

**The West Coast Corridor System:
A National Asset and Priority**

*A White Paper from
The West Coast Corridor Coalition*

February 2004

- Executive Summary -

This special report is a call for national participation in investments that will assure the West Coast corridor system meets the demands placed upon it.

Global Gateways

The West Coast corridor system links the United States' largest trading partners with our nation's economy. Millions of consumers and jobs from Boston to San Diego, from Seattle to Miami, depend on a robust and capable West Coast corridor system.

World trade is an increasingly important factor in the health of the domestic economy. During the 1990s, the value of U.S. international trade more than doubled, from \$891 billion to almost \$2 trillion. Trade rose from 13 percent of national output in 1990 to more than 20 percent in 2000.

Canada and Mexico vie with Japan and China as the U.S.' largest trade partners. Each day, \$1 billion in goods moves between Canada and the U.S., and almost \$400 million between Mexico and the U.S. Each day, one million people cross the U.S. - Mexico border while one-third of a million cross the U.S. - Canada border.

The West Coast Corridor pulses with commerce, personal travel and tourism. It is the nexus of APEC (Asia-Pacific Economic Cooperation) and NAFTA (the North American Free Trade Agreement). In a 1995 study for USDOT, the Denver-based Center for the New West identified the West Coast Corridor System as one of only two NAFTA trade corridors that links the three nations in a high level of economic activity.

The West Coast in World Trade

The value of containers moving through the five largest West Coast ports exceeds \$300 billion a year. The three largest California ports account for 39.6% of containerized cargo trade in the U.S. This is more than three times (3.12x) California's share of national population. The two largest Washington ports handle 8.2% of total container traffic in the U.S. - 3.64 times the national population share of the state.

Waterborne revenue cargo moving through California, Oregon and Washington ports has grown from 60 million tons in 1970 to 263 million tons in 2002. Driving this process is an increase in container cargo from 8.7 million tons in 1970 to 184 million tons in 2002.

Analysts estimate that trans-Pacific imports to the U.S. will increase 5 to 7 percent each year over the next two decades. Even growth at the lower end of this range means container traffic in 2024 will be more than two and a half times current volume.

The Cost of Capacity Constraints

At the very time when trade is becoming a vital factor in the economy, the capabilities of critical cargo handling facilities and intermodal links are being stretched beyond capacity. If the US is to enhance the West Coast Corridor as a national economic and security asset, a funding commitment is required as part of the federal reauthorization processes.

Today, the cost of infrastructure investment required to maintain the goods movement system is borne largely by gateway communities and regions. Despite the national benefits of trade, a disproportionate burden has fallen on geographic locales that site critical facilities. Equity issues aside, requiring regional sources to fund facilities of national benefit virtually assures shortfalls in capacity.

The importance of maritime commerce to the U.S. economy was dramatically illustrated by the shutdown of West Coast ports in September and October 2002. Ten days on non-operation along the coast led to a 23-day backlog of disrupted trade valued at nearly \$10 billion.

Since the shutdown, labor and management have come together on a forward-looking strategy. Future disruptions are unlikely to be due to disputes on the docks. But constraints at terminals and intermodal centers, on highways or rail lines, can have similar effects. Bottlenecks develop gradually and have cumulative impacts. The resulting delays and congestion add costs to the economy and environment in reduced mobility, disrupted schedules, higher product prices and greater pollution.

A Multi-Jurisdictional Approach

One effect of a new generation of federal transportation legislation is the rise of multi-jurisdictional alliances and coalitions. Combination of entities -- states, regions, cities, commissions, authorities, and not-for-profit organizations -- join together to study and solve transportation issues. The West Coast Corridor

Coalition is one of those new alliances, designed to provide regional, multimodal solutions to transportation needs.

Our call for a national investment has three phases. The level of resources required grows with each phase, reaching a point where the coalition itself cannot support these funding needs and has to extend its partnership to the rest of the country.

Phase 1 is focused on building the coalition. Costs are minimal (thousands of dollars) and are typically financed by coalition members. Phase 2 is devoted to research, education and communication. Its costs are typically greater (ranging from hundreds of thousands to several million dollars) and are funded through a variety of sources, including Federal grants (earmarks, discretionary or formula) and own-source funds (state money).

Phase 3 is implementation of big-ticket projects (hundreds of millions to billions of dollars). For members to meet the public funding requirements, coalition projects must compete with other funding needs confronting members, including preservation of existing infrastructure and other committed capital projects.

Financing Goods Movement

The federal reauthorization debate is central to this nation's transportation future. Higher real levels of funding more fully address crucial needs and reduce conflict among legitimate, competing uses of funds including goods mobility, transit, general capacity, and mitigation of project impacts.

An important initiative related to reauthorization comes from Congresswoman Juanita Millender-McDonald, (D-Los Angeles), founder of the Goods Movement Caucus in the House. She has introduced legislation to support "Goods Movement Projects of National Economic Significance." HR 3398 would provide \$17.6 billion over the six-year reauthorization to finance critical freight mobility projects. Half the amount would be in discretionary funds for state and local priorities, and half would be distributed to "infrastructure of national significance."

In March 2003, the California Marine and Intermodal Transportation Strategic Advisory Committee (CALMITSAC) published a report on marine transport requirements.. Its roster of high-priority projects supporting the marine transportation system that serves international trade totaled \$715 million for Northern California and \$3.8 billion for Southern California.

In Washington State, the Freight Action Strategy (FAST) Corridor serving Puget Sound ports has a price tag of \$470 million for Phase I and \$262 million for Phase II. FAST Phase I leverages \$90 million in federal financing with local and state funds. Projects address capacity issues and community impacts arising from growth in trade-related goods movement. FAST Phase II seeks federal participation in funding strategically selected projects that justify national support.

At numerous points along the West Coast Corridor, infrastructure investments required for national freight mobility fall largely upon states and regions. Examples include I-5, I-405 and I-90 through the Seattle metroplex, the interface of land and marine transport in Portland, repair of bridges essential to system functionality on I-5 in Oregon, upgrading California 99 as “Main Street” for the nation’s largest agricultural region, and port-corridor connectors such as I-580 and I-680 in the Bay Area and I-710 and State Route 60 in Southern California.

A goods movement investment strategy includes improvements in personal mobility as well. For example, if passenger trains move faster, cargo moves faster. The West Coast Corridor includes some of the most heavily used passenger rail routes in the U.S. Only the Northeast Corridor outpaces California and the Northwest in popular and viable passenger rail service. Yet, Class I freight rail capacity on the West Coast corridor system is much less well developed on north-south routes than east-west. West Coast rail can be an instance where passenger demand helps support needed additions to freight capacity.

Meeting freight mobility needs brings benefits to the U.S. economy even beyond the value of a robust trade infrastructure. In May 2003, Global Insight consultants released a study on the economic impact of the six-year, \$375 billion authorization level proposed by the House Transportation and Infrastructure Committee chaired by Rep. Don Young (R-AK). This study was sponsored by the American Public Transportation Association and the Transportation Construction Coalition.

Global Insight estimated the incremental impact of \$375 billion compared to the Administration’s original baseline of \$245 billion (since raised to \$275 billion). Over six years, the economic stimulus provided by the difference between the two amounts compared in the study is \$290 billion in national output (GDP), \$129 billion in household income, \$102 billion in growth-related federal revenues, and \$140 billion in state and local tax receipts.

The math is straightforward. Trade equals 20 percent of the U.S. economy, and West Coast ports handle half of all containerized trade. The region is struggling

to keep pace with demands on the goods movement infrastructure, yet national investment in transportation nowhere reflects this reality.

To assure a robust economic future, the time has come for changes that recognize the need for national investment to protect a national benefit.

-White Paper-

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Global Gateways

The economic vitality of the United States is inseparable from the global economy. World trade is an increasingly important factor in the health of the domestic economy. During the 1990s, the value of U.S. international trade grew from \$891 billion to almost \$2 trillion. Trade rose from 13 percent of national output in 1990 to more than 20 percent in 2000.

Millions of American jobs are tied to trade in four ways:

- Producing goods and services for export - where the U.S. still ranks #1.
- Using imported components to make finished products for domestic consumption and foreign markets.
- Selling imported goods to U.S. consumers and businesses at retail and wholesale outlets.
- Handling and facilitating the flow of trade goods movement at ports and within the U.S.

The West Coast in World Trade

Thanks to Pacific Rim dominance of world trade, West Coast ports handle a disproportionate share of containerized U.S. imports and exports. The Maritime Administration reported the following volumes of foreign and domestic container cargo traffic in 2002:

<i>Port</i>	<i>Thousands of 20-foot containers (TEU's)</i>		
	<i>Total</i>	<i>Import %</i>	<i>Export %</i>
Los Angeles	6,105	78.7%	21.3%
Long Beach	4,524	77.5	22.5
Oakland	1,698	49.2	50.8
Tacoma	1,471	48.7	51.3

Seattle

1,439

50.2

49.8

The value of containers moving through the West Coast's five largest ports exceeds \$300 billion a year. The three largest California ports account for 39.6% of containerized cargo trade in the U.S. This is more than three times (3.12x) California's share of national population. The two largest Washington ports handle 8.2% of total container traffic in the U.S. - 3.64 times the national population share of the state.

A large local market and direct routes to the east enable the two largest Southern California ports to handle 41.7% of nationwide container cargo imports. The three next largest West Coast ports have a close balance between imports and exports. Tacoma, Seattle and Oakland together handle a remarkable 27.3% of all U.S. container exports.

Ports on the Columbia River system, led by Portland, Oregon, are standouts in moving bulk cargo of grain, minerals and other products. These are virtually all exports. Portland, Oregon, and Kalama, Vancouver and Longview, Washington, handle 42.8% of West Coast bulk cargo movements. Total volume of 20 million-plus tons annually on the Lower Columbia ports is exceeded within the U.S. only by the Mississippi River system.

Waterborne revenue cargo moving through California, Oregon and Washington ports has grown from 60 million tons in 1970 to 263 million tons in 2002. Driving this process is an increase in container cargo from 8.7 million tons in 1970 to 184 million tons in 2002. Analysts estimate that transpacific imports to the U.S. will increase 5 - 7% annually for the next 20 years. Even growth at the lower end of this range means container traffic in 2024 will be more than two and a half times current volume.

The Cost of Capacity Constraints

The West Coast system of global gateways begins at marine ports and includes railroads, highways and other facilities and services that move freight within North America. At the very time when trade is becoming a vital factor in the economy, the capabilities of critical cargo handling facilities and intermodal links are being stretched beyond capacity.

The importance of maritime commerce to the U.S. economy was dramatically illustrated by the shut-down of West Coast ports in September and October 2002. Ten days on non-operation along the coast led to a 23-day backlog of disrupted trade valued at nearly \$10 billion.

Since the shutdown, labor and management have come together on a forward-looking strategy. Future disruptions are unlikely to be due to disputes on the docks. But constraints at terminals and intermodal centers, on highways or rail lines, can have similar effects. Bottlenecks develop gradually and have cumulative impacts. The resulting delays and congestion add costs to the economy and environment in reduced mobility, disrupted schedules, higher product prices and greater pollution.

Today, the cost of infrastructure investment required to maintain the goods movement system is borne largely by gateway communities and regions. Despite the national benefits of trade, a disproportionate burden has fallen on geographic locales that site critical facilities. Equity issues aside, requiring regional sources to fund facilities of national benefit virtually assures shortfalls in capacity.

One effect of West Coast pinch-points is that increasing volumes of trade are being shifted to all-water routes from Asia to the East Coast. The route eastward through the Panama Canal enjoys the low cost of waterborne movement but can take up to several days more time than “land bridge” routes that deposit cargo on the West Coast and then carry it by rail and truck to the rest of the U.S. The route westward from Southeast Asia through the Suez Canal reliably delivers to the U.S. East Coast in 22 days, versus a 21-day transit through U.S. West Coast ports. This speaks to the continuing need for freight infrastructure investment and efficiency improvements to keep the Western transportation system competitive as an option for Southeast Asia freight.

Three-Nation Trade Corridor

The West Coast is the nexus of APEC (Asia-Pacific Economic Cooperation) and NAFTA (the North American Free Trade Agreement). In a 1995 study for USDOT, the Center for the New West identified the West Coast Corridor System as one of only two NAFTA trade corridors that links the three nations in a high level of economic activity.

Currently, Canada and Mexico vie with Japan and China as the U.S.’ largest trade partners. Each day, \$1 billion in goods moves between Canada and the U.S., and almost \$400 million between Mexico and the U.S. Each day, one million people cross the U.S.- Mexico border while one-third of a million cross the U.S.-Canada border.

The busiest Canadian border crossing for commercial traffic outside the Province of Ontario is at the north end of the West Coast Corridor, where British

Columbia and Washington meet. The busiest border crossing for people movement in the world is at the south end of the West Coast Corridor, where California and Baja California meet.

Between these two points, the Corridor spans “from B.C. to B.C.” Its 1,360-mile length is a more direct route from border to border than I-35 (1,641 miles), I-75 (1,758 miles) or I-95 (1,950 miles). Moreover, the West Coast Corridor is the only three-nation route anchored by major urban centers at both ends. It is also the pace-setter in growth. Population rose 182% along the West Coast Corridor from 1950 to 2000, versus 120% along I-35, 120% along I-75, and 66% along I-95.

The West Coast Corridor pulses with commerce, personal travel and tourism. At the Oregon-California border, one of the more rural reaches of the Corridor with little local traffic, the estimated daily volume of 3,750 eighteen-wheel heavy trucks. This flow between the Northwest and California is equal to half that on Ambassador Bridge linking Detroit and Windsor, Ontario – the busiest commercial border crossing in North America.

Inter-Regional Trade

Data on trade among West Coast states reflect this reality. Washington State’s annual exports of farm produce, software, trucks, aircraft and lumber to California are \$17 billion – equal to the combined purchases of Japan, China and Canada. Washington exports to Oregon total \$12 billion. These two states buy an amount equal to Washington’s foreign exports. West Coast trade is one reason why truck traffic on I-5 in Washington grew faster than auto traffic, more than doubling between 1993 and 2002.

Similarly strong trade links exist between Washington and British Columbia, Oregon and Washington, Oregon and California, Baja California and California. Their high standing in trade-partner rankings receives less attention because they are not nation-to-nation.

Corroborating evidence for the importance of West Coast regional goods movement is offered by a Trade Impact Study completed in 2002 as part of Alameda Corridor-East. This project would extend high-capacity freight rail service for Pacific Rim marine cargoes moving through the Los Angeles metroplex to the rest of North America. The study measured the impact of the project in two ways: on the international trade of each U.S. region, and on the domestic trade of each region with California.

Upgrading rail capacity between Southern California ports and the rest of the country is of major value to all 7 regions except one – the Northwest, which has

its own port capacity that serves Pacific Rim trade. At the same time, the value of California corridors for domestic trade is of greater value to the Northwest than any other region except the Southwest, which includes California. These data demonstrate the importance of West inter-regional trade.

The infrastructure challenge of West Coast and NAFTA freight mobility comes on top of Pacific Rim goods movement. Truck and rail traffic is heavy between city pairs including Vancouver-Seattle, Seattle-Portland and San Francisco-Los Angeles. Volumes are driven by goods exchange among metro markets - and by north-south movement of containers and other cargo to eastbound rail and truck corridors of choice such as I-84 and I-40.

At numerous points along the West Coast Corridor, infrastructure investments required for national freight mobility fall largely upon states and regions. Examples include I-5 and I-405 through the Seattle metroplex, the interface of land and marine transport in Portland, repair of bridges essential to system functionality on I-5 in Oregon, upgrading California 99 as "Main Street" for the nation's largest agricultural region, and port-corridor connectors such as I-580 and I-680 in the Bay Area and I-710 and State Route 60 in Southern California.

A Multi-Modal Future

As the freight mobility challenge has grown, public and political perceptions have lagged reality. Yet, goods movement advocates must maintain perspective. Personal mobility by auto, bus and rail transit will remain a primary concern of the public. Moreover, freight solutions must be pursued in the context of people movement. Conflict between the two roles of transport should be minimized, while beneficial synergies are sought.

For example, by placing trains in a trench below grade, the Alameda Corridor project doubled freight train speeds and reconnected communities that were severed several times each day by grade crossings of freight rail. Thus, the Corridor enhanced both freight and passenger mobility. This is also the intent of dedicated truck-way proposals, which would enhance passenger car safety as well as mobility.

One of the most pressing transportation problems in North America is the lack of inter-connectivity between existing passenger services and facilities. On the freight side, making connections between marine cargo, rail and trucking is a major concern.

The effort to link modes so they are complementary creates more travel and transport options. This approach goes by the name of “multimodalism” (the presence of more than one mode as a choice) or “intermodalism” (end-to-end connection of modes).

Many European countries have made great advances in passenger intermodalism, Ridership has risen dramatically, yet overall levels of driving between cities has also increased—albeit well below levels in North America. And while North American freight transport interests have made great strides in inter-modal connections, the amount of long distance freight, especially non-bulk cargo, transported by trucks continues to grow and add to traffic congestion in most metropolitan areas.

The West Coast Corridor System includes some of the most heavily used passenger rail routes in the U.S. Only the Northeast Corridor outpaces California and the Northwest in popular and economically sustainable passenger rail service. Yet, Class I freight rail capacity on the West Coast corridor system is much less well developed on north-south routes than east-west. West Coast rail may be an instance where passenger demand can help support needed additions to freight capacity.

A high level of public awareness about passenger rail brings needed attention to freight rail issues. There is a front-end challenge, however. Passenger trains move faster than freight trains, and the push is on for even higher speeds. This creates the problem of “over-taking” and the need for track bypass capacity to prevent conflicts between the two uses of rail transport.

Beyond the “normal high-end” range of about 80 m.p.h. there is growing interest in high-speed inter-city passenger rail that would move at 100 m.p.h., 200 m.p.h. or faster. A major reason for this interest is the potential for inter-city rail service to replace part of the demand for commuter air service. This could provide crucial relief for gate capacity at airports and would support travel security requirements in the post- 9/11 era.

In sum, a “seamless” transportation system is inter-modal not only in optimizing marine, rail, truck and air transport of freight but in harmonizing personal mobility and goods movement. These are the two crucial dimensions of transport in supporting economic vitality and quality of life.

A Multi-Jurisdictional Approach: Key to Success

One result of a new generation of federal transportation legislation is the rise of complex, multi-jurisdictional alliances and coalitions. Combinations of entities -- states, MPOs, cities, commissions, authorities, and not-for-profit organizations -- join together to study and solve transportation issues.

The typical multi-jurisdiction transportation "issue" of previous decades was as basic as two adjoining cities that desired to share transit service, or neighboring states that wanted a new bridge on the river that formed their boundary. Much has been learned from these beginnings, and today the issues are more complex. States and regions compete for position in the global marketplace while seeking to attract new jobs and retain existing workers. In response to these complex issues, transportation has witnessed the evolution of more complex alliances.

Various coalitions have arisen whose mission is to study transportation issues and implement solutions across jurisdictional lines. The proliferation of high priority corridors, international border crossing initiatives, and new economic alliances suggest that more new coalitions will be formed. The formation of a West Coast Corridor Coalition to compete for federal funding is in response to the region's role in national economic competitiveness as well as the interest of the region's residents.

The Challenge of Coalition Funding

Understanding the phases in coalition formation, and the challenges faced at each level, is essential to a successful coalition. Phase 1 is the process of building the coalition. Phase 2 is focused on a series of research, communications and education efforts. Phase 3 is the period of coordination and implementation. The West Coast Corridor Coalition is mid-way through Phase 1.

The level of resources needed grows with each phase, reaching a point where the coalition itself cannot support these funding needs and has to reach outside for support. The costs associated with Phase 1 are minimal (thousands of dollars) and are typically financed by coalition members. Phase 2 costs are typically greater (ranging from hundreds of thousands to several million dollars) are funded through a variety of sources, including Federal grants (earmarks, discretionary or formula) and own-source funds (state money).

Phase 3 is typically the implementation of big-ticket projects (hundreds of millions to billions of dollars). For public funding requirements to be met by the members themselves, the coalition projects must compete with other funding needs confronting the members (including preservation of existing infrastructure and other committed capital projects).

Hence, the success of most coalitions depends on the ability of the individual members to set priorities among their own projects that balance these priorities with the coalition's objectives, and on the ability of the coalition to secure sufficient external funding.

Transportation Equity Act: A Legacy for Users (TEA-LU)

At its 2nd General Session on November 10, 2003, the West Coast Corridor Coalition adopted a Resolution on Federal Reauthorization of Transportation Financing. The Resolution noted that:

- The States of Alaska, Washington, Oregon and California represent an economy that as a separate nation would be 4th largest in the world.
- West Coast states are key links in trade with Canada and Mexico, and are major domestic origins and destinations in their own right as interconnected centers of economic activity;
- As the nexus of APEC and NAFTA, West Coast states play a unique role in growing the national economy while protecting national security, enabling the nation to receive benefits from trade, including jobs, economic output, and tax revenues.
- The West Coast share of national transportation funding reflects neither its share of total trade value nor the disproportionate burden it bears in supporting capital investments required to handle the flow of trade.

The Resolution commended the Administration for placing within reauthorization a greater emphasis on goods movement. It also urged suggested that the legislation should:

- state that strengthening the goods movement system is a national policy goal, consistent with economic development, national security and safety.
- back this policy with a commensurate commitment of resources; specifically, six-year authorizations that are increased significantly above current level;
- within a higher authorization, provide specific funding to meet the critical transport capacity needs facing West Coast states and regions as they address the economic and community impacts of growth in international and domestic trade.

“Equity language” in TEA-21 provides that at least 90.5% of federal transportation revenues are returned to the states where they were collected. Some reauthorization proposals would raise the minimum to 95%. The higher this percentage, the more difficult any reallocation to states that bear the cost of providing a national benefit by maintaining a global gateway. This constraint suggests consideration of a new revenue source that is trade-related and would be spent entirely on infrastructure that supports trade-related goods movement.

The Goods Movement Caucus Initiative

An important initiative related to reauthorization comes from Congresswoman Juanita Millender-McDonald (D-Los Angeles) founder of the Goods Movement Caucus in the House. She has introduced legislation to support “Goods Movement Projects of National Economic Significance.” HR 3398 would provide \$17.6 billion over the six-year reauthorization to finance critical freight mobility projects. Half the amount would be in discretionary funds for state and local priorities, and half would be distributed to “infrastructure of national significance.”

In presenting her proposal, Rep. Millender-McDonald cited key statistics (1998): movement of \$7.4 trillion in goods on the nation’s highway system, employing 10 million people, projected to grow in volume by 67% over the next two decades. She also noted that since 1970, U.S. population has grown by 40%, the number of vehicles has increased 100%, yet the nation’s highway capacity has expanded by only 6%.

Infrastructure Investment: A Double Benefit

The TEA-LU debate is central to this nation’s transportation future. Higher real levels of funding more fully address crucial needs and reduce conflict among legitimate, competing uses of funds including goods mobility, transit, general capacity, and mitigation of project impacts.

In March 2003, the California Marine and Intermodal Transportation Strategic Advisory Committee (CALMITSAC) published a report on marine transport infrastructure requirements. Its roster of high-priority projects supporting the marine transportation system that serves international trade totaled \$715 million for Northern California and \$3.8 billion for Southern California.

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funds. Projects address capacity issues and community impacts arising from growth in trade-related goods movement. FAST Phase II seeks federal participation in funding strategically selected projects that justify national support.

Meeting such needs bring benefits to the U.S. economy, even beyond the value of a robust trade infrastructure. In May 2003, Global Insight consultants released a study on the economic impact of the six-year, \$375 billion authorization level proposed by the House Transportation and Infrastructure Committee chaired by Rep. Don Young (R-AK). This study was commissioned by the American Public Transportation Association and the Transportation Construction Coalition.

Global Insight estimated the incremental impact of \$375 billion compared to the Administration's original baseline of \$245 billion (since raised to \$245 billion). The data below measure the economic stimulus provided by the difference between the two amounts compared in the study:

<i>Economic indicator proposal</i>	<i>6-Year incremental impact of House</i>
National output (GDP)	\$290 billion
Household income	\$129 billion
Average increase per household	\$1,100
Net increase per household (after paying federal taxes added by the House bill)	\$800
Increase in federal tax receipts (from economic stimulus, not rate hikes)	\$102 billion
Increase in state and local tax receipts	\$140 billion

These data suggest that transportation infrastructure is an investment with a strongly positive benefit-cost ratio. Moreover, such investment is essential to the nation's competitiveness at a time when transportation facilities in other nations are being upgraded and logistics systems are being transformed by technology.

ITS Secure Trilateral Trade Corridor

Available funding will never fully meet the need for new capital facilities. Thus an essential element in any strategy is to undertake operational improvements that optimize existing capacity. In the current environment, a realistic strategy must also protect and enhance security. The goal is “secured mobility” – efficient, secure and safe goods movement. A primary means to this goal is Intelligent Transportation Systems (ITS).

The most ambitious application of ITS is to support a secure trilateral trade corridor between the United States, Canada, and Mexico. Such a corridor would use ITS to improve the productivity of freight movement between the three nations while ensuring the safety and security of commercial drivers, vehicles, and cargo.

The West Coast corridor system is the potential test bed for these concepts for several reasons:

- The West Coast’s importance in the North American trade and transport network;
- The significant and complex freight mobility challenges faced by the West Coast;
- The track record of West Coast ITS deployment, based on a history of collaboration.

In turn, ITS is a good fit with the mission of the West Coast Corridor Coalition:

- It involves an intense need to focus on a system operations strategy;
- It supports strengthening inter-modal potential – such as the shift from truck to rail and short-sea shipping;
- It fits well with existing bi-national linkages on both ends of the Corridor.

Potential Partners

The Federal Highway Administration is undertaking research that supports many elements required in a secured trade corridor initiative. One goal of FHWA research is to identify the benefits of implementing ITS “best practices.” The focal point for this analysis will be a freight process map that shows physical and data flows, identifies the touch points on hand-offs, and potential productivity and security gains that could be made with ITS technology or other methods of operation.

Michael Onder of FHWA says, “The West Coast Corridor is an area of heavy emphasis simply because of the stresses on the transportation network with the

tremendous volumes of traffic, and the need for management strategies to help move freight and passenger traffic more efficiently.”

Onder advises, “In improving the productivity and security of goods movement through the supply chain as it impacts the West Coast Corridor, a useful step is pre-project up front analysis between government and industry on the expected gains associated with introducing new technologies or methodologies of operation.”

The Intelligent Transportation Society of America (ITSA) was established in 1991 to encourage the development and deployment of ITS in the U.S. ITSA’s Commercial Vehicle and Freight Mobility (CVFM) Forum was created in 2002 to work on inter-modal freight technologies that save lives, time, and money; enhance quality of life; and strengthen homeland security.

Forum members include state and federal agencies; private sector carriers, shippers, vehicle and equipment manufacturers; and representatives of transportation agencies in Canada and Mexico.

The CVFM is partnering with USDOT, the Inter-modal Freight Technology Working Group (IFTWG), and other key stakeholders. Their goal is to integrate public and private ITS investments in commercial vehicle operations, port and terminal operations, international border clearance, fleet and vehicle management, traveler information, traffic management and incident response, to address congestion, safety, and security needs.

ITSA has a longstanding partnership with the I-95 Corridor Coalition on the East Coast and seeks to apply corridor-level ITS support for freight productivity and security on the West Coast, which it sees as a priority location for a secured trilateral trade corridor. ITS America will host the 2005 ITS World Congress in San Francisco, and hopes to showcase West Coast ITS deployments at that event. The CVFM wants to work with the West Coast Corridor Coalition to advance at least one ITS demonstration by that time.

Strategies and Payoffs

Potential ITS applications that could be pursued jointly by the West Coast Corridor Coalition and project partners include:

1. Demonstrate the ability to create a secure trade corridor between the United States, Canada, and Mexico from Alaska and British Columbia to Baja California. The corridor would enable trucks or containers to move across

borders, past weigh stations and ports of entry, and through ports and terminals without delay but with a guarantee of in-transit security.

2. Evaluate and demonstrate ITS-based systems that can increase freight velocity and reduce dwell time at ports and terminals, including dedicated lanes for preferred customers, appointment systems, advanced notification of arrivals, and integration of gate clearance with metropolitan traffic management.
3. Integrate metropolitan and regional data on congestion, incidents, construction, weather and other emergencies to provide corridor-wide traveler information that supports motor carrier routing and dispatching decisions as well as state and provincial emergency response activities.
4. Demonstrate the use of CVISN safety information and exchange systems to support law enforcement and first responders in tracking and responding to security risks.
5. Develop a corridor-wide oversize/overweight vehicle system enabling carriers to apply for and receive permits electronically, and enhance routing decision systems used by states and provinces for these vehicles.
6. Facilitate public/private efforts to improve supply chain management and risk management. One tool is the intermodal freight process map developed by the IFTWG. It provides physical and data flows associated with logistics patterns in the corridor, including key “handoffs” and potential information bottlenecks that affect productivity and security.
7. Develop future information systems at the corridor level, using CVISN and National ITS Architectures as blueprints. The work of Operation Safe Commerce in understanding freight container supply chains emanating from Los Angeles/Long Beach and Seattle/Tacoma can be leveraged in this effort.
8. Integrate highway, rail, and marine operational information to improve corridor-level management of system capacity, and to facilitate development of modal alternatives such as short-sea shipping.
9. Analyze the potential for truck-only lanes or automated technologies to “platoon” or “train” trucks along key segments of the Corridor.

Global Supply Chain Logistics

In a constrained environment for funding goods movement projects, the first step is to do a complete systemic review to determine what can be done to optimize existing capacity. This review must address operational and organizational factors that add to congestion and delay. If shortfalls persist

despite implementing the results of this review and new facilities must be built, these should be designed to support and enhance operational factors.

The need for connectivity within the trade and transportation system should be apparent. Failure of infrastructure or operating systems at key ports of entry inevitably leads to failure in parts of the system further downstream in the distribution network. Lack of sufficient infrastructure and operating acumen in the system can result in disruptions that undermine reliable and efficient distribution of goods in a region, or throughout the nation.

Development of a relatively cost-efficient, well-managed and organized network of goods movement service providers and system users is essential. Functions include ocean carrier terminal operations, truck and rail operations and transfer points, airports and air freight transport, distribution facilities, sorting and packing facilities. Every part of the system must be connected by management of the exchanges that occur among users and providers.

An understanding of the relationship between investment in infrastructure and performance of the goods movement system is critical to policy-makers. Significant investments have been made and are anticipated in transportation projects. Decision-makers, both private and public, must be prepared to justify these investments. Improvements in the logistics system reduce transportation costs and affect the productivity of businesses by providing better inventory management, allowing consolidation of activities at favorable locations, and providing access to factors of production such as a better labor force, improved quality of life for employees, and access to raw materials.

The recent lockout at the West Coast Ports crystallized thinking regarding the negative impact on the United States economy if principal gateways are closed even for a relatively short time. Conversely, the positive impact these key international gateways have on the nation must be nurtured and encouraged through well-developed strategies.

Infrastructure and technology improvements are essential to maintain the “line of least resistance” through key gateways to states within the Western region and beyond. In response to projected growth, the nation must ensure that the delivery system, which encompasses all components of freight transportation, is constantly improved and made more efficient.

As global freight volumes increase, ports and their rail/road connectors become choke-points in the global supply chain. The domestic distribution system has become so refined that manufacturers require inventories to be restocked within hours. Maintaining a minimal inventory of parts reduces costs but creates

dependence on efficient and timely delivery of components. As congestion mounts, especially in urban areas, those responsible for meeting Just-In-Time (JIT) schedules must resort to innovative route and delivery solutions to meet customer requirements.

An inadequate level of financing relative to transportation infrastructure needs is likely to continue. A rising portion of funding will be spent on existing facilities for preventative maintenance, seismic retrofits, and repair of deterioration. The result will be a shortage of funds for new infrastructure projects.

Moreover, introduction of alternative fuels, more fuel-efficient engines, and increased public transit ridership as congestion worsens, will result in lower overall revenues from gasoline taxes, further reducing the funding available for transportation projects.

Given these factors, and the inescapable fact that 100 million American households rely on freight transport to give them access to products made here and abroad, operational improvements are an essential element in providing goods movement capacity that is adequate to meet demand.

In Conclusion

The range of factors impacting transportation facilities and logistics is vast. They include operational, organizational, administrative, and legislative issues affecting land use, system capacity (port, passenger, transit, rail, truck and air), environment, safety and security, regulatory constraints, congestion relief strategies. Our concerns are for the current status of these issues. But our vision must extend to the near and long term future of the goods movement system on the West Coast and throughout the nation.

In practical terms, this means growing the pie and working smarter. These two essential elements require:

- A sustained effort to make clear the national significance of the West Coast corridor system;
- A focus on public investments in freight improvements that support capital and operational system solutions;
- A keen interest in the level at which reauthorization is funded;
- A call for national participation in investments that will assure the West Coast corridor

system meets the demands placed upon it.

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