



## CORPORATE POLICY AND PROCEDURES MANUAL

Policy No:

125	EPW	011
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Policy Name:  
**ROADWAY LEVEL OF SERVICE POLICY  
Winter Maintenance -Sidewalks**

DEVELOPED BY:	<b>Kenneth D. Becking, P. Eng. Director of Public Works and Engineering</b>	DATE:	<b>November 2005</b>
DEPARTMENT:	<b>Public Works</b>		
REVIEWED BY:	<b>Development &amp; Public Works Committee</b>	DATE:	<b>Nov 22/05</b>
APPROVED BY:	<b>Council</b>	DATE:	<b>Nov 29/05</b>
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### **POLICY STATEMENT AND RATIONALE:**

It is the objective of the City of Kawartha Lakes, Public Works Department to apply its operational activities in an efficient and effective way, so as to provide safe walking conditions consistent with a small town or village setting 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.

### **SCOPE:**

This policy shall apply to all sidewalks within road allowances assumed and maintained by the City of Kawartha Lakes. Notwithstanding the foregoing, neither the Corporation of the City of Kawartha Lakes 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 minimum as detailed herein.

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

### **DEFINITIONS:**

**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.)

**Arterial Roads**...roads whose primary function is the movement of traffic. Property access is very much a secondary consideration. Arterial roads typically connect collector roads to higher order roads such as freeways and expressways. Arterial roads typically carry large volumes of traffic at high rates of speed in the range of 60 to 80 kph.

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

**“As Soon As Practicable”**...shall mean without undue delay.

**Bare**...conditions refer to winter road conditions where all traveled 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 ambient conditions.

**CBD**... means the central business district of an urban area. It is the location where the majority of the commercial activity of the urban area is undertaken

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

**Conditions**...define the state in which the subject matter is found. The policy indicates the condition being measured.

**Collector Roads**... roads whose function is to both move traffic and provide property access in equal measure. Collector roads connect the local roadway network to arterial roadway network. Collector roads carry moderate volumes of traffic at speeds typically in the range of 50 to 60 kph.

**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 foreman for mitigating circumstances, which are of an uncommon, or unpredictable, nature.

**Day**...is a calendar day. (See also working day.)

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

**Foreman**...refers to a person in the Public Works Department who is accountable for the deployment of operations that impact on the condition or roadway services.

**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 Director of Public Works or designates to investigate and report on the relevant conditions of the sidewalks.

**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.

**Local Roads...** roads whose function is primarily to provide property access. Local roads typically connect to collector roads and occasionally to arterial roads. Local roads typically carry low volumes of traffic and have speed limits of 40 or 50 kph.

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

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

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

**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 foreman 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...(R.O.W.)** describes the corridor of land reserved for roadway improvements and under the jurisdiction of the roadway authority. In the context of these standards, only rights of way with assumed public roadways are considered.

**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.

**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 City of Kawartha Lakes and its designated officials or agents.

**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.

**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 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, loosetop, grassed, or earth. It is not considered a part of the road for these standards.

**Sidewalk**... a hard surfaced, typically concrete or asphalt pathway within the public road allowance intended for the use of pedestrians.

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

**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.

**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.

**User**...refers to any person travelling on or over the sidewalk.

**Winter**...that season when cold weather effects on road conditions can be reasonably expected and as specified herein. For the purposes of this policy winter is defined as that period from December 1<sup>st</sup> to March 31<sup>st</sup>

**POLICY, PROCEDURE AND IMPLEMENTATION:**

**WINTER RESPONSE**

This level of service policy covers those activities which are required to produce safe walking conditions for a pedestrian acting responsibly, during those times of the year in which winter conditions can be anticipated as specified above.

The sidewalk winter control resources of the City of Kawartha Lakes consists of 5 Trackless/Holder units complete with plow and blower attachments and tag along sanding units. The City retains sufficient operators to operate each unit, organized in a one day shift. These in house resources are supplemented with contracted resources as needed to meet the Cities overall obligations. In order to ensure that these resources are employed as efficiently and effectively as possible, the City of Kawartha Lakes adopts a policy of having the resources deployed generally when the needs are greatest.

The activities covered by this standard include continuous plowing, spot plowing, continuous sanding/salting, spot sanding/salting and inspection during normal ambient and storm conditions.

**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 allowed for in the policy for the duration of the storm.

Once the snow accumulation has ended, the objective will be to clear the accumulation of new fallen snow to a point not closer than 0.3 m inward from the edge of the sidewalk and to return the surface condition to a state that is equal to or better than that specified herein.

**Table 1 – Snow Accumulation and Surface Condition Level of Service**

Area/ Road Class	Response to Snow Accumulation		Surface Condition	
	Maximum Depth	Time	Condition Objective	Time
CBD	5 cm	8 hours	Level 1 Bare	12 hours
Arterial	7.5 cm	12 hours	Level 2 Bare	18 hours
Collector	10 cm	16 hours	Snow Packed	24 hours
Local	10 cm	24 hours	Snow Packed	24 hours

**Sanding and Salting**

The objective will be to deploy resources as soon as practicable, after becoming aware that the sidewalk is icy. The response will be to treat the sidewalk or sections thereof with deicing chemicals and/or abrasives as appropriate to remove the ice or 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 sidewalk 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**

<b>Minimum Standards to Treat Icy Roads</b>		
<b>Area/Class</b>	<b>Response Time</b>	<b>Desirable Lag Time</b>
CBD	3 hours	6 hours
Arterial	4 hours	6 hours
Collector	8 hours	12 hours
Local	12 hours	12 hours

**Snow Removal**

Removal and disposal of snow in an approved snow disposal facility is carried out in those areas where inadequate physical space exists to store the snow and/or the presence of snow banks interferes with the movement of pedestrian traffic. Snow will be removed from the central business districts of the Town of Lindsay, the Villages of Bobcageon and Fenelon Falls and other designated built up areas within the City in accordance with the requirements set out in Table 3 below.

**Table 3 – Snow Removal Level of Service, Urban/ Built Up Areas, General**

<b>Area/ Road Class</b>	<b>Objective to Address Snow Banks in Urban/ Built up Areas</b>	<b>Snow Bank Height</b>	
	<b>Response Time</b>	<b>Maximum Height</b>	<b>Desirable Lag Time</b>
CBD	24 hours	0.6	8 hours
Arterials	24 hours	0.6	16 hours
Collectors	48 hours	0.6	24 hours
Local	48 hours	0.6	24 hours

At all cross walks and intersections the objective will be to deploy resources within the response time frames after becoming aware that the snow banks parallel to the roadway and away from the legal cross walk areas exceed the height specified and to reduce the height of the banks to at or below the height indicated in Table 4 within the time frames specified for each area or classification of roadway.

**Table 4 – Snow Removal Level of Service, Urban/ Built Up Areas, Cross Walks**

<b>Class</b>	<b>Objective to Address Snow Banks in Urban/ Built up Areas</b>	<b>Snow Bank Height</b>	
	<b>Response Time</b>	<b>Maximum Height (Metres)</b>	<b>Desirable Lag Time</b>
CBD	24 hours	0.3	8 hours
Arterials	24 hours	0.3	16 hours
Collector	48 hours	0.3	24 hours
Local	48 hours	0.3	24 hours

### **Winter Inspection Level of Service – Routine Conditions**

Routine inspection during daylight hours of the winter months shall be as specified in Table 5 of this Policy. Routine inspection will not occur on weekends during the winter months. Inspection is that activity which the road authority undertakes in an effort to inform itself of and document the condition of its sidewalks. The City of Kawartha Lakes shall inspect its sidewalks so that the maximum cycle length as specified in Table 5 is not exceeded. Routine inspection may be achieved by making observations while driving on the adjacent roadways or walking representative sections of the walks. Routine inspection will take place during normal operating hours Monday to Friday. Routine inspection will not occur between sunset and sunrise or on weekends.

**Table 5 – Routine Inspection Response Level of Service**

	<b>Ambient Condition Minimum Standard</b>
<b>Class</b>	<b>Cycle</b>
CBD	2 x every 7 days
Arterials	2 x every 7 days
Collectors	Once every 7 days
Locals	Once every 7 days

### **Winter Inspection Level of Service – Storm Conditions**

Winter inspection frequency during storm conditions shall be in accordance with Table 6. Inspection shall be carried out by making observations while driving the adjacent roadway to ascertain conditions of the sidewalk and determining the need for a response. Inspection of a representative sample of the sidewalks shall be deemed to be sufficient to identify problem areas.

**Table 6 – Winter Patrolling – Storm Conditions Standards**

<b>Area/ Road Class</b>	<b>Cycle</b>
CBD	2 x per day
Arterials	1 x per day
Collectors	1 x per day
Local	Once every 3 days