



Department Source: Public Works

To: City Council

From: City Manager & Staff

Council Meeting Date: November 1, 2021

Re: Report: Winter Weather Response for the 2021/2022 Winter Season

Executive Summary

Staff has prepared for Council consideration a report concerning snow priority routes for winter 2021/2022, with a recommendation that no changes be made to first, second or third priority routes.

Discussion

The efficiency of snow removal operations in Columbia continues to improve; however, due to overall staffing concerns for the Street Division and other Divisions that assist with winter response operations, no additional priority lane miles are recommended.

With the Fiscal Year 2022 (FY22) budget, Council approved 3 additional positions for Street Division effective October 1, 2021. We are seeking to fill those and other vacant positions as soon as possible. There are currently eight (8) vacancies in the Street Division.

The Street Division (44 FTE) is the lead agency for Columbia's winter weather response with a combined fleet of twenty one (21) tandem and single axle trucks, eleven (11) one-ton trucks, three (3) new Class 5 trucks and a dedicated motor grader with a wing plow. Three (3) backhoes and two (2) skid steers are available as well. Class 5 trucks are a relatively new addition being considered for winter weather response throughout the nation, they are smaller than single axle dump trucks but heavier duty than one-ton trucks, while not requiring a commercial driver's license to operate. We think this style truck will be better suited for winter weather activity while still retaining much of the everyday versatility of a one-ton. The addition of these three vehicles will allow us to evaluate the overall effectiveness for future fleet purposes.

Fleet Operations provides critical support during events by repairing equipment and having it ready for response. The Street Division also relies on shared resources from the Parks & Recreation department, Columbia Utilities and other City departments, utilizing some personnel, if available, as plow drivers and equipment operators to complete the roster for plow trucks and will share resources depending on operational conditions during an event.

Operational changes were implemented last year due to Covid-19 impacts, limiting the interaction of personnel during operations, maintaining social distancing and pursuing regular sanitation of equipment. The health of employees is the primary consideration and the biggest threat most agencies face from an operational perspective is a positive test result from one or more individuals, impacting most of the entire unit due to a required quarantine situation. While some other agencies last year did experience operational



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impacts due to quarantines, we did not have any winter weather response impacts due to Covid related quarantine last year, and will continue to seek ways to minimize the potential for this season.

While each storm is different and operational response depends on weather conditions before, during and after the event, crews report for duty for 12 hour shifts, typically with 22 to 28 person crews for each shift. For larger storms or unusual circumstances, additional resources from other departments and contractor haul off may be employed or changes in shift reporting may occur.

For events with 4" of snow or less, the Street Division along with some shared operators are able to respond to the event. As weather is forecasted to move into the area for a larger event, more resources from the other departments such as Solid Waste roll-off containers, Sewer, Stormwater, Water and Electric Division operators and equipment may be added in preparation for response.

Generally, for first and second priority routes, the outcome for 6" or less of snow is to have near normal, prudent winter weather driving conditions within 24 to 36 hours of the event's end (no change from previous year). Staff also seeks to maintain at least one (1) bare wheel path (may still be wet, see attached photo examples) as much as possible throughout the event, though during portions of active snow, some roads may become overwhelmed and totally snow covered. This requires continuous operations during the events as well as focused attention after the end of the event. If there is between 4" – 6" of snow, crews will also methodically plow within neighborhoods with a targeted goal of getting all streets to a passable condition within 80 hours of the event's end (improvement of 4 hours from previous year). Passable condition is defined as passable by a front wheel drive vehicle at slow speeds utilizing prudent winter weather driving. Extenuating circumstances such as extreme cold that can lead to re-freeze or added precipitation might require shifting resources back to first and second priorities.

For events between 6" – 10", additional time is typically necessary to get non-first or second priority streets to passable condition. First priority streets should be near normal within 24-36 hours of event's end (no change), and second priority streets to a minimum of passable within 40 hours (improvement of 4 hours from last year), with all streets to passable conditions by 104 hours after event's end (improvement of 4 hours). For storms greater than 10", focus is on getting first priority routes to passable condition within 36 hours (no change), but specific conditions, such as temperature, dictate response and the state of the street.

The City currently maintains 1,418 total lane miles and 691 priority lane miles (337 First, 205 second, 149 third). Information regarding priority routes, routes maintained by MoDOT and the County and other information is available on the www.comosnow.com website. During the active winter events updated information is provided regarding anticipated conditions and response via social media and from links on the website.



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For clarification, third priority routes were developed with the thought to provide better response with one-ton trucks assisting with first and second priority routes. Although the path may not be entirely free of snow, it should help to decrease the amount of snow pack on those streets, easing snow removal operations once plows have moved onto neighborhood streets, and provide some relief to the neighborhoods. Vehicles will be allowed to continue to park on the third priority streets during larger snow events, although staff will continue to encourage residents to move vehicles off the street via public outreach. With the current recommended third priority routes, a first, second or third priority route will generally be no more than two streets away from any local street. Some third priority routes have been based on factors such as grades and proximity to other routes for operational turning movements. In order to be more methodical with the evaluation process, Staff examined the distances for each parcel utilizing GIS data. A small percentage of the community are more than approximately 800 from a first, second or third priority route. After examining the situation the last three years, Staff thinks that some form of parking restriction along third priority streets could be beneficial. Something such as establishing a park only on even or odd numbered address sides might be the preferred approach, but due to adjacent property impacts, that is not yet recommended. While additional examination is required, we think that some form of buffer distance analysis for parcels and parking restrictions would be the best approach long term for establishing new additional routes.

There has been some discussion of Homeowner's Associations (HOA) performing their own winter weather response for snow and ice control. To date, no HOA has formalized this type of approach; however, if an HOA has a firm desire to commit resources for a defined area, staff would recommend a pilot with just one HOA working with Street Operation's staff to test the feasibility of this concept.

The Priority Neighborhood concept continues to be beneficial, even though there are some challenges. The Priority Neighborhood concept allows for a local contact to help coordinate local residents removing parked cars from streets. Parked vehicles significantly slow down response and having a local resident coordinate and communicate that they are removed improves efficiency. An example of previous correspondence with past Neighborhood Priority representatives is attached. At some point, we may not be able to add additional neighborhoods to this process and will monitor the situation.

Due to current limitations in staffing and equipment, if additional priority routes are desired, staff would recommend caution and would want to examine what mileage would need to be removed from the current list, as well as examine the street. First and second priority routes are required to comply with the no parking requirements when snow is more than 2" deep, so the impact to adjacent property owners should be considered. It may be possible to add additional routes if staffing levels can be stabilized and/or some form of parking restriction is added to third priority routes. For next year, Staff's intention is to continue to focus on proximity to priority routes as a key factor when recommending future additions.



Fiscal Impact

Short-Term Impact: None with this report, for information only

Long-Term Impact: None with this report, for information only

Strategic & Comprehensive Plan Impact

[Strategic Plan Impacts:](#)

Primary Impact: Safe Neighborhoods, Secondary Impact: Reliable Infrastructure, Tertiary Impact: Resilient Economy

[Comprehensive Plan Impacts:](#)

Primary Impact: Mobility, Connectivity, and Accessibility, Secondary Impact: Livable & Sustainable Communities, Tertiary Impact: Environmental Management

Legislative History

Date	Action
10/05/2020	REP61-20 Winter weather response for the 2020/2021 winter season
11/04/2019	REP101-19 Winter Weather Response for 2019/2020 Winter Season
11/05/2018	REP96-18-Winter Weather Response for 2018/2019 Winter Season
12/04/2017	REP100-17-Winter Weather Response for 2017/2018 Winter Season
10/07/2013	Ord. 21841-Prohibiting parking on priority routes when there is 2" or more of snow
10/18/1993	PR174-93A-Establishing a snow removal policy

Suggested Council Action

For information only.