



INFORMATION PACKET MEMORANDUM

To: City Council Members

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Date: September 13, 2012

Subject: Information Item: Snow and Ice Control Program and Sidewalk Snow Removal Enforcement

EXECUTIVE SUMMARY

This year, the city's official "snow season," in terms of operational response preparation, begins Sept. 10, 2012 and lasts until May 27, 2013. With the onset of winter, questions arise from the public regarding the city's snow removal procedures. This memorandum provides City Council with information on the city's snow and ice control program, sidewalk snow removal enforcement and the city's snow information brochure.

The goals of the city's snow and ice control program as related to the Transportation Master Plan are to:

1. Keep primary and secondary streets, on-street bike lanes and the off-street path system open.
2. Respond with enhanced service levels in the event a significant snowfall impedes the mobility of the public in and around residential roads, sidewalks and bus shelters.
3. Use materials and equipment efficiently and effectively to help reduce the dangers of traveling in inclement weather.

4. Enforce the sidewalk snow removal regulations (section 8-2-13, B.R.C. 1981) that require all owners or residents of private property to have the ice and snow hazards cleared from public sidewalks or walkways abutting their property no later than 24-hours after a snowfall (or snowdrift).
5. Communicate any delayed opening or early release decisions in advance for city functions before impending severe weather impacts the ability for residents or employees to safely arrive at their destination within the city.

Snow and ice program information is made available each year in news releases, a utility bill insert, in the city's snow brochure and on the city's website under "Winter Tips" at www.bouldercolorado.gov. The city's snow brochure, which is provided to residents who request additional information, includes information on the Snow and Ice Control Program and provides answers to commonly asked questions about snow operations. A copy of this year's brochure is included in the 2012-2013 City of Boulder Snow & Ice Control Information packets that have been distributed to council members. Information from the packet is posted on the Winter Tips website mentioned above.

A new initiative for this year is a snow and ice control analysis regarding the efficiency and effectiveness of current maintenance operations as well as identifying and putting in to place any short and long term improvements. The analysis is expected to be complete by the end of this year with any identified efficiencies put in place during the snow season for evaluation.

FISCAL IMPACT

Each year, the Transportation Division's budget accounts for snow and ice control operations for normal weather patterns and events. The adopted 2012 budget for snow and ice control is \$872,791. Snow control on city streets is affected by the amount of snow and length of the storm, time of day, temperature and traffic conditions. The City of Boulder does not normally plow residential streets for two primary reasons: (a) most snow melts within a day or two in Boulder's climate and (b) this additional level of service would significantly increase costs and impact the city's ability to perform other high priority services. However, during significant events, snow fall exceeding 12 inches, the city will strategically service neighborhood streets to address known problem areas. Also, during regular snow events, the city deploys a "floater" vehicle to respond to requests from public safety personnel and the community.

Currently, staff is performing an internal service delivery and competitive market analysis to evaluate a number of aspects of the city's snow and ice control program. The evaluation includes, but is not limited to:

- Capturing accurate expenditure information across cost categories and city divisions,
- Considering staff and resource efficiencies beyond those already implemented;
- Developing and evaluating service delivery alternatives;
- Comparing practices with other Front Range communities;
- Comparing service costs with the market place;
- Considering modifications to current practices and materials used; and
- Developing options that address problem areas such as areas with significant steep, grades that don't get much sunshine.

Results from the evaluation will inform potential changes to standard practices, resource and budgetary adjustments, and other potential changes.

COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS

- **Economic:** Mobility of workers, residents and consumers is essential to the overall economic health of Boulder. The inability to maneuver impassable roads, unshoveled sidewalks and/or bus stops affects the city's overall economic health.
- **Environmental:** Snow and ice control operations and sidewalk snow removal efforts support multiple travel choices, which directly impact the environment. The city's street sweeping program and selection of environmentally sensitive products also help achieve air quality and water quality goals for the city and region.
- **Social:** Mobility is key to independence, particularly for those with disabilities, seniors and school children who are adversely impacted when roads are impassable and sidewalks, bus-stops and multi-use paths are not adequately cleared of snow. The involvement of these populations in community activities, including employment, is essential.

BACKGROUND

The snow and ice control program goals are achieved by having full crews available, equipment maintained and ready when needed, and providing a safe environment for employees. Each year, crews are provided with education and training on the use of snow removal materials and equipment, and plow operators are re-certified on the equipment used to perform snow control operations.

In September of each year, two snow crew rosters are developed. During the snow season, mid-September through the end of April, each crew rotates on a weekly basis as the "first call" crew. A Transportation Maintenance employee is on snow standby 24-hours-a-day, seven days a week to track weather conditions and to respond to notification of snow events. Working with the Boulder Police Department patrol officers and dispatchers, the snow standby person is notified when snow conditions occur after normal work hours or on holidays and weekends. Crews are expected to respond as quickly as possible. Crews work rotating 12-hour shifts throughout a storm event.

A standard operating procedure guides communication and assists the City Manager's Office with decision-making regarding city facilities and programming. When an incoming severe weather event is forecasted that may impact the transportation system, Transportation and Utilities maintenance staff assess local roads, investigate the response of other agencies and inform the City Manager's Office with a recommendation if a delayed opening or early release of city functions or public meeting postponement is warranted. The decision to alter city functions or facility hours is made by the City Manager's Office.

An enhanced snow control response is triggered when snow accumulation is in excess of 12 inches (defined as a “significant” snowfall event). Available Transportation maintenance staff is directed to inspect both residential roads and bus shelters for the public’s ability to drive vehicles out of residential areas and safely load and unload onto buses.

During snowstorms, 16 plow trucks are on Boulder streets. Fifteen trucks drive predetermined routes while one “floater” truck responds to problem areas and complaint calls. Six trucks distribute a liquid deicer and four spreader trucks distribute traction materials. Seven trucks have dual systems to distribute either liquid or traction material. The floater truck is either a liquid or a spreader truck depending on the type of storm and type of material needed. Two plow trucks and operators cover the multi-use path system between 4 a.m. and 4 p.m. When path use is decreased, one plow truck and operator covers the path system between 4 p.m. and 4 a.m.

The Transportation Maintenance workgroup utilizes a “real time” Automatic Vehicle Location (AVL) system to track the actual location, speed and plowing operation of the main route snow fleet. This Global Position Satellite (GPS) system allows supervisors to track and verify snow and ice control operations for dispatching efficiency adjustments and for liability purposes.

In order to minimize environmental impacts of snow and ice control, the city uses alternative deicing and traction materials. No sand is used unless alternative deicing materials are not available from the supplier and public safety is an issue. The liquid deicing agent is a magnesium chloride solution. Magnesium chloride, a plant nutrient and soil stabilizer, is less corrosive than other deicing products. In 2008, the city switched to a different formulation of magnesium chloride called “Meltdown Apex”. Meltdown Apex, which costs slightly more than traditional magnesium chloride, is more readily available from the supplier and continues to be effective at lower temperatures. New and less corrosive liquid deicers continue to be analyzed.

The traction material used is a crystallized deicer, made up of complex chlorides, that dissolves over time and does not need to be swept. However, in keeping with the city’s commitment air quality goals monitored by the Regional Air Quality Council (RAQC), the entire snow system is swept within four days of a major storm event. All material used and its impacts on water quality have been reviewed and analyzed by city water quality staff and found to have no significant impact on Boulder’s water sources and distribution system.

Streets are sometimes pretreated with liquid deicer before a storm (depending on weather conditions) to help reduce the buildup of snow and ice. The material or combination of materials used during a storm event depends on existing and predicted weather conditions (i.e., amount of precipitation and humidity) and pavement temperatures.

Standard operating procedures also provide for the proactive application of deicing materials on streets that have certain factors such as steep grades and significant shading, which contribute to more challenging conditions and typically generate a high number of resident requests for attention.

Program Analysis

This year, a snow and ice control analysis was initiated in order to review all aspects of the maintenance operation and compare it to other local municipalities as well as the competitive market. The analysis is expected to be completed by the end of 2012.

While the analysis is still underway, several early indicators have revealed that the city is more similar than not to other local municipalities in:

- The level of service regarding crew staffing and major road coverage
- Not plowing residential roads (unless a major storm has occurred)
- The use of identified chemical de-icing products
- The use of contractual services during a major storm

During the 2011-2012 snow season, the issue was raised regarding the ability of residents to contract directly with private contractors for the snow removal of select residential roads currently not plowed. Staff is analyzing the feasibility of allowing such contracts vs. the ability to protect private and public property from inadvertent damage, controlling the amounts and types of deicing chemicals used, and the administrative costs to the Transportation Division. This practice would also need to be analyzed to ensure that it is socially equitable and affords all members of the community with an opportunity for full participation regardless of social status.

As staff completes the analysis, modifications and changes could be considered such as adjusting standard practices, addressing problem areas, reconciling cost categories, and achieving additional efficiencies.

Operational Efficiencies

The Public Works, Parks and Recreation (P&R), Parking Services and Open Space and Mountain Parks departments continue to investigate operational efficiencies and potential areas of overlap, including snow removal work. To date, some changes in operational responsibilities have been made. For example, because some of the bikeways are in the city's parks, P&R maintenance staff is able to efficiently maintain the mowing, pruning and snow removal along adjacent bikeways in the parks. The Bear Creek bikeway heading north from Martin Street underpass, formerly maintained by Public Works, is now maintained by P&R (landscaping and snow removal). Public Works, in turn, has assumed responsibility from P&R for maintaining the full length of Elmer's Two Mile path from the Goose Creek bikeway to the north limits at Juniper Avenue, in coordination with other related maintenance work in the area.

Staffing efficiencies are also an important aspect of budget management. An operational efficiency was implemented between Transportation and Utilities maintenance crews by requiring some Utilities positions to participate in snow response. This change allows the city to "staff up" for larger events and to have smaller, more efficient crews during off-event periods.

Transit shelter maintenance continues to be a challenge for the city and the Regional Transportation District (RTD). With nearly 1,000 transit stops located within the city, the city and RTD are only able to provide regular maintenance at high-use transit stops to the extent that human and financial resources permit. RTD's Adopt-a-Stop program also utilizes community

volunteers to remove trash and snow from other designated stops. Specifically, snow removal is performed at the remaining RTD transit stops on a limited basis by city staff or city contractors, typically by request only.

SIDEWALK SNOW REMOVAL ENFORCEMENT:

Section 8-2-3, BRC, 1981 requires that sidewalks adjacent to both residential and commercial properties be cleared of snow and ice no later than 24-hours after a snowfall or snowdrift. Property owners, tenants, and property managers can all be held responsible for failure to remove snow under the ordinance. Violation of the ordinance can result in a municipal court summons and fine (\$100 for first offense) or abatement in which the city hires a contractor to clear the sidewalk at the property owner's expense. Enforcement of the sidewalk snow removal ordinance is handled by the code enforcement unit in the Boulder Police Department.

The National Weather Service website, <http://www.nws.noaa.gov/data/obhistory/KBDU.html>, is used as an official resource to get local weather conditions. The information is updated every 20 minutes. If concerned about knowing when the 24-hour time period begins, members of the public can go to the website, look for the "Weather" column and corresponding time. The descriptions in the weather column will include "overcast", "fair", "mostly cloudy", "light snow", and "snow" etc. Code Enforcement could begin enforcing the snow removal ordinance 24-hours after the last mention of snow listed on this website.

Additional code enforcement information can be found on the Boulder Police Department's website under "Find code enforcement information", including a link to the National Weather Service for Boulder.

When a Code Enforcement Officer identifies a violation of sidewalk snow removal, contact is attempted at that location to have the snow removed. If no contact can be made, a 24-hour notice of violation is posted on the front door of the property in violation. After the expiration of the notice, an officer will re-inspect the property to confirm compliance. Should a property still remain in violation, the address will be added to a list that is forwarded daily to a contractor for abatement of the hazard. All charges for snow removal are billed to the property owner.

NEXT STEPS

Snow and ice program information is made available each year in news releases, a utility bill insert, in the city's snow brochure and on the city's website under "Winter Tips" at www.bouldercolorado.gov. The utility bill insert with snow information will be distributed through the utility bill mailing in October. The city's snow brochure, which is provided to residents who request additional information, includes information on the snow program and answers commonly asked questions about snow operations. A copy of this year's brochure is included in the 2012-2013 City of Boulder Snow & Ice Control Information packets that have been distributed to council members. Also included are detailed snow route maps and snow operations information.

As the results of the Snow and Ice evaluation emerge, staff will implement changes and return to Council regarding meaningful budgetary changes or policy issues.

For more information about the snow and ice control program, please contact Felix Gallo at 303-413-7180 or e-mail to Gallop@bouldercolorado.gov.

For more information on the transportation planning effort regarding bus shelter maintenance, please contact Cris Jones at 303-441-3217 or jonesc@bouldercolorado.gov.

For more information on enforcement efforts, please contact Jennifer Riley at 303-441-1877 or RileyJ@bouldercolorado.gov