

**The Corporation of the Township of Limerick
Corporate Policy**

Policy Name: Level of Service Policy Winter Road Maintenance	Council Approval: Date of Adoption: Resolution:
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1. Purpose/Application:

Section 10(1) of the Municipal Act, 2001, as amended, (the Act) permits municipalities to provide any service or thing that the municipality considers necessary or desirable for the public, and Council for the Township of Limerick deems it expedient to adopt a Level of Service Policy with regard to winter road maintenance.

2. Policy Statement:

It is the objective of the Township of Limerick to apply its operational activities in an efficient and effective way, so as to provide safe driving conditions consistent with a low volume in a predominantly rural road system during those times of the year when winter conditions can be expected. The goal will be to achieve the levels of service as defined herein, 75% or more of the time and in no case shall the level of service provided be allowed to fall below the minimum standard provided for in the Municipal Act, 2001 and Ontario Regulation 239/02 made there under.

3. Scope:

This policy shall apply to all roads assumed and designated as roads receiving winter maintenance by the Township of Limerick as set out in By-Law # 2008-04. Notwithstanding the foregoing, neither The Corporation of the Township of Limerick nor its officials or employees make any promise, assurance or guarantee that the services provided by the Township of Limerick will be in excess of the minimum standard, as set out in O.Reg # 239/02 and detailed herein.

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

4. Definitions:

AADT means Average Annual Daily Traffic, which 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 (see seasonal).

Ambient conditions means atmospheric conditions that are existing or present on all sides.

Ambient Speed means the expected rate of speed reduction when the ambient condition negatively affects the safe rate of speed posted on the roadway.

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

As soon as practicable means without undue delay, having regard to prevailing circumstances

Class in the context of these standards refers to the criteria for classifying roadways developed in the preamble to the standards

Conditions defines the state in which the subject matter is found. The standard indicates the condition being measured.

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 Road Superintendent for mitigating circumstances, which are of an uncommon, or unpredictable, nature.

Day is a calendar day (see also working day)

Desirable describes that level of service standard the roadway authority has established as an objective for road department operations.

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

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.

Road Superintendent refers to a person, in the employ of, contracted by or appointed by the Township, who is accountable for the deployment of operations that impact on the condition or roadway services

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Improved condition 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 qualified person, authorized and directed by the Road Superintendent or designate to investigate and report on the relevant conditions of the roadway. 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 occurs. In the case of continuing effects (e.g. 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 standards, that occur on short lengths of roadway specifically on bridges, intersections, curves and hills.

Loose top 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.

LOS means a Council-approved Level of Service Policy.

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 may be amended from time to time.

MMS means Ontario Regulation 239/02, Minimum Maintenance Standards for Municipal Highways.

Maintenance Priority Classes means the priority for roadway maintenance services as defined by Table 1 of the level of service policy; roadway maintenance classification.

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

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

Policies decisions of a formal nature made by the road authority to enable, qualify and govern the mission of the road authority as directed by-law.

Operations means those activities the 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 Road Superintendent to choose various methods to achieve results cost-effectively.

Response describes that action taken by the roadway authority when informed of an effect or condition. Monitoring an effect or condition may constitute a response. A reasonable response takes into account the relevant standards.

Right Of Way (ROW) describes the corridor of land reserved for roadway improvements and under 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 (e.g. pedestrian, bicycle.)

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

Road Condition means the condition of the pavement surface during and after a winter event and may be identified as follows:

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;

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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 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.

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

Roadway in the context of these standards means any public assumed road right of way, intended for vehicular traffic. It refers not only to the traveled road surface, but to all services relevant to the road, within the right of way. In the context of an urban road this includes the traveled portion plus the ancillary lanes. In the case of rural roads this includes the ancillary lanes and the shoulders.

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

Road Weather Information System (RWIS) means a weather station located along a highway that provides local pavement and meteorological data.

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 (i.e. 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

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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 Level Matrix the chart elsewhere in this policy that specifically defines the service level 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 maximum or minimum condition.

Shoulder that maintained surface immediately adjacent to the traveled surface of the road. The shoulder may be partially or fully hardtop, loose top, grass or earth. It is not considered a part of the road for these standards.

Snow Accumulation means the natural accumulation of new fallen snow or windblown snow that covers more than half a lane width of roadway.

Standards quantified statements, defining the nature of a product or activity. Usually such standards are minimum or 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 roadway service standards. 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 standard. Normally a substandard condition requires a response, unless otherwise considered in the standard.

Surface the exposed top of the traveled road and includes adjacent surfaces for turning or stopping, but not parking or shoulders.

Susceptible Area means 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

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longitudinal grade is greater than the design criteria. A sharp curve is a curve with a speed advisory of >20 km/h less than posted speed.

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

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

Value-Added Meteorological Services (VAMS) means 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.

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 that season when the municipality normally performs winter highway maintenance as identified in this policy.

5. Policy, Procedure and Implementation:

Winter Event Response

This level of service 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.

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An analysis of winter operational records for the period of 2010 to 2012 inclusive indicates that on average the first occasion for which a winter response is required will occur on or about November 15th. The need for an ongoing response will on average continue to approximately April 15th of each winter season. Acknowledging that winter conditions can occur before and after these periods, the Township of Limerick will gear the conversion of its resources from normal maintenance to winter maintenance mode to meet the following state of readiness guidelines.

Beginning of winter	50% Operational	October 31
	100% Operational	November 15
End of winter	100% Operational	April 15
	50% Operational	April 30

The winter control resources of the Township of Limerick consists of two tandem axle plow/spreader trucks, 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 Limerick adopts a policy of having the resources deployed generally when the needs are greatest.

The Township of Limerick has no Class 1, 2 or 3 roads.

The Township of Limerick has the following classes of roads which are maintained within its boundaries:

- (a) Class 4: County Road 620;
- (b) Class 5: St. Ola, Steenburg Lake North, Limerick Lake;
- (c) Class 6: Limerick Lake Lodge, Tripps, Sutton, Elizabeth Court, Pleasure Bay, Elizabeth Street, Robinson Lake, Woodhaven, Old Hastings, Sarafians,

The following bridges are located on roads maintained by the municipality:

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- (a) Steenburg Creek Bridge;
- (b) St. Ola Bridge;
- (c) Steenburg Lake North Road Bridge.

The Township has one garage, one diesel fuel tank, one leased salt storage building, one outside storage site for sand, and one storage shed which is used for storage of miscellaneous items.

Snow Clearing Level of Service

The policy for snow clearing is to deploy resources as soon as practicable to clear snow accumulations after becoming aware that the snow accumulation is greater than the depth set out in Table 1 below and to ensure that the accumulation of snow is maintained at a level less than or equal to the maximum depth indicated within the time frame cited in the policy for the duration of the storm. During the storm, the objective will be to maintain the through lanes in each direction and 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 1.

Once the snow accumulation has ended, and within the time specified in Table 1 (which is the time within which operations are to commence after the end of a storm), the objective shall be to return the road to at least the minimum surface condition cited in that Table. On Class 4 & 5 roads, the snow accumulation must be cleared to a width of at least 5 meters. On Class 6 roads, the snow accumulation must be cleared to within a distance of 0.6 meters inside the outer edges of the roadway. On roads that have a condition objective of snow pack in Table 1, the objective will be to remove all new fallen snow and to reinstate the hard pack surface within the time frames indicated. Since the municipality has asphalt emulsion surface-treated roads which may sustain damage from ice-blading, and does not have any hardtop paved roads, ice-blading of snow packed surfaces will not normally be undertaken on this type of road.

The maximum allowable accumulation provision of this policy applies to the Limerick Municipal Office and VFD Fire Hall parking lot. Snow removal from the Limerick Municipal Office/VFD Fire Hall shall have priority snowplowing to facilitate parking for first responders, and ingress and egress for fire response vehicles and vehicles having municipal business.

Table 1 – Snow Accumulation and Surface Condition Level of Service

	Response to Snow Accumulation	Surface Condition
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Road Class	Maximum Depth	Time	Condition Objective	Time	Ambient Speed
4	5 cm	12 hours	Centre Bare	24 hours	50%
5	10 cm	12 hours	Snow packed	24 hours	50%
6	10 cm	12 hours	Snow packed	24 hours	50%

Sanding

The objective will be to deploy resources as soon as practicable, after becoming aware that the road was icy and the safe operating speed has dropped below the threshold indicated in Table 2. The response will be to treat the paved road way or sections thereof with abrasives as appropriate to provide traction within the timeframes indicated in Table 2 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 2.

Table 2 – Icy Roads Response Level of Service

	Minimum Standards to Treat Icy Roads	Surface Condition	
Class	Response Time	Desirable Lag Time	Ambient Speed
4	10 hours	24 hours	50 %

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5	12 hours	24 hours	50 %
6	12 hours	36 hours	50 %

Winging Back Of Snow Banks

Limerick Township does not regularly wing back snow banks. However 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 to control drifting snow accumulation on the roadway and to improve driver visibility at rural road intersections.

Snow Removal

Removal and disposal of snow will not normally be undertaken by the municipality.

Winter Patrolling Level of Service – Routine Conditions

During the winter months (November 15th to April 15th) the Township of Limerick will patrol all the roads listed above every seven days or once per day during a storm event, unless one of the below mentioned conditions occur. Then the patrol frequency listed with that condition will take precedence.

Conditions:

During periods of strong winds sections of Highway 620, North Steenburg Lake road and Limerick Lake road may experience some drifting conditions. The municipality will patrol these roads on a daily basis during these wind conditions to ensure that the snow accumulation does not exceed the threshold amount set out in Table 1 of this policy.

During periods of prolonged sunlight, icy conditions have been known to develop on North Steenburg Lake road, St. Ola road and Highway 620 in some shaded areas. The municipality will patrol these areas on a daily basis and will deploy sanding equipment within the time frame set out in Table 2 of this policy.

The below mentioned roads will be representative roads used by Limerick Township for patrolling during winter storm events. Then the roads connecting to and adjacent to these representative roads are deemed to have the same conditions as the representative roads.

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1. County Road 620
2. St. Ola Road
3. Steenburg Lake North Road

When municipal equipment is deployed for winter maintenance all operators shall be treated as Patrol Persons and all the winter maintenance records that are created by these patrol persons will be treated as patrol records for the purpose of this policy.

Winter Patrolling – Night Conditions

The Township of Limerick does and shall not provide a winter night patrol.

Snow Fencing

The Township of Limerick does and shall not provide snow fencing.