

**CORPORATION OF THE TOWNSHIP OF CHISHOLM
BY-LAW 2002-30**

*Being a by-law to establish Roadway Service Standards for the
Municipal Road System within the jurisdiction of the
Corporation of the Township of Chisholm*

WHEREAS authority is given to the Township of Chisholm, hereinafter referred to as the Corporation, being a municipality authorized by Section 284 of the Municipal Act, R.S.O. 1990, Chapter M.45, as amended, to establish policy regarding municipal roadway service standards:

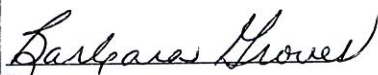
AND WHEREAS it is found expedient and necessary to have such standards;


AND WHEREAS the Corporation desires to implement policy to identify certain minimum and desired standards for roadway services on roads within the jurisdiction of the municipality, subject to other authority, the described and attached hereto Schedule "A".

NOW THEREFORE the **CORPORATION OF THE TOWNSHIP OF CHISHOLM ENACTS AS FOLLOWS:**

1. That the standards herein and amended from time to time, be adopted and come into effect on the 10th day of December, 2002.
2. That all operational services of the municipal road department be directed to provide services, where applicable, that meet the minimum standard of care.
3. That neither this corporation nor its officials make any promise or assurance that roadway services will be in excess of the minimum standard herein provided, however, the municipal road department will strive to provide services, where applicable, that meet the minimum standard of care.
4. That where situation arise or applications be made which fall outside the scope of these standards, the Public Works Supervisor or alternate shall respond as he deems appropriate, with respect to budgetary constraint and reasonable practice.

READ A FIRST, SECOND AND THIRD TIME AND PASSED THIS 13TH DAY OF DECEMBER, 2002.


Reeve


Clerk

ROADWAY SERVICE STANDARDS
FOR CHISHOLM TOWNSHIP

October 2002

INDEX

Page 3 to 8	Glossary of Terms
Page 9	Highway Maintenance Priority Class
Page 10	Traffic Volume
Page 11 to 17	Road Surface Standards <ul style="list-style-type: none">• Potholes• Surface Discontinuities• Shoulder Drop Off• Flooding• Litter and Other Roadside Debris• Dust
Page 18 to 19	Winter Conditions <ul style="list-style-type: none">• Snow Accumulation• Icy Roadways
Page 20 to 25	Roadsides <ul style="list-style-type: none">• Clearances• Traffic Signs and Signal Service• Other Signs• Trees
Page 25	Bridges <ul style="list-style-type: none">• Bridge Deck Spalls

GLOSSARY OF TERMS

AADT (Average Annual Daily Traffic)	is a technical measurement of traffic volume on a road, in both directions. Conversion factors, which vary depending on time of year and week, extrapolate daily traffic counts into AADT.
Ambient Conditions	are <i>conditions</i> which are commonly found in a stabilized environment. Normally in ambient conditions there are no negative effects actively reducing the existing conditions. ie. storm, excess traffic or construction effects are not in evidence. See <i>storm conditions</i> .
Aspects	in the context of these <i>standards</i> refers to specific elements of <i>roadway service</i> which are defined by these <i>standards</i> .
Bare	conditions refer to <i>winter road conditions</i> where all travelled lanes are effectively clear of snow build-up or <i>general ice conditions</i> which might impair the safe travel on the <i>road</i> below the travel speed under <i>ambient conditions</i> .
Centre Bare	conditions refer to <i>winter road conditions</i> where one wheel track of each of the <i>travelled lanes</i> is substantially clear of snow and ice <i>conditions</i> allowing the user to negotiate safer travel than if <i>snow packed</i> or general ice <i>conditions</i> prevail.
Conditions	defines the state in which the subject matter is found. The standard indicates the condition being measured.
Class	in the context of these <i>standards</i> refers to the criteria for classifying <i>roadways</i> developed in the preamble to the <i>standards</i> .
Clearance	is the zone measured vertically from the centre line of a road and horizontally from the outer edge of pavement of the travelled lane nearest to the edge of the road in which no obstructions should be permitted, except those which improve the <i>safety</i> of the <i>roadway</i> user. Exceptions may be defined in the <i>standards</i> . See encroachments.
Cycle	is that time interval between <i>inspections</i> 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	is a calendar day, measured to the end of the following day.
Earth	refers to a <i>road surface</i> composed of native or naturally occurring selected soils which act as the surface and primary bearing layer of the road.
Effect	is the acting of an external influence on the <i>condition</i> of any <i>aspect</i> of the <i>roadway</i> .
Encroachment	is an obstacle inside the <i>clearance</i> zone which may or may not be permitted by these <i>standards</i> .
Hardtop	refers to a <i>road surface</i> , which is relatively hard in nature, by treatment with either a bonding agent or cement, which effectively prevents reshaping by conventional motor grader.
Horizontal Clearance	is an obstruction free zone measured from the centre line of a <i>road</i> or the left edge of the <i>shoulder lane</i> for 3+ lane roads.
Improved	<i>condition</i> refers to the condition being better than it was before, from the perspective of a typical user, all other <i>effects</i> being equal.
Inspection	is the activity performed by a person authorized and directed by the <i>roadway authority</i> to investigate and report on the relevant <i>conditions</i> of the <i>roadway</i> . Qualifications for inspector shall be determined by the <i>roadway authority</i> , are relevant to the nature of the inspection performed. General inspection has regard for <i>road surface</i> and <i>roadside standards</i> . <i>Winter</i> inspection has regard for <i>winter road surface standards</i> .
Lane	is that portion of the <i>road</i> 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 delineated otherwise by pavement marking.
Localized	conditions, for the purpose of these <i>standards</i> , occur on short lengths of <i>roadway</i> specifically on bridges, intersection, curves and hills.
Loosetop	refers to a <i>road surface</i> that is of a granular manufactured product, which can reasonably be shaped by a motor grader, and includes <i>road surfaces</i> under reconstruction.
Maximum	in the context of these <i>standards</i> refers to the lowest level of <i>service</i> set by the <i>roadway authority</i> , which the <i>roadway user</i> can reasonably expect. In effect it is the <i>minimum service</i> .
Minimum	in the context of these <i>standards</i> refers to the lowest level of <i>service</i> set by the <i>roadway authority</i> , which the <i>roadway user</i> can reasonably expect. Sometimes <i>maximum</i> defines the minimum service.
Notice	of an <i>effect</i> or <i>condition</i> is deemed to have been given when received by an appropriate <i>supervisor</i> of the <i>road authority</i> .

Policies	are decisions of a formal nature made by a <i>road authority</i> 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 which 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 <i>operations</i>).
Primary Safety Devices	have regard for the <i>safety</i> and traffic regulation of the <i>roadway</i> . They address matters referred to in the <i>Highway Traffic Act</i> , including traffic signals, flashers and <i>regulatory signs</i> .
Operations	are those activities which a road department perform to <i>improve a condition</i> or sustain a <i>roadway standard</i> . Operations are normally defined by guidelines (not policy), with discretion of the <i>supervisor</i> to choose various methods to achieve results cost effectively.
Regulatory Signs	are those signs which are so referred to in the Ontario Traffic Manual.
Repair Response Time	applies to <i>primary safety devices</i> , <i>traffic control devices</i> and <i>vehicle attenuation devices</i> 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 <i>roadway authority</i> when informed of an <i>effect</i> or <i>condition</i> . Monitoring an <i>effect</i> or <i>condition</i> may constitute a response. A reasonable response takes into account the <i>relevant standards</i> .
Restoration Response Time	refers to time to restore <i>secondary safety devices</i> , <i>traffic control devices</i> and <i>vehicle attenuation devices</i> 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 improvements and under the jurisdiction of the <i>roadway authority</i> . Certain rights-of-way infer a right of passage to the public. However, in the context of these <i>standards</i> , only rights-of-way with assumed public <i>roadways</i> are considered. Rights-of-way solely for non-vehicular traffic are not addressed in these <i>standards</i> (eg. pedestrian, equestrian, bicycle).
Road	refers specifically to the travelled road <i>surface</i> on a <i>roadway</i> assumed by a roadway authority, but not including on-street parking or stopping zones.
Roadside	refers to all the elements or <i>conditions</i> which make up the <i>roadway</i> within the jurisdiction of the <i>roadway authority</i> , except for the <i>road surface</i> itself.

Roadway	<p>in the context of these <i>standards</i> means any public assumed road <i>right-of-way</i>, intended for vehicular traffic. It refers not only to the travelled <i>road surface</i>, but to all <i>services</i> relevant to the <i>road</i>, within the <i>right-of-way</i>.</p> <p style="text-align: center;">Roadway = road + roadside</p>
Roadway Authority	<p>is the local municipality providing maintenance services on the County of Lennox and Addington roads system for the County and is responsible for the status and <i>condition</i> of the <i>roadway</i>. This refers to the Corporation of the local Municipality and its designated officials or agents.</p>
Safety	<p>is 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 <i>service standards</i> 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.</p>
Safety Devices	<p>is a general term referring to all improvements which have traffic safety as their primary objective, including <i>primary and secondary safety devices</i>, <i>traffic control system devices</i> and <i>vehicle attenuation devices</i>.</p>
Section	<p>refers to a portion of <i>roadway</i> with a distinct classification, and homogeneous character. A <i>roadway</i> section is commonly used for construction costing, inventory control in Maintenance Management Systems, Road Needs Studies, Pavement Management Studies and Priority Planning and Budgeting.</p>
Seasonal	<p>refers to the limited time of the year where certain <i>roadway service standards</i> apply to the subject <i>roadway</i> (eg. summer roads, ice roads). In the context of these standards, seasonal roads are classified as those not receiving <i>winter services</i>, unless otherwise defined.</p>
Service	<p>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 <i>standards</i>, "service" refers more specifically to <i>aspects</i> of a <i>roadway</i> and their condition. Services are seen from the perspective of the user.</p>
Service Level Matrix	<p>is the chart in the <i>standard</i> which specifically defines the <i>service level</i> according to <i>class of roadway</i></p>
Service Levels	<p>are a range of values which quantify a particular <i>service standard</i>, by one or more parameters, across a range of <i>roadway classifications</i>. Service levels typically reflect a <i>maximum or minimum</i>.</p>
Shoulder	<p>is that maintained <i>surface</i> immediately adjacent to the travelled <i>surface</i> of the <i>road</i>. The shoulder may be partially or fully <i>hardtop</i>, <i>loosetop</i>, grassed or <i>earth</i>. It is not considered a part of the <i>road</i> for these <i>standards</i>.</p>

Shoulder Width	is measured from the edge of the actual outside travelled lane except that for <i>loosetop road surfaces</i> the measure is from the outside edge of the <i>minimum lane</i> width. Width is measured to the beginning edge of a rounding, where the <i>surface</i> ceases to be maintained for emergency or temporary vehicle use.
Snowpacked	<i>conditions</i> refer to <i>winter road conditions</i> where the travelled <i>surface</i> of the <i>road</i> is covered with a build up of snow and/or ice and allows the <i>user</i> to manage <i>safe</i> travel.
Speed	refers to the average speed at which an average automobile can <i>safely</i> travel on a <i>road</i> 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	are quantified statements, defining the nature of a product or activity. Usually such standards are minimum and in this context refer specifically to Ontario Regulation 239/02 or to the roadway service standards adopted as policy, by a <i>roadway authority</i> .
Storm	<i>conditions</i> or <i>effects</i> are where natural or external <i>effects</i> are acting upon the <i>roadway</i> to reduce the <i>condition</i> as defined by one or more <i>roadway service standards</i> . It does not refer to weather conditions which do not impact on the infrastructure. Storm conditions could include, wind, rising and moving water, precipitation, cold temperatures (below -15°C), snowfall, freezing rain, hail, blowing snow, etc.
Substandard	refers to a <i>condition</i> which is outside the defined standard. Normally a substandard condition requires a <i>response</i> , unless otherwise considered in the <i>standard</i> .
Supervisor	refers to a manager of a road authority who is accountable for the deployment of <i>operations</i> which impact on the <i>condition</i> of <i>roadway services</i> .
Surface	is the exposed top of the travelled <i>road</i> and includes adjacent surfaces for turning or stopping, but not parking or <i>shoulders</i> .
System	refers to a collection of <i>roadways</i> , typically of various <i>classifications</i> , owned by a single <i>road authority</i> .
Time	means the period of time any <i>aspect</i> of a <i>roadway</i> may be in a <i>substandard condition</i> and may refer to the time of response, removal or improvement. It is typically measured from when the <i>condition</i> occurs. In the case of continuing <i>effects</i> (eg. storm) causing the <i>condition</i> , the response time is measured from the end of that <i>effect</i> happening. Typically it is the time in which the department may deliver <i>operational responses</i> to <i>improve</i> the <i>condition</i> if necessary. Unless otherwise specifically qualified in the <i>standard</i> , the <i>condition</i> or <i>effect</i> is deemed to have been identified at time of inspection or when <i>notice</i> was given.

Traffic Control Devices	have regard for the advising and routing of traffic including non-regulatory signs, pavement markings and hazard markers.
Traffic Control Signal System	refers to all signal equipment making up the traffic signal installation as defined by the Highway Traffic Act, R.S.O. 1990, Section 133
User	refers to any person travelling on or over the <i>roadway</i> , including vehicle operators, passengers and pedestrians.
Vehicle Attenuation Devices	guide and attenuate errant vehicles and their occupants to reduce damage and personal injury (eg. barriers, guide rail, inertia barriers).
Vertical Clearance	is an obstruction free zone measured from any point on the <i>surface</i> of the road and above the projection of the horizontal clearance width.
Winter	is that season when cold weather <i>effects on road conditions</i> can be reasonably expected. This season can be specifically defined by the <i>road authority</i> .

Roadways in Chisholm are classified as having a traffic volume in the following ranges:

0-49

50-199

200-499

500-999

A map is attached to these road standards showing the traffic volume on each road. The speed limits in Chisholm range from 60-80 km/hr.

Highway Maintenance Priority Class Categories

Posted Speed	100	90	80	70	60	50	40
Traffic Volume							
15000 or more	1	1	1	2	2	2	2
12000 – 14999	1	1	1	2	2	3	3
10000 – 11999	1	1	2	2	3	3	3
8000 – 9999	1	1	2	3	3	3	3
6000 – 7999	1	2	2	3	3	3	3
5000 – 5999	1	2	2	3	3	3	3
4000 – 4999	1	2	3	3	3	3	4
3000 – 3999	1	2	3	3	3	4	4
2000 – 2999	1	2	3	3	4	4	4
1000 – 1999	1	3	3	3	4	4	5
500 – 999	1	3	4	4	4	4	5
200 – 499	1	3	4	4	5	5	5
50 – 199	1	3	4	5	5	5	5
0 – 49	1	3	6	6	6	6	6

1.0 ROAD SURFACE

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.

1.1.1 Potholes – Hardtop Driving Surface

CLASS	Surface Area	Maximum Depth	Maximum Response	Desirable Depth	Desirable Response
1	600cm ²	8cm	4 days	4cm	1 day
2	800cm ²	8cm	4 days	4cm	2 days
3	1000cm ²	8cm	7 days	6cm	4 days
4	1000cm ²	8cm	14 days	8cm	7 days
5	1000cm ²	8cm	30 days	8cm	14 days
6	1000cm ²	No standard	No standard	8cm	14 days

1.1.2 Potholes – Loosetop Driving Surface

CLASS	Surface Area	Maximum Depth	Maximum Response	Desirable Depth	Desirable Response
3	1500cm ²	8cm	7 days	6cm	7 days
4	1500cm ²	10cm	14 days	8cm	14 days
5	1500cm ²	12cm	30 days	8cm	14 days
6	1500cm ²	No Standard		8cm	14 days

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3	1000cm ²	8cm	7 days	6cm	4 days
4	1000cm ²	8cm	14 days	8cm	7 days
5	1000cm ²	8cm	30 days	8cm	14 days
6	1000cm ²	No standard	No standard	8cm	14 days

1.1.2 Potholes – Loosetop Driving Surface

CLASS	Surface Area	Maximum Depth	Maximum Response	Desirable Depth	Desirable Response
3	1500cm ²	8cm	7 days	6cm	7 days
4	1500cm ²	10cm	14 days	8cm	14 days
5	1500cm ²	12cm	30 days	8cm	14 days
6	1500cm ²	No Standard		8cm	14 days

1.1.5 Surface Discontinuities

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

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	5 cm	21 days

The minimum standard is to repair a surface discontinuity, except on bridges, that exceeds the height set out in table 1.1.5, within the time frame, after becoming aware of the fact, set out in table 1.1.5.

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 1.1.5.

1.1.6 Shoulder Drop-off

Shoulder drop-off means the height difference between the paved surface of the roadway and the surface of the shoulder or the unpaved surface of the roadway and the surface of the shoulder. between the paved surface of the roadway and the paved or non-paved surface of the shoulder.

	Maximum Drop-off	Time	Desirable Drop-off	Time
Class 1	8cm	4 days	4cm	4 days
Class 2	8cm	4 days	4cm	4 days
Class 3	8cm	7 days	8cm	7 days
Class 4	8cm	14 days	8cm	14 days
Class 5	8cm	30 days	8cm	30 days
Class 6	No Standard		8cm	30 days

If a shoulder drop-off is deeper, for a continuous distance of 20 metres or more, than the depth set out in 1.1.6, the minimum standard is to repair the shoulder drop-off within the time, after becoming aware of the fact, set out in 1.1.6.

A shoulder drop-off shall be deemed to be repaired if its depth is less than or equal to that set out in 1.1.6.

1.2 Flooding

Class	Maximum Depth	Maximum Frequency	Desirable Depth	Desirable Frequency
1	10cm	5 years	0cm	50 years
2	10cm	5 years	5cm	25 years
3	10cm	1 year	5cm	25 years
4	10cm	1 year	10cm	5 years
5	15cm	6 months	10cm	5 years
6	20cm	1 month	10cm	2 years

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 1 & 2 roads within 4 hours of becoming aware that the condition exists and 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 1.2.

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

1.3 Road Debris

The minimum standard for debris on a roadway is to deploy resources to remove the debris, as soon as practicable after becoming aware of the existence of the debris.

Debris means any material 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 is likely (within reason) to cause damage to a motor vehicle or injure a person in a motor vehicle.

1.3.1 Litter and Other Roadside Debris

Class	Urban			Rural		
	Accumulation	Maximum Lag time	Desired Lag time	Accumulation	Maximum Lag time	Desired Lag time
1	3	1 year	6 months	3	1 year	6 months
2	3	1 year	6 months	3	1 year	6 months
3	3	1 year	6 months	3	1 year	6 months
4	2	6 months	2 months	3	1 year	6 months
5	2	6 months	2 months	3	1 year	6 months
6	2	6 months	2 months	3	1 year	6 months

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

- 1 street completely clean
- 2 street largely clean, a few pieces 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 kilometre 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 kilometre of rural road section
- 4 heavy litter, accumulation in piles or heavy litter distributed down nearly all the street, volumes greater than a standard garbage can on an urban block or kilometre 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.

1.3.2 Dust

Class	Maximum Lag Time	Desired Lag Time
4	2 months	1 month
5	6 months	1 month
6	N/A	6 months

Where dust caused by traffic on a loosetop 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.

1.4 Routine Patrolling

Class	Ambient Condition Minimum Standard		Winter Storm Condition	
	Maximum Cycle	Desirable	Maximum Cycle	Desirable
1	3 x every 7 days	3 x every 7 days	3 x every 7 days	2 x per day
2	2 x every 7 days	2 x every 7 days	2 x every 7 days	1 x per day
3	Once every 7 days	Once every 7 days	Once every 7 days	1 x per day
4	Once every 14 days	Once every 14 days	Once every 14 days	Once every 3 days
5	Once every 30 days	Once every 30 days	Once every 30 days	Once every 7 days
6	annual	Once every 30 days	N/A	Once every 7 days

In winter, patrolling of a representative sample of the road system may be sufficient to identify anticipated problem areas.

Routine patrolling shall be carried out by driving or electronically monitoring the highway to check for conditions.

Routine patrolling is not required between sunset and sunrise.

WINTER CONDITIONS

The service standards included in section 2 cover those activities required to remove snow and ice from the surface of the road in winter. A winter event response is an occasion where staff has been called to respond to a winter condition. The activities covered by this standard include continuous plowing, spot plowing, continuous sanding/salting, spot sanding/salting, ice blading, winging back.

2.1 Snow Accumulation

Class	Response to Snow Accumulation		Surface Condition		
	Depth	Time	Lag time	Desired Condition	Minimum Condition
1	2.5 cm	4 hours	12 hours	Bare	Bare
2	5 cm	6 hours	12 hours	Bare	Centre/Track Bare
3	8 cm	12 hours	18 hours	Bare	Centre/Track Bare
4	8 cm	16 hours	24 hours	Centre/Track Bare	Snow Packed
5	10 cm	24 hours	24 hours	Snow packed	Snow packed
6	15 cm	24 hours	24 hours	Snow packed	Snow packed

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

2.1.1 Storm Conditions – Minimum Standard

The minimum standard for snow removal is to deploy resources as soon as practicable to clear snow accumulation after becoming aware that the snow accumulation is greater than the depth set out in the table above.

Once the snow accumulation has ended, if it is greater than the depth set out in the table above, the minimum standard is to clear the snow accumulation to a depth less than or equal to the depth set out in the table above and to 0.6m inward from the edge of roadway on class 1, 2 and 3 within the time, after becoming aware of the fact, set out in the table above. On class 4, 5 and 6 roads each with two lanes, if after the snow accumulation has ended, the snow accumulation is greater than the depth set out in the table above, the minimum standard is to clear the snow accumulation to a depth less than or equal to the depth set out in the table above and to a width of at least 5 metres, within the time, after becoming aware of the fact, set out in the table above.

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.

2.1.2 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 2.1.

2.2 Icy Roadways

Class	Minimum Standard to treat icy roads	Surface Condition	
	Response Time	Desirable Lag Time	Ambient Speed
1	3 hours	6 hours	80%
2	4 hours	6 hours	80%
3	8 hours	12 hours	70%
4	12 hours	12 hours	50%
5	16 hours	24 hours	50%
6	16 hours	24 hours	50%

2.2.1 Icy Roadways – Minimum Standard

The minimum standard for treating icy roadways is to deploy resources as soon as practicable after becoming aware that the road was icy; and to treat the icy roadway within the timeframe after becoming aware of the fact set out in the table 2.2.

2.2.2 Surface Condition

Within the lag time shown in the surface condition section, roads shall be returned to at least the ambient speed as shown in the table 2.2.

3.0 ROADSIDES

The service standards of section 3 look beyond the surface of the road to those activities carried out on the roadside. They include services for vegetation management, street light maintenance, traffic control device maintenance and trees.

3.1 Clearances

Class	Vertical		Horizontal	
	Overhanging Minimum	Grass/brush encroachment	Minimum	Desirable
1	5m	0.3m	5.5m	6.5m
2	5m	0.3m	5.5m	6.5m
3	4.5m	0.3m	5m	5.5m
4	4.5m	0.5m	5m	5.5m
5	4.5m	0.5m	5m	5.5m
6	4.5m	0.5m	5m	5m

Clearances are measured vertically from the crown of the road and horizontally from the centreline 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 limbs

3.3 Traffic Sign and Signal Service Standard

3.3.1 Regulatory and Warning Signs

Class	Maximum Response Time	Desired Response Time	Minimum Condition	Desired Condition
1	7 days	4 hours	1	1
2	14 days	4 hours	1	1
3	21 days	6 hours	2	2
4	30 days	1 day	2	2
5	30 days	1 day	2	2
6	30 days	3 days	2	2

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

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

If a regulatory or warning sign is illegible, improperly oriented, missing or is rated below the minimum condition (other than a sign listed in 3.3.2), the minimum standard is to repair or replace the sign within the maximum response time, after becoming aware of the fact, as set out in 3.3.1.

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 160m at 80km/hr or 85m at 50km/hr.

2. Visible but somewhat inconvenient to see
 - a) sign head or support slightly tilted, twisted or bent but still readable
 - b) sign partially or intermittently obscure within the approach distance mention above
 - c) sign defaced but readable

3. Missing, ambiguous, difficult to see, or not visible
 - a) sign post broken off or sign missing or a major part of the sign defaced and difficult to read
 - b) sign tilted, twisted or bent more than 30 degrees
 - c) sign totally obscured by a tree, bush, brush, pole, or another sign or object, so that it can not be seen within the approach distance mentioned above

3.3.2 Other Signs

This section applies to the following types of signs: checkerboard; 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.

Class	Minimum Response Time	Desired Response Time	Minimum Condition	Desired Condition
1	As soon as practicable	7 days	2	1
2	As soon as practicable	14 days	2	1
3	As soon as practicable	21 days	2	2
4	As soon as practicable	30 days	2	2
5	As soon as practicable	30 days	2	2
6	As soon as practicable	30 days	2	2

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

3.4 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.

Class	Maximum Repair Lag Time	Desirable Repair Lag Time	Maximum Restoration Lag Time
1	Annual	7 days	2 years
2	Annual	14 days	2 years
3	Annual	14 days	5 years
4	Annual	30 days	5 years
5	Annual	60 days	7 years
6	Annual	180 days	10 years

If other safety devices are damaged, illegible, improperly oriented or missing, the minimum standard is to repair or replace the other safety device within the maximum response time, after becoming aware of the fact, as set out in 3.3.4.

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

3.5 Trees

This standard applies to the mitigation of treefall on a roadway.

Class	Maximum Lag Time	Desired Lag Time
1	6 months	2 months
2	6 months	2 months
3	6 months	4 months
4	Annual	6 months
5	Annual	6 months
6	Annual	6 months

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 3.3.5. :

A treefall 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 0.3m 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.

4.0 Bridges

4.1 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 of the bridge.

Class	Surface Area	Depth	Response Time
1	600cm ²	8 cm	4 days
2	800cm ²	8 cm	4 days
3	1000cm ²	8 cm	7 days
4	1000cm ²	8 cm	7 days
5	1000cm ²	8 cm	7 days
6	1000cm ²	8 cm	7 days

The minimum standard is to repair a bridge deck spall that exceeds both the surface area and depth, measured from the paved surface of the roadway or shoulder, set out in table 4.1, within the time frame, after becoming aware of the fact as set out in table 4.1.

A bridge deck spall shall be deemed to be repaired if its surface area or depth is less than or equal to that set out in table 4.1.

