Southeast Alaska Mid-Region Access Operating and Maintenance Cost Technical Memorandum

Prepared for

Federal Highway Administration

Prepared by

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List of Acronyms and Abbreviations

ACV	air-cushion vehicle
B.C.	British Columbia
DOT&PF	Alaska Department of Transportation & Public Facilities
FR	Forest Road (Tongass National Forest)
ITD	Idaho Transportation Department
MDT	Montana Department of Transportation
MRA	mid-region access
O&M	operating and maintenance

EXECUTIVE SUMMARY

This memorandum provides information on operating and maintenance (O&M) cost estimates for mid-region access (MRA) corridors identified in the Southeast Alaska Mid-Region Access Study (MRA Study). O&M cost information was obtained from various maintenance and planning personnel at the Montana Department of Transportation, Idaho Transportation Department, and Alaska Department of Transportation & Public Facilities (DOT&PF) for corridors similar to those in the MRA Study. Internet research, actual DOT&PF cost expenditures, various planning documents for Alaska, and snow and avalanche estimates were used to supplement the information provided by the transportation departments. The O&M cost information was used to develop cost-per-lane-mile estimates.

For yearly O&M cost estimates, a cost per lane-mile was established for each corridor based on terrain, weather patterns, location, and other factors. The cost-per-lane-mile estimates were compared to actual O&M costs for similar roads in other areas. These estimates were also compared to other estimates conducted by DOT&PF. The cost estimates in this memorandum ranged from \$5,750 per lane-mile for flat island areas expected to receive moderate snowfall to \$21,500 per lane-mile for high snowfall mountain passes prone to avalanche and rockslides.

Upfront cost estimates were developed based on assumed vehicle, equipment, and building needs associated with each corridor. Costs for vehicles and buildings were developed based on 2009 Alaska maintenance expenditures and internet research for comparable areas. Table ES-1 summarizes the yearly and upfront O&M cost estimates for each corridor.

		Yea	Yearly Costs		
Corridor	Length (miles)	Total	Cost per Lane- mile	Upfront	
Bradfield Canal	112	\$2,200,000	\$9,786	\$8,380,000	
Stage 1 (Ultimate)	112	\$2,200,000	\$9,786	\$8,380,000	
Stikine River	173	\$2,750,000	\$7,960	\$8,670,000	
Stage 1	71	\$1,280,000	\$9,032	\$2,500,000	
Stage 2	49	\$820,000	\$8,286	\$3,375,000	
Stage 3	22	\$250,000	\$5,798	\$2,505,000	
Stage 4	14	\$170,000	\$5,907	\$290,000	
Stage 5 (Ultimate)	16	\$230,000	\$6,991	\$0	
Aaron Creek Pass	143	\$3,420,000	\$11,947	\$8,505,000	
Stage 1	71	\$1,280,000	\$9,032	\$2,500,000	
Stage 2	55	\$1,930,000	\$17,590	\$3,500,000	
Stage 3	10	\$120,000	\$5,725	\$290,000	
Stage 4 (Ultimate)	7	\$90,000	\$6,494	\$2,215,000	
Aaron Creek Tunnel	143	\$3,500,000	\$12,278	\$8,505,000	
Stage 1	71	\$1,280,000	\$9,032	\$2,500,000	
Stage 2	54	\$2,010,000	\$18,522	\$3,500,000	
Stage 3	10	\$120,000	\$5,725	\$290,000	
Stage 4 (Ultimate)	7	\$90,000	\$6,494	\$2,215,000	

 Table ES-1. MRA Transportation Corridor Cost Estimates

1 INTRODUCTION

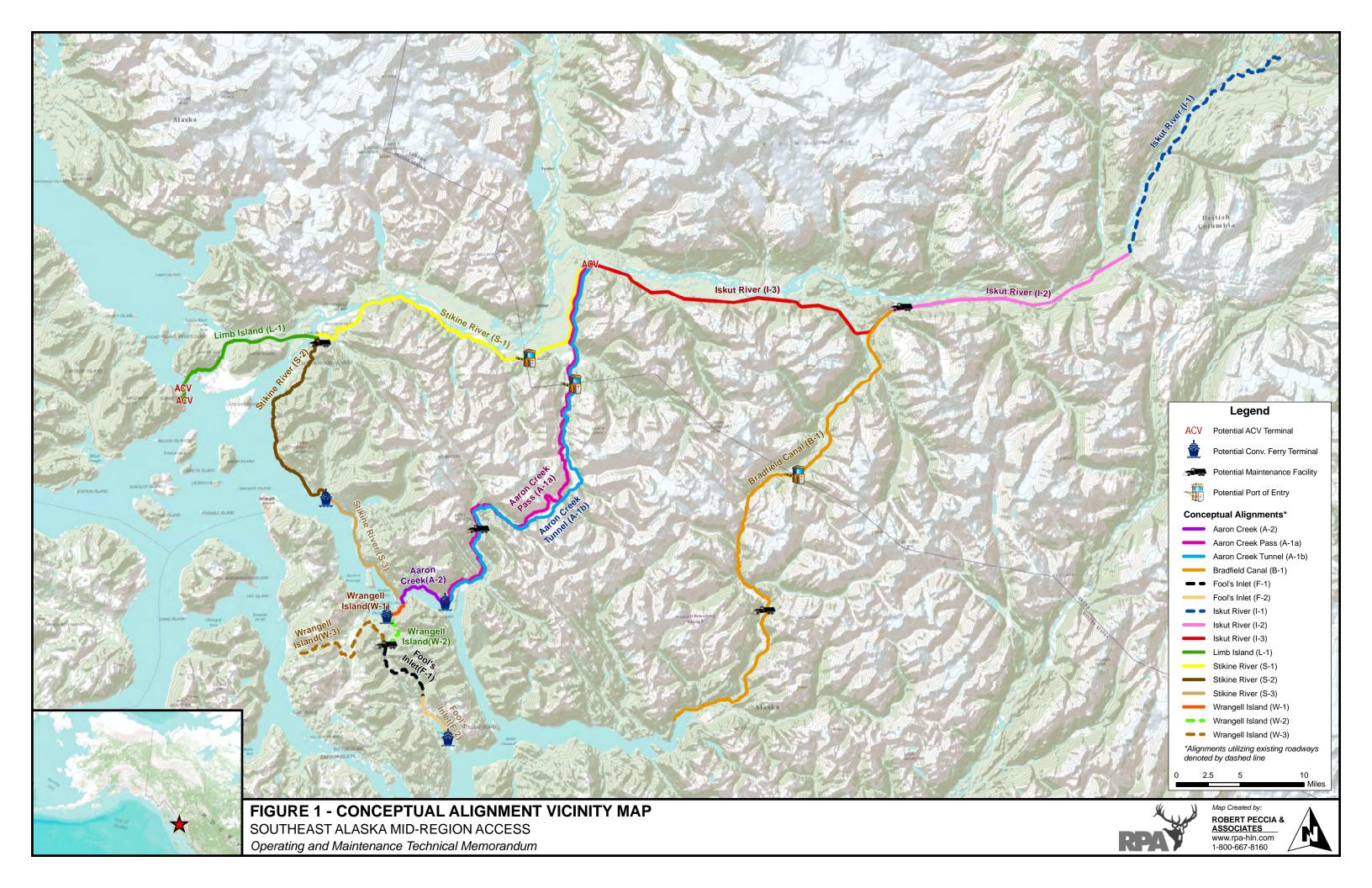
This technical memorandum provides information on operating and maintenance (O&M) cost estimates for mid-region access (MRA) transportation corridors identified in the Southeast Alaska Mid-Region Access Study (MRA Study). The MRA Study evaluates corridors in Southeast Alaska to connect the Cassiar Highway in British Columbia (B.C.), Canada, to Ketchikan, Wrangell, and Petersburg. Currently, these areas are connected only by ferry via Price Rupert, B.C., Haines, and Skagway.

Three potential transportation corridors were identified in the MRA Study: 1) Bradfield Canal, 2) Stikine River, and 3) Aaron Creek. These three corridors ultimately contain a series of alignment options and segments as discussed in Section 3 of this technical memorandum. Figure 1-1 shows these alignment options and individual segments along with the potential facility locations needed under each configuration.

The corridors identified in the MRA Study lie in the Iskut-Stikine area in Southeast Alaska. The lack of existing infrastructure currently limits connection to the area, which is rich in minerals and historically had mining and logging activities.

The alignment cost estimates completed for the Southeast Alaska Mid-Region Access Engineering Technical Memorandum (MRA Engineering Memorandum) did not include yearly O&M activities. As such, a technical memorandum has been developed to identify year-round O&M costs for the identified alignment options. Several local and state agencies were contacted for O&M cost data for similar roads and areas. The data was analyzed and compared to the alignment options. This process, along with resultant O&M cost estimates, is included in this technical memorandum.

1-1



2 METHODOLOGY

Various maintenance and planning personnel were contacted at the Montana Department of Transportation (MDT), Idaho Transportation Department (ITD), and the Alaska Department of Transportation & Public Facilities (DOT&PF). Information on O&M activities for corridors similar to the alignment options from the MRA Study was requested from the transportation departments. This information was used to help estimate per lane-mile O&M costs based on roadway terrain, estimated annual snowfall, location, and other factors. Appendix A contains some of the information provided by the various transportation departments.

Internet research was conducted to supplement the information provided by the transportation departments and to help estimate yearly O&M activity costs and upfront equipment and facility costs. DOT&PF O&M expenditures for 2009 were reviewed to help gauge actual activity and equipment costs for the state of Alaska. In addition, a number of planning documents containing O&M cost estimates in Alaska were reviewed for comparison purposes.

Internet research on historic weather data and existing terrain conditions was used to help estimate annual snowfall rates for the various alignment options. Current and historic gas prices for various Southeast Alaska communities were factored into the O&M cost estimates.

Last, information contained in the Southeast Alaska Mid-Region Access Preliminary Snow Avalanche Assessment Technical Memorandum (Snow Avalanche Technical Memorandum) was used to identify potential avalanche areas to help establish associated O&M costs.

3 ALIGNMENT DESCRIPTIONS

The three potential transportation corridors identified in the MRA Engineering Memorandum were divided into eight conceptual roadway alignments to facilitate design and cost estimating: 1) Bradfield Canal, 2) Stikine River, 3) Aaron Creek Pass, 4) Aaron Creek Tunnel, 5) Iskut River, 6) Limb Island, 7) Fools Inlet, and 8) Wrangell Island. These alignments were further divided into segments to correlate with development stages for each transportation corridor. The alignments and segments are described in detail below. Figure 1-1 shows a vicinity map of the conceptual alignments.

O&M cost estimates were developed for each of these conceptual alignments and their respective segments. This section provides cost estimate information for each alignment and segment. This information, along with the cost estimates, is summarized in the tables in Section 4. All cost data are provided in U.S. dollars.

The Snow Avalanche Technical Memorandum was used to identify potential risk for avalanche along each roadway alignment and to help estimate costs for mitigation, control, and avalanche forecasting.

3.1 Bradfield Canal

The Bradfield Canal Alignment would begin near Bronson Creek in B.C. and would parallel the South Fork of the Craig River southwest to the International Boundary. From the border, the alignment would continue along the Craig River to a pass separating the Craig River and the Bradfield River. This alignment would include an 8,200-foot tunnel built through the pass and into the Bradfield River drainage. The alignment would then follow the North Fork of the Bradfield River to the southwest until it entered the Bradfield Canal tidal flats. After crossing the North Fork, the alignment would traverse the steep slopes of Kapho Mountain before reaching the conceptual Kapho Mountain conventional ferry terminal. This alignment would be approximately 47 miles long and would be completed in one segment.

This alignment generally follows the mountain valley and existing drainage. The alignment experiences a minimal elevation gain (mostly occurring to the north) and would likely receive moderate annual snowfall. There appear to be areas susceptible to avalanche and rockslides that would require additional O&M activities. The Snow Avalanche Technical Memorandum indicated nominal risk for avalanches for the area analyzed. The proposed tunnel would require additional year-round attention. Expected O&M activities related to the tunnel include ventilation, lighting, clearing, and structural inspection.

In addition to yearly O&M costs, upfront costs for buildings and equipment would be needed. Three snowplows, one loader, two pickups, one maintenance facility, one storage facility, two fuel storage facilities, one port of entry building, and one housing facility would likely be needed.

3.2 Stikine River

The Stikine River Alignment would begin at the end of the Iskut River Alignment at the Iskut River air-cushion vehicle (ACV) ferry terminal proposed near the confluence of the Iskut and Stikine Rivers. The alignment would travel west, generally following the Stikine River to the Eastern Passage. The alignment would then head south along the Eastern Passage shoreline to The Narrows. A bridge would take the alignment across the Eastern Passage to Wrangell Island and the Wrangell Island Alignment. The entire alignment would be approximately 61 miles long.

The alignment would generally follow the Stikine River through variable terrain while experiencing minor changes in elevation. This area would likely receive moderate levels of annual snowfall. The Snow Avalanche Technical Memorandum revealed approximately 70 avalanche-prone areas, most of which were in the low to moderate risk range.

In addition to yearly O&M costs, upfront costs for buildings and equipment would be needed. Three snowplows, one loader, two pickups, one maintenance facility, one storage facility, two fuel storage facilities, one port of entry facility, and one housing facility would likely be needed. Due to the location and short length of this alignment, maintenance activities would likely be shared with the Limb Island alignment option. The associated maintenance buildings for these two options are included in this alignment.

The Stikine River Alignment is divided into three segments due to the staged development of the corridors. A brief description of each individual segment is provided below.

3.2.1 Segment S-1

The northeastern segment (S-1) refers to the section along the Stikine River between the Iskut River ACV ferry terminal and Andrew Creek. This section would be approximately 32 miles long and would end at the potential starting location for the Limb Island Alignment. The section would follow the Stikine River through generally rugged terrain.

3.2.2 Segment S-2

The central section (S-2) would travel generally along the Eastern Passage coast between Andrew Creek and the Crittenden Creek conventional ferry terminal. This segment would be approximately 18 miles long and would traverse fairly rugged terrain.

3.2.3 Segment S-3

The southern section (S-3) would generally follow the Eastern Passage shoreline between the Crittenden Creek ferry terminal and The Narrows. A bridge would be needed to cross the Eastern Passage to connect to Wrangell Island. This segment would be 12 miles long and would traverse fairly flat terrain.

3.3 Aaron Creek

The Aaron Creek Alignment would begin at the Iskut River ACV ferry terminal proposed near the confluence of the Iskut and Stikine Rivers. From the ACV terminal, the alignment would follow the West Fork of the Katete River south to the West Fork Pass. Once beyond the pass, the alignment would travel southwest to Aaron Creek, continuing on to the Aaron Creek delta and Blake Channel. The alignment would parallel Blake Channel to the conceptual Berg Bay conventional ferry terminal. From the terminal, the alignment would follow Blake Channel to The Narrows and would then cross the Narrows to connect with the Wrangell Island Alignment. The entire alignment would be approximately 45 miles long.

This alignment would traverse an area with steep terrain and high annual snowfall. The terrain is likely prone to areas with high avalanche and rockslide risk and would require extensive O&M activities to allow for year-round travel. The Snow Avalanche Technical Memorandum identified 76 avalanche-prone areas and indicated that the risk is high. The Snow Avalanche Technical Memorandum stated that it would be very expensive to keep this alignment open year-round and suggested the alignment be closed between approximately November 1 and May 1.

In addition to yearly O&M costs, there would be upfront costs for buildings and equipment. Four snowplows, one loader, two pickups, one maintenance facility, one storage facility, two fuel storage facilities, one port of entry building, and one housing facility would likely be needed.

The Aaron Creek Alignment is divided into two segments and includes two options for the West Fork Pass. A brief description of each individual segment and option is provided below.

3.3.1 Segment A-1a (Pass)

Under the Aaron Creek Pass option, this segment would connect the Iskut River ACV ferry terminal and the Berg Bay conventional ferry terminal by traversing the West Fork Pass. This option would traverse difficult terrain and would be expected to receive high levels of snowfall. In addition, multiple potential avalanche and rockslide areas would increase expected maintenance activities. It would likely be difficult to keep this alignment open year-round without significant maintenance activities. This segment would be approximately 41 miles long.

3.3.2 Segment A-1b (Tunnel)

Under the Aaron Creek Tunnel option, this segment would connect the Iskut River ACV ferry terminal and the Berg Bay conventional ferry terminal via a 7,400-foot tunnel through the West Fork Pass. As with Segment A-1a, this alignment would traverse steep terrain susceptible to high levels of snowfall and areas with potential for avalanches and rockslides. Yearly activities to maintain the proposed tunnel would also be needed under this option. Expected O&M activities related to the tunnel include ventilation, lighting, clearing, and structural inspection. This segment would be approximately 40 miles long.

3.3.3 Segment A-2

This segment would be constructed between the Berg Bay conventional ferry terminal and The Narrows. A large bridge would be needed to cross the Narrows to connect to Wrangell Island. This segment would be approximately 5 miles long and would follow the coastline along relatively flat terrain.

3.4 Iskut River

The Iskut River Alignment would begin at the Cassiar Highway near Bob Quinn Lake. The alignment would travel southwest generally following the Iskut River and would connect to the Iskut River ACV ferry terminal proposed near the confluence of the Iskut and Stikine Rivers. At its end, the Iskut River Alignment would encounter the beginning of the Stikine River and Aaron Creek Alignments. The entire Iskut River Alignment lies in B.C., and would be approximately 70 miles long.

This alignment would generally follow the Iskut River through variable terrain and would experience a moderate elevation gain. The area would likely receive fairly high levels of annual snowfall. In addition, there are areas that could be at least moderately affected by avalanche and rockslide activities; however, these activities would probably be neither frequent nor severe. The Snow Avalanche Technical Memorandum indicated approximately 51 avalanche prone areas, most of which were in the low to moderate risk range.

In addition to yearly O&M costs, upfront costs for buildings and equipment would be needed. Four snowplows, one loader, two pickups, one maintenance facility, one storage facility, two fuel storage facilities, and one housing facility would likely be needed.

The Iskut River Alignment is divided into three segments due to the staged development of the corridors. A brief description of each individual segment is provided below.

3.4.1 Segment I-1

The eastern segment (I-1) would follow the Eskay Creek Mine Road along the Iskut River for approximately 23 miles, ending near Forest Kerr Creek. This area has variable terrain conditions and experiences moderate elevation gains.

3.4.2 Segment I-2

The central segment (I-2) refers to the section from Forest Kerr Creek to near Bronson Creek. This segment would end at the potential starting location for the Bradfield Canal Alignment. The alignment would traverse generally rugged terrain and experiences considerable elevation gain. This segment would be approximately 20 miles long.

3.4.3 Segment I-3

The western segment (I-3) refers to the section between Bronson Creek and the proposed Iskut River ACV ferry terminal. This segment would end at the potential starting location for the Stikine River and Aaron Creek Alignments. This area has generally rugged terrain conditions and experiences moderate elevation gains. This segment would be approximately 26 miles long.

3.5 Limb Island

The Limb Island Alignment would start along the south side of the Stikine River near Andrew Creek. The alignment would travel west and would traverse Limb Island, Farm Island, and Dry Island to the end of the Mitkof Highway on Mitkof Island. Ultimately, this alignment would connect Mitkof Island and the community of Petersburg with the Stikine River Alignment. This alignment would be approximately 14 miles long and would be completed in one segment.

This alignment option would be relatively flat and low in elevation. The alignment would generally follow existing water features and would likely receive moderate annual snowfall. The area does not appear to be very prone to avalanche or rockslides. The Snow Avalanche Technical Memorandum indicated nominal risk for avalanches.

In addition to yearly O&M costs, upfront costs for equipment would be needed. Two snowplows and one pickup would likely be needed. Due to the location and short length of this alignment, maintenance activities would likely be shared with the Stikine River Alignment. As such, upfront costs for maintenance buildings were included with the Stikine River Alignment.

3.6 Fools Inlet

The Fools Inlet Alignment would begin at the intersection of Tongass National Forest Roads (FR) 6270 and 6265. The alignment would follow FR 6270 southeast to Fools Inlet. The alignment would then parallel the southeast shoreline of Fools Inlet to the potential Fools Inlet conventional ferry terminal site. The entire alignment would be approximately 10 miles long.

This alignment option would be relatively flat and low in elevation. The area would probably receive moderate annual snowfall. The area does not appear to be particularly prone to avalanche or rockslides. The Snow Avalanche Technical Memorandum indicated nominal risk for avalanches.

In addition to yearly O&M costs, upfront costs for equipment would be needed. Two snowplows and one pickup would likely be needed. Due to the location and short length of this alignment, maintenance activities would probably be shared with the Wrangell Island Alignment option. As such, upfront costs for maintenance buildings were included with the Wrangell Island Alignment.

The Fools Inlet Alignment is divided into two segments due to the staged development of the corridors. A brief description of each individual segment is provided below.

3.6.1 Segment F-1

The northern section of this alignment would begin at the intersection of FRs 6265 and 6270. The alignment would follow FR 6270 to the southeast and would be approximately 6 miles long. The terrain along this alignment is generally flat.

3.6.2 Segment F-2

The southern section of this alignment would begin approximately 1 mile from Fools Inlet at FR 6270 and would travel south paralleling the southeast shoreline. This segment would ultimately end at the potential Fools Inlet conventional ferry terminal. The terrain along this alignment is generally flat.

3.7 Wrangell Island

The Wrangell Island Alignment would begin on the southeast side of The Narrows and would connect the community of Wrangell to The Narrows. The alignment would ultimately connect the island to either the Stikine River or the Aaron Creek Corridor. The total length of the alignment would be approximately 16 miles long.

This alignment would consist of varying terrain and would follow both coastline and mountain valleys. This area would likely receive moderate levels of annual snowfall. There is minimal

elevation gain along this corridor. No areas appear likely to be significantly impacted by avalanches or rockslides. The Snow Avalanche Technical Memorandum found nominal risk for avalanches.

In addition to yearly O&M costs, upfront costs for buildings and equipment would be needed. Two snowplows, one loader, two pickups, one maintenance facility, one storage facility, one fuel storage facility, and one housing facility would likely be needed. Due to the location and short length of this alignment, maintenance activities would probably be shared with the Fools Inlet alignment option. The associated maintenance buildings for these two options were included in this alignment.

The Wrangell Island Alignment would be divided into three segments due to the staged development of the corridors. A brief description of each individual segment is provided below.

3.7.1 Segment W-1

The northern section of the alignment would begin on the southeast side of The Narrows and would follow the Eastern Passage shoreline through generally rugged terrain southwest to the proposed conventional ferry terminal at the existing Log Transfer Station. This segment would be new construction, and it would be approximately 2 miles long.

3.7.2 Segment W-2

The central section of the alignment would begin at the existing Log Transfer Station and would follow existing FR 6265 west across Wrangell Island to the intersection with FR 6270 at the Fools Inlet Alignment starting point. This segment would be approximately 3 miles long and would traverse generally rugged terrain.

3.7.3 Segment W-3

The southwestern section of the alignment would begin at the intersection of FRs 6270 and 6265 and would follow FR 6265 to the intersection with the Zimovia Highway. This segment would be approximately 11 miles long and would follow fairly flat terrain.

4 SUMMARY AND CONCLUSIONS

Information from various state transportation departments and internet research was used to develop upfront and yearly O&M cost estimates for alignment options contained in the MRA Study. For yearly O&M cost estimates, a cost per lane-mile was established for each corridor based on terrain, weather patterns, location, and other factors. The estimates were compared to actual O&M costs for similar roads in other areas. These estimates were also compared to other estimates conducted by DOT&PF. The cost estimates ranged from \$5,750 per lane-mile for flat island areas expected to receive moderate snowfall to \$21,500 per lane-mile for high snowfall mountain passes prone to avalanche and rockslides.

The Snow Avalanche Technical Memorandum identified road realignment, forecasting and control, structural protection, and winter road closures as potential avalanche mitigation options. Potential forecasting and control programs are estimated to cost \$350,000 to \$400,000 per year, while structural protection could cost between \$10,000 and \$20,000 per yard of exposure.

Upfront cost estimates were developed based on assumed vehicle, equipment, and building needs associated with each corridor. Costs for vehicles and buildings were developed based on 2009 state of Alaska maintenance expenditures and internet research for comparable areas. Table 4-1 summarizes the yearly and upfront O&M cost estimates for each corridor. Table 4-2 summarizes yearly O&M cost estimates for each individual segment, Table 4-3 summarizes upfront cost estimates for each alignment option, and Table 4-4 provides a research summary of O&M cost estimates from various sources.

		Yea	Yearly Costs		
Corridor	Length (miles)	Total	Cost per Lane- mile	Upfront	
Bradfield Canal	112	\$2,200,000	\$9,786	\$8,380,000	
Stage 1 (Ultimate)	112	\$2,200,000	\$9,786	\$8,380,000	
Stikine River	173	\$2,750,000	\$7,960	\$8,670,000	
Stage 1	71	\$1,280,000	\$9,032	\$2,500,000	
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Stage 4	14	\$170,000	\$5,907	\$290,000	
Stage 5 (Ultimate)	16	\$230,000	\$6,991	\$0	
Aaron Creek Pass	143	\$3,420,000	\$11,947	\$8,505,000	
Stage 1	71	\$1,280,000	\$9,032	\$2,500,000	
Stage 2	55	\$1,930,000	\$17,590	\$3,500,000	
Stage 3	10	\$120,000	\$5,725	\$290,000	
Stage 4 (Ultimate)	7	\$90,000	\$6,494	\$2,215,000	
Aaron Creek Tunnel	143	\$3,500,000	\$12,278	\$8,505,000	
Stage 1	71	\$1,280,000	\$9,032	\$2,500,000	
Stage 2	54	\$2,010,000	\$18,522	\$3,500,000	
Stage 3	10	\$120,000	\$5,725	\$290,000	
Stage 4 (Ultimate)	7	\$90,000	\$6,494	\$2,215,000	

Table 4-1. MRA Transportation Corridor Cost Estimates

	Maintenance Cost per Lane-mile						Total				
ID	Location	Length (miles)	Terrain	General	Culvert and Ditch	Building, Vehicle and Equipment	Winter	Mgmt.	Tunnel - Lump Sum Cost	Cost per Lane- mile	TOTAL
Bradfield Canal	Total	46	Mtn. Valley	\$3,000	\$1,000	\$1,500	\$5,000	\$750	\$125,000	\$12,596	\$1,170,000
Stikine River	Total	61	-	\$2,514	\$703	\$1,000	\$2,906	\$703	\$0	\$7,825	\$950,000
S-1	Northeast	32	Rugged Coastal	\$2,750	\$750	\$1,000	\$3,000	\$750		\$8,250	\$530,000
S-2	Central	18	Rugged Coastal	\$2,750	\$750	\$1,000	\$3,000	\$750		\$8,250	\$290,000
S-3	South	12	Flat Coastal	\$1,500	\$500	\$1,000	\$2,500	\$500		\$6,000	\$140,000
Aaron Creek Pass	Total	46	-	\$6,817	\$943	\$1,886	\$9,147	\$943	\$0	\$19,736	\$1,810,000
A-1a	Pass	41	Mtn. Pass	\$7,500	\$1,000	\$2,000	\$10,000	\$1,000		\$21,500	\$1,740,000
A-2	South	5	Flat Coastal	\$1,500	\$500	\$1,000	\$2,500	\$500		\$6,000	\$60,000
Aaron Creek Tunnel	Total	45	-	\$6,808	\$942	\$1,885	\$9,135	\$942	\$100,000	\$20,819	\$1,880,000
A-1b	Tunnel	40	Mtn. Pass	\$7,500	\$1,000	\$2,000	\$10,000	\$1,000	\$100,000	\$22,751	\$1,820,000
A-2	South	5	Flat Coastal	\$1,500	\$500	\$1,000	\$2,500	\$500		\$6,000	\$60,000
Iskut River	Total	71	-	\$2,830	\$750	\$1,165	\$3,495	\$750	\$0	\$8,990	\$1,270,000
I-1	East	24	Variable Inland	\$2,500	\$750	\$1,000	\$3,000	\$750		\$8,000	\$390,000
I-2	Central	20	Rugged Inland	\$3,000	\$750	\$1,250	\$3,750	\$750		\$9,500	\$390,000
I-3	West	26	Rugged Inland	\$3,000	\$750	\$1,250	\$3,750	\$750		\$9,500	\$500,000
Limb Island	Total	14	Flat Coastal	\$1,500	\$500	\$1,000	\$2,500	\$500	\$0	\$6,000	\$170,000
Fools Inlet	Total	10	-	\$1,500	\$500	\$750	\$2,500	\$500	\$0	\$5,750	\$120,000
F-1	North	6	Flat Island	\$1,500	\$500	\$750	\$2,500	\$500		\$5,750	\$70,000
F-2	South	4	Flat Island	\$1,500	\$500	\$750	\$2,500	\$500	1	\$5,750	\$50,000
Wrangell Island	Total	16	-	\$1,884	\$577	\$827	\$2,754	\$577	\$0	\$6,619	\$210,000
W-1	North	2	Rugged Coastal	\$2,750	\$750	\$1,000	\$3,000	\$750		\$8,250	\$30,000
W-2	Central	3	Rugged Inland	\$2,750	\$750	\$1,000	\$3,500	\$750		\$8,750	\$60,000
W-3	Southwest	11	Flat Island	\$1,500	\$500	\$750	\$2,500	\$500		\$5,750	\$130,000

			Vehicles							
ID	Length (miles)	Snowplow \$125,000	Loader \$100,000	Pickup \$40,000	Maintenance \$1,000,000	Storage \$250,000	Fuel Storage \$35,000	Port of Entry \$1,000,000	Housing \$500,000	TOTAL
Bradfield Canal	47	3	1	2	1	1	2	1	1	\$3,375,000
Stikine River	61	3	1	2	1	1	2	1	1	\$3,375,000
Aaron Creek Pass	46	4	1	2	1	1	2	1	1	\$3,500,000
Aaron Creek Tunnel	45	4	1	2	1	1	2	1	1	\$3,500,000
Iskut River	71	4	1	2	1	1	2	0	1	\$2,500,000
Limb Island	14	2	0	1	0	0	0	0	0	\$290,000
Fools Inlet	10	2	0	1	0	0	0	0	0	\$290,000
Wrangell Island	16	2	1	2	1	1	1	0	1	\$2,215,000

Table 4-3. Upfront Vehicle and Building Cost Estimates

Source	Location	Cost (lane-mile)	Context	Comments
Greg Patz - Maintenance &	General	\$4,500	Flat Coastal	
Operations Super (Southeast Alaska)	General	\$16,000	Mountain Pass	
Alaska Statewide Transportation Plan	Naknek Crossing	\$7,500	Rugged Coastal	2005 Estimates
Southeast Alaska Transportation Plan (2004)	Stikine Highway (Dry Straits & Stikine River Crossing)	\$6,000	Rugged Coastal	Appendix B of the Plan. 2003 Estimates
	Stikine Highway (Eastern Passage Narrows Bridge to Border)	\$4,100	Flat Coastal / Inland	
	Eastern Passage Highway to Narrows Bridge	\$4,100	Flat Coastal	
	Eastern Passage Highway: Narrows Bridge to Bradfield Road Junction	\$4,100	Flat Coastal	
	Bradfield Road: Bradfield Road Junction to Canada Boarder	\$5,000	Mountain Pass	
Southeast Alaska Transportation Plan (2004)	Juneau Access - Lynn Canal Highway (Juneau - Skagway)	\$11,029	Rugged Coastal	Chapter VI in the Plan.
	Revillagigedo Highway	\$4,612	Rugged Coastal	
	Baranof Highway	\$8,867	Rugged Coastal	
	Coffman Cove	\$3,600	Flat Coastal	
Bradfield / Iskut	US Road	\$10,714	Mountain Pass	2004 Estimates
Transportation Corridor Economic Assessment (2005)	Canadian Road	\$5,882	Flat Inland	
Jon Swartz - MDT Maintenance Administrator	Lolo Pass	\$7,500	Mountain Pass	Provided spreadsheet breaking out costs by task. See Appendix A.
Andy Hughes - Alaska DOT&PF Regional Planning Chief	General	\$5,000 - \$10,000	Rural Area	Dependent on snowfall, etc. Provided maintenance station summaries for FY 2008. See Appendix A.
Steve Spoor and Doral Hoff - ITD Maintenance Services Managers	General	N/A	N/A	No information available due to the shutdown of the Maintenance Management System.

 Table 4-4. O&M Cost Estimate Research Summary

5 **REFERENCES**

- Golder Associates Ltd. (2011). "Southeast Alaska Mid-Region Access Preliminary Snow Avalanche Assessment Technical Memorandum."
- Robert Peccia and Associates, Inc. (2011). "Southeast Alaska Mid-Region Access Engineering Technical Memorandum."

APPENDIX A

Transportation Department Provided Data

Activity Number	-		Cost	Cost per Lane-Mile		
GENERAL R	DAD	\$	161,769.42	\$	2,484.94	
1101	Hand Patching	\$	6,894.60		105.91	
1105	Rut Filling	\$	83,713.00	\$	1,285.91	
1112	Milling	\$	1,420.89	\$	21.83	
1201	Sweeping Pavements	\$	2,707.96	\$	41.60	
1203	Debris Removal	\$	9,406.75	\$	144.50	
4111	Bridge Structure Cleaning	\$	220.84	\$	3.39	
6101	Sign Maintenance and Cleaning	\$	619.54	\$	9.52	
6102	Single Post Sign Installation	\$	1,413.97	\$	21.72	
6103	Multiple Post Sign Installation	\$	1,953.67	\$	30.01	
6105	Delineators	\$	4,636.75	\$	71.23	
6106	Guardrail Repair	\$	9,853.72	\$	151.36	
6110	Traffic Signal and Flashing Light Maintenance	\$	2,372.63	\$	36.45	
6201	Pavement Striping	\$	19,434.45		298.53	
6202	Pavement Markings - Symbols	\$	1,263.52		19.41	
6203	Routine Roadway Inspection	\$	14,977.98	\$	230.08	
6204	Sign, Guard Rail, Luminaire Standard Preventive Maintenance	\$	352.51	\$	5.41	
6205	Extraordinary Traffic Control	\$	526.64	\$	8.09	
0205		φ	520.04	φ	0.09	
CULVERT AN	ND DITCH	\$	30,971.05	\$	475.75	
2201	Mowing	\$	6,287.75	\$	96.59	
2202	Vegetation Management	\$	2,989.66	\$	45.92	
2204	Chemical Spaying of Noxious Weeds	\$	2,261.10	\$	34.73	
2205	Litter Pickup	\$	1,475.14	\$	22.66	
3101	Cleaning Drainage Structures	\$	1,428.46	\$	21.94	
3102	Repairing Drainage Structures	\$	3,318.89	\$	50.98	
3106	Cleaning and Shaping Ditches	\$	13,210.05	\$	202.92	
	THICLE AND FOUDMENT	\$	19 607 69	\$	746.66	
5201	EHICLE AND EQUIPMENT Yard, Building and Storage Maintenance	թ \$	48,607.68 26,975.33	ֆ \$	414.37	
5201	Rest Area Maintenance			.թ \$	414.37	
9401	Equipment Maintenance	\$ \$	1,150.46 20,481.89	.թ \$	314.62	
9401	Equipment Maintenance	φ	20,481.89	Φ	514.02	
WINTER		\$	222,750.93	\$	3,421.67	
7201	Winter Roadway Inspection	\$	33,579.18	\$	515.81	
7202	Snow Removal	\$	485.50	\$	7.46	
7205	Plowing, Sanding, Dei-Icing	\$	165,178.35	\$	2,537.30	
7206	Winter Storm Watch	\$	9,157.54	\$	140.67	
8406	Hauling Maintenance Supplies	\$	11,208.67	\$	172.18	
8408	Stockpiling Materials	\$	3,141.69	\$	48.26	
	NT	¢	25 010 42	¢	206.61	
MANAGEME 9402	Planning, Scheduling, Supervising	\$ \$	25,819.42 1,281.54	\$ \$	396.61 19.69	
	Employee Training	\$ \$	2,089.95			
9403 0405	Approved Absence - Leave	ծ \$		\$ ¢	32.10	
9405	Approved Absence - Leave	Ф	22,447.93	\$	344.82	
TOTAL		\$	489,918.50	\$	7,525.63	
IOIND						

FY 2009 MDT MAINTENANCE COSTS - LOLO PASS SECTION

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 ALL STATIONS

SUMMARY								
	Lane	Cost	Cost/Lane					
Highways	1327.9	9,741,972	\$7,336.37					
Airports	352.3	2,357,801	\$6,692.02					
Total	1680.2	\$12,099,773						
Management		1,205,489						
Grand Total		\$13,305,262	\$7,918.71					

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 25.1 31.7

HIGHWAY COSTS									
Personnel	Travel	Contracts	Supplies	Capital	Total				
2,811,692	20,229	3,521,044	3,389,007	0	\$9,741,972				

AIRPORT COSTS										
Personnel	Travel	Contracts	Supplies	Capital	Total					
1,540,937	50,193	342,760	423,911	0	\$2,357,801					

MANAGEMENT COSTS										
Personnel	Travel	Contracts	Supplies	Capital	Total					
894,961	22,125	233,911	54,492	0	\$1,205,489					

HIGHWAY LANE MILES										
Category I Category I					Category III		Total Lane			
Gvl	Gvl Pvd Total Gvl Pvd Total Gvl Pvd Total									
55.9	573.6	629.5	188.7	348.9	537.6	56.0	104.8	160.8	1327.9	

	AIRPORT LANE MILES										
Non-	Certified			Certified	Contract Costs	Total Lane					
Gvl	Pvd	Total	Gvl	Pvd							
0	76	75.82	277	0	276.51	\$-	352.3				

	STATE EQUIPMENT FLEET VEHICLES											
Trucks	Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other Total Eq											
40	40 41 16 30 26 35 90 58 336											

	FACILITIES		BRIDGES	HARBORS		PERS	SONNEL	
Туре	Type # Sq. Ft. 0			0	D Allocated Filled			b
Office/Shop	18	157874			PFT	PPT/S	PFT	PPT/S
Warehouse	9	19122			51	6	50	6
Equipment	10	75810			0	0	0	0

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS

FY08

ANGOON

(CONTRACTED)

	SUMM/	AR'	Y		
	Lane		Cost	Cost/Lane	
Highways	7.5	\$	32,002	\$	4,267
Airports	0.0	\$	1,679		
Total	7.5	\$	33,681	\$	4,491
Management		\$	-		
Grand Total		\$	33,681	\$	4,491

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator

	HIGHWAY COSTS											
Per	sonnel	Trav	el	Сс	ontracts	S	upplies		Capital			Total
\$ 321 \$ - \$ 14,661 \$ 17,020 \$ - \$ 32 ,								32,002				

	AIRPORT COSTS										
Personnel	Travel	Contracts	Supplies	Capital	Total						
\$-	\$ - \$ - \$ 1,629 \$ 50 \$ - \$ 1,679										

	MANAGEMENT COSTS										
Personnel	Travel	Contracts	Supplies	Capital	Total						
\$-	\$ - \$ - \$ - \$ - \$ - \$ -										

	HIGHWAY LANE MILES										
C	Category I			Category	II	Ca	Total				
Gvl	Pvd	Total	Gvl Pvd Total Gvl Pvd Tota								
7.5	0	7.5	0	0	0	0	0	0	7.5		

AIRPORT LANE MILES										
Non-Ce	rtified	Cer	Contract Costs	Total Lane						
Gvl	Pvd	Gvl	Pvd							
				\$-	0.00					

	STATE EQUIPMENT FLEET VEHICLES										
Trucks	Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other Total Eq										
0	0	0	0	0	0	0	0	0			

FA	CILITIES		BRIDGES	HARBORS	PERSONNEL					
Туре	#	Sq. Ft.	0	0	Alloca	ated	Filled	t k		
Office/Shop					PFT	PPT/S	PFT	PPT/S		
Warehouse										
Equipment										

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 GUSTAVUS

SUMMARY										
Lane Cost Cost/Lane										
Highways	17.6	\$ 155,584	\$	8,840						
Airports	42.7	\$ 121,834	\$	2,854						
Total	60.3	\$ 277,419	\$	4,601						
Management		\$ 33,165								
Grand Total		\$ 310,584	\$	5,151						

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 11.7 40.2

	HIGHWAY COSTS											
Pe	Personnel Travel Contracts Supplies Capital Total											
\$	45,678	\$	102	\$	87,001	\$	22,803	\$	-		\$	155,584

	AIRPORT COSTS										
Pe	Personnel Travel Contracts Supplies Capital Total										
\$	87,627	\$ 5,703	\$	23,717	\$	4,787	\$		-	\$	121,834

MANAGEMENT COSTS										
Personnel Travel Contracts Supplies Capital Total								Total		
\$	25,306	\$ 1,278	\$	5,569	\$	1,013	\$	-	\$	33,165

	HIGHWAY LANE MILES										
Category I Category II						Category III			Total		
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total			
0	6.4	6.4	0	0	0	11.2	0	11.2	17.6		

AIRPORT LANE MILES									
Non-Ce	Non-Certified Certified Contract Costs Total Lane								
Gvl	Pvd	Gvl	Pvd						
		0	42.69	\$-	42.69				

STATE EQUIPMENT FLEET VEHICLES											
Trucks	Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other Total Eq										
1	1	1	2	1	2	3	3	14			

FA	CILITIES		BRIDGES	HARBORS	PERSONNEL						
Туре	#	Sq. Ft.	0	0	Allocated		Filled				
Office/Shop	1	2,800			PFT	PPT/S	PFT	PPT/S			
Warehouse	1	700			1	1	1	1			
Equipment	2	8,100									

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08

HAINES

	SUMMARY										
	Lane	Cost	Cost/Lane								
Highways	165.6	\$ 794,124	\$ 4,795								
Airports	22.4	\$ 19,194	\$ 859								
Total	188.0	\$ 813,318	\$ 4,327								
Management		\$ 25,590									
Grand Total		\$ 838,908	\$ 4,463								

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 36.8

41.8

HIGHWAY COSTS									
Personnel	Travel	Contracts	Supplies		Capital			Total	
\$295,446	\$3,713	\$259,651	\$ 235,315	\$	-		\$	794,124	

AIRPORT COSTS									
Personnel Travel Contracts Supplies Capital Total									
\$ 11,412	\$1,036	\$ 2,972	\$ 3,774	\$-	\$ 19,194				

MANAGEMENT COSTS													
Personnel	Travel	Contracts	Supplies	Capital		Total							
\$ 15,546 \$3,347		\$ 5,696	\$ 1,002	\$-	\$	25,590							

	HIGHWAY LANE MILES											
C	ategory I			Category	11	Ca	Total					
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total				
0	96.2	96.2	0	27.7	27.7	10.7	31	41.7	165.6			

AIRPORT LANE MILES												
Non-Ce	rtified	Cer	tified	Contract Costs	Total Lane							
Gvl	Pvd	Gvl	Pvd									
0	22.35	0	0	\$-	22.35							

	STATE EQUIPMENT FLEET VEHICLES											
Trucks	Dumps	Graders	Snowplows	Attachments	Other	Total Eq						
4	4	1	2	2	3	7	4	27				

FA	CILITIES		BRIDGES	HARBORS	PERSONNEL				
Туре	ype # Sq. Ft.		0	0	Allocated		Filled		
Office/Shop	1	6,400			PFT	PPT/S	PFT	PPT/S	
Warehouse					4	1	4	1	
Equipment	2	14,200							

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 HOONAH

	SUMMARY											
Lane Cost Cost/Lane												
Highways	5.9	\$ 140,196	\$	23,762								
Airports	13.8	\$ 89,495	\$	6,509								
Total	19.7	\$ 229,691	\$	11,689								
Management		\$ 12,708										
Grand Total		\$ 242,399	\$	12,336								

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 3.9 13.1

	HIGHWAY COSTS												
Personnel Travel				Contracts		Supplies		Capital		Total			
\$ 65,386		\$-	\$	49,565	\$	25,245	\$	-	\$	140,196			

	AIRPORT COSTS												
Pe	ersonnel	Travel	Сс	ontracts	S	upplies		Capital		Total			
\$ 49,032		\$-	\$	6,499	\$	33,965	\$	-	\$	89,495			

MANAGEMENT COSTS												
Personnel Travel			avel	Сс	ontracts	Supplies		Capital			Total	
\$ 2,823 \$		-	\$	9,854	\$	30	\$	-	9	5	12,708	

	HIGHWAY LANE MILES											
C	ategory I			Category	11	Ca	Total					
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total				
0	5.9	5.9	0	0	0	0	0	0	5.9			

AIRPORT LANE MILES											
Non-Ce	rtified	Cer	tified	Contract Costs	Total Lane						
Gvl	Pvd	Gvl	Pvd								
	13.75	0	0	\$-	13.75						

	STATE EQUIPMENT FLEET VEHICLES											
Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other												
2	2	1	2	1	2	4	2	16				

FA	CILITIES		BRIDGES	HARBORS	PERSONNEL			
Туре	#	Sq. Ft.	0	0	0 Allocated		Filled	
Office/Shop	1	336			PFT	PPT/S	PFT	PPT/S
Warehouse					1	1	1	1
Equipment								

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS

FY08 HYDER

(CONTRACTED)

	SUMMARY									
	Lane		Cost	Cost/Lane						
Highways	24.4	\$	72,913	\$	2,988					
Airports	0.0	\$	-		#DIV/0!					
Total	24.4	\$	72,913	\$	2,988					
Management		\$	-							
Grand Total		\$	72,913	\$	2,988					

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator #DIV/0! #DIV/0!

HIGHWAY COSTS									
Personnel	Travel	Contracts	Supplies	Capital	Total				
\$-	\$ 146	\$ 72,767	\$-	\$-	\$ 72,913				

AIRPORT COSTS									
Personnel	Travel	Contracts	Supplies	Capital	Total				
\$-	\$-	\$-	\$-		\$-				

MANAGEMENT COSTS									
Personnel Travel Contracts Supplies Capital Total									
\$-	\$-	\$-	\$-		\$-				

	HIGHWAY LANE MILES									
Category I			Category II			Category III			Total	
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total		
24.4 0 24.4			0	0	0	0	0	0	24.4	

AIRPORT LANE MILES								
Non-Ce	rtified	Cer	tified	Contract Costs	Total Lane			
Gvl	Pvd	Gvl	Pvd					
0	0	0	0	\$-	0.00			

	STATE EQUIPMENT FLEET VEHICLES									
Trucks	Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other Total Eq									
0	0	0	0	0	0	0	0	0		

FA	FACILITIES			HARBORS	PERSONNEL			
Туре	#	Sq. Ft.	0	0	Allocated		Filled	
Office/Shop					PFT	PPT/S	PFT	PPT/S
Warehouse								
Equipment	1	1,900						

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 JUNEAU

	SUMMARY									
	Lane Cost Cost/Lan									
Highways	260.2	\$2,150,088	\$ 8,263							
Airports	0.0	\$-								
Total	260.2	\$ 2,150,088	\$ 8,263							
Management		\$ 95,135								
Grand Total		\$2,245,223	\$ 8,629							

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 23.7 23.7

HIGHWAY COSTS								
Personnel	Travel	Travel Contracts Supplies Capital Total						
\$ 663,056	\$ 1,007	\$ 754,328	\$ 731,697	\$-	\$ 2,150,088			

AIRPORT COSTS								
Personnel	Travel	Contracts	Supplies	Capital	Total			
\$-	\$-	\$-	\$-		\$-			

	MANAGEMENT COSTS									
Personnel Travel Contracts Supplies Capital Total					Total					
\$	10,398	\$ 12,231	\$ 46,113	\$ 26,393	\$-	\$	95,135			

	HIGHWAY LANE MILES											
	Category I			Category	II	Ca	ategory III		Total			
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total				
(49.5	49.5	0	160.5	160.5	0.6	49.6	50.2	260.2			

	AIRPORT LANE MILES										
Non-Ce	ertified	Ce	Contract Costs	Total Lane							
Gvl	Pvd	Gvl	Pvd								
0	0	0	0	\$-	0.00						

STATE EQUIPMENT FLEET VEHICLES									
Trucks	Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other Total Eq								
7	7	2	4	6	6	22	12	66	

F	ACILITIES		BRIDGES	HARBORS	PERSONNEL				
Туре	#	Sq. Ft.	0	0 0		Allocated		Filled	
Office/Shop					PFT	PPT/S	PFT	PPT/S	
Warehouse	1	5,600			12	0	11	0	
Equipment	1	48,100							

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08

JUNEAU ADMINISTRATION

	SUMMA	ARY	
	Lane	Cost	Cost/Lane
Highways	0.0	\$-	
Airports	0.0	\$-	
Total	0.0	\$-	
Management		\$ 540,157	
Grand Total		\$ 540,157	

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator

HIGHWAY COSTS										
Personnel Travel Contracts Supplies Capital Total										
\$-	\$-	\$-	\$-		\$-					

AIRPORT COSTS										
Personnel	Travel	Contracts	Supplies	Capital	Total					
\$-	\$-	\$-	\$-		\$-					

MANAGEMENT COSTS										
Personnel	Travel	Contracts	Supplies	Capital	Total					
\$ 494,837		\$ 45,005	\$ 314		\$ 540,157					

	HIGHWAY LANE MILES											
C	ategory I			Category	11	Ca	ategory III		Total			
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total				
0	0	0	0	0	0	0	0	0	0.0			

	AIRPORT LANE MILES									
Non-Ce	rtified	Cer	tified	Contract Costs	Total Lane					
Gvl	Pvd	Gvl	Pvd							
0	0	0	0	\$-	0.00					

STATE EQUIPMENT FLEET VEHICLES									
Trucks	Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other Total Eq								
								0	

FA	CILITIES		BRIDGES	HARBORS	PERSONNEL			
Туре	#	Sq. Ft.	0 0		Allocated		Filled	
Office/Shop					PFT	PPT/S	PFT	PPT/S
Warehouse								
Equipment								

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS

FY08 **KAKE**

(CONTRACTED)

	SUMMA	ARY	
	Lane	Cost	Cost/Lane
Highways	8.9	\$ 62,612	\$ 7,035
Airports	12.9	\$ 57,665	\$ 4,474
Total	21.8	\$ 120,277	\$ 5,520
Management		\$-	
Grand Total		\$ 120,277	\$ 5,520

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator #DIV/0! #DIV/0!

	HIGHWAY COSTS										
Pe	ersonnel	Travel	С	ontracts	Su	upplies		Capital			Total
\$	472		\$	54,827	7,313	\$	-		\$	62,612	

	AIRPORT COSTS										
Pers	onnel	Travel	С	ontracts	S	upplies		Capital		Total	
\$	\$ 737 \$ 20,624 \$ 36,305 \$						-	\$	57,665		

		MANA	GEMENT CO	DSTS	
Personnel	Travel	Contracts	Supplies	Capital	Total
\$-	\$-	\$-	\$-		\$-

	HIGHWAY LANE MILES										
C	ategory I			Category	=	Ca	Total				
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total			
0	5.5	5.5	0	2.8	2.8	0	0.6	0.6	8.9		

	AIRPORT LANE MILES										
Non-Ce	rtified	Cer	tified	Contract Costs	Total Lane						
Gvl	Pvd	Gvl	Pvd								
0	12.89	0	0	\$-	12.89						

	STATE EQUIPMENT FLEET VEHICLES										
Trucks	Dumps	Graders	Loaders	Sanders	Snowplows	Attachments	Other	Total Eq			
0	0	0	0	0	0	0	0	0			

FA	CILITIES		BRIDGES	HARBORS		EL		
Туре	#	Sq. Ft.	0	0	Allocated		Filled	ł
Office/Shop					PFT	PPT/S	PFT	PPT/S
Warehouse								
Equipment								

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 KETCHIKAN

	SUMMARY											
	C	ost/Lane										
Highways	161.2	\$ 773,066	\$	4,796								
Airports	51.3	\$-	\$	-								
Total	212.5	\$ 773,066	\$	3,638								
Management		\$ 14,761										
Grand Total		\$ 787,827	\$	3,707								

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 53.7 70.8

	HIGHWAY COSTS										
Personnel	Travel	Contracts	Supplies	Capital		Total					
\$ 229,778	\$	773,066									

		AIR	PORT COST	ſS	
Personnel	Travel	Contracts	Supplies	Capital	Total
\$-	\$-	\$-	\$-		\$-

	MANAGEMENT COSTS											
Pe	rsonnel	Tr	avel	Сс	ntracts	Su	pplies		Capital		Total	
\$ 6,734 \$ 902			\$	6,770	\$	355	\$	-	\$	14,761		

	HIGHWAY LANE MILES													
	С	ategory I		Category II			Ca	Total						
ſ	Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total					
ſ	0	35.4	35.4	53.8	42.3	96.1	6.1	23.6	29.7	161.2				

		AIRPO	RT LANE M	ILES	
Non-Ce	rtified	Cer	tified	Contract Costs	Total Lane
Gvl	Pvd	Gvl Pvd			
0	0 0		51.32	\$-	51.32

	STATE EQUIPMENT FLEET VEHICLES											
Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other Total Education												
3	4	1	3	3	2	7	4	27				

FA	CILITIES		BRIDGES	HARBORS	S PERSONNEL				
Туре	#	Sq. Ft.	0	0	Alloca	ted	Filled	1	
Office/Shop	5	96,068			PFT	PPT/S	PFT	PPT/S	
Warehouse	1	6,000			3	0	3	0	
Equipment	1	378							

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 KLAWOCK

	SUMMARY											
Lane Cost Cost/Lan												
Highways	304.8	\$1,258,637	\$ 4,129									
Airports	19.3	\$ 40,887	\$ 2,119									
Total	324.1	\$1,299,525	\$ 4,010									
Management		\$ 21,086										
Grand Total		\$1,320,611	\$ 4,075									

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 61.0 64.8

HIGHWAY COSTS											
Personnel	Personnel Travel Contracts Supplies Capital Total										
\$ 397,370	\$-	\$ 297,607	\$-	\$ 1,258,637							

	AIRPORT COSTS												
Pe	Personnel Travel Contracts Supplies								Capital		Total		
\$ 31,859		\$	968	\$	4,235	\$	3,825	\$	-	\$	40,887		

MANAGEMENT COSTS													
Pe	rsonnel	Tr	avel	Со	ontracts	S	upplies		Capital		Total		
\$	13,560	\$	738	\$	(6,517)	\$	13,305	\$	-	\$	21,086		

	HIGHWAY LANE MILES												
	Category I			Category		Ca	Total						
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total					
2	4 280.8	304.8	0	0	0	0	0	0	304.8				

	AIRPORT LANE MILES												
Non-Ce	rtified	Ce	rtified	Contract Costs	Total Lane								
Gvl	Pvd	Gvl	Pvd										
0	19.30	0	0	\$-	19.30								

	STATE EQUIPMENT FLEET VEHICLES											
Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other Total Eq												
4	4	3	3	4	2	10	7	37				

FA	CILITIES		BRIDGES	HARBORS		PERSONNE	EL	
Туре	#	Sq. Ft.	0	0	Alloca	ited	Filled	
Office/Shop	1	5,000			PFT	PPT/S	PFT	PPT/S
Warehouse	2	2,572			5	0	5	0
Equipment								

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 PETERSBURG

	SUMMARY											
	Lane	Cost/Lane										
Highways	107.8	\$ 711,370	\$ 6,599									
Airports	25.4	\$ 346,211	\$ 13,614									
Total	133.2	\$1,057,581	\$ 7,938									
Management		\$ 85,229										
Grand Total		\$1,142,809	\$ 8,578									

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 35.9 44.4

	HIGHWAY COSTS										
Personnel Travel Contracts Supplies Capital Total											
\$ 182,467	\$	711,370									

	AIRPORT COSTS										
Personnel	Travel	Contracts	Supplies	Capital	Total						
\$ 215,400 \$ 7,965 \$ 72,898 \$ 49,948 \$ - \$ 346,2											

MANAGEMENT COSTS											
Pe	ersonnel	Travel	Co	ontracts	Su	Ipplies		Capital		Total	
\$	\$ 71,068 \$ 1,893 \$ 11,401 \$ 867 \$ -								\$	85,229	

	HIGHWAY LANE MILES										
0	Category I			Category		Ca	Total				
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total			
0	7.4	7.4	47.1	50.7	97.8	2.6	0	2.6	107.8		

	AIRPORT LANE MILES											
Non-Ce	rtified	Ce	rtified	Contract Costs	Total Lane							
Gvl	Pvd	Gvl	Pvd									
0	0	0	25.43	\$-	25.43							

	STATE EQUIPMENT FLEET VEHICLES										
Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other Total											
4	4	1	3	2	4	8	7	33			

FA	CILITIES		BRIDGES	HARBORS	PERSONNEL					
Туре	#	Sq. Ft.	0	0	Allocated		Filled			
Office/Shop	1	4,500			PFT	PPT/S	PFT	PPT/S		
Warehouse					3	0	3	0		
Equipment	2	2,940								

STATION PROFILES SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 SITKA

	SUMMARY											
	Lane	Cost	С	ost/Lane								
Highways	54.3	\$1,072,064	\$	19,743								
Airports	34.0	\$ 685,899	\$	20,162								
Total	88.3	\$1,757,963	\$	19,904								
Management		\$ 111,827										
Grand Total		\$1,869,790	\$	21,171								

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 4.7 7.7

HIGHWAY COSTS										
Personnel Travel Contracts Supplies Capital Total									Total	
\$ 305,007	\$	1,283	\$ 326,058						1,072,064	

AIRPORT COSTS										
Personnel Travel Contracts Supplies Capital Total										
\$ 584,291	\$ 584,291 \$ 14,479 \$ 18,203 \$ 68,926 \$ -									

MANAGEMENT COSTS												
Pe	ersonnel	Т	ravel	С	Contracts Supplies				Capital		Total	
\$ 78,121 \$ 482					30,236	\$	2,988			\$	111,827	

	HIGHWAY LANE MILES											
(Category I			Category II			Category III					
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total				
0	35.5	35.5	4.9	13.7	18.6	0.2	0	0.2	54.3			

	AIRPORT LANE MILES										
Non-Ce	Total Lane										
Gvl	Pvd	Gvl	Pvd								
0	0	0	34.02	\$-	34.02						

STATE EQUIPMENT FLEET VEHICLES										
Trucks	Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other Total Eq									
4	4	1	3	2	3	4	7	28		

F	ACILITIES		BRIDGES	HARBORS	PERSONNEL				
Туре	# Sq. Ft.		0	0	Alloca	Filled			
Office/Shop	1	8,000			PFT	PPT/S	PFT	PPT/S	
Warehouse	1	400			11	1	11	1	
Equipment									

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 SKAGWAY

	SUMMARY											
	Lane	Cost	C	Cost/Lane								
Highways	52.8	\$1,048,934	\$	19,866								
Airports	7.5	\$ 29,844	\$	3,963								
Total	60.3	\$1,078,778	\$	17,881								
Management		\$ 79,749										
Grand Total		\$1,158,527	\$	19,203								

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 13.2 15.1

HIGHWAY COSTS										
Personnel	Personnel Travel Contracts Supplies Capital Total									
\$ 321,661	\$ 321,661 \$ 2,171 \$ 376,735 \$ 348,366 \$ - \$ 1,048,934									

	AIRPORT COSTS											
Pe	ersonnel	TI	ravel	Сс	ontracts	S	upplies		Capital		Total	
\$ 16,360 \$ 293 \$ 12,110 \$ 1,080									-	\$	29,844	

MANAGEMENT COSTS										
Personnel Travel Contracts Supplies Capital Total										
\$ 11,893 \$ - \$ 63,064 \$ 4,792 \$ - \$ 79										

	HIGHWAY LANE MILES											
0	Category I Category II					Category III						
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total				
0	36.8	36.8	12	3	15	1	0	1	52.8			

	AIRPORT LANE MILES											
Non-Ce	rtified	Ce	Contract Costs	Total Lane								
Gvl	Pvd	Gvl	Pvd									
0	7.53	0	0	\$-	7.53							

STATE EQUIPMENT FLEET VEHICLES										
Trucks	Dumps	Graders	Loaders	Sanders	Snowplows	Attachments	Other	Total Eq		
5	5	2	4	2	3	12	3	36		

FACILITIES			BRIDGES	HARBORS	PERSONNEL				
Туре	#	Sq. Ft.	0 0		Allocated		Filled		
Office/Shop	2	5,520			PFT	PPT/S	PFT	PPT/S	
Warehouse	2	2,950			3	2	3	2	
Equipment	1	192							

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08

WRANGELL

	SUMMARY										
	Lane	Cost	Cost/Lane								
Highways	46.4	\$ 514,990	\$	11,099							
Airports	25.4	\$ 413,261	\$	16,283							
Total	71.8	\$ 928,251	\$	12,932							
Management		\$ 60,766									
Grand Total		\$ 989,017	\$	13,778							

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 11.6 17.9

	HIGHWAY COSTS											
Personnel	onnel Travel Contracts Supplies Capital T											
\$ 143,370	\$-	\$ 210,272	\$ 161,348	\$-	\$	514,990						

	AIRPORT COSTS											
Personnel	Capital	Total										
\$ 322,710	\$ 322,710 \$ 8,149 \$ 158 \$ 82,244 \$											

MANAGEMENT COSTS												
Personnel Travel			С	ontracts	Sι	Supplies		Capital		Total		
\$	45,908	\$	648	\$	11,273	\$	2,937	\$	-	\$	60,766	

	HIGHWAY LANE MILES										
C	ategory I		Category II			Ca	Total				
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total			
0	4.2	4.2	0	42.2	42.2	0	0	0	46.4		

	AIRPORT LANE MILES										
Non-Ce	rtified	Cer	tified	Contract Costs	Total Lane						
Gvl	Pvd	Gvl Pvd									
0	0	0	25.38	\$-	25.38						

	STATE EQUIPMENT FLEET VEHICLES									
Trucks	Dumps	Graders	Loaders	Sanders	Snowplows	Attachments	Other	Total Eq		
3	3	1	2	1	3	6	3	22		

FA	CILITIES		BRIDGES	HARBORS	S PERSONNEL				
Туре	#	Sq. Ft.	0	0	Allocated		Filled		
Office/Shop	2	5,700			PFT	PPT/S	PFT	PPT/S	
Warehouse					4	0	4	0	
Equipment									

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 YAKUTAT

	SUMMARY										
	Cost/Lane										
Highways	110.5	\$ 627,585	\$ 5,680								
Airports	97.7	\$ 489,266	\$ 5,009								
Total	208.2	\$1,116,851	\$ 5,365								
Management		\$ 59,882									
Grand Total		\$1,176,733	\$ 5,653								

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator 27.6 52.0

	HIGHWAY COSTS											
Personnel	Total											
\$ 159,218	\$-	\$-	\$ 627,585									

AIRPORT COSTS											
Personnel Travel Contracts Supplies Capital Total											
\$ 221,510	\$ 6,881	\$ 137,758	\$ 123,119	\$-	\$	489,266					

MANAGEMENT COSTS											
Personnel Travel			Сс	Contracts Supp				Capital		Total	
\$	53,332	\$	608	\$	5,447	\$	495			\$	59,882

	HIGHWAY LANE MILES											
	Category I Category I					Category III						
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total				
() 10	10	70.9	6	76.9	23.6	0	23.6	110.5			

	AIRPORT LANE MILES											
Non-Ce	rtified	Ce	Contract Costs	Total Lane								
Gvl	Pvd	Gvl	Pvd									
0	0	0	97.67	\$-	97.67							

STATE EQUIPMENT FLEET VEHICLES										
Trucks	Dumps	Graders	Loaders	Sanders	Snowplows	Attachments	Other	Total Eq		
3	3	2	2	2	5	7	6	30		

FA	CILITIES		BRIDGES	HARBORS	PERSONNEL				
Туре	#	Sq. Ft.	0	0 0		Allocated			
Office/Shop	3	23,550			PFT	PPT/S	PFT	PPT/S	
Warehouse	1	900			4	0	4	0	
Equipment									

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 REGIONWIDE

	SUMM	ARY	
	Lane	Cost	Cost/Lane
Highways		\$ 320,860	
Airports		\$ 58,222	
Total		\$ 379,083	
Management		\$ 65,434	
Grand Total		\$ 444,517	

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator

HIGHWAY COSTS											
Personnel Travel Contracts Supplies Capital Total											
\$ 2,461	\$1,438	\$240,867	\$ 76,094	\$-	\$	320,860					

AIRPORT COSTS											
Personnel Travel Contracts Supplies Capital Total											
\$-	\$4,721	\$ 37,614	\$ 15,888	\$	-	\$	58,222				

	MANAGEMENT COSTS											
Personn	Personnel Travel Contracts Supplies Capital Total											
\$ 65,43	4 \$ -	\$-	\$-	\$-	\$	65,434						

	HIGHWAY LANE MILES												
Category I			Category II			Ca	Total						
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total					
(0 0	0	0	0	0	0	0	0	0				

	AIRPORT LANE MILES											
Non-Ce	ertified	Cer	Contract Costs	Total								
Gvl	Pvd	Gvl	Pvd									
				\$-	\$-							

STATE EQUIPMENT FLEET VEHICLES										
Trucks	Dumps	Graders	Loaders	Sanders	Snowplows	Attachments	Other	Total Eq		
0	0	0	0	0	0	0	0	0		

FA	CILITIES		BRIDGES	HARBORS	PERSONNEL				
Type # Sq. Ft.		0	0	Allocated		Filled			
Office/Shop					PFT	PPT/S	PFT	PPT/S	
Warehouse									
Equipment									

SOUTHEAST REGION HIGHWAYS & AVIATION MAINTENANCE & OPERATIONS FY08 REMOTE

SUMMARY										
Lane Cost Cost/Lane										
Highways		\$	6,947							
Airports		\$	-							
Total		\$	6,947							
Management		\$	-							
Grand Total		\$	6,947							

Highway Lane Miles/Operator Highway & Airport Lane Miles/Operator

HIGHWAY COSTS								
Personnel Travel Contracts Supplies Capital Total								
\$-	\$-	\$ 6,947	\$-	\$-	\$	6,947		

	AIRPORT COSTS									
Personnel Travel Contracts Supplies Capital Tota										
\$-	\$-	\$-	\$-	\$-	\$-					

MANAGEMENT COSTS									
Personnel	Travel	Contracts	Supplies	Capital	Total				
\$-	\$-	\$-	\$-	\$-	\$-				

HIGHWAY LANE MILES										
Category I				Category		Category III				
Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total		
0	0	0	0	0	0	0	0	0	0	

AIRPORT LANE MILES								
Non-Ce	ertified	Cer	Contract Costs	Total				
Gvl	Pvd	Gvl	Pvd					
				\$-	\$ -			

STATE EQUIPMENT FLEET VEHICLES									
Trucks	Trucks Dumps Graders Loaders Sanders Snowplows Attachments Other Total Eq								
0	0	0	0	0	0	0	0	0	

FA	CILITIES		BRIDGES	HARBORS	PERSONNEL			
Туре	#	Sq. Ft.	0	0	Alloca	ated	Filled	k
Office/Shop					PFT	PPT/S	PFT	PPT/S
Warehouse								
Equipment								

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