

City Owned Tree Pruning and Maintenance Strategy

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To:	Parks and Environment Committee
From:	Brenda Librecz, General Manager, Parks, Forestry and Recreation
Wards:	All
Reference Number:	

SUMMARY

The purpose of this report is to provide information about how the urban forestry work order system is managed and the approaches being taken to reduce the urban forestry tree maintenance backlog. This report also identifies and summarizes information that has been presented to document Urban Forestry's efforts towards improving key aspects of its service delivery over the past few years.

Financial Impact

There are no financial implications resulting from the adoption of this report.

DECISION HISTORY

At its meeting held on January 23, 2007, the Parks and Environment Committee received presentations from various civic officials regarding their responsibilities related to the mandate of the Parks and Environment Committee. The Parks and Environment Committee requested that among other things, the General Manager of Parks, Forestry and Recreation report to the Parks and Environment Committee on the priority strategy for tree pruning, including how staff will deal with pruning complaints from Councillors.

ISSUE BACKGROUND

Urban Forestry is responsible for the care and maintenance of trees on City streets, in public laneways, parklands and ravines. We currently have nearly 500,000 trees in our street tree inventory. Some commercial and industrial areas have street trees that are not inventoried and are rarely maintained. Few trees in parks are inventoried.

Various elements of Urban Forestry's maintenance programs have been the subject of reports in the recent past. A summary of key reports are presented below.

A report titled “Commercial Tree Removal, Replacement and Maintenance” was submitted to the Parks and Environment Committee on June 6, 2007. That report provided information about the City’s commercial street trees (trees set into the sidewalk or in a raised container), their unique benefits and maintenance requirements and steps needed to ensure that the City’s 15,000 commercial trees have an adequate maintenance program.

<http://www.toronto.ca/legdocs/mmis/2007/pe/bgrd/backgroundfile-4048.pdf>

A report titled “Tree Maintenance – Planting Programs” was submitted to Economic Development and Parks Committee on September 12, 2006, to provide information about Urban Forestry’s various tree planting programs and how newly planted trees are maintained and monitored. This report outlined the increased tree planting that has occurred through various capital funded projects. The report also identified gaps between existing tree maintenance activities and best practices and the requirements for a more proactive tree maintenance program. To further build on this report, a subsequent report titled “Tree Planting” was submitted for information to the Parks and Environment Committee on July 4, 2007. That report provided an update on tree planting activities and identified resources Urban Forestry requires to accommodate the current front yard and park tree planting requests as well as to substantially expand future tree planting programs.

<http://www.toronto.ca/legdocs/2006/agendas/council/cc060925/edp6rpt/cl019.pdf>

<http://www.toronto.ca/legdocs/mmis/2007/pe/bgrd/backgroundfile-5161.pdf>

A report titled “Process to Address Tree Preservation Requirements Related to Development and Construction Applications” was submitted to the Planning and Transportation Committee on September 5, 2006, to provide information on existing and developing processes related to tree protection and development and construction applications. The report outlined steps that had been taken to improve the efficiency of reviewing development and construction applications where construction has the potential to impact trees. The report also outlined additional staff resources that would be required to enable a more timely review of applications in order to meet legislated tree protection requirements.

<http://www.toronto.ca/legdocs/2006/agendas/committees/plt/plt060905/it025.pdf>

A report titled “Control of European Gypsy Moth Outbreak in some Areas of the City of Toronto” was submitted to the Parks and Environment Committee on January 23, 2007, to provide information about the current Gypsy Moth infestation. Urban Forestry recommended re-allocation of about \$150,000.00 of its 2007 operating budget to implement a gypsy moth control program. The implication of the budget re-allocation was that about 575 fewer tree maintenance work orders were completed.

<http://www.toronto.ca/legdocs/mmis/2007/pe/bgrd/backgroundfile-721.pdf>

Urban Forestry has reported on the status of the tree maintenance backlog and reduction strategies on several occasions. A report titled “Tree Maintenance Backlog” was submitted to the Economic Development Committee on November 16, 1998. The report

identified reasons why the tree maintenance backlog existed and options for reducing the backlog and moving towards systematic tree maintenance during the winter months.

<http://www.toronto.ca/legdocs/agendas/committees/ed/ed981116/it006.htm>

A report titled “City Tree Maintenance Backlog” was submitted to the Economic Development and Parks Committee on July 12, 1999. The report discussed issues such as Forestry job classifications, crew productivity measures and options for amending crew assignments to increase flexibility when assigning work. The report also made recommendations for budget increases to reduce the backlog.

<http://www.toronto.ca/legdocs/1999/agendas/committees/edp/edp990712/it014.htm>

A report titled “Update on Urban Forestry Tree Maintenance Backlog” was submitted to the Economic Development and Parks Committee on May 15, 2000. The report provided an update on achievements in backlog reduction with funds that were provided and the number of contract crews in place.

<http://www.toronto.ca/legdocs/2000/agendas/committees/edp/edp000515/it018.pdf>

Further, a report titled “Urban Forestry Services Backlog” was submitted to Economic Development and Parks Committee on November 22, 2004, to provide information about the backlog of tree maintenance and a strategy to eliminate the backlog.

<http://www.toronto.ca/legdocs/2004/agendas/committees/edp/edp041122/agenda.pdf>

In “Our Common Grounds”, the Toronto Parks, Forestry and Recreation Strategic Plan, strategies were identified that would lead to a revitalization of the City’s parks, urban forest and recreation programs. Recommendations that were made specific to Urban Forestry included among others, that the forestry service order backlog be reduced to 3-6 months to properly sustain existing trees in streets and parks, that tree planting be increased, that the average lifespan of sidewalk trees be increased and that the use of mobile computer technology be rolled out to keep track of the urban forest.

<http://www.toronto.ca/legdocs/2004/agendas/council/cc040720/edp5rpt/cl002.pdf>

The “Parks and Recreation Service Improvement Priorities for 2005-2006” report that was submitted to the Economic Development and Parks Committee on October 7, 2004, proposed service improvement priorities as part of the first phase of the implementation strategy for “Our Common Grounds”. The report identified the new funding that would be required to implement the plan. Funding in the order of \$2.7 million and \$3.6 million in 2005 and 2006 respectively was identified for Urban Forestry to help reduce tree maintenance service delay, improve tree protection and to enhance commercial street tree maintenance. The 2005 requested funds for Reduce Tree Maintenance Service delay were added to the Urban Forestry budget over three years with the remaining 932k added to the 2007 operating budget.

<http://www.toronto.ca/legdocs/2004/agendas/council/cc041026/edp7rpt/cl007.pdf>

A report titled “Tree Hazard Abatement” has been submitted to the October 10, 2007 meeting of the Parks and Environment Committee, recommending that City Council adopt and endorse the key components of a preventative hazard tree management plan as

the City of Toronto's policy for tree hazard abatement in parks and ravines. Given current street tree service backlogs, response to public reports of hazards and risks cannot be improved using currently available operating and capital funding. The additional resource requirements to implement the hazard tree management plan will be considered within the overall 2008 Parks, Forestry and Recreation Operating and Capital Budget submission.

COMMENTS

Urban Forestry currently uses Toronto Maintenance Management System (TMMS) to manage tree maintenance services that are provided by the Parks, Forestry and Recreation Division. TMMS is a computerized, maintenance management system that provides functionality to support managerial, operational and clerical staff in a work management operation. Among other functions, TMMS enables:

- entering and assigning service requests received from the public, City staff and Councillors;
- entering, distributing and managing work orders;
- assigning and tracking work and performance;
- analyzing requests and trends in work order content;
- monitoring maintenance resources; and
- generating reports as required in support of operations.

How work is requested

The majority of requests for service (e.g., tree pruning, removal, planting, fertilizing or other maintenance) are received from the public and internal sources by telephone at 338-TREE (8733) or by email at trees@toronto.ca. These requests are received centrally by staff who log the requests as service requests in TMMS. The service requests include pertinent details that allow staff to follow up on the requests and prioritize the inspections. When a request for service is received, staff provides information to the requester about general timeframes when the requested work is expected to be completed.

Once a request is entered into TMMS, the system enables automated distribution of each service request to the appropriate operating district and staff who investigate the requests and prioritize work that is required.

How work is prioritized

With respect to tree maintenance activities, Urban Forestry's first priority is to maintain public safety. Dangerous conditions or obvious potential hazards are attended to before maintenance that is routine in nature. Regardless of the origins of the request, work is prioritized to address hazards first and then grouped by geographic area and date of requests (oldest service requests are completed first) to maximize efficient use of crews and equipment. Over and above this process, circumstances beyond our control can change the work priority (e.g. storms and severe weather conditions, work site accessibility, etc.). For example, when tree or limb failures occur - whether

spontaneously or due to storm-related events, maintaining public safety by clearing roads, sidewalks and ensuring safe access to and egress from properties is a priority. Emergency response is provided in such instances and all other tree work is set aside until all emergencies are handled. As a result of this and considering the thousands of service requests received annually, Urban Forestry cannot make commitments or promises to a service requester that work will be done by a certain date. Instead, Forestry staff provides a timeframe within which the work is expected to be completed based on periodic review and analysis of work load.

Existing service levels

Historically, requests for tree maintenance service in the spring and summer months exceed the capacity of staff to complete the service in a timely manner. Late fall and winter months typically see fewer requests and staff usually have an opportunity to reduce the backlog of outstanding requests during those months.

In the 2004 Parks, Forestry and Recreation report “Our Common Grounds,” the following facts were noted. “... In 1990, the old City of Toronto encompassed 97 square kilometres of land and spent \$12.71 per capita per year on forestry. The average Forestry staff person was responsible for maintaining the trees on 0.8 square kilometres. Since amalgamation Parks, Forestry and Recreation cares for trees across an area of 634 square kilometres. The average Forestry staff person is now responsible for the trees in 3.52 square kilometres, more than four times greater than before. In 2004, the City’s expenditure on Toronto’s Urban Forestry was \$6.20 per capita per year. Staff must manage four times the land with half the resources of 1990. This is a recipe for failure. Instead of moving forward we have fallen back. ...”

City Council acknowledged this regressive trend in tree service and responded to requests for additional budget funding. Urban Forestry received \$3.12 million of the requested \$5.324 million in its operating budgets phased in between 2005 and 2007, to reduce the tree service backlog and improve tree maintenance service.

Improvements in service provision had been made in 2006 and in the early part of 2007. In early 2007, the average wait time for inspection of a City-owned tree was between 2-12 weeks. The average wait time for tree pruning, removal or other approved arboriculture service was 12 months. Previous to this, the average wait time for inspection was 12 weeks and 18 months for arboricultural service. However, a severe storm in March and two (2) severe storms in June of this year caused a lot of damage to trees and an extremely large volume of service requests directly attributed to the storms were received by Urban Forestry. So far for this year, Urban Forestry has received over 7,700 requests for service related to City tree or branch failures. This amount of storm damage is unprecedented and further events are expected as September/October is the usual fall storm season. Over the past 3 years, Urban Forestry has received unusually high numbers of storm-related service requests and each year the number has increased. This year’s storms caused a further delay in inspections resulting in inspection wait times

of up to 16 weeks and the wait times for tree maintenance increased back up to 18 months.

With the increasing storm activity and emergency situations that result, pruning service is pushed further behind. At the same time, Urban Forestry continues to receive new requests for tree maintenance. The following table illustrates the increasing number of calls and requests generated between 2002 and 2007.

TREE MAINTENANCE SERVICE REQUESTS				
Year	No. phone Calls Received	No. Phone Calls Answered	No. Service Requests Generated	Storm Related Service Requests
2002	n/a	n/a	22,411	1,566
2003	n/a	n/a	28,471	2,035
2004	n/a	n/a	24,817	1,355
2005	n/a	n/a	26,948	4,517
2006	44,471	39,788	27,267	5,764
2007*	57,570*	35,394*	25,676*	7,739*
* 3 rd Quarter data only				

In 2007, Council also approved a plan to improve maintenance of young trees and natural area plantings. As documented in the previously referenced report titled “Tree Maintenance – Planting Programs” the average pruning cycle for our street trees is 20 years while well-established industry standards call for five (5) to seven (7) year pruning cycles. Industry standards for a proper pruning cycle for young trees include provision of three (3) services per tree in the first ten years. It is well documented that trees should be pruned when they are young to establish good form and remove small dead branches that often arise in the first year after planting. Trees planted in natural areas do not require the same level of intensive pruning as street trees since the natural competition and close proximity of trees and shrubs to each other promotes natural self pruning. It is important, however, to return to natural area planting sites to monitor and prune and remove some of the fast growing trees that are deliberately planted to quickly establish a tree canopy so that they do not overtake the site and curb the growth of the slower growing, more long-lived trees.

Funding for Phase 1 was approved in the 2007 operating budget with an additional funding request for Phase 2 and Phase 3 being submitted in 2008 and 2009 respectively. Having had a long-term average of approximately 10,000 specimen trees planted each year, the need exists now to prune 30,000 establishing trees annually. Without this program being fully funded, young trees struggle through transplant shock to become poorly established new trees with defects and problems that develop over time to be much bigger maintenance issues in the future and often never mature to their full potential.

With respect to trees in commercial areas, Urban Forestry requested and received a small budget increase of \$200,000 in 2004 to develop a tree watering program that concentrated available resources in areas where trees were not likely to be watered by the public. These included trees planted in sidewalks in the downtown core and trees in parks where irrigation does not exist.

Factors that increase tree service delays and related strategies

There are additional factors and forest health problems that increase tree maintenance requirements. Dutch elm disease continues to gradually kill American elms throughout the City. Monitoring for Asian long-horned beetle continues to add complexity to Urban Forestry's existing programs. Fall cankerworm infestations caused branch and tree dieback through the late 1990's. A large population of gypsy moth has been building since 1992 and is now in need of control. Several insects and diseases are resulting in death of minor Toronto species (e.g. butternut) or are threatening minor and dominant species including American Beech (threatened by beech bark scale), white, green and black ash (emerald ash borer), red and pin oak (sudden oak death). These factors further contribute to the current and future reduced vigour of Toronto's Urban Forest.

As redevelopment of lands has increased, so has the pressure on trees in the streetscape. Root zones are impacted by increasing size and number of building footprints, increased paving to support parking and landscaping, construction relating to utility infrastructure enhancement and replacement, construction of retaining walls to accommodate below-grade parking, road widening and new sidewalks. This increased pressure has resulted in increasing demand for tree maintenance. At the same time, Toronto has experienced below average rainfall for 9 of the past 11 years. Increased drought has compounded the problems of increased development, further increasing tree maintenance requirements.

Forestry does not have climate data reflecting storm events in Toronto, however, the amount of damage sustained by short wind bursts that have occurred through 2007 has been greater than ever before and the Weather Network reports this year as the driest in Toronto since the early 1930s.

In terms of strategies, the Urban Forestry Branch is implementing a restructuring in order to meet new program requirements as funds are provided to deal with issues outlined in various reports as detailed in the issue background section of this report. In 2005, Parks, Forestry, and Recreation commenced its restructuring to realign strategic goals and meet public expectations from "Our Common Grounds," with a new organizational plan.

One of the issues associated with the staff restructuring for Urban Forestry was the need to provide consistent arborist crew structures. The new staff structure harmonizes many job classifications and will increase the number of arborist positions by 44, and the number of inspectors by 11.

Another issue addressed by staff restructuring is the need to provide support for the protection of both City-owned and private trees. In the former structure, Urban Forestry

Planners and Assistant Forestry Planners supported private tree protection, but an equivalent structure was not in place to support City-owned trees. Through coordination of these functional groups, staff now review both City and private tree protection. Additional staff resources are required to establish securities and tree protection to ensure that City trees are protected and do not become an additional liability to operations as a result of dieback or death following construction.

In June 2006 Urban Forestry changed the reporting structure of clerical staff that perform data management and customer service. This change was made in an effort to improve efficiencies to service delivery, and to better coordinate the critical services provided by the data management staff to the public and other forestry staff. In January of this year, the data management centre operation was centralized and the public is now able to reach Urban Forestry by telephone to request service between the hours of 8:30 a.m. – 4:00 p.m. Monday to Friday. Timely updating of information in TMMS continues to be a challenge for staff due to the large volume of service requests to be managed. Having up to date information in the work management system is crucial for managing outstanding work and in efficiently determining whether service objectives are being met. Urban Forestry will continue to vigorously pursue the use of mobile computer technology in field operations as one of several options for improving data management.

The increased tree service delay of up to 18 months, the current 20-year pruning cycle, and limited care for newly planted trees demonstrates that Urban Forestry is not achieving the quality of maintenance services that would best support healthy trees and urban forest maintenance standards that residents can accept. The tree maintenance backlog continues to hinder Urban Forestry's ability to sustainably implement a best practice tree maintenance strategy that is systematic and proactive (e.g. block pruning). Without significant reductions in the maintenance backlog, Forestry's work program will continue to be reactive and complaint driven. An average response time of 3-6 months for service would be reasonable in terms of public expectation as well as from a risk management perspective. Achievement of this service level is Urban Forestry's objective. Such a target is unobtainable without increased funding as requested in various initiatives as outlined in the issue background section of this report. Urban Forestry has consistently identified the requirement for additional funds to improve tree maintenance, both in terms of reducing tree service delays and in implementing a proactive program of improved care of street trees in commercial areas and in young tree establishment care and maintenance (in residential and in natural area plantings). The 2008 Parks, Forestry and Recreation operating budget submission has included the above-noted service enhancement requests to reduce the tree maintenance backlog.

Within existing resources Urban Forestry is maximizing equipment usage and staff to provide the best possible service; however, the work load (specifically tree maintenance on streets, ravines and other parklands) is outpacing available program funds. In order to meet legislated requirements, Urban Forestry will continue to prioritize its work based on the principle of safety first and elimination of the most hazardous situations.

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SIGNATURE

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