



York Region Water & Wastewater Master Plan Update

Sustainable Servicing

January 2009

Why Update the Water & Wastewater Master Plan?

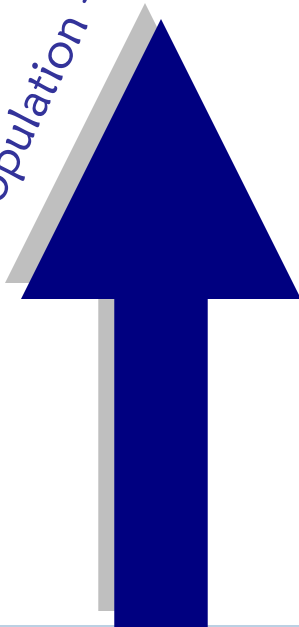


- Water and Wastewater systems are critical York Region Services
- Population and employment growth
 - Places to Grow
 - Greenbelt & Oak Ridges Moraine
- Legislative requirements – 5 year review
- Global issues (e.g. climate change)

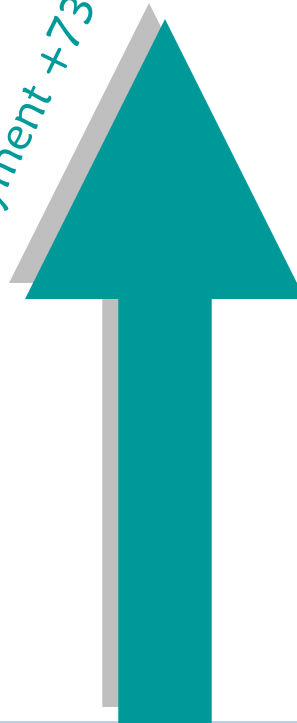
Rapid Growth

- Between 2006 & 2031...

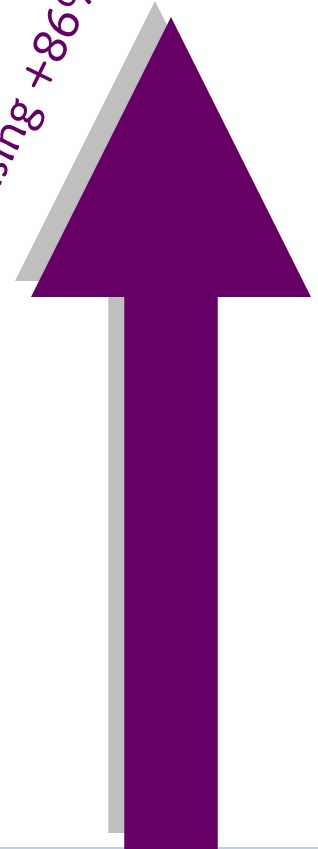
YR Population +62%



YR Employment +73%



YR Housing +86%

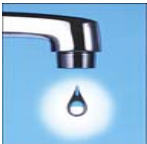


Objectives of this Water & Wastewater Master Plan (WWMP) Update



- Estimate York Region's water and wastewater needs for the next 40 to 50 years
- Estimate the cost of the infrastructure needed to accommodate forecasted growth
- Address the Region's servicing demands while providing solutions that protect the natural environment
- Establish a high level Implementation Plan for the Capital Works Program

Water & Wastewater Master Plan: Coordinated Effort



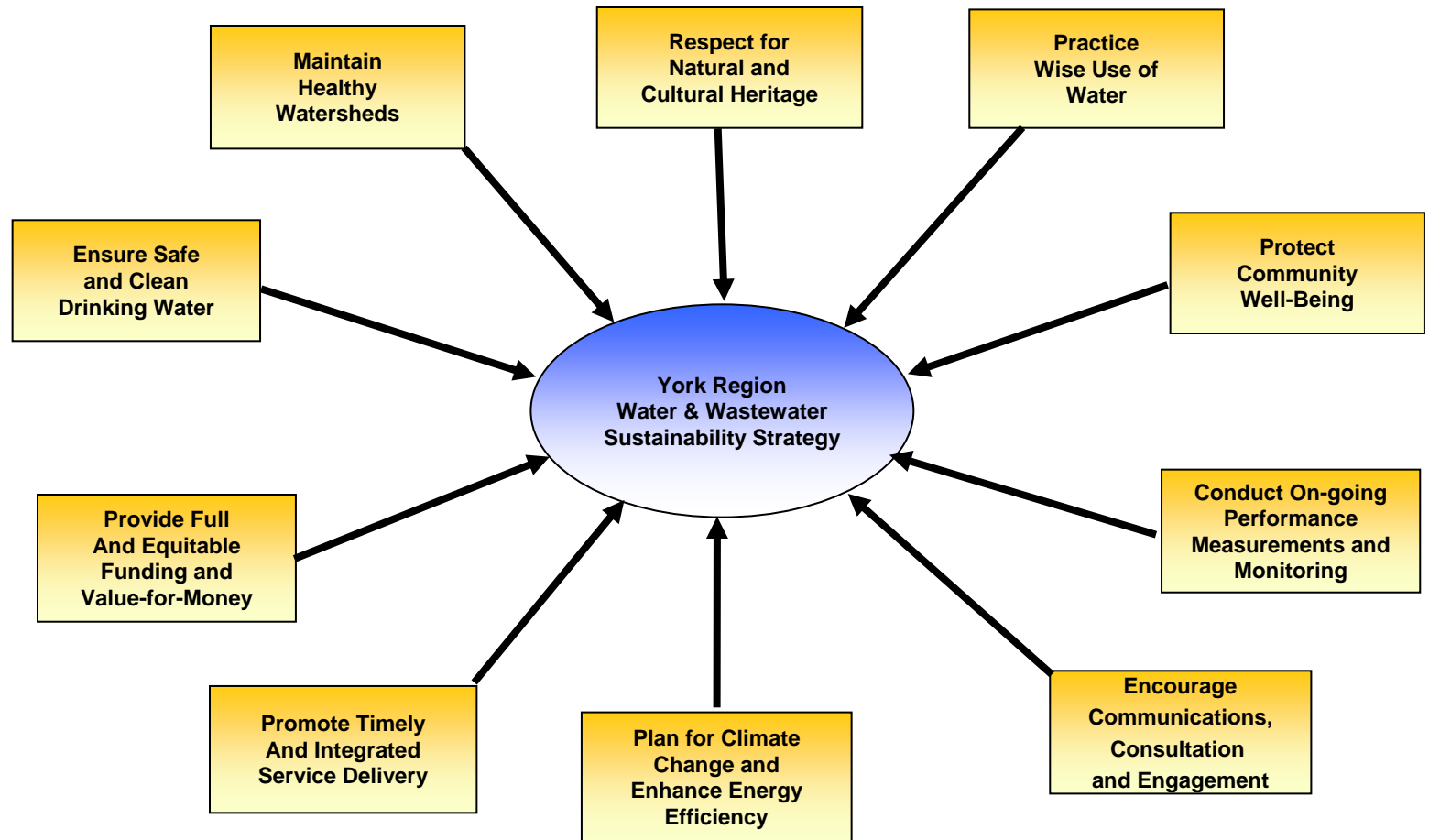
Our Direction

Make sustainability the cornerstone of our Water & Wastewater Master Plan



- **Key actions focused on sustainability principles**

Water & Wastewater Sustainability Principles



Some Major Steps To Get Here



- Developed Sustainability Principles to guide the WWMP



- Analyzed population projections and future land-use scenarios



- Produced several Issue Papers addressing challenges & opportunities



- Identify alternatives for Water and Wastewater servicing



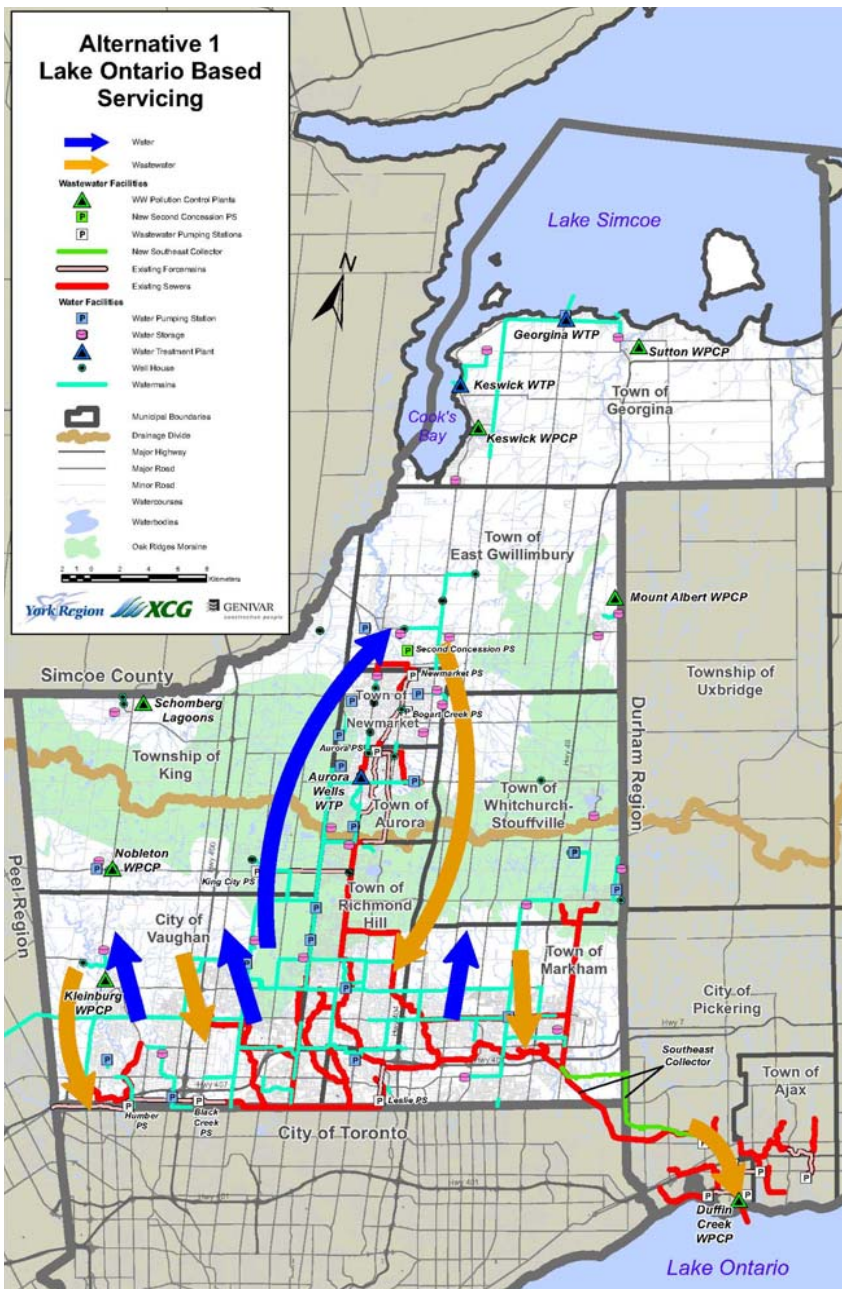
- Evaluation and selection of the preferred servicing solution

How We Engaged the Public



- Held two rounds of interactive public workshops in locations throughout York, third round scheduled for January/February
- Participated in stakeholder workshops discussing sustainability principles
- Held four technical advisory sessions with community leaders, area and Provincial agencies
- Produced two newsletters with a third to be issued in January
- Developed a comprehensive website
- Held two Public Consultation Centres in Durham

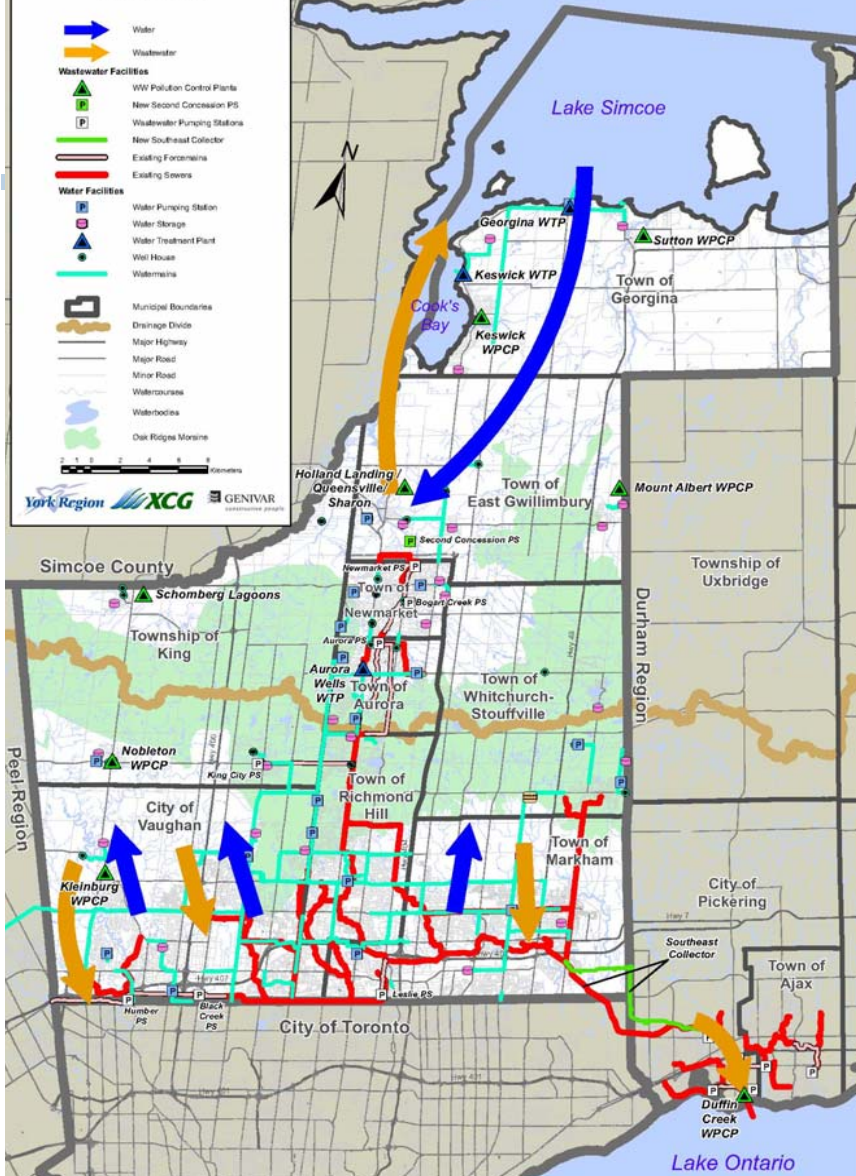
Alternative 1 Lake Ontario Based Servicing



Alternative 1 Lake Ontario Based Servicing

- Total current groundwater well supply will be maintained.
- All additional water supply will come from Lake Ontario by way of the York Water System to service the communities of Aurora, Newmarket, East Gwillimbury, Kleinburg and King City.
- Lake Simcoe will supply water and receive wastewater for Georgina.
- Small Urban communities remain on local systems.
- The York Durham Sewage System (YDSS) will be extended to East Gwillimbury.
- Enhanced water efficiency and inflow/infiltration reduction/prevention.

Alternative 2 Lake Simcoe Based Servicing



Alternative 2 Lake Simcoe Based Servicing

- Total current groundwater well supply will be maintained.
- Additional water supply will come from Lake Ontario by way of the York Water System to service the communities of Aurora, Newmarket, Kleinburg and King City.
- Lake Simcoe will receive wastewater for Georgina.
- Small Urban communities remain on local systems.
- Enhanced water efficiency and inflow/infiltration reduction/prevention.
- **Additional water supply for East Gwillimbury and Georgina will be from Lake Simcoe.**
- **East Gwillimbury Wastewater will be directed to Lake Simcoe by way of discharging treated effluent by extending an outfall into Lake Simcoe.**

Alternatives Evaluation Summary



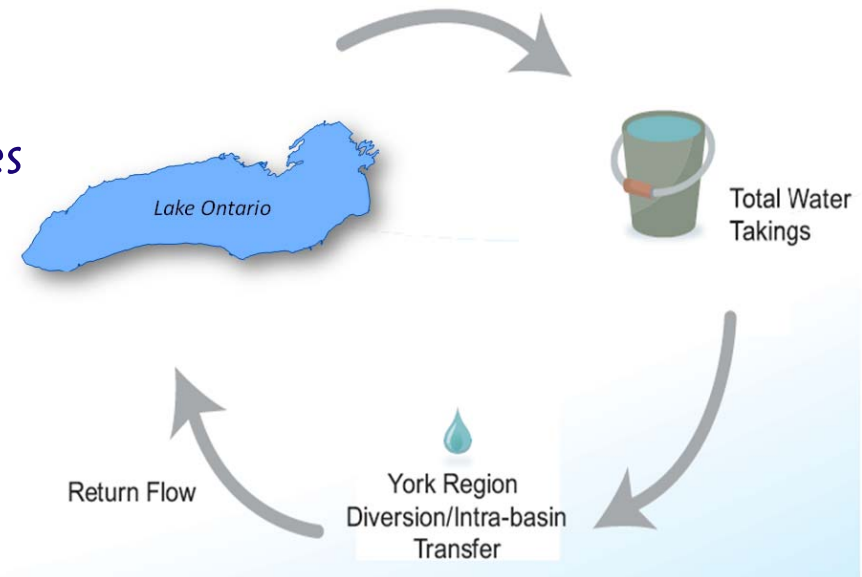
Triple Bottom Line	Sustainability Principle	Alternative 1	Alternative 2
Sustainable Natural Environment	Healthy Watersheds	●	○
	Climate Change	◐	◐
Economic Vitality	Capital Cost	◐	◐
Healthy Communities	Wise Use of Water	◐	◐
○ Poor		◐ Good	● Better

Major Findings and Recommendations



- Lake Ontario based servicing (Alternative 1) most sustainable long term solution

- Supports the Great Lakes water balance by returning flow to Lake Ontario; and,
- Protects Lake Simcoe in accordance with Lake Simcoe Protection Act

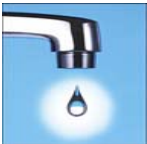


Major Findings and Recommendations



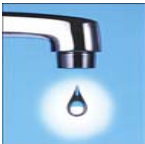
- Implementation will include the following:
 - 160 km of trunk watermains;
 - 9 water pumping stations and 22 water storage facilities;
 - 48 km of trunk sewers and forcemains;
 - 3 wastewater pump stations, 1 wastewater treatment plant and 1 wastewater equalization facility; and,
 - Expansion and/or upgrade of 8 wastewater treatment facilities.
 - Twin the Primary Trunk
 - Cost shared water infrastructure in Peel and Toronto including expansion of 2 water treatment plants.

Major Findings and Recommendations



- Seek approval for an increase under the Great Lakes Charter for an intra-basin transfer
- Explore with Peel Region the potential to treat additional wastewater above the current agreement
- Ensure consideration of natural environmental enhancements associated with each major infrastructure project

Major Findings and Recommendations



- Develop an overall climate change strategy including:
 - A program aimed at reducing greenhouse gases on a per capita basis
 - A program of continuing to manage future risks in water and wastewater infrastructure based on principles of adaptation and building resiliency.

Major Findings and Recommendations



- Continue to enhance the Water Efficiency Program (Water for Tomorrow):
 - New enhanced multi-unit dwelling program – LEED Standards
 - New residential program for new housing
 - Advanced water efficient fixtures and appliances (eg. Region-wide rebate program)
 - Water efficient landscaping
- Continue the Inflow/Infiltration Reduction/Prevention Program:
 - Identification, rehabilitation and reduction in existing communities
 - New Inflow/Infiltration prevention program for new communities
 - Updated and uniform design standards and construction in partnership with the area municipality and developers
 - Uniform inspection and testing of sewers
 - Monitoring and adaption

Major Findings and Recommendations

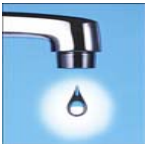


- Implementation of operational changes in water supply to Aurora and Newmarket to optimize use of groundwater from the Yonge Street Aquifer
- Limit wastewater discharges to Lake Simcoe to comply with the Lake Simcoe Act
- Monitor future changes
- Continue to communicate with York residents and other stakeholders
- More frequent updating of the Water and Wastewater Master Plan

Funding Water Capital Works to 2051

Facilities	Cost
Watermains	\$ 315 M
Pumping Stations	\$ 77 M
Storage	\$ 242 M
Supply & Treatment	\$ 79 M
Decommissioning	\$ 4 M
External Works*	\$ 682 M
Rehabilitation	\$ 300 M
Programs	\$ 200 M
TOTAL	\$ 1,899 M

* Agreement costs with Toronto/Peel to 2036



Funding Wastewater Capital Works to 2051

Facilities	Cost
Sewers	\$ 1,699 M
Pumping Stations	\$ 10 M
Storage	\$ 61 M
Treatment	\$ 1,320 M
Outfalls	\$ 76 M
Decommissioning	\$ 0.4 M
Rehabilitation	\$ 1,193M
TOTAL	\$ 4,359 M



Capital Works Cost Comparisons



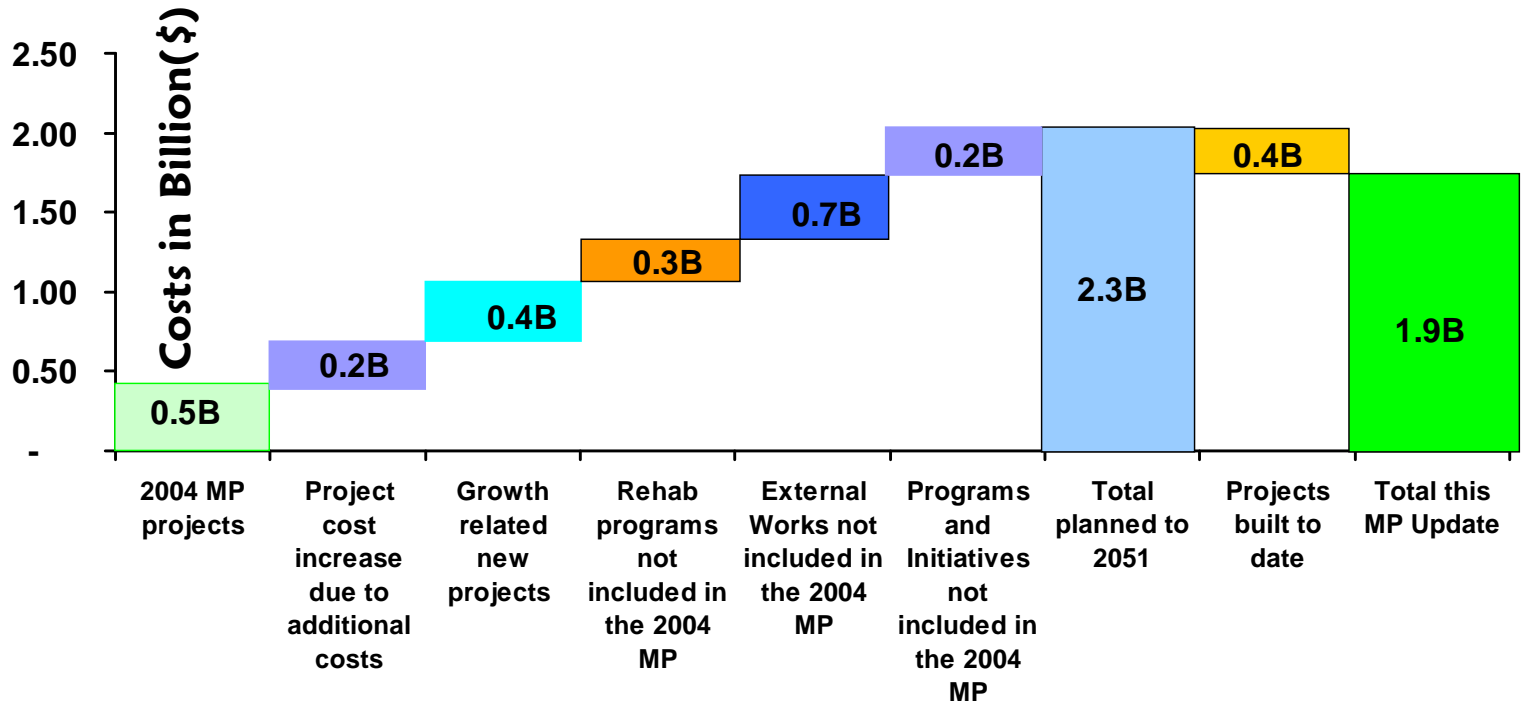
Water	Current Master Plan	2004 Master Plan	2007 DC Bylaw
	To 2051	To 2036	To 2031
	\$ 1,898 M	\$ 471 M *	\$ 851.7 M

Wastewater	Current Master Plan	2002 Master Plan	2007 DC Bylaw
	To 2051	To 2036	To 2031
	\$ 4,359 M	\$1,038 M**	\$1,913.3 M

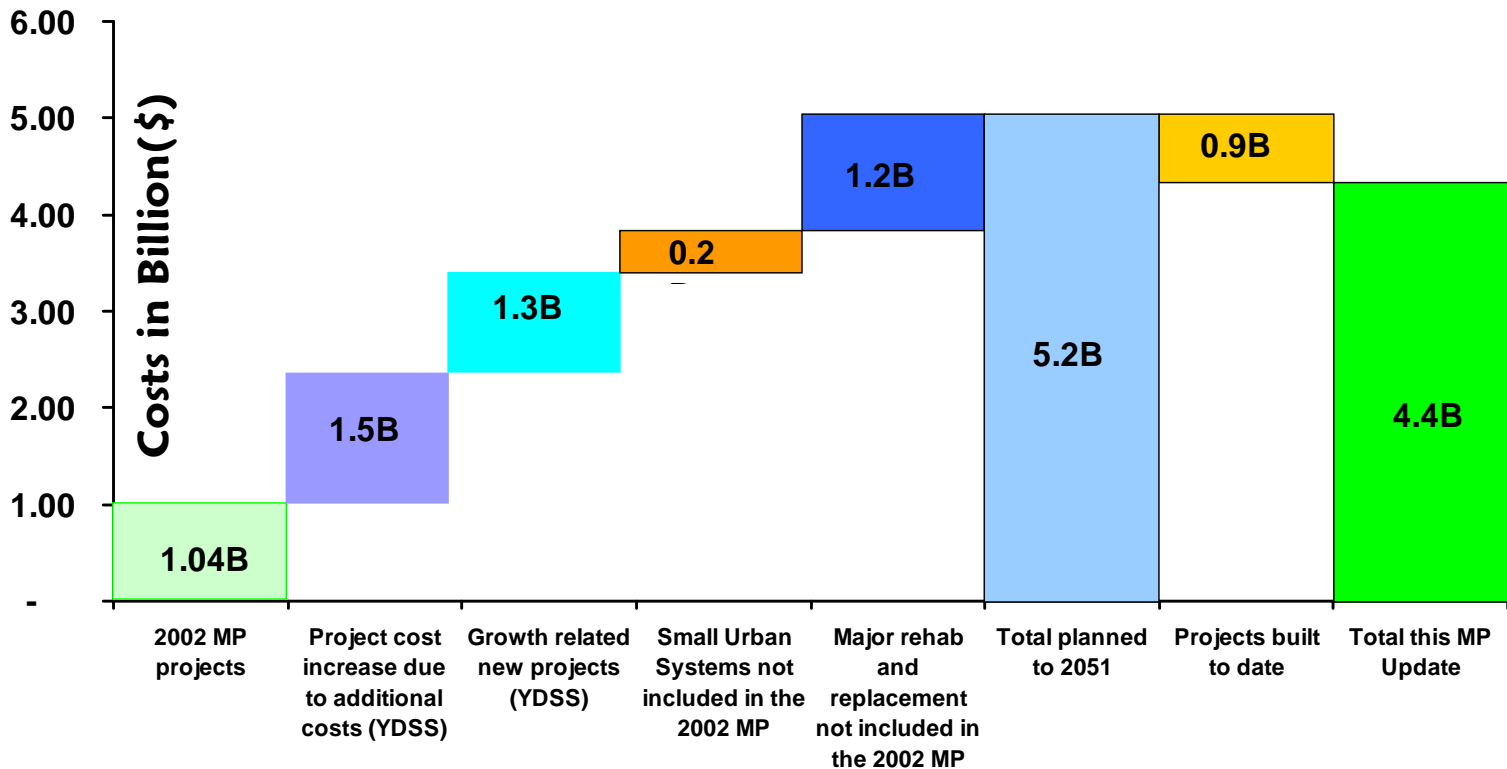
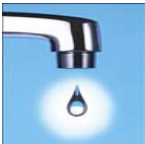
* Excluded external costs = \$600 M

** YDSS only

Cost Components- Water



Cost Components- Wastewater



Next Steps



- PCC #3 - Jan 15 to Feb 4, 2009
- Phasing and implementation plans – Feb 09
- Draft WWMP report for review – March 09
- Council endorsement of draft WWMP – April 09
- 30-day public review – Apr/May 09
- Council endorsement of Final WWMP – June 09

Public Consultation Centres Locations

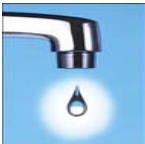


- January 15 – Newmarket
- January 20 – Richmond Hill
- January 21 – Stouffville
- February 4 – Aurora
- A Durham PCC is also being planned during the same period

For more information

www.york.ca

Paul May
Director, Infrastructure Planning
The Regional Municipality of York
905-830-4444, Ext. 5029
masterplan@york.ca





ANY QUESTIONS?