



DATE: November 8, 2021

TO: Mayor Robinson and City Councilmembers

FROM: Chris Long, Assistant Director, Mobility Operations, 452-6013
Transportation Department

SUBJECT: Winter Weather Preparedness and Response

Introduction

Bellevue experiences a wide range of weather during the winter season including heavy rains, strong winds and snow/ice events. The seasonal forecast strongly indicates a La Niña weather pattern again this winter. Early winter months (October – December) are anticipated to have above average precipitation and slightly above average temperatures followed by slightly below average temperatures through the rest of the winter (January - March). Although we consider seasonal forecasts, this information is used for awareness only as we consistently prepare to respond to weather events throughout the year. The shorter term (current to 14-day) forecasts are far more useful to execute equipment, material and staff planning for weather related events.



Flood



Ice and Snow



Wind

Preparedness, Response, and Recovery – One City Approach

Eligible staff from Transportation, Utilities, Parks and Finance and Asset Management (Facilities and Fleet) are trained in response and recovery activities prior to the winter season with this year's training occurring in late October. As of November 1, we are winter weather ready with a few new changes.

Our response to potential weather events will continue to face unique constraints and challenges due to the COVID-19 pandemic. Despite strict guidelines, we remain committed to maintaining the level of service our residents receive during any weather-

related event. As we continue to find ourselves in a complicated season of challenges, we take pride in how our teams rise to the occasion and find innovative ways to continue operations.

The following operational decisions have been made to ensure the continued safety of our staff during weather event response:

- Staff on out-going shifts will be required to clean and disinfect their vehicles used during their shift. Staff on in-coming shifts will also disinfect their vehicles prior to use. They will perform standard vehicle inspection while awaiting their assignments. This measure will ensure cross-contamination between shifts is kept at a minimum.
- All in-person debriefing meetings will be held with social distancing and mask use as a priority. Any pertinent shift updates and announcements will be transmitted over the 800MH radio by the dispatchers.
- The annual pre-event weather response training has been converted from in-person classes to online classes. Weather responders will be required to watch all training videos on Bellevue's employee learning site. Staff with five years or less tenure will also be required to attend a hands-on training at the Bellevue Service Center (BSC) in small groups. This will help build confidence in those who haven't had as much opportunity to serve.

New Innovations for 2021/2022 Season

In preparation for the 2020/2021 season, we deployed Automatic Vehicle Locating (AVL) GPS technology on 24 of our winter response vehicles and saw significant improvements in how we were able to monitor snow removal progress on our priority routes and experienced many successes in our ability to quickly respond to emergency snow removal needs. This year we are expanding this technology with three new features:

1. Near Field Communication (NFC) Identification: NFC Identification allows our winter response vehicle operators to "badge in" when entering a vehicle to associate their names to a vehicle asset. This will allow dispatch staff to automatically see which route an operator is servicing on the AVL system, thereby reducing radio traffic and improving operational efficiencies.
2. Snow Removal Map: One of the ultimate goals of the AVL system is to provide a public facing map that shows what roads were recently plowed. Transportation and IT Department staff will be testing the mapping system this winter with the hope of making the map available to the public for the 2022/2023 winter season.
3. Real-time Route Completion Metrics: This year, the department has also enhanced the AVL system to report on route completion metrics. Additional integration with the City's GIS datasets was performed to provide dispatch staff with additional insights on the percentage of City roads cleared based on where winter response vehicles have travelled during an event. This new feature is made available through collaboration with IT Department staff.

Bellevue will also be testing roadway temperature sensors on Lakemont Blvd to support our snow removal and anti-icing work in partnership with the University of Washington StarLab on an innovation grant they received from the Federal Highway Administration (FHWA). Three devices developed by the UW StarLab will be deployed along this corridor to help provide our Streets crews with information about roadway conditions to help determine when anti-icing spray should be deployed and to evaluate what treatment to use when snow starts to compact on the roadway. Additionally, the three devices are capable of monitoring for roadway hazards as a result of inclement weather, such as vehicles losing traction, near miss events and even collisions.

Interdepartmental Support for Winter Weather Response

- Finance and Asset Management is a critical department in winter weather response activities. Not only do they address facility needs, they also service vehicles and equipment before, during and after snow events.
- The Parks Department provides additional support personnel and leads snow removal efforts on Fire Station and Hospital properties.
- The Utilities Department provides personnel for operation of snowplows, to address water main breaks and to mitigate blocked storm drains and sewer backups.

The Office of Emergency Management (OEM) conducts training and exercise activities for operational departments using winter weather scenarios. The OEM is also able to quickly staff the Emergency Operations Center (EOC) with trained City personnel during significant winter weather events to assist with the coordination of public safety announcements.

Ice and Snow Response Management

Bellevue's topography presents a unique challenge for ice and snow response. Since many ice and snow events occur only at higher elevations, resources are usually enough to service residential streets in addition to priority routes. However, if snow or ice is accumulating Citywide, only priority routes will receive continuous plowing and/or de-icing until conditions stabilize. The ability to get plows into neighborhoods during Citywide events is influenced by event intensity and time of day/day of week.

Priority of Response

- Life Safety
- Property Damage
- Mobility

Key Operational Objectives

- Clear streets of snow, ice, water and debris
- Restore mobility and assist other City operations
- Provide information to the public and City leadership

Weather Event Lead Departments

- Snow/Ice – Transportation
- Flood – Utilities
- Wind – Transportation

The public can obtain a real-time view of road conditions during a winter weather event using the City's traffic map and camera page on the following website:

<https://trafficmap.bellevuewa.gov/>.

The public can also sign up for extreme weather emergency alert via email or text notification at: <https://bellevuewa.gov/city-government/departments/city-managers-office/communications/emergencies-and-extreme-weather>.

Summary

Bellevue devotes significant resources to winter weather preparedness and response with a coordinated, One City approach. For questions, please contact Chris Long at CLong@bellevuewa.gov.

Attachment

A. Snow Response Priorities Map