

Project Title:	CTH I, Mukwonago River Bridge	Project #:	202203
Department:	Public Works - Highways	Project Type:	Rehabilitation
Phase:	Preliminary Design	Road Name:	Beloit Road
Budget Action:	C - Scope C - \$ Update	Manager:	Allison Bussler
Date:	July 3, 2024	Map / Image:	Click Here

Year	2022	2023-24	2025	2026	2027	Total
Project Phase	Pre. Design		Design	Land	Const	Project
Expenditure Budget	\$6,000	\$0	\$23,000	\$45,000	\$98,000	\$172,000
Revenue Budget	\$0	\$0	\$0	\$0	\$0	\$0
Net Costs After Revenues Applied	\$6,000	\$0	\$23,000	\$45,000	\$98,000	\$172,000
COST DOCUMENTATION			REVENUE			
Preliminary Design	\$6,000					
Design	\$95,000		Fed Aid Bridge (Anticipated)			\$484,000
WisDOT Design Review	\$20,000					
Land Acquisition	\$45,000					
Construction	\$383,000					
Construction Management	\$88,000					
Contingency	\$19,000					
Total Project Cost	\$656,000		Total Revenue			\$484,000
EXPENDITURE BUDGET	\$172,000		REVENUE BUDGET			\$0

Project Scope & Description: This rehabilitation of the CTH I bridge over the Mukwonago River is rescoped from concrete overlay to concrete deck repairs. The spalls and delaminations in the deck will be repaired with concrete patching, using sacrificial anodes. Concrete repairs will be made to the spalled slab edges. Galvanized steel flashing will be installed on the slab edges. Existing bridge railing may be modified/remounted or completely replaced with this project. Railing replacement with concrete parapet will be investigated. Approach guardrail will be replaced to meet current standards. The immediate asphalt approaches will be repaved. The existing right-of-way width is 66 feet, whereas the ultimate right-of-way width is 100 feet. The county does not anticipate purchasing the ultimate right-of-way width. However, some land acquisition is anticipated to relocate one or two driveways for guardrail construction. At construction, it is anticipated that the bridge will be closed to traffic with a detour in-place. An independent study report was completed in 2023, and application was made to WisDOT for federal funding. WisDOT did not concur with our recommended concrete overlay and the independent study report was revised using a modified scope, which was approved by WisDOT. Though scope is modified, total project cost is reduced only slightly, mostly due to inflationary increases in the revised independent study report.

Locations: Town of Mukwonago

Analysis of Need: The existing bridge (B-67-202) is a single span flat slab structure that was constructed in 1981. The bridge wearing surface is an estimated 8% delaminated and is beginning to spall. The delamination is due to corrosion of the top mat of bar steel. The slab underside is spalled along both edges. The approach guardrail is in poor condition and does not meet current standards. The roadway is functionally classified as a 'minor arterial.' The structure sufficiency number is 59.2. This indicates that structure rehabilitation is warranted according to WisDOT guidelines, which makes the bridge eligible for federal bridge rehabilitation funding when the sufficiency index is below 80. An independent engineering study report will be prepared for this project prior to application for federal bridge funding. The purpose of the report is to verify that the proposed project scope is a cost-effective rehabilitation strategy. The 2018 traffic volume on this roadway segment was 1,200 vehicles per day.

Alternatives: Reconstruct the existing bridge and roadway approaches to current WisDOT standards. This alternative, while addressing the deficiencies, is not warranted.

Ongoing Operating Costs: Maintenance costs will be reduced in the early years after construction beyond 2027.

Previous Action:

Approved as a new project in the 2022-2026. Approved as planned in the 2023-2027 capital plan. Approved with a cost and revenue update in the 2024-2028 capital plan.