

TORONTO'S STRATEGIC FOREST MANAGEMENT PLAN



SUSTAINING & EXPANDING THE URBAN FOREST:
TORONTO'S STRATEGIC FOREST MANAGEMENT PLAN



Parks, Forestry & Recreation
2012 - 2022

What is an Urban Forest Management Plan

- An urban forest management plan is a functional document that provides regional context, outlines current resource attributes and management practices, identifies goals and sets future direction for achieving goals.

Sections within the Plan

Section 1

Defines the urban forest and its importance.

Section 2

Outlines the 4 pillars of urban forestry and identifies stakeholders consultation

Section 3

Our vision and goals

Section 4

Policy framework including legislation, history of forest development and biophysical conditions

Section 5

Current state of our urban forest

Section 6

Key challenges

Section 7

Monitoring progress and measuring success

Link Between the Strategic Forest management Plan and the Urban Forest Service Plan

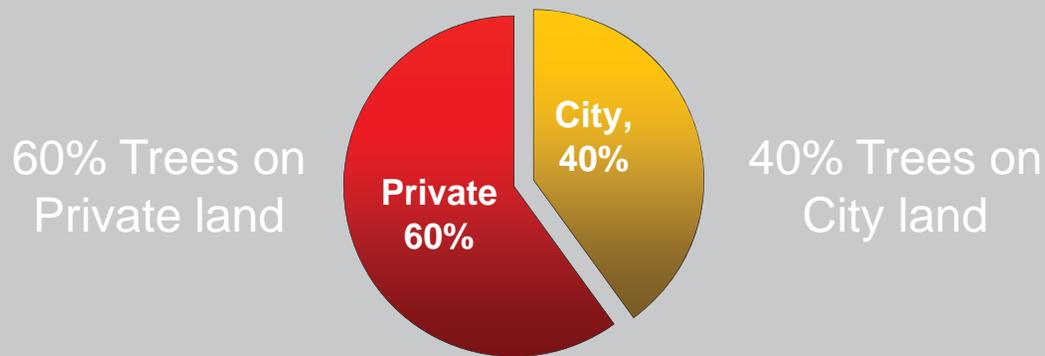
- The Management Plan is the road map to where we want to go.
- The Service Plan is the financial engine that drives the Management Plan.

Table below is from Section 7 of the plan; monitoring progress and measuring success

Criterion	Tactical Objective	Indicator	Baseline Condition (2011)	Data Source / Methodology / Responsibility	Frequency of Measurement
Urban Forest Management Plan	Maintain a publicly available strategic forest management plan	Current urban forest management plan for the city	First Plan completed in 2012	Various data sources: Urban Forestry database, i-Tree Eco, GIS.	Every 10 years
Operational Plan (Service Plan)	Annually updated operational plan (service plan)	Comprehensive operations plan with detailed components on all areas: Area Tree Maintenance, EAB, etc.	Updated each year with budget request	Approved Operating and Capital budgets	Annually

What is the Urban Forest in Toronto?

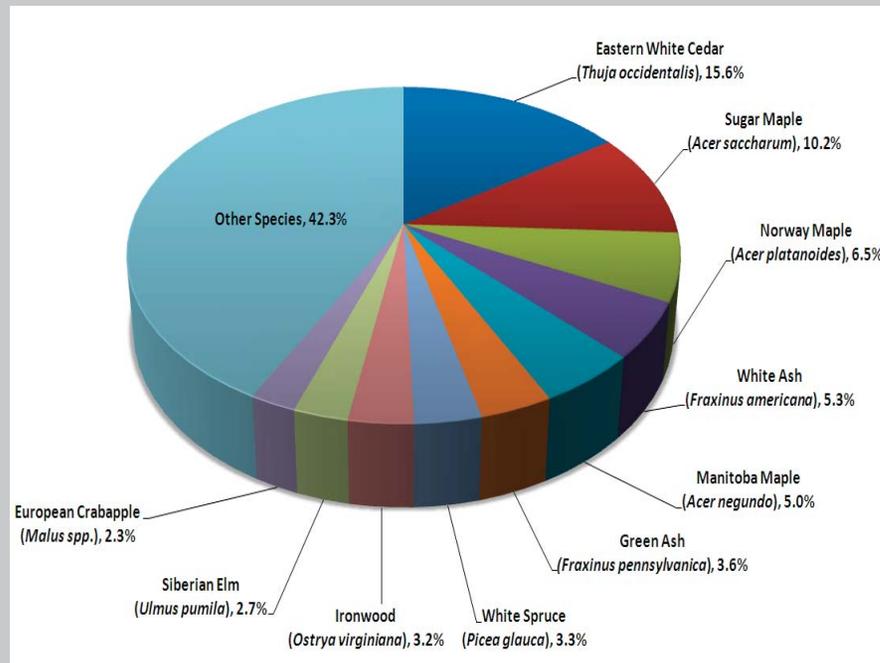
The urban forest is the population of trees, shrubs and other flora growing in an urban area.



- 10.2 million trees in Toronto with a structural asset value of \$7 Billion
- 4.1 million trees along streets and in 8,200 hectares of parks, ravines and natural areas
- 6.1 million trees on private property
- Over 116 different species of trees

Current State of the Forest

Composition of the urban forest with the 10 most common species



- Toronto has a significant population of young trees
- 68% are less than 15.2 cm in diameter
- 18% are between 15.2 cm and 30.6 cm in diameter
- 14% are greater than 30.6 cm in diameter

Existing Urban Tree Canopy (UTC)



Average tree cover by neighbourhood

Trees in commercial areas are good for business

Economic Benefits



Cool streets and homes in the summer & protection from winds in the winter (Reduced heating/cooling costs)



Trees increase property values by up to 27%

Provides 28.2 million/year in ecological services including air pollution removal, energy savings and carbon sequestration

Environmental Benefits



Trees protect soils from erosion

Provide shelter and food for a wide variety of wildlife at home in the city

Help mitigate the effects of climate change

Improve water quality



Community Benefits

- Contact with nature has been shown to lower blood pressure and cholesterol levels
 - Supports educational opportunities
- Protects us from the sun, blocking ultraviolet radiation
 - Trees improve air quality
 - Trees help to promote physical activity



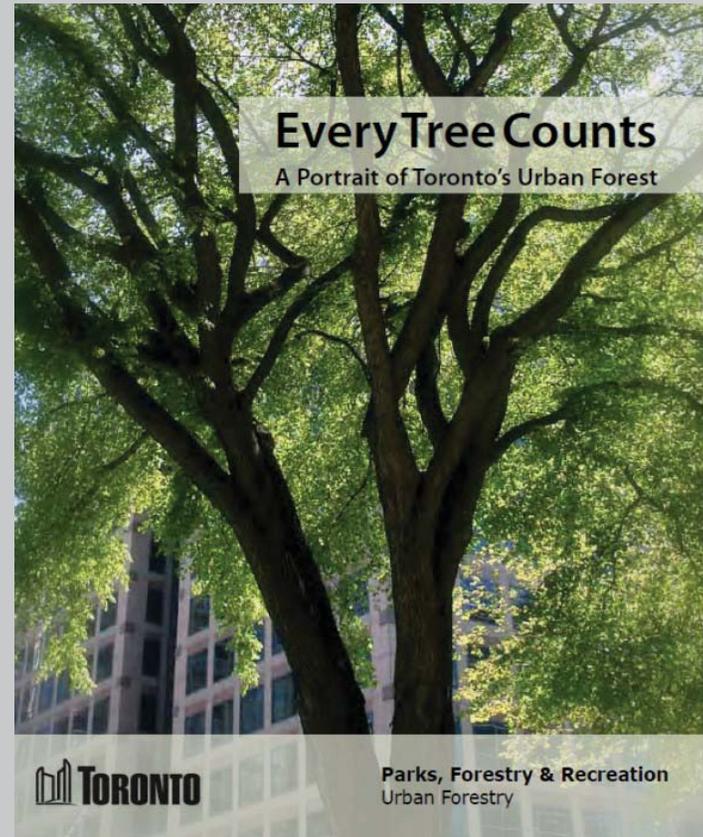
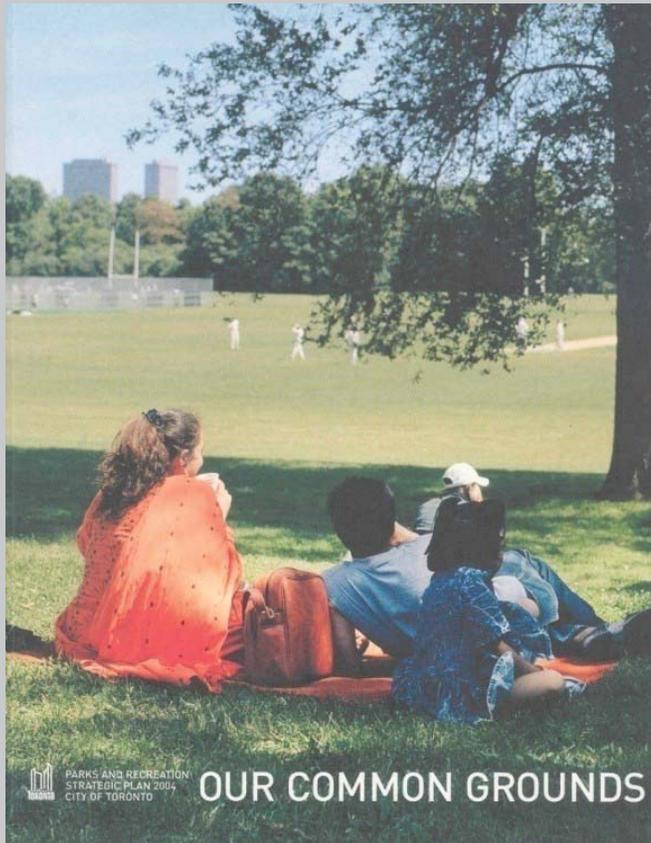
The 10-Year Vision:
A healthy and expanding urban forest, incorporating sound urban forestry practices and
community partnership

▪ **Fosters economic prosperity**

▪ **Enhances quality of life**



Background/History



- The plan continues from Our Common Ground - 2004
- Informed by the results of the tree canopy study published in Every Tree Counts: A portrait of Toronto's Urban Forest – 2010

The Strategic Urban Forest Management Plan supports council adopted environmental initiatives. Select initiatives are identified below with dates when council granted approval. Note that the shade policy and shade guidelines were approved by the board of health.

Initiative	Council Approval Date	Relevance (highlights)
Official Plan	2002 (Council) 2006 (OMB approval)	Preserve and enhance the urban forest, protect natural systems, support biodiversity and increase canopy
PFR Strategic Plan: Our Common Ground	2004	Directed that an urban forest management plan be implemented to increase canopy cover to 30%-40%
Climate Change Clean Air And Sustainable Energy Action Plan	2007	Recommendations aimed at reducing green house gas and smog causing pollutants. Affirmed council's commitment to increase tree canopy
Climate Change Adaption Strategy	2008	Acknowledge that actions to expand and maintain tree canopy will lessen effects of climate change
Original Urban Forestry Service Plan	2008	Outlines financial resources required and activities to efficiently and effectively manage, protect and sustain Toronto's urban forest
City of Toronto Shade Policy & Shade Guidelines	2007 policy 2010 guidelines (Board of Health)	Supports provision of shade which contributes to a healthier sustainable city
Toronto Green Standard	2010	Performance measures for new development that implements sustainability policies of the Official Plan
Tree By-laws (street trees, private trees & ravines and natural features)	2011 (revisions approved)	Regulatory tools to implement Official Plan policies and protect the urban forest
Revised Urban Forestry Service Plan	2012	Revised financial strategy to achieve the City's Tree Canopy goals and implement the Emerald Ash Borer strategy which was adopted as a consolidated funding plan

Strategic Goals

1. Increase Canopy Cover



0%



17%



40%



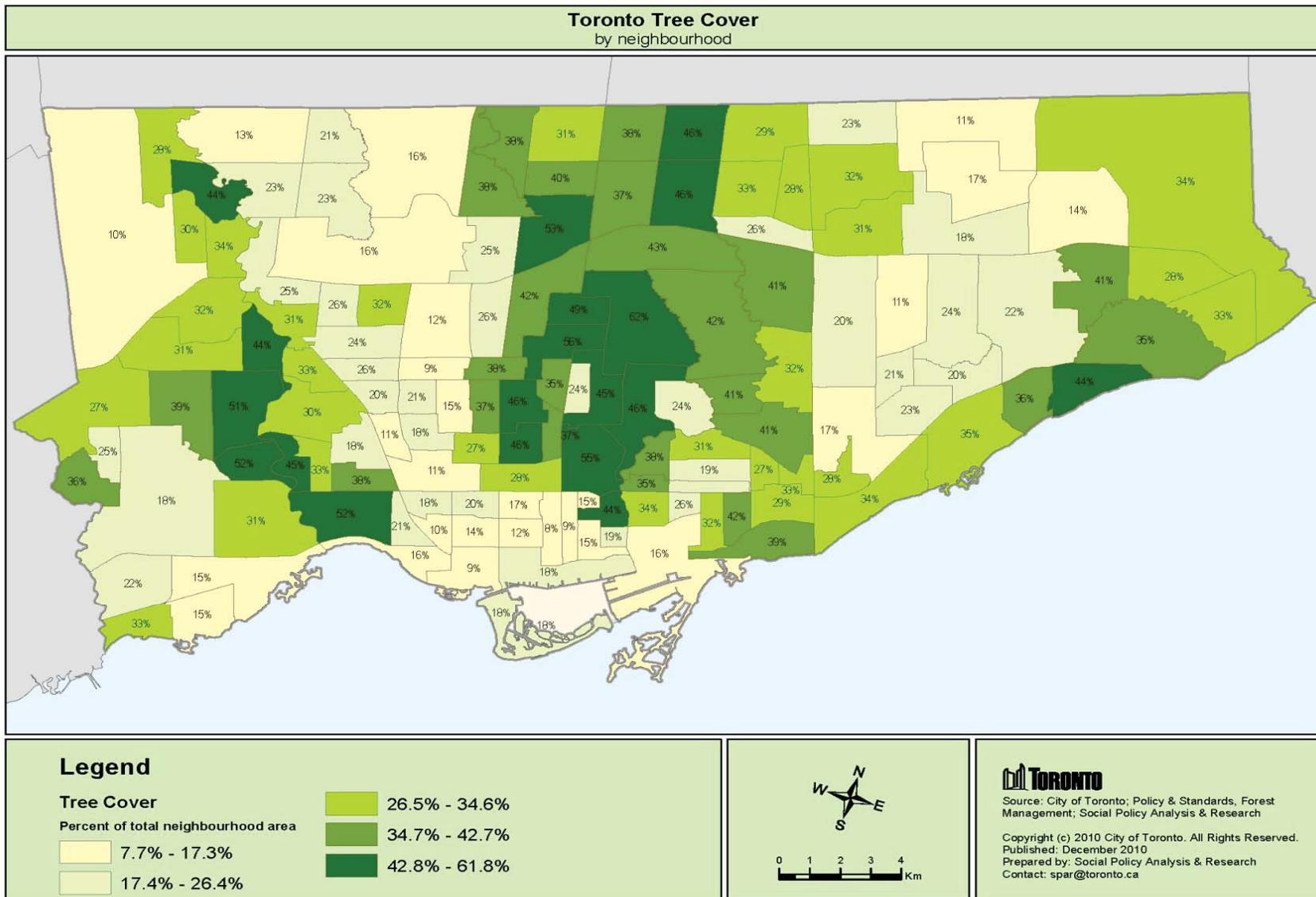
60%

Current Canopy cover 26.6% - 28%

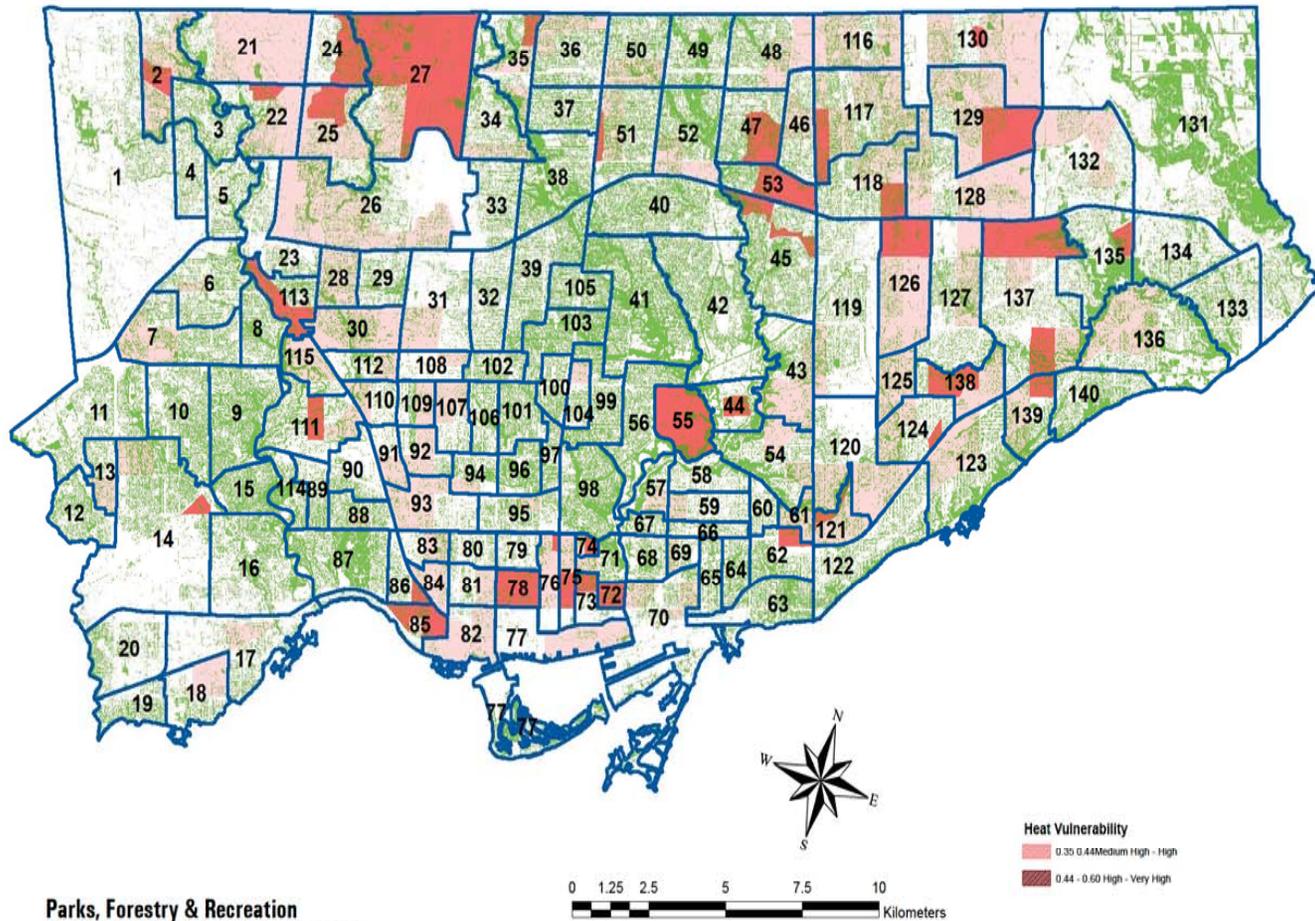
Target 40 %

Strategic Goals

2. Achieve Equitable Distribution



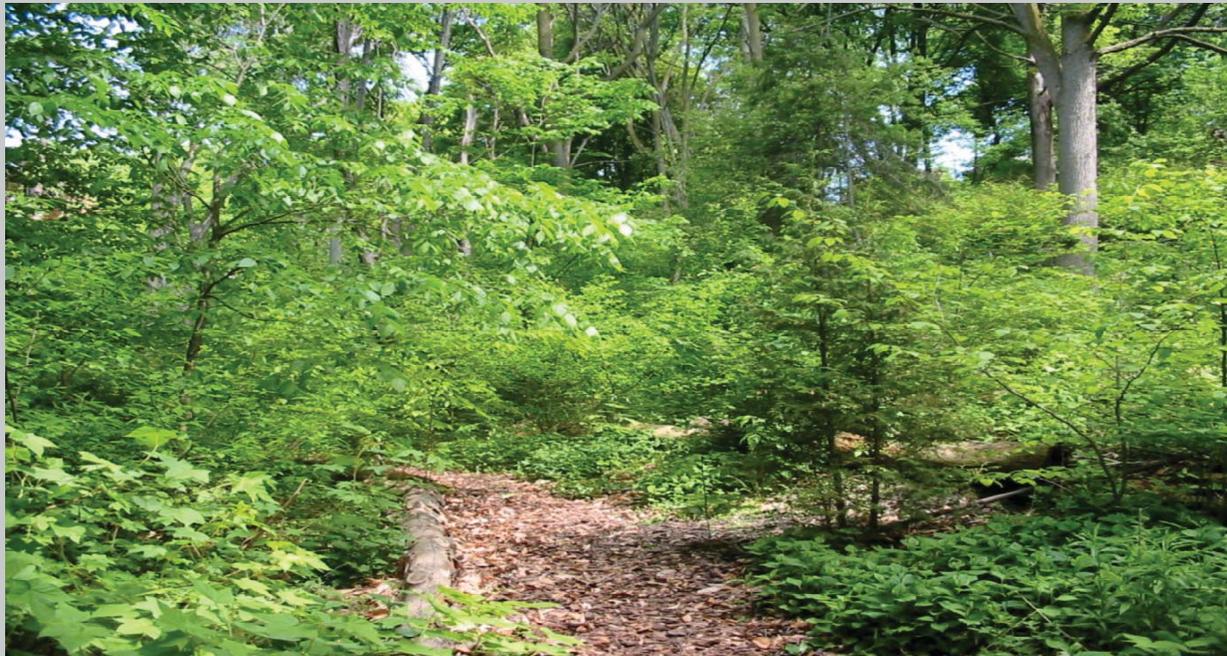
Toronto Forest Canopy & Heat Vulnerability by Neighbourhood



Strategic Goals

3. Increase Biodiversity

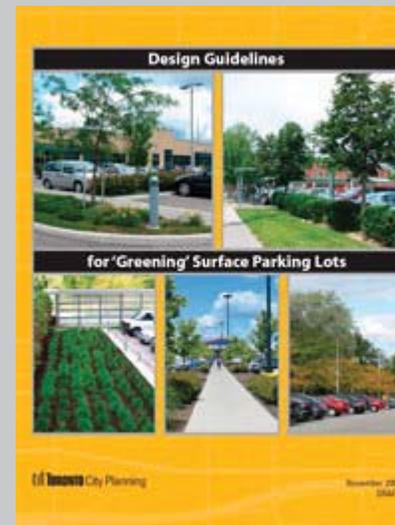
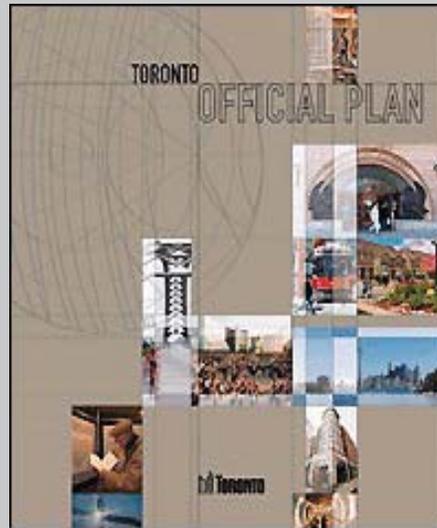
- Healthy forests are diverse forests
- Ensuring diversity helps build up resilience to climate change and pests



Strategic Goals

4. Increase Awareness

The screenshot shows the City of Toronto website's Urban Forestry Services page. The header includes the City of Toronto logo and navigation links: HOME, CONTACT US, HOW DO I...?, and SEARCH. Below the header is a menu with categories: LIVING IN TORONTO, DOING BUSINESS, VISITING TORONTO, and ACCESSING CITY HALL. The main content area is titled 'Urban Forestry Services' and includes a sidebar with links for Forest Health Care, Tree Planting, City Owned Trees, Private Trees, Ravines and Natural Features, Forestry Operations (North, South, East, West District), and Documents & Resources (By-laws & Policies, Forms, Links, FAQ). The main text area features a section titled 'Trees Need Water' with an image of a young tree and a sign that says 'Young trees always need water.' Below this is a paragraph explaining the importance of water for trees and a link to 'Learn More...'. Another section titled 'What is the Urban Forest?' includes a paragraph about Toronto's urban forest and a link to 'Learn More...'. At the bottom, there is a section titled 'Toronto's Urban Forest for now and forever!' with a paragraph about the goal of Toronto's Urban Forestry and a small image of a tree.



Tree Protection Policy and Specifications for Construction Near Trees

Urban Forestry



Strategic Goals

5. Promote Stewardship

- The engagement of residents, neighbourhoods, community groups and landowners in tree and forest stewardship is key



Strategic Goals

6. Improve Monitoring

- In order to effectively manage the city's forest resource, a comprehensive and ongoing understanding of the current state of the forest is required
- Enhancing inventory practices and improving data management systems used to store information about the urban forest, will enable forest managers to analyze and monitor change over time



How we get it done – 4 pillars of Urban Forestry



1. Maintenance



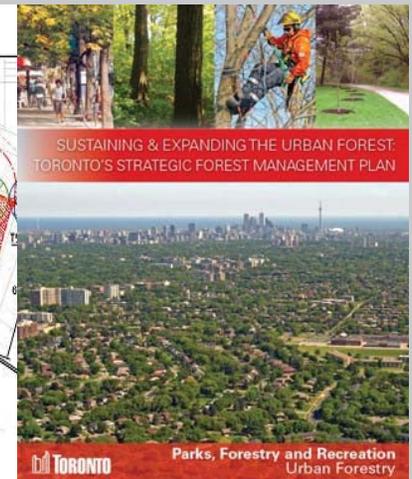
2. Planting



3. Protection



4. Planning



Examples – Tree Maintenance



Area Maintenance



Street Tree Pruning



Ravine Maintenance

Street Trees

- Individual tree pruning – reactive based, less productive
- Area maintenance – proactive based, 150% increase in service delivery

Trees in Parks and Ravines

- Dead or broken branches overhanging playgrounds, benches, etc.



Emergency Response

Examples of Planting and Urban Forest Renewal Activities



Large Tree Planting



Community Tree Planting Events



Natural Environment
Trails Initiative



Controlled Burning



Parkland Stewardship

Examples of Tree Protection & By-law Infractions

Most of the time people are unaware of the damage they are causing

- a) Storage of materials within the tree protection zone
- b) Piling excavated soil within the tree protection zone
- c) Tree Protection/Hording



Forest Policy & Planning

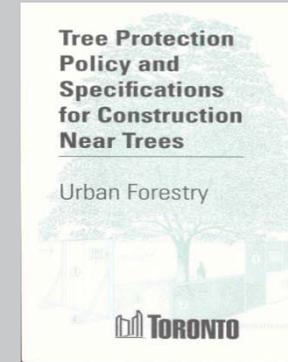
“Fail to plan – you plan to fail”

Proactive planning is far more efficient than reactive mitigation

Maintain a multi year forest management plan



Develop forest policy and standards

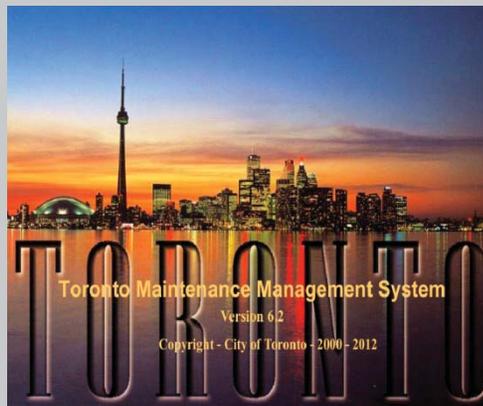


Forestry website

Design new tree planting details

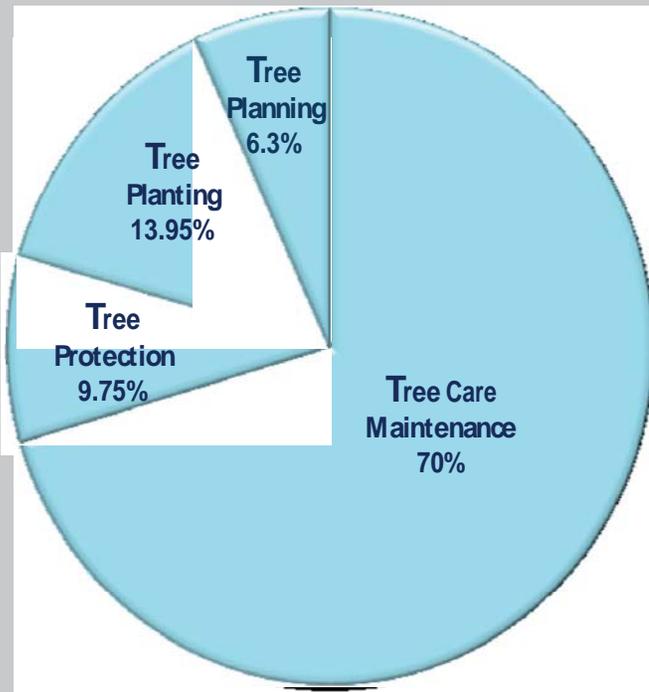


Forestry Data Management Centre



- Receive calls, enters work into the work order management system
- Control/measure performance stats

Operating Budget By Core Activity Service Delivery Outputs (\$ Millions)



Total Gross Budget - \$55.2
326 FTE's and 200 Contract Staff

Planting

- 100,000 trees on average annually
- 82% survival rate
- Average cost to plant bare root \$150/tree
- Average cost to plant large tree \$285/tree

Protection

- Over 10,000 plan reviews in 2012 under 4 by-laws:
 - Private Tree by-law
 - City Tree by-law
 - Ravine and Natural Feature by-law
 - Parks by-law
- 75% application review rate
- Average cost per file \$1068.00

Maintenance

- 438,306 Maintenance activities in 2012
- 31% increase in productivity from 2011
- Backlog for service reduced by 40% since 2007
- Average cost per tree maintained \$139.00

Service Deliverables

Efficiencies/ Operating budget

Core Services	Low	Medium	High
Bare Root Planting			\$150/Tree
Large Tree Planting			\$285/Tree
Protection		\$1,068/Plan Review	
Maintenance			
Proactive			\$139/Tree
Reactive		\$424/Tree	

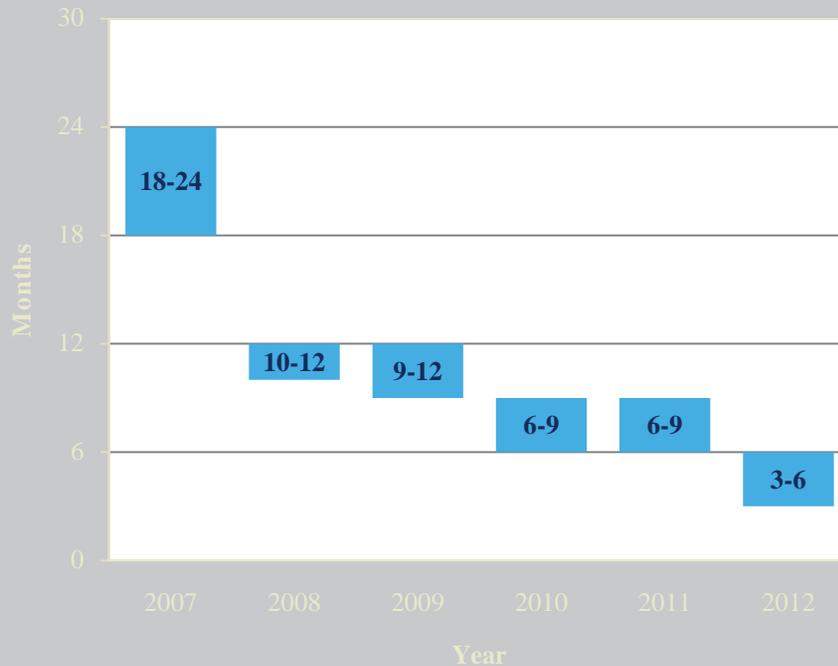
- Resources are maximized with respect to budget capability
- 40-45% of service delivery is currently outsourced

Service Outputs per Standard (Legislated/Council Mandated/Industry)

Core Services	Low	Medium	High
Planting		Currently at 26-28%	Target 40%
Protection		Currently at 75%	Target 90-100%
Maintenance			
Proactive	Currently at 20 yr cycle		Target 7 year cycle
Reactive	Currently at 6 Months		Target 3 month backlog

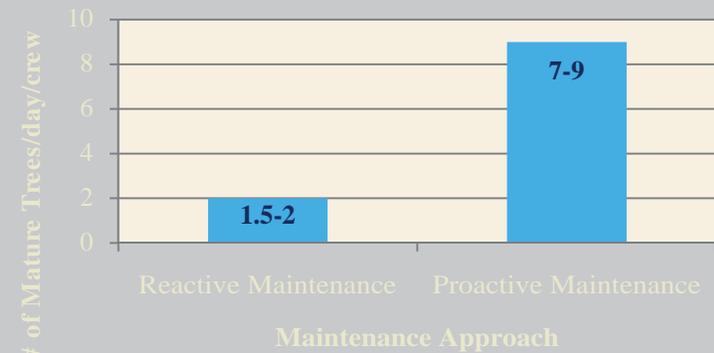
Service Plan Efficiencies Achieved

Reduced Tree Service Delay



- Area maintenance increases operational efficiency
- Wait times for tree service requests reduced by 25-40%

Increased # of Mature Trees Maintained/day/3 person crew



Increased # of Inspections and Trees Pruned



Urban Forestry Performance Measures

Performance Measure - General	2010	2011	2012 Target	2012 Actual	2012 Actual as a % of 2012 target
# of Months Tree Service Backlog	6-9 mths	6-9 mths	3-6 mths	6 mths	n/a
Total # of Service Requests	79,125	90,954	88,470	118,581	134%

Performance Measure - Consolidated	2010	2011	2012 Target	2012 Actual	2012 Actual as a % of 2012 target
Total # of Tree Removals	15,193	13,903	7,150	20,600	288%
Total # of Trees Inspected	92,888	127,519	153,771	144,594	94%
Total # of Trees Pruned	74,572	77,065	75,492	94,499	125%
Total # of Storm Clean Ups	5,966	6,800	7,000	6,936	99%
Total # of Stumps Removed	6,229	7,240	7,240	9,279	128%
Total # of Other Removal Activities	13,889	13,494	13,494	16,867	125%
Total # of General Maintenance Activities	19,320	13,204	13,204	23,181	176%
Total # of Other Core Program Activities	204	404	404	376	93%
Total # of Forest Health Care Activities	0	506	14,500	18,289	126%
Total # of Trees Permitted	5,096	4,814	4,820	5,188	108%
Total # of Trees Planted	68,526	69,135	93,678	98,497	105%
Total Consolidated	301,883	334,084	390,753	438,306	112%
Increase (%) per year - Consolidated		10.7%	17.0%	31.2%	

Urban Forest Challenges

- The Management Plan outlines 6 key challenges which require specific attention to meet our objectives.

1. Major Forest Health Threats

**Emerald Ash Borer
(EAB)**



**Asian Long-horned
Beetle (ALHB)**



Gypsy Moth



2. Tree Maintenance Requirements & Expectations

Example: Area Tree Maintenance



Before



After

3. Balancing Urbanization Impacts and Sustaining the Urban Forest



Roncesvalles Boulevard during sidewalk reconstruction and after

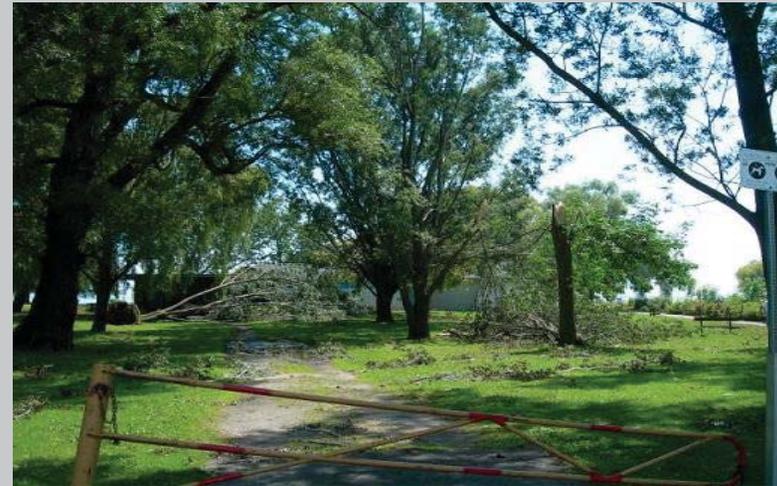


Land clearing removes good quality parent soil

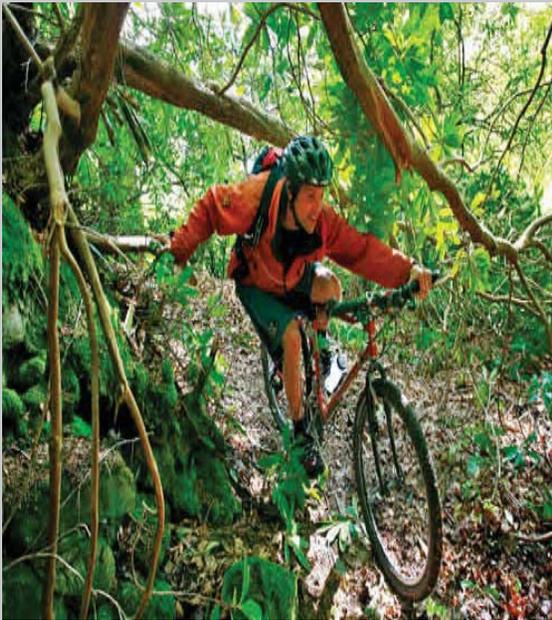


Trees help stabilize slopes and reduce erosion

4. Climate Change Impacts



5. Recreational Pressures on the Urban Forest



Biking on unsanctioned path



Erosion on unsanctioned path

6. Increasing Public Awareness of the Value & Sensitivity of the Urban Forest



The full and effective implementation of this plan requires support and cooperation of all stakeholders



The objective of maintaining a balanced and efficient approach to urban forest management is the strategic application of resources with respect to budget and defined performance measures.