Central Region

Director's Quarterly

Alaska Department of Transportation and Public Facilities

Winter Edition

December 2013

Rob Campbell, P.E.
Central Region Director, is a lifelong Alaskan. He has a Bachelor's degree in Civil Engineering from Oregon State University, and a Master's degree in Engineering Management from the University of Alaska, Anchorage. He has worked at DOT&PF for more than 30 years.

DIRECTOR'S MESSAGE

Our newsletter this quarter focuses on the record amount of federal highway funding that was obligated in federal fiscal year 2013 (FFY13) that is now heading towards highway construction, our pavement life and winter maintenance activity.

Our construction crews have shut down for the winter after a very busy season. Next summer is shaping up to be extremely busy as well. During FFY13, which ended September 30th, the State of Alaska set a record by "obligating" $714 million, of which over $560 million is for construction Statewide and out of that $218 million is for construction in Central Region. Most of these projects will be under construction next summer.

We also routinely get asked about pavement – Why does it rut? Why does it crack? Why doesn't it last longer? Many of next year's projects are about improving our pavement, and we share some information about our efforts to extend the life of our roads in this newsletter issue.

Finally, the winter brings challenges to all of us in terms of travel; we highlight some of our philosophy and efforts to keep our transportation system functional during the winter.

2013 has been a challenging but productive year. Best wishes to you and yours for a happy holiday season.

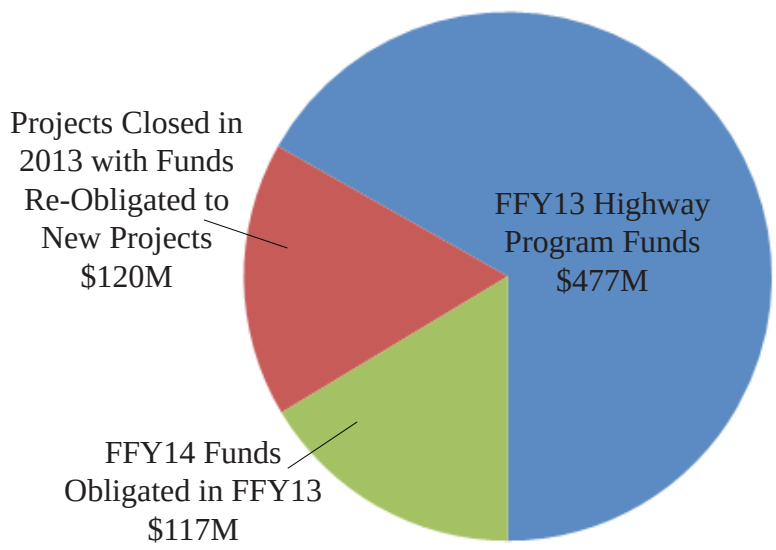
What does it mean to "obligate" federal funds?

An "obligation" is the Federal Government's commitment (promise) to reimburse the State for the Federal share (usually 90%+) of a project's eligible cost. Obligation is synonymous with approval to spend Federal dollars.

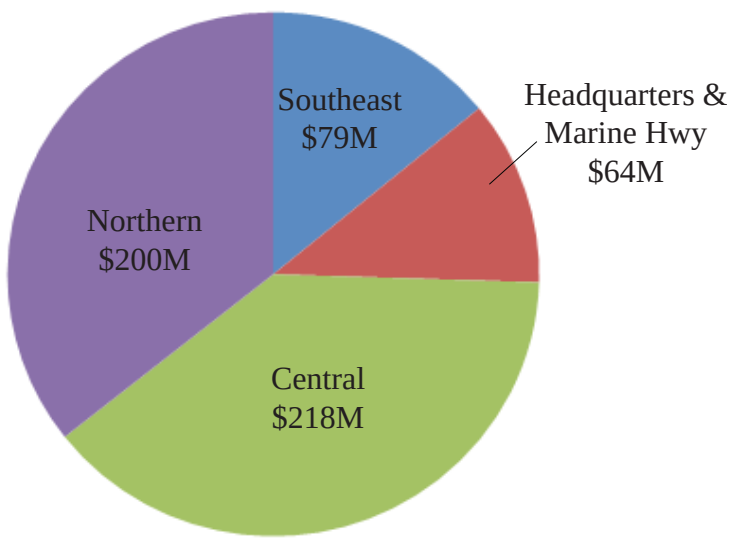
Comments on the Newsletter
DOT.CR.Director@alaska.gov

RECORD AMOUNT OF FEDERAL HIGHWAY FUNDS COMMITTED IN 2013

$714M Obligated in FFY13



$561M Construction Funds in FFY13 by Region



Some of the projects funded in FFY 2013 and ready for construction:

- Naknek & King Salmon -Alaska Peninsula Highway Resurfacing
- Aleknagek Wood River Bridge Construction
- False Pass Access Road Resurfacing and Bridge Repair
- Dillingham - Kanakanak Road Resurfacing: D Street to Squaw Creek Road
- Kodiak Area Roads Pavement Preservation
- Anchorage – A Street Resurfacing: Northern Lights Boulevard to 9th Avenue
- Anchorage - West Dowling Road Construction: C Street to Minnesota Drive
- Palmer-Wasilla Highway Pavement Preservation: Parks Highway to Knik-Goose Bay Road
- Parks Highway Reconstruction: Lucus Road to Church Road
- Homer East End Road Reconstruction: Kachemak Drive to Waterman Drive
- Ninilchik Village Bridge Replacement
- Homer: East End Road Pavement Preservation: Milepost 12.5 to 19.6
- Homer: Old East End Road Resurfacing
- Kenai Spur Highway Pavement Preservation: Milepost 0 to 3
- Seward Highway Pavement Preservation: Milepost 17.5 to 22.5
- Sterling Highway Pavement Preservation: Milepost 79 to 82.5
- Sterling Highway Pavement Preservation: Milepost 174 to 179

IMPORTANT LINKS

How do I...

• Find general information about Central Region?	http://dot.alaska.gov/creg/
• Get more information about active Central Region Projects?	http://dot.alaska.gov/projects-status/index.cfm
• Find websites for Central Region Projects	http://dot.alaska.gov/creg/project_info/
• Get MAP 21 information?	http://www.fhwa.dot.gov/map21/
• Locate the Central Region Public Involvement Calendar?	http://dot.alaska.gov/creg/calendar.shtml
• Find project advertising dates	http://www.dot.state.ak.us/apps/Project_Advertising_Date *
• Find key Department contacts?	http://www.dot.alaska.gov/comm/contacts.shtml
• Find previous Central Region newsletters	http://dot.alaska.gov/creg/newsletter.shtml

*Hyperlink will only work in the electronic version of the Newsletter

EXTENDING PAVEMENT LIFE

As the project list on the previous page testifies, the Region has been investing significant funds toward upgrading our pavement. An extensive amount of effort goes into ensuring that this investment provides long-lasting benefits. The design service life for asphalt pavement is generally 10 to 20 years but can vary significantly depending on the quality of the sub-base, drainage, heavy loads, studded tire use, traffic volumes, number of freeze thaw cycles and groundwater.

We have been testing various different asphalt mixes including the cost effectiveness of harder aggregate and the ability of "rubberized" asphalt (an asphalt mix that includes recycled tires) to deflect studded tire wear. Major factors in reducing pavement life are high traffic numbers and extensive studded tire use. Also, the extended number of freeze-thaw cycles that now seem to be a more common part of fall, winter, and spring, play havoc with any pavement that is not well sealed. While tire erosion attacks pavement from the top, water attacks from underneath. Water softens the supporting subgrade, allowing the asphalt to bend and crack. Ongoing maintenance in the form of crack sealing, patching, and pavement overlays is critical and has been proven as a cost effective way to maintain the useful life of the pavement and roadbed. Central Region is distinct from the rest of the state in that it experiences high traffic volumes, prevalent freeze-thaw conditions, and icing conditions that promote extensive studded tire use. All of these factors contribute to a challenging environment for pavement.

Experimenting with pavement design has led to unanticipated benefits. The rubberized asphalt used on Elmore Road (shown here being laid in 2007) shed ice much more rapidly than other pavements.

This cross section of rutted pavement was cut from a steep section of Eagle River Loop Road and illustrates the impact of studded tire use in high traffic areas throughout Central Region.

For more details click on the following link:

http://www.dot.state.ak.us/stwddes/desmaterials/mat_pav_engineer.shtml

The "Nordic Abrasion Test" is used to determine how well the aggregate will stand up to studded tire wear.

WINTER MAINTENANCE AND OPERATIONS IMPROVEMENTS

With shrinking budgets and growing demand, our Maintenance and Operations group is focused on creating efficiencies in the use and maintenance of all assets.

- Our DOT&PF home page located at http://dot.alaska.gov/ provides many helpful links and pertinent information by simply clicking on "Winter Season Resources" found under our "Highlights" banner.
- Over the last two years, new satellite sand piles have been established along several highways. These new satellite piles have allowed our trucks to reload away from the individual maintenance stations, increasing our ability to provide better driving conditions on our roadways while reducing truck and driver times on the road.
- As featured in several news stories recently, the Department purchased a new "ice buster", a large rotating device with hundreds of steel teeth which attaches to the front of our plow trucks to remove or increase the removal of ice and packed snow on the roadways.
- The region is awaiting the arrival of two additional tow plows. A tow plow is a large plow towed behind a plow truck in an offset position, effectively doubling productivity of one of our plow trucks, while increasing fuel costs only 30% and using no increase in labor. The tow plow can clear a 13' wide path in addition to the 11' wide path cleared by the truck. In addition to reducing operating costs, this unit will reduce storm cycle times by allowing our other plow trucks to initiate plowing operations on secondary and local roads much sooner. The use of tow plows has already been deployed in the Soldotna area.
- Our Anchorage Maintenance Station is scheduled to begin an anti-icing program using liquid brine with corrosion inhibitors. This solution is environmentally friendly and provides for better retention of sand on the roadways. Less overall use of highway sand should lead to less sweeping and cleanup of sand in the spring, further reducing costs and providing better air quality. The brine can also be applied in advance of a snow storm to delay the accumulation of snow and ice pack on the pavement.

Photo by Jeremy Woodrow

Tow plow truck on Egan Drive in Juneau

As revenues shrink and our mission expands, working smarter, being more proactive and creating efficiencies are the responsible actions for DOT&PF. As you can see, we have several approaches to keeping people informed and our highways open during our challenging winter driving season.

Alaska Department of Transportation & Public Facilities 511 Traveler Information

Winter weather too often catches people unprepared. The National Weather Service reports that 70 percent of the fatalities related to ice and snow occur in automobiles, and about 25 percent of all winter-related fatalities are people caught off guard, out in the storm. Before you travel, check with the National Weather Service (NWS). They issue winter weather warnings, watches, and advisories. Please see www.arh.noaa.gov/hazards.php or you can dial 5-1-1 and request call transfer to the NWS weather information line. Drivers also can access travel information by visiting http://511.alaska.gov/. 5-1-1 can also access the Alaska Marine Highway System schedules or allow you to speak to a reservation agent. Road Weather Information cameras, which are placed on several roads across Alaska, can be viewed on the 511 website. Travelers can also check the department's social media outlets for updates on the 511 Facebook or Twitter pages. Alaska 511 maintains regional Twitter handles for travelers in Anchorage, the Kenai Peninsula and the Mat-Su Valley.