Memorandum

DATE: October 1, 2015

TO: Board of Public Works

FROM: Mark Radtke, Director of Public Works
Greg Keil, Community Development Director
Mayor Merkes

RE: Racine Street Bridge Preferred Alternative Recommendation

The Wisconsin Department of Transportation (WisDOT) continues to advance its work on the Racine Street Bridge Replacement project in preparation for submittal of the Environmental Report (ER) considering various improvement alternatives. WisDOT has requested the City's selection of a preferred alternative for the project as a component of the ER, which will be finalized later this year.

The Racine Street Bridge was constructed in 1952 and has been exhibiting both structural and functional deficiencies including roadway decking issues, worn mechanical and structural components, less than desirable roadway width for three travel lanes, inadequate bicycle and pedestrian accommodations, and limited vertical clearance for boat traffic. Annual inspections have determined the bridge is safe for travel, but more frequent major repairs have been required as the structure ages and we continue to experience the difficulties with the functionally deficient aspects of the bridge.

The ER will include an investigation of the following improvement alternatives:

- No-build alternative
- Existing bridge rehabilitation
- Bridge replacement on the existing location
- Bridge replacement on a new location

WisDOT has conducted two Public Involvement Meetings, one in October, 2014 and one in June, 2015 to present the various bridge alternatives and to receive input from the public. In addition, a stakeholders group has met several times to create a list of project issues, establish priorities and evaluate alternatives.

Major project issues identified by the public and the stakeholders group include:

- Intersection improvement at both ends of the bridge
- Minimize the impacts to nearby residential properties, including the headlight glare and noise level
- Avoid impacts to commercial property north of the bridge
- Provide improved bicycle and pedestrian passageways
- Provide additional vertical boat clearance to minimize the number of bridge openings
- Maximize the area remaining for redevelopment opportunities at the south end of the bridge
- Create an appealing gateway at the entrance to downtown
- Provide pedestrian access under the north end of the bridge
- Preserve the view at the north intersection area if possible

WisDOT has developed at least ten different alternatives ranging from a no-build alternative to a full reconstruction off the existing alignment with roundabouts at both ends of the bridge. The options included on alignment bridge rehabilitation and reconstruction and various off alignment bridge reconstruction alternatives. Several of these alternatives were eliminated from further assessment due to failure to meet the identified local objectives or engineering standards.

For the remaining bridge alternatives under consideration, City staff reviewed public comments, met with WisDOT several times to discuss alternatives, including once at a WisDOT meeting requested by residents, and evaluated the alternatives for satisfying the locally identified major project issues and objectives.

On that basis, our recommended preferred alternative is Alternative J, which involves a full bridge reconstruction with roundabouts at both ends on an alignment as close as possible to the existing lift bridge to allow a one year bridge closure. This alternative offers a cost effective option that satisfies a majority of the locally identified project issues.

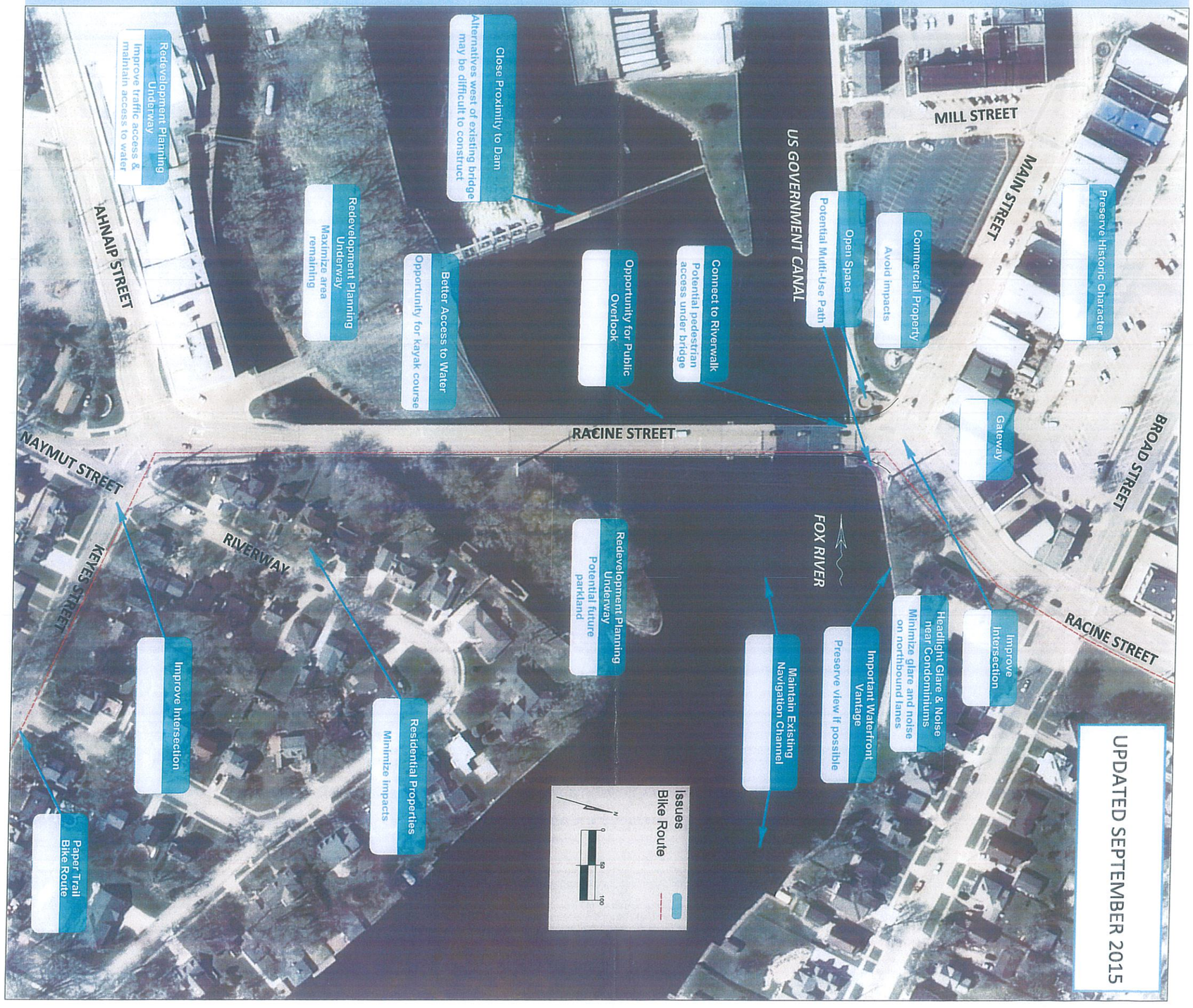
This recommendation applies solely to the bridge and the intersections abutting the bridge at Main Street and Ahnaip Street. A decision regarding the Broad and Racine street intersection will be made in the future. Enclosed with this report are four options currently under consideration for that intersection.

WisDOT officials will be present Monday night to present the Racine Street Bridge options and answer questions.

Enclosures

RACINE STREET MOVEABLE BRIDGE

PROJECT ISSUES MAP

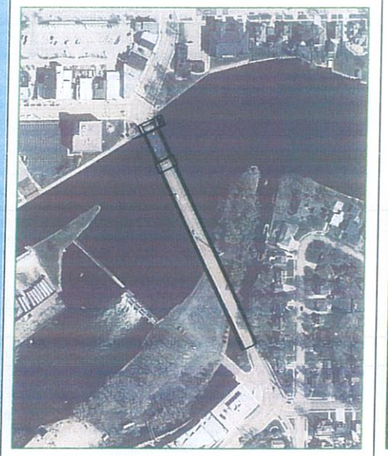


UPDATED SEPTEMBER 2015

ALTERNATIVES SCREENING SUMMARY

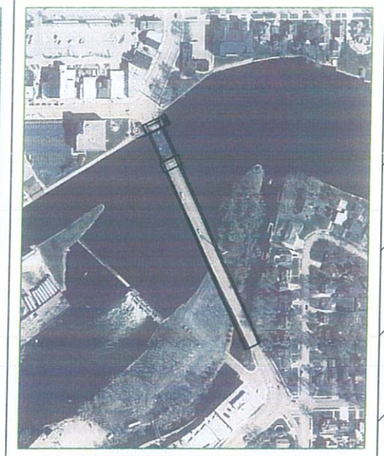
RACINE STREET MOVABLE BRIDGE

ALTERNATIVE A
NO BUILD



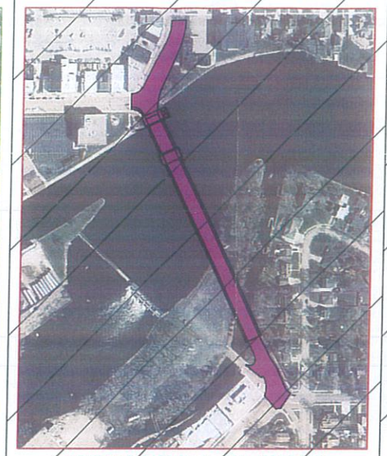
ADVANCED TO ENVIRONMENTAL ASSESSMENT AS BASELINE FOR COMPARISON

ALTERNATIVE B
BRIDGE REHABILITATION



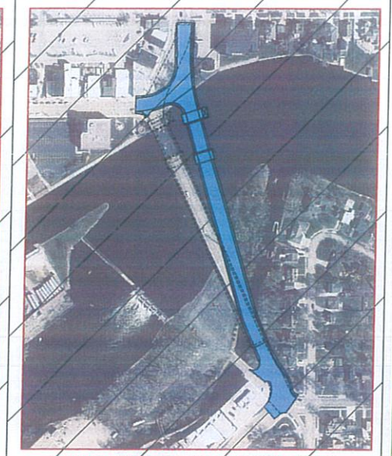
ADVANCED TO ENVIRONMENTAL ASSESSMENT DUE TO MINIMAL ENVIRONMENTAL, REAL ESTATE, AND PROPERTY IMPACTS

ALTERNATIVE C
FULL RECONSTRUCT: ON-ALIGNMENT



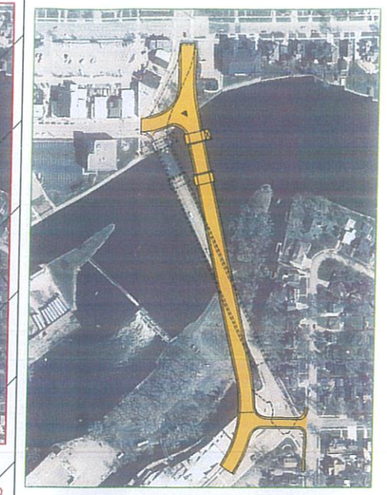
ELIMINATED FROM FURTHER ASSESSMENT DUE TO LACK OF IMPROVEMENT TO INTERSECTIONS, INABILITY TO MEET LOCAL OBJECTIVES, AND LONG CLOSURE TIME

ALTERNATIVE D
FULL RECONSTRUCT: NORTH INTERSECTION RECONFIGURED



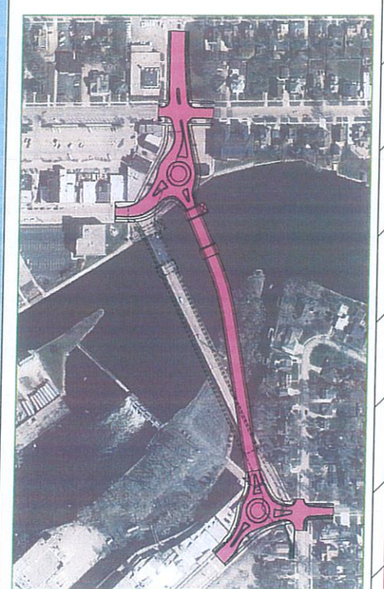
ELIMINATED FROM FURTHER ASSESSMENT DUE TO INABILITY TO SATISFY ENGINEERING DESIGN STANDARDS, LOCAL OBJECTIVES, AND LACK OF SOUTH INTERSECTION IMPROVEMENT

ALTERNATIVE E
FULL RECONSTRUCT: BOTH INTERSECTIONS RECONFIGURED



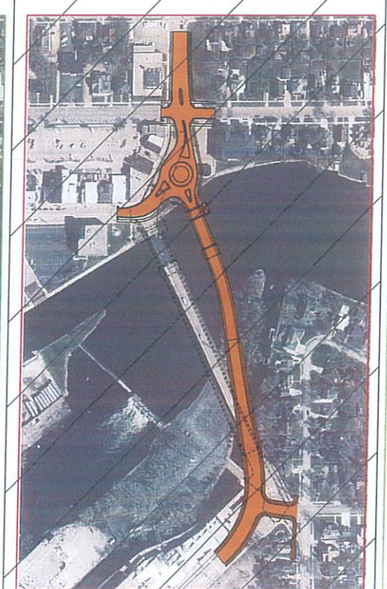
ADVANCED TO ENVIRONMENTAL ASSESSMENT DUE TO ABILITY TO MEET THE PURPOSE AND NEED

ALTERNATIVE F
FULL RECONSTRUCT: TWO ROUNDABOUTS



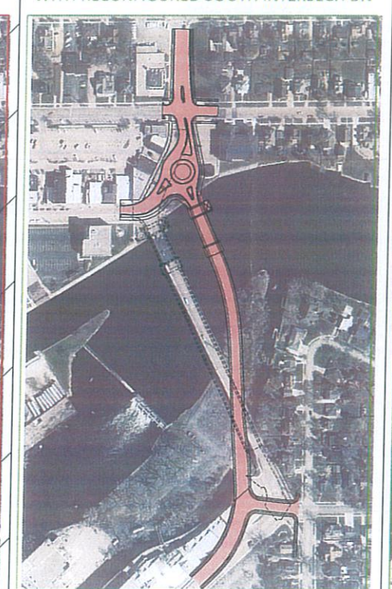
ADVANCED TO ENVIRONMENTAL ASSESSMENT DUE TO ABILITY TO MEET THE PURPOSE AND NEED WITH MINIMAL IMPACTS

ALTERNATIVE G
FULL RECONSTRUCT: NORTH ROUNDABOUT WITH RECONFIGURED SOUTH INTERSECTION



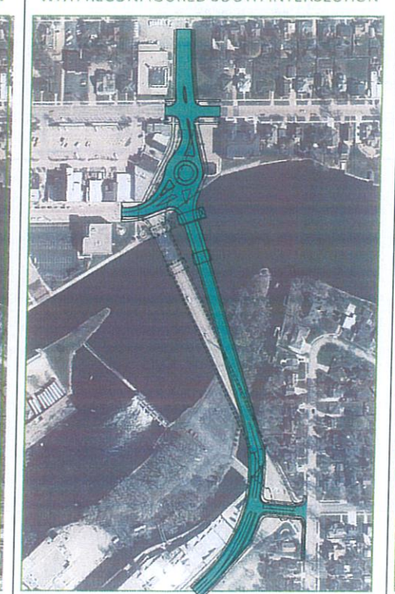
ELIMINATED FROM FURTHER ASSESSMENT AS OTHER ALTERNATIVES WILL BETTER MEET THE PURPOSE AND NEED WITH FEWER IMPACTS

ALTERNATIVE H
FULL RECONSTRUCT: NORTH ROUNDABOUT WITH RECONFIGURED SOUTH INTERSECITON



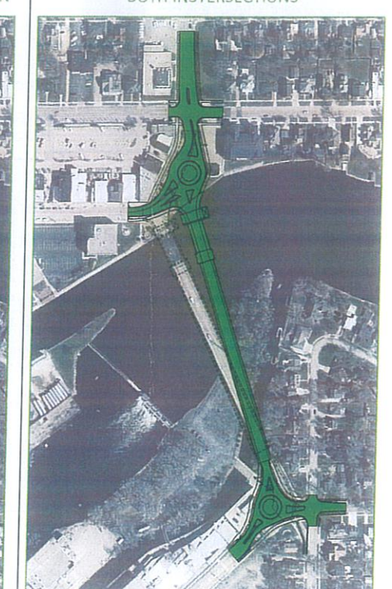
ADVANCED TO ENVIRONMENTAL ASSESSMENT DUE TO ABILITY TO MEET THE PURPOSE AND NEED WITH MINIMAL IMPACTS

ALTERNATIVE I
FULL RECONSTRUCT: NORTH ROUNDABOUT WITH RECONFIGURED SOUTH INTERSECTION



ADVANCED TO ENVIRONMENTAL ASSESSMENT DUE TO ABILITY TO MEET THE PURPOSE AND NEED WITH MINIMAL IMPACTS

ALTERNATIVE J
FULL RECONSTRUCT: ROUNDABOUTS AT BOTH INSTERSECTIONS



ADVANCED TO ENVIRONMENTAL ASSESSMENT DUE TO ABILITY TO MEET THE PURPOSE AND NEED WITH MINIMAL IMPACTS

RACINE STREET MOVEABLE BRIDGE

ALTERNATIVE J

Full Reconstruct: Both Intersections Reconfigured

Alternative J Notes

- Increased lane widths and shoulder lanes
- Both intersections brought up to current standards
- Improved vertical clearance for marine traffic
- Accommodations for pedestrians and bicycles
- 2-lane movable bridge/ 2-lane fixed bridge/roadway
- Full roadway closure approximately one construction season
- Real estate impacts

Racine Street Bridge Alternative Summary

	Alternative A No Build	**Alternative B** Rehabilitation	**Alternative C** Reconstruct - on existing alignment	**Alternative D** Reconstruct - north intersection reconfigured	**Alternative E** Reconstruct - both intersections reconfigured	**Alternative F** Reconstruct - two roundabouts	**Alternative G** Reconstruct - north roundabout with realigned south intersection (Riverway impact)	**Alternative H** Reconstruct - north roundabout with realigned south intersection (no Riverway impact)	**Alternative I** Reconstruct - north roundabout with adjusted alignment across river	**Alternative J** Reconstruct - two roundabouts with adjusted alignment across river
Main St intersection improvement	none	none	minimal	new traffic signal	new traffic signal	new roundabout	new roundabout	new roundabout	new roundabout	new roundabout
Ahnaip St intersection improvement	none	none	none	none	realigned one-way stop	new roundabout	realigned one-way stop	realigned one-way stop	realigned one-way stop	new roundabout
Potential for Broad St intersection improvements	no	no	no	no	no	yes	yes	yes	yes	yes
Center turn lane (across bridge)	yes	yes	yes	yes	yes	no	partial (south side only)	partial (south side only)	partial (south side only)	no
Bridge width (outside parapet to outside parapet)	44.5'	44.5'	60'	60'	60'	49'	49'-60' (varies)	49'-60' (varies)	49'-60' (varies)	49'
Bicycle/pedestrian improvements (across bridge)	none	none	yes (5' bicycle lanes, 6' sidewalks)	yes (5' bicycle lanes, 6' sidewalks)	yes (5' bicycle lanes, 6' sidewalks)	yes (5' bicycle lanes, 6' sidewalks)	yes (5' bicycle lanes, 6' sidewalks)	yes (5' bicycle lanes, 6' sidewalks)	yes (5' bicycle lanes, 6' sidewalks)	yes (5' bicycle lanes, 6' sidewalks)
Marine navigation improvements	none	none	improved clearance - fewer openings	improved clearance - fewer openings	improved clearance - fewer openings	improved clearance - fewer openings	improved clearance - fewer openings	improved clearance - fewer openings	improved clearance - fewer openings	improved clearance - fewer openings
Estimated construction cost in millions (1)	$0.0	$11-12	$26-27	$27-28	$29-30	$25-26	$26-27	$26-27	$25-26	$25-26
Life expectancy (years)	< 20	35-40	75+	75+	75+	75+	75+	75+	75+	75+
Future ownership	State	State	City	City	City	City	City	City	City	City
Future maintenance costs	?	higher than Alts. C-J	higher than Alts. F-J (due to 3-lane bridge)	higher than Alts. F-J (due to 3-lane bridge)	higher than Alts. F-J (due to 3-lane bridge)	lowest (similar to J)	medium (due to partial 2-lane bridge)	medium (due to partial 2-lane bridge)	medium (due to partial 2-lane bridge)	lowest (similar to F)
Closure timeframe for construction	N/A	1 year	2 years	2 years construction - bridge closure limited to 1 year	2 years construction - bridge closure limited to 1 year	2 years construction - bridge closure limited to 1 year	2 years construction - bridge closure limited to 1 year	2 years construction - bridge closure limited to 1 year	2 years construction - bridge closure limited to 1 year	2 years construction - bridge closure limited to 1 year

(1) - Costs are expressed in 2015 dollars and represent construction costs only. Costs are currently 100% Federal/State funded. However, there may be local cost share if the city prefers an alternative that is significantly more expensive than another viable alternative. Local cost share may also be added during final design depending on additional aesthetic or design elements that the city wants to incorporate within the project.

Annual operating costs for the Wisconsin Street lift bridge in City of Oshkosh (opened in 2008) have averaged roughly $120,000/year from 2010-2014. Annual operating costs for the existing Racine Street bridge from 2013-2014 averaged roughly $75,000/year. Costs for Menasha are lower primarily due to restructuring of bridge tenders wages and benefits by City of Menasha in 2013. Operating costs include bridge tender labor, utility costs, and miscellaneous minor repairs.

alternatives shaded in blue have previously been eliminated from consideration