

16th Street Viaduct Over the Menomonee River
Structure B-40-0550 Unit 14
WisDOT Project ID: 2615-15-03, -73

Public Involvement Meeting, Thursday, December 14, 2023

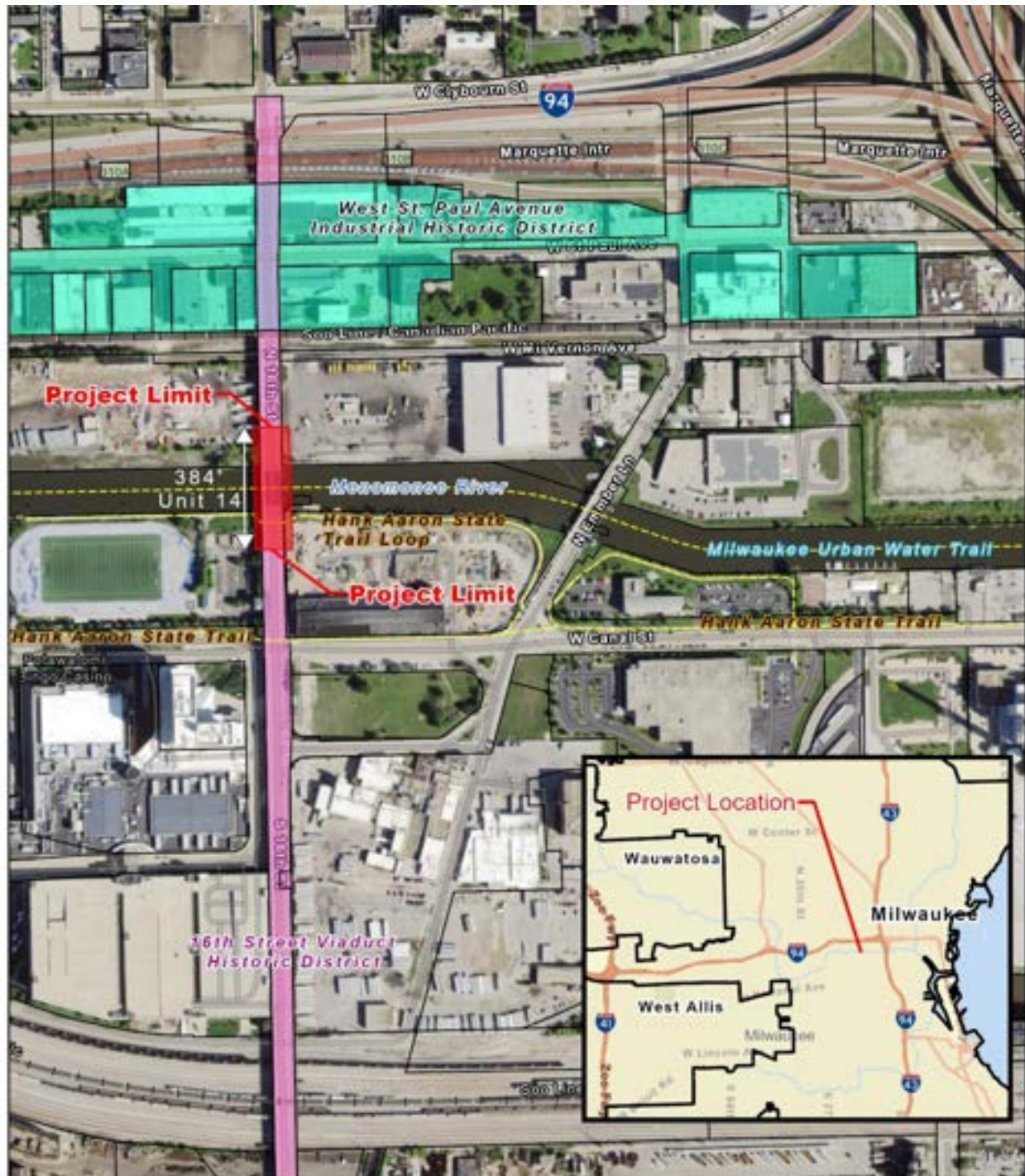
Description: The City of Milwaukee (City) Department of Public Works (DPW), in cooperation with the Wisconsin Department of Transportation (WisDOT) and the Federal Highway Administration (FHWA), is considering alternatives to address the deteriorated condition of the 16th Street Viaduct (bridge), Structure B-40-0550 Unit 14, which has a length of 384 feet, over the Menomonee River in the City of Milwaukee. The remainder of the multi-unit 3,920-foot-long viaduct is not included in this project. The existing bridge is experiencing structural deficiencies due to deterioration of the bridge's structural, electrical, and mechanical components. The viaduct was built in 1929 and was significantly rehabilitated in 1987. It serves as one of the main arteries that connect Milwaukee's downtown and neighborhoods south of the viaduct. The City of Milwaukee and WisDOT have hired an engineering team lead by Hardesty & Hanover, Inc., with Mead & Hunt, Inc. as a major local subconsultant.



FIGURE 1: Existing bascule span over the Menomonee River. View looking southwest from north bank. June 2023.

Project Area Resources: The existing 16th Street Viaduct (Historic District) is currently listed on the National Register of Historic Places (NRHP) under Criteria A: Ethnic Heritage/Black, Social History. The 16th Street Viaduct Unit 14 only is also currently being evaluated for listing on the NRHP under Criterion C: Engineering. Resources determined eligible or listed on the National Register may also be protected by Section 4(f) of the U.S. Department of Transportation Act of 1966 (Section 4(f)).

The project crosses the Menomonee River which is part of the Milwaukee Urban Water Trail and the WDNR managed Hank Aaron State Trail, recreational resources which may also be protected by Section 4(f).



Project Location Map (includes Section 4(f) Resources)

Project Purpose: The purpose of the proposed project is to preserve the function of the 16th Street Viaduct as a minor arterial carrying traffic over the Menomonee River valley in the City of Milwaukee.

Project Need: The primary need for the proposed project is to rectify structural deficiencies of the existing structure in support of the project purpose to preserve the function of the viaduct.

The bascule span is currently non-functional due to deterioration and has been locked in the “down” position for approximately 10 years. A May 22, 2023, WisDOT Bridge Inspection

Report and an in-depth inspection by the design team in June 2023 with subsequent Bridge Inspection and Rehabilitation Scoping Report dated September 2023 indicates the following project Needs:

Structural Deficiencies:

- The steel columns on both north and south side bascule towers are in severe condition with heavy corrosion. Columns exhibit holes in webs and pack rust at connections.
- The steel floor beams are in severe condition with heavy corrosion, especially the top flanges of the floorbeams located under concrete deck expansion joints.
- The main girders on bascule leaves are in poor to severe condition with heavy corrosion and with deterioration in the flanges, webs and web stiffeners.
- Steel purlins are heavily corroded throughout the structure. Stringers are heavily corroded throughout the structure.
- Strip seal joints are leaking and allowing water and de-icing materials to drip down onto the steel floor beams, speeding corrosion and deterioration of the bridge.
- The steel deck on the bascule span leaves are uneven and misaligned.
- Paint on bascule span has limited effectiveness and is no longer protecting the structure from corrosion.
- Concrete deck on bascule approaches has transverse and longitudinal cracking and spalling is evident. Concrete curb at all four corners of bridge is cracked and spalled.

Mechanical Deficiencies:

The mechanical portions of the bridge are inoperable and in severe condition. The rack and pinion systems, gears, and sleeve bearings show heavy rust and section loss. The mechanical center locks are engaged, and the bridge is currently welded closed. The bascule leaves have not been raised in over 10 years.

Electrical Deficiencies:

The electrical portion of the bridge is in severe condition and inoperable. Electrical service is kept only for lighting bridge walkway, platforms, pier, and navigation lights.

Project Alternatives: The following alternatives are currently being evaluated against the project Purpose and Need:

- (1) No Build. This alternative would “do nothing” and would leave the existing structure in place to continue to deteriorate until the bascule span would need to be closed or replaced. This alternative would not result in “use” of Section 4(f) resources present within the project area. However, the no build alternative does not meet the Purpose of the project or address any of the project Needs.
- (2) Rehabilitation. Rehabilitation alternatives being considered which would all rehabilitate Unit 14 of the 16th Street Viaduct to address the project’s Purpose and Need. These include both rehabilitation with removal of the operator’s house and rehabilitation while preserving the operator’s house. All rehabilitation alternatives are currently being evaluated for their potential effect to those historic and recreational resources identified above which are present within the proposed project area. Ultimately, each rehabilitation alternative is expected to meet the Purpose and Need for the project but varying levels of “use”, or impact to Section 4(f) resources within the project area is being evaluated.
- (3) Reconstruction On Alignment. This alternative would reconstruct Unit 14 of the 16th Street Viaduct to address the project’s Purpose and Need. This alternative is currently being evaluated for its potential effect to those historic and recreational resources

identified above which are present within the proposed project area. This alternative would result in “use” of Section 4(f) resources present within the project area. Ultimately, this alternative would be expected to meet the project’s Purpose and Need but would not be prudent given the significant cost and anticipated adverse effect to historic resources which would be expected from a reconstruction alternative.

- (4) Reconstruction Off Alignment. This alternative would look at reconstructing an alternative alignment of the 16th Street Viaduct either in part or in whole to avoid “use” of the existing bridge, a Section 4(f) resource. Given the urban context, elevation changes associated with the Menomonee River Valley, and presence of several other environmental resources (e.g., multiple railroad tracks) within the project area, this alternative would not be expected to be feasible or prudent. Therefore, while this alternative was considered, a detailed analysis is not being considered at this time.



FIGURE 2: Unit 14 bascule span and approach spans of the 16th Street Viaduct looking north. June 2023.

Preferred Alternative: The currently preferred alternative is to rehabilitate the bridge. A rehabilitation alternative would address structural repairs to the bridge by rehabilitating the movable double leaf bascule span over the Menomonee River into a permanently “Down” position and make it a fixed span. It is no longer necessary to open and close the movable span over the river. Rehabilitation would be expected to consist of:

- Replacing the open grid steel deck on the bascule span with a new cast-in-place concrete deck.
- Replacing the fiberglass sidewalk plates and supports on the bascule span with new cast-in-place concrete sidewalks.
- Re-decking of the concrete fixed spans on each side of the bascule span.
- Replacing or removing bascule span superstructure steel to support the new concrete deck
- Rehabilitating the existing main bascule span steel girders.
- Rehabilitating and/or replacing substructure steel on the vertical bents.
- Removing existing movable bridge operating equipment and access platforms.

- Removing electrical service and equipment that is no longer needed.
- Repairs to the piers, removing timber dolphins and timber fencing and replacing with new rubber fenders on the concrete pier faces.
- Rehabilitating superstructure steel on the fixed spans adjacent to the movable span.
- Replacing steel rivets and bolts where deteriorated.
- Abrasive blast cleaning and painting of all structural steel of Unit 14.
- Potential removal of the vacant non-functional bridge operator's house (subject to Wisconsin State Historic Preservation Office (SHPO) review and approval, which is currently ongoing).
- Other miscellaneous rehabilitation items to preserve the function of the bridge.

Construction Cost: The estimated construction cost of these rehabilitation activities is \$14 million to \$16 million.

Current Project Schedule: Design engineering is expected to be completed in November 2024. The project is currently scheduled to be advertised for construction bids in February 2025. Construction is currently programmed to begin in Spring 2025, with substantial completion estimated in Fall 2026.

Right of Way: No new right-of-way is going to be acquired as part of this project. Temporary limited easements will be necessary on private property adjacent to the viaduct to construct the project.

Traffic During Construction: The bridge will be closed to traffic from W. Clybourn Street to the viaduct approach (ramp bridge). Vehicular traffic and pedestrian traffic are expected to be detoured during construction. The remainder of the 16th Street Viaduct south of the Viaduct Approach (ramp bridge) will remain open to all traffic during the construction project. Milwaukee County Transit Service Bus Route 24 will be detoured. Waterway traffic for recreational boaters is expected to remain open during construction. Similarly, access along the Milwaukee Urban Water Trail is expected to remain open to non-motorized watercraft (e.g., kayaks, canoes) during construction. The Hank Aaron State Trail, which passes under the viaduct on the south bank in two locations is expected to be closed during construction along the river but remain open along the north side of Canal Street.

Your Involvement: Comment forms are attached. We encourage you to share your thoughts about the information presented. Please submit your comments to the Project Contacts by no later than December 31, 2023. Email is preferred. Or drop your comments in the box provided at the meeting. Thank you for your participation and interest in the project.

Notes: This meeting is an informal introduction of the project to inform property owners, businesses and other interested parties that this project is currently in the engineering design phase. This meeting is also intended to provide property owners, businesses, and other interested parties an opportunity to contribute to the project.

For future updates, please contact one of the Project Contacts to be added to the list for email updates.

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Public Involvement Meeting

Thursday, December 14, 2023

Location: STAMM Technologies

1207 W. Canal Street, Milwaukee

(Facility is ADA accessible; free parking is available)

Time: Informal Open House 4:00 to 7:00 p.m.

(Brief presentation at 5:30 p.m.)

PROJECT INFORMATION HANDOUT

Project Contacts:

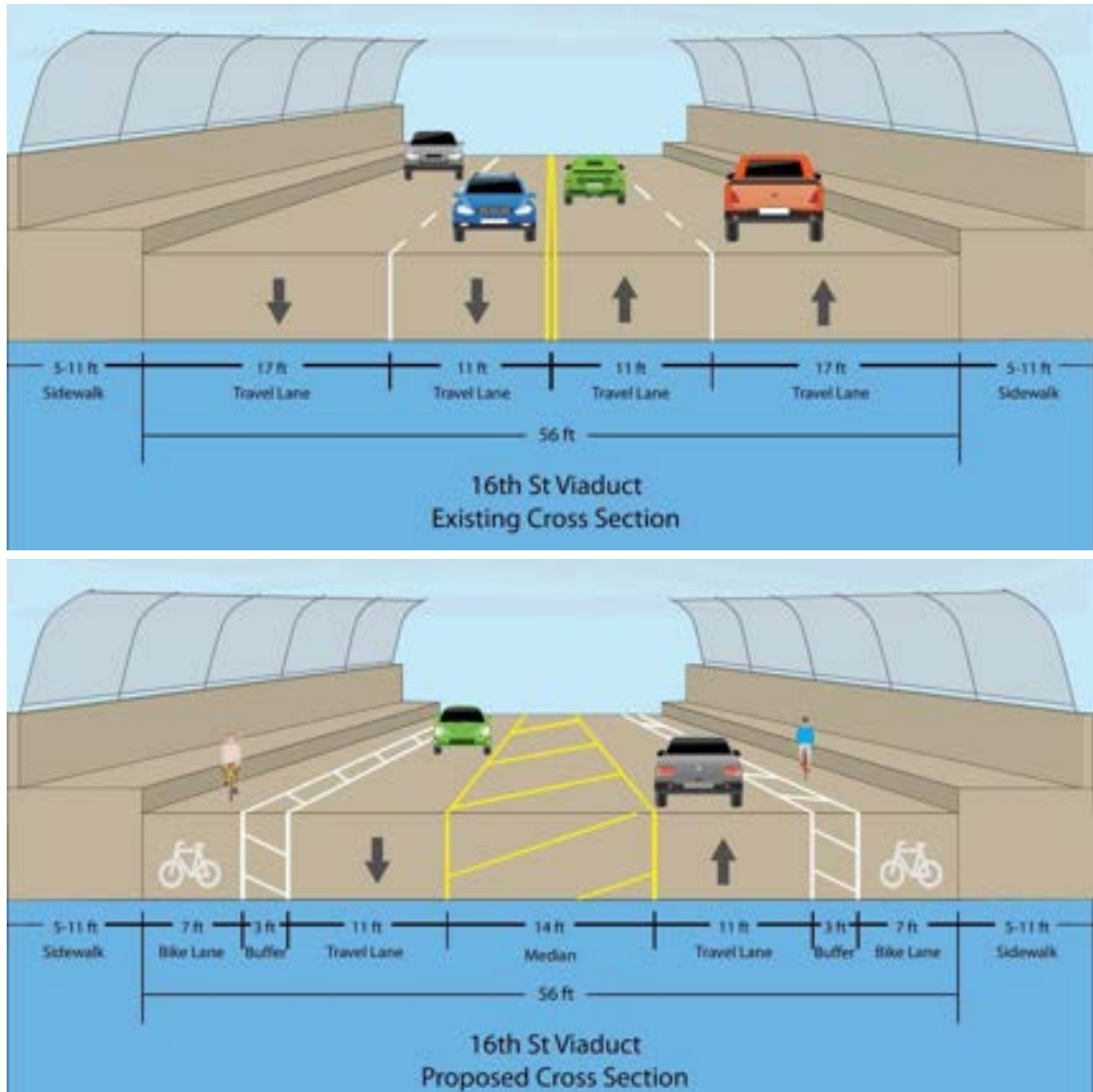
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BRIDGE and OTHER DATA

- 1. Length:** Construction project length is approximately 400 feet; Bridge (Unit 14) length is 384 feet; traffic control devices will be installed at each end of the viaduct and signage will be placed along the Hank Aaron State Trail and in the waterway for recreational users.
- 2. Road Functional Classification:** Minor arterial roadway.
- 3. Adjacent Land Use:** Commercial with Residential to the south of the viaduct; Marquette University to the north.
- 4. Roadway:** The existing is 56-feet-wide and has four lanes of traffic, two lanes in each direction. The 56-foot width will be maintained. However, it is proposed to change the pavement markings to provide two 11-foot traffic lanes and two 7-foot-wide bicycle lanes, one each in each direction, with a 14-foot-wide striped center median and 3-foot-

wide striped buffers between the traffic lanes and bicycle lanes. One 5 foot-11-inch-wide raised sidewalk is on each side of the roadway.



5. **Structure Condition:** The operating machinery of the bridge is no longer functional and structural steel repairs are necessary to maintain safe travel on the bridge. The proposed project mainly addresses structural repairs to the bridge by rehabilitating the movable double leaf bascule span over the Menomonee River into a permanently down position and make it a fixed span. It is no longer necessary to open and close the movable span over the River.
6. **Existing Average Daily Traffic (ADT):** Approximately 12,600 vehicles per day total each direction over the bridge, based on counts taken in July 2023 on the bascule span. Truck percentage is approximately 5%.
7. **Bus Route:** Milwaukee County Transit System (MCTS) Route 24 will be rerouted during construction.

PROJECT INFORMATION

1. **Posted Speed Limit:** 30 mph; this is the existing speed limit, and it will not change.
2. **Bicycle and Pedestrian Features:** Proposed restriping of the bridge for new bicycle lanes has been described previously. Existing sidewalks for pedestrians will be reconstructed on each side of the roadway.
3. **This is a multiple jurisdictional project** – Aldermanic District 4 and District 8
4. **Aldermanic Contacts** – Alderman Robert Bauman and Alderwoman JoCasta Zamarripa
5. **Parking:** There is no parking allowed on the bridge
6. **Working Hours:** No daily restrictions exist except for holidays. Work is allowed from 7:00 AM to 9:00 PM per the City of Milwaukee ordinance.
7. **Working Areas:** On and beneath the 16th Street Viaduct and in the four quadrants immediately adjacent to the bridge. Properties east of the viaduct are owned by the City of Milwaukee and easements for construction access are anticipated.
8. **Menomonee River Navigation:** Recreational craft access is expected to be maintained on the river during construction. Emergency response vehicles can continue to use the river.

(Please use additional sheets if necessary)

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