Washington State Department of Transportation

Statewide Snow and Ice Plan

2009-2010

This document supersedes the 2008-2009 Snow & Ice Plan

Summary

The Washington State Department of Transportation (WSDOT) maintains all state routes, US routes and Interstate highways throughout Washington State. The climate of the state is extremely diverse, including temperate rain forests, high mountain passes, desert like plateaus and almost everything in between. During the winter months, snow and ice control has a significant role in providing safety for the traveling public and facilitating the movement of goods and services. The WSDOT Snow and Ice Plan provides guidance and direction to assist in safe, efficient and consistent operations throughout the state. In addition, this plan will help WSDOT support our "Chemical Priority Program" to maintain consistent levels of service between regions and maintenance areas within the state. This statewide Snow and Ice plan will be supplemented with six regional plans and multiple maintenance area plans, which provide more specific details on how statewide plan goals will be accomplished at the local level. The attached plan includes the following sections:

Roadway Treatment Goals: Delineated by color, displays different roadway sections within the state and establishes recommended treatment levels to be applied to roadway sections to maintain consistency throughout the state, regardless of region or maintenance area boundaries.

Winter Maintenance Accountability Process (MAP) for Snow and Ice Level of Service and Data Collection Procedures: Describes the process used to evaluate the level of service achieved for the winter season, outlines the data collection process used to record all sand, solid and liquid deicer applications. Describes the weather forecasting services provided to WSDOT.

Snow and Ice Training and Chemical Slipperiness Memorandum: Describes the WSDOT training program, the checklist for annual review, guidelines for operation of wing plows, and a memorandum on chemical slipperiness, which provides direction regarding when chemical deicers should be used.

Statewide Storage Facilities: Includes a series of maps showing locations of winter maintenance storage facilities statewide.

Field Testing and Sampling Procedures: Defines consistent sampling procedures to ensure we are getting quality deicing products that meet the state contract and Pacific Northwest Snow-fighters (PNS) specifications.

Application Guidelines: FHWA established recommendations for applications of anti-icing products in a variety of different weather conditions and temperature ranges.

This plan will be revised and updated as needed with input from numerous sources. The 2009-2010 Snow and Ice Plan will be accessible in an electronic format through the WSDOT intranet at: http://wwwi.wsdot.wa.gov/MaintOps/ or on the Internet at: http://www.wsdot.wa.gov/maintenance/. For questions, or comments please contact M & O Branch Manager Monty Mills at: millsm@wsdot.wa.gov or call (360) 705-7803.

The WSDOT Chemical Priority Program

Since the early 1990's, WSDOT has increasingly used chemical anti-icers in liquid and solid form as an alternative to sand or abrasives in the winter maintenance program. Sand alone has no ice melting properties and can only provide traction after snow and ice have already bonded to the road. Chemical anti-icers prevent that bond from forming and are a pro-active form of winter maintenance. The move to a chemical priority program has resulted in a much improved level of service including:

- Increases in mobility and winter driving conditions, including the movement of goods and services during winter.
- Less frequent closure of passes.
- A quicker return to bare and wet conditions after a snow event.
- Less dust in the air through the reduction of sand and abrasive use.
- Ability of WSDOT Maintenance crews to perform other maintenance tasks since chemical anti-icers are an effective form of ice control over longer periods.

As winter driving conditions have improved through WSDOT anti-icing programs, public expectation for drivable winter conditions has increased commensurately. The reduction or elimination of a chemical priority program would lead to increased potential of crashes where drivers fail to adapt appropriately to conditions and more frequent highway closures or restrictions. Both of these lead to increased costs and liabilities to the taxpayer.

WSDOT continues to evaluate alternatives to chloride anti-icers such as various acetates and formates, as well as agricultural by-products. These alternative products are used to some extent by other agencies and some have been used previously by WSDOT. These alternative products are prohibitively expensive under current budget scenarios. Also, many, if not all, of the alternative products may have environmental consequences. These consequences, and the potential advantages (if any) of differing alternatives are still being analyzed by the winter maintenance research community due to the relatively recent emergence of these alternatives.

WSDOT will continue to follow the development of chloride alternatives in the hope that a reasonably priced product which is environmentally neutral can be provided. The level of service provided by salt and liquid chloride anti-icers is high, and the wide use nationally and internationally is indicative of effectiveness of these products in providing drivable winter conditions when used properly.

WSDOT currently uses only products which are on the approved product list of the Pacific Northwest Snowfighters (http://www.wsdot.wa.gov/partners/pns/default.htm), the premier winter maintenance materials analysis organization.

All WSDOT winter materials are corrosion inhibited at purchase, at the stockpile site, or by application equipment capable of performing this function. The cost of corrosion inhibited products is significantly higher than non-inhibited products, but WSDOT has committed to the use of such products as long as their benefit can be quantified. Research is being performed by WSDOT presently to determine this issue.

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