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| TO: | CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 7, 2013 |
| FROM: | JOHN BRAAM, P.ENG. MANAGING DIRECTOR OF ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER |
| SUBJECT: | PROVINCIAL MINIMUM MAINTENANCE STANDARDS 2013 UPDATE |

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| RECOMMENDATION |
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That, on the recommendation of the Managing Director of Environmental and Engineering Services and City Engineer the following actions **BE TAKEN** in respect to the Minimum Maintenance Standards:

- a) the revised Minimum Maintenance Standards (January 2013) as per Regulation 239/02 **BE ADOPTED** for use on City of London roadways; and
- b) additional operating costs to meet the Minimum Maintenance Standard requirements in the amount of \$335,000 **BE APPROVED** as a commitment from available assessment growth in 2014, subject to final budget approval.

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| PREVIOUS REPORTS PERTINENT TO THIS MATTER |
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ETC April 14, 2003 Minimum Maintenance Standards for Municipal Highways.

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| BACKGROUND |
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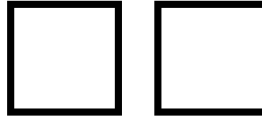
The purpose of this report is to provide an update on the amendments to the *Minimum Maintenance Standards for Municipal Highways, O. Reg. 239/02 ("MMS")*, under the *Municipal Act, 2001*, S.O. 2001, c. 25 ("*Municipal Act*"). There is a companion confidential report on this matter.

The MMS was originally enacted on November 1, 2002 and was adopted by the City of London in April of 2003.

This provincial regulation under the new Municipal Act specified minimum maintenance standards for roads, bridges, luminaries, road shoulders and signs.

On January 25, 2013, the Minister of Transportation signed a regulation amending the MMS. The MMS were last amended in 2010. Pursuant to s. 44(2) of the *Municipal Act*, a municipality is not liable for failing to keep a highway or bridge in a reasonable state of repair if, at the time the cause of action arose, minimum standards applied to the highway and the alleged default and the municipality met those standards.

The regulation has been used, for the most part, successfully since 2002, to defend numerous claims against Ontario municipalities. A recent Ontario Court of Appeal decision *Giuliani v. Region of Halton et. al.* [2011] ONCA 812 (CanLII) rendered sections 4 and 5 of the MMS less effective as a defence by the limited interpretation given to them by the Court of Appeal. The judge's findings of default were directed at failures to take reasonable steps to avoid ice forming on a roadway and a failure to monitor the weather and to have deployed resources much earlier than was done so as to avoid the formation of ice. In response to that decision of the Court of Appeal, the MMS Task Force was convened to respond to the allegations of fault and recommend revisions to the MMS.



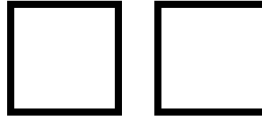
Municipalities can rely on the MMS when defending claims provided convincing patrolling and inspection records can be produced and that subsequent repairs are performed within the time limits set out in the various MMS tables.

DISCUSSION

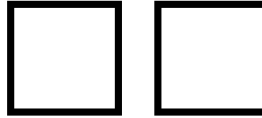
Minimum Maintenance Standards Update

The excerpt below was taken from a recent presentation at the Ontario Good Roads Association Conference. It shows the revisions and includes comments from the MMS review task force.

| Revised Section | Comments |
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| <p>s1(1) New Definitions</p> <ul style="list-style-type: none"> • “ice” means all kinds of ice, however formed; | <p>This ice definition makes clear that “ice” means all kinds of ice, and takes into account that ice can form by snow bonding to the road surface, humidity in the air precipitating out of the air, freezing rain or water on the road (e.g. broken watermain) freezing and/or refreezing.</p> |
| <p>s1(1) New Definition</p> <ul style="list-style-type: none"> • “substantial probability” means a significant likelihood considerably in excess of 51 per cent; | <p>Substantial probability recognizes that not every forecast results in snow accumulation, ice formation or icy roads even though the probability of precipitation may be high.</p> |
| <p>s1(1) New Definition</p> <ul style="list-style-type: none"> • “weather” means air temperature, wind and precipitation • Section 4(6) of the original regulation was deleted and the definition of snow accumulation added to section 1(1) | <p>This new definition focuses on the core elements involved in winter road hazards, and recognizes that some municipalities do not have and possibly do not require access to more sophisticated meteorological services.</p> |
| <p>s3(2) Revised</p> <ul style="list-style-type: none"> • If it is determined by the municipality that the weather monitoring referred to in section 3.1 indicates that there is a substantial probability of snow accumulation on roadways, ice formation on roadways or icy roadways, the minimum standard for patrolling highways is, in addition to that set out in subsection (1), to patrol highways that the municipality selects as representative of its highways, at intervals deemed necessary by the municipality, to check for such conditions. | <p>The section was revised to confirm that it is the municipality that determines there is a substantial probability of snow accumulation or icy roadways</p> |
| <p>s3.1(1) New Section</p> <p>s3.1(1) From October 1 to April 30, the minimum standard is to monitor the weather, both current and forecast to occur in the next 24 hours, once every shift or three times per calendar day, whichever is more frequent, at intervals determined by the municipality.</p> <p>s3.1(2) From May 1 to September 30, the minimum standard is to monitor the weather, both current and forecast to occur in the next 24 hours, once per calendar day.</p> | <p>There is no set time for weather monitoring. A municipality will need to select times for weather monitoring based on a single shift, two or three shift schedule.</p> <p>The regulation does not state how weather information is acquired. Weather monitoring could be access to Road Weather Information Systems (RWIS), value added meteorological services (VAMS), local radio or Television forecasts.</p> |
| <p>s4(2) Revised</p> <ul style="list-style-type: none"> • If the depth of snow accumulation on a | <p>The revision does not mean that municipalities</p> |



| Revised Section | Comments |
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| <p>roadway is less than or equal to the depth set out in the Table to this section, the roadway is deemed to be in a state of repair with respect to snow accumulation.</p> | <p>can standby and do nothing until the trigger depth has been exceeded. A municipality must monitor weather, patrol and take steps to prevent the formation of ice which includes ice forming by snow bonding to the road surface and turning to ice.</p> |
| <p>s4(3)&(4) New</p> <p>(3) For the purposes of this section, the depth of snow accumulation on a roadway may be determined in accordance with subsection (4) by a municipal employee, agent or contractor, whose duties or responsibilities include one or more of the following:</p> <ol style="list-style-type: none"> 1. Patrolling highways. 2. Performing highway maintenance activities. 3. Supervising staff who perform duties or responsibilities described in paragraph 1 or 2. <p>(4) The depth of snow accumulation on a roadway may be determined by,</p> <ol style="list-style-type: none"> 4. performing an actual measurement; 5. monitoring the weather; or performing a visual estimate. | <p>The addition of sections 4(3) and (4) allows for an actual measurement or visual estimation of the depth of snow on a roadway. The depth of snow on a roadway would be the estimated depth outside of the wheel path.</p> |
| <p>s4(5)New</p> <p>For the purposes of this section, addressing snow accumulation on a roadway includes, but is not limited to,</p> <ol style="list-style-type: none"> (a) plowing the roadway; (b) salting the roadway; (c) applying abrasive materials to the roadway; or (d) any combination of the methods described in clauses (a), (b) and (c). | <p>This section was added to address issues raised in Giuliani to ensure that a municipality can select the method by which snow accumulation is removed including melting the accumulation.</p> |
| <p>s5(1)New</p> <p>The minimum standard for the prevention of ice formation on roadways is doing the following in the 24-hour period preceding an alleged formation of ice on a roadway:</p> <ol style="list-style-type: none"> 1. Monitor the weather in accordance with section 3.1. 2. Patrol in accordance with section 3. 3. If the municipality determines, as a result of its activities under paragraph 1 or 2, that there is a substantial probability of ice forming on a roadway, treat the roadway to prevent ice formation within the time set out in the Table to this section, starting from the time that the municipality determines is the appropriate time to deploy resources for that purpose. | <p>The addition of section 5(1)(3) provides the flexibility needed to time the response and local procedures with the weather forecast provided;</p> |
| <p>s5(2) New</p> <p>If the municipality meets the minimum standard set out in subsection (1) and, despite such compliance, ice forms on a roadway, the roadway is deemed to be in a state of repair until the earlier of,</p> <ol style="list-style-type: none"> (a) the time that the municipality becomes | <p>If a municipality has complied with section 5(1) then until a municipality has become aware of the fact that a roadway is icy, or until ice has been present on the roadway for an amount of time greater than the time set forth in the Table to section 5 of MMS for the class of</p> |



| Revised Section | Comments |
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| <p>aware of the fact that the roadway is icy; or (b) the applicable time set out in the Table to this section for treating the roadway to prevent ice formation expires.</p> | <p>roadway in question, whichever is sooner, the roadway is deemed to be in a state of repair</p> |
| <p>s5(3) Re-numbered</p> <p>The minimum standard for treating icy roadways after the municipality becomes aware of the fact that a roadway is icy is to treat the icy roadway within the time set out in the Table to this section, and an icy roadway is deemed to be in a state of repair until the applicable time set out in the Table for treating the icy roadway expires.</p> | <p>Section 5(3) is a restatement of former section 5(1) as revised in O.Reg 23/10</p> |
| <p>s5(4) New</p> <p>For the purposes of this section, treating a roadway means applying material to the roadway, including but not limited to, salt, sand or any combination of salt and sand.</p> | <p>To ensure that municipalities can select the appropriate treatment, a definition of “treating” is provided in s5(4)</p> |
| <ul style="list-style-type: none"> • Sections 6, 7, 8, 9, 10 and 15 were all revised by substituting the wording “shall be deemed to be in a state of repair” with “is (are) deemed to be in a state of repair”. • Section 9(2) was revised to ensure that snow, slush or ice could not be interpreted as debris. • Sections 11, 12, 14, 16 and 16.1 were all revised by adding “deeming clauses”. • Sections 10, 11, 12, 14 and 16.1 were all revised by deleting the wording “once per year” and substituting “once per calendar year, with each inspection taking place not more than 16 months from the previous inspection”. The 16 month timeframe allows for the scheduling of work which may vary from year to year | |

Recent amendments in 2013 in detail can be found at:

http://www.e-laws.gov.on.ca/html/source/regs/english/2013/elaws_src_regs_r13047_e.htm

Operational Implications

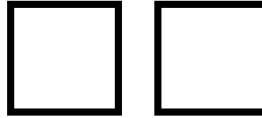
The City continues to rely on the prescribed standards adopted through Council resolution in April 2003. However, infrastructure growth since 2003 and additional inspection requirements added to the MMS through the subsequent updates are not achievable with current resources. For the City to comply with the MMS regulation as it relates to patrolling, additional resources would be required.

Since 2003, MMS amendments have increased road patrolling requirements plus the addition of annual sign and sidewalk inspections. In order to meet these patrolling requirements on London’s more than 3,500 lane kms of roads, additional resources would be required to drive:

- All Class 1 roads (164 lane kms) three times in seven days,
- Class 2 roads (784 lane kms) two times in seven days,
- Class 3 roads (447 lane kms) once every seven days,
- Class 4 roads (518 lane kms) once every 14 days, and
- Class 5 roads (1593 lane kms) once every 30 days.

Road class is assigned based on traffic volumes (AADT) and speed limits. Generally, Class 1 and 2 roads are arterials, Class 3 roads are primary collectors, Class 4 roads are secondary collectors and Class 5 roads are local streets.

Civic Administration routinely analyzes methods for meeting the MMS regulations’ while simultaneously minimizing the impact on its annual operating expense. The changes in regulations in 2010 and 2013 along with the growth in infrastructure since 2003 have resulted in increased resource demands to meet the new requirements.



A review was undertaken of similar best practices and resource models in other municipalities to determine a resource model that would help the City develop a program for patrolling non-winter conditions.

Information was gathered from two large, one similar, three smaller sized municipalities and one Regional municipality. The two large municipalities are not adequately resourced to complete patrolling requirements; the similar sized municipality responded that they use ten patrollers during the winter and four during the summer. One of the smaller municipalities reported that they do not patrol, the other uses four patrollers. The remaining one, which is a tenth of the size of London, uses one patroller. The Regional municipality, which looks after Class 1, 2 and 3's roadways only, reported that 4-8 staff are utilized depending on season.

A pilot project was implemented over the summer with the objective to patrol all roads using dedicated patrolling software. The pilot utilized two, two person crews with one driver and one recorder on the Class 1, 2, 3 and 4 roadways and one person patrolling the Class 5 roads that would pull over and stop to record any deficiencies observed.

Software of this nature has been utilized in other municipalities. The nature of the tasks (driving/electronically recording) does raise potential concerns related to distracted driving under the Distracted Driver Law (Bill 16).

Through the pilot program, a total of 187 deficiencies over a one month period were found and all the deficiencies were addressed within the time set out in the standard.

Class 1, 2 and 3 roads represent 40% of the road network and 69 deficiencies were identified along these roadways. Class 4 and 5 roads represent 60% of the road network and 118 deficiencies were identified. The number of deficiencies is considered to be low given the fact that Class 4 and 5 roadways have not been patrolled in several months.

A resource model to effectively improve patrolling and documentation requirements can be achieved but at a cost of \$403,363. The model consists of four staff (\$311,639), vehicles (\$21,724 annual cost and one time capital \$70,000). Vacation and other bonified absences would be absorbed internally.

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| CONCLUSION |
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Recommendation

Civic Administration is seeking Council's confirmation that the revised Minimum Maintenance Standards are to be used as the basis for the maintenance level of services of municipal roadways.

Infrastructure growth since 2003 and additional inspection requirements added to the MMS through the subsequent updates are not achievable with current resources.

Increases in the cost to undertake maintenance on City roads arise primarily out of the need for increased patrolling requirements, documentation and diligence in the control and tracking of maintenance activities on existing and new roadways. There are risks associated with not meeting the patrolling requirements of the Minimum Maintenance Standards. Compliance with the MMS improves our ability to defend claims thereby reducing the costs of liability claims.

Dedicated staff resources and associated costs would require an additional annual budget of approximately \$335,000. Funding for the one-time capital cost of \$70,000 in 2014 for the vehicles would be accommodated by the savings realized by not hiring the staff until April 1, 2014.

Alternative Course of Action

In the case that Civic Works Committee and Council determines that the risks associated with not meeting the patrolling requirements of the Minimum Maintenance Standards are acceptable, the following recommendations could be considered as an alternative:

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- a) Civic Administration **BE AUTHORIZED** to make all reasonable efforts to meet the Minimum Maintenance Standard guidelines to patrol Class 1, 2, 3, 4 and 5 roadways, with the understanding that the City will not meet the patrolling frequency requirements of the Minimum Maintenance Standard.

Acknowledgement

This report was prepared with the assistance of Joy Jackson, Manager of Risk Management, Jason Wills, Risk Coordinator and Don Purchase, Manager of Operations.

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