Integration of Trees into Roads Policy
- the road to success -

Trees, People and the Built Environment 3
City of Birmingham, UK
April 5\textsuperscript{th}, 2017

Ian Buchanan
Natural Heritage and Forestry
Regional Municipality of York
Ontario, Canada
Presentation:

- Background – who, where...
- Historical perspective – trees and roads
- Current legislation and policy framework
- York Region street trees and streetscaping
- Street design, urbanization and making space for trees
- Key learning and messages

Investment in green infrastructure advances multiple Regional goals
Where:

York
Peel
Toronto
Durham
Halton
The Regional Municipality of York

- 9 local municipalities with cities and towns
- Population currently 1.2M
- Just north of City of Toronto
- 4,011 km of Regional Roads
- 80,000 street trees
York Region Forestry

FORESTRY TEAM 2015

Green Infrastructure
York Region Forestry – Urban Forestry

- Responsible for green infrastructure
- Capital project planning, design, review and maintenance
- Streetscaping - trees and vegetation
- 60,000 urban 20,000+ rural street trees
History of Streets ...Parks ...and Parking

• 1870 Washington DC – Congress law required 50% of width of street for trees and sidewalks

• System with roadway in the centre and parks on either side

• ‘parking’ originally referred to trees and paths along streets

• 1910 - 20’s parking of carriages and vehicles replaced the ‘parking’ of trees along the roadway edge

(Richmond 2015)
## Legislation and Policy Framework

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<td>• Municipal Act</td>
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<td>MUNICIPAL</td>
<td>• By-laws e.g. Tree cutting, Fill, Parking</td>
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<td>• Strategic Plans e.g. Regional Official Plan, Transportation Master Plan, Streetscaping Policy, Greening Strategy</td>
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Road safety legislation, policy and guidelines - duty of care

• Transportation Association of Canada promotes safe transportation in support of Canada's social and economic goals

• Guidelines, standards and best practices for transportation design and maintenance

• *Municipal Act* – e.g. Regulation for minimum maintenance standards
Road Safety – Design Guidelines

- Traffic design and travel speeds
- Lane widths and turning radii
- Pavement markings and signage
- Sidewalk and cycling separation
- Universal accessibility
- Sight lines e.g. intersections
- Traffic calming
Urban Forestry Program

- Plan, input and review of green infrastructure in capital projects e.g. roads
- Street tree planting – species, locations etc.
- Juvenile tree maintenance
- Structural pruning
- Mature tree maintenance including hazard tree removal
- Woody vegetation maintenance and clearance e.g. sight lines, sign and intersection clearance
Streetscaping – policy, guidelines and master plans

Green infrastructure asset integration at every step
Avoid this...
Designing Great Streets - Vision

“To create vibrant streets for York Region that provide a range of safe and reliable transportation options, while being sensitive to the adjacent land uses and the needs of the community.”

- 6 road types; City Centre Street, Avenue, Main Street, Connector, Rural Road, Rural Hamlet
- Context sensitive solutions with best design practices for efficient vehicle travel, safe cycling and pedestrian use
- Integration of green infrastructure, art, street furniture...

Functional communities, safe spaces, complete streets
Setting the cues for urban enhancement and safety

Making space for nature
Today: York Region Rapid Transit Initiatives

Case history: rapid urbanization, world class transportation, complete streets…. building safe road networks and green communities
Alignment with federal and provincial planning
York Region Rapid Transit Corporation

- Share Capital Corporation owned by York Region
- Projects reflect vision of Transportation Master Plan
- Including multiple transit modes and centre line bus rapidways
- “Viva” brand
- Medians and boulevards: trees, shrubs, perennials and more...

New strategies for a changing Region
Comprehensive phased program

£2.2B

£3.6B Funded

- BRT [Rapidways]
- Spadina Subway Extension
- Facilities and Terminals

£5.7B

or

£9.3B Unfunded Priorities

- Yonge-North Subway Extension
- BRT [Rapidways]

Driving investment in transportation, communities and the urban forest
vivaNext $3.6B of infrastructure underway
Soil Cells in Urban Streetscapes

- By 2020 36 km of road with soil cells (18,000 m³ of soil)
We have come a long way... since 2005

Measuring success – decreased travel times, increased ridership ... and improved street tree health
Key Messages: Green infrastructure as an asset

- Green infrastructure managed as an asset
- 2013 and 2015 State of the Infrastructure Reports include green infrastructure
- 2017 Green Infrastructure Asset Management Plan underway
- *Municipal Act* amendment - municipal policy to “protect and enhance tree canopy and natural vegetation” (Nov 2016)
- Ontario Public Sector Accounting Board considering trees and forests as a Tangible Capital Asset (Nov 2016)

Invest in green infrastructure for multiple benefits
Key Messages: soil, space and water

• Soil quality and volume impacts life span, size and health of trees
• Performance target 40 cm (dbh) 40 years
• To achieve this 30 m³ of soil required or 16 m³ per tree with ability to share root space
• Utilize automated irrigation technology
• Drainage and monitoring is critical
Key Messages: species, locations and monitoring

• Choose tree species and locations wisely
• Design for optimum health and the long term – top performers
• Stick with your specifications and criteria - saying no to trees is ok!
• Keep up with technology and science: species, soils, soil cells, climate change...
• Learn from experience – monitoring, continuous improvement and optimization

Performance = credibility ... street credibility
Success … bringing the ‘park’ back to our streets