



## Northern Region

# Director's Quarterly

Alaska Department of Transportation and Public Facilities

## Fall Edition

September 2014



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Comments on the newsletter?  
Email [dotnrdirector@alaska.gov](mailto:dotnrdirector@alaska.gov)  
or call (907) 451-2210

## DIRECTOR'S MESSAGE

Greetings,

In this issue, we are focusing on communication with our most important stakeholder: you. All transportation projects are built with the end user in mind. Long before construction begins, we solicit public input from interested and affected individuals.

Public involvement is the cornerstone of every transportation project, and, in fact, many projects are conceived by a member of the public who recognizes a need and brings it to the attention of legislators or local agencies, who in turn, fund or request the project.

Throughout a project's development, we continue to rely on public input, balanced with sound engineering,

to guide decisions.

In this issue, we answer the most common questions about our public information process and feature our new online public meeting calendar. We also address two of the topics we are asked about frequently: salt use in the winter and traffic cameras. Finally, we share a new construction technique that is being tested in Northern Region with the hope of extending the life of bridges.

Again, this issue is all about you: where you can go for information and your most frequently asked questions. This newsletter is one more way we work to make information easier to access. If you have ideas for future topics you'd like me to cover, please let me know at [dotnrdirector@alaska.gov](mailto:dotnrdirector@alaska.gov) or call (907) 451-2210.

## PUBLIC INVOLVEMENT PROCESS

The department often receives questions about the public involvement process and how the department includes residents in project development. Below are four of the most common questions we receive and answers to them.

- “How does ADOT&PF notify people about projects?”** The department strives to involve residents and community officials in the development of projects that affect them. For each project, staff must take careful consideration to reach out to all stakeholders of a project, such as local government officials, communities, tribal entities, local users, media and transportation providers. Because there is no one way to reach all affected and interested parties, the department utilizes a variety of outlets to reach as many people as it can. We regularly post information about projects and public involvement opportunities:
  - In ads in local newspapers, radio and TV;
  - On our social media accounts, which include Facebook and Twitter;
  - On our public involvement calendar;
  - On the project pages on our website;
  - Through emails to our GovDelivery



subscribers; and

- On the State of Alaska Online Public Notice site.

- “I submitted a comment, but my suggestion did not show up in the final project. Why?”** We depend on input from citizens to help make informed decisions, but we must also consider many factors when developing projects. We need to balance requests with sound engineering and data. Factors such as available funding, time constraints and right-of-way also can hamper the feasibility of incorporating a suggestion into the final project.

That being said, part of our job is to inform the public of the context surrounding a project and provide realistic expectations about what the department can or cannot do. That leads to more

constructive suggestions that we can more realistically incorporate into a project.

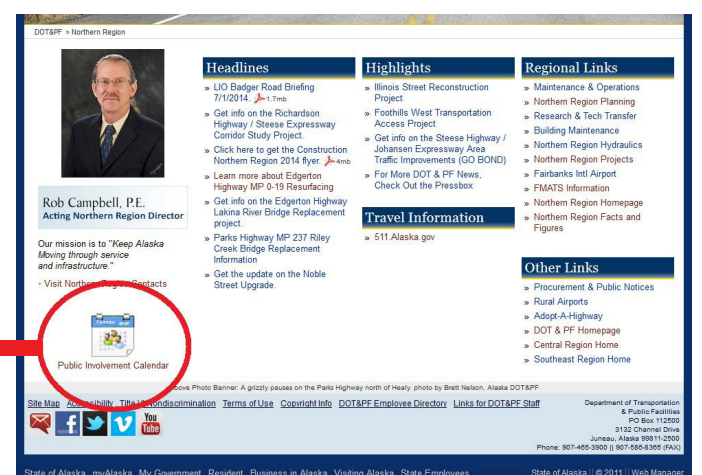
- “What is the cutoff for submitting comments?”** We always accept comments from the public. But to make it so staff has time to review and consider comments regarding a project, we have to assign a deadline for comments about a specific project during its various stages.
- “How do I submit a comment?”** There are a few ways to submit a comment to us, such as:
  - Filling out a comment sheet or postcard from a public meeting;
  - Contacting project staff in the way outlined on a project's webpage. (Project pages for Northern Region can be accessed here: <http://dot.alaska.gov/nreg/projects/index.shtml>); and
  - Leaving a comment on our Facebook page or tweeting at the ADOT&PF Twitter account.
  - In addition to these outlets, anyone is free to contact our public information office from 7 a.m. to 4:30 p.m. Monday through Friday at 451-2240.

## PUBLIC INVOLVEMENT CALENDAR LAUNCHED

The department recently introduced a Public Involvement Calendar for Northern Region. It's a place where residents, legislators and ADOT&PF employees can go to see upcoming public meetings.

The calendar, powered by Google, can be accessed via a link on the Northern Region homepage or by visiting <http://dot.alaska.gov/nreg/calendar.shtml>.

Items listed on the calendar include public involvement activities for projects at various stages of development, as well as meetings open to the public where Northern Region is presenting information.



The Public Involvement Calendar can be found on the Northern Region homepage under the contacts link.

## IMPORTANT LINKS

How do I...

- Subscribe to receive news and updates via email?
- Find information about driving conditions and alerts?
- Find news and updates on the department's Facebook page?
- Find news and updates on the department's Twitter account?
- View videos and Public Service Announcements on the department's YouTube account?

<https://public.govdelivery.com/accounts/AKDOT/subscriber/new?>

<http://511.alaska.gov>

<https://www.facebook.com/AlaskaDOTPF>

<https://twitter.com/AlaskaDOTPF>

<https://www.youtube.com/user/AlaskaDOTPF>

# WINTER MAINTENANCE AND SALT BRINE

With winter rapidly approaching, the department is gearing up for winter road maintenance. This preparation includes readying resources the department’s Maintenance and Operations division uses to keep the state’s roadways clear.

The department’s arsenal against ice and snow includes an advanced equipment fleet, salt and sand, along with a relative newcomer: salt brine, which is a freeze point depressant that lowers the freezing point on roads.

The Northern Region adopted the use of salt brine about five years ago, as a result of rising costs of magnesium chloride, which had been used before.

The salt brine solution is made up of water mixed with 23.3 percent sodium chloride.

### BEST TIME TO APPLY SALT BRINE

The salt brine solution works best when applied before snow and ice accumulate on roadways and at temperatures of 20 F and above. Pavement temperatures should be 15 F or higher.



Salt sits in storage at the Northern Region maintenance yard.

Because corrosion from salt presents a problem for roadways, the department adds an organic compound to the mixture that makes the solution one-third as corrosive as salt. The additive also lowers the effective temperature of the salt brine.

The salt brine mixture is now a key component of the department’s anti-icing measures. Anti-icing involves treating

bare roads before a winter storm event with the salt brine solution to slow or prevent the build-up of snow and ice. Salt brine applied before a storm forms a bond breaker between the pavement surface and the snow and ice layer reducing the chances that ice will form and bond to the pavement surface.

Northern Region used to focus solely on

de-icing but has since incorporated a more proactive anti-icing strategy.

Timing is important in the effectiveness of anti-icing measures. The salt brine solution works best when applied before snow and ice accumulate on roadways and at temperatures of 20 F and above.

Another key factor in deciding whether the anti-icing solution will be applied is pavement temperature. To be effective in combating ice, salt brine should be applied on pavement temperatures of 15 F or higher.

Once snow and ice have accumulated, crews switch to de-icing measures. Salt brine can still be used, but instead of being applied directly, the mixture is sprayed onto sand as it is applied by sand trucks to roadways. This process makes the sand penetrate the ice better as well as aiding in the reduction of sand scatter from the traveled roadway.

Pre-wetting our sand before application has shown to reduce the loss of sand off the roadways, thus reducing the amount of sand applied.

# TRAFFIC CAMERAS VERSUS RADAR DETECTORS

The department regularly receives inquiries about the cameras sitting atop traffic signals. Residents often ask what the cameras are for, what they record and what information is saved on them. Here, we’ll break down what the traffic cameras do and explain a newer technology you might notice on some signals.

### Traffic cameras

These cameras simply detect the arrival of vehicles at an intersection and relay that to the signal control system for that intersection.

These cameras don’t do the following things:

- Record video;
- Read vehicle license plates;
- Zoom in on specific vehicles. These cameras are in a fixed focus and a fixed location. They don’t move around; or
- Send information to law enforcement. These cameras are not red-light running cameras.

Before the traffic cameras, the state used in-ground detection loops. The in-ground detection systems were



prone to break in extreme cold weather and costly to repair. They were less reliable for detection, as they could only detect vehicles that were fully in lanes. This led to less reliable detection during winter when snow obscures lane divisions.

Video detection is not without flaws, though, and is prone to experiencing problems when there is sun glare on ice or snow covered roadways. When this happens, the signal may change to give a green light to an intersection leg with no vehicles. This is referred to as a false call. The cameras can also have difficulty detecting vehicles during periods of heavy fog.

### Radar detectors

During the past two summers, several of our intersections have been converted to newer radar detection technology (little white boxes on the signal mast arms) to reduce the number of false calls and improve detection during ice fog events. As more signals are upgraded through projects, our plan is to switch more of them to radar.

Radar detectors work similarly to cameras. A detection zone is set up and a baseline “image” of the intersection is established (by knowing how far it is to various fixed objects). The unit transmits radar beams that will “see” something enter the detection zone, meaning the distance to the object the unit is expecting to find is interrupted by the presence of a vehicle.

# NEW TYPE OF BRIDGE MEMBRANE

In late June, crews installed a new type of waterproof membrane on the Phelan Creek Bridge, Mile 201 Richardson Highway. A waterproof membrane is an impenetrable layer between the asphalt surface and the concrete bridge deck, which protects the deck from the effects of water and de-icing chemicals.

The state has traditionally used a rolled fabric material for this purpose but opted to try a sprayed-on product as an experimental feature for this bridge. This type of membrane is the first of its kind installed in Alaska and is anticipated to last much longer and perform better than its rolled counterpart.

In preparation for the membrane, the concrete deck was shot blasted with small steel balls to remove any loose concrete or foreign debris. A thin primer was hand spread onto the deck after being thoroughly mixed with a hardener. The primer gives the membrane a better

bonding surface than concrete could.

Two successive layers of the methyl methacrylate membrane were then sprayed onto the deck with a thickness of 1.5mm each. Separate colors are used for each layer to ensure complete coverage, but chemically they are identical.

It is worthy to note that the working time of this product is incredibly short: less than 6 minutes from the time the components are mixed. Extra equipment was nearby in case of breakdowns, clogs or malfunctions. Because of the short working window, it was also important that everybody on the crew knew their particular role and acted with speed and efficiency.

After the membrane was completed, the application of a tack coat and the asphalt wearing course proceeded as usual, and the bridge was open to traffic by the end of July.



The second (gray) layer of membrane is applied on top of the first (yellow) layer. Photo by Raquel Ream, DOT&PF

The department is optimistic about extending the life of Phelan Creek Bridge as well as the reduced future maintenance costs that come with

applying this membrane. There are plans to expand the use of this type of membrane to other new bridges in the state in coming years.