



*A Transportation Corporation*

**Westar Transport Short Sea Shipping Vision:**  
**A National Water Highway *System* for the West Coast**

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Short Sea Shipping (Summary)

Westar Transport proposes a National Water Highway System (NWHS) service for California and the West Coast. The proposed coastal shipping service consists of large Roll-On/Roll-Off (Ro-Ro) ships servicing (Northern and Southern California, Portland and Seattle port terminals.) As well as Ro-Ro barges serving as feeders' to/from the ports of Oakland and LA/Long Beach providing port congestion relief. The coastal Ro-Ro service would connect Northern California with the Pacific Northwest, and L.A/Long Beach with destinations further south to Mexico and North to Canada. The proposed service will move trucks from long-haul routes to local radiuses around the port terminals, and convert these trucks to run on clean-burning 07 Diesel Engines or LNG or other alternative fuels. The proposed NWHS service will dramatically improve goods movement, and simultaneously:

- Generate jobs
- Increase mobility and relieve traffic congestion
- Improve air quality and protect public health
- Enhance public safety and port safety
- Improve quality of life for truck drivers and the general public
- Contribute national security by providing military utility
- Provide port congestion relief while increasing throughput

This white paper describes the problems that a National Water Highway System (NWHS) addresses, NWHS as a solution, the proposed operation, and the anticipated civil, transportation, and military benefits, and the challenges we face in establishing a NWHS service.

## **The Need for a National Water Highway System**

### *The Commercial and Civil Needs*

California currently has congestion problems throughout the state. Emissions in the San Joaquin Valley are at unhealthy levels on most days. Truck related accidents continue to cost lives. In 10 to 15 years, there will be twice as many trucks and cars on the highways as there are today. The traditional solution to the congestion problem is to add more lanes to existing roads and highways. The average cost to add lanes to highways is \$32 million per mile, according to the Department of Transportation. This does not include the cost for bridges, off ramps or over passes. Even if the government had the money to build additional lanes, we do not have the time. In the interim, congestion is causing trucking rates to escalate due to delays in reaching destinations. Even if the roads could be expanded in time, adding lanes does not address emissions and safety problems. Furthermore, trucking has little chance to double its size in 10 to 15 years to meet the anticipated demand due to a nation-wide truck driver shortage that is already impacting our ability to move freight today. A solution is required that relieves congestion, reduces emissions, improves safety, and facilitates improved utilization of scarce drivers.

### *The Military Need*

Over 4,800 civilian mariners crew the 200 commercial vessels with military features which account for 95 percent of all the tonnage delivered in support of military requirements.<sup>1</sup> Over half of these are actively deployed, or are in commercial service.<sup>2</sup> The military need is related to rapid deployment (surge) and sustainment of forward-deployed, or future sea-based forces. Surge shipping delivers the military heavy equipment (such as tanks, trucks, armored vehicles, and helicopters) and accompanying supplies in order to facilitate the rapid deployment of predominantly continental US (CONUS) based forces to anywhere in the world. The need to move large numbers of wheeled and tracked vehicles and helicopters make Roll-On/Roll-Off (Ro/Ro) ships desirable. Sustainment shipping moves the equipment, parts, armament, food, and other supplies necessary to maintain a continued presence. While there has always been a need for surge and sustainment sealift, the nature of the requirement is evolving as the DoD moves toward sea-based logistics and reduces its reliance on pre-positioning and bases overseas. There will be an even greater reliance on rapid deployment capability from CONUS resulting in an increased military demand for Ro/Ro's of higher speeds and higher capacities. There will be an increased need for strategic ports close to military deployment points that are compatible with these Ro/Ro vessels. The nature of sea-based logistics also influences the desirable characteristics for both surge and sustainment ships. For example, it becomes desirable for commercial ships supporting sea-based logistics to have lower speed maneuvering capability in addition to the higher speeds necessary to support rapid deployment. These ships may participate in skin-to-skin transfer of men and materiel to other vessels operating in the sea base.

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<sup>1</sup> Globalsecurity.org

<sup>2</sup> Globalsecurity.org

**A West Coast NWHS Addresses the Commercial and Military Needs**

A National Water Highway System for the West Coast can be built in five to six years after start-up funding is secured. It will ease congestion, improve air quality, and make the highways safer, while adding a transportation mode to the already established system that can be expanded to handle future volumes. NWHS is faster and cheaper to build than roads and highways, reduces emissions, and improves utilization of truck drivers. NWHS results in an improved quality of life for truck drivers by placing more drivers in local routes, resulting in less time away from home. The proposed solution increases the demand for waterfront labor and contributes to maintenance of the shipbuilding industrial. NWHS will create jobs in California, Oregon, and Washington in a number of industry sectors.

NWHS could remove 4,200 trucks per day from Highway 99, I-5 and Highway 101 in the California model. The proposed service will remove trucks between the greater bay area and Sacramento to San Fernando Valley south of the grape vine. NWHS would also move containers out of the large municipal ports like Los Angeles/Long Beach and Oakland by barge on water rather than by trucks on the highway. The proposed service for California will require one private port, and start up capital, to become a reality. Locations for an appropriate Ro-Ro terminal are available in Northern California (Pittsburg, Stockton, and Sacramento). We must be able to work out of one of the two existing ports, LA or LB but the operation would add traffic to the 710 Freeway that does not exist today. Some of this traffic can be offset by the Southern California feeder operation and nighttime truck moves. This will only work if the feeders and coastal model is built as one system.

The proposed West Coast NWHS would increase the number of U.S. controlled roll-on/roll-off ships with the versatility to move large volumes of military heavy equipment, vehicles, and cargo at higher speeds when required. A vessel with 500 to 700 trailer capacity, strengthened decks, and a speed in the range of 26 to 30 knots would be highly attractive for both a National Water Highway System and Military Sealift. Congestion-free ports with berths and facilities compatible with rapid deployment and Ro/Ro vessels are needed to embark and debark in CONUS in proximity to military deployment centers. A West Coast NWHS can help to reduce congestion in the existing large ports by providing feeder services. Development of alternative ports for domestic service will increase the number of options available for embarking and debarking vessels for military deployments (e.g. Ro-Ro terminals in the vicinity of Fort Lewis near Tacoma and Port Chicago in Northern California). U.S. flagged and U.S. crewed presence in commercial shipping also ensures a U.S. merchant marine force large enough to crew the ready Reserve Fleet (RRF). A National Water Highway System that results in an increased number of vessels will increase employment for civilian mariners, who may serve in the RRF in time of need.

### **What is required for Commercial Viability?**

- **Market:** The ideal market for a domestic National Water Highway System is one that serves a pair of major metropolitan areas with a high density of shippers and receivers at each destination within a 150-mile radius of the ports. If the ports are further from the major markets, then truck drayage costs will cause the service to be non-competitive. Marketability and competitiveness for a maritime alternative are improved if the distance between destinations is long enough that trucking hours of service regulations would result in rest periods. Marketability is further improved if access in and out of these areas is already highly congested. Both of these factors stress trucking, making the maritime alternative attractive. Trucking companies face a critical driver shortage and currently compete primarily on the basis of capacity. A National Water Highway System that provides a mechanism for these trucking companies to increase their capacity, better utilize their drivers, and remain cost and service competitive will be marketable.
- **Cost:** Must compete with truck freight rates as well as truck service times and existing alternative modes. (A subsidized NWHS would be unfair to trucking.)
- **Capacity:** Within a given a set of operating and market constraints, we will need to maximize the number of trailers carried per vessel to reduce the cost per trailer and maximize throughput.
- **Time:** Must provide a comparable door to door level of service. Speed is not critical for “feeder” services to/from existing ports because the international containers sit at these ports for several days today. However, for domestic freight (the primary target of a National Water Highway System) speed is critical. To achieve next day service (door to door) on a route that includes a 350 to 400 nm vessel run, a minimum speed of 27 to 32 knots is required. Additional speed is only an attractive subject to competitive costing.
- **Reliability:** Must be equally dependable to trucking. Must have contingency plans to ensure that freight always moves. (Overflow will move by truck as it does today.)
- **Address Barriers:** Must recognize potential barriers to use; e.g. critical truck driver shortages, changes in equipment or quantity of equipment required that might translate into higher costs to the truckers and shippers, necessity for ports in locations that do not result in costly truck drayage leading to a service that cannot compete.
- **Externalities:** Must not increase, and preferably decreases, pollution, congestion, and accidents, in order to be supported at the state and local levels. Higher speeds must be balanced against emissions in order to ensure public support, in particular on the West Coast.
- **Integrate Trucking:** The maritime and landside components should be fully integrated. Under this model, additional trucking companies would be acquired outright, or would partner in a consortium in order to ensure the most efficient utilization of resources and equipment. This fully integrated service would retain control of the freight door-to-door, the vessels, and all the landside equipment thereby maximizing economies of scale and utilization of the equipment. The barriers to use

of a strictly maritime service are mitigated, and as a total enterprise the operation is profitable.

### **Proposed California NWHS Operation**

Such an ideal market exists in and along the West Coast. The proposed operation on the West Coast consists of three distinct parts:

1. The north to south domestic freight coastal shipping operation (Large roll-on roll-off ships.)
2. The southern feeder operation (Large ATB's-Articulated Tug, Ro/Ro Barges)
3. The northern feeder operation (Large ATB's-Articulated Tug, Ro/Ro Barges)

The purpose of the north to south domestic freight coastal shipping operation is to capture domestic freight currently moving along the highways. This operation must provide the same level of service as trucking. The purpose of the feeder operations is to relieve congestion and speed up throughput at the existing major metropolitan ports by diverting cargo to smaller terminals like Stockton, Sacramento, San Diego, and Port Hueneme. Each of the proposed operations may be initiated alone, but together they are synergistic and share economies of scale.

### **North To South Domestic Freight (California model)**

We must establish a private/public port terminal in Northern California. The Northern terminal may be located in the Pittsburg, CA area. The existing ports of Los Angeles and Long Beach must find space and can be cost effective. It is necessary that the terminals have deep-water access to dock two ships approximately 950 feet in length with a 30-foot draft and dock to barges. The terminals must be close to major freeways that can handle the daily truck volume. Out of these port terminals, smaller day cab type (modern diesel, LNG, alternative fuels) trucks will work within a 100 to 150-mile radius day and night to pick-up and deliver 4,200 loads per day. At the terminals, natural gas yard tractors will load the trailers (domestic trailers could be a mix of vans, reefers, flat beds or tankers) onto roll-on/roll-off ships. After loading, the ship cruises at 27 to 32 knots down the coastline to the opposite terminal where it is unloaded and the process starts again. Domestic freight must be delivered the next day to match the level of service provided today by trucks. This short sea model will provide next day delivery. Trailers that reach a terminal by noon will be delivered by noon the next day. If the trailer gets to the terminal by 8:00 pm, it will be delivered the next business day by 8:00 pm. Customers that ship by truck now will use NWHS because it will give them the same level of service (time and reliability) at the same prices as the pure truck service they use today. The opportunity to double stack empty flat beds and containers on the ships weather deck will reposition empties more efficiently. This coastal shipping modal can be expanded to service other major metropolitan markets on the West Coast such as Portland, OR and Seattle, WA.

### **Southern California Feeder Operation**

Roll-on, roll-off designated terminals at the Port of Long Beach or Los Angeles are required to operate the north/south domestic freight operation and be cost effective. This designated terminal offers the opportunity to consolidate containers from the Port of Los Angeles/Long Beach to the designated terminal, and move them to other alternative ports, by roll-on/roll-off barges. The proposed feeder service would dramatically reduce congestion (and associated emissions) on the highways leading in and out of the Ports of Los Angeles/Long Beach and speed up throughput. The addition of a barge service effectively increases the capacity at the existing ports. The barges serve as scaleable mobile off-site storage facilities that move freight out of the congested port as fast as they can be unloaded at the container ships without adding to truck or rail congestion. It creates the opportunity to double stack containers on weather decks, this will reposition empties more efficiently. The proposed feeder service provides additional links to underutilized freeway access at alternative ports, and increases utilization of rail by providing links to underutilized rail terminals at the alternative ports. Feeder barges may also be used to further reduce truck traffic within California by diverting additional containers to alternative ports, such as San Diego and Port Hueneme, to move containers into closer proximity of shippers and receivers for freight destined for, or originating in, California.

Roll-on/roll-off barges using tugs for feeder operations are more cost-effective than ships, and are an attractive option for a feeder service because speed is not a critical factor. The container freight at these ports is not time sensitive, because it currently sits at the port for six to eight days. While the northern to southern California domestic freight operation must provide next-day service to be competitive, we do not need to provide next day service for the feeder operations serving the existing major ports.

It is important to mention; feeder operations at any municipal port will require dedicated Ro/Ro terminals. Containers must be pulled from all the port terminals and consolidated to the Ro/Ro terminal. This operation will provide enough volume to justify the barge movement to the alternative ports. You cannot load barges at the existing port terminals. The current operators don't possess enough volume to justify the service and they would treat the barge Ro/Ro loading the same as a lift. The lift cost would not allow the service to compete with truck rates.

### **Northern California Feeder Operation**

(From out of the Port of Oakland)

The same roll-on/roll-off barges and tugs as proposed for the southern California feeder operation will be used to divert containers to the new port terminal located in Pittsburg, (Los Angeles bound containers) as well as the Port of Stockton and the Port of Sacramento. Smaller ports that could be established in the south bay east and west side

and the north bay north side that could accommodate barges could be built to move containers destined for those areas by water closer to their final destination. This operation will remove thousands of trucks per day off the highways and bay bridges.

### **Benefits of a West Coast National Water Highway System**

#### *Reduced Congestion*

NWHS is cheaper and faster to build than roads. It is scalable to meet future demands. This model will remove an estimated 4,200 trucks per day from the highways running north and south. The feeder operations will remove an estimated 2,040 trucks in Northern California and 2,040 in Southern California between the ports each day (a completed study will determine volume). The use of smaller lighter day cab truck tractors and trailers with spread axles would allow an average of 4,000 lbs additional cargo per trailer to be hauled on heavy cargos. This would eliminate another 1 truck in every 10 heavy loads shipped reducing emissions and will give shippers more value for their shipping dollars.

#### *Lower Emissions*

The NWHS model will be far cleaner than current truck operations. The trucks in the NWHS model work in a local radius with Modern Diesel or LGG fueled equipment, rather than on long routes with traditional older diesel engines. The proposed NWHS model dramatically reduces the time trucks spend idling, by eliminating the long routes as well as by mitigating congestion in/out of the major ports. The ships that run along the coast will be built to the highest emissions standards at the time of construction. While the ships are berthed they will utilize shore power (cold ironing) and the ship's generators will be shut down. The tugs used in the barge feeder operations will also run clean burning modern engines and fuels.

#### *Improved Safety*

NWHS will save lives by removing thousands of trucks each day from the highways resulting in fewer accidents involving trucks. Reduced congestion will also result in fewer accidents between automobiles. Smaller day cab trucks running in local regions around the smaller terminals, and local drivers familiar with the area, will add to safety on the roads. Smaller lighter day cab truck tractors combined with spread axle trailers will haul 4,000 lbs. Additional freight on heavy shipments. This will eliminate 1-truck load out of every 10 shipped.

#### *Greater Utilization of Rail*

NWHS is a multiplier for Rail. Containers are barged from the municipal ports to smaller ports with rail access. This permits containers to be loaded onto rail cars in multiple locations simultaneously, increasing capacity and throughput.

Improved Trucking Productivity

NWHS will compete with trucking. The common denominator in all transportation modes is the trucking required at either end. NWHS benefits trucking by permitting the industry to dramatically improve utilization and throughput from their resources. Today, trucking companies compete for drivers. With freight doubling in 10 to 15 years, and the scarcity of drivers, it is clear that the industry must adapt in order to service this demand. NWHS benefits the trucking industry in several ways:

- Trucks will be more productive due to reduced congestion.
- NWHS maximizes utilization of local trucking operations. It will require only half the number of drivers that it takes today to deliver the same freight because the drivers no longer need to drive long routes. As a result, the industry may better utilize the remaining drivers, and these drivers will be able to service increased demand. Driver shortages are cited by the trucking industry as one of the greatest impediments to growth.
- NWHS converts many existing long haul drivers to local drivers. This results in an improved quality of life for the drivers, and increases driver retention for the industry. Drivers also become familiar with consistent daily routes that promote highway safety and productivity.

Enhances the Maritime Industry

NWHS increases the demand for waterfront labor and merchant mariners. NWHS will contribute to maintenance of the shipbuilding industrial base.

Militarily Useful

The United States requires the ships, ports, and mariners, necessary to move heavy equipment and supplies in times of need. U.S. controlled roll-on/roll-off ships with the versatility to move military heavy equipment, vehicles, and cargo are required. Congestion-free ports are needed to embark and debark in times of crisis. Finally, a U.S. flagged and U.S. crewed presence in commercial shipping also ensures a U.S. merchant marine force large enough to crew the ready Reserve Fleet (RRF). Westar Transport's West Coast NWHS vision contributes in all these areas to enhance national security.

NWHS Ro/Ro vessels could incorporate militarily useful features. Development could foster industry-DoD partnerships for development of strategic ports. NWHS vessels can operate in a sealift capacity, and in conjunction with the sea base. Operators should be compensated for the added acquisition and operating costs for incorporating features beyond those necessary for commercial viability, including:

- Strengthened decks for military heavy equipment

- Sufficient deck heights for military heavy equipment
- Self deploying and/or modular ramps
- Increased fuel capacity for increased range
- Higher speed capability supporting rapid deployment
- Draft appropriate for broad port access
- Other features attractive for sea base support
  - Topside space convertible to container stowage
  - Lower speed maneuvering capability in addition to higher speed capability

### More Jobs in California

NWHS results in more jobs for the State of California in several sectors. The proposed service will increase the number of jobs on the waterfront (including union labor) in the added ports, aboard the ships, in the shipyards, at suppliers, and help attract labor to the trucking industry.

### Scaleable

NWHS is scaleable. Thousands of additional trucks per day could be removed from California Highways. To grow with the volume, additional ships and barges may be brought into service. The initial development of the terminals will accommodate this growth. Unlike highways, there is no need to pave waterways. Once established in California, NWHS could be expanded to Portland, Seattle, Tacoma, and Mexico and Canada.

### Improved Homeland Security

NWHS improves security by maintaining closer control of freight from door-to-door.

### Marketability

The available market sot after is 21% of the current truck volume (10,000 trucks in and 10,000 trucks out of LA daily.) We believe 42% could be possible. 21% of the market provides for a 6 vessel operation (4,200 trailers daily) terminals will be fully utilized 24 hrs per day. Lighter day cab tractors combined with spread axle trailers will allow 4,000 lbs of additional cargo per trailer to be hauled. This will add to the competitiveness of the operation.

### **Port Terminal Simplicity**

The port terminals for the proposed NWHS service will be simple roll-on/roll-off terminals. They do not need to be lift-on/lift-off facilities with extensive and expensive infrastructure like the large municipal ports of Los Angeles/Long Beach and Oakland. The NWHS port terminals can be simple piers incorporating ramps to service roll-on/roll-

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off ships and barges. On landside the port terminals will need facilities for trailer parking, office & shop infrastructure, and fuel facilities for the truck operations.

### **The Ships**

The ships for the North/South domestic freight operation will be over 900 ft long. They will have a capacity of approximately 650 to 700 trailers and a cruise speed of 27+ knots. At that speed and capacity NWHS will provide overnight service at competitive truck rates. It will also provide better dependability and security. The ships are of a type that may be constructed in San Diego at National Steel and Shipbuilding Company (NASSCO), a General Dynamics Company. NASSCO recently built the successful TOTE roll-on/roll-off ships.

### **Barges and Tugs**

The barges are anticipated to be three-deck, roll-on/roll-off barges on the order of 700 ft long, capable of carrying over 340 53' trailers. Tugs would be diesel powered, built to modern emissions standards.

### **Start up Costs**

A West Coast NWHS will require a significant investment to get started. Funding will be needed for terminal construction, acquisition of the ships, barges and tugs, operation ramp up, and working capital. Just as rail, roads, maritime ports, and airports were built with public funding and support to benefit the general population, it is anticipated that NWHS will require public funds and support to initiate operations. It is appropriate that public funds be used to develop the required infrastructure to support NWHS. NWHS will prove to be a better investment than other alternatives, providing greater economic, environmental, and societal returns than other solutions. Government Loans and Qualified Emissions and Safety Incentives will be the only fairway to trucking to build a NWHS System. To subsidize a NWHS that will compete with trucking and rail would be unfair.

### **Timeline and Operation Ramp up**

Feeder operations could be built in three to four years after funding is obtained. The North/South coastal shipping operation will take five to six years to build. It is necessary to establish the terminals and acquire the trucking companies that control the freight today before the ships are built and the trailers are diverted off the road. In order to be economically viable it is necessary to control the freight door-to-door. This could be achieved by purchasing existing trucking companies that now control the freight moving North and South. We must ramp up to control the 4,200 daily loads that six ships will carry at a pace that is concurrent with the construction of the ships. In order to mitigate risk, ramp-up may be phased to gradually capture a greater portion of the potential market. The day a ship comes into service we must control the freight in order to fill the

ships and run them efficiently. A yard in Fresno using local trucks burning natural gas or 07 Diesel Engines will move overflow to and from the terminals north and south when the ships are full, the freight must continue to move.

### **Why a Door-to-Door Model?**

NWHS must be a door-to door model in order to be cost effective enough to compete with today's truck rates. An operator must run efficient truck drayage operations in order cost justify the total operation as a complete enterprise. To be successful, the total enterprise must improve utilization of trucks, trailers, and drivers. If trucking and marine transportation are treated as separate companies, there will not be sufficient returns for both operations to justify the investment. A NWHS service as a maritime business model alone will be unable to service the entire debt on the start-up costs and still be profitable.

### **The Challenges**

The primary impediments that hinder the implementation of these or any other potential services include:

- Funding needs to be made available for feasibility assessments of specific NWHS services, vessels, and ship technologies. This funding should come from a combination of federal, DoD, and state sources. Any NWHS studies should be industry-led, and their goal should be the development of a specific business plan that can be "taken to the bank". Studies that are too broad, or too general, do not lead to tangible results.
- Alternative ports are required for a National Water Highway System. Existing municipal ports are already terribly congested. NWHS will not be successful if it adds to that congestion. The DoD should support strategic port development, and provide incentives for development of dual-use port facilities with features that support rapid deployment and the NWHS. Local Government should contribute to the development of these ports (in Northern California, Pittsburg Area).
- The NWHS will result in waterfront jobs. Labor needs to recognize that for NWHS to succeed, reasonable rates must be negotiated for loading and unloading domestic vessels. (Labor rates should be comparable to the truck drivers feeding the system since they do the same job. The system will be 90% truck driver jobs.)
- Harbor maintenance fees are a barrier for a NWHS.
- More potential financing sources are required.

Legislative, policy, or other changes that would help remove these impediments include:

- Use of highway funds for development of NWHS infrastructure should be pursued. (For low interest loans.)
- Revitalized Title XI loan guarantee program
- The Capital Construction Fund (CCF) should be extended to contiguous trades (i.e. Bill HR 2190).

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- Harbor Maintenance Fees should be waived for domestic shipping. (Support HR 3310)
- The National Defense Sealift Fund and National Defense Features Program should be tailored to provide incentives for NWHS
- The Voluntary Intermodal Sealift Agreement (VISA) Program should be expanded to provide greater incentives for national defense features and amortization of these costs over the life of the vessel, similar to the Civil Reserve Air Fleet (CRAF) Program.
- Creative models should be pursued to reduce financial barriers to entry for NWHS operations. Consideration should be given to use of government funding for loans to construct NWHS vessels, building ports and acquire trucking companies and provide operating capital.
- If a loan can be granted at no or low interest an operator should agree to contribute 90% of bottom line profits into growth over the life of the loan so future demand is met. A loan would help the system be competitive.

### **Conclusions**

- 1) NWHS is the only mode of transportation that can prevent the congestion gridlock heading our way, clean the air, and save lives of the motoring public. This means NWHS **must be built**.
- 2) NWHS **can be built**. The trucks, trailers, ships, barges and tugs are all “off the shelf” technologies that are working today in other market niches.
- 3) **Investment in Port Infrastructure is Required**. It could be a challenge to NWHS to construct a private port in Northern California. However, compared to the alternative solutions, a new port would be easier, faster, and cheaper to build than expanding existing port access and adding lanes to the highway system around the port of Oakland.
- 4) A NWHS built in California and the Pacific West Coast will provide the missing link to a transportation supply chain system that could become one of the most efficient in the world. The total system would allow California to capture future volumes of international freight vital to the economy to the state. It would also provide a rapid deployment system for National Security in a time of need.

## Acknowledgments

Listed below are organizations that have met with Westar Transport regarding NWHs. We thank these organizations for their assistance and insight.

- Air Resource Board (ARB)
- American Lung Association
- APM Terminals Port of Los Angeles
- Assembly Member Bermudez Staff
- Assembly Member Nicole Parra
- Assembly Member Villines
- Attorney General Bill Lockyer for the State of California
- Bay Area Air Quality Management District
- Bay Area Metropolitan Transportation Commission (MTC)
- Bay Area World Trade Association
- California Business, Transportation, and Housing (BT&H) Undersecretary Barry Sedlik and Deputy Secretary Yolanda Benson
- Center for the Commercial Deployment of Transportation Technologies (CCDoTT) As of this printing this is the only funding source for the feasibility study.
- CAL-EPA
- California Department of Transportation (CALTRANS)
- Congresswoman Tausher's District Staff California Highway Patrol (CHP)
- City of Pittsburg
- Congressman Jim Costa – Congressman Costa is Co-Sponsoring the Harbor Maintenance Tax (HMT) Relief Bill HR 3319 and is helping with the effort.
- Congresswoman Tausher's District Staff
- Fresno Bee
- Fresno Council of Governments (COG) – Wrote support letters, including to the Governor, and is helping with the effort to create Short Sea Shipping.
- Fresno Field Office for the Office of Governor Schwarzenegger
- Fresno Regional Jobs Initiative Leadership (RJI)
- Mayor Allen Autry of Fresno
- Norman Fassler-Katz for Senator Lowenthal
- Office of Governor Schwarzenegger Deputy Director Eric Swedlund in DC
- Operation Clean Air Fresno, Ca. (OCA) Wrote support letter to the Governor.
- Pacific Gas and Electric Company
- Port of Long Beach
- Port of Los Angeles
- Port of Oakland
- Port of Sacramento
- Port of Stockton
- SSA Terminals Port of Los Angeles

- STS Terminals Port of Oakland
- Sacramento Bee
- San Joaquin Valley Air Pollution Control District
- Senator Feinstein's District and DC Staff
- Thomas J. Bohigian State Director for Senator Boxer
- Transportation Institute – Richard Berkowitz; Director, Pacific Coast Operations
- Utility Trailer Company
- U.S. Department of Transportation Maritime Administration (MARAD)
- U.S. Transportation Command (U.S. Transcom)
- Valley Can
- Valley Council of Governments (COG's) – All 8 Council of Governments from Bakersfield to Stockton endorses and supports the concept of Short Sea Shipping.

### The Team

- Brian T. Oakley – Scully Capital, Director
- Dan Bagnell – CDI Marine Company, Director of Naval Architecture
- Manalytics International – Doug Coates, Marketing and Lead on the Study
- Matthew P. Tedesco, Ph.D. – Technical and Management Consultant
- National Steel and Shipbuilding Company (NASSCO)
- Westar Transport – Ron Silva, Trucking Operations

### The Study of the proposed Short Sea Shipping System.

The Center for the Commercial Deployment of Transportation Technologies has funded the first phase of the study to assess the operation and financial feasibility of a West Coast System. The study will address market size and need. The team will assess all operation and financial hurdles and suggest solutions. The study will focus on the market, ship requirements and port needs. Some funding will be used to assess the social benefits and cost and emission offset for the government.

### Funding Needs

- 1) One point five million additional funding will be need to get the study to a detail level that an operator can get bids for ships and barges and access the cost and emission offset for the social benefits.
- 2) It is estimated a start-up cost of 3 to 4 Billion will be required over 3 to 4 years to adequately fund the start-up model described in this White Paper. The study will determine these costs and return on investment for an operator and the public.

Items in **RED PRINT** identify agencies I have asked to help fund the feasibility study. As of this printing only CCDoTT has awarded any funding. We are still lacking funding to finish all the work to the detail needed. Many of those asked offered support and endorsement of the concept but where unable to help fund the study.