

**State of Alaska**  
**FY2014 Governor's Operating Budget**

**Department of Transportation/Public Facilities**  
**Highways and Aviation**  
**Results Delivery Unit Budget Summary**

## Highways and Aviation Results Delivery Unit

### Contribution to Department's Mission

Operate, maintain, safeguard, and control the state's infrastructure system of highways, airports and harbors.

### Core Services

- Winter snow and ice control, including snow plowing, snow removal, sanding, anti-icing, de-icing, avalanche control, snow fencing and culvert thawing.
- Summer maintenance including: pavement preservation, gravel road grading and resurfacing, shoulder maintenance, pothole patching, crack sealing, leveling of heaves and dips, vegetation management, sweeping, dust control, drainage cleaning and repair, pavement striping and marking, fence and guardrail repair, bridge painting and repair, and sign maintenance.
- Road and airport lighting systems maintenance, including traffic signals, intersection and road illumination, harbor electrical service and lighting, and runway and taxiway lights.
- Roadside litter control and trash removal at rest areas, turnouts and campgrounds.
- Access control to state rights of way for driveways, access roads, signs and utilities.
- Security at state airports in compliance with the Homeland Security and the Transportation Security Administration (TSA).
- Operation of certificated airports in compliance with 14 CFR Part 139 including Airport Rescue and Fire Fighting services (ARFF), and Wildlife Hazard management activities.
- Operation and maintenance of rural non-certificated airports.
- Maintenance of federally mandated security at state airports, including access controls, criminal history checks and badging, security fencing, communications, and law enforcement.
- Emergency response to impacts on State highways and airports from natural disasters.
- Active avalanche hazard reduction program at five locations across the state (Juneau, Skagway, Thompson Pass, Atigun Pass, and along the Seward Highway). Provide winter road and weather reporting on the Internet via the 511.Alaska.gov (road condition reporting) system, and/or through e-mails and faxes to state troopers, trucking firms, and others.
- Manage the State's Adopt-a-Highway program.

### Major RDU Accomplishments in 2012

- Provided surface maintenance of either gravel or paved runways for 45 airports.
- Performed repairs on 66 bridges.
- Applied chip seal, hot mix, or high float asphalt to 303 lane miles of roads (all regions).
- Applied 2,015,702 lineal feet of surface crack seal treatment on our paved highways in order to provide protection from water intrusion and freeze/thaw damage and extend the life of the asphalt pavement.
- Cut approximately 10,220 lane miles of brush and trees along our highway, side road and bike path rights-of-way throughout the state.
- Installed, replaced or raised 32,094 lineal feet of existing guardrail as a safety enhancement for the traveling public.
- Replaced 114 failing culverts.
- Re-striped 8,534 lane miles of roadway.
- Overlaid or patched deteriorated sections of roads in the Anchorage, Mat-Su, and Kenai Peninsula with asphalt pavement. In FY2012, the region performed 62 lane-miles of pavement resurfacing. Noteworthy repairs with this funding in 2012 included Kenai Peninsula roadways: Sterling Highway MP 37-58 spot repairs, East End Road MP 5 – MP 12(Homer) , Bear Creek Drive (Homer), and West Hill Road (Homer); Anchorage roadways: 6<sup>th</sup> Avenue – C Street to Gambell Street, Raspberry Road – Jewel Lake Road to Sand Lake Road, Clarks Road, Eagle River Road –Eagle River Loop Road to Eagle River Lane, Alyeska Highway – Deette Circle to Glacier Creek; Mat-Su Roadways: Spot Repairs at the Glenn/Parks Interchange, Knik River Road, Knik Goose Bay Road, Old Trunk Road and Willow-Fishhook Road. Designed, advertised, and awarded an asphalt overlay project on University Avenue, which has the 2<sup>nd</sup> highest Average Daily Traffic (ADT) in Fairbanks.

- Responded to numerous natural disasters across the state. Responded to the major storm that hit Southcentral and Interior Alaska this September. The event was declared a State emergency. Also responded to record snowfalls across the state during the winter of 2011/2012. The winter of 2011-2012 was a memorable one across much of Alaska, with notable extremes of temperature and precipitation in many areas. Over much of the state, temperatures were highly variable, with alternating periods of prolonged warmth and cold. In South Central Alaska and along the Gulf Coast, excessive snowfall was the primary challenge. Maintenance crews dealt with record snowfalls in Anchorage, Cordova, Haines, Yakutat, and in many other locations.
- Maintenance crews responded to 63 avalanches across all three regions.
- Implemented an enhanced salt brine anti-icing system in Fairbanks and Homer.
- During a routine bridge inspection, it was found that the Peterson Creek Bridges (Tributary one & two) in Juneau were inadequate to sufficiently support the loadings required by the general use of this roadway. The Northern Region bridge crew traveled to Juneau and installed new bearing pads and backwalls for 2 separate Acrow (temporary) bridges. The Acrow bridges were assembled adjacent to the Peterson Creek bridge site and lifted into place atop the existing bridges. Once the bridges were in place the bridge approaches were reconstructed.
- Reshaped and then applied dust palliative products to the runways, taxiways, and aprons at three rural airports: Eagle, Wales and Kobuk. Designed, advertised, and awarded an Emergency Repairs project on the Nome-Council Road to repair approximately six miles of roadway that was damaged in a strong coastal storm in November 2011. The project established a construction access road in the early spring months to facilitate timely opening of the Nome-Council highway and then proceeded to complete the embankment repairs to return the roadway to pre-storm conditions.
- Performed heavy maintenance on the Dalton Highway at Coldfoot and Sag River maintenance stations to rehabilitate the road prism and reestablish gravel surfacing. Added embankment to shoulders along 12 miles of highway (Sagwon Hills and south), then resurfaced with E-1 crushed aggregate. Also ground up 22 miles of failing pavement (near Coldfoot), crowned and compacted the base course, then repaved with high float.

## Key RDU Challenges

- Meeting the public's expectation of winter roads that are safe for travel. Highways and Aviation (H&A) must stay abreast of the latest snow and ice control technologies and equipment.
- The escalating cost of winter maintenance chemicals such as magnesium chloride has forced the department to look for alternative anti and deicing chemicals in order to keep our highways and airports safe.
- Thawing of ice-rich discontinuous permafrost damages roads, airports, and buildings and has resulted in increased maintenance costs that are likely to continue. In addition, coastal storms threaten transportation infrastructure critical for community viability by eroding sea walls and other shoreline protection and exposing infrastructure to erosion, flooding and storm surge. New and changing airport security requirements at certified airports.
- The escalating cost of replacing heavy equipment is having a negative impact on the department's ability to maintain services.
- The escalating cost of commodities and supplies continues to be a challenge and impacts the level of service provided.
- Increased traffic volumes and truck weights, coupled with a warming climate, are accelerating deterioration and driving up maintenance costs. As the transportation infrastructure continues to age, deferred maintenance needs also increase.
- Aging workforce and not enough skilled employees within our ranks to fill these vacancies. Hiring and retaining competent and skilled operators, mechanics, and electricians is increasing difficult due to the wage disparity between the state and private industry. Vacant positions, particularly in rural locations, have remained vacant for years because of the lack of interested and qualified applicants.
- Environmental regulatory requirements and mandates are placing additional burdens on the H&A budget. . New federal environmental mandates and programs have dramatically complicated maintenance efforts and increased the paperwork and documentation necessary to meet our responsibilities. Stormwater Pollution Prevention Plan (SWPPP), Spill Prevention, Control and Countermeasure (SPCC), Particulate Matter (PM-2.5 and PM-10), spill response and modern occupational safety constraints require significant training, equipment, paperwork and attention that impacts Maintenance & Operation's (M&O's) net productivity.
- The Environmental Protection Agency's recent ban on the use of urea as an airfield pavement de-icer on airports with greater than 1000 annual jet departures is forcing Highways & Aviation to completely reconfigure

its airport snow and ice control operations at several airports. Urea has been the primary, and in most cases the only airfield pavement de-icer utilized. Challenges include reconfiguring chemical storage as urea was delivered in solid form and the replacement chemical (E36) is delivered as a liquid. E36 is also more than two times as expensive as urea.

- Mandate from the Federal Highway Administration (FHWA) for increased maintenance and repairs of pedestrian facilities (sidewalks and bike paths) in accordance with Americans with Disabilities Act (ADA) standards diverts maintenance efforts from the mainline highway system.

### **Significant Changes in Results to be Delivered in FY2014**

Continued expansion of the department's anti-icing program to improve safety and to maximize snow and ice control efforts on our primary highways and roads. Anti-icing is a pro-active approach to winter road maintenance. Anti-icing chemicals form a bond-breaker between the pavement surface and the snow and ice layer which melts snow more quickly and reduces the chance that ice will form and bond to the road surface. Anti-icing reduces the amount of time required to restore the roads to a clear, dry condition. The department uses snow plows, tankers, automatic bridge deck sprayers, and other equipment in the anti-icing process. Expanded anti-icing programs will be implemented in Homer and Kodiak and potentially additional locations. Highways and Aviation will also expand its wildlife management control efforts at various airports to improve air traveler safety.

Deployment of Alaska's first ever snow tow-plows in Juneau and Soldotna. This is a specialized piece of equipment that is towed behind a normal snow plow that allows one truck and operator to do the work of more than two conventional snow plow trucks. With just one truck (and operator) able to do the work of more than two conventional snow plow trucks, the benefits of the tow plow are expected to add up quickly. The tow plow also increases both operator and motorist safety. Fewer plowing passes with less equipment means lower potential for traffic accidents during snow and ice removal. Reductions in cycle time also give the traveling public more hours in which to operate on fully cleared roadways as a weather event unfolds. Clearing more lanes in less time with less equipment improves mobility, and offers considerable economic benefits to any state. The tow plow is also good for the environment. It reduces the number of vehicles required to clear a given roadway and, in turn, reduces fuel usage.

Continued efforts to develop a comprehensive Transportation Asset Inventory will involve the collection of culvert data statewide. The data collection effort is a key element of the comprehensive Transportation Asset Management System (TAMS) that will optimize infrastructure maintenance and control/reduce asset life-cycle costs.

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**Highways and Aviation  
RDU Financial Summary by Component**

*All dollars shown in thousands*

	FY2012 Actuals				FY2013 Management Plan				FY2014 Governor			
	UGF+DGF Funds	Other Funds	Federal Funds	Total Funds	UGF+DGF Funds	Other Funds	Federal Funds	Total Funds	UGF+DGF Funds	Other Funds	Federal Funds	Total Funds
<b>Formula Expenditures</b> None.												
<b>Non-Formula Expenditures</b>												
Central Highways and Aviation	54,535.5	5,270.2	427.0	60,232.7	52,026.5	5,189.2	548.8	57,764.5	55,215.4	5,453.7	554.5	61,223.6
Northern Highways & Aviation	69,162.6	5,251.5	158.4	74,572.5	67,352.5	6,762.0	322.3	74,436.8	69,576.6	6,442.2	322.3	76,341.1
Southeast Highways & Aviation	15,941.8	1,513.0	48.6	17,503.4	15,279.3	1,847.6	215.0	17,341.9	15,669.7	1,806.6	215.0	17,691.3
Whittier Access and Tunnel	1,013.6	3,721.1	0.0	4,734.7	401.4	4,353.4	0.0	4,754.8	401.4	4,353.4	0.0	4,754.8
<b>Totals</b>	<b>140,653.5</b>	<b>15,755.8</b>	<b>634.0</b>	<b>157,043.3</b>	<b>135,059.7</b>	<b>18,152.2</b>	<b>1,086.1</b>	<b>154,298.0</b>	<b>140,863.1</b>	<b>18,055.9</b>	<b>1,091.8</b>	<b>160,010.8</b>

**Highways and Aviation**  
**Summary of RDU Budget Changes by Component**  
**From FY2013 Management Plan to FY2014 Governor**

*All dollars shown in thousands*

	<u>Unrestricted Gen (UGF)</u>	<u>Designated Gen (DGF)</u>	<u>Other Funds</u>	<u>Federal Funds</u>	<u>Total Funds</u>
<b>FY2013 Management Plan</b>	<b>127,701.5</b>	<b>7,358.2</b>	<b>18,152.2</b>	<b>1,086.1</b>	<b>154,298.0</b>
<b>Adjustments which will continue current level of service:</b>					
-Central Highways and Aviation	237.5	2.0	264.5	5.7	509.7
-Northern Highways & Aviation	278.5	6.4	-319.8	0.0	-34.9
-Southeast Highways & Aviation	1.2	3.5	-41.0	0.0	-36.3
<b>Proposed budget increases:</b>					
-Central Highways and Aviation	2,949.4	0.0	0.0	0.0	2,949.4
-Northern Highways & Aviation	1,939.2	0.0	0.0	0.0	1,939.2
-Southeast Highways & Aviation	385.7	0.0	0.0	0.0	385.7
<b>FY2014 Governor</b>	<b>133,493.0</b>	<b>7,370.1</b>	<b>18,055.9</b>	<b>1,091.8</b>	<b>160,010.8</b>