Statewide Anti-icing Program Equipment **FY2015 Request: $800,000**
Reference No: 41394

AP/AL: Allocation
Project Type: Life / Health / Safety
Category: Transportation
Location: Statewide
House District: Statewide (HD 1-40)
Impact House District: Statewide (HD 1-40)
Contact: Jeff Ottesen
Estimated Project Dates: 07/01/2014 - 06/30/2019
Contact Phone: (907)465-4070
Appropriation: Safety

Brief Summary and Statement of Need:
This project funds the continued development and implementation of highway anti-icing programs in several communities. This project funds the initial setup of salt-brining units and the purchase of anti-icing equipment. The Strategic Highway Research Program (SHRP) found that by switching from traditional deicing techniques to an anti-icing strategy coupled with a road weather information system (RWIS), highway agencies can slash their winter maintenance costs, improve travel conditions, and help protect the environment.

Funding:	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	Total
Gen Fund	$800,000	$200,000					$1,000,000
Total:	$800,000	$200,000	$0	$0	$0	$0	$1,000,000

☐ State Match Required ☐ One-Time Project ☐ Phased - new ☐ Phased - underway ☑ On-Going
0% = Minimum State Match % Required ☐ Amendment ☐ Mental Health Bill

Operating & Maintenance Costs:

	Amount	Staff
Project Development:	0	0
Ongoing Operating:	0	0
One-Time Startup:	0	
Totals:	0	0

Prior Funding History / Additional Information:
Sec1 Ch16 SLA2013 P78 L27 SB18 $400,000
Sec7 Ch43 SLA2010 P37 L32 SB230 $150,000
Sec10 Ch29 SLA2008 P78 L21 SB221 $500,000

Project Description/Justification:
The regions need to continue to expand their use of anti-icing chemicals in order to increase winter safety on our highways. Anti-icing is a proactive approach to winter road maintenance. It involves the application of anti-icing chemicals to the roadway before a winter storm. It forms 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. If applied just before a winter storm, the anti-icing chemical will begin working as soon as the first snowflake falls and will delay the accumulation of snow and ice pack on the pavement. A proactive anti-icing program provides the department with two major capabilities: the capability for maintaining roads in the best conditions possible during a winter storm, and the capability to do so in an efficient manner. As a consequence, anti-icing has the potential to provide the benefit of increased traffic safety at the lowest cost.

An additional benefit is that anti-icing chemicals can also be sprayed onto road sand and salt before being applied to the road. This is known as “pre-wetting”. Pre-wetting operations commence once a winter storm is in progress, or road conditions become slick. Anti-icing chemicals are sprayed onto sand as it is applied by our sand trucks to the road surface allowing the sand to better penetrate the ice on the road surface while retaining more of the sand on the road. Pre-wetting sand has been proven nationally to reduce the amount of sand required by as much as 30%. This has the added benefit of reducing spring sweeping costs by minimizing the amount of sand that must be applied to the roadway. Other benefits include less frequent storm drain cleaning and less buildup of materials underneath guardrails.

Previous funding (FY2009 - $500,000, FY2011 - $150,000, and FY2014 - $400,000) has allowed the department to convert from magnesium chloride to enhanced sodium chloride brine in Juneau, Sitka, Klawock and Valdez. This conversion has reduced the amount of yearly funding spent on purchasing chemicals as sodium chloride and the enhancer are significantly less costly than magnesium chloride. New anti-icing systems have been installed in Fairbanks, Soldotna, Homer and Kodiak.

Funding will be utilized to purchase sodium chloride brining units, anti-icing chemical storage tanks, piping, and additional applicator equipment needed to dispense the liquid agents. Equipment will also be purchased to allow pre-wetting of sand as it is applied to the road from our sand trucks.

Summary of anti-icing benefits:

- Anti-icing is a proactive approach to winter road maintenance. It forms 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 surface.
- Anti-icing returns road surfaces to normal faster, resulting in fewer accidents and delays.
- Reduced use of sand on the road results in cost savings and reduced environmental impacts.
- Snow and ice control cost savings results in benefits to the department and the public.
- Improved winter roadway conditions results in safer driving conditions for motorists.
- Lower accident rates – Colorado experienced an average decrease of 14% in snow- and ice-related crashes during a 12-year study utilizing the anti-icing process on the interstate system in the Denver metro area.