

# M-5 Marine Highway Corridor

**Sponsor:** California Department of Transportation (Caltrans) and Oregon Department of Transportation (ODOT), Washington State Department of Transportation (WSDOT)

**Supporters:** Pacific Northwest Waterways Association, California Marine Affairs and Navigation Conference, Humboldt Bay Harbor, Recreation, and Conservation District / Port of Humboldt Bay, Port of Skagit County, WA, Skagit County Board of Commissioners, Town of La Conner, WA, and Swinomish Tribal Community.

**Landside Corridor Served:** Interstate-5

## **Corridor Description:**

The M-5 Corridor includes the Pacific Ocean coastal waters, connecting commercial navigation channels, ports, and harbors from San Diego, CA to the US-Canada border north of Seattle, WA. It spans Washington, Oregon and California along the West Coast. It connects to the M-84 Corridor at Astoria, OR, and the M-580 Connector at Oakland, CA.

## **Attributes:**

This corridor contains several areas identified by the U.S. Department of Transportation as having considerable annual truck hours of delay, most notably in the urban areas of California, Portland, OR, and Seattle, WA. The Department reports that Southern California and the Pacific Northwest are also plagued with freight rail congestion. Total domestic trade movements between the three States along the I-5 Corridor are expected to grow from 145 million tons per year to 366 million tons by 2030, exacerbating existing challenges.

Navigable coastal waters that parallel the entire I-5 Corridor, combined with numerous deep and safe rivers, bays, and ports, can help to accommodate some of this expected increase in traffic, reducing landside travel delays and greenhouse gas emissions along this essential freight corridor.



# M-580 Marine Highway Corridor

**Sponsor:** Port of Stockton, California

**Supporters:** Bay Area Air Quality Management District, San Joaquin Valley Air Pollution Control District, Port of Oakland, and the Port of West Sacramento.

**Landside Corridor Served:** Interstate-580

## **Corridor Description:**

The M-580 Corridor includes the San Joaquin River, Sacramento River, and connecting commercial navigation channels, ports, and harbors in Central California from Sacramento, CA to Oakland. It connects to the M-5 Corridor at Oakland.

## **Attributes:**

I-580 is one of the most congested highways in the nation, and has been identified by the U.S. Department of Transportation as having significant annual truck hours of delay. Approximately 25 percent of the Port of Oakland's volume travels to and from the San Joaquin Valley of California, an area already recognized for some of the country's worst air pollution. By 2020, the Port of Oakland's volume is expected to increase by 65 percent, further exacerbating the Valley's congestion and air quality issues.

An increased movement of freight by water could help to relieve this situation. In 2007, nearly 3.4 million tons of waterborne cargo, mainly bulk goods, moved through the Port of Stockton via the Stockton Deepwater Ship Channel and San Joaquin River, underscoring the potential capacity of this waterway system. One example of the potential for waterborne freight movements along this corridor is a proposed marine highway service between the Ports of Oakland, Stockton, and West Sacramento. Fully implemented, it could eliminate 180,000 truck trips from I-580, I-80, and I-205 annually, saving approximately 7 million gallons of fuel and reducing air emissions in the process.



# M-84 Marine Highway Corridor

**Sponsor:** Port of Portland, Oregon

**Supporter:** The Pacific Northwest Waterways Association.

**Landside Corridor Served:** Interstate-84

## **Corridor Description:**

The M-84 Corridor includes the Columbia, Willamette and Snake Rivers, connecting commercial navigation channels, ports, and harbors. It spans Oregon, Washington, and Idaho from Astoria, OR to Lewiston, ID and a 26 mile portion of the Willamette River from Willamette Falls to the confluence with the Columbia River. It connects to the M-5 Corridor in Astoria, OR.

## **Attributes:**

I-84, which parallels the Columbia River in Oregon, has been identified as a freight truck bottleneck by the U.S. Department of Transportation, resulting in up to 750,000 truck hours of delay annually. This is also noted by the Department as an area of major rail congestion. Containers from the Ports of Seattle, Tacoma, and Portland currently move by truck on I-84 (and I-5), and 55 percent of the region's container market moves through Puget Sound, causing additional truck and rail freight traffic between these ports.

Increasing the use of the water route paralleling I-84 can help mitigate landside congestion, reduce air emissions, and conserve energy. A container-on-barge service currently calling on smaller ports along the Columbia and Snake Rivers is one example of the corridor's potential. A proposed weekly service between the Ports of Umatilla, Portland, Seattle, and Tacoma could also accommodate the equivalent of 36,000 trucks that travel the I-5 landside corridor each year. An operation like this could serve both agricultural exporters and importers in the Pacific Northwest shipping to Far East markets.



# M-10 Marine Highway Corridor

**Sponsor:** Mississippi Department of Transportation

**Supporters:** Florida DOT, Texas DOT, Louisiana DOT, NW Louisiana Economic Development Foundation, South Alabama Regional Planning Commission, Port of Jacksonville, Port of Tampa, Port of Pensacola, Port of Pascagoula, Port of Morgan City, Port of New Orleans, St. Bernard Terminal and Harbor District, Port of Lake Charles, Port of Houston Authority, Port of Brownsville, and Gulf Intracoastal Canal Association.

**Landside Corridor Served:** Interstate-10

## **Corridor Description:**

The M-10 Corridor includes the Gulf of Mexico, the Gulf Intracoastal Waterway, and connecting commercial navigation channels, ports, and harbors. It stretches from Brownsville, TX to Jacksonville and Port Manatee, FL and includes Texas, Louisiana, Mississippi, Alabama, and Florida. It connects to the M-49 Corridor at Morgan City, LA, the M-65 Corridor in Mobile, AL, and the M-55 in New Orleans, LA.

## **Attributes:**

The I-10 corridor (including secondary roads between Houston and Brownsville and I-75 on Florida's West Coast and extending to the Tampa/Port Manatee area) parallels the U.S. Gulf Coast, accommodating considerable east-west freight. The U.S. Department of Transportation has identified major freight truck bottlenecks at several points along this corridor, including in and around Houston, New Orleans, and Tampa. Freight rail congestion is also a challenge in and around the Houston area. The National I-10 Freight Study shows 400 miles of the corridor already operating at an unacceptable level of service. Corridor traffic is expected to grow significantly by 2025.

Fortunately, the extensive network of coastal, intracoastal, and inland waterways along this corridor can offer relief to the existing and projected travel delays. Although there are already numerous maritime operations along this corridor, a very low percentage carry containerized or roll-on/roll-off freight. However, these existing limited services demonstrate that marine highway operations in this corridor are possible. In addition, large volumes of hazardous materials move along this corridor, which, if transported by water, could improve safety and security.



# M-49 Marine Highway Corridor

**Sponsor:** Louisiana Department of Transportation & Development

**Supporters:** NE Louisiana Economic Development Foundation, Rapides Area Planning Commission, The Port of Morgan City, Natchitoches Parish, Port of New Orleans, Port of Greater Baton Rouge, Port of Krotz Springs, and the Caddo/Bossier Port Commission.

**Landside Corridor Served:** Interstate-49

## **Corridor Description:**

The M-49 Corridor includes the Atchafalaya River, the J. Bennett Johnson Waterway, and connecting commercial navigation channels, ports, and harbors. It spans southwest Louisiana from Morgan City, LA to Shreveport along US Highway 90 and Interstate 49. It connects to the M-10 Corridor at Morgan City.

## **Attributes:**

This corridor serves four South Louisiana ports, including Port Fourchon, Port of West St. Mary, Morgan City, and the Terrebonne Port Commission (Houma), transporting significant volumes of freight along the landside route. During the six years from 2000 to 2006, the corridor experienced a 19 percent increase in vehicle traffic, of which approximately 20 percent was truck traffic, clearly indicating an upward trend in freight and congestion.

The J. Bennett Johnston Waterway (formerly known as the Red River Waterway) moved 9.1 million short tons (7.5 billion ton-miles) of freight in 2007, demonstrating the corridor's potential capacity for waterborne goods movement. However, neither the J. Bennett Johnston Waterway nor Bayou Teche currently have container or trailer marine services. A more efficient freight distribution system could have significant benefits to the region.



# M-55 Marine Highway Corridor

**Sponsors:** Missouri and Illinois Departments of Transportation

**Supporters:** Southeast Missouri Regional Port Authority, and the Ohio Department of Transportation.

**Landside Corridor Served:** Interstate-55

## **Corridor Description:**

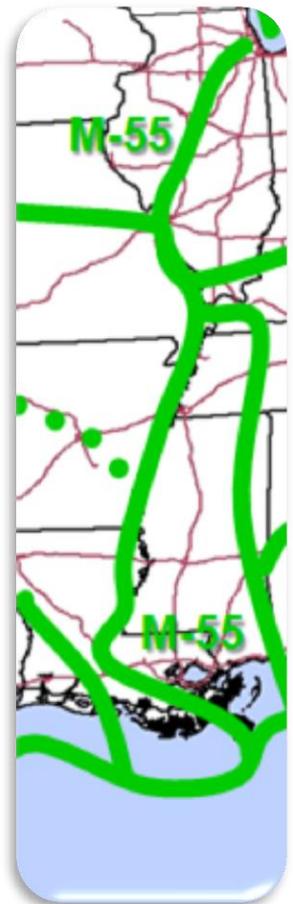
The M-55 Corridor includes the Mississippi and Illinois Rivers from New Orleans, LA, via St. Louis, MO, to Chicago, IL, through Louisiana, Mississippi, Arkansas, Tennessee, Missouri, and Illinois. It includes connecting commercial navigation channels, ports, and harbors. It connects to the M-90 corridor at Chicago, the M-40 Connector at Napoleon, AR, crosses the M-70 Corridor at St. Louis, MO, and meets the M-10 Corridor at New Orleans, LA.

## **Attributes:**

At 2,348 miles in length, the Mississippi River is the 2nd longest river in the United States and 92 percent of the nation's agricultural exports are produced in its basin. Sixty percent of all U.S. grain exports move on the Mississippi River and the largest port in the United States (by tonnage) is located on the Mississippi at LaPlace, LA. The Port of New Orleans handled 229,067 containers (TEUs) in 2008, most of which also move inland on truck and rail.

The U.S. Department of Transportation indicates that this corridor is plagued with major freight truck bottlenecks at several points along its route, including the metropolitan areas of Chicago, St. Louis, Baton Rouge, and New Orleans, causing millions of hours in truck delay each year. In addition, the Department found that freight rail congestion is problematic for both in the Chicago and St. Louis areas. Even in rural segments, traffic studies on portions of I-55 in Southeast Missouri found that trucks account for approximately 50 percent of all daily vehicle movements.

The increased use of the Marine Highway component of the corridor in this area has the potential to reduce air emissions, conserve energy, lower highway maintenance costs, and enhance safety, although key infrastructure, including locks and dams, require modernization.



# M-65 Marine Highway Corridor

**Sponsor:** Tennessee-Tombigbee Waterway Development Authority

**Supporters:** State of Alabama, Alabama State Port Authority, West Virginia DOT, South Alabama Regional Planning Commission, Yellow Creek State Inland Port Authority, Paducah-McCracken County Riverport Authority, Port Itawamba, Lowndes County Port Authority, Coalition of Alabama Waterway Associations, Inc.

**Landside Corridor Served:** Interstate-65

## **Corridor Description:**

The M-65 Corridor includes the Mobile, Tombigbee, and Black Warrior Rivers from the Port of Mobile to the Port of Birmingham; and the Mobile River, Tennessee-Tombigbee Waterway, and Tennessee River via the Ohio River in Paducah, KY, to the Mississippi River. The corridor also includes all commercial navigation channels, ports, and harbors in Alabama, Mississippi, and Tennessee. It connects to the M-10 Corridor in Mobile and the M-55 Corridor in Cairo, Illinois.

## **Attributes:**

According to the South Alabama Regional Planning Commission, over 3,150 freight trucks move northward from Southern Alabama along the I-65 Corridor on a daily basis. Of this number, an estimated 500 of these trucks transport hazardous materials north from the Mobile area. The U.S. Department of Transportation forecasts that daily traffic on the overall corridor could grow to 25,000 long haul trucks by 2035.

This Marine Highway corridor could help mitigate some of these anticipated increases in freight and hazardous materials movements through increased utilization of the Tennessee-Tombigbee Waterway. Both the planned expansion of the Port of Mobile and the chemical production facilities of southern Alabama could benefit from expansion of maritime capacity along this corridor.



# M-70 Marine Highway Corridor

**Sponsor:** Ohio Department of Transportation

**Supporters:** Illinois DOT, Missouri Chamber of Commerce, Missouri DOT, and Cape Girardeau Area MAGNET.

**Landside Corridor Served:** Interstate-70

## **Corridor Description:**

The M-70 Corridor includes the Ohio, Mississippi, and Missouri Rivers, and connecting commercial navigation channels, ports, and harbors, from Pittsburgh to Kansas City. It spans Pennsylvania, Ohio, Indiana, Illinois, and Missouri, connecting to the M-55 Corridor at St. Louis, MO.

## **Attributes:**

This corridor contains major freight truck bottlenecks at numerous points, including Kansas City, St. Louis, Louisville, Dayton, Cincinnati, Columbus, and Pittsburgh. According to the U.S. Department of Transportation, long haul truck volumes are expected to reach 25,000 per day along major segments by 2035. Similarly, rail congestion is evident in and around Kansas City, St Louis, and several points along the corridor in Ohio.

This Marine Highway corridor has the potential to help alleviate a portion of the congestion from the existing landside routes, while at the same time reducing emissions, conserving energy, improving safety ,and reducing highway maintenance costs. It can also contribute to increased economic and commercial activity in the region by removing barriers to efficient freight transportation.



# M-90 Marine Highway Corridor

## **Sponsor:** Ohio Department of Transportation

**Supporters:** Wisconsin DOT, Greater Buffalo-Niagara Regional Transportation Council, Monroe County Planning & Dev. Dept., Algoma, WI, Port of Milwaukee, Cleveland-Cuyahoga County Port Authority, Lake Carriers Association, New York State DOT, and the New York State Canal Corporation.

**Landside Corridors Served:** Interstate-90 (Also Interstates-80 and 94)

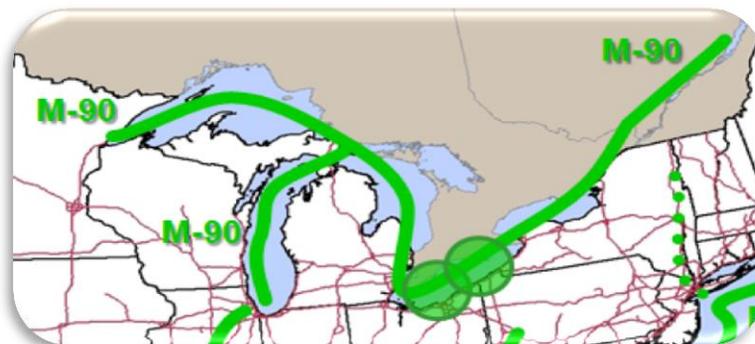
## **Corridor Description:**

The M-90 Corridor is the Great Lakes, Erie Canal, and connecting commercial navigation channels, ports, and harbors from Albany, NY to Chicago, IL and Duluth, MN. It spans New York, Pennsylvania, Ohio, Indiana, Illinois, Michigan, and Wisconsin. It connects to the M-75 Detroit/Windsor Crossing near Detroit, MI, and the M-71/77 Lake Erie Crossing near Cleveland, OH.

## **Attributes:**

I-90 is already experiencing major freight truck bottlenecks at several points and is expected to rank seventh in the nation for freight truck vehicle miles traveled by 2020. Similarly, I-80 also suffers major freight truck bottlenecks and is Ohio's top freight truck corridor based on vehicle miles traveled. It will represent approximately 20 percent of the State's daily truck traffic by 2020.

The corresponding Marine Highway Corridor provides benefits to both I-90 and I-80 and offers virtually unlimited capacity between from Western Lake Superior to the East Coast via the Saint Lawrence Seaway. Numerous vessel services currently utilize this corridor, but their container and trailer volumes are at present limited. New and expanded waterborne services offer the opportunity to absorb some of the future traffic congestion forecast for the corresponding landside corridor. In addition, while currently handling limited volumes of freight, the Erie Canal could provide a link between the Great Lakes and East Coast via the M-87 Connector between Buffalo and Albany, NY.



# M-95 Marine Highway Corridor

## **Sponsor:** Interstate-95 Corridor Coalition

**Supporters:** Council of State Governments' Eastern Regional Conference, Commonwealth of PA, NJDOT, CT DOT, CT Maritime Commission, Florida DOT, East Central FL RPC, Space Coast Transportation Planning Authority, Economic Development Commission of Florida's Space Coast, DE Valley RPC, DE River & Bay Authority, SE Regional Planning & Economic Dev Commission, Richmond Regional RPC, NJ Transportation Planning Authority, NY Metropolitan Transportation Council, NYCDOT, NYSDOT, Port of Baltimore, NC Ports, Port of Mass., Port of New Bedford, MA, City of New London, CT, Philadelphia Regional Port Authority, MD Port Commission, Philadelphia Regional Port Authority, ME Port Authority, Port Authority of NY & NJ, Port Canaveral, FL, SC State Port Authority, VA Port Authority, Port of Davisville, RI, Jaxport, FL, and the Maritime Association of the Port of New York & New Jersey.

**Landside Corridor Served:** Interstate-95

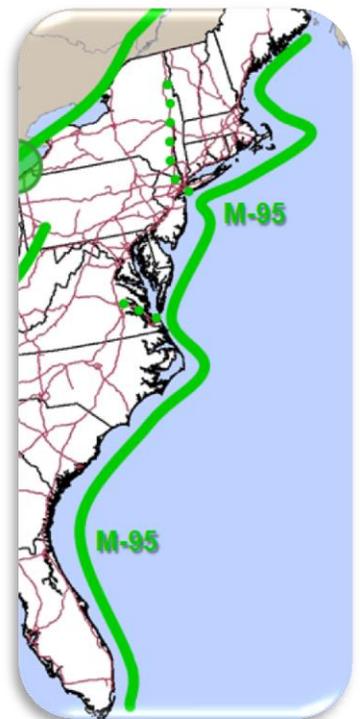
## **Corridor Description:**

The M-95 Corridor includes the Atlantic Ocean coastal waters, Atlantic Intracoastal Waterway, and connecting commercial navigation channels, ports, and harbors. It stretches from Miami, FL to Portland, ME and spans 15 states. It connects to the M-87 Connector and the M-90 Corridor near New York City; and the M-64 Connector at Norfolk, VA.

## **Attributes:**

The 1,925 mile-long I-95 Corridor is the major North-South landside freight corridor on the East Coast. The U.S. Department of Transportation identified more than a dozen major freight truck bottlenecks along this route, along with significant critical rail congestion along the upper portions. Projections of future freight volumes indicate increasing freight congestion challenges, with limited opportunity to increase landside capacity.

The Corridor is home to 15 of the largest 50 marine ports in the United States (as ranked by total throughput). These ports handle approximately 582 million short tons of cargo, or 26 percent of the national total. Much of this freight begins or ends its journey with an I-95 transit. Fortunately, the East Coast also possesses a host of waterways, bays, rivers, and the Atlantic coast itself. The Corridor is also lined with less congested, smaller niche ports that could play a vital part in the developing marine highway service network. While several Marine Highway operations already serve this corridor, there is significant opportunity for expansion to help address growing congestion, reduce greenhouse gas emissions, conserve energy, and lower landside infrastructure maintenance costs.



# M-2 Marine Highway Corridor

**Sponsor:** San Juan Port Commission

**Supporters:** The Ports of Ponce and marine/port facilities in Mayaguez, Ceiba (former US Naval Station Roosevelt Roads), Yabucoa, Guanica, Guayama, Guayanilla, and Arebico.

**Landside Corridor Served:** Interstate/Route-2

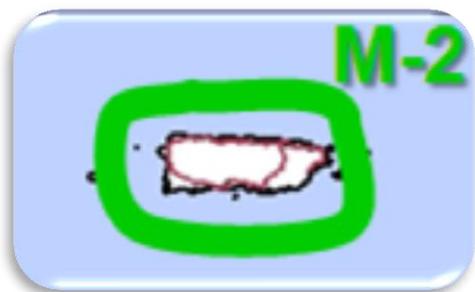
**Corridor Description:**

The M-2 Corridor includes the Caribbean Sea, and connecting commercial navigation channels, ports, and harbors around the perimeter of Puerto Rico via San Juan, Mayagüez, and Ponce.

**Attributes:**

Puerto Rico is served by just 250 miles of interstate highway and 169 miles of non-interstate facilities. By 2020 this system is expected to handle approximately 492 million vehicle-miles of travel. According to the Federal Highway Administration, almost \$1.4 billion will be required over the next 20 years to address congestion-sourced problems. Adding to this is the fact that 90 percent of Puerto Rico's cargo arrives by water (approximately 14 million tons), and 18 percent of its traffic is attributable to trucks originating from the Port of San Juan alone. There is no rail system to supplement goods movement by truck; as such, water represents the only potential alternative.

This marine highway corridor which circles the island and connects the vital sea ports such as Ponce (Port of Las Americas), Mayaguez, Ceiba, Yabucoa, Guanica, Guayama, Guayanilla, and Arecibo offers the potential to provide relief for the movement of people and freight, especially into and out of the island's sea ports.



# M-40 Marine Highway Corridor

**Sponsor:** Arkansas Waterways Commission and the Oklahoma DOT Waterways Advisory Board

**Supporters:** Tulsa Port of Catoosa, Muskogee City-County Port Authority, The Alliance - Economic Development of Jefferson County, Arkansas, including Pine Bluff Jefferson County Port Authority, and Arkansas River Regional Intermodal Facilities Authority, Port of Fort Smith, Little Rock Port Authority, Indian Nations Council of Governments, Northwest Arkansas Regional Planning Commission, Southeast Arkansas Regional Planning Commission, Tri-Lakes Metropolitan Planning Organization, Grand Gateway Economic Development Association and the Kiamichi Economic Development District of OK.

**Landside Corridor Served:** Interstate-40

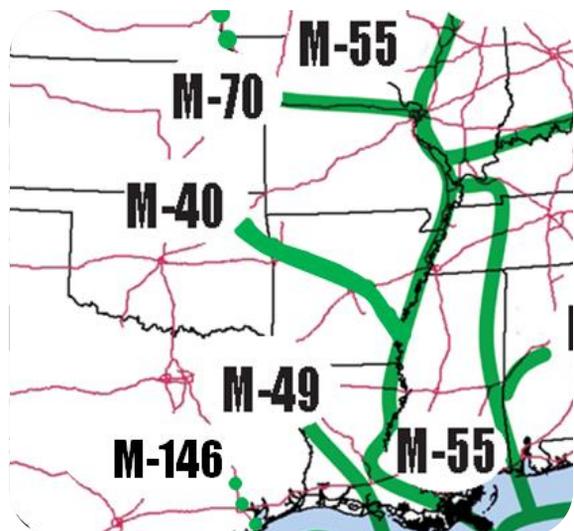
## **Corridor Description:**

The M-40 flows alongside Interstate-40 in Arkansas and Oklahoma and includes the Arkansas, Verdigris and White Rivers. It flows from the Port of Catoosa, OK to the Mississippi River (M-55) near Napoleon, AR.

## **Attributes:**

The McClellan-Kerr Arkansas River offers a waterborne alternative to I-40 and other landside routes, traversing 445 miles from Tulsa, OK to its confluence with the Mississippi River (M-55), approximately 600 river miles upstream from New Orleans.

Five public ports facilitate the transport of about 12.1 million tons of freight annually, and they provide the region with potential capacity to expand into intermodal container and trailer cargoes. As such, expanded utilization of this route, and its connection to the M-55 Corridor, offers considerable potential to reduce vehicle miles traveled in this region.



# M-87 Marine Highway Connector

**Sponsor:** New York State Department of Transportation

**Supporters:** Albany Port District Commission, Port Authority of New York & New Jersey, and New York State Canal Corp.

**Landside Corridor Served:** Interstate-87

## **Corridor Description:**

The M-87 Connector is the Hudson River, connecting commercial navigation channels such as the Erie Canal, ports, and harbors from New York City to Albany, NY. It spans eastern New York State. It connects to the M-90 Corridor at Albany, NY, and the M-95 Corridor at New York City.

## **Attributes:**

Transiting through two areas that experience major freight truck bottlenecks, this Marine Highway Connector could help relieve some of the landside congestion, especially in the metropolitan New York & New Jersey area, where average daily traffic volumes have reached 137,000 vehicles as far back as 2002.

While many vessels travel the waters of the Hudson River between New York City and Albany New York (a distance of nearly 150 miles), this connector has the capacity to accommodate significantly more freight, relieve congestion pressure at key landside roads, bridges, and tunnels, and help reduce the emissions from freight vehicles. There is currently little, if any, containerized or trailer freight moving along this connector. This connector can also play an important role as a Marine Highway link between the M-90 and M-95 Marine Highway Corridors, offering access to far more markets than either Corridor could independently.



# M-64 Marine Highway Connector

**Sponsor:** Richmond Regional Planning District Commission

**Supporters:** Port of Richmond, Virginia Port Authority, and Hampton Roads Transportation Planning Organization.

**Landside Corridor Served:** Interstate-64

## **Corridor Description:**

The M-64 Connector includes Hampton Roads, the Chesapeake Bay, James River, and connecting commercial navigation channels, ports, and harbors. It spans southeast Virginia from Norfolk, VA to Richmond, VA. It connects to the M-95 Corridor at Norfolk, VA.

## **Attributes:**

I-64, a major connector between Richmond and Norfolk, VA links the Tidewater area to the I-95 Corridor, a vital East Coast lifeline for passengers and freight. The U.S. Department of Transportation has identified the Tidewater Virginia area as a major freight truck bottleneck, causing up to 500,000 hours of delay annually. In addition to normal traffic along this connector, the sea ports in the Norfolk area processed nearly 2 million Twenty Foot Equivalent Units (TEU) of containerized cargo in 2005, of which 66 percent moved by truck, 24 percent by rail, and only 10 percent by barge/water. These factors, combined with anticipated increases in port trade, are placing an increasing demand on the landside section of I-64.

The water option, which consists mainly of the James River, has considerable capacity to expand. An on-going marine highway service that began in 2008 is one example of the potential this connector can offer. In its first year of operations, the service accommodated over 6,000 containers along the connector that would have otherwise represented more than 6,000 more trucks traveling on I-64. While the service's volumes continue to grow, this and other Marine Highway operations face various challenges in realizing the additional potential of this alternative.



# M-5 Alaska Marine Highway Connector

**Sponsor:** West Coast Corridor Coalition

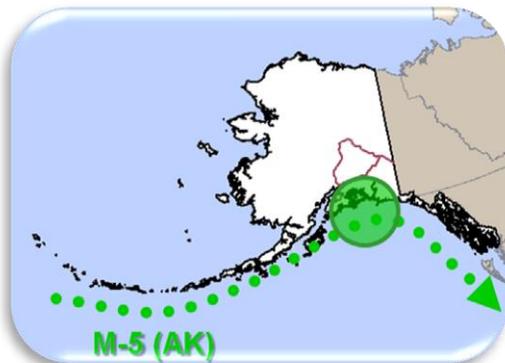
**Supporters:** State of Alaska (Alaska Marine Highway System).

**Landside Corridor Served:** ALCAN Highway and Richardson Highway

## **Corridor Description:**

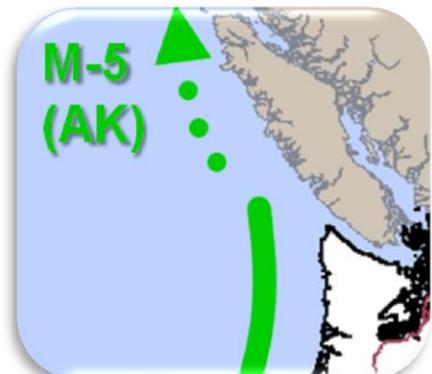
The M-5 Alaska Marine Highway Connector consists of the Pacific Ocean coastal waters, including the Inside Passage, connecting commercial navigation channels, ports, and harbors from Puget Sound to Unalaska in the Aleutian Islands of Alaska. It spans British Columbia and lower Alaska and connects to the M-A1 Crossing near Anchorage, AK and the M-5 Corridor at the Canadian border north of Bellingham, WA.

## **Attributes:**



This connector provides an alternative to the circuitous 2400-mile land route from the State of Washington to the State of Alaska by way of Canada. Although continuously undergoing improvements, the land route also poses more challenges than typical interstates. It is narrow and winding in some places, experiences loose gravel breaks and has areas without center lines and shoulders, all of which can limit reliability, speed and capacity.

This Marine Highway connector serving this corridor already hosts about 90 percent of the interstate freight shipments (excluding petroleum) originating in or destined for Alaska and handles substantial vehicle and passenger traffic. Water transportation also provides the primary link for intrastate freight shipments to the Aleutian Island chain which are vital to the communities served by this connector.



# M-75 Detroit/Windsor Marine Highway Crossing

**Sponsor:** Detroit/Wayne County Port Authority

**Landside Corridor Served:** Interstate-75

**Corridor Description:**

The M-75 Crossing includes the Detroit River and Lake Erie, from Detroit, MI, to Toledo, OH, and connecting commercial navigation channels, ports, and harbors.

**Attributes:**

The Detroit/Windsor gateway is the busiest international border crossing on the continent. This border crossing handles more than 3 million commercial trucks annually, with the volume of trade in excess of \$122 billion. In addition, more than one million passenger vehicles used the gateway last year. It is also the source of significant traffic bottlenecks. The Ambassador Bridge and the Detroit/Windsor Tunnel are the only two crossings between Detroit and Windsor. Disruption of either the tunnel or the bridge due to an accident or incident often result in significant delays. Furthermore, both the bridge and tunnel have prohibitions on hazardous materials, requiring these vehicles to travel over 100 miles to a landside alternative.

This very short water crossing has the potential to add both capacity and redundancy at this critical transportation chokepoint. A small freight service already transports a limited number of trucks (primarily carrying hazardous materials) and a passenger ferry also contributes to relieving some of the congestion. It is possible that, for a fraction of the infrastructure costs, water services on this Marine Highway Crossing could be a valuable alternative to the landside routes available today.

Another example of the potential of this crossing is a new service which began in 2008 that provided 30 new barge crossings between the Port of Detroit and eastern Canada, providing a “water bridge” for many trucks that would otherwise be adding to landside traffic.



# M-71/77 Lake Erie Marine Highway Crossing

**Sponsor:** Grand River Port Authority, OH

**Supporters:** Ohio DOT, West Virginia DOT, SE Ohio Areawide Coordinating Agency, and the Municipality of Bayham, ON. Cited US interests include Village of Grand River, OH, Fairport Harbor Port Authority, OH, Village of Fairport Harbor, Mentor Port Authority, City of Mentor, OH, Lake County, OH, Northeast Ohio Areawide Coordinating Agency, and Ohio Rail Development Commission.

**Landside Corridor Served:** Interstates-71 & -77

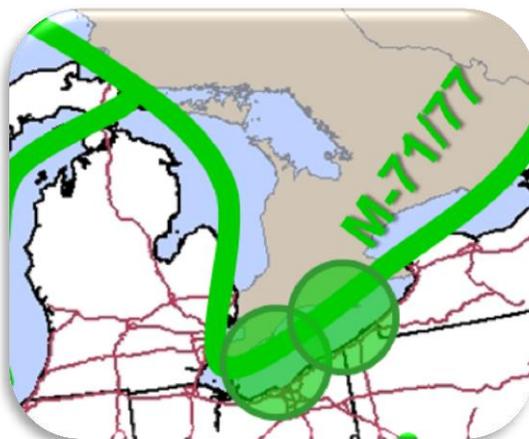
**Corridor Description:**

The M-71/77 Lake Erie Marine Highway Crossing transits Lake Erie between Ohio ports and Ontario ports. It serves to extend the landside Interstates-71 and -77 corridors and connects to the M-90 Corridor near Painesville, OH.

**Attributes:**

The Lake Erie Marine Highway Crossing links the Cleveland metropolitan area near the Grand River/Fairport Harbor with Canada at Port Burwell, ON. This route avoids major freight truck bottlenecks at Detroit and Buffalo where, according to the U.S. Department of Transportation, delays of over 1 million truck hours can be experienced annually.

This water crossing, approximately 55 miles across Lake Erie, offers as much as a 200-mile saving over landside alternatives and, in many cases, avoids the border crossing bottleneck delays in Detroit and Buffalo. Development of the Lake Erie Marine Highway Crossing could potentially reduce travel delays and emissions, improve safety, and stimulate trade with Canada.



# M-A1 Marine Highway Crossing

**Sponsor:** Matanuska-Susitna Borough (AK)

**Supporters:** The Port of Anchorage & Municipality of Anchorage.

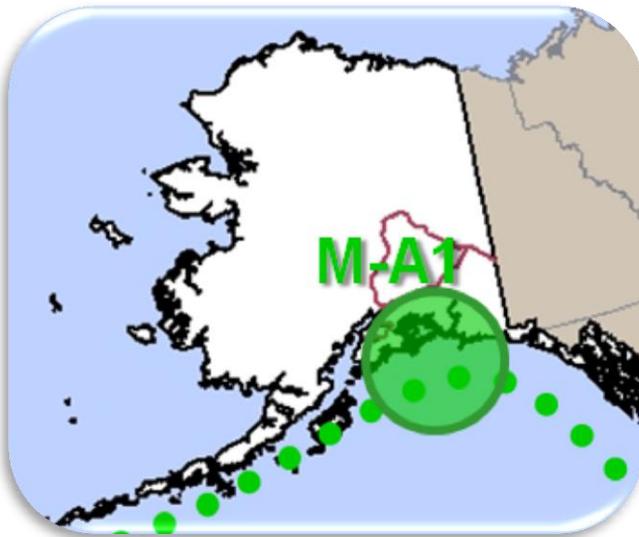
**Landside Corridor Served:** Route A1

## **Corridor Description:**

The M-A1 Crossing includes the Upper Cook Inlet, the Matanuska and Susitna Rivers, and connecting commercial navigation channels, ports, and harbors. It stretches from Anchorage to Talkeetna and Palmer. It is an extension of the Alaska Marine Highway System.

## **Attributes:**

Numerous locations in the State of Alaska face geographical challenges making the movement of both passengers and trucks into and out of communities circuitous and difficult. Two such locations are Port MacKenzie and Tyonek, both on Knik Arm near Anchorage, which flows into Cook Inlet and out to the Pacific Ocean. Waterborne transit times to these locations can be shorter than the land based route around the bay and inlet.



# M-146 Marine Highway Connector

***Sponsor: Chambers County Galveston Bay***

***Supporters: Chambers County Improvement District No.1 & Chambers-Liberty Counties Navigation District***

***Landside Corridor Served: I-10 and TX-146***

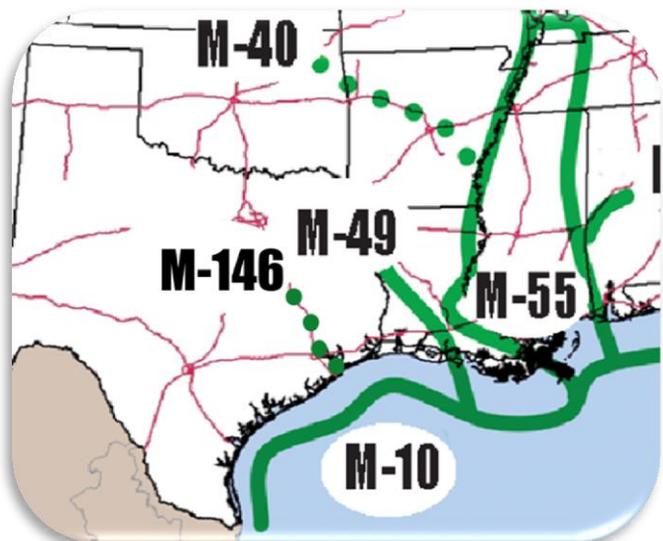
## ***Corridor Description:***

The M-146 Marine Highway Connector includes the navigable waters between the Cedar Crossing Industrial Park in Chambers County, Texas and the Port of Houston. The route is located in southeast Texas, along the Gulf of Mexico on Galveston Bay. These commercially navigable waters provide a direct route from the Houston Ship channel to the Cedar Crossing Industrial Park, one of the largest industrial parks in the nation.

## ***Attributes:***

Traffic congestion is a major issue in the area, as both residential commuters and commercial long and short-haul vehicles utilize the roadways. Trucking companies serve many industry leaders with distribution centers in Chambers County such as Bayer, Wal-Mart, Home Depot, ExxonMobil, and JSW.

The M-146 Marine Highway Connector designation recognizes the importance of the waterway to these industries as an alternative to moving containers on the region's already congested road and railways. The regional industries already use barges to transport containers moved between the Port of Houston and distribution centers instead of by way of on-road trucks, and they plan to expand usage of the container-on-barge services to reduce traffic congestion, health and safety hazards, and greenhouse gas emissions in the area.



# M-495 Marine Highway Crossing

**Sponsor:** *Northern Virginia Regional Commission (NVRC)*

**Supporters:** *District of Columbia Department of Transportation, Virginia Office of Intermodal Planning and Investment, the Town of Indian Head MD, Charles County MD, the Department of the Navy, Joint Base Anacostia/Bowling and a potential vessel operator.*

**Landside Corridor Served:** *I-95, I-295, I-395 and I-495*

## **Corridor Description:**

The M-495 Marine Highway Crossing includes the navigable portions of the Anacostia, Occoquan and Potomac Rivers. These segments have potential to reduce regional rush-hour congestion through the operation of passenger ferry services and would provide a needed redundancy to the regional system.

## **Attributes:**

The National Capital Region geographic area will grow from over 5.5 million people currently to over 8 million people in 2040. The region already suffers from long commutes and significant congestion. Increasing population densities will intensify the region's transit capacity challenges.

The M-495 Marine Highway Crossing designation recognizes the potential for the Anacostia, Occoquan and Potomac Rivers to provide a multimodal alternative to the existing transportation network. The crossing designation supports regional efforts to plan, fund and build passenger ferries to transport commuters between their residential neighborhoods and the waterfront government buildings and military bases where they work. Benefits of these services include improvements in air emissions, reduced need to expand congested roadways, and the availability of vessels for use in emergency evacuations.



# M-29 Marine Highway Connector

**Sponsor: The Port Authority of Kansas City and Missouri DOT**

**Supporters: Kansas DOT, the Mid-America Regional Council, St. Joseph Area Transportation Study Organization, Missouri Department of Economic Development, the Inland River Ports and Terminals Association and the Nebraska City Dock Board.**

**Landside Corridor Served: I-29, I-35, I-70 and I-49**

## **Corridor Description:**

The M-29 Marine Highway Connector establishes a connection between the middle section of the Missouri River in Sioux City, Iowa and the M-70 Marine Highway Corridor at Kansas City, Missouri.

## **Attributes:**

Kansas City is a regional freight hub and home to the Nation's second largest rail center and third largest trucking center. The M-29 Connector will provide a third transportation option for regional freight movement between Kansas City's intermodal infrastructure and shippers in Missouri, Kansas, Iowa, Nebraska, South Dakota and Minnesota. It has the potential to contribute to a safe, cost-efficient and environmentally sustainable regional transportation system.

Increasing freight transportation on the Missouri River, both north to Sioux City, Iowa and east to the Mississippi River, can serve to slow freight traffic growth on local roads, interstate highways, railroads and bridges in the surrounding counties. The M-29 Connector will provide a crucial linkage to the larger M-70 Corridor, serving areas previously unconnected to that Corridor, as well as strengthening the M-70 Corridor itself by encouraging increased utilization. This will ease congestion between Missouri and Kansas, in other cities adjacent to the Missouri River such as Omaha, Nebraska and Sioux City, Iowa, and throughout the Midwest region in general.



# M-295 Marine Highway Crossing

***Sponsors: Connecticut Department of Transportation and New York State Department of Transportation***

***Supporters: Bridgeport, New Haven and New London Port Authorities, the City of New London, the New York Metropolitan Transportation Council, and regional ferry operators.***

***Landside Corridor Served: I-95, I-295, I-495 and I-678***

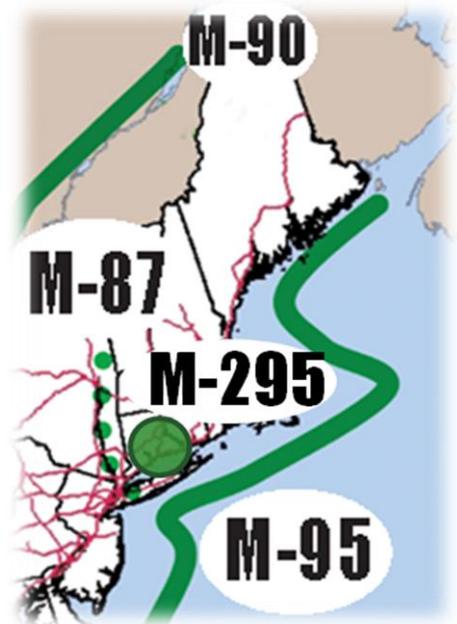
## ***Crossing Description:***

The M-295 includes the entire East River (from New York Harbor where it connects to the M-87) and Long Island Sound up to and including Block Island Sound. The Crossing includes operating ferry systems that connect Connecticut to New York and provides a substantial shortcut for people that need to cross the Long Island Sound. There are two existing ferry systems that create substantial improvements to the overall capacity of the national freight transportation system as a possible alternative to ground transportation in the movement of people.

## ***Attributes:***

The M-295 Crossing features ferry services that contribute significant benefits to the region and nation. For example, the central ferry service between Bridgeport, CT, and Port Jefferson, NY, carries over 800,000 riders and 400,000 vehicles per year. The eastern ferry service between New London, CT, and Orient Point, NY, carries over 1.1 million riders and 430,000 vehicles per year. In addition, the ferry operators have a regular customer base of large commercial vehicles and heavy trucks which significantly contributes to moving freight between New England and Long Island.

These services are of regional importance, providing both resiliency and redundancy to the regional transportation system while reducing landside congestion.



# M-35 Marine Highway Corridor

**Sponsors:** *Illinois Department of Transportation, Iowa Department of Transportation, Minnesota Department of Transportation, Missouri Department of Transportation, and Wisconsin Department of Transportation*

**Supporters:** Inland Rivers Ports and Terminals Association and Upper Mississippi River Basin Association

**Landside Corridor Served:** *Interstate-35, Interstate-94, (includes U.S. 61, Missouri State Route 27, Iowa State Route 27, and I-35)*

## **Corridor Description:**

The M-35, which can commonly be referred to as “Waterway of the Saints” Marine Highway Corridor, links the Upper Mississippi River with the existing M-55 Corridor. The M-35 Corridor runs from Lock/Mile 1 on the Mississippi River in Minneapolis, MN to the confluence of the Mississippi and Illinois Rivers in Grafton, Illinois, where the M-55 Corridor begins. Together, the M-35 and M-55 provide an all-water route from the beginning of the Mississippi River to the Gulf of Mexico.

## **Attributes:**

This M-35 is a major hub for freight tonnage transported by truck to some of the region’s major metropolitan areas such as Minneapolis-St. Paul, MN, Chicago, IL, and St. Louis, MO. By 2040, the U.S. Department of Transportation predicts that several major highway segments (e.g., I-70 in Missouri, I-80 in Iowa, and I-90 & I-94 from Chicago to Minneapolis) will experience more recurring peak-period congestion and high-volume truck segments on the National Highway System that carry more than 8,500 trucks per day.



Water transportation is an important part of the Upper Mississippi River region’s freight network. The M-35 promotes domestic and international trade by establishing a strong link and other connections to the Gulf of Mexico. For example, in 2011, approximately 61.2 million short tons of cargo were transported on the M-35, compared to 60.7 million tons in 2010 (domestic & foreign). The states along the M-35 use the Upper Mississippi River to ship commodities to as many as 15 adjacent or nearby states.