

Appendix H Initial Financial Plan



Alaska Department of Transportation
and Public Facilities
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December 2017

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THE STATE
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**Sterling Highway Milepost 45 to 60 Project
Financial Plan**

LETTER OF CERTIFICATION

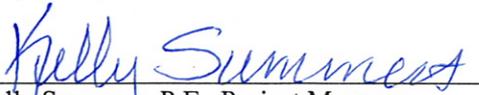
The Alaska Department of Transportation and Public Facilities (DOT&PF) has developed an Initial Financial Plan for the Sterling Highway Milepost (MP) 45 to 60 (45–60) Project. The Federal Highway Administration (FHWA) has identified the project as a “mini major” project. As such, this plan has been prepared with a slightly modified approach pursuant to the requirements of U.S. Code Section 106, Title 23 (23 USC 106[h]) and the Financial Plan guidance issued by the FHWA (FHWA 2014). The plan provides 2015 cost estimates to complete the project and the estimates of financial resources needed to finance the project.

The cost data in the Financial Plan provide an accurate accounting of costs incurred to date and include a realistic estimate of future costs based on an engineer’s estimate and expected construction cost escalation factors. While the estimates of financial resources rely upon assumptions regarding future economic conditions and other variables, they represent realistic estimates of available monies to fund the project.

The Financial Plan is a living document. DOT&PF believes the Financial Plan provides an accurate basis upon which to schedule and fund the Sterling Highway MP 45–60 Project, and commits to provide Annual Updates according to the schedule outlined in the Initial Financial Plan.

To the best of our knowledge and belief, the Financial Plan, as submitted herewith, fairly and accurately presents the financial position of Sterling Highway MP 45–60 Project, cash flows, and expected conditions for the duration of project design and construction. The financial forecasts in the Financial Plan are based on our judgment of the expected project conditions and an expected course of action. We believe that the assumptions underlying the Financial Plan are reasonable and appropriate. Further, we have made available all significant information that we believe is relevant to the Financial Plan and, to the best of our knowledge and belief, the documents and records supporting the assumptions are appropriate.

Respectfully Submitted:


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Date: 12/28/17

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Executive Summary

This document presents the Initial Financial Plan for the Sterling Highway Milepost (MP) 45 to 60 (45–60) Project. An Initial Financial Plan is intended to provide a project’s baseline information of scope, schedule, cost estimate, and funding structures to provide reasonable assurance that there will be sufficient funding available to implement and complete the entire project, or a fundable phase of a project, as planned. This Initial Financial Plan includes the schedule for delivering the project and cost estimates based on the preliminary engineering completed to support the project’s Environmental Impact Statement.

The Sterling Highway MP 45–60 Project aims to improve transportation, traffic flow, efficiency, and safety on a segment of the Sterling Highway in the greater Cooper Landing area in Southcentral Alaska. The Alaska Department of Transportation and Public Facilities (DOT&PF) is the project sponsor, with the Federal Highway Administration serving as the lead Federal agency.

The project has been under consideration and development in varying degrees since the 1970s. The DOT&PF anticipates the project construction to begin in 2020 and open to traffic by 2025.

The current total cost estimate for the project is approximately \$318 million in 2015 dollars or \$374 million in Year of Expenditure dollars.

The construction delivery method for the project has yet to be determined. Possible project delivery methods could include Design Build, Construction Manager/General Contractor, or Design Bid Build.

This document demonstrates DOT&PF’s commitment to complete the project and demonstrates sound financial planning, as required by United States Code Section 106(h) of Title 23, as amended by Section 1503(a)(4) of Moving Ahead for Progress in the 21st Century Public Law 112-141.¹

¹ No updates to financial plan requirements were included in the latest surface transportation act, otherwise known as Fixing America’s Surface Transportation Act of 2015.

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ACRONYMS AND ABBREVIATIONS

AC	Advance Construction
CER	Cost Estimate Review
CSRA	Cost and Schedule Risk Assessment
DOT&PF	Alaska Department of Transportation & Public Facilities
DSEIS	Draft Supplemental Environmental Impact Statement
EIS	Environmental Impact Statement
FAST Act	Fixing America’s Surface Transportation Act
FFY	Federal Fiscal Year
FHWA	Federal Highway Administration
FY	Fiscal Year
GARVEE	Grant Anticipation Revenue Vehicles
HTF	Highway Trust Fund
ICAP	Indirect Cost Allocation Plan
MP	Milepost
NEPA	National Environmental Policy Act
NHPP	National Highway Performance Program
NHS	National Highway System
NIC	Not Included
P3	Public Private Partnership
PER	Preliminary Engineering Report
ROD	Record of Decision
ROW	Right-of-Way
SM	State Match
STIP	Statewide Transportation Improvement Program
USC	United States Code
VE	Value Engineering
WSDOT	Washington State Department of Transportation
YOE	Year of Expenditure

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1.0 Introduction and Requirements

1.1 Plan Overview and Process

A Financial Plan is designed to be a comprehensive document that reflects a project’s cost estimate and revenue structure. It is intended to provide a reasonable assurance that there will be sufficient financial resources available to implement and complete the project as planned. This Initial Financial Plan provides current financial information for the Sterling Highway Milepost (MP) 45 to 60 (45–60) Project. This information is being provided for the Federal Highway Administration (FHWA) pursuant to Title 23 of United States Code (USC) Sections 106(h) and 106(i), and FHWA’s December 2014 Financial Plan Guidance.²

The law and guidance indicate a Financial Plan is required for projects FHWA identifies as Major Projects and for any project expected to exceed \$500 million in total costs. Although the Sterling Highway project falls below the \$500 million threshold for a Major Project, 23 USC 106(i) requires an annual financial plan for projects that involve FHWA funding and where the estimated project cost is greater than \$100 million.

For all major projects, an Initial Financial Plan should be submitted and approved prior to the first authorization of Federal funds for construction. FHWA will not approve a major project Financial Plan until the alternative intended for construction has been selected in the project’s National Environmental Policy Act (NEPA) decision document. The Alaska Department of Transportation and Public Facilities (DOT&PF) and FHWA have identified the Juneau Creek Alternative as the Preferred Alternative in the Final Environmental Impact Statement (EIS), scheduled for release to the public concurrently with this Financial Plan. The reasons for identifying the Juneau Creek Alternative are described in the Final EIS. A final decision for selection of the preferred alternative will be made in the Record of Decision (ROD).

1.2 Plan Contents

FHWA has identified the Sterling Highway MP 45–60 Project as a “mini major” project. Accordingly, this plan has been prepared with a slightly modified approach³ pursuant to the requirements listed for “major” projects in 23 USC 106(h). This plan contains the following components:

- **Project Description** – describes an overview of the project, including project history to date.
- **Schedule** – presents the major milestones for completing the project.
- **Project Cost** – provides a detailed estimate of project costs, summarizes the costs to date, and provides detail on key cost-related assumptions.

² As of December 2017, the 2014 guidance is the latest guidance.

³ Based on e-mail correspondence with FHWA project manager John Lohrey on November 13, 2015, an FHWA cost estimate review is not required for a mini major project.

- **Project Funds** – describes the project’s plan of finance, including the anticipated sources of funds and financing methods.
- **Financing Issues** –State’s financing facilities are not known or anticipated at this time.
- **Cash Flow** – briefly introduces the expectation that the DOT&PF will have sufficient revenues to complete the project.
- **Public Private Partnership (P3) Assessment** – briefly introduces the P3 concept, which at this time is not an anticipated delivery method for the project.
- **Risk and Response Strategies** – presents initially considered project risks and response strategies.
- **Annual Update Cycle** – explains the annual update of the Financial Plan.

The following sections are included in this Initial Financial Plan only as placeholders. These sections will be incorporated into future annual updates:

- **Summary of Cost Changes Since Last Year’s Financial Plan** –*Not Included (NIC)*
- **Cost and Funding Trends Since Initial Financial Plan** – *NIC*
- **Summary of Schedule Changes Since Last Year’s Financial Plan** – *NIC*
- **Schedule Trends Since Initial Financial Plan** – *NIC*

2.0 Project Description

DOT&PF, in cooperation with FHWA, has developed the Sterling Highway MP 45–60 Project to improve transportation, traffic flow, efficiency, and safety on a segment of the Sterling Highway in the greater Cooper Landing area in Southcentral Alaska. The Kenai River valley in the project area (see Figure 1) has steep mountainous terrain. The Kenai River and its tributary, the Russian River, are popular world-class salmon- and trout-fishing streams, and the Kenai River Special Management Area is a State park. Most of the land in the area is national forest or national wildlife refuge lands managed for recreation and wildlife habitat, and for natural and wilderness values. Geographic and land use constraints are considerable.

The community of Cooper Landing and recreational venues in the area have many driveways for local access to numerous businesses and residential properties, and these conflict with mobility of through traffic on the highway, leading to congestion and safety issues. Improvements are proposed to reduce congestion, bring the highway up to current standards for a rural principal arterial, and improve safety.

2.1 Project History

The project history dates to the 1970s. DOT&PF and FHWA published a draft EIS in 1982 for a MP 37–60 project (8 miles longer than the current segment). They published a second draft EIS

in 1994. In neither case was a Final EIS published. FHWA approved a plan to split the project into two functionally independent projects. DOT&PF and FHWA approved the less-complicated MP 37–45 segment. DOT&PF constructed that half in 2000-2001, and began work on a Draft Supplemental EIS (DSEIS) for the more complicated MP 45–60 portion at about the same time.

In 2015, FHWA and DOT&PF issued a DSEIS for the Sterling Highway MP 45–60 Project, with four reasonable “build” alternatives and a No Build Alternative. It did not identify a preferred alternative. DOT&PF and FHWA have identified the Juneau Creek Alternative as the preferred alternative in the Final EIS. The reasons for identifying the Juneau Creek Alternative as the preferred alternative are described in the Final EIS. A final decision for selection of the preferred alternative will be made in the ROD.

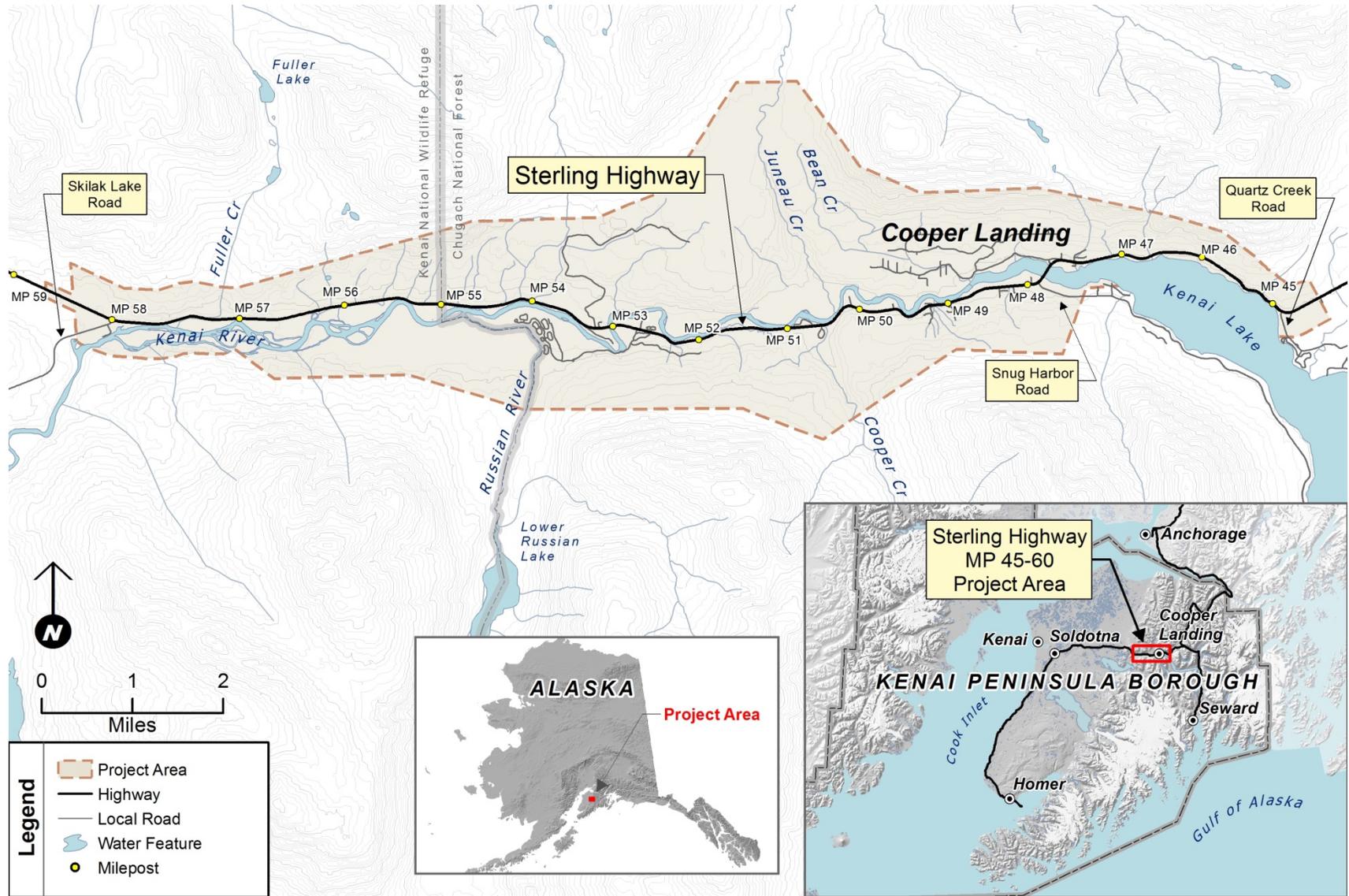


Figure 1: Project area

2.2 Project Description – Juneau Creek Alternative

The current project (MP 45–60) for the Juneau Creek Alternative (preferred alternative) includes reconstruction of the existing highway at each end of the project area and construction of a new alignment of approximately 10 miles in the central part of the project area. The project includes construction of a new bridge across Juneau Creek canyon.

As proposed, the highway throughout would be constructed as a 40-foot-wide paved highway (12-foot lanes with 8-foot shoulders) with passing lanes. Where passing lanes are provided, the road cross-section typically would be three lanes wide.

The new bridge across Juneau Creek would be approximately 1,250 feet long. The grade would take the bridge high above the creek and create a long crossing of the Juneau Creek canyon and portions of the flatter area on each side of the canyon. This would create substantial vertical clearance for wildlife undercrossing, separate traffic from wildlife, and provide space for recreational trails near each canyon rim.

2.3 Construction Phasing Plan

As of October 2017, the project is anticipated to be constructed following a five-phase approach. Figure 2 graphically depicts the phased approach. The first phase would be the reconstruction of the East and West Segments, which are on the existing highway alignment, and the construction of a pioneer road suitable for access to the bridge site on both sides of Juneau Creek canyon. Phase 2 would be the construction of the Juneau Creek Bridge. Phases 3 and 4 would include the construction of the full-width, final grade road segment on the east and west sides of the canyon, respectively. Phase 5 would include connecting all the segments, paving, signing, and striping.

Table 1 describes this construction phasing approach, the duration of construction for each construction phase, and the anticipated number of construction seasons. The construction phases would overlap, reducing the total number of construction seasons.

Table 1: Anticipated construction phasing approach

Step	Construction Description	Construction Duration
1	<p>Reconstruct segments built on existing alignment</p> <ul style="list-style-type: none"> - Reconstruct eastern existing highway segment, between MP 44.5 and approximately MP 46. This includes substantial rock excavation near MP 45. - Reconstruct western existing highway segment, between MP 55.5 and MP 58. <p>Construct segment built on a new alignment as a “pioneer road” sufficient to access the Juneau Creek Bridge site from each side and to move bridge construction materials and equipment.</p>	Two construction seasons, years 1–2
2	Construct Juneau Creek Bridge.	Four construction seasons, years 2–5 ^a
3	Construct segment built on a new alignment from MP 46 to east side of Juneau Creek Bridge to final subgrade, and construct connections to Phase 1 segments.	Two construction seasons, years 3–4 ^a
4	Construct segment built on a new alignment from MP 55.5 to west side of Juneau Creek Bridge to final subgrade, and construct connections to Phase 1 segments.	Two construction seasons, years 4–5 ^a
5	Pave segment built on a new alignment, including final signing, striping, and site work to open this segment to highway traffic.	Two construction seasons, years 5–6

^a Bridge construction and road construction overlap considerably. Once bridge construction was underway, construction of the road to final width would commence. The road would principally remain open to bridge construction traffic throughout years 3–5.

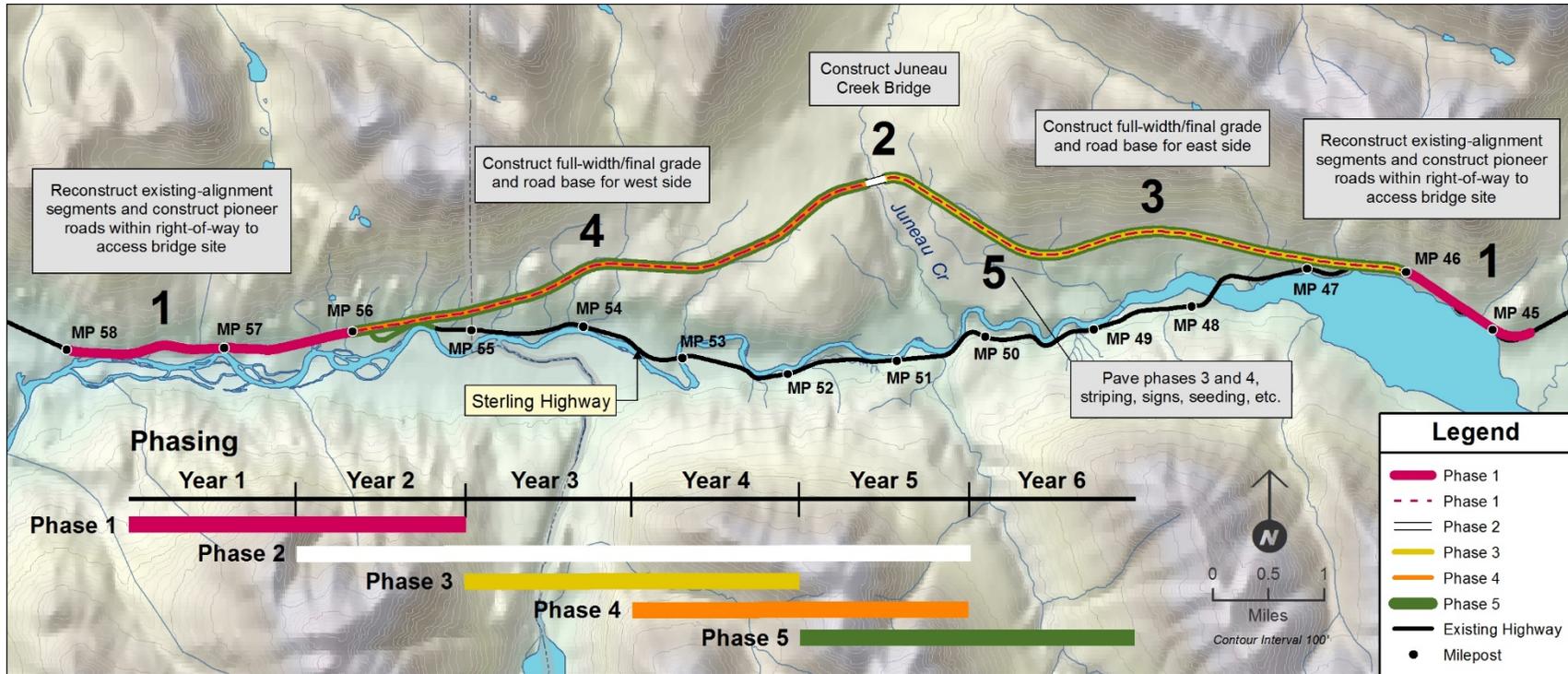


Figure 2: Anticipated construction phasing approach

3.0 Schedule

The project is currently in the Final EIS process, which will culminate in a ROD for the project. Once the ROD is issued, the process of securing permits and final design will begin. The overall project is scheduled to be completed in 2025, as shown in Table 2. The project delivery (contracting) method has yet to be determined. The project is intended to be constructed in multiple phases between 2020 and 2025: the existing alignment improvements first, and then the new alignment (east and west segments) and new bridge. The annual construction seasons are typically from April 1 through October 31, and some work is expected to occur in winter. Final design of the east and west segments is expected to continue while construction of the earliest phases is underway.

Table 2: Assumed project schedule and major milestones

Major Milestones	Through 2018	2019	2020	2021	2022	2023	2024	2025
Environmental process (EIS/ROD)	■							
Ph.1: Environmental permitting/mitigation		■	■					
Procurement/ Final design		■	■					
Ph.1: Right-of-way acquisition		■						
Ph.1: Utility relocation		■						
Ph.1: Reconstruct existing alignment segments			■	■				
Ph.1: Construct pioneer roads to bridge site			■	■				
Ph.2: Construct Juneau Creek bridge				■	■	■	■	
Ph.3: Construct east segment (final grade)					■	■		
Ph.4: Construct west segment (final grade)						■	■	
Ph.5: Final paving/ clean up							■	■
Ph.5: Estimated opening to traffic/ project completion								■

The schedule is expected to be updated annually and to include a comparison of the project schedules from the Initial Financial Plan and subsequent annual updates.

4.0 Project Cost

At the time of this draft Initial Financial Plan, a cost estimate review (CER) or a formal cost and schedule risk assessment (CSRA) has not occurred. When this draft plan is finalized, the cost estimates contained in this plan will be refined and be presented as Year of Expenditure (YOE) dollars at the 70 percent risk-based confidence level. To determine the 70 percent risk-based confidence level, a CSRA or risk-based modeling tool should be incorporated to model the overall risk of the project. Risk-based analysis provides a distribution of probabilities that a project will not exceed an estimated dollar figure. FHWA requires that agencies report the project risk-based estimation using the 70th percent confidence interval within their financial plans. Note: the YOE dollars are equated to current dollars escalated to the midpoint of expenditure for each element of the project.

For the most part, this section presents the current cost estimate of the overall project, which includes costs spent to date and all remaining costs to complete. The total project cost includes estimates for the preliminary engineering, NEPA compliance and environmental contingencies (i.e., permitting); right-of-way (ROW), utility relocation, construction, project management, and contingencies. Except where otherwise denoted, these are calendar year 2015 dollars and not YOE dollars. At the end of this section, a comparison of the 2015 cost estimate and YOE dollars is presented based on a series of escalation rates (see Section 4.2).

As of October 2017, the total cost estimate of the Sterling Highway MP 45–60 Project is \$317.8 million in 2015 dollars. This value is based upon the same analysis as the cost estimate presented in the NEPA document, although cost tables in the NEPA document do not include costs associated with phasing. Since no CER or CSRA has been conducted, the roadway and bridge base construction costs have been given a 20 percent contingency at this point. When the design is advanced, this contingency percentage is expected to drop. Overall, at this time, the basis for the project costs presented in this section are in 2015 dollars and are not escalated or presented in YOE dollars unless otherwise noted.

Table 3 depicts the total project cost by major project element, including costs spent to date and costs left to complete the project. Construction cost estimate summary sheets were updated in October 2017 for the EIS and provide the basis for the cost estimates in this Initial Financial Plan. Those detailed project estimates can be found in the project's *Preliminary Engineering Report (PER) Addendum*. Cost-related assumptions are further described in Section 4.1.

Table 3: Total project cost estimate and cost to complete by project element (millions \$)

Project Element	Costs to Date	2015 Cost Estimate	Cost to Complete
NEPA, including preliminary engineering	\$17.3	\$18.4	\$1.1
Design engineering	\$0	\$29.9	\$29.9
Environmental mitigation/ permitting	\$0	\$6.0	\$6.0
ENGINEERING SUBTOTAL ^a	\$17.3	\$54.3	\$37.0
UTILITIES ^b	\$0	\$0.8	\$0.8
ROW ^b	\$0	\$3.0	\$3.0
CONSTRUCTION SUBTOTAL ^c	\$0	\$259.6	\$259.6
TOTAL	\$17.3	\$317.8	\$300.5

^a Engineering subtotal includes NEPA/preliminary engineering, environmental mitigation/permitting (wetland and cultural resources mitigation), design engineering (12% of the construction subtotal), and Indirect Cost Allocation Plan (ICAP; 5%). Note: The NEPA component has already been obligated (\$18.4 million), of which \$17.3 million has been expended as of August 2017.

^b Utilities and ROW contain ICAP (5%).

^c Construction subtotal includes the following project elements: roadway subtotal, bridge subtotal, contingency (20%), construction engineering (15%), ICAP (5%), and wildlife crossings/mitigation.

Cost estimate-related assumptions are located in Section 4.1.

Source: October 2017 construction cost estimate summary sheets.

Table 4 displays the total project cost estimate by construction segment phase and by project element. This breakdown by project phase depicts the following key elements: engineering, utilities, ROW, and construction. Utilities, ROW, and wetland impact and cultural resources mitigation costs are reflected in the construction segment of phase 1.

Table 4: Total project cost estimate by phase and project element (millions \$)

Project Element	Construction Segment Phase						TOTAL
	Pre-Construction	Phase 1 ^a	Phase 2	Phase 3	Phase 4	Phase 5	
Engineering	\$18.4	\$12.8	\$9.5	\$4.7	\$5.6	\$3.2	\$54.3
Utilities	\$0	\$0.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8
ROW	\$0	\$3.0	\$0.0	\$0.0	\$0.0	\$0.0	\$3.0
Construction	\$0	\$60.2	\$79.2	\$42.9	\$50.4	\$26.9	\$259.6
TOTAL COST BY PHASE	\$18.4 ^b	\$76.9	\$88.7	\$47.6	\$56.1	\$30.2	\$317.8

^a Construction segment phase 1 includes all costs associated with the following project elements: utilities, ROW, and wetland impact and cultural resources mitigation. Cost estimate-related assumptions are located later in this section.

^b This project element is NEPA/preliminary engineering and has already been obligated.

Source: October 2017 construction cost estimate summary sheets.

Figure 3 compares the distribution of costs by project element during each construction segment.

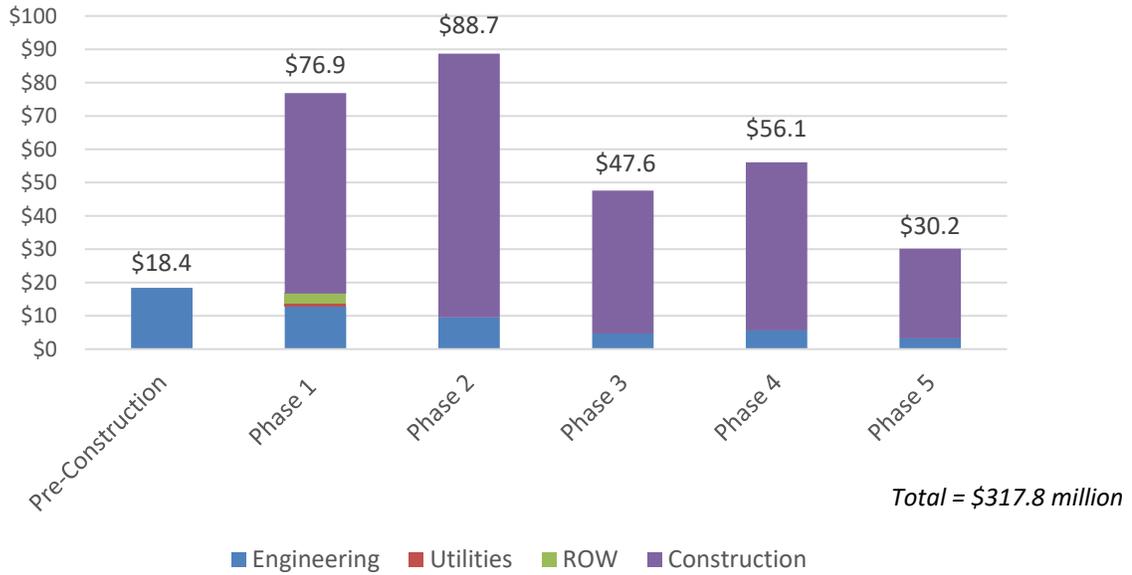


Figure 3: Project cost estimate by construction segment phase and project element (millions \$)

Table 5 depicts a funding strategy by fiscal year based on the phased construction approach, as described earlier.

Table 5: Total project cost estimate strategy by fiscal year, 2018–2025 (millions \$)

Calendar Year	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	Project Total	
Federal Fiscal Year (FFY) ^a	Pre-FFY 2018	FFY 2018	FFY 2019	FFY 2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024	FFY 2025	
Pre-Construction (NEPA)	\$18.4									\$18.4
Phase 1										
Engineering	\$12.8									\$12.8
Utilities/ROW	\$3.9									\$3.9
Construction			\$30.1	\$30.1						\$60.2
Phase 2										
Engineering		\$9.5								\$9.5
Utilities/ROW										
Construction				\$19.8	\$19.8	\$19.8	\$19.8			\$79.2
Phase 3										
Engineering		\$4.7								\$4.7
Utilities/ROW										
Construction					\$21.4	\$21.4				\$42.9
Phase 4										
Engineering		\$5.6								\$5.6
Utilities/ROW										
Construction							\$25.2	\$25.2		\$50.4
Phase 5										
Engineering		\$3.2								\$3.2
Utilities/ROW										
Construction								\$13.5	\$13.5	\$27.0
TOTAL	\$18.4	\$16.7	\$23.1	\$30.1	\$49.9	\$41.2	\$66.4	\$58.5	\$13.5	\$317.8

^a FFY is October 1 to September 30. Calendar year (CY) is shown to help clarify when construction would occur.

Shading represents construction seasons, which generally would be the May to September portion of each year. As an example, in CY 2024–2025, most construction would occur May–September 2025.

Note: slight discrepancies may occur due to rounding.

4.1 Cost Estimate Assumptions

A 2014 *PER* was prepared for the project and was the initial basis for the cost estimates in this Financial Plan, supplemented by an addendum (2016) and an update to the construction cost estimate sheets in October 2017. Unless noted otherwise, construction cost estimates are based on 2015 unit prices, sometimes escalated from previous year unit prices. Table 6 presents assumptions for each primary project element.

Table 6: Cost estimate assumptions

Project Element	Inputs/Methodology
NEPA documentation, includes preliminary engineering / Pre-Construction (NEPA)	These costs include preliminary engineering and design services through the completion of the NEPA process.
Engineering	
Design engineering (12%)	Design engineering is 12% of the total construction cost, which includes roadway, bridge structures, contingency, and construction engineering/administration.
Environmental mitigation / permitting	Environmental mitigation consists of three main components: wildlife impact mitigation, wetland impact mitigation, and Section 106 mitigation. All wetland impact and Section 106 mitigation costs have been included in Phase 1 as up-front budget items. The wildlife mitigation costs have been distributed to their corresponding construction phases (Phases 1, 3, and 4).
Construction	
Basic roadway subtotal	The basic roadway cost estimate is the total of nearly 50 line items.
Bridge and structure subtotal	The bridge costs are taken from the <i>Preliminary Bridge Structures Technical Memo</i> dated August 2011 and are escalated to 2015 dollars based on cost performance index data from the Alaska Bureau of Labor.
Contingency (20%)	Contingency is included to cover additional costs associated with the current design level and to address unforeseen circumstances that could result in additional costs. Contingency is 20% of the estimated basic roadway and bridge structure costs.
Construction engineering (15%)	Construction engineering/administration is 15% of the basic roadway and bridge structure costs.
Right-of-Way/Utility	
Utilities	Utility costs include relocation of power distribution and telephone poles, and raising of lines. The project's total cost for utilities has been included entirely in Phase 1.
Right-of-Way	ROW costs estimate the land payment portion only of ROW acquisition. It does not address the other per parcel costs of ROW acquisition. Furthermore, these costs consider only privately owned land impacted by the alternatives. Impacted parcels owned by Federal, State, and local agencies are assumed to be acquired by agreement rather than payment. The project's total ROW costs have been included entirely in Phase 1.

Source: Construction cost estimate summary sheets.

Note: ICAP has been applied to all costs, except for what has already been obligated (\$18.4 million). ICAP is 5% of the combined subtotal of project development and construction. This is generally the standard percentage that DOT&PF typically applies to the base construction estimate for DOT&PF departmental overhead charge.

4.2 Escalation

As stated in the first paragraph in Section 4.0, all cost estimates in this initial financial plan, unless otherwise noted, are in 2015 dollars – *not* in YOE dollars. YOE dollars are dollars that are already adjusted for escalation. YOE costs are calculated by applying an estimated escalation

rate to base year cost estimates. To account for price increases between the date the cost estimate was created and the date when the actual work will be performed, an escalation rate forecast is needed for construction costs incurred by the project.

Table 7 identifies the YOE dollars that have been calculated for the project, which were escalated from the baseline project costs shown in Table 5. Escalation rates have not been prepared specifically for this project, as a CSRA has not yet been conducted. However, escalation rates were used from recent efforts conducted for the Washington State Department of Transportation (WSDOT). (The most recent financial plan DOT&PF prepared—for the Juneau Access Improvements Project—is several years old and contains slightly outdated escalation rates for use as a go-by.) The YOE dollars shown in Table 7 were calculated using the WSDOT escalation rates, as shown in Table 8.

Table 7: Escalated total project cost estimate by fiscal year, 2015-2023 (millions \$)

Cost Estimate	Pre-FFY 2018	FFY 2018	FFY 2019	FFY 2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024	FFY 2025	Project Total
2015 cost estimate	\$18.4	\$16.7	\$23.1	\$30.1	\$49.9	\$41.2	\$66.4	\$58.5	\$13.5	\$317.8
Year of Expenditure (YOE) dollars	\$18.4	\$18.2	\$25.0	\$31.9	\$55.6	\$46.9	\$81.1	\$78.6	\$18.4	\$374.1

YOE dollars determined by using applicable escalation rates, as shown in the following table.

Table 8: WSDOT escalation rates since 2015 base year

Year	Construction ^a	Preliminary Engineering ^b	Utilities / Right-of-Way
2016	-0.92%	1.69%	9.46%
2017	1.61%	2.17%	6.81%
2018	1.90%	2.21%	5.77%
2019	1.49%	2.21%	5.30%
2020	1.72%	2.20%	5.28%
2021	1.66%	2.27%	5.24%
2022	1.87%	2.14%	5.18%
2023	2.52%	2.10%	5.07%
2024	2.60%	2.06%	4.85%
2025	2.39%	2.05%	4.51%
2026	1.90%	2.05%	4.11%

^a Construction includes basic roadway, bridge/structure, contingency, and construction engineering.

^b Preliminary engineering includes environmental permitting and design engineering.

5.0 Project Funds

5.1 Project Funding Sources

The Sterling Highway MP 45–60 Project is anticipated to be financed through a combination of Federal and State funds. Funding for complete project construction costs has not yet been fully identified. A combination of Federal funds with a State match is anticipated.

Applicable funding available to the State comes from several funding agencies, most notably FHWA. The State receives several categories of funding; each category has a reference fund code and has distinctive rules for project eligibility, match ratios, and other programming factors.

The original DOT&PF Statewide Transportation Improvement Program (STIP) for 2016–2019 was approved November 27, 2017 and included the Sterling Highway MP 45–60 Project. It is listed as Need ID 2673 under the name “Sterling Hwy MP 45–60 Sunrise Inn to Skilak Lake Road Construction.” The most current STIP amendment available is Amendment 3. Amendment 3 to the 2016–2019 STIP modified the funding programmed for the project, as incorporated into this document. For major project purposes, funds shown in approved STIPs/Transportation Improvement Programs are considered committed to the project.⁴

⁴ FHWA. December 2014. Major Project Financial Plan Guidance. Available at: https://www.fhwa.dot.gov/ipd/project_delivery/resources/financial_plans/guidance.aspx (accessed 11/11/2015).

Table 9 details the current programmed Federal funds and anticipated State funds for the project. Amendment 3 to the 2016–2019 STIP lists three fund codes for the project: Advance Construction (AC), State Match (SM), and the National Highway Performance Program (NHPP). According to the STIP, AC is an innovative tool permitted under FHWA rules that, with approval of the FHWA, allows the State to begin a project using State funds prior to the availability of Federal funds. This tool allows the State flexibility to use its resources to more efficiently schedule project start-ups. According to the STIP, SM is the State’s share of project costs required to match Federal program funds. This amount depends on the particular Federal program requirements, and the SM required will vary from as little as zero to 50 percent. Typically, the State’s share will range from 9 percent to 20 percent. NHPP funds provide support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State’s asset management plan for the NHS.

Table 9: Project programmed funding by fiscal year, 2017 and beyond (millions \$)

Fund Code Description	Fiscal Year (FY) 2017	FY 2018	FY 2019	After FY 2019
AC (for design)		\$20.00		
AC			(\$5.00)	
NHPP			\$5.00	
SM (for design)		\$1.99		
TOTAL	0	\$21.99	\$0.00	\$250.00

Source: Excerpted from DOT&PF 2016–2019 STIP, Amendment 3.

Available at: <http://www.dot.state.ak.us/stwdplng/cip/stip/assets/STIP.pdf> (accessed 11/15/2017).

DOT&PF’s *Let’s Keep Moving 2030* is the most current statewide long-range transportation policy plan.⁵ It was adopted in 2008 and is currently (as of 2017) in the process of being updated. The current plan references the need to address safety and connectivity along the Sterling Highway in the Cooper Landing area (p. 19). The plan cites the project as one of four key remaining sections of the National Highway System in Alaska that needs to be modernized and brought up to current safety and connectivity standards. The plan does not include project-specific funding information or sources, but inclusion of the project in the statewide plan implies the State’s commitment to the project. DOT&PF’s *Let’s Keep Moving 2036* Plan Draft was made available in September 2016. The Plan Draft does not include project-specific funding information or sources. However, the Plan Draft identifies Sterling Highway as a freight corridor that plays a critical role in the state’s transportation network. Because there is no metropolitan planning organization in the area, there is no metropolitan long range transportation plan.

5.2 Federal Funds

The Surface Transportation Program provides flexible funding that may be used by states and localities for projects on any Federal-aid highway, including the National Highway System and other infrastructure (i.e., bridges, transit). This program is available for projects statewide, and it is a normal practice for DOT&PF to use this funding source for major projects in Alaska. The Federal funds ratio is 90.97 percent.

5.3 State Funds

State matching is the State’s share of project costs required to match Federal program funds. Depending on the particular Federal program requirements, the State’s share of the costs will vary from as little as zero percent to as much as 50 percent. Most often, the State’s share will range from 9.03 percent to 20 percent for transportation projects.

5.4 Local Funds

No local funding sources have been identified for this project.

⁵ <http://dot.alaska.gov/stwdplng/areaplans/2030/assets/SWLRTPPfinal022908.pdf>

5.5 Other Funding Techniques

No other special funding techniques (i.e., Grant Anticipation Revenue Vehicles [GARVEE] bonds) have been identified or are anticipated at this time.

5.6 Proposed Funding Plan

Table 10 depicts the proposed funding plan by Federal fiscal year. The \$250 million shown in the DOT&PF 2016–2019 STIP, Amendment 3, as beyond FFY2019 was divided into a 5-year span for the purposes of this plan; the source of these funds has not currently been identified. Table 10 also identifies the proposed additional funding amounts needed to supplement the existing funding. The plan assumes NHPP funds at 90.97 percent with a State match covering the remainder.

Table 10: Proposed financing plan by fiscal year, YOY dollars (millions \$)

	Pre- FFY 2018	FFY 2018	FFY 2019	FFY 2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024	FFY 2025	Project Total
Cost Estimate										
Current Estimate	\$18.40	\$18.19	\$25.05	\$31.88	\$55.64	\$46.88	\$81.07	\$78.59	\$18.36	\$374.05
Funding										
AC		\$20.00								\$20.00
State Match		\$1.99								\$1.99
AC			(\$5.00)							(\$5.00)
Existing NHPP	\$16.74		\$5.00							\$21.74
Existing State Match	\$1.66									\$1.66
Unidentified source in the STIP				\$50.00	\$50.00	\$50.00	\$50.00	\$50.00		\$250.00
Additional NHPP Needed			\$50.10	\$5.10	\$5.46	\$5.46	\$5.46	\$4.55		\$76.13
Additional State Match Needed			\$4.96	\$0.50	\$0.54	\$0.54	\$0.54	\$0.45		\$7.53
TOTAL PROPOSED FUNDING	\$18.40	\$21.99	\$55.06	\$55.60	\$56.00	\$56.00	\$56.00	\$55.00		\$374.05

While not currently scheduled at the time of this Initial Financial Plan, a CSRA or Value Engineering (VE) study would be useful tools to aid in reducing the amount of additional funds needed as shown in Table 10. A CSRA would help to determine the amount of risk reserve

needed to replace the 20% contingency currently in the estimate. A VE study would look into innovative ways to reduce the overall project costs.

6.0 Financing Issues

As of 2015, financing facilities such as GARVEE bonds, Transportation Infrastructure Finance and Innovation Act loans, project revenue bonds, or general obligation bonds are not proposed.

7.0 Cash Flow

The DOT&PF, with the support of Federal funding, expects to have sufficient revenues to complete the project. Adjustments would need to be made to the STIP to allocate the correct supplemental amount to fund each phase of the project with sufficient cash flow. Figure 4 depicts the total escalated project cost estimate per year compared with the current funding from Table 10. Note that funding and expenditures (blue and red bars) are read against the left axis while cumulative funding and expenditures are read against the right axis.

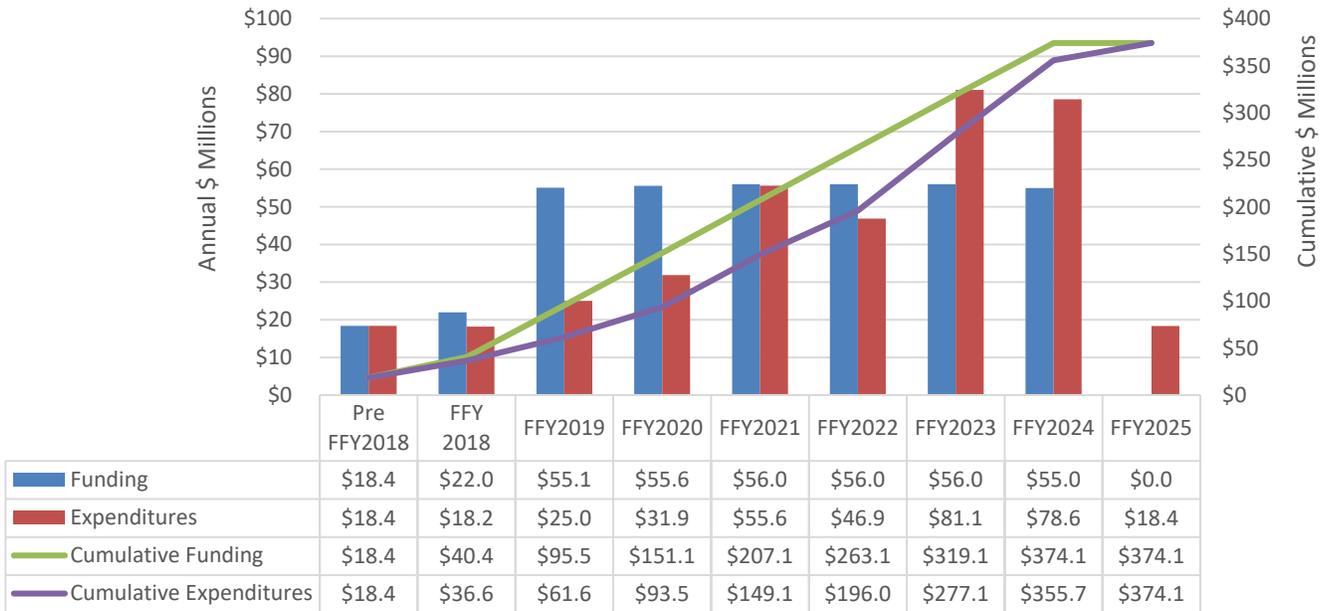


Figure 4: Annual and cumulative cash flow based on programmed funding (millions \$)

8.0 P3 Assessment

P3s are defined as contractual agreements between a public agency and a private entity that allow for greater private sector participation in the delivery and financing of transportation projects. Outside of the Knik Arm Crossing project no other projects in the State of Alaska have legislative authority to use P3 as a method of financing at this time. Alaska Statute §§19.75.111 to 990 authorizes the Knik Arm Bridge and Toll Authority to enter into P3s in any form to finance, design, construct, maintain, improve or operate the Knik Arm Bridge. It allows the

authority to issue bonds or incur other forms of indebtedness to finance the project and to fix and collect tolls for the use of the bridge; these tolls may exceed operating costs.

9.0 Risk and Response Strategies

The purpose of this section is to document significant project risks and response strategies. Project risks include significant threats and opportunities regarding schedule, cost, and funding. These risks should be identified and monitored throughout the entire project delivery process. This includes planning, environmental, design, construction, and operation and maintenance during construction. Risks may also include impacts of potential funding and revenue changes.

At the time of this Initial Financial Plan, a CER or CSRA has been neither conducted nor scheduled for the project. A CER usually identifies project risks related to funding, revenue, and financing, and any additional risks identified by the Project Sponsor. The discussion includes risk descriptions, likelihoods of occurrence, impacts, and responses. Risk response strategies may include mitigation, cost containment, and accepting or transferring risks.

9.1 Project Risks

There are two overall types of risk related to the successful completion of this project: risks that affect the (1) level and timing of funding and (2) project schedule or cost.

Funding for this project is under review at all levels of government—Federal, State, and local. Most of the financial commitments for the project have not been approved, and significant sources of funding have not been finalized. There is also a risk that a national funding crisis would result in Congress rescinding Federal program funds. Table 11 lists high-level assumptions and risks.

Table 11: Major funding assumptions and risks

Funding source	Assumptions	Risks
Federal	The projected outlook for the Highway Trust Fund (HTF), the major source of Federal surface transportation funding, looks stable for now, but the project extends beyond the current authorization (Fixing America’s Surface Transportation [FAST] Act). Future funding is not certain. This is largely due to the decline in motor fuel and other truck-related taxes that support the HTF. The historic levels of Federal transportation funding made available to Alaska previously may not be the same into the future.	The Federal HTF has been experiencing shortfalls in recent years. It is expected that Congress will keep the trust fund solvent beyond the FAST Act, but there is no guarantee. Congress need to agree on a long-term plan for funding surface transportation.
State	State general fund money will be used to match HTF money through the standard Statewide Transportation Improvement Program process.	This will require approval of the Legislature and Governor for future budget appropriations.

9.2 Response Strategies

Project Funding Mitigation Measures

There are several funding (lack of funding) mitigation actions that may be undertaken to deal with funding issues. They are:

- Conservative estimates of future apportionment levels should adequately buffer the project from funding shortages that are a result of reduced future apportionments;
- Revenue increases may be requested in future legislative sessions;
- Alternative sources of funding may be sought for legislative approval; and
- Alternative funding formulas or methodologies may be requested for legislative approval.

Top Project Cost and Schedule Risks

At the time of this Initial Financial Plan, a formal CSRA and analysis had not been performed on this project. However, some risks have been identified, but not quantified, that pose a threat to the cost and schedule of the project:

- Geotechnical
- Environmental permitting
- ROW acquisition
- Utility relocations
- Weather (winter shutdown)
- Impacts to the traveling public
- Delayed decision making
- Change in project delivery method (Design-Build to either Design-Bid-Build or Construction Manager/General Contractor)
- Over-water construction issues
- Contractor access and staging
- Delays in material procurement
- Market conditions
- Contractor non-performance
- Political/Policy changes
- Cash flow restrictions

These risks have not been quantified as to their potential impacts to the cost and schedule of the project. Currently a contingency amount of 20 percent for the roadways and bridges has been included in the cost estimate for the project.

Project Cost and Schedule Mitigation Measures

Mitigation actions that may be undertaken to deal with some of these cost risk items include:

- Prior to or just after the ROD, conduct a CSRA to further identify and quantify the high-risk areas of the project;
- Develop risk response strategies for the risks identified during the CSRA workshop;
- Develop a risk management plan to assist in the ongoing monitoring and control of project risks. Use of a custom project risk management database will ensure timely updating of project risk and response strategies as necessary over each phase of the project's timeline; and
- Conduct a Value Engineering Study for the project after the ROD but prior to the procurement process.

10.0 Annual Update Cycle

Financial Plans must be updated annually (23 USC 106(i)). The submission dates and reporting periods (data “as of” dates) are proposed in this Initial Financial Plan. The Annual Update should be submitted to FHWA no later than 90 days after the end of each reporting period. For major projects with phasing plans (such as proposed for this project), Annual Updates should be submitted each year until the entire project is complete.

The effective date for expenditure information in this Initial Financial Plan is June 30, 2018. The effective date for future annual updates will be June 30 each year. Annual updates will be submitted to FHWA for approval within 90 days of the effective date, or by September 28 each year.

11.0 Summary of Cost Changes Since Last Year's Financial Plan

This document is the Initial Financial Plan and does not address this section. This is a placeholder for future updates. The section will include the following in subsequent plan updates:

A listing of those changes that have reduced or increased the cost of the project and/or funded phase since last year's financial plan should be presented. The discussion should clearly identify the primary reason(s) for the change. The discussion should also include actions taken to monitor and control cost growth. Actions may include conducting an additional CER. Identify any scope changes that have contributed to this change.

12.0 Cost and Funding Trends Since Initial Financial Plan

This document is the Initial Financial Plan and does not address this section. This is a placeholder for future updates. The section will include the following in subsequent plan updates:

This discussion should identify the trends that have impacted project costs and funding since the Initial Financial Plan. Discussion should include the probable reasons for these trends and assess the implications for the remainder of the project.

13.0 Summary of Schedule Changes Since Last Year's Financial Plan

This document is the Initial Financial Plan and does not address this section. This is a placeholder for future updates. The section will include the following in subsequent plan updates:

A listing of those changes that have caused the completion date for the project and/or funded phase to change since the last financial plan should be presented. The discussion should identify clearly the primary reason(s) for the change. The discussion should also include actions taken to monitor and control schedule growth. Identify any scope changes that have contributed to this change.

14.0 Schedule Trends Since Initial Financial Plan

This document is the Initial Financial Plan and does not address this section. This is a placeholder for future updates. The section will include the following in subsequent plan updates:

This discussion should identify the trends that have impacted project schedule since the Initial Financial Plan. Discussion should include the probable reasons for these trends and assess the implications for the remainder of the project.

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