The Knik Arm "Bridge to Nowhere": A High-Risk Investment Choice

A Report Developed by the Alaska Transportation Priorities Project endorsed by:

Alaska Center for the Environment
Alaska Conservation Alliance/Alaska Conservation Voters
Alaska Public Interest Research Group
Cook Inletkeeper
Government Hill Community Council

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About the Alaska Transportation Priorities Project

The Alaska Transportation Priorities Project (ATPP), a coalition of organizations, businesses, and individuals, promotes sensible transportation systems in Alaska with the goal of providing safe, economic, well-maintained, and environmentally-appropriate transportation throughout the state.

See www.aktransportation.org for more information.

About the Author

Lois N. Epstein, P.E. has directed the Alaska Transportation Priorities Project since January 2007 following her previous work promoting alternatives to the proposed Knik Arm Bridge near Anchorage (also known as one of the two Alaskan "Bridges to Nowhere"). Lois is a licensed Professional Engineer in the States of Alaska and Maryland and has a masters degree from Stanford University in Civil Engineering with a specialization in environmental engineering and science, and undergraduate degrees from both Amherst College (in English) and MIT (in mechanical engineering). President Clinton nominated Lois in October 2000 to the Chemical Safety and Hazard Investigation Board, however the U.S. Senate did not vote on her nomination before the end of the 106th Congress.

Before ATPP, Lois worked for Cook Inletkeeper in Anchorage for over five years, a non-profit watershed protection organization, and Environmental Defense (formerly Environmental Defense Fund) in Washington, DC for over 13 years. Prior to these positions, Lois worked for two private consulting firms and the U.S. EPA. Lois presented invited testimony before the U.S. Congress on over ten occasions and has appeared on CNN, CBS Evening News, The NewsHour with Jim Lehrer, and in other media outlets

For more information on the public interest and neighborhood organizations endorsing this report, see:
Alaska Center for the Environment, http://www.akcenter.org
Alaska Conservation Alliance, http://www.akvoice.org
Alaska Public Interest Research Group, http://www.akpirg.org
Cook Inletkeeper, http://www.inletkeeper.org
Government Hill Community Council, http://www.communitycouncils.org/servlet/content/17.html

Cover Photo: Point MacKenzie, the non-Anchorage terminus of the proposed Knik Arm Bridge. Note the lack of residential and commercial development. Port MacKenzie is at the top of the photo. (September 2006)

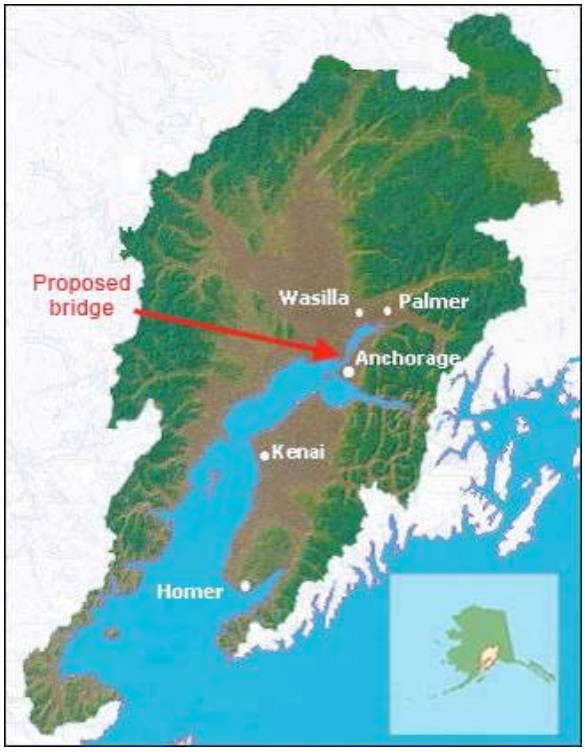
ABSTRACT

The proposed Knik Arm Bridge project poses a serious risk for private investors, with large uncertainties in project costs, funding, permitting, and liability. This report documents those uncertainties.

WHAT IS THE KNIK ARM BRIDGE?

The Knik Arm Bridge – also known as the Knik Arm Crossing – project consists of a proposed toll bridge across Cook Inlet's Knik Arm from Anchorage to Point MacKenzie in the Matanuska-Susitna (Mat-Su) Borough and numerous miles of access roads on both sides of the bridge to connect it to existing roads and highways (see Figure 1). To avoid passing through military land, the Knik Arm Bridge and Toll Authority (KABATA) selected a bridge access route through the historic Government Hill neighborhood of Anchorage.

Figure 1
Location of the Proposed Knik Arm Bridge



To keep costs down, KABATA utilized a preferred bridge design in the federal Draft Environmental Impact Statement consisting of an 8,200 foot bridge attached to a mile of gravel-supported, offshore causeway rather than a 14,000 foot bridge with little or no gravel-supported causeway. The most recent Federal Highway Administration (FHWA)

cost study calculates that the Knik Arm Bridge project likely will cost $639 million for its first phase and $504 million for the second phase.[1]

Cook Inlet's Knik Arm has some of the highest tides in the nation, as well as extensive siltation from glacial scouring of land and glacial melting. These characteristics, as well as the region's earthquakes and biodiversity, are important factors in bridge design and construction.

The proposed Knik Arm Bridge currently is not part of the Municipality of Anchorage's Long-Range Transportation Plan.[2] The Mat-Su Borough's Long-Range Transportation Plan is neutral on the bridge and makes road-building recommendations both with and without the bridge in place.[3]

While the state legislature created KABATA in 2003, the real push for the bridge began when Alaska Congressman Don Young and Alaska Senator Ted Stevens included multiple earmarks for the bridge in the 2005 federal transportation law. This law includes language identifying the bridge as "Don Young's Way."[4] In late 2005, Congress removed the earmarks and – in an agreement with Senator Stevens – allowed the earmarks' dollar amount ($229.4 million) to be given to the State of Alaska for transportation purposes.[5] In 2006, the Alaska legislature allocated $93.6 million of its federal transportation funding to the proposed Knik Arm Bridge project.

KEY REASONS WHY THE KNIK ARM BRIDGE IS A POOR INVESTMENT

1. Cost Uncertainty. The Knik Arm Bridge project has not undergone an independent cost estimate despite the project's relatively high cost and technical complexity. The most recent analysis of project costs – issued in June 2006 for the FHWA – did not develop an independent cost estimate but was, instead, a probabilistic analysis of the various project cost components.[6] While this analysis included FHWA, the state, and

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[1] *Knik Arm Crossing: Cost Estimate Review Study*, prepared by PBS&J for the Federal Highway Administration of the U.S. Department of Transportation, June 2006. Document available at http://www.knikbridgefacts.org.

[2] *Anchorage Long-Range Transportation Plan*, prepared by CH2MHill, December 2005. Document available at http://www.muni.org/transplan/LRTP.cfm.

[3] *Mat-Su Borough Long-Range Transportation Plan, Draft Final Report*, prepared by HDR Alaska, Inc., February 2007. Document available at http://www.matsugov.us/Planning/documents/LRTPFinalDRAFT.pdf.

[4] SAFETEA-LU, Public Law No: 109-059, Signed into law on August 10, 2005. Section 4411 states:

> *(a) Designation.--The Knik Arm bridge in Alaska to be planned, designed, and constructed pursuant to section 117 of title 23, United States Code, as high priority project number 2465 under section 1702 of this Act, is designated as ``Don Young's Way''.*

[5] *Two 'Bridges to Nowhere' Tumble Down in Congress*, Carl Hulse, New York Times, November 17, 2005.

[6] *Knik Arm Crossing: Cost Estimate Review Study*, *op. cit.*, p. 10.

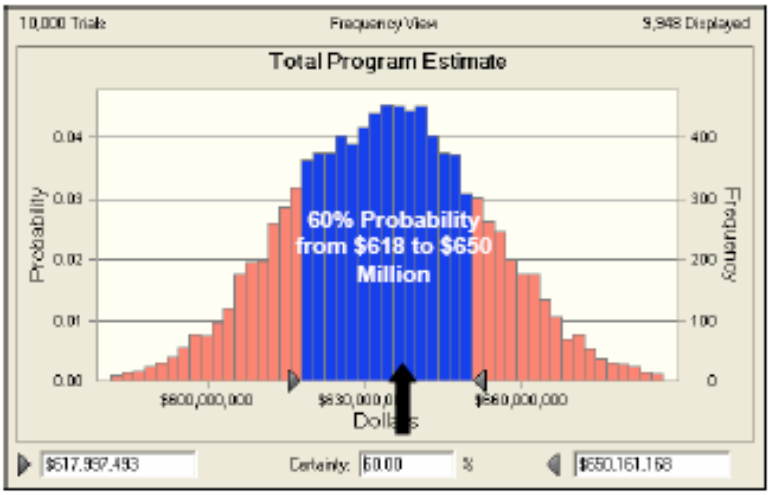
project consultants, it failed to include two important bridge stakeholders/cooperating agencies – the Municipality of Anchorage and the Mat-Su Borough.

The study's stated assumptions and qualifications include:[7]

- No independent cost estimates,
- No verification of materials quantities, and
- A cursory review of major cost items and unit prices.

The study divided the project into two phases, with the entire project expected to be complete in 2023. According to the study, Phase I, which would connect the bridge via the A Street/C Street couplet directly to downtown Anchorage streets instead of to a highway, will cost $639 million with a 60% likelihood of the cost falling between $618 million and $650 million (see Figure 2).[8] Phase II, which would expand the bridge and connect it to a highway outside of downtown Anchorage in 2023, will cost $504 million in 2006 dollars with a 60% likelihood of the cost falling between $473 million and $530 million.[9] The study also states that any delay in start-up could result in a cost increase of $25 million per year.[10]

Figure 2
Phase I Cost Estimate[11]



[7] *Ibid.*, p. 9.

[8] *Ibid.*, pp. 4-5. Unfortunately, the published version of this study does not display the cost range at a 90% probability level, which is important to investors interested in the "worst case" scenario.

[9] *Ibid.*, p. 6.

[10] *Ibid.*, p. 4. Since construction in sub-arctic conditions is generally from May through October, construction delays – e.g., if contaminated soils are found, which is a strong possibility discussed on pp. 21 and 33 of this report – could easily throw the project months or years behind schedule.

[11] *Ibid.*, Appendix C.

Notable Quotes from the June 2006 *Cost Estimate Review Study*

[The project estimate review team] worked together with [consultants] HDR, PND, Rise Alaska, and FHWA to work out an agreed-upon construction cost estimate. The result was well over the stated budget for the project ($600 million). The participants then reviewed the estimate for items that might not reflect the most current understanding of the project. Several items were found to contain higher costs than necessary. These items were corrected, at the consent of all parties, and the result was found to be in the range of $639 million.[12]

[T]here is significant [pricing] risk with marine construction activity, availability of gravels and armor rock, [contaminated] excavation disposal, and steel, concrete & fuel pricing.[13]

2. Funding Uncertainty. KABATA has not determined how the project will be fully funded. To date, only $129 million has been appropriated to the project by the federal and state governments, with $10 million more expected from the federal government (see Figure 3).[14] Additional funds may be difficult to obtain given the notoriety of this "Bridge to Nowhere" project at the federal level and competing state and local transportation projects at the state and local levels, respectively.

In its comments on the Draft Environmental Impact Statement, the Municipality of Anchorage expressed strong concerns on project financing. These comments, backed up by a seven-page detailed critique of the underlying data, travel models, and analytical methodologies, state:

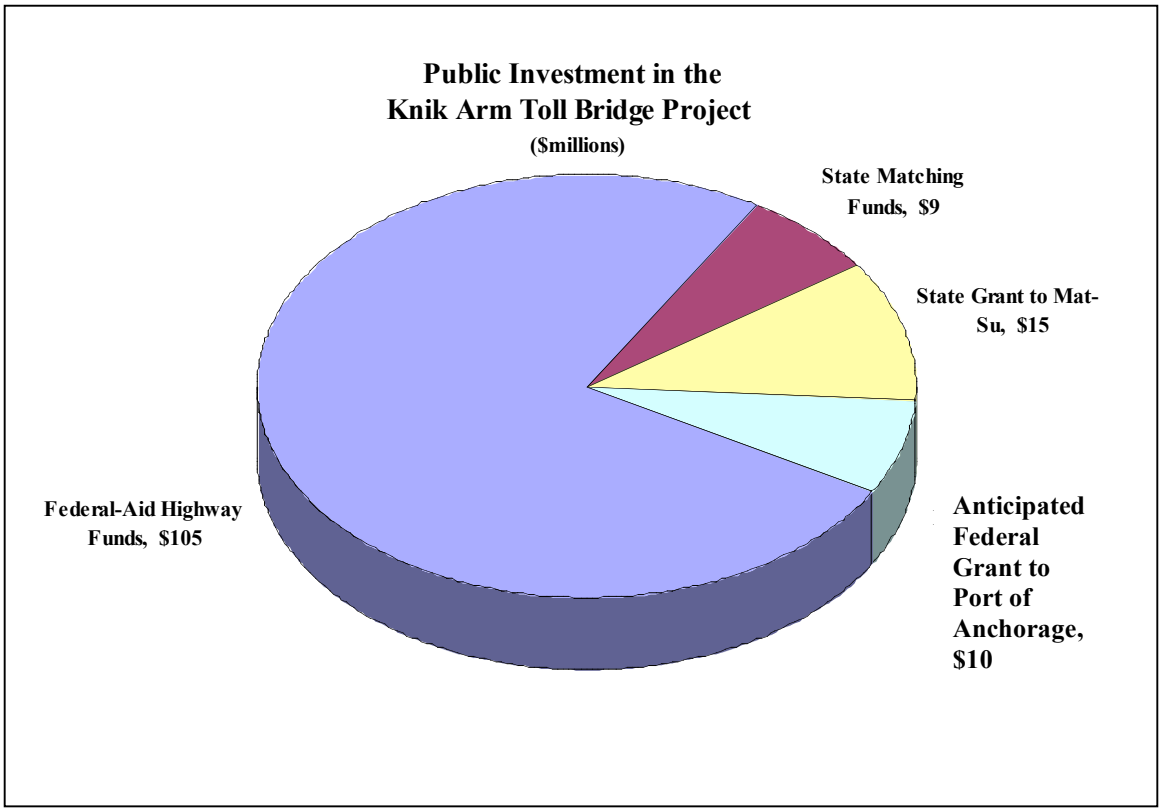
> *The proposed Knik Arm Crossing is a very high-risk investment project. The travel demand model, which is the foundation of the traffic and toll revenue estimates is seriously flawed and no compelling evidence has been demonstrated of its validity in forecasting inter-regional travel flows. A single regional population and jobs growth allocation has been projected with no sensitivity or risk analyses to assess implication of forecasting uncertainty or other unknowns.* ***The Municipality's own evaluation convinces us the entire project financial feasibility hinges on uncertain development projections, faulty travel forecasting, and transportation connections that cannot be funded.*** *This is a recipe for financial failure, not a reliable transportation asset…*

[12] *Ibid.*, p. 11.

[13] *Ibid.*, Appendix C, Conclusion.

[14] KABATA data. See the Pre-SOQ Workshop PowerPoint Presentation, Slide 21. Document available at http://www.knikarmbridge.com/.

Figure 3
KABATA Graphic Showing Project Financing to Date



The combined effects of inadequate connectors, dependency on large scale west Mat-Su growth for bridge tolls and feasibility, cost to appropriately connect the bridge to Anchorage's existing and planned transportation network, financing constraints based on the bridge toll revenues, other demands for scare (sic) transportation infrastructure funding resources, and priority projects already programmed in the Anchorage and Mat-Su jurisdictions indicate ***the proposed Knik Arm Crossing is not a viable undertaking at this time.***

The [Municipality] urges the State and FHWA to seek independent financial feasibility counsel to guide further efforts and decisions. ***An independent review of financial feasibility is warranted before this project proceeds****, given the decided risks and uncertainties referenced above, the scale of the proposed investment, the adverse impact of the proposed [Knik Arm Crossing] project funding on other Anchorage, Mat-Su and State priority projects funding, and the large, long-term consequences of this investment decision.*[15]

[15] Comments of the Municipality of Anchorage on the Knik Arm Crossing Draft Environmental Impact Statement, November 17, 2006, p. 5, emphases added Document available at http://www.knikbridgefacts.org.

According to KABATA's latest Requests for Proposals,[16] federal/state, public-private partnership, and Mat-Su Borough funding will be used to build the bridge and its access roads. With federal/state funds accounting for only $129-139 million as discussed above, over $500 million dollars needs to be raised for Phase I alone with nearly all those funds coming from private sources since the Mat-Su Borough contribution will be limited.

Wilbur Smith Associates developed two studies to date for KABATA on project financing. According to its first report, the *Knik Arm Bridge Preliminary Traffic and Toll Revenue Study,* using privately-issued bonds under different scenarios and with Citigroup assuming a BBB- bond rating, $145-$197 million could be allocated for capital construction costs assuming that traffic estimates met expectations;[17] it's not clear how the bonds would be paid back if adequate toll revenue does not develop (certain key scenarios were not analyzed). The second Wilbur Smith Associates report, the *Proposed Knik Arm Bridge Intermediate Traffic and Toll Revenue Study*, confirmed the findings of its previous traffic and toll revenue report. The second report contains a strong disclaimer, however, which states:

> *[T]his study may be subject to considerable refinement. It was not performed at a sufficient level of detail to be used in project financing and is not intended for that purpose. Considerably more detailed studies would be required prior to project financing.*[18]

The *Intermediate Traffic and Toll Revenue Study's* cover letter to KABATA also states, "**it is recommended that a more in depth, investment-grade analysis be undertaken in support of project financing**."[19]

Wilbur Smith Associates' relatively low toll revenue numbers come from one key fact – there is little current development in areas where the bridge would derive its customer base of commuters to Anchorage (thus, the project has been described as a "bridge to nowhere," apparent from the cover photo). Figure 4 shows that the bridge would save commuting time only for residents of the sparsely-populated areas west of Wasilla and near the Point MacKenzie bridge terminus (locations A-D).

According to the Mat-Su Borough's comments on the Draft Environmental Impact Statement, the sparsely-populated areas near Point MacKenzie now used for agriculture

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[16] See RFP #s 02572046 and 0257204. Documents available at http://www.knikarmbridge.com/.

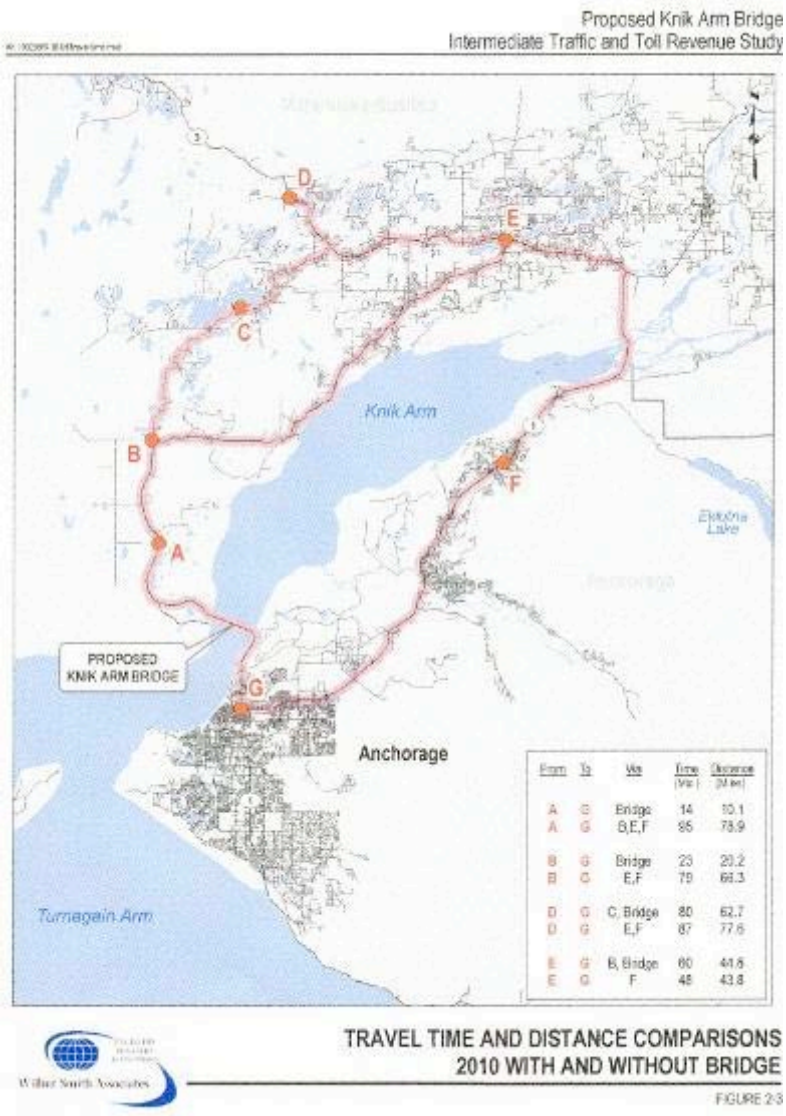
[17] *Knik Arm Bridge Preliminary Traffic and Toll Revenue Study*, Wilbur Smith Associates, prepared for the Knik Arm Bridge and Toll Authority, 31 pp., November 2005, pp. 14, 18. Document available at http://www.knikarmbridge.com/project_docs.html#planningdocs.

[18] *Proposed Knik Arm Bridge Intermediate Traffic and Toll Revenue Study*, Wilbur Smith Associates, prepared for the Knik Arm Bridge and Toll Authority, 91 pp., November 2006, p 4-7. Document available at http://www.knikarmbridge.com/project_docs.html#planningdocs.

[19] *Ibid.*, no page number.

have deed restrictions disallowing conversion away from agricultural use. The Alaska legislature would need to remove or change these deed restrictions in order for development to occur on these agricultural lands.[20] Should the state change the deed restrictions that currently allow low-cost leasing of these agricultural lands, costs for non-agricultural development could rise dramatically which could have an adverse impact on predicted toll revenues.

Figure 4
Travel Time: Populated Areas Do Not Benefit from the Knik Arm Bridge



[20] Comments of the Mat-Su Borough on the Knik Arm Crossing Draft Environmental Impact Statement, November 17, 2006, pp. 2-3. Document available at http://www.knikbridgefacts.org.

3. Permitting Uncertainty (which can increase cost uncertainty due to delays). The federal Environmental Impact Statement and environmental permitting processes are not yet complete and these processes' outcomes could result in major changes to the project, e.g., required construction of a extremely high cost 14,000 foot bridge rather than the 8,200 foot design currently preferred by KABATA. Project funding thus could be inadequate if federal agencies require a more expensive bridge design than KABATA's to protect the area's beluga whales and to minimize siltation and higher current speeds that could adversely affect the Port of Anchorage.

The National Oceanic and Atmospheric Administration (NOAA), which is concerned with both the Cook Inlet beluga whale and the salmon populations in Cook Inlet (a food source for the belugas) submitted the following comments on the Draft Environmental Impact Statement:

> *We have very serious concerns about the environmental consequences of the project, especially for beluga whales…The population depends heavily on habitat in Knik Arm, including the immediate vicinity of the proposed bridge. The belugas are very susceptible to impacts from habitat disturbance, including construction-related noise and other forms of habitat alteration that would result from building the proposed bridge.* ***NOAA's National Marine Fisheries Service is currently undertaking a status review of the Cook Inlet beluga stock to determine whether this population should be listed under the Endangered Species Act. We are concerned that the proposed project may threaten the viability and recovery of this small beluga population.***
>
> *Based on the information in the DEIS, NOAA recommends the No Action Alternative as the best option for promoting the recovery of Cook Inlet belugas and sustaining upper Cook Inlet salmon runs.*[21]

The bridge also would require permits from another federal agency, the U.S. Army Corps of Engineers (USCOE), which issues Clean Water Act permits only "for the least environmentally damaging practicable alternative, so long as that alternative does not have other significant adverse environmental consequences."[22] The USCOE expressed strong concerns about the limited range of alternatives analyzed in the Draft Environmental Impact Statement and the likely adverse effect of the Knik Arm Bridge project on the Port of Anchorage, a federal project maintained by the USCOE. The USCOE stated these concerns in several letters to FHWA.[23] In one letter, the USCOE

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[21] Comments of the National Oceanic and Atmospheric Administration on the Knik Arm Crossing Draft Environmental Impact Statement, November 17, 2006, cover letter signed by Rodney F. Weiher, Ph.D. , emphasis added. Document available at http://www.knikbridgefacts.org.

[22] Letter from the U.S. Army Engineer District, Alaska to Edrie Vinson of the Federal Highway Administration, April 28, 2006.

[23] *Ibid*. Also, comments of the U.S. Army Engineer District, Alaska on the Knik Arm Crossing Draft Environmental Impact Statement, October 27, 2006. Document available at http://www.knikbridgefacts.org.

clearly states, "**We cannot issue a permit which will adversely affect the federal project at the Port of Anchorage**."[24] To date, the issue of bridge impacts on the Port of Anchorage remains unresolved.

The Environmental Impact Statement process and subsequent permitting of the project also could be delayed through litigation. Public interest organizations are concerned about the unwarranted rejection by the FHWA of their proposed multi-modal, non-bridge alternative.[25] Similarly, FHWA did not address concerns expressed and alternatives proposed by the Government Hill neighborhood and its residents, as well as numerous comments submitted by the Municipality of Anchorage and the Mat-Su Borough.[26]

Last, the Municipality of Anchorage cannot permit the project if it is not included in the city's Long-Range Transportation Plan (LRTP). Bridge proponents currently are attempting to add the project to the LRTP, however that effort faced a significant setback on February 12, 2007 when the city's Planning and Zoning Commission unanimously voted against inclusion.[27] Additionally, the February 27, 2007 public hearing before the Anchorage Assembly did not result in a vote on the project because of the large number of individuals who testified in opposition to the bridge.[28]

4. Liability Uncertainty. KABATA's Request for Qualifications (RFQ) prohibits investors from "engag[ing] in traffic and revenue data mining activities with the public and [those] associated with the Project without advance written approval by KABATA."[29] This troubling provision prevents investors from fully evaluating KABATA's analyses and conclusions.

The RFQ also states that "KABATA does not…provide a general indemnification to the [private bridge] Developer"[30] and "[n]o representation or warranty is made as to the…accuracy, completeness and relevance of any document."[31] These statements, in combination, likely leave investors without recourse to KABATA or its consultants for any mistakes or other misfeasance.

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[24] Letter from the U.S. Army Engineer District, Alaska to Edrie Vinson of the Federal Highway Administration, April 28, 2006, p. 2, emphasis added.

[25] Comments of the Alaska Center for the Envrironment on the Knik Arm Crossing Draft Environmental Impact Statement, November 17, 2006, pp. 15-17. Document available at http://www.knikbridgefacts.org.

[26] Documents available at http://www.knikbridgefacts.org.

[27] *Knik Bridge Future Murky*, Richard Richtmyer, Anchorage Daily News, February 14, 2007.

[28] *Get bridge off the A-list, critics say*, Kyle Hopkins, Anchorage Daily News, February 28, 2007.

[29] Request for Qualifications to Develop, Design, Construct, Finance, Operate and Maintain the Knik Arm Bridge through a Public-Private Agreement, Knik Arm Bridge and Toll Authority, issued December 13, 2006, p. A-17. Document available at http://www.knikarmbridge.com.

[30] *Ibid.*, p. A-20.

[31] *Ibid.*, p. C-19.

SUMMARY AND KEY FINDINGS

The information KABATA has developed and made available makes clear that the Knik Arm Bridge project is a high-risk undertaking for the private sector. Key findings in this report include:

- No independent cost estimate for the project
- Potential cost for Phase I - $639 million
- Potential cost for Phase II - $504 million
- Potential cost of each one-year delay - $25 million
- Significant risk of cost increases from marine construction activities, disposal of excavated materials, steel, concrete, etc.
- Only $129 million in guaranteed federal/state funding
- "[U]ncertain development projections, faulty travel forecasting, and transportation connections that cannot be funded…the proposed Knik Arm Crossing is not a viable undertaking at this time" – Municipality of Anchorage to FHWA
- "[A] more in depth, investment-grade analysis [should] be undertaken in support of project financing" – Wilbur Smith Associates to KABATA
- "[T]he proposed project may threaten the viability and recovery of this small beluga population" – National Oceanic and Atmospheric Administration to FHWA
- "We cannot issue a permit which will adversely affect the federal project at the Port of Anchorage" – U.S. Army Corps of Engineers to FHWA
- "No representation or warranty is made as to the…accuracy, completeness and relevance of any document." – KABATA to potential investors