Executive Summary

Development in Wisconsin and the economic strength of the Twin Cities metropolitan area as an employment center has contributed to increasing traffic volumes on Highway 36, Highway 95, downtown Stillwater, Oak Park Heights, State Highway 64, and the Lift Bridge. The St. Croix Funding Workshop was a partnering workshop between FHWA, Mn/DOT and Wis/DOT that addressed options for alternative forms of project funding outside of traditional sources. The workshop’s expert speakers presented funding alternative pros and cons that facilitated risk assessment discussions. A workshop was held to reduce “wheel spinning” and to concurrently create a safe environment and mutual trust to discuss half-formed ideas. The workshop was broken into three “think tank” groups. The “think tank” topics included Public Private Partnerships (PPP), Tolls, and Innovative Debt. Each group rotated to all three “think tanks” to identify and analyze future events.

Most Intense PPP Future Events (Overall)
1. Legislative Intervention (Threat)
2. Public Perception of “Selling off Assets” (Threat)
3. More Capital than Expected (Opportunity),
3. *TIE* Underestimated Economic Development (Opportunity)

Most Intense Tolling Future Events (Overall)
1. There is a Budget Deficit (Opportunity)
2. Tolling Success (Opportunity)
3. Rising Fuel Costs (Threat)

Most Intense Innovative Debt Future Events (Overall)
1. Cost of Innovative Debt is less than Inflation (Opportunity)
2. Debt service is deducted from highway program “Opportunity cost” (Threat)
3. Acceleration of a State’s funding base (Opportunity)

Statistical analysis was completed to evaluate the intensity, scope and statistical relevancy of identified risks. Statistics concluded a generalized idea about the global group’s vision for the future of highway funding. The group’s vision included more opportunities in tolling than any other funding alternative. The “threat index” for tolling, or the relative intensity level of threats, was the lowest. Additionally, the intensity of identified opportunities compared to the intensity of identified threats within tolls was the highest. This composite calculation suggests that tolls have more intense opportunities than threats compared to other alternatives.

<table>
<thead>
<tr>
<th></th>
<th>PPP</th>
<th>Tolls</th>
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<td>2.52</td>
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<td>PTC Composite</td>
<td>1.03</td>
<td>1.43</td>
<td>1.21</td>
</tr>
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Most of the economic “opportunities” identified suggested there was hope that current estimates and/or perceptions are wrong. For example, the opportunity that “congestion estimates were underestimated” may make the project more attractive to private...
investors. The largest “threat theme”, that concerned all PPP groupings was, Wisconsin or Minnesota legislative intervention. Groups conceded that legislative intervention would not only be severe for the St. Croix project, but both Wis/DOT and Mn/DOT’s highway programs could be significantly impacted. Legislative intervention could cause a halt in progress towards innovative financing on other future projects. While the inherent feasibility of rebuilding and modernizing the St. Croix Bridge is now greater than before, implementing such a project may require skillful political leadership. Possibly, no lesser than both Governors and their transportation directors may have to get solidly behind the idea of tolling and leading an effort to inform opinion leaders and the business community.

The innovative debt group identified few opportunities. By accelerating the funding base to meet transportation needs, credit assistance could make the St. Croix Bridge more feasible and produce widespread benefits that could not otherwise be possible. Similarly, regardless of whether an office refocuses its mission or restructures, its real success will occur only to the extent that state governments value the “new direction” and have the skills, knowledge, and understanding of the new direction. According to one group, showing the effectiveness of innovative debt can enhance the momentum of ongoing cultural change and perspectives in trying new funding tools. A “threat theme” that was identified by the innovative debt group was the idea of opportunity costs. In building the St. Croix Bridge, the states will forgo the opportunity to build another project, and so on. Opportunity costs need not be assessed in monetary terms, but rather can be assessed in terms of anything that is of value, like another project. Another main “threat theme” included interest rate risk. If the interest rate increases drastically just before bondholder’s rate is locked, the expected interest payments become more expensive. Generally, interest rate risk is evaluated in relation to changes in project costs over time. When making a decision when to start construction, the higher the project’s cost escalation rate compared to the interest rate on the bond, the better justification for using an innovative funding mechanism and accelerating construction.

In continuing the Minnesota and Wisconsin partnering effort, the next steps include making a decision as to what type of funding alternative government stakeholders will pursue and creating a project management and financial plan. Partners will have a “head start” in managing and communicating about those risk events identified in the workshop. After funding decisions are made, the objective will soon be switched to managing risks by creating a project management and financial plan that acknowledges project risks. Additional workshops that aim to achieve a project management and financial plan outline may facilitate this effort. The FHWA has prepared Draft Project Management Plan Guidance that may provide focus throughout future workshops regarding pertinent strategies that need attention. Including the assessment of “project level risks” in a project management and financial plan may be crucial to successful project delivery.
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Project Background

With the development of downtown Stillwater and northwestern Wisconsin as tourist destinations, commercial development along Highway 36 in Oak Park Heights attracts employees and residents throughout the region. Development in Wisconsin, and the economic strength of the Twin Cities metropolitan area as an employment center have also contributed to increasing traffic volumes on Highway 36, Highway 95, downtown Stillwater, Oak Park Heights, State Highway 64, and the Lift Bridge.

Identifying possible solutions to this transportation problem also requires consideration of the context in which this bridge and its adjoining roadways sit. Congress has designated the St. Croix River, over which the new bridge will be built, as a National Wild and Scenic River for its outstanding scenic, recreational, and geologic values.

Project History

The studies for the St. Croix River Crossing between Stillwater/Oak Park Heights, Minnesota and St. Joseph Township, Wisconsin, have involved substantial coordination with the public, governmental agencies, communities, and special concern groups. The major areas of coordination and public input include but are not limited to the following: scoping activities for the original draft environmental impact report; the Stillwater-Houlton Bridge Task Force; formal resolutions; public petitions and mail-in comments; public informational meetings and newsletters; the Braun Facilitation Process; and meetings with cooperating agencies along with their review comments. More specific descriptions of the past public involvement process can be found in the project documents including the 1987 Scoping Decision Document, the 1990 Draft EIS, the 1995 Final EIS, the 1998 Braun Report, and the 1999 Amended Scoping Decision Document. Continued public involvement is also currently taking place in the Stakeholder Resolution Process.

The studies for a new river crossing began with scoping activities in 1984 leading to the Draft Environmental Impact Report of 1990 and the Final Environmental Impact Report in 1995. The Stillwater-Houlton Bridge Task Force started meeting in 1985 and had periodic meetings for this entire period. The Task Force was composed of members and alternates that were appointed by the 11 communities that could be affected by the various bridge alternatives.

Because of the potential impact of a new river crossing, a number of communities were closely involved with the environmental review process. Several passed formal resolutions supporting or rejecting specific alternatives. In 1988, the St. Joseph Town Board unanimously passed a motion which stated that if a new river crossing is built, it should be located along the northern alignment of the South Corridor (the "Buckhorn" site). According to the resolution, the northern alignment "is the only route in the Southern Corridor that the Board finds acceptable."
In 1988, the Stillwater City Council passed a resolution supporting the South Corridor as the preferred location for a new river crossing. The statement observed that "the South Corridor Bridge location has the fewest detrimental impacts to the City," and that "the Central or North locations would be detrimental to the health, welfare, and economy of the Stillwater community." In addition to the City Council resolution, the Stillwater Planning Commission, the Heritage Preservation Commission, the Chamber of Commerce, the Downtown Business Association, and the Downtown Development Corporation all recommended a South Corridor bridge location as well as continued operation of the existing lift bridge.

Grant Township passed a resolution in 1987 opposing the selection of a North Corridor route. In 1987, Stillwater Township took a position that "the Northern Corridor is not a viable site for a new bridge."

During the original EIS process in 1990, two petitions were circulated in support of various alternatives. The largest contained over 400 signatures, mainly from residents living in the Minnesota portion of the study area. This petition advocated locating a new bridge "over the St. Croix River south of Stillwater as an extension of State Highway 36." According to the statement, a South or Central Corridor location, "would best accommodate traffic, including the Andersen Corporation employees." The petition added that "the scenic quality of the comparatively untouched area north of Stillwater would be seriously impaired". Another letter was received by the transportation departments which included 37 signatures that expressed support for the Central Corridor and/or the northern alignment of the South Corridor.

As of January 1989, The Minnesota Department of Transportation (Mn/DOT) had received nearly 200 separate public comments on the various alternatives. Many of these were in the form of mail-in comment cards. Others were letters, some of them several pages in length. In general, the commentary was impressive for the degree of interest shown in the outcome of the river crossing studies. Also notable was the affection expressed for the cultural and natural attributes of the St. Croix River Valley. It is clear that citizens in the area are concerned about the issues associated with a new river crossing, and want to be involved in the decision-making process.

Although the opinions expressed in the mail-in comments were varied, a number of themes emerged from Mn/DOT's tabulation of the responses. The top five "alternatives", in terms of number of comments received in 1995, are as follows: oppose North Corridor (76); support South Corridor (60); support Central Corridor (17); support NO-BUILD (11); and support North Corridor (10).

Throughout the Braun Process of 1998, comments were also categorized according to what concerns people thought were most important in weighing the alternatives. The nine issues most frequently stated were as follows: aesthetics (57); environment (45); access (40); business concerns (37); traffic congestion (36); cost (33); and wildlife (31).
Mn/DOT has periodically sent newsletters to interested area residents, which detailed the study process and reviewed the results of some of the special environmental studies. Since the beginning of the scooping process, Mn/DOT and Wis/DOT have also held a number of informational meetings for the public, special concern groups, communities, and agencies.

During the environmental review process, a number of state and Federal governmental bodies have acted as cooperating agencies with Mn/DOT, Wis/DOT, and the Federal Highway Administration (FHWA). These agencies have reviewed project documents in their areas of expertise and/or interest, providing critical commentary and information. Cooperating agencies include the following: the U.S. Fish and Wildlife Service; the National Park Service; the U.S. Army Corps of Engineer; the U.S. Coast Guard; the Minnesota Department of Natural Resources; and the Wisconsin Department of Natural Resources.

In addition to cooperating agencies, a number of other federal, state, regional, and local governmental bodies, as well as various private organizations, have played roles in the study process. Some of these include the Minnesota-Wisconsin Boundary Area Commission, the Lower St. Croix Management Commission, the City of Stillwater, the Voyageur's Region National Park Association, and the Sierra Club.

The stakeholder problem solving process includes representatives from the National Park Service (St. Croix National Scenic Riverway), FHWA, US Army Corps of Engineers, US Coast Guard, US Environmental Protection Agency, US Fish and Wildlife, Advisory Council on the Historic Preservation, State Departments of Natural Resources, State Historic Preservation Offices, State Departments of Transportation, St. Croix County, St. Croix County Highway Commission, City of Stillwater, City of Oak Park Heights, Sierra Club, National Trust for Historic Preservation, Minnesota Preservation Alliance, Minnesota Center for Environmental Advocacy, Stillwater Historic Preservation Commission, Rivertown Restoration, Friends of the St. Croix, Stillwater Area Chamber of Commerce, St. Croix Alliance for an Interstate Bridge, Stillwater Lift Bridge Association, and the Board of Realtors.

FHWA, in cooperation with Mn/DOT and Wisconsin Department of Transportation (Wis/DOT), has prepared a Draft Section 106 Amended Memorandum of Agreement (MOA) for the St. Croix River Crossing Project. The Draft Section 106 Amended MOA was completed in accordance with Section 106 of the National Historic Preservation Act (NHPA), and addresses mitigation for impacts to historic resources. This document was developed with input from various federal and state agencies, local governments, and interested Stakeholders.

Traffic Forecasting

- The estimated (congestion-free) vehicle capacity for the current river crossing and arterial approaches is 11,200 vehicles a day. The 2002 Average Annual Daily Traffic (AADT) volumes on the river crossing are 16,300 vehicles per day and
can exceed 19,000 on a summer weekday. This constraint leads to periodic daily vehicular congestion in downtown Stillwater and on the Wisconsin approach to the bridge.

- By year 2030, the current Metropolitan Council/Mn/DOT travel demand model forecasts average daily vehicle traffic of 23,100 with average vehicle occupancy estimated at 1.30 persons per vehicle. This predicted increase in vehicular traffic volume, will degrade traffic operations and safety in downtown Stillwater, the river crossing and arterial approaches. The safety and operations concern will increase average delay, queue lengths and daily hours of congestion by 50 percent by the year 2030.
- Analysis of existing signalized intersections in downtown Stillwater indicated approximately 120 to 130 seconds of average delay per vehicle during peak hour and levels of service (LOS) D-F in 1999. These delays are affected by close intersection spacing, restricted geometrics and delays due to the bridge raising. For a regular peak hour commuter, this delay results in 16 hours in total delay over the course of a year.
- Geometric and physical restrictions in downtown Stillwater limit the opportunities to improve transportation operations and management.
- The river crossing is susceptible to closures due to flooding, maintenance activities, and vehicle incidents that disrupt system connections several times per year.

Crash rates on two segments (one in Minnesota and one in Wisconsin) exceed the statewide averages. The severity rate for one segment in Minnesota is nearly double the statewide average. The non-fatal injury crash rate for the Wisconsin segment is 60 percent greater than the statewide average.

**Environmental, Cultural, Economic and Social Considerations**

- The area where transportation mobility and safety improvements are contemplated includes the Lower St. Croix National Scenic Riverway (the Riverway); therefore, it is necessary to protect the Riverway's Outstandingly Remarkable Values -- scenic, recreational, and geologic -- as guided by the Cooperative Management Plan for the lower St. Croix National Scenic Riverway.
- It is necessary to avoid, and if unavoidable, to minimize impacts to the Riverway's channel, shoreline, bluffs, air quality, and water quality.
- It is important to respect the cultural value and historic significance of the Stillwater Lift Bridge, a structure that is listed on the National Register of Historic Places.
- It is important to respect the integrity of the Stillwater Commercial Historic District and the Stillwater Cultural Landscape District. The visual/aesthetic quality, economic viability and physical integrity of these districts are critical to the preservation of these resources and to the protection of the cultural landscape and the community character.
• It is necessary to avoid, and if unavoidable, to minimize impacts to area parklands, cultural resources, threatened and endangered species, and wetlands, and if impacted, provide mitigation/compensation for the adverse impacts.
• It is necessary to examine the interaction of land use and transportation, and to consider the secondary and cumulative impacts of alternative methods of addressing the transportation needs (and the full impact of failing to address the transportation needs) expressed above.
• It is necessary to avoid, and if unavoidable, minimize impacts to business and property owners, residents, and visitors throughout the project area.

*******
Cost Estimate for 2010 Program

A project review team (Team) met in Minnesota to review the current estimated cost of construction for the St. Croix River Bridge, evaluate cost risks and probabilities associated with the project, and provide recommendations on reporting the estimated costs based on the results of the review. The Team provided the following cost estimate conclusions:

<table>
<thead>
<tr>
<th>Description</th>
<th>Current Project Estimate</th>
<th>Team Recommended Total Project Estimate (with risk)</th>
<th>Delta (Team Recommendation – Current Estimate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004 Base</td>
<td>$305 M</td>
<td>$373 M</td>
<td>$68 M</td>
</tr>
<tr>
<td>2010 Programming</td>
<td>$484 M</td>
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The above table demonstrates that the Team considered an additional $68 Million should be added to the cost estimate for the project. This additional amount is made up of $22 million of base costs for scope not included and $46 million of additional risk the Team considered should be included in the estimate at this time. The 2010 Programming estimate includes escalation to 2010, plus “Construction Contingency and Management Reserve” that the Team recommended to be added to the Programming estimate. The risk analysis concluded that the additional risks could be somewhat mitigated as the design progresses, and properly managed through:

- Cost effective design decisions on the river bridge (aesthetics, configuration)
- Focus on the constructability of the river bridge
- Contractor involvement / options

The estimate probability range from the above table is demonstrated graphically in the chart below:

Estimate Review without Risk = $412M
Background of Risk Assessment Methodology

The St. Croix Funding Workshop was a partnering effort between FHWA, Mn/DOT and Wis/DOT that addressed options for alternative forms of project funding outside of traditional sources. Topics being presented included Public Private Partnerships, Tolling, and Debt Financing. The Workshop’s Expert Speakers presented funding alternative Pro’s and Con’s that facilitated afternoon Risk Assessment discussions. Innovative funding techniques may be the only appropriate solution for project delivery for this major project and the workshop was an opportunity for leadership from Wis/DOT and Mn/DOT to contribute to the documentation of threats and opportunities associated with innovative funding techniques.

The Risk Assessment workshop’s methodology can play a major role in delivering any innovative funding solution. Leadership’s contribution to a Risk Assessment process at the St. Croix Innovative Funding Workshop was the first step decision makers needed to prepare and protect its citizens from a funding crisis, a reduction in public trust and confidence, environmental concerns, and political opposition. The workshop helped identify innovative funding alternatives’ weaknesses and strengths using a detailed and systematic analysis of forecasted threats and opportunities.

The Risk Assessment Methodology follows a systematic process that has been developed to assist project stakeholders in assessing threats and opportunities, prioritizing risks, identifying impacts, assessing completeness and effectiveness of funding alternatives, and effectively using strategic level resources to address leadership concerns.

What is a Risk Assessment?

A Risk is a future phenomenon or event that may occur with a direct impact to a project or program area to the project or program's benefit or detriment. The workshop’s Risk identification process was a forecast into the future for events that are a threat or opportunity associated with the St. Croix project or the governments’ overall program. The workshop’s Risk assessments involved the identification and assessment of opportunity and threat events in both Minnesota’s and Wisconsin’s Highway Program. The Risk Assessment workshop was not intended to make funding decisions, but rather to create a partnering opportunity to jointly identify risk events and assess Minnesota’s and Wisconsin’s perception and vision of innovative funding alternatives.

Risk Assessment processes were chosen because they provide structure that enhances a group’s ability to identify, assess, and communicate about opportunities and threats involved in delivering the Project. The Partnering Workshop was a communication tool that helped create synergy and empowered state governments to communicate effectively and confidently about their vision of the future.

The Workshop situated Mn/DOT, Wis/DOT and FHWA in a shared paradigm, identified risks associated with funding alternatives, and clarified the interdependence of future events and program impacts. In this forum, the participants were able to contribute their
expertise and values to the assessment results. A main outcome goal of the Risk Assessment was to look at the reality of possible decisions and effects on the goal of construction.

Discussion Steps and Assumptions

The process of analyzing a funding alternative was completed by following several basic Risk Management steps. Although steps to the risk management process should not be overlooked, the workshop focused on the assessment of risks and not the development of response strategies and solutions. Like most assessment processes, risk assessments involve the application of techniques in order to achieve certain outputs. The Risk Assessment process allowed little technique flexibility to help develop more consistent outcomes.

A goal for the workshop was to reduce “wheel spinning” and to concurrently create a safe environment to discuss half-formed ideas in an open forum. The workshop was broken into three “think tank” groups. Groups were named Group A, Group B and Group C (List of participants can be found in the Appendix). The “think tank” topics included PPP, Tolls, and Innovative Debt. Groups were instructed to make an assumption that a decision was made to progress their organization towards implementing a “think tank” funding alternative. Additionally, groups were instructed to assume that “business as usual” management practices were in place. Each group rotated to all three “think tanks” to identify and analyze future events. In reality, planning for funding will most likely be a “blend” of assessed alternatives. The comparison will show group dynamics and current perceptions. The risk assessment can help judge how group members perceived the alternatives and their risk thresholds. It is important to note that some opportunities and threats were not identified due to educational gaps, time constraints, etc. As knowledge grows in these areas over time, more risks may be identified that leads to different results.

Because the discussion format was different from more traditional brainstorming sessions, each group was prescribed a facilitator to streamline the risk analysis. Groups were organized in hopes of enhancing the contribution of multidisciplinary perspectives. Facilitators were instructed to prohibit problem solving and to focus the group on their vision of future events.

The group’s discussion steps were followed fairly strictly. First, assuming that a decision was made to progress a “think tank” funding alternative, there was an attempt to brainstorm a future event that was a result of that decision. Next, the probability of the event was analyzed until group consensus was attained. And finally, the event was analyzed for its impact. Participants were instructed to assume the scope of an impact to include their entire program. The event could have several positive and negative effects. All effects of an event were captured in an aggregate impact score using a 1-5 numeric scale. All participants were invited to utilize “joggers” to help them identify future Events and analyze probability and Impact. Additionally, scores available were limited.
to further enhance the likelihood of consensus building. Below are the risk assessment tools provided to group participants:

**Risk Identification Joggers**
- Public Trust
- Customer
- Partners/Stakeholders
- Media
- Economic
- Budget
- Traffic Volume
- Environmental Process
- Conformity
- Legal
- Other Agencies
- Accounting
- Resource Competition
- More….?

**Probability Joggers**
- Staffing Experience
- Guidance Available
- History
- Program Maturity
- Complexity
- Outside Control
- Other

**Probabilities Scores Available**
- 0%
- 25%
- 50%
- 75%
- 85%
- 100%

**Impact Joggers**
- Federal Interest
- Stakeholder Interest
- Public Trust and Confidence
- Project/Program Goals
- Controversy
- Lawsuits
- Exposure
- Initiatives

**Impact Scores Available**
- (1) Almost No Effect
- (2) A Little Effect
- (3) Moderate
- (4) High
- (5) Impact is Exceptional Success or Failure

**Public Private Partnerships (PPP)**

"Public-private partnerships” refer to contractual agreements formed between a public agency and private sector entity that allow for greater private sector participation in the delivery of transportation projects. Traditionally, private sector participation has been limited to separate planning, design or construction contracts on a fee for service basis and based on the public agency’s specifications.

Expanding the private sector role could allow public agencies to tap private sector technical, management, and financial resources in new ways to achieve certain public
agency objectives. Public agency objectives may include greater cost and schedule estimate certainty, supplements to in-house staff, innovative technology applications, specialized expertise, and access to private capital. The private partner can expand its business opportunities in return for assuming the new or expanded responsibilities and risks.

The public partner is typically a state department of transportation, a local county or municipal public works department or a state chartered or local toll road, bridge or transit authority that is the owner and operator of highway and transit facilities. In addition, there are certain public benefit authorities (joint power authorities and/or public benefit authorities) that are authorized by states to undertake transportation development projects using some or all of the PPP approaches. Federal law and program regulations established by the Federal Highway Administration and the Federal Transit Administration also impact the ability to utilize PPP on federal aid facilities through both their restrictions and supportive programs.

The private partners are professional service companies, contractors, and financial entities pursuing business with owner-operators. In the US, PPP private sector participants have been businesses providing services to public agencies for a fee, such as engineering and construction companies and specialized financial and legal advisors. In other parts of the world – where partnerships include concessions or franchises where private entities assuming full ownership-like responsibilities (including collecting toll revenues) are more common – new types of “road owning” business entities are emerging. These transportation companies are in the business of developing long-term operating and maintaining responsibility for toll roads as an attractive opportunity for equity investment.

From existing institutional knowledge, the workshop’s PPP “think tank” groups identified numerous risk events. The identified below are the top three most intense threat and opportunity events:

**Most Intense PPP Future Events (Overall)**
1. Legislative Intervention (Threat)
2. Public Perception of “Selling off Assets” (Threat)
3. More Capital than Expected (Opportunity),
3. *TIE* Underestimated Economic Development (Opportunity)

**PPP Threats Analysis**

Clearly the largest theme that concerned all PPP groupings was legislative intervention. All groups found the impact score of Legislative intervention as greater than three on a 1-5 scale. Group’s conceded that Legislative intervention would not only be a high likelihood for the St. Croix project, but both Wis/DOT and Mn/DOT’s highway programs could be impacted significantly. Legislative intervention could cause progress towards innovative financing on future projects to halt. Two of three groups found that the legislative intervention was highly likely at 85% and 100%, respectively. On the other
hand, one group found the threat to be less likely. All groups’ found the risk’s impact to be severe should it occur.

A large “dovetailing” theme to legislative intervention was the PPP effect on public perception. An intense threat identified was that a PPP is likely to result in a public perception that the government is “selling off” public assets. It was conceded that the legislative branch’s opinion of a PPP contract is a large contributing factor that affects the public’s perspective and therefore the future of innovative business practices. The Public’s trust is one in which the government stakeholders and/or private investors, or those who have been given implementation power have full discretion over the project contracts. Because of the level of government discretion, the Public has no real knowledge of the values of the complex contract. During the workshop sessions, there was no indication that government stakeholders would wish to keep the public unaware of any specific contractual provisions and groups did agree that it was important to avoid a conflict of interest between the public beneficiaries and private investors. In any case, strategies for the negotiation and agreement process that may be developed will need to adequately protect the public interests and successfully deliver expected outcomes to ensure confidence.

The second largest theme discussed was the possibility of a lawsuit. A lawsuit injunction was considered highly likely and the impact could be substantial to perceived success. Lawsuits become additionally complicated when more parties are involved. Within a "single" lawsuit, there can be any number of claims and defenses (all based on numerous laws), which each can bring any number of cross-claims and counterclaims, and even bring additional parties into the suit after it progresses. The complexity and history of the St. Croix River Bridge is particularly pertinent. For example, it may not be clear which level (or location) of court actually has jurisdiction over the claim over a defendant. All the unknowns, complexity of PPP agreements and project history lead most participants to agree that a lawsuit is a high level threat to a PPP funding alternative.

Finally, “Group B” added an interesting perspective to a complex, multi-tiered, economic development discussion. The discussion focused on the positive and negative effects of economic development estimates. Generally, economic development is the development of economic wealth of the region for the well-being of the region’s inhabitants. The project’s effect on economic activity is generally a broad estimate. The project’s positive economic effects discussed included additional private business investment and a greater capacity for future amounts of goods and services. The future event of “Underestimated economic development” was considered relatively neutral because there were similar levels of positive and negative effects from the event (**See Group B threat events below). The Project’s positive effects included greater expected regional economic vitality. On the other hand, the “opportunity cost” of government not capitalizing on benefits of large toll revenue streams was perceived as a significant threat. Generally, public policy aims at continuous and sustained economic growth and expansion of economies so that 'developing regions' become 'developed’. From a “macro” level perspective, building the St. Croix River Bridge through a PPP may be a “net” positive impact to the regional economy, but the “opportunity cost” of not utilizing toll revenue to
build additional projects may result in a “net” negative effect on the highway program. Below are the top three Threat Events for each group. Political and legal concerns overshadowed economic, public trust and all other threat events. Below is a list of the top “PPP” threat events identified at the workshop:

*Top Threat Events*

**Major Theme Discussed: Legislative Intervention**

**Global**
1. Legislative Intervention (Political)
2. Public Perception of “Selling off Assets” (Public Trust)
3. Lawsuit on PPP approach (Legal)

**Group A (Risk Area)**
1. Lawsuit regarding the PPP approaches (Legal)
2. Lack of interest and/or competition by the contractor industry (Economics)
3. Lawsuit injunction of the Project (Legal)

**Group B (Risk Area)**
1. Legislative Intervention (Political)
2. Underestimated economic development (Economics)
3. PPP goes bankrupt (Program Management)

**Group C (Risk Area)**
1. Public Perception of “Selling off Assets” (Public Trust)
2. Legislative Intervention (Political)
3. Lose of control over use of facility user fees (Management)

**PPP Opportunities Analysis**

Although not specifically linked to PPP, economic opportunity estimates dominated all discussion groups. Almost all of the top opportunities dealt with a variance from an undefined estimate. The largest opportunity event was a larger than expected capital contribution from private investors. During the discussions, it appeared unclear how much funding from private investors was expected. Not only did two out of three find unexpected private capital likely, but saw the opportunity as having a significant positive impact on their governments’ business practices.

Interestingly, most of the economic opportunities identified suggested there was hope that a variety of current estimates and/or perceptions are wrong. For example, the opportunity event, “congestion estimates were underestimated”, may make the project more attractive to private investors. From this, it could be deduced that estimates are somewhat uncertain, but accurate estimates may yield great information for understanding PPP plausibility and the project’s economic effects. To sum the understanding, the more traffic, the more economic development and the more private capital, the better.
“Group C” approached the discussion from a different angle. Their largest opportunity was also economic development, but they also discussed some pertinent management level events. For example, the group believed a large PPP opportunity event was the expected accelerated construction as a result of private sector business practices (Design-Build Effects). PPP could have similar effects as design-build and shorten the time to complete the project by overlapping design and construction. In addition to the possibility of quicker completion, the PPP collaboration could result in greater innovation and flexibility in the selection of design, materials, and construction methods to satisfy additional private investors’ requirements.

Coincidently, “Group C” also recognized the impact of user fee revenue streams. The opportunity to attach user fees to an inflation index was recognized as an event that a PPP contract will include (100% likelihood). The question as to whom and where user fees will be collected and used points out a needed key clarification if a PPP contract is negotiated. According to the FHWA PPP website, one commonality that cuts across all “Design-Build-Finance and Operate” (DBFO) PPP projects is that they are either partly or wholly financed by debt leveraging revenue streams dedicated to the project. Direct user fees (tolls) are the most common revenue source. However, other revenue sources range from lease payments to shadow tolls and vehicle registration fees. In practice, future revenues are leveraged to issue bonds or other debts that provide funds for capital and project development costs. DBFO contracts are also often supplemented by public sector grant contributions, such as right-of-way. If government stakeholders choose to retain future user fee revenue streams, then a design-build-operate PPP contract may be a realistic option. Meaning, if financing is secured by the public agencies and the contractor provides long-term operation and/or maintenance services, the public sector sponsor will retain operating revenue risk and any surplus operating revenue. In summary, it appears that the PPP contract type determines whether the user fee revenue stream estimates are foregone or an opportunity. Below is a list of the top “PPP” opportunity events identified at the workshop:

*Top Opportunity Events*

Major Theme: Economic Growth Estimates

Global
1. More Capital than Expected (Economics),
   1. *TIE* Underestimated Economic Development (Economics)
2. St. Croix has exponential Growth
3. Congestion is underestimated and more traffic is present (Traffic Volume)

Group A (Risk Area)
1. More Capital than Expected (Economics)
2. Congestion is underestimated and more traffic is present (Traffic Volume)
3. More Economic Development in Wisconsin than expected (Economics)
Group B (Risk Area)
1. Underestimated Economic Development (Economic)
2. Underestimated traffic Demand (Traffic Volume)
3. N/A

Group C (Risk Area)
1. St. Croix has exponential Growth (Economics)
2. User fees are attached to inflation index (Program Management)
3. Construction accelerated through design build (Program Management)

Tolls

Tolls are one of the purest forms of user financing for road development. Tolls are a direct user fee charged for use of road capacity and services to the motorist. Historically, toll roads played a prominent role in the provision of road transportation in the eighteenth and nineteenth centuries. In fact, some research shows that in the first half of the nineteenth century, private toll roads outnumbered public roads in the United States (Meyer and Gomez-Ibanez, 1993). Private investors formed tollway companies that improved, constructed, and maintained roads and, in turn, charged the public for their use.

In the late nineteenth century, toll road development tapered as toll evasion as well as rail travel increased. However, by the 1930s, some states began developing public toll road programs to respond to growth in automobile ownership, the rising needs of commerce, and the absence of significant Federal-aid for highways. While private tollway companies dominated the "turnpike" industry in earlier centuries, the toll facilities of the twentieth century have largely been authorized, constructed, and managed by quasi-public authorities established by state and local governments. The pursuit of toll roads declined again after 1956, when the Federal Highway Act established a Federal gasoline tax to support the interstate highway system and prohibited tolling on new, Federally-funded highways.

Today, public funding constraints have fueled new interest in tolls as a revenue source to support transportation investment. The interest in toll roads today is largely an outgrowth of provisions in ISTEA (1991), SAFETEA-LU (2005), and the NHS Designation Act that liberalized the use of Federal-aid in conjunction with private resources for road development purposes.

From existing institutional knowledge, the workshop’s Tolls “think tank” groups identified numerous risk events. The identified below are the top three most intense threat and opportunity events:

Most Intense Tolling Future Events (Overall)
1. There is a Budget Deficit (Opportunity)
2. Tolling Success (Opportunity)
3. Rising Fuel Costs (Threats)
Tolls Threat Analysis

Tolling and value pricing is politically intriguing because of the theoretical potential to reduce highway travel. However, some politicians are leery of its impacts on the poor, its kinship to unfettered free-marketeerism, and its political unpopularity. While the inherent feasibility of rebuilding and modernizing the St. Croix Bridge is now greater than before, implementing such a project may require skillful political leadership. Possibly, both Governors’ and their transportation directors may have to get solidly behind the idea of tolling, leading an effort to inform opinion leaders and the business community about the still-serious highway funding shortfall and the advantages of a toll-bridge approach to resolving it. Wisconsin, Minnesota, and private sector proponents may need to work to create the proper political environment to permit the project to go forward as a tolling effort. There is probably little doubt that there exists a negative public opinion that views tolls, on top of fuel taxes, as double taxation. Thus, the need for tolling involvement in highway infrastructure must be explained via various levels of public-information efforts, in order to build a political consensus.

Because the financial results of toll facilities are very sensitive to usage volumes and capital costs, traffic forecasts are a critical assumption in assessing the financial feasibility of toll facilities. Higher or lower volumes can directly and dramatically change the estimated toll and project feasibility. Furthermore, critical factors such as price elasticity, market acceptance for project debt, diversion rates, mode shift, and toll evasion also have a significant impact on toll rates and project feasibility. Given the rate by which current oil prices have been escalating, motorists may likely carpool and travel across the bridge less resulting in a decrease in the volume of traffic using the bridge. “Group C” findings suggest that there is a high potential that a decrease in the volume of traffic using the bridge could substantially generate less revenue than had been predicted. In response to decreasing revenue generated from tolls, the natural inclination will be to increase tolls. The increase in tolls may correct the revenue deficit, but it may also create anger from the traveling public. The workshop concluded, there was a high potential that escalating fuel prices could undermine the success of generating revenue through tolls.

Lastly, there is a question regarding how tolls would impact low-income and minority populations. Because of the disproportionate impacts of tolls on low-income motorists and associated equity issues, “Group C” identified a lawsuit based on environmental justice and Title 6 as a high risk. It is perceived by many, that if government has tolls, it should also have an alternative for those who cannot afford tolls. If the only way to get to Minnesota or Wisconsin is a toll, this will present a problem for low-income commuters and could result in a lawsuit. Creating a transit system alternative and building more housing near jobs is a possible alternative for low-income commuters. Essentially, commuters could forego car trips and find attractive alternatives, bringing more revenue to buses, if available, a solution that appears to be a last resort for low income commuters. Realistically, it may be found that more motorists crossing the toll bridge may be from the upper income ranges. Below is a list of the top “Tolling” threat events identified at the workshop:
*Top Threat Events*

Major Theme: Political Consensus

**Global**
1. Rising Fuel Cost (Traffic Volume)
2. Lawsuit Based on Environmental Justice Title 6 (Public Trust)
3. Wisconsin and Minnesota will not agree (Political)

**Group A (Risk Area)**
1. Wisconsin and Minnesota will not agree (Political)
2. Do not obtain Municipal Consent (Political)
3. Traffic Estimates underestimated (Traffic Volume)

**Group B (Risk Area)**
1. Wisconsin Political Backlash (Political)
2. Tolling Technology Failure (Technology)
3. Traffic Estimates underestimated (Traffic Volume)

**Group C (Risk Area)**
1. Rising Fuel Costs (Traffic Volume)
2. Lawsuit Based on Environmental Justice Title 6 (Public Trust)
3. Accuracy of Driver Forecasts (Traffic Volume)

**Tolls Opportunity Analysis**

The fiscal pressures and budget deficits in Minnesota and Wisconsin may spur a trend toward tolling. Some politicians may resist any legislation that might lead to an expansion of tolling on the principle that tolls merely represent a new form of taxation or a “double tax”. When tolling is used on a newly built bridge financed by toll revenues, tolls serve as an access charge for drivers who choose to use a bridge that is less congested. Budget deficits, program management needs, and the advantages of a toll-bridge approach to resolving congestion issues are not mutually exclusive. Wisconsin, Minnesota and private sector proponents may need to estimate budget shortfalls, current user costs and funding needs to facilitate the project to go forward as a tolling effort. Budget deficits may make tolling more and more plausible as needs continue to increase. As noted, a budget deficit is an opportunity to implement bridge tolls.

If tolling the project was immensely successful, it may lead to several dramatic improvements in congestion and program management ability. As a result of the St. Croix Bridge example, tolling could then become a more accepted model for highway system managers. If congestion is relieved by increased revenues from tolls or congestion management tolls, drivers may begin to believe that tolled lanes and bridges are safer and more reliable business practice. Estimates of toll revenues generated may be
high enough that program wide express transit and highway improvements could be made. In result, new program-wide alternatives for commuters could begin to develop. As the politics of tolling changes, the public may begin to consider congestion pricing as a “fair” system given that travelers choose to pay the charge. More managed lanes and bridges around our cities may prove so successful that Governments will expand its value pricing system.

Another pertinent opportunity discussed includes the construction of the St. Croix Bridge itself. It was gleaned from the workshop that tolling may be the only option for funding the expensive project. This theory begs another pertinent question. How can we ensure that the highway system in general is adequately funded in the long run? If revenue from motor fuel taxes proves to be insufficient to meet future needs, what new funding sources and revenue collection methods could be envisioned to supplement the gas tax? Behind the renewed optimism about near-term SAFETEA LU prospects for the highway program lurks the realization that existing Highway Trust Fund revenue streams may be insufficient to support real future needs. During recent political processes, lawmakers have lacked the political will to raise highway user fees to pay for infrastructure investment. Wisconsin and Minnesota highway officials may have already recognized how likely it is that future construction will rely on the politicized gas tax.

Lastly, environmentalists often argue that tolling should be used merely to control demand for road space. Tolls can be used to ration existing road space. A number of interest groups, from environmentalists to highway builders, may come out in favor of wide discretion to toll highways, bridges and experimentation with various pricing approaches. Additionally, a coalition of anti-tax groups may urge to ensure that tolls are used to create new capacity, like the St. Croix Bridge. Below is a list of the top “Tolling” opportunity events identified at the workshop:

*Top Opportunity Events*

Major Theme: Deficits and Needs Lead to Effective Implementation

Global
1. There is a budget Deficit (Political)
2. Tolling Success (Program Management)
3. Accelerated Project Construction (Program Management)

Group A (Risk Area)
1. Toll Revenue Exceeds Projections (Program Management)
2. Environmentalists Support (Political)
3. Congestion Management on TH 36 (Program Management)

Group B (Risk Area)
1. Traffic Volumes Higher than Predicted (Traffic Volume)
2. Accelerate Project Construction (Program Management)
3. Tolling Success (Program Management)
Innovative Debt

SAFETEA-LU expands the many options there are when choosing an innovative debt instrument. Generally, the most common method of borrowing is to issue municipal bonds. A bond issuance yields an immediate source of cash in the form of bond proceeds. A state or local agency then retires its obligation by making principal and interest payments to the investors over time. Although bond financing imposes interest and other debt-related costs, bringing a project to construction more quickly than otherwise possible can sometimes offset these costs. The principal characteristic that has differentiated municipal bonds from other capital market securities is that the interest they pay to investors is exempt from Federal income tax.

Grant Anticipation Notes (GARVEEs) pledge future Federal highway funds that will be paid to a state. As a state receives Federal highway funds for the cost of work completed, they become state funds and may be used for any purpose authorized by state law, including debt service payments. Some states have referred to these grant anticipation notes as indirect GARVEEs or Federal reimbursement anticipation notes. Additionally, a state may elect to pledge different sources of revenue as a “hedge” for the future Federal-aid funds. In this case, a state may pledge a secondary source of revenue, such as state fuel tax revenues or local property taxes, to pay debt service in the event that future Federal-funds are not available. This mechanism can result in lower interest costs on the bonds.

In 1998, Congress authorized the Transportation Infrastructure Finance and Innovation Act (TIFIA). The TIFIA credit program allows U.S. DOT to provide direct credit assistance to sponsors of major transportation projects. Credit assistance can take the form of loans, loan guarantees, or lines of credit. The total amount of credit cannot exceed 33 percent of eligible project costs. Direct loans reimburse a project sponsor's expenditures for eligible project costs including right-of-way acquisition, design, construction, and financing costs. Loan guarantees and lines of credit provide sources of capital should project revenues fall short of amounts needed to repay other project investors. TIFIA credit instruments can offer project sponsors a way to increase debt service coverage and enhance senior project obligations at a relative cost.

Other innovative debt includes Section 129 Loans and State Infrastructure Banks. Section 129 loans allow a state to use regular Federal-aid highway apportionments to fund direct loans to projects with dedicated revenue streams. State Infrastructure Banks allow certain states to use regular Federal-aid highway apportionments to capitalize state-
administered revolving funds known as State Infrastructure Banks (SIBs). SIBs can offer loans and credit enhancement to both public and private transportation project sponsors. Banks can also be capitalized with state funds.

From existing institutional knowledge, the workshop’s Innovative Debt “think tank” groups identified numerous risk events. The identified below are the top three most intense threat and opportunity events:

Most Intense Innovative Debt Future Events (Overall)
1. Cost of Innovative Debt is less than Inflation (Opportunity)
2. Debt service is deducted from highway program “Opportunity cost” (Threat)
3. Acceleration of a State’s funding base (Opportunity)

Innovative Debt Threats Analysis

One main theme included the term “opportunity cost”. Opportunity cost is a term used in economics to mean the cost of something in terms of an opportunity forgone (and the benefits that could be received from that opportunity), or the most valuable forgone alternative. For example, if government stakeholders decide to build the St. Croix Bridge, the opportunity cost is some other project that might have been programmed instead. In building the St. Croix Bridge, the state has forgone the opportunity to build another bridge, and so on. Opportunity costs need not be assessed in monetary terms, but rather can be assessed in terms of anything that is of value to the person or persons doing the assessing. Assessing opportunity costs is fundamental to assessing the true cost of any course of action. Outside of funding, ignoring opportunity costs may produce the illusion that the St. Croix Bridge benefits cost nothing at all. The opportunity cost of the St. Croix Bridge was not fully described during the Risk Assessment. It is important, as individuals and as government entities, to compare the opportunity costs associated with various courses of action. However, some opportunities may be difficult to compare along all relevant dimensions. In some cases, it may be possible to have more overall construction in needed places by making different programming choices, with or without, innovative debt.

Another main theme included interest rate risk. Interest rate risk is the risk that the relative value of a bond, will worsen due to an interest rate increase. This risk is commonly measured by the bond's duration. Most innovative debt mechanisms discussed were a loan to a government. Someone buying a bond when it is first issued can be compared to someone putting money in a certificate of deposit and the government then has the needed cash flow for construction. The price differences in the values of bonds caused by these interest rate changes are thought to be a threat because it will cost the government more to pay lenders if interest rates escalate. For our purposes, when the bondholder locks in a rate for an extended period of time, the lower the rate the less perceived cost it was to issue the debt. If the interest rate increases drastically just before bondholder’s rate is locked, the expected interest payments change and become more expensive. Generally, interest rate risk is determined in relation to changes in the
inflation rate over time. The higher the inflation rate compared to the interest rate on the bond, the better justification for using an innovative funding mechanism. Lastly, there were several routine risk events that were identified within this group. For example, inequities and environmental justice risks, unforeseen cost escalations, lack of competition, etc. A bond is just a loan, but in the form of a security, although terminology used is rather different. Although pertinent, some identified risks do not directly relate to utilizing a loan for the funding mechanism and where discussed in previous sections. Below is a list of the top “innovative debt” threat events identified at the workshop:

*Top Threat Events*

**Major Theme: Opportunity Costs and Interest Rate Risk**

**Global**
1. Innovative debt service is deducted from highway program, the “Opportunity cost” (Program Management)
2. Escalation of Project Costs, Bids (Economics)
3. Urban/Rural split inequities (Program Management)

**Group A (Risk Area)**
1. Innovative debt service is deducted from highway program, the “Opportunity cost” (Program Management)
2. Urban/Rural split funding inequities (Program Management)
3. Interest Rate Increases (Economics)

**Group B (Risk Area)**
1. Start Construction and encounter unforeseen event (Program Management)
2. Do not meet revenue Forecast (Economics)
3. Over Estimated New Development in Wisconsin (Economics)

**Group C (Risk Area)**
1. Escalation of Project Costs, Bids (Economics)
2. Interest Rate escalation just before bonds sold, after planning (Economics)
3. Revenues fall short of forecast (Economics)

**Innovative Debt Opportunity Analysis**

Many nationally significant projects that might be undertaken could produce large benefits in terms of avoidable user costs (reductions in travel time, accidents, and vehicle operating costs), savings in federal and state agency costs (e.g., more processing of commercial vehicles at border crossings), and reductions in pollution and other environmental side effects. Yet these projects are difficult to build, because the benefits and detriments affect many jurisdictions in different levels of government and large numbers of people. The economic, institutional, political, and other challenges associated with developing these projects often exceed the resources of any single beneficiary or
group. By accelerating the funding base to meet transportation needs, credit assistance could make St. Croix Bridge more feasible and produce widespread benefits that could not otherwise be possible. To sum, an accelerated funding stream could have large positive effects for the program.

Similarly, regardless of whether an office refocuses its mission or restructures, its real success will occur only to the extent that a government values the “new direction” and has the skills, knowledge and understanding of the new direction. According to Group A, showing the effectiveness of Innovative Debt can enhance the momentum of ongoing cultural change and perspectives in trying new tools. A significant change can occur through a transfer in leadership, or through the departure of one or more influential individuals, but nothing may be more influential than success. When considering using an innovative funding tool, it could be critical to glean core cultural views in other organizations that have used innovative funding techniques. These organizations have developed to deal with the potential conflicts in culture that may exist when funding methodology change is presented. Below is a list of the top “innovative debt” opportunity events identified at the workshop:

*Top Opportunity Events*

**Major Theme: Innovative Debt will Accelerate Funding Base & Can Change Culture**

**Global**
1. Creative Financing will accelerate your funding base (Program Management)
2. Could Change Culture to be more accepting (Program Management)
3. Under estimated new development in Wisconsin (Economics)

**Group A (Risk Area)**
1. Debt costs are less than inflation costs (Economics)
2. Non-recourse debt does not come from general highway revenue (Program Management)
3. “Mvest” transfer passes (Political)

**Group B (Risk Area)**
1. Under estimated new development in Wisconsin (Economics)
2. N/a
3. N/a

**Group C (Risk Area)**
1. Creative Financing will accelerate your funding base (Program Management)
2. Could Change Culture to be more accepting (Program Management)
3. N/A
Conclusions and Planning for the Future

The assessment was conducted at a strategic level to focus and communicate risk areas and promote confident allocation of resources to High Risk Areas. The Risk Management Process and the identification of potential risk events should happen in a cyclical fashion because risks change. By planning, organizing, directing and controlling resources by “High Risks”, it becomes more likely that the St. Croix project may be delivered on time and within budget.

Risk Area Analysis

Below is the statistical aggregation of risks into “Risk Areas” of concern. Risk Areas are simply categories that communicate main threat and opportunity areas identified. Risks were categorized into Risk Areas by classifying a risk event.

All risks that are identified were grouped into categories. The risk types or areas defined were Traffic Estimate, Public Trust, Program Management, Political, Legal and Economic Estimate. All options for categories of risk may affect an “umbrella risk area”, like the public’s trust and confidence in the highway program.

![Percentage by Risk Area](chart.png)
Below is the “Risk Area” breakout of Threat Events that were identified:

Number of Threats Identified

Below is the “Risk Area” breakout of Opportunity Events that were identified:

Number of Opportunities Identified
Public Trust and Confidence (PTC) Calculations

The PTC calculations are a reference that compares identified Threats to identified Opportunities within each and across “think tanks”. For example, the PTC aggregation is an aggregate of risks identified under each Funding Alternative. No calculation provides a clear algorithm that derives an appropriate solution. Rather, calculations provide trend information regarding the “think tank” discussions. In theory, the weighted calculations can be compared to evaluate a decision towards a particular alternative if decisions are mutually exclusive.

In reality, planning for funding will most likely be a “blend” of assessed alternatives. The comparison values show group dynamics and current perceptions. The calculations can help judge how group members perceived the alternatives and their risk thresholds. It is important to note that some opportunities and threats are not identified due to educational gaps, time constraints, etc. As knowledge grows in these areas, more risks may be identified that leads to a change in PTC calculations.

Each “think tank” funding alternative had the following calculations completed.

Risk Event Score = RES = Probability x Impact

* PTC index = (Aggregate of Opportunity RES) / (Aggregate of Threat RES)
  
  - Shows trend of the number of opportunities compared to the number of threats. Gives a generalized idea of whether the global group’s vision for future included more threats or opportunities.

* PTC Aggregation = Aggregation of Opportunity RES + Aggregate of Threats RES
  
  - Shows the relative level of “riskiness” between funding alternatives. Will indicate higher level of risks identified, but does not compare opportunities to threats.

* Threat Index = ( Aggregate of Threat RES ) / ( # of Threats identified )
  
  - Shows the relative intensity level of threats compared to the number of threats identified.

* Opportunity Index = (Agg. of Opportunity RES) / (# of Opportunity Identified)
  
  - Shows the relative intensity of Opportunities compared to the number of opportunities identified.
* PTC Composite = (Opportunity Index/Threat Index)

• Compares the intensity of Opportunities vs. the intensity of Threats within a funding alternative.

<table>
<thead>
<tr>
<th></th>
<th>PPP</th>
<th>Tolls</th>
<th>Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTC Index</td>
<td>0.68</td>
<td>0.91</td>
<td>0.47</td>
</tr>
<tr>
<td>PTC Aggregate</td>
<td>51.6</td>
<td>44.5</td>
<td>54.95</td>
</tr>
<tr>
<td>Threat Index</td>
<td>2.04</td>
<td>1.63</td>
<td>2.07</td>
</tr>
<tr>
<td>Opportunity Index</td>
<td>2.1</td>
<td>2.335</td>
<td>2.52</td>
</tr>
<tr>
<td>PTC Composite</td>
<td>1.03</td>
<td>1.43</td>
<td>1.21</td>
</tr>
</tbody>
</table>

The above table shows a PTC Index trend that concludes a generalized idea about the global group’s vision for future. The group’s vision included more opportunities in Tolling than any other funding alternative. Based on the PTC Aggregate, less overall risks were identified in the group. The “threat index” for tolling, or the relative intensity level of threats, was the lowest. Lastly, the intensity of identified opportunities compared to the intensity of identified threats within tolls was the highest. The PTC composite suggests that tolls have more intense opportunities than threats compared to other alternatives.

**Next Steps in Risk Management - Developing Risk Response Strategies**

Next steps include making a decision as to what type of funding alternative government stakeholders will pursue. Governments will have a “head start” in managing those risk events identified in the workshop. FHWA is strongly recommending the use of project management and financial plans for upcoming mega projects across the United States. The ultimate purpose of both plans is to clearly define the roles, responsibilities, processes, and activities to be used throughout the project which will result in the management of identified project risks. Additionally, appropriate project management will result in a project being completed (1) on time, (2) within budget, (3) with the highest degree of quality, (4) in a safe manner for both the individuals working on the project and for the traveling public, and (5) in a manner in which the public trust, support, and confidence in the project will be maintained.

After funding decisions are made, the objective will soon be switched to managing risks by creating a project management and financial plan that acknowledges risks. Additional workshops that aim to achieve a project management and financial plan may facilitate this effort. As such, the FHWA has prepared draft project management plan guidance and financial plan guidance that may provide direction in pertinent strategies that may need attention in the future. Outside of funding alternative risks, future collaboration should accomplish the identification of various “project risks” that were not identified within the funding alternative assessment. Including the assessment of “project level risks” in any project management and financial plan may be crucial to obtaining successful project delivery.
Appendix

Cost Estimate Breakdown
## Risk Register

<table>
<thead>
<tr>
<th>Think Tank</th>
<th>Risk Event</th>
<th>Risk Area</th>
<th>O/T</th>
<th>PROB</th>
<th>IMPACT</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPP</td>
<td>Legislative intervention – Wisconsin</td>
<td>Political Estimate</td>
<td>T</td>
<td>0.85</td>
<td>5</td>
<td>4.25</td>
</tr>
<tr>
<td>PPP</td>
<td>Legislative intervention – Minnesota</td>
<td>Political Estimate</td>
<td>T</td>
<td>0.85</td>
<td>5</td>
<td>4.25</td>
</tr>
<tr>
<td>Tolls</td>
<td>There is a budget deficit</td>
<td>Economic Estimate</td>
<td>O</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Debt</td>
<td>Going into debt is better than inflation</td>
<td>Economic Estimate</td>
<td>O</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>PPP</td>
<td>Public perception of selling off public assets</td>
<td>Public Trust Estimate</td>
<td>T</td>
<td>0.85</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>Debt</td>
<td>Bond debt service comes out of highway revenue (costs resources for the organization)</td>
<td>Program Management</td>
<td>T</td>
<td>0.85</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>Tolls</td>
<td>Tolling success</td>
<td>Program Management</td>
<td>O</td>
<td>0.85</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>Debt</td>
<td>Creative financing will accelerate your funding base.</td>
<td>Program Management</td>
<td>O</td>
<td>0.85</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>Debt</td>
<td>Escalation of project costs (bids)</td>
<td>Economic Estimate</td>
<td>T</td>
<td>0.85</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>Debt</td>
<td>Urban/rural split inequities</td>
<td>Program Management</td>
<td>T</td>
<td>0.75</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Debt</td>
<td>Start construction and encounter some unforeseen event (increase cost and delay project)</td>
<td>Program Management</td>
<td>T</td>
<td>0.75</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Tolls</td>
<td>Accelerate project construction</td>
<td>Program Management</td>
<td>O</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Debt</td>
<td>Non-recourse debt would not come out general highway revenue</td>
<td>Program Management</td>
<td>O</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>PPP</td>
<td>Political intervention</td>
<td>Political Estimate</td>
<td>T</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Tolls</td>
<td>Political Intervention</td>
<td>Political Estimate</td>
<td>O</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Debt</td>
<td>Mvest transfer passes</td>
<td>Political Estimate</td>
<td>O</td>
<td>0.75</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>PPP</td>
<td>Bring more money to table than expected</td>
<td>New Money</td>
<td>O</td>
<td>0.75</td>
<td>4</td>
<td>3</td>
</tr>
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<td>Tolls</td>
<td>Rising fuel cost</td>
<td>Economic Estimate</td>
<td>T</td>
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<td>Interest rates rise just before sell bonds</td>
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<td>T</td>
<td>0.75</td>
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<td>Debt</td>
<td>Revenues fall short of forecast</td>
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<td>T</td>
<td>0.75</td>
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<td>PPP</td>
<td>Underestimated economic development</td>
<td>Economic Estimate</td>
<td>O</td>
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<td>Underestimated traffic demand</td>
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<td>More economic development in Wisconsin</td>
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<td>St. Croix has exponential pop. Growth</td>
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<tr>
<td>PPP</td>
<td>lawsuit on PPP approach</td>
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<td>0.5</td>
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<td>Gov't looses control over use of facility - user fees</td>
<td>Program Management</td>
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<td>PPP</td>
<td>underestimated economic development</td>
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<td>Interest rate increases</td>
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<td>Congestion management on TH 36</td>
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<td>If innovative finance technique is successful, could change the culture and use on other projects.</td>
<td>Public Trust Estimate</td>
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<td>0.5</td>
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<td>Project construction delay</td>
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<td>Tie user fees to inflation index</td>
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<td>Above forecasted new development in Wisconsin.</td>
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<td>Gas increases to $5/gallon</td>
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<td>Construction acceleration thru design build</td>
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<td>Lack of interest from private sector</td>
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<td>Above forecasted new development in Wisconsin.</td>
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<td>Debt</td>
<td>Non-subordination clause if project becomes insolvent, bankrupt, or liquidated (TIFIA)</td>
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<td>PPP may go bankrupt or other partners</td>
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<td>Locality adversely affects the collection of revenues</td>
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<td>Public outrage!</td>
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<td>0.75</td>
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<td>If innovative financing technique is successful, could change culture and move more projects out of &quot;pay as you go&quot; into public private partnerships</td>
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<td>Interest rates double / increase</td>
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<td>Current design concept fixed / may discourage PPP participation</td>
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<td>More money than expected</td>
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## Breakout Groups

Breakout Groups for St. Croix River Crossing  
Funding Workshop  
April 27, 2006

<table>
<thead>
<tr>
<th>GROUP A</th>
<th>GROUP B</th>
<th>GROUP C</th>
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<tr>
<td>Reuben Anthony, Jr.</td>
<td>Kevin Chesnik</td>
<td>Rory Rhinesmith</td>
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<tr>
<td>Douglas Differt</td>
<td>Chris Klein</td>
<td>Casey Newman</td>
</tr>
<tr>
<td>Paul Trombino</td>
<td>Linda Seaquist</td>
<td>Jay Schad</td>
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<tr>
<td>Mark Wolfgram</td>
<td>Julio Seston</td>
<td>Joe Nestler</td>
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<td>Tom Beekman</td>
<td>Robert Winter</td>
<td>Don Guttowski</td>
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<tr>
<td>Rick Arnebeck</td>
<td>Jerry Holland</td>
<td>Khani Sahebjam</td>
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<tr>
<td>Tim Henkel</td>
<td>Nick Thompson</td>
<td>Daniel Dorgan</td>
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<tr>
<td>Kevin Gray</td>
<td>Scott Peterson</td>
<td>Mike Hagerty</td>
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<tr>
<td>Richard Stehr</td>
<td>Abigail McKenzie</td>
<td>Randy Halvorson</td>
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<tr>
<td>Bruce Matzke</td>
<td>Dwight McComb</td>
<td>Robert Hofstad</td>
</tr>
<tr>
<td>Lori Kaner</td>
<td>Robin Schroeder</td>
<td>Susan Moe</td>
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Wis DOT  
Mn DOT  
FHWA, WI  
FHWA, MN

*******
Agenda

St. Croix Funding Workshop
April 27, 2006

Workshop Agenda

AM Session (Time Keeper: Sheri Koch)

8:00 – Opening Remarks – Tom Sorel, FHWA and Doug Differt, MNDOT

8:15 – Financial Planning – Phil Barnes, FHWA MN Division

8:35 — Private Public Partnerships – Mike Saunders, FHWA HQ

9:15 – Break

9:30 – Bonding Debt – Keith Bishop, FHWA Resource Center

10:15 – Tolling – Prabhat Diksit, FWHA Resource Center

Break (Time Permitting)

11:00 TIFIA Financing – Duane Callender, TIFIA Joint Program Office

12:00 – 1:00 – Working Lunch (Expectations for Risk Event Assessment – Phil Barnes)

PM Session

1:00 pm - Group Breakouts

Breakout into “think tank” groups and each group will identify Opportunities/Threats and risk events for the following areas:
   i. PPPs (Facilitator Phil Barnes, Recorder Romeo Garcia)
   ii. Debt (Facilitator Tim Mitchell, Recorder Sheri Koch)
   iii. Tolls (Facilitator Cheryl Martin, Recorder Chris Cromwell)

2:30 pm Break

2:45 pm Open Session and Group Breakout Results

4:30 pm End

To maximize the experience, attendees are asked to keep an open mind, loaded with ideas on the future of the highway funding shortfall.

Workshop Coordination and Production by:
Presenter Bios

William Keith Bishop

Mr. Bishop earned a Bachelor of Science Degree in Business Administration from the University of South Carolina in 1989.

Immediately following graduation, Mr. Bishop began his public service career as an Accountant with the South Carolina State Budget Control Board. In 1994, Mr. Bishop accepted the position of Accounting Manager with the Governor’s Office, which was during Governor Beasley’s term as Governor. In 1998, Mr. Bishop began his career with the South Carolina Department of Transportation (SCDOT) as the Cash Flow Analyst. In 2003, Mr. Bishop was appointed to the position of Deputy Director of Finance and Administration (Chief Financial Officer). Mr. Bishop’s responsibilities included directing SCDOT’s $5.3 billion bonding program, which has been nationally recognized for its innovation in financial management.

In February 2006, Mr. Bishop accepted the position of Innovative Financial Specialist with the United States Department of Transportation - Federal Highway Administration. Mr. Bishop works out of the Baltimore Office

Duane Callender

Project Finance Coordinator
TIFIA Credit Program
US Department of Transportation (DOT)

Duane Callender began working for the TIFIA Credit program in June 2000, where he has been involved in all aspects of project evaluations, selections, negotiations, and monitoring. Immediately before joining the TIFIA staff, Mr. Callender worked in DOT’s Office of Budget and Programs where he was responsible for overseeing the budget of the Maritime Administration. Mr. Callender has also worked in DOT’s Inspector Generals Office and the Budget Office of the District of Columbia’s Metropolitan Police Department.

A New York native, Mr. Callender holds a Bachelor of Arts degree in Sociology from Connecticut College (1994) and a Master’s Degree in Public Administration from American University (1998).

Prabhat Diksit

Mr. Prabhat Diksit is an Innovative Finance Specialist with the Federal Highway Administration, located out of Lakewood, CO. He assists FHWA Divisions and State DOT’s in the development of Garvee bonds, State infrastructure banks, public private partnerships, tolling, HOT lanes, freight finance, and with other non traditional
approaches to highway finance. He has provided technical assistance both at program levels as well as at the project level. He has been with the FHWA since 2002.

Mr. Diksit brings a decade of experience working with Colorado municipalities in all aspects of financial management including financial planning, master planning, rate design, budgets and bond issuances. He further functioned as a member of the “core management team” of the utilities he worked for, and dealt with HR issues; issues relating to jointly developed major capital projects with other local governments; negotiations with Federal government agencies on project related issues, dealings with elected officials, and other “core” management issues.

Prior to his municipal experience he worked for ten years in the private sector performing business planning, and fiscal and economic analysis, and decision making on investments. Prabhat holds a bachelors degree in chemical engineering and an MBA in Finance.

Michael Saunders

Michael Saunders is the Federal Highway Administration's Program Manager for Public Private Partnerships. He has worked in the area of transportation for over 25 years including positions with FHWA working in the areas of Transportation Planning and Project Development; as a Program Administrator with the Organization for Economic Cooperation and Development in Paris, France; as Deputy Commissioner of the Connecticut Department of Transportation; and, as Manager of the Federal Railroad Administration's Northeast Corridor Program Office. He is a graduate of Trinity College and has Masters Degrees in Urban and Environmental Planning from the University of Virginia and Civil Engineering from Michigan State University.