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TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 3, 2015
FROM:	EDWARD SOLDI, P. ENG. DIRECTOR, ROADS AND TRANSPORTATION
SUBJECT:	ROADWAY WINTER MAINTENANCE PROGRAM

RECOMMENDATION

That on the recommendation of the Director, Roads and Transportation, the following report **BE RECEIVED** for information.

BACKGROUND

The purpose of this report is to provide Council with an overview of the Winter Maintenance Program for roadways and sidewalks. Road safety is the top priority of the City of London’s program, keeping roads and sidewalks safe and passable for pedestrians and motorists, with a primary focus on emergency and transit vehicles. The program is delivered through the Roads and Transportation Division within Environmental and Engineering Services.

The City of London maintains roadways in accordance with the Provincial Minimum Maintenance Standards for Municipal Highways (MMS), Regulation 239/02. This Provincial regulation under the Municipal Act specifies minimum maintenance standards for roads, bridges, luminaries, road shoulders and signs, including the maintenance related to snow removal. Sidewalk quality standards are a separate standard which is approved by Council.

The City has a 24/7 response team equipped with; 65 pieces of road plowing equipment, 25 road salt/sanders and 37 sidewalk plows. The response team maintains the City’s 3,526 kms of roadway; 1,460 kms of sidewalk; 700 cul-de-sacs; and 2,100 bus stops.

DISCUSSION

The prescribed standards for roadways in the MMS, sets out the priority to be treated or plow and is based on *traffic volume* and *speed limit*. This translates into a primary focus on main arterial roads and bus routes, to be treated or plowed first and followed by local streets and cul-de-sacs.

Roadway Snow Accumulation Table

1. Deploy resources to when snow accumulation is greater than the depth set out in the table; and 2. after the snow accumulation has <i>ended</i> clear snow to a depth less than or equal to depth set out in table.	Depth	Time*
Class 1 (i.e Highbury, Wellington, Exeter, Fanshawe)	2.5 cm	4 hours
Class 2 (i.e Southdale, Oxford, Dundas, Wharnccliffe)	5 cm	6 hours
Class 3 (i.e Viscount, Colborne, Dufferin, Jalna)	8 cm	12 hours
Class 4 (i.e Aldersbrook, Doon, Tweedsmuir)	8 cm	16 hours
Class 5 (i.e local streets and some bulbs)	10 cm	24 hours

**time to clear after snowfall has ended*



Snow can bond to a road that is not treated with a salt or saline solution. Salt is less effective below -12C, and to increase its effectiveness liquids are sprayed onto the salt as it is being applied. This allows us to reduce the overall dry salt application rate. During extreme low temperatures days, sand can be used on main routes to help provide traction.

The City of London only treats high volume roads with salt which, along with the presence of traffic, helps to eventually clear main roads; low volume snow-packed roads are treated with sand at curves, hills and intersections. Local roads are not treated with salt and often become snow packed. These local snow-packed roads can become rutted and only the most severe and impassible sections are monitored and then addressed. The MMS do not require roads to be cleared to bare pavement. The City's Winter Maintenance web page at <http://www.london.ca/residents/Roads-Transportation/Road-Maintenance/Pages/Snow-Removal.aspx> is one tool that is used to relay such information to residents.

The City has an established plan and geographical routes for treating or clearing snow from roadways. After the snowfall ends, it can take 6-8 hours to clear priority roads and approximately 24 hours, once the snowfall ends, for all City streets to be serviced. A larger or continuous snowfall may extend the time necessary to clear snow from local streets and cul-de-sacs.

Sidewalks

The City's existing level of service is defined in our winter sidewalk quality standard, a prefaced version of which is as follows:

*'The sidewalk surface shall be maintained in a **SNOW PACKED** condition and the maximum allowable accumulation of fresh snow is 8cm. Continuous sanding shall not be completed except under conditions of freezing rain or generally slippery conditions. Sidewalks adjacent to major roads and bus routes are ploughed first and then followed by local streets. Ploughing shall be completed 24 hours after the snow fall ends.'*



Difficult to locate the sidewalk under storm conditions

Our level of service will not produce bare sidewalks as the City uses mechanical equipment, only. While citizens are encouraged to shovel their sidewalks to a bare condition in front of their residences, considerations for a by-law requiring property owners to scrape the sidewalks bare would not produce best value as enforcement issues would be cost prohibitive, and the City would still only be able to provide the same level of service in areas that are not fronted by residential owners. Examples include most of Wonderland Road and Oxford Street west of Hyde Park Road. The School Boards would also be tasked with expanding their services.

To facilitate the removal of snow from sidewalks, and to prevent damage to private property, residents are required not to place cars, fences, posts, hedges, shrubs, in-ground lawn sprinklers, driveway curbs or other obstructions on the road allowance. The City will not be responsible for damage to items placed on City property by property owners.

Mechanical clearing of sidewalks is at a disadvantage because of two factors. First, the equipment can seldom 'get ahead of pedestrian traffic' that compacts the snow, and second the plow is set in a float position to ride on the sidewalk. This float position enables the plow to safely ride over expansion joints, minor vertical inconsistencies or elevation changes and distortions on the sidewalk. These factors form the basis for London's 'snow packed' level-of-service standard. Once a path is cleared, subsequent trips by the sidewalk plow are made easier.

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In some instances, sidewalk plowing may cause some sod damage as it is difficult to locate a sidewalk that is covered in snow. Plowing may also occur during the night. If the sod was damaged during the first pass of the season, then the damage may not be discovered until the snow melts.

The cost to repair sod damage is relatively minor and past experience has been that homeowners will repair the damage in front of their property before the City crews arrive. This is a tremendous help as City staff typically don't repair sod damage until the seasonal work force arrives in May. If repair work is required, it is done in association with other work in the affected neighbourhood or areas—such as utility cut repairs, sidewalk repairs or road repairs.



Snow Dumping from Private Property onto Roadways

Under the *Highway Traffic Act* (Section 181) and the City of London Streets By-law (Section 8), placing snow or ice on a roadway is prohibited. This information is also part of the FAQ's listed on the City's Winter Maintenance web page. The following message is provided:

Is it okay to push snow onto the roadway or to the boulevard area across the street?

Don't place snow from sidewalks or driveways on the street as it creates a hazard for vehicles, the **Highway Traffic Act** and the City of London Streets By-law prohibit the placing of snow or ice on a roadway. Anyone having questions or concerns, or wishing to report a problem, should call our Public Service Line at 519-661-4570.

After a snowfall when the plows have cleared the roadways, residents will have to clean out the end of their driveways. The City does not offer individual snow removal services for seniors and individuals with disabilities and if residents are unable to complete this task, they are encouraged to obtain assistance in their neighbourhood, by contacting family or local community groups or schools.

Salt Management

The City developed a Salt Management Plan in compliance with Environment Canada's "Code of Practice for the Environmental Management of Road Salts" in 2003. The plan identifies goals to better handle, store and spread road salt within the City. Salt use is kept to a minimum and spread only on main roads, primarily at the beginning of snowfalls, to establish a melting point and help keep streets clear. The use of salt is balanced between the need to keep roads and sidewalks safe at a reasonable cost and environmental stewardship.

The sand mixture used on local streets is 90 percent sand and 10 percent salt. Sand is used on snow packed local streets, curves and hills. Sidewalks receive spot sanding during icy and slippery conditions, but the entire sidewalk is not typically sanded.

The City uses modern technology in the application of material and utilizes alternative de-icing and anti-icing technologies in order to be proactive in winter control measures.

In order to help make informed decisions regarding plowing and sanding/salting, staff is aided by the use of Road Weather Information System units at key locations in the City. These units are local automated weather reporting stations that also use sensors embedded in the roadway to provide continuous information on air and pavement temperatures.

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SUMMARY

The top priority of the Winter Maintenance Program is roadway safety, keeping roads and sidewalks safe and passable for pedestrians and motorists, with a primary focus on emergency and transit vehicles.

The City maintains roadways in accordance with the Provincial Minimum Maintenance Standards for Municipal Highways (MMS), Regulation 239/02, which are reviewed every five years by the Province and the Ontario Good Roads Association. The sidewalk standard is defined by Council. The program strives to balance the needs of the community with environmental stewardship through the use of salt in our operations.

Keeping the City roadway system safe also requires the cooperation of the public by not pushing snow back onto the roadway, helping clear sidewalks and removing obstructions. Key reminders are:

- Don't park your car on the street overnight or while snow clearing operations are underway.
- Place your garbage and recycling containers a safe distance from the curb on collection days when the plow may be coming.
- Clear snow and ice from your sidewalk.
- Keep fire hydrants near your home or business clear of snow.

Driving around the City during and after storm events will be slower than normal due to the conditions and drivers should adjust their travel times accordingly. Patience and caution should be exercised while driving in these conditions. Stay alert, slow down, and stay in control — the three key elements of safe winter driving. Drive according to highway and weather conditions. Maintain a safe following distance between you and the vehicle in front of you to avoid situations where you may have to brake suddenly.

PREPARED BY:	RECOMMENDED BY:
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