



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Transportation and
Public Facilities

OFFICE OF THE COMMISSIONER
Marc Luiken, Commissioner

3132 Channel Drive
P.O. Box 112500
Juneau, Alaska 99811-2500
Main: 907.465.3900
Fax: 907.586.8365
dot.state.ak.us

February 20, 2015

The Honorable Representative Foster
The Honorable Representative Hughes
Co-Chairs, House Transportation Committee
State Capitol Building Room 434 & 13
Juneau, Alaska 99801

Dear Representative Foster and Representative Hughes:

In response to questions posed by House Transportation Committee members on February 10, 2015, the following information is provided:

- ***Why does the Draft Supplemental EIS Executive Summary table show \$20M for Maintenance and Operation (M&O) for alternative 2B, and the briefing show only \$10M?***

The Draft Supplemental Environmental Impact Statement (EIS) Executive Summary table shows gross costs (expenses only), while the briefing shows net costs (expenses minus revenue).

Estimated Gross Annual State General Fund Expense (M&O) in 2020 by Alternative (in \$)

Alt 1	Alt 1B	Alt 2B	Alt 3	Alt 4A	Alt 4B	Alt 4C	Alt 4D
15.4M	23.8M	20.4M	21.7M	33.7M	32.0M	20.0M	20.8M

These costs include highway routine maintenance and snow removal operations, avalanche control, and the operation and maintenance of the Alaska Marine Highway System (AMHS) in Lynn Canal.

Estimated Net Annual State General Fund Expense (M&O) in 2020 by Alternative (in \$)

Alt 1	Alt 1B	Alt 2B	Alt 3	Alt 4A	Alt 4B	Alt 4C	Alt 4D
7.7M	15.4M	10.0M	9.3M	18.9M	14.9M	10.8M	5.4M

The costs include highway routine maintenance and snow removal operations, avalanche control and, the operation and maintenance of the Alaska Marine Highway System (AMHS) in Lynn Canal minus AMHS revenue in Lynn Canal.

➤ ***What is the cost to replace a mainline ferry and what is its life expectancy?***

\$383M – Columbia
\$391M – Kennicott
\$234M – Matanuska/Malaspina
\$181M – Taku

All mainline ferry replacements have an estimated 50 year life expectancy.

➤ ***How much are the Alaska Class Ferries and are they accounted for in the Draft Supplemental EIS?***

The Alaska Class Ferries (ACF) cost roughly \$60M each. They are programmed improvements part of AMHS and independent of the Juneau Access Project outcome. The ACF are deployed in Lynn Canal for all alternatives except two, where the Fast Ferries are used. The maintenance and operation is accounted for in all alternatives but the cost to purchase the ACF are not included.

➤ ***Can the funds that have been approved for the Juneau Access Project, be used for the ferry system?***

The \$154M Legislative Authority to spend and receive reimbursement from Federal Funding may be redirected to fund other surface transportation projects, including the ferry system. The \$7M federal earmark is dedicated solely to the Juneau Access Project and can only be redirected through an act of congress. The \$48M State General Fund (GF) may be redirected to other projects or returned to the GF account but only through a legislative repeal and/or re-appropriation.

➤ ***If Alternative 1B did not incorporate a 20% reduction in fare, what would be the added costs to the state?***

The 20% reduction in fares increases the State GF subsidy by approximately \$1.1M per year. Reducing fares for Alternative 1B by 20% is estimated to increase the Average Daily Traffic (ADT) from 100 to 115.

➤ *What are the Average Daily Traffic numbers for other parts of the state?*

2010 Corridor Annual Traffic Volumes and Annual ADT

Corridor	Annual Traffic Volume (Vehicles) ¹	Annual Average Daily Traffic
Alaska Highway between Haines and Whitehorse near Champagne	178,500	489
Glacier Highway in Juneau near Tee Harbor	773,100	2,118
Glacier Highway end of road in Echo Cove	49,600	136
Egan Drive in Juneau near McDonalds	8,608,900	23,586
Haines Highway east of Haines Airport	703,700	1,928
North Douglas Highway in Juneau past boat launch	204,800	561
Klondike Highway at Skagway River Bridge	483,600	1,325
Sterling Highway west of Seward Highway Junction ²	1,108,500	3,037
Richardson Highway between Glennallen and Valdez ²	2,244,750	615
Seward Highway south of Sterling Highway Junction ²	844,600	2,314
AMHS Lynn Canal between Juneau and Haines	24,841	68
Glen Hwy – north of Eagle River		Approx. 35,000
Glen Hwy – between Palmer and Glennallen M.P. 181		Approx. 1300

➤ *What are the fuel usage and emissions of ferry service vs. vehicle only usage?*

Estimated Annual Operational Energy Usage

Fuel (thousands of gallons)						
Alternative	Year 2020			Year 2050		
	Ferry ^{2,3}	Vehicle ⁴	Total	Ferry ^{2,3}	Vehicle ⁴	Total
1—No Action	836	6	842	836	6	842
1B	1,293	8	1,301	1,293	8	1,301
2B	1,260	1,020	2,280	1,260	1,008	2,268
3	1,427	749	2,176	1,427	744	2,171
4A	3,632	11	3,643	3,632	11	3,643
4B	2,855	229	3,084	2,855	229	3,084
4C	1,396	7	1,403	1,396	7	1,403
4D	1,568	211	1,779	1,568	211	1,779

¹ All calculations are based on travel between Auke Bay and downtown Haines and the Skagway Ferry Terminals.

² Source: AMHS, 2012; Elliot Bay Design Group, 2013.

³ Ferry fuel use is based on transit times. Fuel use associated with loading/unloading or energy used to operate ferry terminals was not estimated for any of the alternatives. No overhaul time or vessel substitution is factored into the analysis; each ferry option under each alternative is assumed to operate year-round.

⁴ Based on 23.5 miles per gallon (mpg) fleet average for light duty vehicles and projected ADT. Source: USDOT, 2013.

Estimated GHG Emissions by Alternative (2050)

Alternative	GHG Emissions from Vehicles (MTCO ₂ e)	GHG Emissions from Ferries (MTCO ₂ e)	Total GHG Emissions (MTCO ₂ e)
No Action	54	7,457	7,511
1B	71	11,534	11,605
2B	8,991	11,239	20,230
3	6,636	12,729	19,365
4A	98	32,397	32,495
4B	2,043	24,467	26,510
4C	62	12,452	12,514
4D	1,882	13,987	15,869

Notes:

- In addition to CO₂, gasoline contains other GHGs, including methane and nitrous oxide. The ratio of CO₂ emissions to total GHG emissions was assumed to be 0.977, according to EPA guidelines (2009).
- GHG Units: metric tons of carbon dioxide equivalent (MTCO₂e).
- The ADT for each alternative is based on information in the 2014 *Traffic Forecast Report* prepared for the JAI Project (Appendix AA) and incorporated into the energy use calculations in Section 4.7.6.
- The ferry alternatives do not account for vehicles idling on board the ferry because vehicles are assumed to be turned off during transit. Emissions by vehicles idling while waiting at the ferry terminal also are not included.
- Vehicle fuel consumption assumes uniform fleet average efficiency of 23.5 miles per gallon (mpg; Source: USDOT, 2013).
- Annual GHG emissions were calculated by multiplying the quantity of fuel used with each alternative by the amount of GHG produced from the combustion of one gallon of gasoline, which is the equivalent of 8.92×10^{-3} metric tons of CO₂/gallon of gasoline (EPA, 2013).

➤ ***How many road miles and ferry service miles are there in the state?***

There are approximately 5,600 road miles and 3,500 ferry service miles.

➤ ***Provide the cost per lane mile to maintain for both highways and AMHS.***

Cost Per Lane Mile by Region

Region	Cost Per Lane Mile
Central Highways & Aviation	\$9.0
Northern Highways & Aviation	\$6.6
Southcoast Highways & Aviation	\$9.7

AMHS does not have a cost per lane mile. A more appropriate cost would be based on nautical mile.

The cost for each city pair and run varies greatly depending on the vessel running at that time. The cost is based on the system as a whole. In FY2014 our total appropriations (which may be more than the actual expenditures) for AMHS Revenue, GF, and Capital Improvements Program (CIP) Receipts was \$168.6M. In FY2014 the appropriated funding per nautical mile was \$346.55. Keep in mind this is based on distance traveled by the vessels, not vehicle space on the vessels or number of passengers traveling.

➤ *What are the costs of M&O and the revenues received for roads, ferries and aviation?*

FY2014 Transportation Revenues and Expenditures

Revenue Received by Fund	Mode	Category	Revenue	Expense	Difference	GF Appropriated
International Airport Revenue Fund	Aviation	International Airports	\$123,745.4	\$83,659.4	\$40,086.0	\$ -
General Fund	Ferries	Alaska Marine Highway System	\$50,877.0	\$166,022.0	\$(115,145.0)	\$108,890.0
General Fund	Road	Industrial Use Highways	\$49.4	\$49.4	\$ -	\$ -
General Fund	Road	Whittier Access & Tunnel**	\$4,320.6	\$4,724.4	\$(403.8)	\$403.8
General Fund	Rural Aviation	Aviation	\$5,408.2	\$43,649.4	\$(38,241.2)	\$32,286.7
General Fund	Road	Highways-Summary of DOT&PF & State of Alaska Sources of Transportation Revenue	\$92,243.8	\$115,688.6	\$(23,444.8)	\$96,860.2
		Total (less International Airports)	\$152,899.0	\$330,133.8	\$(177,234.8)	\$238,440.7

- Includes operating expenditures only, except where specifically noted.
- Numbers are in thousands.
- **Includes Whittier Capital PJ#51841-Actual FY2014 expenditures & revenue collections are equal.
- Prepared as part of FY2016 Budget Information Request Log #7 & #8 - EDITED FOR LOG #12.

Provided for your reference is the Cost Per User for highway, rural aviation and ferry system modes of transportation.

Cost Per User

System	Number of Primary Users	Net Cost to State	Cost Per User
Highways	677,092	\$23,848,600	\$35
Rural Aviation	205,991	\$38,241,200	\$186
AMHS (Ferries)	106,441	\$115,145,000	\$1,082
All Systems	735,601	\$177,234,800	\$241

➤ *How much more State GF is needed to complete the project?*

Initial¹ Capital Costs (Preliminary Design, Final Design and Construction)
\$Millions in 2012

	Alt. 1	Alt. 1B	Alt. 2B	Alt. 3	Alt. 4A	Alt. 4B	Alt. 4C	Alt. 4D
Final Design and Highway Construction ²	0	0	523	422	0	8	0	8
Total Ferry Vessel Acquisition ⁵	0	0	22	49	187	219	22	22
Ferry Terminal ²	0	0	29	45	41	60	41	60
Total Final Design and Construction Costs²	0	0	574	516	228	287	63	90

¹Initial capital costs are those that occur up to and including the opening of the facility. Subsequent costs are captured in the cost analysis. Due to rounding, numbers may not add up precisely to the total.

² See the *Technical Alignment Report* (Appendix D of the 2005 Supplemental Draft EIS) and *2014 Update to Appendix D - Technical Alignment Report* (in Appendix Z of this Draft SEIS). The No Action Alternative includes improvements that have not been made as of the printing of this Draft SEIS. These improvements are for the AMHS as a whole, are a State action independent of the JAI Project, and will occur regardless of any action that may result from the JAI Project. As such, the costs of these independent actions are not attributed to any JAI Project alternative.

Current planning for funding construction of the Final EIS/Record of Decision preferred alternative is based on a combination of a project-specific congressional earmark, funding from applicable categories in the State's Federal-Aid Highway Program, the required GF match, and previously authorized project specific GF allocations (as opposed to GF match for federal-aid funds).

Total funding available for the project to date (2014) is \$209M. Of this, \$154M is federal funding for construction previously approved by the Alaska Legislature, \$7M is project specific congressional earmark and \$48M is State GF already approved by the legislature. As defined in the Draft Supplemental EIS the \$48M GF is intended to fund construction and not serve as match. However, GF may serve as match.

Recognizing the preferred alternative is being reevaluated, the following shows two examples using the \$48M in GF in different ways for the 2014 Draft Supplemental EIS preferred alternative (Alternative 2B).

Example of the \$48M GF used for construction:

- \$574M Design and Construction Cost
 - o Less - \$48M State GF Intended for Construction
 - o \$523M Federal Funds¹/State Match (.9097/.0903)
 - \$478.5M Federal Funds
 - \$47.5 M State Match²

¹Includes 7M Juneau Access Dedicated Federal Earmark

² The Juneau Access project, like any other named project approved in the DOT&PF's capital budget, does not require specific named legislative authorization for the required state match on federal-aid highway funds. DOT&PF requests state match for federal funds in lump sums, to be used as needed on federal-aid funded projects. The remaining \$47.5M would come from this lump sum amount.

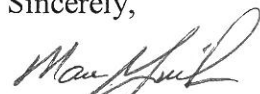
Example of the \$48M GF used for match:

- \$574M Design and Construction Cost
 - o \$574M Federal Funds¹/State Match (.9097/.0903)
 - \$522.2M Federal Funds
 - \$51.8M State Match² (less \$48M requires \$3.8M additional GF)

¹Includes 7M Juneau Access Dedicated Federal Earmark

² The Juneau Access project, like any other named project approved in the DOT&PF's capital budget, does not require specific named legislative authorization for the required state match on federal-aid highway funds. DOT&PF requests state match for federal funds in lump sums, to be used as needed on federal-aid funded projects. The remaining \$3.8M would come from this lump sum amount.

Sincerely,



Marc Luiken
Commissioner