

The Real Finances of the Knik Arm Bridge

Summary

This analysis projects a minimum \$ 2.6 Billion shortfall for the state in covering the cost of the Bridge before the final contractor payment in 2051; \$1.1 Billion between when the Bridge opens in 2016 and 2035 and \$1.5 Billion between 2036-2051. The \$1.1 Billion cumulative shortfall by 2035 is about half the amount the Anchorage 2035 Metropolitan Transportation Plan (MTP) identifies as necessary to build the rest of the road projects in the MTP.

I ANALYSIS

Both this realistic estimate and the Knik Arm Bridge and Toll Authority (KABATA) estimate¹ share the following assumptions:

- Phase 1 Bridge cost of \$730 M and same amount of all Bridge costs including O&M, tolling operations, capital expenditures, and administrative costs
- Passage of HB 158-9 and SB 79-80 that provides an additional \$150 million to the project and a state guarantee on all KABATA obligations since they would now be “obligations of the state.” KABATA has estimated 36 years of availability payments to the contractor of a cumulative \$2.957 Billion for Phase 1.
- Same deal structure, that is a private partner putting in \$77 million equity and receiving net cash flow out for 36 years estimated to be \$915 million in KABATA’s estimate or \$762 million in this realistic estimate
- Same amount of senior debt and capital accretion bonds and same debt schedule to pay off those bonds and same 6.26% total true interest cost
- One way car toll of \$5 and \$18 commercial vehicle in Year 1 with tolls rising 2.5%/year to a one way car toll of \$12.16 and a \$43.79 commercial toll in Year 36. So a commuter driving a car 200 days a year between Anchorage and Point MacKenzie in the Mat-Su would pay \$2000 in Year 1 and \$4832 in Year 36.

Three Changes

KABATA’s plan shows that it can repay the \$150 Million loan in the proposed legislation and the Bridge will have no net cost to the state and even show a profit eventually. The following three changes in this realistic estimate suggest that the cost to the state will be \$2.6 Billion.

1. Loss of federal loans and grants - add \$340 Million to State Cost

For the last two years, KABATA has been turned down for an over \$300 Million federal TIFIA loan and a federal TIGER grant of over \$40 Million. Both programs are highly

competitive with 10-20 times more money applied for than available. KABATA's financial plan includes receipt of these funds. The \$300 million TIFIA loan is particularly valuable to making the KABATA financial plan numbers work since TIFIA loans bear a low interest and do not require any repayment to start until five years after the Bridge opens.

Winning projects for federal loans and grants usually show private sector risk taking, flat as opposed to ballooning annual payments to the concessionaire, and projects which address significant existing congestion. KABATA's application fails these key attributes making it very unlikely that KABATA will ever receive a TIFIA loan. In addition, KABATA's plan shows the contractor taking out equity before the federal loan payments start, an apparent violation of TIFIA program guidelines.

Politically, the project is even more challenged. In his 2011 infrastructure program speech to Congress, the President pledged "no more bridges to nowhere." In January, 2012 Senator Coburn (R-OK) highlighted the recent release by the Federal Highway Administration (FHWA) of \$15 Million in right of way money to KABATA and the Senator rated the Bridge # 6 in his 2011 Wastebook, the top 100 wasteful federal spending projects.

2. Realistic Toll Forecast - add \$2.4 Billion to State Cost

Revenue forecasts are based on population and employment projections which result in trip and toll projections.

KABATA uses a Mat Su population or household forecast for 2030 that is almost 30% higher than the state demographer's 12/10 forecast or ISER's 2009 forecast for the Highway to Highway project and the MTPⁱⁱ. Also, Wilbur Smith, KABATA's traffic consultant, changed its traffic model between 2007 and 2011 so the same population number now generates 9% more trips over the Bridge and lowered the number of people per household from over 2.7 from the 2010 Census to 2.5 in 2035 to appear to be consistent with ISER numbers. The result is higher toll revenue projections than realistic.

In 2009 CH2-M-Hill, using ISER's population and employment data, projected 17,700 trips a day on the Bridge in 2035. KABATA's financial plan cited in the MTP is based on a traffic forecast of 36,000 Bridge trips in 2035, more than double the ISER-CH2-M-Hill number. Another forecast where the state Department of Transportation modeled ISER data (falsely labeled AMATS/ISER in the Table 5-4 of the MTP) said there would be 37,100 trips a day in 2035 but that forecast assumed no toll thereby inflating trip numbers.

Since KABATA's population forecast is an outlier and tolls reduce demand for trips, a projected 18,000 daily trips in 2035 paying the higher \$8.19 one way auto toll used in KABATA's financial plan seems both a conservative and realistic estimate of toll revenue. It also makes sense to use the 18,000 figure for 2035 since that is about the maximum a restricted 2 lane highway can serve and KABATA's financial plan included only the revenue to pay the cost of a 2 lane Bridge and approach roads.

This realistic toll estimate reduces cumulative toll revenue during 2016-2051 from \$4.8 Billion to \$2.4 Billion.

3. Lower Profit to Private Partner - Subtract \$153 Million from State Cost

KABATA's financial plan projects that they will pay out a total of \$915 Million (labeled as net cash flow) to the winning bidder for their \$77 M equity in the project in addition to the estimated \$2.9 Billion in cumulative annual availability payments.

This 12% cumulative rate of return is excessive given that the state guarantee (subject to annual legislative appropriation) largely removes the financing risk to the project for the contractor and leaves the concessionaire only with the customary construction cost risk. The state has traditionally paid no more than 10% when it asks the contractor to front project costs.

A more realistic rate of return reduces the state cost for the private sector return to \$762 million rather than \$915 Million.

CONCLUSION

Totaling the above three items adds an additional \$2.6 billion to be paid out by the state over 36 years for Phase 1 which breaks down to \$1.1 Billion or an average of \$55 million/year between 2016-2035 and \$1.5 Billion in the 2036-2051. None of this additional amount would be covered by toll revenue.

It is unclear how much of that \$1.1 Billion would come out of state transportation funds for Anchorage which historically has received 42% of all state transportation funds. The MTP assumes that KABATA's estimates on toll revenue and Bridge costs are accurate and that KABATA will receive over \$300 Million in federal loans and grants that they have thus far been turned down on twice. Most importantly, the MTP stated assumption is that if there is a toll shortfall to meet contracted availability payments and the state must make good on its guarantee, that those additional funds will not decrease the amount going to Anchorage.

So, to summarize this paper to one critical question, if, as here estimated, the State must make up \$1.1 Billion in toll shortfalls before 2035 to meet \$2.9 Billion in scheduled contractor payments, how much of that amount will come from Anchorage's state transportation funding? With the cutback in federal earmarks and other federal transportation funds, the MTP already counts on the total state share of funding for all Anchorage transportation funds from the 18% we have seen in the past to the 56% in the MTP.

II Recent Developments

Two recent developments will likely add to the state cost of the project over \$1.1 Billion between 2016 and 2035.

1. Bridge Span has increased from 8200' to 9200'

In response to the US Army Corps of Engineers concerns about the effect of the Bridge on additional siltation challenges in Cook Inlet, in November KABATA signed an agreement with the Corps to increase the Bridge span to 9200 feet. A 9200' span will require 4 additional pilings which will likely cost more than 1000 less feet of rock constructed causeway; a rough estimate using the 35% design costs from KABATA's TIGER application is an additional \$15 million.

2. KABATA's Financial Plan still assumes 2 lanes of cost, 4 lanes of revenue

Generally, a restricted access highway at around 18,000 trips a day needs to move to 4 lanes to accommodate any increase in traffic; for example, the Glenn traffic at the Old Glenn intersection flats near the Mat-Su-Anchorage line is now about 28,000 trips a day.

The AMATS Technical Advisory Committee in August, 2011 heard my presentation that the KABATA Pro Forma Financial Plan submitted in February, 2011 to the federal government for a TIFIA loan assumed 4-6 lanes of toll revenue in its toll revenue projection to 2051 but their financial plan included only the cost of a 2 lane Bridge and approach roads.

In 2009 an independent review confirmed the cost of the 2 lane Bridge at \$686 Million and Phase 2 costs were estimated at \$835 Million, the median of a range identified in a process that included KABATA, FHWA, and the state. Phase 2 was defined as the expansion of the Bridge and approaches from 2 lanes to 4 lanes and moving the A-C approach to Ingra-Gambell. The total cost of Phase 1 and Phase 2 in 2009 was \$1.5 Billion.

KABATA's October, 2011 TIGER grant application includes the revenue from 18,700 trips a day in 2022 after which the plan shows the revenue from 4 lanes but only the cost of 2 lanes. In Phase 1 costing \$730 million the Bridge is built with the superstructure to support 4 lanes but only two lanes are financed. At Phase 2 to be implemented in 2030, costing either \$184 million or \$355 million under the two undefined scenarios KABATA listed, the Anchorage approach is moved to Ingra-Gambell.

In order to count the revenue from over 18,000 trips a day the financial plan has to include the cost of 4 lanes from downtown Anchorage to Knik Goose Bay Road. KABATA's 2011 financial plan projects Bridge traffic will be 18,700 trips a day in 2022 rising to 36,000 in 2035 and 50,000 trips by 2051 when the bonds are paid off. But any revenue increases after 2022 are not possible without showing the cost of 4 lanes from downtown Anchorage to KGB Road.

Citing KABATA's input, the MTP has Phase 1 costing \$778 Million with Phase 2 that adds a 4 lane connection to Ingra-Gambell and builds four lanes on the Mat-Su side, costing a suspiciously low \$230 Million. There is some savings in this scenario from digging up Government Hill only once, not twice. But funding to expand the Bridge to 4 lanes is not

identified and an additional \$230 Million of new toll revenue to pay for Phase 2 is cited which is curious since the toll revenue from the KABATA financials is fully allocated to pay for Phase 1. Excluding financing costs, the sum of Phase 1 and Phase 2 for the Bridge in the MTP are around \$1 Billion, about \$500 Million less than both phases in 2009 .

Because the Phase 1 and 2 scenarios in the MTP count on the revenue from 4 through lanes before they are built and the MTP numbers show a lower cost than the independent estimates of three years ago, the cost of the state guarantee in this realistic estimate is probably still underestimated.

Jamie Kenworthy
jamiiek@alaska.com
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End Notes

ⁱ KABATA numbers are from the Citigroup financial plan done 10/17/11 for KABATA's TIGER federal loan application, see <http://www.knikarmbridge.com/2011TIGER/ExhibitD.pdf>.

ⁱⁱ The history of KABATA's use of population estimates does not inspire confidence in KABATA's revenue forecasts which are based on its consultants' trip and toll forecasts.

In 2007 Scott Goldsmith of ISER estimated that 204,400 people would live in the Mat Su in 2030. KABATA then hired the Insight Research Corporation of Dallas, Texas to come up with the number of 250,700 for the Mat Su in 2030, see p. 26
<http://www.knikarmbridge.com/documents/IndependentEconomicOverviewandDevelopmentForecast07022007.pdf>

When faced with criticism by citizens that this projected population number was the equivalent of adding the city of Palmer, the Borough's second largest city, to the Borough every year for 20 years, the AMATS Technical Advisory Committee suggested KABATA redo the population forecast. KABATA's traffic and toll forecaster, Wilbur Smith and Associates (WSA), then redid the population forecast in 2011 and without naming a population number, came up with 74,600 households in the Borough in 2035. Using the 2010 Mat Su Census averaged of over 2.7 people per household -- the 2010 US Census of the Mat Su counted 88,995 people in 31,824 households -- that number translates to over 200,000 people in the Borough in 2035.

In 2010, the state demographer estimated a population of 152,456 for Mat-Su in 2034. Scott Goldsmith latest forecast in 2009 done for the MTP is for the Borough in 2035 to have 59,165 households or the 159,050 people as cited in Table 5-4 of the MTP.