

Memo



Date: November 23, 2010
File: 5400-11
To: City Manager
From: Darryl Astofooroff, Manager, Transportation Services
Subject: Snow & Ice Control Operations

Report Prepared By: Gord Murrell, Roadways Operation Supervisor

Recommendation:

That the report from the Transportation Services Manager, dated November 23, 2010 be received as information.

Purpose:

This report has been prepared to inform City Council of current Snow and Ice control Operations.

Background:

Snow and Ice Control is a necessary service to safeguard the public and property. Council Policy 332 (Snow and Ice Control) and Traffic Bylaw 8120 Part 2.5 (Snow and Rubbish Removal) govern our operations.

Budget

Kelowna's annual budget of \$1.4 million is based on an average snowfall of 105.6 cms (41.5"), complicated by the unpredictability of the lake-effect precipitation. Annual budgeting is based on average winter snowfall and not based on extreme winters therefore funds saved in reserves from lower than average snowfall winters are applied to balance the winters when snowfall is above average.

Maintenance Area & Equipment

Our maintenance area consists of 1,627 lane kilometers and our snow and ice control operation is delivered through a combination of in-house resources and private contractors. To assist in our efforts we hire an additional 8-10 contracted plow trucks equipped with salt/sanders. Today's City snow removal equipment within Transportation Services consists of 14 plow trucks with salt/sanders, 5 one-ton trucks with salt/sanders, 3 graders, 2 anti-ice trucks, one excavator, 3 loaders, 5 sidewalk plows and one snow blower.

Snow Events

Kelowna receives up to 35 snow events each winter. A "Snow Event" is when there is a full call-out for a minor or major storm. The event is considered to be over when the last truck is back in the yard and all roads have been plowed and sanded. If the snow stops falling and the trucks are still completing their routes and it starts to snow again, it is considered to be the same event. This could mean that Priority 3 residential roads will not be plowed or sanded for some time. It could be a matter of days before we are able to get to them due to keeping priority 1's and 2's open. If it starts to snow after the last truck has arrived in the yard then it is considered to be a new event and the process starts all over again.

A handwritten signature in black ink, appearing to be "Gord Murrell".

Street Clearing Priorities

The City of Kelowna's Priority System (Policy 332) is defined by either a minor storm of less than 10 cm of snow or a major storm of 10 cm or more. Snow and ice control efforts are broken into 4 Priority categories:

- Priority #1 - Clearing of 338 Lane km of main arterial routes effectively provides emergency and transit vehicles safe passage throughout the City. All key points are sanded and/or salted within 8 hours for a minor storm and 24 hours for a major storm.
- Priority #2 - Clearing of 462 Lane km of collector roads effectively expands safe passage for emergency, transit and public vehicles to access main arterials, schools and business centres. All key points are sanded and/or salted within 12 hours for a minor storm and 72 hours for a major storm. Although these roads are priority two's, staff does everything to ensure emergency vehicle routes, transit and school bus routes are cleared well within the policy guidelines.

Hillside development roads are also Priority 2 roads and pose some challenges due to narrower corridors, on-street parking and lack of available snow storage space. As development continues to creep into our steeper hillside areas additional equipment and tactics may be implemented. Smaller plow trucks and anti-ice equipment may become necessary. The implementation of "no parking on snow days" and towing of vehicles may be considered in the future.

- Priority #3 - Completion of 776 Lane km of residential roads expands convenient safe access from neighborhoods to collector and main arterial roads. All key areas are sanded within 48 hours of a minor storm and within 72 hours for a major storm. For major storms, grader plowing may be carried out in residential areas only when required for parking or to keep the road passable at the discretion of the Roadways Operations Supervisor.
- Priority #4 - Completion of our 51 km's of laneways allows residents access to back yard garages, garbage pick-up, and carriage houses in some areas of the City. All key points are sanded during regular work hours only.

Sidewalk Clearing

Owners or Occupiers of property are required by Traffic Bylaw 8120 to remove snow and ice from their sidewalks within 24 hours of any accumulation of snow or ice. Failing to do so could result in a \$50.00 fine (Ticket Information Utilization Bylaw). Although abutting properties are responsible for clearing sidewalks, the City puts forth an in-kind service to clear these sidewalks of snow using sidewalk plows only when time permits and there is an accumulation of 5cm or more.

The City has 364.5 km of sidewalks. Of these, 45 km are Bylaw exempt and maintained by the City. There are also 11 km of walkways and 18.5 km of multi-use corridors which the City maintains. Crews will plow and sand all sidewalks around City Property, Bylaw Exempt and Multi-Use Corridors first as a Priority 1.

Contingency Resources

A hired equipment contingency list is gathered each winter to cover situations where there may be many equipment breakdowns, employee illnesses or injuries, or an extreme winter where additional equipment is needed to keep roads safe for emergency, transit and public use.

Weather Information Resources

The City has six Road Weather Information Systems (RWIS) set up throughout the City. These weather stations can be accessed by our crews 24 hour a day. The information from these stations is a tool used to determine proper action prior and during a storm event. They can report on ambient temperature, humidity, dew point, road surface temperature and surface salinity (anti-ice product on the road). These stations are located at:

1. Glenmore Rd. @ Slater Rd. - This one also has a camera
2. McCurdy Rd. East
3. Summit Dr. East of Skeena Dr. (Dilworth area)
4. Chute Lk. Rd. - This one also has a camera
5. Clifton Rd. North of Cara Glen Way
6. Montenegro Dr. (Black Mt. area)

We also have a contract with Northwest Weather Net. A meteorologist sends us regular weather updates daily or more often if there is a storm approaching or during a storm. We can also contact them 24 hours a day as needed. This information is also very important in deciding proper action prior to and during a storm.

Materials

To keep our roads safe we dispense an average of 2,380 metric tonnes of sand, 1,800 metric tonnes of salt and 325,000 litres of magnesium chloride each winter. Sand is produced at the City's own gravel pit, Salt Brine is produced at the City Yards, while Magnesium Chloride and Salt are trucked in and stored at City Yards. Sand is used for traction on any road, while salt is used primarily on Priority 1 roads to help melt ice and provide bare pavement. Salt is also an important application in hillside developments. Salt Brine is used for pre-wetting sand as it is applied to the road surface and also for black ice if temperatures are warm enough and tend to be rising. Magnesium Chloride is also used to pre-wet sand when applied to the road surface in colder temperatures and also applied with anti-ice trucks prior to a storm to keep the ice from bonding to the asphalt.

Automatic Vehicle Locators

The City's Equipment Division has included a 2011 Supplemental Budget request for Automatic Vehicle Locaters (AVL). If approved by Council, Automatic Vehicle Locaters installed in City and contracted plow trucks would help management snow clearing routes and schedules, provide information on what's been completed, the time taken to complete a route, and locating a unit in an emergency. This will also be an asset in getting information out to the Media and the public.

Community & Media Relations and Transportation Services Comments: Informing Our Community

It is important to get information out to the public through the media on how the snow and ice control process works and how they can help to get the roads cleared more efficiently and save tax dollars.

Community & Media Relations has developed a communications plan to inform the public of the City's snow removal process such as what priorities mean, how the public can help, safe driving tips, and how to help others through our Snow Busters program.

This information is distributed several ways:

- kelowna.ca
- News Releases - 2010 included a 'first snowfall' information video explaining the winter snow and ice control process
- brochures/flyers
- Door hangers
- Social Networking sites such as Facebook and Twitter
- Print media ads
- On-line ads - Castanet
- Radio ads
- Videos
- Customer Service Operations Number (250 469-8600 Press 1 for Roads & Snow and Ice) is promoted year round in a variety of corporate materials

Internal Circulation:

Carla Stephens, Director of Communications and Media Relations
Joe Creron, Director Civic Operations

Legal/Statutory Authority:

Section 517, Local Government Act

Existing Policy:

Policy 332 Snow and Ice, Traffic Bylaw 8120, Part 2.5

Considerations not applicable to this report:

External Agency/Public Comments:

Legal/Statutory Procedural Requirements:

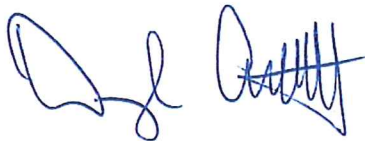
Alternate Recommendation:

Considerations not applicable to this report:

Financial/Budgetary Considerations:

Personnel Implications:

Submitted by:



Darryl Astofooroff,
Manager, Transportation Services

Approved for inclusion:



Joe Creron, Director, Civic Operations

c.c. Keith Grayston, Director of Financial Services
John Vos, General Manager Community Services