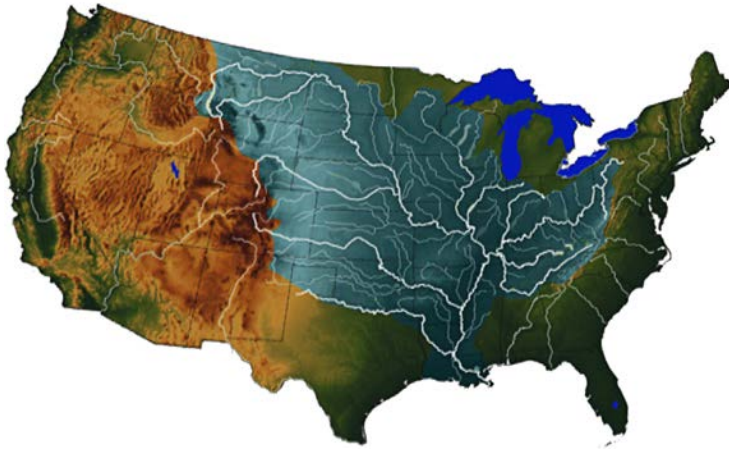


BIG RIVER COALITION



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NOAA PHYSICAL OCEANOGRAPHIC REAL-TIME SYSTEM (PORTS®) LOWER MISSISSIPPI RIVER

Members,

The Big River Coalition (BRC) is committed to “Advocating for a Mightier Mississippi River” to ensure the future of unimpeded navigation on the Mississippi River Ship Channel (MRSC) as one of the nation’s fundamental natural resources and a true economic superhighway. The Coalition is committed to protecting maritime commerce across the Mississippi River and Tributaries (MRT) while focusing on maximizing transportation efficiencies on the Mississippi River Ship Channel from Baton Rouge to the Gulf of Mexico. The Mississippi River and Tributaries project has an estimated \$ 735.7 billion annual impact on the nation’s economy and is responsible for approximately 2.4 million jobs (585,000 jobs on the Lower River – Cairo, IL to the Gulf of Mexico and 1.86 million plus jobs on the Upper River-Lake Itasca, MN to Cairo, IL and including the IL River). As the future of the MRT is shaped, it is imperative that navigation representatives strive to ensure that systematic approaches protect maritime trade by maintaining fully authorized channel dimensions, while also updating and maintaining our navigation infrastructure, specifically the locks and dams of the MRT system. The Big River Coalition missions are focused on securing increased funding from the Harbor Maintenance Tax and the Inland Users Fuel Tax, efforts to deepen the Mississippi River Ship Channel to 50 feet and to increase the beneficial use of dredged material or “Sediment Recycling.”

The Big River Coalition recently shared the attached document to respond and support the findings by the National Transportation Safety Board (NTSB) noted in the Marine Accident Brief issued bearing NTSB Number DCA19FM003, adopted on July 16, 2020. This Accident Brief NTSB/MAB-20/29 detailed the allision at the Sunshine Bridge at Mile 167.4 Above Head of Passes (AHP) on the Mississippi River (Burnside, LA) and a crane barge on October 12, 2018. The Coalition expanded on the “air gap” disparities noted in the Accident Brief (NTSB/MAB-20/29) which documented the confusing process that mariners are expected to utilize to calculate the vertical clearances of bridges crossing the Mighty Mississippi. The NTSB/MAB-20/29 documented the vertical clearance formula that mariners are expected to utilize to safely navigate under the Sunshine Bridge, while the BRC documented the same information for all of the bridges crossing the Mississippi River Ship Channel. The Coalition felt it was important to expand on the findings in the NTSB report and to

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manifest the methods utilized to calculate the vertical clearance at bridges while documenting sources of inaccuracy and challenges in performing these calculations.

The Big River Coalition believes that the best solution to remove confusion in calculating vertical clearance or air gaps at bridges is to install National Oceanic and Atmospheric Administration's (NOAA) Physical Oceanographic Real-Time System or PORTS[®] Air Gap sensors. The confusion in calculating bridge clearances through outdated methods that approximate the true air gap should be replaced with proven and existing modern technology that already exists and can provide accurate real-time vertical clearances. As a maritime nation, we must work to modernize or "marinerize" technological advancements to promote increased navigational safety and reduce accidents, a vertical clearance campaign with coordinated messaging should be promoted to increase awareness of these inaccuracies.

The following information is reproduced from a recent update from NOAA which defines the NOAA PORTS[®] Air Gap system as a tool that measures the vertical clearance between a defined reference point under a bridge and the surface of the water below. The link below was recently published by NOAA and includes video footage of a vessel transiting the Chesapeake Bay Bridge earlier this year.

Please view this link for a useful demonstration: [NOAA What's An Air Gap link video:](#)

The following descriptive quote is reproduced from the NOAA's page titled, What is air gap?

"Air gap observations are collected at a high frequency and updated for the public every six minutes to account for changes in water level, vehicular loads on the bridge, air temperature, and other factors. Air gap data and surrounding tides, currents, and meteorological conditions help vessel pilots safely enter and leave many seaports. This information is critical for pilots to safely navigate a ship under a bridge, especially as U.S. seaports grow and vessels continue to increase in size."

The following information lists details of the seven bridges that cross over the Mississippi River Ship Channel from Baton Rouge to New Orleans. These bridges are the Baton Rouge I-10 Bridge at Mile 229.3 AHP, the Sunshine Bridge (Burnside, LA) at Mile 167.4 AHP, the Veterans Memorial Bridge (Gramercy, LA) at Mile 145.9 AHP, the Hale Boggs Memorial Bridge (Luling, LA) at Mile 121.6 AHP, Huey P. Long Bridge (Jefferson, LA) at Mile 106.1 AHP and the two bridges that make up the Crescent City Connection (New Orleans) the upriver span crosses the Ship Channel at Mile 95.8 AHP and the downriver span at Mile 95.7 AHP.

The BRC believes that NOAA PORTS[®] Air Gap Sensors should be deployed on six of these seven bridges, as only one air gap sensor at the Crescent City Connection bridges are needed as they are listed as identical. The Lower Mississippi River PORTS[®] system already includes two air gap sensors one at the Crescent City Connection and one on the Huey P. Long Bridge, while a third air gap sensor is scheduled to be installed on the Baton Rouge I-10 Bridge in early 2022. The recommendation to promote navigational safety on the nation's busiest waterway for air gap sensors on six of the seven bridges, requires just three additional air gap sensors.

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The NOAA PORTS[®] air gap sensors costs are approximately \$100,000 to purchase and install the sensor with annual maintenance estimated to be \$20,000 per year. Estimated costs for the three additional air gap sensors is \$300,000 (\$100,000 each sensor and installation) with a total of \$60,000 per year for the additional Operations and Maintenance of the three new air gap sensors. The total costs per air gap at each bridge station are approximately \$120,000.

The Coalition worked with NOAA to gather information and make recommendations based on the referenced NTSB report and suggested that the existing current meters be turned off and relocated to bridge piers. The Coalition strongly believes that placement of current meters on bridge piers is a critical component and the proper deployment of existing technology. The current meters represent a critical and missing component in the LMR PORTS which presently features two land-based current meters that are in areas prone to being knocked offline and are not representative of the currents in the Ship Channel. The BRC recommended that the two existing current meters be extinguished due to the noted problems, current meters are an important safety tool but they must be strategically deployed. The estimated costs of current meters installed and operated on bridge piers is \$84,000 to purchase and install the sensor and \$28,000 for Operations and Maintenance costs. The total costs per current meter station at each bridge are approximately \$112,000.

The total costs of the suggested adjustments to the Lower Mississippi River PORTS[®] are:

- 1) Three additional air gap sensors and O&M funding is \$300,000 with \$60,000 in annual O&M costs.
- 2) Six new current meters installed on bridge piers would cost \$504,000 with \$168,000 in annual O&M costs.

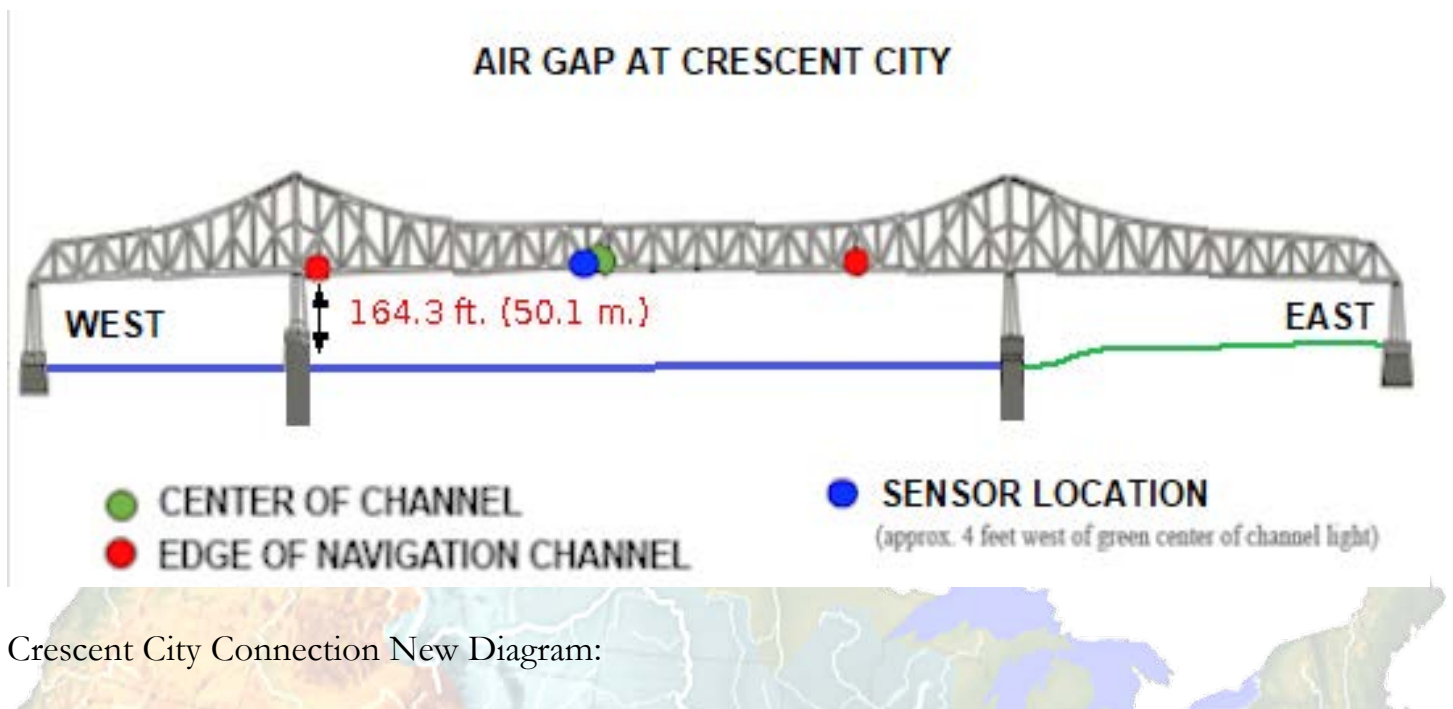
The Big River Coalition has simultaneously been working with NOAA to recommend adjustments to the historic display of the Lower Mississippi River PORTS[®] (LMR PORTS[®]) web interface, the adjustments were suggested to increase identifying details in the display window for the existing sensors. The Coalition suggested changes to the format of the air gap sensors display pages in LMR PORTS[®] to include standardized information like Mile Markers and to document the proper name of the listed bridges. The images below show both the previous page view and the updated views that are now available online at: [Lower Mississippi River PORTS[®] Air Gap Sensors:](#)

No changes were made to the diagrams below. The only changes made were to the identifying text. The vertical clearances listed are different since they were recorded at different times.

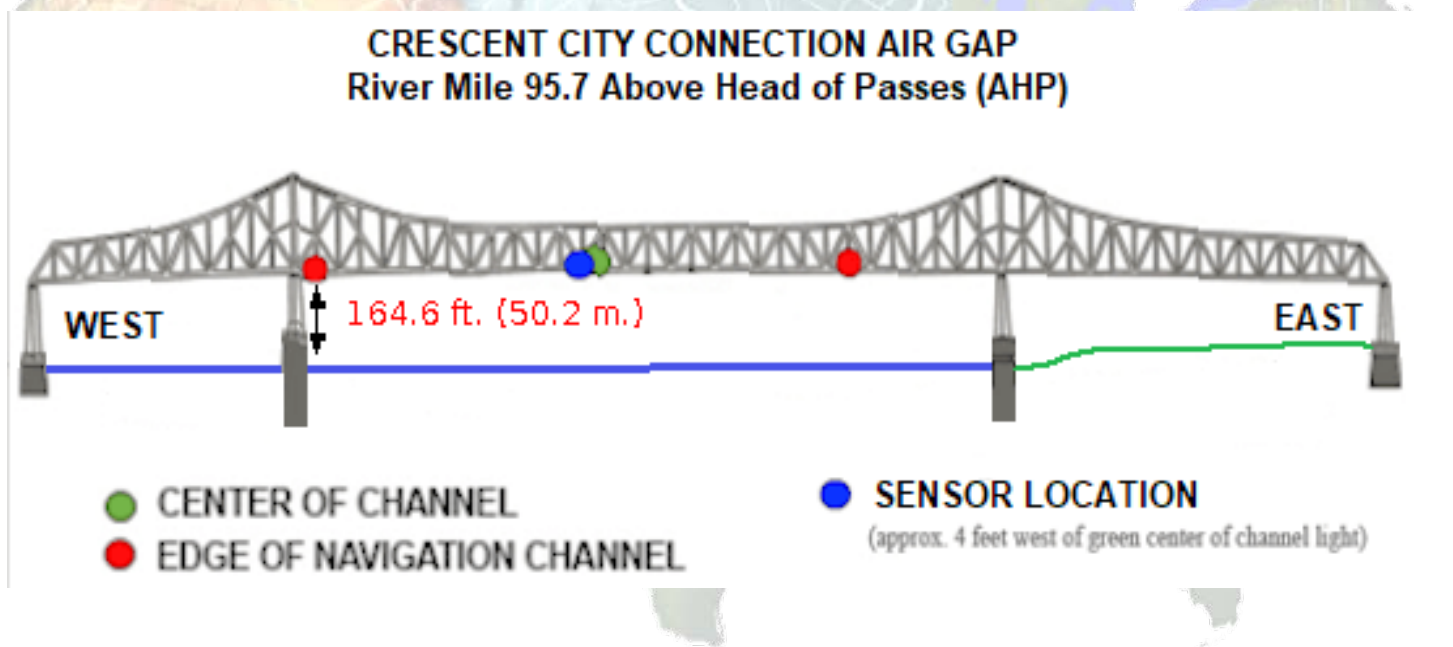
The space above was left blank intentionally, to align the bridge diagrams on one page for ease of comparison.

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Crescent City Connection Old Diagram:



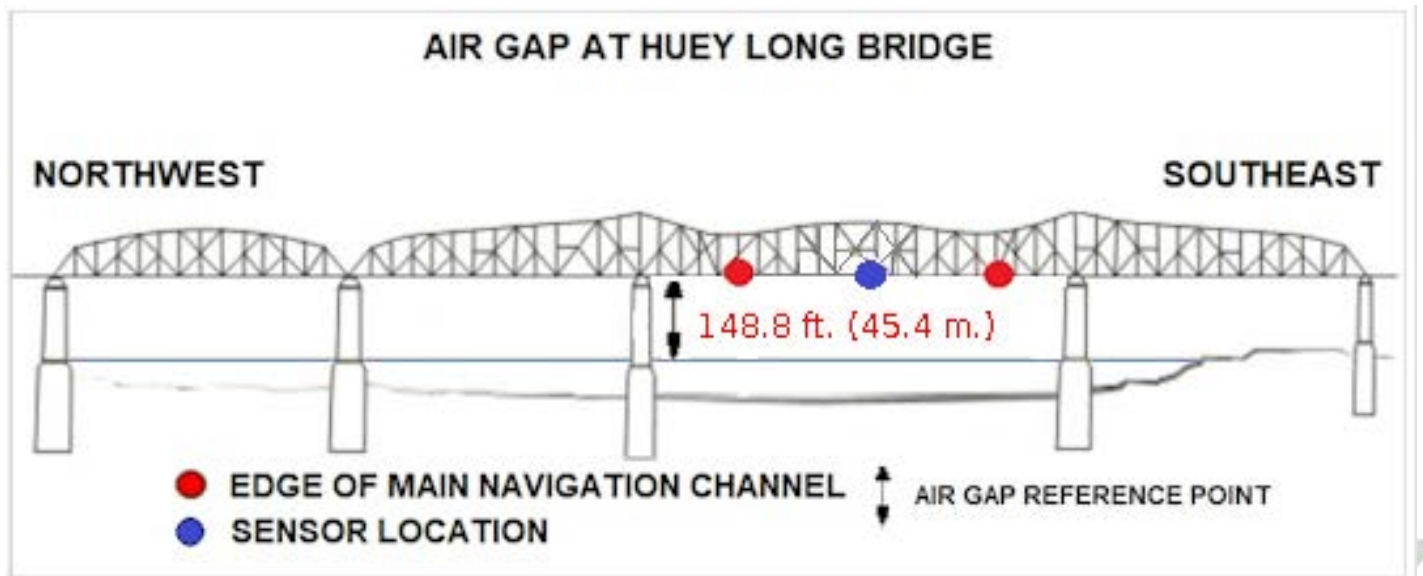
Crescent City Connection New Diagram:



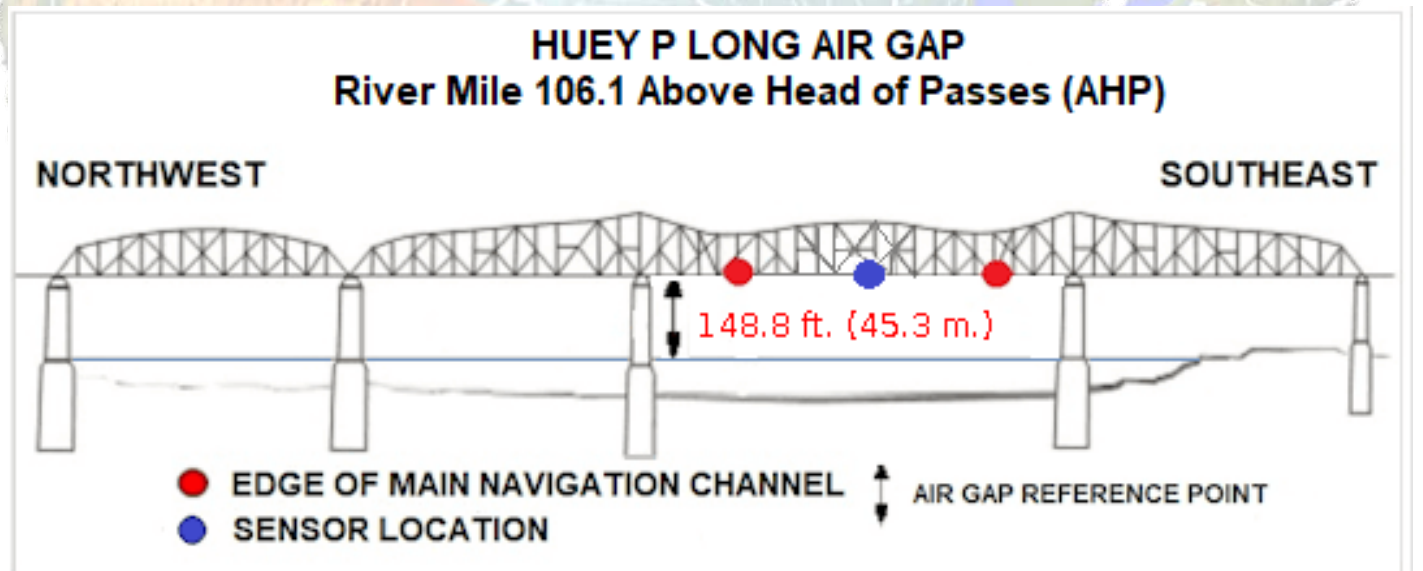
The space above was left blank intentionally, to align the bridge diagrams on one page for ease of comparison.

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Huey P. Long Old Diagram:



Huey P. Long New Diagram:



The Coalition believes that the noted changes are an important part of our efforts to promote modern technology and reduce confusion, the updated diagrams will be standardized for future Mississippi River Air Gap Sensors. The Coalition believes that it is an important role for the navigation industry to promote technology that will remove or reduce confusion in order to increase navigational safety. Leaders in technology do not always have strong navigational backgrounds and as the intended end user or beneficiary, mariners are encouraged to comment on and utilize applicable technology. I believe that we must look to embrace while suggesting converting technology so that it is not only readily available but displayed in metrics that are representative of the needs of navigation, or as previously mentioned the term the Big River Coalition prefers is to “Marinerize Technology.”

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The Big River Coalition is committed to ensuring the future of navigation on the Mississippi River Ship Channel (MRSC) as one of the nation's fundamental natural resources and true economic superhighway. The Coalition believes that the Marine Accident Brief # DCA19FM003 sufficiently documents the challenges related to calculating the vertical clearances at bridges crossing navigable waterways. The Big River Coalition believes that air gap sensors, such as those utilized by the NOAA PORTS® program, offer accuracy and clarity to the vertical clearance discussion. The Air Gap sensors provide accurate measurements from low steel elevations to the waterline and the readings are updated every six minutes and posted onto the Lower Mississippi River PORTS weblink by NOAA. The Big River Coalition is committed to protecting and promoting waterborne commerce and strongly believes that the vertical clearances obtained by air gaps sensors offer clarity that should be embraced and promoted.

Sincerely,

Sean M. Duffy, Sr.

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Executive Director

