United States Marine Highway Route Designations

U.S. Department of Transportation
Maritime Administration

Marine Highway M-5 (AK)

Sponsor: West Coast Route Coalition

Supporters: State of Alaska (Alaska Marine Highway System)

Landside Routes Served: ALCAN Highway and Richardson Highway

Route Description:
The M-5 Alaska Marine Highway Route 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 Route at the Canadian border north of Bellingham, WA.

Attributes:
This route 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 route serving this Route 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 route.

Marine Highways
M-5
Other Marine Highway Routes

0 105 210 420 Miles

Table of Content

Projection:
NAD 1983 State Plane Alaska

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-A1

Sponsor: Matanuska-Susitna Borough (AK)

Supporters: The Port of Anchorage and the Municipality of Anchorage.

Landside Route Served: Route A1

Route Description:
The M-A1 Route 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.

Marine Highways
M-A1 Crossing
Other Marine Highway Routes

0 115 230 460 Miles

Table of Content

Projection:
NAD 1983 State Plane Alaska

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-5

Sponsors: California Department of Transportation (Caltrans) and Oregon Department of Transportation (ODOT), Oregon Business Development Department (OBDD)

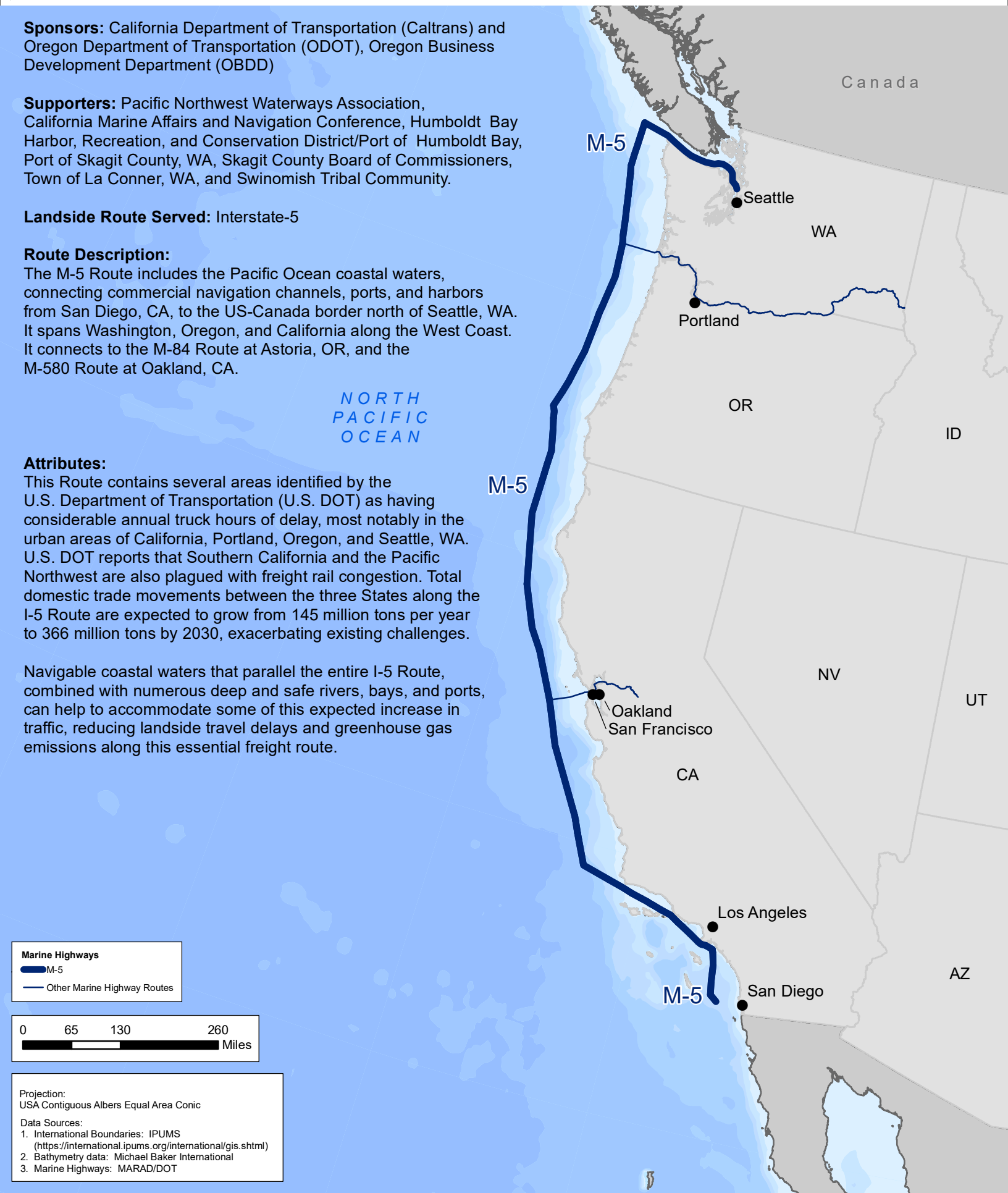
Supporters: Pacific Northwest Waterways Association, California Marine Affairs and Navigation Conference, Humboldt Bay Harbor, Recreation, and Conservation District/Port of Humboldt Bay, Port of Skagit County, WA, Skagit County Board of Commissioners, Town of La Conner, WA, and Swinomish Tribal Community.

Landside Route Served: Interstate-5

Route Description:
The M-5 Route 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 Route at Astoria, OR, and the M-580 Route at Oakland, CA.

Attributes:
This Route contains several areas identified by the U.S. Department of Transportation (U.S. DOT) as having considerable annual truck hours of delay, most notably in the urban areas of California, Portland, Oregon, and Seattle, WA. U.S. DOT 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 Route 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 Route, 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 route.



U.S. Department of Transportation
Maritime Administration

Marine Highway M-11

Sponsor: Alaska Department of Transportation and Public Facilities

Landside Routes Served: Alaska Route 11

Route Description:
The M-11 Route, also known as the Arctic Gateway Marine route, aims to incorporate all navigable waterways and ocean channels for the transportation of goods, commodities, and services to, from, and across Southwestern and Northern Alaska. The route initiates at Unimak Pass in the Lake and Peninsula Borough, Aleutian Chain, and extends over 1,500 linear miles north along the coastline, ultimately concluding near the Canadian border at Kaktovik, AK. This non-conventional M-11 Route completes a network of marine routes that encompass Alaska's commercially navigable coastal and intercoastal waterways, spanning 6,640 miles from British Columbia to the Gulf of Alaska, and northward to the Beaufort and Chukchi Seas merging into the Arctic Ocean. The M-11 Arctic Gateway Marine Route will primarily serve Alaska's Western and Northern Coastlines and will connect with the M-5AK Marine Highway Route at Unimak Pass. The Southwest/Far North Alaska will include the hub ports of Nome, Dillingham, Bristol Bay (including King Salmon and Naknek), Bethl, Kotzebue, Utqiagvik (Barrow), and Kaktovik.

Attributes:
The M-11 Route designation will enhance transportation in coastal communities by leveraging designated routes and waterways under the United States Marine Highway Program. The designation is expected to benefit a cross-section of Alaskans by providing a greater range of waterborne transportation choices and alternatives.

Alaska is separated from the forty-eight contiguous states and is one of two “stand alone” states not bordered by another. Water transportation is the primary mode of transport for Southwestern and Northern Alaska as freight, including non-perishables, equipment, vehicles, lumber, and other supplies effectively move to these remote communities during the open water season. In addition, the area contains some of the most valuable and productive fisheries in the world as well as significant mineral resources.

Legend
M-11
Other Marine Highway Routes

0 105 210 420
Miles

Projection:
NAD 1983 State Plane Alaska

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

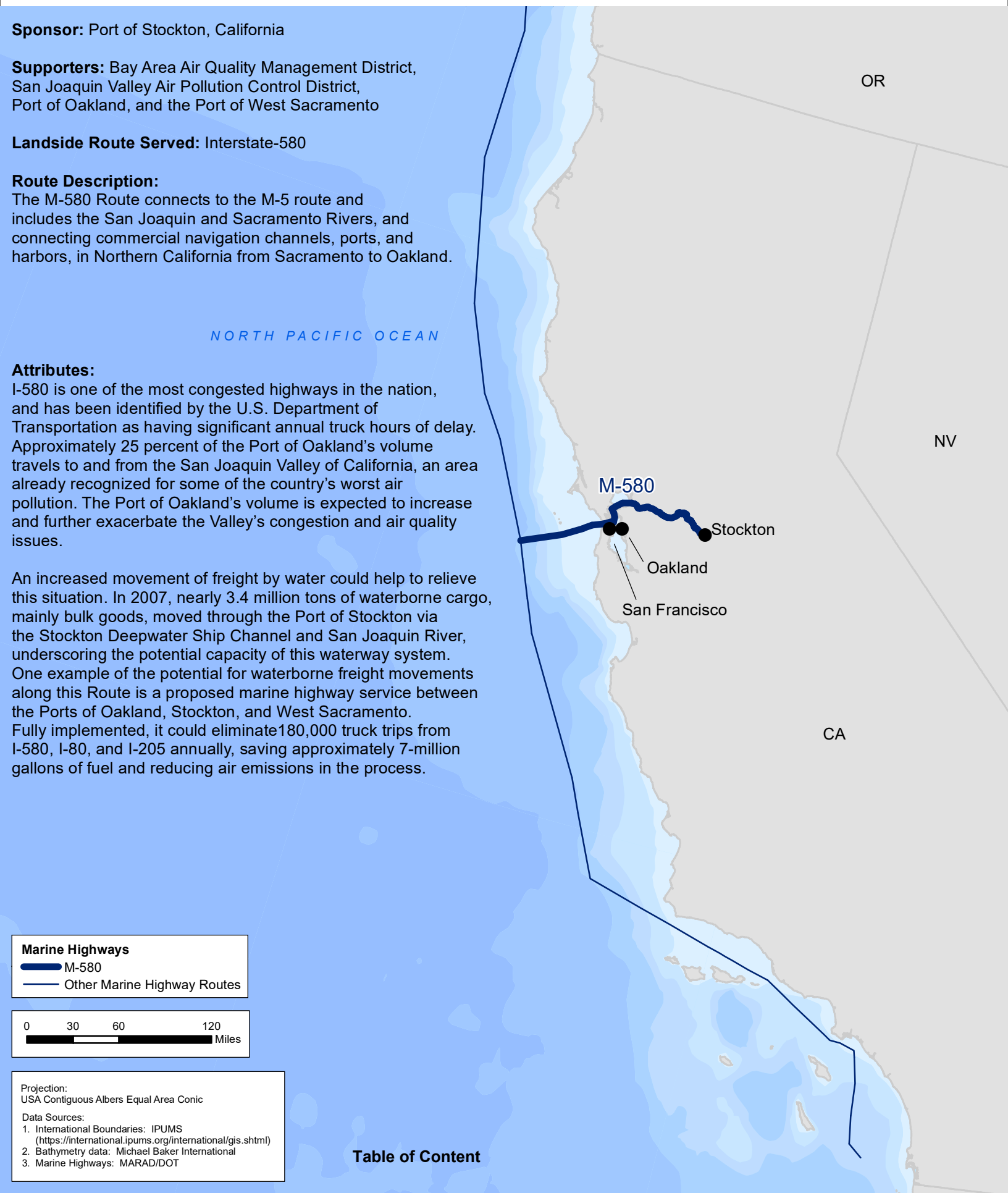
Marine Highway M-580

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 Route Served: Interstate-580

Route Description:
The M-580 Route connects to the M-5 route and includes the San Joaquin and Sacramento Rivers, and connecting commercial navigation channels, ports, and harbors, in Northern California from Sacramento to 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. The Port of Oakland's volume is expected to increase and further exacerbate 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 Route is a proposed marine highway service between the Ports of Oakland, Stockton, and West Sacramento. Fully implemented, it could eliminate180,000 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.

Projection:
USA Contiguous Albers Equal Area Conic

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-84

Sponsor: The Port of Portland, Oregon

Supporters: The Pacific Northwest Waterways Association

Landside Route Served: Interstate-84

Route Description:
The M-84 connects to the M-5 Route in Astoria, OR and 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.

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 U.S. DOT 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 the 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 Route'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 Route each year. An operation like this could serve both agricultural exporters and importers in the Pacific Northwest shipping to far Eastmarkets.

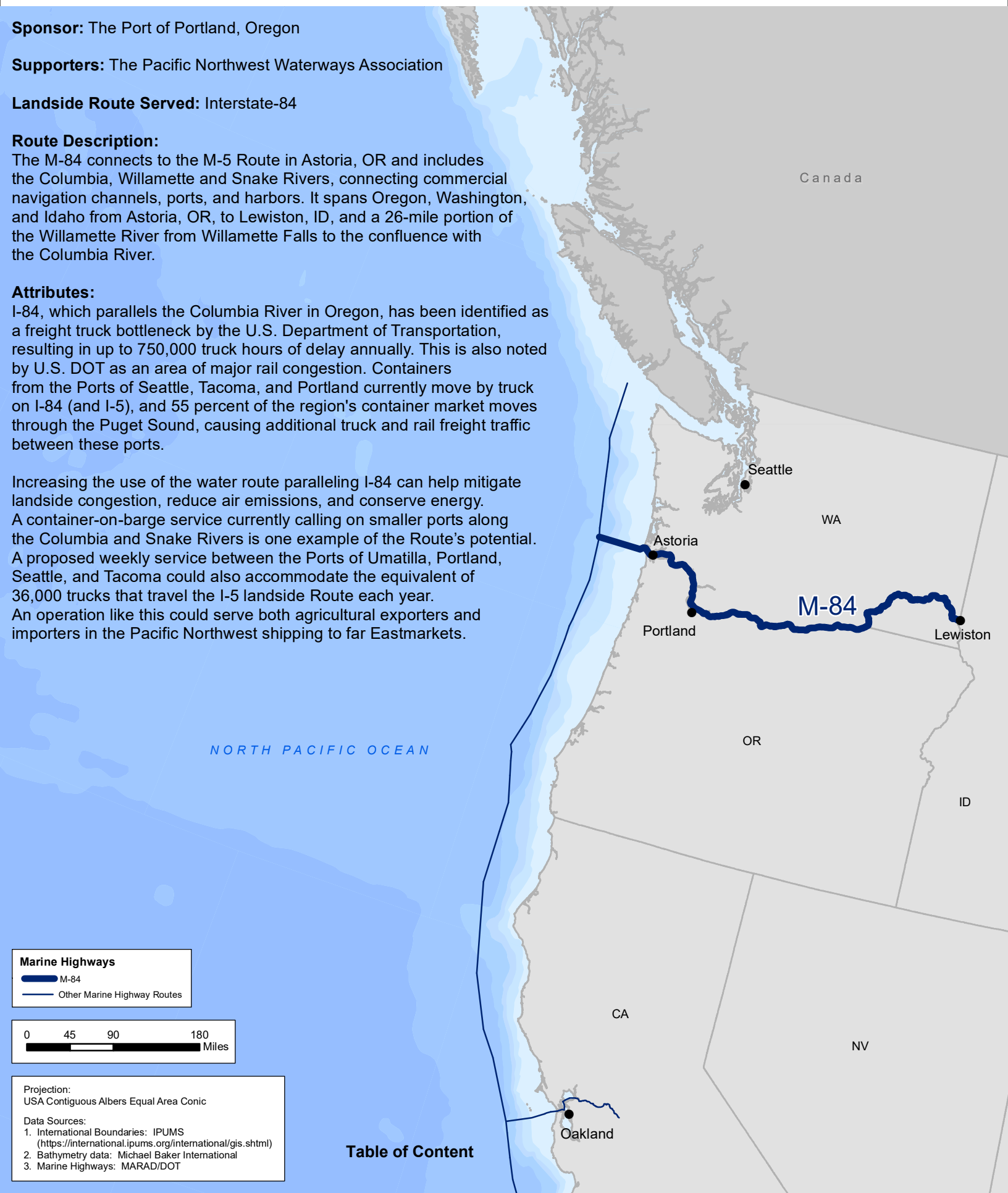
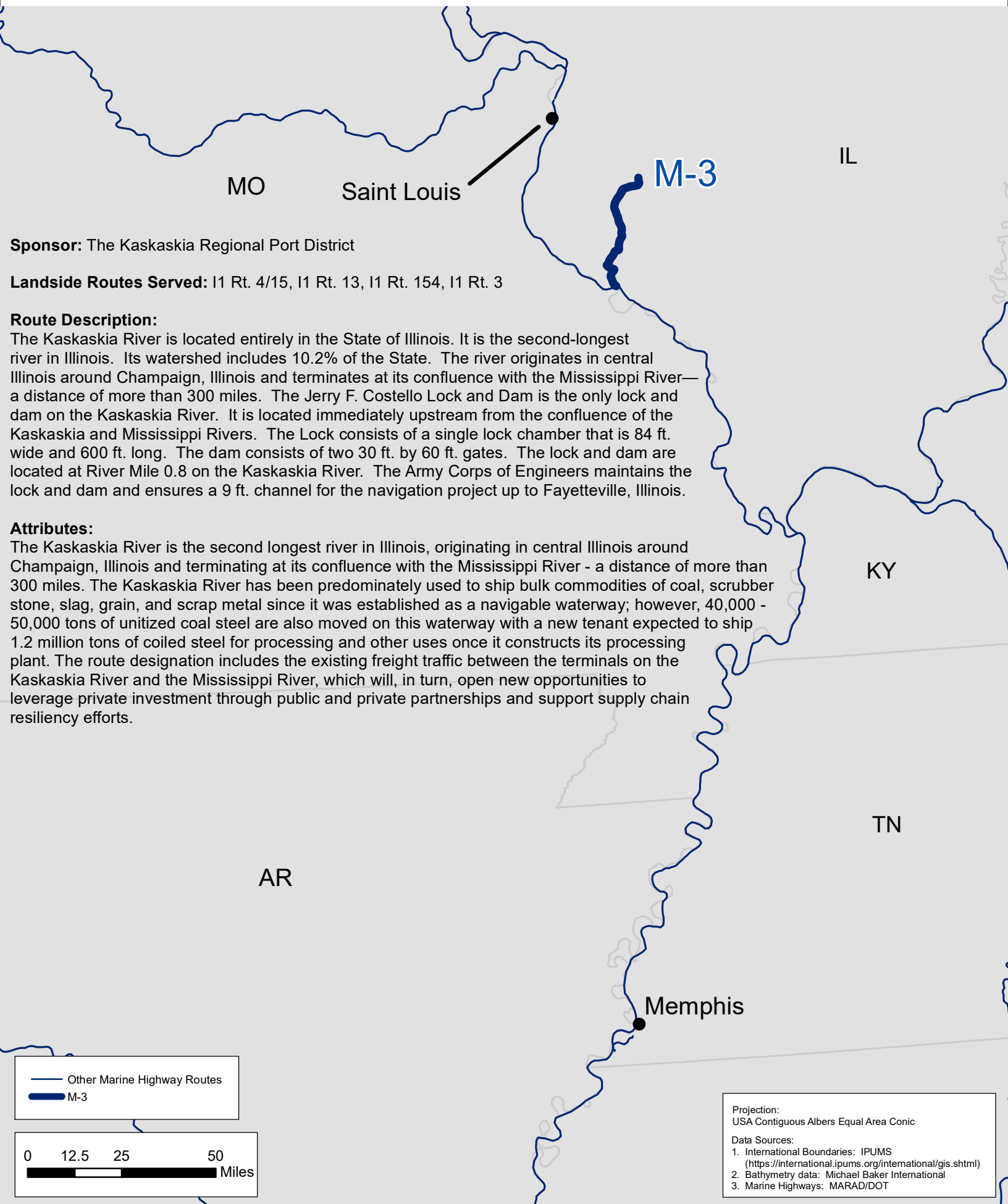


Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-3



Sponsor: The Kaskaskia Regional Port District

Landside Routes Served: I1 Rt. 4/15, I1 Rt. 13, I1 Rt. 154, I1 Rt. 3

Route Description:
The Kaskaskia River is located entirely in the State of Illinois. It is the second-longest river in Illinois. Its watershed includes 10.2% of the State. The river originates in central Illinois around Champaign, Illinois and terminates at its confluence with the Mississippi River—a distance of more than 300 miles. The Jerry F. Costello Lock and Dam is the only lock and dam on the Kaskaskia River. It is located immediately upstream from the confluence of the Kaskaskia and Mississippi Rivers. The Lock consists of a single lock chamber that is 84 ft. wide and 600 ft. long. The dam consists of two 30 ft. by 60 ft. gates. The lock and dam are located at River Mile 0.8 on the Kaskaskia River. The Army Corps of Engineers maintains the lock and dam and ensures a 9 ft. channel for the navigation project up to Fayetteville, Illinois.

Attributes:
The Kaskaskia River is the second longest river in Illinois, originating in central Illinois around Champaign, Illinois and terminating at its confluence with the Mississippi River - a distance of more than 300 miles. The Kaskaskia River has been predominately used to ship bulk commodities of coal, scrubber stone, slag, grain, and scrap metal since it was established as a navigable waterway; however, 40,000 - 50,000 tons of unitized coal steel are also moved on this waterway with a new tenant expected to ship 1.2 million tons of coiled steel for processing and other uses once it constructs its processing plant. The route designation includes the existing freight traffic between the terminals on the Kaskaskia River and the Mississippi River, which will, in turn, open new opportunities to leverage private investment through public and private partnerships and support supply chain resiliency efforts.

U.S. Department of Transportation
Maritime Administration

Marine Highway M-29

Sponsors: The Port Authority of Kansas City and Missouri DOT

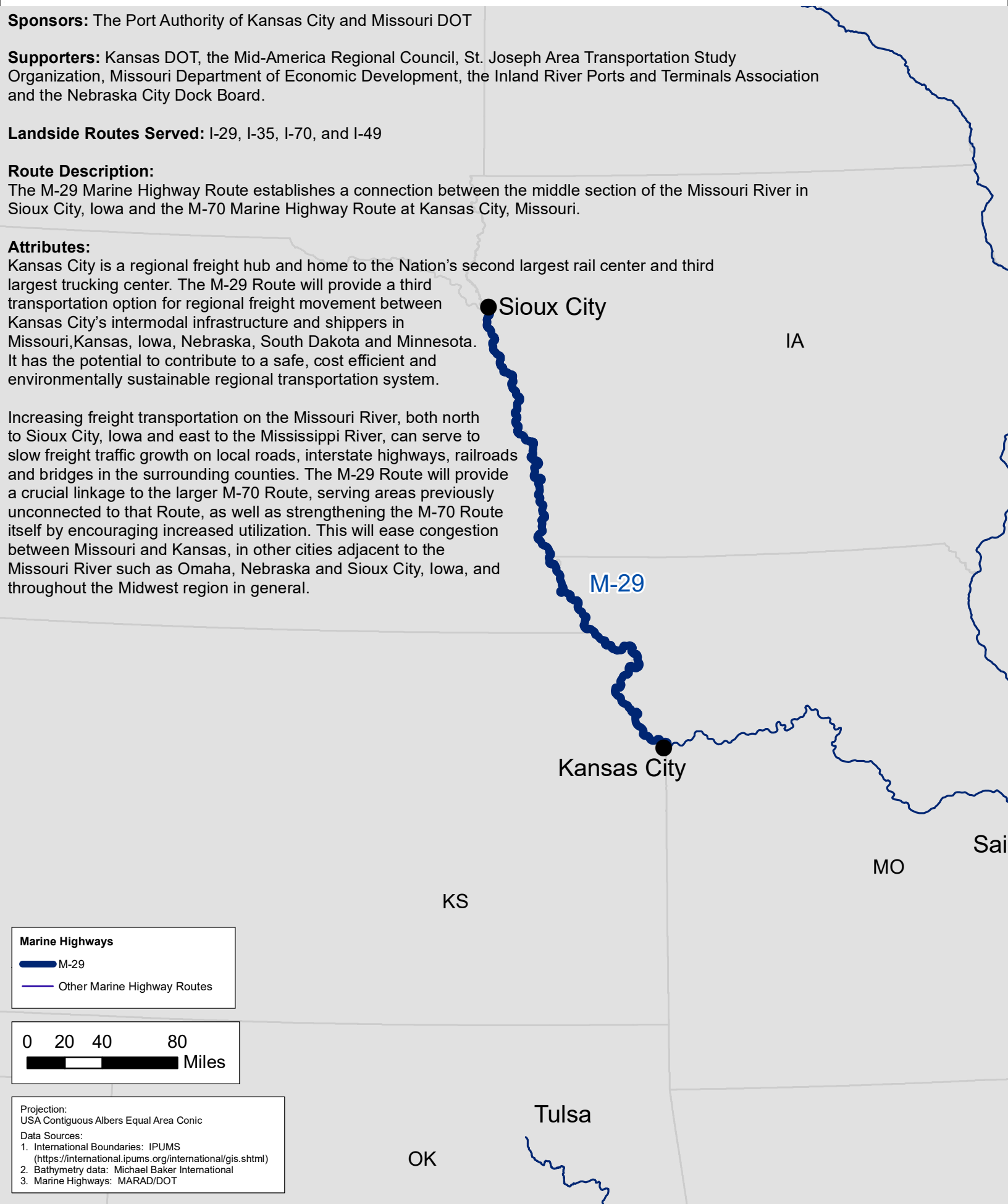
Supporters: Kansas DOT, the Mid-America Regional Council, St. Joseph Area Transportation Study Organization, Missouri Department of Economic Development, the Inland River Ports and Terminals Association and the Nebraska City Dock Board.

Landside Routes Served: I-29, I-35, I-70, and I-49

Route Description:
The M-29 Marine Highway Route establishes a connection between the middle section of the Missouri River in Sioux City, Iowa and the M-70 Marine Highway Route 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 Route 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 Route will provide a crucial linkage to the larger M-70 Route, serving areas previously unconnected to that Route, as well as strengthening the M-70 Route 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.



Projection:
USA Contiguous Albers Equal Area Conic

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-35

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 Routes Served: Interstate-35, Interstate-94, (includes U.S. 61, Missouri State Route 27, Iowa State Route 27, andI-35)

Route Description:
The M-35, which can commonly be referred to as “Waterway of the Saints” Marine Highway Route, links the Upper Mississippi River with the existing M-55 Route. The M-35 Route 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 Route 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 theregion’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 and 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 and foreign). The states along the M-35 use the Upper Mississippi River to ship commodities to as many as 15 adjacent or nearby states.

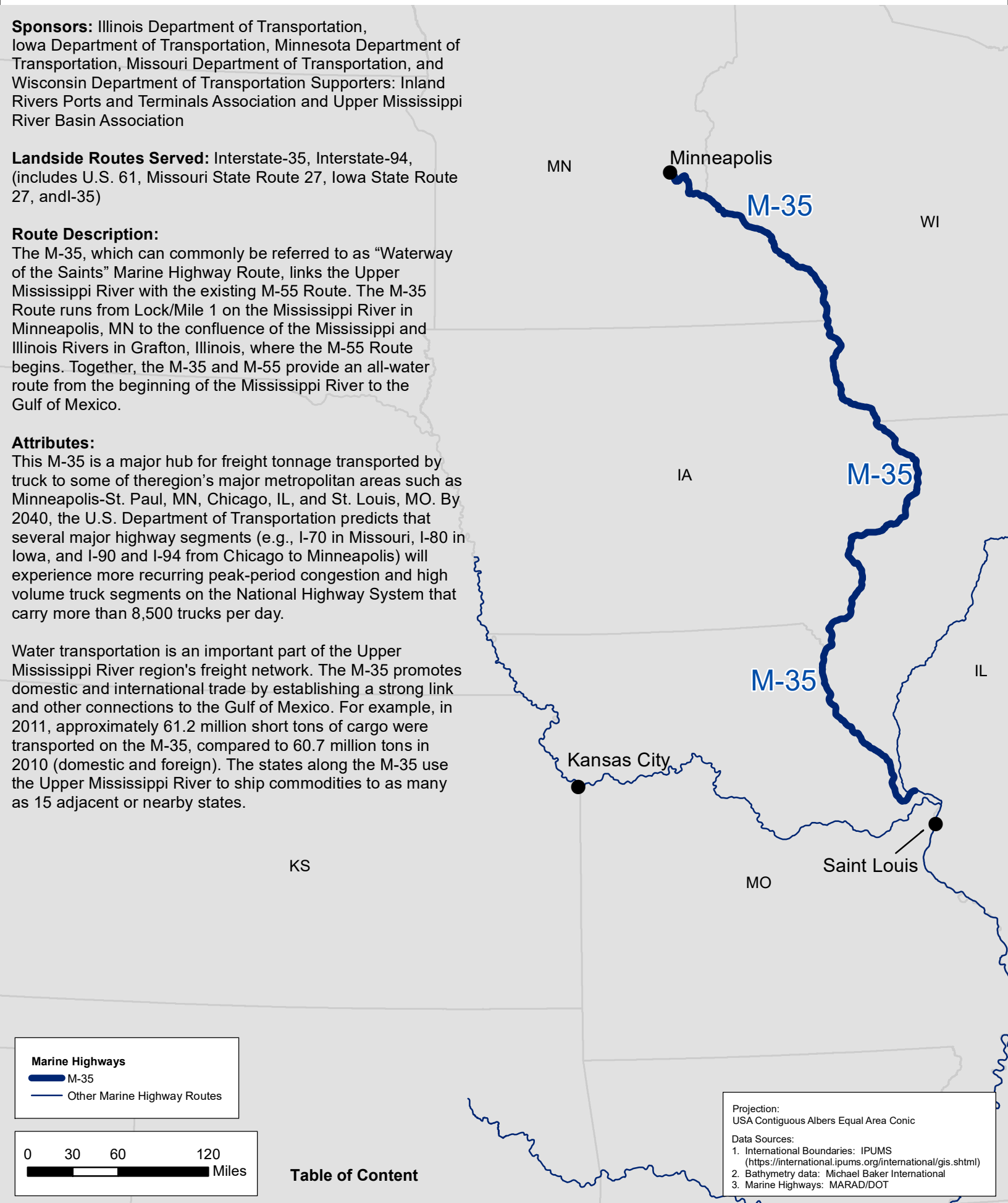


Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-40

Sponsors: Arkansas Waterways Commission and the Oklahoma DOT Waterways Advisory Board

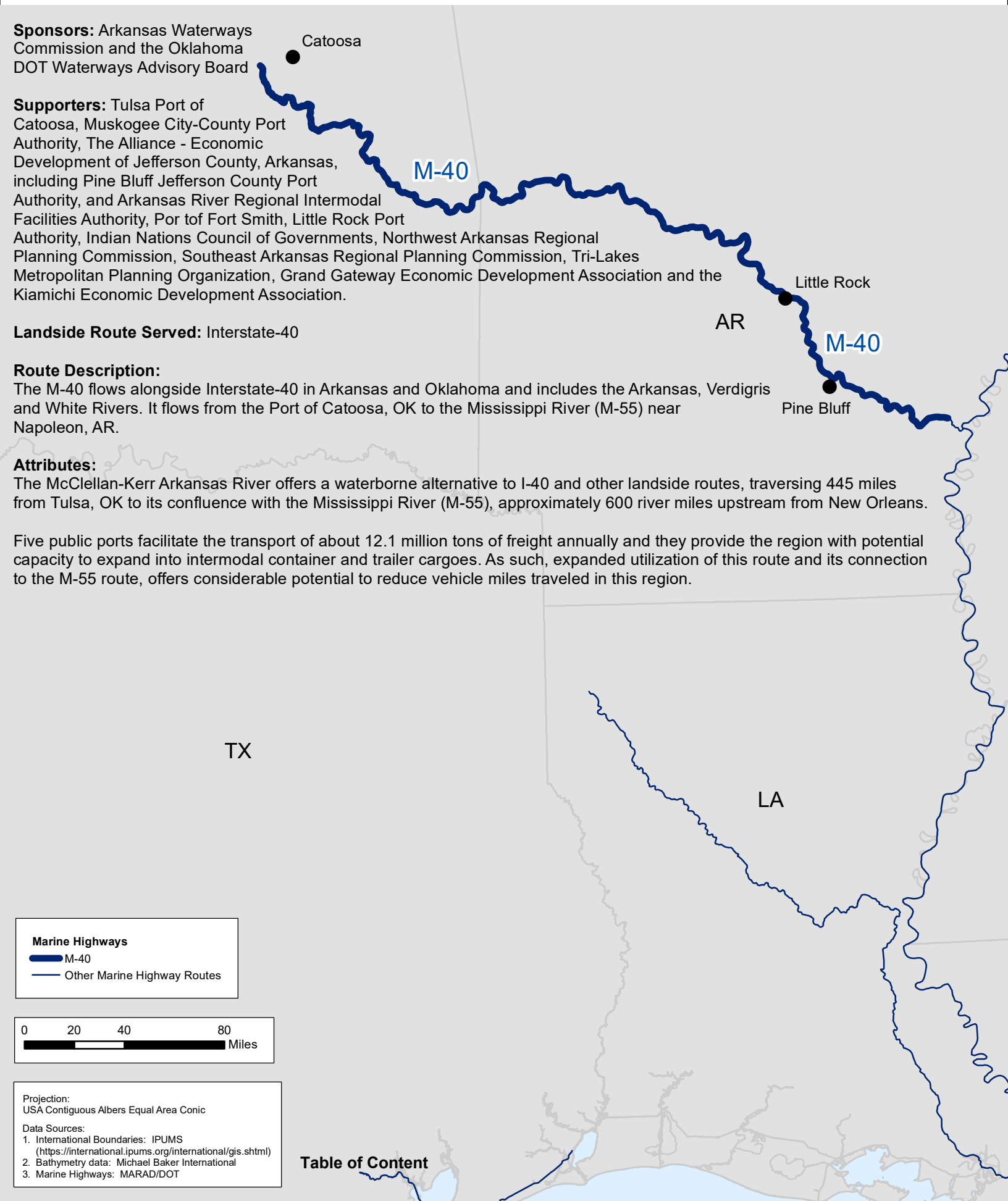
Supporters: Tulsa Port of Catoosa, Muskogee City-County Port Authority, The Alliance - Economic Development of Jefferson County, Arkansas, including Pine Bluff Jefferson County Port Authority, and Arkansas River Regional Intermodal Facilities Authority, Por tof Fort Smith, Little Rock Port Authority, 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 Association.

Landside Route Served: Interstate-40

Route 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 route, offers considerable potential to reduce vehicle miles traveled in this region.



Projection:
USA Contiguous Albers Equal Area Conic

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-49

Sponsor: Louisana Department of Transportation and 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 Route Served: Interstate-49

Route Description:
The M-49 Route 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 Route at MorganCity.

Attributes:
This Route serves four South Louisiana ports, including Port Fourchon, Port of West St. Mary, Morgan City, and theTerrebonne Port Commission (Houma), transporting significant volumes of freight along the landside route. From 2000 to 2006, the Route 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 Route'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.

Marine Highways
M-49
Other Marine Highway Routes

0 20 40 80
Miles

Table of Content

Projection:
NAD 1983 State Plane N. Louisiana

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-55

Sponsors: Missouri and Illinois Departments of Transportation

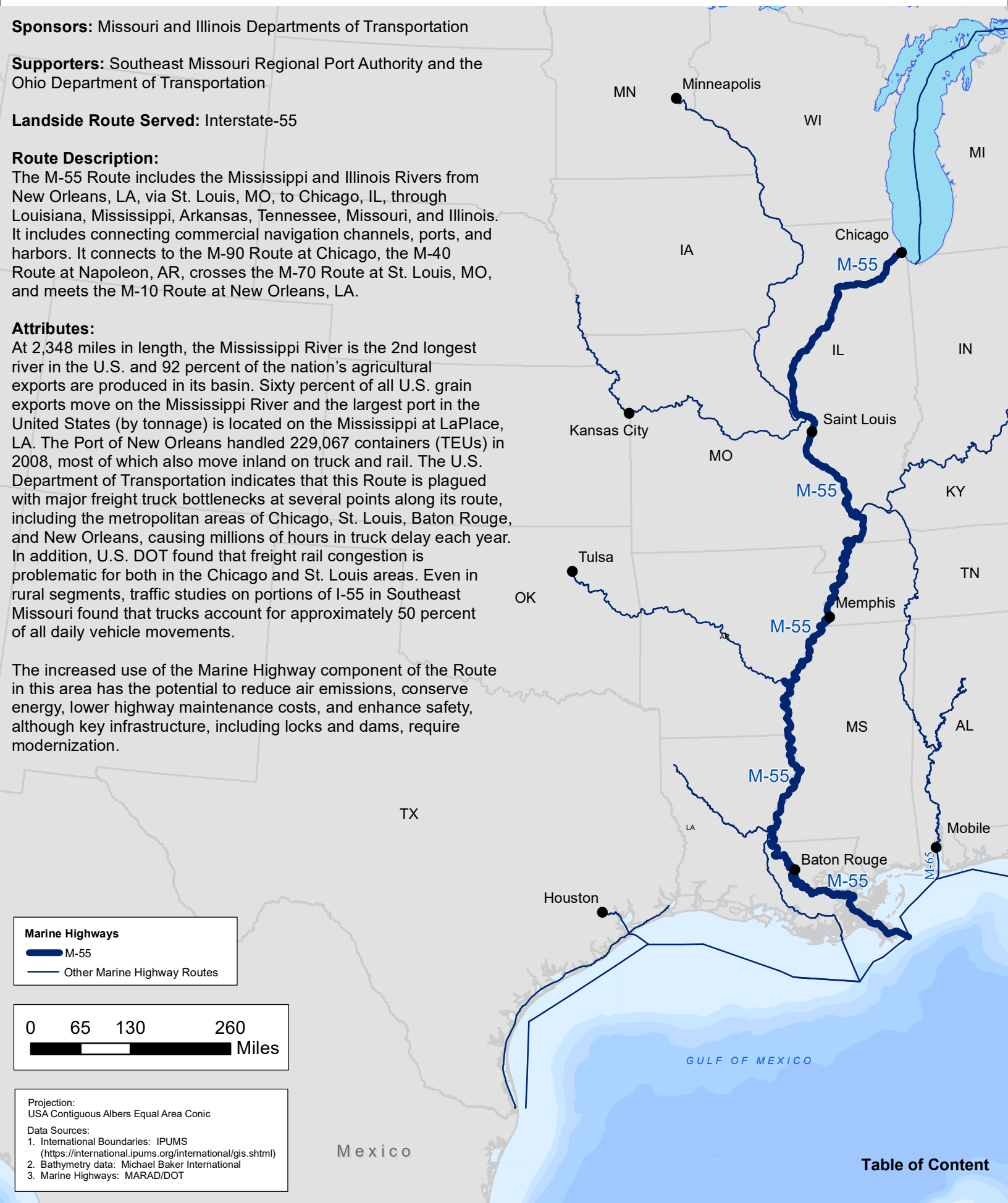
Supporters: Southeast Missouri Regional Port Authority and the Ohio Department of Transportation

Landside Route Served: Interstate-55

Route Description:
The M-55 Route 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 Route at Chicago, the M-40 Route at Napoleon, AR, crosses the M-70 Route at St. Louis, MO, and meets the M-10 Route at New Orleans, LA.

Attributes:
At 2,348 miles in length, the Mississippi River is the 2nd longest river in the U.S. 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 Route 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, U.S. DOT 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 Route 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.



Projection:
USA Contiguous Albers Equal Area Conic

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Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-65

Sponsor: Tennessee-Tombigbee Waterway Development Authority

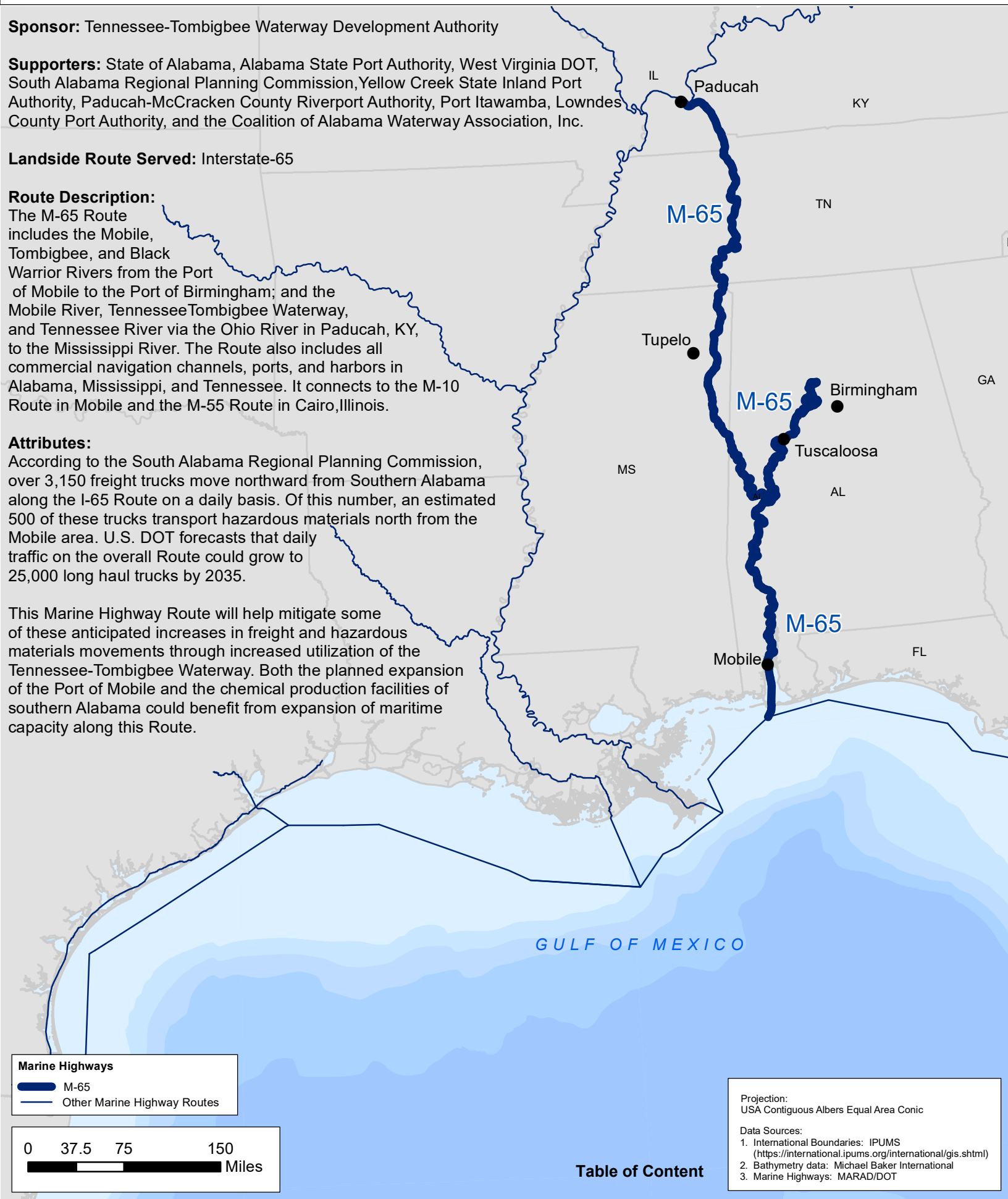
Supporters: State of Alabama, Alabama State Port Authority, West Virginia DOT, South Alabama Regional Planning Commission,Yellow Creek State Inland Port Authority, Paducah-McCracken County Riverport Authority, Port Itawamba, Lowndes County Port Authority, and the Coalition of Alabama Waterway Association,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

Landside Route Served: Interstate-65

Route Description:
The M-65 Route includes the Mobile, Tombigbee, and Black Warrior Rivers from the Port of Mobile to the Port of Birmingham; and the Mobile River, TennesseeTombigbee Waterway, and Tennessee River via the Ohio River in Paducah, KY, to the Mississippi River. The Route also includes all commercial navigation channels, ports, and harbors in Alabama, Mississippi, and Tennessee. It connects to the M-10 Route in Mobile and the M-55 Route 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 Route on a daily basis. Of this number, an estimated 500 of these trucks transport hazardous materials north from the Mobile area. U.S. DOT forecasts that daily traffic on the overall Route could grow to 25,000 long haul trucks by 2035.

This Marine Highway Route will 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 Route.



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2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-70

Sponsor: Ohio Department of Transportation

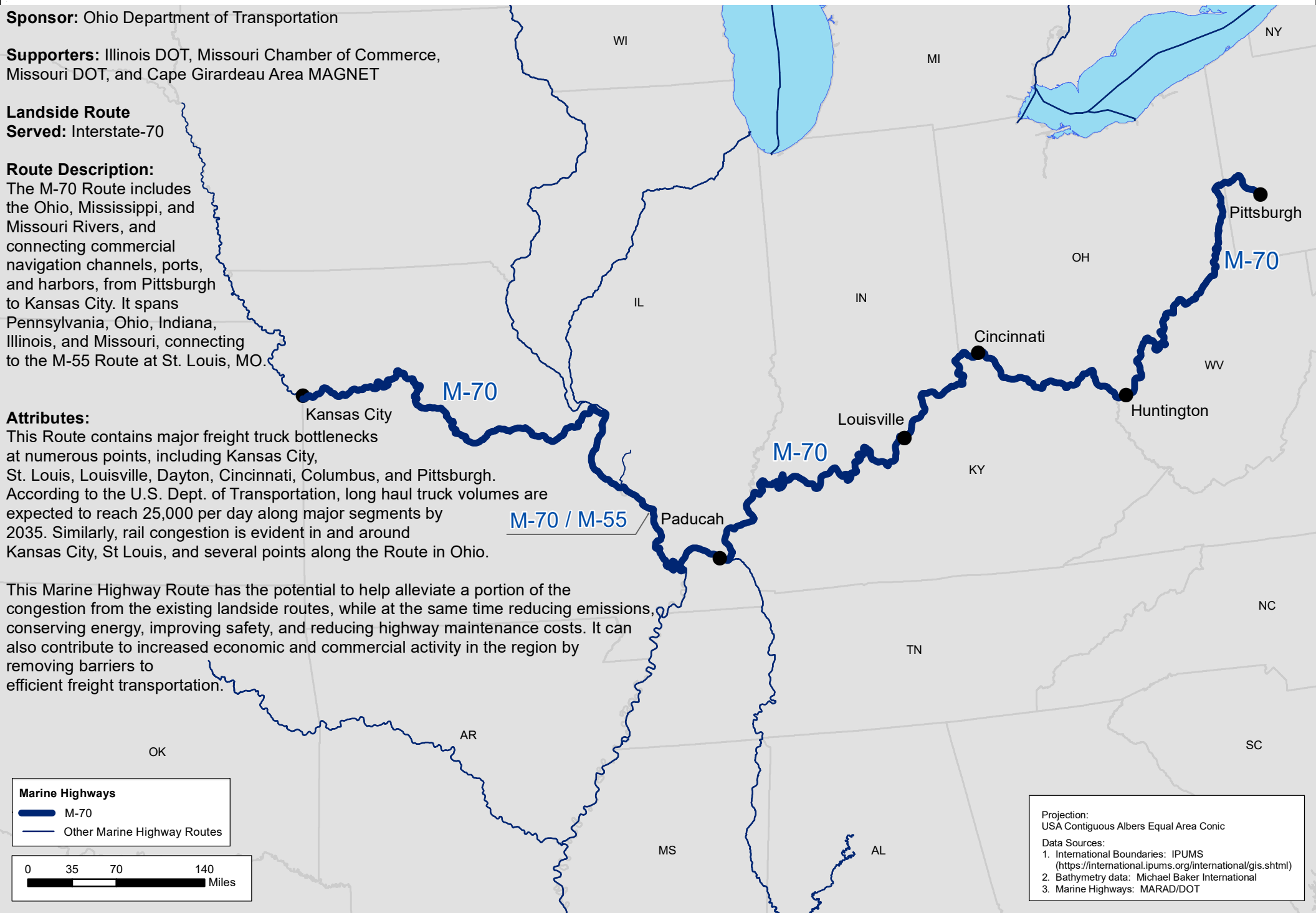
Supporters: Illinois DOT, Missouri Chamber of Commerce, Missouri DOT, and Cape Girardeau Area MAGNET

Landside Route Served: Interstate-70

Route Description:
The M-70 Route 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 Route at St. Louis, MO.

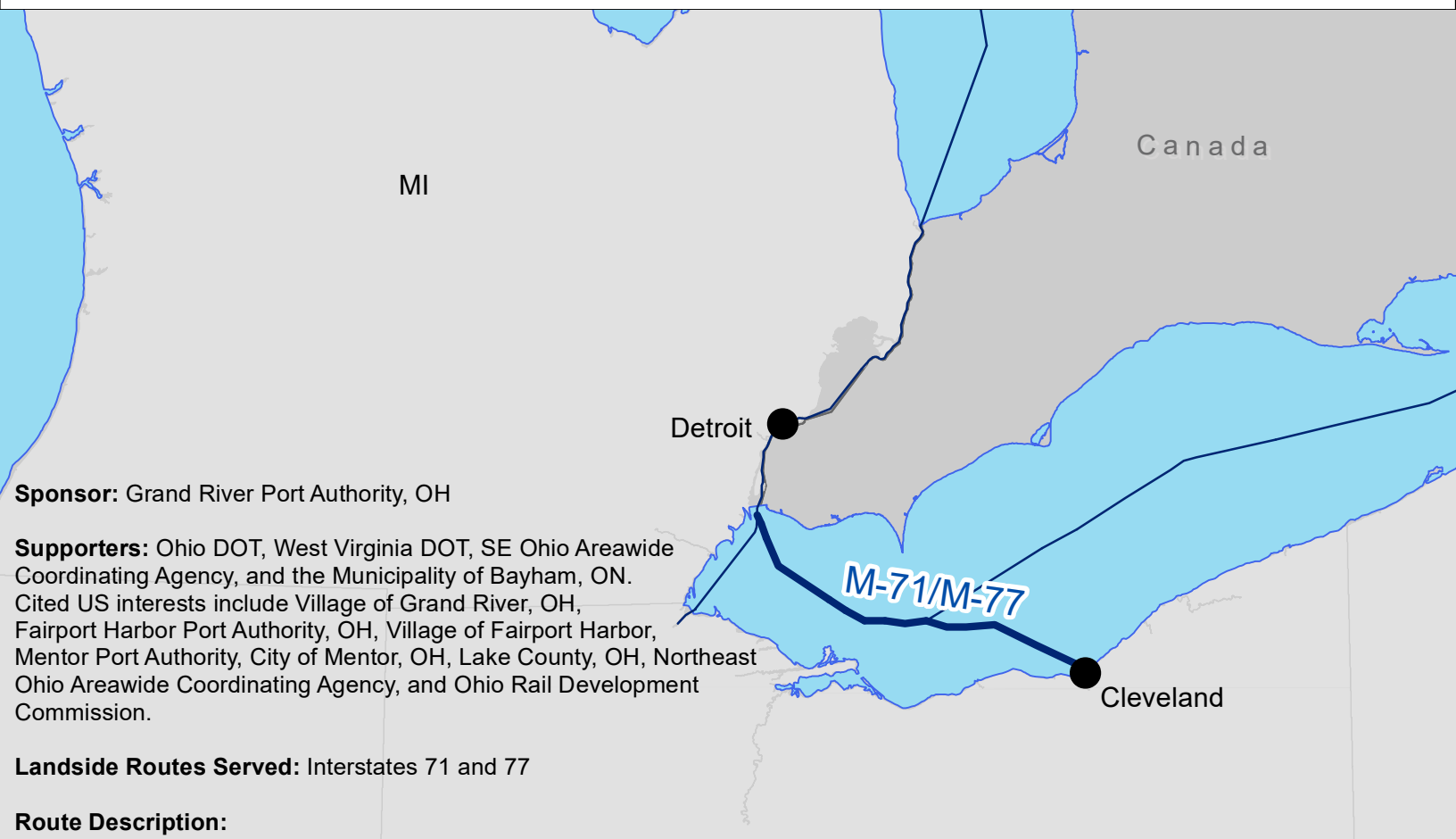
Attributes:
This Route contains major freight truck bottlenecks at numerous points, including Kansas City, St. Louis, Louisville, Dayton, Cincinnati, Columbus, and Pittsburgh. According to the U.S. Dept. of Transportation, long haul truck volumes are expected to reach 25,000 per day along major segments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

This Marine Highway Route 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.



U.S. Department of Transportation
Maritime Administration

Marine Highway M-71/77



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 Routes Served: Interstates 71 and 77

Route 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 Routes and connects to the M-90 Route 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.

Marine Highways
M-71/M-77
Other Marine Highway Routes

0 20 40 80
Miles

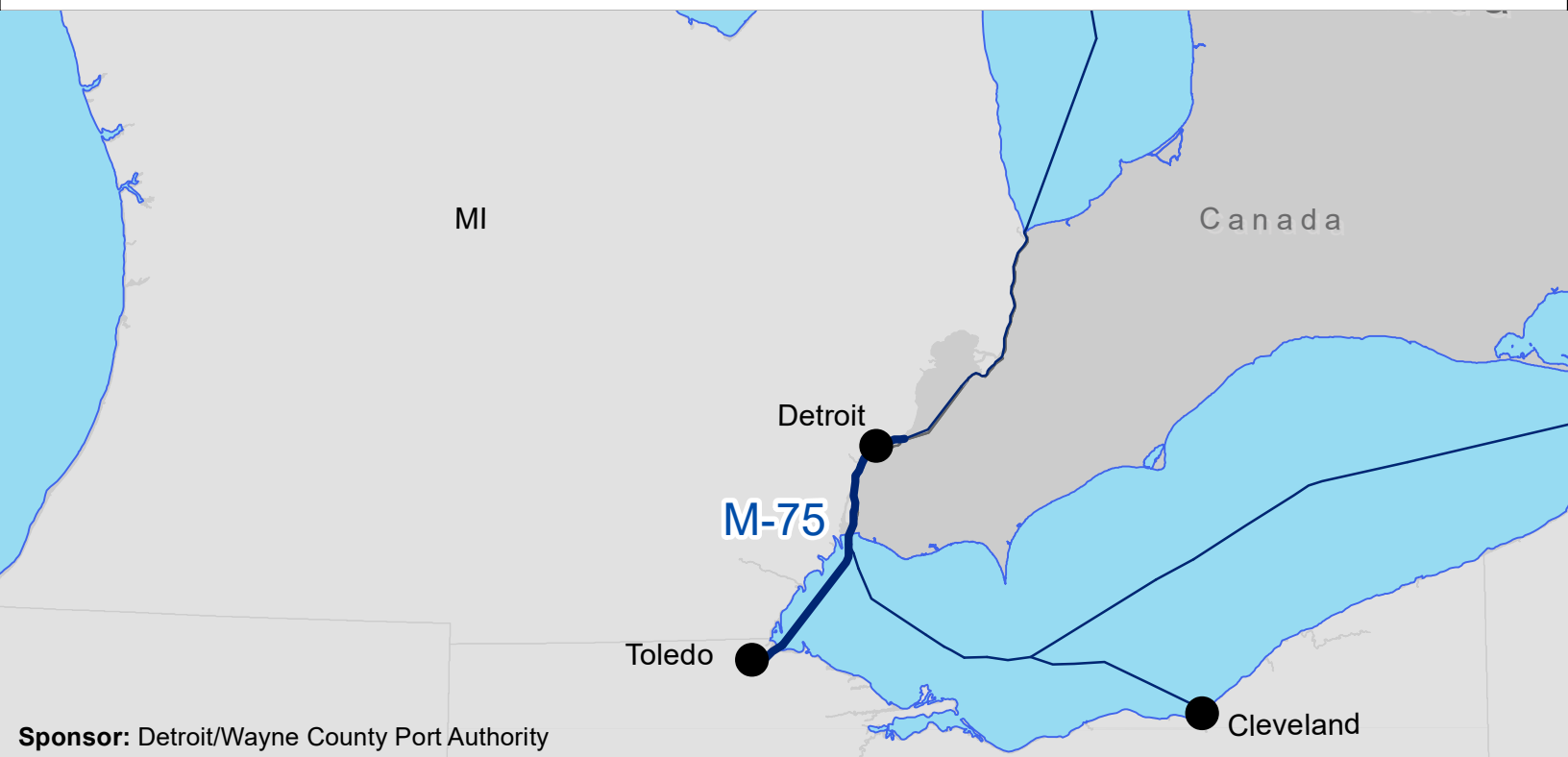
Table of Content

Projection:
NAD 1983 State Plane Indiana East

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-75



Sponsor: Detroit/Wayne County Port Authority

Landside Route Served: Interstate-75

Route 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 route 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/WindsorTunnel 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 Route could be a valuable alternative to the landside routes available today. Another example of the potential of this route is a new service which began in 2008 that provided 30 new barge transits between the Port of Detroit and eastern Canada, providing a “water bridge” for many trucks that would otherwise be adding to landside traffic.

Marine Highways
M-75
Other Marine Highway Routes

0 20 40 80 Miles

Table of Content

Projection:
NAD 1983 State Plane Ohio North

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-90

Sponsor: Ohio Department of Transportation

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

Landside Routes Served: Interstate-90, as well as Interstates-80 and 94

Route Description:
The M-90 Route consists of 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 Route based on vehicle miles traveled. It will represent approximately 20 percent of the State's daily truck traffic by 2020.

The corresponding Marine Highway Route 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 Route, 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 Route. 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 Route between Buffalo and Albany,NY.

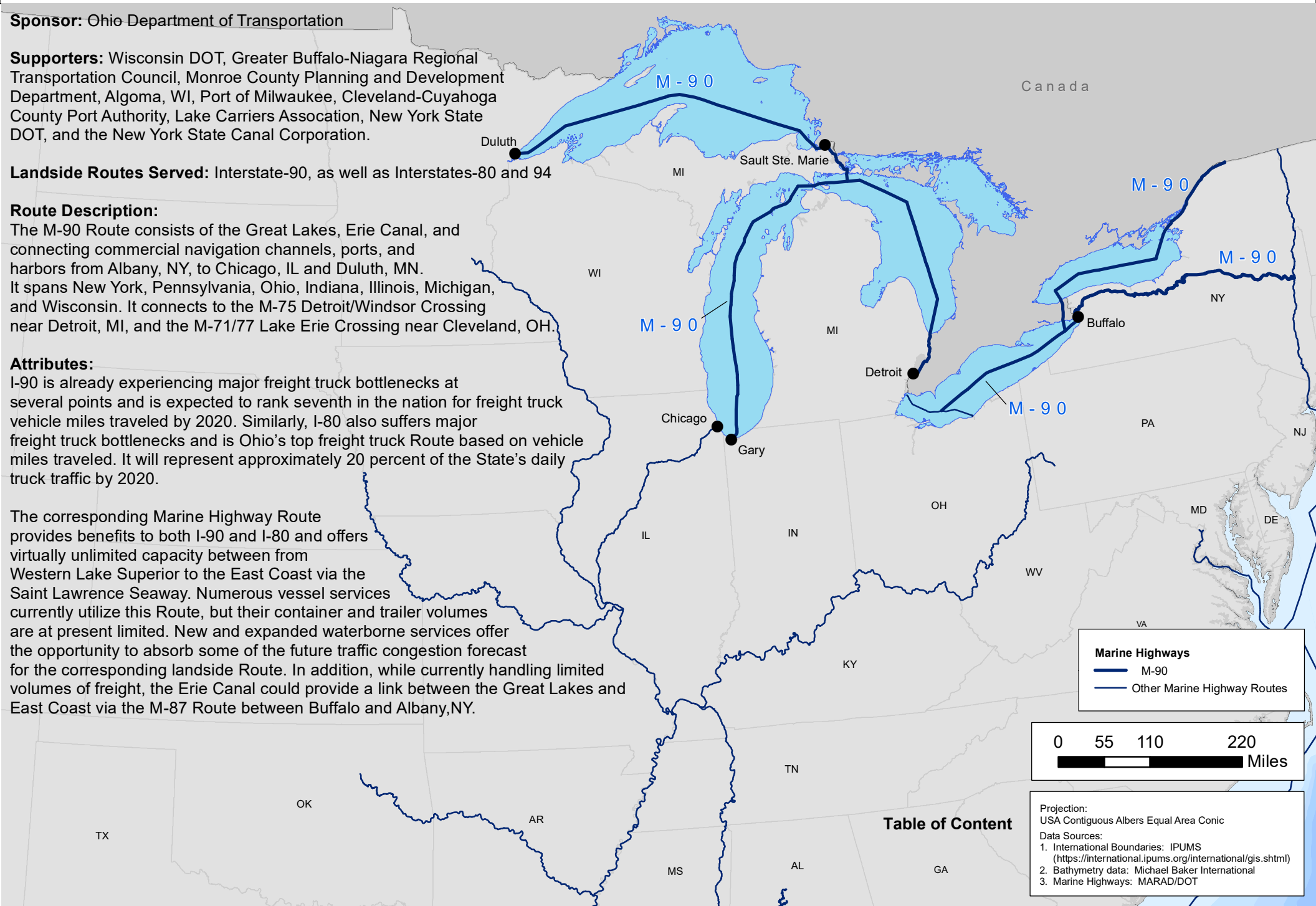


Table of Content

Projection:
USA Contiguous Albers Equal Area Conic

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-10

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 the Gulf Intracoastal Canal
Association.

Landside Route Served: Interstate-10

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

Attributes:
The I-10 Route (including secondary roads between Houston and Brownsville and I-75 on Florida's West Coastand 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 Route, 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 Route already operating at an unacceptable level of service. Route traffic is expected to grow significantly by 2025. Fortunately, the extensive network of coastal, intracoastal, and inland waterways along this Route can offer relief to the existing and projected travel delays. Although there are already numerous maritime operations along this Route, a very low percentage carry containerized or roll-on/roll-off freight. However, these existing limited services demonstrate that marine highway operations in this Route are possible. In addition, large volumes of hazardous materials move along this Route, which, if transported by water, could improve safety and security.

Marine Highways
M-10
Other Marine Highway Routes

0 37.5 75 150
Miles

Table of Content

Projection:
USA Contiguous Albers Equal Area Conic

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-146

Sponsor: Chambers County Galveston Bay

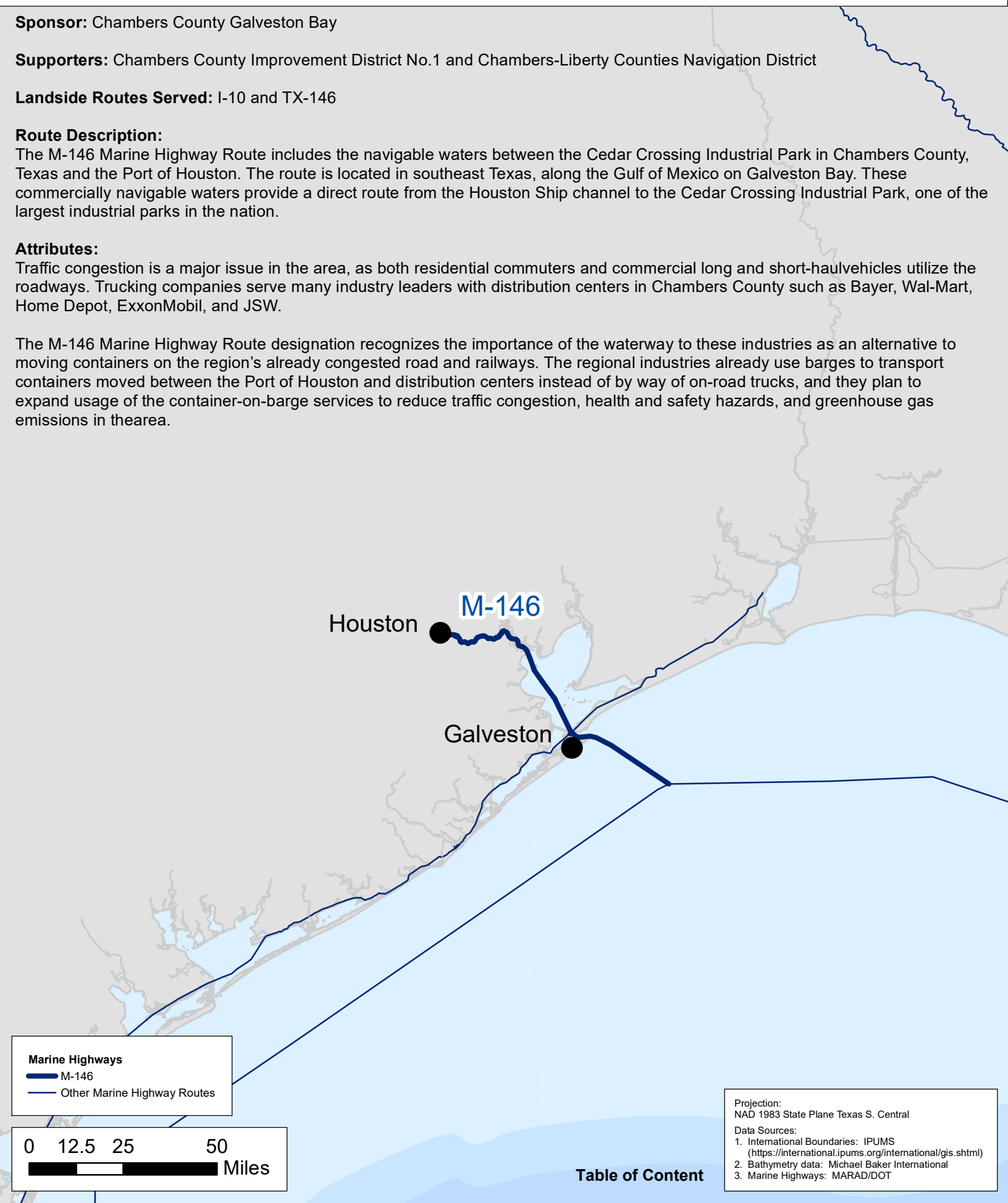
Supporters: Chambers County Improvement District No.1 and Chambers-Liberty Counties Navigation District

Landside Routes Served: I-10 and TX-146

Route Description:
The M-146 Marine Highway Route 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-haulvehicles 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 Route 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 thearea.



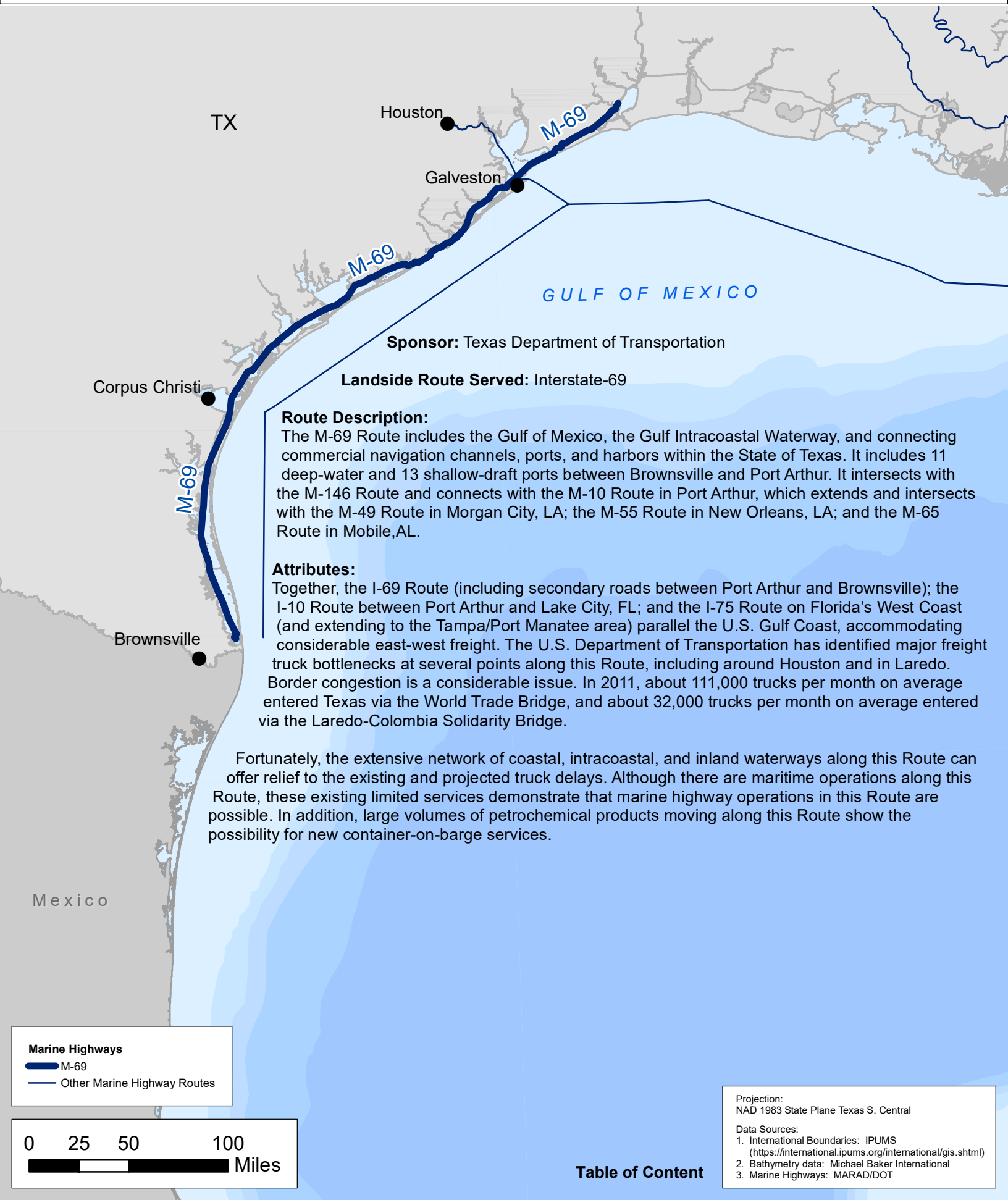
Projection:
NAD 1983 State Plane Texas S. Central

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-69



Sponsor: Texas Department of Transportation

Landside Route Served: Interstate-69

Route Description:
The M-69 Route includes the Gulf of Mexico, the Gulf Intracoastal Waterway, and connecting commercial navigation channels, ports, and harbors within the State of Texas. It includes 11 deep-water and 13 shallow-draft ports between Brownsville and Port Arthur. It intersects with the M-146 Route and connects with the M-10 Route in Port Arthur, which extends and intersects with the M-49 Route in Morgan City, LA; the M-55 Route in New Orleans, LA; and the M-65 Route in Mobile,AL.

Attributes:
Together, the I-69 Route (including secondary roads between Port Arthur and Brownsville); the I-10 Route between Port Arthur and Lake City, FL; and the I-75 Route on Florida's West Coast (and extending to the Tampa/Port Manatee area) parallel 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 Route, including around Houston and in Laredo. Border congestion is a considerable issue. In 2011, about 111,000 trucks per month on average entered Texas via the World Trade Bridge, and about 32,000 trucks per month on average entered via the Laredo-Colombia Solidarity Bridge.

Fortunately, the extensive network of coastal, intracoastal, and inland waterways along this Route can offer relief to the existing and projected truck delays. Although there are maritime operations along this Route, these existing limited services demonstrate that marine highway operations in this Route are possible. In addition, large volumes of petrochemical products moving along this Route show the possibility for new container-on-barge services.

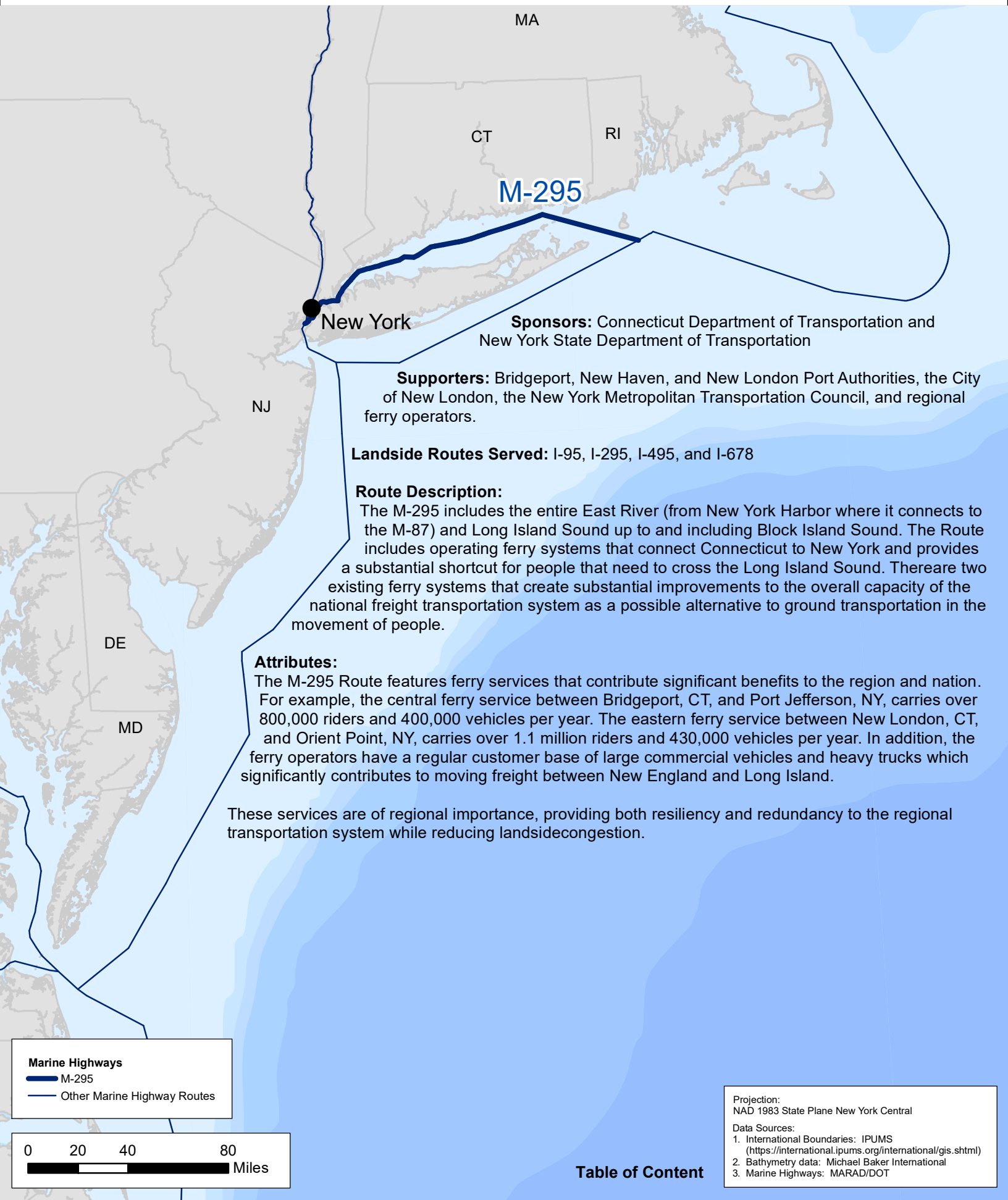
Projection:
NAD 1983 State Plane Texas S. Central

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-295



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 Routes Served: I-95, I-295, I-495, and I-678

Route 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 Route 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. Thereare 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 Route 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 landsidecongestion.

Marine Highways
M-295
Other Marine Highway Routes

0 20 40 80 Miles

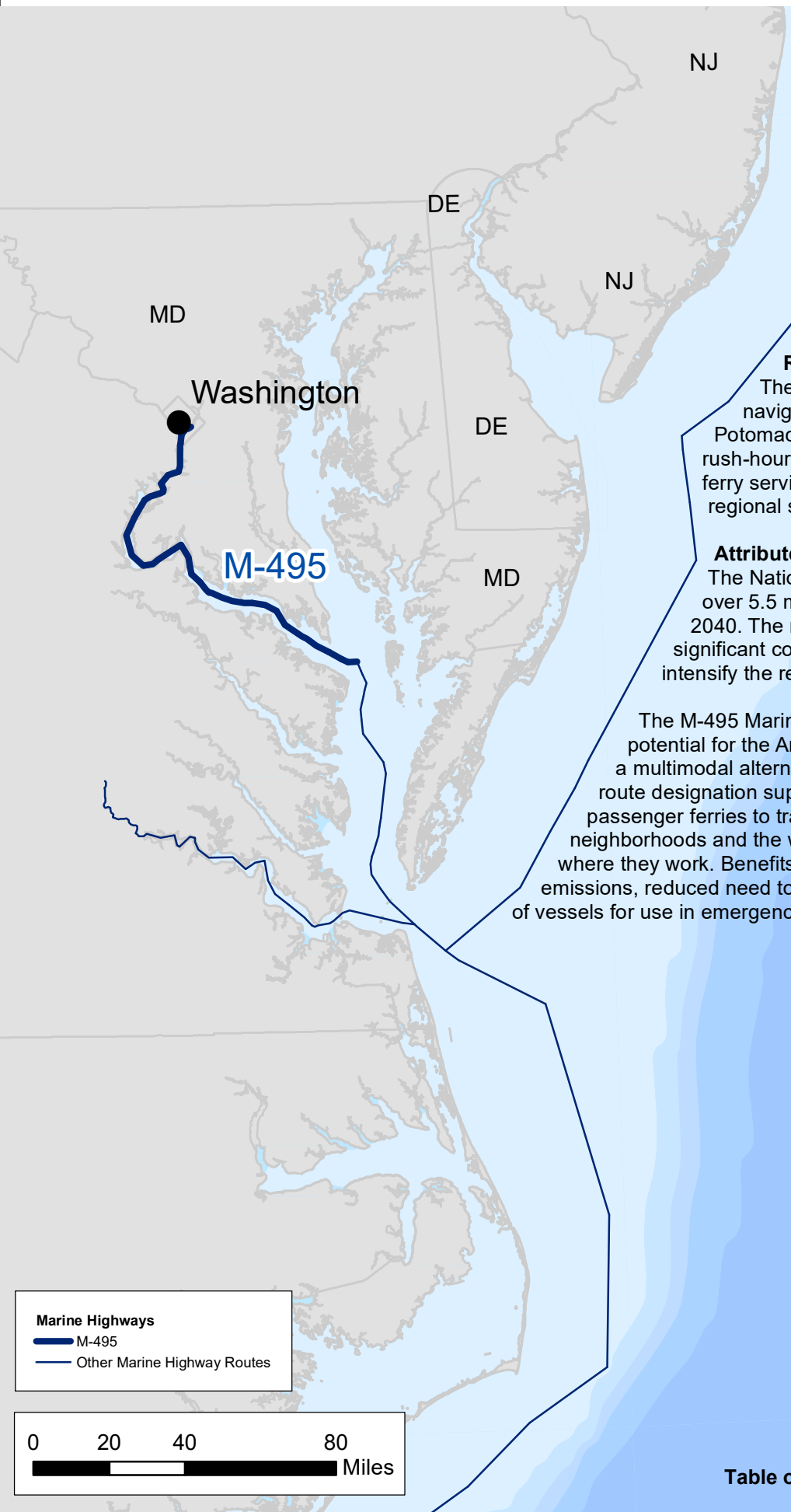
Projection:
NAD 1983 State Plane New York Central

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-495



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/Bolling and a potential vessel operator.

Landside Routes Served: I-95, I-295, I-395, and I-495

Route Description:
The M-495 Marine Highway Route includes the navigable portions of the Anacostia, Occoquan, and Potomac Rivers. These segments have potential to reduce 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 Route designation recognizes the potential for the Anacostia, Occoquan and Potomac Rivers to provide a multimodal alternative to the existing transportation network. The route 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 emergencies and evacuations.

Marine Highways
M-495
Other Marine Highway Routes

0 20 40 80
Miles

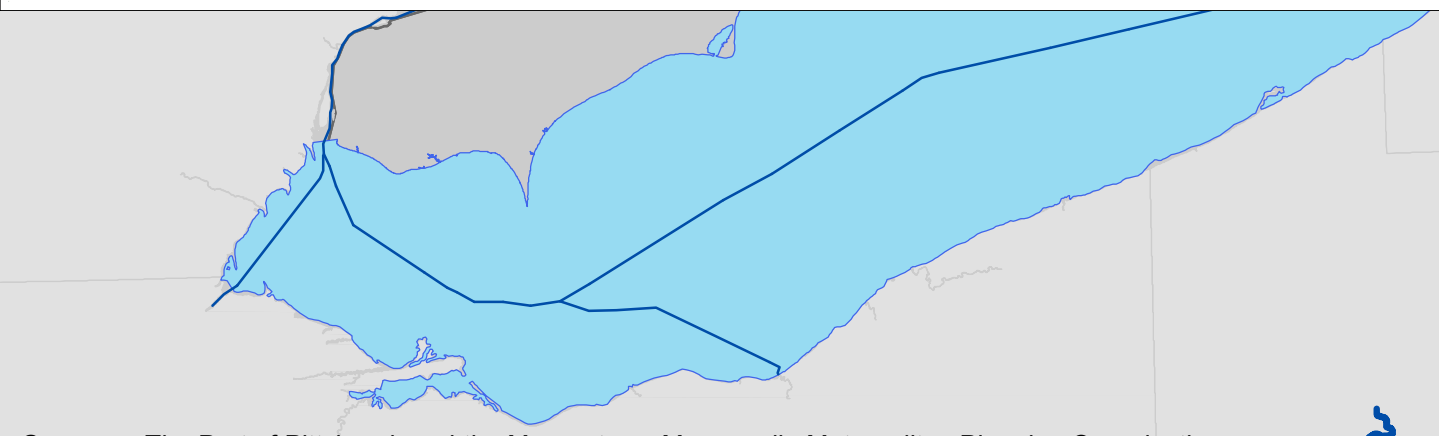
Projection:
NAD 1983 State Plane Virginia North

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-79



Sponsor: The Port of Pittsburgh and the Morgantown Monongalia Metropolitan Planning Organization

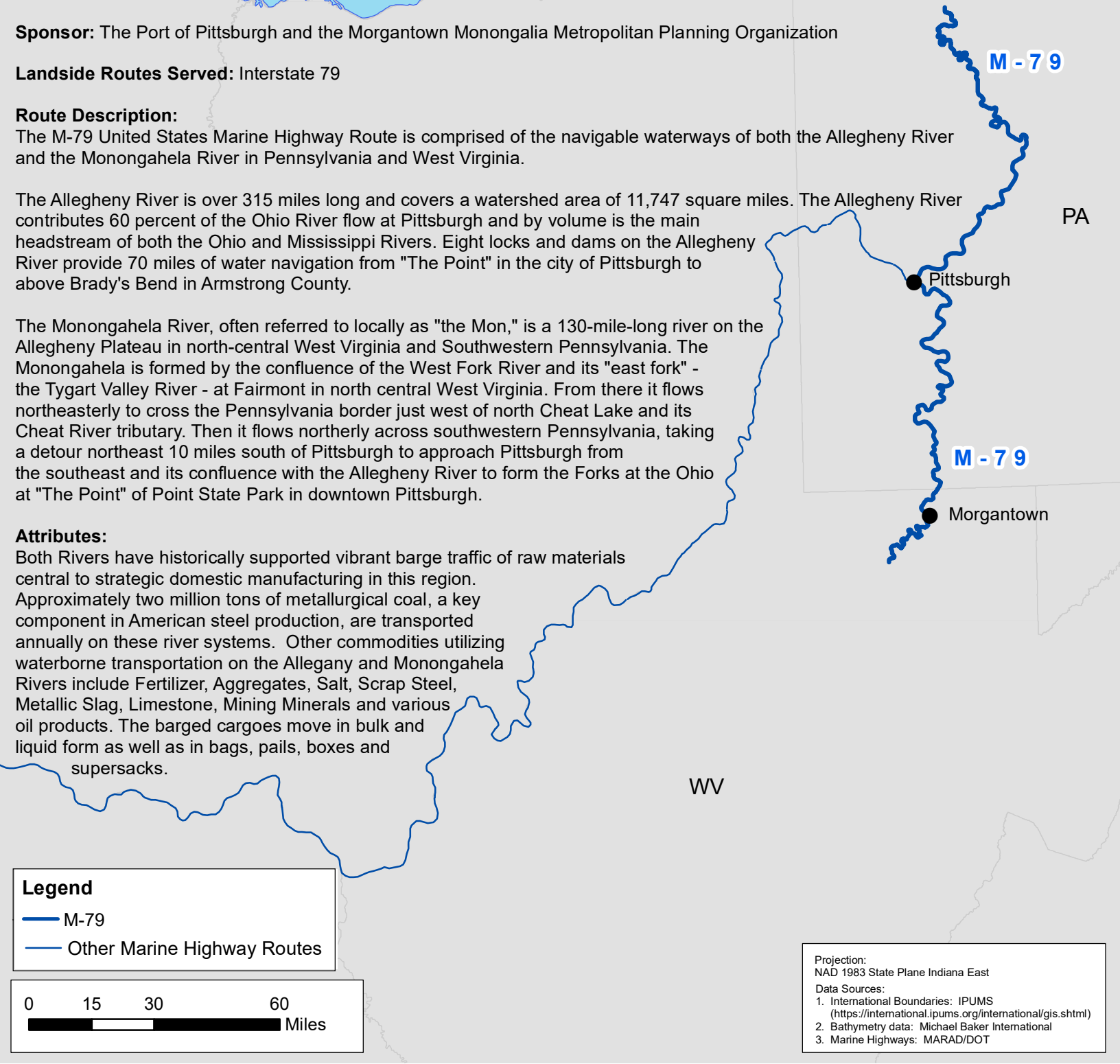
Landside Routes Served: Interstate 79

Route Description:
The M-79 United States Marine Highway Route is comprised of the navigable waterways of both the Allegheny River and the Monongahela River in Pennsylvania and West Virginia.

The Allegheny River is over 315 miles long and covers a watershed area of 11,747 square miles. The Allegheny River contributes 60 percent of the Ohio River flow at Pittsburgh and by volume is the main headstream of both the Ohio and Mississippi Rivers. Eight locks and dams on the Allegheny River provide 70 miles of water navigation from "The Point" in the city of Pittsburgh to above Brady's Bend in Armstrong County.

The Monongahela River, often referred to locally as "the Mon," is a 130-mile-long river on the Allegheny Plateau in north-central West Virginia and Southwestern Pennsylvania. The Monongahela is formed by the confluence of the West Fork River and its "east fork" - the Tygart Valley River - at Fairmont in north central West Virginia. From there it flows northeasterly to cross the Pennsylvania border just west of north Cheat Lake and its Cheat River tributary. Then it flows northerly across southwestern Pennsylvania, taking a detour northeast 10 miles south of Pittsburgh to approach Pittsburgh from the southeast and its confluence with the Allegheny River to form the Forks at the Ohio at "The Point" of Point State Park in downtown Pittsburgh.

Attributes:
Both Rivers have historically supported vibrant barge traffic of raw materials central to strategic domestic manufacturing in this region. Approximately two million tons of metallurgical coal, a key component in American steel production, are transported annually on these river systems. Other commodities utilizing waterborne transportation on the Allegany and Monongahela Rivers include Fertilizer, Aggregates, Salt, Scrap Steel, Metallic Slag, Limestone, Mining Minerals and various oil products. The barged cargoes move in bulk and liquid form as well as in bags, pails, boxes and supersacks.



Legend
- M-79
- Other Marine Highway Routes

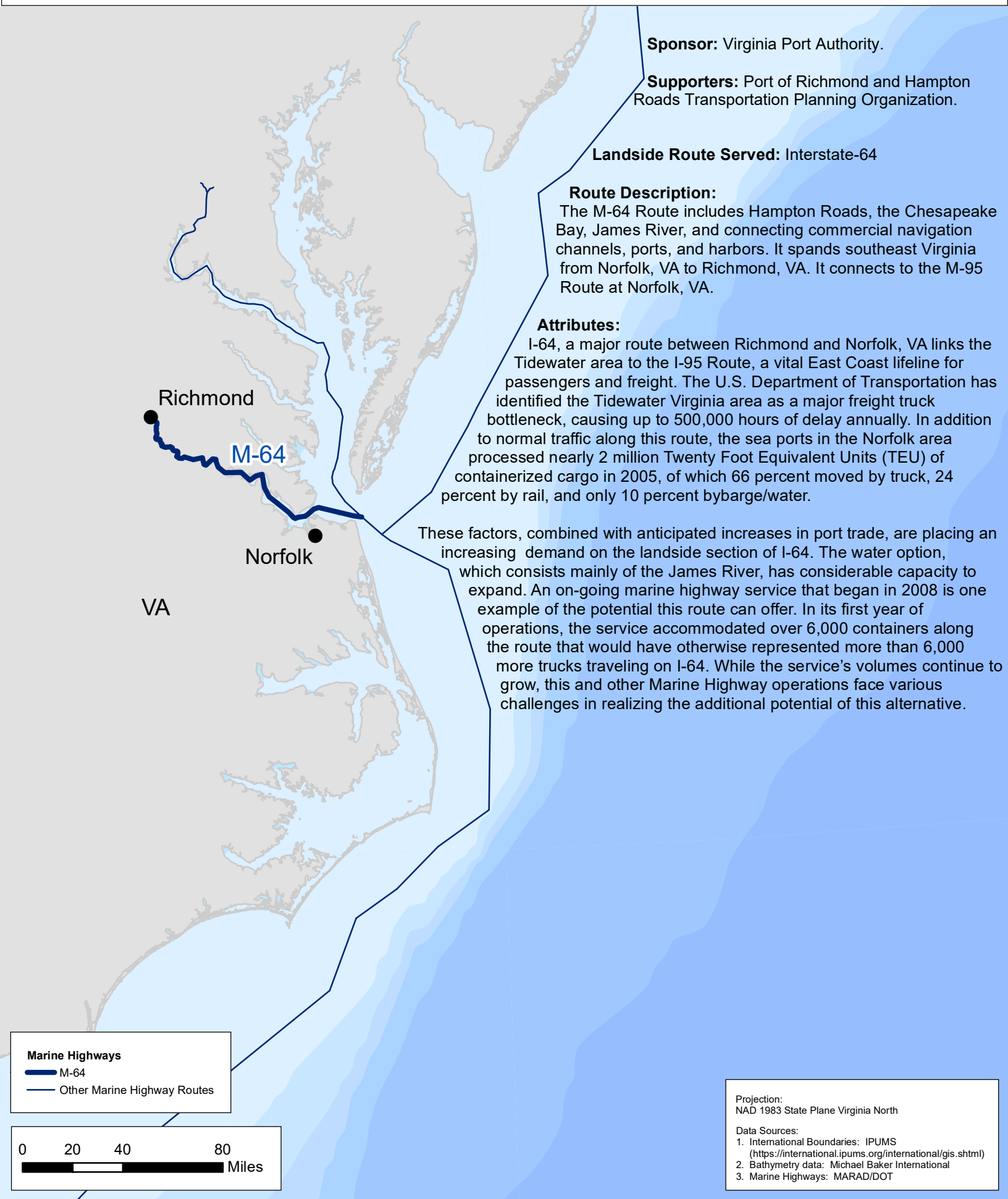
0 15 30 60 Miles

Projection:
NAD 1983 State Plane Indiana East

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-64



Sponsor: Virginia Port Authority.

Supporters: Port of Richmond and Hampton Roads Transportation Planning Organization.

Landside Route Served: Interstate-64

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

Attributes:
I-64, a major route between Richmond and Norfolk, VA links the Tidewater area to the I-95 Route, 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 route, 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 bybarge/water.

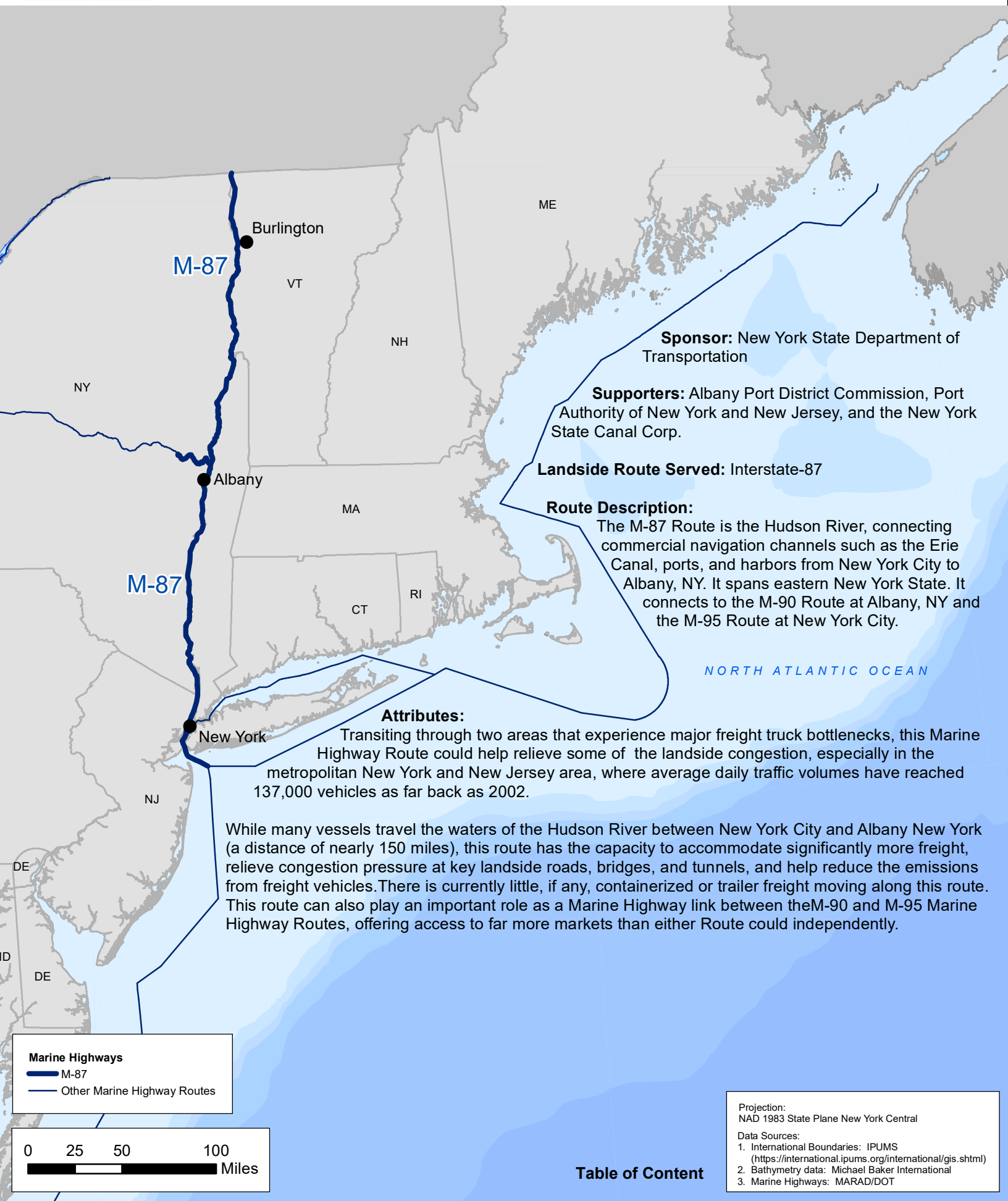
These factors, combined with anticipated increases in port trade, are placing an increasing demand on the landside section of I-64. The water option, which consists mainly of the James River, has considerable capacity to expand. An on-going marine highway service that began in 2008 is one example of the potential this route can offer. In its first year of operations, the service accommodated over 6,000 containers along the route 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.

Projection:
NAD 1983 State Plane Virginia North

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-87



Sponsor: New York State Department of Transportation

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

Landside Route Served: Interstate-87

Route Description:
The M-87 Route 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 Route at Albany, NY and the M-95 Route at New York City.

Attributes:
Transiting through two areas that experience major freight truck bottlenecks, this Marine Highway Route could help relieve some of the landside congestion, especially in the metropolitan New York and 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 route 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 route. This route can also play an important role as a Marine Highway link between theM-90 and M-95 Marine Highway Routes, offering access to far more markets than either Route could independently.

Marine Highways
M-87
Other Marine Highway Routes

0 25 50 100 Miles

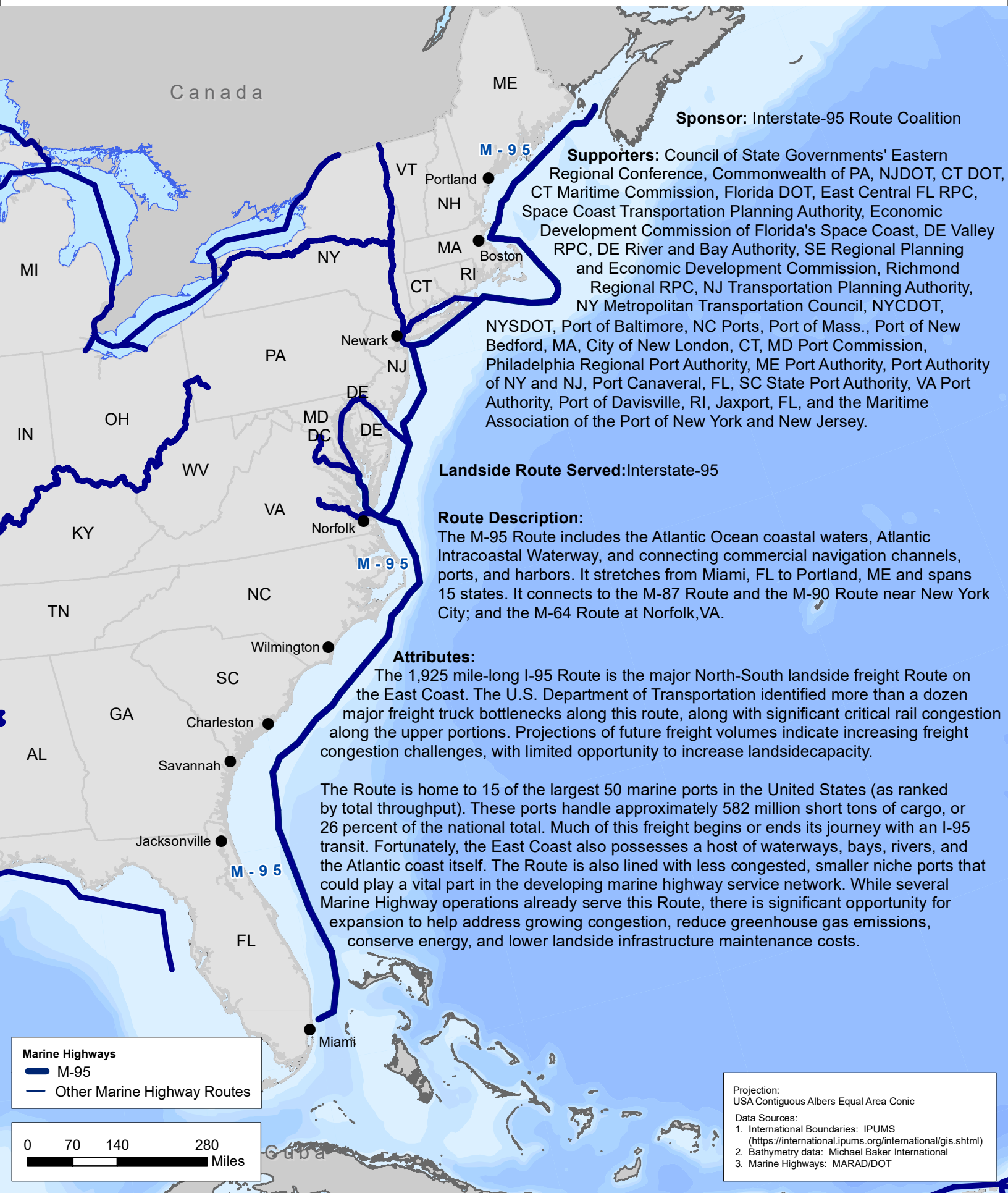
Projection:
NAD 1983 State Plane New York Central

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-95



Sponsor: Interstate-95 Route 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 and Bay Authority, SE Regional Planning and Economic Development 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, MD Port Commission, Philadelphia Regional Port Authority, ME Port Authority, Port Authority of NY and 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 and New Jersey.

Landside Route Served: Interstate-95

Route Description:
The M-95 Route 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 Route and the M-90 Route near New York City; and the M-64 Route at Norfolk,VA.

Attributes:
The 1,925 mile-long I-95 Route is the major North-South landside freight Route 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 landsidecapacity.

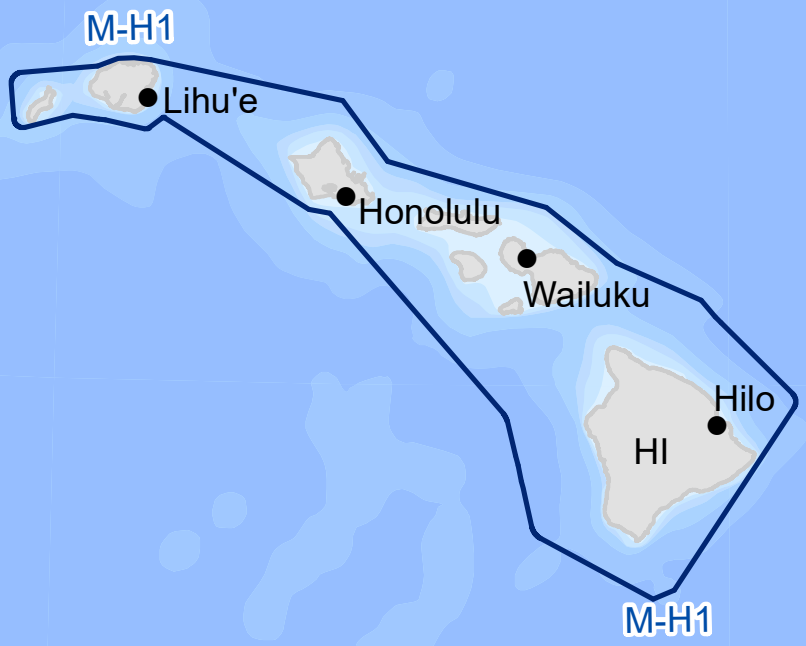
The Route is home to 15 of the largest 50 marine ports in the United States (as ranked by total throughput). These ports handle approximately 582 million short tons of cargo, or 26 percent of the national total. Much of this freight begins or ends its journey with an I-95 transit. Fortunately, the East Coast also possesses a host of waterways, bays, rivers, and the Atlantic coast itself. The Route 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 Route, there is significant opportunity for expansion to help address growing congestion, reduce greenhouse gas emissions, conserve energy, and lower landside infrastructure maintenance costs.

Projection:
USA Contiguous Albers Equal Area Conic

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-H1



Sponsor: State of Hawaii Department of Transportation

Supporters: Hawaii Harbor Users Group (HHUG)

Landside Route Served: Hawaii State Road H1. The State is served by 4,430 miles of public roadways, including 55 miles of interstate highways, but none connect Hawaii's markets to the continent, or support surface transport between or among the islands.

Route Description:
The M-H1 Marine Highway Route includes the waterways and ocean channels used to transport goods and commodities between the Hawaiian Islands of Hawaii, Maui, Molokai, Lanai, Oahu, and Kauai. The waterways include the Alenuihaha Channel, Auau Channel, Kealakahiki Channel, Pailolo Channel, Kalohi Channel, Kaiwi Channel, Kaieiewaho Channel, and the Kaulakahi Channel.

Attributes:
Besides ocean surface transport, the only service available for residents to bring goods into the State or from island to island is via air. In addition to movement of cargo, the commercial harbor system also accommodates cruise vessels adding to the congestion in the harbors and competition for berth space. The harbor congestion could be mitigated through the designation and the efficiencies it would foster. This marine highway is already the primary route for the movement of cargo into and through the state, and while the designation of a marine highway route will not necessarily reduce roadway or railway congestion, it would create operational efficiencies for ocean cargo carriers and shippers, and promote short sea transportation. In addition, this route designation is an integral factor for continual growth and economic opportunities.

Marine Highways
M-H1

0 30 60 120
Miles

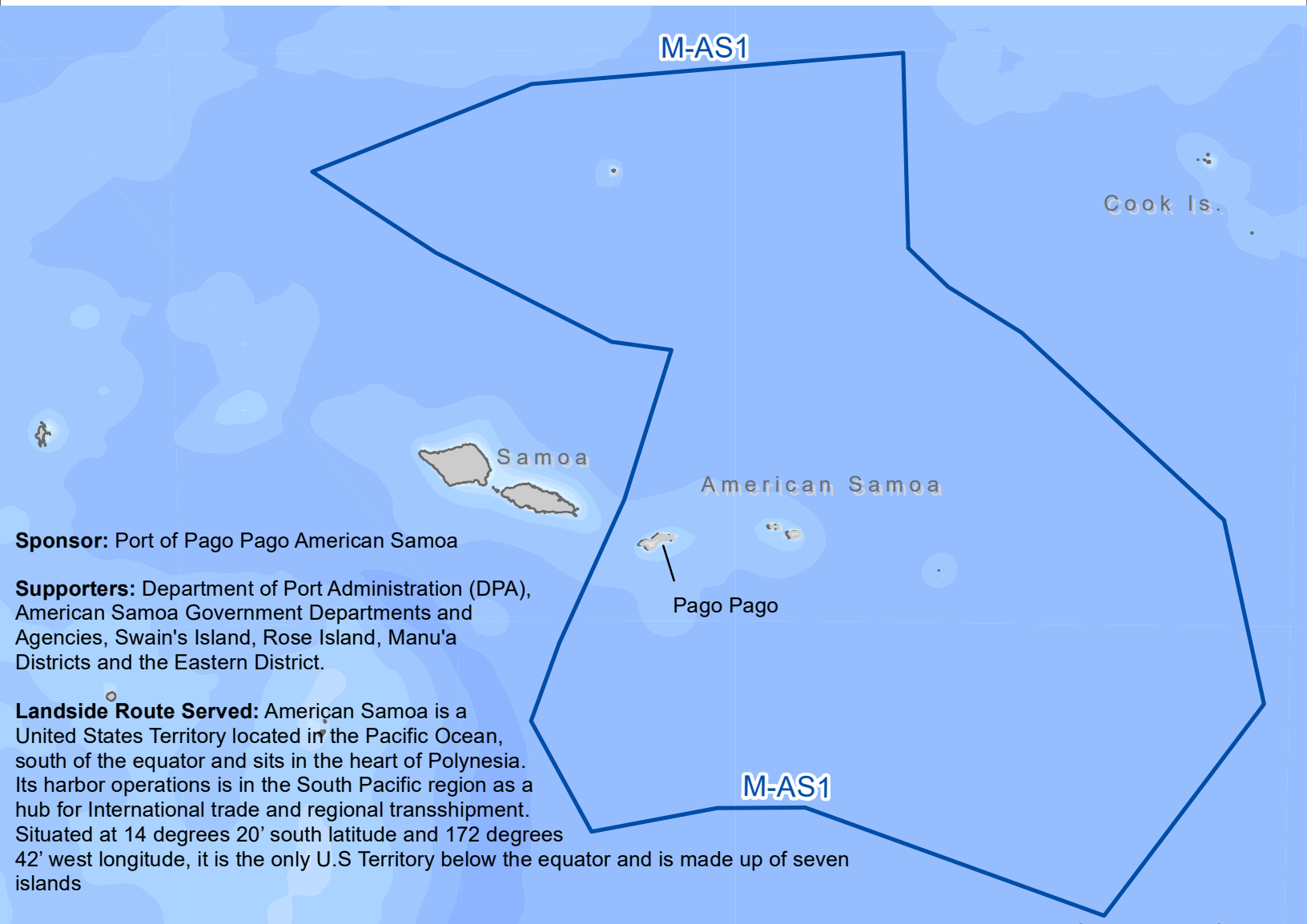
Table of Content

Projection:
NAD 1983 State Plane Hawaii

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

U.S. Department of Transportation
Maritime Administration

Marine Highway M-AS1



Sponsor: Port of Pago Pago American Samoa

Supporters: Department of Port Administration (DPA), American Samoa Government Departments and Agencies, Swain's Island, Rose Island, Manu'a Districts and the Eastern District.

Landside Route Served: American Samoa is a United States Territory located in the Pacific Ocean, south of the equator and sits in the heart of Polynesia. Its harbor operations is in the South Pacific region as a hub for International trade and regional transshipment. Situated at 14 degrees 20' south latitude and 172 degrees 42' west longitude, it is the only U.S Territory below the equator and is made up of seven islands

Route Description: This Marine Highway Route includes the waterways and ocean channels between islands of the territory of American Samoa, within the Exclusive Economic Zone (EEZ). Theses Islands include" Tutuila, Aunuu, Ofu, Olosega, Ta'u, Swains and Rose Atoll

Attributes:
The marine highway system is basically the only viable transportation system to serve the residents on these islands. Air Service is very limited due to the relatively small runways. There is limited air service by small feeder aircraft consisting of 16 seaters, with small luggage only. There is no air service to Aunuu, Swains and Rose Islands.Safe take off and landing weights for aircraft limit cargo to minimal luggage and cargo –the bulk of the commodities are shipped via the bi-weekly ferry service. Pago Pago Harbor, with the most natural deep water anchorages in the world, Tutuila is the largest and most populated of the seven islands and is a strategic midpoint for several critical shipping routes between the U.S West Coast, New Zealand, and Australia. American Samoa is 5,000 miles southwest of California; 2,500 miles southwest of Hawaii, and 1,600 miles northeast of New Zealand.

Marine Highways
M-AS1

0 30 60 120
Miles

Projection:
NAD 1962 State Plane American Samoa

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

Table of Content

U.S. Department of Transportation
Maritime Administration

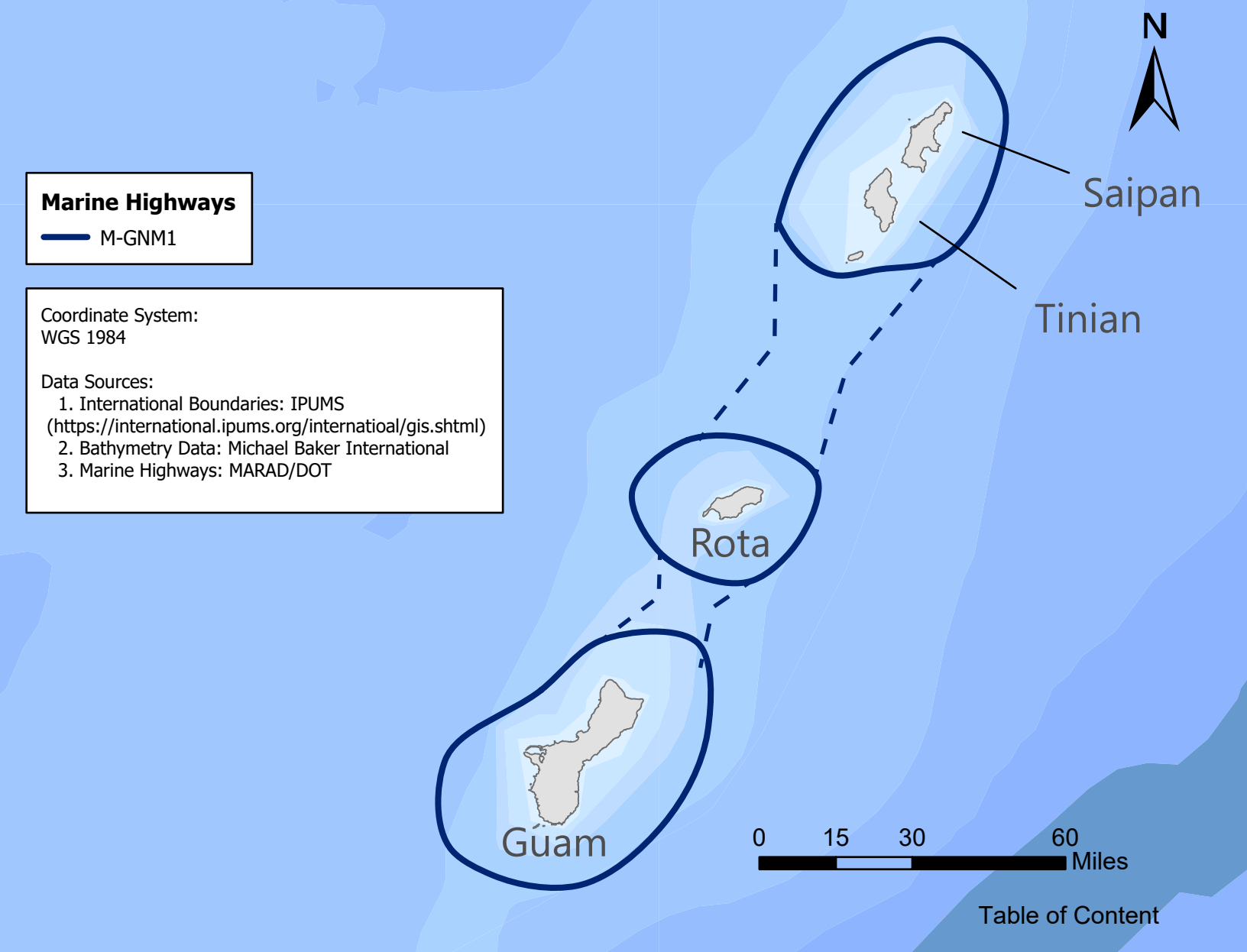
Marine Highway M-GNM1

Sponsors: Port Authority of Guam (PAG) and Commonwealth Ports Authority (CPA)

Marine Highway Route:
PAG and CPA applied collectively to designate the waterways currently used to transport all goods and commodities between Guam and the Commonwealth of the Northern Mariana Islands (CNMI) main islands of Rota, Tinian, and Saipan.

Description:
PAG and CPA both service marine operations of containers, break-bulk, roll-on/roll-off (RORO) vessels, fishing vessels, fuel operations, and occasionally passenger vessels/cruise ships. The Marine Highway Route Designation supports the expansion of the already existent containerized freight service to the islands.

Attributes:
The island territories are predominantly reliant on marine transportation to sustain their residents' way of life. Nearly all commodities and household and commercial goods, such as food, clothing, fuel, vehicles, construction materials, and medical supplies are transported through the islands' seaports. Shipping routes originate from U.S. ports in California, Washington, and Hawaii. Establishing the Guam-CNMI Marine Highway Route under the AMH Program will allow these territories to leverage the full range of available Federal resources to remain a viable component of America's marine transportation and strategic seaports network, as well as position them to be in the best possible situation to further enhance and economically sustain these markets in the future.



Marine Highways
M-GNM1

Coordinate System:
WGS 1984

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/internatioal/gis.shtml)
2. Bathymetry Data: Michael Baker International
3. Marine Highways: MARAD/DOT

Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-2

Sponsor: San Juan Port Commission

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

Landside Route Served: Route-2

Route Description:
The M-2 Route 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 noninterstate 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 Route 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.

Marine Highways
M-2

Projection:
NAD 1983 State Plane Puerto Rico Virgin Isl.

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

0 25 50 100 Miles

Table of Content

U.S. Department of Transportation
Maritime Administration

Marine Highway M-V1

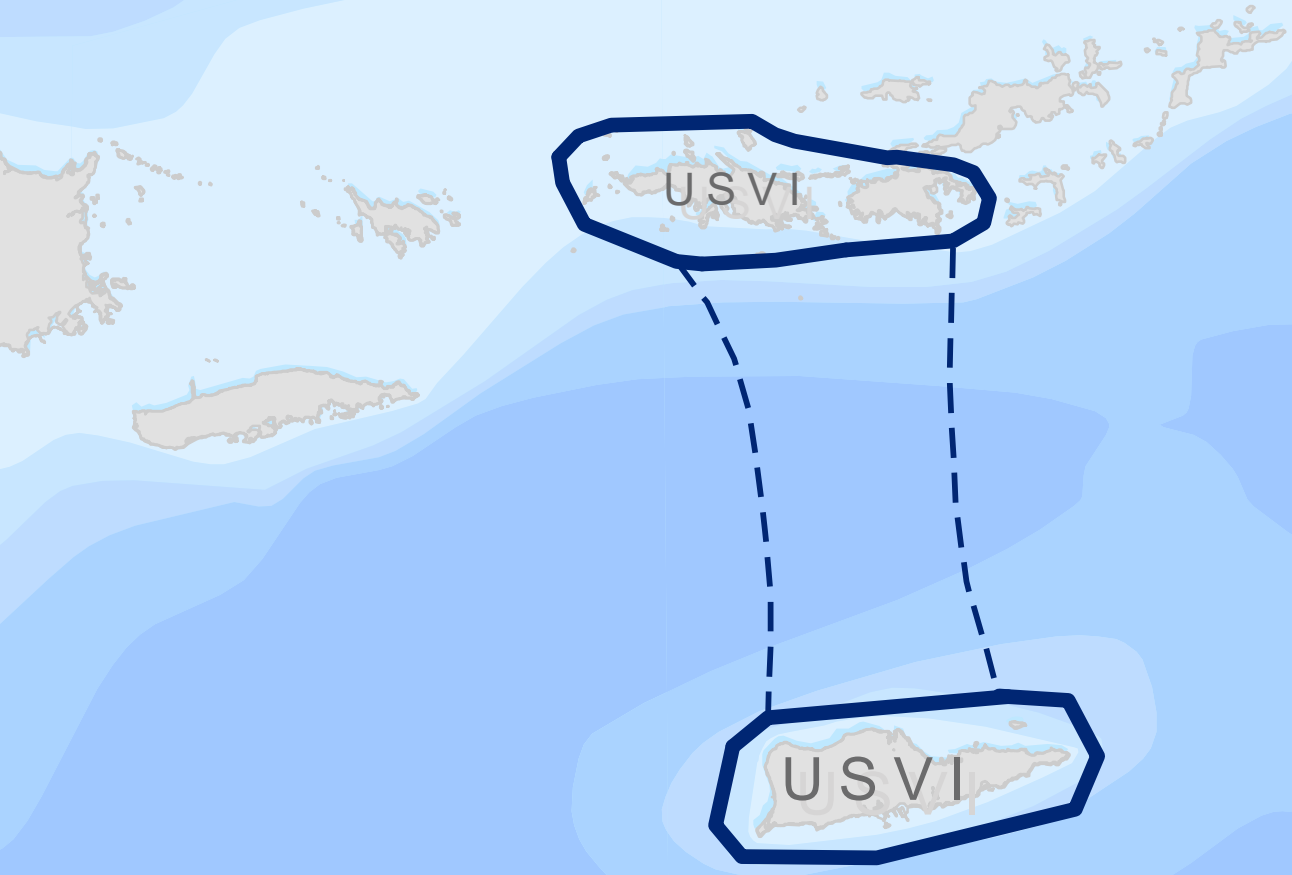
Sponsor: Virgin Islands Port Authority (VIPA)

Supporters: Government of the U.S. Virgin Islands

Landside Route Served: The U.S. Virgin Islands is a United States Territory located in the Atlantic Ocean, about 40 miles east of Puerto Rico. The territory consists of three main islands: St. Thomas, St. John, and St. Croix. The main islands are served by public roadways and highways, but none connect to the U.S. mainland, or support surface transportation between or among the islands.

Route Description:
The proposed Marine Highway Route will be inclusive of all waterways and ocean channels used to transport goods, commodities, and services between the U.S. Virgin Islands. This consists of transportation to and around the major islands of St. John, St. Croix, Water Island, and all surrounding islets and cays.

Attributes: The Route Designation will have numerous positive long-term freight transportation benefits for the U.S., the U.S. Virgin Islands, and Puerto Rico. VIPA's ports play a vital role in providing critical goods and services to the residents of the U.S. Virgin Islands. In the immediate aftermath of hurricanes Irma and Maria, the cargo ports played a critical role as the primary entry point for emergency response equipment, materials, and supplies. The Route Designation will provide startegic Federal support to an already existing freight network. The U.S. Virgin Islands' economy relies almost entirely on the inbound and outbound movement of goods by sea.



Marine Highways
M-V1

Projection:
NAD 1983 State Plane Puerto Rico Virgin Isl.

Data Sources:
1. International Boundaries: IPUMS (https://international.ipums.org/international/gis.shtml)
2. Bathymetry data: Michael Baker International
3. Marine Highways: MARAD/DOT

0 5 10 20
Miles

Table of Content