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CITY OF VANCOUVER

POLICY REPORT
PUBLIC SAFETY

Report Date:	July 16, 2012
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Meeting Date:	July 24, 2012

TO: Vancouver City Council

FROM: General Manager of Engineering Services

SUBJECT: Sidewalk and Street Hazard Inspection Policy

RECOMMENDATION

A. THAT Council adopt the Sidewalk and Street Hazard Inspection Policy as attached in Appendix A.

B. THAT Council request that the Park Board adopt policies for the inspection of streets and pedestrian areas in Parks that are consistent with the City's Sidewalk and Street Hazard Inspection Policy.

REPORT SUMMARY

The City takes a systematic risk management approach to the maintenance of its streets and sidewalks within the scope of our available resources. Addressing hazards (defects which may expose the public to harm and that exceed a specified tolerance) is a critical part of how we manage our assets and provide a reasonable level of service to the public. As part of the development of the City's Corporate Asset Management Strategy, staff reviewed the City's existing street and sidewalk inspection programs along with best practices of other cities, provinces, states, and countries to determine if any changes to our current practice should be undertaken. A Council approved policy for the inspection of sidewalks and streets for hazards is recommended to revise our current inspection program and is included in Appendix A. The revised program reflects best practice whereby reactive and regular maintenance programs are informed by diverse inputs including an annual inspection program of pedestrian hazards, maintenance programs for streets related defects, and public reporting, mainly through 3-1-1. Updating the policy with approval by Council is part of our on-going Corporate Asset Management work across the City.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

In April 1994 Council endorsed changes to the existing inspection program for streets and sidewalks. Council's annual approval of funding through the Operating Budget process establishes authority to undertake the inspection program.

CITY MANAGER'S/GENERAL MANAGER'S COMMENTS

The City Manager and General Manager of Engineering Services RECOMMEND Council approve Recommendations A and B. Staff have conducted a thorough review of existing inspection and maintenance programs that relate to defects and hazards on our streets and sidewalks in the context of best practice. The proposed Sidewalk and Street Hazard Inspection Policy minimizes the risk of injury to the public by managing risks for all users of the street and sidewalks through appropriate pre-emptive and responsive risk management activities.

REPORT

Background/Context

The City is developing a Corporate Asset Management Strategy for public infrastructure as one of the priorities identified in the 2012-2021 Corporate Business Plan. As part of this initiative, Engineering Services has reviewed its streets inspection processes in relation to hazards. Establishing a clear Council policy in this area, based on best practice, will provide transparency on the city's approach to hazards.
Staff are seeking Council approval on this policy to update our inspection processes.

Strategic Analysis

The following summarizes the City's current practices, sources of reactive maintenance work, best practices of other jurisdictions, and a proposed sidewalk and street hazard policy.

Current Practice

The City established the existing street and sidewalk inspection program in the 1960s. Each year, inspectors undertake a visual survey by walking all streets, lanes, and sidewalks and record information about the condition of these assets and identify hazards that are observed. Approximately 2200 km of sidewalks and approximately 2000 km of streets and lanes are inspected each year. When inspectors identify a hazard, maintenance staff are notified and repairs are scheduled to be completed within seven days.

The current program defines a hazard for sidewalks and crosswalks as a sharp vertical difference in elevation of more than 1 inch (2.5 cm) or where there is a gap of more than 1 inch width and 1 inch depth (2.5 cm) at a crack or joint. The current program defines a hazard for roadways as a sharp vertical difference in elevation of more than 2 inches (5 cm) or a pothole that is more than 2 inches (5 cm) deep for all users of the roadway. In a typical year our current inspection program identifies about 3000 to 4000 sidewalk hazards and about 300 to 400 street and lane hazards.

Defects and hazards for streets and sidewalk users are also identified and repaired on a reactive basis through public complaints, primarily calls received by the City's 3-1-1 system, and through the observations of our regular maintenance staff who work on our city streets on a daily basis.

Source of Reactive Maintenance Work

Maintenance work can be either planned or reactive. Reactive maintenance needs are identified through inspections, and reported by staff or the public. There is a significant difference in how reactive maintenance is triggered for sidewalks versus streets and lanes. As shown in Figure 1, the majority of sidewalk work is identified through the current scheduled inspection program. There is a small percentage of sidewalk work reported by the public through 3-1-1. The majority of street and lane work is triggered by reports through maintenance staff or the public through 3-1-1. The current inspection program only identifies a small portion of our reactive maintenance work for streets and lanes. This review shows that the current hazard inspection program is most effective in identifying hazards on sidewalks. This reflects the findings of the best practice review of how defects develop in sidewalks versus in streets and lanes.

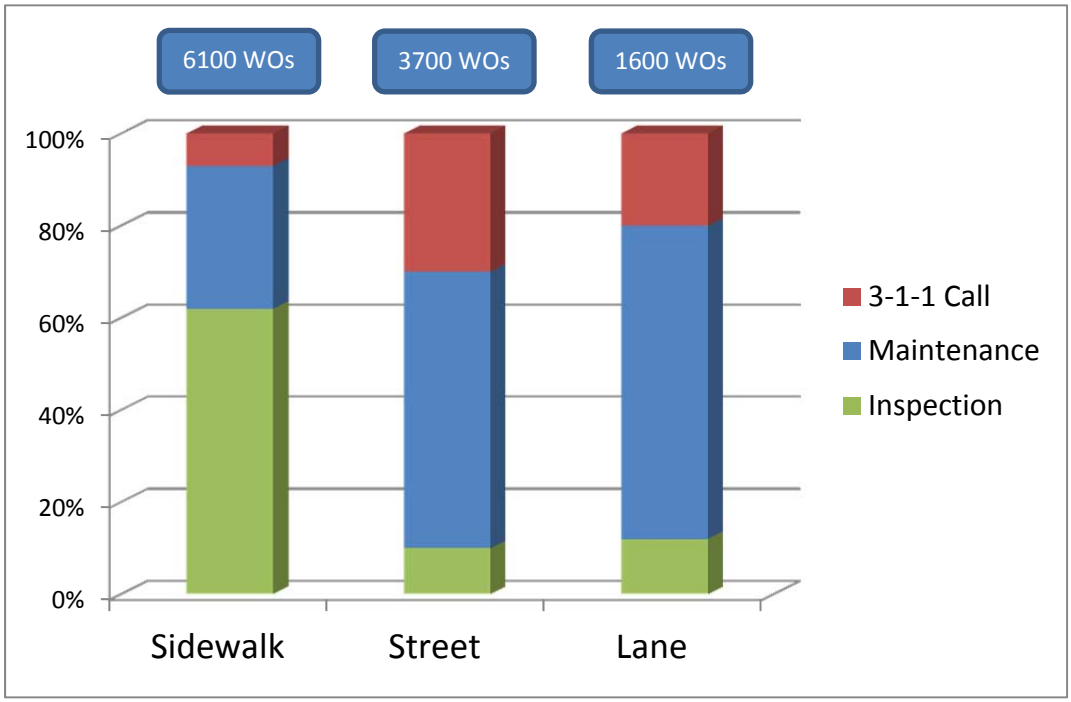

Figure 1 – Sources of Reactive Work Orders (WO) for 2011

Best Practice

An analysis of the sidewalk and street hazard inspection policies of 21 municipal, provincial, state and federal agencies in Canada, the United States, the United Kingdom, and Australia was undertaken by staff. A summary of this analysis is attached in Appendix B.

A majority of the public agencies reviewed undertake annual sidewalk hazard inspection programs. The typical program involves a walking inspection by staff to identify sidewalk defects. Hazards are recorded and noted for repair. Most programs identify a pedestrian hazard as a sharp elevation difference of more than 2.5 cm or a gap of more than 2.5 cm in a sidewalk. Sidewalk defects tend to develop slowly over time so an annual walking inspection is an effective way of identifying sidewalk hazards.

None of the public agencies reviewed undertake walking inspections for street hazards. Most agencies rely on reactive maintenance programs to address hazards in the street when they are reported by the public or identified by staff through their normal operations and maintenance activities. Most hazards found in streets, such as potholes, tend to develop randomly throughout the year and scheduled annual inspections generally are not an effective way of identifying these hazards.

Recommended Practice

Staff recommend that Council Policy for the inspection of streets and sidewalks for hazards be approved that builds on our existing program and aligns with our peer review of best practices. The full details of the policy and policy definitions are outlined in Appendix A.

Proposed Sidewalk Policy: A scheduled hazard inspection program will continue to be undertaken for sidewalks and pedestrian pathways. Sidewalk hazards will be identified when there is a sharp vertical elevation difference of more than 2.5 cm or when there is a gap of more than 2.5 cm that is also more than 2.5 cm deep. This hazard definition is consistent with our existing inspection program and the practices of other public agencies in British Columbia and Canada.

Proposed Street Policy: Aligning with best practice, a reactive approach to street hazards will be utilized, using public complaints and hazard reports from all city staff (and particularly through our street maintenance staff) and the public (through 3-1-1 and other avenues) for identification of hazards. No regular hazard inspections will be performed on streets.

Implications/Related Issues/Risk (if applicable)

Financial

The current inspection program, funded from the Operating Budget, uses off-season construction inspectors and temporary staff to inspect the streets and sidewalks at a cost of $200,000 annually. The changes to the hazard policy will allow potential realignment of a portion of these resources to other priorities.

Human Resources/Labour Relations

There is no impact to existing regular full time staffing levels. Currently, temporary full time inspectors are hired each year to provide additional staff resources to undertake the existing inspection program. The revised inspection

process will be more efficient and this will result in a reduced need to supplement regular full time staff with temporary staff.

Legal

Updating our practice in this area is part of our Corporate Asset Management Strategy and Council approval of the policy provides transparency in our approach in this area.

Other

City Engineering staff are currently working with city staff in Park Board to ensure adoption of a concurrent hazard inspection policy for streets and pedestrian areas in City parks.

CONCLUSION

The proposed Sidewalk and Street Hazard Inspection Policy provides an updated approach based on best practice to this important area of corporate asset management.

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CITY OF VANCOUVER
CORPORATE POLICY

SUBJECT:	Public Works - Sidewalk and Street Hazard Inspection Policy	
CATEGORY:	Administration 07/2012	**POLICY NUMBER:**

PURPOSE

The City of Vancouver has over 4200 kilometers of streets, lanes, sidewalks, and pathways throughout the City. These assets vary in age, construction and condition. Over time, defects may develop that could pose a hazard to pedestrians or road users.

This policy establishes the requirements for assets to be inspected, the definitions of defects that are considered to be hazardous, and the requirements for responding to identified hazards so that a reasonable level of service is provided to the public.

This policy establishes standards with respect to a variety of surface conditions that may exist in our public street and sidewalk areas. The standards are predicated on the recognition that the public has a duty to take reasonable care for their own safety in a variety of circumstances. The standards do not represent a standard of perfection as this is neither reasonable nor possible to achieve within limited resources. The standards represent a balance between public safety and the reasonable allocation of limited municipal resources.

SCOPE

This policy applies to all streets, sidewalks, and pathways located within City streets and public right of ways that are the maintenance responsibility of the City of Vancouver.

DEFINITIONS

Annual Inspection: A scheduled inspection program that is carried out approximately once a year. Some variance may occur due to availability of resources and other factors.

Boulevard: The area between a roadway's shoulder or curb & gutter and the adjacent property line that is not a sidewalk or pathway, and on a street where traffic is separated by means of a median, and includes the median. This area may be landscaped with grass, trees, plantings, other installed features and/or private encroachments (e.g. connector walks, wooden curbs, landscaping, etc.) and there may be an inherent variability of the surface.

Crosswalk: The area where a pedestrian has the right of way when crossing a roadway that is either a marked pedestrian crossing or an area within an intersection that is the

portion of a roadway between the extension of the lateral edge of the roadway and the adjacent lateral property line but does not include lane intersections.

Curbs: A permanent curb or curb & gutter, usually constructed from concrete, asphalt, or stone, that is installed at the edge of a roadway to separate a roadway pavement from a boulevard and/or sidewalk.

Day: a 24 hour period.

Hazard: A defect that exceeds the tolerance specified by this policy for an asset.

Lane: A street less than 10.06 metres in width that is usually located at the rear of a property.

Pathway: A pedestrian or shared pedestrian path (a path that is intended for use by pedestrians and other non-motorized traffic), which is neither a roadway nor a sidewalk, which has been improved by the City with a permanent hard surface (such as concrete, asphalt, or pavers).

Paved Surface: A surface constructed with a layer or layers of asphalt, concrete, or pavers.

Roadway: The portion of a street improved, designed, or intended for vehicular use and located between curbs and/or shoulders.

Sidewalk: The portion of a street, improved for the use of pedestrians, between the curb lines or lateral lines of a roadway and the adjacent property lines. A sidewalk is improved with a permanent hard surface (such as concrete, asphalt, or pavers) that is intended for the primary use of pedestrians, including the main sidewalk surface, accessibility curb ramps, bus stop landings, and portions of a sidewalk that cross a lane entrance

Shoulder: The portion of a street between the roadway paved surface and the boulevard, usually without a permanent paved surface and where a curb has not been installed, that provides lateral support to the roadway and may accommodate stopped vehicles.

Street: A public road, highway, bridge, viaduct, lane and sidewalk, and any other way normally open to the use of the public, but does not include a private right-of-way on private property.

Trail: A granular or bark mulch sidewalk or pathway installed by the City that is intended for use by pedestrians and/or non-motorized traffic. A trail does not have a permanent paved surface and therefore there is an inherent variability of the surface.

Tree Base: The area around the trunk of a tree that is located within a sidewalk. The area may have a natural surface or may have a manufactured cover installed surrounding the tree.

POLICY STATEMENTS

1 Scheduled Inspections

The following assets will be inspected as part of a scheduled "annual inspection" program. The exact timing of the inspection for an individual asset may vary from year to year within the inspection program:

- Sidewalks and Pathways
- Crosswalks
- Curbs directly abutting Sidewalks and Crosswalks

Inspections will be undertaken based on visual checks of the surface exposed at the time of inspection to identify hazards. When a hazard is identified in accordance with this policy, the inspection result will be recorded and a repair will be scheduled. The hazard shall be repaired within the timeframe specified for that asset. An asset is considered to be repaired when a repair has been undertaken so that the defect no longer meets the condition that defines the defect as a hazard.

2 Scheduled Inspection Requirements

The following areas are to be inspected as part of a scheduled "annual inspection" program for hazards.

If a potential defect is reported to the City outside of a regularly scheduled inspection the asset will be reviewed when available resources and priorities allow. When such areas are reviewed, if a hazard is identified in accordance with this policy it shall be repaired within the timeframe specified for that asset.

The following sections define hazards for sidewalks, pathways, crosswalks, and curbs directly abutting sidewalks and/or crosswalks.

2.1 Sidewalks and Pathways

Hazard	Description	Measurement
Trip	A sharp vertical difference in elevation between two adjacent sections of a sidewalk surface, at a crack, or between a sidewalk surface and an abutting curb. Items with an intended elevation difference, such as expansion joints of structures, are not defects.	More than 2.5 cm height

Hazard	Description	Measurement
Gap	An open separation between two adjacent sections of a sidewalk surface, across a crack, or between a sidewalk surface and an abutting curb. The measurement of the width and the depth of the gap must both be exceeded to be a defect. Items with an intended gap, such as expansion joints of structures and catch basins, are not defects.	More than 2.5 cm width and depth
Obstacles	Obstacles include broken sidewalk pieces and items set in the sidewalk, such as water meter boxes, junction boxes, manhole lids, empty sign post sleeves, bolts, and other irregularities with a sharp vertical difference in elevation from the sidewalk surface. Items with an intended elevation difference, such as expansion joints of structures, pole bases, steps and curbs, are not defects.	More than 2.5 cm projection/ depression
Tree Base	A defect in a tree base occurs when there is a sharp vertical difference in elevation between two adjacent sections of an installed tree grate or between an installed tree grate and a sidewalk surface. Constructed gaps and openings within the surface of the tree grate and the opening between the base of the tree and the tree grate are not defects. When a tree grate is not installed and there is an area surrounding a tree composed of soil, granular material, plantings, and/or roots which may be uneven these conditions are not defects.	More than 2.5 cm height

When a hazard condition is identified in a sidewalk, either through an "annual inspection" or through a review arising from a report of a potential defect, it shall be repaired within seven (7) days, as time and resources allow.

2.2 Crosswalks

Hazard	Description	Measurement
Crosswalk Trip	A sharp vertical difference in elevation within the crosswalk surface, at a crack, between a crosswalk surface and an abutting gutter of a curb, or distortions that have a sharp vertical difference in elevation. Items with an intended elevation difference located within a crosswalk, such as curbs and expansion joints of structures, are not defects.	More than 2.5 cm height
Crosswalk Gap	An open separation between two adjacent sections of a crosswalk surface, across a crack, or between a sidewalk surface and an abutting gutter of a curb. The measurement of the width and the depth of the gap must both be exceeded to be a defect. Items with an intended gap located within a crosswalk, such as expansion joints of structures and catch basins, are not defects.	More than 2.5 cm width and depth

When a hazard condition is identified in a crosswalk, either through an "annual inspection" or through a review arising from a report of a potential defect, it shall be repaired within seven (7) days, as time and resources allow.

2.3 Curbs Directly Abutting Sidewalks and Crosswalks

Hazard	Description	Measurement
Curb Trip	A sharp vertical difference in elevation between two adjacent curb sections or between the curb and a sidewalk	More than 2.5 cm height
Curb Gap	An open gap between two adjacent sections of a curb, across a crack, or between a curb and a sidewalk. The measurement of the width and the depth of the gap must both be exceeded. Items with an intended gap, such as expansion joints of structures and catch basins, located within a curb are not defects.	More than 2.5 cm width and depth
Curb Irregularity	A sharp vertical difference in elevation within a curb or where a portion of the curb has been broken away.	More than 2.5 cm projection/ depression

When a hazard condition is identified in a curb that is directly abutting a sidewalk or that is within a crosswalk, either through an "annual inspection" or through a review arising from a report of a potential defect, it shall be repaired within seven (7) days, as time and resources allow.

3 No Formal Inspections

The following assets will have no formal scheduled inspection:

- Boulevards
- Trails
- Roadways
- Shoulders
- Curbs not directly abutting Sidewalks and Crosswalks
- Lanes

No formal periodic inspections will be carried out on assets that are not part of a regularly scheduled inspection program. Potential defects related to these assets will be addressed on a reactive basis when reported by City staff or when the City is notified by the public. Repairs will be carried out according to the City's maintenance practices as time and resources allow.

CITY OF VANCOUVER

ENGINEERING SERVICES
OPERATIONAL INFORMATION AND PLANNING DIVISION
INFRASTRUCTURE MANAGEMENT

BEST PRACTICE REVIEW OF HAZARD INSPECTION PROGRAMS AND POLICIES

BACKGROUND

This document presents local, national and international practices that are being utilized by various cities to identify roadway and sidewalk hazards. In adopting a best practice approach to developing a new hazard condition survey for the City of Vancouver, it is important to consider such practices.

LEGAL CONTEXT

Canada

In Alberta, Manitoba, Saskatchewan, Yukon and Ontario, the duty of care to maintain streets, including sidewalks, in a state of repair is a statutory requirement (in these provinces/territories, the Occupiers' Liability Act does not apply to streets and sidewalks managed and controlled by a municipality). In New Brunswick, Newfoundland and Labrador, Nova Scotia, Quebec and Prince Edward Island, Northwest Territories and Nunavut, general principles of negligence prevail. In British Columbia, liability for such maintenance is governed by the Occupiers' Liability Act.

Ontario
In Ontario, Minimum Maintenance Standards (MMS) were developed to provide municipalities with a defence against liability from actions arising with regard to levels of care for streets. Ontario Regulation 239/02 (Section 16) was amended and passed into law by regulation effective February 18th, 2010, and includes a standard for sidewalk patrol, inspection and repair.

British Columbia
In British Columbia, the Occupiers' Liability Act determines the care that an occupier is required to show toward persons entering on the premises in respect of dangers to them or their property on the premises. It creates a duty of care that the owner or tenant of premises or land has to see that a person entering the premises will be reasonably safe in doing so.

Municipalities have the benefit of a policy defence in the case of negligence actions, in regards to the maintenance of City streets and sidewalks, and the Courts recognize that policy decisions governing such operations are based on budgetary factors and are not reviewable by the Courts as long as the policy itself is rational and bone fide.

United States of America

According to the U.S. Department of Transportation, Federal Highway Administration, the majority of the cities in the United States of America commonly specify that the city cannot be held liable for any accidents or injuries due to sidewalk conditions. They rely on their respective Streets & Highway Codes and Municipal Codes/City Charters, to assign the responsibility to the abutting property owner for maintaining in safe condition the sidewalk fronting or adjacent to their property.

California
The State of California Streets and Highways Code, Section 5610, stipulates that the owner of the fronting property is responsible for maintaining the sidewalk, curb and gutter, and park strip area in good and non-hazardous condition. Property owners are required to install, construct, repave, reconstruct, and repair the sidewalk adjacent to their properties at their own cost. Although proven acceptable in Court, a considerable amount of legal fees and staff-time are consumed in defending the claims and litigation.

International

United Kingdom
Prior to the implementation of the Highways Act 1961, Highway Authorities were only liable for damage or injury resulting from work, which proved to have been poorly carried out. Since the relevant part of the 1961 Act came into effect, in August 1964, Highway Authorities have had an obligation to maintain public highways to reasonable standards. The current provisions are incorporated in the Highways Act 1980, Section 41 (duty to maintain) and Section 58 (special defence in action for damages for non-repair). In this context, footways are part of the highway. The importance of Section 58 is that it provides the defence 'that the authority had taken such care as in all the circumstances was reasonably required to secure that the part of the highway to which that action related was not dangerous for traffic.' It requires that in judging that defence, 'the court shall in particular have regard to the following matters:

- character of the highway and the traffic which was reasonably to be expected to use it;
- the standard of maintenance appropriate for a highway of that character and used by such traffic;
- the state of repair in which a reasonable person would have expected to find the highway;
- whether the Highway Authority knew, or could reasonably have been expected to know, that the condition of the highway was likely to cause danger to users of the highway; and
- where the Highway Authority could not reasonably have been expected to repair that part of the highway before the cause of the action arose, what warning notices of its condition had been displayed.

Effectively, this legislation requires Highway Authorities to categorise their networks in terms of location and usage, linking those categories to standards of inspection and maintenance.

Australia
Cities in Australia rely on road and footpath policies to provide a managed level of public safety for users. Policies are primarily derived from two sources:

- "State-Wide Mutual Best Practice Manual – Footpaths, Nature Strips and Medians" which establishes procedures for the inspection, evaluation and maintenance of roadways and footpaths; and
- Section 45 of the Civil Liability Act which provides that a roads authority is not liable in proceedings for civil liability, for harm arising from a failure of the authority to carry out road work, or to consider carrying out road work, unless at the time of the alleged failure the authority had actual knowledge of the particular risk the materialisation of which resulted in the harm.

REFERENCE	HAZARD POLICY OR PROGRAM	HAZARD INSPECTION	INSPECTION RESOURCE	HAZARD DETAILS
City of Abbotsford, British Columbia, Canada	Abbotsford has a policy of non-inspection, and rely sole on hazard notices from the public or City staff.	No planned hazard inspection program	City staff only perform inspections of hazards that are reported by the public or staff	—
City of Calistoga, California, U.S.A.	Calistoga has an existing program for sidewalk inspection, aimed at reducing the City's liability in trip and fall cases.	Sidewalk inspections are planned over a 4-year period, where a different quadrant of the City is inspected each year. Sidewalk-quadrants are selected based on their proximity to downtown core, proximity to schools, their use, and age.	Inspections are performed by qualified inspection contractors	Sidewalk trip hazards that are greater than 1 ¾ (45 mm) inches are documented. These hazards are classified as priorities and scheduled for repair as soon as possible. Trip hazards less than 1 ¾ inches will be repaired by the City, at their cost, while those greater than 1 ¾ inches will be repaired through a 50/50 cost sharing agreement between the property owner and City.
City of Campbell River, British Columbia, Canada	Campbell River has a program to assess the condition of both sidewalks and roads within the City. Defects or hazards are identified and prioritized for repair, according to the available resources and funding.	Sidewalks are designated as Zone A (Commercial, School and Hospital) and Zone B (Residential, (Light) Commercial and Industrial), based on the number and type of pedestrian traffic. Zone A sidewalks are inspected every year, and Zone B every 5 years. Roadways are inspected every 5 years (primarily a condition assessment) and when complaints are received by the public.	City employees conduct inspections.	Sidewalks distresses include cracks or separations, heave or settlement, fillets, scaling and obstacles, with all defects classified on a 3-point rating system from minor to major defect. • All defects classified as Level 3 are hazards and shall be scheduled for repair as quickly as possible and marked for public notification • Level 2 defects are documented and planned for review at the time of the next inspection • If a defect or hazard is reported by the public or City staff, City staff will inspect and assess it for repair Roadway hazards are only identified from public complaints.
City of Camrose, Alberta, Canada	Camrose has a 'Curb and Sidewalk Inspection and Maintenance Policy', that provides the scope for a system of inspection and inventory management, to effectively assess priorities and plan maintenance. There is no such policy or program for the City's roads.	Sidewalks are designated as either: • High Traffic Area (HTA) that include the downtown core and other high traffic areas, particularly those catering to seniors; and • Standard Traffic Area (STA) that includes those not designated as HTA. HTA's are inspected at least once every 18 months and STA's are inspected on a rotating basis, with a maximum time between inspections of 5 years.	City employees conduct inspections.	Inspection details of those sidewalks in HTA's are documented, including details about the sidewalk age, number of users, and location. Inspected sidewalks fall into one of three priority classes: • Priority 1 sidewalks are in *Very Poor* condition or are those that the inspector considers an immediate serious safety concern. These will be repaired as soon as practical, taking into account weather and crew or contractor availability. If there is a substantial delay, the hazard will be clearly marked so it is easily identified, or the sidewalk will be closed. • Priority 2 sidewalks are in *Poor* or *Average* condition and those that the inspector determines do not pose an immediate safety concern. These will be repaired as soon as practical based on crew availability, budget constraints and environmental factors. These repairs may be delayed until a crew is working in the area. • Priority 3 sidewalks are in *Fair* or *New* condition and those that the inspector determines are not a safety concern. These will be scheduled based on crew availability, budget constraints and environmental factors. Sidewalk repair techniques include crack filling, concrete grinding, asphalt overlay and replacement.
District of Central Saanich, British Columbia, Canada	Central Saanich has a 'Sidewalk Inspection Policy' that provides for inspecting the District's sidewalks for reporting hazardous conditions, and minimizing the possibility of injury to users, while maintaining fiscal responsibility. The District also has a 'Road Inspection Policy'	All Municipal sidewalks are inspected once a year. All Municipal roads are inspected twice a year (safety and condition inspection).	City employees conduct inspections, and record information on a 'Sidewalk Inspection Form' or 'Road Inspection Form'.	Sidewalks Any change in the horizontal elevation of one inch (2 ½ centimetres) or greater at the surface level shall be noted on the inspection form and scheduled for repair as quickly as possible. Cracks that have a gap of 1 ½ cm should be filled. Any other defect or hazard may be noted on the inspection form and repairs scheduled as resources permit. Severe defects or hazards shall be identified for public notice with barricades, flasher or warning signs. If a defect or hazard on a sidewalk is reported to the Municipality by the public or a City employee, the sidewalk shall be inspected as soon as possible and an assessment of potential repair will be made. Roads Three types of inspections are performed. A condition inspection to assess the condition of the network (February), a safety inspection to identify road hazards and reported sight line obstructions (October), and a custom inspection following a customer request or a response to an insurance claim.

REFERENCE	HAZARD POLICY OR PROGRAM	HAZARD INSPECTION	INSPECTION RESOURCE	HAZARD DETAILS
City of Edmonton, Alberta, Canada	Edmonton has developed a program for sidewalk inspection, which rates the extent and severity of a variety of defects for each panel of sidewalk, and identifies those distresses that pose the most risk to sidewalk users. A similar program exists for roadways, however, the purpose of that program in to assess the condition of the pavements and not to identify potential hazards.	Both pavement and sidewalk inspections are undertaken according to their functional class. Arterial and collector pavement and sidewalk inspections are scheduled on a biennial basis, where arterials are scheduled in even years and collectors in odd years. Local pavement and sidewalk inspections are carried out on a 4-year cycle, where each year a selected quadrant of the City is inspected.	City employees conduct inspections. Field information is entered into a Trimble Nomad handheld device, which also stamps the GPS location of higher severity trip hazards, for quick location referencing.	Ratings for the individual sidewalks are weighted-averaged to produce an overall rating for the block-face, and range on a scale from 1 to 5 with 5 representing a new or like-new sidewalk. The condition categories for the rating scale are: • Good (3.9 to 5.0), Fair (3.1 to 3.8) and Poor (1.0 to 3.0) Potential sidewalk defects and their thresholds as a tripping hazards include: • Distortion (joint displacement, irregular joint, curb, curb lines, subsidence/heave, utility patching and tree roots) - 20+ mm • Pitting - severe surface wear and exposed aggregate • Cracking (longitudinal and transverse) – 11+ mm Potential trip hazards are dealt with on a 'worst first' basis. Hazards that exceed 30 mm are addressed within 10 days. Those that are generally between 29 and 20 mm are scheduled for repair as bulk repairs. Finally, those trip hazards that are less than 19 mm may not be repaired for several years, as in previous years neither funding nor resources could be secured. Sidewalk repair options include asphalt patching, grinding, mud pumping/jacking and replacement. Pavement condition inspections record defect type (i.e., potholes, cracking, ruts, distortion, ravelling), extent and severity, and are used to assess the condition of the pavement.
City of Fort St. John, British Columbia, Canada	Fort St. John has a policy established to direct the Department of Public Works Engineering and Development to provide an assessment of the condition of the sidewalks within the Municipality, to identify and repair defects or hazards on the sidewalk as per established policy.	Sidewalks are designated as Zone A (Commercial, School, Parks Walkways and Hospital) and Zone B (Residential and Industrial), based on the number and type of pedestrian traffic. Zone A sidewalks are inspected every year, and Zone B every 3 years, with the caveat that frequency of these inspections is based on available resources and funding.	City employees conduct inspections.	Sidewalks distresses include cracks or separations, heave or settlement, fillets, scaling, obstacles (i.e., tree grates, manhole lids, water pooling, steep ramp radius, and catch basins) and access ramps with all defects identified on a 3-point rating system. • All defects classified as Level 3, hazards, shall be scheduled for repair as quickly as possible and marked (red colour) for public notice immediately. • All defects classified as Level 2 shall be marked (yellow colour) for public notice immediately and placed on a list for repair, as resources allow. • All defects and hazards classified as Level 1 shall be documented and reviewed on the next scheduled inspection. If a defect or hazard is reported by the public or City staff outside regular inspections, City staff will inspect and assess the hazard for repair.
Town of Gibsons, British Columbia, Canada	Gibsons has an existing policy and procedures manual for the inspection and maintenance of sidewalks.	Sidewalks are designated as Zone A (Commercial, School and Hospital) and Zone B (Residential, Light Commercial and Industrial), based on the number and type of pedestrian traffic. Zone A sidewalks are inspected every 6 months, and Zone B shall be inspected on a rotating basis in either the spring or fall. Frequency of these inspections is based on available resources and funding.	City employees conduct inspections, and records inspection results on a 'Sidewalk Field Survey Form'.	Sidewalk distresses include cracks or separations, heave or settlement, fillets, scaling, and obstacles (broken sidewalk pieces, tree grates, junction boxes, water meter boxes, sign post sleeves) with all defects and hazards identified on the 3-point rating scale below: • Major defect requiring immediate repair - All defects classified as Level 3 (hazards) shall be scheduled for repair as quickly as possible and, if necessary, marked for public notice immediately. • Moderate defect still serviceable - All defects classified as Level 2 shall be placed on a list for repair, as resources allow. • Minor defect with no effect on service - All defects classified as Level 1 shall be documented and reviewed on the next scheduled inspection. If any defects or hazards on sidewalks are reported outside of the regularly scheduled inspections, either by a member of the public or an employee of the Town, the reported defect or hazard shall be inspected by a member of the Public Works Department as soon as possible and repaired in accordance with the classification, as described above. Sidewalk wheel chair access ramps are also inspected for potential hazards, and classified in the 3-point scale above.

REFERENCE	HAZARD POLICY OR PROGRAM	HAZARD INSPECTION	INSPECTION RESOURCE	HAZARD DETAILS
City of Imperial, California, U.S.A.	Imperial has implemented an inspection program of City sidewalks, for reporting and scheduling of repairs for all hazardous conditions, to minimize the possibility of injury to the public and visitors to the City.	Sidewalk inspections are conducted every 12 months.	City employees conduct inspections and record inspection results on a 'Sidewalk Inspection Form'.	Data Collection • Field notes are dated and titled with the name of the inspector. • Description of the damage is noted with a possible suggestion of how to repair the damage. • Any minimal damage that may be a future hazard is noted. • If the street segment does not have any hazardous conditions, it should be noted as such. Hazard repairs are prioritized with consideration of cost, time, severity and location. Repair options include: • Grind down displacement if less than ¾ inch or apply appropriate materials to minimize displacement. • When the sidewalk is buckled and the ratio is greater than 5:1, repair sidewalk with a ratio of 6:1. • Cracks and holes should be filled. • If the buckled sidewalk has numerous large cracks, remove and replace concrete. • If the sidewalk is buckled due to tree roots, remove the root and replace the sidewalk. • If the sidewalk is displaced by tree roots, repair with a slope of 6:1 ratio. • Worn out asphalt concrete patches should be re-patched or evaluated for removal and replacement. • Repaired patches that continue to have cracks and displacements may have to be removed and replaced.
City of Kelowna, British Columbia, Canada	Kelowna has a 'Sidewalk and Walkway Maintenance and Inspection Policy' that provides staff direction when dealing with trip hazards. There is no such policy for roadways.	Sidewalk inspections are completed annually, but do not take place until all the frost is out of the ground and snow has melted, and the spring sweep is completed.	Inspections are carried out by qualified staff, with results recorded on a 'Sidewalk/Walkway Inventory Sheet'.	Sidewalks distresses include cracks or separations, heave or settlement, deflections, fillets, scaling, obstacles (i.e., tree grates, manhole lids, water pooling, steep ramp radius, and catch basins) and access ramps with all defects identified on a 3-point rating system. • Level 1 – Major defects (hazards) • Level 2 – Moderate defects (potential hazards) • Level 3 – Minor defects (not hazards) Repairs are prioritize as follows: • Level 1 hazards are completed within six months following the completion of the inspection • All level 1 hazards are further prioritized based on height and location of the trip hazard, with the most severe being fixed first • After completing level 1, level 2 potential hazards are checked and monitored, with repairs done as resources become available Repair techniques include filling, grinding, mud jacking, and removing and replacing. For roadways, potholes are repaired as they are discovered or within 48 hours of being reported.
City of Mississauga, Ontario, Canada	Mississauga conforms to the Ontario Provincial Minimum Maintenance Standards.	All sidewalks are inspected annually. Pavements are inspected when the City becomes aware of a deficiency/hazard from staff or the public.	In the past, inspections were conducted by city staff, but recently, the City is utilizing College and University Technical students.	For sidewalk surface discontinuities that exceed two centimetres, the minimum standard is to treat the surface discontinuity within 14 days after becoming aware of the fact. For pavements, the type and severity of a defect will determine the required actions. Defects include potholes, shoulder drop-offs, cracks and surface discontinuities. All deficiencies are made safe at the time of inspection and permanent repairs are integrated into Maintenance contracts or scheduled through City workers. Each year, a sidewalk replacement schedule is updated based on the budget, pedestrian traffic volume, adjacent land use, adjacent roadway condition (if reconstruction is planned in the five-year plan) and the existing sidewalk condition.

<table>
<tr><th>REFERENCE</th><th>HAZARD POLICY OR PROGRAM</th><th>HAZARD INSPECTION</th><th>INSPECTION RESOURCE</th><th>HAZARD DETAILS</th></tr>
<tr><td>Township of Norwich, Ontario, Canada</td><td>Norwich adheres to the Ontario Minimum Maintenance Standards and has a ‘Sidewalk Policy’ that provides safe, accessible and convenient conditions for pedestrian traffic; protects the Township’s investment in sidewalks; and mitigates the risk of claims against the Township caused by non-repair.</td><td>All sidewalks are inspected annually. Pavements are inspected when the City becomes aware of a deficiency from staff or the public.</td><td>City employees conduct inspections.</td><td>The Township of Norwich adheres to the Ontario Minimum Maintenance Standards for roads and sidewalks.

Repair of potential trip hazards include:
• Sidewalk slabs that have a measurable differential displacement of 5 cm (2”) or greater, shall be repaired or replaced with new concrete. The method of repair will be the decision of the Roads Division. The term “differential displacement” shall be considered a vertical displacement occurring at either a joint, crack or curb.
• A sidewalk slab that has substantial surface cracking accompanied by crack displacement or has spalling to a minimum of 75% of its surface area shall be considered for replacement, subject to the conditions above, otherwise the sidewalk slab may be maintained with a thin asphalt overlay until the road or other limiting factor has been corrected.
• A sidewalk slab that contains a hole(s) shall be spot repaired if possible; otherwise, the entire slab may be replaced.</td></tr>
<tr><td>City of Prince George, British Columbia, Canada</td><td>Prince George developed a policy in 2001, which states that all sidewalks and walkways shall be inspected to assess their condition and identify any defects or hazards.</td><td>Not specified</td><td>City employees conduct inspections.</td><td>Sidewalk condition is a function of two sub-indexes.
A Sidewalk Deficiency Sub-Index (62 ½ %)
• Categorizes, assess the risk level and assigns a relative weighting to each observed defect. The table below is a simplified version of the detailed assessment table.
<table>
<tr><th>FEATURE OBSERVED</th><th>RISK LEVEL ASSESSED</th><th>RELATIVE WEIGHT ASSIGNED</th></tr>
<tr><td>Spalling or Cracking</td><td>Low</td><td>0.5</td></tr>
<tr><td>Drainage</td><td>Low</td><td>0.5</td></tr>
<tr><td>Curb Ramps</td><td>Medium</td><td>1</td></tr>
<tr><td>Missing Sidewalks</td><td>High</td><td>2</td></tr>
<tr><td>Hazards: differential heights, excessive crossfall, obstacles</td><td>Highest</td><td>3</td></tr>
</table>
A Pedestrian Potential Sub-index (37 ½ %)
• Sidewalks were assessed, using an index, according to how likely they were to attract users.
• The intent was to assign a higher priority to the repair of sidewalks and walkways that are more likely to be used by a larger number of pedestrians.
. These were combined into the scoring system shown below. A weight was assumed to give pedestrian potential factors approximately one-third of all possible points when combined with the deficiencies index table above.
<table>
<tr><th>FACTOR</th><th>SCORE</th><th>SCORING GUIDELINE</th><th>WEIGHT</th><th colspan="2">MAXIMUM SCORE</th></tr>
<tr><td rowspan="2">Land Use</td><td>0</td><td>Non-commercial</td><td rowspan="8">2.5</td><td rowspan="2">20</td><td rowspan="8">37.5</td></tr>
<tr><td>8</td><td>Commercial</td></tr>
<tr><td rowspan="4">Number of schools within 0.5 km (all types)</td><td>0</td><td>None</td><td rowspan="4">12.5</td></tr>
<tr><td>1</td><td>1</td></tr>
<tr><td>3</td><td>2</td></tr>
<tr><td>5</td><td>3</td></tr>
<tr><td rowspan="2">Presence of a park or river nearby</td><td>0</td><td>Not present</td><td rowspan="2">5</td></tr>
<tr><td>2</td><td>Present</td></tr>
</table>
Points from both sub-indices are combined for a maximum of 100 points for each sidewalk segment. The total points are then used to divide the segments into three priority groups, 1st for the 80th to 100th percentile; 2nd for the 60th to 80th percentile; and 3rd priority for the 40th to 60 percentile.</td></tr>
</table>

REFERENCE	HAZARD POLICY OR PROGRAM	HAZARD INSPECTION	INSPECTION RESOURCE	HAZARD DETAILS
City of Rohnert Park, California, U.S.A.	Rohnert Park implemented the 'Hazardous Sidewalk Repair and Replacement Program', which identifies those sidewalks the City will repair, replace or otherwise, to mitigate trip hazards.	There is no planned inspection process	City employees conduct inspections from public or staff notices	Trip hazards are prioritized by a weighted Hazardous Sidewalk Evaluation Matrix. The Hazardous Sidewalk Evaluation Matrix is weighted upon the defect severity of the trip hazard (Defect Severity Evaluation Matrix) and the location of the trip hazard (Defect Location Evaluation Matrix). A formula is used to prioritize hazardous sidewalk repairs, and is based on the combined scores of the severity and location of the defect, with a 60/40 split, respectively. ❖ Defect Severity Evaluation Matrix - Severity of the trip hazard is rated high, medium, or low dependant on the magnitude of the physical defect. ❖ Defect Location Evaluation Matrix - Location of the trip hazard also determines the priority of the repair and rated high, medium or low. Additional factors that contribute to hazardous sidewalks include tree roots, sub-grade failures, poor initial installation/construction and misuse of sidewalks. Hazardous sidewalk repair techniques employed by the City of Rohnert Park include patching, ramping, cutting/grinding, barricading, temporary mitigation, and replacement.
City of Saskatoon, Saskatchewan, Canada	Saskatoon established a Council approved 'Sidewalk Asset Management Program' aimed at minimizing the risks associated with unsafe sidewalks.	The City conducts a safety inspection on sidewalks in commercial areas, including the Central Business District, on an annual basis. A similar inspection is conducted on all other sidewalks on an 8-year cycle.	City employees conduct inspections.	The City documents the following distresses as part of their asset management program. • Missing Sections: The surface of the sidewalk degrades sufficiently to create a hole that is deeper than 40 mm. The most common safety hazard associated with missing sections is tripping. • Lip: When differential displacement occurs; commonly caused by growing tree roots that lift the sidewalk panels out of alignment. It can also be caused by settlement. The most common safety hazard associated with this distress is tripping. • Spalling: This is when progressive loss of fine or coarse aggregate from the surface of the sidewalk causes it to be rough. Spalling in extreme distress levels, can be a trip hazard. • Longitudinal Cracking: This winding crack runs longitudinally along the length of the sidewalk. The cracks tend to progressively widen and may displace vertically with time. • Crack Count: When sidewalk panels have a number of cracks, it is usually a sign of structural failure or uneven settlement. When combined with other distress, safety hazards may increase. • Crack Width: This is when sidewalk panels have one or many wide cracks greater or equal to 10 mm. Similar to longitudinal cracks, these cracks may progressively widen and displace vertically over time, potentially creating trip hazards. • Tree Root: This is a defect measured by the panel's slope. As the tree root grows, it causes the panel to lift. Sudden changes in slope can create a tripping hazard and may present difficulty for wheelchairs, scooters and walkers. Tree roots also commonly cause a lip to form. • Utility Settlement: This is a defect measured by the panel's slope. As the utility settles over time, the slope on the panel increases. During spring thaw, utility settlements may pose a problem due to poor drainage that may cause ice build up. • Catch Basin: This refers to any catch basins that are raised or depressed. In either case, the distress can be a safety hazard, the most common being tripping. An excessively settled catch basin is usually an indication of a more serious utility failure. The majority of claims on sidewalks are the result of trips, therefore, lips and missing sections are considered priority for repairs. Sidewalk repair methodologies currently employed by the City of Saskatoon include: • Rubber Crack Sealing • Grinding • Magcrete Fillet • Asphalt Overlay • Mud Jacking • Full Panel Replacement

REFERENCE	HAZARD POLICY OR PROGRAM	HAZARD INSPECTION	INSPECTION RESOURCE	HAZARD DETAILS
City of St. Albert, Alberta, Canada	St. Albert developed a sidewalk maintenance program that addresses sidewalk repairs on a priority basis. The road network does not have a planned hazard identification program in place, but does undertake a planned condition survey.	No planned hazard inspection process All sidewalks are classified based on the two categories below: • Category A – Includes high pedestrian volume areas such as downtown, schools, hospitals, senior citizen centres, and public facilities. • Category B – Includes low pedestrian volume area such as residential, light commercial, and industrial. Any defects and hazards on sidewalks are classified by the severity rating system listed below: • Low Priority – Does not require attention in the next 3 years • Medium Priority – Does require attention in the next 2 to 3 years • High Priority – Requires repair within the next year Condition survey for roads is undertaken every 3 years, and road hazards are inspected from resulting public complaints.	City employees conduct inspections on hazardous sidewalks and tripping hazards reported by the public.	The Public Works Department addresses the following area of distress for repair. These are then prioritized depending on the type of sidewalk and the severity of the distress. • Faulting • Linear Cracking • Shattered Slabs • Corner Breaks • Backslopes • Ponding Sidewalk repair methods include: • Grinding / Cutting – This procedure involves mechanically shaving or cutting uneven joints in the sidewalk to remove the potential of a tripping hazard. • Mudjacking – This process allows for the completion of repairs without replacing a section of asphalt, sidewalk or drive pad. It is more cost-effective, uses fewer resources and extends the life of St. Albert's walkways. • AC Overlays- In these instances asphalt or concrete is used to give an existing structure a new smooth surface. • Crack Sealing – This method of repair is employed where significant cracks have presented. By way of a hot tar or rubberized compound, the crack is filled and sealed in an effort to mitigate further damage that might occur because of water migration. • Replacement - In cases of extreme damage and where mud jacking is deemed insufficient, City crews will opt for sidewalk replacement. This process involves breaking out and removing affected sections of the sidewalk, pouring new sidewalk and, usually, repairing surrounding landscaping disturbed by the replacement.
Wentworth, New South Wales, Australia	Wentworth has a policy to support procedures for the inspection, evaluation and maintenance of footpaths.	Inspections of footpaths depend primarily on their classification. Footpaths are classified as: • High – Commercial-Business Districts • Medium – Leisure facilities, schools and aged homes • Low – Residential and Rural The footpath inspection programme identifies all the known risks associated with footpaths and are either ‘Proactive’ or ‘Reactive’. Proactive Inspections • High – 3 months • Medium – 6 months • Low – 12 months Reactive Inspections • High – 4 hours • Medium – 12 hours • Low – 12 hours	State staff conducts inspections, and record results on a ‘Footpath Inspection Report’ and ‘Footpath Risk Rating Guide’.	Documented footpath defects include: • Trip: Where the pathway is raised more than 20 mm • Slip: Where the surface of the pathway is unsafe or damaged • Clear: Where trees overhang the pathway with less than 2.4 m of overhead clearance • Drop: Where the surrounding ground level drops more than 60 mm • Build: Where grass, sand or debris covers 40% or more of the pathway • Roots: Where tree roots have caused damage or interfere with the pathway Footpath repairs are undertaken based on the following protocols: • Making the area safe by the erect ion of temporary barriers or barricades • Effecting temporary repairs of the damaged area • Replacement of the damaged area Footpath repairs are dependent primarily on the associated risk of the defect. The following table sets out the basic set of response criteria: **Priority** / **Control Mechanism** / **Response Time** Low – Consideration should be given as to whether action needs to be taken – As resources permit Medium – Programme into maintenance works – 30 Days High – Make safe immediately; Effect repair or replacement – 4 Hours; 7 Days Very High – Make safe immediately; Effect repair or replacement – 4 Hours; 48 Hours

REFERENCE	HAZARD POLICY OR PROGRAM	HAZARD INSPECTION	INSPECTION RESOURCE	HAZARD DETAILS
District of West Kelowna, British Columbia, Canada	West Kelowna has a 'Pedestrian Infrastructure Inspection and Maintenance Policy' that provides for a condition assessment of pedestrian infrastructure (public sidewalks, walkways, and stairways) within the municipality in order to identify, repair and/or mitigate any defects or hazards and to establish priorities for repairs according to the resources available.	Sidewalks/walkways are designated as Type A (Commercial, School and Institutional) and Type B (Residential, Light Commercial and Industrial), based on the volume and type of pedestrian traffic. Type A sidewalks/walkways are inspected annually in the spring after the last frost and Type B shall be inspected on a rotating basis in either the spring or fall.	City employees conduct inspections and record results on a 'Sidewalk/ Walkway Field Survey Form'.	Sidewalks, walkways and wheel-chair ramp distresses include cracks or separations, heave or settlement, deflections, fillets, scaling, and obstacles, with all defects identified on a 3-point rating system. • Level 1 – Major defects (hazards) • Level 2 – Moderate defects (potential hazards) • Level 3 – Minor defects (not hazards) For public stairways, distresses include obstacles, heave or settlement and uniformity. All defects classified as level 1 shall be scheduled for repair as quickly as possible and, if necessary, marked for public notice immediately. All defects and hazards classified as level 2 shall be placed on a list of repair, as resources allow. All defects and hazards classified as level 3 shall be documented and reviewed on the next scheduled inspection. If any defects or hazards on sidewalks, walkways or stairs are reported outside of the regularly scheduled inspections, either by a member of the public or an employee of the municipality, the reported defect or hazard shall be inspected by a member of the Operations Department as soon as possible.
City of Lethbridge, Alberta, Canada	Lethbridge has a policy that supports its Pavement Management System.	As a part of the City's Pavement Management System, hazard inspections are conducted when the City receives complaints of unsafe sidewalks or roads. In addition, a sidewalk condition survey is conducted every 5 years, but there was no indication how often the pavement condition survey was undertaken.	City employees conduct inspections.	Sidewalk distresses that are surveyed for extent and severity include shattered concrete, corner breaks, durability cracking, faulting, linear crack, large patch, small patch, scaling, spalling corner and spalling joint. Defects identified as hazards during the sidewalk condition inspection, are placed on a priority repair schedule. Sidewalk and roadway hazard inspections that arise from public complaints, are documented and assessed, and rectified as soon as possible if they are deemed to present a hazard.
Town of Whitby, Ontario, Canada	Whitby adheres to the Ontario Provincial Minimum Maintenance Standards	Sidewalks: Two categories of inspections are conducted. • An annual inspection to identify potential trip ledges • Less frequently inspection, for input to the Town's capital improvement process Pavements: Conducted every other year, unless there is a need for recalibrating the data.	City employees conduct inspections, and record information on an inspection form.	The Town of Whitby adheres to the Ontario Minimum Maintenance Standards. A variety of distress types (below) are identified for each of the sidewalk and curb sections and range from minor cracks to complete failure, with both the severity and density recorded. Sidewalk Distress Types • No Distress • Surface Distress • Cracking • Deformation • Uplifting/Heave • Ponding • Tree Uplift • Vertical Displacement Curb Distress Types • No Distress • Low Fault • High Fault • Surface Distress • Loss of Curb The condition of the sidewalks is analyzed on a segment basis and given a Present Serviceability Rating (PSR). PSR ranges from 1 to 5, where a score of 1 indicates the curb and sidewalk are completely deteriorated or do not exist, and 5 indicates the curb and sidewalk appear to be brand new.

REFERENCE	HAZARD POLICY OR PROGRAM	HAZARD INSPECTION	INSPECTION RESOURCE	HAZARD DETAILS
City of Whitehorse, Yukon, Canada	Whitehorse has a 'Transportation Maintenance Policy' that provides for the maintenance of public road rights-of-way, including storm water management, within the geographical boundaries of the City, excluding the Alaska Highway and the Klondike Highway. Maintenance responsibility includes, but is not limited to, the regularly scheduled remedial and repair work to provide for a reasonable level of service, safe road conditions and to extend the life of the infrastructure. The City will provide this service on a priority basis in a cost-effective manner, keeping in mind safety, budgets, personnel and environmental concerns.	Sidewalks are inspected in the downtown core annually and the remainder of sidewalks are inspected once every second year. Paved and unpaved arterial and collector roads are inspected annually and the remaining roads are inspected once every second year. Public complaints of sidewalk and roadway hazards are another trigger for inspections.	Public Works Maintenance crews conduct inspections and record information in the City's Pavement Management System.	Sidewalk maintenance includes repair or replacement of single panels of sidewalk, or entire sections, depending on the need. Surface restoration may be carried out where feasible. Curbs and medians are repaired or replaced as needed. Sidewalk maintenance begins when ambient temperatures are above freezing and the frost is out of the ground, with work typically beginning at the beginning of May and ending in October. Sidewalk maintenance is done in accordance with approved budgets, and sidewalks shall be repaired and maintained in a reasonable condition to allow for safe passage of pedestrians. Priority is given to high volume sidewalks with the objective of reducing or eliminating tripping hazards. Pavement data is used for data scheduling maintenance, capital upgrades and replacement. Roadways are prioritized as follows: • Priority 1: Freeways, major arterial roads, emergency routes, major bus routes, roads adjacent to areas with concerns of impact relating to water quality and the environment • Priority 2: Remainder of the arterial roads, remainder of the bus routes, roads in the Central Business District, roads adjacent to schools and roads to prioritised City owned facilities and emergency routes within Priority 2 zones • Priority 3: The remainder of roads in the City • Priority 4: City owned parking lots and lanes