



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

Department of Transportation and
Public Facilities

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April 29, 2022

Dear Alaskan:

The State of Alaska is entering an exciting era for transportation. With the fiscal situation stabilizing, and federal infrastructure funding starting to take shape, we are looking to make transformational investments in our roads, trails, bridges, airports and ferries. Our focus will be to make our transportation network safer, more resilient, and more equitable.

In 2022, we are breaking ground on the Knik Goose Bay Road Reconstruction project. The first of two phases, this project will improve safety and capacity, supporting one of Alaska's most quickly expanding communities. We are completing the conversion of the Parks Highway through the Mat-Su Valley from 2 lane to 4 lane, eventually eliminating the Highway Safety Corridor designation. We are targeting the Seward Highway Safety Corridor, with Rock Fall Mitigation, an Alyeska/Girdwood Interchange, and a focus on converting the corridor to a four-lane divided highway. And we are examining the importance of the connection between Anchorage and the Mat-Su Valley for future transportation projects.

Over the past year, the department has been approached several times about the attached report, Knik Arm Crossing project: Analysis for Moving Forward to Financing and Construction. This report, often referred to as the Hemenway Report, examined what steps would need to be taken to revive the Knik Arm Crossing project after a pause due to the state's financial situation. Since the commission of this report, Alaska, the nation, and world have gone through many changes and today face a different landscape of federal and state funding for infrastructure. The pandemic, supply chain issues, changes in work patterns, and tightening of the labor pool are all factors that were not considered in the original project, or in this most recent review.

The attached report, while a comprehensive overview of many factors to consider in evaluating a project of this magnitude, is no longer considered current. While useful as part of the previous record, at this point, the department can make no claim as to the relevancy or accuracy of the data in the report. The information provided regarding cost estimates, project schedules, traffic and toll revenue studies, financing, operations and maintenance, right of way, stakeholder engagement, and procurement will need to be re-evaluated and updated. The department will continue to work with our federal partners to fulfill the commitments made in 2016 when the project was paused.

Over the next year, DOT&PF will be performing due diligence, examining the merits of a strengthened Anchorage Mat-Su connection, either by expanding the Glenn Highway, or creating a new link, such as the Knik Arm Crossing. These efforts are critical to address highway safety, population growth, economic development, connectivity for people, freight and goods, and to ensure our Alaskan transportation system is resilient as we move forward into the future.

Thank you for your interest in Alaska's safe, resilient, and equitable transportation infrastructure.

Sincerely,


Ryan Anderson, P.E.
Commissioner

"Keep Alaska Moving through service and infrastructure."

KNIK ARM CROSSING PROJECT

Analysis for Moving Forward to Financing and Construction



KAC PROJECT
REPORT

August
2019



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Knik Arm Crossing Project

Analysis for Moving Forward to Financing and Construction

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Table of Acronyms Used

Acronym	Definition
AADT	Average Annual Daily Traffic
ADOL	Alaska Department of Law
ADOR	Alaska Department of Revenue
ADOT&PF	Alaska Department of Transportation and Public Facilities
AMATS	Anchorage Metropolitan Area Transportation Solutions (An MPO)
Anchorage	Municipality of Anchorage
ARRA	American Recovery of Reinvestment Act of 2009
ARRC	Alaska Railroad Corporation
AS	Alaska Statutes
BAB	Build America Bureau of USDOT
BAN	Bond Anticipation Note
BCA	Benefit Cost Analysis
BO	Biological Opinion issued under the ESA
BOS	Back-Office-System
BUILD	Better Utilizing Investments to Leverage Development discretionary grants program
CapEx	Capital Expenditure(s)



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Acronym	Definition
CER	Cost Estimate Review
CFR	Code of Federal Regulations
CM/GC	Construction Manager/General Contractor
CP	Critical Path
CPI	Consumer Price Index
CPM	Critical Path Method
CV	Commercial Vehicles
CWA	Clean Water Act
DB	Design, Build
DBB	Design, Bid, Build
DBM	Design, Build, Maintain
DBOM	Design, Build, Operate and Maintain
DEC	Alaska Department of Environmental Conservation
DOD	Department of Defense
DSRF	Debt Service Reserve Fund
EIS	Environmental Impact Statement issued under the NEPA
ESA	Endangered Species Act of 1973, as amended
ETC	Electronic Toll Collection
FAHP	Federal-Aid Highway Program
FAST Act	Fixing America's Surface Transportations Act
FDBOM	Finance, Design, Build, Operate, Maintain
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impacts
FP	Financial Plan
FTA	Federal Transit Administration
GARVEE	Grant Anticipation Revenue Vehicles bonds
ICAP	Indirect Cost Allocation Plan
IFP	Initial Financial Plan
IHA	Incidental Harassment Authorization
INFRA	Infrastructure for Rebuilding America discretionary grants program
JBER	Joint Base Elmendorf-Richardson
JPO	Joint Project Office
JV	Joint Venture



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Acronym	Definition
KABATA	Knik Arm Bridge and Toll Authority
KAC	Knik Arm Crossing Project
LOA	Letter of Authorization for incidental takes under the MMPA
LOI	Letter of Interest
LRTP	Long-Range Transportation Plan under 23 USC §§ 134 and 135 and 23 CFR § 450 (See MTP)
Mat-Su	Matanuska-Susitna Borough
MMPA	Marine Mammal Protection Act of 1972, as amended
MOA	Municipality of Anchorage
MPO	Metropolitan Planning Organization under 23 USC § 134 and 23 CFR §§ 450.300 et seq.
MSA	Metropolitan Statistical Area as defined by the US Census Bureau
MTP	Metropolitan Transportation Plan under 23 USC § 134 and 23 CFR §§ 450.300 et seq. (See LRTP)
NEPA	National Environmental Policy Act of 1969, as amended
NHCCI	National Highway Construction Costs Index
NHPA	National Historic Preservation Act of 1966, as amended
NHS	National Highway System
NMFS	National Marine Fisheries Service, a division of NOAA
NOAA	National Oceanic and Atmospheric Administration
NOFO	Notice of Funding Opportunity
NRSRO	Nationally Recognized Statistical Rating Organization
NSFHP	Nationally Significant Freight and Highway Projects
O&M	Operations and Maintenance
ORT	Open Road Tolling (also known as “free-flow tolling”)
OST	Office of the Secretary of Transportation of USDOT
P3	Public-Private Partnership
PA	Programmatic Agreement
PABs	Private Activity Bonds
PDL	Project Development Lead
PM	Port MacKenzie
PMP	Project Management Plan as required under 23 USC § 106(h)
POA	Port of Alaska (formerly the Port of Anchorage)
PV	Passenger Vehicles
QA/QC	Quality Assurance/Quality Control



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Acronym	Definition
R&R	Renewal and Rehabilitation
RFID	Radio Frequency Identification
RFP	Request for Proposals
RFQ	Request for Qualifications
RID	Reference Information Document
ROD	Record of Decision issued under the NEPA
ROW	Rights of Way
RRIF	Railroad Rehabilitation and Improvement Financing credit program
SE	Socio-Economic
SEIS	Supplemental Environmental Impact Statement
SHPO	State Historic Preservation Office
SME	Subject Matter Expert
SOQ	Statement of Qualifications (in response to RFQ)
SP	State Preference survey
STA	State Transportation Agency
STIP	State Transportation Improvement Program under 23 USC § 135 and 23 CFR §§ 450.200 et seq.
T&R	Traffic and Toll Revenue
TAC	Technical Advisory Committee
TAZ	Traffic Analysis Zone
TIFIA	Transportation Infrastructure Finance and Innovation Act credit program
TIGER	Transportation Investment Generating Economic Recovery grant
TIP	Transportation Improvement Program
TSIO	Tolling Systems Integrator-Operator
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USDOT	United States Department of Transportation
VFM	Value for Money
VMT	Vehicle Miles Travelled
VOC	Vehicle Operating Costs
VOT	Value of Time
YOE	Year of Expenditure



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Executive Summary

The Knik Arm Crossing Project (KAC Project) is a proposed bridge and associated roadway connecting Anchorage and the Matanuska-Susitna Borough (Mat-Su) across the Knik Arm of Upper Cook Inlet. The KAC is expected to cost approximately \$932 million to construct and is intended to be a toll bridge where user fees will pay for approximately two-thirds of construction and all of its operations and maintenance post opening.

After investing approximately \$100 million of public funds into the KAC Project, it was suspended in 2016. In March 2019, Governor Dunleavy announced the reversal of the 2015 Administrative Order (AO) suspending the Project and directed the Alaska Department of Transportation and Public Facilities (ADOT&PF) to determine the feasibility of moving the Project forward and to assess the cost and risk of doing so.

Subsequently ADOT&PF engaged Hemenway Consulting to inventory and document the Project status and to develop a critical path roadmap and cost estimate for potentially progressing the Project forward as a critical infrastructure link for Alaska. This report documents the findings of that body of work and the proposed path forward to financing and construction for the KAC Project should the State choose to pursue it. Construction management and facility operations and maintenance are outside the scope of this report except for cost estimation for financial planning and to meet federal requirements.

Figure 1 - Aerial Rendering of the Knik Arm Crossing Bridge



The Project, if built, is expected to achieve the following as summarized from the Project's purpose and need statement:

- Improve regional transportation infrastructure to meet population growth
- Regional transportation connectivity for the movement of people and goods
- Safety and transportation system redundancy
- Access between regional airports, ports, hospitals, fire, police and for disaster relief

In addition, the Project is expected to support economic growth and jobs in Alaska. KAC construction is forecast to generate approximately 5,000 full time equivalent job years and facilitate continued jobs post opening. The Project also provides a number of synergies with other infrastructure projects in the region. A high-level presentation is included in [Appendix C – Knik Arm Crossing Project Socio-Economic Benefits Presentation](#) for consideration by report users, including elected officials, policy makers and the public to further the understanding of the essential nature of the KAC.



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Much of the previous work prepared for the Project remains valid. Other components require updating or reinstatement. Additionally, the presented timeline for the path forward is modestly aggressive and could potentially be addressed at a slower pace to accommodate State requirements and constraints. Additional Project background is discussed in the following sections of this Executive Summary and the ensuing detailed analysis across 16 essential elements to moving the Project forward to financing and construction.

Figure 2 - Knik Arm Crossing Artist's Rendering Looking Towards Anchorage



Knik Arm Bridge Project Background

The State of Alaska Department of Transportation & Public Facilities (ADOT&PF) initiated the Knik Arm Crossing Project (KAC or Project) in 2003 after legislation was passed forming the Knik Arm Bridge and Toll Authority (KABATA), a public corporation of the State of Alaska. The Project is Title 23 eligible (Federal-Aid Highway Funding) and has been pre-designated by the Federal Highway Administration (FHWA) as part of the National Highway System (NHS). The KAC completed the National Environmental Policy Act (NEPA) process and a Record of Decision (ROD) was signed by the FHWA on December 15, 2010. The FHWA subsequently approved entering the Rights of Way (ROW) phase for the KAC in 2011.

After two cancelled attempts at Project procurement through a Public-Private Partnership (P3), a financing plan was adopted (as supported by legislation passed in the 2014 Legislative session) that anticipated the state would borrow, on a senior lien non-recourse basis, approximately 33%, or \$378 million, of eligible project cost from the Transportation Infrastructure Finance and Innovation Act (TIFIA) program administered by USDOT/FHWA; issue up to \$300 million (\$279 million was projected to be issued) of State-backed revenue bonds through the Department of Revenue, and to fund the remainder of the KAC construction through Federal Aid Highway Funds appropriations. A TIFIA Letter of Interest



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(LOI) was filed in July 2015 incorporating this plan of finance. Under this plan, the contract for the construction was anticipated to be tendered under a Design-Build (DB) Request for Proposals process.

On December 26, 2014, then-Governor Walker signed Administrative Order (AO) 271, limiting spending on the KAC and five other projects to essential spending only. On June 29, 2016 Governor Walker announced the shut down of the KAC and Susitna-Watana Dam projects and vetoed budgeted Project federal-aid highway funding for the KAC. As a result of these actions, the KAC Project records were archived, and it was suspended in the fall of 2016, though the ROW phase is still technically an open phase of work.

On February 21, 2019, Governor Dunleavy signed AO 309, which rescinded AO 271. This allows the KAC to potentially be restarted by the State and ADOT&PF. This report lays out an approach and budget to successfully moving the Project to final design and construction should the State choose to move it forward to completion.

KAC Project Public Investment and Assets

The State has invested approximately \$100 million in developing the KAC Project prior to it being suspended in 2016. The majority of that investment was made using Alaska's allocation of federal-aid from the Federal Highway Trust Fund. That public investment in developing the Project generated a number of tangible and intangible assets that the State has an interest in preserving and protecting. These assets include:

- A "Build" Record of Decision (ROD) under the National Environmental Policy Act (NEPA) signed by FHWA on December 15, 2010;
- Point MacKenzie Road was upgraded and paved from the Intersection with Burma Road to the port using a \$15.4 million Department of Community, Commerce and Economic Development capital budget grant;
- Thirty five percent preliminary design and cost estimates for the Project were completed;
- Eighty-six percent of the required Rights of Way (ROW) was secured, including all private parcels required for Phase 1; and
- A compendium of a significant body of information and studies was developed for future advancement of the Project to financing and construction.

HB 23 Implications for KAC Project

During the 2014 legislative session, House Bill (HB) 23 was passed and signed into law with significant implications for KAC Project financing, delivery and operations. Prior to passage of HB 23, the KAC Project was owned and managed by KABATA. Effective July 1, 2014, the Project was turned over to ADOT&PF for design, construction, operations and maintenance. A summary of HB 23 impacts on Project financing, delivery, operations and maintenance includes:

- Transfer of responsibility for design, construction, maintenance and ownership of the KAC from KABATA to ADOT&PF effective July 1, 2014;
- Limited KABATA's role to operating the KAC post-opening under agreement with ADOT&PF (all other powers of the Authority were rescinded, including toll rate setting and financing);



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- Provided ADOT&PF the ability to borrow under the USDOT Transportation Financing and Innovation Act (TIFIA) loan program to finance a portion of the KAC (and other transportation projects);
- Authorized the State Bond Committee to issue up to \$300 million of State bonds to finance a portion of the Project (provided ADOT&PF secures a TIFIA loan for at least 30 percent of construction cost); and
- Transferred policy and toll setting for the KAC from KABATA's five-member board to the ADOT&PF Commissioner, who has broad toll setting authority under Alaska Statutes (AS) 19 (KABATA's board public membership seats are all vacant as of the date of this report).

Importantly, while strengthening other elements of project financing, HB 23 limits financing and delivery alternatives without additional legislation and exposes lenders to higher perceived political risk around tolling and operating policy stability.

KAC Path Forward to Obtaining Commercial and Financial Close

The scope of the Hemenway Consulting contract with ADOT&PF focused on inventorying and assessing the status of NEPA/ROD, permitting, ROW acquisition, cost estimates, financing, traffic and toll revenue studies, federal requirements, etc. with the goal of determining required elements and the critical path to take the KAC Project to commercial and financial close and enter into the construction phase.

Construction and operations, other than cost estimates for financial planning, are beyond the scope of this report. Additionally, key risk elements in the critical path were identified. This report identifies 16 elements on the critical path to achieving this goal should the State determine to move the Project forward. The critical path plan also provides checkpoints to moving the Project forward while controlling risks and costs. Each of these 16 identified components of the plan are discussed within the corresponding numbered sections following this Executive Summary.

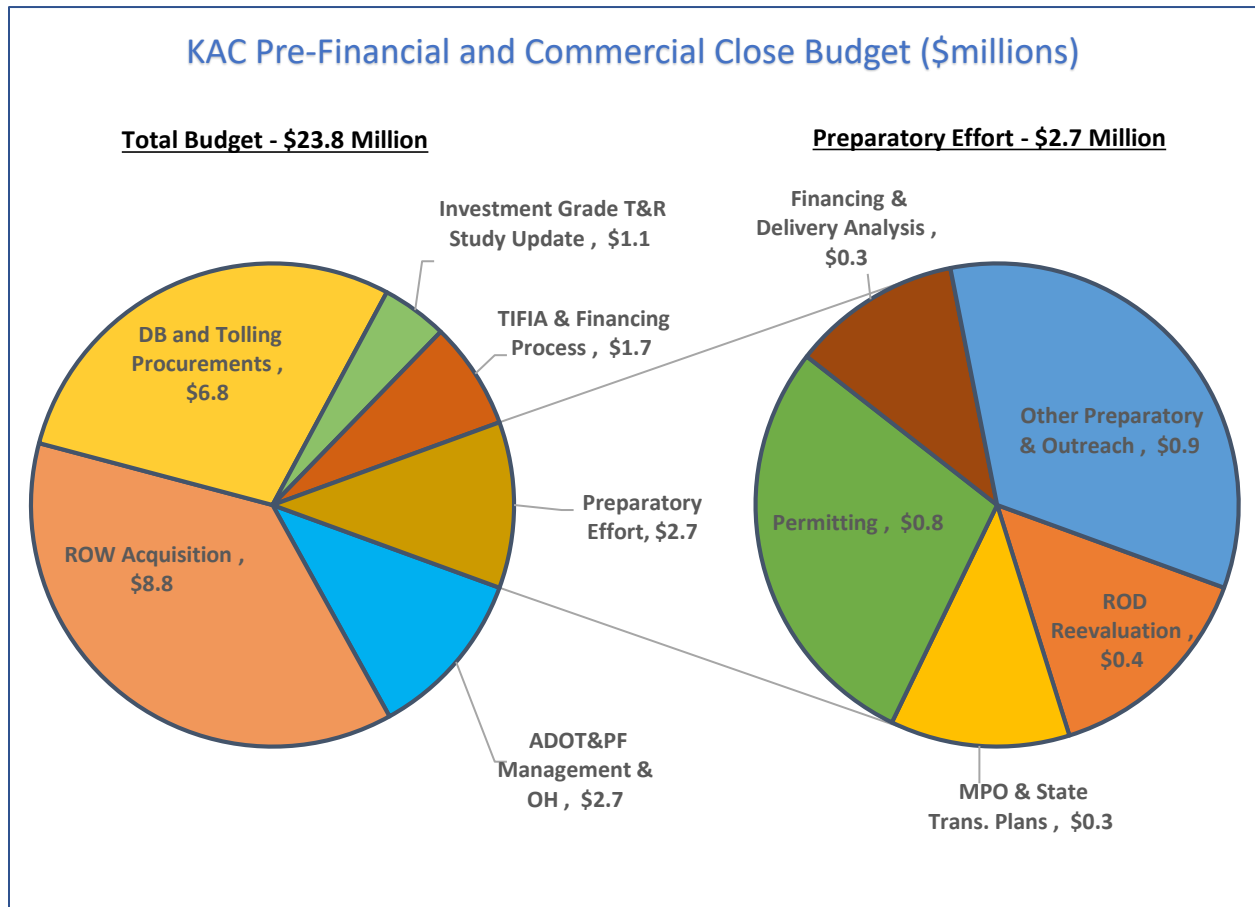
A budget range, including an estimate of low, high and expected costs for each of the 16 identified task elements, is provided by individual task as shown in [Table 1 - KAC Project Delivery Tasks, Budget and Schedule](#) and by condensed summary in the pie chart depicted in [Figure 3 - KAC Baseline Budget for Achieving Commercial and Financial Close](#). The total budgeted baseline cost for pre-construction activities to achieve commercial and financial close and enter into the construction phase is estimated at \$23.8 million, with the low and high end of the range at \$18.9 million and \$29.4 million, respectively. ROW acquisition and procurement of the construction contractor and Tolling Systems Integrator-Operator (TSIO) together represent approximately \$15.6 million, or 65% of the total preconstruction budget. Other significant items include an investment grade traffic and toll revenue study update and the TIFIA loan financing process at a combined total of \$2.6 million. ADOT&PF Project management and overhead represents another \$2.7 million of the budget. The cost of construction and operations phases are covered by financing, federal-aid and/or toll revenue generated by the KAC should the State determine to move forward with the Project.



Knik Arm Crossing Project

Analysis for Moving Forward to Financing and Construction

Figure 3 - KAC Baseline Budget for Achieving Commercial and Financial Close



Knik Arm Crossing Project

Analysis for Moving Forward to Financing and Construction

Table 1 - KAC Project Delivery Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	VARIOUS	\$ 18,900,525	\$ 29,445,574	\$ 23,761,924	730	1,620	1,260	3/20/2019	5/29/2022	9/10/2022
1	2	NEPA/ROD Reevaluation update	ADOT&PF and Consultant(s)	\$ 281,000	\$ 461,000	\$ 386,000	180	360	270	8/31/2019	5/27/2020	8/25/2020
2	8	Consistency with State and Local Transportation and Land Use Plans Under Titles 23 and 49	In-House, Mat-Su, Anchorage, Consultant(s)	\$ 160,000	\$ 475,000	\$ 317,500	180	540	360	8/31/2019	8/25/2020	2/21/2021
3	10	Fulfill Major Projects Requirements	In-house and Consultant with FHWA participation	\$ 85,000	\$ 165,000	\$ 125,000	90	270	180	9/1/2019	3/16/2020	5/28/2020
4	4.1	Secure Major Permits	In-house, ADOL, Consultants, USACE	\$ 600,000	\$ 850,000	\$ 750,000	365	730	548	10/1/2019	5/1/2021	10/31/2021
5	4.1, 4.2	Acquire Remaining ROW and Secure Easements	In-house, ADOL, Consultants, USACE	\$ 6,500,000	\$ 10,832,404	\$ 8,832,404	190	540	420	10/1/2019	11/24/2020	3/24/2021
6		Traffic and Toll Revenue Studies:	Consultant and Subconsultant(s)	\$ 1,040,000	\$ 1,410,000	\$ 1,230,000	350	505	425	11/1/2019	1/14/2021	3/20/2021
7		Validate and Update Operations and Maintenance and Renewal and Rehabilitation Cost Forecasts for Bridge and Tolling Systems/Collection	In-house and Consultant(s)	\$ 55,000	\$ 115,000	\$ 85,000	30	75	53	2/1/2020	3/31/2020	4/16/2020
8	3.1, 6, 7, 9	Plan of Finance and Delivery Methods Alternatives Development and Analysis	In-house and Consultant(s) / Financial Advisor	\$ 200,000	\$ 1,200,000	\$ 300,000	180	365	273	9/1/2019	8/21/2020	9/28/2020
9	8	Identify (and Secure) Public and/or Private Funding	In-house and Consultants	\$ 50,000	\$ 50,000	\$ 50,000	360	730	730	9/1/2019	8/31/2021	8/31/2021
10	6	Pursue BUILD and or INFRA Grant(s)	T&R Consultant	\$ 205,000	\$ 365,000	\$ 285,000	365	730	548	TBD	TBD	TBD
11	1-10	TIFIA Loan Application and Approval Process	In-house and consultant(s) / Financial Advisor	\$ 1,119,500	\$ 1,650,000	\$ 1,419,500	365	730	548	10/15/2019	1/28/2022	1/30/2022
12	11	State Bond Issuance (assumes issuance under HB 23 construct)	In-house (SBC), SOA Bond Counsel, and Financial Advisor	\$ -	\$ -	\$ -	90	120	105	9/29/2021	1/12/2022	1/27/2022
13	1-11	Procurement Process for Project Construction (Assumes Design-Build (DB) delivery method)	In-house, Legal Counsel, Consultants	\$ 5,710,000	\$ 7,210,000	\$ 6,210,000	360	720	540	5/30/2020	5/29/2022	9/10/2022
14	1-11, parallel to 13	Procurement Process for Toll Systems Integrator/Operator (TSIO) and Toll Systems Design and Branding	In-house, Legal Counsel and T&R Consultant	\$ 370,000	\$ 860,000	\$ 615,000	360	720	540	5/30/2020	1/2/2022	1/17/2022
15	Ongoing	Stakeholder Engagement	In-house and Consultant(s)	\$ 200,000	\$ 500,000	\$ 350,000	730	1,460	1,095	3/20/2019	5/29/2022	9/10/2022
16	Ongoing	ADOT&PF Management and Overhead	In-house labor	\$ 2,250,025	\$ 3,202,170	\$ 2,706,520	730	1,460	1,095	3/20/2019	5/29/2022	9/10/2022

The critical path for the KAC is depicted in [Figure 4 - KAC Project Delivery Critical Path to Commercial and Financial Close](#). It is based on a modestly aggressive timeline that assumes the State determines to move the Project forward and commences working the schedule and 16 enumerated tasks immediately and expeditiously without significant schedule slip. The State could optionally choose to move the Project forward at a more relaxed and deliberate pace focusing first on preserving the investment in the Project to date, most importantly the ROD.

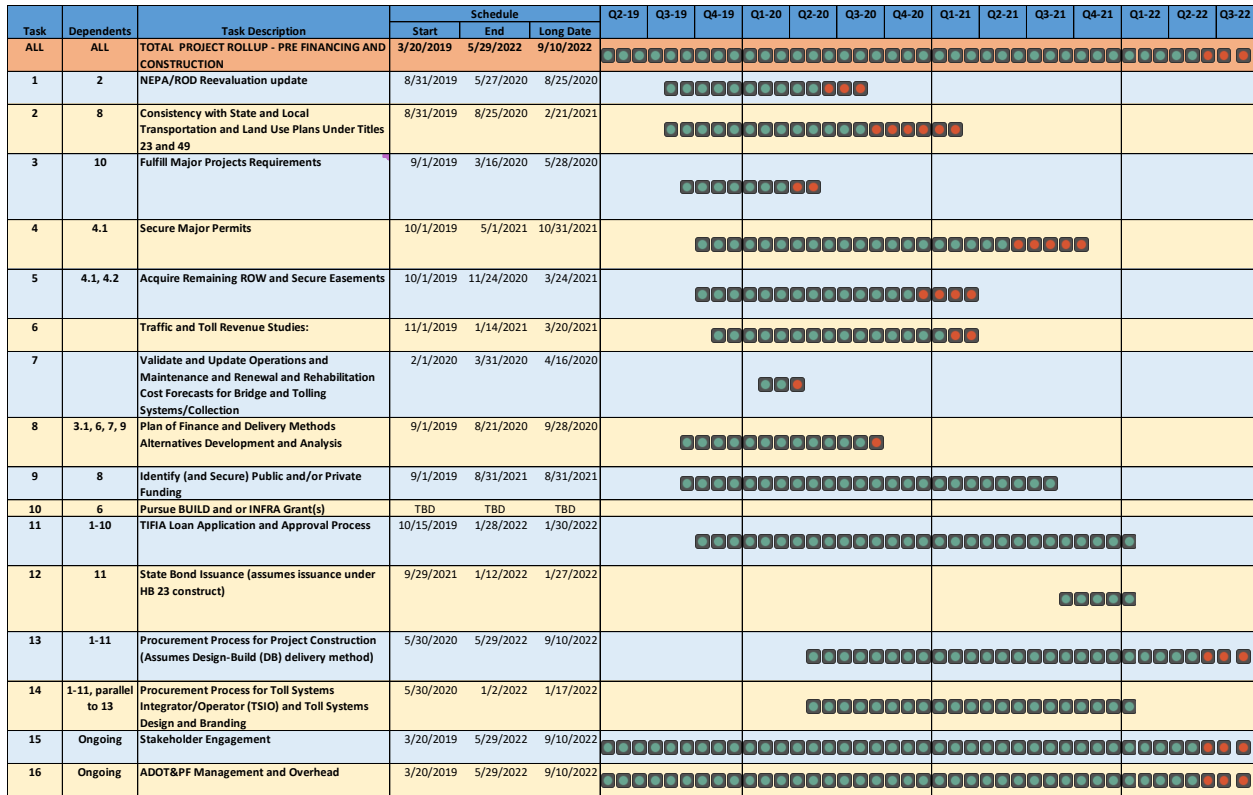
Essential schedule calendar considerations include a federal requirement of completing the ROW phase within 10 years of initiation, making the deadline July 2021. Other elements are critical to accessing federal-aid highway funding and other federal grant programs to help fund the Project. These considerations are discussed in-depth in the report sections that follow this Executive Summary. The schedule shown depicts achieving commercial and financial close to enter into construction in mid to late 2022. Assuming a four-year construction schedule to open the Project to traffic, it could be in service by fall 2026.



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Figure 4 - KAC Project Delivery Critical Path to Commercial and Financial Close



KAC Key Risks/Milestones to Achieving Financial and Commercial Close

Three overarching risk elements were identified in developing critical path for the pre-construction phase that will require to be addressed in order to move the KAC forward and to obtain access to federal-aid highway funds and other federal grant programs. The key risk issues are:

1. Achieving consistency with State and local transportation plans under 23 USC § 106 / 23 CFR § 450,
2. Securing a National Marine Fisheries Services (NMFS) multi-year Letter of Authorization (LOA) for incidental takes under the Marine Mammal Protection Act (MMPA) for beluga whales (or attaining a high certainty of issuance likelihood), and
3. Replacing funding for previously committed \$300 million of federal-aid highway funding for the KAC Project.

Inclusion in State and local transportation plans is essential for federal funding participation in the KAC Project and for completing the NEPA reevaluation to update the ROD. The KAC was included in the State Transportation Improvement Program (STIP) and in the Anchorage Metropolitan Area Transportation Solutions (AMATS) transportation plans. After the KAC Project was suspended in 2016, it was dropped from both the State and AMATS transportation plans. The cost investment in getting the Project back into the plans is expected to be modest but could prove time consuming and political with respect to the AMATS transportation plans. This issue is discussed in detail in [Section 2](#) of this report.



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The NMFS LOA is an essential permit for construction and was applied for and in process when the Project was suspended. This permit is a condition precedent for two other key permits and to securing a ROW easement through Joint Base Elmendorf-Richardson (JBER) for the Project, as discussed in detail in [Sections 4 and 5](#) of this report.

When the Project was suspended in 2016, the State had made a commitment to appropriate/allocate \$300 million from the federal-aid highway program to the KAC over a four to five-year period and approximately \$100 million of that funding was obligated to the Project in the STIP. Toll revenue is forecast to cover approximately two-thirds of Project financing requirements and this federal-aid funding represents the third leg of the three-legged financing plan, along with a TIFIA loan and State bonds. This issue is discussed under [Sections 8, 9 and 10](#) of this report. It is anticipated that one or more federal sources would be used to replace the previous commitment, but other alternatives may be available and should be explored further should the State choose to move the Project forward. Filling the void is necessary for the plan of finance to demonstrate fiscal constraint.

Other Pre-Financing and Construction Risks Considerations were also identified in developing this report. These issues are controllable by the State and ADOT&PF and should be considered in determining whether and at what pace to advance the Project. These risks include, but are not limited to, the following:

- Cost escalation/inflation risk impact on construction cost,
- Securing ROW acquisitions and easements to contain construction risk prior to contract award to avoid potential delays and cost overruns,
- Securing TIFIA financing for 30 percent of KAC Project costs to permit the issuance of up to \$300 million of State bonds by the State Bond Committee to complete the financing plan, and
- Alaska economic conditions and slowing population growth pose a potential risk to achieving traffic and toll revenue forecasts.

The KAC Project work plan and critical path presents logical checkpoints to determining steps to proceed forward with and alternatives considering risk versus certainty should the State choose to advance the Project towards financing and construction.

Preserving the KAC and Achieving Commercial and Financial Close - Keys to Success

There are several keys to successfully delivering the KAC should the State choose to move forward to commercial and financial close and delivering the Project for the benefit of Alaskans. These characteristics include:

- Unwavering support of political leadership,
- Dedicating a seasoned core Project team to drive the KAC forward and manage it for success,
- Engaging a highly qualified consulting team with core competencies and demonstrated track record of success to support the core Project team and protect the State's interest,
- Protecting and preserving the State's \$100 million investment in the Project through preservation of NEPA/ROD,
- Employing a continuous stakeholder outreach and messaging program to educate and inform the public and government officials,



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- Commitment to the chosen procurement / delivery method and financing plan, including the public funding component.

The balance of this report discusses these recommendations throughout the 16 sections presented.

1 NEPA/ROD Reevaluation/ROD Preservation

It was determined early in the development of the KAC that an Environmental Impact Statement (EIS) under the National Environmental Policy Act of 1969, as amended (NEPA) would be required for the Project. FHWA served as the lead agency in the NEPA EIS process. After extended and costly studies, a draft EIS for the KAC was developed and released for public comment, followed by a Final EIS approved and published on December 20, 2007. A “build” Record of Decision (ROD) was signed by FHWA on December 15, 2010 after the National Marine Fisheries Service issued a “no-jeopardy” Biological Opinion (BO) under the Endangered Species Act (ESA) on November 30, 2010. The first reevaluation of the ROD was completed in 2015 and signed by FHWA on June 9, 2015. Approximately \$50-\$60 million of primarily federal-aid highway funds were invested by the State in obtaining the ROD. Completing an updated reevaluation for the KAC ROD will preserve this significant investment and keep options for proceeding to financing and construction of the KAC open for the State.

Best practices and FHWA guidance recommend a written reevaluation of the Final Environmental Impact Statement (FEIS)/ROD be completed and approved to ensure that the approved FEIS/ROD for the Project remains valid (23 CFR § 771.129). Since the most recently completed reevaluation of the FEIS/ROD is now over three years old, it is important to perform the reevaluation as soon as practical to update the ROD. If significant changes to the initial scope, purpose and need statement, and alternatives analysis have occurred since the most recent reevaluation, a Supplemental EIS (SEIS) may be required. Conversely, if the initial scope, purpose and need statement, and alternatives analysis remain consistent with those proposed in the original FEIS/ROD then a reevaluation will ensure project compliance with all applicable laws and regulations and a costly SEIS will not be required.

Discussions with consultants engaged in the draft and final EIS documents leading to the ROD and the first reevaluation completed in June 2015 indicate that there are no known significant changes which could trigger a requirement to conduct a Supplemental EIS (SEIS). However, the most recent reevaluation is now four years old and will require an updated reevaluation to document the assessment required for a reevaluation update. In addition, certain components of the final EIS and ROD require specific attention. The principal items are (1) consistency with state and local transportation plans, (2) Section 106 Consultation and Programmatic Agreement (PA) under the National Historic Preservation Act (NHPA) and (3) KAC conformance with updated noise analysis requirements. Each is discussed below.

At the time the KAC ROD was signed in 2010 and the NEPA reevaluation in 2015, FHWA was the lead agency for Alaska under NEPA. Subsequently, ADOT&PF has assumed this role under the 23 USC § 327 NEPA Surface Transportation Project Delivery Program assignment. Therefore, the Department will act as the lead agency for the reevaluation (or SEIS if determined to be necessary). The KAC Project consultants engaged in obtaining the ROD and the 2015 reevaluation are also available to support this



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effort and are currently under contract with the Department to apply their institutional knowledge to efficiently conduct the reevaluation process.

The timeline for completing a reevaluation is expected to be less than 9-12 months and the estimated budget is just under \$400,000. *Table 2 - NEPA/ROD Reevaluation/ROD Preservation Tasks, Budget and Schedule* enumerates the \$400,000 budget by task assuming a reevaluation is sufficient to update the ROD.

Table 2 - NEPA/ROD Reevaluation/ROD Preservation Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
1	2	NEPA/ROD Reevaluation update	ADOT&PF and Consultant(s)	\$ 281,000	\$ 461,000	\$ 386,000	180	360	270	8/31/2019	5/27/2020	8/25/2020
1.1		Section 106 Consultation/PA Review and Update	Consultant	\$ 60,000	\$ 90,000	\$ 75,000	90	180	135	8/31/2019	1/13/2020	2/27/2020
1.2		Noise Analysis	Consultant	\$ 100,000	\$ 120,000	\$ 110,000	60	120	90	8/31/2019	11/29/2019	12/29/2019
1.3		Overall written reevaluation update and drafting	Consultant or In-house	\$ 120,000	\$ 250,000	\$ 200,000	180	360	270	8/31/2019	5/27/2020	8/25/2020
1.4		Written re-evaluation approval (SEO)	In-house	\$ 1,000	\$ 1,000	\$ 1,000	14	21	18	5/9/2020	5/27/2020	8/25/2020

Figure 5 - NEPA/ROD Reevaluation/Update Timeline Relative to KAC Project Delivery Critical Path depicts the estimated timeline for completing the reevaluation relative to the KAC Project delivery critical path and assumes a Supplemental EIS is not required at this time.

Figure 5 - NEPA/ROD Reevaluation/Update Timeline Relative to KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
1	2	NEPA/ROD Reevaluation update	8/31/2019	5/27/2020	8/25/2020														
1.1		Section 106 Consultation/PA Review and Update	8/31/2019	1/13/2020	2/27/2020														
1.2		Noise Analysis	8/31/2019	11/29/2019	12/29/2019														
1.3		Overall written reevaluation update and drafting	8/31/2019	5/27/2020	8/25/2020														
1.4		Written re-evaluation approval (SEO)	5/9/2020	5/27/2020	8/25/2020														

1.1 Consistency with State and Local Land Use and Transportation Plans

At the time it was suspended in 2016, the KAC Project was included in the State Transportation Improvement Program (STIP) and in the Anchorage Metropolitan Area Transportation Solutions (AMATS) Metropolitan Planning Organization (MPO) plans as required by 23 USC § 106 and 23 USC § 450 and in compliance with NEPA. Subsequently the KAC was dropped from the AMATS MPO plans and removed from the STIP by ADOT&PF. The ADOT&PF will need to review local land use and transportation plans and work with local communities to ensure that the Project remains consistent with current land use and transportation plans. This would require consultation with local planning commissions and others. See [Section 2 Consistency with State and Local Transportation and Land Use Plans](#) for further discussion of this issue.

1.2 ESA Section 7 Consultation

Section 7 Consultation under the Endangered Species Act (ESA) with respect to the listed as endangered Cook Inlet stock of beluga whales was completed in 2010 and a Biological Opinion (BO) was issued on November 30, 2010 indicating the KAC would not likely threaten the continued existence of the Cook Inlet stock of beluga whales (a “no-jeopardy” opinion). A written reevaluation can be developed and approved with the current final BO. However, when the Project does move forward with a multi-year



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Marine Mammal Protection Act (MMPA) Letter of Authorization for incidental takes the Biological Opinion will likely require reengagement with the National Marine Fisheries Services (NMFS).

1.3 Historical Consultation Update under 36 CFR 800

The project has a signed Programmatic Agreement (PA) under Section 106 of the National Historic Preservation Act (NHPA) of 1966 as amended (16 USC § 470) between the State Historic Preservation Office (SHPO) and the FHWA. The PA was executed December 29, 2008 with a stated 10-year term. All original commitments contained in the PA have been fulfilled by ADOT&PF and/or the Knik Arm Bridge and Toll Authority (KABATA). Compliance with the NHPA is an ongoing commitment of the KAC Project and the PA will require evaluation and likely require an amendment. The agreement was developed in 2008 when FHWA was the lead agency under NEPA. Subsequently, ADOT&PF has assumed this role under the 23 USC § 327 NEPA Surface Transportation Project Delivery Program assignment. At a minimum, the PA signatories would need to be contacted and the PA amended to remove/replace FHWA with ADOT&PF and to reflect an extended date. Updating the PA is expected to be required, but routine in nature.

1.4 Noise Analysis

In 2013, a noise study technical document was prepared documenting potential noise impacts of the KAC in the vicinity of Cherry Hill and the results were published in a report titled “Joint Base Elmendorf Richardson Cherry Hill Housing Complex Supplemental Traffic Noise Technical Report” dated April 2013. Subsequently, ADOT&PF updated the Noise Policy in 2018. The KAC noise analysis study needs to be reviewed to ensure that the Project is current with 23 CFR § 772 and the Department’s current noise policy. For this effort, ADOT&PF may require the use of consulting resources.

2 Consistency with State and Local Transportation and Land Use Plans

The KAC Project is required to be consistent with State and local transportation and consider local land use plans under 23 USC § 134 and § 135, and 23 CFR § 450. In summary, this means that the KAC must be included in the local Metropolitan Planning Organization’s (MPO’s) Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP) and in the Statewide Transportation Improvement Program (STIP). In 2016 when the KAC Project was suspended, it was included in the MTP, TIP and STIP. Subsequent to KAC suspension, the Anchorage MPO, known as Anchorage Metropolitan Area Transportation Solutions (AMATS), dropped the KAC from the MTP and TIP and the State followed suit with the STIP to remain consistent with local transportation plans. In order for the Project to maintain access to federal transportation funding programs it will need to be reinstated into these plans. While reinstatement into the State and local transportation plans is not a particularly expensive endeavor, it involves a lengthy public process that has the potential to be controversial. The Municipality of Anchorage (MOA) Assembly, Planning and Zoning and AMATS governing body are all involved in the process at the local level. Ultimately, the local transportation plans are subject to approval by the Governor at the State level. The budget to complete this task for reinstatement into the State and local transportation plans is estimated at approximately \$100,000.

Over 70 percent of the KAC Project in terms of estimated capital cost and approximately 80 percent of its alignment in terms of centerline miles is located in the Mat-Su Borough. It is evident that the Mat-Su will soon be required to implement its own federally recognized MPO under 23 USC § 134 and 23 CFR



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§§ 450.300 et seq. as the population now exceeds 100,000 according to US Census estimates and will likely achieve the statutory densities requiring a federally-compliant MPO based on the 20-year forecast horizon discussed in law and regulation. Alternatively, Mat-Su and Anchorage could form a unified MPO for the Anchorage Metropolitan Statistical Area (MSA), and that approach is encouraged and recommended by federal law and regulation. The estimated budget for studying the implementation of a Mat-Su MPO or unified Anchorage MSA MPO is approximately \$225,000. Although not necessary for the KAC Project, the Mat-Su MPO issue is included in the total budget estimate of \$317,500 for this task, as depicted in *Table 3 - State and Local Transportation Plans Consistency Tasks, Budget and Schedule*.

Table 3 - State and Local Transportation Plans Consistency Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
2	8	Consistency with State and Local Transportation and Land Use Plans Under Titles 23 and 49	In-House, Mat-Su, Anchorage, Consultant(s)	\$ 160,000	\$ 475,000	\$ 317,500	180	540	360	8/31/2019	8/25/2020	2/21/2021
2.1		Inclusion in local transportation plans under 23 USC §134 and 23 CFR § 450.300 (plus consistency with Mat-Su transportation plans and local land use plans)	ADOT&PF (and potentially Consultant)	\$ 60,000	\$ 100,000	\$ 80,000	90	300	195	8/31/2019	3/13/2020	6/26/2020
2.2		Inclusion in State transportation plans under 23 USC §135 and 23 CFR § 450.200 (plus consistency with Mat-Su transportation plans and local land use plans)	In-House	\$ -	\$ 25,000	\$ 12,500	90	120	105	11/29/2019	3/13/2020	3/28/2020
2.3		Implementation of either (1) MPO for Mat-Su Borough, or (2) Redesignated MPO for Anchorage MSA including urbanized areas of Anchorage and Mat-Su under revised and restructured Intergovernmental Agreement	In-House, Mat-Su, Anchorage, Consultant(s)	\$ 100,000	\$ 350,000	\$ 225,000	180	540	360	8/31/2019	8/25/2020	2/21/2021

Consistency with State and local transportation and land use plans is seen as one of the three most important components to preserving the KAC Project investment and moving the Project forward despite its relatively low cost. The hypothetical schedule for reinstating the KAC Project into the State and local plans and its suggested timing on the KAC critical path is depicted in *Figure 6 - Consistency with State and Local Transportation Plans Timeline Relative to KAC Project Delivery Critical Path*.

Figure 6 - Consistency with State and Local Transportation Plans Timeline Relative to KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
2	8	Consistency with State and Local Transportation and Land Use Plans Under Titles 23 and 49	8/31/2019	8/25/2020	2/21/2021														
2.1		Inclusion in local transportation plans under 23 USC §134 and 23 CFR § 450.300 (plus consistency with Mat-Su transportation plans and local land use plans)	8/31/2019	3/13/2020	6/26/2020														
2.2		Inclusion in State transportation plans under 23 USC §135 and 23 CFR § 450.200 (plus consistency with Mat-Su transportation plans and local land use plans)	11/29/2019	3/13/2020	3/28/2020														
2.3		Implementation of either (1) MPO for Mat-Su Borough, or (2) Redesignated MPO for Anchorage MSA including urbanized areas of Anchorage and Mat-Su under revised and restructured Intergovernmental Agreement	8/31/2019	8/25/2020	2/21/2021														

2.1 Inclusion in local transportation plans under 23 USC § 134 and 23 CFR §§ 450.300 et seq.

When the Project was suspended in 2016, the KAC was included in the AMATS TIP and MTP. Subsequently it was dropped based on the Administrative Order suspending the Project. Reinstatement in the TIP and MTP is required for federal participation in the Project and for completing the NEPA reevaluation to update the Project's "build" ROD. AMATS is governed by a policy committee that is represented by the Commissioners of ADOT&PF and the Alaska Department of Environmental



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Conservation (DEC) or their designees, the Mayor of the MOA, and two members of the Anchorage Assembly. It is supported by a Technical Advisory Committee (TAC) that administers the process of maintaining and updating the TIP and MTP and coordinates development of the program and plans and the execution thereof in cooperation with MOA departments and ADOT&PF (to the extent of State highways and roads impacts).

The process to reinstate the Project into the TIP and MTP is a public process and could be lengthy. The KAC would represent a “Major Modification” as that term is understood in federal transportation planning. The Anchorage Planning and Zoning Commission serves as the public comments and testimony administrator for the AMATS TIP and MTP. Typically, several public hearings are held over several months and written public testimony is compiled by AMATS and/or the Planning and Zoning Commission. Once that process is complete, the MOA Assembly will then typically hold several public hearings on the Project and weigh in on the MOA’s interest. Concurrently with this public process, the AMATS TAC will assess Project related matters like Air Quality Conformance and other technical aspects and will generally afford the public an additional opportunity for comments and/or testimony. Finally, the matter comes before the AMATS policy committee, which will also typically host one or more opportunities for additional public testimony before putting the matter to a vote, followed by final update and publication of the TIP and MTP.

When the KAC Project was first incorporated into the AMATS TIP and MTP the process took approximately two years and was very contentious. At a later point in time, the cities of Houston and Wasilla sued AMATS and the MOA when a unilateral attempt was made to remove the Project from the TIP and STIP that failed to consider the impacts on the Mat-Su. Federal law and regulations require cooperation, consultation and coordination of affected transportation users and impacted political bodies, and the KAC is geographically over 80 percent located within the Mat-Su and over 70 percent in terms of project cost. The Cities of Houston and Wasilla reached a settlement in that suit and the KAC remained in the AMATS TIP and MTP until after the Project was suspended in 2016.

Should the State determine to preserve the investment in the KAC Project and/or to advance it to construction and financing, it is imperative that it be included in the local MPO’s TIP and MTP transportation plans.

2.2 Inclusion in State transportation plans under 23 USC § 135 and 23 CFR §§ 450.200 et seq.

The KAC has been pre-designated as a component of the National Highway System by FHWA and, if constructed, will be a transportation asset of the State under the operation and maintenance of ADOT&PF. In addition to local transportation plans, it is required to be included in the STIP because of its planned use of federal-aid and overall transportation significance. The STIP is also required to be consistent with local plans for State and federal funded transportation projects under federal law and regulation. Federal-aid participation, TIFIA loan criteria, and federal transportation grant programs also require the Project to be included in the STIP for federal participation. The STIP process is under the control of the ADOT&PF and the STIP is routinely amended and updated by the Department. The Governor approves both the STIP and the MPO TIP and MTP under federal law and regulation.



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2.3 Mat-Su Borough MPO Considerations

As previously stated, over 70 percent of the Project's capital cost and approximately 80 percent in terms of centerline miles is located in the Mat-Su Borough. Historically, the Mat-Su has not met the threshold for requiring a federally recognized MPO under 23 USC § 134 and 23 CFR §§ 450.300 et seq. due to its population and population density as determined by the US Census Bureau. Generally, federal law and regulation require an MPO for areas with a population of over 50,000 at certain density levels. While the Mat-Su has long exceeded the population threshold, it has not historically met the density levels requiring a federally recognized MPO. However, the Mat-Su remains the fastest growing area of the state and according to the US Census July 1, 2018 population estimates now has 107,610 people living there – an increase of 18,618 people and 21 percent from the April 1, 2010 Census count of 88,992. Further, federal laws and regulations require considering the 20-year planning horizon in determining whether to implement an official MPO. The Mat-Su should now be implementing an MPO as its population already exceeds the threshold, and densities are increasing and easily expected to achieve levels mandating a federally recognized MPO within the 20-year planning horizon (and the threshold may already have been achieved). Should one be implemented, the KAC will be required to also be included in the Mat-Su MPO's TIP and MTP.

The Mat-Su is part of the Anchorage MSA as designated by the US Census Bureau. In terms of imminent Mat-Su MPO requirements, federal law and regulations strongly encourage a single MPO for a Census designated MSA like the Anchorage MSA. In terms of the KAC Project, it geographically spans the MOA and the Mat-Su, as do the Glenn and Old Glenn Highways. Over 40 percent of the Mat-Su workforce presently commutes to or through Anchorage to work. Freight landing at the POA and destined for points north touch both Boroughs. Since the 2010 Census, virtually all population growth in the Anchorage MSA has been in the Mat-Su. The Anchorage MSA is geographically and economically inextricably intertwined in so many ways that suggest a unitary MPO may be the best solution for meeting federal requirements.

Because of the geographic footprint of the KAC Project and the federal requirements for MPOs and inclusion of the Project in their TIP and MTP, this discussion was included in this report. The determination of the optimal solution will need to be arrived at jointly between the Mat-Su, MOA, and the State (through ADOT&PF) with federal participation. Federal-aid funding is available to study and implement federal MPO requirements and the State, led by ADOT&PF, is strongly encouraged to address this issue.

3 Fulfill Major Projects Requirements

The KAC is a Major Project under the FHWA definition contained in 23 USC § 106(h) - Project approval and oversight. In general, a Major Project is a project that is a recipient of financial assistance under Title 23 with an estimated total cost of \$500 million or more. Major projects have additional requirements imposed on them under law and regulation. Those specifically spelled out under USC § 106(h) include a Project Management Plan (PMP) and a Financial Plan (FP). The FHWA has also developed further guidance related to Major Projects. Of relevance is FHWA promulgated guidance requiring a Cost Estimate Review (CER) to assess the reasonableness of the detailed cost estimate for the FP as directed



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under 23 USC § 106(h)(3)(A). For further information, the FHWA Major Projects resources can be found on the FHWA website at <https://www.fhwa.dot.gov/majorprojects/>.

When the KAC was suspended in June 2016, the Department had developed a draft PMP (2015), completed a CER update (2015) and had submitted a Transportation Infrastructure Finance and Innovation Act (TIFIA) Letter of Interest (LOI). Note that a TIFIA LOI is accepted by FHWA as fulfilling the requirements of the FP. Those documents for the KAC are no longer current and FHWA will require ADOT&PF to submit an updated PMP and FP and detailed cost estimate as well as conduct a CER in order to move the KAC Project forward. The estimated budget to update the CER and PMP is approximately \$125,000. The FP is discussed further under [Section 11 TIFIA Loan Application and Approval Process](#) of this report. [Table 4 - Major Projects Tasks, Budget and Schedule](#) shows the tasks, budget estimate and hypothetical schedule to achieve Major Project compliance for the KAC.

Table 4 - Major Projects Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
3	10	Fulfill Major Projects Requirements	In-house and Consultant with FHWA participation	\$ 85,000	\$ 165,000	\$ 125,000	90	270	180	9/1/2019	3/16/2020	5/28/2020
3.1		Cost Estimate Review (CER) (update prior work from 2015)	In-house and Consultant with FHWA participation	\$ 60,000	\$ 100,000	\$ 80,000	90	270	180	9/1/2019	2/28/2020	5/28/2020
3.2		Project Management Plan (PMP) (review and update previous draft PMP from 2015/2016)	In-house and Consultant with FHWA review and concurrence	\$ 25,000	\$ 65,000	\$ 45,000	60	90	75	1/1/2020	3/16/2020	3/31/2020
3.3	10	Initial Financial Plan (IFP) and periodic updates (See TIFIA process and documented discussion)	In-house and consultant	See TIFIA	See TIFIA	See TIFIA	60	90	75	9/1/2019	11/15/2019	11/30/2019

The need for fulfilling the Major Projects requirements is relatively early on the KAC critical path, as depicted in [Figure 7 - Major Projects Timeline Relative to KAC Project Delivery Critical Path](#).

Figure 7 - Major Projects Timeline Relative to KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
3	10	Fulfill Major Projects Requirements	9/1/2019	3/16/2020	5/28/2020														
3.1		Cost Estimate Review (CER) (update prior work from 2015)	9/1/2019	2/28/2020	5/28/2020														
3.2		Project Management Plan (PMP) (review and update previous draft PMP from 2015/2016)	1/1/2020	3/16/2020	3/31/2020														
3.3	10	Initial Financial Plan (IFP) and periodic updates (See TIFIA process and documented discussion)	9/1/2019	11/15/2019	11/30/2019														

The FP produced under 23 USC § 106(h)(3)(D) is also to assess the appropriateness of a Public-Private Partnership (P3) to deliver the Project. A P3 delivery has been assessed under both a full revenue risk concession and an availability payment structure. The legislature determined that a more conventional public finance approach was the preferred delivery method through the passage of HB 23 in the 2014 legislative session. See further discussion under [3.3 Initial Financial Plan \(IFP\) and Periodic Updates](#) of this section.



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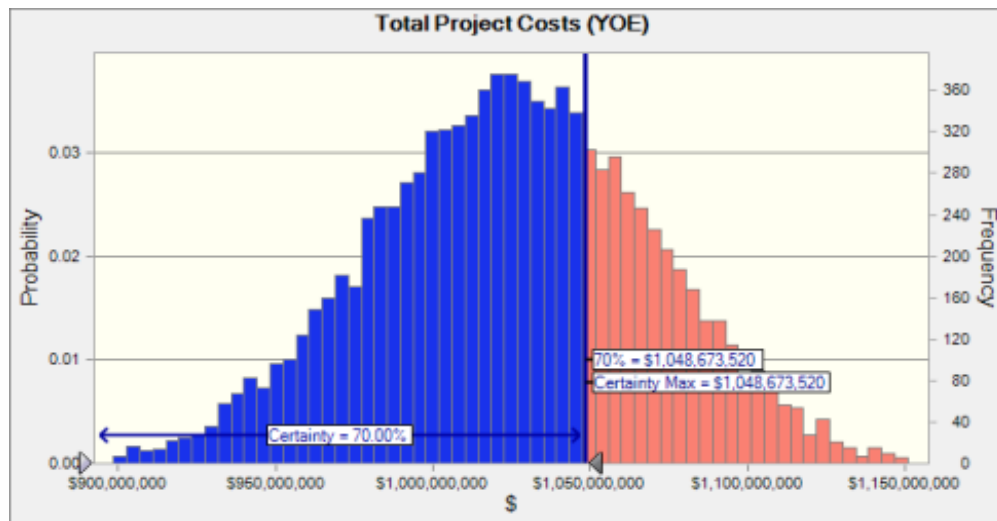
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3.1 Cost Estimate Review (CER) Update

A detailed cost estimate is required by 23 CFR § 106(h)(3)(A) to support the FP and the determination that the Project is financially constrained for purposes of qualifying for inclusion in State and local transportation plans under 23 USC §§ 134 and 135. In compliance with USC and FHWA requirements and guidance and consistent with sound management practice, several detailed cost estimates and CERs have been produced for the KAC prior to the Project being suspended in 2016. In addition to cost estimation based on standard 30-35 percent design, the ADOT&PF (through KABATA) performed additional design work on the bridge specifically to address construction related noise issues raised by National Marine Fisheries Service (NMFS) for their consideration in determining whether to issue a Biological Opinion (BO) under the Endangered Species Act (ESA) with respect to potential harm to the Cook Inlet stock of beluga whales. The additional design work and noise studies prepared as part of the biological assessment enabled NMFS to issue a “no-jeopardy” BO for the KAC on November 30, 2010. The additional design work also proved useful in developing bridge cost estimates at a high level of confidence.

Specific design, detailed cost estimates and CERs have been consistently prepared between 2006 and 2014. The most recent CER was conducted in June 2014 and published in November 2014 and was based on the KAC Cost/Risk Analysis conducted in 2013 with the corresponding report published in March 2014. A total Project cost estimate is provided in [Figure 8 - Total Project Costs \(YOE Assuming 2021 Opening Year\)](#) assuming the 70th percentile risk-adjusted cost.

Figure 8 - Total Project Costs (YOE Assuming 2021 Opening Year)



Note that the \$1,049 billion CER estimate in [Figure 8](#) includes approximately \$100 million of pre-construction costs, and \$17 million in Rights of Way (ROW) acquisition. The net construction cost estimate, including design and construction oversight, tolling systems, utilities, Indirect Cost Allocation Plan (ICAP) overhead charges, and environmental mitigation costs was estimated at approximately \$932 million as itemized in [Table 5 - Estimated Phase 1 Construction Cost in Year of Expenditure Dollars](#).



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Table 5 - Estimated Phase 1 Construction Cost in Year of Expenditure Dollars (70th percentile risk adjusted)

Project Component	Performing Party	Cost Estimate in YOE
Segment 2 – Port MacKenzie Industrial Route North	Design-Builder	\$ 16,459,820
Segment 3 – West Approach	Design-Builder	46,318,450
Segment 4 – Bridge	Design-Builder	392,071,333
Segment 5 – East Approach Fill	Design-Builder	127,351,882
Segment 6 – Port of Anchorage Expansion	Design-Builder	9,856,656
Segments 7 and 8 – Cherry Hill Retaining Wall and Roadway	Design-Builder	59,631,008
Segment 9 – Government Hill	Design-Builder	117,324,740
Utilities	Design-Builder	18,749,148
Design	Design-Builder	54,693,158
Toll Systems	TSIO	9,595,029
Construction Management/Owner Oversight	ADOT&PF + Contractor	45,885,743
Environmental mitigation	ADOT&PF	18,749,148
ICRA Overhead	ADOT&PF	15,614,826
Total Capital Cost for Construction Phase 1		\$ 932,300,942

KAC Phases 1 and 2 - The KAC is considered as being constructed in phases to improve affordability and reduce risk if traffic develops more slowly than projected in the base case and in conformance with project phasing documented in the ROD. Phase 1 is included in [Figure 8](#) and in [Table 5](#) and represents the initial pre-construction and construction related capital costs to open the facility to traffic. Phase 2 of the KAC represents capacity improvements and project extensions to provide greater connectivity and accommodate a growing volume of traffic over time.

Phase 1 is projected to achieve capacity constraints for a reasonable service level until approximately 10 years after the KAC opening to traffic (based on the expected case traffic forecast). This necessitates planning for Phase 2 improvements, which will likely be required in stages over a five-year window between years 10-15 after the KAC is first opened to service based on the latest traffic forecast from 2015.

Phase 2 anticipates the requirement to construct future capacity improvements (additional lanes, frontage roads and interchanges on the west side of the KAC) and a project extension to provide a future connection to the Glenn and Seward Highways through construction of a second viaduct over Ship Creek. The incremental capital expenditure (CapEx), O&M and R&R costs for the capacity improvements, project extensions and incremental traffic volumes were also layered into the previous KAC CER cost estimate studies and reports and will be revisited when they are updated. However, please note that the plan of finance for initial construction will need to be constrained by the capacity and costs associated with the current facility being financed (KAC Phase 1).

Phase 2 construction costs were estimated at \$465 million in 2015 dollars, with the most significant component being a second viaduct over Ship Creek connecting into the Glenn/Seward Highway corridor



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in the vicinity of Ingra and Gambell Streets. The KAC phase 2 cost estimate is detailed in [Table 6 - KAC Phase 2 Cost Estimate by Component](#).

Table 6 - KAC Phase 2 Cost Estimate by Component

Knik Arm Crossing Project			September 2013 NHCCI	1.1195	
Alaska Department of Transportation and Public Facilities			September 2014 NHCCI	1.1354	
Phase 2 Cost Estimate Summary in September 2013 Dollars			One-year Index	1.0142	
and Escalation to June 2015 (mid-year) Dollars			Mid-Year Factor to June 2015	1.7500	
	Notes	Base 2013	Contingency	Total Sept 2013\$	Total June 2015\$
1	Point MacKenzie Road	1 \$ 51,945,994	\$ 7,791,899	\$ 59,737,893	\$ 61,230,568
2	Point MacKenzie Industrial North Route	2 17,458,983	2,618,847	20,077,830	20,579,516
3	West Approach	2 518,122	77,718	595,840	610,728
4	Additional Bridge Deck	2 80,855,781	12,128,367	92,984,148	95,307,549
5	East Approach	2 1,464,605	219,691	1,684,295	1,726,381
6	MOA Port Expansion Alignment	2 460,147	69,022	529,169	542,392
8	Cherry Hill	2 746,783	112,017	858,801	880,259
10	Ship Creek Viaduct to Ingra-Gambell	3 171,509,000	25,726,350	197,235,350	202,163,683
	Subtotal - Construction related costs	\$ 324,959,414	\$ 48,743,912	\$ 373,703,326	\$ 383,041,076
	Contractor Design Engineering	6.0% 19,497,565	-	19,497,565	19,984,752
	Construction Inspection	5.0% 16,247,971	-	16,247,971	16,653,960
	Owner Design Oversight	1.0% 3,249,594	-	3,249,594	3,330,792
	Owner Construction Phase Services	5.0% 16,247,971	-	16,247,971	16,653,960
	Utilities	10,000,000	-	10,000,000	10,249,871
	Ingra-Gambell Couplet ROW	5 9,263,230	-	9,263,230	9,494,691
	Erickson Phase 2 ROW	5 4,990,145	-	4,990,145	5,114,834
	Total Phase 2 Cost Estimate	\$ 404,455,889	\$ 48,743,912	\$ 453,199,801	\$ 464,523,935
				1/2 (2 years construction)	\$ 232,261,968
				Annual Direct and Indirect Jobs	3,019
Notes:					
1 Point MacKenzie Road will be upgraded to a controlled access four lane divided highway for phase 2.					
2 For sections 3-8, the foundation will be constructed to a four lane facility in phase 1. The phase 2 costs is adding bridge deck for the additional two lanes and paving section 3, 5, 6 and 8 to four lanes. The tunnel under Government Hill will be constructed to the full six-lane configuration in phase 1.					
3 The FEIS/ROD calls for constructing a second connection into Anchorage from the south side of the tunnel in phase 2.					
4 The FEIS/ROD calls for constructing a pedestrian and bicycle path for phase 2. The TIGER grant request accelerates it to phase 1 - \$15mm.					
5 ROW for other sections to accomodate Phase 2 was acquired during Phase 1.					
6 Phase 2 will likely be constructed under several contracts over several years as necessary to meet traffic demand.					

FHWA Major Projects Guidance recommends that a CER be conducted approximately annually. Since the most recent CER report was issued in November 2014, that information is now out of date. Changes to the 2014 CER results are expected to be primarily due to a delayed construction period and the impacts of construction related inflation over time on the base construction costs used in the previous estimate.

The expected budget to update the detailed cost estimate to conduct the CER is \$80,000. That budget includes all external consultant costs and excludes ADOT&PF in-house labor and expense, which are separately budgeted. The detailed cost estimate update and CER will require assistance from a consultant and the CER will also require the participation of the FHWA Major Projects Team and the FHWA Alaska Division. The detailed cost estimate update and CER is expected to take 90-180 days to complete – much of that duration is dependent on the availability of FHWA Major Projects staff



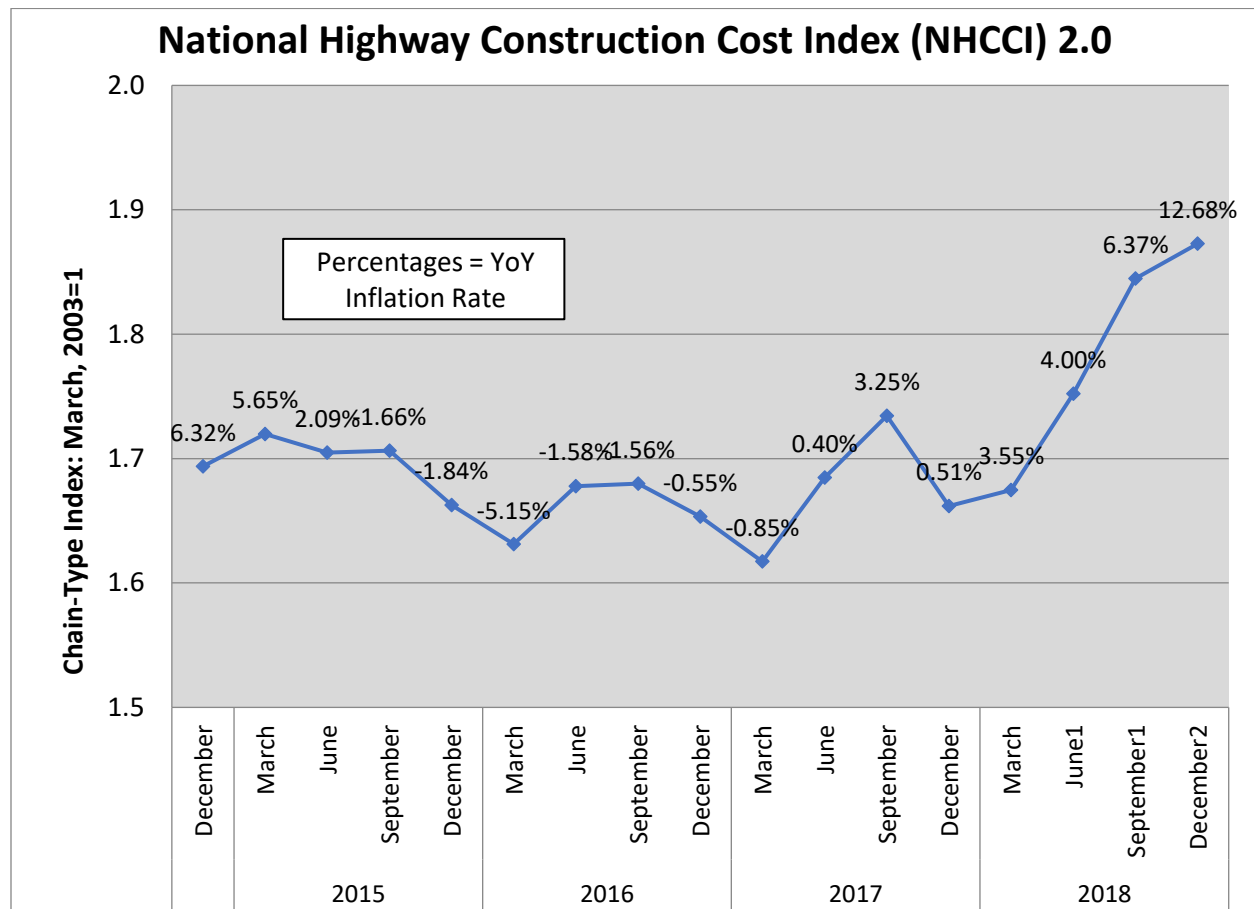
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resources. Assuming a start date in September 2019, this task should be comfortably completed before the end of the first quarter of 2020.

Inflation risk associated with KAC Project delays are potentially considerable. Inflation used for the previous CER conducted in 2015 assumed a four-year construction period starting in spring 2016. This report suggests hypothetical contract award in 2022 and a construction period of approximately four years. Updating the cost estimate will require using updated indices for construction costs and an expectation of future construction inflation through the construction period. Construction costs inflation has increased in 2018 after remaining relatively flat from 2015 through 2017 according to the FHWA National Highway Construction Cost Index (NHCCI) graph at [Figure 9 - NHCCI Construction Cost Index](#). Assuming a contract award and construction start date of spring 2022, estimated construction costs could increase considerably from the 70th percentile risk adjusted costs used for the 2015 TIFIA LOI. Further delay from 2022 has the likely impact of continuing cost escalation.

Figure 9 - NHCCI Construction Cost Index



3.2 Project Management Plan (PMP) Review and Update

The PMP is an additional requirement of 23 USC § 106(h)(2). The PMP documents (a) the procedures and processes that are in effect to provide timely information to project decisionmakers to effectively manage the scope, costs, schedules, and quality of, and the Federal requirements applicable to, the project; and (b) the role of the agency leadership and management team in the delivery of the project.



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A draft PMP was prepared for the KAC Project and reviewed by FHWA. The PMP will require a current review and potential update to conform the plan to the chosen project delivery method, FP and ADOT&PF's intended management structure for the KAC.

The budget for the PMP update task is estimated at \$45,000 for consulting services and does not include ADOT&PF in-house resources that may be applied to the review and update effort, which are budgeted separately. The updated draft PMP will also require FHWA review and acceptance and require periodic updates to conform to details of the awarded contract and other factors identified as the KAC Project progresses. This task is expected to require 60-90 days to accomplish and could be started approximately in January 2020 and completed by March 2020.

3.3 Initial Financial Plan (IFP) and Periodic Updates

Title 23 USC § 106(h)(2) requires a FP for all Major Projects. The FP shall be based on detailed estimates of the cost to complete the project, shall provide for the annual submission of updates to FHWA that are based on reasonable assumptions of future increases in the cost to complete the project, may include a phasing plan, and shall assess the appropriateness of a public-private partnership to deliver the project.

USDOT and FHWA have determined that a Transportation Finance and Innovation Act (TIFIA) Letter of Interest (LOI) and TIFIA loan application meet the Major Projects requirements for an FP, including periodic reporting to the TIFIA Joint Project Office (JPO). ADOT&PF had most recently submitted a TIFIA Letter of Interest (LOI) for a TIFIA loan in July 2015. That LOI had nearly completed creditworthiness under the TIFIA process and the debt had achieved two preliminary investment grade indicative investment grade ratings opinions from Nationally Recognized Statistical Ratings Organizations (NRSROs) before the KAC Project was suspended in June 2016. See [Section 11 TIFIA Loan Application and Approval Process](#) of this report for further discussion.

ADOT&PF, through KABATA, has assessed the appropriateness of delivering the Project through Public-Private Partnership (P3) previously. Under KABATA management of the KAC Project, two different attempts to deliver the Project under a P3 approach were undertaken. The first was under a revenue risk P3 concession whereby the P3 developer would own the toll revenue and associated revenue risk with the State sharing in revenue upside. This procurement was cancelled due to declining market risk tolerance for revenue risk P3 concessions, in particular with respect to Green Field projects like the KAC, and in part due to lack of project readiness with respect to major permits; in particular the ROD had not been issued at the time.

The second attempt to deliver the Project through a P3 was launched after the ROD was issued under an availability P3 concession whereby the developer is responsible for design, construction, financing, operations and toll collection in exchange for periodic fixed payments (Availability Payments). Under this structure the state would own the toll revenue and revenue risk and upside potential. Three teams had been shortlisted to compete for the Project but the P3 procurement was cancelled when the Legislature chose a public finance delivery method through the passage of HB 23 in 2014.

4 Secure Major Permits

There are three critical permits that will be required to be secured in order to construct the KAC Project. Those permits are:



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1. Marine Mammal Protection Act (MMPA) Letter of Authorization (LOA)
2. USACE Section 404/10 Permit
3. US Coast Guard Section 9 Bridge Permit

All three of these major permits relate to in-water construction of the bridge and approaches for the KAC Project in the Knik Arm of Upper Cook Inlet. The Section 404/10 permit also applies to impacted wetlands outside of the Knik Arm. When the Project was suspended in 2016 all three permits had been applied for. Both the USACE Section 404/10 permit and the USCG Section 9 bridge permit were awaiting a degree of certainty on the MMPA LOA from NMFS and were otherwise complete. **As a consequence of this dependency on the MMPA LOA, achieving a degree of certainty that the LOA will be issued is considered one of the highest priority critical path items to pursue for the KAC Project to advance to financial and commercial close and move to construction.**

The estimated budget for securing the permits is approximately \$750,000 as depicted in [Table 7 - Secure Major Permits Tasks, Budget and Schedule](#). Although applications have previously been filed for all three permits, the LOA under MMPA in particular is expected to require significant consulting support.

Table 7 - Secure Major Permits Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
4	4.1	Secure Major Permits	In-house, ADOL, Consultants, USACE	\$ 600,000	\$ 850,000	\$ 750,000	365	730	548	10/1/2019	5/1/2021	10/31/2021
4.1		Marine Mammal Protection Act (MMPA) Letter of Authorization (LOA) for Incidental Takes (Harassment)	In-house and consultant	\$ 200,000	\$ 350,000	\$ 300,000	365	730	548	10/1/2019	3/31/2021	9/30/2021
4.2	4.1	USACE Section 404/10 Permit (Clean Water Act and Rivers and Harbor Act)	In-house and consultant	\$ 200,000	\$ 250,000	\$ 225,000	90	180	135	10/1/2019	4/30/2021	3/29/2020
4.3	4.1	US Coast Guard Section 9 Bridge Permit	In-house and Consultant	\$ 200,000	\$ 250,000	\$ 225,000	365	730	548	11/1/2019	5/1/2021	10/31/2021

As mentioned, the permits are essential in the KAC Project critical path. [Figure 10 - Secure Major Permits Timeline Relative to KAC Project Delivery Critical Path](#) depicts the permitting tasks timing in relation to the overall path to KAC Project delivery.

Figure 10 - Secure Major Permits Timeline Relative to KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
4	4.1	Secure Major Permits	10/1/2019	5/1/2021	10/31/2021														
4.1		Marine Mammal Protection Act (MMPA) Letter of Authorization (LOA) for Incidental Takes (Harassment)	10/1/2019	3/31/2021	9/30/2021														
4.2	4.1	USACE Section 404/10 Permit (Clean Water Act and Rivers and Harbor Act)	10/1/2019	4/30/2021	3/29/2020														
4.3	4.1	US Coast Guard Section 9 Bridge Permit	11/1/2019	5/1/2021	10/31/2021														

Since the last NEPA re-evaluation in 2015, Congress and the Federal Executive branch have instituted accelerated NEPA and federal permitting requirements. In particular, the Fixing America's Surface Transportation (FAST) Act became law in December 2015, and Title 41 of the Act (FAST-41) established new procedures for interagency consultation and coordination. There are some limitations to the new accelerated permitting requirements, but the current expectations from federal agency managers is that permits for major infrastructure projects be processed expeditiously.



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4.1 Marine Mammal Protection Act (MMPA) Letter of Authorization (LOA)

The Marine Mammal Protection Act (MMPA) and its implementing regulations, allows, upon request (through a permit application process), the incidental take of small numbers of marine mammals related to a specified activity within a specified geographic region. Incidental take is an unintentional, but not unexpected, "take". Taking is prohibited, with certain exceptions, under the MMPA. Take is defined under the MMPA as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal" (16 U.S.C. 1362) and further defined by regulation (50 CFR 216.3) as "to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal".

With respect to the KAC Project, a LOA under the MMPA is required due to expected construction related noise impacts to marine mammals caused by marine vessels and foundation installation activity. Of particular concern to NOAA/NMFS is disturbance or harassment of the Cook Inlet stock of beluga whales, which have been listed under the ESA. A LOA will be required for the duration of in-water construction, estimated at three to four years, rather than an Incidental Harassment Authorization, or IHA, which is a shorter duration authorization. Securing this permit is essential to providing a high degree of certainty that construction can proceed. **Both the USACE Section 404/10 permit and the USCG Section 9 bridge permit application processes have indicated that a degree of certainty a LOA will be issued by NMFS is a precondition for those permits to be issued.** Therefore, the LOA is a significant critical path item for advancing the KAC to commercial and financial close and beginning construction.

A LOA was originally applied for on August 18, 2010. To date, no action has been taken by NMFS and in all likelihood the permit application process has been suspended since the Project was suspended in 2016. Extensive studies and investigations went into the development of that application, and the most likely course of action to proceed is to withdraw the 2010 application and resubmit it, with an eye towards the anticipated procurement and construction schedule for the KAC.

This permit application is highly technical in nature and the 2010 application engaged a multi-disciplined team of subject matter expert consultants in its development. The lead biological consultant involved in the LOA application is under contract with the Department and could quickly bring the application current should the State determine resubmitting the application is in its best interest and there is a firm commitment to a DBM contractor procurement schedule for Project construction. Much of the previous work remains valid and can be reapplied to a new LOA application. The LOA permit applicable time period should be targeted to correspond with the KAC construction for this multi-year project.

When the permit was applied for in 2010, FHWA acted as the lead agency in the submission. Subsequently, ADOT&PF has assumed this role under the 23 USC § 327 NEPA Surface Transportation Project Delivery Program assignment. Therefore, the Department will act as the lead agency for the LOA resubmission. The permit application process is lengthy and is expected to take up to two years to complete if pursued with vigor.

4.2 USACE Section 404/10 Permit (Clean Water Act and Rivers and Harbor Act)

Construction of the KAC will require excavation and/or discharge of dredged or fill material in waters of the U.S., specifically the Knik Arm of Upper Cook Inlet and adjacent designated wetlands along the Project alignment. Under the federal Clean Water Act (CWA) filling, grading, mechanized land clearing,



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ditching, other excavation activity, and pile installation in waters of the U.S. require a US Army Corps of Engineers (USACE) Section 404 Permit prior to the commencement of construction. Further, Section 10 of the Rivers and Harbors Act of 1899 requires that regulated activities conducted in navigable waters of the United States be approved/permitted by the USACE. Regulated activities associated with the KAC Project include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, and other disturbance of soils/sediments or modification of a navigable waterway.

A combined Section 404/10 permit application for the KAC was submitted to USACE in October 2011. The USACE had substantially completed its work towards approving the Section 404/10 permit, including accepting the planned wetlands mitigation and programmatic agreement committed to by the Project. At the time the KAC Project was suspended in 2016, final approval by USACE of the Section 404/10 permit was awaiting a reasonable degree of assurance from NMFS that a LOA under the MMPA would be issued for the KAC.

The Section 404/10 permit is essential to advancing the KAC to construction and should be secured prior to awarding a contract for final design and construction of the Project. Consultants previously engaged by KABATA/ADOT&PF to secure this permit are available and under contract currently with the Department. The permit application will need to be updated and resubmitted to USACE and supporting documentation and mitigation plans will require review and potentially need updating prior to resubmission. The timeline for securing this permit is normally a three to six-month process. However, since USACE approval is tied to securing reasonable certainty a LOA under the MMPA will be issued by NMFS, it is expected to take up to two years should the State determine to advance the Project.

4.3 US Coast Guard Section 9 Bridge Permit

Construction of a bridge or causeway across a navigable waterway of the United States requires a US Coast Guard (USCG) bridge permit to be issued under Section 9 of the Rivers and Harbors Act of 1899 and the General Bridge Act of 1946. A Section 9 bridge permit was submitted for the KAC Project in November 2011 and resubmitted in August 2012 to conform to modifications to regulations governing the application process. Extensive consultation with the US Coast Guard and FHWA was undertaken post permit application submission and the USCG indicated it was awaiting approval of the USACE Section 404/10 wetlands permit which in turn was awaiting a reasonable degree of certainty that NMFS would issue the LOA under the MMPA. Since the KAC Project was suspended in 2016, all USCG effort to advance the Section 9 bridge permit was also suspended. It is probable that a new permit application to USCG will be required to reinitiate the process for securing the Section 9 bridge permit. The current timeline for a US Coast Guard bridge permit is approximately one to two years and the permit will be required prior to construction of the bridge and approaches. Consultants previously engaged by the Department are available and currently under contract and could be engaged to reinitiate the permitting effort.

5 Acquire Remaining ROW and Secure Easements

The total centerline alignment of the KAC Project encompasses approximately 18.6 miles for Phase 1 and prior to ROW acquisition included a mix of Mat-Su Borough, MOA, State, Department of Defense (DOD), private, and other ownership. When the Project was suspended in 2016, ADOT&PF had acquired



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or secured easements along 86 percent of the alignment based on centerline miles, including all private parcels required for Phase 1 construction. Remaining parcels are government or quasi-government parcels under the ownership or control of Joint Base Elmendorf-Richardson (JBER), the Alaska Railroad Corporation (ARRC) or the MOA. The final total estimate for securing Project ROW was approximately \$16.8 million in 2016 when the KAC was suspended, and approximately half of the budget had been expended to acquire the properties and secure easements representing 86 percent of the ROW along the alignment and associated relocations.

Table 8 - ROW Acquisition Tasks, Budget and Schedule depicts the estimated budget of \$8.8 million to complete the acquisition of the remaining ROW (or secure an easement in the case of JBER). The total ROW budget includes ROW consulting and ADOT&PF ROW support, the cost of property purchases, and Indirect Cost Allocation Plan (ICAP) overhead charges. All remaining parcels are in the MOA.

Table 8 - ROW Acquisition Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
5	4.1, 4.2	Acquire Remaining ROW and Secure Easements	In-house, ADOL, Consultants, USACE	\$ 6,500,000	\$ 10,832,404	\$ 8,832,404	190	540	420	10/1/2019	11/24/2020	3/24/2021
5.1	4.1, 4.2	JBER easement Environmental Assessment and FONSI	USACE and ADOT&PF Consultant	\$ 500,000	\$ 832,404	\$ 832,404	180	360	270	10/1/2019	6/27/2020	9/25/2020
5.2		ARRC Parcels on Government Hill and Relocations (plus legislative approval of sale by ARRC)	In-house and Legislature Sale Approval	\$ 2,000,000	\$ 4,000,000	\$ 3,000,000	190	540	420	10/1/2019	11/24/2020	3/24/2021
5.3		Sunset Park 4f Property (eminent domain)	In-house and ADOL	\$ 2,000,000	\$ 4,000,000	\$ 3,000,000	190	540	365	10/1/2019	9/30/2020	3/24/2021
5.4		Easement through Port of Alaska (including compensation for improvements, if any)	In-house and ADOL	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	180	360	270	10/1/2019	6/27/2020	9/25/2020

The ROW phase for the Project was first authorized by FHWA on August 11, 2011. This date is important because it starts a 10-year clock under FHWA regulations for completing the ROW phase for the KAC by August 2021. It is also essential to prudent risk management to secure the remaining ROW and easement through JBER prior to entering into a contract with the selected DB developer should the State determine to advance the Project to construction. In addition, FHWA will likely require all ROW to be secured prior to committing construction phase funding for the Project.

Figure 11 - ROW Acquisition Timeline Relative to KAC Project Delivery Critical Path shows the ROW acquisition task in relation to the overall Project delivery critical path.

Figure 11 - ROW Acquisition Timeline Relative to KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
5	4.1, 4.2	Acquire Remaining ROW and Secure Easements	10/1/2019	11/24/2020	3/24/2021														
5.1	4.1, 4.2	JBER easement Environmental Assessment and FONSI	10/1/2019	6/27/2020	9/25/2020														
5.2		ARRC Parcels on Government Hill and Relocations (plus legislative approval of sale by ARRC)	10/1/2019	11/24/2020	3/24/2021														
5.3		Sunset Park 4f Property (eminent domain)	10/1/2019	9/30/2020	3/24/2021														
5.4		Easement through Port of Alaska (including compensation for improvements, if any)	10/1/2019	6/27/2020	9/25/2020														

A brief discussion of each of the four components of remaining ROW required to construct Phase 1 of the KAC follows. A brief discussion of KAC Phase 2 ROW which may be required when traffic capacity growth call for Project improvements and extensions is included.



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5.1 JBER Easement Environmental Assessment and FONSI

A portion of the alignment on the east side of the crossing threads a narrow corridor between JBER and the POA and Knik Arm, some of which is on base controlled property. The USACE was cooperating with ADOT&PF as the lead agency in conducting an Environmental Assessment (EA) with the intent of issuing a Finding of No Significant Impacts (FONSI) in order to grant a permanent easement for the KAC ROW on JBER controlled property. ADOT&PF was providing USACE the services of its environmental consultant to conduct the EA and the process was nearly complete and the FONSI ready to be issued when the KAC was suspended in 2016. The USACE was awaiting the outcome of the Corps 404/Section 10 permit, which in turn was pending a degree of certainty around the NMFS issuing a LOA under the MMPA. All work on completing the EA and issuing the FONSI was adjourned when the KAC Project was suspended in 2016.

The USACE will need to be reengaged to complete securing the easement for ROW on JBER properties. ADOT&PF's environmental consultant who was supporting the effort is available and under contract with the Department. The LOA under the MMPA is a critical path element to securing the FONSI for the JBER easement. It is possible a right of access could be granted before securing the permanent easement for this component of ROW. The appraised value of the JBER easement was \$5.5 million but the easement is expected to be conveyed without payment other than the cost of EA/FONSI consulting support provided, estimated at approximately \$850,000 consisting primarily of professional fees. Approval of the conveyance of the easement by Congress is expected to be routine according to the USACE when the Project was suspended in 2016.

5.2 ARRC Parcels on Government Hill and Relocations

The Alaska Railroad Corporation (ARRC) owns two parcels on Government Hill that are required for the construction and operation of the KAC Project. These parcels are currently under lease to ADOT&PF which in turn has them subleased to private parties for the commercial operation of a Subway sandwich shop and a Tesoro station under lease arrangements in place when the Department assumed the lease from ARRC from the previous leaseholder for the properties. ADOT&PF will be responsible for relocation costs for these businesses under the Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act). Conveyance of ARRC properties also requires approval by the Alaska Legislature, which is routinely granted through the passage of a bill generally addressed annually as the ARRC has many properties under its management. The most recent appraisal and relocation cost estimate for these properties was \$2.1 million and \$3 million was used for budget purposes.

5.3 Sunset Park 4(f) Property

Sunset Park is a 4(f) property (parkland) located on the south side of Government Hill. Sunset Park was the former site of the Government Hill Elementary School, which slid down the bluff and collapsed during the 1964 earthquake. The school was relocated, and the MOA converted the property to a city park. A portion of the park is required for the KAC Project alignment and most of the park will be required to complete Phase 2 for the Project. Securing this 4(f) property is essential to the Project ROW and it will serve as the southern terminus of Phase 1 of the Project. The previous appraisal for this parcel was \$1.9 million and will require an updated appraisal. For budget purposes, \$3 million is the assumed acquisition cost for Sunset Park.



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Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966 which provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. The law, now codified in 49 USC § 303 and 23 USC § 138, applies only to the USDOT and is implemented by the FHWA and the Federal Transit Administration (FTA) through 23 CFR § 774. There are a number of special considerations applicable to 4(f).

An additional consideration beyond 4(f) with respect to the acquisition of Sunset Park is Anchorage Municipal Code of Ordinances Chapter 25.30 which stipulates public notice and voter approval requirements for the disposal of Municipal parkland.

5.4 Easement through Port of Alaska

Much of the tidelands now comprising the POA were conveyed to the MOA in 1992 by the State. That conveyance included a floating easement to support a future crossing of Knik Arm. After the ROD for the KAC was issued in December 2010 and notice published in the Federal Register, a 180-day protest period clock under NEPA started. On the last day of the protest period, the MOA filed suit against the FHWA alleging that it had not adequately considered the impact on the POA of the selected preferred alternative for the KAC. KABATA and ADOT&PF negotiated with the MOA and achieved a settlement on August 11, 2011 vacating the lawsuit against FHWA, vacating the floating easement, and fixing the easement for the Project within the POA. The parties agreed in the settlement to compensate the MOA for the fair market value of the improvements or relocation or damage to same incurred in the construction or operation of the KAC. The fair market value cost estimate for compensating the MOA for improvements in the now fixed alignment was \$2 million in 2016 when the Project was suspended and will require a new fair market value assessment. The assumed fair market value for budget purposes remains at \$2 million based on the settlement agreement and pending an updated appraisal.

5.5 KAC Phase 2 ROW

KAC Phase 2 includes potential capacity improvements and a Project extension via a connection to Ingra and Gambell Streets in the MOA. Traffic and Toll Revenue (T&R) forecasts for the Project indicate such improvements may be required starting approximately 10 years after opening to traffic. Phase 2 ROW would require several private parcels on Government Hill and in the vicinity of Ingra and Gambell Streets as well as ROW for potential interchanges and frontage roads on the Mat-Su side of the Project. Initial estimates for Phase 2 ROW were expected to cost approximately \$12 million in 2011. Costs for Phase 2 ROW are not included in this analysis since the final requirements and timing cannot be determined with certainty until well into the future and they are not necessary to delivering a functioning KAC Project for Phase 1. FHWA had authorized the early acquisition during Phase 1 of certain private parcels on Government Hill at the owners' request, but no such request or acquisitions had occurred through 2016.

6 Traffic and Toll Revenue Studies Update

Traffic and Toll Revenue (T&R) generated by trips using the KAC is fundamental to the affordability of the Project. User fees in the form of tolls are expected to pay for the financing of over 70 percent of KAC pre-development and construction related costs. Toll revenue is also projected to cover 100 percent of KAC operations and maintenance costs (including toll systems and operations) and all reasonably



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anticipated renewal and rehabilitation capital expenditures to maintain the KAC infrastructure to a high state of good repair over its lifecycle, and to support financing Phase 2 capacity improvements and project extensions to meet growing traffic demand over time. In addition, toll revenue is expected to be pledged as security for the TIFIA loan for the KAC Project and is key to securing that loan and the repayment of State bonds.

T&R studies can provide a degree of confidence to the State, elected officials, policy makers and the public that T&R outcomes, even below the base case traffic, can reasonably be expected to repay KAC financing, operations and renewal and rehabilitation costs, and to fund future project capacity improvements and extensions as required by growing traffic volumes over time. ADOT&PF and the State may also obtain benefit from a preliminary update of the previous T&R study to serve as a basis for financing analysis and other considerations to moving the Project forward before expending a significant amount in the updated investment grade T&R study.

The most recent investment grade T&R study for the KAC Project was completed in 2015 and is now dated at nearly five years old. Lenders will require current investment grade studies to provide financing, including TIFIA credit, for the KAC. There is a limited universe of reputable T&R firms with credentials acceptable to the financial market place, and a qualified T&R consultant will need to be retained by ADOT&PF and the State to update T&R studies and produce a current investment grade T&R report for the KAC Project.

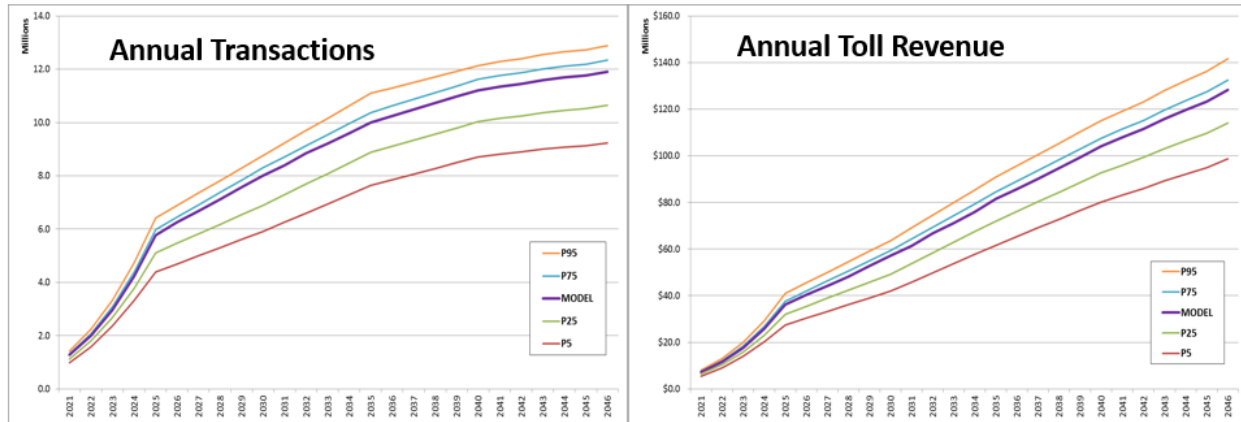
The prior study included a risk analysis and sensitivity tests using Monte Carlo simulations of key T&R variables and predicted traffic and toll revenue over a range of outcomes. Outputs included the expected outcome (Model) and a range of potential outcomes from P5 to P95, where P5 represents a five percent probability that traffic and toll revenue realized results may be lower, and P95 represents a ninety-five percent probability that traffic and toll revenue realized results may be lower. That risk range effectively brackets the range of likely traffic and toll revenue outcomes for purposes of analyzing financing risk related to toll revenue performance. [*Figure 12 - Forecast Annual Traffic and Toll Revenue Under a Range of Probabilities – 2 Lane Facility*](#) graphs the projected annual traffic and toll revenue assuming the Phase 1 initial build (assuming a two-lane facility with four-lane substructure). The 2015 T&R study also forecast traffic and toll revenue probabilities for a range of potential outcomes assuming the Phase 2 build-out of capacity improvements and project extensions for a four-lane facility to assess financial feasibility of the Project improvements.



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Figure 12 - Forecast Annual Traffic and Toll Revenue Under a Range of Probabilities – 2 Lane Facility



Source: CDM Smith KAC Investment Grade T&R Study September 30, 2015.

The total budget for an initial and investment grade T&R study is estimated at \$1.2 million and is identified by underlying component in [Table 9 - Traffic and Toll Revenue Studies Tasks, Budget and Schedule](#).

Table 9 - Traffic and Toll Revenue Studies Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
6		Traffic and Toll Revenue Studies:	Consultant and Subconsultant(s)	\$ 1,040,000	\$ 1,410,000	\$ 1,230,000	350	505	425	11/1/2019	1/14/2021	3/20/2021
6.1		Review of T&R assumptions	Consultant	\$ 40,000	\$ 60,000	\$ 50,000	50	75	60	11/1/2019	12/31/2019	1/15/2020
6.2		Initial update of T&R estimates (non-bankable but directional update)	Consultant	\$ 100,000	\$ 150,000	\$ 130,000	75	175	125	11/1/2019	3/5/2020	4/24/2020
6.3		Investment grade study to support public finance approach	Consultant	\$ 645,000	\$ 835,000	\$ 740,000	300	430	365	1/15/2020	1/14/2021	3/20/2021
6.3.1		New independent socio-economic study	Subconsultant	\$ 125,000	\$ 175,000	\$ 150,000	90	180	135	2/14/2020	6/28/2020	8/12/2020
6.3.2		New stated preference survey	Subconsultant	\$ 100,000	\$ 140,000	\$ 120,000	60	120	90	2/14/2020	5/14/2020	6/13/2020
6.3.3		New travel pattern data/survey	Subconsultant	\$ 30,000	\$ 50,000	\$ 40,000	30	60	45	3/15/2020	4/29/2020	5/14/2020

The hypothetical schedule for the T&R study is provided in [Figure 13 - Traffic and Toll Revenue Studies Timeline Relative to KAC Project Delivery Critical Path](#). Important considerations for ADOT&PF and the State are that:

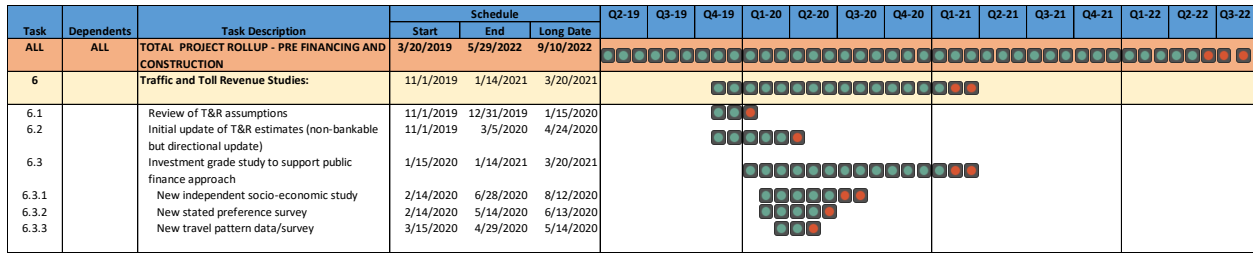
1. the investment grade study represents approximately \$1.0 million of the \$1.2 million budget while the initial study update is approximately \$200,000,
2. the investment grade T&R effort will take approximately one year to complete, while the initial study will take 3-5 months, and
3. the timing to invest in the investment grade study should be initiated when other conditions necessary to determining whether to go forward with the KAC Project have been reasonably met or are highly likely to be achieved, and so that the study is completed timely to support financing and in particular TIFIA credit.



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Figure 13 - Traffic and Toll Revenue Studies Timeline Relative to KAC Project Delivery Critical Path



T&R studies are supported by underlying socio-economic studies, traffic origin and destination studies, stated preference surveys, and sophisticated T&R modelling software and techniques. There is also a logical process to moving towards an investment grade T&R study to avoid a significant investment in the study before it will be required to support financing. The T&R process and sub-studies are discussed in more detail below.

6.1 Review of T&R assumptions

This step of the T&R consultant's process is intended to identify recent studies, current state of traffic and socio-economic information, available MPO and ADOT&PF traffic modelling information, etc. The purpose is to evaluate what has changed since the previous study and to lay the groundwork for further T&R efforts. The budget for this task is \$50,000 and the expected duration is approximately 60 days to complete. This effort is used in completing the tasks under 6.2 and 6.3 for updating T&R studies.

6.2 Initial update of T&R estimates

This is an initial update of the previous T&R studies to the present. It is not at a level of analysis that can support KAC Project financing but rather is intended to be informative to developing financing plans and towards validating that past expectations of T&R remain reasonable. This step in the process has a relatively modest budget of approximately \$130,000 and is expected to take 3-5 months to complete. Effort expended here will also serve as a foundation for further T&R studies to develop the investment grade T&R information. It is recommended that tasks 6.1 and 6.2 be completed early in the process of determining whether, how, and on what timeline to move the KAC Project forward to commercial and financial close and enter the construction phase.

6.3 Investment grade study to support financing

The KAC Project has had several "investment grade" Traffic and Toll Revenue (T&R) studies conducted to estimate the toll revenue potential and probabilities of outcomes over a range both lower and higher than the expected case T&R projections. The most recent investment grade T&R study was completed in 2015 and the report published in September 2015 (with updates for risk analysis in early 2016). That study is over four years old and is now out of date. A current investment grade T&R study will be required to support financing the Project and will be evaluated by the TIFIA program in approving TIFIA credit for the KAC. The current T&R study will also be evaluated by Nationally Recognized Statistical Rating Organizations (NRSROs) in determining whether the KAC financing plan will achieve investment grade preliminary indicative and final credit ratings. Both the preliminary indicative and final investment grade ratings opinions are requirements to obtaining TIFIA credit and by other lenders relying on a pledge of toll revenue for repayment of the debt. The investment grade T&R results will also provide a



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degree of confidence to the State about the reasonableness of traffic and toll revenue expectations to support Project financing.

The budget for the investment grade T&R study is estimated at \$1.0 million and it is expected to take approximately one year to complete, although preliminary results will likely be completed in approximately nine months. Of the \$1 million, approximately \$740,000 is budgeted for the T&R consultant and an additional \$300,000 is budgeted for subconsultants who's work serves as an input to the T&R consultant's process and modelling (as described below). ADOT&PF and the State's goal, as previously stated, is to time the investment grade T&R study to be initiated when there is reasonable certainty about moving the KAC to financing and procurement and early enough to be completed to support the financing and commercial close critical paths.

6.3.1 New independent socio-economic study

An investment grade T&R study will require an independent socio-economic study to support socio-economic assumptions around population growth and distribution, economic prosperity, employment, wages, housing and commercial real estate outlook and costs, and other demographic factors that would influence bridge traffic and willingness to pay tolls. The independent economist will consider and evaluate other socio-economic (SE) studies in developing their forecast. Many of those factors will be analyzed at a very detailed level by Traffic Analysis Zone (TAZ). The T&R consultant will consider the base case plus high and low socio-economic cases as inputs to forecast a range of potential T&R forecast outcomes.

The independent economist subconsultant can be engaged directly by the selected T&R consultant or separately procured by ADOT&PF and the State. It is important to both lenders and NRSROs that they perceive the SE study to be independent in any case.

6.3.2 New stated preference survey

Stated preference surveys are another key input to the T&R consultant modelling. Stated preference approaches to nonmarket valuation rely on answers to carefully worded survey questions. Those answers provided in the form of monetary amounts, choices, ratings, and other indications of preference are scaled following an appropriate model of preference to yield a measure of value. As applied to T&R study methodologies, the output of these surveys helps inform public perception of value of time and willingness to pay tolls, among other considerations. The stated preference survey is typically conducted by a subconsultant through online and other survey techniques resulting in a sufficient response to provide a representative sample of travelers from and through the study area – primarily Anchorage and Mat-Su residents. The stated preference survey is expected to cost approximately \$120,000 and an industry recognized specialist is generally contracted directly by the T&R consultant. The survey is expected to take 60-120 days to complete.

6.3.3 New travel pattern data/survey

The travel pattern survey, also known as an origin and destination survey, is conducted to ascertain existing travel patterns – i.e. where the travelling public is travelling from (origin) and to (destination) by travel segment on the road network. Originally these surveys were conducted through questionnaires and traffic stops for on-the-spot inquiries. More modern



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techniques utilize blue-tooth and/or cell phone technologies. One of the big advances over the past few years is use of cell phone data to determine where people are traveling to and from. Banker colleagues have indicated the credit markets and NRSROs will expect the T&R consultant to use data from Airsage or one of their competitors to supplement the stated preference and vehicle count results using these modern techniques. The estimated cost for these subconsultant studies is approximately \$40,000 and the duration to complete is approximately two months.

7 Operations and Maintenance and Renewal and Rehabilitation Costs Forecasts Update

In order to reasonably understand the full life-cycle cost of toll facility ownership and to prepare an informed plan of finance for the KAC Project, all future aspects of Operations and Maintenance (O&M) and Renewal and Rehabilitation (R&R) costs must be projected for the facility over term of the proposed financing repayment, at a minimum, and preferably over the anticipated useful life of the facility. Since the KAC is being designed for a 75-100-year useful life and the term of the financing is anticipated to be up to 35 years after substantial completion (if TIFIA is used in the plan), O&M and R&R are required to be forecast for approximately 38-40 years after bridge opening as a practical matter.

A 38-40-year forecast of O&M and R&R during the KAC post-construction operations period provides lenders some comfort that the KAC will be maintained at a high level of good repair and operated using a high standard of good industry practice, thus protecting its toll generation capacity and providing toll revenue assurance, and that all costs of ownership have been reasonably considered and reflected in the plan of finance repayment cash flow stream. Additionally, this duration provides a window into financing coverage potential for at least a couple of years beyond the financing period in the event the toll facility under performs and repayment terms for the debt require some extension or restructuring.

From the State's and ADOT&PF's perspective as the owner/operator of the KAC Project, this O&M forecasting provides comfort that the lifecycle cost of ownership has been considered. Specifically, that:

- there is a comprehensive plan for owning and operating the KAC Project,
- all ownership costs have been reasonably considered and forecasted over the foreseeable future ownership period,
- that there is a detailed plan for operating and maintaining the facility, and
- that the cost of assessing and collecting toll revenue has been considered to maintain a high level of toll revenue assurance and good customer care.

A second consideration is the incremental O&M and R&R resulting from Phase 2 of the KAC. Phase 2 is projected to be required to meet growing traffic demand over time. Phase 1 is projected to achieve capacity constraints for a reasonable service level until approximately 10 years after the KAC opening to traffic (based on the expected case traffic forecast). This necessitates planning for Phase 2 improvements, which will likely be required in stages over a five-year window between years 10-15 after the KAC is first opened to service.



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Phase 2 anticipates the requirement to construct future capacity improvements (additional lanes, frontage roads and interchanges on the west side of the KAC) and a project extension to provide a future connection to the Glenn and Seward Highways through construction of a second viaduct over Ship Creek. The incremental Capital Expenditures (CapEx), O&M and R&R costs for the capacity improvements, project extensions and incremental traffic volumes were also layered into the previous KAC cost estimate studies and reports and will be revisited when they are updated. However, please note that the plan of finance for initial construction will need to be constrained by the traffic and revenue capacity and costs associated with the facility being financed (KAC Phase 1) and excludes toll revenue and costs associated with Phase 2, future capacity improvements and project extensions, and the incremental O&M and R&R CapEx associated with these planned project improvements.

The estimated budget to update O&M and R&R costs is relatively modest at approximately \$85,000, as shown in [Table 10 - R&R and O&M Cost Estimates Updates Tasks, Budget and Schedule](#). This estimate only represents third-party Subject Matter Expert (SME) consulting costs and does not include ADOT&PF internal cost of in-house provided updates which cost is included under [Section 16](#) in this report. Also note that the O&M and R&R cost estimate figures will be further vetted as part of the Major Projects CER process (see [Section 3](#) for further discussion). The schedule for this task is relatively short but it is important to the overall critical path as this information is an input to the financing plan model.

Table 10 - R&R and O&M Cost Estimates Updates Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
7		Validate and Update Operations and Maintenance and Renewal and Rehabilitation Cost Forecasts for Bridge and Tolling Systems/Collection	In-house and Consultant(s)	\$ 55,000	\$ 115,000	\$ 85,000	30	75	53	2/1/2020	3/31/2020	4/16/2020
7.1		Renewal and Rehabilitation Capital Expenditures	In-house and Consultant	\$ 25,000	\$ 50,000	\$ 37,500	30	75	53	2/1/2020	3/24/2020	4/16/2020
7.2		Tolling Operations	In-house and Consultant	\$ 12,500	\$ 25,000	\$ 18,750	30	75	53	2/1/2020	3/24/2020	4/16/2020
7.3		Tolling Capital Expenditures (renewal and upgrades)	Consultant	\$ 12,500	\$ 25,000	\$ 18,750	30	75	53	2/1/2020	3/24/2020	4/16/2020
7.4		Owner oversight operating costs	In-house	\$ 5,000	\$ 15,000	\$ 10,000	30	60	45	2/15/2020	3/31/2020	4/15/2020

The schedule is depicted in [Figure 14 - O&M and R&R Cost Estimate Update CPM Timeline Relative to KAC Project Delivery Critical Path](#). This task requires completion early in the critical path because the results are a dependency to developing the plan of finance.

Figure 14 - O&M and R&R Cost Estimate Update CPM Timeline Relative to KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
7		Validate and Update Operations and Maintenance and Renewal and Rehabilitation Cost Forecasts for Bridge and Tolling Systems/Collection	2/1/2020	3/31/2020	4/16/2020														
7.1		Renewal and Rehabilitation Capital Expenditures	2/1/2020	3/24/2020	4/16/2020														
7.2		Tolling Operations	2/1/2020	3/24/2020	4/16/2020														
7.3		Tolling Capital Expenditures (renewal and upgrades)	2/1/2020	3/24/2020	4/16/2020														
7.4		Owner oversight operating costs	2/15/2020	3/31/2020	4/15/2020														

Broadly, O&M and R&R have been categorized under four major categories of costs, which include:

1. R&R capital expenditures for the bridge and appurtenant roadway and facilities;
2. Tolling operations costs to support capture, billing, collection and customer care;
3. Tolling systems R&R capital expenditures and physical infrastructure O&M costs; and



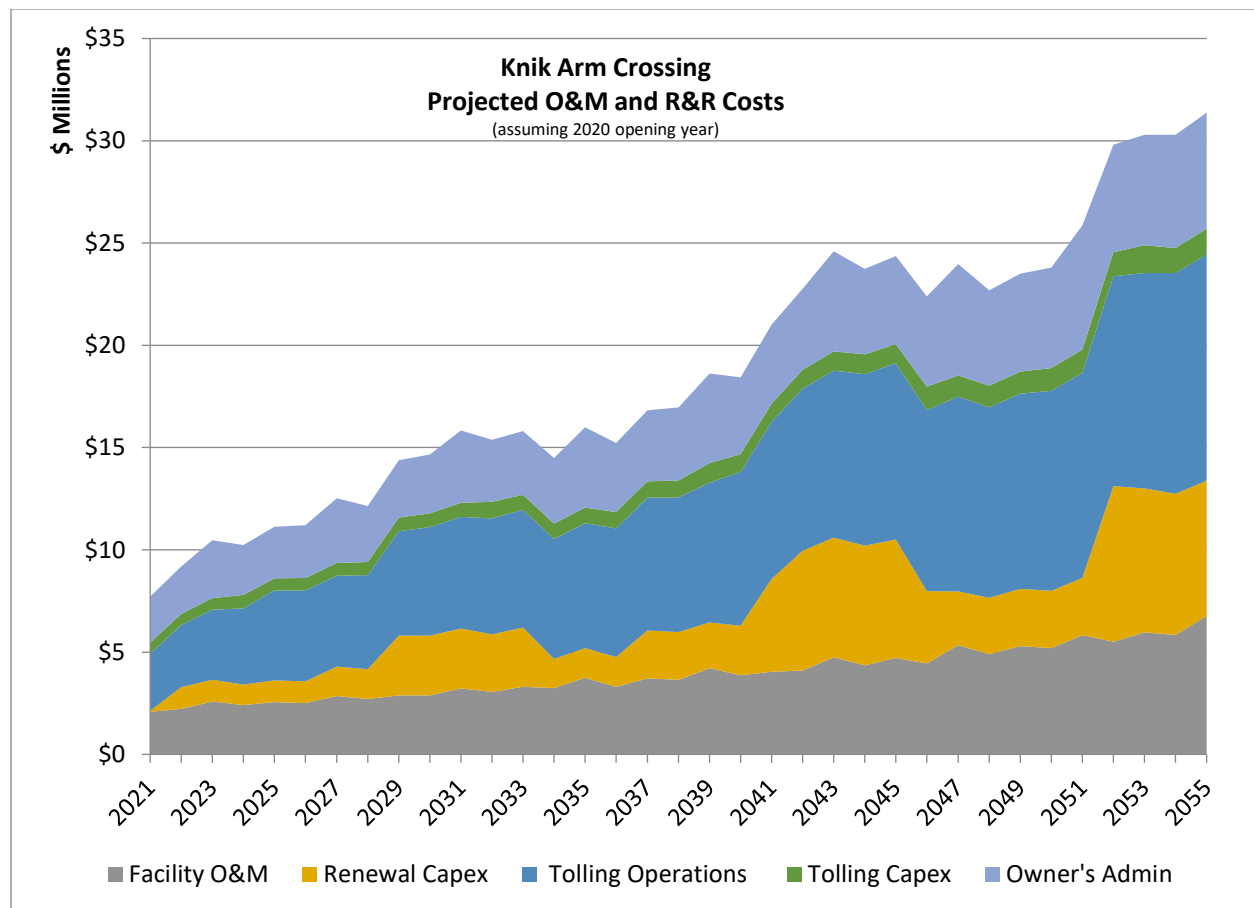
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4. ADOT&PF operating costs for owner oversight and management of the KAC.

Each of these is discussed in more detail below. [Figure 15 - Projected O&M and R&R Costs by Category](#) depicts the previous cost estimates for O&M and R&R by category. Note that R&R capital expenditures and O&M costs for the KAC bridge and roadway are split out in [Figure 15](#), but were analyzed and developed by the same team of SME consultants and published in a single report.

Figure 15 - Projected O&M and R&R Costs by Category



7.1 Renewal and Rehabilitation Capital Expenditures and O&M Costs

Bridge and roadway infrastructure O&M and R&R estimates were estimated and forecasted by a team of engineering firm consultants specializing in lifecycle analysis. Considerations included bridge inspections, periodic pile replacements, roadway repaving and various other R&R categories. The consultants' results were published in a report titled "[KAC Capital Expenditure Report – Maintenance, Operation & Capex Estimates](#)" (CDM Smith in association with PND Engineers, 2011). Note that R&R CapEx, as depicted in [Figure 15](#), is particularly "lumpy" by year because of the timing of certain elements of facility R&R CapEx, such as periodic surface repaving. In the financial modelling this lumpiness is smoothed using a capital maintenance reserve fund which is funded based on a rolling projection of R&R CapEx requirements so that large expenditure years can be met without constraining cash flows from the facility.



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The estimates for facility R&R CapEx were prepared by a team of consultants with bridge and roadway maintenance expertise and experience with Alaska conditions. These estimates will require review and update to reflect the latest best practices facilities management strategies and to reflect inflation on unit pricing and on the delay from the previously modelled January 1, 2021 date assumed as the date of the KAC opening to service in previous analysis. This information is a critical input to financial modelling and will be evaluated by NRSROs and lenders in determining the robustness and creditworthiness of the financial model.

7.2 Tolling Operations

Tolling O&M and renewal and upgrade capital expenditures were estimated and forecasted using a bottom up estimation process by an engineering firm that specializes in tolling systems and toll revenue forecasting and management. Several reports relevant to tolling operations costs have been developed for the KAC by the SME consultants. These include, among others:

- Knik Arm Crossing Toll Maintenance and Operating Cost White Paper (CDM Smith, July 15, 2015)
- ADOT&PF Draft Concept of Operations Plan (CDM Smith, January 2015)
- Knik Arm Crossing Toll Maintenance and Operating Cost White Paper (CDM Smith, December 4, 2014)

These reports will require review, updating to current costs, and validation against the current state of good practice for tolling operations, particularly considering the rapid state of technology advancement in the industry. Estimates in the forecast will also need to reflect the impacts of inflation and the delay in the KAC Project on projected costs. It is recommended that a tolling industry SME consultant is engaged to update these costs and reports prior to finalizing financial model inputs for tolling operations.

7.3 Tolling Capital Expenditures (renewal and upgrades)

Tolling O&M and renewal and upgrade capital expenditures were estimated and forecasted using a bottom up estimation process by an engineering firm that specializes in tolling systems and toll revenue forecasting and management. Tolling capital expenditures were separated from bridge and roadway R&R CapEx for financial modelling purposes in order to produce a modified gross toll revenue pledge scenario (gross toll revenue less tolling O&M and R&R) for NRSRO and TIFIA consideration. R&R CapEx costs for tolling are also modelled using a maintenance reserve fund in the financing plan to smooth the CapEx spend.

7.4 Owner Oversight Operating Costs

Owner oversight operating costs were estimated by ADOT&PF using a bottom up approach that began with identification of the tasks to be performed and maintained. This included analysis of items such as contracting and contract management, toll revenue management and auditing, insurance requirements, and debt management and compliance reporting, among many other oversight related costs. Personnel requirements to support these activities were then identified and costed, including benefits burden. The owner oversight cost forecast developed was critiqued by ADOT&PF's consulting team and feedback addressed in the forecast as was deemed necessary. The final results by year were then escalated to anticipated Year-Of-Expenditure (YOE) dollars using inflation factors (primarily forecasted Anchorage



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Consumer Price Index (CPI)). Original spreadsheets used by ADOT&PF for the analysis are available in the KAC archived data.

Work previously performed in estimating owner oversight operating costs is believed to be still valid, but will require review and evaluation to ensure it considers current state of good practice oversight categories, the evolution of facilities and tolling management since 2016, and any updates to costs that have experienced higher or lower escalation than forecasted CPI over the last four years. Inflation factors will also require adjustment to reflect the inflation cost impacts of delay to the previous analysis. This update can be performed in-house by ADOT&PF personnel, but review and advice by ADOT&PF's subject matter expert consultants is recommended for final validation prior to use of the forecast in the financial plan modelling.

8 Plan of Finance and Delivery Method Alternatives Development and Analysis

A comprehensive financial plan is an essential requirement for determining KAC Project feasibility as well as determining how the Project will be funded at the lowest practical financing cost. A financial plan will also be reviewed by lenders in making a determination of creditworthiness as part of a larger determination of whether or not to provide financing for the KAC. In particular, a well-formulated financial plan is fundamental to securing a low-cost TIFIA loan for the KAC Project. The financial plan identifies the projected costs of the KAC Project and identifies the revenue and debt instruments that will be used to pay for them. Since the Project is anticipated to generate significant toll revenue, the State has a source of revenue for the repayment of Project debt used to finance the majority of construction cost and for all of its O&M and R&R cost. As discussed in [Section 3](#) Fulfill Major Projects Requirements, a financial plan is also a FHWA requirement under 23 USC § 106(h) for all Major Projects like the KAC. In addition, a financial plan that demonstrates fiscal constraint is a requirement for accessing federal-aid highway funds for the Project's final design and construction phase and for meeting various federal requirements.

At the time the Project was suspended in 2016, a financial plan had been developed and was being aggressively pursued by ADOT&PF. That financial plan anticipated that the State would pay for the Project using three primary sources of funding:

1. A \$378 million loan under the Transportation Infrastructure Finance and Innovation Act (TIFIA) program administered by USDOT/FHWA;
2. Up to \$300 million of State-backed bonds issued by the State Bond Committee on a subordinated basis as authorized in legislation; and
3. Approximately \$300 million of federal-aid highway funds through allocating a portion of the State's share of funding over several years.

The senior TIFIA loan would be solely backed by a toll revenue pledge on a non-recourse basis to the State under that financial plan. The TIFIA loan process had been initiated and was nearing conditional approval when the Project was suspended in 2016. See [Section 11](#) TIFIA Loan Application and Approval Process of this report for an in-depth discussion of the TIFIA program and the TIFIA loan process that would need to be undertaken to execute an updated financial plan for the KAC Project. A TIFIA loan is



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almost certain to be a component of a reinvigorated plan of finance for the Project because of its low cost, patient repayment terms and long-term nature. The TIFIA interest rate is based on the 30-year U.S. Treasury rate (assuming a 35-year loan). The TIFIA interest rate as of the date of this report is 2.02 percent but would be set at financial close and has hovered in the 2.75 to 3.25 percent range since the Project was suspended in 2016.

Consistent with authority provided to the State Bond Committee by HB 23 passed in 2014, the State bonds would be backed by the moral obligation of the State, subject to legislative appropriations for repayment. However, the legislative intent is that the State would recover the debt service for the State bonds from surplus toll revenue after TIFIA debt service and Project O&M and R&R costs are satisfied. Although the State Bond Committee is authorized to issue up to \$300 million of State bonds, the financial plan in place when the Project was suspended in 2016 anticipated that \$279 million would be required to be issued. While further legislative approval is not required, issuance of the State bonds is subject to a requirement that at least 30 percent of Project construction cost is secured by a TIFIA loan as a condition precedent. See [Section 12](#) State Bond Issuance (assumes issuance under HB 23 construct) for further discussion of State bond issuance by the Committee.

The \$300 million federal-aid component of the financial plan sources of funding represented the public contribution to Project funding required to make the plan of finance fiscally constrained (financially feasible). In 2016 when the KAC Project was suspended, approximately \$100 million of the federal-aid component of Project funding was obligated and the State supported an additional \$43 million per year until the \$300 million was achieved. In order for an achievable financial plan to be developed, replacement funding will be required, with a preference that it remains sourced from federal-aid and/or other federal programs. This replacement funding is discussed in some detail in [Section 9](#) Identify (and Secure) Public and/or Private Funding of this report.

An updated plan of finance is essential to the Project achieving commercial and financial close, should the State choose to pursue the KAC and deliver its benefits to the Alaskan public. The State will require engaging a highly qualified financial advisor to assist in updating the plan of finance to move the KAC Project forward to financial close and funding. Since the Project is expected to be supported by approximately two-thirds toll-backed financing, the financial advisory role is critical to Project success. The financial advisor also plays a role in a number of other elements and tasks along the critical path to delivering the KAC Project. The financial advisor will, among other Project support, provide the following:

- Financial plan advice, development and optimization;
- TIFIA application support, including TIFIA orals and interaction with TIFIA legal and financial advisors;
- Debt market analysis;
- Term sheet negotiation support and advice for the TIFIA loan application;
- NRSRO ratings process support;
- Coordination with the State Bond Committee and their legal and financial advisors on agreements between State departments and inter-creditor agreements;



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- Procurement support for the DBM and TSIO contractors (or P3 contractor if that is the chosen path), including input as to terms expected by lenders and competitive commercial terms; and
- Outreach, communications and education with policy makers, elected officials, business leaders, native communities and the public.

The financial advisor typically works under a retainer fee with a success fee paid at successful financial close. The retainer is expected to be on the order of \$300 thousand as depicted in [Table 11 - KAC Plan of Finance Tasks, Budget and Schedule](#). The success fee will be negotiated with the appointed financial advisor but is typically in the range of 35 to 50 basis points after Project financing is secured. This fee would likely exclude or have a much lower fee on the State bonds component of financing, since it would be backed by the moral obligation of the State under current law and be issued by the State Bond Committee and supported by their financial and legal advisors rather than ADOT&PF (which would be the borrower of the TIFIA loan). The success fee is typically paid out of financing proceeds and is not included in the budget for moving the Project to commercial and financial close as it will not require State or federal funds for payment but would likely be in the range of \$1 to \$2 million.

Table 11 - KAC Plan of Finance Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
8	3.1, 6, 7, 9	Plan of Finance and Delivery Methods Alternatives Development and Analysis	In-house and Consultant(s) / Financial Advisor	\$ 200,000	\$ 1,200,000	\$ 300,000	180	365	273	9/1/2019	8/21/2020	9/28/2020
8.1		Evaluate public sector and P3 financing and delivery alternatives:	In-house and Consultant(s) / Financial Advisor	\$ 200,000	\$ 1,200,000	\$ 300,000	180	365	273	9/1/2019	5/30/2020	8/31/2020
8.2		Initial high level analysis of current legislation, restrictions the law imposes, and financing and delivery permitted under current law	In-house and Consultant(s) / Financial Advisor				30	90	60	9/1/2019	10/31/2019	11/30/2019
8.3		Financial modelling and sensitivities for various alternatives under consideration	In-house and Consultant(s) / Financial Advisor				50	180	115	9/1/2019	12/25/2019	2/28/2020
8.4		Risk analysis and risk comparison for various alternatives	In-house and Consultant(s) / Financial Advisor				50	180	115	11/1/2019	2/24/2020	4/29/2020
8.5		Analysis of legislative and regulation landscape and determination of legislation which may be required for alternatives evaluated (high level)	In-house and Consultant(s) / Financial Advisor							Ongoing	Ongoing	Ongoing
8.6		Selection of alternative	In-house				14	90	52	6/30/2020	8/21/2020	9/28/2020

The plan of finance needs to be developed early in the KAC critical path. There are a number of dependencies as well, which are the source for required inputs for revenue and costs to the financial plan analysis. The important financial plan inputs include, among others:

- Preliminary and investment grade traffic and toll revenue forecasts,
- Project capital costs,
- Operations and maintenance costs,
- Renewal and rehabilitation CapEx costs,
- Toll systems capital and operations,
- ADOT&PF management and overhead costs, and
- An assessment of likely interest rates and financing costs.

Developing/updating these inputs are key to the KAC financial plan and the critical path to achieving Project financing and procurement. [Figure 16 - Plan of Finance and Delivery Method Relative to KAC](#)

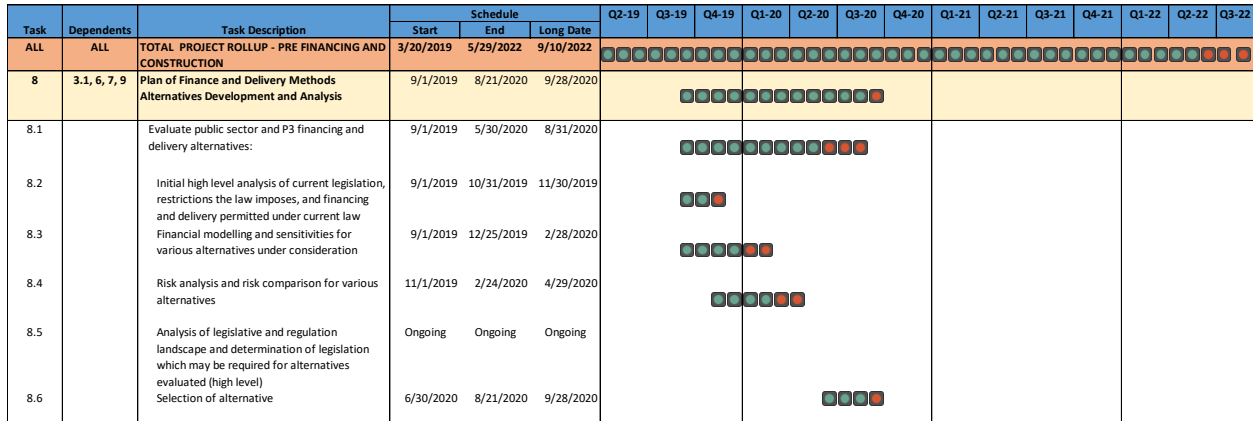


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Project Delivery Critical Path depicts financial plan development timing in relation to successfully delivering the Project, should the State choose to move forward.

Figure 16 - Plan of Finance and Delivery Method Relative to KAC Project Delivery Critical Path



8.1 Plan of Finance Development

When the Project was suspended in 2016, the plan of finance was based on a public finance delivery model and consisted of approximately one-third federal-aid, one-third TIFIA loan backed by toll revenue and one-third State bonds as discussed in the introduction to this Section. That financing plan was well vetted, backed by extensive revenue and cost forecasts and had attained two preliminary investment grade ratings opinions from NRSROs. That plan is now outdated and will require revisions and updating. Subsequently, the \$300 million federal-aid commitment has lapsed, and additional federal-aid and/or other funding sources will need to be identified to achieve a financially constrained plan of finance for the Project to move forward, should the State choose to do so. *Table 12 - Pro Forma Sources and Uses of Funds (2015 TIFIA LOI)* indicates the sources and uses submitted with the 2015 TIFIA LOI. The delivery method option chosen by the State (public finance versus P3) for the Project also has significant implications for the plan of finance, and some of these issues are discussed in the Delivery Method Alternatives Analysis below.

The sources and uses table incorporates all pre-construction costs, including costs that may not be considered “TIFIA Eligible Project Costs” as that term is defined in federal law and regulation. Approximately \$100 million had been expended on the Project up to the point it was suspended in 2016, including a \$15 million Alaska Department of Community, Commerce and Economic Development general fund capital budget grant to the Mat-Su Borough for upgrading and paving Point MacKenzie Road, which has been completed.



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Table 12 - Pro Forma Sources and Uses of Funds (2015 TIFIA LOI)

Pro Forma Sources and Uses of Funds (\$millions)						
	Obligated	Appropriated	Anticipated	Total	Percent	
Sources:						
Senior TIFIA Loan	\$ -	\$ -	\$ 377.7	\$ 377.7	32.3%	
TIFIA Accreted Interest During Construction (1)	-	-	24.7	24.7	2.1%	
State of Alaska Appropriation Bonds	-	-	279.4	279.4	23.9%	
State Bond Interest Paid During Construction	-	-	32.6	32.6	2.8%	
Federal Funds	88.4	119.0	197.7	405.1	34.6%	
State Match	11.3	7.3	-	18.6	1.6%	
Mat- Su Commerce Grant	15.4	-	-	15.4	1.3%	
TIGER Grant	-	-	15.0	15.0	1.3%	
Interest earnings on Construction Fund	-	-	1.6	1.6	0.1%	
Total Sources	\$ 115.1	\$ 126.3	\$ 928.7	\$ 1,170.1	100.0%	
Uses:						
Preliminary Engineering and Project Development	\$ 99.0	\$ 24.1	\$ -	\$ 123.1	10.5%	
Rights of Way Acquisition	16.1	-	-	16.1	1.4%	
Design-Build Contract	-	18.7	827.1	845.8	72.3%	
Design and Construction Oversight	-	49.5	8.1	57.6	4.9%	
Tolling Systems	-	9.6	-	9.6	0.8%	
Mitigation	-	18.7	-	18.7	1.6%	
ICAP Overhead Charges	-	5.7	9.9	15.6	1.3%	
Debt Issue Costs (2)	-	-	7.0	7.0	0.6%	
Debt Service Reserve Fund	-	-	19.3	19.3	1.6%	
Capitalized Interest (1)	-	-	57.3	57.3	4.9%	
Total Uses	\$ 115.1	\$ 126.3	\$ 928.7	\$ 1,170.1	100.0%	

1. TIFIA accreted interest during construction is not an eligible TIFIA cost, but is capitalized under GASB 62.
2. Debt issue costs includes \$750,000 estimated for the TIFIA loan, which is an ineligible cost.

As contemplated by HB 23, ADOT&PF would be the borrower of the TIFIA loan from USDOT (see [Section 11 TIFIA Loan Application and Approval Process](#) for further discussion). The TIFIA loan is anticipated to be backed solely by KAC Project toll revenues as the pledge for repayment to USDOT on a non-recourse basis to the State. The previous investment grade T&R study considered risks/probabilities of traffic and toll revenue outcomes. An update to that risk analysis will be expected by lenders and should be expected by the State as a risk evaluation checkpoint before committing to moving the Project forward to commercial and financial close.

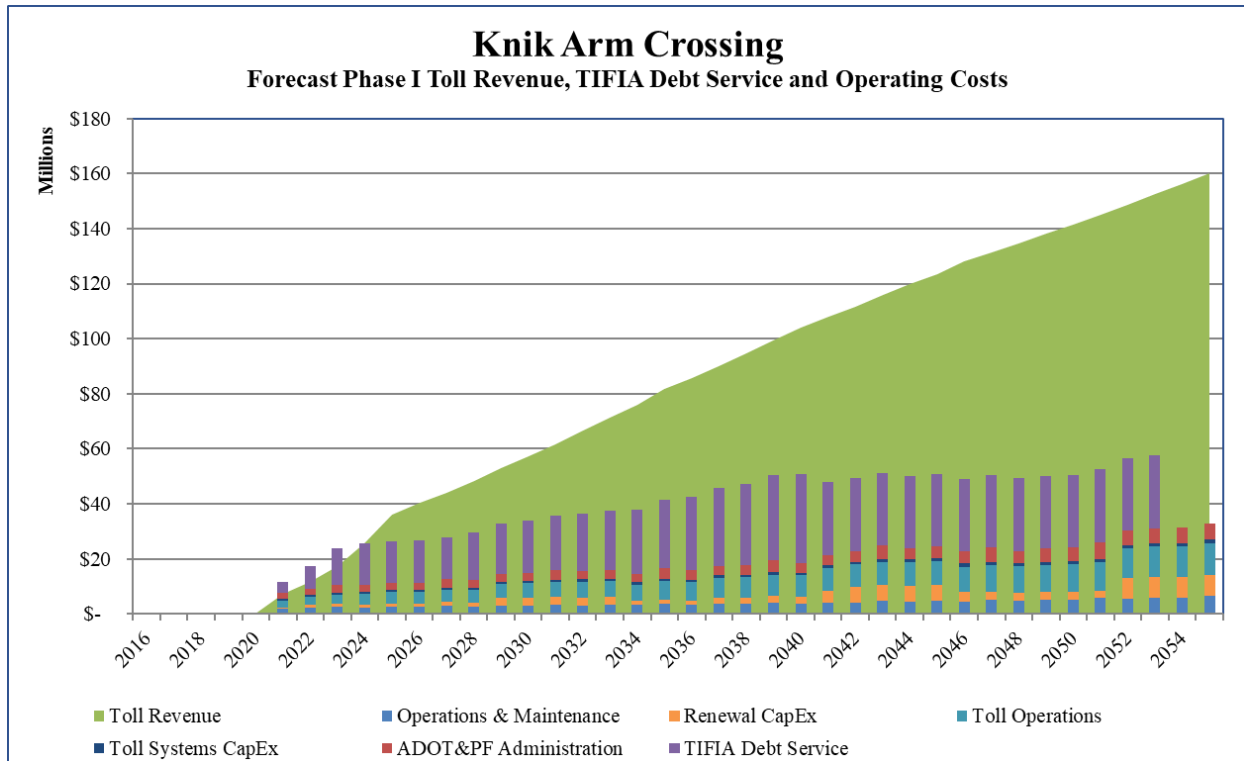
Figure 17 - TIFIA Net Revenue Pledge Coverage - Base T&R Case depicts the anticipated TIFIA debt service coverage in the 2015 TIFIA LOI based on the expected T&R forecast case constrained by Phase 1 traffic capacity (50 percent probability of traffic being higher or lower). The area in green above the TIFIA debt service bars (in purple) is available to the State to apply for repayment of the State bonds included in the 2015/2016 plan of finance. State bonds would be repaid in arrears from toll revenue for early year debt service until traffic volumes generate sufficient surplus for current debt service. ADOT&PF and the State Bond Committee are expected to enter into an agreement to pledge the surplus toll revenue to this purpose under the HB 23 legislation/current law.



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Figure 17 - TIFIA Net Revenue Pledge Coverage - Base T&R Case



Additional work will be required to determine the optimal KAC Project delivery method and plan of finance should the State determine to advance the Project to commercial and financial close. The Project delivery method and plan of finance are intricately intertwined and will need to be addressed early in strategizing any path forward for the KAC Project.

8.2 Delivery Method Alternatives Analysis

Determining the delivery method is essential for developing the plan of finance and for carrying out the procurement process for the KAC Project. Selecting the optimal delivery method is a complex process that considers risk, costs, responsible parties, state law constraints, etc. Since delivery alternatives analysis is also fundamental to the procurement process, it is discussed in detail in [Section 13](#) Procurement Process for Project Construction and should be reviewed in conjunction with this section for further understanding. [Figure 22 - Indicative Delivery Method Relationship Considerations](#) in that section shows a delivery method matrix contrasting the risk assignment, cost certainty, procurement complexity, and other considerations across a continuum of delivery alternatives. [Figure 23 - Typical Design-Build vs. DBFOM Public-Private Partnership Relationships](#) provides an indicative pictorial of various relationship aspects for contracting, financing, and operations of a project under a public finance approach versus a P3 project delivery method.

Project owners are also required to assess the appropriateness of a Public-Private Partnership (P3) to deliver a project of regional and national significance or a Major Project (capital cost greater than \$500 million) under 23 USC.



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While under KABATA management, two different efforts to deliver the Project under a P3 approach were attempted. The second attempt was underway when the Project ownership was removed from KABATA and transferred to ADOT&PF with the passage of HB 23 in 2014. After the two cancelled attempts at Project procurement through a P3, a public financing plan was adopted by ADOT&PF consistent with legislation passed during the 2014 Legislative session.

Consistent with the requirements of 23 USC, KABATA had conducted a limited Value for Money (VFM) study in 2013 that reviewed the cost of delivering the Project as a P3 compared to a publicly financed DBM procurement to determine the best value approach as part of a required FHWA periodic cost estimate review for the Project. That study indicated that the P3 approach would likely provide the best value for the State. However, in 2014 the Alaska Legislature passed HB 23 which essentially directed ADOT&PF to publicly finance the Project, mooted the P3 alternative for delivery without further legislation.

VFM studies typically cost on the order of \$1 to \$2 million to conduct. Given the maturity of the Project and the legislation supporting a public financing approach as described above, an updated VFM study is not recommended at this time as it is costly and would add one or more years to Project delivery and reopen potential political risk. Additionally, should a VFM be conducted and results of the study indicate that a P3 approach to Project delivery would produce the best value for the State making a P3 once again the desirable delivery method, revised legislation would likely be required to be pursued.

9 Identify (and Secure) Public and/or Private Funding

In 2016, the plan of finance included available and anticipated federal-aid highway funding of approximately \$300 million for construction of the KAC. When the Project was suspended, over \$100 million of the \$300 million had been obligated for the KAC and a legislative plan was adopted to budget approximately \$43 million per annum through the annual capital budget program until the funding goal was achieved. This level of federal-aid funding commitment was a key component of the plan of finance included in the TIFIA LOI submitted in July 2015 and was necessary for achieving fiscal constraint (as that term is understood by USDOT/FHWA).

When the KAC Project was suspended in 2016, the \$43 million per annum legislative funding commitment plan was abandoned and the Project was dropped from the STIP and Anchorage MPO transportation plans. This action left a funding gap in the existing plan of finance, which will need to be updated in order for the Project to move forward to financing and contract award, if and when the State may determine to pursue it.

The overarching objective for replacement funding would be to use federal sources (versus State general funds). Federal sources include a variety of options, the most obvious of which is federal-aid highway funding of which the State receives an annual share of approximately \$600 million to allocate as it sees fit, consistent with approved transportation plans and federal eligibility requirements. All or a portion of the \$300 million of federal-aid for the construction phase of the Project could be obligated to the KAC Project over several years, should the State choose to advance the Project. In addition, other federal funding vehicles could be pursued, including INFRA and BUILD grants, which are discussed at length in



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Section 10 of this document. **Replenishing the funding gap for the \$300 million is essential to moving the Project forward to financial close and contract award, should the State choose to do so.**

An alternative approach could include private funding through a P3, but financial analysis indicates a public contribution from State and/or Federal sources will be required to achieve a fiscally constrained plan that is capable of securing financing for the remainder of KAC Project cost regardless of the chosen delivery method.

The budget for identifying replacement funding is modest at \$50,000 in third-party cost, as depicted in [Table 13 - Identify and Secure Funding Tasks, Budget and Schedule](#). This is because much of the cost is embedded in developing the plan of finance and contained in consulting fee budgets for various other tasks discussed in this report.

Table 13 - Identify and Secure Funding Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
9	8	Identify (and Secure) Public and/or Private Funding	In-house and Consultants	\$ 50,000	\$ 50,000	\$ 50,000	360	730	730	9/1/2019	8/31/2021	8/31/2021
9.1		Potential Sources of Funding:	In-house and Consultants (including Executive)	\$ 50,000	\$ 50,000	\$ 50,000	360	730	730	9/1/2019	8/31/2021	8/31/2021
9.1.1		Federal Aid appropriations (and potential State Match)										
9.1.2		TIFIA Loan										
9.1.3		State Bonds										
9.1.4		Private Equity										
9.1.5		Private Debt										
9.1.6		Other										

The positioning on the Project delivery critical path is early, however, as replacement funding must be identified to develop a feasible and fiscally constrained plan of finance. Additionally, as the plan of finance matures and additional funding sources are identified and secured it will be periodically updated, optimized and refined. [Figure 18 - Identify and Secure Funding Timing Relative to KAC Project Delivery Critical Path](#) depicts this critical path relationship.

Figure 18 - Identify and Secure Funding Timing Relative to KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
9	8	Identify (and Secure) Public and/or Private Funding	9/1/2019	8/31/2021	8/31/2021														
9.1		Potential Sources of Funding:	9/1/2019	8/31/2021	8/31/2021														
9.1.1		Federal Aid appropriations (and potential State Match)																	
9.1.2		TIFIA Loan																	
9.1.3		State Bonds																	
9.1.4		Private Equity																	
9.1.5		Private Debt																	
9.1.6		Other																	

9.1 Potential Sources of Funding

There are a number of public and private funding sources that will need to be explored to achieve a fiscally constrained plan of finance. Approximately two-thirds of the construction phase can be funded with debt financing, backed by tolls and/or the moral obligation of the State. This was anticipated when HB 23 passed in 2014. The remaining third of funding will need to be secured in order to achieve a fiscally constrained plan of finance should the State choose to move the Project forward to financing and construction. [Table 14 - Potential KAC Funding Sources](#) discusses some of these potential funding



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sources and their applicability to a public or private delivery alternative. INFRA and BUILD grants are discussed in more detail in [Section 10](#) of this report. TIFIA is discussed in detail in [Section 11](#), and State bonds are examined in [Section 12](#). [Table 14 - Potential KAC Funding Sources](#) is indicative and does not represent the universe of prospective funding sources but does represent many of the commonly used financing elements for transportation projects generally.

Table 14 - Potential KAC Funding Sources

Funding Vehicle	Description	Public Delivery	P3 Delivery
Federal Aid Highway Funds	The State receives approximately \$600 million per annum in federal-aid for highways, roads and bridges from the Transportation Trust Fund. Previous financing plans for the Project assumed approximately \$300 million of federal-aid allocated over approximately 5 years, of which an estimated \$100 million had already been appropriated when the Project was suspended in 2016.	✓	✓
State Matching Funds (GF)	Generally, federal-aid funding requires an approximately 10 percent State match. Historically, the State match has come from general funds for virtually all transportation projects in Alaska.	✓	✓
State General Funds	State general funds could be appropriated for the Project. Given State budget constraints and low oil prices impacting revenue, this is not considered a viable option at this time but is listed for completeness.	✓	✓
State Tax Exempt Bonds	AS 37, as amended by HB 23 passed in 2014, authorizes the State Bond Committee to issue up to \$300 million of State tax-exempt bonds PROVIDED ADOT&PF secures a TIFIA loan for at least 30 percent of Project construction cost. See Section 12 of this report for further discussion of State bond issuance and Section 11 for further discussion of TIFIA.	✓	✓
Bond Anticipation Notes (BANs)	Bond Anticipation Notes (BANs) are a very low-cost method of short-term financing during Project construction. They are issued anticipating the issuance of higher cost long-term financing as or shortly after the Project construction is completed as a source of repayment. BANs or similar short-term vehicles could prove useful in optimizing the efficiency of the Project plan of finance and will be considered under a more comprehensive financial plan analysis should the State determine to move the KAC Project forward. A SME financial advisor will assist the State and ADOT&PF in assessing this option.	✓	✓



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Funding Vehicle	Description	Public Delivery	P3 Delivery
GARVEE Bonds	Grant Anticipation Revenue Vehicles (GARVEE) bonds are tax-exempt debt instrument financing mechanisms that are backed by annual federal appropriations for federal-aid transportation projects. GARVEE bonds are backed by a pledge of future federal-aid appropriations for their repayment. GARVEE bonds (or synthetic GARVEEs, which Alaska has issued in the past) would extend the Project's access to federal-aid as a source of repayment beyond the construction period but would compete with other transportation projects that rely on the federal-aid program. GARVEEs require State matching funds.	✓	✓
TIFIA Loan	A Transportation Finance and Innovation Act (TIFIA) loan is almost certainly a component of the Project plan of finance should the State choose to move the Project forward to financing and construction. The Project is eligible for a TIFIA loan and meets all of the TIFIA program requirements (provided certain criteria are brought current). TIFIA is a low-cost and patient capital source. As of August 16, 2019, a non-rural 35-year TIFIA loan rate was 2.02 percent. In addition, the KAC qualifies as a Rural Project under the TIFIA program, which could reduce the rate even further. Generally, TIFIA can fund up to 33 percent of Eligible Project Cost as that term is defined under 23 USC. Should the State choose to deliver the Project through a P3, ADOT&PF will have to apply as the public project owner on behalf of the P3 developer. For further discussion of TIFIA, see Section 11 of this report.	✓	✓
INFRA and BUILD Grants	INFRA and BUILD grants are federal grant programs that are awarded cyclically on a competitive basis and the KAC Project is eligible to compete for this funding. INFRA grants have recently been awarded in substantial amounts as high as \$125 million to a single project. The KAC Project is highly competitive against both INFRA and BUILD grant criteria, but there is much competition for these grants. Nevertheless, it is worthwhile for the Department to seek either or both on behalf of the State since other aspects of achieving project readiness substantially lay the groundwork for applying. See Section 10 of this report for further discussion.	✓	✓



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Funding Vehicle	Description	Public Delivery	P3 Delivery
Private Equity	Private equity is generally applicable to a P3 delivery method of financing. Under a P3, the private investors take considerable risk related to their equity investment in exchange for potential returns. Private equity represents a significant risk transfer from the State to the private sector.		✓
Private Activity Bonds under SAFETEA-LU	Private Activity Bonds (PABs) are debt instruments authorized by the Secretary of Transportation and issued by a conduit issuer on behalf of a private entity for highway and freight transfer projects, allowing a private project sponsor to benefit from the lower financing costs of tax-exempt municipal bonds. The KAC Project previously had secured a \$600 million allocation of the national cap of PABs for the Project, but it was relinquished to USDOT in early 2019 and an allocation of the cap would need to be secured if a P3 is pursued for the Project.		✓
Private Debt – Capital Market Bonds	Should the State choose to move the KAC Project forward and deliver it as a P3, the selected private partner developer may choose to issue bonds in the capital markets to fund a portion of its share of Project financing and would be responsible for substantially all aspects of the bond issuance with limited support from ADOT&PF.		✓
Private Debt – Bank Credit	Should the State choose to move the KAC Project forward and deliver it as a P3, the selected private partner developer may choose to enter into a bank credit agreement to fund a portion of its share of Project financing and would be responsible for substantially all aspects of the bank credit with limited transaction execution support from ADOT&PF.		✓
Potential Federal Infrastructure Funding Bill	Recently, there has been substantial debate in Congress about a large potential infrastructure funding bill. Currently, any such legislation appears to be unlikely until after the November 2020 federal election cycle. ADOT&PF and the State should diligently monitor the federal legislative situation and engage the Alaska Congressional delegation to assist and advocate for Project funding since a federal infrastructure bill appears likely on the horizon post 2020 federal elections.	✓	✓



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Funding Vehicle	Description	Public Delivery	P3 Delivery
Other Funding Sources	There are a myriad of other potential federal and private funding sources which could be pursued to support KAC Project financing. Should the State choose to move the KAC forward to financing and construction, a SME financial advisor will help to identify these sources, pursue them and use them to optimize the plan of finance for the KAC Project.	✓	✓

A highly qualified financial advisor should be engaged by the State to assist in determining viable funding sources, assist in pursuing them, and optimizing the plan of finance.

10 Pursue BUILD and INFRA Grant(s)

The ADOT&PF can pursue funding through two separate USDOT grant programs for the Knik Arm Crossing to supplement the plan of finance and/or to accelerate or build other amenities for the travelling public. The two relevant USDOT grant programs are:

1. Better Utilizing Investments to Leverage Development (BUILD) discretionary grants program and
2. Infrastructure for Rebuilding America (INFRA) discretionary grants program.

These grant programs are called out separately in this report from [Section 9](#) because of the maturity of the programs, relative certainty of the funding opportunity, and that the KAC Project has previously applied for a BUILD (formerly TIGER) discretionary grant. The KAC Project meets the eligibility requirements for both federal grant programs and is believed to be well positioned to submit highly competitive applications that align well with the respective program criteria and should score highly against other projects. Further, both BUILD and INFRA have a rural preference which the KAC falls under and both programs have a stated goal of geographic equity for grant awards positioning Alaska for a reasonably high probability of success.

Both grant programs will require an updated Benefit Cost Analysis (BCA) to be performed for the KAC that meets FHWA criteria and expectations. Much of the information required to update the BCA is derived from the traffic and revenue studies, existing ADOT&PF information and federal sources. Further, the BCA and related Vehicle Miles Travelled (VMT) and emissions studies provide facts and projections supporting public policy objectives of the KAC Project.

The decision whether to apply for these grants by ADOT&PF is dependent on three factors:

1. KAC Project readiness,
2. the timing of funding window Notice of Funding Opportunity (NOFO) from USDOT and associated period(s) for applying, and
3. the current status of the KAC Project BCA (which is dependent to a significant degree on the state of the traffic and revenue studies).



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Table 15 - BUILD and INFRA Discretionary Grants Tasks, Budget and Schedule shows the indicative budget for this task should these grants be pursued (exclusive of internal ADOT&PF cost). A timeline relative to KAC Project delivery is not provided at this time because of the three factors discussed above.

Table 15 - BUILD and INFRA Discretionary Grants Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
10	6	Pursue BUILD and/or INFRA Grant(s)	T&R Consultant	\$ 205,000	\$ 365,000	\$ 285,000	365	730	548	TBD	TBD	TBD
10.1	6	Update Vehicle Miles Travelled, VOC, Travel Time and CO2/emissions study (input to BCA plus valuable information for public outreach)	T&R Consultant	\$ 80,000	\$ 120,000	\$ 100,000	60	120	90	TBD	TBD	TBD
10.2	10.1	Update Benefit-Cost Analysis in compliance with FHWA guidance	Consultant	\$ 75,000	\$ 125,000	\$ 100,000	45	75	60	TBD	TBD	TBD
10.3	10.1, 10.2	Draft and submit INFRA and/or Build Grant Application for Submission	In-house and Consultants	\$ 50,000	\$ 120,000	\$ 85,000	30	60	45	TBD	TBD	TBD

10.1 BUILD Discretionary Grants Program

BUILD funding can support roads, bridges, transit, rail, ports or intermodal transportation. Since program inception, approximately \$7.1 billion was awarded for capital improvements for 554 surface transportation projects over 10 rounds of grant competition. BUILD and TIGER grants have included projects in all 50 states, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands. BUILD was previously known as the Transportation Investment Generating Economic Recovery, or TIGER Discretionary Grants program. BUILD Transportation grants are for investments in surface transportation infrastructure and are awarded on a competitive basis to projects that will have a significant local or regional impact. Selection criteria encompass safety, economic competitiveness, quality of life, state of good repair, innovation and partnerships with a broad range of stakeholders.

The U.S. Department of Transportation (USDOT) recently announced a NOFO to apply for \$900 million in discretionary grant funding through the BUILD Transportation Discretionary Grants program in April 2019. While it is not possible for the KAC to apply for this BUILD NOFO round, the program is expected to continue annually for the foreseeable future, presenting an opportunity to obtain BUILD grant funding to supplement the KAC plan of finance.

To reflect USDOT's ongoing effort to rebalance past under-investment in rural America, up to 50 percent of BUILD Transportation grant funding will be awarded to projects located in rural areas that align well with the selection criteria. The BUILD program's selection criteria give special consideration to projects that emphasize improved access to reliable, safe, and affordable transportation for communities in rural areas. This includes projects that improve infrastructure condition, address public health and safety, promote regional connectivity, facilitate economic growth or competitiveness, deploy broadband as part of an eligible transportation project, or promote energy independence. Under program definitions, the KAC is considered a rural project and aligns very well with the program's selection criteria.

Table 16 - BUILD and INFRA Grant Programs Compared provides a summary of BUILD grant program information and a side-by-side comparison to the INFRA grant program. Additional BUILD grant program information can be found on the USDOT webpage for the program at <https://www.transportation.gov/BUILDgrants>.

10.2 INFRA Discretionary Grants Program

The Fixing America's Surface Transportation Act (FAST Act) of 2015 established the Nationally Significant Freight and Highway Projects (NSFHP) program under 23 USC § 117 to provide financial



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assistance through competitive grants to nationally and regionally significant freight and highway projects. The Infrastructure for Rebuilding America (INFRA) grants are awarded on a competitive basis to projects that align with the program goals to:

- improve the safety, efficiency, and reliability of the movement of freight and people;
- generate national or regional economic benefits and an increase in global economic competitiveness of the U.S.;
- reduce highway congestion and bottlenecks;
- improve connectivity between modes of freight transportation;
- enhance the resiliency of critical highway infrastructure and help protect the environment;
- improve roadways vital to national energy security; and
- address the impact of population growth on the movement of people and freight.

The INFRA grants program was authorized by the FAST Act for federal fiscal years 2016 through 2020. In December 2018, USDOT announced through a NOFO FY 2019 funding availability totaling \$900 million to be awarded on a competitive basis. This is the penultimate fiscal year funding of the program and the deadline for filing under this round expired in March 2019. The final announcement for an additional FY 2020 round of \$1 billion in INFRA grants availability is expected to be announced in late 2019 or early 2020. The KAC Project could potentially be ready to respond to and apply for the FY 2020 INFRA grants funding round and it is highly likely that Congress will determine to extend the program as it has with the BUILD/TIGER grants program.

It is believed that the KAC is well positioned to compete for INFRA grant funding given the purpose and need of the Project and its relationship to ports, airports, freight movement, economic competitiveness, and how well it aligns with the program goals stated above. The KAC also aligns well with any rural preference for the INFRA grant program. Additionally, many of the grant application submission criteria are similar to BUILD grants and therefore INFRA can be efficiently applied for. USDOT has established a rural preference and geographic equity goals for the INFRA program that align with the KAC and position the State for a reasonably high probability of success in obtaining a grant award for the Project.

Table 16 - BUILD and INFRA Grant Programs Compared provides a summary of INFRA grant program information and a side-by-side comparison to the BUILD grant program. Additional INFRA grant program information can be found on the USDOT webpage for the program at <https://www.transportation.gov/buildamerica/infragrants>. The INFRA grant program is administered by the Build America Bureau (BAB) of USDOT which also administers the TIFIA and Railroad Rehabilitation and Improvement Financing (RRIF) programs.

Table 16 - BUILD and INFRA Grant Programs Compared

Program Element	BUILD Discretionary Grants	INFRA Discretionary Grants
Full Title	“Better Utilizing Investments to Leverage Development” (BUILD) Discretionary Grant Program	“Infrastructure for Rebuilding America” (INFRA) Discretionary Grant Program
Program Summary	BUILD is a continuation of the Transportation Infrastructure	INFRA program provides federal grant assistance on a competitive



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Program Element	BUILD Discretionary Grants	INFRA Discretionary Grants
	Generating Economic Recovery (TIGER) grant program, awarding discretionary competitive grants for National Infrastructure Investments. The program has awarded \$7.1 billion for capital investments in surface transportation infrastructure over 10 rounds of competitive grants, supporting projects that have a significant local or regional impact. BUILD gives special consideration to projects which emphasize access to reliable, safe and affordable transportation for communities in rural areas, such as projects that: (1) improve infrastructure condition; (2) address public health and safety; (3) promote regional connectivity; or (4) facilitate economic growth or competitiveness	basis to highway and freight projects of regional and national significance with a focus on four key objectives: (1) Supporting economic vitality at the national and regional level; (2) Leveraging federal funding to attract non-federal sources of infrastructure investment; (3) Deploying innovative technology, encouraging innovative approaches to project delivery, and incentivizing the use of innovative financing; and (4) Holding grant recipients accountable for their performance
Enabling Act(s)	American Recovery and Reinvestment Act (ARRA) of 2009 (as funded through various appropriations acts)	Fixing America's Surface Transportation Act (FAST) of 2015 (as funded through various appropriations acts)
Administered By	USDOT Office of the Secretary of Transportation (OST)	USDOT Build America Bureau (BAB) under the OST
Amount Available	\$900,000,000 for FY 2019 \$450 million each is allocated to urban and rural projects	\$4.5 billion for fiscal years 2016-2020, including \$950 million for FY 2019 and \$1 billion for 2020 At least 25 percent of awards is reserved for rural projects, of which 90 percent is reserved for large projects and 10 percent for small projects
Maximum Project Grant	\$25,000,000	Not stated



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Program Element	BUILD Discretionary Grants	INFRA Discretionary Grants
Minimum Project Grant	\$5,000,000 (\$1 million for Rural Projects)	Large Project ($\geq$ \$100 million) - \$25 million Small Project ($<$ \$100 million) - \$5 million
Maximum Total State Grant Awards Allocation	10 percent of appropriated funds (\$90,000,000 for 2019) – stated goal of “geographic equity”	Maximum not stated, but includes “geographic equity” goals
Obligation and Expenditure of Funds Deadline	Generally, for obligation of funds end of second full fiscal year of current round (9/30/2021 for April 2019 NOFO) For expenditure of funds, generally five years after obligation of funds deadline (9/30/2026 for April 2019 NOFO)	Generally, for obligation of funds end of third full fiscal year of current round (9/30/2022 for December 2018 NOFO) Obligated funds to be “expended expeditiously” once project construction is underway
Cost Sharing or Matching	80 percent maximum federal participation (including grant and all other federal-aid). Secretary may approve higher participation for small rural grants. Toll credits under 23 USC § 120(i) are considered a federal source under BUILD. Federal credit assistance through TIFIA and RRIF are not considered federal participation if repaid from non-federal sources. Previously expended non-federal funds will not be considered as part of the matching requirement for BUILD grants	INFRA grants can fund up to 60 percent of <u>future</u> eligible project costs, but the total federal share is limited to 80 percent of <u>future</u> eligible project costs. For purposes of the 80 percent federal share, TIFIA and RRIF
Eligible Applicants	State, local, and tribal governments, including U.S. territories, transit agencies, port authorities, metropolitan planning organizations (MPOs), and other political subdivision of State or local governments. Multi-State jurisdictions may submit a joint application	(1) A State or group of States; (2) An MPO that serves an Urbanized Area with a population of more than 200,000; (3) A unit of local government or group of local governments; (4) A political subdivision of a State or local government; (5) A special purpose district or public authority with a



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Program Element	BUILD Discretionary Grants	INFRA Discretionary Grants
		transportation function, including a port authority; (6) A federal land management agency that applies jointly with a state or group of states; (7) A tribal government or consortium of tribal governments; or (8) A multi-State or multi-jurisdictional group of public entities
Eligible Projects	Surface transportation capital projects that include, but are not limited to: (1) Highway, bridge, or other road projects eligible under Title 23 USC; (2) public transportation projects eligible under chapter 43 of Title 49 USC; (3) passenger and freight rail transportation projects; (4) port infrastructure investments (including inland port infrastructure and land ports of entry); and (5) intermodal projects BUILD grants may also be used to pay TIFIA or RRIF credit subsidy costs	Projects carried out on the National Highway Freight Network (23 USC § 167); highway or bridge projects carried out on the National Highway System (NHS), including projects that add capacity on the Interstate System to improve mobility or projects in a national scenic area; railway-highway grade crossing or grade separation projects; or a freight project that is (1) an intermodal or rail project, or (2) within the boundaries of a public or private freight rail, water (including ports), or intermodal facility INFRA grants may also be used to pay TIFIA credit subsidy costs
Eligible Project Costs	(Generally described under “Eligible Projects” above and in Titles 23 and 49, USC)	INFRA grants may be used for the construction, reconstruction, rehabilitation, acquisition of property, environmental mitigation, construction contingencies, equipment acquisition, and operational improvements directly related to system performance
Rural/Urban Definition	Urban – a project located <u>within (or on the boundary of)</u> a Census-designated urbanized area that had	Urban – a project located <u>inside</u> a Census-designated urbanized area that had a population greater than 200,000



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Program Element	BUILD Discretionary Grants	INFRA Discretionary Grants
	a population greater than 200,000 in the 2010 census Rural – a project located outside of a Census-designated urbanized area that had a population greater than 200,000 in the 2010 census A project located in both an urban and rural area will be designated as either urban or rural based on the geography where the majority of the project's costs will be spent	Rural – a project located outside of a Census-designated urbanized area that had a population greater than 200,000 A project located in both an urban and rural area will be designated as either urban or rural based on the geography where the majority of the project's costs will be spent
Large/Small Projects Definitions	N/A	Large Projects >=\$100 million Small Projects <\$100 million
Project Components	USDOT may award funds for a component, instead of the larger projects, if that component (1) independently meets minimum award amounts and all eligibility requirements; (2) independently aligns with the selection criteria; (3) meets NEPA requirements with respect to independent utility	USDOT may award funds for a component, instead of the larger projects, if that component (1) independently meets minimum award amounts and all eligibility requirements; (2) independently aligns with the selection criteria; (3) meets NEPA requirements with respect to independent utility Under INFRA, funding may be requested for a network of projects that have independent utility but address the same transportation problem, particularly if the overall benefits of the network of projects is greater than the individual project benefits
Application Limit	Each lead applicant may submit no more than three applications	Each lead applicant may submit no more than three applications, but an applicant can participate in more than three applications where the agency is listed as a partnering agency
Selection Criteria (BUILD) and Merit Criteria (INFRA)	(1) Primary Selection Criteria: (a) Safety (b) State of Good Repair (c) Economic Competitiveness (d) Environmental Sustainability	(1) Support for National or Regional Economic Vitality (2) Leveraging of Federal Funding (3) Potential for Innovation



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Program Element	BUILD Discretionary Grants	INFRA Discretionary Grants
	(e) Quality of Life (2) Secondary Selection Criteria: (a) Innovation (i) Innovative Technologies (ii) Innovative Project Delivery (iii) Innovative Financing (b) Partnership	(4) Performance and Accountability
Other Key Evaluation Considerations	• Project Readiness • Technical Feasibility • Project Schedule • Required Approvals (NEPA, etc.) • Assessment of Project Risks and Mitigation Strategies • Benefit Cost Analysis (BCA)	• Project Readiness • Technical Feasibility • Project Schedule • Ability to meet conditions to obligate funds before the deadline • Ability to begin construction quickly upon obligation • ROW acquisition to be completed in a timely manner • Required approvals (NEPA, etc.) • Benefit Cost Analysis (BCA)

11 TIFIA Loan Application and Approval Process

The Transportation Finance and Innovation Act (TIFIA) established a federal loan program with unique features to facilitate financing the construction of large projects with a revenue source to designate for repayment (in the case of the KAC Project, toll revenue). The TIFIA credit program is administered by the Build America Bureau (BAB) of USDOT. The TIFIA loan program was established to

- Facilitate projects with significant public benefits
- Encourage new revenue streams and private participation
- Fill capital market gaps for secondary/subordinate capital
- Be a flexible, "patient" investor willing to take on investor concerns about investment horizon, liquidity, predictability and risk
- Limit Federal exposure by relying on market discipline

The TIFIA program can provide term loans, revolving lines of credit and loan guarantees. The average project size for TIFIA borrowings is \$1.5 billion and the average TIFIA loan in their portfolio is \$430 million. The plan of finance for the KAC that was in place in 2016 when the Project was suspended assumed a TIFIA term loan of approximately \$365 million (as amended from the original TIFIA LOI seeking \$378 million), or 33 percent of the estimated \$1.1 billion Eligible Project Cost, placing the Project well within the norm for the TIFIA program. (Note that Eligible Project Costs, as defined in the



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program, includes pre-construction and other eligible costs beyond the \$932 million construction cost estimate for the KAC).

TIFIA loan features that make it a very attractive financing tool for projects like the KAC include:

- Low interest rate:
 - Treasury rate for matching term plus 1 basis point
 - 2.02 percent at August 16, 2019 for a 30 to 35-year loan
 - Rate fixed at closing
- Patient repayment terms, potentially including:
 - No principal payments for up to 5 years after substantial completion
 - Interest accretion during construction
 - Flexible amortization structuring to match the shape of the revenue pledge over time
 - Long tenor debt term of up to 35 years after substantial completion
- No interest accrued until drawn and no commitment fees on undrawn amounts
- Funding for up to 33 percent of Eligible Project Cost (49 percent in limited circumstances)
- Will participate as either a senior lender or subordinated co-lender

Additionally, Alaska Statutes require that a TIFIA loan be secured for a minimum of 30 percent of construction cost before the State Bond Committee can issue State bonds for the Project as a result of legislation passed in 2014 supporting the public finance model (HB 23) for the KAC. HB 23 also amended AS 19 to permit ADOT&PF to borrow from the TIFIA program. **Therefore, securing a TIFIA loan is essential to the plan of finance under the public finance model for the Project contemplated by HB 23 passed in 2014.**

For these and other reasons, a TIFIA term loan is almost certainly a component of the KAC Project plan of finance, whether delivered as a DBM or as a P3, should the State determine to advance the Project. ADOT&PF and KABATA have previously submitted several TIFIA Letters of Interest (TIFIA LOI) prior to the Project being suspended in 2016, most recently in July 2015. That TIFIA LOI had attained two preliminary investment grade ratings opinions and was well into the creditworthiness assessment by the TIFIA office and nearing conditional approval when the Project was suspended in 2016.

Should the State determine to advance the KAC Project using a TIFIA loan in the plan of finance, the estimated budget to complete the application and achieve financial close is approximately \$1.4 million as depicted in [Table 17 - TIFIA Loan Application Process Tasks, Budget and Schedule](#). It should be noted that there are a number of pre-conditions to ready the KAC for a new TIFIA LOI, as indicated in the dependents column in [Table 17](#). Most of the dependencies are either pre-conditions of eligibility (e.g. inclusion in State and local transportation plans) or necessary for creditworthiness (e.g. investment grade T&R study and investment grade preliminary ratings opinion(s)).



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Table 17 - TIFIA Loan Application Process Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
11	1-10	TIFIA Loan Application and Approval Process	In-house and consultant(s) / Financial Advisor	\$ 1,119,500	\$ 1,650,000	\$ 1,419,500	365	730	548	10/15/2019	1/28/2022	1/30/2022
11.1		Build America Bureau (BAB) Outreach and Project Development	In-house and BAB	\$ 10,000	\$ 10,000	\$ 10,000	365	730	548	10/15/2019	4/14/2021	10/14/2021
11.2		Drafting and Submission of TIFIA Letter of Interest/Draft Application	In-house and consultant(s) / Financial Advisor	\$ 50,000	\$ 50,000	\$ 50,000	30	60	45	3/15/2020	4/29/2020	5/14/2020
11.3		Creditworthiness Review:	BAB with In-House and Consultant support	\$ 50,000	\$ 50,000	\$ 50,000	90	120	105	3/18/2020	7/1/2020	7/16/2020
11.4		TIFIA Advisors upfront fees	In-house	\$ 250,000	\$ 250,000	\$ 250,000	1	1	1	4/29/2020	4/30/2020	4/30/2020
11.5		Preliminary ratings opinion(s) (min=1, max=2 - expected assumes two))	In-house, Consultant(s), Financial Advisor and NRSRO(s)	\$ 150,000	\$ 350,000	\$ 350,000	60	90	75	4/30/2020	7/14/2020	7/29/2020
11.6		TIFIA Oral Presentation Development and Delivery	In-house, Consultant(s) Financial Advisor	\$ 50,000	\$ 50,000	\$ 50,000	30	60	45	4/29/2020	6/13/2020	6/28/2020
11.7		TIFIA Application Drafting and Submission and Application Review and Conditional Approval Process	In-house, Consultant(s) Financial Advisor	\$ 50,000	\$ 50,000	\$ 50,000	45	75	60	9/30/2020	11/29/2020	12/14/2020
11.8		Term Sheet and Credit Agreement Execution and Funding Obligation	In-house with advisor consultation	\$ 50,000	\$ 50,000	\$ 50,000	30	60	45	3/15/2021	4/29/2021	5/14/2021
11.9		Final investment grade ratings opinions (2) at closing (expected assumes 2 preliminary ratings opinions)	In-house and NRSROs	\$ 459,500	\$ 590,000	\$ 459,500	10	15	13	1/15/2022	1/27/2022	1/30/2022
11.10		Final TIFIA Advisors fees increment	In-house	\$ -	\$ 200,000	\$ 100,000	1	1	1	1/27/2022	1/28/2022	1/28/2022
11.11		Disbursement of Funds During Construction (on request and in compliance with conditions)	In-house				1	1,620	1,260	TBD	TBD	TBD

Figure 19 - TIFIA Loan Application and Approval Process Timing Relative to KAC Project Delivery Critical Path depicts the timing of the TIFIA loan process relative to the overall KAC path to commercial and financial close.

Figure 19 - TIFIA Loan Application and Approval Process Timing Relative to KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
11	1-10	TIFIA Loan Application and Approval Process	10/15/2019	1/28/2022	1/30/2022														
11.1		Build America Bureau (BAB) Outreach and Project Development	10/15/2019	4/14/2021	10/14/2021														
11.2		Drafting and Submission of TIFIA Letter of Interest/Draft Application	3/15/2020	4/29/2020	5/14/2020														
11.3		Creditworthiness Review:	3/18/2020	7/1/2020	7/16/2020														
11.4		TIFIA Advisors upfront fees	4/29/2020	4/30/2020	4/30/2020														
11.5		Preliminary ratings opinion(s) (min=1, max=2 - expected assumes two))	4/30/2020	7/14/2020	7/29/2020														
11.6		TIFIA Oral Presentation Development and Delivery	4/29/2020	6/13/2020	6/28/2020														
11.7		TIFIA Application Drafting and Submission and Application Review and Conditional Approval Process	9/30/2020	11/29/2020	12/14/2020														
11.8		Term Sheet and Credit Agreement Execution and Funding Obligation	3/15/2021	4/29/2021	5/14/2021														
11.9		Final investment grade ratings opinions (2) at closing (expected assumes 2 preliminary ratings opinions)	1/15/2022	1/27/2022	1/30/2022														
11.10		Final TIFIA Advisors fees increment	1/27/2022	1/28/2022	1/28/2022														
11.11		Disbursement of Funds During Construction (on request and in compliance with conditions)	TBD	TBD	TBD														



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The KAC Project meets TIFIA eligibility requirements and, prior to suspension in 2016, met the creditworthiness test required for a TIFIA loan. [Table 18 - TIFIA Eligibility Requirements and KAC Qualifications](#) and [Table 19 - Additional TIFIA Selection Criteria Considerations and the KAC](#) demonstrate KAC Project alignment with TIFIA eligibility and other selection criteria at the time the Project was suspended in 2016. The criteria check boxes shaded in red will need to be “proved up” in order to secure a TIFIA loan should the State determine to advance the KAC Project to commercial and financial close. These issues are addressed in Tasks 1-10 in the proposed plan for advancing the KAC Project.

Table 18 - TIFIA Eligibility Requirements and KAC Qualifications

23 USC Reference	Eligibility Criteria	Knik Arm Crossing Qualifications	Criteria Met?
§ 602(a)(4)	Eligible applicant	ADOT&PF is a department of the State of Alaska and the FHWA recognized State Transportation Agency (STA).	✓
§ 601(a)(12)(A)	Project eligibility under Title 23 or 49	The KAC is an eligible project under Title 23. It has been predesignated by FHWA as part of the National Highway System and the Project will comply with applicable federal laws and regulations.	✓
§ 602(a)(5)(A)(i)	Project exceeds lesser of \$50 million or 33 1/3 percent of federal highway assistance funds	The KAC Project, including development costs is reasonably estimated at approximately \$1.045 billion all of which are eligible project costs (ineligible costs have been excluded).	✓
§ 602(a)(6)(A)	Dedicated revenue source for repayment of the TIFIA loan	The KAC is a toll bridge. ADOT&PF has the statutory authority to establish and collect tolls for use of the bridge and to pledge that toll revenue. ADOT&PF proposes to set tolls sufficient to cover TIFIA debt service and pledge the toll revenues to TIFIA.	✓
§ 602(a)(2)(A)(i) § 602(a)(2)(A)(ii) § 602(a)(2)(A)(iii) § 602(a)(2)(A)(iv) § 602(a)(2)(B)	Creditworthiness of the project	The KAC Project compares very favorably to other projects that have received a TIFIA loan. ADOT&PF will covenant to USDOT to take additional actions if revenues reach levels that jeopardize the Project or the ability to pay TIFIA debt service. The initial toll rate assumptions have been set well below optimized revenue generation, providing ADOT&PF the capacity to increase toll rates if necessary to meet TIFIA debt service and the facility is largely demand inelastic.	✓



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23 USC Reference	Eligibility Criteria	Knik Arm Crossing Qualifications	Criteria Met?
		Based on an investment grade (i.e. due diligence of a sufficient level to support a municipal bond issuance) traffic and revenue study and extensive, detailed due diligence of cost estimates, the Project is more than financially feasible. The KAC financial plan provides very strong coverage ratios adequate to ensure repayment of the TIFIA loan. The Project would have to incur a greater than 48 percent reduction in revenues versus the base-case projection before TIFIA debt may not be able to be paid from project toll revenues. Two preliminary rating opinions have been obtained from NRSROs, each indicating that the Project's senior lien debt (the TIFIA loan) will achieve investment grade ratings.	
§ 602(b)(3)(A) § 602(b)(3)(B)	Preliminary rating opinion letter indicating senior lien is likely to achieve investment grade rating, preliminary rating opinion letter on the Federal credit instrument	Two preliminary rating opinions have been obtained from NRSROs, each indicating that the Project's senior lien debt (the TIFIA loan) will achieve investment grade ratings.	✓
§ 602(a)(3)	Project included in transportation plans under §§ 134 and 135 of Title 23 USC	The Knik Arm Crossing project is fully compliant as it is included in the Statewide Transportation Improvement Plan and in the Anchorage MPO's Metropolitan Transportation Plan and Transportation Improvement Program.	✓
§ 602(c)(1)(A)	Federal requirements: Title VI of the Civil Rights Act of 1964	ADOT&PF has and will continue to comply with the Civil Rights Act.	✓
§ 602(c)(1)(B) § 602(c)(2)	Federal requirements: National	The KAC is fully compliant as it has completed NEPA documentation, with a published FEIS in December 2007	✓



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23 USC Reference	Eligibility Criteria	Knik Arm Crossing Qualifications	Criteria Met?
	Environmental Policy Act of 1969	and a “build” Record of Decision signed by FHWA on December 15, 2010. A reevaluation was signed by FHWA in July of 2015.	
§ 602(c)(1)(C)	Federal requirements: Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970	ADOT&PF has complied with all aspects of the Uniform Act and will continue to do so with respect to the KAC Project. 86 percent of the ROW has been acquired and remaining parcels are government to government acquisitions.	✓

Table 19 - Additional TIFIA Selection Criteria Considerations and the KAC

23 USC Reference	Other TIFIA Selection Criteria Considerations	Knik Arm Crossing Qualifications	Criteria Met?
	Extent to which project is regionally or nationally significant	The KAC has been designated by Congress a project of national significance under SAFETEA-LU. 54 percent of Alaska’s population lives within a 50-mile radius of the Project. It will represent only the second highway connection between Anchorage and points north.	✓
§ 602(a)(9)(A)	Foster partnerships that attract public and private investment	- The Project will be procured under an innovative design-build contract with a 15-year capital maintenance agreement to provide a long-term warranty and lifecycle cost efficiencies. - Alaska will issue up to \$300 million of appropriation credit bonds and contribute the proceeds as equity in the Project. A senior TIFIA loan is a statutory condition for the State to issue the bonds.	✓
§ 602(a)(9)(B)	TIFIA allows the project to proceed at an earlier date than it otherwise would	A TIFIA loan will accelerate the Project by at least two years and perhaps as much as five years. Alaska will issue up to \$300 million of appropriation credit bonds and contribute the proceeds as equity in the Project. A senior TIFIA	✓



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23 USC Reference	Other TIFIA Selection Criteria Considerations	Knik Arm Crossing Qualifications	Criteria Met?
		loan is a statutory condition for the State to issue the bonds.	
§ 602(b)(2)(A)(v)	Project uses new technologies, including ITS, that enhance efficiencies	The Project will be the first all-electronic open road toll project in Alaska using transponders and readers to capture toll transactions. ADOT&PF also plans to implement incident monitoring cameras and dynamic signage to indicate travel times and traffic and weather conditions.	✓
§ 602(b)(2)(A)(vi)	Amount of federal budget authority required to fund the TIFIA credit instrument	The amount of federal budget authority to fund the TIFIA credit instrument is minimized because TIFIA is in the senior lien position and the Project is lightly leveraged, significantly lowering the risk profile and federal budgetary impact.	✓
§ 602(b)(2)(A)(vii)	Maintain or protect the environment	• The bridge results in large reductions in vehicle miles travelled vs. a no-build alternative, reducing accidents and reliance on fossil fuels and the emissions that come with combusting them in the region. • The approach roadway embankment will stabilize the bluff of a superfund military waste dump that currently erodes into Knik Arm. • During construction, drilled shafts will be used for the bridge foundation and restrictions will be in place on pile driving to minimize noise impacts on marine mammals. • A Compensatory Mitigation Plan has been developed for the implementation of fish habitat preservation and rehabilitation projects as wetlands mitigation. • Erosion control and storm water management will be implemented.	✓



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23 USC Reference	Other TIFIA Selection Criteria Considerations	Knik Arm Crossing Qualifications	Criteria Met?
§ 602(b)(2)(A)(viii)	Reduce the contribution of Federal grant assistance	The TIFIA loan will reduce the need for Federal grant assistance for the KAC by approximately \$370 million.	✓
§ 602(a)(10)	Project readiness	ADOT&PF is prepared to enter into the contracting process for construction within 90 days after the Federal credit instrument is obligated for the KAC Project. We fully expect that the design-builder will be identified, and the contracting process will be awaiting commercial close prior to financial close on the TIFIA loan.	✓

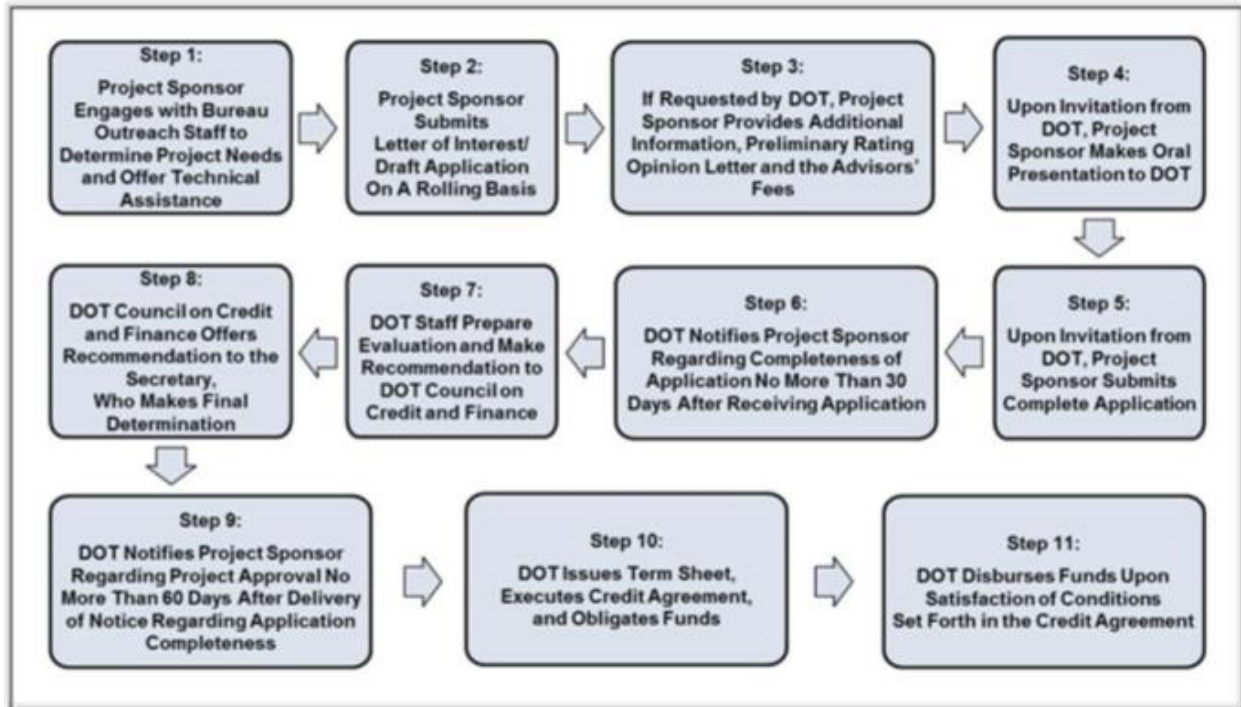
The TIFIA Application process is very structured and is essentially a pass/fail test. Unlike Federal grant programs like INFRA and BUILD, approval of a TIFIA loan for a project is predicated on objective criteria rather than a competitive and potentially subjective process where there is strong competition for limited funding and a much lower probability of success. By being well prepared for filing a TIFIA LOI, as outlined in this plan for advancing the KAC to financing and procurement, ADOT&PF has a high probability of successfully securing a TIFIA loan. *Figure 20 - USDOT Process for Selection and Funding of TIFIA and RRIF Projects* outlines the TIFIA loan process, which is discussed in further detail relative to the KAC Project from an owner's perspective in the following Sections 11.1 through 11.10. The BAB website at USDOT, located at <https://www.transportation.gov/buildamerica/>, provides additional information on the TIFIA loan program and other programs administered by the BAB.



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Figure 20 - USDOT Process for Selection and Funding of TIFIA and RRIF Projects



11.1 Build America Bureau (BAB) Outreach and Project Development

The TIFIA program is now administered under the Build America Bureau (BAB) of USDOT, which represents an organizational change since ADOT&PF previously submitted a TIFIA LOI in 2015. The BAB was implemented to combine the Bureau, TIFIA and RRIF loan programs, Private Activity Bonds (PABs), and the INFRA grant program all under one roof within the Office of the Undersecretary for Transportation for Policy. ADOT&PF will need to contact the BAB and they will assign a Project Development Lead to work with the Department to determine KAC Project needs and the specific ways in which the BAB can provide TIFIA credit assistance, among other programs potentially applicable. The intent of this process is to identify major hurdles that might delay a project early in the process. The TIFIA program is currently under the same leadership as was in place in 2015 and the TIFIA team is familiar with the KAC Project. This familiarity should assist in efficiently reintroducing the Project and an updated LOI to the BAB should the State determine to advance the Project using a TIFIA loan.

11.2 Drafting and Submission of TIFIA Letter of Interest/Draft Application

A TIFIA LOI will be required to be drafted and submitted when the KAC is ready to advance the TIFIA loan process, project readiness and fiscal constraint have been ascertained, BAB outreach has been engaged, and the State is ready to advance the Project through the TIFIA loan application process. Firm commitment and a structured plan to achieve a successful TIFIA loan approval must be in place at the State/ADOT&PF before commencing the process and the BAB accepting the LOI.

Several previous LOIs have been submitted for the KAC Project, most recently in July 2015, and an LOI could be updated, prepared and submitted relatively quickly provided other supporting information and pre-conditions have been met. A highly qualified financial advisor and industry recognized T&R



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consultant must be part of the team for a successful TIFIA LOI and application process. Other projects that have successfully secured TIFIA financing have unanimously been supported by subject matter experts (SMEs) through the TIFIA loan process and they will be key players in the success of the KAC Project in securing a TIFIA loan. SME consulting cost has been included in the budget for the TIFIA loan process.

The LOI is submitted electronically on a standardized form designed to express the project's eligibility and creditworthiness along with other pertinent information. A number of supporting documents are typically provided. In past submission, the KAC Project established a TIFIA web page where all documents supporting the TIFIA loan process were made available and updates and additional information were provided as they became available or were requested by USDOT.

11.3 Creditworthiness Review

Project creditworthiness is essential to securing the TIFIA loan for the KAC. A well-thought-out plan of finance supported by an investment grade traffic and toll revenue study and robust capital and operating cost estimates is essential to achieving creditworthiness. The KAC Project was poised to pass the creditworthiness test with USDOT when the Project was suspended by the State in 2016. In addition to robust and well vetted capital and operating cost estimates, the Project had a contemporary investment grade traffic and toll revenue study and, after the previous LOI was submitted in 2015, had secured two preliminary investment grade ratings opinions to provide independent third-party comfort in KAC Project creditworthiness. These elements are now dated and will have to be updated prior to submitting a new LOI to the TIFIA program of USDOT should the State choose to move the Project forward. Certain eligibility requirements that were in place will also require updating to perfect passing the eligibility criteria, as indicated in [Table 18 - TIFIA Eligibility Requirements and KAC Qualifications](#) and [Table 19 - Additional TIFIA Selection Criteria Considerations and the KAC](#) (as highlighted in red).

The creditworthiness review involves USDOT's and their advisors' evaluation of the plan of finance, financial model, and feasibility of the anticipated pledged revenue. In connection with this review, the USDOT will make request to ADOT&PF to provide any additional materials they deem necessary to facilitate their review of the KAC Project's creditworthiness, and ADOT&PF must be prepared to be responsive and anticipate USDOT's questions. This is an area where SME consulting support is essential to success.

11.4 TIFIA Advisors upfront and total fees

Once the USDOT has concluded that the Project satisfies statutory eligibility criteria, ADOT&PF will be required to submit an up-front fee as a deposit to cover the USDOT's costs of outside financial and legal advisors (the Advisors' Fees Upfront Payment). This up-front fee will be applied to the actual costs USDOT incurs for services provided by their outside financial and legal advisors in connection with the review of the Letter of Interest/Draft Application, final application and the negotiation of the transaction documents. The Advisors' Fees Upfront Payment amount is \$250,000 for the KAC Project, since it qualifies as a large project under the TIFIA program. Actual cost incurred for advisors by USDOT will be trued up at the conclusion of the TIFIA loan process and are expected to exceed the \$250,000 up-front fee. The estimated total for the upfront and projected incurred fees in excess of \$250,000 have been included in the budget estimate for the KAC for this task.



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11.5 Preliminary ratings opinion(s)

TIFIA requires a preliminary rating opinion letter indicating that the KAC Project is likely to achieve an investment grade rating from at least one Nationally Recognized Statistical Rating Organization (NRSRO), which is a condition precedent to conditional approval of the TIFIA loan. The preliminary rating opinion letter(s) are required by USDOT once they have concluded that the project satisfies statutory eligibility criteria, including a preliminary review of a project's creditworthiness and satisfaction of readiness requirements.

The KAC Project previously obtained two preliminary investment grade rating opinion letter(s) from NRSROs Standard and Poor's and DBRS and submitted them to USDOT in early 2016 prior to the Project being suspended. Those letters are now out of date and one or more NRSROs will need to be reengaged to assess the Project's current plan of finance and creditworthiness and issue preliminary rating opinion letter(s) based on that plan and supporting information. There are additional NRSROs recognized by the Securities and Exchange Commission that could be considered to render the updated opinions should the State determine to move the KAC Project forward using a TIFIA loan in the financing package. ADOT&PF should strongly consider delivering one (or preferably two) preliminary investment grade rating letter(s) earlier in the process should the State determine to pursue it to assist USDOT and their advisors in arriving at a satisfactory creditworthiness assessment expeditiously.

Two preliminary ratings opinions are recommended to ensure a high probability that the required two final ratings opinions delivered at financial close will be successfully achieved. The additional cost of a second up-front preliminary opinion will be substantially recovered through credits against the final ratings opinion and save time in achieving financial close on the TIFIA credit instrument.

11.6 TIFIA Oral Presentation

Once USDOT and their advisors have completed their review of the Letter of Interest/Draft Application and a preliminary rating opinion letter(s) and the Advisors' Fees Upfront Payment have been delivered, ADOT&PF will be requested to provide an oral presentation on the Project and its plan of finance to the USDOT. During and after the TIFIA oral presentation to USDOT, questions will be submitted, and ADOT&PF must be prepared to respond with answers. ADOT&PF (and KABATA) have previously provided TIFIA oral presentations for the KAC Project. The information provided in the TIFIA orals presentation will be very similar to the presentation(s) made to the NRSRO(s).

11.7 TIFIA Application Drafting, Submission, Review and Conditional Approval Process

Once both the preliminary rating opinion letter(s) and the Advisors' Fees Upfront Payment have been received, ADOT&PF has made its oral presentation to USDOT, and USDOT has determined that the Project satisfies all statutory eligibility requirements including project creditworthiness, ADOT&PF will be invited to submit a complete application with all required materials. The TIFIA application is very similar to the TIFIA LOI under the current application process and should be able to be quickly prepared and submitted once this stage of the TIFIA loan application process has been attained. Final approval of credit assistance is subject to the Project's continued eligibility and approval by the Secretary of Transportation.



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11.8 Term Sheet and Credit Agreement Execution and USDOT Funding Obligation

The USDOT will prepare a term sheet for execution with ADOT&PF that sets forth the basic terms and conditions of the TIFIA credit assistance. There is an opportunity for the ADOT&PF to negotiate specific terms that deviate from the standard TIFIA term sheet and it is recommended a financial advisor be engaged to assist in developing specific terms on behalf of ADOT&PF for the Project. Those terms will be memorialized in the definitive credit agreement executed between the USDOT and ADOT&PF. The TIFIA credit agreement also authorizes the disbursement of funds subject to satisfaction of the conditions specified therein. ADOT&PF must satisfy all applicable TIFIA requirements prior to execution of the TIFIA credit agreement.

11.9 Final investment grade ratings opinions

At or just prior to financial close, two final investment grade ratings opinions from NRSROs will be required as a precondition to closing. Obtaining two preliminary investment grade ratings opinions helps to ensure that this closing deliverable is highly likely. The same NRSROs providing the preliminary investment grade ratings opinions should be used for the final opinions as a matter of efficiency.

11.10 Other TIFIA Program Considerations

There are some ongoing management considerations related to a TIFIA loan. The primary considerations post-closing are:

1. Disbursement of Funds During Construction are made on request and in compliance with conditions spelled out in the definitive TIFIA credit agreement,
2. A requirement for periodic compliance reporting, both during construction and post-closing through loan maturity (also spelled out in the definitive credit agreement), and
3. An annual maintenance and monitoring fee averaging approximately \$13,000 per annum (currently).

The cost of these additional TIFIA considerations had previously been included in the construction phase and O&M cost estimate projections and will need to be revisited if and when these elements of the plan are updated.

12 State Bond Issuance (assumes issuance under HB 23 construct)

During the 2014 legislative session, the Alaska legislature passed a bill (HB 23) providing the State Bond Committee authority to issue up to \$300 million in tax-exempt bonds backed by the moral obligation of the state, subject to appropriation, to partially fund the Project (see Alaska Statutes §§ 37.15.225 through 37.15.290). The last financial plan for the Project before it was suspended in 2016 indicated approximately \$279 million of State bonds would need to be issued.

These State bonds represent approximately 30 percent of the financing sources for the construction phase of the KAC Project, should the State determine to move the Project forward to financing and construction and include the issuance of the bonds in the plan of finance. **An important point is that the bond proceeds will serve as State matching of federal-aid highway funds, saving the State an estimated \$30 million in general funds for State match assuming \$300 million of federal-aid is allocated to the KAC Project.**



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The legislation requires that the KAC Project secure a TIFIA loan for at least 30 percent of Project cost as a condition precedent to the State Bond Committee's authority to issue the bonds. That legislation also gave authority to the State Bond Committee to enter into agreements with other state agencies to loan the proceeds and recover the debt service. The legislation intends that ADOT&PF (and potentially KABATA) enter into an agreement(s) with the State Bond Committee to repay the bond proceeds and interest thereon to the Committee on a subordinated basis to TIFIA debt service and KAC operations and maintenance cost. The legislation also requires that the State Bond Committee notify the Alaska Legislature of its intent to issue the bonds, but issuance thereof does not require approval of the Alaska Legislature under existing law.

The State Bond Committee will enter into an interagency agreement with ADOT&PF for repayment of bond debt service to the Committee. The direct appropriation bonds debt service is an obligation of the State Bond Committee and is a moral obligation of the State, subject to appropriation. The terms of the interagency agreement between ADOT&PF and the State Bond Committee to repay the appropriation bonds debt service to the State have not been finalized. The State Bond Committee Loan will be subordinated to the TIFIA loan and will have a final maturity no less than the final maturity of the TIFIA loan. Any payment default on the State Bond Committee loan to ADOT&PF for the Project will not constitute a default on the TIFIA loan or any other debt issued under the trust agreement.

From a KAC Project financial plan perspective, the timing of bond issuance and whether there should be several tranches during the construction period will be part of the financial plan optimization in cooperation with the State Bond Committee, ADOT&PF and their respective financial and legal advisors. In the order of carrying cost, the bonds are more expensive than TIFIA since, once issued, they accrue interest whether the funding is currently required or not. TIFIA may require, however, a firm commitment to bond issuance by the State Bond Committee as a condition to drawing on the TIFIA loan. To the extent it can be negotiated with USDOT with respect to the TIFIA loan, the bonds should be issued last in the financing plan depicted in [Figure 21 - State Bond Issuance Timing Relative to the KAC Project Delivery Critical Path](#) (provided market interest rates remain steady). The budget for bond issuance is not shown, as the cost of issuance will come from the bond proceeds versus other funding sources.

Figure 21 - State Bond Issuance Timing Relative to the KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
12	11	State Bond Issuance (assumes issuance under HB 23 construct)	9/29/2021	1/12/2022	1/27/2022														
12.1		Evaluate conditions of issuance, necessary agreements, and confirm conditional commitment of TIFIA credit instrument for 30% of construction costs (or more):	9/29/2021	1/12/2022	1/27/2022														
12.1.1		State Bond Committee Evaluation and Resolution to Issue and notification to State Legislature																	
12.1.2		Determine competitive or underwritten process and select bankers/underwriters																	
12.1.3		Develop and issue Preliminary Official Statement																	
12.1.4		Price bonds, issue and publish Official Statement																	
12.1.5		Issue and fund																	



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In general, the State Bond Committee will be undertaking the following tasks (among others) to issue the bonds to fund the KAC Project:

- Evaluate conditions of issuance, necessary agreements, and confirm conditional commitment of TIFIA credit instrument for ≥ 30 percent of construction costs
- Approve a State Bond Committee Evaluation and Resolution to Issue
- Provide notification to the State Legislature
- Determine competitive or underwritten process and select bankers/underwriters
- Develop and issue Preliminary Official Statement
- Price bonds, issue and publish Official Statement
- Issue and fund

Post issuance, the State Bond Committee is obligated to submit an annual budget request to the Legislature to fund bond debt service. The State Bond Committee will also be responsible for periodic debt service transactions and compliance reporting under the bond documents. To the extent surplus toll revenue is available for bond debt service for repayment of past debt service in arrears, ADOT&PF will repay the State from such toll revenue subject to loan documents, reserves requirements and the agreement(s) with the State Bond Committee until such time as the bonds are retired and the State is made whole.

The State Bond Committee and the Alaska Department of Revenue are very experienced in the issuance and management of tax-exempt municipal bonds and will undertake the issuance. They also have access to financial advisors and legal counsel required for the issuance. ADOT&PF and Project legal and financial advisors will be required to coordinate with the State Bond Committee and their advisors during the issuance process. Exhaustive legal documents will be required to be drafted and executed to memorialize the arrangements and the condition of the TIFIA loan, as the senior lien, will need to be considered and integrated into those documents.

13 Procurement Process for Project Construction

The procurement for large highway road and bridge projects like the KAC are generally fairly complex and typically require an extended and expensive procurement process because of the Project's cost, complexity and risks profile. This is particularly true of the KAC Project due to a number of complicating factors including, but certainly not limited to:

- High construction cost estimated at \$932 million;
- Alaska construction seasons provide limited work windows and suggest a multi-year construction duration of 3-4 years;
- Isolation of the Project area from the rest of the country, requiring significant logistics and mobilization planning;
- Seismicity of the construction area and the need to construct a facility to withstand potentially large earthquake events;
- Hazmat and unexploded ordinance risks in the alignment;
- High tides swings in the Knik Arm of Upper Cook Inlet;
- Presence of an ESA listed species in the in-water work area (beluga whales);



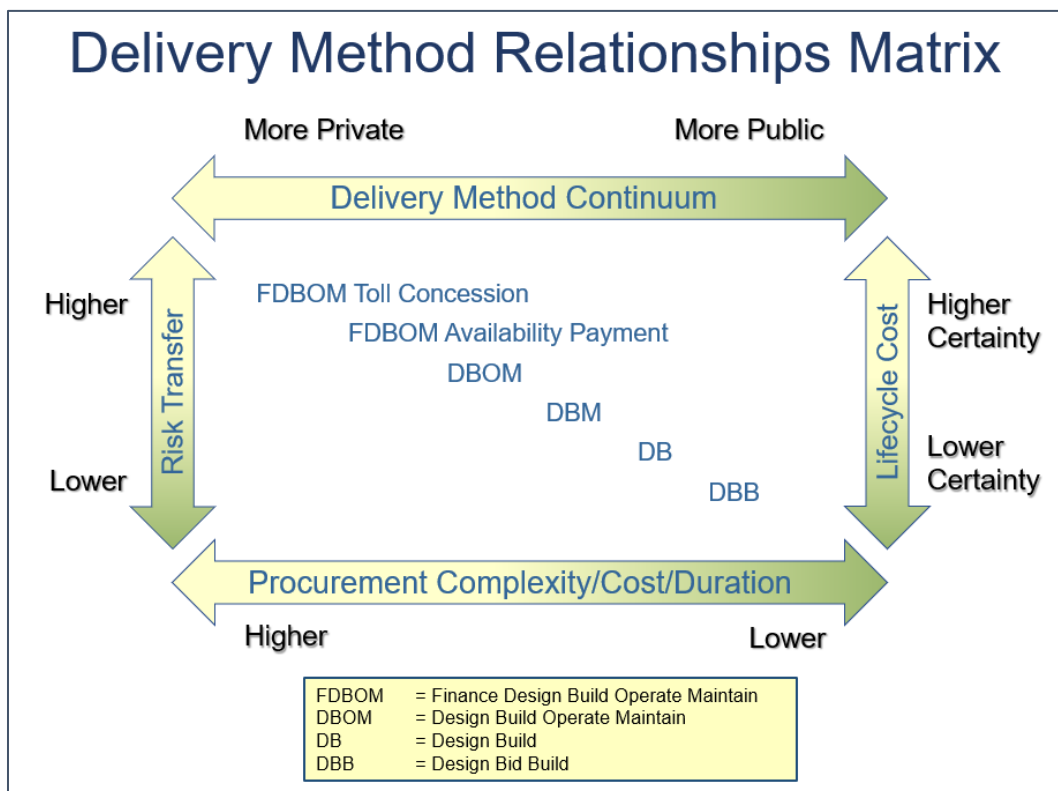
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- Requirement for a highly specialized marine contractor;
- Narrow construction corridor on the east side of the bridge in the JBER/POA vicinity;
- Owner's desire for predictable and optimized life-cycle cost of ownership;
- Contractor and contract terms expectations of lenders financing the Project;
- Optimization of risk allocations between ADOT&PF/State and the contractor to manage cost and certainty;
- Owner's and lenders' expectation of a fixed price and firm schedule contract;
- Limited universe of contractors with the size, expertise, financial strength and capacity to compete for the Project.

Prior to Project suspension in 2016, P3 and DBM contracting methods were considered within the spectrum of potential delivery methods from Design-Bid-Build (DBB) to a full revenue risk P3 toll concession, as discussed further under [13.1 Procurement process overview](#). [Figure 22 - Indicative Delivery Method Relationship Considerations](#) provides a matrix of various project delivery/contracting methods and the relationships between lifecycle cost certainty, private participation, procurement complexity and cost, and degree of risk transfer/sharing with the private sector across the continuum of alternatives.

Figure 22 - Indicative Delivery Method Relationship Considerations



[Figure 23 - Typical Design-Build vs. DBFOM Public-Private Partnership Relationships](#) provides a comparison of relationships between the parties involved in project delivery between the government/owner, lenders, the DB contractor, and in the case of a FDBOM P3, the concessionaire. The

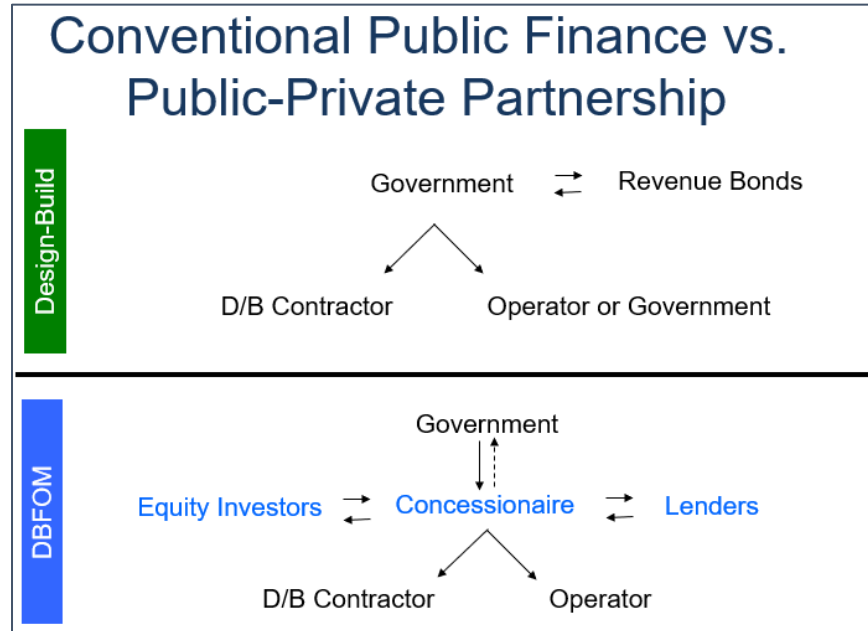


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important considerations to deliberate relate to which party is responsible for each of the elements of Project delivery.

Figure 23 - Typical Design-Build vs. DBFOM Public-Private Partnership Relationships



In addition to the methods listed, there are various alternatives within the spectrum of choices, like Construction Manager/General Contractor, or CM/GC. Discussion of all potential alternatives' benefits and disadvantages is beyond the scope of this report but represents a host of important considerations for the ADOT&PF/State in deciding on the Project delivery method.

The KAC Project was queued up for procurement under a Design-Build-Maintain (DBM) delivery method to optimize risk allocations and achieve predictable construction and life-cycle ownership costs for ADOT&PF and the State prior to being suspended in 2016. Although the remainder of the procurement discussion focuses on the DBM contracting approach, the basic concepts discussed would apply to any delivery method chosen on the spectrum between DB through full revenue risk P3 concession. Variability would primarily relate to procurement/contracting complexity, duration to commercial close, which party is undertaking financing, and procurement cost for both the State and the proposer teams. All of these methods of contracting use a performance-based approach to optimize risk allocations between the owner and the contractor and to obtain a warranty on the design and construction from the contractor, which is typically a joint venture of construction and engineering firms and may include operations and maintenance and tolling operations providers depending on the delivery method chosen by the owner. A prescriptive Design-Bid-Build approach is not recommended for delivering the KAC Project because of the factors previously discussed.

13.1 Procurement process overview

Procurements conducted for very large and complex highway and bridge projects under a DBM (or a P3) approach have generally been conducted in a two-step process, first qualifying prospective proposers and second developing and issuing procurement documents. Award is generally based on a best value



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scoring approach that considers both price and technical qualifications. ADOT&PF has gathered procurement documents from other states and ADOT&PF projects prior to the KAC Project being suspended in 2016 which can be used as a starting point set of templates in developing the procurement documents and methodology. In addition, there are many similarities between a DBM procurement and a P3 procurement, and contract terms and technical provisions developed for the previous attempts to secure the KAC Project through a P3 delivery can be used extensively for a DBM procurement approach.

In the interim, significantly more DB and P3 procurements have been conducted for highway and bridge projects elsewhere and those documents and processes used will need to be obtained and reviewed to determine the current state of best practices and industry acceptable terms for DBM procurements (or other chosen delivery method). Additionally, because of the highly technical nature and complexity of large highway and bridge construction projects, the need for risk management, long-term nature of the DBM relationship with an extended maintenance warranty period, and other factors has resulted in virtually all such procurements having been conducted with the assistance of legal, financial and technical consultants experienced in this area.

The budget for the DBM procurement legal and technical support through DBM contract award has been estimated at \$6.2 million, comprised mainly of \$4.2 million of legal and professional support costs and anticipated stipend payments of \$2 million to responsive proposers that did not win the contract (\$1 million each), as depicted in [Table 20 - Design-Build-Maintain Procurement Tasks, Budget and Schedule](#). This estimate does not include ADOT&PF and State internal costs for conducting the procurement, which are separately budgeted on a total Project basis. Actual cost results could be considerably higher if not conducted efficiently. Part of that efficiency will be driven by ensuring an appropriate level of readiness groundwork has been achieved and sticking to the procurement schedule as closely as possible once the procurement process is launched. Additionally, draft procurement document terms should be well thought out so that the industry review process can be conducted efficiently.

The schedule is being driven by the complexity and magnitude of the KAC Project, the cost and risks of the Project, and the necessity of supporting financing of the KAC final design and construction phase. Therefore, the DBM procurement duration/timeline is expected to be about 18 months and not likely less than 12 months. The procurement schedule and DBM contract award should be targeted based on sufficient consideration of the seasonal nature of construction in Alaska, the need for mobilization (in particular for specialty marine contractors and materials logistics), and overall project readiness with respect to permitting and ROW.



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Table 20 - Design-Build-Maintain Procurement Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
13	1-11	Procurement Process for Project Construction (Assumes Design-Build (DB) delivery method)	In-house, Legal Counsel, Consultants	\$ 5,710,000	\$ 7,210,000	\$ 6,210,000	360	720	540	5/30/2020	5/29/2022	9/10/2022
13.1		Delivery / financing method selection (assume DB for planning)	In-house and Financial Advisor	\$ 10,000	\$ 10,000	\$ 10,000	30	30	30	5/30/2020	6/29/2020	6/29/2020
13.2		Procurement process:	In-house, Legal Counsel, Consultants	\$ 4,200,000	\$ 4,200,000	\$ 4,200,000	360	720	540	9/20/2020	3/14/2022	9/10/2022
13.2.1		Develop procurement documents:								9/20/2020	3/14/2021	4/13/2021
13.2.1.1		Request for Qualifications (RFQ)					45	90	68	9/20/2020	11/26/2020	12/19/2020
13.2.1.2		Request for Proposals Draft (RFP)					120	180	150	10/15/2020	3/14/2021	4/13/2021
13.2.2		Generate Industry interest and issue RFQ					20	60	45	10/22/2020	12/6/2020	12/21/2020
13.2.3		Evaluate Statements of Qualifications (SOQs) and shortlist teams to compete for project					20	45	35	12/13/2020	1/17/2021	1/27/2021
13.2.4		Industry review					180	360	270	1/27/2021	10/24/2021	1/22/2022
13.2.5		Finalize and Issue RFP (considering industry review and other inputs to draft RFP)					10	45	30	10/14/2021	11/13/2021	11/28/2021
13.2.6		Proposal Period					45	90	60	1/12/2022	3/13/2022	4/12/2022
13.2.7		Evaluate Proposals and Award Contract					20	60	45	3/14/2022	4/28/2022	5/13/2022
13.3		Stipends	In-house	\$ 1,500,000	\$ 3,000,000	\$ 2,000,000	1	1	1	5/28/2022	5/29/2022	5/29/2022

The complex nature of the KAC Project and the long-term maintenance aspects of the Project are expected to result in a lengthy procurement process. The schedule is expected to take approximately 18 months to complete the procurement, assuming focused resolve to see it to completion and other aspects of project readiness in place to support success. *Figure 24 - Design-Build-Maintain Procurement Schedule Relative to KAC Project Delivery Critical Path* depicts the procurement schedule assuming launch in the third quarter of 2020.

Figure 24 - Design-Build-Maintain Procurement Schedule Relative to KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
13	1-11	Procurement Process for Project Construction (Assumes Design-Build (DB) delivery method)	5/30/2020	5/29/2022	9/10/2022														
13.1		Delivery / financing method selection (assume DB for planning)	5/30/2020	6/29/2020	6/29/2020														
13.2		Procurement process:	9/20/2020	3/14/2022	9/10/2022														
13.2.1		Develop procurement documents:	9/20/2020	3/14/2021	4/13/2021														
13.2.1.1		Request for Qualifications (RFQ)	9/20/2020	11/26/2020	12/19/2020														
13.2.1.2		Request for Proposals Draft (RFP)	10/15/2020	3/14/2021	4/13/2021														
13.2.2		Generate Industry interest and issue RFQ	10/22/2020	12/6/2020	12/21/2020														
13.2.3		Evaluate Statements of Qualifications (SOQs) and shortlist teams to compete for project	12/13/2020	1/17/2021	1/27/2021														
13.2.4		Industry review	1/27/2021	10/24/2021	1/22/2022														
13.2.5		Finalize and Issue RFP (considering industry review and other inputs to draft RFP)	10/14/2021	11/13/2021	11/28/2021														
13.2.6		Proposal Period	1/12/2022	3/13/2022	4/12/2022														
13.2.7		Evaluate Proposals and Award Contract	3/14/2022	4/28/2022	5/13/2022														
13.3		Stipends	5/28/2022	5/29/2022	5/29/2022														

13.2 Develop procurement documents:

As discussed in the previous section, Design-Build and similar contracting methods for large-scale highway and bridge project procurements are generally conducted as a two-step process revolving around (1) qualifying a shortlist of highly qualified DBM teams to propose on and compete for the project, and (2) finalizing a draft Request for Proposals (RFP) through an industry review process with the qualified field of proposers, considering and, as appropriate, incorporating their feedback, issuing the RFP including the draft contract document(s), accepting and evaluating proposals, and awarding the DB contract.

There are two key procurement documents around which this recommended procurement process revolves: (1) the Request for Qualifications (RFQ), and (2) the Request for Proposals (RFP). Significant



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legal and technical consultant input goes into drafting these documents and ensuring they capture the KAC requirements of the ADOT&PF and the State in terms of the bridge and appurtenant facilities, including life-cycle design, environmental considerations, expandability, coordination by the DB contractor with the TSIO contractor for tolling civil works, and price and schedule, among other factors.

13.2.1 Request for Qualifications (RFQ)

Issuance of the RFQ signals the initiation of the formal DBM procurement process. This document will be developed to convey the qualification that ADOT&PF is seeking in a DB Joint Venture (JV) team to ensure a high probability of success in constructing the KAC on budget and on schedule. Qualifications that the RFQ will seek from industry include a track record of previous experience and success amongst the members of the DBM JV; financial wherewithal to deliver the project and meet contract obligations; the quality and experience of the proposed project management team; the project management plan and plans for project quality assurance/quality control (QA/QC), technical capabilities; and manpower, equipment and schedule capacity, amongst other considerations important to the project owner and their lenders.

13.2.2 Request for Proposals Draft (RFP)

The draft RFP documents include, among other documents:

- The RFP competition rules, procurement schedule and deadlines, submission requirements (including price), technical proposal forms, and required schedules to be submitted;
- The draft DBM contract;
- Technical provisions; and
- Reference Information Documents (RIDs).

These draft documents are provided to each of the teams shortlisted under the RFQ process (with some exceptions such as the evaluation process and scoring manual). The more complete the document drafts are, the more efficient the procurement process. Through the industry review process, commercial terms and provisions, technical requirements and other amendments will be considered, and the documents will evolve until ADOT&PF determines they are ready to issue in near final form to initiate the proposal period.

The overarching indicative DBM contract terms that were under consideration by ADOT&PF prior to the Project being shut down in 2016 are depicted in [Table 21 - Design-Build Contract Indicative Terms](#). A much more detailed list of indicative terms was developed for consideration by the ratings agencies in developing investment grade preliminary ratings opinions and is available in the ADOT&PF project archives. These terms (or similar terms) will be evaluated, updated and incorporated into the draft DBM contract document(s) (or alternative contracting method selected). Lenders will also consider these terms in evaluating credit risk prior to identifying the DBM contractor and executing the final contract at or near financial close for the Project.



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Table 21 - Design-Build Contract Indicative Terms

Category	Terms
Scope of Work	Design-Build Contract (“Contract”) between ADOT&PF and Design-Build Contractor to design and construct the initial configuration of the Crossing.
Price	Fixed price, fixed schedule, lump sum contract.
Performance and Payment Security	The Design-Build Contractor must provide payment and performance security in the amount equal to 25 percent of the lump sum price. Payment security must be in the form of a bond. Performance security can be either a bond or letter of credit.
Parent Guaranty	A guaranty of Design-Build Contractor’s obligations from a creditworthy guarantor may be required if Design-Build Contractor fails to meet certain net worth requirements.
Payment Obligations	ADOT&PF will make payments to Design-Build Contractor on a monthly basis based on the progress of the work.
Completion Deadlines	The deadlines for substantial completion, revenue service commencement and final acceptance of the Project will be set forth in the project schedule included in the Contract. Extensions of completion deadlines are allowed only under limited circumstances, including the occurrence of a relief event.
Changes in Price	The Design-Build Contractor’s right to changes in the lump sum price correspond to the relief events.
Delay	Design-Build Contractor will be liable for delay liquidated damages for failure to achieve substantial completion and final acceptance by the applicable deadline. The amount of liquidated damages will be \$150,000 per day for each day of delay in achieving final acceptance. The amount of the liquidated damages for failure to meet the substantial completion deadline will be tied to the likely loss or delay in receipt of toll revenue (e.g. adequate to cover debt service on the TIFIA loan).
Cap on Damages	The Design-Build Contractor’s aggregate limit on delay damages is 17.5 percent of the lump sum price.



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The technical provisions represent a component of the draft DBM contract, and will indicate things like performance criteria, seismic resistance, maintenance life-cycle design requirements, etc. Generally, technical provisions are anticipated to be performance based rather than prescriptive. One exception is the bridge foundation pile installation technique. Large diameter oscillated drilled shaft will likely be prescribed to meet NMFS marine mammal noise threshold requirements under the MMPA and ESA. Alternative technical proposals acceptable to ADOT&PF may be considered under the procurement process and could include alternatives such as different bridge substructure elements (e.g. caissons for pier construction) or bridge span lengths.

Reference information documents, or RIDs, will be provided to all DBM JV teams (and most will be made available to all industry interest at the RFQ stage of the procurement process to convey project maturity and considerations by contractors in determining their interest in competing for/proposing on the project). RIDs include the ROD, utilities studies, ROW alignment, preliminary design documents, seismic studies, noise attenuation studies, mitigation requirements, permits, etc. Providing the RIDs set a level playing field for the competition and provides all known relevant documented information about the project for their consideration in developing proposals.

This section represents an abbreviated discussion of the various documents that together comprise the RFP for the project and this discussion is meant to be informative rather than comprehensive, pending higher level project decisions.

13.2.3 Generate Industry interest and issue RFQ

While the RFQ is under development, best practices indicate that providing an industry forum and other outreach methods to introduce the KAC design-build construction opportunity to the universe of qualified contractors and generating interest will result in a good response to the RFQ. This process may also include the universe of potential toll systems integrator/operators. Consultants engaged to support the process will provide their expertise to conducting a successful RFQ process. When sufficient industry interest has been generated and the timing is optimal for the KAC Project, the RFQ will be issued requesting Statements of Qualifications (SOQs) from the DB contracting industry. SOQ response periods are generally allowed a 30 to 60-day time frame from issuance of the RFQ, with 45 days being the average.

13.2.4 Evaluate Statements of Qualifications (SOQs) and shortlist teams to compete

Once SOQs are received in response to the RFQ, they will be evaluated for technical qualification by a team confidentially designated by ADOT&PF with support from ADOT&PF technical, financial and legal consultants engaged to support the procurement. This evaluation process is highly structured to avoid procurement protests risk. The result of the evaluation will be a shortlist of highly qualified DBM contractor teams to compete for the project, generally three to four entities to keep the process manageable while ensuring healthy competition and driving innovation. DBM contractor teams are generally formed as Joint Venture (JV). Team members will commonly include the lead contractor, specialty contractors for in-water pile driving and other specialty works, and one or more engineering firms. The quality and past performance of



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the DBM JV team members are a key consideration in scoring and evaluating teams to determine the shortlist selected to compete for the project.

13.2.5 Industry review

Once a shortlist of pre-qualified teams has been selected from the RFQ/SOQ process, a draft of the RFP document, including technical provisions developed with input from ADOT&PF and consultants preliminary design work and expected contract terms and conditions is circulated to the shortlisted teams. They are afforded the opportunity to pose questions or recommend changes confidentially. The ADOT&PF, with consultant support, will respond to those questions and consider recommendations. If identified items affect the universe of shortlisted proposers, clarification will be issued to all and/or a revised draft RFP or revisions thereto posted. Generally, at least one and likely two confidential one-on-one meetings are held with each of the shortlisted teams. The use of information discussed in those one-on-one meetings is entirely left to ADOT&PF and the State's consideration and discretion with advice from technical consultants and legal counsel. Beneficial amendments to the draft contract document and commercial terms are incorporated into the RFP documents and are published through addendum and made available to all shortlisted teams, as are answers/clarification to questions that effect the universe of shortlisted proposal teams.

13.2.6 Finalize and Issue RFP and Start Proposal Period

At the end of the industry review process a final set of RFP documents is issued including the draft DBM contract and the proposal period is initiated. The shortlisted teams are generally afforded 45-90 days to provide final technical and price proposals to ADOT&PF. Prospective DBM JV teams would generally be able to provide proposals within this timeframe because of their participation in the extensive industry review process under the procurement methodology during which they will have developed most of their proposal inputs.

13.2.7 Evaluate Proposals and Award Contract

At the conclusion of the proposal period, proposals received will be evaluated and scored on technical merits and pricing under a best value approach. The evaluation process will be conducted in a similar structured and confidential manner as that used by the SOQ evaluation process, but at a level much more in-depth. Technical consultants and legal counsel will provide review, scoring support and advice to the evaluation team. At the conclusion of the technical and price proposals evaluation, an apparent winner will be announced and a notice of intent to award and final contract negotiations will be conducted similar to the process for other large and complex procurements.

It should be noted that the TIFIA loan application process will expect the design-builder to be identified and under contract at or near financial close for the TIFIA loan. The terms of the DB contract are an important consideration to lenders, in particular as they relate to price and schedule certainty and to risk allocations in controlling and managing potential cost overruns and contingencies. The proven track record of the design-build team is also an important consideration by lenders to the project.



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13.3 Stipends

Project owners often decide to pay compensation to shortlisted unsuccessful proposers in connection with design-build procurements for large scale highway and bridge projects. Various terms are used to describe payments to proposers (e.g. stipend, stipulated fee, honorarium, and payment for work product), but the basic premise is the same — provision of partial compensation for the proposer's costs of preparing the proposal. A decision to pay a stipend is typically intertwined with a desire to ensure that the procurement will be competitive and will result in high quality, innovative proposals.

Faced with a myriad of opportunities on which to expend limited resources in pursuing, payment of a stipend to DB teams submitting a responsive proposal has been demonstrated to keep shortlisted teams in the competition for the contract. Further, most of the proposal burden falls on the design team, and discussion with contractors indicates the majority of stipends paid goes to the design team members. As a final matter, payment of a stipend is more than offset through retaining increased competition, achieving higher proposal quality, and the potential for savings or other improvements in the Department's program or the specific project through use of the unsuccessful proposers' ideas.

Federal Highway Administration (FHWA) regulations provide that FHWA will participate in stipends paid to unsuccessful but responsive proposers for federal-aid projects, stating that the stipend amount is "usually one-third to one-half of the estimated proposal development cost." This amount is generally equivalent to 0.2 percent of the estimated contract value (perhaps less for larger contracts due to scale). FHWA had previously authorized federal-aid participation for a stipend budget for the KAC Project of \$3 million. This figure was consistent with stipends offered for projects of similar size and risk profile in other states and assumed two to three unsuccessful shortlisted responsive proposals receiving a stipend of approximately \$1.0 to \$1.5 million each. ADOT&PF will need to update its evaluation of current stipend practices to determine whether accepted market conditions have changed the parameters generally in place when the Project was suspended in 2016.

14 Procurement Process for Toll Systems Integrator/Operator (TSIO)

Presently, neither ADOT&PF or the State operates a modern Open Road Tolling (ORT) system utilizing Electronic Toll Collection (ETC) on any of the existing roads and bridges within Alaska. Modern toll systems capture toll transactions at highway speeds at gantry locations through reading RFID transponders mounted on vehicles using the toll facility. The system is backed up by video images of license plates that are automatically captured at the same gantry locations. Identification of the vehicle ownership for potential toll violators or failure to read the transponder and billing of those transactions is ascertained through DMV provided vehicle registration data. This system of tolling is widely installed in the lower 48 states and world-wide by tolling authorities and state transportation departments. Examples of these systems are EZ-Pass™ (many states along the eastern seaboard), TollTag™ (North Texas Toll Authority), TxTag™ (TxDOT), SunPass™ (Florida), and FasTrak™ (Bay Area Toll Authority, South Bay Expressway), and PikePass™ (Oklahoma Toll Authority), among others. The RFID tags also frequently serve double duty for airport parking and have potential application for law enforcement and ADOT&PF traffic counting.

The unique mindset the State must consider and adapt to is that each toll system facility user is a customer. They have an account with one or more registered vehicles, make payments, expect



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billings/statements, may become an uncollectible bad debt, and often require other “customer care” support (including self-provisioning platforms). Related to providing these services to the customer base, the toll system provider will require software and IT systems, customer care agents, toll tag provisioning methods, accounts receivable and cash management processes, auditing and accounting, changing ownership information when releasing or acquiring title, etc. Toll systems integration, implementation and testing is generally provided to the toll system owner by a company selected through a procurement process from experienced toll systems integrators. Toll project procurements are typically divided between the roadside system, which includes all required toll equipment, servers and software at the toll zone gantry sites and a back-office system (BOS). The BOS is generally comprised of the ETC and video toll transaction processing, customer service center and the violation processing system. Additionally, most of these toll system integrators will also operate and manage the toll systems administration, customer accounts, billing and collections functions, and maintain the toll system equipment and software.

A combined Toll Systems Integrator-Operator (TSIO) procurement is recommended for the KAC Project because ADOT&PF and the State do not have existing systems and management structures for a modern tolling system. Alternatively, the lane equipment and back-office toll operations could be separately procured. The exception to this recommendation is if the ADOT&PF and State choose to pursue the KAC delivery under a P3, in which case the P3 developer would likely be charged with providing the TSIO services under the P3 contract scope of work rather than being procured by ADOT&PF. Because of certain physical aspects of the tolling system (in particular gantry design), placement and installation will require coordination with the Design-Builder, and the toll facility owner (and the lenders relying on toll revenue for debt repayment) will want the system implemented, tested and ready for customer provisioning and transaction capture and billing at opening. Further, the TSIO will operate the tolling aspects of the facility and collect the toll revenue and remit it to the State. If the ADOT&PF and State determine to take over the tolling operations once established, contract terms will provide for an orderly transition to avoid disruption to the toll revenue stream and customer experience.

Procurement for the TSIO will require that specialized legal and consulting support be engaged. Draft procurement documents for a TSIO have been developed prior to suspension of the KAC Project from other state and toll authority agencies which can be used as a template for developing the procurement documents (and are undoubtedly now more widely available). Various studies and white papers were developed for the KAC toll systems design and will serve as a starting point for updating, as described more fully under [Section 14.2](#) Finalize conceptual toll design.

The estimated budget for the Toll Systems Design and TSIO procurement is approximately \$615,000 as detailed in [Table 22 - Procurement Process for Toll Systems and Toll Design Tasks, Budget and Schedule](#). The majority of the budget is anticipated to be associated with TSIO procurement because of the technical and highly specialized nature of the equipment, software and services being procured.



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Table 22 - Procurement Process for Toll Systems and Toll Design Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
14	1-11, parallel to 13	Procurement Process for Toll Systems Integrator/Operator (TSIO) and Toll Systems Design and Branding	In-house, Legal Counsel and T&R Consultant	\$ 370,000	\$ 860,000	\$ 615,000	360	720	540	5/30/2020	1/2/2022	1/17/2022
14.1		Finalize conceptual toll design	In-house and T&R Consultant	\$ 10,000	\$ 100,000	\$ 55,000	30	90	60	5/30/2020	7/29/2020	8/28/2020
14.2		Determine what, if any, additional legislation may be required around enforcement, etc.		\$ 10,000	\$ 10,000	\$ 10,000	30	90	60	5/30/2020	7/29/2020	8/28/2020
14.3		Procurement:	In-house, Legal Counsel and T&R Consultant	\$ 350,000	\$ 750,000	\$ 550,000	360	720	540	7/29/2020	1/2/2022	1/17/2022
14.3.1		Develop procurement documents:								7/29/2020	1/25/2021	2/24/2021
14.3.1.1		Request for Qualifications (RFQ)					45	90	68	7/29/2020	10/5/2020	10/27/2020
14.3.1.2		Request for Proposals (RFP)					120	180	150	8/28/2020	1/25/2021	2/24/2021
		Generate Industry interest and issue RFQ					20	60	45	7/29/2020	9/12/2020	9/27/2020
14.3.2		Evaluate Statements of Qualifications (SOQs) and shortlist teams to compete for project					20	45	35	10/17/2020	11/21/2020	12/1/2020
14.3.3		Industry review					180	360	270	11/28/2020	8/25/2021	11/23/2021
14.3.4		Finalize and Issue RFP					10	45	30	8/15/2021	9/14/2021	9/29/2021
14.3.5		Proposal period					45	90	60	9/14/2021	11/13/2021	12/13/2021
14.3.6		Evaluate Proposals and Award TSIO Contract					20	60	45	11/18/2021	1/2/2022	1/17/2022

The timeline for toll systems design should precede the TSIO procurement initiation. It is *recommended* that TSIO procurement be concurrent with the DBM procurement process. Although initiation of the TSIO procurement can lag that of the DBM procurement by several months, it is important to the successful implementation and to avoid cost overruns that the TSIO and DB teams provide feedback during industry review to avoid DBM contract conflicts, disruption, schedule delays and cost overrun risks from failing to properly coordinate in advance and to ensure tolling is operational at opening of the KAC. *Figure 25 - Toll Systems Design and Procurement Timeline Relative to KAC Project Delivery Critical Path* depicts the complete toll systems design and procurement process.

Figure 25 - Toll Systems Design and Procurement Timeline Relative to KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
14	1-11, parallel to 13	Procurement Process for Toll Systems Integrator/Operator (TSIO) and Toll Systems Design and Branding	5/30/2020	1/2/2022	1/17/2022														
14.1		Finalize conceptual toll design	5/30/2020	7/29/2020	8/28/2020														
14.2		Determine what, if any, additional legislation may be required around enforcement, etc.	5/30/2020	7/29/2020	8/28/2020														
14.3		Procurement:	7/29/2020	1/2/2022	1/17/2022														
14.3.1		Develop procurement documents:	7/29/2020	1/25/2021	2/24/2021														
14.3.1.1		Request for Qualifications (RFQ)	7/29/2020	10/5/2020	10/27/2020														
14.3.1.2		Request for Proposals (RFP)	8/28/2020	1/25/2021	2/24/2021														
		Generate Industry interest and issue RFQ	7/29/2020	9/12/2020	9/27/2020														
14.3.2		Evaluate Statements of Qualifications (SOQs) and shortlist teams to compete for project	10/17/2020	11/21/2020	12/1/2020														
14.3.3		Industry review	11/28/2020	8/25/2021	11/23/2021														
14.3.4		Finalize and Issue RFP	8/15/2021	9/14/2021	9/29/2021														
14.3.5		Proposal period	9/14/2021	11/13/2021	12/13/2021														
14.3.6		Evaluate Proposals and Award TSIO Contract	11/18/2021	1/2/2022	1/17/2022														

14.1 TSIO Procurement

Procurements conducted in other state's departments of transportation and toll agencies/authorities have generally been conducted in a two-step process, first qualifying prospective proposers and second developing and issuing procurement documents. Award is generally based on a best value scoring approach that considers both price and technical qualifications. ADOT&PF has gathered procurement documents from other states and toll agencies prior to the KAC Project being suspended in 2016. In the interim, more TSIO procurements have been conducted for the tolling industry and those documents and process will need to be obtained and reviewed to determine the current state of best practices for TSIO procurement. Additionally, because of the highly technical nature, customer perceptions risks,



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long-term nature of the TSIO relationship and other factors, the importance of the TSIO contractor has resulted in virtually all such procurements having been conducted with the assistance of legal and technical consultants experienced in this area.

The budget for the TSIO procurement legal and technical support through TSIO contract award has been estimated at \$550,000. This estimate does not include ADOT&PF and State internal costs for conducting the procurement, which are included in the budget for ADOT&PF Project management and oversight. Actual cost results could be considerably higher if not conducted efficiently. Part of that efficiency is driven by ensuring that the conceptual toll design is well thought out and incorporated into the draft procurement documents for qualifying TSIOs and for industry review and feedback prior to and during the Request for Proposals phase of the procurement. Although a TSIO procurement could be conducted more quickly, the schedule is being driven by the Green Field nature of the KAC and the necessity of coordination with the selected DB through the KAC final design and construction phase. Therefore, procurement duration is tied to the DB procurement timeline and could be up to 18 months. Award should be targeted with sufficient lead-time for implementation, testing and customer rollout prior to revenue service commencement.

14.1.1 Develop TSIO procurement documents

As discussed in the previous section, TSIO procurements are generally conducted as a two-step process revolving around (1) qualifying a shortlist of proposers, and (2) finalizing a draft RFP through an industry review process with the qualified field of proposer's feedback, issuing the RFP, accepting and evaluating proposals, and awarding the TSIO contract.

There are two key procurement documents around which this recommended procurement process revolves: (1) the Request for Qualifications (RFQ), and (2) the Request for Proposals (RFP). Significant legal and technical consultant input goes into drafting these documents and ensuring they capture the KAC requirements of the ADOT&PF and the State in terms of tolling systems and operations.

14.1.2 Generate Industry interest and issue RFQ

While the RFQ is under development, best practices indicate that providing an industry forum and other outreach methods to introduce the KAC tolling opportunity to the universe of qualified TSIO companies and generating interest will result in a good response to the RFQ. Consultants engaged to support the process will provide their expertise to initiating a successful RFQ process. When sufficient industry interest has been generated and the timing is optimal for the KAC Project, the RFQ will be issued requesting Statements of Qualifications (SOQs) from the TSIO industry. SOQ response periods are generally allowed a 30 to 60-day time frame from issuance of the RFQ, with 45 days being the average.

14.1.3 Evaluate SOQs and shortlist teams to compete for project

Once SOQs are received in response to the RFQ, they will be evaluated for technical qualification by a team confidentially designated by ADOT&PF with support from ADOT&PF technical and legal consultants engaged to support the procurement. This evaluation process is highly structured to avoid procurement protests risk. The result of the evaluation will be a shortlist of



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highly qualified TSIO companies to compete for the project, generally three to four entities to keep the process manageable while ensuring healthy competition and driving innovation.

14.1.4 Industry review

Once a shortlist of pre-qualified teams has been selected from the RFQ/SOQ process, a draft of the RFP document, including technical provisions developed with input from the conceptual toll design work, is circulated to the shortlisted teams. They are afforded the opportunity to pose questions or recommend changes confidentially. The ADOT&PF, with consultant support, will respond to those questions and consider recommendations. If identified items affect the universe of shortlisted proposers, clarification will be issued to all and/or a revised draft RFP. Generally, at least one and likely two confidential one-on-one meetings are held with each of the shortlisted teams. The use of information discussed in those one-on-one meetings is entirely left to ADOT&PF and the State's consideration and discretion with advice from technical consultants and legal counsel. Beneficial amendments to the draft contract document and commercial terms are incorporated into the RFP documents and are published through addendum and made available to all shortlisted teams, as are answers/clarification to questions that effect the universe of shortlisted proposal teams.

14.1.5 Finalize and Issue RFP and Start Proposal Period

At the end of the industry review process a final set of RFP documents is issued including the draft TSIO contract and the proposal period is initiated. The shortlisted teams are generally afforded 45-90 days to provide final technical and price proposals to ADOT&PF. Prospective TSIOs would generally be able to provide proposals within 45 days, but duration will be tied somewhat to the DB procurement which may stretch out the proposal period.

14.1.6 Evaluate Proposals and Award TSIO Contract

At the conclusion of the proposal period, proposals received will be evaluated and scored on technical merits and pricing under a best value approach. The evaluation process will be conducted in a similar structured and confidential manner as that used by the SOQ evaluation process, but at a level much more in-depth. Technical consultants and legal counsel will provide review and scoring support and advice to the evaluation team. At the conclusion of the technical and price proposals evaluation, an apparent winner will be announced and a notice of intent to award and final contract negotiations will be conducted similar to the process for other large and complex procurements.

14.2 Finalize conceptual toll design

A *Concept of Operations Plan* dated January 2015, a *Knik Arm Crossing Toll Maintenance and Operating Cost White Paper* dated July 2015, and draft *Knik Arm Crossing Tolling Business Rules* dated December 2014 were developed for the KAC by CDM Smith. These documents will serve as the starting point for developing the current conceptual toll design for the KAC. Establishing the conceptual toll design will serve as a key input into developing the TSIO procurement documents. Conceptual toll design will also identify policy choices ADOT&PF and the State will be required to make. Any potential legislation or regulations that may be required or desired for implementation and to enhance toll enforcement and collection will also be identified through the conceptual toll design process. Should the State determine



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to move forward to financing and construction for the KAC, coordination and interfaces will also be required between the tolling systems and DMV.

ADOT&PF and the State will also need to consider toll branding and rollout. Branding will take public outreach, market research, and marketing expertise. The majority of TSIO qualified firms have experience in this arena acquired from other states and toll systems. Some thoughts for toll tag/toll system branding include “AuroraPass,” “AKPass,” “49erPass,” “GoldPass” and similar themes that will promote a sense of belonging/affinity for Alaskan toll users. Those issues will need to be addressed well in advance of the facility opening to revenue service.

Third-party consultant costs associated with updating the toll systems conceptual design is estimated at approximately \$65,000 and is expected to take 3-4 months to complete (including identifying any required or enhancing legislation or regulations around tolling).

15 Stakeholder Engagement/Public Involvement Strategy

For large, complex and sometimes controversial projects like the KAC, continuous stakeholder engagement and public outreach is an important and often overlooked key to success. Messaging for the KAC Project is particularly important because of its regional and State-wide significance, high capital cost, and that it is planned as a toll bridge to support its financing. ADOT&PF and KABATA invested significantly in communication, outreach and education with stakeholders, received input from the public and prepared responses to those comments related to Project plans during the NEPA process leading to the “build” ROD. Additionally, significant stakeholder outreach, education and public involvement occurred related to getting the Project incorporated into State and local transportation plans, which will require revisiting since the Project was dropped from State and local plans after it was suspended in 2016.

Because of the maturity of the KAC Project many aspects of stakeholder engagement have already taken place over the years and has included the following constituents, among others:

- Local residents and community groups such as community councils
- Native organizations and corporation leaders
- Community leaders
- Municipality of Anchorage and Matanuska-Susitna Borough
- Local business owners and property owners
- Elected officials and their staff
- Staff from other government organizations
- Chambers of commerce and other business and industry groups

At this stage of Project development, ADOT&PF needs to refocus outreach, engagement and education efforts for the KAC beyond the routine public process that will be necessary to get it reinstated in the State and local transportation plans (as discussed further in [Section 2](#) of this report). Key areas for refocused efforts include:

- Continuing public education about the Project’s purpose, need and socio-economic benefits to Alaskans;



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- KAC Project rebranding given its history under the name of KABATA;
- Toll system branding, marketing and public education;
- Construction period communication about Project status, activities and impacts;
- Procurement marketing and communications efforts to ensure healthy competition for the DBM and tolling contracts, and;
- Providing Project information to elected officials and public policy leaders.

Each of these topics is discussed further below.

A final recommendation is that ADOT&PF consider engaging a marketing and public relations firm to work with the Department and dedicated Project team to develop and help manage a structured programmatic plan to address public outreach and education in an organized and methodical way. The estimated budget for this stakeholder engagement is \$350,000 to commercial and financial close, as depicted in [Table 23 - Stakeholder Engagement Tasks, Budget and Schedule](#).

Table 23 - Stakeholder Engagement Tasks, Budget and Schedule

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
15	Ongoing	Stakeholder Engagement	In-house and Consultant(s)	\$ 200,000	\$ 500,000	\$ 350,000	730	1,460	1,095	3/20/2019	5/29/2022	9/10/2022
15.1		Ongoing and as required (construction period and post opening included in owner cost forecast)	In-house and Consultant(s)	\$ 200,000	\$ 500,000	\$ 350,000	730	1,460	1,095	3/20/2019	5/29/2022	9/10/2022

[Figure 26 - Stakeholder Engagement Timeline Relative to KAC Project Delivery Critical Path](#) indicates the recommendation that stakeholder engagement be continuous during (and after) Project delivery under this plan.

Figure 26 - Stakeholder Engagement Timeline Relative to KAC Project Delivery Critical Path

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/29/2022	9/10/2022														
15	Ongoing	Stakeholder Engagement	3/20/2019	5/29/2022	9/10/2022														
15.1		Ongoing and as required (construction period and post opening included in owner cost forecast)	3/20/2019	5/29/2022	9/10/2022														

15.1 Continuing Public Education and Outreach

There is a large body of information about the Project, much of which the public is unaware of. This includes factual information about Project tolling, financing sources, socio-economic benefits, and schedule, among others. The public is further misinformed about the Project through disinformation disseminated by Project opponents in efforts to negatively sway public opinion and support.

For just a few examples, the public is generally unaware that:

- The financing plan for the KAC does not rely on State general funds which are constrained due to low oil prices, but rather relies on toll-backed financing and non-fungible federal-aid funding dedicated to transportation.
- Toll revenue forecasts used risks analysis and Monte Carlo simulation statistical methods to forecast a range of traffic and toll revenue outcomes to test the resiliency of the financial plan and manage risks around traffic and toll revenue.



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- The Project will significantly reduce travel times, vehicle operating cost and greenhouse gas emissions versus a no-build alternative.
- The KAC will open up land in close proximity to Anchorage to support population growth and commercial and industrial needs for land-constrained Anchorage – land that is now 80 miles away by existing roads.
- The safety and transportation system redundancy the Project affords will provide the region an alternative to Glenn Highway travel in the event of accidents and emergencies.
- The KAC can serve as the first leg in a future connection to the Parks Highway west of Wasilla, facilitating efficient movement of people and freight and reducing congestion in Wasilla.
- There are many synergies with other infrastructure and projects in the region, including the POA, Port MacKenzie, the ARRC rail extension on the west side of the inlet, etc.
- The Project is expected to generate 5,000 construction related FTE job years (about 1,500 jobs per year) and many more permanent jobs for Alaskans post opening.

Communicating these and many other facts about the Project in a structured outreach program will help maintain public and political support to move the Project forward successfully. [Appendix C – Knik Arm Crossing Project Socio-Economic Benefits Presentation](#) contains a presentation showcasing selected Project benefits.

15.2 KAC Project Rebranding

The KAC was under KABATA management from 2003 through mid-2014. Many elected officials and members of the public continue to refer to it as the “KABATA Project.” The KABATA brand is perceived in a negative light by many elected officials and members of the public and is a vestige of the past, as KABATA was substantially dismantled by the passage of HB 23 in 2014 as discussed further in the executive summary of this report. Repackaging the KAC Project is recommended as representing a fresh start and a cornerstone to Project success.

15.3 Toll System Branding, Marketing and Public Relations

The only toll road in Alaska today is the Whittier Tunnel. This tunnel is a barrier system with manual toll collection that is only open for 15 minutes in each direction per hour during its hours of operation. As a result of this experience and Alaskans’ limited exposure to modern toll roads using transponders, ETC and ORT technologies in other states, there is a general lack of understanding of the benefits and efficiency of a modern tolling system to the travelling public.

Beyond this broad education of the public about tolling, thoughtful branding of the toll system will help to generate brand affinity and support toll marketing efforts to have a high degree of toll tag transponder penetration among potential users at Project opening (should the State choose to move forward with the KAC). ADOT&PF must also be cognizant that the toll road users are customers paying directly for use of the bridge and will expect a certain quality of customer experience and care.

The selected Toll Systems Integrator-Operator (TSIO) will assist in the education, branding and marketing rollout and it is anticipated this would be part of the contract requirements under the TSIO procurement. They should also be expected to establish and maintain both a public communications website and, as the system nears implementation, a customer interface for self-provisioning and



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customer account management. This topic is discussed in further detail under [Section 14](#) of this report. Tolling education for the Alaskan public should, however, start ahead of the TSIO procurement.

15.4 Construction Period Communications

It goes without saying that construction period communications will be an important aspect of the KAC Project should the State choose to move forward with it. It is anticipated that requirements around construction period communications, including status, traffic management and closure impacts, and current activities would be included as a requirement in the DBM contract through the procurement, including maintenance of a Project website. The DBM contractor will be required to coordinate communications with ADOT&PF throughout the construction cycle from contract award through a post-opening period.

15.5 Procurement Marketing and Communications

For both the DBM and TSIO contracts, the pre-marketing of the Project opportunity will be important to attracting quality teams to compete for the Project and fostering a healthy competition for the contracts. Because of the complexity of these procurements, this is discussed further as a step for the DBM procurement in [Section 13](#) and for the TSIO procurement under [Section 14](#) of this report.

15.6 Keeping Public Officials and Policy Leaders Informed

Public elected officials and policy makers' support and advocacy for the Project is essential to success. Legislators, the Governor's office and Department officials will need to be armed with facts about the Project to respond to constituents, KAC opponents, and the media. Frequently asked questions, fact sheets, summaries and presentations are all effective tools to provide public officials information about the Project. A program focused on providing such materials and education about Project benefits to elected officials will help ensure they are armed with the information about the KAC they require in performing their duties and interacting with constituent groups.

16 ADOT&PF Project Management and Overhead

Project management and allocated overhead costs for the KAC Project have been estimated separately from specific tasks required to take the Project to commercial and financial close. ADOT&PF project management will be involved in each of tasks 1 through 15 previously discussed. Overhead charges are applied using a fixed rate percentage of direct dollars and designed to absorb ADOT&PF indirect costs under an FHWA approved Indirect Cost Allocation Plan. Total ADOT&PF in-house project management and ICAP overhead allocations are estimated at \$2.7 million over a two-and-one-half to three-year period assuming commercial and financial close in mid to late 2022. This budgeted cost is shown in [Table 24 - ADOT&PF Management and Overhead Costs Tasks, Budget and Schedule](#). The timing relative to the KAC Project delivery critical path is not shown, as ADOT&PF Project management will be continuous over the critical path and ICAP overhead charges will occur generally pro-rata with the timing of the direct Project expenditures.



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Table 24 - ADOT&PF Management and Overhead Costs Tasks, Budget and Schedule

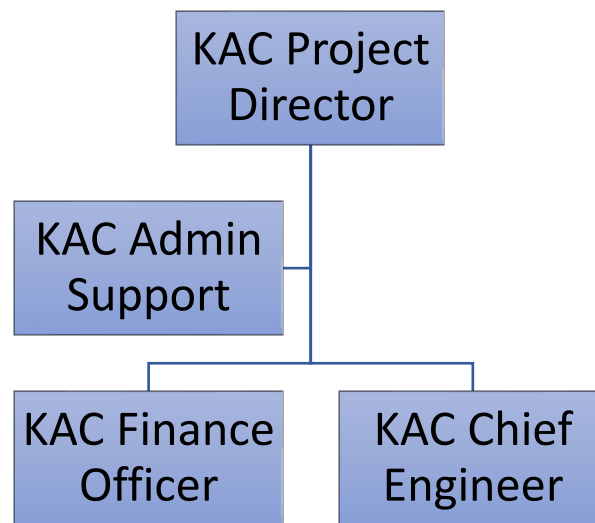
Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule		
				Low	High	Expected	Low	High	Expected	Start	End	Long Date
16	Ongoing	ADOT&PF Management and Overhead	In-house labor	\$ 2,250,025	\$ 3,202,170	\$ 2,706,520	730	1,460	1,095	3/20/2019	5/29/2022	9/10/2022
16.1		Project management payroll and overhead (3 senior level people)	In-house labor	\$ 1,350,000	\$ 1,800,000	\$ 1,575,000	730	1,460	1,095	3/20/2019	5/29/2022	9/10/2022
16.2		Overhead charges/ICAP (5%)	In-house O/H	\$ 900,025	\$ 1,402,170	\$ 1,131,520				3/20/2019	5/29/2022	9/10/2022

16.1 Dedicated KAC Project Management Team

The KAC is a complex project with a significant budget and number of tasks to manage to completion. Because of the complexities, size and duration of the KAC Project, it will require a dedicated project team with significant experience and qualifications that is unhindered with other duties and responsibilities outside of KAC Project delivery. This team will be responsible for scheduling, tracking, procurements and management of legal and consulting advisors, coordination of activities, budgeting, procurement of a DBM and TSIO, financing, public outreach, etc.

The envisioned structure would likely comprise a dedicated KAC Project Director, Chief Engineer, and a KAC Project Finance Officer. Certain elements of project delivery will utilize shared resources within ADOT&PF such as ROW, permitting and NEPA, and public outreach. Other areas will require the assistance, coordination and cooperation of various State departments and agencies, e.g. DMV, DOL, Revenue, etc. Since these dedicated KAC Project positions will require significant experience and maturity to ensure a high probability of project success, it is envisioned they would be relatively senior personnel with an expected fully burdened cost in the range of \$180,000 per annum for salary and benefits per position, or approximately \$600,000 per year. Project administrative support will also be required, and an assessment will be necessary to determine whether shared or dedicated administrative support is warranted. *Figure 27 - Proposed Dedicated Project Team Organizational Structure* depicts the suggested project team structure.

Figure 27 - Proposed Dedicated Project Team Organizational Structure



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KAC Project Director- The KAC Project Director will be responsible for overall project delivery and it is envisioned would report directly to the ADOT&PF Central Region Director and with a dotted line to the Department Commissioner. This Director will manage KAC public relations and outreach and serve as the Project liaison with elected officials, policy makers, MPOs and the public. The assignment will include overall budget and schedule responsibility and management of the Project's Chief Engineer and Finance Officer roles, ensuring that the schedule is maintained and resolving issues that arise during the course of Project development and delivery.

KAC Chief Engineer - The Chief Engineer will be directly responsible for Permitting, ROW, cost estimates and the FHWA CER, value engineering, DB procurement and managing professional services contracts and assignments with consultants engaged to assist in delivering these aspects of the Project. The Chief Engineer would also be responsible for managing the construction contract oversight on behalf of ADOT&PF. It is envisioned the Chief Engineer would report directly to the Project Director.

KAC Finance Officer - The KAC Finance Officer role will have overall responsibility for tolling and TSIO procurement, TIFIA Letter of Interest and Application, Ratings Agencies liaison, Traffic and Toll Revenue studies and underlying consulting services, INFRA and BUILD grant applications, plan of finance for the KAC, coordination with the State Bond Committee, and managing legal and professional services contracts supporting delivery of these Project elements. It is envisioned that the KAC Finance Officer would report directly to the KAC Project Director.

16.2 ADOT&PF Overhead Charges

All ADOT&PF roads and bridges projects attract overhead charges to absorb indirect costs of the Department. Under FHWA policy and practice, an approved Indirect Cost Allocation Plan (ICAP) plan is developed and applied to assess overhead absorption charges to transportation capital projects, whether federally funded or not. The current ADOT&PF calculated ICAP overhead rate for highways is approximately five percent of directly charged capital costs. This is the rate that has been applied in developing the pre-financing and construction budget for the KAC and is consistent with past Department practice.

In the past, discussions related to ICAP with the Department and the previous administration's Office of Management and Budget revolved around toll-financed construction components. Practice in other states such as Texas, has been that for very large projects, toll-financed components of capital have not been assessed ICAP overhead charges. This practice has been applied in many states to both State-financed and P3-financed toll roads and bridges. This is a potentially significant issue for the KAC where it is anticipated approximately \$650 million of construction related costs will be financed with debt backed by tolls. ICAP on the toll-financed components of the Project would add approximately \$35 million to the estimated capital cost of \$930 million. Conversely, that ICAP overhead charge increment, should it be applied, would go towards funding Department overhead cost for a net effect of zero. This issue will require clarity in developing the plan of finance for the Project.



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Appendix A – KAC Tasks, Budget and Schedule to Commercial and Financial Close



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Appendix A – Knik Arm Crossing Project Tasks, Budget and Schedule to Commercial and Financial Close – Summary

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
				Low	High	Expected	Low	High	Expected	Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	VARIOUS	\$ 18,900,525	\$ 29,445,574	\$ 23,761,924	730	1,620	1,260	3/20/2019	5/29/2022	9/10/2022														

Note: Financing costs (other than TIFIA) and construction costs (including oversight) are included in the financial plan analysis and will be paid using proceeds of the financing transaction(s).

Knik Arm Crossing Project

Analysis for Moving Forward to Financing and Construction

Appendix A – Knik Arm Crossing Project Tasks, Budget and Critical Path to Commercial and Financial Close – Detail by Task

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
				Low	High	Expected	Low	High	Expected	Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	VARIOUS	\$ 18,900,525	\$ 29,445,574	\$ 23,761,924	730	1,620	1,260	3/20/2019	5/29/2022	9/10/2022														
0		Initial Analysis of KAC Status and Path Forward	Hemenway Consulting	\$ 75,000	\$ 100,000	\$ 100,000	90	150	120	3/20/2019	7/18/2019	8/17/2019														
0.1		Task 1	Hemenway Consulting	\$ 40,000	\$ 58,000	\$ 58,000	90	150	120	3/20/2019	7/18/2019	8/17/2019														
0.1		Task 2	Hemenway Consulting	\$ 35,000	\$ 42,000	\$ 42,000	60	120	90	3/20/2019	6/18/2019	7/18/2019														
1	2	NEPA/ROD Reevaluation update	ADOT&PF and Consultant(s)	\$ 281,000	\$ 461,000	\$ 386,000	180	360	270	8/31/2019	5/27/2020	8/25/2020														
1.1		Section 106 Consultation/PA Review and Update	Consultant	\$ 60,000	\$ 90,000	\$ 75,000	90	180	135	8/31/2019	1/13/2020	2/27/2020														
1.2		Noise Analysis	Consultant	\$ 100,000	\$ 120,000	\$ 110,000	60	120	90	8/31/2019	11/29/2019	12/29/2019														
1.3		Overall written reevaluation update and drafting	Consultant or In-house	\$ 120,000	\$ 250,000	\$ 200,000	180	360	270	8/31/2019	5/27/2020	8/25/2020														
1.4		Written re-evaluation approval (SEO)	In-house	\$ 1,000	\$ 1,000	\$ 1,000	14	21	18	5/9/2020	5/27/2020	8/25/2020														
2	8	Consistency with State and Local Transportation and Land Use Plans Under Titles 23 and 49	In-House, Mat-Su, Anchorage, Consultant(s)	\$ 160,000	\$ 475,000	\$ 317,500	180	540	360	8/31/2019	8/25/2020	2/21/2021														
2.1		Inclusion in local transportation plans under 23 USC §134 and 23 CFR § 450.300 (plus consistency with Mat-Su transportation plans and local land use plans)	ADOT&PF (and potentially Consultant)	\$ 60,000	\$ 100,000	\$ 80,000	90	300	195	8/31/2019	3/13/2020	6/26/2020														
2.2		Inclusion in State transportation plans under 23 USC §135 and 23 CFR § 450.200 (plus consistency with Mat-Su transportation plans and local land use plans)	In-House	\$ -	\$ 25,000	\$ 12,500	90	120	105	11/29/2019	3/13/2020	3/28/2020														
2.3		Implementation of either (1) MPO for Mat-Su Borough, or (2) Redesignated MPO for Anchorage MSA including urbanized areas of Anchorage and Mat-Su under revised and restructured Intergovernmental Agreement	In-House, Mat-Su, Anchorage, Consultant(s)	\$ 100,000	\$ 350,000	\$ 225,000	180	540	360	8/31/2019	8/25/2020	2/21/2021														
3	10	Fulfill Major Projects Requirements	In-house and Consultant with FHWA participation	\$ 85,000	\$ 165,000	\$ 125,000	90	270	180	9/1/2019	3/16/2020	5/28/2020														
3.1		Cost Estimate Review (CER) (update prior work from 2015)	In-house and Consultant with FHWA participation	\$ 60,000	\$ 100,000	\$ 80,000	90	270	180	9/1/2019	2/28/2020	5/28/2020														
3.2		Project Management Plan (PMP) (review and update previous draft PMP from 2015/2016)	In-house and Consultant with FHWA review and concurrence	\$ 25,000	\$ 65,000	\$ 45,000	60	90	75	1/1/2020	3/16/2020	3/31/2020														
3.3	10	Initial Financial Plan (IFP) and periodic updates (See TIFIA process and documented discussion)	In-house and consultant	See TIFIA	See TIFIA	See TIFIA	60	90	75	9/1/2019	11/15/2019	11/30/2019														

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Appendix A – Knik Arm Crossing Project Tasks, Budget and Critical Path to Commercial and Financial Close – Detail by Task

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
				Low	High	Expected	Low	High	Expected	Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	VARIOUS	\$ 18,900,525	\$ 29,445,574	\$ 23,761,924	730	1,620	1,260	3/20/2019	5/29/2022	9/10/2022														
4	4.1	Secure Major Permits	In-house, ADOL, Consultants, USACE	\$ 600,000	\$ 850,000	\$ 750,000	365	730	548	10/1/2019	5/1/2021	10/31/2021														
4.1		Marine Mammal Protection Act (MMPA) Letter of Authorization (LOA) for Incidental Takes (Harassment)	In-house and consultant	\$ 200,000	\$ 350,000	\$ 300,000	365	730	548	10/1/2019	3/31/2021	9/30/2021														
4.2	4.1	USACE Section 404/10 Permit (Clean Water Act and Rivers and Harbor Act)	In-house and consultant	\$ 200,000	\$ 250,000	\$ 225,000	90	180	135	10/1/2019	4/30/2021	3/29/2020														
4.3	4.1	US Coast Guard Section 9 Bridge Permit	In-house and Consultant	\$ 200,000	\$ 250,000	\$ 225,000	365	730	548	11/1/2019	5/1/2021	10/31/2021														
5	4.1, 4.2	Acquire Remaining ROW and Secure Easements	In-house, ADOL, Consultants, USACE	\$ 6,500,000	\$ 10,832,404	\$ 8,832,404	190	540	420	10/1/2019	11/24/2020	3/24/2021														
5.1	4.1, 4.2	JBER easement Environmental Assessment and FONSI	USACE and ADOT&PF Consultant	\$ 500,000	\$ 832,404	\$ 832,404	180	360	270	10/1/2019	6/27/2020	9/25/2020														
5.2		ARRC Parcels on Government Hill and Relocations (plus legislative approval of sale by ARRC)	In-house and Legislature Sale Approval	\$ 2,000,000	\$ 4,000,000	\$ 3,000,000	190	540	420	10/1/2019	11/24/2020	3/24/2021														
5.3		Sunset Park 4f Property (eminent domain)	In-house and ADOL	\$ 2,000,000	\$ 4,000,000	\$ 3,000,000	190	540	365	10/1/2019	9/30/2020	3/24/2021														
5.4		Easement through Port of Alaska (including compensation for improvements, if any)	In-house and ADOL	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	180	360	270	10/1/2019	6/27/2020	9/25/2020														
6		Traffic and Toll Revenue Studies:	Consultant and Subconsultant(s)	\$ 1,040,000	\$ 1,410,000	\$ 1,230,000	350	505	425	11/1/2019	1/14/2021	3/20/2021														
6.1		Review of T&R assumptions	Consultant	\$ 40,000	\$ 60,000	\$ 50,000	50	75	60	11/1/2019	12/31/2019	1/15/2020														
6.2		Initial update of T&R estimates (non-bankable but directional update)	Consultant	\$ 100,000	\$ 150,000	\$ 130,000	75	175	125	11/1/2019	3/5/2020	4/24/2020														
6.3		Investment grade study to support public finance approach	Consultant	\$ 645,000	\$ 835,000	\$ 740,000	300	430	365	1/15/2020	1/14/2021	3/20/2021														
6.3.1		New independent socio-economic study	Subconsultant	\$ 125,000	\$ 175,000	\$ 150,000	90	180	135	2/14/2020	6/28/2020	8/12/2020														
6.3.2		New stated preference survey	Subconsultant	\$ 100,000	\$ 140,000	\$ 120,000	60	120	90	2/14/2020	5/14/2020	6/13/2020														
6.3.3		New travel pattern data/survey	Subconsultant	\$ 30,000	\$ 50,000	\$ 40,000	30	60	45	3/15/2020	4/29/2020	5/14/2020														
7		Validate and Update Operations and Maintenance and Renewal and Rehabilitation Cost Forecasts for Bridge and Tolling Systems/Collection	In-house and Consultant(s)	\$ 55,000	\$ 115,000	\$ 85,000	30	75	53	2/1/2020	3/31/2020	4/16/2020														
7.1		Renewal and Rehabilitation Capital Expenditures	In-house and Consultant	\$ 25,000	\$ 50,000	\$ 37,500	30	75	53	2/1/2020	3/24/2020	4/16/2020														
7.2		Tolling Operations	In-house and Consultant	\$ 12,500	\$ 25,000	\$ 18,750	30	75	53	2/1/2020	3/24/2020	4/16/2020														
7.3		Tolling Capital Expenditures (renewal and upgrades)	Consultant	\$ 12,500	\$ 25,000	\$ 18,750	30	75	53	2/1/2020	3/24/2020	4/16/2020														
7.4		Owner oversight operating costs	In-house	\$ 5,000	\$ 15,000	\$ 10,000	30	60	45	2/15/2020	3/31/2020	4/15/2020														

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Appendix A – Knik Arm Crossing Project Tasks, Budget and Critical Path to Commercial and Financial Close – Detail by Task

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
				Low	High	Expected	Low	High	Expected	Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	VARIOUS	\$ 18,900,525	\$ 29,445,574	\$ 23,761,924	730	1,620	1,260	3/20/2019	5/29/2022	9/10/2022														

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Appendix A – Knik Arm Crossing Project Tasks, Budget and Critical Path to Commercial and Financial Close – Detail by Task

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
				Low	High	Expected	Low	High	Expected	Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	VARIOUS	\$ 18,900,525	\$ 29,445,574	\$ 23,761,924	730	1,620	1,260	3/20/2019	5/29/2022	9/10/2022														
11	1-10	TIFIA Loan Application and Approval Process	In-house and consultant(s) / Financial Advisor	\$ 1,119,500	\$ 1,650,000	\$ 1,419,500	365	730	548	10/15/2019	1/28/2022	1/30/2022														
11.1		Build America Bureau (BAB) Outreach and Project Development	In-house and BAB	\$ 10,000	\$ 10,000	\$ 10,000	365	730	548	10/15/2019	4/14/2021	10/14/2021														
11.2		Drafting and Submission of TIFIA Letter of Interest/Draft Application	In-house and consultant(s) / Financial Advisor	\$ 50,000	\$ 50,000	\$ 50,000	30	60	45	3/15/2020	4/29/2020	5/14/2020														
11.3		Creditworthiness Review:	BAB with In-House and Consultant support	\$ 50,000	\$ 50,000	\$ 50,000	90	120	105	3/18/2020	7/1/2020	7/16/2020														
11.4		TIFIA Advisors upfront fees	In-house	\$ 250,000	\$ 250,000	\$ 250,000	1	1	1	4/29/2020	4/30/2020	4/30/2020														
11.5		Preliminary ratings opinion(s) (min=1, max=2 - expected assumes two))	In-house, Consultant(s), Financial Advisor and NRSRO(s)	\$ 150,000	\$ 350,000	\$ 350,000	60	90	75	4/30/2020	7/14/2020	7/29/2020														
11.6		TIFIA Oral Presentation Development and Delivery	In-house, Consultant(s) Financial Advisor	\$ 50,000	\$ 50,000	\$ 50,000	30	60	45	4/29/2020	6/13/2020	6/28/2020														
11.7		TIFIA Application Drafting and Submission and Application Review and Conditional Approval Process	In-house, Consultant(s) Financial Advisor	\$ 50,000	\$ 50,000	\$ 50,000	45	75	60	9/30/2020	11/29/2020	12/14/2020														
11.8		Term Sheet and Credit Agreement Execution and Funding Obligation	In-house with advisor consultation	\$ 50,000	\$ 50,000	\$ 50,000	30	60	45	3/15/2021	4/29/2021	5/14/2021														
11.9		Final investment grade ratings opinions (2) at closing (expected assumes 2 preliminary ratings opinions)	In-house and NRSROs	\$ 459,500	\$ 590,000	\$ 459,500	10	15	13	1/15/2022	1/27/2022	1/30/2022														
11.10		Final TIFIA Advisors fees increment	In-house	\$ -	\$ 200,000	\$ 100,000	1	1	1	1/27/2022	1/28/2022	1/28/2022														
11.11		Disbursement of Funds During Construction (on request and in compliance with conditions)	In-house				1	1,620	1,260	TBD	TBD	TBD														

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Appendix A – Knik Arm Crossing Project Tasks, Budget and Critical Path to Commercial and Financial Close – Detail by Task

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
				Low	High	Expected	Low	High	Expected	Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	VARIOUS	\$ 18,900,525	\$ 29,445,574	\$ 23,761,924	730	1,620	1,260	3/20/2019	5/29/2022	9/10/2022														
12	11	State Bond Issuance (assumes issuance under HB 23 construct)	In-house (SBC), SOA Bond Counsel, and Financial Advisor	\$ -	\$ -	\$ -	90	120	105	9/29/2021	1/12/2022	1/27/2022														
12.1		Evaluate conditions of issuance, necessary agreements, and confirm conditional commitment of TIFIA credit instrument for 30% of construction costs (or more):	In-house (SBC), SOA Bond Counsel, and Financial Advisor	\$ -	\$ -	\$ -	90	120	105	9/29/2021	1/12/2022	1/27/2022														
12.1.1		State Bond Committee Evaluation and Resolution to Issue and notification to State Legislature	In-house (SBC) and Bond Counsel																							
12.1.2		Determine competitive or underwritten process and select bankers/underwriters	In-house (SBC) and SOA Financial Advisor																							
12.1.3		Develop and issue Preliminary Official Statement	In-house, Bond Counsel and Financial Advisor																							
12.1.4		Price bonds, issue and publish Official Statement	In-house and Financial Advisor																							
12.1.5		Issue and fund	In-houe and underwriters / bankers																							
13	1-11	Procurement Process for Project Construction (Assumes Design-Build (DB) delivery method)	In-house, Legal Counsel, Consultants	\$ 5,710,000	\$ 7,210,000	\$ 6,210,000	360	720	540	5/30/2020	5/29/2022	9/10/2022														
13.1		Delivery / financing method selection (assume DB for planning)	In-house and Financial Advisor	\$ 10,000	\$ 10,000	\$ 10,000	30	30	30	5/30/2020	6/29/2020	6/29/2020														
13.2		Procurement process:	In-house, Legal Counsel, Consultants	\$ 4,200,000	\$ 4,200,000	\$ 4,200,000	360	720	540	9/20/2020	3/14/2022	9/10/2022														
13.2.1		Develop procurement documents:								9/20/2020	3/14/2021	4/13/2021														
13.2.1.1		Request for Qualifications (RFQ)					45	90	68	9/20/2020	11/26/2020	12/19/2020														
13.2.1.2		Request for Proposals Draft (RFP)					120	180	150	10/15/2020	3/14/2021	4/13/2021														
13.2.2		Generate Industry interest and issue RFQ					20	60	45	10/22/2020	12/6/2020	12/21/2020														
13.2.3		Evaluate Statements of Qualifications (SOQs) and shortlist teams to compete for project					20	45	35	12/13/2020	1/17/2021	1/27/2021														
13.2.4		Industry review					180	360	270	1/27/2021	10/24/2021	1/22/2022														
13.2.5		Finalize and Issue RFP (considering industry review and other inputs to draft RFP)					10	45	30	10/14/2021	11/13/2021	11/28/2021														
13.2.6		Proposal Period					45	90	60	1/12/2022	3/13/2022	4/12/2022														
13.2.7		Evaluate Proposals and Award Contract					20	60	45	3/14/2022	4/28/2022	5/13/2022														
13.3		Stipends	In-house	\$ 1,500,000	\$ 3,000,000	\$ 2,000,000	1	1	1	5/28/2022	5/29/2022	5/29/2022														

Knik Arm Crossing Project

Analysis for Moving Forward to Financing and Construction

Appendix A – Knik Arm Crossing Project Tasks, Budget and Critical Path to Commercial and Financial Close – Detail by Task

Task	Dependents	Task Description	Performing Party	Budget (\$)			Duration (days)			Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22
				Low	High	Expected	Low	High	Expected	Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	VARIOUS	\$ 18,900,525	\$ 29,445,574	\$ 23,761,924	730	1,620	1,260	3/20/2019	5/29/2022	9/10/2022														
14	1-11, parallel to 13	Procurement Process for Toll Systems Integrator/Operator (TSIO) and Toll Systems Design and Branding	In-house, Legal Counsel and T&R Consultant	\$ 370,000	\$ 860,000	\$ 615,000	360	720	540	5/30/2020	1/2/2022	1/17/2022														
14.1		Finalize conceptual toll design	In-house and T&R Consultant	\$ 10,000	\$ 100,000	\$ 55,000	30	90	60	5/30/2020	7/29/2020	8/28/2020														
14.2		Determine what, if any, additional legislation may be required around enforcement, etc.		\$ 10,000	\$ 10,000	\$ 10,000	30	90	60	5/30/2020	7/29/2020	8/28/2020														
14.3		Procurement:	In-house, Legal Counsel and T&R Consultant	\$ 350,000	\$ 750,000	\$ 550,000	360	720	540	7/29/2020	1/2/2022	1/17/2022														
14.3.1		Develop procurement documents:								7/29/2020	1/25/2021	2/24/2021														
14.3.1.1		Request for Qualifications (RFQ)					45	90	68	7/29/2020	10/5/2020	10/27/2020														
14.3.1.2		Request for Proposals (RFP)					120	180	150	8/28/2020	1/25/2021	2/24/2021														
		Generate Industry interest and issue RFQ					20	60	45	7/29/2020	9/12/2020	9/27/2020														
14.3.2		Evaluate Statements of Qualifications (SOQs) and shortlist teams to compete for project					20	45	35	10/17/2020	11/21/2020	12/1/2020														
14.3.3		Industry review					180	360	270	11/28/2020	8/25/2021	11/23/2021														
14.3.4		Finalize and Issue RFP					10	45	30	8/15/2021	9/14/2021	9/29/2021														
14.3.5		Proposal period					45	90	60	9/14/2021	11/13/2021	12/13/2021														
14.3.6		Evaluate Proposals and Award TSIO Contract					20	60	45	11/18/2021	1/2/2022	1/17/2022														
15	Ongoing	Stakeholder Engagement	In-house and Consultant(s)	\$ 200,000	\$ 500,000	\$ 350,000	730	1,460	1,095	3/20/2019	5/29/2022	9/10/2022														
15.1		Ongoing and as required (construction period and post opening included in owner cost forecast)	In-house and Consultant(s)	\$ 200,000	\$ 500,000	\$ 350,000	730	1,460	1,095	3/20/2019	5/29/2022	9/10/2022														
16	Ongoing	ADOT&PF Management and Overhead	In-house labor	\$ 2,250,025	\$ 3,202,170	\$ 2,706,520	730	1,460	1,095	3/20/2019	5/29/2022	9/10/2022														
16.1		Project management payroll and overhead (3 senior level people)	In-house labor	\$ 1,350,000	\$ 1,800,000	\$ 1,575,000	730	1,460	1,095	3/20/2019	5/29/2022	9/10/2022														
16.2		Overhead charges/ICAP (5%)	In-house O/H	\$ 900,025	\$ 1,402,170	\$ 1,131,520				3/20/2019	5/29/2022	9/10/2022														

Knik Arm Crossing Project

Analysis for Moving KAC Forward to Financing and Construction

Appendix B – Knik Arm Crossing - A Path Forward to Financing and Construction

Originally Presented to ADOT&PF June 20, 2019



Knik Arm Crossing Project – A Path Forward to Financing and Construction

June 20, 2019
Discussion Draft



Prepared by:

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KAC Project Executive Summary and Overview



Executive Summary

The Knik Arm Crossing (KAC) is a proposed bridge and associated roadway connecting Anchorage and the Matanuska-Susitna Borough (Mat-Su) across the Knik Arm of Upper Cook Inlet

- Supports population growth and transportation system redundancy to Glenn Highway
- Provides access to developable lands in close proximity to Anchorage
- Facilitates movement of people and freight
- Supports economic growth and jobs
 - 5,000 construction related FTEs and thousands of jobs facilitated post-opening
 - Synergies with other infrastructure, plans and projects in the region



Executive Summary (continued)

- Conservative, well developed, extensively reviewed construction cost of \$932M*
- The most recent KAC plan of finance consists of the following components:
 - \$373.2 M senior lien TIFIA direct loan
 - \$300.0 M federal aid highway funds and state match
 - \$290.9 M state funds (raised through issuance of state appropriation credit bonds)
 - \$ Other Federal Infrastructure Funds
- Toll revenue generation is essential to financing the KAC project
- Project suspended in 2016 and significant momentum lost
- In February 2019 Governor Dunleavy rescinded 2016 EO that suspended the KAC project
 - Path forward being considered for ADOT&PF in response

* Excludes pre-development costs and capitalized interest (YoE\$ assuming 2020 opening 70th percentile risk adjusted)



KAC Project Assets and Public Investment

- “Build” Record of Decision (ROD) under NEPA (12/2010)
- \$100 mm invested to date (including \$15.4 mm for Pt. MacKenzie road)
 - 35%+ design estimate completed
 - Significant body of information developed to leverage going forward
 - 90% of ROW acquired
- Planned as a toll bridge to support financing
 - Mature Investment grade Traffic and Revenue Study (needs update)
 - Projected Tolls sufficient to finance 90% of Construction phase costs, 2/3rds of total pre-opening costs, and 100% of O&M
- Mature costs estimates for construction and O&M
- Most recent financing plan supported by Legislation (HB23-2014)



HB 23 Implications for KAC Project

HB 23 was passed by legislature in 2014 session and signed into law with significant implications for KAC project financing, delivery and operations

- Transferred responsibility for design, construction, maintenance and ownership of the KAC from KABATA to ADOT&PF
- Limited KABATA role to operating the KAC post-opening under agreement with ADOT&PF (all other powers of the Authority rescinded, including toll rate setting and financing)
- Provided ADOT&PF the ability to borrow under the USDOT TIFIA program to finance a portion of the bridge
- Authorized the State Bond Committee to issue up to \$300mm of State bonds to finance a portion of the bridge (provided TIFIA loan secured for $\geq 30\%$ of construction cost by ADOT&PF)
- Transferred policy and toll setting for KAC from KABATA toll authority five member board to ADOT&PF (Commissioner has broad toll setting authority under AS 19.75)

Importantly, while strengthening other elements of project financing, HB23 limits financing and delivery alternatives and exposes lenders to higher perceived political risk around tolling and operating policy stability



KAC Purpose & Need

- Improve regional transportation infrastructure to meet population growth
- Regional transportation connectivity for movement of people and goods
- Safety and transportation system redundancy
- Access between regional airports, ports, hospitals and fire, police and for disaster relief



KAC Proposed Path to Achieve Financial and Commercial Close

(Including Budget and Risk Containment)

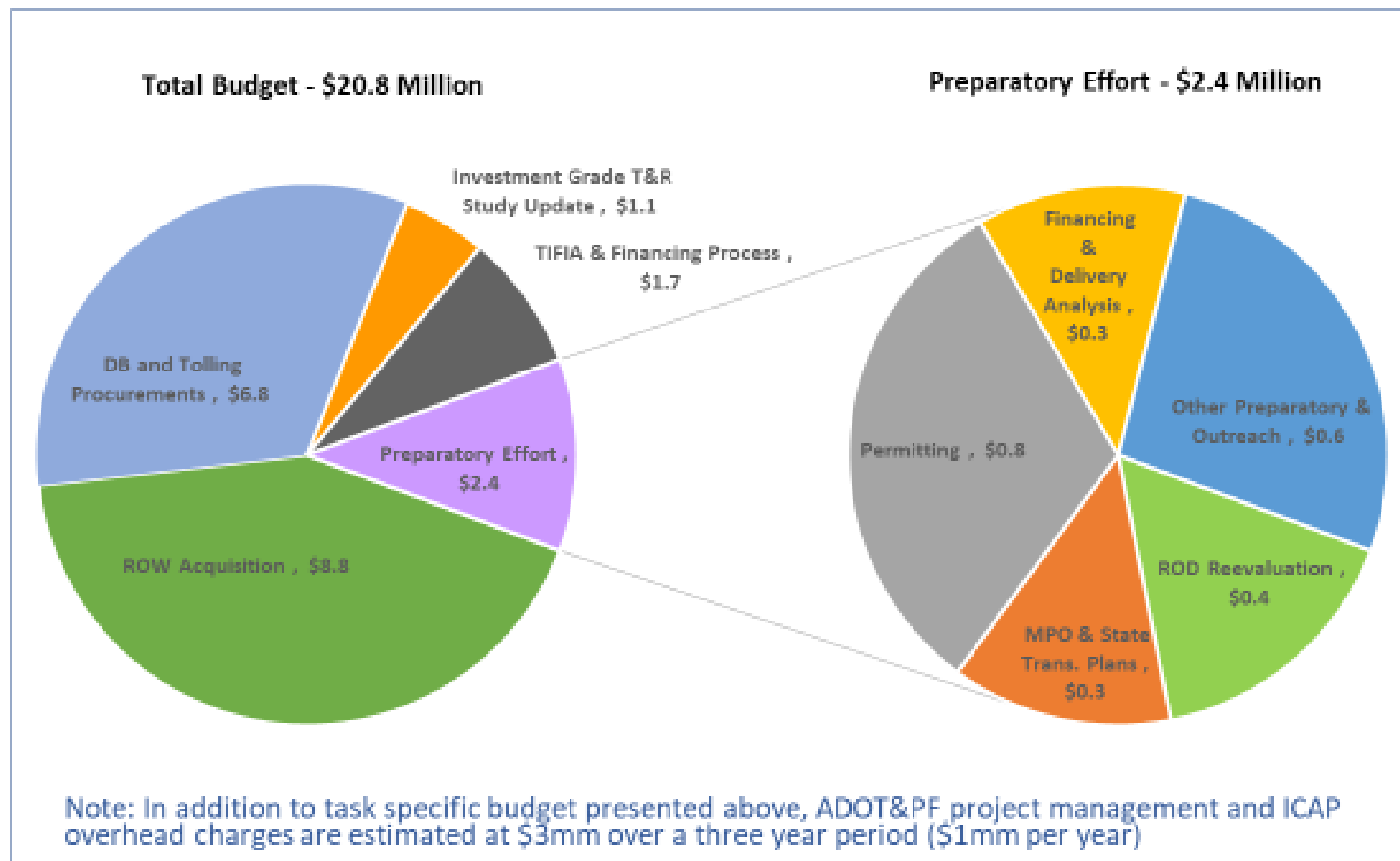


KAC Path Towards Obtaining Financial and Commercial Close

- Inventoried and assessed status of NEPA/ROD, permitting, ROW acquisition, cost estimates, financing, traffic and toll revenue studies, federal requirements, etc.
- Developed high-level workplan and budget to take the KAC to financial and commercial close, including risk considerations
- Pre-construction cost estimate of \$20.8 million
 - Approximately \$2.4 million of investment to determine “go” or “no-go” and/or choose delay and preservation alternative
 - \$15.6 million for completing ROW and procurement
- Moderately aggressive plan achieves financial and commercial close in Q2 2022 required to begin construction
- Costs of construction and operations phases are covered by financing and/or toll revenue generated by the KAC should the State determine to move forward with the KAC project



KAC Budget to Financial and Commercial Close



KAC Path to Financial and Commercial Close

Task	Dependents	Task Description	Schedule			Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q5-22	Q6-22	Q3
			Start	End	Long Date														
ALL	ALL	TOTAL PROJECT ROLLUP - PRE FINANCING AND CONSTRUCTION	3/20/2019	5/15/2021	5/15/2021														
0		Initial Analysis of KAC Status and Path Forward	3/20/2019	7/14/2019	8/17/2019														
1	2	NCPA/ROD Reevaluation update	8/15/2019	8/27/2020	8/25/2020														
2	8	Consistency with State and Local Transportation and Land Use Plans Under Titles 20 and 49	8/15/2019	8/25/2020	2/21/2021														
3	10	Fulfill Major Projects Requirements	8/15/2019	3/16/2020	5/28/2020														
4	4a	Secure Major Permits	10/15/2019	5/1/2021	10/11/2021														
5		Acquire Remaining ROW and Secure Easements	10/15/2019	11/24/2020	3/24/2021														
6		Traffic and Toll Revenue Studies	11/15/2019	1/14/2021	3/20/2021														
7		Validate and Update Operations and Maintenance and Renewal and Rehabilitation Cost Forecasts for Bridge and Tolling Systems/Collection	3/1/2020	3/31/2020	4/16/2020														
8	3a, 5, 6, 7	Plan of Finance and Delivery Methods Alternatives Development and Analysis	8/1/2019	8/21/2020	8/28/2020														
9	8	Identify (and Secure) Public and/or Private Funding	8/1/2019	8/21/2021	8/21/2021														
10	6	Passive BUILD and/or INFRA Grant(s)	TBD	TBD	TBD														
11	5-10	TFPA Loan Application and Approval Process	10/15/2019	1/28/2022	1/28/2022														
12	11	State Bond Issuance (assumes issuance under HB-23 contract)	5/15/2021	1/12/2022	1/27/2022														
13	5-11	Procurement Process for Project Construction (Assumes Design-Build (DB) delivery method)	5/30/2020	5/25/2022	5/25/2022														
14	5-12	Procurement Process for Toll Systems Integrator/Operator (TSIO) and Toll Systems Design and Branding	5/30/2020	1/2/2023	1/17/2023														
15	Ongoing	Stakeholder Engagement	3/20/2019	6/28/2023	8/10/2023														



KAC Key Risks/Milestones to Achieving Financial and Commercial Close

Three overarching risk elements identified in the pre-construction phase necessary to address to move KAC forward:

1. Consistency with State and local transportation plans under 23 USC §106 / 23 CFR in construction
 - a. Requirement for FHWA participation and for preserving NEPA/ROD through reevaluation or SEIS
 - b. Modest cost investment but high risk if not obtained
2. NMFS multi-year Letter of Authorization (LOA) for incidental takes under MMPA for beluga whales (or high certainty of issuance)
 - a. USCG Section 9 bridge permit and USACE Section 10/404 permit condition
 - b. JBER EA FONSI for ROW easement condition
3. Funding to replace previously committed \$300 million of federal aid for the KAC
 - a. State and ADOT&PF commitment to KAC project
 - b. Federal funding sources targeted
 - c. Potential conflicts with FHWA posture on not postponing active projects



KAC Other Pre-Financing and Construction Risks Considerations

- Cost Escalation and KAC Project Affordability
 - FHWA Construction Cost Inflation Index indicates 2018 increase
 - Risk quantified and managed through cost estimate update in workplan
- Completion of ROW Acquisitions and Easements
 - Can be completed post construction award, but introduces construction period risk/uncertainty and potential delay cost overruns
- Securing TIFIA financing for $\geq 30\%$ of KAC project costs (\$2.8 million investment)
 - Pre-condition to issuing State bonds (HB 23 2014)
 - Requires investment grade traffic and toll revenue studies
 - Requires preliminary indicative “investment grade” ratings opinions

Project workplan presents logical checkpoints to determining steps to proceeding and alternatives considering risk vs. certainty



KAC Financing Opportunities and Considerations

(Phase 1 Only)



KAC Financing and Delivery Alternatives

(High-Level Overview)

Public-Private Partnership (P3)

- Developer financing, final design, construction, facility and tolling O&M and R&R (except federal aid component of financing)
- Concession term typically ≈35 years after opening
- State maintains facility ownership
- Two scenarios previously explored:
 1. Revenue risk transfer P3 concession
 2. Availability payment P3 concession

Public Financing and Delivery

- ADOT&PF/State responsible for financing, DB and TSIO procurement, and O&M and R&R over life of KAC
- Some privatization potential through DB and TSIO contracting approach
- Financing approach using “three-legged stool” – TIFIA, State Bonds and Federal Aid (or other public funding), approximately 1/3 each

TSIO = Toll Systems Integrator/Operator



HB 23 Implications for KAC Financing and Delivery

(Ch. 51, 2014 Session Laws)

- Established public financing and delivery framework
 - Authorized ADOT&PF to borrow from federal government (TIFIA)
 - TIFIO LOI filed in July 2015
 - Authorized sale of up to \$300 million of appropriation credit bonds by State Bond Committee*
 - Federal aid appropriations of \$300 million contemplated
 - Transferred ownership, design and construction, toll rate setting from KABATA to ADOT&PF
 - Limited KABATA role to operations and toll collection/management post construction
- Limits P3 financing and delivery options without additional legislation
 - Potential for some attributes of P3 through DB/DBM/DBOM and TSIO procurement and contracting methods

*Sale of bonds is dependent on conditional approval of TIFIA loan per AS 37.15.225(f)



KAC Financing Strategies to Refilling the Public Funding Void

In addition to Tolls, need to identify filling the financing gap of \$300 million previously filled by federal aid funding

- Potential sources to replace missing financing leg:
 - Federal aid budget appropriations
 - Potential federal infrastructure bill
 - INFRA and/or BUILD grants
 - Private equity or subordinated debt participation
 - AIDEA and/or Permanent Fund participation
 - Proposed Federal Infrastructure Legislation/Funding



KAC Path Forward Wrap Up



Achieving Financial and Commercial Close - KAC Keys to Success

- Unwavering support of political leadership
- Dedicated core project team to drive project forward
 - Plan the work, work the plan without distraction of other duties
- Support of highly qualified consulting team with core competencies and demonstrated track record of success
- Protecting \$100 million State investment in the project through preservation of NEPA/ROD
- Continuous outreach and messaging program to educate and inform the public and government officials
- Financial commitment to public funding requirement
- Commitment to selected procurement / delivery method
- Commitment to a financing plan, including public funding component



Key Takeaways

- KAC is a well-developed and mature project ready to move forward
- \$100 million invested to date (including \$15.4 Pt. Mac Road upgrade)
- Toll revenue projected to support 2/3rd of project development and construction costs and 100% of O&M
 - Leverages public investment
- KAC supports State transportation and economy
 - Support for population growth through providing access to land and transportation alternatives
 - Route redundancy to Glenn Highway
 - Synergy with other projects and infrastructure
 - 5,000 construction related job years plus more post opening jobs
- KAC financing and construction contracting deliverable in approximately three years with focused approach

Strong political support and message/plan consistency + public financing contribution = KAC project success



Anchorage Downtown

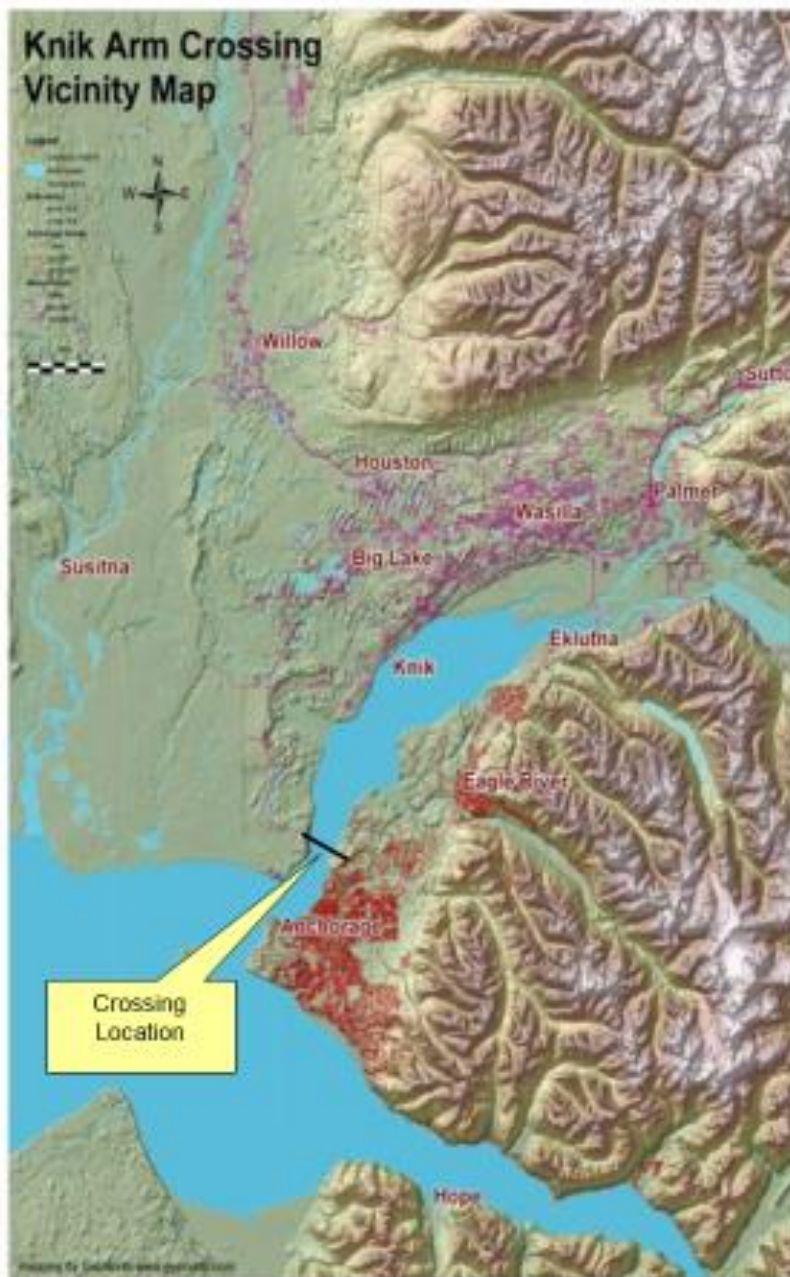


KAC Path Forward

Appendix A

Selected Socio-Economic Information





Anchorage Metropolitan Statistical Area: 54% of Alaskans

Total AK population $\approx$ 737, 438 *

107,610 residents *

Mat-Su steady upward growth

291,538*

**Municipality of Anchorage is the
largest city in Alaska**

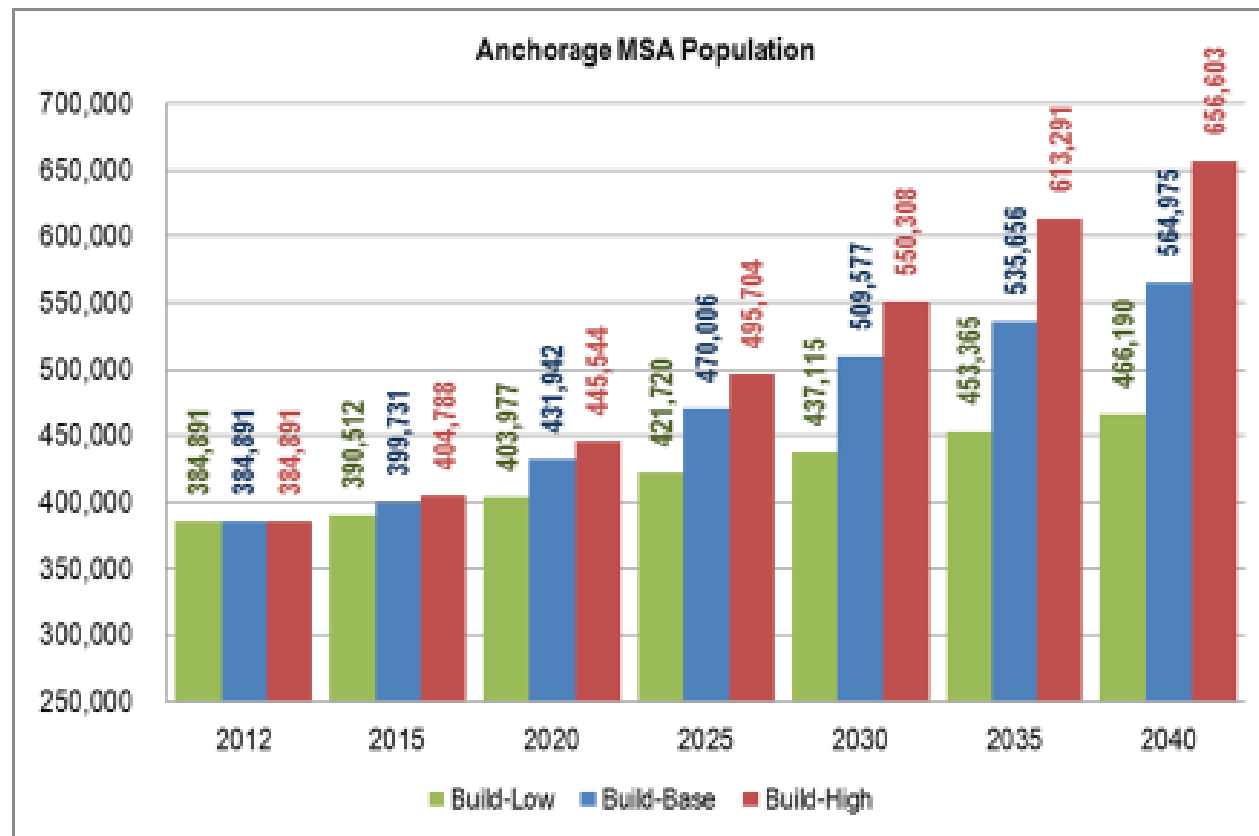
* July 2018 Population Estimate – U.S. Census Bureau



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Base, Low & High Growth Scenarios: Anchorage MSA Population

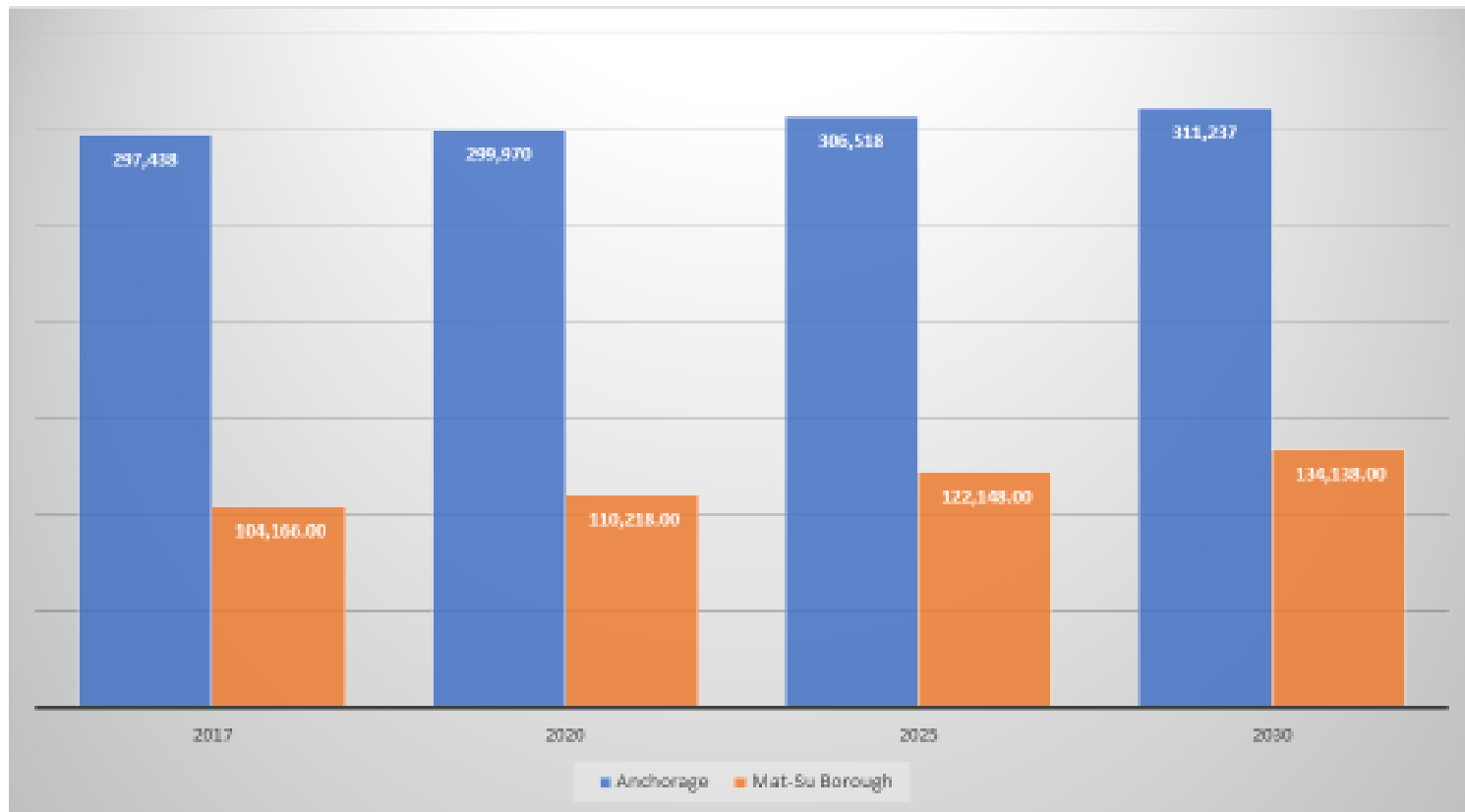


Source: 2015 Cardno Socio-Economic Study for Anchorage MSA.



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Alternative Anchorage/Mat-Su Population Projections



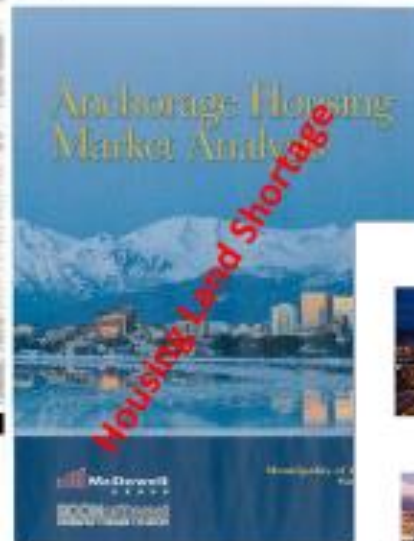
Source: Alaska Department of Labor & Workforce Development (2017 -2045 Population Forecast)



Anchorage Land Constraints = KAC Need



*Anchorage Industrial Land
Assessment - AEDC and MOA, 2009*



*Anchorage Housing Market
Analysis – MOA, 2012*

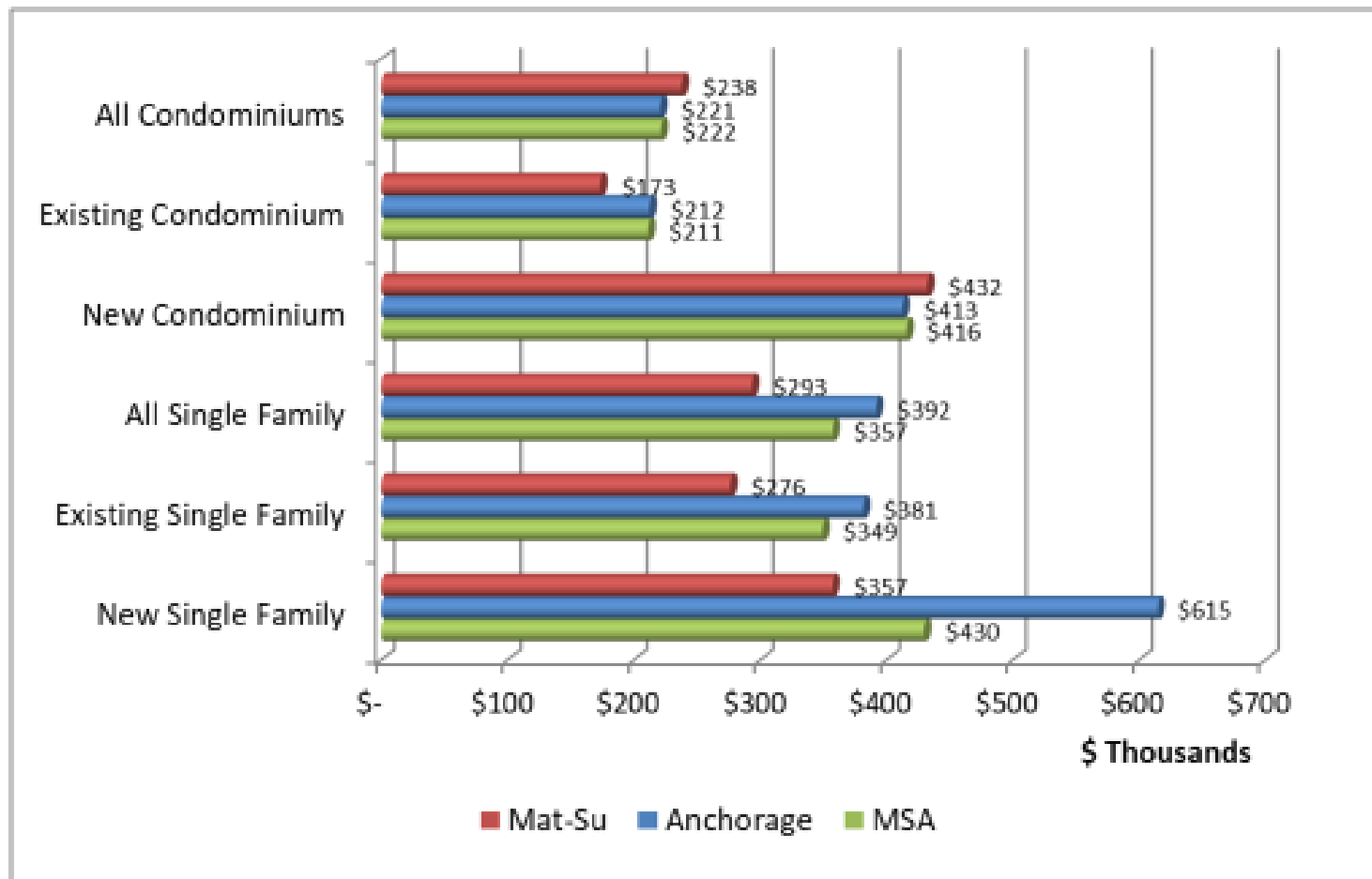


*Commercial Land
Assessment -
MOA 2012*



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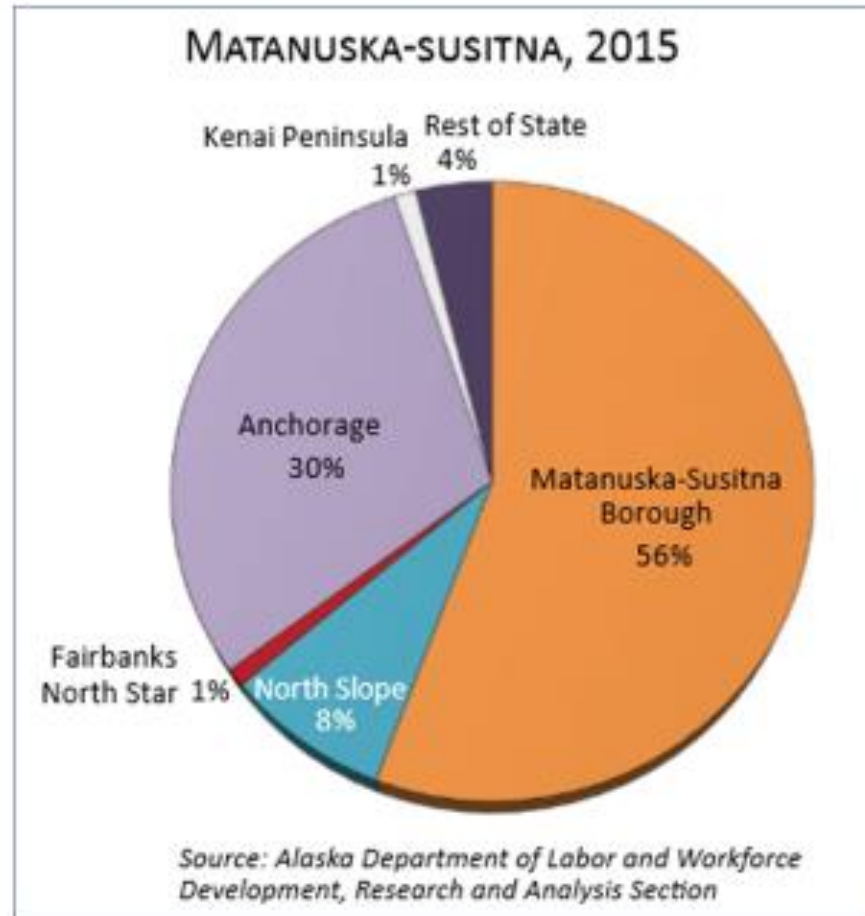
KAC Usage Motivating Factor: Housing Prices/Affordability



Source data: Alaska Housing Finance Corporation. Compiled from *Alaska Housing Market Indicators* full year ended December 31, 2018.



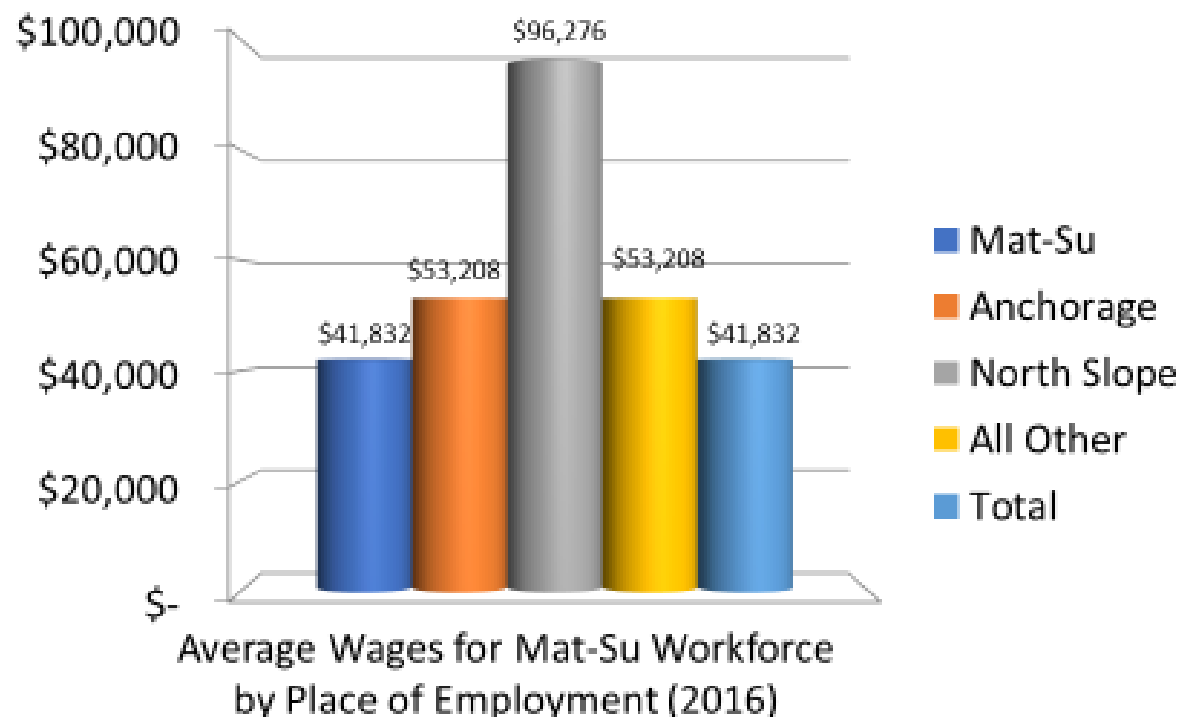
Where Mat-Su Residents Work



**44% of Mat-Su
workforce employed
outside of Borough**



KAC Usage Motivating Factor: Higher Wages



Source data: Alaska Department of Labor and Workforce Development

Note: North Slope and majority of All Other commute through Anchorage to work in those locations.



Anchorage MSA Regional Transportation Network

- Port MacKenzie Rail Corridor
- South Big Lake and Burma Road
- Point MacKenzie Road Upgrade
- Port MacKenzie Industrial District
- Knik Arm Crossing



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KAC Path Forward

Appendix B

Phase 1 Construction and O&M Cost Estimates



KAC Phase 1 Capital Cost Forecast

(construction phase only)

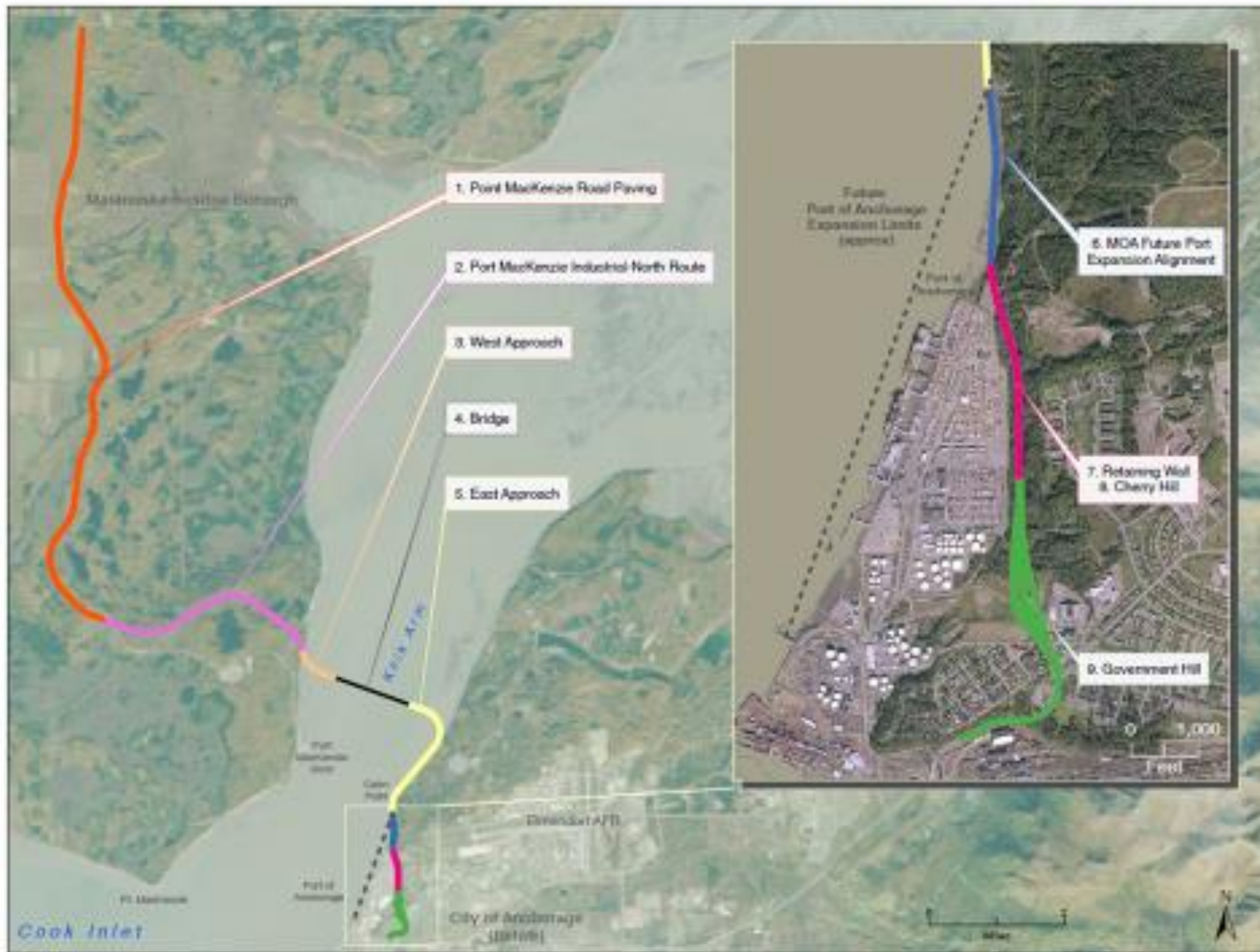
- Point MacKenzie Road to A/C connector (DB contract)
 - 2 to 4 lane bridge with 4-lane foundation
 - Cut-and-cover tunnel under Government Hill neighborhood
 - 4 years to construct (+/- 1 year)
- Capital cost estimate in YOE dollars*
 - \$802 million including \$86 million contingency base estimate
 - \$932 million risk-adjusted at 70th percentile

* Construction only assuming 2021 opening. Excludes project development, ROW and financing related costs.

Source: 2014 Cost Estimate Review as formatted and adjusted for 2015 TIFIA LOI, 2016 NRSRO ratings presentations.



KAC Phase 1 Alignment by Segments



KAC Phase 1 Capital Cost Forecast Summary

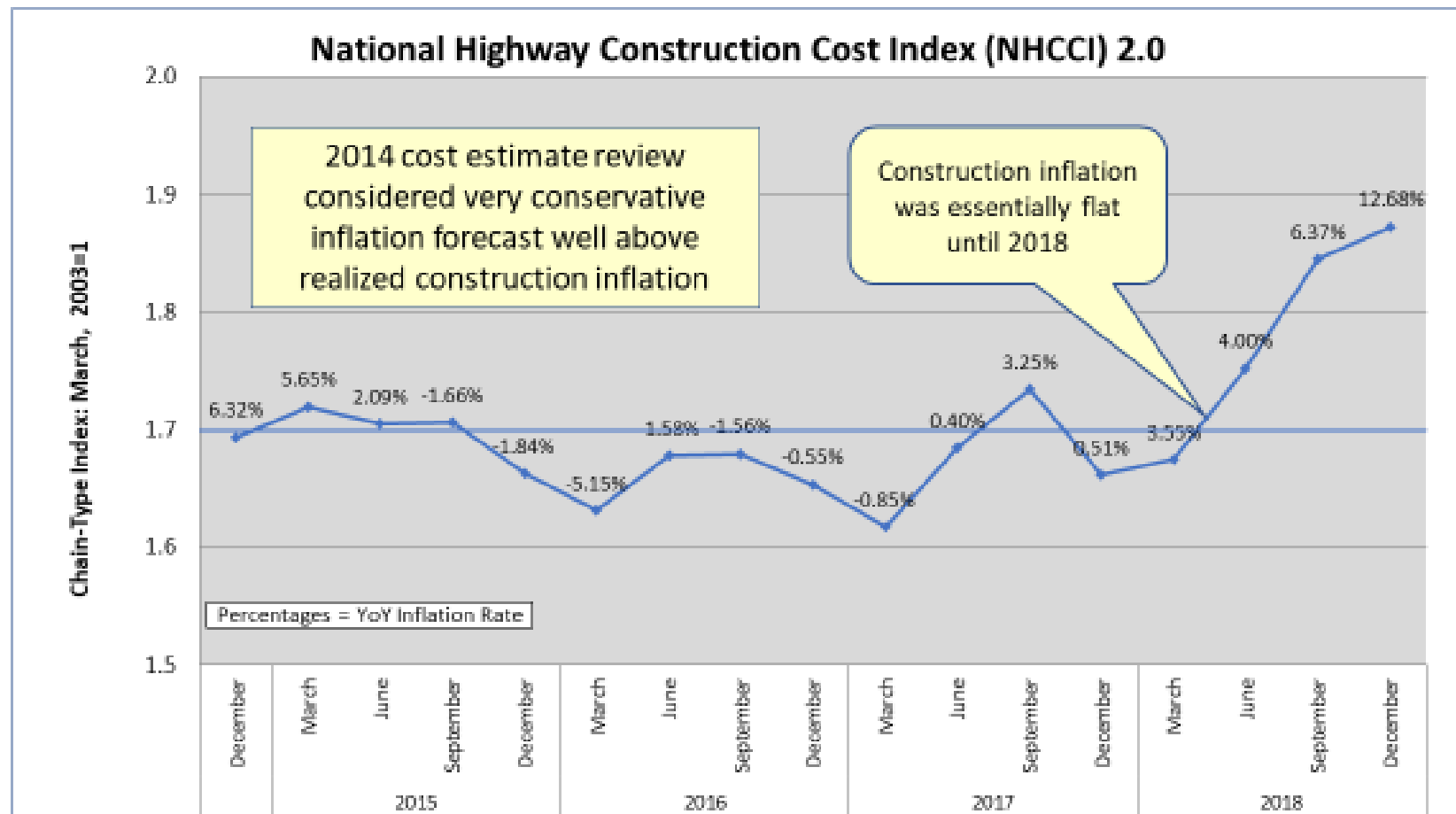
(construction phase only – 70th percentile risk adjusted cost)

Project Component	Performing Party	Cost Estimate in YOE
Segment 2 – Port MacKenzie Industrial Route North	Design-Builder	\$ 16,459,820
Segment 3 – West Approach	Design-Builder	46,318,450
Segment 4 – Bridge	Design-Builder	392,071,333
Segment 5 – East Approach Fill	Design-Builder	127,351,882
Segment 6 – Port of Anchorage Expansion	Design-Builder	9,856,656
Segments 7 and 8 – Cherry Hill Retaining Wall and Roadway	Design-Builder	59,631,008
Segment 9 – Government Hill	Design-Builder	117,324,740
Utilities	Design-Builder	18,749,148
Design	Design-Builder	54,693,158
Toll Systems	TSIO	9,595,029
Construction Management/Owner Oversight	ADOT&PF + Contractor	45,885,743
Environmental mitigation	ADOT&PF	18,749,148
ICRA Overhead	ADOT&PF	15,614,826
Total Capital Cost for Construction Phase 1		\$ 932,300,942

Source: 2014 Cost Estimate Review as formatted and adjusted for 2015 TIFIA LOI, 2016 NRSRO ratings presentations.



Construction Cost Inflation Risk



Source: FHWA



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KAC Design-Build Procurement

- Procurement through a two-step process:
 - RFQ followed by shortlisting and RFP
- Scope - construct segments 2-9 and relocate utilities
 - Includes civil, electrical and communications lines for lane/lane-side equipment to support Toll Systems Integrator-Operator (TSIO)
- Capital Maintenance Agreement (CMA)
 - Three 5-year terms commencing upon substantial completion (first mandatory, second and third at ADOT&PF's option)
- Separate parallel procurement for Toll Systems Integrator/Operator



KAC Indicative Design-Build Construction Arrangements

Category	Terms
Scope of Work	Design-Build Contract ("Contract") between ADOT&PF and Design-Build Contractor to design and construct the initial configuration of the Crossing.
Price	Fixed price, fixed schedule, lump sum contract.
Performance and Payment Security	The Design-Build Contractor must provide payment and performance security in the amount equal to 25% of the lump sum price. Payment security must be in the form of a bond. Performance security can be either a bond or letter of credit.
Parent Guaranty	A guaranty of Design-Build Contractor's obligations from a creditworthy guarantor may be required if Design-Build Contractor fails to meet certain net worth requirements.
Payment Obligations	ADOT&PF will make payments to Design-Build Contractor on a monthly basis based on the progress of the work.
Completion Deadlines	The deadlines for substantial completion, revenue service commencement and final acceptance of the Project will be set forth in the project schedule included in the Contract. Extensions of completion deadlines are allowed only under limited circumstances, including the occurrence of a relief event.
Changes in Price	The Design-Build Contractor's right to changes in the lump sum price correspond to the relief events.
Delay	Design-Build Contractor will be liable for delay liquidated damages for failure to achieve substantial completion and final acceptance by the applicable deadline. The amount of liquidated damages will be \$150,000 per day for each day of delay in achieving final acceptance. The amount of the liquidated damages for failure to meet the substantial completion deadline will be tied to the likely loss or delay in receipt of toll revenue (e.g. adequate to cover debt service on the TIFIA loan).
Cap on Damages	The Design-Build Contractor's aggregate limit on delay damages is 17.5% of the lump sum price.



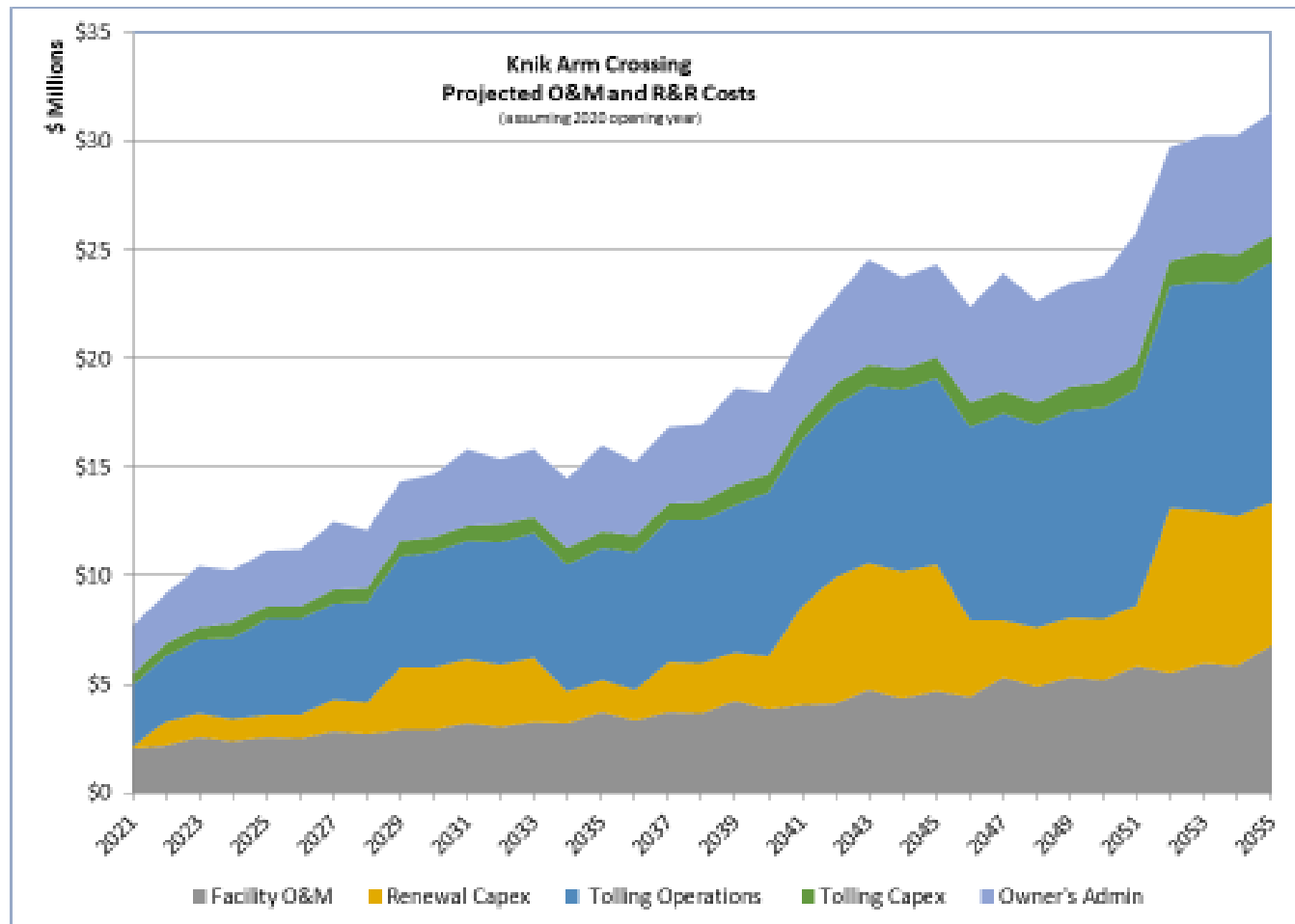
KAC Facilities O&M and Renewal Capex Costs Development

Five categories developed in detail from multiple bottom-up exercises:

- 1. Facility operations and maintenance (HDR and CDM Smith)**
 - Snow removal and landscaping
 - Minor pavement and bridge repairs
 - Other (lighting, drainage, etc.)
- 2. Rehabilitation and renewal capex (HDR and CDM Smith)**
 - Pavement renewal
 - Bridge
 - Engineering services
 - Other (signage, guardrail, etc.)
- 3. Tolling operations (CDM Smith)**
 - Staffing
 - Toll collection and enforcement
 - Toll hardware and software management
 - Utilities and insurance
- 4. Toll systems capex (CDM Smith)**
 - Spares and replacements
 - Hardware and software upgrades and additions
- 5. ADOT&PF administrative costs (ADOT&PF)**
 - Contracts management and performance/compliance oversight
 - Auditing and accounting for toll revenue assurance
 - Toll rate setting and enforcement assistance to TSIO



KAC O&M and Renewal Capex Forecast



Source: KAC July 2014 Cost Estimate Review Workshop supporting information.



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KAC Path Forward

Appendix C

Selected Toll Revenue and Project Financing Information



KAC Most Recent T&R Forecast Summary

(Two-Lane, Two-Way)

Year	Annual Average Daily Traffic			Annual T&R		Proportion of the Four-Lane Base Case Gross Toll Revenue
	Passenger Cars	Commercial Vehicles	Total	Transactions	Gross Toll Revenue ⁽³⁾	
2021 ^{(1) (4)}	3,400	300	3,700	1,272,800	\$7,190,000	100.0%
2022 ^{(2) (4)}	5,300	500	5,800	1,995,200	\$11,646,000	100.0%
2023 ⁽⁴⁾	7,900	700	8,600	2,958,400	\$17,557,000	100.0%
2024 ⁽⁴⁾	11,300	1,000	12,300	4,231,200	\$25,729,000	100.0%
2025	15,400	1,400	16,800	5,779,200	\$36,154,000	100.0%
2030	21,200	2,100	23,300	8,015,200	\$57,239,000	95.1%
2035	26,300	2,800	29,100	10,010,400	\$81,567,000	86.1%
2040	29,300	3,300	32,600	11,214,400	\$104,122,000	80.0%
2045	30,800	3,400	34,200	11,764,800	\$123,278,000	76.5%
2046	31,100	3,500	34,600	11,902,400	\$128,191,000	76.7%
Ramp-up Schedule: 60% ramp-up factor when bridge opens in 2021; 70% ramp-up factor in 2022; 80% ramp-up factor in 2023; 90% ramp-up factor in 2024; and no further adjustments. Land-Use Lag Factors: 64% land-use lag factor when bridge opens in 2021; 73% land-use lag factor in 2022; 82% land-use lag factor in 2023; 91% land-use lag factor in 2024; and no further adjustments. Footnotes ⁽¹⁾ Bridge assumed opened to traffic on January 1, 2021 with a passenger car toll of \$5.00 per transaction and a commercial vehicle toll of \$12.00 per transaction. ⁽²⁾ Assumes inflationary toll rates increases at 2.5% per year beginning on January 1, 2022 for passenger cars and commercial vehicles. ⁽³⁾ Assumes the average commercial vehicle toll is 2.4 times the passenger vehicle toll. ⁽⁴⁾ Ramp-Up and Land-Use Lag factors applied.						

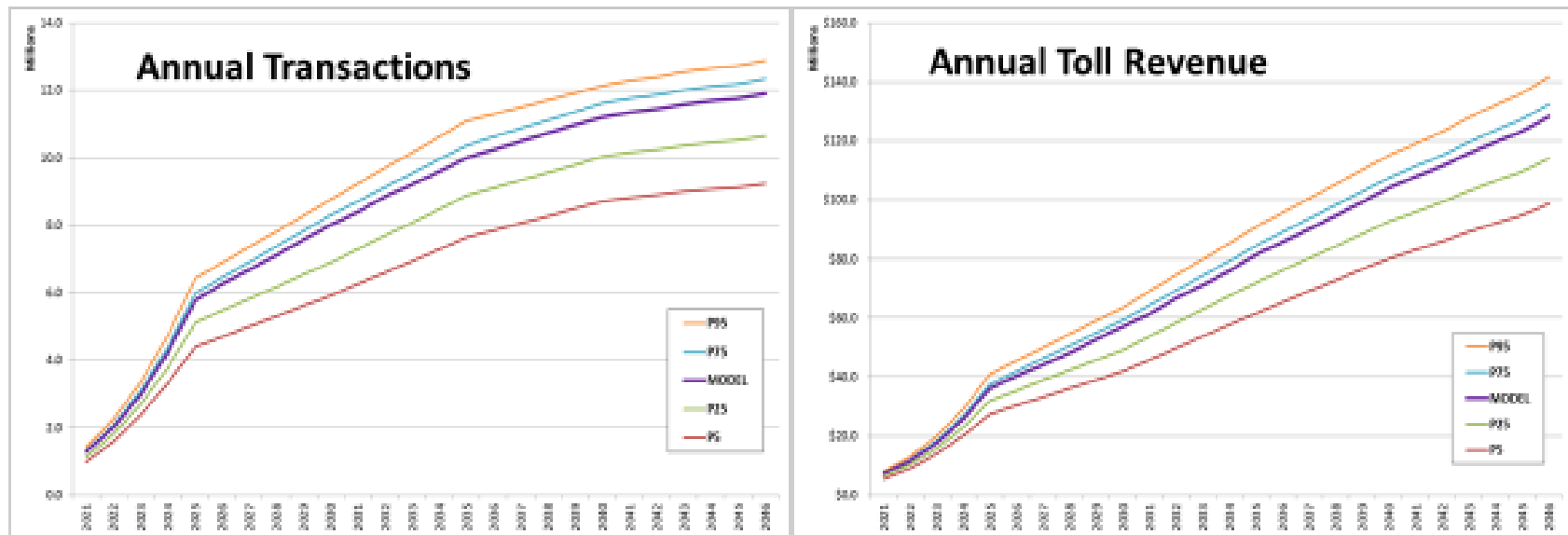
Source: CDM Smith KAC Investment Grade T&R Study September 30, 2015.



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KAC Most Recent T&R Forecast Risk Analysis (Two-Lane, Two-Way)



- Probability distributions Definitions:
 - P5 – 5% probability < value
 - P95 – 95% probability < value
 - Relationships between P5 and P95

Source: CDM Smith KAC Investment Grade T&R Study September 30, 2015.



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KAC Risk Analysis Revenue Forecast

(Two-Lane, Two-Way)

Year	P5	P25	MODEL	P75	P95
2021	\$5,530,100	\$6,377,200	\$7,190,000	\$7,399,500	\$8,058,400
2022	\$9,135,500	\$10,421,800	\$11,646,000	\$12,024,800	\$13,081,600
2023	\$14,001,700	\$15,888,700	\$17,557,000	\$18,355,900	\$19,954,100
2024	\$20,132,900	\$23,047,400	\$25,729,000	\$26,887,400	\$29,220,900
2025	\$27,404,300	\$32,001,300	\$36,154,000	\$37,662,400	\$40,962,600
2030	\$41,938,600	\$49,284,900	\$57,239,000	\$59,313,000	\$63,628,400
2035	\$61,668,100	\$72,007,800	\$81,567,000	\$84,455,100	\$90,888,000
2040	\$80,240,800	\$92,694,700	\$104,122,000	\$107,593,600	\$115,064,400
2045	\$95,003,200	\$109,748,300	\$123,278,000	\$127,388,300	\$136,233,600
2046	\$98,789,400	\$114,122,100	\$128,191,000	\$132,465,200	\$141,662,900

Source: CDM Smith KAC Investment Grade T&R Study September 30, 2015.



KAC Pro Forma Financial Plan – Sources and Uses

Pro Forma Sources and Uses of Funds (\$millions)						
	Obligated	Appropriated	Anticipated	Total	Percent	
Sources:						
Senior TIFIA Loan	\$ -	\$ -	\$ 377.7	\$ 377.7	32.3%	
TIFIA Accreted Interest During Construction (1)	-	-	24.7	24.7	2.1%	
State of Alaska Appropriation Bonds	-	-	279.4	279.4	23.9%	
State Bond Interest Paid During Construction	-	-	32.6	32.6	2.8%	
Federal Funds	88.4	119.0	197.7	405.1	34.6%	
State Match	11.3	7.3	-	18.6	1.6%	
Mat- Su Commerce Grant	15.4	-	-	15.4	1.3%	
TIGER Grant	-	-	15.0	15.0	1.3%	
Interest earnings on Construction Fund	-	-	1.6	1.6	0.1%	
Total Sources	\$ 115.1	\$ 126.3	\$ 928.7	\$ 1,170.1	100.0%	
Uses:						
Preliminary Engineering and Project Development	\$ 99.0	\$ 24.1	\$ -	\$ 123.1	10.5%	
Rights of Way Acquisition	16.1	-	-	16.1	1.4%	
Design-Build Contract	-	18.7	827.1	845.8	72.3%	
Design and Construction Oversight	-	49.5	8.1	57.6	4.9%	
Tolling Systems	-	9.6	-	9.6	0.8%	
Mitigation	-	18.7	-	18.7	1.6%	
ICAP Overhead Charges	-	5.7	9.9	15.6	1.3%	
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Debt Service Reserve Fund	-	-	19.3	19.3	1.6%	
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Total Uses	\$ 115.1	\$ 126.3	\$ 928.7	\$ 1,170.1	100.0%	

1. TIFIA accreted interest during construction is not an eligible TIFIA cost, but is capitalized under GASB 62.

2. Debt issue costs includes \$750,000 estimated for the TIFIA loan, which is an ineligible cost.

Source: KAC July 2015 TIFIA letter of interest supporting information as updated during TIFIA process.

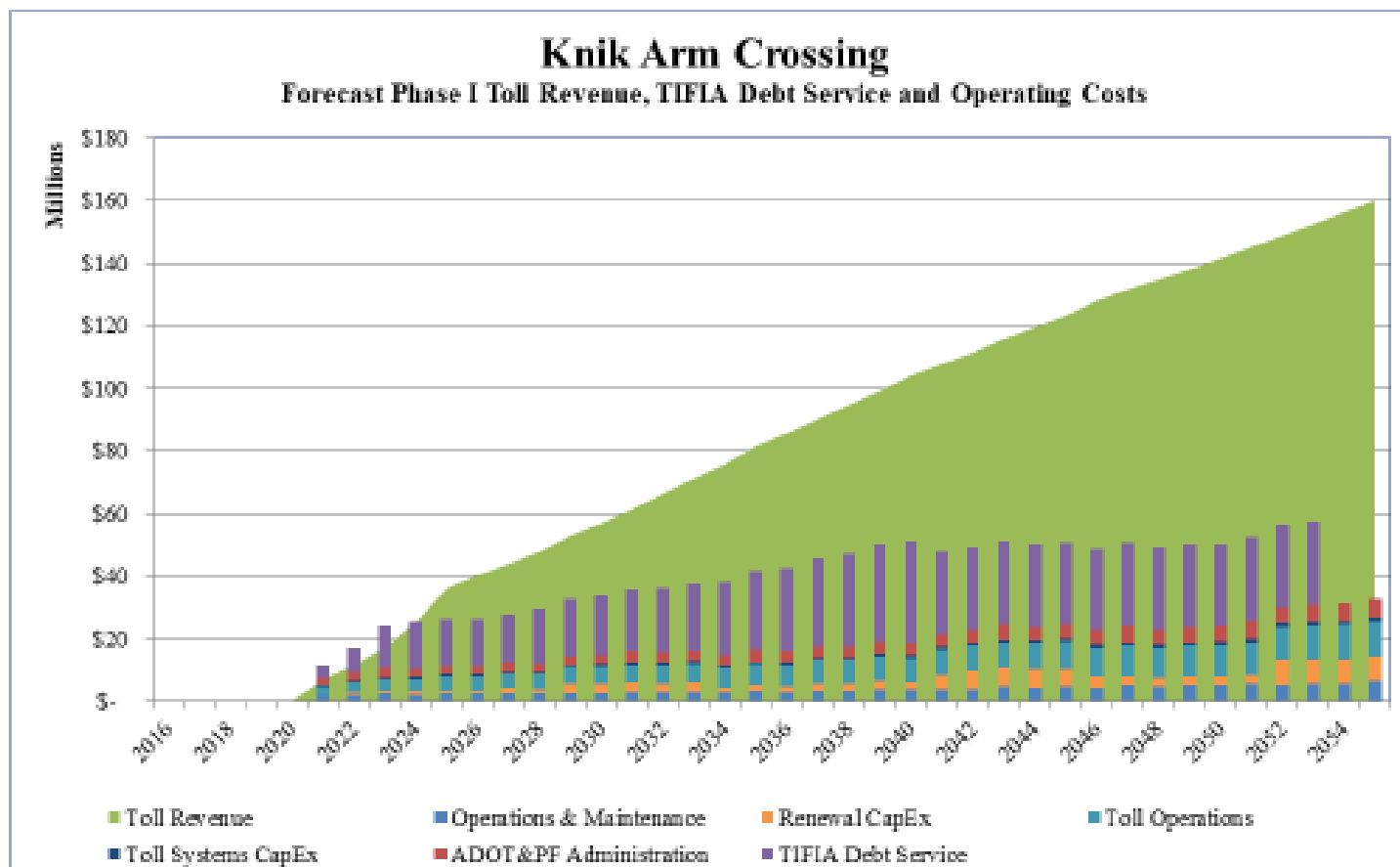


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KAC Financing Plan

Net Revenue Available to Repay State Bonds



Source: KAC July 2015 TIFIA letter of interest supporting information as updated during TIFIA process.



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Knik Arm Crossing Project

Analysis for Moving Forward to Financing and Construction

Appendix C – Knik Arm Crossing Project Socio-Economic Benefits Presentation

Originally Presented to ADOT&PF June 20, 2019



Knik Arm Crossing Project Socio-Economic Benefits

June 20, 2019
Discussion Draft



Prepared by:

Hemenway Consulting
17697 Golden View Drive
Anchorage, Alaska



Prepared for:

**Alaska Department of Transportation
& Public Facilities**
3132 Channel Drive
Juneau, Alaska

KAC Socio-Economic Benefits Executive Summary

- Public realizable benefits:
 - Reduced vehicle operating costs and travel times vs. no-build alternative
 - Significant jobs stimulus for construction and operation of facility
 - “Green” benefits – reduced fossil fuel consumption and CO2 emissions vs. no-build
 - Safety and route redundancy to/from Anchorage for movement of people and freight
 - Accident and fatalities reductions due to lower VMT vs. no-build
 - Access to developable land in close proximity to Anchorage to meet population growth needs
- State government realizable benefits:
 - Leverages public funds with toll backed financing to deliver significant infrastructure to the public
 - Defers need for other transportation investments to meet population growth/traffic demand
 - Potential future toll credits for state match and toll surplus for other Titles 23 and 49 eligible projects
 - Spurs economic growth, potentially increasing State revenue and reducing public dependency on government
 - Healthy Benefit/Cost ratio
- Synergies with other regional infrastructure and projects to spur economic growth
 - Port of Alaska and Port MacKenzie connectivity
 - Port Mac rail extension
 - West Susitna Access and potential road connection to Tyonek/Beluga road network
 - Access to and support for resource development
- And so much more



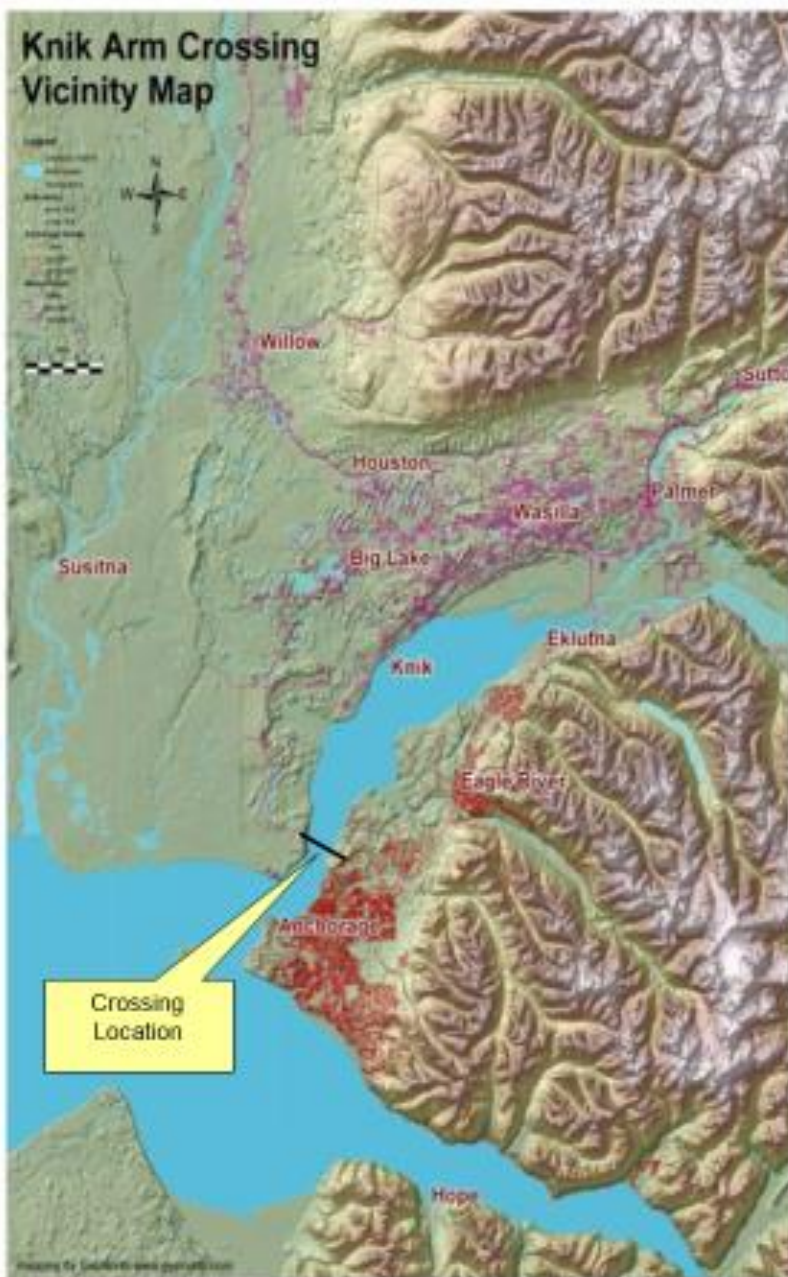
KAC Public Realizable Benefits



KAC Purpose & Need

- Improve regional transportation infrastructure to meet population growth
- Regional transportation connectivity for movement of people and goods
- Safety and transportation system redundancy
- Access between regional airports, ports, hospitals and fire, police and for disaster relief





Anchorage Metropolitan Statistical Area: 54% of Alaskans

Total AK population $\approx$ 737, 438 *

107,610 residents *

Mat-Su steady upward growth

291,538*

**Municipality of Anchorage is the
largest city in Alaska**

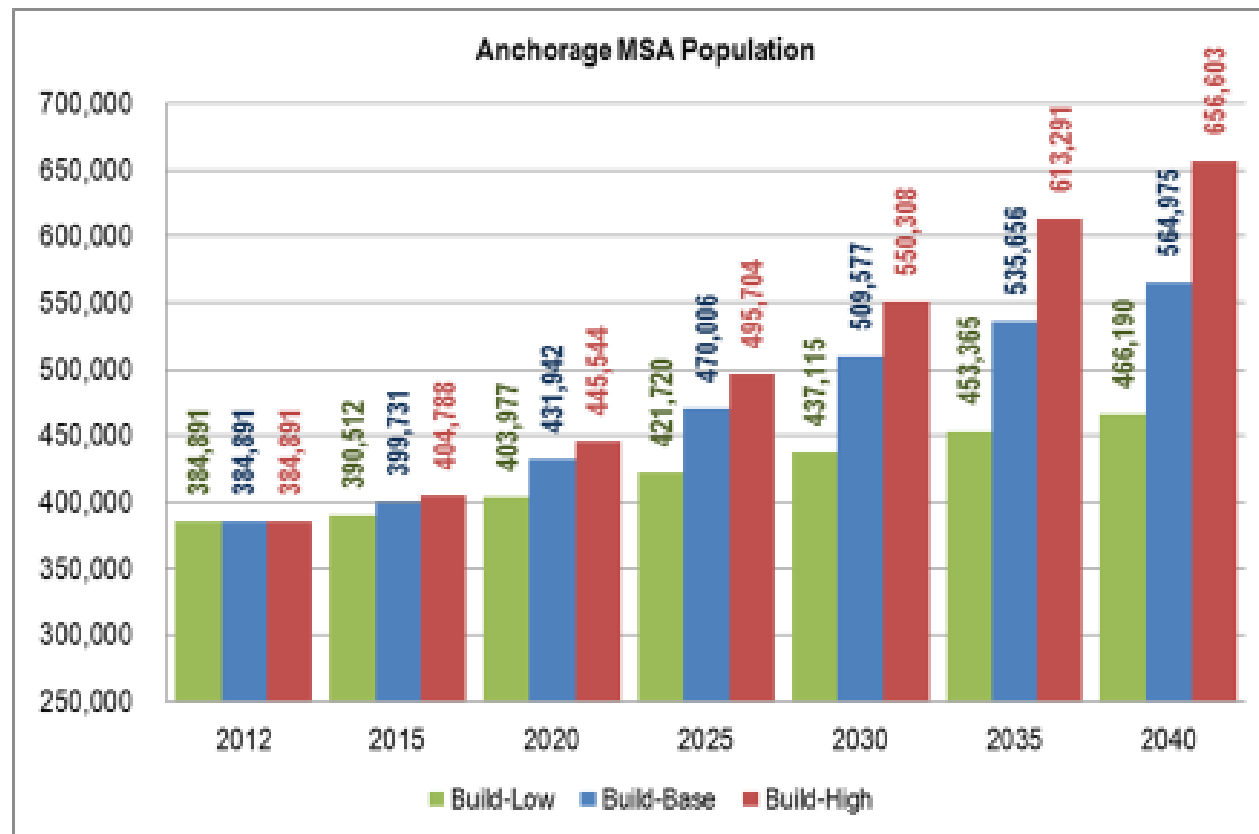
*July 2018 Population Estimate – U.S. Census Bureau



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Base, Low & High Growth Scenarios: Anchorage MSA Population

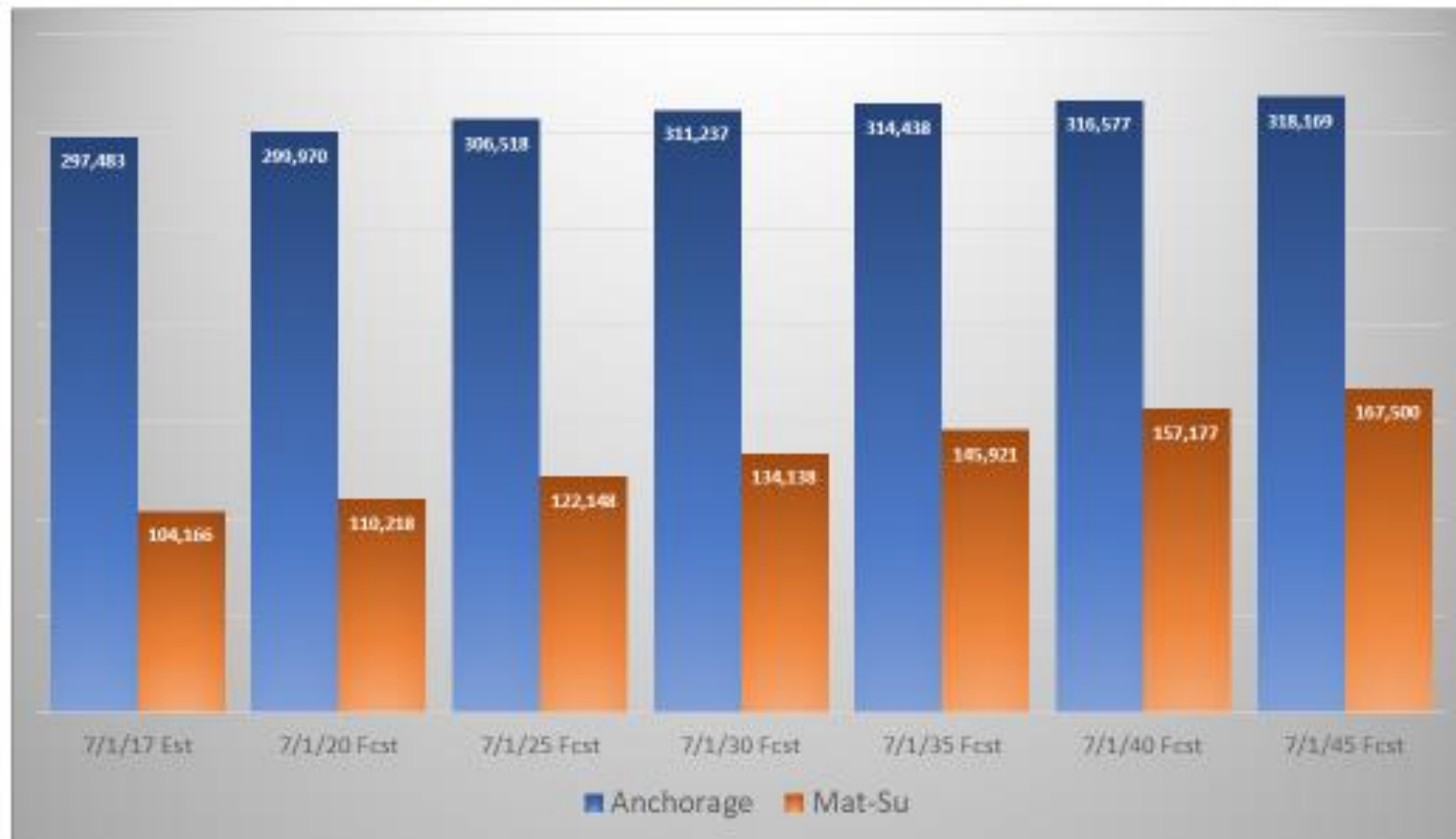


Source: 2015 Cardno Socio-Economic Study for Anchorage MSA (Socio-economic based forecast).



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Alternative Anchorage/Mat-Su Population Projections



Source: Alaska Department of Labor & Workforce Development (2017 - 2045 Population Forecast (demography based forecast)).



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“Pocket Book” Issue

KAC Vehicle Operating Cost Savings vs. No-Build

Table 7: Vehicle Miles Traveled – *Daily* Savings (by vehicle category and selected years)

Vehicle Category	Year	
	2020	2045
Passenger	104,541	1,494,646
Commercial/Trucks	6,613	94,547

Table 8: Vehicle Operating Cost Benefits – Annual (2015\$, selected years)

Benefit	Year	
	2020	2045
Vehicle Operating Cost Savings	\$8,486,900	\$150,901,200

Source: *Knik Arm Crossing Benefit Cost Analysis* - CDM Smith, May 29, 2015 (assumed KAC opening year of 2020)



“Pocket Book” Issue KAC Travel Time Savings vs. No-Build

**Table 4: Vehicle Hours Traveled – Daily Savings
(by vehicle category, for selected years)**

Vehicle Category	Year	
	2020	2045
Passenger	2,089	84,524
Commercial/Trucks	135	5,347

Table 6: Travel Time Benefits – Annual (2015\$, selected years)

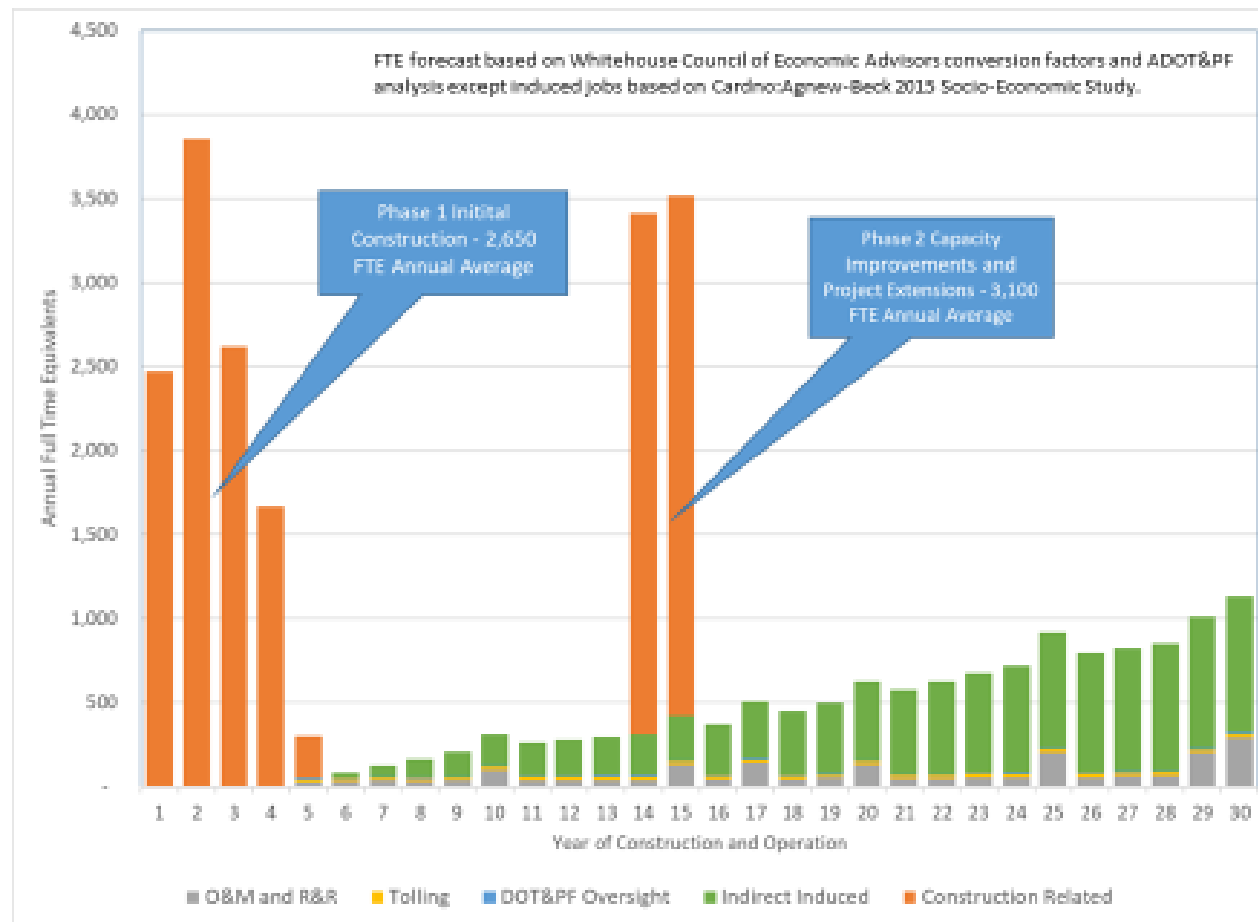
Benefit	Year	
	2020	2045
Travel Time Savings	\$16,644,500	\$589,138,800

Source: *Knik Arm Crossing Benefit Cost Analysis* - CDM Smith, May 29, 2015 (assumed KAC opening year of 2020)



KAC Employment Impact Forecast

>1,000 Annual Average FTEs Over 30 Years



KAC “Green” Benefits vs. No-Build

Table 1: Annual Traffic, Fuel, and Emissions Savings

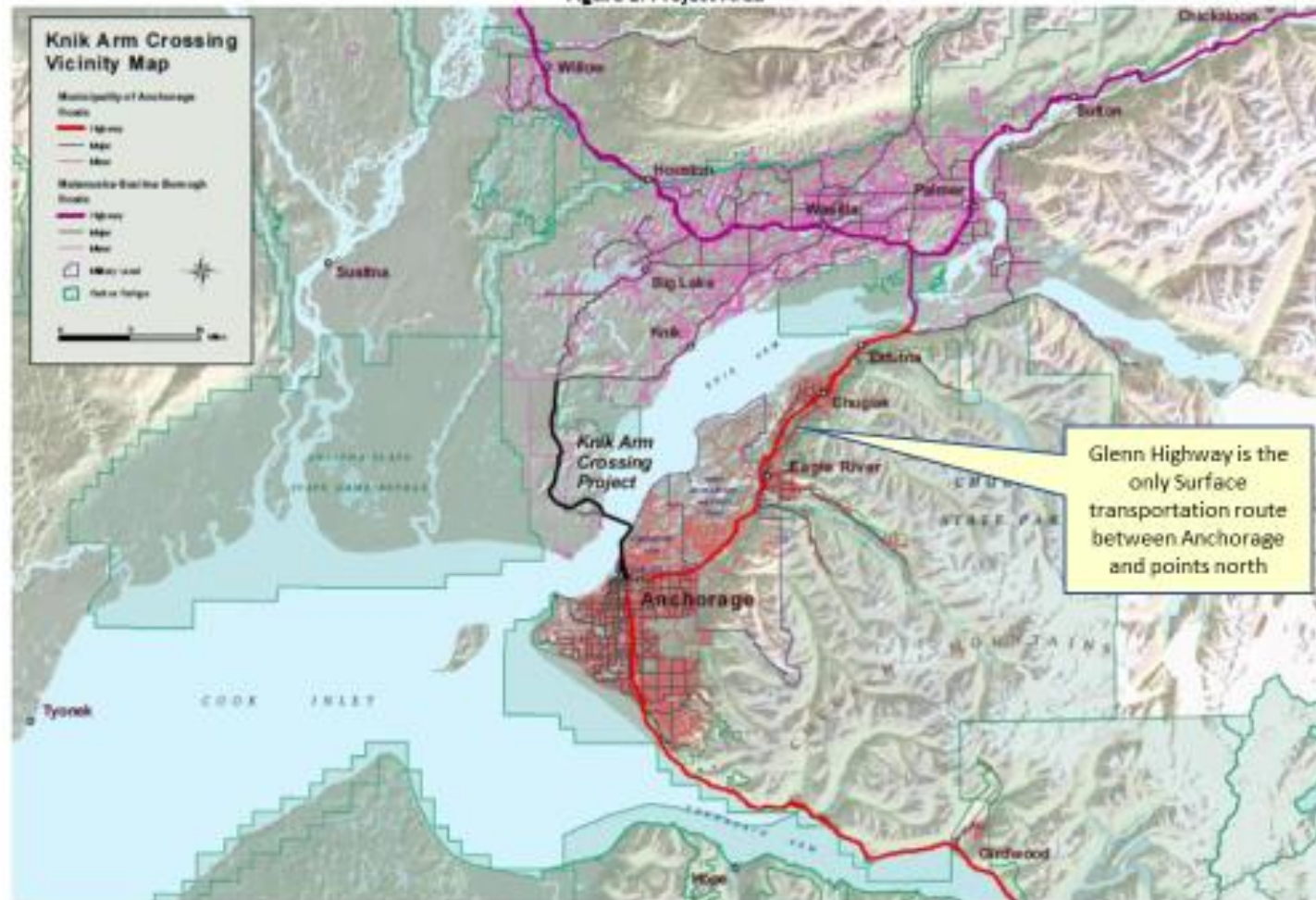
Savings	2020	2045
VMT (vehicle-miles)	40,550,662	575,044,254
VHT (vehicle-hours)	722,116	25,559,520
Fuel (gallons)	1,630,585	14,392,816
CO ₂ (metric tons)	16,263	145,187
NO _x (metric tons)	17	62
VOC (metric tons)	14	77
PM (metric tons)	4	32
SO ₂ (metric tons)	0.1	1

Source: *Projection of the Travel, Fuel Use, Carbon Dioxide (CO₂) Emission, and other Air Quality Impacts of Trips Directly Affected by the Construction of the Knik Arm Crossing Project* - CDM Smith, May 29, 2015 (assumed KAC opening year of 2020)



KAC Provides Safety and Route Redundancy

Figure 1: Project Area



Source: ADOT&PF



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Accidents and Emergencies Frequently Block only Highway North



KAC Accident Reductions vs. No-Build

Table 11: Crash Savings – Annual (by AIS level of severity, selected years)

Crash Type	Year	
	2020	2045
Property Damage Only	113	939
1 - Minor	54	353
2 - Moderate	8	48
3 - Serious	3	18
4 - Severe	1	4
5 - Critical	0	1
6 - Not Survivable - Fatalities	0	3

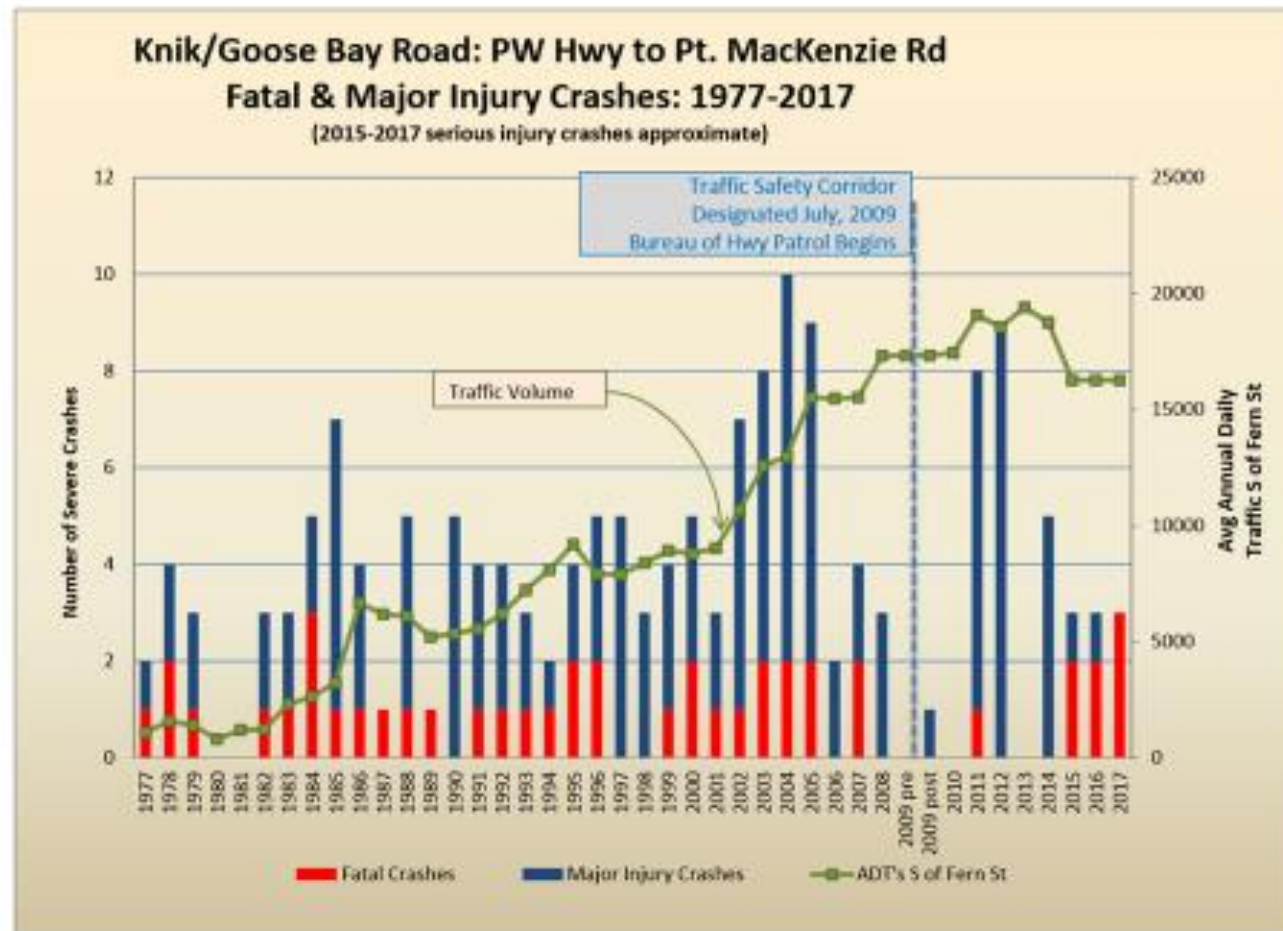
Table 12: Crash Benefits – Annual (2015\$, selected years)

Benefit	Year	
	2020	2045
Crash Savings	\$10,900,200	\$102,279,600

Source: *Knik Arm Crossing Benefit Cost Analysis* - CDM Smith, May 29, 2015 (assumed KAC opening year of 2020)



Knik-Goose Bay Road Safety Corridor

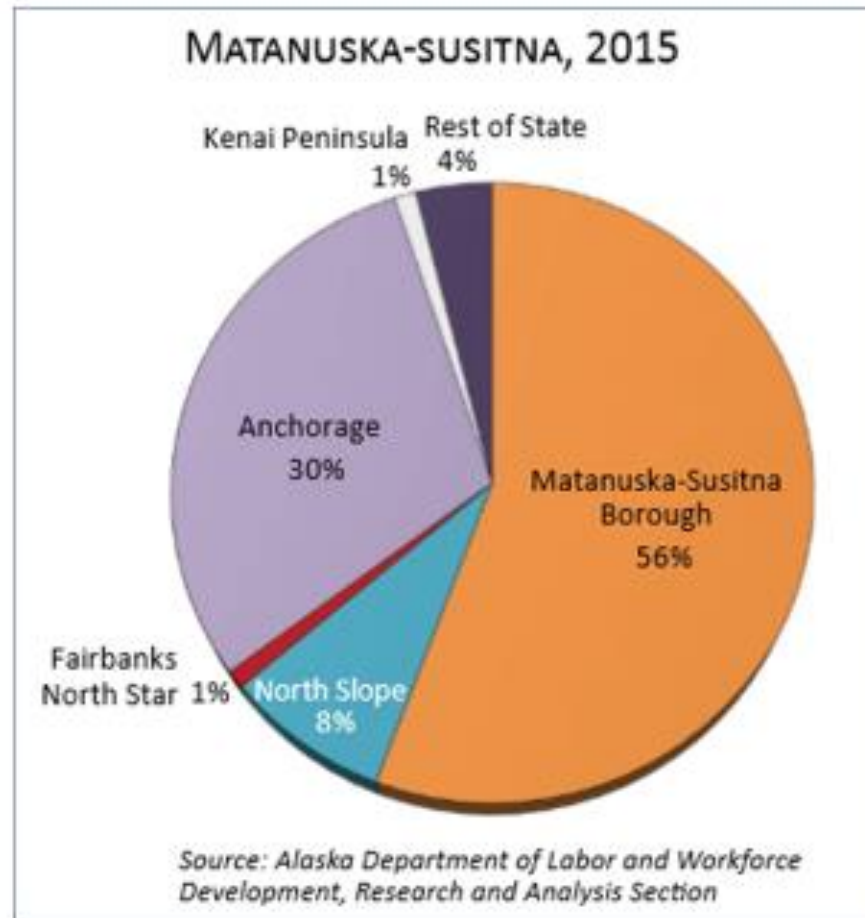


Source: **2016/17 Safety Corridor Audit** - ADOT&PF Alaska Highway Safety Office



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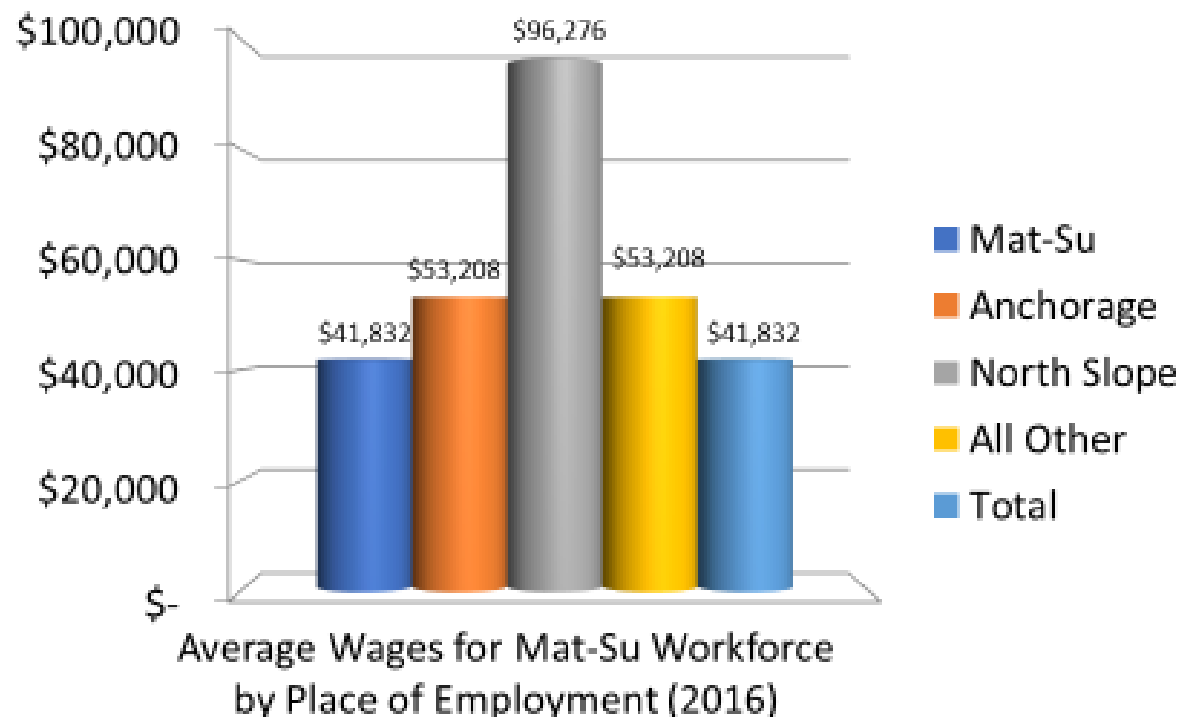
Where Mat-Su Residents Work



44% of Mat-Su workforce employed outside of Borough



KAC Usage Motivating Factor: Higher Wages



Source data: Alaska Department of Labor and Workforce Development

Note: North Slope and majority of All Other commute through Anchorage to work in those locations.



Alaska Land Area in Context

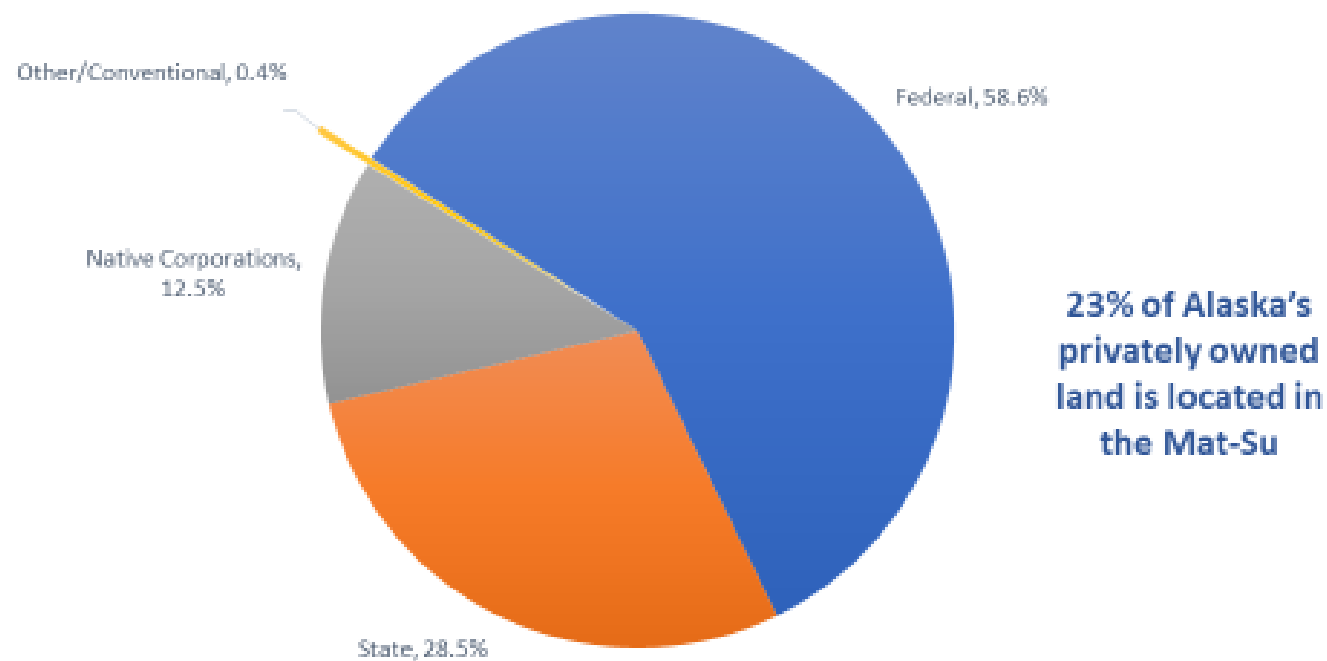


- 1,400 miles North to South, 2,700 miles East to West
- 656,425 square miles – 2.4 times the size of Texas
- 47,000 miles of total shoreline – more than the rest of the US



Alaska Land Ownership – Limited Private Land

Alaska Land Area - 365.6 Million Acres



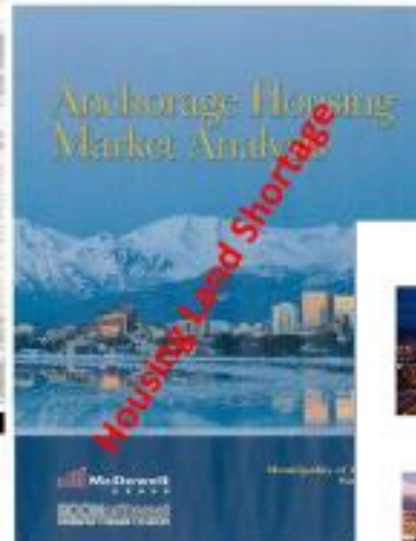
Source data: **Who Owns Alaska?** - RDC 2009 (adjusted for anticipated full federal conveyance to State and Native Corporations).



Anchorage Land Constraints = KAC Need



Anchorage Industrial Land Assessment - AEDC and MOA



Anchorage Housing Market Analysis – MOA

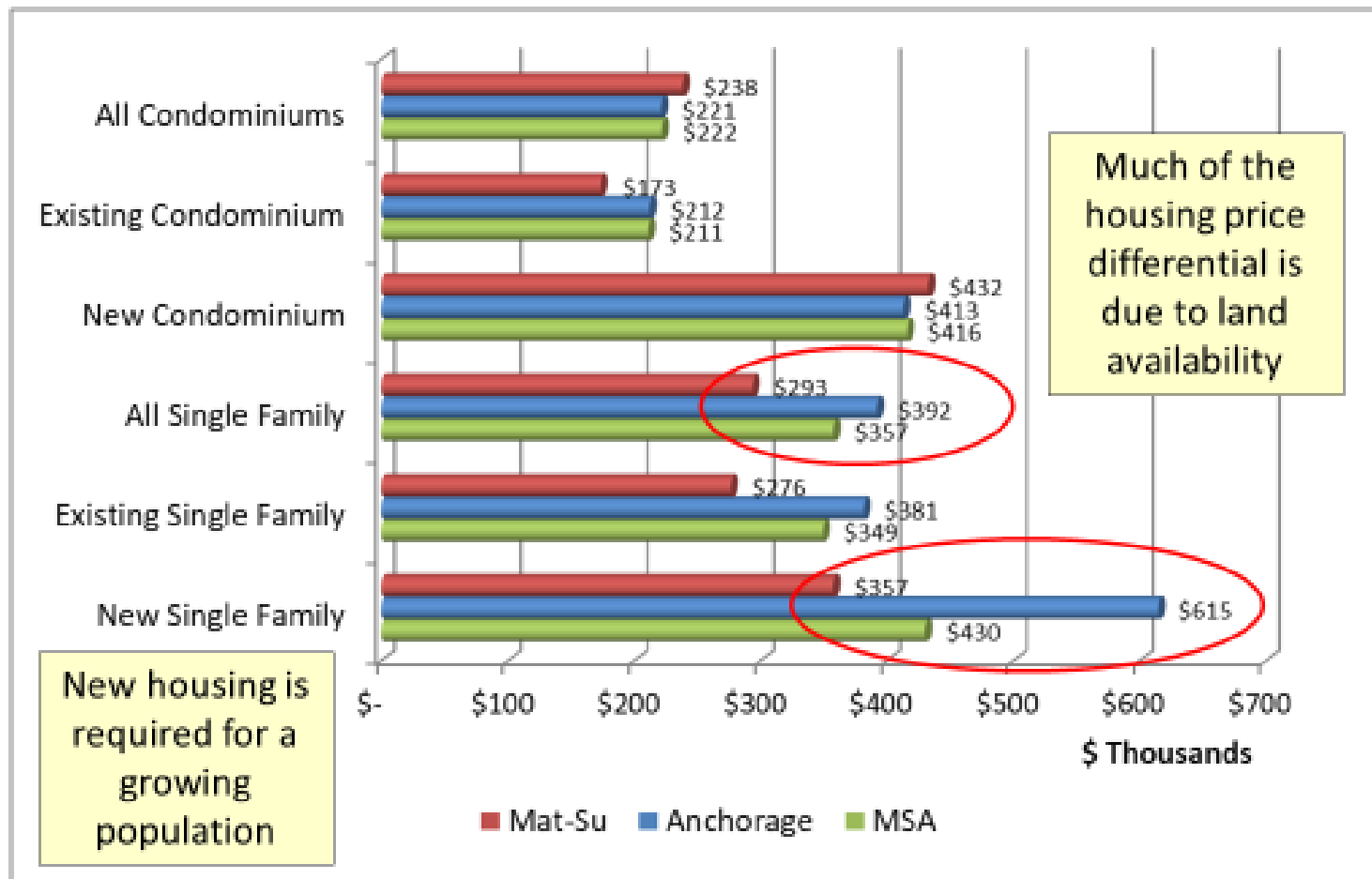


Commercial Land Assessment - MOA



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KAC Usage Motivating Factor: Housing Prices/Affordability



Source data: Alaska Housing Finance Corporation. Compiled from *Alaska Housing Market Indicators* full year ended December 31, 2018.



KAC State Government Realizable Benefits



Toll Revenue Leverages Limited State Transportation Funds

- Two thirds of development and construction costs and all of O&M and future capacity improvements are forecast to be funded through user (toll) backed financing
 - Leverage limited public transportation funds
 - Only realistic method to afford a mega project like the KAC
- Surplus toll revenue after O&M and debt service can be used to fund other Titles 23 and 49 eligible projects
 - Roads, bridges and transit
- Surplus toll revenue can be used for “Toll Revenue Credits” to meet State matching requirements for federal aid highway funds
 - Preserves limited general funds for other purposes



KAC Pro Forma Financial Plan – Sources and Uses

Pro Forma Sources and Uses of Funds (Smillions)						
	Obligated	Appropriated	Anticipated	Total	Percent	
Sources:						
Senior TIFIA Loan	\$ -	\$ -	\$ 377.7	\$ 377.7	32.3%	
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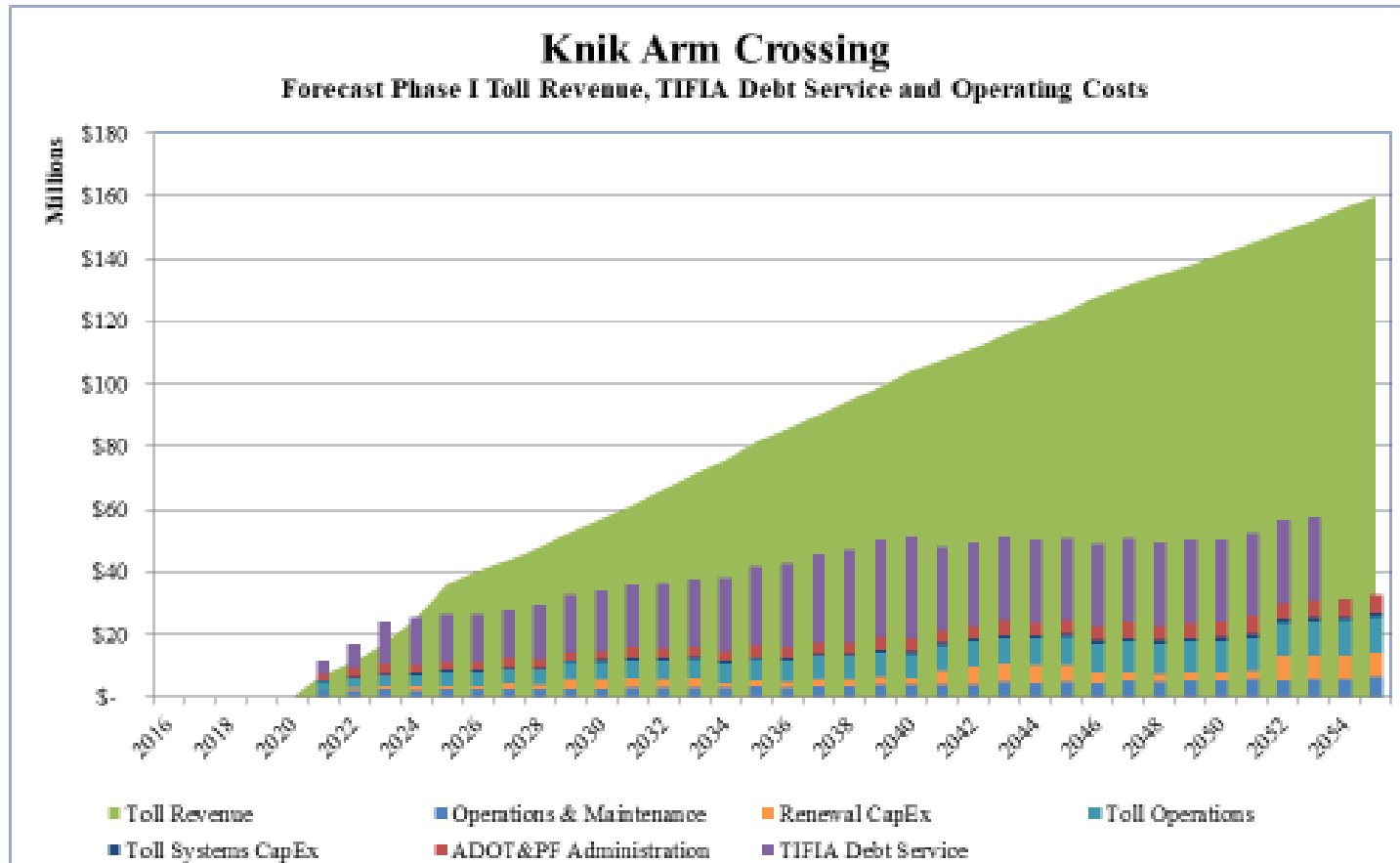
Source: KAC July 2015 TIFIA letter of interest supporting information as updated during TIFIA process.



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KAC Toll Revenue Forecast



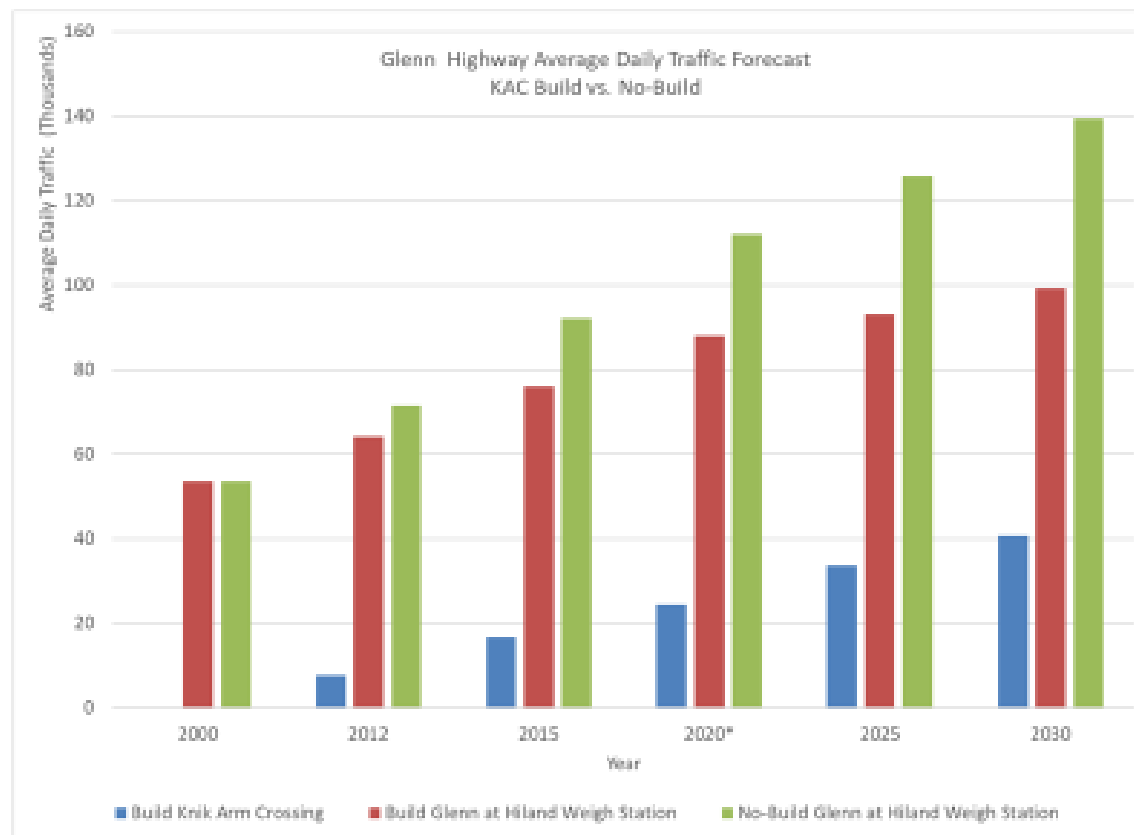
Source: KAC July 2015 TIFIA letter of interest supporting information as updated during TIFIA process.



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Glenn Highway Average Daily Traffic Forecast



The KAC is projected to divert traffic from the Glenn Highway, slowing corridor growth and delaying and/or reducing the requirement for capacity improvements from Eagle River to the Glenn/Parks Interchange



BCA Analysis Implies High KAC Value

Table 15: Benefit-Cost-Analysis Results

Benefit and Cost Metrics	2015-2045 Totals (2015 dollars)		
	Discounted at 7%*	Discounted at 3%	Undiscounted Value
<i>Project Benefits</i>			
Travel Time (dis)Savings	\$1,385,718,100	\$3,077,030,100	\$5,956,082,800
Vehicle Operating Cost Savings	\$485,612,900	\$1,027,249,100	\$1,920,896,600
Accident Savings	\$413,960,300	\$844,396,500	\$1,539,414,300
Emission (dis)Savings (Non-Carbon)	\$33,060,100	\$83,924,100	\$167,128,400
Emission (dis)Savings (Carbon)	\$82,787,700	\$82,787,700	\$155,723,400
Reduction of Repair Costs on Alternatives	\$16,021,000	\$31,982,500	\$57,735,000
Residual Value	<u>\$103,793,700</u>	<u>\$325,512,600</u>	<u>\$790,104,500</u>
Total Benefits	\$2,520,953,800	\$5,472,882,600	\$10,587,085,000
<i>Project Costs</i>			
Capital Costs	\$1,026,915,400	\$1,236,824,400	\$1,480,194,900
O & M Costs	<u>\$62,746,900</u>	<u>\$112,455,200</u>	<u>\$186,634,100</u>
Total Project Costs	\$1,089,662,300	\$1,349,279,600	\$1,666,829,000
Total Benefits less Total Costs (NPV)	\$1,431,291,500	\$4,123,603,000	NA
Benefits to Cost Ratio	2.31	4.06	NA
*Except for the Carbon benefits – discounted at 3%. Dollars values were rounded to the nearest \$100			

Source: *Knik Arm Crossing Benefit Cost Analysis* - CDM Smith, May 29, 2015 (assumed KAC opening year of 2020)



Other Expected KAC Government Benefits

- Economic stimulus resulting from the KAC will potentially improve State revenues and reduce the public's dependence on State government
- Opportunities afforded by the KAC support local and regional plans, resource development and intermodal connectivity
- Successful project delivery demonstrates that State government can produce results for mega projects
- Immediate and lasting job growth will be recognized as an enduring State legacy



KAC Synergies With Other Regional Infrastructure and Projects



KAC Socio-Economic Synergies

- **Intermodal Connectivity:**
 - Connect Port of Alaska and Port MacKenzie
 - Connections to ARRC, including west side with Port Mac rail extension project
 - New connection to Parks Highway bypassing Wasilla and downtown Anchorage for freight movement
 - Access to Ted Stevens Anchorage International Airport
 - Designated as future segment of the National Highway System
 - Proximity and access to/from JBER and Goose Creek Correctional Center
- **Supports Local Development Plans:**
 - Supports Ship Creek Redevelopment and Mat-Su Futures Townsites plans
 - First leg to West Susitna Access and western Kenai Peninsula Borough
 - Improved economics for Port MacKenzie and ARRC rail extension to Port Mac with bridge
 - Potential to reduce \$1.9 billion price tag for Port of Alaska renewal and rehabilitation project
- **Opportunities to Leverage the KAC for New Economic Growth and Resource Development:**
 - Facilitates economics of roads to resources, oil and gas, and mining opportunities
 - Opens up 14 square mile Port MacKenzie Industrial District Access

The Sum Economic Effect is Greater than the Parts



KAC Intermodal Connectivity to Ports

Port of Alaska



6 Miles with
Bridge



88 Miles
without Bridge

Port MacKenzie

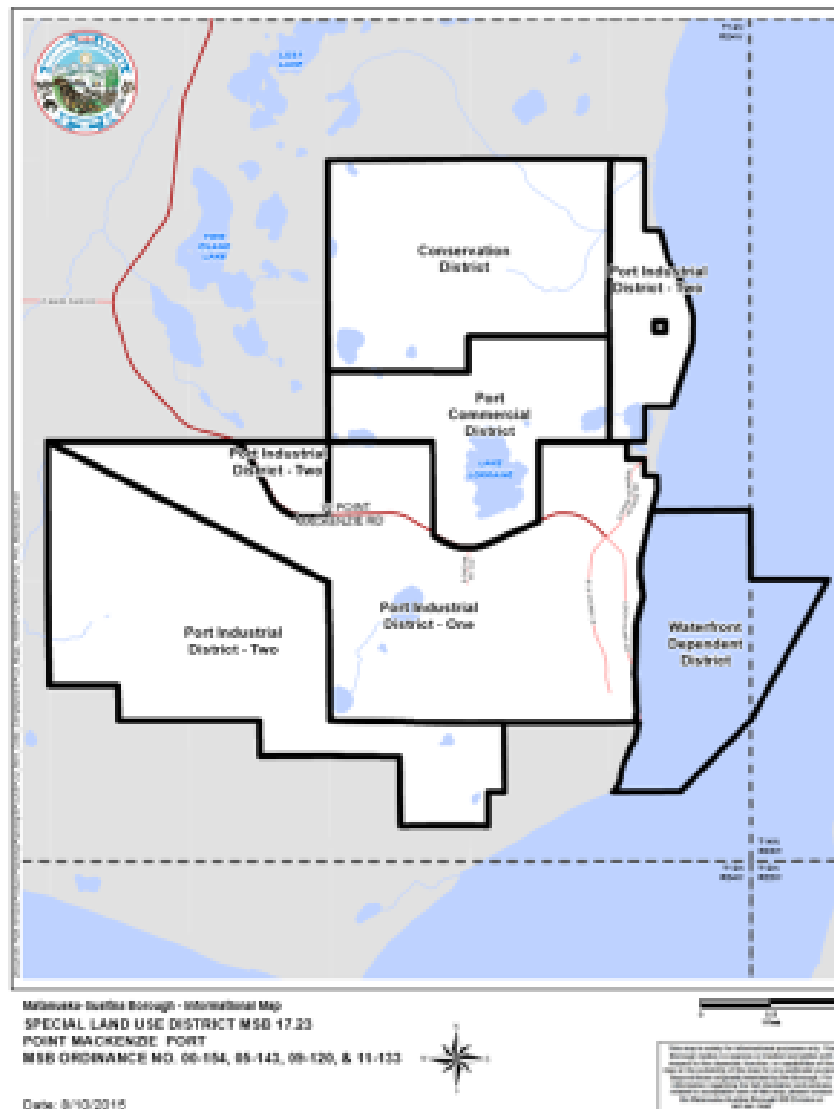


- Serves 85% of Alaskans with 90% of inbound freight
- One of 17 commercial (non-military) DOD strategic ports
- More than \$750 million in economic activity annually
- Bulk commodities import/export
- 8,940 acres of industrial zoned uplands for commercial/industrial expansion of Anchorage
- ARRC/Mat-Su Borough rail extension to Port from north under construction
- Ports generate truck traffic for crossing; POA has requested connection to Port
- Northbound freight traffic from POA can bypass Anchorage and Wasilla
- Access to land in Port MacKenzie Industrial District for warehousing and logistics
- **Potential to mitigate Port of Alaska \$1.9 billion rehabilitation/renewal project and reduce cost through Port MacKenzie access in close proximity to Anchorage**



Access to Port MacKenzie Industrial District

- 14 square miles in the Port District
- Space for commercial and industrial relocation and development
- Logical growth path for warehousing, freight and logistics business in the region
- Intermodal connections to ports and rail needing a bridge connection to facilitate
- Right next door to Anchorage with KAC bridge



Alaska Rail Road Corporation (ARRC)

ARRC Rail Operations on Both Sides of the KAC Generate Trips

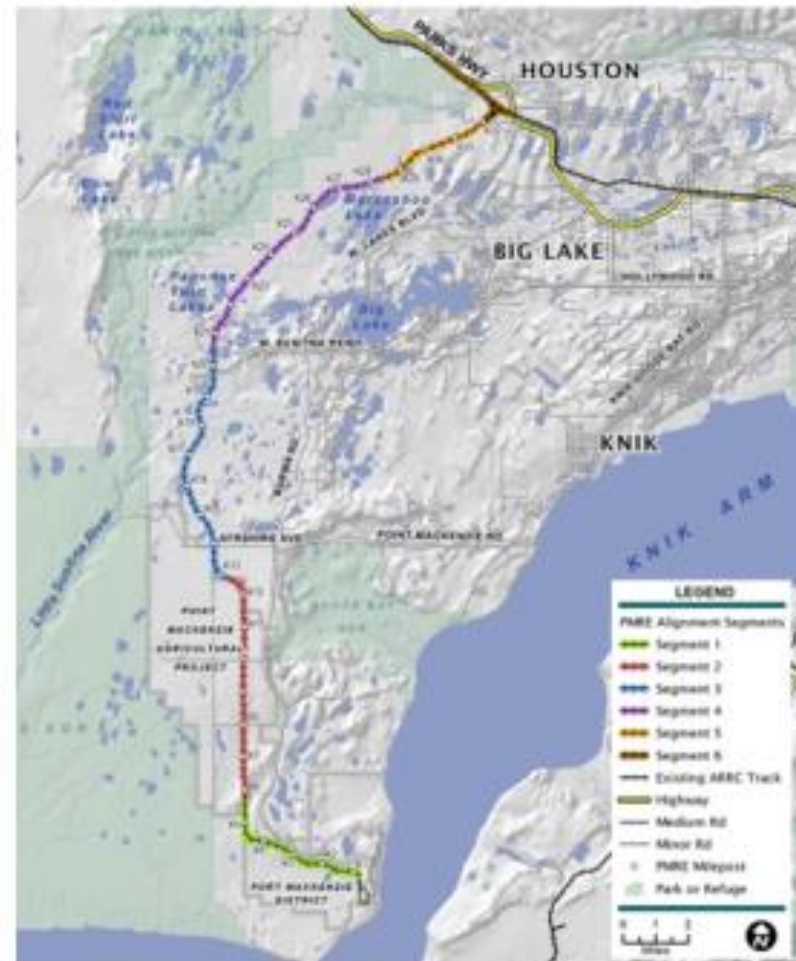


- Main railyard adjacent to KAC in Anchorage and new spur under construction to Port Mackenzie in Mat-Su
- Railyard at Port MacKenzie represents new employment center attracting Anchorage workers



ARRC Point MacKenzie Rail Extension

- 32 miles of new rail line to tide-water
- Shortens distance for Interior shippers
- 100 car loop for off-loading trains
- State funded
- Freight activity expected to increase employment in Port MacKenzie area
- **Being considered with Alberta to Alaska Railway project**



Ship Creek Redevelopment Project

- KAC provides opportunity for current Ship Creek industrial, warehousing and freight facilities to relocate to Point MacKenzie to facilitate the Ship Creek Redevelopment Project



Images: *Ship Creek Redevelopment. Three Concepts* - Municipality of Anchorage, May 2013.



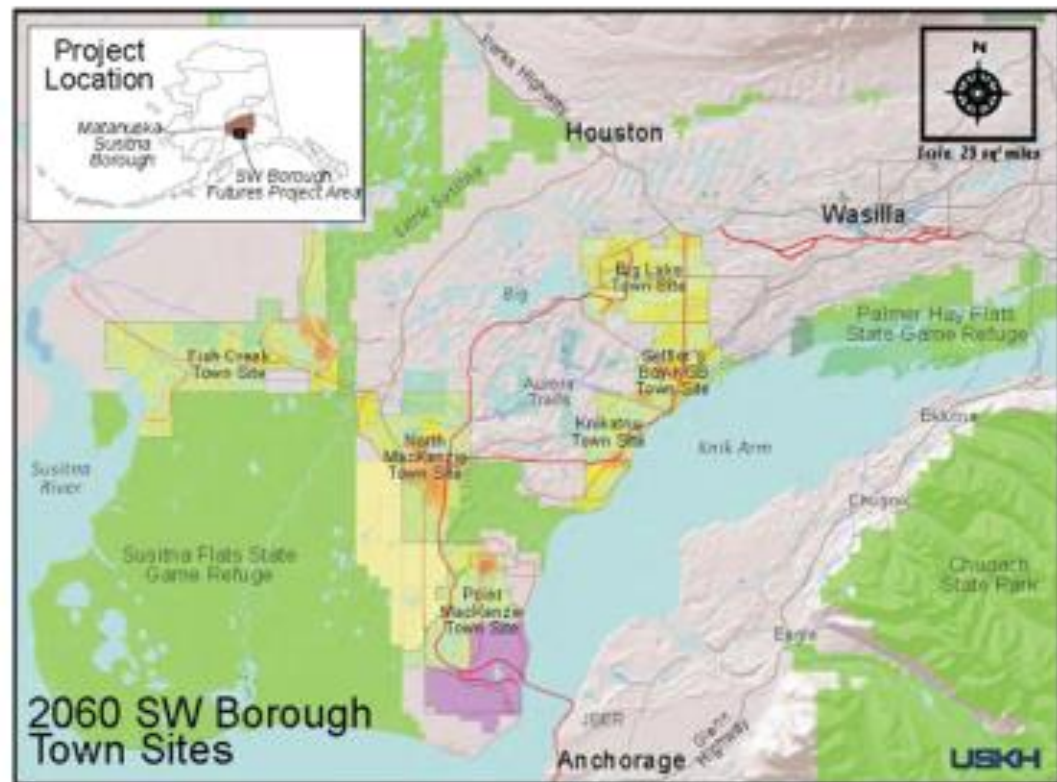
Hemenway Consulting

Mat-Su Borough Planning for Bridge and Growth

Six Town Sites Planned in Bridge Market Area:

- Big Lake
- Settler's Bay
- Knikatnu
- Pt. MacKenzie
- North Pt. Mac
- Fish Creek

Knik-Goose Bay Road
upgrades planned in
STIP



Anchorage International Airport

Travelers and Jobs Generate Trips for the Crossing

- Main node for passenger air travel to and from Alaska
- Over 15,500 direct and indirect jobs supported
- Five million passengers emplaned, deplaned and transiting per year
- World's 5th busiest airport for cargo traffic
- Anchorage is 9.5 hours from 90% of the industrialized world



Joint Base Elmendorf-Richardson

Another Important Trip Generator for the KAC

- Joint Air Force and Army base
- 28,000 personnel and family members
- Strategically located for rapid deployment to the Far East
- KAC is designated as part of Strategic Highway Network (StraHNet)



Goose Creek Correctional Center



A Trip Generator for the KAC

- **75** miles from Anchorage by existing road, but **12** miles using the bridge
- 333 full-time staff at 24 x 7 facility – many live in Anchorage
- 1,536 beds, 1,490 inmates and over 1,100 visitors per month
- Courts and jails are located in Anchorage
- Bridge projected to save \$30 million in travel over first 10 years



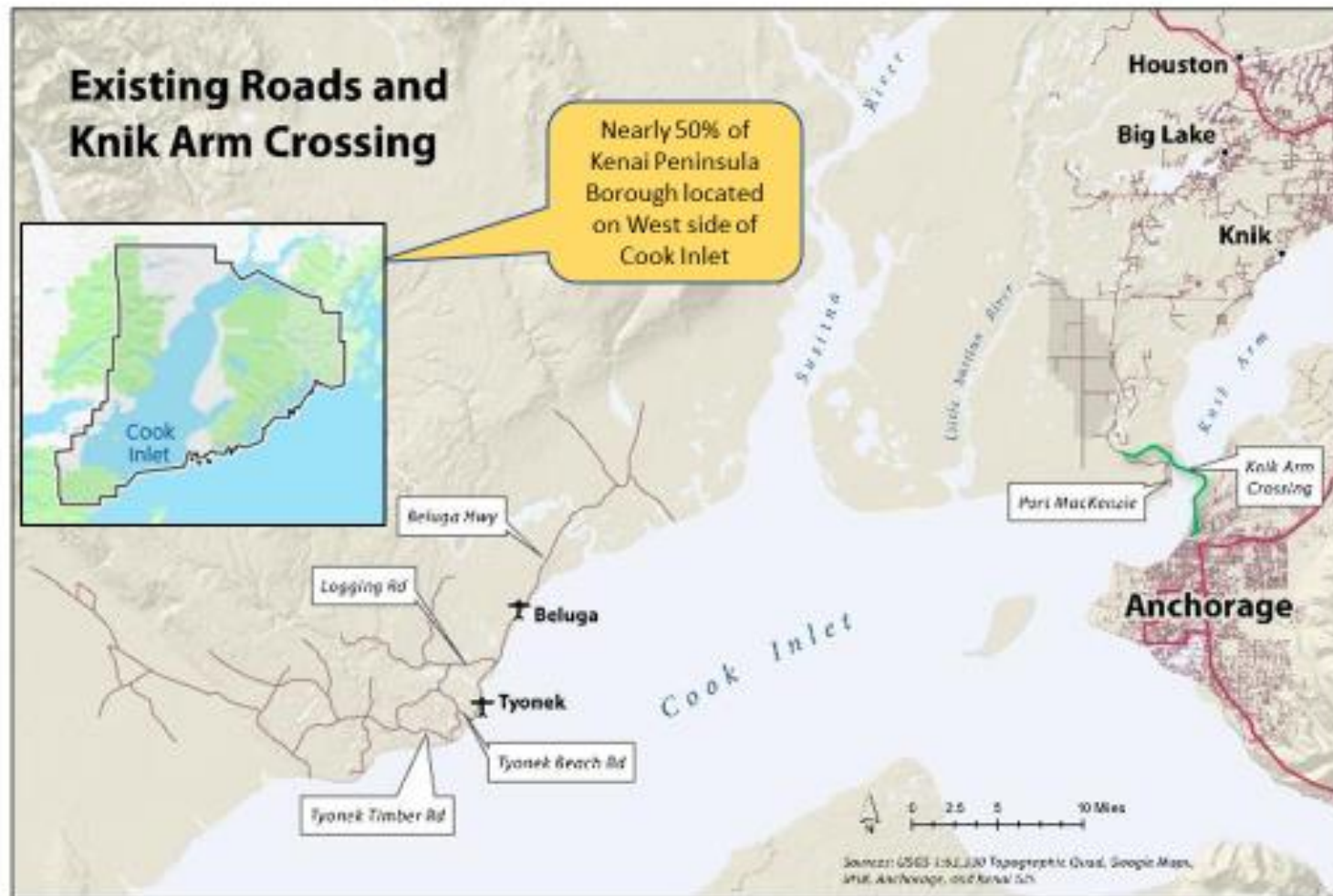
West Susitna Access Project

Future Potential Trips

- DOT study to assess access routes to reach mineral deposits west of the Susitna River
- KAC serves as link to Susitna Access
- KAC will help workers and supplies get to sites more efficiently



20 More Miles to Connect to Beluga/Tyonek Road Network



Anchorage Downtown

