THE CORPORATION OF THE MUNICIPALITY OF FRENCH RIVER

BY-LAW 2002-16

BEING A BY-LAW TO ESTABLISH MINIMUM AND DESIRABLE ROADWAY SERVICE STANDARDS FOR THE MUNICIPAL ROAD SYSTEM

WHEREAS section 263 of the Municipal Act, R.S.O. 1990, as amended, provides that "...the council of every municipality has jurisdiction over all highways and bridges within the municipality";

AND WHEREAS section 284 (1) of the Municipal Act, R.S.O. 1990, as amended, provides that "the council of the corporation has the jurisdiction over a highway or bridge shall keep it in a state of repair that is reasonable in light of all the circumstances, including the character and location of the highway or bridge";

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, as described and attached hereto in Schedule 'A'.

AND WHEREAS the Corporation desires to implement policy to identify certain minimum and desired standards for acceptance of private roads within the jurisdiction of the Municipality, subject to Council approval, as described and attached hereto in Schedule 'B'.

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE MUNICIPALITY OF FRENCH RIVER HEREBY ENACTS AS FOLLOWS:

1. That the standards herein and amended from time to time, be adopted and come into effect on the 15th day of May, 2002.

2. That all operational services of the municipal road department be directed to provide services, where applicable, that meet the minimum (maximum) standard of care 100% of the time.

3. That neither this corporation nor its officials make any promise or assurance that roadway services will be in excess of the minimum (maximum) standard herein provided, however, the municipal road department will strive to provide services, where applicable, that meet the desired standard of care 90% of the time.

4. That where situations arise or applications be made which fall outside the scope of these standards, the senior road manager shall respond as he/she deem appropriate, with respect to budgetary constraint and reasonable practice.

5. That this By-law shall come into force and take effect upon the final passing thereof.

6. That all By-laws inconsistent with this By-law are hereby repealed.

READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 15th DAY OF MAY 2002

Schedule 'A'

Guide for the development of Policy for:

ROADWAY SERVICE STANDARDS

FOR

MUNICIPALITY OF FRENCH RIVER

January 2002

INDEX

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. See *seasonal aadt.*

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 theses *standards* refers to specific elements of *roadway service*, which are defined by these *standards*.

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*.

Centre Bare...conditions refer to *winter road conditions* were one wheel track of each of the *traveled 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.

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

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

Class...in the context of these *standards* 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 *standard*s. 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...is a calendar day, measured to the end of the following day.
(*See also working day*.)

Desirable...describes that level of *service standard* the roadway authority has established as an objective for road department *operations*. See preamble of *standard*s for further explanation.

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...is an obstacle inside the *clearance* zone, which may or may not be permitted by these *standards*.

Hardtop...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 grader.

Horizontal Clearance...is an obstruction free zone measured from the centre line of a *road* or the left edge of the *shoulder lane* for 3+lane *roads.*

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 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* occurs. 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 tow-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.

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.

Maximum...in the context of these *standards* refers to the lowest level of *service* set by the *roadway authority*, which the *roadway user* can reasonable expect. Sometimes maximum defines the *minimum service*.

Minimum...in the context of these *standards* refers to the lowest level of *service* set by the *roadway authority*, which the *roadway user* can reasonably expect. Sometimes *maximum* defines the minimum service.

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

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 bylaw. Policy should not be confused with operational procedures or quality standards. (*See operations*)

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*.

Operations...those activities a road 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.

Regulatory Signs...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 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*.

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 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* (eg. Pedestrian, equestrian, 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.

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...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*.

Roadway = road + roadside

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 or agents.

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 *service standards* required that the user operates in a safe manner giving consideration to the relevant effects and conditions, the vehicle is in good condition, satisfies any lead 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, portable 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 in the *standard* 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, minimum* or *desirable*.

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*.

Shoulder Width...measured from the edge of the actual outside traveled lane except for *loosetop road surfaces*, where the measure is from the outside edge of the *minimum lane width*. Width is measured to the beginning edge of a rounding, where the *surface ceases* to be maintained for emergency or temporary vehicle use.

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 minimum or desirable, and in this context refer specifically to the *roadway service standards* adopted as policy, by a *road way 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*.

Supervisor...refers to a manager in a road department who is accountable for the deployment of *operations* that impact on the *condition* of *roadway services*.

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

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.

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

Vehicle attenuation Devices...guide an attenuate errant vehicles and their occupants to reduce damage and personal injury (eg. Barriers, guiderails, 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.

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

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)

ROADWAY SERVICE STANDARDS

SUMMARY

What your customers (your ratepayers) want with regard to service delivery can be reflected in the service standards adopted by policy. While it is not mandatory that a municipality adopt maintenance standards, their adoption does set a standard of care for the road system and allows the customers an opportunity to determine for themselves if that standard of care meets their expectations.

This publication is to be used as a guide for developing policy in a municipal road department. Municipalities are constantly reviewing service levels to respond to system growth, user expectations and fiscal constraints. By adopting these minimum standards as policy, a platform is provided from which roadway service levels can be adjusted.

Like the first edition, these standards are written to address the end result, that is, the outcome of the work that municipalities do in the maintenance of their road systems. It is these outcomes that impact the customer - the user of the road system. Municipal council should, when assessing the public interest, define standards in terms of end results/outcomes. The service levels these standards propose are relative to the road classification. These standards are based on a definition of roadway classification as used by the draft regulation with respect to posted speed and traffic volume.

HOW ARE ROADWAY SERVICE STANDARDS APPLIED LOCALLY?

The comments in the first edition are applicable today and worth repeating here.

For Program Planning

Service not defined by policy is very susceptible to various influences (eg. Funding, time, weather, equipment, politics, ratepayer complaints). The programs of the road department are better established from the perspective of reasonable user expectations and policy, not the influences mentioned above.

By adopting a set of service standards, the municipal road agency can better plan and deliver services. The identification of both “minimum” and “desirable” in the same standard is a good foundation for program planning.

As Fiscal Policy

These standards can be used to determine fiscal priorities. Budgets should reflect the desired

service standard. If an agreed upon budget cannot be met to support the desired service standard, that standard should be revised by policy decisions. For fiscal reasons, a municipality may consider adopting the minimum standard as they're desired or "operating" standard.

Although not common in this sector, sound management theory would suggest that it is entirely appropriate for council to consider a fiscal plan that uses roadway services as line items. All assets and operational programs should be rationalized to the "deliverables".

By identifying both standards, council enables the fiscal process to reflect the relative cost of both. Where funding is limited or priorities are shifting, council may choose to reduce the operational standard toward the "minimum". The budgeting process either begins or ends with a commitment to a specific standard for each roadway service

As Risk Management

Service standards can be used to make risk management decisions, and to interpret negligence and/or liability. In general, the validity of government policy in defence of limited liability is well established in case law. However, section 284 of the Municipal Act RSO 1990 requires that "every highway shall be kept in repair." Municipal policy must pay heed to this.

These standards can be used to guide regular roadway operations, including the frequency, timing and necessity of specific procedures. Public requests for service can be assessed in light of these standards. Where the standards permit, roadway service requests may be denied, or delayed!

Liability, which is a form of accountability, can be more easily established and minimized. Courts of law generally respect the authority of municipal government (council) to establish policy in its area of authority. Informal operational procedures, on the other hand, do not have that weight.

It is not appropriate for road services to fluctuate at the convenience of the road department. Once council as policy has established the road service standard, it must be funded appropriately.

As Performance Measures

When a municipality determines to deliver a higher standard than the minimum, that desirable standard becomes the operating standard for the department. Operational plans are developed to deliver that standard. Budget control is based on it as well. In other words, desirable standards are measurable performance goals for the department. By the same process, minimum standards become the standard of minimum performance of the department.

Overall departmental performance can be based on the trend in cost to deliver a unit of roadway

service. That unit could be defined by road section (if expenditures are recorded by location), or by road service (system wide).

The sum of the actual unit costs of roadway service delivery can be compared to a previous reference point. If the standard has not changed, performance shifts can be explained by four factors: inflation, weather, system expansion/usage, and performance (productivity improvement).

The effects of the first three factors can be statistically isolated, leaving a reasonable picture of the performance of the department.

GENERAL

The Province of Ontario has created a series of DRAFT Minimum Maintenance Standards. These draft standards have caused OGRA to look at the First Edition of Roadway Service Standards published in 1995 and update them to reflect these draft standards. They are shown in the following tables as the minimum (or maximum). When developing policy that uses service standards, that policy should include a statement similar to the following: "that the minimum (maximum) standard will be achieved by the road department 100% of the time and the desirable standard shall be achieved 75% of the time".

Unless shown otherwise the standard applies to both urban and rural road sections.

Highway maintenance Priority Class Categories

Posted Speed Traffic Volume	100	90	80	70	60	50	40
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 an 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	600cm²	8cm	4 days	4cm	1 day
2	800cm²	8cm	4 days	4cm	2 days
3	1000cm²	8cm	7 days	6cm	4 days
4	1000cm²	8cm	14 days	8cm	7days
5	1000cm²	8cm	30 days	8cm	14 days
6	1000cm²	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	1500cm²	8cm	7 days	6cm	7 days
4	1500cm²	10cm	14 days	8cm	14 days
5	1500cm²	12cm	30 days	8cm	14 days
6	1500cm²	No Standard		8cm	14 days

1.1.3 Potholes - Hardtop and Loosetop Shoulder

CLASS	Surface Area	Maximum Depth	Maximum Response	Desirable Depth	Desirable Response
1	1500cm Annual	8cm	7 days	4cm	7 days
2	1500cm²	8cm	7 days	4cm	7 days
3	1500cm²	8cm	14 days	6cm	7 days
4	1500cm²	10cm	30 days	8cm	14 days
5	1500cm²	12cm	60 days	8cm	14 days
6	1500cm²	No Standard		8cm	14 days

The minimum standard is to repair a pothole that exceeds both the surface area and maximum depth (set out in 1.1.1, 1.1.2 and 1.1.3) within the time frame, after becoming aware of the fact. A pothole shall be deemed to be repaired if its surface area and depth is less than or equal to that set out in 1.1.1, 1.1.2 and 1.1.3.

1.1.4 Cracks

Class	Maximum Width	Maximum Depth	Maximum Response	Desirable Width	Desirable Depth	Desirable Response
1	5cm	5cm	30 days	2.5cm	5cm	30 days
2	5cm	5cm	30 days	2.5cm	5cm	30 days
3	5cm	5cm	60 days	2.5cm	5cm	60 days
4	5cm	5cm	180 days	5cm	5cm	180 days
5	5cm	5cm	180 days	5cm	5cm	180 days
6	No Standard			5cm	5cm	365 days

A crack in the hardtop surface of a roadway, which exists for a continuous length of 3m or more and is greater than both the maximum width and depth, the minimum standard of time after becoming aware of the cracks existence in which to repair the cracks that appear in the hardtop surface of a roadway within the time set out in 1.1.4.

A crack shall be deemed to be repaired if its width and depth is less than or equal to the width and depth set out in 1.1.4.

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 meters 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	10 cm	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

	Urban			Rural		
Class	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 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 clock or kilometer 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 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.

1.3.2 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

	Ambient Condition Minimum Standard		Winter Storm Condition	
Class	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 7days	1 x per day
4	Once every 14 day	Once every 14 days	Once every 14 days	Once every 3 days
5	Once every 30 days	Once every 30 days	Once every30 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.

2.0 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

	Response to Snow Accumulation		Surface Condition		
Class	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	Centre/Track Bare
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 in ward from the edge of roadway on class 1,2 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 meters, 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

2.2 Icy Roadways

	Minimum Standard to treat icy roads	Surface conditions	
Class	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 Clearance

	Vertical		Horizontal	
Class	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 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 limbs

3.2 Illumination

	Rural		Urban		
Class	Minimum	Desirable	Minimum	Desirable	Response Time
1	Zone	Continuous	Zone	Continuous	7 days
2	Zone	Zone	Zone	Continuous	7 days
3	Zone	Zone	Continuous	Continuous	14 days
4	No lighting	Zone	Continuous	Continuous	14 days
5	No lighting	Zone	Continuous	Continuous	14 days
6	No lighting	No lighting	Zone	Continuous	N/A

This standard has regard for illumination as it improves safety and visibility for the vehicle operator. Illumination is divided into 3 categories: no lighting, zone lighting and continuous lighting.

In this standard, luminaire means a complete lighting unit consisting of a lamp and parts designed to distribute light, to position and protect the lamp and to connect the lamp to the power supply.

For conventional illumination (which typically consists of one luminaire per pole), if three or more consecutive luminaires on a highway are not functioning, the minimum standard is to repair the luminaires within the time, after becoming aware of the fact, set out in 3.2.

For high mast illumination, which typically consists of several luminaries per pole, if all of the luminaries on two or more consecutive poles are not functioning, the standard is to deploy resources as soon as practicable after becoming aware of the fact, to repair the luminaries.

If 30 percent or more of the luminaires (high mast or conventional) on any kilometre of high way are not functioning the minimum standard is to repair the luminaires within the time, after becoming aware of the fact, set out in 3.2.
If 50% of the luminaires (high mast or conventional) on any kilometre of class 1 highway with a speed limit of 90kph or more are not functioning, the minimum standard is to deploy resources as soon as practicable to repair the luminaries.

Luminaires shall be deemed to be repaired, if the number of non-functioning consecutive luminaires does not exceed two, or if more than 70 percent of luminaires on any kilometre of highway are functioning.

This section applies to class 1 and 2 highways and those class 4, 5 and 6 with a posted speed limit of 80 km/hr or more.

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 mentioned 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 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	1
4	As soon as practicable	30 days	2	1
5	As soon as practicable	30 days	2	1
6	As soon as practicable	30 days	2	1

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. Visible
   a) sign head and support in good condition
   b) sign not defaced in any manner
   c) sign continuously visible for 100m at 80 km/hr or 30m 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 distance of 30m
   e) printing on sign not legible

3.3.3. Traffic Control Signal System

a) A traffic control system is defective if any if the following conditions should occur: 1) one or more of the displays show conflicting signal indications; 2) the angle of a traffic control signal or pedestrian control indication has been changed in such a way that the traffic or pedestrian facing it does not have clear visibility of the information conveyed or that it conveys confusing information to traffic or pedestrians facing other directions; 3) a phase required to allow a pedestrian or vehicle to legally travel through an intersection fails to occur; 4) there are phase or cycle time errors interfering with the ability of a pedestrian or vehicle to legally travel through an intersection; 5) there is a power failure in the traffic control signal system; 6) the traffic control signal system cabinet has been displaced from its proper position; 7) there is a failure of any of the traffic signal support structures; 8) a signal lamp or a pedestrian control indication is not functioning; 9) signals are flashing when flashing mode is not part of the normal signal operation.

b) 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.

c) Despite 3.3.3 b) and 3.3.3 a) 8), if the posted speed of all approaches to the intersection or location of the non-functioning signal lamp or pedestrian control indication is less than 80

kilometres per hour and the signal that is not functioning is a greed or a pedestrian walk signal, the minimum standard is to repair or replace the defective component by the end of the next business day.

3.3.4 Inspection of Traffic Signal Sub-systems

a) The minimum standard is to inspect, test and routinely maintain the following traffic control signal sub-systems every twelve (12) months:

i) The display sub-system, consisting of the traffic signal and pedestrian crossing heads, physical supports and support cables
ii) The traffic control sub-system, including traffic control signal cabinet and internal devices such as timer, detection devices, conflict monitor and associated hardware
iii) The internal detection system, consisting of detection sensors for all vehicles, including emergency and railway vehicles and pedestrian push-buttons

b) The minimum standard is to test conflict monitors every six (6) months.

In section 3.3.4

“cycle” means a complete sequence of traffic control indications;
“display” means the illuminated and non-illuminated signals facing traffic;
“indication” has the same meaning as in the Highway Traffic Act;
“phase” means a part of a cycle from the time where one or more traffic directions receive green indication to the time where one or more traffic receive green indication
:power failure” means a reduction in power or a loss in power preventing the traffic control signal system from operating as intended;
“traffic control signal” has the same meaning as in the Highway Traffic Act;
“traffic control signal system” has the same meaning as in the highway Traffic Act.

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.

3.3.5 Trees

This standard applies to the mitigation of tree fall 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 inleaf 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	600cm²	8 cm	4 days
2	800cm²	8 cm	4 days
3	1000cm²	8 cm	7 days
4	1000cm²	8 cm	7 days
5	1000cm²	8 cm	7 days
6	1000cm²	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.

SCHEDULE 'B'
MUNICIPALITY OF FRENCH RIVER
MINIMUM ROAD STANDARD

In the interest of uniformity, it is hereby advised that the minimum standard to which a private road must be built before it can be absorbed into the Public road system as shown below. There is a minimum for a very small area, but he standards will increase as the traffic, for instance in subdivision roads, increases. The local administration prior to entering into an agreement with private interests and before construction of roads, should consult this municipality as to what standards are applicable to each particular area before the road is taken over.

Right-of-Way (ROW) of at least 20m (66') dedicated to public use (10 m (33') each side from center line of road)	20m (66')
Width of Clearing	12m (40')
Width of traveled portion (incl. Shoulder & rounding) –	6.5m (21')
Width between ditches-	8m (27')
Depth from Crown of road to ditch bottom	0.5m (1½')
Minimum depth of granular surface (4"cr. Gr/ Plus 8" pit run gravel) –	300mm (12")
Culverts, either corrugated iron or concrete, minimum-	400mm (15)

All ditches carried to a sufficient outlet
Alignment-Such that Maint. Equipment can work effectively.
Turnarounds - 13m (42') Minimum Radius (including 1.0m (3.0'0 shoulder)
- "No parking" Advisory Signs
- Ditch if required
- 35m (115') Right of Way
- Center of turnarounds filled in