



# KEEPING SIDEWALKS SAFE IN WINTER

## Walk Toronto Comments on Sidewalk Winter Maintenance – PW30.8

To: Public Works and Infrastructure Committee  
Date: April 8, 2014  
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### INTRODUCTION AND SUMMARY

These comments are being presented to the Public Works and Infrastructure Committee in response to a Report dated March 17, 2014, from the General Manager, Toronto Transportation Services, “Confirmation of Levels of Service for Winter Maintenance of Bikeways, Windrow Opening, Sidewalks and AODA Compliance”<sup>1</sup> (“TS Report”).

At its Dec. 16 meeting, City Council had directed Transportation Services (“TS”) to review four separate issues regarding winter maintenance. We will not comment on cycling facilities, TTC drop-off spaces, or windrow clearing. The interest of Walk Toronto primarily lies in the expansion of the City’s sidewalk snow clearing operations, and to a lesser extent in the minimum width of cleared residential sidewalks.

During the snow season, winter maintenance must be provided for Toronto’s network of sidewalks in a timely and continuous manner. Service levels should be consistent across the entire city. Just as motorists expect Toronto’s roadways to be passable in all four seasons, so pedestrians must be treated with equal consideration. The pathways they travel on should be cleared, walkable, accessible and safe.

The enforcement of current snow clearance by-laws is problematic, as they rely on individual complaints to 3-1-1 and follow-up by bylaw enforcement officers that can take several weeks to

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<sup>1</sup> March 17, 2014. <http://www.toronto.ca/legdocs/mmis/2014/pw/bgrd/backgroundfile-67996.pdf>

complete. In most suburban areas, mechanical clearing by the City obviates the need for property owners to clear sidewalks, and solves the issue of neglectful residents.

Meanwhile, **claims that arise from slip and fall injuries on icy sidewalks in Toronto range from over 250 (\$7.2 million in paid and outstanding claims in 2012) to nearly 600 (\$19.6 million in 2008).**<sup>2</sup> Improved snow clearance standards, it would be reasonable to assume, should reduce the financial impact of injuries caused by inadequate winter maintenance.

All of these issues – safety, accessibility, equity, and financial – revolve around the capabilities and limitations of mechanical equipment. We believe that Transportation Services' assessment of the potential of narrow-gauge snow ploughs in central Toronto discounts best practices that have been developed in other cities. Walk Toronto reviews the practices of other cities in Canada developments and then applies our findings to the six criteria that Transportation Services uses in order to determine the eligibility of sidewalks to receive mechanical ploughing.

After reviewing the practices of cities across Canada, Walk Toronto recommends that:

- **The entire inventory of 1,100 linear km of sidewalks that are not presently cleared of snow by the City of Toronto be cleared by the City in future winters. Mechanical clearance is preferred; manual clearance can be used where mechanical clearance is impractical.**
- That staff closely investigate the best practices from other jurisdictions as well as snow clearance standards, minimum service levels and the impacts on specific users; particularly vulnerable populations such as the elderly and the disabled.
- More rigorous enforcement of existing by-laws requiring residents and businesses to clear sidewalks that abut their property **is not an adequate substitute** for complete and equitable sidewalk clearance across the city.

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<sup>2</sup> Note that the City's insurance plan has a \$5 million deductible, resulting in almost all claims being paid with taxpayers' money

## SIDEWALK SNOW CLEARING: THE PROBLEM

### NO-PLOUGH ZONE

Prior to Toronto's amalgamation of the City of Toronto, North York, Scarborough and Etobicoke provided mechanical snow clearing service on virtually all sidewalks, including residential. However, public sidewalk ploughing in the old City of Toronto and most of East York was not nearly so extensive, and property owners and businesses there were required to clear adjacent sidewalks. Over the years, regular efforts have been made to harmonize winter maintenance service levels across Toronto, but to no avail. The chief impediments are the physical constraints that the streetscape of Toronto's older areas impose on mechanical clearing operations. In some cases, these are real. In other cases, sidewalk conditions in the older suburbs such as the former village of Weston are similar to those of downtown streets. The decision as to which gets ploughed and which does not is as often based on former political boundaries as it is on physical constraints.

Varying sidewalk maintenance practices are one of the most stubborn, historic legacies of amalgamation. This is clearly an instance where the suburbs 'got things right', and mechanized suburban methods of clearing should be adopted in the downtown. **Walk Toronto believes that if Torontonians can satisfactorily resolve this issue once and for all, it will help to put behind us the troubling divide between the downtown and the suburbs.**

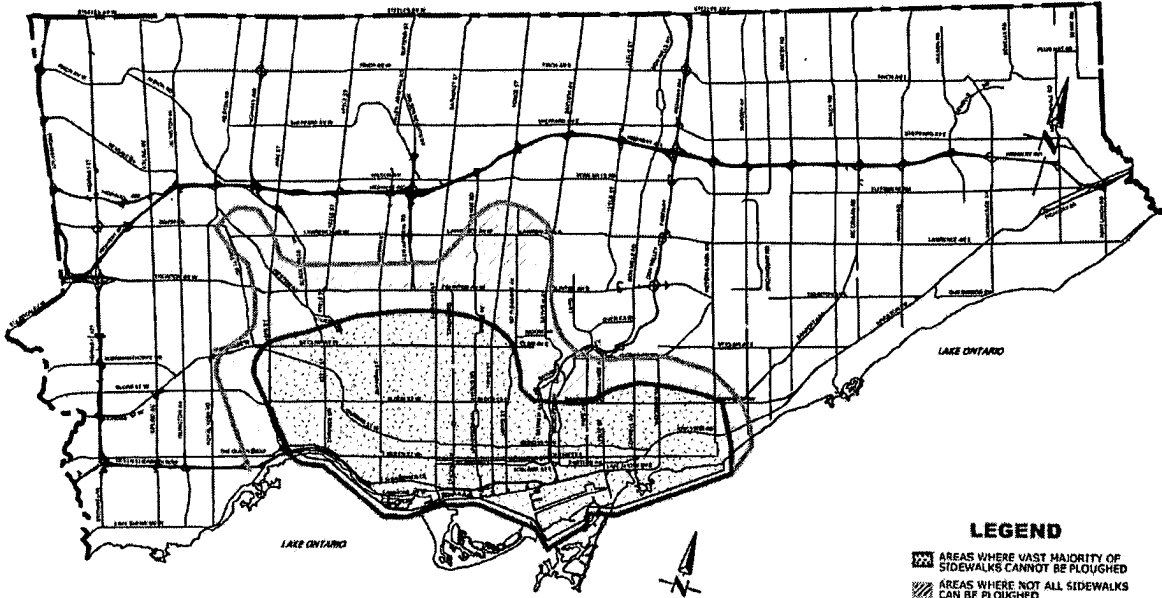
On the following page, the top map indicates the "no-plough zone" (roughly corresponding to the old City of Toronto and parts of East York) where it is claimed that most sidewalks cannot be mechanically ploughed, and are cleared by local residents. This is bordered by an intermediate zone in the inner suburbs where some, but not all, sidewalks are ploughed by the city. In the map's unshaded suburban areas, most sidewalks are ploughed by the city.

The lower map<sup>3</sup> shows the busiest signalized intersections in Toronto for pedestrians. Red indicates high pedestrian volumes, moderate volumes are marked in pink, and low in white.

A comparison of the maps below makes it clear that the City of Toronto's **most intensive sidewalk winter maintenance operations cover those areas which receive the lowest pedestrian traffic volumes.** We view this as a particularly mismatched allocation of resources. If it is worth investing in ploughing low-intensity areas, then it makes sense to invest at least the same resources in ploughing high-intensity areas. Let us imagine for a moment that TS' skewed approach were to be applied to the road system: highways in Toronto would receive little snow ploughing but laneways and back alleys would receive high levels of winter maintenance.

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<sup>3</sup> Global News, 2011. Created by Derek Flack  
[http://www.blogto.com/city/2011/06/the\\_busiest\\_intersections\\_for\\_pedestrians\\_in\\_toronto/](http://www.blogto.com/city/2011/06/the_busiest_intersections_for_pedestrians_in_toronto/)



**SIDEWALK SNOW PLOUGHING  
CITY OF TORONTO**



## LACK OF EQUITY

The City's attitude towards snow clearing on residential sidewalks in the old city borders on negligence. They are not cleared to a standard that is acceptable to make them functional. Suburban sidewalks are still, as a rule, safer to walk on than those downtown. This is unfair for many reasons.

- As mentioned previously, pedestrian traffic levels are highest in the downtown, where the sidewalks are the worst maintained.
- Suburban property-owners are not subject to the same range of fines that their counterparts in the old City of Toronto and East York face for not clearing snow off of sidewalks – which are City property.
- Some downtown BIAs pay for the kind of winter maintenance that the City provides gratis at some suburban commercial locations.
- A connection exists between snow shovelling and cardiac events.<sup>4</sup> As a society, we should not be making mandatory an activity known to be dangerous; and even worse, we shouldn't be doing this on a geographically inequitable, selective basis when it is possible to shift the burden to trained professionals using power equipment

## JUSTIFICATION FOR HARMONIZED SERVICE LEVELS

The City of Toronto has undertaken various initiatives that encourage walking. While few deal with sidewalk maintenance explicitly, the spirit of these initiatives is supportive of comprehensive winter maintenance.

### PEDESTRIAN CHARTER

The deplorable state of Toronto's sidewalks during the 2013-2014 winter has made a mockery of the commitments undertaken by the City when it adopted the Toronto Pedestrian Charter. We can no longer tolerate the status quo if the City is intent on fulfilling the Charter's promise to:

*To create an urban environment in all parts of the city that encourages and supports walking, the City of Toronto: upholds the right of pedestrians of all ages and abilities to safe, convenient, direct and comfortable walking conditions.*<sup>5</sup>

Barry Wellar has commented that

*Sidewalks are a fundamental element of the urban transportation infrastructure. It is bizarre that any city would fail to provide the same level of service for sidewalks that it does for roads. This makes its pedestrians second-class citizens.*<sup>6</sup>

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<sup>4</sup> "The Snow-Shoveler's ST Elevation Myocardial Infarction" Rajesh Janardhanan. *American Journal of Cardiology*. Aug. 15, 2010 106 (4) p. 596-600

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2958046/#!po=16.6667>

<sup>5</sup> *Toronto Pedestrian Charter*

[http://www1.toronto.ca/city\\_of\\_toronto/transportation\\_services/walking/files/pdf/charter.pdf](http://www1.toronto.ca/city_of_toronto/transportation_services/walking/files/pdf/charter.pdf)

<sup>6</sup> Macleans, "Down shovels: the city should clear the sidewalks" (March 17, 2011)

<http://www.macleans.ca/news/canada/down-shovels-the-city-should-clear-the-sidewalks/>

## COMPLETE STREETS

Most people interpret the concept of Complete Streets in terms of physical infrastructure. However, spacious, well-designed sidewalks, bulb-outs, lavish street furniture, etc. will be of little benefit to pedestrians if snow and ice accumulations make them difficult, and even dangerous, to use. (Of course, the same holds for cyclists' bike lanes as well).

## OFFICIAL PLAN

The *Toronto Official Plan*<sup>7</sup> shines a spotlight on the downtown, and stresses the importance of pedestrians, sidewalks and their distinctive maintenance needs:

- *A dynamic downtown is critical to the health of a city and to the region that surrounds it. [2-6]*
- *The quality of the Downtown will be improved by . . . recognizing the high maintenance needs of streets, open spaces and City services in this heavy demand area. [2-10]*
- *Downtown streets, sidewalks and the connecting system of public spaces are not just links between activities but are also spaces to be enjoyed in their own right. The quality of the design, construction and maintenance of these parts of the public realm are vital to the image of Downtown and to creating an attractive district in which to walk and linger. The appeal of Downtown to pedestrians is an essential part of making the area more attractive and competitive. [2-11]*

Looking at the city as a whole, the Official Plan emphasizes accessibility:

*The transportation system will be developed to be inclusive of the needs of people with disabilities and seniors by . . . 10-year strategy to guide the development of new policies, programs and infrastructure by taking accessibility into account from the design stage onwards. [2-28]*

The implications are clear that Toronto's winter maintenance programs should be harmonized, and that actual downtown service levels should not be inferior to those that exist in the suburbs.

## TRANSIT IMPROVEMENTS

Walking "the first and last mile" should be considered an integral component of a transit journey. To be viable throughout the year, this component must be made safe – rather than an extreme sport. A comprehensive sidewalk clearing program will achieve this goal. The costs of sidewalk winter maintenance are a small fraction of overall expenditures on public transit. As such, it does not make sense for governments to be spending billions of dollars on transit capital projects if these investments aren't supported by adequate operations budgets that include winter maintenance.

When sidewalks are clogged with snow and ice, many transit riders will avoid them and arrange to be driven either to the transit start point, or all the way to their destination. In both cases, road congestion is increased during a critical period when it's prudent to be keeping the streets clear for snow ploughs and emergency vehicles.

## CLIMATE CHANGE

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<sup>7</sup> Toronto Official Plan (2010) [http://www1.toronto.ca/static\\_files/CityPlanning/PDF/chapters1\\_5\\_dec2010.pdf](http://www1.toronto.ca/static_files/CityPlanning/PDF/chapters1_5_dec2010.pdf)

It is a common misconception that global warming will, without exception, make Toronto's winters less harsh, with a concomitant improvement in walking conditions. The truth is that if average winter temperatures rise slightly, we will admittedly receive less snow. However, snow isn't the most treacherous problem for walkers, and seniors – ice is a worse threat. Three trends may actually produce more ice:

1. Increases in Toronto's average winter temperatures will see the mercury hovering more often around the zero mark, which is the point where rain and melting snow can freeze over
2. Climate change increases the volatility of weather patterns and the number of extreme weather events. It is sudden drops in temperature that lead to the wholesale freezing of pooled water, slush and wet snow on sidewalks
3. In the longer term, successive freeze/ thaw cycles can lead to dangerous ice build-ups on unmaintained sidewalks. Smooth ice sheets can form initially, but as layers thicken, craters may be created where walkers have stepped.

The combination of these three factors can turn pedestrian environments into icy obstacle courses. It should be emphasized that the consequences of freeze/ thaw cycles are far less serious when a sidewalk is properly maintained. Any vestigial snow residues that remain after ploughing and salting will generally be melted away during a warm weather phase; and there usually will be little left to freeze over when the temperature dips sharply below zero in a cold phase. It is therefore critical that sidewalk winter maintenance be done expeditiously and to professional standards.

The Climate Change, Clean Air and Sustainable Energy Action Plan, which was launched in 2007, stresses the urgency of issues related to climate change, and encourages governments at all levels to "manage urban growth and development to create a high quality of life and encourage people to use alternative modes of transportation".<sup>8</sup>

### **TORONTO GREEN STANDARD FOR DEVELOPMENT**

The "Toronto Green Standard for Development"<sup>9</sup>, since January 31, 2010, has required new planning applications to document compliance with environmental performance measures. Pedestrian Infrastructure is listed as a Development Feature to "Encourage walking as a clean air alternative for all ages and abilities", and requires "a pedestrian clearway at least 2.1m wide to safely and comfortably accommodate pedestrian flow." This 2.1m pedestrian clearway width would accommodate snow clearance machinery with room to spare.

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<sup>8</sup> *Change is in the Air. Climate change, clean air and sustainable energy action plan. Phase 1.* Toronto Energy Efficiency Office (2007) p. 6  
[http://www1.toronto.ca/City%20Of%20Toronto/Environment%20and%20Energy/Programs%20for%20Residents/Files/pdf/C/clean\\_air\\_action\\_plan.pdf](http://www1.toronto.ca/City%20Of%20Toronto/Environment%20and%20Energy/Programs%20for%20Residents/Files/pdf/C/clean_air_action_plan.pdf)

<sup>9</sup> Toronto Green Standard Review and Update (2013) pp. 14, 22, City Planning Division, Toronto  
<http://www.toronto.ca/legdocs/mmis/2013/pg/bgrd/backgroundfile-59341.pdf>

## DEMOGRAPHICS

Sidewalks tend to be used by some of the most vulnerable members of society. Deficient winter maintenance affects them in different ways, but comprehensive sidewalk will benefit all.

### YOUTHS

We go to great lengths to encourage children to walk to classes, such as supporting the Active and Safe Routes to School program. But this is all for naught in the winter if sidewalks aren't properly maintained. Many parents may resume driving their kids to school should they decide that the sidewalks are too icy or snow-covered for students to safely use them.

### WORKING AGE

Snow clearing should be considered a municipal service that supports the huge economic engine in the downtown business district. Sidewalks in the central core ought to be maintained in winter, if for no other reason than to facilitate the walking to work of local residents. In fact, proximity to their workplace is one of the chief attractions for purchasers of downtown condos.

Pedestrians can realistically cover distances of up to about 3 km in times that are often comparable to the total duration of transit-based journeys – especially when rapid transit stations are located a significant distance from the traveller's home, and/ or multiple transfers are required. However, the efficiency of walking plummets if sidewalk surfaces are unmaintained. Comprehensive winter maintenance is therefore essential in supporting commuter walking. Failure to do this will cause a mode shift from walking to public transit during inclement winter weather – which is a period when transit is already overburdened and more susceptible to equipment malfunction and delays.

Within this age demographic, parents of small children face an additional issue because of the difficulty of pushing strollers on unmaintained sidewalks.

### SENIORS

#### Toronto Seniors Strategy

As the population ages, instituting effective residential sidewalk snow clearing in the old city would also be part of the necessary move towards "age-friendly cities". Toronto recently unveiled a new "Seniors Strategy" — any such strategy must include making it safe for seniors to walk on the sidewalk after snowfalls.

#### Seniors assistance program

The municipal ordinance requiring homeowners to maintain sidewalks fronting their property can place unfair demands on seniors (and the handicapped, too). The City's snow clearing assistance service for seniors and the disabled is designed to address this problem. We should point out that utilization rates are low, and the program should be better publicized. One of the medium-term goals of the Toronto Seniors Strategy is secure an "increase in funding for snow shovelling services for older Torontonians".



It is all very well for the Toronto Seniors Strategy<sup>10</sup> to confirm the assistance provided to seniors in maintaining the sidewalks and walkways outside their residences. However, if individuals over the age of 65 do not have access to an automobile, then it's crucial that the sidewalks in their **entire neighbourhood** must be clear, so they can safely walk to their destination or transit. We think that the best way for this to happen is for the City to take on responsibility for sidewalk maintenance across Toronto, at uniform service levels that do not favour one area over another.

### Accidents

The danger of slipping and falling for seniors is very significant. Not only might their balance be not as good as a younger person's, putting them in greater danger of falling, but they are more likely to suffer a serious injury if they fall due to their weaker bones. A Danish study found that, on a particularly icy day, there was a sharp increase in the number of pedestrians admitted to emergency. A disproportionate number of them were older people (especially women), who had suffered wrist and hip fractures. "About 20% of people who have a hip fracture die within a year of their injury. It is estimated that only 1 in 4 people have a total recovery from a hip fracture."<sup>11</sup>

### Isolation

Fear of a catastrophic accident deters many of the elderly from walking on local sidewalks if they aren't cleared properly. Seniors without access to cars can end up 'trapped' in their homes during spells of harsh winter weather. Being housebound for days on end can lead to unhealthy social isolation, lack of exercise and lack of fresh food.

### Mail boxes

Canada Post has plans to discontinue mail delivery to individual homes and instead set up rows of mailboxes that may be located several blocks away from residents' dwellings. Seniors and mobility-impaired individuals who cannot safely walk along unmaintained local sidewalks – and don't have access to an automobile – will have great difficulty collecting their mail on a regular basis during the winter. Compared to younger demographics, seniors are less likely to own personal computers or handheld devices. Home mail delivery cancellation is therefore likely to impair even further the poor lines of communications that exist between some isolated seniors and the outside world.

### Independent lifestyle

When the mobility of seniors becomes reduced, that often brings closer the decision whether it's time to move from their own residence to an institutional retirement home. Furthermore, slips and fall injuries are a leading cause of institutionalization of the elderly. In most cases it is preferable for seniors to delay this move as long as possible – after all, mobility is freedom. An investment in clearing sidewalks is one of the most cost-effective ways to achieve this goal.

*Older Torontonians should be able to live healthy, independent, active lives. The City should consider the quality of services that it is providing to older residents that address older adults' unique and varied needs.*<sup>12</sup>

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<sup>10</sup> Toronto Seniors Strategy. *Towards an Age-Friendly City* (2013) p. 81

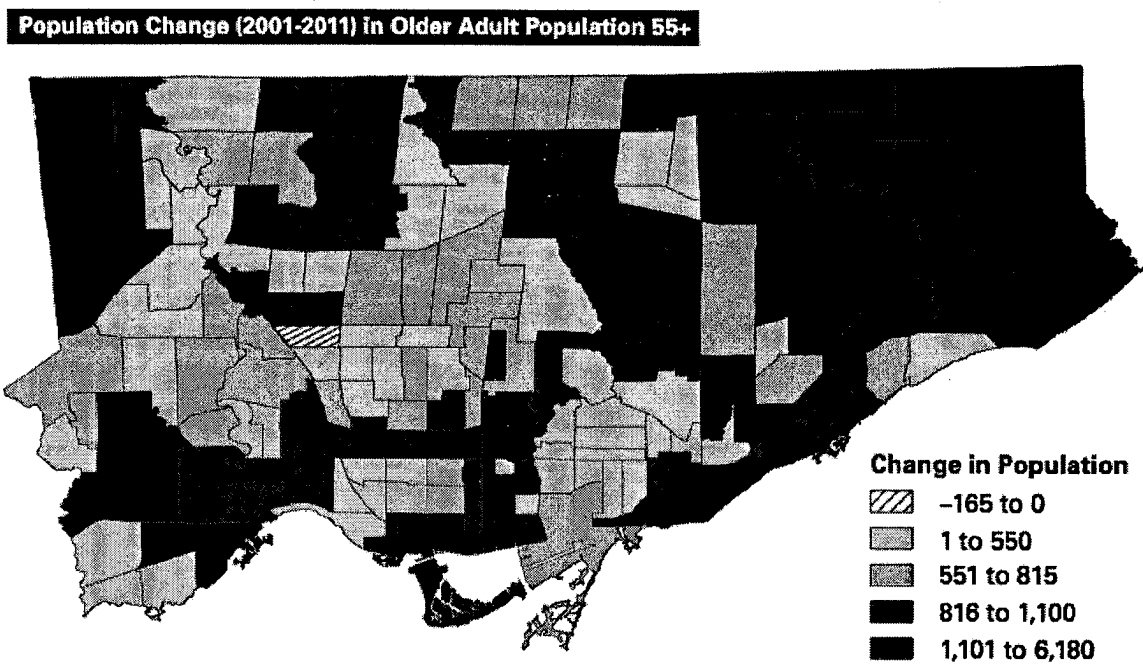
<sup>11</sup> Johns Hopkins Medicine: Hip Fracture webpage

[http://www.hopkinsmedicine.org/healthlibrary/conditions/orthopaedic\\_disorders/hip\\_fracture\\_85.P08957/](http://www.hopkinsmedicine.org/healthlibrary/conditions/orthopaedic_disorders/hip_fracture_85.P08957/)

<sup>12</sup> Toronto Seniors Strategy. *Towards an Age-Friendly City* (2013) p.6

### Aging population

Toronto seniors' population increased in all of the Toronto's neighbourhoods but one during the decade from 2001-2011. The upsurge was especially dramatic in the heart of the downtown, an area where Transportation Services has not proposed any additions to the list of sidewalks to be cleared by the City. As the baby boom generation gradually undergoes transformation into a 'seniors boom generation', the dark brown patches of the map<sup>13</sup> will become denser in the future.



**Figure 2.4**  
The number of adults 55 years and older has increased in all but one of Toronto's neighbourhoods.  
Source: Statistics Canada 2001 and 2011 Census  
Prepared by: City of Toronto Social Development Finance & Administration Division, Social Policy, Analysis & Research Unit

## ACCESSIBILITY

### Vulnerabilities

It takes only one negligent homeowner who fails to shovel the sidewalk adjacent to their property for that sidewalk to become hazardous for seniors, individuals with balance problems, wheelchair users, etc. Anyone who lives in the 'no-plough zone' knows that, inevitably, there is someone on every block who is negligent, often an absentee landlord. It's the 'weakest link in the chain' principle: any snowfall or ice accumulation makes pretty much every residential sidewalk in the old city dangerous for vulnerable people until the next melt.

<sup>13</sup> *ibid.* p.11

Able pedestrians sometimes walk down the middle of streets when when uncleared sidewalks are impassable. If a car approaches, they can nimbly mount a windrow or temporarily take refuge on the sidewalk. This strategy is especially inadvisable for wheelchair users because it is difficult for them to take evasive action. The risks they are exposed to are also increased by their presence on the road being less conspicuous on account a wheelchair's low profile. Wheelchair users have very few options when they encounter snow and ice on sidewalks. Even small accumulations can stop them in their tracks. If it is unsafe for them to detour onto the road, they may be compelled to turn back. Consequently, Torontonians who have mobility handicaps (and no access to cars) may choose not to venture out of their homes for days during periods in the winter when nearby sidewalks aren't properly maintained.

### **Ontarians with Disabilities Act**

This is precisely the sort of barrier-ridden situation that the *Ontarians with Disabilities Act* is intended to address.

*The City of Toronto supports the goals of the Accessibility for Ontarians with Disabilities Act (AODA) and will establish policies, practices and procedures which are consistent with the accessibility standards established under the AODA, including accessible . . . transportation. In working towards its goals under this Statement, the City of Toronto is committed to meeting the requirements of existing legislation and to its own policies and goals related to the identification, removal and prevention of barriers to people with disabilities and becoming a barrier free city.<sup>14</sup>*

The legislation includes provisions for transportation and the design of public spaces. We are supposed to be moving towards a city and a province where everyone can expect a reasonable standard of accessibility from public services. We've put curb cuts on every sidewalk in the city; the TTC is building elevators in subway stations and only ordering new vehicles that are accessible. Yet these are irrelevant if seniors and people with disabilities can't safely leave their house whenever it snows, and for days afterwards until that snow melts.

### **Toronto Accessibility Plan**

The City of Toronto's *Accessibility Plan* outlines a strategy for the removal of barriers to the disabled that will eventually bring the City into full compliance with the requirements of the *Accessibility for Ontarians with Disabilities Act*. In regards to sidewalks, it specifies that the Transportation Services Department will "continue to provide winter maintenance of sidewalks where width allows mechanical operation".<sup>15</sup> We believe that the department's definition of sidewalk width is not in line with the capabilities of modern snow clearing equipment, resulting in service levels of winter maintenance that do not meet the goals set by the City's *Accessibility Plan*.

### **TS Report Recommendations**

We commend the report's suggestion that the Snow and Ice Removal by-law be amended to require property owners to clear a minimum 1.2m wide path on sidewalks equal to or greater

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<sup>14</sup> *City of Toronto Statement of Commitment to Creating an Accessible City* (2009)

[http://www1.toronto.ca/city\\_of\\_toronto/affordable\\_housing\\_office/files/pdf/accessible\\_city.pdf](http://www1.toronto.ca/city_of_toronto/affordable_housing_office/files/pdf/accessible_city.pdf)

<sup>15</sup> "2008 Annual Report. *City of Toronto Accessibility Plan*. Appendix 1, City of Toronto Divisional Accessibility Plans, p. 118 <http://www.toronto.ca/legdocs/mmis/2008/ex/bgrd/backgroundfile-15058.pdf>

than 1.5m. However, we dispute the report's assertion that mechanical sidewalk clearing in Toronto is similar to that provided by both Montreal and Ottawa. While it is true that Ottawa clears sidewalks measuring 1.5m or more, the report neglects to account for the fact that Ottawa also clears sidewalks narrower than 1.5m.

We believe the City's recommendation to aggressively enforce existing snow and ice removal by-laws has limited potential to increase compliance with the spirit of the AODA requirements. A more effective means of realizing this goal would be to make a substantial commitment to narrow-gauge mechanical clearing technologies that would enable the City to expand the number of sidewalks it ploughs.

## **SOLUTIONS PROPOSED BY TORONTO'S TRANSPORTATION SERVICES DEPARTMENT**

### **HIGH-VOLUME SIDEWALKS**

We wholeheartedly applaud the recently approved<sup>16</sup> change in service standards whereby TS will clear high pedestrian volume sidewalks when snow accumulates at 2cm. This will be a fine way to usher in winter in December, 2015.

### **THE 1%**

Unfortunately, we are less positive about the TS Report's proposals for the list in Appendix 5 of sidewalks to be added to the mechanical sidewalk clearing program. They comprise approximately 11 linear kilometres of sidewalk out of a total of 1,100 km. being considered. This amounts to precisely 1%, a distinctly disappointing figure. Furthermore, we note that none of the additional sidewalks are situated in the downtown, an area that requires high service levels of winter maintenance. Instead, the locations are mostly on local streets on the margins of the 'no-plough zone'. Almost all have low volumes of pedestrian traffic and little strategic importance for walkers. We can only conclude that convenience for TS and its contractors seems to have been the primary factor that influenced location choices.

### **HAND SHOVELS**

Staff have given serious consideration to clearing all 1,100 km. of narrow sidewalks literally by hired hands. They calculate that the job could be done by 360 crews of manual labourers at a cost of \$9,900,000 per year. Walk Toronto takes the position that undertaking hand shovelling operations on such a large scale is an archaic and inefficient practice for which there are surely less expensive, modern alternatives. (In comparison, the City is paying \$12,000,000 per year to operate 210 mechanical units that clear approximately 7,000 km. of linear sidewalk, mostly in the suburbs.)

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<sup>16</sup> TS Report, p. 6



City of Toronto Archives, Fonds 1266, Item 58

*Manual labourers clearing snow from Queen St. using hand shovels and horse-drawn cart (Globe & Mail, Dec. 28, 1922) For the record, we recommend that snow removal be achieved with trucks rather than horse-drawn carts.*

## **STATUS QUO**

Transportation Services sponsored a telephone “Winter Maintenance Survey”<sup>17</sup> and posted the results as Appendix 6 in the background. We view the design of this poll as flawed, insofar as respondents were being asked to state their satisfaction levels with winter maintenance services delivered by the City of Toronto. The results would have been more accurate if the people surveyed had been specifically asked to rate the maintenance of ALL sidewalks – including the snow clearing expected to be done by local residents. This requirement is the major sore point amongst the public.

<sup>17</sup> Appendix 6, background material PW27.15

<http://www.toronto.ca/legdocs/mmis/2013/pw/bgrd/backgroundfile-63639.pdf>

The problems are numerous. Compelling residents and businesses to shovel the sections of the 1,100 km. that abut their properties has not resulted in high levels of maintenance. Inequitable laws tend to be loosely enforced, and this is no exception. Those who work long hours or travel frequently for work or holidays may not consistently comply with the requirements. Landlords and tenants fail to agree on who will do the work. To achieve continuous, uniform snow clearing, everyone must do their civic duty – but years of experience has shown that is just not going to happen. In contrast, a mechanical plough will clear an unbroken swathe block after block. This is what wheelchair users need.

Improvements can also be made for the 7,000 km. of mostly suburban sidewalks that the City is already ploughing mechanically. A recurring problem is the skimming of the plough blade over the surface of the sidewalk. This may leave a residual 'snowpack' layer, which the spreading of salt does not always eliminate in cold weather (such as we have experienced during the winter of 2013-14). In time, freeze/ thaw cycles can turn snowpack into dangerous ice. This problem should be addressed, and the need will be even more pressing if mechanical ploughing is extended throughout the downtown.

### **ERRORS IN TRANSPORTATION SERVICES' REPORT**

We are aware of two fundamental errors in the TS Report. In the section, "Review of Streets Currently Not Receiving Mechanical Sidewalk Clearing", reference is made to "Council-approved criteria" that were introduced in 2001 specifically to determine mechanical sidewalk clearing eligibility. However, the amendment passed by Council at its Dec. 16 meeting did not mention these criteria, nor mechanical snow clearing<sup>18</sup>. The motion simply made the request that TS

*review the streets in any Ward currently not receiving ... sidewalk clearing, and report ... on which streets can be added to the Request for Proposal for 2015 and future contracts.*  
<sup>19</sup>

Of course, TS staff have every right to rely on traditional departmental guidelines that have been in place since 2001. By the same token, there is nothing in the drafting of the amendment that would prevent us from suggesting that the review ought to have pushed the envelope and taken a more flexible approach which would have yielded a longer, more satisfactory list of additions.

The other error in the report has been briefly alluded to earlier. Although it is located in the AODA section<sup>20</sup>, it is pertinent to more general sidewalk considerations. The claim is made that

*The level of service for mechanical sidewalk clearing is similar to that provided in both Montreal and Ottawa, two municipalities of similar age and urban density as Toronto. Both of these jurisdictions provide mechanical sidewalk clearing wherever sidewalks widths are equal to or greater than 1.5 m.*

Let us examine the reality of winter maintenance operations in Ottawa:

- 1.5m is not a magic number in the nation's capital – operators clear all sidewalks mechanically, regardless of width
- Ottawa has over 125 sidewalk plough/ salt spreader combo units
- both ploughs and snowblowers may be used on sidewalks narrower than 1.5m

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<sup>18</sup> Unlike Amendment no. 2 (sidewalks), Amendment no. 3 (AODA) was drafted differently and did in fact refer to "criteria for mechanical sidewalk snow clearing".

<sup>19</sup> PW27.15 <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PW27.15>

<sup>20</sup> TS Report, p. 8

- manual snow shovelling is a procedure that is almost never resorted to except for stairs
- Ottawa's Transportation department has developed service-oriented criteria that stress goals rather than restrictions
- Their "Maintenance Quality Standards" states that "The main outcome of snow and ice control of sidewalks, pathways and bus pads is safe and passable facilities for all users by reducing the hazards caused by snow and ice accumulation"

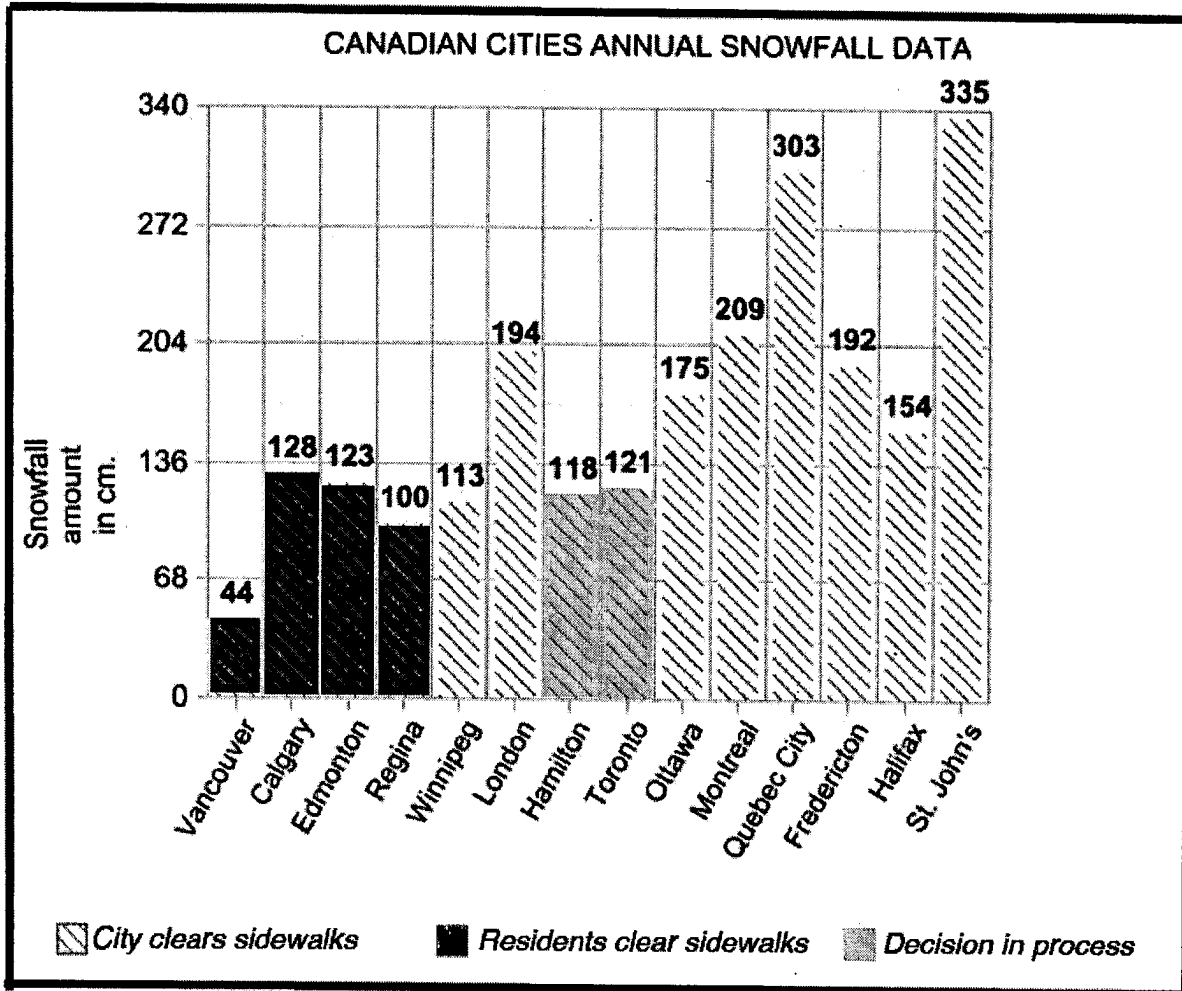
It is this difference in approach that has resulted in Ottawa succeeding in clearing all of the city's sidewalks while Toronto tolerates a no-plough zone with 1,100 km. of sidewalks sporadically maintained by residents. There can be no doubt that pedestrians in our nation's capital are better served during the winter than anyone who ventures out on foot in Toronto.

## **BEST PRACTICES IN OTHER CITIES**

Ottawa is not an isolated example. We shall now look at the winter maintenance operations in many other cities.

### **NATIONAL PATTERNS**

Canadian climate patterns show that, as a rule, average yearly snowfall amounts decrease as one moves westward. Moreover, a correlation exists between high snowfall averages and cities taking responsibility for sidewalk clearing. It is unreasonable to download the responsibility for sidewalk snow clearing onto residents when that involves really onerous physical demands. Furthermore, some municipalities that receive really large accumulations of snow not only plough it, they sometimes also physically REMOVE it from the immediate environs. This requires trucks or expensive snow-melting equipment, which private citizens cannot be expected to have access to. Hence, most large, snowy cities (from St. John's to Ottawa) clear their sidewalks. At the other end of the country, cities that receive less snow (from Regina to Vancouver) shift much of the responsibility for clearing sidewalks onto residents and businesses. Cities in Ontario go both ways.



## OTTAWA

The City of Ottawa relies on two types of compact equipment that can operate on sidewalks less than 1.5 m. in width. Their mainstay is the Holder C240 tractor, compatible with the Holder Angle Snow Plow blade <sup>21</sup>, measuring 1.27m (50 inches), or 1.09 (43 inches) when mounted at a 30 degree angle. The second model that Ottawa uses is the Kubota M8200 Narrow tractor <sup>22</sup>, which is 1.03 m. wide and can be outfitted with a an adjustable V-shaped plough blade.

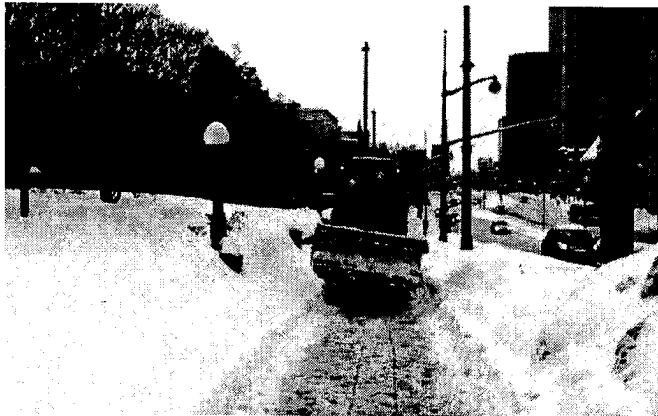
<sup>21</sup> Holder Tractor Inc. website product listing:

<http://www.holdertractors.ca/attachments/snow-plowing/http://www.holdertractors.ca/attachments/snow-plowing/>

<sup>22</sup> Ritchie Specs

<http://www.ritchiespecs.com/specification?type=Agriculture&category=4WD+Tractor&make=Kubota&model=M8200+Narrow+ROPS&modelid=99978>





*Holder snow ploughs clearing Ottawa sidewalks. Note how closely operator (on the right) has ploughed a path very close to tree and signpost*



*Front and rear views of the Kubota M8200 Narrow tractor (without a plough blade attachment)*

In tight environments where sidewalk widths are less than 1.5m wide, ploughs may be used; or where obstructions such as utility poles, fixed benches and trees guards exist, Ottawa crews may operate a snowblower with a maximum width of 1.27m (50 inches).

## **MONTREAL**

Winter operations are less centralized in Montreal than in other cities, and practices vary in each of the city's 19 boroughs. The majority of sidewalks are mechanically cleared, including narrow ones in Old Montreal. Montreal exemplifies the complete streets approach, as applied to winter maintenance.

*[Their] streets are cleared of snow completely all at once. The city can enforce a temporary "no parking" policy along important streets designated as "snow routes", giving notice for cars to be cleared, and then the city goes in with road and sidewalk ploughs at once, followed by those massive snow-blowers dumping the piles into trucks to be taken away*<sup>23</sup>

## **BURLINGTON**

The City of Burlington clears snow off of all sidewalks, though it is unclear how it deals with a very small number of sidewalks that its ploughs are too large for.

*The city currently provides winter control services to 18.5 kilometres of multi-use pathway, and a limited number of pathways located within the park network. These services are delivered through internal resources.*

*The city's sidewalks are grouped similarly to road classifications, in order to define appropriate levels of service. The sidewalk classifications are:*

- *Primary (major arterial sidewalks - 210 kilometres, including 65 kilometres of curb face);*
- *Secondary (primarily residential collector sidewalks - 230 kilometres, including 20 kilometres of curb face); and*
- *Local (majority of residential sidewalks - 320 kilometres, including 60 kilometres of curb face).*

*The city currently provides winter control services to all sidewalks. Snow ploughing is delivered through a combination of internal and contracted resources. Salting and sanding is provided by in-house resources only.*

*Typically found in older neighbourhoods, narrow sidewalks present challenges associated with turf and property damage. While the city does operate two narrow sidewalk ploughs, some sidewalks are simply too narrow to accommodate any equipment available in the marketplace.<sup>24</sup>*

## **STRATFORD**

The City of Stratford is located in Ontario's snow belt, and undertakes not only the ploughing of all sidewalks, but also snow removal on a limited basis:

*The City has increased the amount of snow blown into trucks, partially due to road design, with curb face sidewalk and narrow boulevard that requires removal and based on complaints with respect to concerns related to blowing snow onto frontages. The sidewalk snow plowing level of service increased by adding a plow route in 2002 which was approved by Council. Weekend sidewalk plowing of main sidewalk was also directed at*

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<sup>23</sup> Dylan Reid, "Clearing the Snow for Pedestrians". *Spacing Toronto*. Feb. 3, 2008

<sup>24</sup> City of Burlington Roads and Parks Maintenance Department, "Winter Control Workshop" (June 3, 2011)

*this time. The level of service is currently to plow all sidewalks until cleared. Overtime, including weekends, is used regularly to accomplish this level of service.* <sup>25</sup>

## **LONDON**

*The City provides a sidewalk snow removal service using mechanical equipment. Sidewalks are cleared to a snow packed condition, but the equipment does not allow for clearing down to the bare pavement. Sidewalk plows, because of the way they operate, will often leave sidewalks with a layer of 'snowpack'. In the downtown core the merchants are required to clear the sidewalk fronting their business.* <sup>26</sup>

*The maximum allowable accumulation of fresh snow is 8cm. Continuous sanding shall not be completed except under conditions of freezing rain or generally slippery conditions. Sidewalks adjacent to major roads and bus routes are ploughed first and then followed by local streets. Ploughing shall be completed 24 hours after the snowfall ends.* <sup>27</sup>



*A city employee ploughs a sidewalk on Viscount Rd., London* <sup>28</sup>

## **HALIFAX**

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<sup>25</sup> City of Stratford. *High Level Core Service Review. Engineering and Public Works* (BMA Management Consulting, Inc.) p. 13

<sup>26</sup> City of London Winter Maintenance webpage (Dec. 02, 2013)

<http://www.london.ca/residents/Roads-Transportation/Road-Maintenance/Pages/Snow-Removal.aspx>

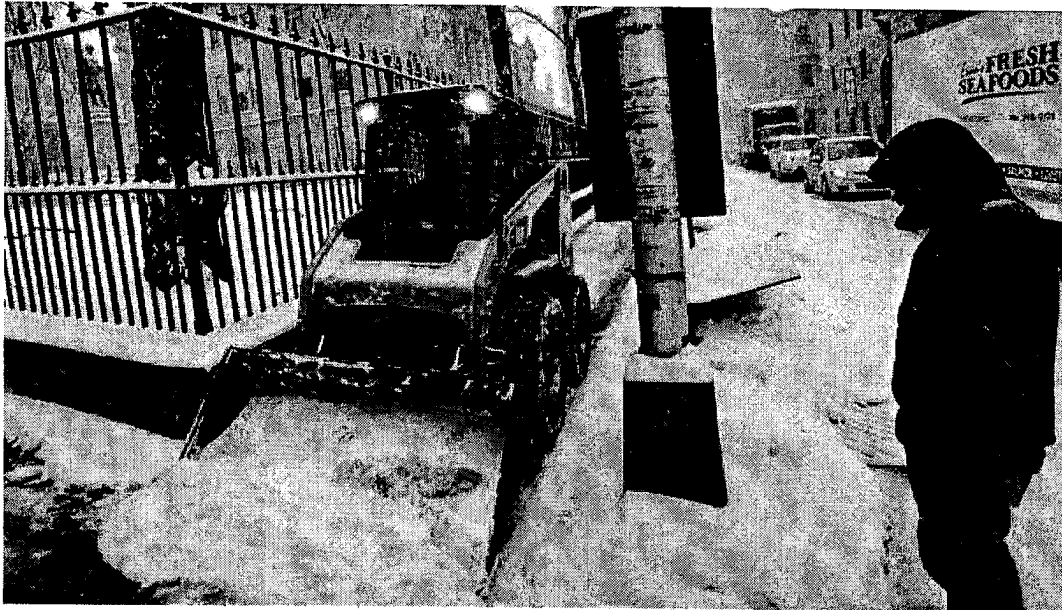
<sup>27</sup> London Roads and Transportation Department, staff report. "Service Level – Winter Sidewalk Maintenance" (Nov.2009) p. 1- 2

<http://council.london.ca/meetings/Archives/Agendas/Environment%20and%20Transportation%20Committee%20Agendas/ETC%20Agendas%202009/2009-11-16%20Agenda/Item%2011.pdf>

<sup>28</sup> London Free Press, Nov. 26, 2013

<http://www.lfpress.com/2013/11/26/the-thumb-is-mightier-than-the-phone-when-summoning-city-snow-clearing-muscle>

In 2013 the Halifax area extended sidewalk snow clearing service to all parts of the municipality. The transition has not been painless. Contractors maintain 950 km. of sidewalks, many using ploughs with 1.5 m. blades and buckets that have caused occasional damage to abutting property.<sup>29</sup> The lesson to be learned from Halifax is that a municipality should specify in an RFP that compact equipment be used.



*Kubota R420S in tight quarters outside Province House, Halifax<sup>30</sup>*

## VANCOUVER

The City of Vancouver has off-loaded responsibility for clearing sidewalks onto local residents. Although its average snowfall totals are the lowest of any major Canadian city, it imposes some of the highest fines for residents and businesses who fail to live up to their winter maintenance obligations. **Repeat offenders face maximum fines of \$2,000.** This is an effective – if overly Draconian – means of keeping sidewalks shovelled.<sup>31</sup>

## EDMONTON

Edmonton also expects residents and businesses to clear sidewalks that abut their properties, but it takes a kinder approach. Because salt is not effective in the kind of extreme cold that

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<sup>29</sup> Chronicle Herald, "Sidewalk Monsters' Damage Irksome", Feb. 7, 2014

<http://thechronicleherald.ca/metro/1196721-sidewalk-plows-failed-experiment>

<sup>30</sup> Chronicle Herald, Feb. 7, 2014

<http://thechronicleherald.ca/opinion/1185271-lowe-sidewalk-monsters-damage-irksome?from=slidebox&slidebox=title>

<sup>31</sup> CBC News. Vancouver rolls out big fines for uncleared sidewalks (Dec. 3, 2013)

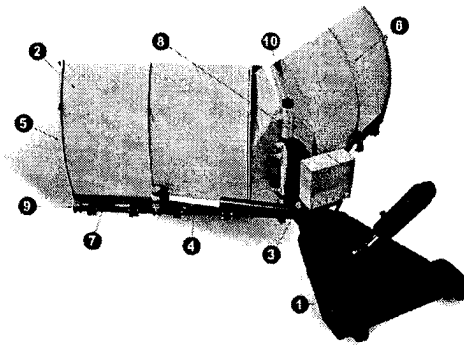
<http://www.cbc.ca/news/canada/british-columbia/vancouver-rolls-out-big-fines-for-uncleared-sidewalks-1.2449003>

dominates Edmonton's winters, the city makes sand available at no cost to citizens, who can pick up supplies at various distribution points throughout the city.<sup>32</sup>

## OAKVILLE

*Sidewalks are cleared only after snow accumulates in excess of five centimetres, and only after roads are cleared. Sidewalks located on primary and secondary roads with schools are plowed first, followed by residential sidewalks. Sidewalk salting and sanding is done only on primary and secondary sidewalks when extremely slippery conditions exist.*<sup>33</sup>

Ploughs can be outfitted with adjustable V-shaped blades, which can fold and narrow the lateral profile of the blade. Oakville, for example, makes use of the Machinability 5V35 Vee Plow<sup>34</sup>, retractable to 1.22 m (48 inches) in width.<sup>35</sup> This is considerably narrower than the 1.5 m limit that Toronto imposes.



*The Machinability 5V35 V-blade in action on a residential street in Oakville (left) and a rear view of the detached blade (right)*

## TORONTO

It is the intention of the City of Toronto to stipulate in forthcoming RFP that contractors equip their ploughs with both straight and V-blade attachments. Below is a photo of Myles Currie, of Transportation Services, inspecting a V-plough with Councillor Glenn de Baeremaeker. Unfortunately, there does not seem to be any great willingness to deploy this compact model on downtown residential streets. Toronto also makes use of snowblowers, but not to any great extent.

Narrow-gauge equipment can be readily purchased in Toronto. For example, the Kubota M7040DTNHC tractor<sup>36</sup> is popular with local municipalities for sidewalk use because its maximum width is 1.22m (48 inches). The photo to the right shows the tractor outfitted with a

<sup>32</sup> City of Edmonton. "Sidewalk Snow Removal"

[http://www.edmonton.ca/bylaws\\_licences/SnowRemoval\\_Brochure\\_Final.pdf](http://www.edmonton.ca/bylaws_licences/SnowRemoval_Brochure_Final.pdf)

<sup>33</sup> Oakville Snow Clearing webpage <http://www.oakville.ca/residents/snow-clearing.html>

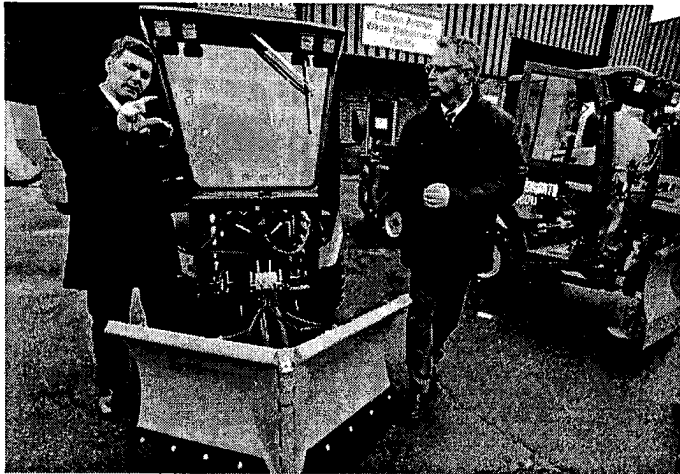
<sup>34</sup> Machinability website: <http://www.machinability.com/V35TripEdgeVPlow.htm>

<sup>35</sup> YouTube video <https://www.youtube.com/watch?v=rRSQtco18Oo>

<sup>36</sup> Kubota product page:

<http://kubota.ca/en/productdetail.aspx?trail=0%7C30%7C40%7C203%7C347&prodid=359#tab=2>

Kanlan folding V-blade attachment<sup>37</sup>, which can be configured to a width of only 1.12m (44 inches). Obviously, this equipment will comfortably operate in conditions considerably tighter than the 1.5m that the City of Toronto holds as the minimum space necessary for mechanical ploughs.



*Left: Sidewalk ploughs at Toronto's Eastern Avenue Winter Maintenance Facility<sup>38</sup>  
Right: a Kubota M7040DTNHC for sale outside the entrance of a local dealer<sup>39</sup>*

Toronto's mechanical equipment fleet already includes 210 units dedicated to sidewalk clearing.<sup>40</sup> The Ontario Good Roads Association cites the average length of a plough "beat" in Toronto as 35 km. Typically, it may require an operator 13 hours to complete a beat.<sup>41</sup> On this basis, we estimate that it would be necessary for contractors to acquire an additional 31 mechanical ploughs in order to meet the requirements imposed by a comprehensive sidewalk winter maintenance policy. If each tandem plough unit costs \$80,000, the total acquisition cost would be \$2,480,000 or \$354,285 (plus interest) for each year of the contract.

<sup>37</sup> McClean Engineering product page:

[http://www.mcleanengineering.com/KANLAN/Products/Utility/M7040\\_Narrow/KubotaM7040\\_FoldingV.php](http://www.mcleanengineering.com/KANLAN/Products/Utility/M7040_Narrow/KubotaM7040_FoldingV.php)

<sup>38</sup> Toronto Star, Nov. 27, 2009

[http://www.thestar.com/news/gta/2009/11/27/first\\_snowfree\\_november\\_since\\_1937\\_draws\\_closer.html](http://www.thestar.com/news/gta/2009/11/27/first_snowfree_november_since_1937_draws_closer.html)

<sup>39</sup> The price of this unit with a V-blade (but without a salt spreader attachment or a straight blade) is about \$60,000 <http://kooybros.com/products/71hp-kubota-m7040dtnhc-certified-rops-cab-toronto-ontario>

<sup>40</sup> "Confirmation of Levels of Service for Roadway and Roadside Winter Maintenance Services".

Transportation Services staff report. Oct. 28, 2013

<sup>41</sup> "Life is not a gravy train for 'elitists' of downtown Toronto who shovel their own snow" *The Globe and Mail* (Jan. 17, 2011)

## MECHANICAL CLEARING ELIGIBILITY CRITERIA

The TS Report <sup>42</sup> enumerates six criteria that TS uses in determining the eligibility of a sidewalk to receive mechanical clearing. As far as we are aware, these criteria have been devised by Toronto's TS staff rather than being derived from a regulatory body. It is worth repeating that the amendment passed by Council at its Dec. 16, 2013 meeting did not specify that these criteria should be used in determining which streets should be cleared; indeed the amendment did not even differentiate between mechanical and manual clearing.

Below, the six criteria are quoted, each accompanied by comments about its soundness. References are made to practices in other cities that address problems raised by the criteria. We feel that there is a variety of opinion amongst roads department staff across Canada, and that in some quarters these criteria carry less weight than in Toronto.

### CURB-FACE SIDEWALKS

#### **1. *No monolithic sidewalk (sidewalk cannot be adjacent to street) in combination with on-street parking***

The lack of boulevard should never be an obstacle for sidewalk ploughing. Almost all arterial and collector roads have some boulevard space. When property owners clear their sidewalk, they have to put the snow somewhere, and it will go in the same place as it would if it was ploughed – on the shared edge between the road and the sidewalk.

This is how the City of Burlington deals with lack of snow storage space on residential streets:

*Curb face sidewalks are located across all sidewalk classifications but primarily found within residential neighbourhoods. This configuration results in a large portion of snow cleared from the roadway being placed on the sidewalk. As a result, curb face sidewalks generally take longer to clear and, with no boulevard available for snow storage, the snow is stored along the curb resulting in narrower roads.*

*Many bus stops are located within road allowances that front or flank residential properties. Ideally, snow is deposited on the boulevard adjacent to the stop. However, some locations are without a boulevard and the snow must be deposited on the homeowner side of the sidewalk. Operators endeavour to minimize this wherever possible.<sup>43</sup>*

A compromise solution to storage problems created by on-street parking would be to plough only the sidewalk on the side of the street that is away from parked cars. The City of Ottawa is able to clear both sides of roads with on-street parking by periodically ploughing opposite sides of the street. Sandwich boards are placed on the road, instructing motorists to move their cars to the other side of the street on selected nights when snow ploughs are coming through.

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<sup>42</sup> TS Report, p. 6

<sup>43</sup> City of Burlington Roads and Parks Maintenance Department, "Winter Control Workshop" (June 3, 2011) p. 9, 15

It should also be noted that the public right-of-way on many of Toronto's streets extends past the sidewalk, towards private property. This strip can be freely used to store snow without any legal consequences.

Concerns are sometimes raised about parked cars being damaged by the operation of ploughs. It must be realized that winter maintenance also causes extensive harm to road surfaces, which has to be repaired after the winter season is over. This is part of the cost of doing business, and car damage should be viewed in the same light. In other cities, it is routine for property owners to be compensated for losses due to winter maintenance operations. Cars can be repaired; humans do not always fully recover from ice-caused slip and fall accidents.

## **MINIMUM STREET WIDTH**

### **2. Street must be greater than 8m in width (to allow for on-street snow storage)**

If we must plough sidewalks selectively, one of the chief criteria should be pedestrian traffic volumes, not street width. While a direct correlation usually exists between street width and motor vehicle traffic volumes, this isn't necessarily the case with pedestrian traffic – which can be high in older, walkable neighbourhoods notable for their narrow streets, lanes and alleys.

If the rationale for not ploughing narrow streets is lack of snow storage space, then where are residents supposed to put shovelled snow? One suspects that it could be in their front yards. Should this be the case, the City could operate snow blowers instead of ploughs, and direct the snow to yards.

The City of London, which is located within the snow belt, addresses snow storage issues effectively:

*When the amount of snow is so great that plowing is no longer effective, blower attachments are often used. This method takes longer and costs more.<sup>44</sup>*

Stored snow may contain salt, grit, garbage and other debris which will be deposited on a lawn after melting has occurred. If lawyers argue that the City has no right to cast snow onto private property, then by the same token, it has no right to compel property owners to store on their lawns snow that originates from the public right-of-way.

The most decisive method of solving snow storage problems once and for all is not to store it but to undertake **snow removal**. This is usually accomplished by transporting snow to snow dump sites by truck. Alternatively, large snow melting machines can be employed in situ. For either method, Toronto currently has limited capabilities. At certain targeted locations where snow storage solutions are not viable, it may be worthwhile to remove snow.

## **MINIMUM SIDEWALK WIDTH**

### **3. Sidewalk must be greater than 1.5m in width.**

This criterion is based on the fact that conventional sidewalk ploughs are often fitted with blades measuring approximately 1.5m (or 5 feet). Our best practices survey, however, reveals that

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<sup>44</sup> City of London Winter Maintenance webpage (Dec. 02, 2013)  
<http://www.london.ca/residents/Roads-Transportation/Road-Maintenance/Pages/Snow-Removal.aspx>



many cities have acquired special narrow-design tractors and plough blades that can be configured to widths in the range of 1.09m to 1.27m. It is also possible to use compact hand-operated snowblowers in pedestrian environments with exceptionally tight physical constraints. In most situations, these would obviate the need for manual shovelling, which is inefficient.

In the TS Report, it is tacitly acknowledged that ploughs with blades narrower than 1.5m may be deployed. The purpose of a generous 1.5m sidewalk width guideline seems to be to provide a buffer that will

*provide adequate clearance for sidewalk plows to manoeuvre around obstacles, provide tolerance for uneven sidewalk and minimize sod damage.*<sup>45</sup>

In an ideal world, respecting these concerns would be laudable. Nevertheless, the benefits that a 1.5m buffer brings are fairly minor compared to the advantages that a narrower guideline would confer.

- We hear comments from other cities that on narrow sidewalks mechanical plough operators can indeed manoeuvre around most obstacles, providing that they slow down and exercise proper care
- Sidewalk sections that are uneven in grade may be dealt with by slightly raising the plough blade height setting
- Sod damage commonly occurs as a result of sidewalk ploughing in residential areas. Equally common are procedures that contractors have in place to effect repairs in the spring

We conclude that none of the above problems are insurmountable. In comparison, failure to lower the 1.5m width guideline will result in hundreds of kilometres of sidewalk not being mechanically ploughed. Our ultimate goal is comprehensive sidewalk maintenance, and we'll tolerate a little sod damage if it means fewer broken hips.

We see no reason why the City of Toronto cannot specify narrow equipment in the RFP for the 2015 contracts. This would require TS to eliminate the 1.5m guideline (which does not exist in cities like Ottawa).

We should also note that if appropriate, compact mechanical snow clearing equipment is used, it can actually be easier to clear a narrow sidewalk as opposed to a really wide sidewalk. The reason is that an unobstructed narrow sidewalk can be ploughed in a straight single pass, whereas wide sidewalks must be negotiated in several passes, the plough often following a serpentine course in order to steer around street furniture, planters, transit shelters and other obstacles.

## **OBSTRUCTIONS**

***4. No obstructions such as utility poles, planters, retaining walls immediately adjacent to or within the sidewalk that would create significant potential for damage or an operating safety concern for the equipment operator or the public.***

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<sup>45</sup> p. 8

When obstructions like newspaper boxes, oversized planters, A-frame signs, stalls and patios make a narrow sidewalk difficult to clear even for a compact snow plough, it begs the question whether we should be allowing these impediments to accumulate in the first place. If they are making it difficult for plough operators to do their job in the winter, then chances are the obstructions are having a negative effect constricting the pedestrian clearway in the summer as well. The obvious solution is to move or remove the source of the problem. City of Toronto guidelines recommend that pedestrian clearway be 2.1m wide. Where physical constraints make this difficult to achieve, at least 1.7m should be secured. In rare and extreme cases, the clearway's minimum width may be reduced to not less than 1.525m – which is still happens to be wider than the sidewalk minimum set for mechanical snow clearing.<sup>46</sup>

Obviously, sidewalk obstructions are not just a concern in the winter months. We should be doing our utmost to ensure that sidewalk clearways exceed 1.5m in width, in order to ensure problem-free passage of pedestrians and maintenance equipment in all four seasons.

Maintaining an unobstructed clearway should be a particularly important factor in street furniture placement decisions. The National Guide to Sustainable Municipal Infrastructure makes two recommendations for minimizing obstructions:

*Street furniture, such as benches, should be removed during the winter months where possible. It is also important to identify any driveway retaining walls or other objects that the property owner may have recently constructed within 300 mm to 500 mm of a back edge of the sidewalk. If these objects conflict with municipal snowplowing operations, it is recommended that the municipality discuss the issue with the property owner and ask the property owner to remove any obstructions within the public right-of-way.*<sup>47</sup>

The City of Burlington seeks residents' cooperation in removing impediments from the path of ploughs:

*All decorative items that abut sidewalks and curbs should be placed flush with the ground and a minimum of 300 mm or 12" away from the edge of the curb or sidewalk. This will help reduce the chance of damage to property or snow removal equipment, and injury to operators. The City is not responsible for damage to decorative items located within the road allowance.*<sup>48</sup>

## CONTIGUITY

### **5. Street must be part of a contiguous area where the service can be delivered.**

One of the chief advantages to a comprehensive approach to sidewalk snow clearing is that it is all-embracing. Whereas bike lanes sometimes exist in isolation, almost all of the sidewalk network is properly connected. As a result, network-wide winter maintenance eliminates problems associated with lack of contiguity.

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<sup>46</sup> *Vibrant Streets. Toronto's Coordinated Street Furniture Program. Design and Policy Guidelines* (Updated 2012) p. 29

<sup>47</sup> "Sidewalk Design, Construction and Maintenance" (2004) p.28

[http://www.fcm.ca/Documents/reports/InfraGuide/Sidewalk\\_Design\\_Constructionand\\_Maintenance\\_EN.pdf](http://www.fcm.ca/Documents/reports/InfraGuide/Sidewalk_Design_Constructionand_Maintenance_EN.pdf)

<sup>48</sup> City of Burlington Services webpage: <http://cms.burlington.ca/Page248.aspx>

## LANEWAYS

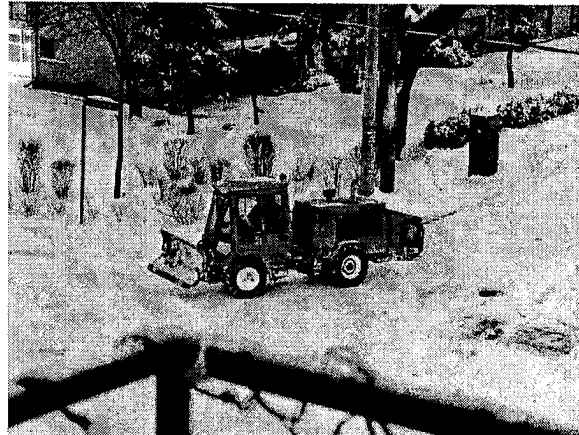
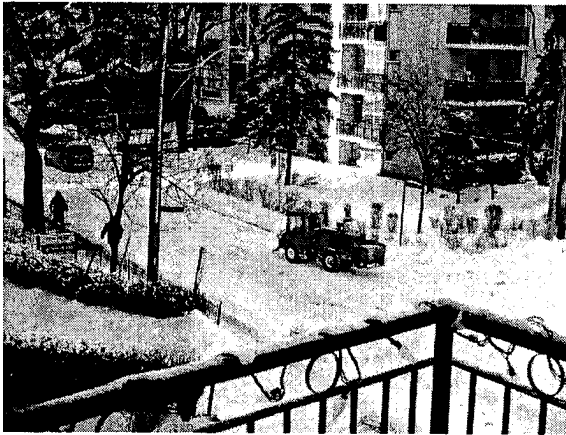
**6. Service will not be provided wherever the municipal address fronts onto a laneway.**

Laneways tend to be ranked among the lowest priorities in snow clearing plans. However, a laneway may function as the most direct route for pedestrians. Service should be provided for laneways that receive medium to high volumes of foot traffic.

## FINANCIAL CONSIDERATIONS

### CONTINUITY

The City of Toronto currently pays for the clearing of isolated sections of sidewalk as part of the seniors and disabled program, as well as along certain important arterials, near publicly owned buildings, transit stops, and in some parks. Maintenance crews tend to “touch down” at these isolated targets. As often as not, locations are not contiguous, making it difficult for winter operations staff to organize efficient “beats” for plough operators to follow. The adoption of a comprehensive sidewalk winter maintenance program would largely eliminate contiguity problems. Even though the linear kilometres of sidewalk clearing would be increased, actual plough routes would be much more efficient than the current operational patchwork.



*Plough travelling south on snow-covered Lawton Blvd. with its blade up, heading to its next assignment. It has just cleared a path in Oriole Park, and it is ignoring the sidewalks on a collector street lined with apartment buildings that many pedestrians use to walk to the subway.*

## SLIP AND FALL CLAIMS

According to the City of Toronto Insurance Claims disclosure for 2008-2012, total insurance payments (paid and outstanding)<sup>49</sup> by the City of Toronto for claims resulting from slips and falls on icy sidewalks range from \$7,242,000 in 2012 (for 273 claims) to an astonishing \$19,558,000 in 2008 (for 574 paid and outstanding claims).<sup>50</sup> It is reasonable to suppose that instituting mechanical sidewalk clearing on all sidewalks would reduce the number of these claims, saving the City a considerable amount of money (possibly enough to cover the costs of additional mechanical ploughing). It might also improve the City's legal standing in the face of other claims, as they "must demonstrate the City's gross negligence or a complete disregard for its maintenance obligations." Finally, of course, a reduction in claims would be the consequence of fewer citizens suffering serious injuries, a worthwhile goal in itself.

## WHEEL-TRANS

We suspect that some individuals with mobility impairments currently use Wheel-Trans services more intensively than would be the case if Toronto's sidewalks were better maintained in the winter. In 2012, the cost of operating Wheel-Trans was close to \$67 million, or \$31 per ride.<sup>51</sup> Even a slight reduction in usage would save the City a great deal of money.

## MISCELLANEOUS COSTS

The alternative to a comprehensive sidewalk clearing is maintaining and adding to the current patchwork of programs and stop-gaps. To make the residential shovelling system work, the City would have to spend money on:

- expanding the program to clear sidewalks for seniors and people with disabilities
- this is expensive, because the assistance program is operated on a selective basis, with work crews being dispatched to properties, which they usually clear using hand shovels
- here too crews selectively remedy specific complaints (an expensive, reactive process that patches problems that should not emerge in a well-designed pro-active system)<sup>52</sup>
- developing a new youth employment program that people going on vacation, absentee landlords, and people with temporary health issues could call on to pay to have their sidewalks cleared
- moving to active rather than passive enforcement by by-law officers cruising streets and looking for uncleared sidewalks
- hiring more by-law enforcement officers
- developing a thorough public education campaign to let people know about these measures

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<sup>49</sup> Note that the City's insurance plan has a \$5 million deductible, resulting in almost all claims being paid with taxpayers' money

<sup>50</sup> City of Toronto, INSURANCE CLAIMS INFORMATION – January 1, 2008 to December 31, 2012 Information Disclosure. Date: April 15, 2013. p. 11.

<sup>51</sup> TTC's Wheel-Trans 'unsustainable' as is, scathing auditor general report. *Toronto Sun* (Dec. 18, 2012) <http://www.torontosun.com/2012/12/18/ttcs-wheel-trans-unsustainable-as-is-scathing-auditor-general-report-says>

<sup>52</sup> In all fairness, a sample examination of complaints records in a midtown ward in the "no-plough zone" revealed that most resident complaints were resolved by TS within a day, and virtually all within the 3-day target period

In all likelihood, however, once all of these programs were in place and added to the budget, the City would discover that it could, in fact, afford to buy the necessary equipment and find ways to clear residential sidewalks in the old city mechanically. This supposition is supported by figures cited in the TS Report<sup>53</sup>. The elimination of existing local road sidewalk clearing in the suburbs would save the City \$3,750,000, an amount that would be cancelled out by the estimated cost of \$4,500,000 needed to fund the introduction of a seniors'/ disabled sidewalk clearing program in that area.

## **CITY COMPARISONS**

Although Toronto is already spending considerable amounts of money keeping an inefficient winter maintenance system running, fixing the problems – as opposed to patching them – will require extra funds. In order to put expenditures into perspective, we shall compare what the citizens of Ottawa and Montreal are paying to what we here in Toronto may have to come up with in order to “do the job right”.

### **Toronto**

The 2014 winter maintenance budget<sup>54</sup> of Toronto (with a population of 2,615,060) is \$85.7 million. This works out to \$32.77 per capita, or \$0.27 per cm annual snowfall per capita.

Costs may be broken down as follows:

- **ROADS**
  - Ploughing and driveway salting: \$42,850,000
  - Road salting: \$25,710,000
- **SIDEWALKS**
  - Sidewalk and transit stop clearing: \$17,140,000

### **Ottawa**

The 2013 winter operations budget of Ottawa<sup>55</sup> (with a population of 883,391) totalled \$69.2 million. That works out to \$78.33 per capita, or \$0.44 per cm annual snowfall per capita.

### **Montreal**

Montreal (with a population of 1,649,519) devotes \$153 million to its 2014 winter maintenance operating budget. That works out to \$92.75 per capita or \$0.44 per cm annual snowfall per capita. The amount for the 2011-12 winter was slightly lower: \$145 million. 2011-12 costs<sup>56</sup> may be broken down as follows:

- **SNOW CLEARING**
  - Salting: \$29 million
  - Ploughing: \$14.5 million
- **SNOW REMOVAL**
  - Loading: \$87 million
  - Disposal: \$14.5 million

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<sup>53</sup> p. 5

<sup>54</sup> BlogTO “By the Numbers: Snow in Toronto” (Feb. 7, 2014)

[http://www.blogto.com/city/2014/02/by\\_the\\_numbers\\_snow\\_in\\_toronto/](http://www.blogto.com/city/2014/02/by_the_numbers_snow_in_toronto/)

<sup>55</sup> The City of Ottawa receives \$332,500 from the National Capital Commission for winter maintenance associated with the interprovincial Champlain Bridge.

<sup>56</sup> City of Montreal Snow Removal Budget and Priorities webpage.

[http://ville.montreal.qc.ca/portal/page?\\_pageid=8397\\_94627581&\\_dad=portal&\\_schema=PORTAL](http://ville.montreal.qc.ca/portal/page?_pageid=8397_94627581&_dad=portal&_schema=PORTAL)

Taking snowfall levels into account, one may explain Toronto's smaller expenditures on winter maintenance as being partially due to its extremely limited reliance on snow removal – snow melters and dump trucks are expensive to operate. However, another factor is surely Toronto's reluctance to clear its narrow sidewalks. If Toronto were to spend \$10,000,000 maintaining all 1,100 km of narrow sidewalks, per capita costs would increase from \$32.77 to \$36.59, or \$0.30 per cm. annual snowfall per capita. The increase is still well below the \$0.44 per cm. annual snowfall per capita that Montreal and Ottawa are paying. These two cities are, respectively, the second and fourth largest metropolises in Canada. **If each person in Montreal and Ottawa can afford to pay 44 cents to clear one cm of snow during their winters, then a wealthy city such as Toronto should be able to afford to pay 30 cents.** On the basis of these numbers, we do not view the cost of comprehensive winter maintenance as an overriding concern.

## RECOMMENDATIONS

1. Walk Toronto's preference is that sidewalk winter maintenance standards be harmonized across the entire city. Accordingly, we recommend that:
  - a. **the entire inventory of 1,100 linear km of sidewalks that are presently not cleared of snow by the City of Toronto be cleared by the City in future winters**
    - i. **preferably using mechanical equipment**
    - ii. **where required, manual methods would also be acceptable**
2. More precise information is required regarding the types of mechanical equipment needed to clear Toronto's narrow sidewalks in a cost-effective manner. To this end, we recommend that City staff investigate best practices of other cities and report back to the Public Works and Infrastructure Committee on the following:
  - a. an evidence-based determination of the minimum sidewalk width that is possible to plough using sophisticated, narrow-gauge equipment
  - b. the most suitable types of mechanical equipment for maintaining narrow and storage-limited sidewalks
  - c. the most suitable methods for minimizing the residual 'snowpack' layer that mechanical ploughs often leave on sidewalk surfaces
  - d. non-mechanical methods of facilitating winter maintenance (e.g., parking regulation, seasonal moving of street furniture, different enforcement strategies)
  - e. the cost of maintaining **ALL** of the inventory of 1,100 km of narrow sidewalks through a combination of mechanical and/or manual means
  - f. options for **SELECTIVELY** maintaining additional sidewalks using:
    - i. criteria such as pedestrian traffic rates, priority for arterial and collector roads, proximity to transit stations, schools, etc.
    - ii. different service level options
    - iii. an incremental approach over the term of the 7-year contract

- g. consultations with the Toronto Disabilities Issues Committee in seeking a clarification of:
    - i. the City's winter maintenance requirements under the AODA
    - ii. the sidewalk winter maintenance goals of Toronto's Accessibility Plan
3. If none of the above recommendations are accepted, then at a bare minimum the following are required:
    - a. more rigorous enforcement of existing by-laws requiring residents and businesses to clear sidewalks that abut their property
    - b. the amendment of the Snow and Ice Removal by-law to require residents to clear a minimum 1.2m wide path on sidewalks that have a width of 1.5m and over
    - c. more frequent calling of snow emergencies, allowing removal of parked cars from designated snow routes during major snowfalls
    - d. the adoption of Edmonton's practice of making sand available gratis, for spreading on publicly owned sidewalks that citizens must maintain
    - e. providing a referral service of private snow-clearing services (including, for example, youth entrepreneurs), and/or developing a youth employment program for snow clearing, for property owners who are unable, as a result of extended absence, temporary illness or other reasons not related to disability, to clear snow themselves
    - f. making the program for clearing snow for seniors and people with disabilities more widely known and easier to access
    - g. annual public information campaigns, including advertising, reminding residents of their obligations and noting the assistance programs.
  4. Sidewalk winter maintenance should be coordinated with that of streets as a whole.
    - a. optimally, a sidewalk should be cleared immediately after the adjacent street lanes have been ploughed, in order to remove any snow that ploughs have pushed next to transit stops, intersections and sidewalks
    - b. particular attention should be given to clearing TTC stops, intersections, and sewer grates immediately after street ploughing
    - c. designated snow routes should be cleared of parked cars, and then cleared of snow completely (both sidewalks and roads ploughed, and snow removed) in a coordinated and timely fashion
  5. All new sidewalks built in the city should be constructed so that the City of Toronto can clear them of snow without difficulty
  6. Information should be obtained from Toronto's Corporate Finance Division relating to outstanding and paid insurance slip and fall claims for the years 2009 to the present
    - a. if possible, winter claims should be examined in order to obtain precise figures for falls caused by uncleared ice and snow in the "no-plough" zone as compared to those for suburban areas
    - b. a similar comparison should be made between Toronto slip and fall settlements and those of other cities that provide superior levels of sidewalk winter maintenance.

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