenue bond issue, or in combination with proceeds from a revenue issue and other sources of funds, primarily Federal. A future chapter of this paper will turn attention away from the capital markets, to sources of public and private funding, and combinations thereof. In the concluding section, "best-case, worst-case" scenarios involving a blend of private market financing and public funding will be explored in greater detail.

CHAPTER 4: OTHER FINANCING TECHNIQUES THROUGH THE CAPITAL MARKETS, AND POSSIBLE USE OF STATE BOND AUTHORITIES

In the preceding chapter, an analysis of potential revenue streams in the form of user fees or assessments against clients of the Port was set forth as a possible approach to financing a revenue bond issue for the

CTC/JPA project. Use of assessments and user fees have specific advantages, in that they are generally: (1) reliable; (2) quantifiable; (3) equitable- the cost is ideally borne by all users of the facility, and (4) best fit the philosophy and covenant requirements of the types of revenue best suited to pay back revenue bonds.

Of course, use of such potential fees places the onus of responsibility for generation of revenue for the Corridor project almost entirely on the Ports. In fact, benefits derived from the Corridor project will accrue to motor carriers and the rail lines as well. Broad-basing the revenue stream, or using a diversity of user fees to share the cost of the Corridor project was therefore stressed.

There are, however, other approaches to structuring a financing that may bring in additional "transportation partners" actively into the project. The CTC/JPA may consider the use of certificates of participation to finance a portion of the Corridor project, for example. Certificates of participation can be defined as obligations of a public entity based on a lease or installment sale agreement. Payments to certificate holders may originate from the general fund (in the case of a lease) or a special fund (in the case of an installment sale).[68]

Certificates have become extremely popular in California because their use is not subject to Article XVI, Section 18 of the State Constitution, which requires voter approval for all local government bond issues.[69]

Certificates are also not subject to other statutory requirements applicable to bonds, including interest rate limitations, election requirements,

competitive sale requirements, or semiannual or fixed rate interest payment requirements. Certificates of participation (COPs) allow the public to purchase (in $5,000 increments) participation in a stream of lease payments, installment payments, or loan payments relating to the acquisition or construction of specific equipment, land, or facilities.[70]

COPs have been used to acquire or construct major public projects over the last ten years, including administration buildings, public safety facilities, courthouses, detention facilities, school buildings, parking garages, and recreational facilities. COPs may also be used to finance qualifying private projects on either a tax-exempt or taxable basis.

In the case of public projects, the obligations are "triple-net", requiring the public entity obligor to pay all operating and maintenance costs, taxes, and insurance on the property.[71]

The principal parties to a COP financing include (1) the public entity obligor; (2) a private company, private leasing corporation, non-profit corporation or public agency, including joint powers authorities; and (3) the trustee (usually the corporate trust department of a commercial bank). The legal documents needed to structure a COP issue include (1) the obligation, which can take the form of a lease agreement, installment sale agreement, or loan agreement between the two principal parties that describes the payment schedule, insurance, abatement provisions (if any), and events of default; (2) a trust agreement between the trustee and the two principal parties that describes the use and investment of certificate proceeds and remedies on default; (3) an assignment agreement between the public or private entity and the trustee by which the public or private entity assigns certain

of its rights and duties to the trustee, including the right to receive payments and the corresponding obligation to pay certificate holders, and (4) in the case of a public construction project such as the Corridor, either a site lease, whereby the obligor leases the site it owns to the public or private entity so that entity can construct the improvements, or an agency agreement, that provides that the obligor is empowered to oversee construction.[72]

There are three types of obligations that can serve as the basis for COP issues: (1) long-term leases, (2) installment sale agreements, and (3) non-appropriation leases, of which the latter are generally used in states other than California that are not permitted by judicial precedent to structure long-term leases.[73] A California variant is the local government COP/TRAN issue (Certificates of Participation/Tax and Revenue Anticipation Notes), in which local agency tax and revenue anticipation notes are pooled together and registered in the name of the selected trustee. The trustee in turn prepares, executes, and delivers to the underwriter COPs secured by the pooled notes. Four COP/TRAN issues were completed in the State of California in 1987. For one issue, the trustee was a traditional bank and trust company. The trustee for the second issue was the county in which the local agencies incurring the TRAN debt were located. In the COP/TRAN issues, the aggregate principal amount of the COPs is equal to the aggregate principal amount of the TRANS. The COPs, from the COP/TRAN issues sold in 1987, were deliverable in a maturity of one year. By further explanation, tax and revenue anticipation notes represent short-term debt issued by local governments in anticipation of property or

sales taxes, or other regularly received state subventions. TRANS are used primarily to smooth out cash-flow for local jurisdictions. The City of Los Angeles, for example, uses TRANS extensively.[74]

Potential advantages of using COP/TRAN issues include: (1) reduced costs of issuance, (2) lower interest rates, (3) other cost savings achieved through economies of scale, (4) easier market access, and (5) availability of more sophisticated financing structures.[75]

In terms of disadvantages, timing of the issue could be a problem, and local agencies may not be equivalent credit risks or have the same credit rating; although in the case of the CTC/JPA, recent credit assignments for both the Cities of Los Angeles and Long Beach and their associated Ports have been excellent. This situation may change with the widening budget deficit being experienced by the City of Los Angeles, or in the event of instability in Asian markets, from which the Ports derive the bulk of their revenue.

A fuller or more detailed discussion of COPs or COP variants is beyond the scope of this paper. Let's now turn attention to applicability of COPs to financing the consolidated transportation corridor.

As mentioned previously, the Port of Long Beach issued $19.8 million in certificates of participation in 1986 to finance the acquisition of capital equipment such as fire boats and container cranes. Trust agreements were established between the City of Long Beach through its port, a non-profit corporation, and a trustee.[76] The Port has therefore successfully used this financing technique for equipment acquisition; its use for the type of projects and construction envisioned for the corridor project is uncertain.

One aspect of the California Government Code pertaining to joint powers authorities may illustrate some of the difficulties in using certificates of participation in the Corridor project. Section 6500 of the Code provides that if the project is not a public facility which generates revenue from its operations, the project would usually be leased by the JPA to one or more parties to the agreement.[77] The bonds to finance the project would be secured by revenue due to the authority under a lease agreement. When bonds are repaid, the lease terminates, and the agency which had leased the project from the JPA obtains title to the project.[78]

This approach was used successfully (although not involving certificates) to construct the Intermodal Container Transfer Facility. The Ports of Los Angeles and Long Beach entered into a joint venture with the Southern Pacific Railroad in 1984, to finance the construction of the facility. The ICTF, which opened in early 1987, was leased to the Southern Pacific as tenant; the line has since fully developed the 200 acre site and assumed operational responsibility. The joint venture issued approximately $54 million in revenue bonds on behalf of the Southern Pacific to construct the ICTF. On May 1, 1989, the joint venture issued $52.3 million in refunding bonds on behalf of the railroad, to retire the 1984 bonds.

The bonds are payable solely from payments by the Southern Pacific under a long-term lease agreement for use of the facility. The original site was owned by the Port of Los Angeles. The nature of the bonds is such that the long-term indebtedness is that of the railroad, and not of the joint venture, or either of the ports.[79]

The joint venture's source of income is from the tenant, Southern Pacific, which has assessed a fee of $30.00 per container load entering the ICTF.[80]

A different set of facts surrounds the Corridor project. The project right-of-way is in fact owned outright by the Southern Pacific; Alameda Street, on the other hand, is under public ownership. South of Highway 91, Alameda Street is considered a State highway, and is part of the State highway system. Rolling stock, which is comprised of the physical assets of the Southern Pacific and the two other lines, i.e., locomotives, double-stack equipment, containers, boxcars; actual laid rail, are either leased assets of the railroads, or are owned outright by the rail lines.

Use of certificates of participation is dependent on whether the Corridor project can be defined as a "public entity" capable of generating revenue; failing that, the California Government Code specifies that the project would usually be leased by the JPA to one or more parties to the agreement. Inasmuch as the CTC/JPA does not "own" the rail right-of-way, and if negotiations were successful with the Southern Pacific, it could then purchase it and "lease-back" the right-of-way to the railroad, which in turn would make rental payments to the CTC/JPA's trustee, for payment to investors. One figure mentioned puts the acquisition of the right-of-way as high as $100 million.

In addition, when certificates of participation are used to finance private projects, the private beneficiary is responsible for all operating and maintenance costs, taxes and insurance for the project.[81] In most California bond counsels' view, property that can be made subject to the lease must be depreciable and transferable. For example, bond counsel has generally held that street and roadway improvements cannot be subject to a lease, because they could not be transferred to the lessor in the case of

default, because the lessee had already granted easements to other public and private entities.[82] Lease agreements generally provide that upon default, the trustee (as assignee of the lessor) may reenter and take possession of the leased property, lease the property to a third party, and attempt to recover any loss in rent from the lessee. However, repossession of public facilities could be time-consuming and difficult.[83] The point is therefore: certificates could possibly be used quite successfully in a "reverse participation" role by acquiring the rail corridor right-of-way, but would in all probability not be used for improvements such as widening of Alameda Street, or other "public" improvements.

The probable tax consequences and advantages/disadvantages of this approach would require substantial analysis by financial analysts and bond counsel, particularly in respect to the Southern Pacific. There will therefore be no further detailed discussion of the legality of this approach in this paper.

For certificates to be feasible, State law and the capital markets would require fairly stringent security provisions. For example, sufficient proceeds from the certificates would need to be allocated to pay interest during construction of the corridor project, with some cushion to allow for unexpected events. The obligor (JPA) may also be required to obtain performance and payment bonds during construction, and all risk insurance for the term of the obligation. Inasmuch as leasing of the corridor back to the Southern Pacific would be long-term in nature, the JPA may also be required to provide rental interruption insurance. In addition, a reserve fund or credit enhancement substitute for benefit of certificate owners may be required.[84]

But in reality, the JPA's need for the Corridor is in itself an important form of security. If the Corridor is used to provide an essential service, a greater likelihood exists that the CTC/JPA will appropriate the annual payments to avoid an event of default.

The use of certificates of participation for rail improvements only, and engineering costs associated with such improvements, will be included in a "best-case, worst-case" scenario concluding this paper. A hypothetical figure of $100 million for purchase of the Southern Pacific right-of-way will be included in the $790 million estimated cost of completing Corridor improvements, generating a new project total of $890 million. It should be noted that when the Southern Pacific "repays" the JPA according to the lease terms specified in issuing the certificates of participation, the right-of-way will revert back to the railroad. All payments, of course, will be in fact handled by the trustee, who will use the lease proceeds to pay back the holders of the certificates. This approach could be tried with success, but with the overall complexity of the transaction, and given the possible additional participation of two other rail lines, it may nevertheless be a less desirable capital markets technique than use of revenue bonds.

The 1986 Tax Reform Act put severe limits on the use of traditional industrial development bonds to finance public improvements, and will not be explored further in this section. The financing requirements of the magnitude of the Corridor project would negate the use of such a technique. Existing State-financed pools for borrowing funds to defray a portion of the cost of Corridor improvements are not realistic, inasmuch as the available funds are quite small in relation to the project, and pools are already dedicated to funding of health care and educational improvements.[85]

Dedicated pools formed by organizations such as the League for California Cities will also not be discussed in this paper, due to limited capitalization of such pools, and stringent borrowing requirements imposed on local entities.

Of greater interest is an industrial development bond pool program recently established by the California Manufacturers' Association and the Leage of California Cities as the "Bonds for Industry" project. The program provides for both tax-exempt and taxable pooled issues.

Public entities typically issued industrial development bonds (IDB's) to assist private business for public benefit, such as job creation, enhanced sales taxes, and the like. The Tax Reform Act of 1986 restricted the use of tax-exempt IDB proceeds to manufacturing facilities, eliminating the tax-exempt alternative for retail and commercial use. It also eliminated bank incentives for holding tax-exempt bonds.[86] Prior to tax reform, almost all industrial development bonds were purchased by banks.

The Bonds for Industry program, however, was developed to alleviate the impacts of tax reform, and potentially offer local jurisdictions (including JPA's) and businesses the opportunity to continue financing with IDB's using either a taxable or a tax-exempt alternative.

Although no bonds have been issued under this program, Bonds for Industry could conceivably be used by the CTC/JPA to support corridor businesses, or provide funds to the rail lines to expand or improve upon present facilities and services.

The Ports themselves could use such issues to attract small to medium-sized support businesses either to the Ports or along the Corridor. Issuances through the Bonds for Industry program may provide significant inducements for the rail lines to cooperate in the corridor project. This in itself is sufficient reason to consider Bonds for Industry as a viable potential financing tool.

The use of short-term borrowing (the use of COP/TRAN issues was mentioned briefly earlier in the paper), such as through issuance of BAN's (bond anticipation notes), TRAN's (tax and revenue anticipation notes) and GAN's (grant anticipation notes) deserve mention in this discussion of capital market financing techniques, as they could provide useful methods for providing "front-end" short-term financing for essential elements of the corridor project. Short-term financing is used extensively by cities and counties in California, usually to "even-out" temporary cash-flow deficiencies. For example, short-term borrowings in the form of BAN's could be used by the CTC/JPA successfully to "jump-start" critical corridor improvements in anticipation of proceeds from revenue bonds or certificates of participation, enabling the entity to get the project underway in an expeditious manner.

Such an approach would be useful in starting high-priority segments of the project, such as grade separations. As such, short-term issuances have a useful potential role in the "arsenal" of techniques that could be used by the CTC/JPA to access the capital markets. A scenario including the use of BAN's will therefore be provided in our "worst-case, best-case" analysis.

The use of COP/TRAN issues could also be considered if the CTC/JPA's sponsoring entities, either the Ports or the Cities of Los Angeles or Long Beach, decide to use a pledge of general fund revenue to back issuances of certificates of participation. As mentioned previously, there are significant restrictions on use of COPs for the corridor project. In addition, both cities are experiencing moderate to severe budget shortfalls, and contributions of general fund revenue is highly unlikely.

This paper will not discuss the use of assessment bonds under either the 1911, 1913, or 1915 State Acts, as it is not judged to be a viable technique

for the Corridor project. Nor will there be an attempt to delve into the possible use of Mello-Roos Community Facilities Districts to finance the costs of the Corridor, as formation of such a district involves: (1) establishment of a special tax levied against residents or businesses along the Corridor route, a potential jurisdictional quagmire; or, in the case of assessment districts, development of (2) a complicated system of assessments against property owners along the Corridor, which would have to be closely monitored; (3) use of Mello-Roos or Assessment Act proceedings would require a special election, and (4) anticipation of substantial opposition by residents and businesses to formation of such a district. Use of Mello-Roos or assessment district techniques, while important tools in other contexts, do not appear to belong in a realistic discussion of access to funding for the Corridor project.

The use of general obligation bonds to finance the Corridor project is relegated to a concluding analysis regarding capital financing, because of the two-thirds majority requirement of those voting in a local election to authorize general obligation bond issues for specific projects. Public entities other than cities, counties, and school districts must have specific legislative authority to issue general obligation bonds, and the statutory provisions and procedures may vary depending on the particular law under which the public entity was incorporated.[87]

From an investor's standpoint, general obligation bonds are the most secure type of municipal bond available, and therefore, attain the lowest yields of any comparable long-term securities.[88] The issuer has been authorized by the voters to levy an ad valorem tax on all taxable property within its jurisdiction, at any rate necessary to collect enough money each

year to pay for principal and interest coming due on the outstanding bonds.[89] In addition, the issuer has pledged its full faith and credit to pay for the indebtedness.

General obligation bond issues are also the most cost-effective form of long-term financing because the issues require neither a reserve fund nor funded interest during construction of the project financed with the proceeds of the bonds.[90] Costs of issuance may be less because the bonds are easier to market, structure, and review from a legal standpoint. Annual and total debt service is also less than that of a revenue bond or financing with COPs.

The major issue in using general obligation bonds is the time necessary to educate voters about the need for financing, holding the election, and then to structure the issue and sell the bonds. Resolutions must be adopted by governing bodies to place the issue on a ballot, and the type of improvement must be specific.[91] After the two-thirds voter approval, the governing body must adopt a resolution authorizing the sale and issuance of the bond issue.

Because time is of the essence in the Corridor project, use of general obligation bonds does not appear to be a viable alternative. The requirement of two-thirds voter approval may require a special citywide election in both Long Beach and Los Angeles.[92] It is unlikely that with the anti-tax sentiment still prevailing since Proposition 13 that such massive issuances would be approved by the voters, despite the urgent need for the Corridor project.

This discussion of capital markets will therefore conclude that the best possible approach, and certainly the most realistic, is for the CTC/JPA to issue revenue bonds as a joint-use facility pool, utilizing a judicious combination of user fees and assessments to back the issue, similar to the approaches already mentioned-"gate fees", "rail-car fees", and TEU "assessments" are all viable alternatives.

The next chapter will discuss potential Federal, State, local, and private funding in construction of the Corridor project. However, it will be reiterated that such revenues may serve only as an adjunct to funds that can be raised in the capital markets, given the enormous projected dollar cost of the project. Reauthorization of the Federal Surface Transportation Assistance Act in 1991 appears assured; representatives of the CTC/JPA and the respective Ports/city councils have gone on record requesting over $330 million in STAA funds for the project. However, granting of such funds is far from certain. Analysis of funding alternatives will therefore begin with the Federal Government, through the Federal Highway Administration. There will also be a full discussion of the three upcoming Statewide transportation propositions (known collectively as the California Clean Air and Transit Initiative) and how their passage could potentially affect financing for the rail corridor.

CHAPTER 5: FEDERAL, STATE, LOCAL, AND PRIVATE FINANCING ALTERNATIVES

The Federal-Aid Highway program is administered by the Federal Highway Administration, part of the U.S. Department of Transportation. The primary purpose of the Program is highway planning and construction, by assisting state highway agencies in development, construction, and rehabilitation of the Interstate highway system. The Program also provides for funds to foster safe highway design, to replace or rehabilitate deficient or obsolete bridges, and to provide aid for repair of primary, secondary, and urban roads and streets after disasters.

The Federal Highway Administration (FHWA) administers formula grants and project grants in provision of assistance, primarily through state transportation agencies.[93] Funds cannot be used for maintenance activities,

such as pothole patching. Special programs are provided for highway safety, bridge replacement and rehabilitation, and railroad grade crossing improvements for roads on and off the designated Federal-aid (Interstate) systems.[94]

In most cases, the State level office of FHWA makes the final decision on the eligibility of specific projects for funding, but state highway agencies generally decide which projects will be developed within "apportioned funding levels".[95] Rail-highway crossing program funds (Section 130 funds) are provided through the Federal Aid Highway Program for safety devices and construction/rehabilitation of grade crossings.

A stipulation of Section 130 funds, according to Mr. Bob Wynans of the FHWA, is that 50% of the funds must be used for protective devices at crossings, whereas the other 50% may be used for other rail or highway purposes. Approximately $148 million was authorized by the U.S. Congress for this program in Federal Fiscal Year 1989-90; it is anticipated that funding levels will stay the same, or increase slightly in subsequent years.[96] The Federal share of project costs is generally 90%; the CTC/JPA (or other source, including the involved railroads) would provide the other 10%. During fiscal year 1988, $225 million in special safety funds for railroad grade crossing protection, eliminating roadside obstacles, general site improvements correcting high hazard locations, and improving markings was obligated by the FHWA.

To be eligible for funds, most projects must be located on one of the designated Federal-aid systems, and included in a statewide program of projects submitted for Federal approval. In the case of the Corridor project, Alameda Street south of Highway 91 has been so designated in the California State Transportation Improvement Plan (STIP) and is therefore eligible.[97]

However, the Rail-Highway Crossings Program is fortunately a major exception to the designation rule, as funds may be provided for public roads or thorough-fares other than on the Federal Interstate system. Proposed projects meeting certain design, environmental, and safety standards may therefore be designated for funding, even if not on a particular Federal-Aid System.[98] Project sponsors, such as the CTC/JPA, may submit applications for funds directly to the Caltrans. Normally, such projects must qualify for STIP inclusion and eventual approval by the California Transportation Commission.

In addition, regular Federal-aid highway funds, such as primary, secondary, and urban funds, may also be used for improvements at rail crossings that are not necessarily to improve safety, such as those that will improve traffic movement. However, use of regular Federal-aid funds are limited to public crossings located on the Federal-aid system. Whereas the Federal matching share for Section 130 funds is 90%, the share for regular highway funds is normally 75%. This can be increased by the state to 100% of construction and engineering costs on a limited basis.

In the past 12 years, almost as much regular Federal-aid funds as Section 130 funds have been spent in rail-highway crossing improvements, mostly for grade separation structures.

Within the Catalog of Federal Domestic Assistance, there appear to be no other potential funding sources other than those described above. The Federal Maritime Commission operates a small ($250-350,000 annually) demonstration program for American ports, primarily granted for long-range planning studies, or demonstration of new port technology.[99] Mr. Wynans, in a recent telephone conversation, did refer to a demonstration program for relocation of rail lines funded through the FHWA, now active in 19 cities

Exhibit 2

RAIL-HIGHWAY CROSSING IMPROVEMENTS

Federal-Aid Highway Funds
Obligated During FY 1988

Type of Work	SECTION 130 SAFETY FUNDS ($000)	SECTION 130 SAFETY FUNDS Number of Crossings Improved or Eliminated	ALL OTHER FEDERAL-AID FUNDS ($000)	ALL OTHER FEDERAL-AID FUNDS Number of Crossings Improved or Eliminated	TOTAL FEDERAL-AID FUNDS ($000)	TOTAL FEDERAL-AID FUNDS Number of Crossings Improved or Eliminated
Crossbucks	$ 433	487	$ -0-	-0-	$ 433	487
Approach Signs and Markings	3,814	1,210	1,111	N/A	4,925	N/A
Flashing Lights	26,291	612	2,904	53	29,195	665
Flashing Lights and Gates	42,349	781	5,109	61	47,458	842
Crossing Surfaces	17,868	748	5,100	100	22,968	848
Track Circuitry Only	1,625	39	2,171	N/A	3,796	N/A
Crossing Illumination	374	27	49	N/A	423	N/A
Alignment Improvement	410	6	1	N/A	411	N/A
Sight Distance Improvement	249	7	232	4	481	11
Elimination by:						
Closure	2,475	24	2,653	7	5,128	31
Grade Separation	11,771	N/A	23,653	7	35,424	N/A
Railroad Relocation/Consolidation	1,188	2	572	N/A	1,760	N/A
Highway Relocation	-0-	-0-	402	N/A	402	N/A
Grade Separation Reconstruction	4,326	2	72,093	22	76,419	24
Railroad Relocation to Accommodate Highway Construction	374	6	24,679	60	25,053	66
TOTALS:	$ 113,547		$ 140,729		$ 254,276	

N/A - Not Available

FHWA: Railroads, Utilities and Programs Branch

Exhibit 3

TABLE 130-1

RAILROAD-HIGHWAY CROSSING IMPROVEMENTS
FEDERAL FUNDS OBLIGATED
($ millions)

Fiscal Year	Section 130 Safety	Other Federal-Aid Highway	Total	Percent Section 130
1974	4.4	186.6	191.0	2.3
1975	33.9	246.6	280.5	12.1
1976	58.1	214.5	272.6	21.3
1977	98.9	214.1	313.0	31.6
1978	173.1	221.9	395.0	43.8
1979	180.4	199.0	379.4	47.5
1980	171.6	202.7	374.3	45.8
1981	184.6	184.6	369.2	50.0
1982	144.1	96.4	240.5	59.9
1983	187.8	158.8	346.6	54.2
1984	243.9	146.4	390.3	62.5
1985	140.5	103.9	244.4	57.5
1986	150.4	97.9	248.3	60.6
1987	123.8	141.4	265.2	46.7
1988	113.0	140.7	253.7	44.5
1989	147.7	*	*	*
FY 1974-1988	2,008.6	2,555.5	4,564.0	44.0
FY 1974-1989	2,156.3	----	----	----
Average 1978-1988	164.8	154.0	318.8	51.7

* Unavailable

FHWA, Railroads, Utilities and Programs Branch
November 29, 1989

throughout the United States. At the time of the conversation, he was of the opinion that all STURRA (Surface Transportation and Uniform Relocation Assistance Act) funds had been obligated. Such funds may, in any case, be used only for physical relocation of rail lines.

While it is hoped that with reauthorization of the Surface Transportation Assistance Act in 1991, that the $332 million requested by the CTC/JPA will be appropriated by Congress. However, there is no solid evidence that these funds will be programmed, now or in the foreseeable future.

A figure of approximately $148 million was mentioned earlier for FY 1990 funding for the Railroad-Highway Crossings Program (Section 130 funds). This figure, of course, represents a national funding amount; competition among state transportation agencies is expected to be keen. The estimated total cost of 13 additional grade separations at $13 million each (3 have already been funded), in connection with the Corridor project, or a total of $169 million, alone exceeds the amount of the most recent available Federal funding through this program.

Crucial to the future of Federal support of this project are the continued efforts of U.S. Representative Glenn M. Anderson of the 32nd District (D-Long Beach). Representative Anderson was instrumental in obtaining funding under the last reauthorization of the Surface Transportation Assistance Act in 1982 and 1987; however, present Corridor financing requirements (that proposed to be funded by the Federal government) are almost three times the amount received in the last two authorization rounds, which totalled $117 million. The amount proposed for the Federal share of Corridor improvements is $332 million, or approximately 40% of the total project cost.[100]

Two other potential sources of Federal funding have been mentioned in connection with the Corridor project, but have since been terminated by Congress, or are in the process of termination. These are: the Urban Development Action Grant (UDAG) program, and programs offered through the Economic Development Administration (EDA), U.S. Department of Commerce. Even if these programs were still active, the vast financing requirements of the Corridor project would render the limited amount of funding available through either program meaningless.

It is hoped that the Federal funding picture changes in time to assure that adequate funds are provided to ensure that the Corridor is assisted in a meaningful manner. However, Federal funding for the Corridor may ultimately play an extremely minor role in financing the costs of the Corridor project.

It should, however, be noted that $58 million in appropriated project funds materialized in 1982, and an additional $59 million was appropriated by Congress in 1987; this, at a time of an even higher national budget deficit, and on the tail end of one of the most severe recessions in the Nation's history. It cannot, therefore, be said with certainty that the bulk of the $332 million requested in Federal funding for the Corridor project will not materialize.[101]

As is the case with the Federal Government, the State of California may face a substantial budget deficit in fiscal year 1992, and the State Transportation Improvement Plan is oversubscribed in terms of available Federal and State gas tax funding by several hundred million dollars. However, second phase Corridor improvements are identified in the PSTIP (Proposed State Transportation Improvements Plan) for 1989 as fully funded.[102]

On a brighter note are Propositions 108, 111, and 116, collectively known as the California Clean Air and Transit Initiative, which will be on the June Statewide ballot.

The $18.5 billion in additional revenue that will eventually result from passage of the three propositions (known collectively as the Initiative) will be used to fully fund the 1989 STIP ($3.5 billion); an additional $3 billion would be allocated for flexible congestion relief projects; $3 billion would be allocated to cities and counties for transportation-related projects; $150 million would be allocated to build all remaining soundwalls on the Caltrans priority list, and $1 billion would be allocated for state highway maintenance and operation.[103]

The propositions, if passed, will authorize bonds in the total amount of $1.9 billion (Proposition 116), and will simultaneously authorize Senate Bill 300 (Proposition 111), which increases the per gallon tax on gasoline, currently at 9 cents, to 14 cents on August 1, 1990. The tax would be raised an additional one cent each year until it reaches a total of 18 cents in 1994.[104] SB 300 (Proposition 111) also changes the STIP from a five-year to a seven-year program to better represent available funding, and enhance Caltrans ability to deliver projects.[105]

Assembly Bill 471 will also be triggered by passage of Proposition 111 and would increase the commercial weight fees for trucks by 40% on August 1, 1990, and an additional 10% on January 1, 1995.[106] The bill also would increase the excise tax on diesel fuel by five cents a gallon in 1990, and provide for an additional one cent per gallon each of the following four years.[107] SB 300 (Proposition 111) calls for increased spending to provide congestion relief through construction of state highways, local streets and roads, and transit projects.

Lastly, the Initiative will trigger AB 973, which would authorize the sale of three $1 billion bond issues in 1990, 1992, and 1994 to finance rail improvements including the acquisition of right-of-way and purchase of equipment. The measure also identifies intercity rail corridors which would be eligible to receive funds, which will be allocated by the California Transportation Commission. The bonds will be issued only if the voters approve SCA 1 (Proposition 111 on the ballot), which would revise the Gann spending limit.[108]

The $3 billion earmarked under Proposition 111 for Flexible Congestion Relief projects may be used on the Corridor. According to Gil Hicks, Long Beach Port Planning Manager, $30 million in "Category B" improvement (TIP) funds have already been set aside by the Los Angeles County Transportation Commission for widening of Alameda Street.[109] With an additional infusion of gas tax funds through passage of Proposition 111, additional segments of the Corridor project could be funded in an expeditious manner.

To summarize, Proposition 108, the Passenger Rail and Clean Air Bond Act of 1990, will provide for a bond issue of one billion dollars to provide funds for acquisition of rights-of-way, capital expenditures, and acquisitions of rolling stock for intercity rail, commuter rail, and rail transit programs. The bill provides that money will be appropriated from the State General Fund to pay off the bonds. Proposition 111, the Traffic Congestion and Spending Limitation Act of 1990, will enact a statewide traffic congestion relief program, and update the spending limit on state and local government. Proposition 111 contains all of the provisions of SB 300, discussed earlier.

Exhibit 4

YES ON 111&108

THERE'S A LOT RIDING ON IT!

WHY CALIFORNIANS SUPPORT 111 & 108!

California has reached a crossroads. We enter a new decade facing monumental challenges – managing unprecedented traffic congestion, coping with explosive population growth, addressing spiraling health care costs, ensuring adequate law enforcement and public safety protection and teaching our children the skills necessary to compete in the modern workforce.

The nature and magnitude of these demands call for an innovative and comprehensive plan – a blueprint to move California toward the start of a new century.

That's why the California Association of Highway Patrolmen, California Taxpayers Association, League of Women Voters of California, California Transportation Commission, California School Boards Association, California Commission on Aging, California Chamber of Commerce, California State Automobile Association and scores of other taxpayer, senior, business, health care, labor and education organizations support the Traffic Congestion Relief and Spending Limitation Act of 1990 – Proposition 111 on the June 5 ballot.

Proposition 111 contains two major components that will provide the resources and direction necessary to address today's challenges: a traffic congestion relief package and a modification of the existing government spending limit.

Traffic Congestion Relief:

Current congestion levels have become unbearable. No longer concentrated only in the major urban areas, gridlock now plagues us all and it's going to get worse. A lot worse! Congestion is expected to double – and even triple in some areas – in just 10 years.

Even if revenues were available, we can no longer expect to simply build our way out of gridlock. Those days are long gone. We need a dramatic change in direction. Proposition 111 outlines a sensible, far-reaching transportation package that utilizes innovative strategies to tackle today's unique traffic problems and better prepare for tomorrow's needs. It sets new priorities. It represents a whole new comprehensive approach to solving our traffic nightmares. Proposition 111 will require $18.5 billion be spent over the next ten years to:

- Make our freeways, bridges and streets earthquake safe.
- Complete highway and mass transit projects authorized but not funded.
- Fix potholes and increase maintenance of local streets and state highways.
- Reduce peak-hour traffic by expanding van, carpool and staggered work hour programs.
- Expand local rail transit systems in Los Angeles, the Bay Area, San Diego, Sacramento, Santa Clara, San Joaquin Valley, Riverside, San Bernardino, Orange, the coastal counties and elsewhere.
- Improve traffic flow through synchronized signals, freeway ramp signals, electronic traffic message signs and other modern devices.
- Improve state highways.

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Governor George Deukmejian, Chairman • Tom Hatachi, Treasurer: ID# 891694

YES ON 111&108

THERE'S A LOT RIDING ON IT!

Proposition 108:

The Passenger Rail and Clean Air Bond Act

Moving California into a New Era of Rail Transit

Proposition 108 is the rail transit bonding portion of the comprehensive transportation blueprin outlined in Proposition 111 – the Traffic Congestion Relief and Spending Limitation Act.

As required by this visionary package, over the next four years, voters will be asked to approve thre separate $1 billion rail transit bond measures, totalling $3 billion. Proposition 108 on the June ballo is the first of these measures.

Although the law requires that Proposition 108 – because it is a bond measure – appear separatel on the ballot, it will NOT go into effect unless BOTH Propositions 111 AND 108 receive vote approval in June.

Proposition 108 will fund high priority capital outlay rail projects on intercity (Amtrak), commute and urban corridors throughout the state. (Eligible corridors are listed on the reverse side.)

Proposition 108 will usher California into a new era of rail transit. It will:

- Provide frustrated commuters and everyday citizens with real, and safe, alternatives to battlin traffic.
- Remove thousands of automobiles from our congested streets and highways. In fact, experienc shows that every rail car removes 75 to 125 automobiles from traffic.
- Reduce dangerous pollution levels in the air we breathe.
- Prove cost-effective. Light rail can be built at one-tenth the cost of highways.
- Keep California prosperous. According to fiscally conservative State Treasurer Thomas Hayes "Proposition 108 is exactly the kind of investment we should be making and is vital to keepin the California economy healthy and prosperous".

Join the movement toward a SAFER, CLEANER and MORE EFFICIENT TRANSPORTATION SYSTEM! VOTE YES on 108 and YES on 111!

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Exhibit 6

YES ON 111 & 108

THERE'S A LOT RIDING ON IT!

JUST THE FACTS

Proposition 111: The Traffic Congestion Relief and Spending Limitation Act

Proposition 108: The Passenger Rail and Clean Air Bond Act

Transportation Package

New Revenues:

A total of $18.5 billion will be raised over the next 10 years from the following sources:

- 9-Cent-Per-Gallon Fuel Tax Increase (5 cents on August 1, 1990, additional 1 cent on January 1, 1991, 1992, 1993 and 1994)
- 55% Truck Weight Fee Increase
- Rail Transit Bonds [$1 billion bond in 1990 (Proposition 108); additional $1 billion bond measures will be placed on 1992 and 1994 ballots]

New Expenditures:

(in billion dollars)

3.5	Complete already-authorized projects.
3.0	Maintenance and repair of local streets and roads.
3.0	(Prop. 108 and future bonds) Build and expand intercity, commuter and urban rail transit.
3.0	Construct projects specifically designed to reduce congestion on existing routes.
2.0	Matching funds for city and county priority transportation projects.
1.25	Improve interregional roads outside urban areas.
1.0	Peak-hour reduction projects, such as vanpools.
1.0	Highway repair, maintenance and safety.
0.5	Transit expansion, operation and maintenance.
0.25	Environmental enhancements and soundwall retrofitting.
$18.5 billion	

Specifically, new revenues will be used to:

Earthquake-safe freeways, bridges and streets – Every major earthquake uncovers new ways of reinforcing our existing transportation system to prevent future tragedies. We have the know-how and technology, but lack the funds to undertake the seismic retrofitting necessary to improve the safety of all our bridges and overpasses.

Complete already authorized, but unfunded projects – There is currently a $3.5 billion shortfall in the state transportation improvement program. Hundreds of already-authorized freeway widening, interchange improvement, general safety reinforcements, transit and other projects have been halted for lack of funds. Proposition 111 will enable these projects to proceed.

Fix potholes and increase maintenance of local streets and roads – A full two-thirds of our main roads are in fair to very poor condition and in need of resurfacing or reconstruction, according to The Road Information Program (TRIP).

Reduce peak-hour traffic by expanding van, carpool and staggered work hour programs – The best way to decrease traffic congestion is to reduce the number of vehicles using the system. More programs and incentives are needed to encourage the private sector to promote carpool and flextime to get folks off the highways during peak hours.

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All registered voters were asked:

a If the June primary were held today, how would you vote on the following?

PROPOSITIONS

Measure		For	Against	No opinion
108	(Bonds for light rail transit)	63%	23%	14%
111	(Gas tax hike)	47%	40%	13%
112	(Ethical standards on legislators)	45%	39%	16%
115	(Speedy trial)	65%	18%	17%
116	(Rail transportation bond)	42%	39%	19%
118	(Reapportionment and ethics)	43%	27%	30%
119	(Reapportionment by commission)	41%	31%	28%

Source: Los Angeles Times, May 4, 1990.

The passage of the centerpiece Proposition 111 legislation, which could potentially provide a substantial portion of funding for the Corridor project, is far from certain. According to Mr. Green, a media blitz is scheduled for radio, television, and newspapers within the next two weeks, but contributions have been spotty, despite the support of both Republican and Democratic groups, and the active intervention and support of Governor Deukmejian.[116]

Nevertheless, passage of Proposition 111 (and the allied propositions of 108 and 116) may provide a tremendous psychic and financial impetus to future funding and support for the Corridor project.

As one surveys other funding possibilities at the State level for the Corridor project, it becomes apparent that little exists. One possible source is the Automatic Grade Crossing Protection Fund, which was established by the California Legislature in 1965 to pay to railroad corporations the cities' and counties' share of the cost of maintaining automatic grade crossing protection devices installed after October 1, 1965.[117] Since 1967, the sum of $1 million per year has been appropriated by the State Legislature for maintenance of warning devices. The fund is budgeted annually by the California Transportation Commission (CTC) for allocation to the Public Utilities Commission. Safety is the primary reason for the Railroad Grade Crossing Protective Maintenance Program.

At the July 27, 1989, California Transportation Commission meeting, the Public Utilities Commission requested, and received, an increase to $3.5 million in local assistance funding for this program, based on need, for fiscal years 1990 and beyond.

In addition, the State Public Utilities Commission pays 80% for construction or renovation of railroad grade separations, but is only

allocated approximately $15 million annually.[118] It should be reiterated that the estimated cost for one grade separation for the Corridor project is approximately $13 million. In a conversation with the Chief Engineer on rail projects for the Public Utilities Commission May 1, 1990, it was learned that the grant funding formula is currently under revision, and that further grants will not be forthcoming until such a time as the formula is revised.[119]

In any case, neither the Automatic Grade Crossing Protection Maintenance Fund nor the Grade Separation Grant Program administered by the Public Utilities Commission constitute a primary source of funding for the Corridor project.

To quote from the report, Improving Access to California's Ports, published by the California Transportation Commission in February, 1990, "While the state is ready and willing to help those who help themselves, the ports must be prepared to compete for limited state resources..."[120]

Such resources are indeed extremely limited, and in no way can be relied upon to fund, even partially, the large financing needs of the Corridor project. Federal support, coupled with successful access to the capital markets, is absolutely essential to project success. There is considerable uncertainty and outright misunderstanding of the purposes of Proposition 111 among California voters, if one is to believe recent polls. Consequently, a sober and realistic viewpoint of financing Corridor improvements must be taken. "Best Case Scenario Number One", at the conclusion of this paper, assumes passage of Proposition 111. As such, the full impact of Flexible Congestion Relief funding is allocated in favor of the Corridor project. Happily, this will come to pass, if a sufficient and concerted public

information effort by all of the many groups on record in support of the Initiative succeeds in convincing California voters.

Attention will now be turned to possible contributions of revenues by local governments in support of the project.

CHAPTER 6: LOCAL GOVERNMENT CONTRIBUTIONS; USE OF TAX INCREMENT FUNDS

Since the advent of Proposition 13 and Proposition 4 (known as the Gann Initiative), local governments within California have been severely constrained in their ability to generate revenue. Proposition 13 limited property tax assessments to 1% of assessed valuation; Proposition 4 limited the ability of local governments within California to appropriate funds to a statistical formula based on the Consumer Price Index.

Annual appropriation limits are closely monitored by the State Controller's Office in Sacramento, through review of local government's mandatory submissions of annual financial reports which detail budgetary information on local revenues in great detail. Passage of Proposition 4 and 13 has forced local governments to often adopt unfamiliar and complex methods of financing needed public works projects in order to avoid circumvention of initiative restrictions on general obligation bonds, and other methods of raising funds dependent on a two-thirds majority vote of the electorate.[121] In addition, the 1986 Tax Reform Act added additional restrictions on use of bonds and related financing by local governments, and also placed severe limits on arbitrage earnings.

The CTC/JPA agreement neither requires, nor does it provide for, contributions by Governing Board members; that is, the cities along the Corridor route mentioned earlier in the paper.

There are, however, local fund sources that, while minor, could collectively be of some importance in financing the costs of the project. This paper will mention several.

State Gas Tax Construction and Maintenance Funds (known locally as 2106 and 2107 funds, referring to the applicable State Government codes) are allocated to units of local government in California annually, and are to be used for rehabilitation, renovation, and replacement of local collector, arterial, and minor streets and roads. Funds are received in the form of a State subvention (or grant), with only one string attached: funds received may be allocated to the local government's general fund only as long as the entity has simultaneously appropriated a like amount of funds out of general or special fund revenues for the same purposes.

There is precedent for use of such funds on railroad grade crossings and public thoroughfare improvements. The City of South Gate, for example, has budgeted "2106/2107" funds for upgrading of the rail crossing at the intersection of Southern Avenue and Garfield Boulevard (a Union Pacific route), and for various street construction projects throughout the City.[122] Project components similar to those required by the Corridor project may constitute eligible improvements under State guidelines. Funds, however, are limited; South Gate receives approximately $1.2 million annually, an insufficient sum given the large capital investment needs of the Corridor project. Collectively, among the eight cities adjoining the Corridor project, roughly $36 million could be generated. It is unknown whether local city councils or the State would be willing to see all of these funds diverted to the Corridor project, inasmuch as many Corridor cities have other pressing priorities of their own.[123]

In the discussion of Federal sources, Federal Aid-Highway funding was mentioned. The U.S. Department of Transportation, through the Federal Highway Administration, manages a separate fund not mentioned previously in this paper, referred to as Federal Aid-Urban funds. Southern California cities receive an apportionment of funds through the State Transportation Improvement Program (STIP) process, which describes eligible uses and dollar amounts of FAU (Federal Aid-Urban) funding. FAU funds are administered by Caltrans, through the California Transportation Commission (as approving body); and ultimately, by the Los Angeles County Transportation Commission, the regional agency responsible for coordination of local transportation plans and funding. In the Fall of 1989, the LACTC sent a memo to all eligible FAU fund recipients, advising them of large unobligated accounts of Federal FAU funds, in danger of expiration in June, 1991.

South Gate successfully used local funding on improvements to Long Beach Boulevard, within City limits, and received reimbursement by Caltrans in July, 1990, when the City submitted payment requests for $1.7 million. However, many FAU-eligible cities have not begun construction on budgeted street projects, and the Director of the LACTC has advised these entities in writing that they are in danger of losing FAU funds by the end of fiscal year 1991.

In a conversation with Gil Hicks of the Port of Long Beach, he also recalled that there were large unobligated balances of FAU funds. Balances could potentially be used for Corridor financing.[124]

It was difficult, if not impossible, to obtain information from the LACTC on unobligated balances in the FAU account. However, given local government priorities, there may be an opportunity, within the structure of

the JPA; to contribute FAU funds to the Corridor project in a meaningful amount, and still meet strict Federal and State requirements for local use of such funds.

Some cities have developed a local approach to raising street improvement funds. South Gate, for example, has been an innovator in generating available capital through a strict local motor carrier weight limit program administered by public safety agencies. The South Gate Police Department, in their 1989-90 budget submission, estimated $775,000 in revenue that will be raised through citation revenue against overweight trucks along Firestone Boulevard.[125]

Another potential source of local government contributions to the Corridor project could be through use of Community Development Block Grant (CDBG) funds in connection with improvements or planning studies. CDBG funds must be used to meet one of three broad national objectives, primary of which is that funds must be used to benefit low and moderate income people. However, another Federal goal is elimination of slums and blight under the CDBG program. In order to use such funds, local governments would have to certify that no other funds would be available for contribution to the Corridor program. CDBG funds have also been successfully used in funding economic development studies; the Corridor could certainly be defined as such an endeavor.

Again, the problem with use of such funds is their limited nature. South Gate receives less than $1.3 million annually; Lynwood, half that amount. In many cases, CDBG funds are subject to strict scrutiny by a panoply of local interest groups, which often submit proposals year after year.

Another problem with the CDBG approach has been the recent shift of emphasis with the Kemp Administration of HUD towards provision of direct benefit activities by local governments receiving CDBG funds. In other words,

funding priority must be given to activities that provide a measurable direct benefit to individuals considered within a disadvantaged category, i.e., the homeless. Such a restriction would not necessarily negate the use of CDBG funds for Corridor planning or even use on a limited amount of public-works improvements in connection with the project. But because of the limited nature of funding, and the lengthy process required to amend the "Final Statement" which HUD uses to approve and monitor the use of CDBG funds, use of Block Grant is questionable in the context of Corridor financing.

However, CDBG funds allocated to cities yearly may be leveraged three-to-one by a little-known Federal program referred to as Section 108 financing. Local governments receiving CDBG funding can "borrow" up to three times their annual CDBG "Entitlement" for qualified economic development or revitalization projects. Funds are subsequently paid back by offset against the City's future Entitlement grants. This approach has successfully been used by several cities in Southern California to leverage major project financing.

Another potential source of local government contributions may be in the form of transit funds allocated by the Los Angeles County Transportation Commission to Southern California cities. The ½¢ "Local Return" Program is granted to cities on a reimbursement basis for eligible transit projects conducted locally. Included in such eligible programs would be: Dial-A-Ride programs, renovation and rehabilitation of bus stops, construction of bus pads, subsidy of RTD passes for the low-income and elderly, and congestion relief programs.

The City of Lynwood received approximately $620,000 in Proposition "A" Local Return Funds for the fiscal year ending 1989, and the City of South Gate

was allocated a roughly similar amount. According to the LACTC, funds must be strictly used to promote or enhance existing or planned transit systems; however, congestion relief programs (through the Transportation Improvement, or TIP program, mentioned earlier) may be eligible for expenditure of Local Return funds. Local governments wishing to make use of such funds for the Corridor project would have to amend their annual project description, and submit a new project narrative to the LACTC for approval.

Despite the City Council's support of transit programs within South Gate, the City has been unable to make full use of its allocated funds. As such, an innovative agreement was reached with the City of Torrance to swap a portion of its allocation for cash. It is unknown whether other cities along the Corridor are experiencing difficulties in spending such funds, but inasmuch as Local Return funds may be potentially used on the Corridor project, a canvas of local representatives on this issue should be on the CTC/JPA agenda, particularly if needed Federal funds do not materialize, or a reduced revenue issuance is contemplated for financing the Corridor improvements.

Six of the eight cities abutting the Alameda Corridor/Southern Pacific San Pedro route are currently operating active redevelopment projects in the general vicinity of the Corridor route. For example, the City of Lynwood Redevelopment Project A and South Gate Redevelopment Project Number 1 both have boundaries that adjoin the Corridor project area; consequently, tax increment funds could possibly be used in support of Corridor project improvements. The California Redevelopment Law provides that in designated areas, property tax values may be frozen, by motion of the city council or other body, acting as a legally constituted redevelopment body. Any subsequent increase in property tax values would be allocated by Los Angeles

County to the local body on a formula basis. Such funds may be used annually for redevelopment-related purposes, including elimination of slums and blight, attraction of new industry, and other development-related purposes.[126]

Use of tax-increment financing is an important economic development tool, and could prove to be important to Corridor improvement financing. Nevertheless, in terms of the amount that could be realistically generated in the near term, local government contributions must be looked upon as an important, but relatively minor "financing backup" for the Corridor project.

It is suggested that in future meetings of the CTC/JPA, that governing board members be canvassed for their opinions insofar as their potential financial contribution to the Corridor project. Strategy-building teams could be devised among the cooperating members of the CTC/JPA to explore potential contributions of local funds to the project.[127]

Of overriding importance is the fact that the Corridor project is a cooperative effort of many local jurisdictions, each holding distinct and legitimate views on the feasibility of such an endeavor. Although the CTC/JPA has the advantage of being spearheaded by two of Southern California's most important centers of commerce and finance, the compact among the participating jurisdictions clearly indicates that the best approach may be through cooperative funding efforts of all participating jurisdictions, inasmuch as each will benefit in substantial and measurable ways, environmentally, economically, politically, and technologically.

In a very real sense, the Corridor project is extremely dependent upon the cooperation of the three railroad companies that serve the Ports. Each has expressed a varying degree of support for the Corridor project, and with sensible and fair participatory arrangements, there is no reason to believe that the three lines will not prove to be vital to the success of the Corridor.

As such, the next part of this study will address the potential financial role of the three rail lines in consumation of the Corridor project. Proper attention will be given to their competitive concerns, and their aspirations for future operating arrangements for the Consolidated Transportation Corridor. This paper will suggest strongly that financial assistance from the rail lines is certainly in order, inasmuch as they will particularly benefit financially from the project.

CHAPTER 7: CONTRIBUTIONS TO THE CORRIDOR PROJECT BY THE RAILROADS

Earlier in this paper, purchase of the Corridor right-of-way was discussed as a potential use of Certificates of Participation by the CTC/JPA. This approach, of course, would be somewhat unusual, inasmuch as it would involve purchase of a private easement by a public body, the CTC/JPA; which would in turn lease the right-of-way back to the railroad for cash, which would be collected by the fiscal agent appointed by the Authority, and used to pay the certificate holders. At the end of the payback period, the right-of-way, it was suggested, would revert back to the rail line (Southern Pacific).

There is no reason to believe that such an approach would be violative of law, or customary and usual methods of financing in the State of California. It is roughly estimated that the cost of acquiring the right-of-way to be in the vicinity of $100 million dollars; a better estimate was not available from the Southern Pacific during preparation of this study.

The primary presence on the Corridor is of course the Southern Pacific Railroad, which enjoys outright ownership of the primary north-south route of the project. In November, 1988, the Ports of Long Beach and Los Angeles contracted with Transportation Marketing Services, Inc. (TMS) to evaluate the

Alameda Corridor as the preferred route for a consolidated rail corridor. TMS was also asked to identify key operating and engineering issues involved in designing and building a workable project.[128]

TMS found that the Southern Pacific was taking a cautious approach to the Corridor project, its primary concern being the possible effect of the project on the ICTF's profits and operations.[129] Two other areas of concern identified were (1) terms of sale of Corridor property, and (2) nature of the operating entity. It was mentioned earlier in the paper that there are a number of points of view insofar as how the Consolidated Transportation Corridor should be operated. Several options have been identified, among them creation of a separate public entity that would operate the Corridor, utilizing an efficient and neutral approach in assigning access to the three railroads.

TMS reached the conclusion in their study that a single, impartial dispatching authority, which would control all through movements of the three railroads, is best suited to operate the project.[130] The author of this paper is in full agreement with TMS conclusions. An allied issue to organizational form is financing costs of the project. Southern Pacific has been notably silent on this topic. According to Port officials, the Southern Pacific has been reluctant to name an asking price for the rail right-of-way.[131]

There is no question that Southern Pacific is justified in attempting to maintain its competitive position in Southern California; its pioneering strategy culminating in construction of the ICTF has resulted not only in new private investment, but substantial public benefits as well. Southern Pacific has also expressed a concern that any potential organizational arrangement among the CTC/JPA and the railroads clearly define required contributions by the other two companies as well.

The task of the new CTC/JPA Executive Director, to be chosen May 10, 1990, is to overcome Southern Pacific's resistance to the project on sensible and reasonable grounds. All three railroads will share in the phenomenal growth of Port business to a much larger extent if the Corridor project is completed. As the TMS study concludes, more research should be done on the possible adverse effects of the Corridor operations on those at the ICTF.[132]

It is not the purpose of this study to comment in great detail on possible organizational arrangements, but rather to set forth potential financing options for the Corridor project. However, proper attention must be given to the potential organizational form of the project in order to insure financing success.

The railroads could contribute financially to the Corridor project in a variety of ways. One option would be for the lines to finance any Federal matching requirements. For example, the Section 130 program may require a 10% match for grade improvements. It is strongly suggested that if funding is contemplated through this source, that the CTC/JPA negotiate a firm commitment from one, or preferably all of the rail lines to meet any potential match.

The lines could make outright contributions of operating revenues on behalf of the project; however, this may be unlikely inasmuch as modern rail transportation firms utilize accounting methods (full deduction of depreciation) to minimize net operating revenues.

The Southern Pacific could provide the CTC/JPA with a reduction in the cost of acquiring the right-of-way, thereby lessening total project costs by what could be a substantial amount; a rough figure of $100 million was mentioned earlier in the paper. Or the lines could contract with the CTC/JPA to undertake needed improvements on their own, such as construction of grade separations.

There are, therefore, a variety of methods whereby the Corridor railroads could make a financial contribution to the project. It would seem absolutely essential that such contributions should be forthcoming, and negotiated in the near future, because of the critical role that the rail lines will play in project success. The CTC/JPA must develop a workable and fair strategy now to enlist the line's financial support in constructing the project.

There is no precedent for a publicly owned transportation system of the magnitude and type envisioned in the Corridor concept; consequently, it must again be stressed that the Governing Board should decide upon the organizational form to be used to operate the Corridor without delay.

CONCLUSION

It appears that both local Governing Board members and the rail lines could potentially play an important role in financing the Corridor. Probably the most feasible local government approach would be through funding of the various redevelopment agencies associated with the cities along the project route. Although a variety of local government revenues were mentioned, only redevelopment bodies have the sufficient legal authority to raise funds in support of the project. If the CTC/JPA should decide to utilize local contributions, it will require a high degree of coordination and cooperation among the JPA itself and the Governing Board cities. There will undoubtedly be different points of view expressed by city councils and residents affected by diversion of local government funds to the Corridor project. Again, an effective, professional, and centralized marketing and public information effort by the CTC/JPA will be essential to obtaining not only the less

traditional types of financing described in the last chapter, but in ensuring citizen support for the project for the duration of development and construction.

Equally important is a strong, honest, and comprehensive outreach effort to the rail lines, each of which will benefit to a varying degree by construction of the Corridor. Several approaches to possible railroad financing contributions were suggested in the last section. However, before the lines are approached, Southern Pacific, for example, must be satisfied that the Corridor will not adversely affect the ICTF's traffic and profits; the other lines must also be satisfied of fair and continued access to trackage, switching, and opportunities for increasing market share.

It is the author's viewpoint that present research in these areas is wholly inadequate. Subsequent research must be performed in these areas, and a separate, comprehensive study should be performed on organizational options for running the Corridor operations. Again, financing is largely dependent on the form that the organization will take in administration of the project. These details are far from worked out. For example, this paper suggests use of certificates of participation in purchase of the rail right-of-way. While theoretically and legally feasible, such an approach must remain within the realm of speculation until such time as serious negotiations on organization form and operations are entered into between the CTC/JPA and the railroads. Competitive concerns of the lines must be addressed and answered expeditiously and in a straightforward manner. The lines in turn have the obligation to cooperate with the CTC/JPA, its staff and consultants in providing necessary information so that reasonable agreements may be entered into.

This paper deliberately concentrated on the feasibility of revenue bond issuance for the Corridor project, because it is seen as the only feasible financing tool available if hypothetical Federal funding doesn't materialize, or if Proposition 111 is defeated in June. Despite the author's reluctance to inveigh too heavily in favor of one financing approach over another, access to the capital markets is seen as the key to project financing success.

Given the diversity of potential funding sources, the Corridor's financing future appears bright. Despite very significant fiscal constraints on California government at every level, not to mention the complex operating and administrative requirements of the Corridor project, there is no reason to believe that the CTC/JPA will be anything less than fully successful in funding this project. Interestingly, the time line is short from the drafting of this paper. So many questions will be answered in the next six months pertaining to financing, that much of what has been set forth here will either be startlingly current or wholly obsolete.

EXHIBIT 8

CONSOLIDATED TRANSPORTATION CORRIDOR

ESTIMATED ANNUAL DEBT SERVICE

$799 MILLION REVENUE BOND

(EXCERPT: YEARS 1991-2005)

	Principal	Interest	Total Debt Service
1991		29,170,000	29,170,000
1992	8,400,000	58,300,000	66,700,000
1993	9,200,600	57,500,000	66,700,600
1994	10,170,000	56,600,000	66,770,000
1995	11,100,000	55,700,000	66,800,000
1996	11,800,000	54,900,000	66,700,000
1997	12,600,000	54,100,000	66,700,000
1998	13,400,000	53,300,000	66,700,000
1999	14,300,000	52,400,000	66,700,000
2000	15,400,000	51,400,000	66,800,000
2001	16,400,000	50,300,000	66,700,000
2002	17,600,000	49,100,000	66,700,000
2003	18,800,000	47,900,000	66,700,000
2004	20,200,000	46,600,000	66,800,000
2005	21,700,000	46,100,000	67,800,000

Source: Author's calculations, assuming same rate/yield as Series 1989A Bond. Twenty-year maturity.

EXHIBIT 9

"BEST CASE" SCENARIO

Assumptions and Suggested Approaches:

* Federal STAA demonstration funds are approved by Congress in 1991, under the Ports Access Demonstration Program:

  Total Funding: $332,000,000

* Proposition 111 passes in June 1990; funds are granted through the Flexible Congestion Relief Program:

  Total Funding: $ 80,000,000

* Project funds granted by the FHWA through the Federal-Aid Highway Program:

  Total Funding: $150,000,000

* CTC/JPA issues revenue bonds backed by TEU and rail car fees. Bonds are twenty-year maturity, assumed 7% coupon rate:

  Total Funding: $237,000,000

* Certificates of Participation issued to purchase Southern Pacific rail right-of-way:

  Total Funding: $100,000,000

* Bond Anticipation Notes (BANS issued at project start-up to fund six grade separations at $13 million each):

  Total Funding: $ 78,000,000 (However, BANS are retired by subsequent revenue bond issue-see above)

TOTAL PROJECT COSTS: $899,000,000

EXHIBIT 10

"WORST CASE" SCENARIO

Assumptions:

* Federal STAA demonstration funds do not materialize;
* Proposition 111 does not pass in June, 1990;
* No governing body contributions;
* Continued growth of containerized and non-containerized cargo at the Ports.

Suggested Approaches:

* BAN'S issued to defray cost of first 6 grade separations ($78 million);
* Establish rail car fees at suggested levels;
* Establish TEU fees at suggested levels;
* Revenue bond issued for $799 million, to fund full projected cost of improvements;
* COP's issued for purchase of rail right-of-way.

EXHIBIT 11

ESTIMATED REVENUE BY

ASSESSMENT AGAINST TEU'S

	Estimated Annual TEU's	Fee/TEU	Potential Revenue/Year
Port of Los Angeles	1,900,000	30.00	57,000,000
Port of Long Beach	1,600,000	30.00	48,000,000
Total	3,500,000		105,000,000

* Total potential TEU revenue @ 30.00 TEU $105,000,000
* Estimated annual debt service $ 66,800,000
* Recommended revenue coverage (Rate set at 1.5-1.75 times debt service) $100,200,000
* Recommended fee/TEU 30.00

Provides sufficient debt service cushion for a $799 million "worst case" issue.

EXHIBIT 12

ANALYSIS OF POTENTIAL RAIL CAR REVENUE

PORT OF LONG BEACH

	Commodity	High Monthly Volume	Assessment/ Car	Annual Total
1.	Double Stack Containers	144 (36 cars/week)	50.00	$ 86,400.00
2.	Dry Bulk	384 (96 cars/week)	50.00	$230,400.00
3.	Steel Coil	20 (5 cars/week)	50.00	$ 12,000.00
4.	Tallow	32 (8 cars/week)	50.00	$ 19,200.00
5.	Steel Slab	960 (240 cars/week)	50.00	$576,000.00
6.	Salt	5 (1.25 cars/week)	50.00	$ 3,000.00
7.	Automobiles	321 (80.25 cars/week)	50.00	$192,600.00
	Total	1866 (466.5 cars/week)	50.00	$1,119,600.00

Source: Gil Hicks, Port Planning Manager
Average Railroad Volumes by Zone; (05/10/89) - Port of Long Beach

Notes

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10. Ports Access Study, xiv.

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46. John Downes and Jordan Elliot Goodman, Dictionary of Finance and Investment Terms, 2d ed. (New York: Barron's Financial Guides, 1987), 54.

47. Jeffrey J. Alexopulos, "Seaport Revenue Bonds", in The Municipal Bond Handbook, Volume II, Sylvan G. Feldstein, Frank J. Fabozzi, Irving M. Pollack, ed. (Homewood, Ill.: Dow Jones-Irwin, 1983), 138-150.

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53. It must be stressed, however, that while the Port maintains this cash reserve, funds are not "idle". Cash balances are constantly reinvested and the cash reserve is maintained in the event that needed property for Port expansion, currently owned by the Union Pacific, becomes available.

54. Please see Exhibit at the end of this paper.

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96. Conversation with Mr. Bob Wynans, of the Federal Highway Administration, April 19, 1990.

97. 1989 Proposed State Transportation Improvements Program (Sacramento: State of California, July 1989), Section 7, Los Angeles.

98. Catalog of Federal Domestic Assistance, 1989 ed., 655.

99. Catalog of Federal Domestic Assistance, 1989 ed., 661.

100. Councilwoman Flores to City Council, summary report, April 4, 1990.

101. Councilwoman Flores to City Council, summary report, April 4, 1990.

102. 1989 Proposed State Transportation Improvements Program (Sacramento: State of California, July 1989), Section 7, Los Angeles.

103. Conversation with Audrey Gabor, Transportation Chairwoman, East Bay League of Women Voters, May 2, 1990. Ms. Gabor explained the relationship between the Propositions and the underlying California State Assembly and Senate legislation.

104. Yes on 111 and 108 Committee campaign materials (various).

105. Yes on 111 and 108 Committee campaign materials (various).

106. Yes on 111 and 108 Committee campaign materials (various).

107. Yes on 111 and 108 Committee campaign materials (various).

108. Conversation with Ms. Gabor, May 2, 1990.

109. Interview conducted by author with Gil Hicks, Port of Long Beach, April 19, 1990.

110. Yes on 111 and 108 Committee campaign materials (various).

111. Yes on 111 and 108 Committee campaign materials (various).

112. "LA Times Poll", Los Angeles Times (May 6, 1990), A42.

113. "LA Times Poll", Los Angeles Times (May 6, 1990), A42.

114. Conversation with Ted Green of the Yes on 111 and 108 Committee, Tuesday, May 1, 1990.

115. "LA Times Poll", Los Angeles Times (May 6, 1990), A42.

116. Conversation with Ted Green of the Yes on 111 and 108 Committee, Tuesday, May 1, 1990.

117. Memorandum to Chairman, California Transportation Commission, from Robert I. Remen, dated August 14, 1989.

118. Interview conducted by author with Gil Hicks, Port of Long Beach, April 19, 1990.

119. Telephone conversation with the Chief Engineer, Public Utilities Commission, San Francisco office, May 1, 1990.

120. California Transportation Commission. Improving Access to California's Ports (Sacramento, California: California Department of Transportation, February 1990), 22-23.

121. Horler, Guide to Public Debt Financing, 90-93.

122. 1989-90 Final Budget, City of South Gate.

123. Conversation with Charles Gomez, City Manager, City of Lynwood, April 25, 1990.

124. Conversation with staff of Los Angeles County Transportation Commission, May 2, 1990.

125. 1989-90 Final Budget, City of South Gate.

126. Horler, Guide to Public Debt Financing, 69-70.

127. Conversation with staff of Los Angeles County Transportation Commission, May 2, 1990.

128. Transportation Marketing Services. Consolidated Rail Corridor; A Strategic Plan for Implementation (Pleasant Hill, California: Transportation Marketing Services, November 1988), 2.

129. Plan, 71.

130. Plan, 83.

131. Interview conducted by author with Gil Hicks, Port of Long Beach, April 19, 1990.

132. Plan, 74.

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