

Diagonal Bridge Revised Concept – MnDOT Review

December 2011

The “Sensible Stillwater Bridge Partnership” released three documents on November 9, 2011

- An Evaluation of Cost and Feasibility
- An Evaluation from a Traffic Perspective
- Press Release from the Partnership

This review reiterates and supplements Mn/DOT’s - August 2011 review of the partnerships Diagonal Concept that they proposed earlier this year.

The partnerships’ revised Diagonal Concept attempts to address some of the significant shortcomings of this summer’s version by modifying the concept design in a couple of areas, adds cost to the partnerships previous cost estimate, acknowledges that the concept impacts endangered and protected resources and the provides some level of traffic evaluation of the Diagonal Concept.

The proposed changes in the November 2011 Diagonal Concept do not address the main problem of the Diagonal Concept which is its location. The location of the Diagonal Concept crossing has been studied several times during the development of the St. Croix River Crossing Project. Each time the diagonal crossing was studied it was ultimately dismissed from further consideration because it introduces more environmental impacts than the Preferred Alternative location that was selected further to the south.

The Stakeholder/Environmental Impact Statement process found that the various versions of the diagonal crossing concept did not adequately meet the transportation needs of the project and had more detrimental impacts to natural and cultural resources than the planned project.

The Diagonal Concept continues to have the following four key areas of concern:

1. **Significant Additional Environmental Impact** - The area where the Diagonal Concept is proposed to cross the river has protected natural and cultural resources. The Diagonal Concept impacts are greater on historic properties (Section 106 protected), park properties (Section 4(f) protected), bluff areas (Section 7(a) protected), floodplains, wetlands, commercial properties, and endangered mussel habitat. The November 2011 modified Diagonal Concept will have greater impacts to the Minnesota and Wisconsin bluffs than the August version. The modified concept eliminates the roundabout proposed near the Oasis Cafe due to traffic concerns and suggests an interchange is needed at this location. The cost estimate accounts for “2,000 feet of elevated structures in combination with an at-grade intersection.” These changes would introduce additional impacts on protected resources. Various interchange concepts were studied during the Stakeholder/EIS process in this area and found to have greater impacts than other options. These identified impacts eventually lead to the rejection of this location in the EIS.

(see attached Location of Protected Resources and Important Legislation graphics)

2. **Lengthy Schedule Delay** – A full range of alternatives were studied as part of the Stakeholder/EIS process, including options similar to the Diagonal Concept. If the concept were restudied, environmental review, public input, federal and state agency coordination, continued stakeholder involvement and a new National Park Service Section 7(a) evaluation will be needed. A supplemental environmental review process for the diagonal concept could take four to six years. Design and property acquisition will take an additional three years. Under this scenario, if the project survives the environmental and permit processes, the soonest construction of a new crossing could likely begin in 2019.
3. **Concept Cost Savings Overstated** – A review of the cost estimate for the Diagonal Concept and of the revised cost estimate for the modified Diagonal Concept still suggests that costs are either under-estimated or not addressed. Thus it does not appear that the cost of the Diagonal Concept or the modified Diagonal Concept is accurate or would yield significant cost savings compared to the planned project.
 - The modified Diagonal Concept cost estimate does a better job of allocating costs to the Minnesota and Wisconsin roadway approaches.
 - The modified Diagonal Concept Bridge is wider than the original concept because trails are now recommended on both sides of the bridge; however, their reported new bridge costs are \$56M less than their earlier estimate. Both sets of costs related to the bridge appear to be under-estimated.
 - The current estimate acknowledges that there will be right-of-way costs in Minnesota and Wisconsin for the Diagonal Concept. The August estimate did not identify any costs for right-of-way, while the revised estimate provides for \$23.55M.
 - Current concept estimate does not acknowledge the need for additional environmental review that will be needed or account for the cost of that review which could range from \$10M - \$15M.
 - Inflation due to delaying the start of construction six or more years will significantly affect the cost. Current expectations are that inflation over this time period could add 25-30 percent to the project cost. The Diagonal Concept cost estimates do not take cost increases due to project delay and inflation into account.
 - High level probable cost estimates for the total project cost for the Diagonal Concept are likely to be in the same cost range as the currently planned project, rather than \$329M - \$394M for the revised concept or the \$236M – \$283M for the earlier version.
4. **Wild and Scenic River Act - Section 7(a)**: The Diagonal Concept will be subject to National Park Service (NPS) review under Section 7(a) of the Wild and Scenic Rivers Act. A positive Section 7(a) review seems unlikely given past issues raised by the NPS that contributed to the elimination of similar alternatives in this location from further consideration during the Stakeholder/EIS process. A negative Section 7(a) finding for the concept would require congressional action to exempt the Diagonal Concept from the Act.

Significant Short Comings of the “Sensible Bridge” concept

- **Minnesota approach roadways (Hwy 36 and 95)**
 - Report acknowledges need for “extensive retaining walls” along the river south of where the bridge will touch down to accommodate a four-lane roadway. These retaining walls will add significant costs and cause greater environmental and visual impacts. The report acknowledges that the roundabout at the bridge touch down, from a traffic capacity standpoint, will not work and recommends an interchange consisting of “elevated structures in combination with an at-grade intersection.”
 - A modified design at the north junction of Hwy 36/95 will have a larger footprint than the previous roundabout that was suggested and is located in an environmentally and historically sensitive area. The limited space between the river and bluff in this area means it is likely that additional bluff, archeological, historic, park, floodplain and river-way impacts will occur.
 - For the proposed roundabout at the south junction of Hwy 36/95 in Oak Park Heights, the traffic report suggests that “a roundabout may not be the most preferable option” at this location. An interchange is planned with the preferred option and would be a better solution at this location.
 - The four-lane roadway transition to the three-lane reversible section on the diagonal bridge previously was planned to occur within a roundabout and now will occur within the interchange area both will be problematic and could cause safety, operational and congestion problems.
 - Accommodations for pedestrians and bicycles are not identified along the Minnesota approach as part of the Diagonal Concept.

- **Wisconsin approach roadways (Hwy 64/35)**
 - The three-lane reversible section on the bridge as proposed would continue up the current bluff cut and County Road E and the County Road E/Hwy 64 intersection will need to be removed. The report recommends a curb-to-curb width of 56 feet. The existing roadway width is 42 feet.
 - The revised concept provides for sidewalks on both sides of the diagonal bridge but does not accommodate a trail going up the Wisconsin bluff. A trail will be needed in this area and will increase the width of the improvements going up the hill.
 - The roadway and trail improvements that will be needed up the current Wisconsin bluff cut cannot be accommodated without significant additional bluff disturbance.
 - A two-lane roundabout is proposed at the Hwy 64/35 intersection at the top of the hill. The traffic report suggested a roundabout is possible at this location but it may not be the most preferable option.
 - The transition from three-lanes to four-lanes in the roundabout could create safety, operational and congestion problems.
 - Access control would be a desired improvement, so no residential or commercial driveways would have direct access on to Hwy 35/64. Frontage and/or backage roads will be needed.
 - The concept will impact a historic property, a park and the bluff near the Wisconsin shoreline.

- **Diagonal Bridge crossing**
 - A three-lane bridge with a reversible center lane may have greater safety and traffic issues than a four-lane bridge.
 - Traffic forecasts for the project looked at a 20-year horizon, it should be noted the river bridge will last 80-100 years, a three-lane bridge with its inherent capacity constraints will have congestion problems at some point when volumes approach the capacity of the three-lane bridge. At that point in the future, the space on the bridge would probably need to be reallocated to provide four 12' lanes and narrow shoulders, also requiring changes on the approach roadways leading up to the bridge.

- **Water quality not addressed with the diagonal concept**

Water quality in the St. Croix River is a critical issue for the resource agencies and other river interests. The St. Croix Basin Team identifies a phosphorus reduction goal of 20%, along with other water quantity concerns. The planned project provides extensive storm water ponding in Minnesota and Wisconsin to address these concerns. The Diagonal Concept does not address this critical concern. Trying to construct storm water ponds along the shorelines in each state will cause additional park, historic property, floodplain, and river and bluff impacts. Earlier reviews have determined that there is insufficient space for adequate storm water ponding in these areas. The revised Diagonal Concept study acknowledges that the concept will affect water quality and suggests that with three-lanes on the bridge there will be less storm water runoff than if it were four lanes. The planned four-lane bridge project on the preferred alignment with water quality treatment facilities does meet the phosphorous 20% reduction goal and improves water quality in the riverway. The Diagonal Concepts three-lane bridge with no storm water treatment will not.
