



The Corporation of the Township of Otonabee-South Monaghan

Maintenance Standards Level of Service Policy

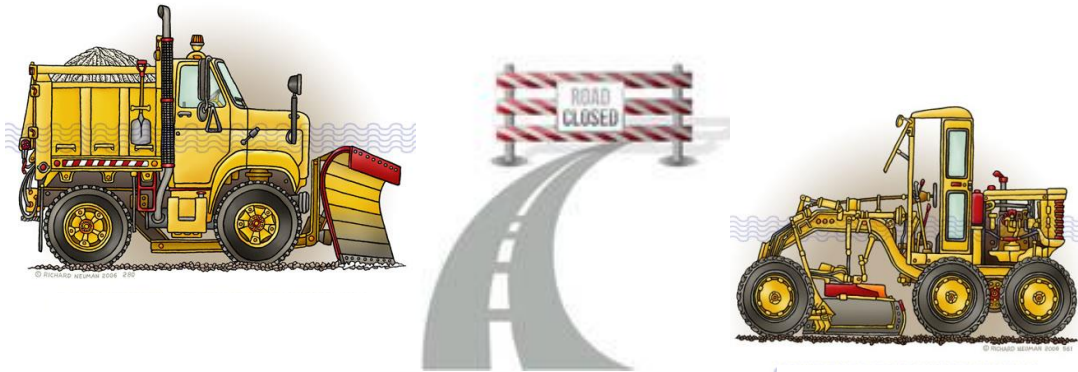


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Roadway Service Standards

Policy Statement and Rationale:

This policy sets out the standards of maintenance and repair for highways under municipal jurisdiction for the purpose of clause 44(3) (c) of the Municipal Act, S.O., 2001, c.25. The minimum standards of repair set out herein are applicable only in respect of motor vehicles using the highways with the exception of the standard for sidewalks which is applicable only in respect to pedestrian use.

It is the objective of the Township Public Works Department to conduct its operational activities in an efficient and effective way, so as to provide year round, safe driving conditions on all highways under its control and jurisdiction. Operations will be consistent with the needs of a low traffic rural road system.

This document is based on the criteria for Maintenance Standards as developed by the Province of Ontario Regulation 239/02 as amended under the Municipal Act to provide municipalities with a legal defence against liability from actions arising with regard to levels of care on roads and bridges. Using the chart provided by the Province to determine Highway class based on speed limit and average annual daily traffic (ADT) counts, all roads within the municipality are determined to be either class 5 or class 6 roads. The maintenance standards for class 5 roads have been adopted from O.Reg. 239/02 as amended by O'Reg. 336/18. Since O.Reg 239/02 & O'Reg. 366/18 does not specify standards for class 6 roads, this document will set a level of service for roads that will "meet" the maintenance standards as set by the province for that class of road.

These guidelines are used to provide guidance for our Public Works Department, however, depending on work load and other unknown circumstances, maintenance activities may in some instances occur sooner than the minimum times detailed below and do not change the normal minimum standard.

For the purposes of this Regulation, a municipality is deemed to be aware of a fact if, in the absence of actual knowledge of the fact, circumstances are such that the municipality ought to have reasonably to be aware of the fact.

The Municipality will review the service levels during the term of Council with a view to responding to system growth, user expectations and fiscal constraints.

Scope:

This policy shall apply to all roads assumed and maintained as public roads by the Township of Otonabee-South Monaghan. Notwithstanding the foregoing, neither the Corporation of the Township of Otonabee-South Monaghan nor its officials or employees make any promise, assurance or guarantee that the services provided by the Public Works Department will be in excess of the standard, as required by regulation and detailed herein.

Inherent within the standard is the expectation that drivers will act responsibly and will operate their vehicles, at all times, reasonably with due regard for the prevailing weather and roadway conditions.

Glossary of Terms

ADT – Average Daily Traffic is, the volume of vehicles counted over a given time period – greater than one day but less than one year – divided by the number of days in that time period.

Ambient Conditions – are conditions that are commonly found in a stabilized environment. Normally in ambient conditions there are no negative effects actively reducing the existing conditions i.e. Storm, excess traffic or construction effects are not in evidence. See storm conditions.

Aspects – in the context of these standards refers to specific elements of roadway service, which are defined by these standards.

Bare – conditions refer to winter road conditions where all travelled lanes are effectively clear of snow build-up or general ice conditions that might impair the safe travel on the road below the travel speed under the ambient conditions.

Bicycle Facility – means the on-road and in-boulevard cycling facilities listed in Book 18 of the Ontario Traffic Manual

Bicycle Lane - means

- (a) a portion of a roadway that has been designated by pavement or signage for the preferential or exclusive use of cyclists, or
- (b) a portion of a roadway that has been designated for the exclusive use of cyclists by signage and physical or marked buffer

Bridge Deck Spall - means a cavity left by one or more fragments detaching from the paved surface of the roadway or shoulder or the bridge.

Centre Bare – conditions refer to winter road conditions where one wheel track of each of the travelled lanes is substantially clear of snow and ice conditions allowing the user to negotiate safer travel than if snow packed or general ice conditions prevail.

Cm – means centimeters

Conditions – defines the state in which the subject matter is found. The level of service indicates the condition being measured.

Continuous Lighting – describes illumination in place to generally improve driver visibility while travelling the road at night.

Conventional illumination – means lighting, other than high mast illumination, where there are one or more luminaires per pole

Class – in the context of these levels of service refers to the criteria for classifying roadways developed in the preamble to the standards.

Clearance – is the zone measured horizontally and vertically from the centre line of the road in which no obstructions should be permitted except those that improve the safety of the roadway user. Exceptions may be defined in the standards. See encroachments

Cycle – is that time interval between inspections conducted for a specific purpose. Consideration can still be made for inspection cycle time adjustments at the discretion of the supervisor for mitigating circumstances, which are of an uncommon, or unpredictable, nature.

Day – means 24-hour period

Earth – refers to a road surface composed of native or naturally occurring selected soils that act as the surface and primary bearing layer of the road.

Effect – is the acting of an external influence on the condition of any aspect of the roadway.

Emergency Lag Time – applies to restoring primary traffic control devices to functional adequacy.

Encroachment – Means anything that is placed, installed, constructed or planted within the highway that was not placed, installed, constructed or planted by the municipality

Hardtop roads – refers to a road surface, which is relatively hard in nature, by treatment with either a bonding agent or cement, which effectively prevents reshaping by conventional motor or grader.

Highway – means a common and public highway and includes any bridge, trestle or other structure forming part of the highway, any part of which is intended for or used by the public for the passage of vehicles and pedestrians and includes the areas between the lateral property lines thereof.

High Mast Illumination – means lighting where there are three or more luminaires per pole and the height of the pole exceeds 20 metres

Horizontal Clearance – is an obstruction free zone measured from the centre line of a road

Ice – means all kinds of ice, however formed

Improved – refers to the condition being better than it was before, from the perspective of a typical user, all other effects being equal.

Inspection – is the activity performed by a person authorized and directed by the roadway authority to investigate and report on the relevant conditions of the roadway. Qualifications for inspector shall be determined by the roadway authority, and are relevant to the nature of the inspection performed. General inspection has regard for road surface and roadside standards. Winter inspection has regard for winter road surface standards.

Lag Time – means the period of time when any aspect of a roadway may be in a substandard condition. It is typically measured from when the condition is identified. In the case of continuing effects (eg. Storm) causing the condition, the lag time is measured from the end of that effect happening. Typically it is the time in which the Department may deliver operational responses to improve the condition if necessary. Unless otherwise specifically qualified in the standard, the condition or effect is deemed to have been identified at time of inspection or when notice was given.

Lane – is that portion of the road designated for a single file of vehicles to travel over, in one direction. For roads where two-way traffic is permitted, the lane width is half the road width unless otherwise delineated by pavement marking.

Localized – conditions, for the purpose of these levels of service that occur on short lengths of roadway specifically on bridges, intersections, curves and hills.

Loosetop – refers to a road surface that is of a granular manufactured product, which can reasonably be shaped by a motor grader, and includes road surfaces under reconstruction.

L.O.S. – means Level of Service Policy as approved by Council.

Luminaire – means a complete lighting unit consisting of: a lamp, and parts designed to distribute the light, to position or protect the lamp and to connect the lamp to the power supply, O. Reg. 239/02, s.10(7)

Maintenance Class – means a class 1, 2, 3, 4, 5 or 6 road designated as such by posted speed and traffic volume in accordance with O.Reg. 239/02 or O.Reg 612/06 as amended from time to time

Motor vehicle – has the same meaning as in subsection (1) of the Highway Traffic Act, except that it does not include a motor assisted bicycle

M.S. – means Ontario Regulation 239/02 Maintenance Standards for Municipal Highways.

Notice – of an effect or condition is considered given when received by an appropriate supervisor of the road authority.

Non-Paved Surface – means a surface that is not paved.

Ontario Traffic Manual – means the Ontario Traffic Manual published by the Ministry of Transportation, as amended from time to time

Operations – those activities a Public Works Department performs to improve a condition or sustain a roadway standard. Operations are normally defined by guidelines (not policy) with discretion of the supervisor to choose various methods to achieve results cost – effectively

Patroller - a person who is either a dedicated winter patroller or a person whose duties include winter patrolling

Patrolling Representative Roads - the field observation and recording of road and weather conditions on select roads within a municipal jurisdiction to determine if a winter event response is required to a winter event. Patrolling may or may not be supplemented by electronic surveillance.

Paved Surface – a surface with a wearing layer or layers of asphalt, concrete or asphalt emulsion

Policies – decisions of a formal nature made by a road authority to enable, qualify and govern the mission of that authority. Policies are normally qualified as to scope and application. A policy should only be exempted or altered by the body that created it. Municipal policy is best established in the form of a by-law. Policy should not be confused with operational procedures or quality standards. (see operations).

Pothole – a hole in the surface of a roadway caused by any means, including wear or subsidence of the road surface or subsurface

Primary Safety Devices – have regard for the safety and traffic regulation of the roadway. They address matters referred to in the Highway Traffic Act, including traffic signals, flashers and regulatory signs.

Regulatory Signs – those signs that are so referred to in the Ontario Manual of Uniform Traffic Control Devices.

Regulatory Sign - those signs that are so referred to in the Ontario Manual of Uniform Traffic Control Devices.

Repair Lag Time – applies to primary safety devices, traffic control devices and vehicle attenuation devices which, due to damage, are not providing the protection for which they were installed. Repair re-instates the existing system to functional service. Installation of temporary devices is deemed to constitute repair.

Response – describes that action taken by the roadway authority upon receipt of notice of an effect or condition. Monitoring an effect or condition may constitute a response. A reasonable response takes into account the relevant level of service.

Restoration Lag Time – refers to time to restore primary safety devices, traffic control devices and vehicle attenuation devices where they have deteriorated below original effectiveness or have ceased to be in compliance with current standards.

Right of Way (R.O.W.) - describes the corridor of land reserved for roadway within the jurisdiction of the roadway authority. Certain rights of way infer a right of passage to the public. However, in the context of these standards, only rights of way with assumed public roadways are considered. Rights of way solely for non-vehicular traffic are not addressed in these standards (eg. Pedestrian, equestrian, bicycle).

Road – refers specifically to the travelled road surface on a road assumed by a roadway authority, but not including on-street parking or stopping zones.

Roadside – refers to all the elements or conditions that make up the roadway within the jurisdiction of the roadway authority, except for the road surface itself.

Roadway – has the same meaning as in subsection 1 (1) of the Highway Traffic Act

Roadway Authority – indicates the public agency accountable for the status and condition of the roadway. This refers to the Corporation of the Municipality and its designated officials and agents.

Road Conditions – means the condition of the pavement surface during and after a winter event:

- **Bare and Dry** – most of the road surface is dry
- **Bare and Wet** – most of the road surface is moist
- **Partially Snow Covered** – two wheels of the passenger vehicle are on bare surface and the other wheels are likely to be on loose snow
- **Partially Snow Packed** – two wheels of the passenger vehicle are on bare surface and the other wheels are likely to be on snow bonded to the road
- **Partially Ice Covered** – two wheels of the passenger vehicle are on bare surface and the other wheels are likely to be on ice.
- **Snow Covered** – all wheels of a passenger vehicle are on loose snow

- **Snow Packed** – all wheels of a passenger vehicle are on snow bonded to the road
- **Ice Covered** – all wheels of a passenger vehicle are on ice

Rural Road System - typically means roads in a rural environment where development is sparse or where development is less than 50% of the frontage including developed areas extending less than 300m of one side of the road or 200m on both sides and no curb and gutter.

Safety – a general term identifying the concept of mitigating bodily injury or death of persons, or direct damage (beyond wear and tear) to vehicles or contents. The obligation to safety in the context of levels of service requires that the user operates in a safe manner giving consideration to the relevant effects and conditions, the vehicle is in good condition, satisfies any load restrictions, and contents are properly secured.

Safety Devices – a general term referring to all improvements that have traffic safety as their primary objective, including primary safety devices, traffic control devices and vehicle attenuation devices.

Section – refers to a portion of roadway with a distinct classification, and homogeneous character. A roadway section is commonly used for construction costing, inventory control in Maintenance Management Systems, Road Needs Studies, Pavement Management Studies and Priority Planning and Budgeting.

Seasonal – refers to the limited time of the year where certain roadway service standards apply to the subject roadway. (eg. Summer roads, ice roads). In the context of these standards seasonal roads are classified as those not receiving winter services, unless otherwise defined.

Service – can be defined in two contexts, in the larger context any government activity is a service. A roadway network is a service, as is a library, potable water supply, etc. When used in the context of these standards, “service” refers more specifically to aspects of a roadway and their condition. Services are seen from the perspective of the user.

Service Levels Matrix – the chart in the standard that specifically defines the services levels according to class of roadway.

Service Levels – a range of values that quantify a particular service standard, by one or more parameters, across a range of roadway classifications. Service levels typically reflect a standard maintenance.

Shoulder – means the portion of a highway that provides lateral support to the roadway and that may accommodate stopped motor vehicles and emergency use

Shoulder Width – means the vertical differential, where the paved surface of the roadway is higher than the surface of the shoulder, between the paved surface of the roadway and the paved or non-paved surface of the shoulder.

Sidewalk – the part of the highway specifically set aside or commonly understood to be for pedestrian use, typically consisting of a paved surface but does not include crosswalks, medians, boulevards, shoulders or any part of the sidewalk where cleared snow has been deposited.

Significant Weather Event – an approaching or occurring weather hazard with the potential to pose a significant danger to users of the highways within a municipality

Snow Accumulation - the natural accumulation of any of the following that, alone or together, covers more than half a lane width of a roadway: 1. Newly fallen snow; 2. Wind-blown snow; 3. Slush

Snowpacked – conditions refer to winter road conditions where the traveled surface of the road is covered with a build up of snow and/or ice and allows the user to manage safe travel.

Speed – refers to the average speed at which an average automobile can safely travel on a road of reasonable length, without the effects of traffic. This does not refer to design speed or legal speed unless specifically qualified. Posted speed is either legal or advisory.

Standards – quantified statements, defining the nature of a product or activity. Usually such standards are desirable, and in this context refer specifically to the roadway service standards adopted as policy, by a roadway authority.

Storm – conditions or effects are when natural or external effects are acting upon the roadway to reduce the condition as defined by one or more level of services. It does not refer to weather conditions that do not impact on the infrastructure. Storm conditions could include wind, rising and moving water, precipitation, cold temperatures (below -15C), snowfall, freezing rain, hail, blowing snow, etc.

Substandard – refers to a condition that is outside the defined level of service. Normally a substandard condition requires a response, unless otherwise considered in the level of service.

Substantial Probability – a significant likelihood considerably in excess of 51 per cent

Supervisor – refers to the Manager of Public Works or designate who is accountable for the deployment of operations that impact on the condition of roadway services.

Surface – the top of a roadway or shoulder.

Surface Discontinuity - a vertical discontinuity creating a step formation at joints or cracks in the paved surface of the roadway, including bridge deck joints, expansion joints and approach slabs to a bridge

Susceptible Area – a road section where a steep hill, sharp curve or other areas prone to drifting snow and/or slippery conditions (i.e. structures). A steep hill is a hill where the percent longitudinal grade is greater than the design criteria. A sharp curve is a curve with a speed advisory ≥ 20 km/hr less than posted speed.

System – refers to a collection of roadways, typically of various classifications, owned by a single road authority.

Traffic Control Devices – have regard for the advising and routing of traffic including non-regulatory signs, pavement markings, and hazard markers.

Urban Road System – roads in an urban environment where curb and gutter or curb exists on both sides of the road with or served by storm sewers or where curb and gutter or curb exists on one side of the road with or served by storm sewers or for subdivisions where the majority of lot frontages are less than 30m.

User – refers to any person traveling on or over the roadway, including vehicle operators, passengers and pedestrians.

Utility – includes any air, gas, water, electricity, cable, fiber-optic, telecommunications or traffic control system or subsystem, fire hydrants, sanitary sewers, storm sewers, property bars and survey monuments.

Utility Appurtenances – includes maintenance holes and hole covers, water shut-off covers and boxes, valves, fittings, vaults, braces, pipes, pedestals and any other structures or items that form part of or are in an accessory part of any utility

Value Added Meteorological Service (VAMS) – a weather service that provides a site specific forecast tailored to an agency's needs that includes but is not limited to: atmospheric temperature, relative humidity and/or dew point, wind speed and direction, and precipitation.

Vehicle Attenuation Devices – guide and attenuation errant vehicles and their occupants to reduce damage and personal injury (eg. Barriers, guiderail, inertia barriers).

Vertical Clearance – an obstruction free zone measured from any point on the surface of the road and above the projection of the horizontal clearance width.

Warning Sign - has the same meaning as in the Manual of Uniform Traffic Control Devices published in 1985 by the Ministry of Transportation.

Weather – air temperature, wind and precipitation

Weather Hazard – the weather hazards determined by Environment Canada as meeting the criteria for the issuance of an alert under its Public Weather Alerting Program. O'Reg 239/02 s.1(1); O'Reg 23/10, s. 1 (1); O'Reg. 47/13, s. 1: O'Reg. 366/18 s. 1 (1,2)

Winter – that season when cold weather effects on road conditions can be reasonably expected. The road authority can specifically define this season.

Winter Event – a weather condition affecting roads such as snowfall, wind-blown snow, sleet, freezing rain, frost or ice, to which a winter event response is required.

Winter Event Response – a series of winter control activities performed in response to a winter event.

Winter Patrol – the field observation of weather and road conditions

Winter Season – the season when the municipality normally performs winter highway maintenance as identified in a Winter Operations Plan.

Zone Lighting – describes illumination strategically located at intersections and areas of increased traffic congestion as determined by the road authority. (eg. Crosswalks, major entrances, “blind” corners).

Classification of Highways

Average Daily Traffic (number of motor vehicles)	91- 100 km/hr	81-90 km/hr	71-80 km/hr	61- 70 km/hr	51-60 km/hr	41- 50 km/hr	1-40 km/hr
53,000 or more	1	1	1	1	1	1	1
23,000 – 52,999	1	1	1	2	2	2	2
15,000 – 22,999	1	1	2	2	2	3	3
12,000 – 14,999	1	1	2	2	2	3	3
10,000 – 11,999	1	1	2	2	3	3	3
8,000 – 9,999	1	1	2	3	3	3	3
6,000 – 7,999	1	2	2	3	3	4	4
5,000 – 5,999	1	2	2	3	3	4	4
4,000 – 4,999	1	2	3	3	3	4	4
3,000 – 3,999	1	2	3	3	3	4	4
2,000 – 2,999	1	2	3	3	4	5	5
1,000 – 1,999	1	3	3	3	4	5	5
500 – 999	1	3	4	4	4	5	5
200 - 499	1	3	4	4	5	5	6
50 – 199	1	3	4	5	5	6	5
0 - 49	1	3	6	6	6	6	6

O.Reg. 366/18, s. 1 (5)

Classification of Highways – For the purposes of this policy, every Highway or part of a Highway under the jurisdiction of a municipality in Ontario is classified in Table 1 as a Class 1, Class 2, Class 3, Class 4, Class 5 or Class 6 highway, based on the applicable speed limit and the average daily traffic count.

For the purpose of determining the Class of highway, the average annual daily traffic on a highway or part of a highway under municipal jurisdiction shall be determined in accordance with the regulations as set out in the glossary of terms.

1.0 ROAD SURFACE

- 1.1 The service standards included in section 1 cover those activities required to maintain the surface of paved (hardtop) and non-paved (loosetop) roads over an entire year. For hardtop roads, these activities include but are not limited to: frost heave, base and utility cut repairs and; hot and cold mix patching. For loosetop, the activities covered by the standard include grading and dust control.

Table 1.1.1 Potholes – Paved Surface of Roadway

Class	Surface Area	Depth	Time
4	1000 cm ²	8 cm	14 days
5	1000 cm ²	8 cm	30 days
6	NO STANDARD		

O.Reg 239/02, s.6, Table 1

Table 1.1.2 Potholes – Non-Paved Surface of Roadway

Class	Surface Area	Depth	Time
4	1500 cm ²	10 cm	14 days
5	1500 cm ²	12 cm	30 days
6	NO STANDARD		

O.Reg 239/02, s.6, Table 2

Table 1.1.3 Potholes – Paved or Non-Paved Surface of Shoulder

Class	Surface Area	Depth	Time
4	1500 cm ²	10 cm	30 days
5	1500 cm ²	12 cm	60 days
6	NO STANDARD		

O.Reg 239/02, s.6, Table 3

A pothole is deemed to be in a state of repair if its surface area or depth is less than or equal to that set out in 1.1.1, 1.1.2 and 1.1.3 as appropriate

1.2 Cracks

Table 1.2.1 Cracks

Class	Time
4	180 days
5	180 days
6	NO STANDARD

O.Reg 366/18, s.10(1)

If a crack in the paved surface of a roadway is greater, than 5 cm wide and 5 cm deep for a continuous distance of three metres or more, the standard is to repair the crack within the time set out in the Table to this section after becoming aware of the fact. O Reg. 366/18 s. 10(1).

A crack shall be deemed to be in a state of repair if its width and depth is less than or equal to the 5 cm. O. Reg. 366/18, s. 10 (1)

1.3 Roadway Surface Discontinuities

A surface discontinuity means a vertical discontinuity creating a step formation at joints or cracks in the paved surface of the roadway, including bridge deck joints, expansion joints and approach slabs to a bridge.

The standard is to repair a surface discontinuity, except on bridges, that exceeds the height set out in table 1.3.1, within the time frame. After becoming aware of the fact, set out in table 1.3.1.

Surface discontinuity on bridges (deck joints, expansion joints, approach slabs to bridge, cracks in bridge decks) in excess of 5cm requires the deployment of resources as soon as practicable to repair.

A surface discontinuity shall be deemed to be repaired if its height is less than or equal to that set out in table 1.3.1.

Table 1.3.1 Surface Discontinuities

CLASS	HEIGHT	RESPONSE TIME
1	5 cm	2 days
2	5 cm	2 days
3	5 cm	7 days
4	5 cm	21 days
5	5 cm	21 days
6	No Standard	

(O.Reg. 239/02, s. 16)

1.4 Sidewalk Surface Discontinuities

Surface discontinuity means a vertical discontinuity creating a step formation at joints or cracks in the surface of the sidewalk.

Sidewalks will be inspected once per calendar year with each inspection not taking place not more than 16 months from the previous inspection. (O.Reg. 23/10, s. 10; O.Reg. 47/13 s. 16(1); O.Reg. 366/18, s. 13)

1.5 Encroachments, area adjacent to sidewalk

(1) The standard for the frequency of inspecting an area adjacent to a sidewalk to check for encroachments is once per calendar year, with each inspection taking place not more than 16 months from the previous inspection.

(2) The area adjacent to a sidewalk that has been inspected in accordance with subsection (1) is deemed to be in a state of repair in respect of any encroachment present

(3) For greater certainty, the area adjacent to a sidewalk begins at the outer edges of a sidewalk and ends at the lesser of the limit of the highway, the back edge of a curb if there is a curb and a maximum of 45 cm

(4) The area adjacent to a sidewalk is deemed to be in a state of repair in respect of any encroachment present unless the encroachment is determined by the municipality to be highly unusual given its character and location or to constitute a significant hazard to pedestrians.

(5) If a municipality determines that an encroachment is highly unusual given its character and location or constitutes a significant hazard to pedestrians, the standard is to treat the encroachment within 28 days after making such a determination and the encroachment is deemed in a state of repair for 28 days from the time of the determination by the municipality.

(6) For the purpose of subsection (4) treating an encroachment means taking reasonable measures to protect users, including making permanent or temporary repairs, alerting users attention to the encroachment or preventing access to the area of the encroachment.

1.6 Shoulder Drop-Off

If a shoulder drop-off is deeper, is deeper than 8 cm, for a continuous distance of 20 metres or more, the standard is to repair the shoulder drop-off within the time set out in Table 1.6.1 to this section after becoming aware of the fact. O'Reg. 336/18 s. 9

A shoulder drop-off shall be deemed to be repaired if its depth is less than 8 cm. O.Reg. 366/18, s. 9 (1)

In this section "shoulder drop off" means the vertical differential, where the paved surface of the roadway is higher than the surface of the shoulder, between the paved surface of the roadway and the paved or non-paved surface of the shoulder. O.Reg 239/02, s. 7(3)

Table 1.6.1 Shoulder Drop-Off

Class	Time
Class 4	14 days
Class 5	30 days
Class 6	No Standard

O.Reg 366/18, c. 9(2)

1.7 Flooding

A flood condition exists where water, either flowing or standing, covers more than half of a lane width. The minimum standard where flooding exceeds the maximum depth is to post a warning that the flooding condition exists. This warning should be posted on class 3, 4, 5 & 6 within 12 hours of becoming aware that the condition exists.

The flooding standard is deemed to be met if a warning is posted when the depth of flooding exceeds the maximum shown in 1.7.1.

If the occurrence of flooding exceeds the maximum frequency an investigation should occur to determine the improvements required to achieve the desired frequency.

Table 1.7.1 Flooding

Class	Maximum Depth	Maximum Frequency
4	10 cm	1 year
5	15 cm	6 months
6	20 cm	1 month

1.8 Road Debris

If there is debris on the roadway, the standard is to deploy resources, as soon as practicable after becoming aware of the fact, to remove the debris. O.Reg. 239/02 s.9(1); O'Reg. 366/18, s. 11

Debris means any material (except snow, slush or ice) or object on a roadway that is not an integral part of the roadway or has not been intentionally placed on the roadway by the municipality, and that is reasonably likely to cause damage to a motor vehicle or injure a person in a motor vehicle. O.Reg. 239/02, s. 9(2); O'Reg. 47/13, s.9

1.8.1 Litter and Other Roadside Debris

	URBAN		RURAL	
Class	Accumulation	Maximum Lag Time	Accumulation	Maximum Lag Time
4	2	6 months	3	1 year
5	2	6 months	3	1 year
6	2	6 months	3	1 year

Ratings for street litter are based on observations from the centre of the street to the edge of the right of way.

1. street completely clean
2. street largely clean, a few places of litter observed but only in the form of isolated discarded items, i.e. less than or equal to the volume of a large grocery bag on an urban block or kilometer of rural road section.
3. litter lightly scattered along all or most of the street, or one heavy pile, but not considered large enough to indicate dumping i.e. a volume no greater than a standard garbage can be on an urban block or kilometer of rural road section.

The standard is to remove litter and other debris on a roadside when the accumulation exceeds the rating for rural and urban accumulation within the maximum lag time.

1.9 Dust

Where dust caused by traffic on a loose top road surface impacts on reasonable vehicle safety, relative to the ambient condition of the road, that condition should not occur for more than the maximum lag time per year.

This standard is not applicable where the condition occurs over a distance of less than 100m. This standard does not apply to shoulders.

Table 1.9.1 Dust

CLASS	MAXIMUM LAG TIME
4	2 months
5	6 months
6	N/A

1.10 Routine Patrolling

The standard for the frequency of routine patrolling of highways is set out in Table 1.10.1. If it is determined by the municipality that the weather monitoring referred to in section 1.11 indicates that there is a substantial probability of snow accumulation on roadways, ice formation on roadways or icy roadways, the standard for patrolling highways is, in addition to that set out above to patrol highways that the municipality selects as representative of its highways, at intervals deemed necessary by the municipality, to check for such conditions. O'Reg. 47/13, s. 2; O. Reg. 366/18, s. 3(2).

Patrolling a highway consists of observing the highway, either by driving on or by electronically monitoring the highway, and may be performed by persons responsible for patrolling highways or by persons responsible for or performing highway maintenance activities. O.Reg. 23/10, s. 3(1); O.Reg. 366/18, s. 3(3).

Table 1.10.1 Routine Patrolling

Class	Patrolling Frequency
4	Once every 14 days
5	Once every 30 days
6	No Standard

The standard for the frequency of routine patrolling of highways is set out in Table 1.10.1.

1.11 Weather Monitoring

From October 1 to April 30, the 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. (See also Winter Control Policy). O.Reg. 47/13, s.3; O.Reg. 366/18, s. 4

From May 1 to September 30, the standard is to monitor the weather, both current and forecast to occur in the next 24 hours, once per calendar day. O.Reg. 47/13, s.

Weather monitoring shall be recorded and maintained by the Director of Public Works or designate.

2.0 ROADSIDES

The service standards of section 2 look beyond the surface of the roadway to those activities carried out on the roadside. They include services for vegetation management, street light maintenance, traffic control device maintenance and trees.

2.1 Clearances

Table 2.1.1 Clearances

	Vertical		Horizontal
Class	Overhanging Minimum	Grass/brush encroachment	Minimum
4	4.5 m	0.5 m	5 m
5	4.5 m	0.5 m	5 m
6	4.5 m	0.5 m	5 m

Clearances are measured vertically from the crown of the road and horizontally from the centerline of the road.

Vertical and horizontal clearances recognize setback of obstacles that may cause damage when struck or may impair the visibility of motorists traveling on a road. Obstacles, which may impair visibility, may be localized and include; rock outcrops, earth embankments, guy cables, utility posts, bridge abutments, hydrants, trees and so forth.

For the purpose of this standard: safety devices placed by the municipality, and all signing placed by the municipality (regulatory, warning, street name) are not to be considered as encroachments.

The maximum lag time to remove an encroachment into the clearance zone is two years. This would apply to the following:

1. for structures on replacement
2. for utilities upon replacement
3. for temporary conditions such as overhanging

2.2 Luminaires

This standard for the frequency of inspecting all luminaires to check to see that they are functioning is once per calendar year, with each inspection taking place not more than 16 months from the previous inspection. O.Reg. 366/18, s. 12.

For conventional illumination, if three or more consecutive luminaires on a highway are not functioning, the standard is to repair the luminaires within the time set out in Table 2.2.1 to this section after becoming aware of the fact. O.Reg. 366/18, s.12

For conventional and high mast illumination, If 30 percent or more of the luminaires on any kilometer of highway are not functioning the standard is to repair the luminaires within the time, set out in Table 2.2.1 to this section after becoming aware of the fact. O.Reg. 366/18, s. 12

For conventional illumination and high mast illumination, if more than 50 per cent of the luminaires on any kilometer of a Class 1 highway with a speed limit of 90 kilometres per hour or more are not functioning, the standard is to deploy resources as soon as practicable after becoming aware of the fact to repair the luminaires. O.Reg. 366/18, s. 12.

Luminaires are deemed to be in a state of repair:

- If the number of non-functioning consecutive luminaires on the same side of a highway does not exceed two;
- If more than 70 percent of luminaires on any kilometer of highway are functioning
- If more one or more of the luminaires on consecutive poles on the same side of a highway are functioning
- If more than 50 percent of luminaires on any kilometer of highway are functioning

2.2.1 Luminaires

Hwy Class	Time
4	14 days
5	14 days
6	No Standard

(O.Reg 239/02, s. 10)

2.3 Signs

The standard for frequency of inspecting signs of a type listed in subsection 2.3(b) to check to see that they meet the retro-reflectivity requirements of the Ontario Traffic Manual is once per calendar year, with each inspection taking place not more than 16 months from the previous inspection.

A sign that has been inspected in accordance with the above is deemed to be in a state of repair with respect to the retro-reflectivity requirements of the Ontario Traffic Manual until the next inspection in accordance with that subsection, provided that the municipality does not acquire actual knowledge that the sign has ceased to meet these requirements.

If any sign of a type listed below is illegible, improperly oriented, obscured, or missing, the standard is to deploy resources as soon as practicable after becoming aware of the fact to repair or replace the sign.

- Checkerboard
- Curve sign with advisory speed tab
- Do not enter
- Load restricted bridge
- Low bridge
- Low bridge ahead
- One way
- School zone speed limit
- Stop
- Stop ahead
- Stop ahead, new
- Traffic signal ahead, new
- Two-way traffic ahead
- Wrong way
- Yield
- Yield ahead
- Yield ahead, New (O.Reg. 239/02,s. 11(2); O. Reg. 23/10, s. 7(3))

The standard for the frequency of inspecting regulatory signs or warning signs to check to see that they meet the retro-reflectivity requirements of the Ontario Traffic Manual is once per calendar year, with each inspection taking place not more than 16 months from the previous inspection.

A regulatory sign or warning sign that has been inspected is deemed to be in a state of repair with respect to retro-reflectivity requirements of the Ontario Traffic Manual until the next inspection in accordance with that subsection, provided that the municipality does not acquire actual knowledge that the sign has ceased to meet these requirements. O.Reg. 47/13, s. 12(2)

A regulatory or warning sign is illegible, improperly oriented, obscured or missing, the standard is to repair the sign within the time set out in the table to this section after becoming aware of the fact. (O.Reg. 23/10, s. 8; O.Reg. 366/18, s. 13.)

Visual ratings of the readability and appearance of regulatory and warning signs are made from an automobile:

1. **Conveniently visible**
 - a) sign head and support in good condition
 - b) sign not defaced in any manner
 - c) sign continuously visible for 160 m at 80 km/hr or 85 m at 50 km/hr

2. **Visible but somewhat inconvenient to read or find**
 - a) sign head or support slightly tilted, twisted or bent but still readable
 - b) sign partially or intermittently obscure within the approach distance of 30m
 - c) sign defaced but readable

3. **Missing, ambiguous, difficult to see, or read**
 - a) no street name sign on any corner
 - b) sign post broken off or sign missing
 - c) sign tilted, twisted or bent more than 30 degrees
 - d) sign totally obscured by a tree, bush, brush, pole, another sign or object, so that it can not be seen within the approach
 - e) printing on sign not legible

Note: “Regulatory Sign” and “Warning Sign” have the same meanings as in the Ontario Traffic Manual, with the exception that they do not include a sign listed in section 11(2) of Regulation O.Reg. 23/10, s.8)

Table 2.3.1 Regulatory and Warning Signs

Class	Time
4	30 days
5	30 days
6	No Standard

O.Reg. 239/02 s.12

2.4 Other Signs

This section applies to the following types of signs: checkerboards, curve sign with speed advisory tab; Do Not Enter; One Way; School Zone Speed Limit; Stop Ahead; Stop Ahead New; Traffic Signal Ahead New; Two-way Traffic Ahead; Wrong Way; Yield; Yield Ahead and; Yield Ahead New.

Table 2.4.1 Other Signs

Class	Time
4	As soon as practicable
5	As soon as practicable
6	No Standard

If a sign as listed above is illegible, improperly oriented, missing or is rated below the minimum condition, the minimum standard is to deploy resources as soon as practicable, after becoming aware of the fact, to repair or Replace the sign.

A visual rating of readability and appearance of all regulatory signs other than stop signs and street name signs can be made from an automobile.

1. Conveniently visible
 - a) sign head and support in good condition
 - b) sign not defaced in any manner
 - c) sign continuously visible for 100m at 80km/hr or 30m at 50km/hr
2. Visible but somewhat inconvenient to read or find
 - a) sign head or support slightly tilted, twisted or bent but still readable
 - b) sign partially or intermittently obscure within the approach distance of 30m
 - c) sign defaced but readable
3. Missing, ambiguous, difficult to see, or read
 - a) no street name sign on any corner
 - b) sign post broken off or sign missing
 - c) sign tilted, twisted or bent more than 30 degrees
 - d) sign totally obscured by a tree, bush, brush, pole, another sign or object, so that it can not be seen within the approach distance of 30m
 - e) printing on sign not legible

2.5 Traffic Control Signal System

- a) If a traffic control signal system is defective in any way as described above, the minimum standard is to deploy resources to repair the defective component of the traffic control signal system as soon as practicable after becoming aware of the defect.

2.6 Other Safety Devices

This section applies to delineator, chevron, flashers, pavement markings, vehicle attenuation devices such as guide rail or inertia barrier and other such safety devices.

Table 2.6.1 Other Safety Devices

Class	Repair Lag Time	Restoration Lag Time
4	Annual	5 years
5	Annual	7 years
6	Annual	10 years

If other safety devices are damaged, illegible, improperly oriented or missing, the standard is to repair or replace the other safety device within the response time, after becoming aware of the fact, as set out in 2.6.1.

Where other safety devices are found to be deficient either by deteriorating beyond their effective usefulness or not in compliance with current standards, the standard is to replace the safety device within the restoration lag time.

2.7 Trees

This standard applies to the mitigation of tree fall on a roadway.

Table 2.7.1 Trees

Class	Lag Time
4	Annual
5	Annual
6	Annual

If a tree has one or more of the following conditions present the minimum standard is to secure the tree from falling on a roadway. This should occur after becoming aware of the fact that the following conditions exist, and within the maximum lag time as shown in 2.8.1:

A tree fall on a roadway may occur if the following conditions are present:

1. The tree must appear dead as evidenced by no leaves during normal in-leaf season, and the tree must be on the R.O.W.
2. The entire tree or a significant portion of the tree must appear dead, and the tree must be on the R.O.W.
3. The trunk of the tree must be greater than 0.3 m in diameter, and the tree must be on the R.O.W.
4. There must be a significant likelihood of the tree falling on the roadway, if it falls

3.0 Bridges

3.1 Bridge Deck Spalls

A **“bridge deck spall”** means a cavity left by one or more fragments detaching from the paved surface of the roadway or shoulder or the bridge. (O.Reg. 239/02, s. 15)

Table 3.1.1 Bridge Deck Spalls

Class	Surface Area	Depth	Response Time
4	1000 cm ²	8 cm	7 days
5	1000 cm ²	8 cm	7 days
6	No Standard		

If a bridge deck spall exceeds both the surface area and depth set out in the table the standard, is to repair the bridge deck spall within the time set out in the table after becoming aware of the fact. O.Reg. 239/02, s. 15(1); O.Reg. 366/18,, s. 13)

A bridge deck spall shall be deemed to be in a state of repair if its surface area or depth is less than or equal to that set out in table(O.Reg. 239/02, s.15(2); O.Reg. 47/13, s.14)

Section 4

Winter Control Policy

4.0 Statement:

Winter control operations, for areas within the Township of Otonabee-South Monaghan's jurisdiction, follows a Council approved Winter Control Policy which meets the Maintenance Standards for Municipal Highways. It is acknowledged that conditions may occur which will prevent the achievement of this level of service and Public Works must work within available resources such as funds, equipment and manpower. Weather conditions may also have a major effect on desired level of service. The driving public will be expected to reduce speed and drive according to weather and road conditions.

4.1 Purpose:

The purpose of this policy is to provide a guideline for Public Works Department to follow when performing winter control operations in order to meet the following objectives:

- Reduce the hazards of icy road conditions
- Reduce economic losses to the community and industry
- Facilitate the access of emergency services
- Provide safe school bus routes
- Provide local access for the driving public

4.2 Application:

All roads, within the Township of Otonabee-South Monaghan, do not require the same level of service. Service given is in accordance with the role of a particular road plays within the total transportation network. In accordance with the Maintenance Standards for Municipal Highways, Municipal Act 2001, roads within the Township of Otonabee-South Monaghan's jurisdiction fall into three categories:

- Class 4
- Class 5
- Class 6

Road classes are based on the Average Daily Traffic (ADT) count as well as the posted or statutory speed limit.

4.3 Glossary of Terms:

Anti-icing – means the direct liquid application of brine solution to the road surface in advance of a storm to prevent snow and ice from bonding to the pavement.

Electronic Surveillance – means the monitoring and recording of road and weather conditions using RWIS information supplemented with local weather forecasts and/or a value added meteorological service. Electronic surveillance is a tool to supplement field observations to determine if a winter event response is required to a winter event.

L.O.S. – means a council approved Level of Service Policy approved by Council.

Maintenance Class – means a class 1, 2, 3, 4, 5 or 6 road designated as such by posted speed and traffic volume in accordance with O.Reg 239/02 as amended from time to time.

M.S. – means Ontario Regulation 239/02, Maintenance Standards for Municipal Highways.

Patroller – means a person that is either a dedicated winter patroller or a person whose duties include winter patrolling.

Patrolling Representative Roads – means the field observation and recording of road and weather conditions on select roads within a municipal jurisdiction to determine if a winter event response is required to a winter event. Patrolling may or may not be supplemented by electronic surveillance.

Road Condition – means the condition of the pavement surface during and after a winter event:

- Bare and dry – most of the road surface is dry
- Bare and wet – most of the road surface is moist
- Partially snow covered – two wheels of the passenger vehicle are on bare surface and the other wheels are likely to be on loose snow
- Partially snow packed – two wheels of the passenger vehicle are on bare surface and the other wheels are likely to be on snow bonded to the road
- Partially ice covered – two wheels of the passenger vehicle are on bare surface and the other wheels are likely to be on ice
- Snow covered – all wheels of a passenger vehicle are on loose snow
- Snow packed – all wheels of a passenger vehicle are on snow bonded to the road
- Ice covered – all wheels of a passenger vehicle are on ice.

Rural Road System – typically means roads in a rural environment where development is sparse or where development is less than 50% of the frontage including developed areas extending less than 300 m of one side of the road or 200 m on both sides and no curb and gutter.

Significant Weather Event means an approaching or occurring weather hazard with the potential to pose a significant danger to users of the highways within a municipality.

Snow accumulations means the natural accumulation of any of the following that, alone or together covers more than half a lane width of a roadway:

1. Newly fallen snow
2. Wind-blown snow
3. Slush

Susceptible Area – means a road section with a steep hill, sharp curve or other areas or structures prone to drifting and/or slippery conditions. A steep hill is a hill where the percent longitudinal grade is greater than the design criteria. A sharp curve is a curve with a speed advisory ≥ 20 km/h less than posted speed.

Urban Road System – means roads in an urban environment where curb and gutter or curb exists on both sides of the road with or served by storm sewers or where curb and gutter or curb exists on one side of the road with or served by storm sewers or for subdivisions where the majority of lot frontages are less than 30m.

Winter Event – means a weather condition affecting roads such as snowfall, wind-blown snow, sleet, freezing rain, frost, or ice, to which a winter event response is required.

Winter Event Response – means a series of winter control activities performed in response to a winter event.

Winter Patrol – means the field observation of weather and road conditions

Winter Season – means the season when the municipality normally performs winter highway maintenance.

4.4 Policy, Procedure and Implementation

4.4.1 Winter Response

This policy covers these activities which are required to produce safe driving conditions for a driver acting responsibly, during those times of the year in which winter conditions can be anticipated.

On average the first occasion for which a winter response is required will occur on or about November 15 and the commencement of continuous winter operations will occur beyond December 15 of each year. The need for an ongoing response will on average continue to approximately March 15 of each winter season and the last date for which a response is required will be approximately around April 8 of each season. Acknowledging that winter conditions can occur before and after these periods, the Township of Otonabee-South Monaghan will gear the conversion of its resources from normal to winter maintenance mode to meet the following state of readiness guidelines.

Beginning of Winter	50% Operational	October 1
	100% Operational	November 14
	Initiate Night Patrol	November 14
End of Winter	100% Operational	April 1
	End of Night Patrol	April 1
	50% Operational	April 30

The Winter Resources of the Township of Otonabee-South Monaghan consists of:

- Five (5) 5 and 6 ton single axle, tandem axle combination plow/spreader trucks
- Three (3) graders
- One (1) ¾ ton 4x4 Pick-up with plow & sander
- One (1) ¾ 4x4 Pick-up (patrolling)
- Bobcat Skidsteer (sidewalk maintenance)

(all equipped with sufficient operators to operate each unit, organized in a one day shift).

In order to ensure that these resources are employed as efficiently and effectively as possible, the Township of Otonabee-South Monaghan adopts a standard of having the resources deployed generally when the needs are greatest. This is determined weather monitoring as required through the use of available radar information and forecast (i.e. Environment Canada and/or Weather Network, etc)

It is anticipated that 85% - 90% of the average daily traffic occurs between the hours of 5 a.m. and 9 p.m. Therefore, the Township of Otonabee-South Monaghan will focus its efforts to meet this demand.

A full call out of the winter maintenance equipment between the hours of 9 p.m. and 4 a.m. will not as a general rule be made except where high winds create drifting conditions which threaten to block the roadway or in the event of a freezing rain event, where a response during the period would lessen the total effort to be expended by the Department in order to clean-up from the event. All call outs will be subject to Ministry regulations with respect to hours of work.

The activities covered by this standard include continuous plowing, spot plowing, continuous sanding/salting, spot sanding/salting, ice blading, winging back.

4.4.2 Weather Monitoring

From October 1 to April 30, the 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.

From May 1 to September 30, the standard is to monitor the weather, both current and forecast to occur in the next 24 hours, once per calendar day.

4.5 Snow Clearing Level of Service

4.5.1 Snow Accumulation – Roadways – Maintenance Standard

The maintenance standard for snow removal on roadways is to deploy resources as soon as practicable to clear snow accumulation after becoming aware that the snow accumulation on the roadway is greater than the depth set out in the table 4.5(a) below.

After the snow accumulation on the roadway has ended, if it is greater than the depth set out in the table below within the time set out in the table. the maintenance standard is to provide a minimum lane width of the lesser of three (3) metres for each lane or the actual lane width or on a Class 4 or 5 highway with two lanes, to provide a total width of at least five (5) metres.

If the depth of snow accumulation on a 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.

This standard does not apply to that portion of the road designated for parking and only applies to a municipality during the season when the municipality performs winter highway maintenance. Ice blading of snow packed surfaces will be undertaken as necessary to provide additional traction as determined by the Manager of Public Works or his/her designate.

4.6 Surface Condition

After the snow accumulation has ended, and within the lag time shown in the surface condition section, roads shall be returned to at least the minimum surface condition as shown in the table 4.6(a)

Table 4.6 (a) Snow Accumulation - Roadways

Class	Depth	Time
1	2.5 cm	4 hours
2	5 cm	6 hours
3	8 cm	12 hours
4	8 cm	16 hours
5	10 cm	24 hours
6	No Standard	

O.Reg 47/13,s.4

In this standard Snow Accumulation means the natural accumulations of new fallen snow or wind blown snow that covers more than half a lane width of a roadway.

4.7 Significant Weather Event

4.7.1 Significant Weather Event – Declaration

The Municipality declaring the beginning of a significant weather event or declaring the end of a significant weather event shall do so in one or more of the following ways:

1. By posting a notice on the municipal website
2. By making an announcement on a social media platform, such as Facebook, Twitter
3. By sending a press release or similar communication to internet, newspaper, radio or television media.
4. By notification through the Ontario Provincial Police (OPP)
5. By any other notification method required in a by-law of the municipality.

4.7.2 Snow Accumulation on Roadways, significant weather event

If the municipality declares a significant weather event relating to snow accumulation, the standard for addressing snow accumulation on roadways until the declaration of the end of the significant weather event is:

- (a) to monitor the weather in accordance with section 4.4.2
- (b) if deemed practicable, to deploy resources to address snow accumulation on roadways, starting from the time that the Director of Public Works or Designate deems it appropriate to do so.

All roadways with in the municipality will be deemed to be in a state of repair with respect to snow accumulation if (a) & (b) above are complied with and until the applicable time in the table expires following the declaration of the end of the significant weather event by the Municipality.

Following the end of the weather hazard wherein a significant weather event was declared by a municipality; the municipal shall:

- (a) declare the end of the significant when the municipality determines it is appropriate to do so
- (b) address snow accumulation on roadways in accordance with Section 4.5.1

4.7.3 Snow Accumulation – Bicycle Lanes

The standard for addressing snow accumulation on bicycle lanes.

After becoming aware of the fact that the snow accumulation on a bicycle lane is greater than the depth set out in the table, to deploy resources as soon as practicable to address the snow accumulation; and

After the snow accumulation has ended, to address the snow accumulation so as to reduce the snow to a depth less than or equal to the depth set out in the table to provide a minimum bicycle lane width of the lesser of 1 metre or the actual bicycle lane width.

If the depth of snow accumulation on a bicycle lane is less than or equal to the depth set out in the table, the bicycle lane is deemed to be in a state of repair in respect of snow accumulation.

For the purposes of this section, the depth of snow accumulation on a bicycle lane and, if applicable, lane width.

Table 4.7.3(a) Snow Accumulation – Bicycle Lanes

Class	Depth	Time
1	2.5 cm	8 hours
2	5 cm	12 hours
3	8 cm	24 hours
4	8 cm	24 hours
5	10 cm	24 hours
6	No Standard	

4.7.4 Snow Accumulation on bicycle lanes, Significant Weather Event

If the municipality declares a significant weather event relating to snow accumulation, the standard for addressing snow accumulation on bicycle lanes until the declaration of the end of the significant weather event is:

- (a) to monitor the weather in accordance with section 4.4.2
- (b) if deemed practicable, to deploy resources to address snow accumulation on bicycle lanes, starting from the time that the Director of Public Works or Designate deems it appropriate to do so.

All bicycle lanes within the municipality will be deemed to be in a state of repair with respect to snow accumulation if (a) & (b) above are complied with and until the applicable time in the table expires following the declaration of the end of the significant weather event by the Municipality.

Following the end of the weather hazard wherein a significant weather event was declared by a municipality; the municipal shall:

- (a) declare the end of the significant when the municipality determines it is appropriate to do so
- (b) address snow accumulation on bicycle lanes in accordance with Section 4.7.3

4.7.5 Sanding and Salting

The objective will be to deploy resources as soon as practicable, after becoming aware that the road is icy and the safe operating speed has dropped below the threshold indicated in Table 4.6(a). The response will be to treat the roadway or sections thereof with deicing chemicals and/or abrasives as appropriate to remove the ice or provide traction within the timeframes indicated in Table 4.6(a) for such response.

It is the objective of the actions taken to improve the surface conditions of the road within the lag time shown in the surface condition section, such that the safe operating speed on the road will meet or exceed levels as shown in the table 4.6(a)

4.7.6 Ice Formation on Roadways & Icy Roadways

In a 24 hour period preceding an alleged formation of ice on a roadway the Municipality undertakes to:

- a) Monitor the weather accordingly
- b) Patrol in accordance with section 4.7.9 of this Policy
- c) If the Municipality determines, as a result of its activities under paragraph (a) & (b), 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 Table 4.7.6(a) to this section, starting from the time that the municipality determines is appropriate time to deploy resources for that purpose.

If the municipality meets the standard set out above, and despite compliance ice forms on a roadway the roadway is deemed to be in a state of repair until the applicable time set out in Table 4.7.6(a) to this section expires after the municipality becomes aware of the fact that a roadway is icy.

The standard for treating icy roadways is to treat the icy roadway within the time set out in Table 4.7.6(b) to this section expires after the municipality becomes aware of the fact that the roadway is icy.

The standard for treating icy roadways is to treat the icy roadway within the time set out in Table 4.7.6(b) to this section and an icy roadway is deemed to be in a state of repair until the applicable time set out in Table 4.7.6(b) to this section expires after the municipality becomes aware of the fact that a roadway is icy.

Treating a roadway means applying material to the roadway, including but not limited to salt, sand or any combination of salt and sand.

This section applies in respect of ice formation on bicycle lanes on a roadway, but does not apply to other types of bicycle facilities.

Table 4.7.6(a) Ice Formation Prevention

	Standard To treat icy roads
Class	Time
1	6hours
2	8 hours
3	16 hours
4	24hours
5	24 hours
6	No Standard

** Treating a roadway means applying material to the roadway, including but not limited to, salt, sand or any combination of salt and sand

Table 4.7.6 (b) Treatment of Icy Roadways

Class	Time
1	3 hours
2	4hours
3	8 hours
4	12 hours
5	16 hours
6	No Standard

4.7.7 Section Icy Roadways – Significant Weather Event

If the municipality declares a significant weather event relating to ice, the standard for treating icy roadways until the declaration of the end of the significant weather event is:

- (a) monitor the weather in accordance with section 4.4.2
- (b) if deemed practicable by the municipality, to deploy resources to treat icy roadways, starting from the time that the municipality deems appropriate to do so.

If the municipality complies with the subsection 4.7.6 all roadways within the municipality are deemed to be in a state of repair with respect to any ice which forms or may be present until the applicable time in Table 4.7.6 (b) above expires after the declaration of the end of the significant weather event by the municipality.

Following the end of the weather hazard in respect of which a significant weather event was declared by the municipality under this section, the municipality shall:

- (a) declare the end of the significant weather event when the municipality determines it is appropriate to do so
- (b) treat icy roadways in accordance with Section 4.7.6

4.7.8 Winging Back of Snow Banks

At various times during a winter season it may be necessary to wing back snow banks in order to reduce the height of the banks so that driver visibility is not impaired and/or provide space to store additional snow. Typically this work will be undertaken in rural and urban residential areas. The objective will be to deploy resources on roadways within the response time frames after becoming aware that the snow banks exceed height specified and to reduce the height of the banks to or below the height indicated in Table 4.7.8(a) within the time frames specified for each classification of roadway.

Table 4.7.8(a) Snow Bank Winging Back Level of Service

	Objective to Address Snow Banks	Snow Bank Height	
Class	Response Time	Height (Metres)	
1	24 hours	0.9	
2	24 hours	0.9	
3	48 hours	0.9	
4	48 hours	0.9	
5	72 hours	0.9	
6	72 hours	0.9	

4.7.9 Winter Patrolling Level of Service – Routine Conditions

Routine patrolling during daylight hours of the winter months shall be as specified in Table 4.7.9(a) of this Policy. Routine patrolling will not occur on weekends during the winter months. The timing of this night patrol person will generally be from approximately mid November – Mid April each season. Patrolling is that activity which the Road Authority undertakes in an effort to inform itself of and document the conditions of its roadways. The Township of Otonabee-South Monaghan shall patrol its roadways so that the maximum cycle length as specified in Table 4.7.9 (a) is not exceeded. Routine patrolling may be achieved by driving roadways or electronic surveillance. Routine patrolling will take place during normal operating hours Monday to Friday. Routine patrolling will not occur between sunset and sunrise or on weekends.

This Patroller shall have the authority to call out additional personnel and equipment if the need arises.

During normal workings hours in the winter season, the Manager of Public Works and/or his/her designate are responsible for undertaking weather monitoring and inspections during the winter season to determine necessary snow and ice control measures.

Table 4.7.9 (a) Routine Patrolling Response Level of Service

Class	Ambient Condition Minimum Standard Cycle
4	Once every 7 days
5	Once every 14 days
6	Once every 14 days

4.7.10 Winter Patrolling Level of Service – Storm Conditions

If it is determined by the Municipality through weather monitoring or inspections 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 to patrol highways as set out by the persons and intervals as deemed necessary by the municipality to check for such conditions as set out in Table 4.7.10 (a).

Winter patrolling during storm conditions shall be in accordance with Table 4.7.10(a). Patrolling shall be carried out by driving the roadway or electronic monitoring to ascertain conditions and the need for a response. Patrolling of a representative sample of the road system shall be deemed to be sufficient to identify problem areas. The route of representative roads shall provide a geographical representation of the municipality, if steep hills, sharp curves, areas or structures prone to drifting snow and icy conditions exist on a road section, the route of representative roads shall include some or all of these susceptible areas.

The technologies used by the municipality (anti-icing, pre-wetting, etc.) will determine the appropriate response. The patroller, upon the observation of a winter event, should initiate call out procedures.

Table 4.7.10 (a) - Winter Patrolling – Storm Conditions Standards

Class	Cycle
4	Once every 3 days
5	Once every 7 days
6	Once every 7 days

The monitoring activity and response taken shall be recorded and a print out of the forecast for the local area however recorded.

4.7.11 During a Storm

If the storm is of long duration and/or heavy accumulation the patrol shall monitor roads for deteriorating conditions as set out in the table below

Table 4.7.11 (a) – Winter Patrolling – During a Storm Event

Class	Minimum % of road class to be patrolled to check for conditions as described in sections 4 and 5 of MMS	Minimum % of road sections with a susceptible areas to include in the patrol	If RWIS information is available to the patroller
Class 4	10%	25%	Reduce to 0% but include 25% of road sections with a susceptible area
Class 5	0%	25%	Reduce to 0% of susceptible area
Class 6	0%	10%	Reduce to 0% of susceptible area

Note: The percent reduction of roads patrolled per maintenance class shown in the table represents the percent reduction per patrol.

*** Patroller may be operating plow equipment during a storm event.**