

# PBOT

PORTLAND BUREAU OF TRANSPORTATION

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**Dan Saltzman** Commissioner **Leah Treat** Director

**TO:** Commissioner Dan Saltzman  
**FROM:** Director Leah Treat  
**DATE:** February 15, 2017  
**RE:** **New Winter Storm Policies and Procedures**

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The 2016-17 winter storm season has been one of the most severe in recent years. This is true in terms of the number of storms, the severity and duration of the storms, the impact the weather events have had on Portland and Portlanders and the strain placed on city resources and workers.

To date, Portland has experienced the following major winter weather events:

- Dec. 4<sup>th</sup>-5<sup>th</sup>: Snow in downtown Portland, with more at high elevation areas.
- Dec. 8<sup>th</sup>-10<sup>th</sup>: Ice and 1-3 inches of snow with more than 200 locations of downed trees. Landslides including one that closed NW Cornell Road for approximately a week.
- Dec. 14<sup>th</sup>-15<sup>th</sup>: Snow accumulation during Wednesday evening rush hour with commuters experiencing major delays and hundreds of cars abandoned in the right-of-way.
- Dec. 31<sup>st</sup>: Light snowfall and icy conditions overnight on New Year's Eve.
- Jan. 7<sup>th</sup>-8<sup>th</sup>: Snow accumulation 1-4 inches, followed by widespread freezing rain.
- Jan. 10<sup>th</sup>-17<sup>th</sup>: Heavy snow accumulation across the region, followed by several days of record low temperatures and finally freezing rain. Seattle DOT assisted Portland with road salt, plowing and downed tree clearing.
- Jan. 18<sup>th</sup>-20<sup>th</sup>: Multiple landslides, including a moderate slide that closed West Burnside for two days.
- Feb. 2<sup>nd</sup>-3<sup>rd</sup>: Snow and freezing rain. PBOT's first use of road salt.
- Feb. 5<sup>th</sup>-6<sup>th</sup>: Facing the possibility of significant snow accumulation, city instead experiences heavy rain. The precipitation contributed to a significant number of landslides, including a large slide that closed SW Skyline for three days.



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- Feb. 8<sup>th</sup>-9<sup>th</sup>: Heavy rain and landslides, including a closure of NW Germantown Rd and Bridge Ave for two days.

These events presented PBOT with multifaceted operational, planning and communications challenges. At the same time, the events were also occasions for PBOT leadership and staff to adapt bureau procedures as they learned new lessons after each weather event.

For example, during the December 14<sup>th</sup>-15<sup>th</sup> event, PBOT faced the challenge of hundreds of abandoned cars in the right-of-way, including on critical emergency response and transit routes such as Sam Jackson Park Road and West Burnside Street. As a result of this experience, PBOT worked with the Portland Police Bureau and OHSU Police to require and enforce chains or traction tires on Sam Jackson Park Road and West Burnside. This new approach led to a significant decrease in the number of abandoned cars along these two routes.

In another example, one that received widespread coverage in the media, PBOT requested additional resources from the Seattle Department of Transportation to assist PBOT crews after the January 10<sup>th</sup>-11<sup>th</sup> storm. While they were in Portland, the SDOT crews worked with PBOT to test the effectiveness of road salt. Based on this collaboration, PBOT has begun to negotiate a long-term mutual aid agreement with SDOT. The experience gained during the initial test of road salt has supported PBOT's further use of road salt, including during the February 2<sup>nd</sup>-3<sup>rd</sup> storm.

Finally, in response to the significant number of school days lost to winter weather, Commissioner Saltzman directed PBOT to expand the routes it prioritizes for de-icing and plowing to include important school routes for Portland Public Schools and other school districts in the city. PBOT tested this expanded service plan during the February 2<sup>nd</sup>-3<sup>rd</sup> storm and gained valuable experience that will be useful if the bureau makes this expansion permanent.

The rest of this report details the policy and procedural changes that PBOT has already undertaken or is in the process of undertaking in response to the lessons learned during this winter storm season.

## **1. Consider and test new road treatment options.**

While the final decision to permanently include road salt in PBOT's road treatment toolkit rests with City Council, PBOT will continue to deploy road salt on a temporary basis during this winter. The bureau has acquired more salt and is developing operational plans to use it in case of additional snow and ice events this season. PBOT will also explore the use of magnesium chloride crystal as an alternative to sand and gravel. Magnesium chloride crystals may provide an equal level of enhanced traction and dissolve with little to no intervention. This would save significant resources

and time in after-storm cleanup. The bureau will need to procure the crystals, adapt equipment for their use, and determine pilot locations.

## **2. Stage plowing equipment on plow routes as part of the bureau's standard operating procedure.**

As part of the operational changes introduced this season, PBOT now stages its snow plows and other equipment on the city's plow routes in advance of coming storms. This has proven to be an effective approach, and it will be integrated into the bureau's standard operating procedures. For the continued effectiveness of this measure, PBOT will need to involve the Portland Police Bureau in traffic management so deployed responders can act effectively in cases of increased traffic congestion. This was one of the most significant lessons learned after the December 14<sup>th</sup>-15<sup>th</sup> storm when many snow plows were stuck in the gridlock that affected large sections of the city.

## **3. Adopt new anti-icing criteria and new definitions of service levels.**

PBOT has added the Central Business District to its standard de-icing routes. It is also analyzing expanding the standard snow plow routes to include: one, the treatment of neighborhood greenways and the bus routes for the Portland Public, David Douglas and Parkrose School Districts plus all roads within ¼ mile of schools; two, the treatment of all TriMet bus routes and not just emergency routes; and three, the treatment of all residential streets. During the February 2<sup>nd</sup>-3<sup>rd</sup> storm, PBOT did expand its de-icing and plowing activities to include school routes. As part of this, PBOT now has these routes mapped. PBOT has also calculated the resource requirements and costs associated with these new levels of service. As a first step in expanding service levels over the long-term, PBOT has requested General Fund dollars to fund a portion of these expanded services.

## **4. Adopt additional measures to expand response capacity.**

The bureau is developing additional measures to further increase PBOT's storm response capacity.

First, PBOT is considering an intergovernmental agreement (IGA) with the Portland Water Bureau in order to be able to deploy Water Bureau drivers and trucks during a winter storm. As part of this, PBOT would purchase additional snow plow blades to install on Water Bureau trucks as needed. Water Bureau drivers would also participate in PBOT's annual snow plow driver trainings. PBOT has requested General Fund dollars to pay for the additional equipment.

Secondly, PBOT is currently finalizing a mutual aid agreement with the Seattle Department of Transportation in order to increase the resources available to PBOT during future storm events.

Third, PBOT has begun the process to put contingency contracts in place for private sector plow services that could provide more localized plowing. The first step in this process -- issuing of a Request for Information to gauge the capacity of potential vendors -- was completed on February 15<sup>th</sup>.

Finally, PBOT has initiated discussions with the Portland Bureau of Emergency Management to develop new criteria for Emergency Coordination Center (ECC) activation during snow and ice events. Developing new criteria would allow more on-call teams to be deployed to bolster the city's overall response. Activating the ECC during snow and ice events would also provide a valuable opportunity for the Emergency Operations teams to test system and facilities for operational integrity.

### **5. Streamline parking enforcement deployment.**

During past winter seasons, the parking enforcement officers responsible for ticketing and towing abandoned cars relied on Maintenance and Operations staff to drive them to those streets blocked by abandoned cars. During the December 14<sup>th</sup>-15<sup>th</sup> storm when the city experienced an extremely high number of cars left in the right-of-way, this procedure was too inefficient and did not support an adequate response to the problem of abandoned cars. In response, PBOT tested a new procedure in which parking enforcement officers deploy independently. The Parking Enforcement Division developed protocols to communicate directly with Maintenance Dispatch to receive notifications of problem locations. Parking enforcement officers focused their efforts to ticket and tow abandoned cars on emergency response routes, major transportation arterials and streetcar lines. This new procedure decreased parking enforcement response times and also freed Maintenance staff to focus on other needed aspects of storm response. As a result, it is now part of PBOT's standard operating procedure.

### **6. Continue use of on-street parking meter amnesties and explore expanding amnesties to SmartPark Garages.**

During the December 14<sup>th</sup>-15<sup>th</sup> storm event, PBOT initiated a parking meter amnesty in the downtown meter district. The goal was to encourage travelers to take other modes of transportation to leave downtown. The amnesty proved popular and effective, and PBOT will make this tool a regular part of the bureau's storm response. The bureau is currently exploring the option of extending any parking amnesty to the city's SmartPark Garages.

### **7. Expedite the removal of downed trees.**

A consistent issue in many winter storms is downed trees blocking the right-of-way. Speeding the removal of these trees is a priority for PBOT. Achieving this goal is contingent on a productive partnership with Urban Forestry (UF). PBOT has already conducted debriefs with UF to discuss needed improvements. PBOT is encouraging UF to proactively staff for predicted events and to use city-wide tools such as TrackIt to

track downed trees. Currently Urban Forestry uses an internal spreadsheet for such tracking that cannot be easily shared with bureaus. This impedes an efficient response to trees that have fallen and are blocking the right-of-way.

### **8. Continue to require and enforce chains and traction tires on West Burnside and Sam Jackson Park Road.**

Starting in the fall and continuing during the winter storm season, PBOT proactively spread its messages to the public about using chains. In advance of the December 14<sup>th</sup>-15<sup>th</sup> storm, the Communications Team even conducted a chain-up demonstration that was carried widely by local media. Despite this, there was a very high number of cars that spun out and/or were abandoned because drivers did not have adequate traction. As a result, the bureau instituted a chain or traction tire requirement for West Burnside and Sam Jackson Park Road beginning with the January 7<sup>th</sup>-8<sup>th</sup> storm and continuing for subsequent storms as warranted by conditions. This has proven to be a very effective measure; the incidence of abandoned cars along these two critical routes has fallen dramatically. In order to streamline the deployment of the chain requirement, PBOT has requested funds for new variable message boards. Remotely programmable, the boards will make it easier for PBOT to alert the public when chains are required. PBOT will need the continued support of the Portland Police Bureau and the OHSU Police to support the enforcement of the chain requirements.

### **9. Develop new approaches to sidewalk clearance.**

Given the duration of the cold snap in the aftermath of the January 10<sup>th</sup>-11<sup>th</sup> storm, the passability of city sidewalks became a concern. As in every storm situation, PBOT communicated that sidewalk snow and ice clearance is the responsibility of the adjacent property owner. The size of the problem in January however indicates the need for stronger communication and a new protocol for enforcement. Along these lines, PBOT is exploring the use of PBEM's NET teams as a resource either for directly communicating with property owners about their responsibility and/or for providing sidewalk snow removal support.

### **10. Train more staff in WebEOC.**

WebEOC is a powerful on-line tool for coordinating storm response. To increase the utility of this tool, PBOT is currently training more Maintenance staff in its use. The bureau will also extend the training opportunity to other PBOT divisions, including Parking Enforcement.

### **11. Expand and strengthen winter weather communications.**

Every year starting in fall and continuing through the winter, PBOT undertakes a multifaceted communications strategy to educate the public about safe winter travel and, in the case of inclement weather, inform the public about travel conditions. Based

on the experience of the 2016-17 winter, PBOT has adopted and is developing new communications methods to increase the effectiveness of its public messages. These steps include:

*Strengthen communications about delaying travel:* PBOT is developing options for more assertive messaging to the public about delaying travel, especially for those cases when storms arrive during the afternoon commute hours. The potential options include partnering with businesses to provide incentives for commuters who are downtown to delay their travel. The bureau's communications team has also started conversations with downtown stakeholders about partnering on storm related communications, including more robust messages about delaying travel.

*Adopt new communications tools:* To provide the public with more information about road conditions, PBOT will develop an interactive map that will show the location of all snowplows and the routes that have been plowed/sanded. Working with the vendor that supplies the bureau's GPS data, PBOT has confirmed the map's technical feasibility. As the next step, PBOT is working with BTS to build the application and integrate it into the city's system. PBOT is also identifying which of the bureau's traffic cameras could be made accessible to the public and the media to provide a more complete picture of road conditions. PBOT has included in its requested budget the cost of purchasing and installing a camera on West Burnside and integrating it into the state's TripCheck system. Finally, PBOT will work with way-finding applications such as WAZE so that these applications can identify for drivers the bureau's plow routes for drivers and those roads that should be avoided during a winter storm event because of their steep grades.

*Provide more timely information about abandoned cars:* During the January storms, there was a considerable issue with drivers abandoning their cars and blocking rail tracks. To discourage this, PBOT will more assertively publicize the ticketing and towing of abandoned cars, especially those blocking rail tracks and other critical routes such as emergency response routes. The bureau will also update the website with guidance for people who abandon their cars, including how to retrieve vehicles if they are towed.

*Clarify expectations:* PBOT needs to clarify the expectations for the amount of snow clearing PBOT's equipment can do. Many residents were frustrated with the level of snow removal and street conditions, especially in the aftermath of the January 10<sup>th</sup>-11<sup>th</sup> storm. The bureau will update its website to explicitly state what residents can expect and when they can expect passable streets.