

## **Innovations in the United States for Fast Coastal Shipping and Ports for Domestic and International Freight**

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Thank you all. And I'd like to thank everyone for the invitation and the opportunity to address you here today.

A quick overview. The Coastwide Coalition is an informal group that was brought together in Washington about two years ago out of the National Defense Transportation Association's initiative that identified coastwide shipping as a major opportunity for the maritime industry in the United States. The coalition is completely informal. Anyone who wants to join the coalition need only have an interest in advancing coastwide shipping. And all you need to do to join is contact me, and you are in. This is very easy.

What we wanted to do in the coalition was to bring together the stakeholders which you saw listed in the Washington, D.C. environment to form a forum and serve as a catalyst to get people thinking about coastwide shipping. That is really our sole mission.

We want to get the administration, the executive branch, and Congress thinking coastwide shipping as a real adjunct to the National Transportation System. We want to go from what is essentially a bimodal system in north south shipping on the coast to a truly multi-modal system.

So, our mission statement is relatively simple. Let's increase reliance on waterborne options in reaching our transportation goals of the next 20 years.

As I indicated, when you look at what's going to happen in the National Transportation System in terms of growth, we've heard it several times in the last couple of days. Unless the system operates to its maximum efficiency and gets the best out of each of the modes involved, we are not going to be able to accommodate the kind of growth that our economy needs for it to keep expanding.

So, we're advocating looking at water as an equal partner, at least in terms of attention, to increase the overall capacity and efficiency of the system, and to increase the options available to the American shippers. I think oftentimes in the maritime industry, we tend to forget that the shippers are our customers. We need to listen to what our customers want when we start thinking about what kind of policies, what programs should we use. So, we have tried to make the shipping community an integral part of our Coastwide Coalition.

Just a quick look at coastwide shipping generally. Primarily today I'm going to be talking about intermodal coastal shipping; the ability to bring the waterborne option in to the container shipping trade.

However, I wanted to give just a quick overview of what is going on in coastal shipping. Generally this is an indication of where the trends are in terms of vessels greater than 1,000 gross tons. In other words, relatively large commercial cargo carrying vessels.

I'd particularly like to point out to you as a sign of the change, this data from '99 to 2001. On the top line of the coastwide, notice that the number of container ships went up while the self-propelled vessels went down, reflecting a change in the non-continuous trade. The number of non-self-propelled container vessels has increased by a dozen in just roughly that two-year period.

So, there is already movement going on in the intermodal area in coastwide shipping. What we want to do is simply capture and build on what is now going ahead.

This then, just quickly, illustrates the comparative growth in the coastwide trade. As I indicated, most of the growth that's been going on now is in bulk shipping. Roughly somewhat over 300 million tons a year moves in the coastwide and non-continuous trade. It's primarily all bulk material. But what we want to do is bring intermodal into the mix.

Growth is something that has been talked about. And I just want to show a couple of slides that we use to illustrate this to people who are not intimately involved in the transportation industry. That is part of our mission in Washington, D.C.: to go to the members of Congress, to go to people who don't think transportation, and try to summarize to them what it's going to mean to them when you say trade is going to double in the next couple of decades. You're going to have increased truck traffic.

This is a simple formula, a thumbnail sketch that assumes vehicle miles traveled increased by 50 percent for every five percent increase in gross domestic product. And if you assume that gross domestic product is going to increase at one percent a year, and we would like a lot more, what you're going to see is inter city trucking on the east coast increasing in miles traveled by a factor of four and a half in the next 20 years.

Another aspect of the coalition is we are great borrowers of work. We don't produce work of our own. What we do is we like to take studies that are done by other groups who are interested in transportation and integrate them into our thinking and see how coastwide shipping can play in the kind of transportation network that they are talking about.

The data shown here, for example, comes from a Mid-Atlantic rail operation study that was done in conjunction with the I-95 corridor; from a report issued in December of 2001. According to this analysis, which was primarily done by the railroads; Norfolk, Southern, CSX, some participation by Amtrack, and then by the I-95

Coalition, today roughly 10,000 trucks a day transit the I-95 corridor in inter city travel. By 2020 they expect there to be 58,000 trucks attempting to transit that same stretch of highway.

The Mid-Atlantic rail corridor could absorb about 25 percent of this growth or 12,000 trucks a day, if you are willing to spend \$6.2 billion dollars upgrading the railroads in the area from Newark to Richmond, Virginia. We will return to these numbers, but I like to think about this in terms of trucks per day because it's a number that people can start getting a grip on.

We once did an analysis, and we found if you're talking 10,000 trucks, it's about one truck every 270 yards between Boston and Miami. So, you can imagine how it starts crowding up.

The same thing you've heard is happening in international liner trade, when you talk about trade doubling or tripling in the period of time. This projection from McGraw-Hill estimates 16 million more TEUs arriving in U.S. ports each year, roughly a 95 percent increase. But if you notice, that analysis is only between 1998 and 2010. This is 2002. We're already a third of the way towards that number.

When you look at that trade growth alone in terms of corridor impact, you find that this equates to three fully loaded 7,000 TEU ships arriving on each coast every day in addition to what's already coming on to our coast. This would result, roughly speaking, in about 11,000 more trucks every day on every coast or about 80 or 60 additional intermodal trains.

And trade is a relatively small portion of the total traffic growth. You hear estimates that it is probably somewhere around a quarter of what contributes to total traffic growth.

Why waterborne? Here I'm preaching to the choir. I won't even read the bullets. Everyone knows waterborne is probably the best remaining alternative for us to bring into the equation.

What we are doing as part of our message is looking as I said at work that's being done in other areas or in specific localities and trying to pull it together and demonstrate what a more national picture would look like.

Most of our work here focuses on the I-95 corridor, in part because there's so much advanced planning in that area. The second part is we live there. The third part is that the Congressmen who are going to be deciding this are there. So, it's a very good way to illustrate to them, because they see it in their day-to-day life.

But the same factors that you see operating here, and I talk about in the I-95 corridor, are true on the I-5 corridor. They're true on the I-10 corridor. They're true in the central Mississippi Valley corridor. So, the principles are the same.

And so if you're interested in the west coast as opposed to the east coast, just think the same ideas. It's just a change of locale.

We've looked at specifically three different models. One is the Port Inland Distribution System, Port Authority of New York. You've heard some discussion about that yesterday. I'll have a little bit more.

Paul from the Port of New York is Chairman of our coalition. I continually frustrate him because he's calling it the Port Inland Distribution Network. I call it PIDN. That's my Navy days.

Secondly there's a high speed ferries coastwide vessel study Dr. Hochstein has done for the National Waterway Institute.

And then third is rafting and existing services. There are existing container-on-barge services operating up and down the coast right now. Columbia Coastal Transport, for example, transports roughly 200,000 containers a year up and down the U.S. east coast. So, the basis of coastal trade is there.

If you look at the east coast and put all of these options together, you can see this kind of a network system developing. So, we're not looking at just simply one form of coastwide transportation. We're really looking at bringing a whole mix together.

We're looking at relatively regional systems such as the New York Distribution System. We're looking at inter-regional systems such as the Coastwide Loop System that Dr. Hochstein described. We're looking at regional systems such as the existing coastal system.

One thing that I'll just point out here from the aspect of ports: we were hearing talk the other day about 206 deep water ports. One thing that coastwide shipping does is it provides a means by which ports can alter their role and still maintain a viable commercial base. And we feel that that is an important aspect of it. As people said, not every port on the U.S. east coast is going to be the size of the Port of New York.

On the other hand, if waterborne becomes a true alternative or a true player in the distribution system, then the ports that are not getting containers by water from the long haul ships from Europe will ultimately be handling that same container when it comes off a coastwide vessel.

Here are just a couple of the illustrations. Obviously here are some container and barge operations. This is a roll-on/roll-off intermodal ferry of the type that you could look at in Dr. Hochstein's type coastwide operations. And here then, of course, is, you know, the future.

As I indicated, a number of these services are in existence. They're showing in green in this chart. The ones that are in blue are the kind that are being studied now. And the purple 40 plus knot ro/ro are sort of the let's see how far we can start to push the envelope.

Really, water offers options for reducing congestion, mitigating congestion both in the ports and on the highways. The key to ports is let's not let that container sit on the pier. If it gets on the pier, it starts becoming part of the congestion.

Ideally that container ship would be loading directly onto the container barge on the water. This is vitally important to ports such as New York that are geographically limited. They can't grow inland anymore. The only way they can handle more containers is to make sure that each container spends less time in the port. And water offers a great opportunity for them to do this.

If you look at the outcome or the projections of the Port Inland Distribution or PIDS study, New York projects its growth. And this is in terms of 44 percent equivalent units per day from 4,000 to roughly 12,000 over the next 20 years. Its' current mode of distribution sends 80 percent of that out of the gate by truck, roughly 11 by rail, and 3 by water.

Illustrating how change is occurring, though. When we first did this slide two years ago, the water was zero or so near zero, it computed zero. There is already again movement in the right direction. New York would like to get to a low distribution modal mix which is shown at the bottom of 38 by truck, 23 by rail, and 39 by water.

I think it's an interesting point that where New York wants to be in 2020 is roughly where Rotterdam is now in terms of how much is going out by water.

There's also another point here, though, that we always make and particularly in the context of Washington, D.C. politics. You've got to keep the highway people roughly on your side. Where you don't want them is on the other side. And we point out to them that when we're talking about improving the efficiency of the system with distribution models like this, that the number of actual truck moves is still going to go up. There's going to be a significant increase, and they're almost, you know, a thousand more. They're increasing by almost 30 percent more per day themselves.

So, it's not that we are taking moves away from the trucking industry. The trucking industry is going to have to grow in its infrastructure as well as our own. But what we are doing is we are providing a better means of distribution throughout the region.

So what you'll see is that the number of trucks moving out the gate is going to increase for the Port of New York. The number of truck miles traveled in the region distributing that cargo will be significantly reduced if you bring rail and water into the mix.

The Coastal Loop Service, the Dr. Hochstein study, is based on groups of ships operating. They have roughly five vessel sets, 25 knot roll-on/roll-off vessels to provide daily service. They anticipate for each set of those vessels to be moved roughly 110,000 truck segments a year or about 300 a day. Now keep that number in mind; 300 a day 58,000 a day. So, there's a lot to work with there.

Here are some of the -- this goes back to the analysis that was done by the railroad. And if the railroad indicates that it could take 12,000 out of growth, that would still leave 40,000 trucks on the highways.

If water could step in and pick up 6,000, we would make a real contribution to it. But for water to move 6,000 trailer equivalents a year, you're going to be looking at a number of vessels. Here is the reduction in vehicle miles traveled as I mentioned before. That slide should be one of the earlier ones.

But that shows when you bring rail and water into the mix, they anticipate a 73 percent reduction in miles traveled within the New York distribution region.

Obviously, there are environmental benefits that are associated with this. The main one is increasing the throughput of existing ports without increasing the size of the port, which is important, or without increasing dredging requirements.

By and large coastal intermodal vessels can operate within the dredging model created for international trade. We're talking vessels 15 to 20 foot draft. So, if you've got your 45 feet or your 50 feet for the international trade, you will not have to do significant additional dredging.

The other side of it though is, of course, that we're meeting increasing transportation needs with a reduction in vehicle miles traveled generally. We use more fuel efficient assets, and we reduce emissions.

Jumping back, if you were looking at trying to move 6,000 trailer equivalents a day, well you would have to be looking at somewhere in the neighborhood of 20 to 50 trailer vessels in direct commuter service from New York to Miami. You would have to be looking at roughly twelve sets of the 25 knot roll-on/roll-off vessels such as in Dr. Hochstein's study, and then roughly 18 times the number of days to deliver for barges. So, you're looking at significant numbers of vessels that would have to be brought into play to produce that kind of result.

Technology. Since it's the subject of the panel. What you've been hearing up till this point is a history major talking about technology. There are really four areas in which technology needs to be looked at to advance coastwide trade, but the core of technologies are really there.

The kinds of vessels, for example, that we're looking at using or that would be employed are already employed in other places in the world. They're being built in other places. So, it's not that we have to make major significant advances in technology.

On the other hand, what we have to do is find a way to harness technologies, tune them to our specific needs, and then produce them inside an economic model that enables us to compete with trucks and the railroads.

Here are the service parameters for Dr. Hochstein's study. This is probably a good place, in case you're trying to copy all of this down. This presentation should be available on our law firm's web site probably a week to two weeks from now. So, if you'll go to the Preston, Gates, Ellis web site, check the Washington, D.C. office, we have a section of presentations. And all of our Coastwide presentations are there, and this one will be added. Like I said, it will probably be a week or so from now. So, you'll be able to get the presentation directly.

One of the points that comes out of this data, though, is that water, in a sense of being able to compete with trucks and rail in the matter of costs in the matter of timeliness, is close. I mean we are almost there.

If you look at the models that Dr. Hochstein has in his study, the two red squares are the two primary trucking options, a solo driven truck and a team driven truck. And if you look, the 25 knot monohull roll-on/roll-off service is roughly competitive in theoretical terms with the solo driven truck. The 36 knot Catamaran options get up into the area where they're competitive with the team driven truck.

So, years ago people had been concerned about closing this economic gap. Now, what's happening is the paradigms are changing. Roads are becoming harder to move on. Their times are dropping. Drivers are becoming more expensive. Their costs are going up. At the same time, our highway is wide open. And so we've got the option to get in if we can start capturing some of this.

One initiative that I think will happen, there's some opportunity here, but it is admittedly a double edge sword, is the fact that the U.S. military has now suddenly in the last two years developed an interest in high speed vessels. What you see here is high speed vessel X-1, which is currently a charter version of a 95 meter incap produced high speed Catamaran that the Australian Navy used in its peacekeeping operations. The U.S. military is currently evaluating this for any number of missions.

And our sense is the Army, I believe, has plans to purchase somewhere in the neighborhood of 12 to 14 such high speed vessels for inter-theatre transportation. This may be the kind of kick that we need to get commercial production of similar vessels going.

And a key aspect of it is the range. So many currently designed vessels in short sea shipping tend to have ranges in the 250, 300 and 500 mile range. If you notice what

the military is looking at is 2,400 nautical miles. They have already taken this vessel back and forth across the Atlantic to support exercises in Norway.

So, that would give the commercial vessel the kind of range it needs to serve from New England to Florida. As I said, that is a double edge sword.

Just a quick comment. The other edge of that sword is historically that when U.S. shipyards start building for the government, they tend to become uncompetitive for building for the commercial sector. So, the challenge is going to be not to let government contracts become the poison apple in this option, but let it become the way for them to gain the technical experience.

Another area of technology that is essential in coastwide shipping is the mode transfer issue. What I've illustrated here is based on a MARAD study about four or five years ago, but the message is very true.

Transferring modes costs a lot of money, and it's one of the primary reasons why we're having trouble developing coastwide intermodal shipping right now. This model, for example, assumes if you're doing a lift-on/lift-off service from a line haul vessel and lifting it off either on to a truck where you notice the red line is almost invisible or to a rail where it's a limited amount.

Or if you have to do a traditional lift on to the shore, then you do another containerized lift. So instead of doing one, you're doing three lifts. The red shows, you know, how much of the total costs for a 500 mile mode is taken up by that kind of transfer costs.

The same thing happens at 1,000 miles, and this is one of the reasons why, when we were looking at the models of vessels earlier, you tended not to see lift-on/lift-off other than in the container barge situation.

Unless we can find some way to really drastically reduce the mode transfer costs for a lift-on/lift-off operation, roll-on/roll-off is going to be the technology that is going to be the driving force in the coastal trades.

Fuel efficiency. We've seen these numbers as well as pollutant production. But one point I want to make, one of the things we have done is met with the environmental groups.

While marine is great, we're good, we're better compared to the other modes. And we must be careful not to get to resting on our laurels. They still want us to look at what pollutants we do produce. And you have to admit that the maritime industry does produce some. Unfortunately our friends in the international trade love to bring those big container ships into our ports, sit them there for 24 hours with those big diesels turning over slowly and churning out all sorts of stack gases.

Similarly, we need to look at the efficiency of our prime movers. Marine diesels are highly efficient, but can we make them more environmentally friendly? The environmentalists are interested in this. They want to support us, but they want to make sure that we are also sensitive to that.

And the third is the operating procedures. Can we technically get to the point where you don't have to idle that diesel, you know, for the 24 hours while the ship sits there?

Conclusion. Our sense at the Coastwide Coalition is that we're truly on the threshold of a new era in coastal shipping. It was the original needs of transportation between the colonies, and we feel it can be an important player in this next century.

The demand is growing, and the economic models are changing. The policy opportunities are there. TEA-21 re-authorization is probably only the first, but a major chance for us to get recognized as a partner in the transportation system. And MARAD and the people at the Marine Transportation System are doing an excellent job of bringing water into the equation.

The last question for us as the maritime industry, though, is can we deliver? Can that list of stakeholders as you saw in my second slide, all twelve of us or whatever, twelve segments, can we for once actually cooperate and bring together something that is going to produce a tremendous benefit for the country and for our own industry? But again we're going to have to work together on it. Thank you very much.

