



Towards a Sustainable Region

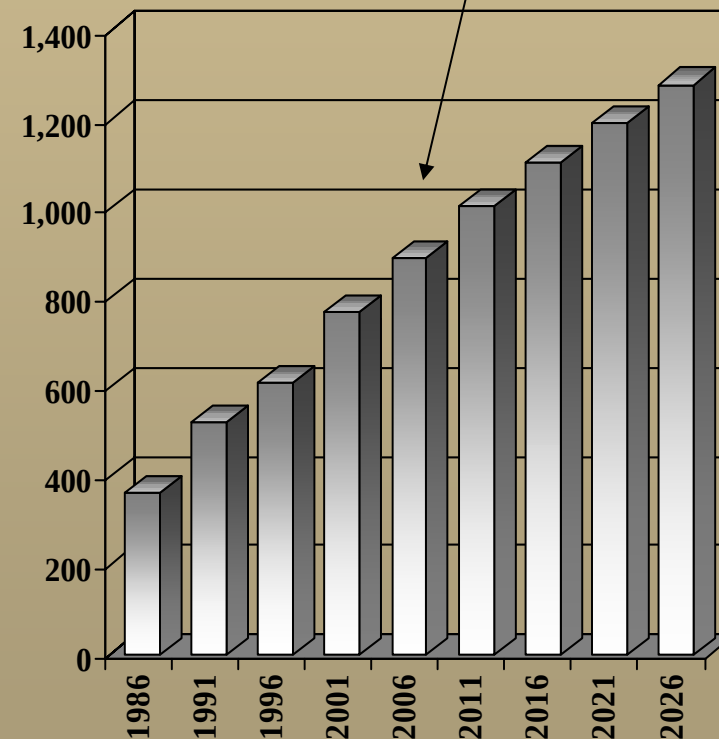
Natural Heritage Workshop
November 1st, 2006

Growth in York Region



We are here

- Current population is 920,000
- 36,000 people annually for the past five years
- ROP Population anticipated to reach 1.28 million by 2026



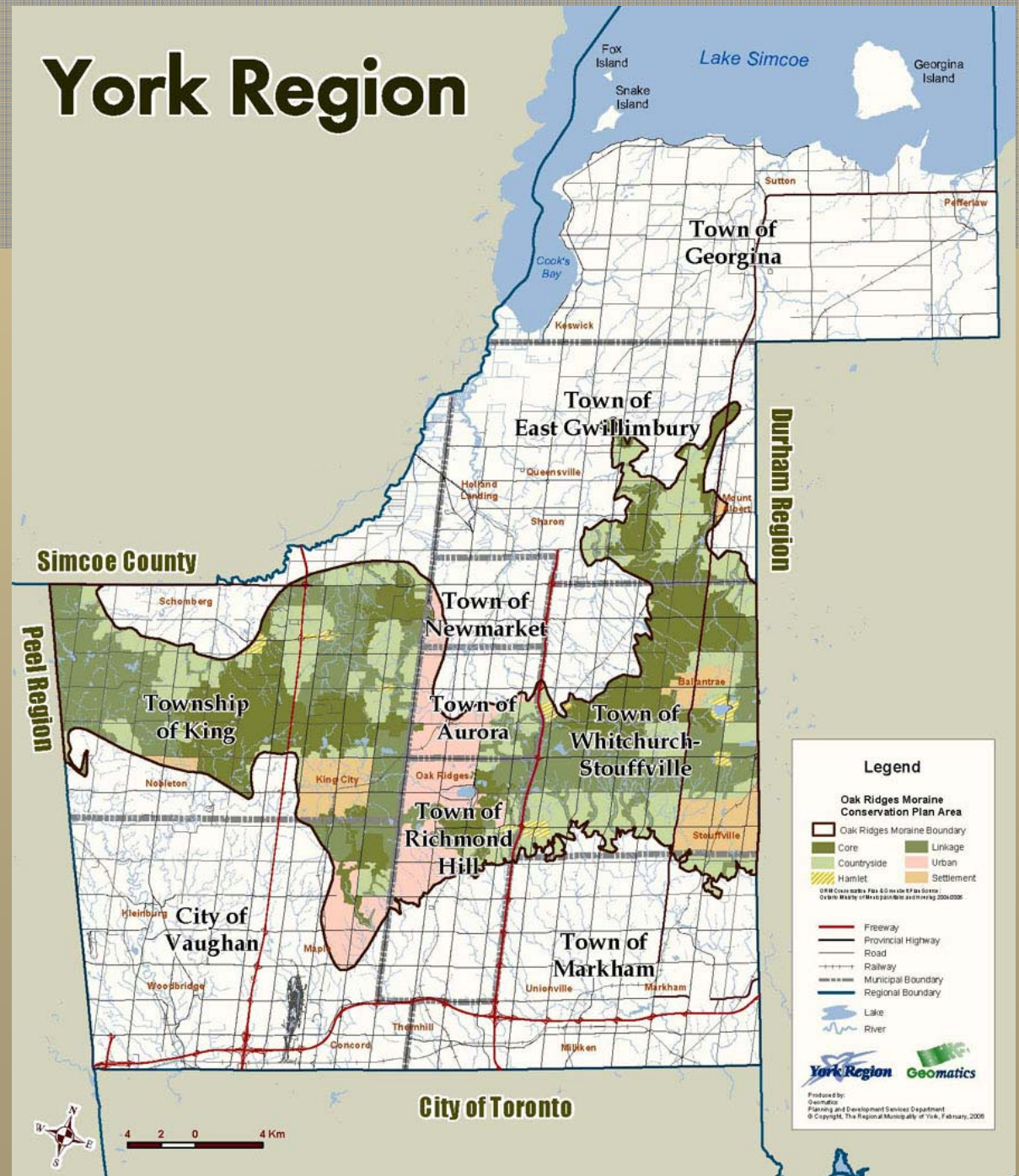
New Provincial Approach to Planning



- Oak Ridges Moraine Conservation Plan
- Greenbelt Plan 2005
- Growth Plan for the Greater Toronto Area – *Places to Grow*
- Provincial Forecasts

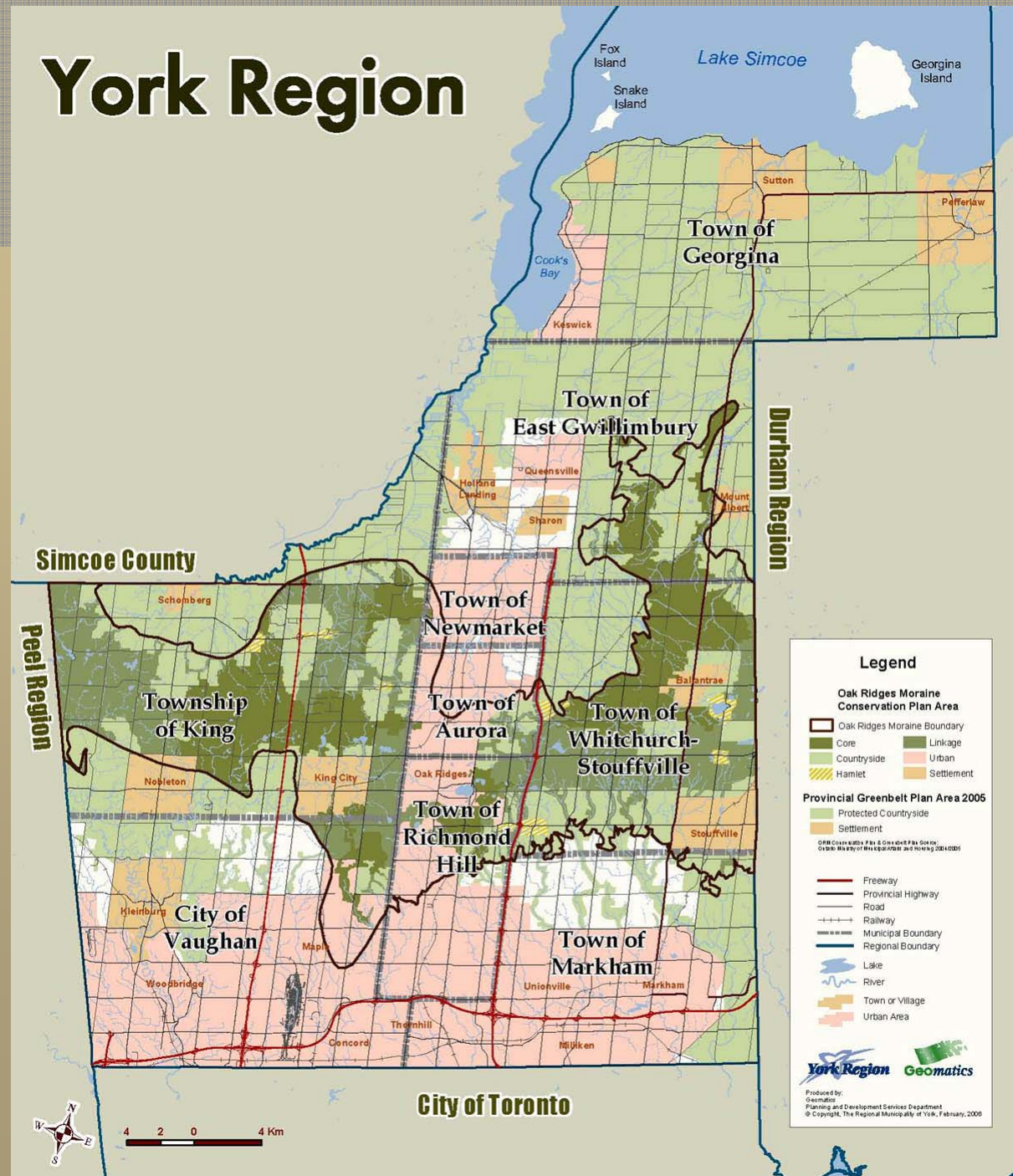
Oak Ridges Moraine

- ORM Plan approved in 2002



Greenbelt Plan

- Greenbelt Plan approved in 2005



Places to Grow: A Growth Plan for the Greater Golden Horseshoe



- Compact, transit supportive densities
- 4 Regional Centres
- 40% Intensification by 2015
- “Transit First”
- 404 & 427 extensions
- Infrastructure investment



GTAH Forecast 2001 to 2031

- GTAH population anticipated to increase by 2.8 million to 8.6 million
- GTAH employment to increase 1.4 million to 4.3 million
- 1.26 million new households will be needed

2031 York Region Provincial Forecast Summary



	2006 EXISTING	2031 FORECAST	2006-2031 INCREASE
POPULATION	943,500	1,500,000	556,500
EMPLOYMENT	450,000	780,000	330,000
HOUSING	281,000	500,000	219,000

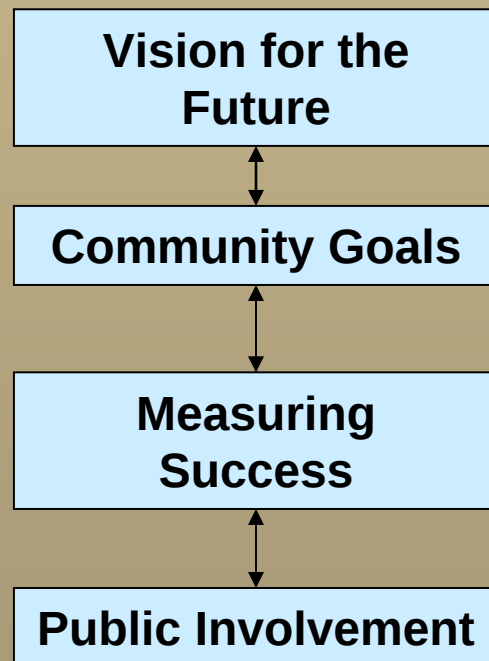
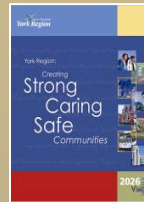
Why We Need to Grow Differently



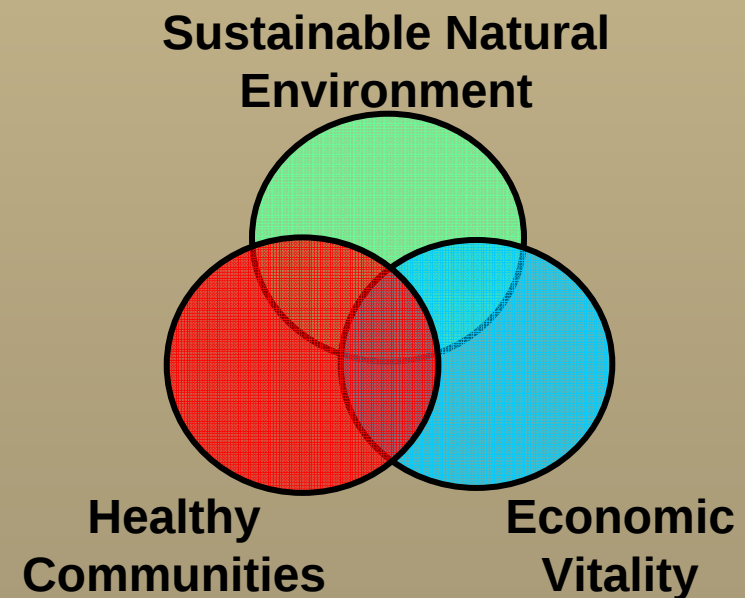
- Managing Rapid Growth
- Protecting our Natural Heritage/Countryside
- Keeping the Economy Strong – Creating new jobs
- Supportive & Efficient Infrastructure
- Quality of Life – a desirable place to live, work and play

A Sustainable York Region

York Region Vision 2026



Regional Official Plan



Successes

- R.O.P. policies embody smart growth principles
- Comprehensive community plans in place
- Long Range Water & Sewer Master Plans (30 year)
- Master Transportation Plan (30 year)
- 25 year Development Charges financial forecast
- Required fiscal analysis of new development
- 10 Year prioritised Capital Works plan
- York Region wide transit system (VIVA/YRT)
- Coordinated human services planning
- Affordable Housing Strategy
- Economic Strategy
- Centres and Corridors Strategy
- Greening Strategy and
- Oak Ridges Moraine initiatives

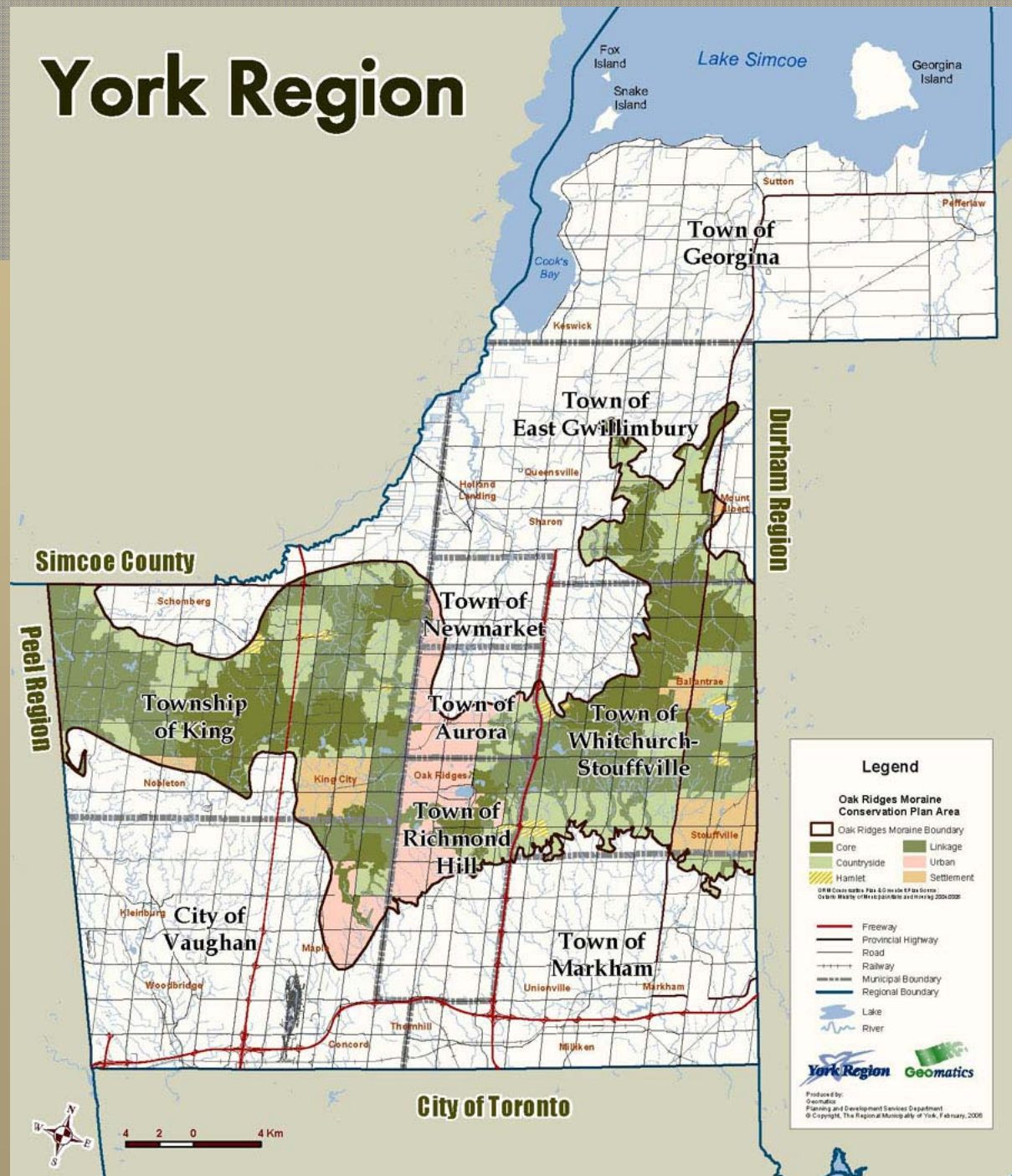


Where Do We Grow From Here?



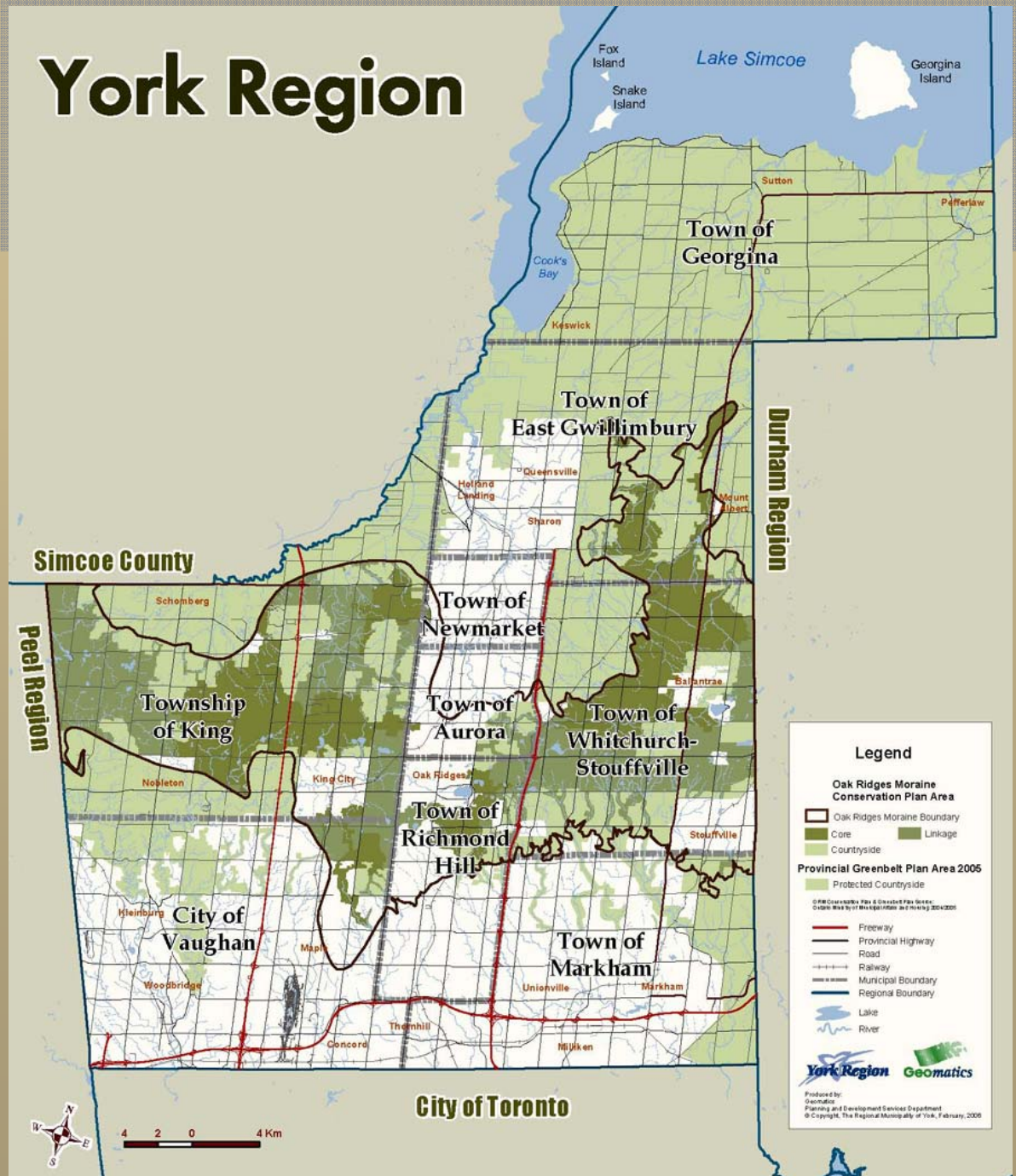
Oak Ridges Moraine Plan

- ORM covers 31% of the Region

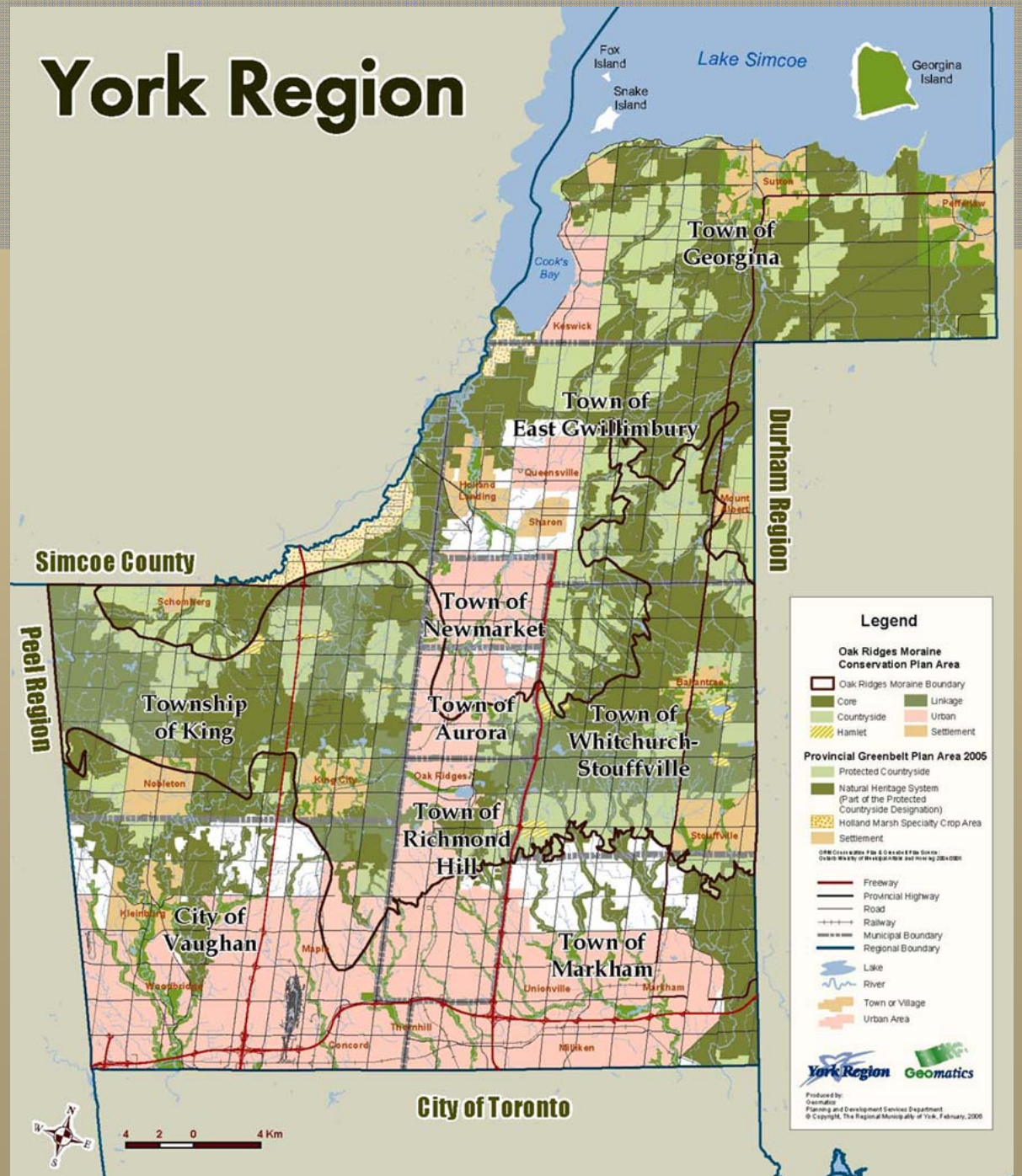


Oak Ridges Moraine plus Greenbelt

- Greenbelt/ORM covers 69% of the Region



Existing Settlement Areas



Issues

- Environment
- Growth
- Infrastructure
- Moving York (Goods & People)
- Economy
- Intensification
- Human Services, Quality of Life, Culture
- Quality of Place

Issue - Environment

- Intensification versus green fields
- Protect ORM and Greenbelt
- Investing in our natural heritage system
- Deteriorating air quality
- Climate change
- Balance environmental protection with additional growth pressure



Issue - Growth



- How much growth?
- Where do we want to grow?
 - existing approved areas
 - intensification
 - new areas
- Unprecedented growth – 36,000 people annually over last 5 yrs
- Forecasted 1.5 million by 2031

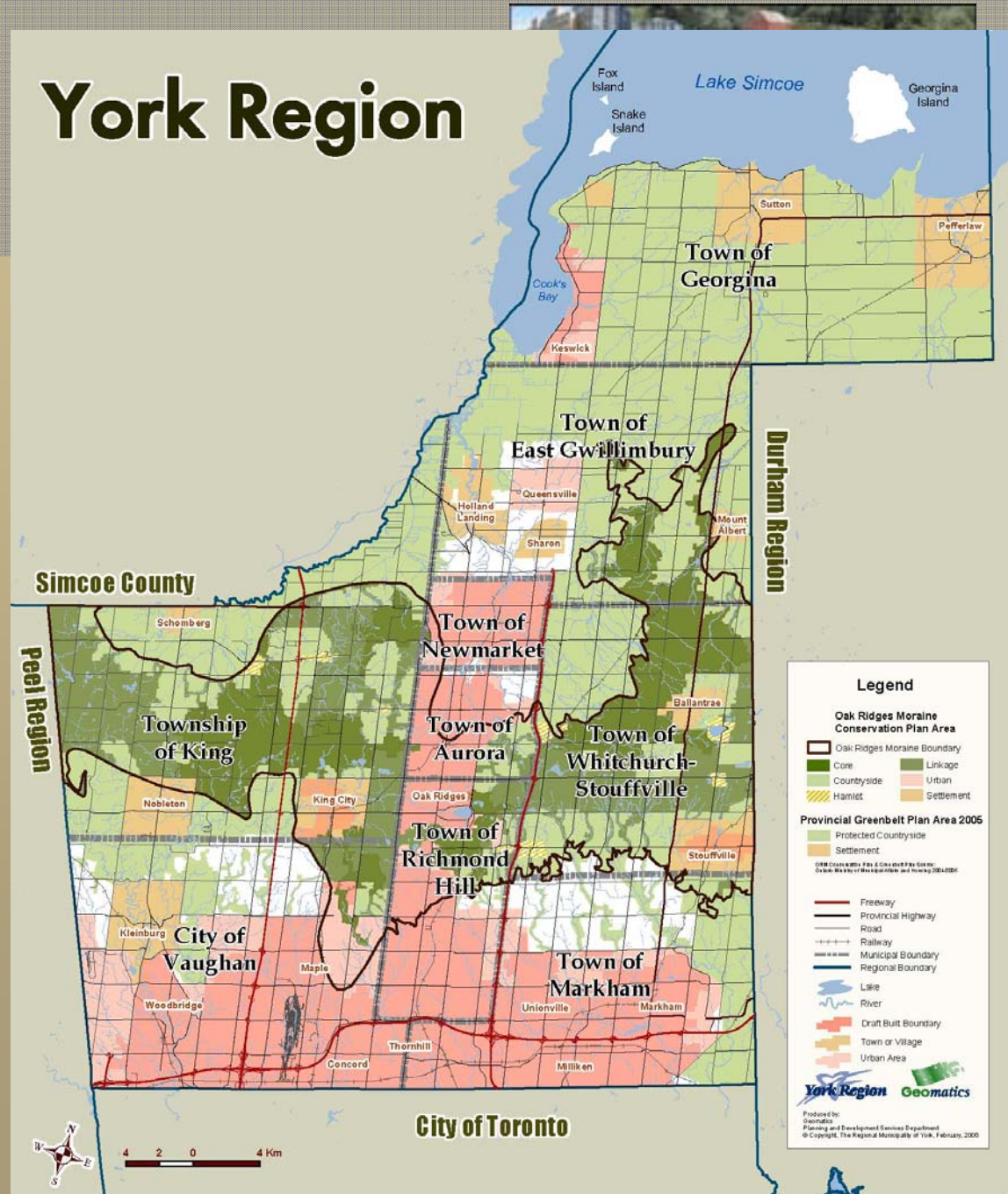


New Growth Areas

- Existing approved supply – residential (12.8 yrs), employment (18.5 yrs)

60 % Greenfield
(150,000 units)

40% intensification
Within Built
Boundary (81,000 units)



Issue – Infrastructure

- Need adequate infrastructure in place to support existing & future population
- Clean water & state of the art waste water treatment,
- Waste Management
- Energy



Issue – Moving York (Goods & People)

- Regional Road Network plan
- Highway 427 and 404
- Transit funding
- Street Design
- Travel Demand Management



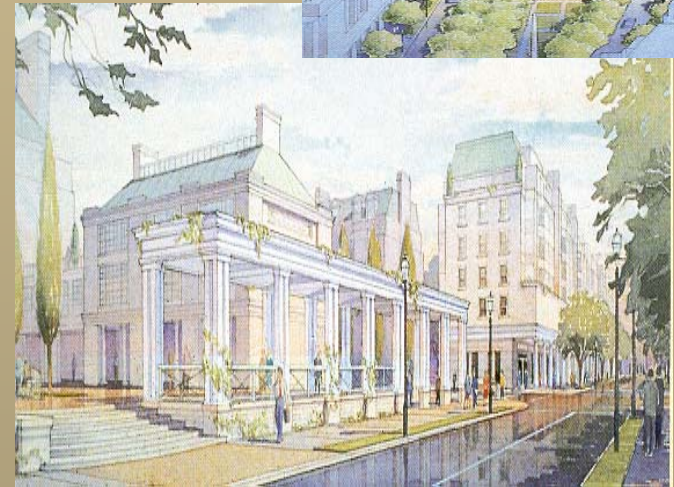
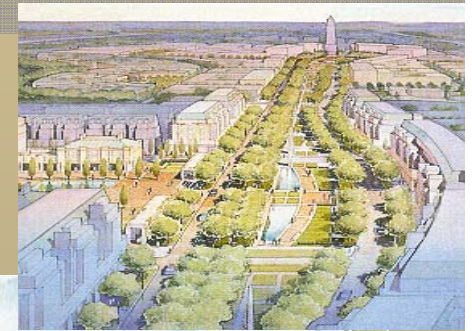
Issue - Economy

- Creating jobs to match new residents
- 330,000 new jobs
- Location of choice for businesses
- Supply of employment lands



Issue - Intensification

- 81,000 units required to meet 40% Provincial target
- Where do we intensify (centres, corridors, transit stations)
- Urban design is key
- Changing urban structure – centres and corridors
- Public acceptance (Not in my backyard)



York Region



Issue – Human Services, Quality of Life



- Human Services, (Hospitals, schools, services)
- Aging population
- Embracing diversity
- Enhancing our quality of life



Issue – Quality of Place

- Creating well designed communities
- Pedestrian focussed environment
- More choice in housing, transit
- Closer live/work
- Preserving heritage, promoting culture



NEXT STEPS

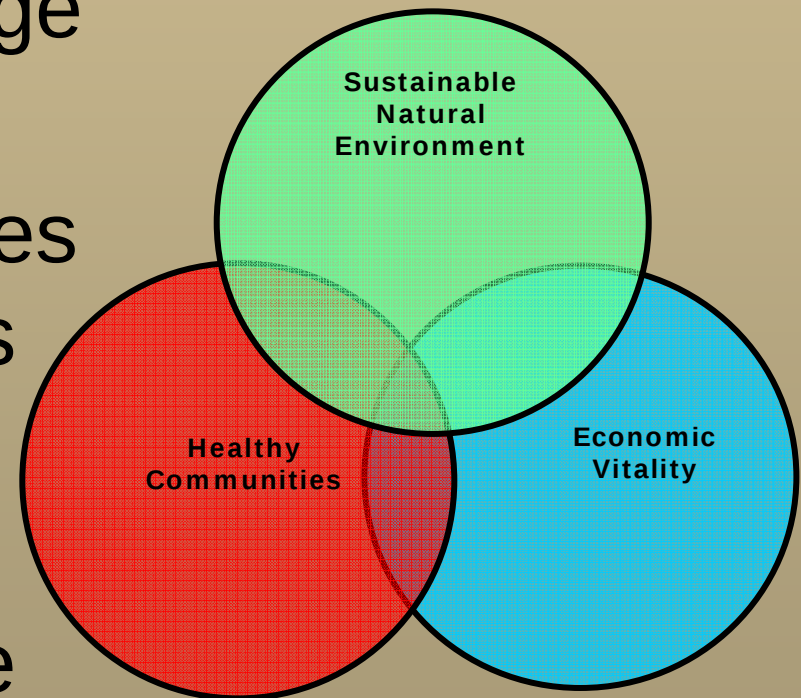


- Update Natural Heritage System
- Develop GM Options
- Integrate Master Plan Updates
- Scenarios Spring 2007
- ROP and MP's Early 2008

Morale of the Story



- Big Growth
- Update Natural Heritage policies
- There will be challenges related to these issues
- Rethink how growth, environment, infrastructure integrate



NATURAL HERITAGE SYSTEM PLANNING

***Towards a Sustainable Region
Workshop
November 1, 2006***

***Ian Buchanan
Manager
Natural Heritage and Forestry Services***



PURPOSE:

1. PROVIDE SOME BACKGROUND
2. STIMULATE, PROMOTE AND PROVOKE FORWARD THINKING ON NATURAL HERITAGE SYSTEM PLANNING
3. TO SEEK ADVICE ON THE VERIFICATION, UPDATE... REFRESH OF THE REGIONAL GREENLANDS SYSTEM.



NATURAL HERITAGE SYSTEMS

DEFINITION:

***...SYSTEMS WHICH INTEGRATE NETWORKS OF
CONSERVATION LANDS AND WATERS LINKED BY
NATURAL AND RESTORED CORRIDORS***

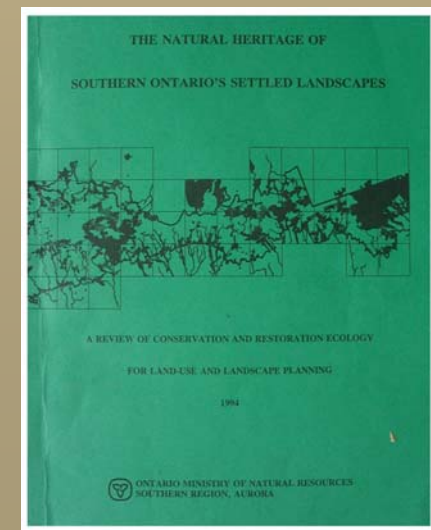
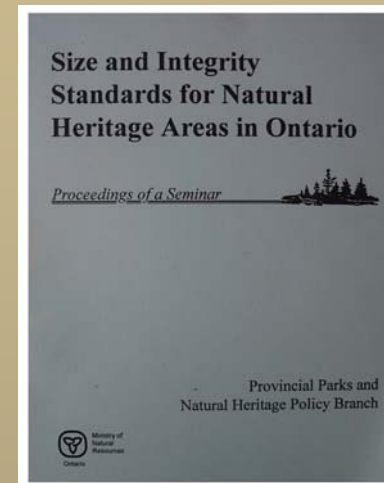
Riley and Mohr 1994

NATURAL HERITAGE SYSTEMS

PRIORITIES:

1. CORE CONSERVATION LANDS AND WATERS
2. NATURAL CORRIDORS (LINKAGES) AND COUNTRYSIDE
3. RESTORED CONNECTING LINKS AND BIODIVERSITY

Riley and Mohr 1994



NATURAL HERITAGE SYSTEMS

CORE CONSERVATION LANDS AND WATERS INCLUDE:

- WETLANDS, WOODLANDS
- ESA'S, ANSI'S
- WATERBODIES, WATER COURSES
- VALLEY LANDS
- FISH AND WILDLIFE HABITAT
- CORRIDORS/LINKAGES
- SPECIES AT RISK
- ETC.....

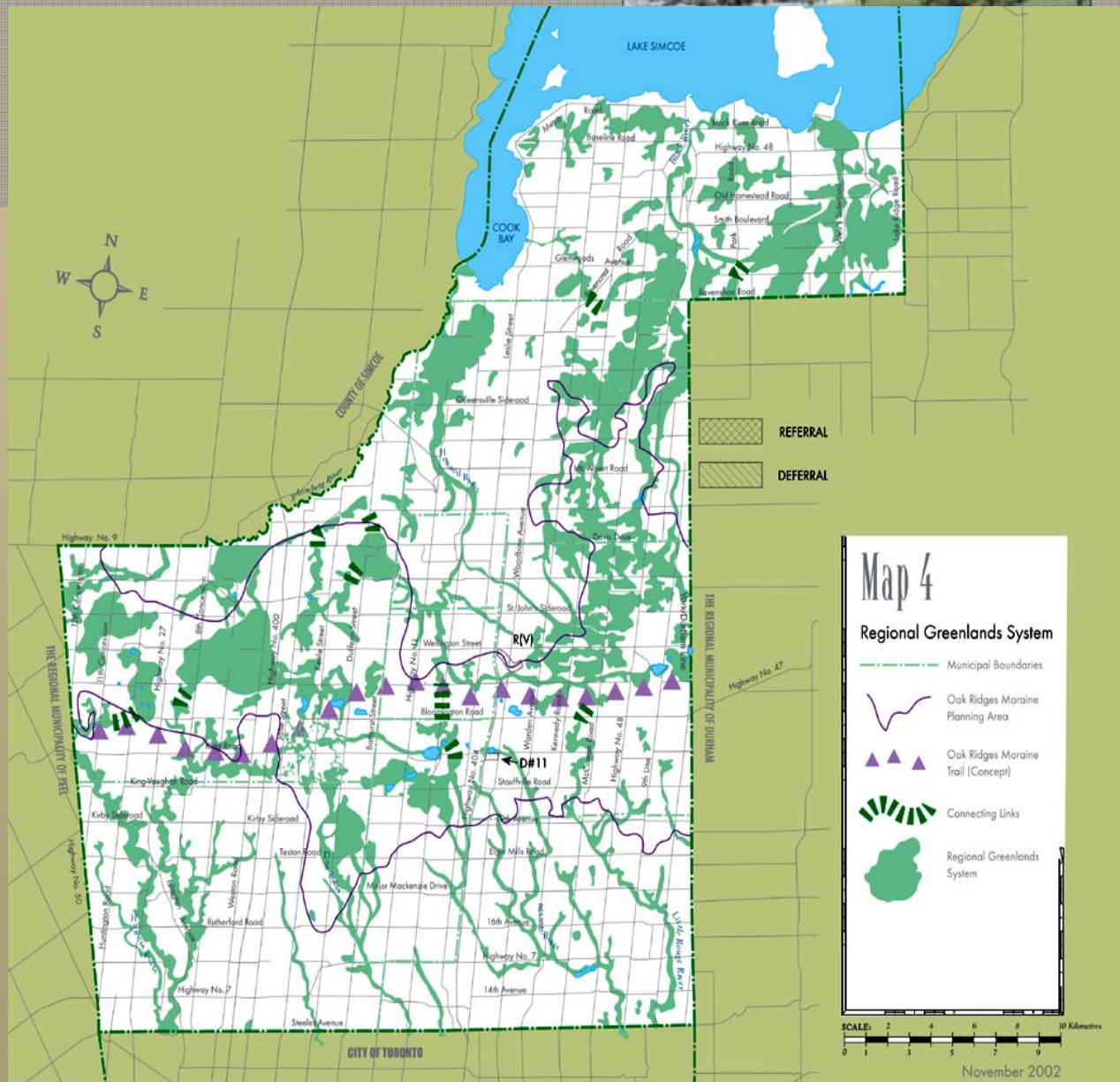


YORK REGION OFFICIAL PLAN 1994



YORK REGION OFFICIAL PLAN 1994

✓ GREENLANDS SYSTEM



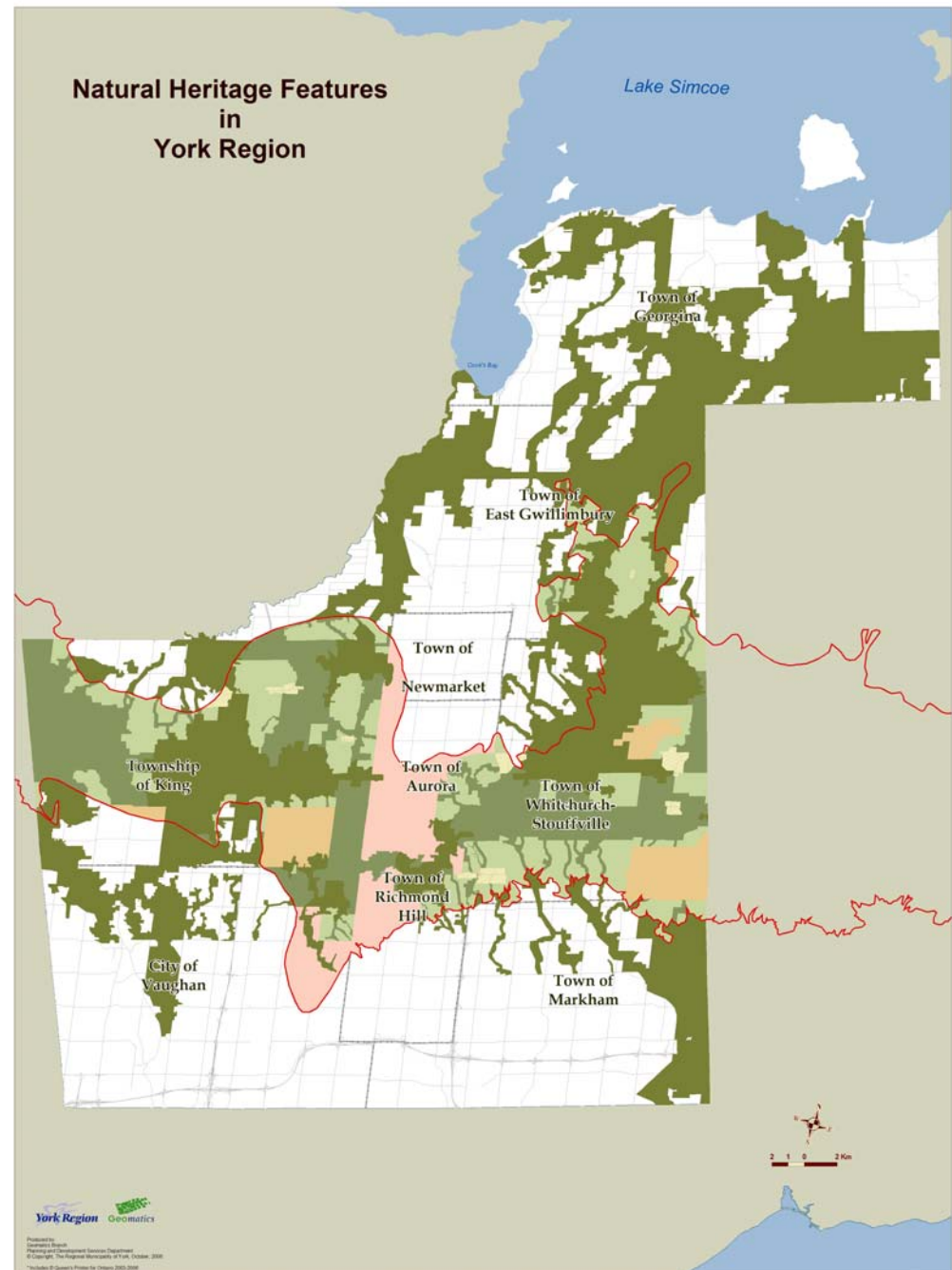
REGION OF YORK OFFICIAL PLAN 1994

- SUSTAINABLE NATURAL ENVIRONMENT GOAL
 - ✓ CONSERVE AND IMPROVE
- GREENLANDS SYSTEM
 - ✓ CORE LANDS AND CONNECTING LINKS
- POLICY PROTECTION
 - ✓ NO NEGATIVE IMPACTS – FEATURE AND FUNCTIONS
- INCLUSIVE
 - ✓ REQUIREMENT FOR LOCAL NH SYSTEM PLANS



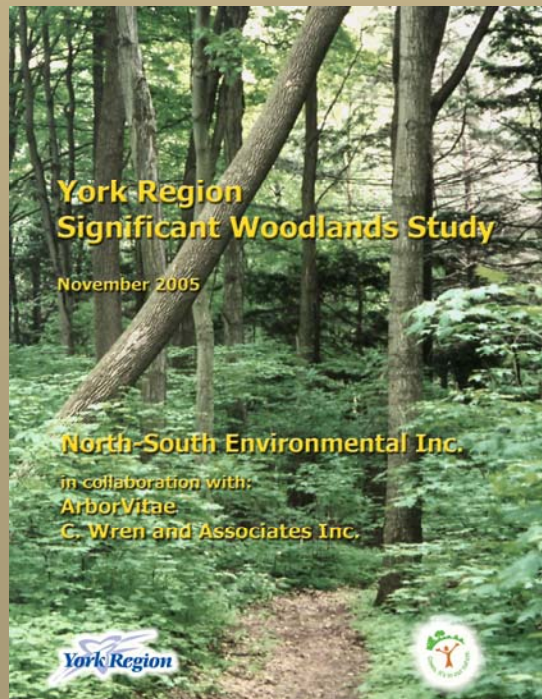
CURRENT LEGISLATION AND POLICY

- 2002 OAK RIDGES MORaine
 - KNHF, core & linkage
 - YR OPA 41 in 2004
- 2005 PLACES TO GROW
 - Urban NH integration
- 2005 GREENBELT
 - NH SYSTEM
 - OPA ...2007

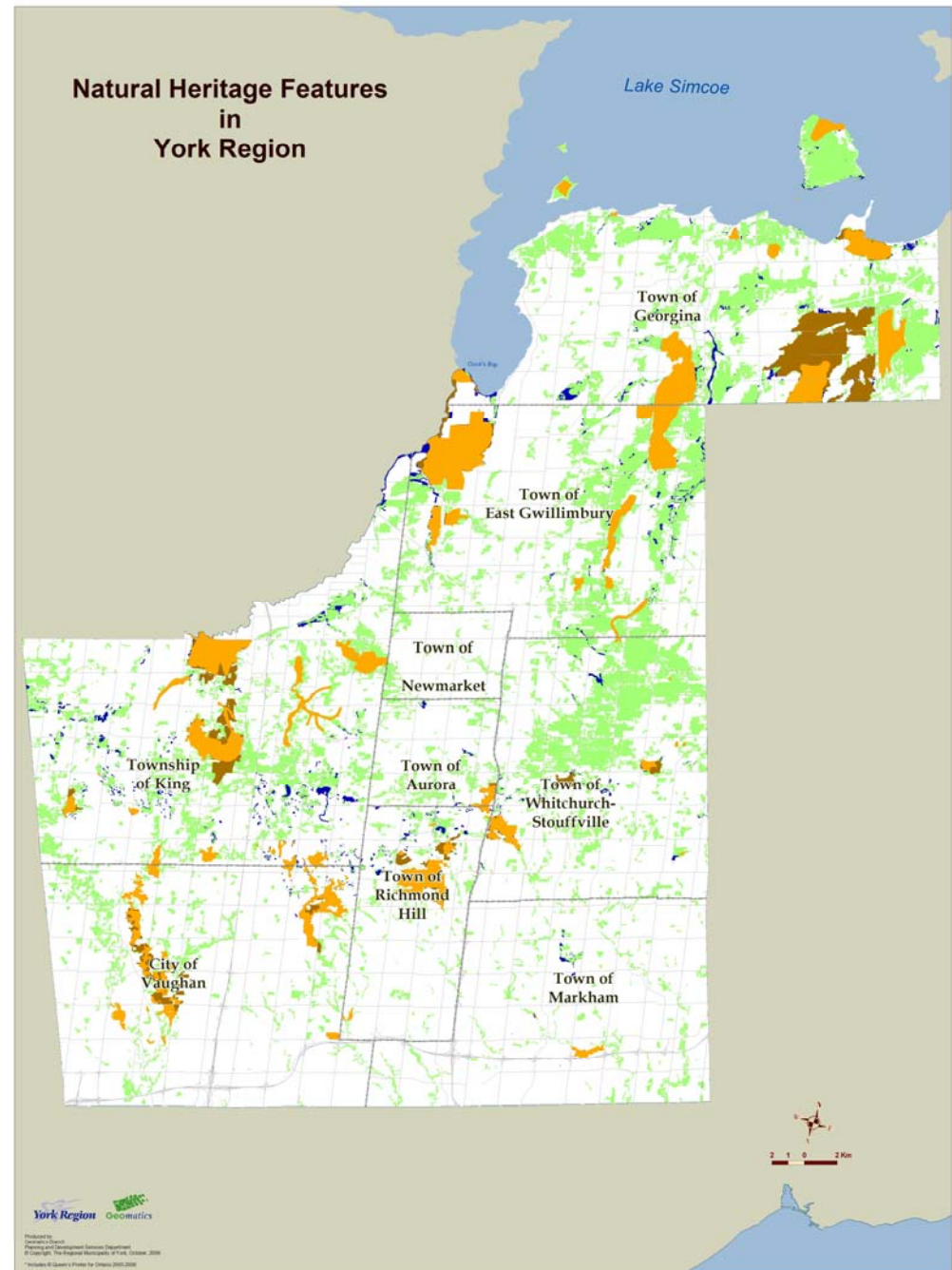


CURRENT SYSTEM

- TERRESTRIAL COMPONENTS

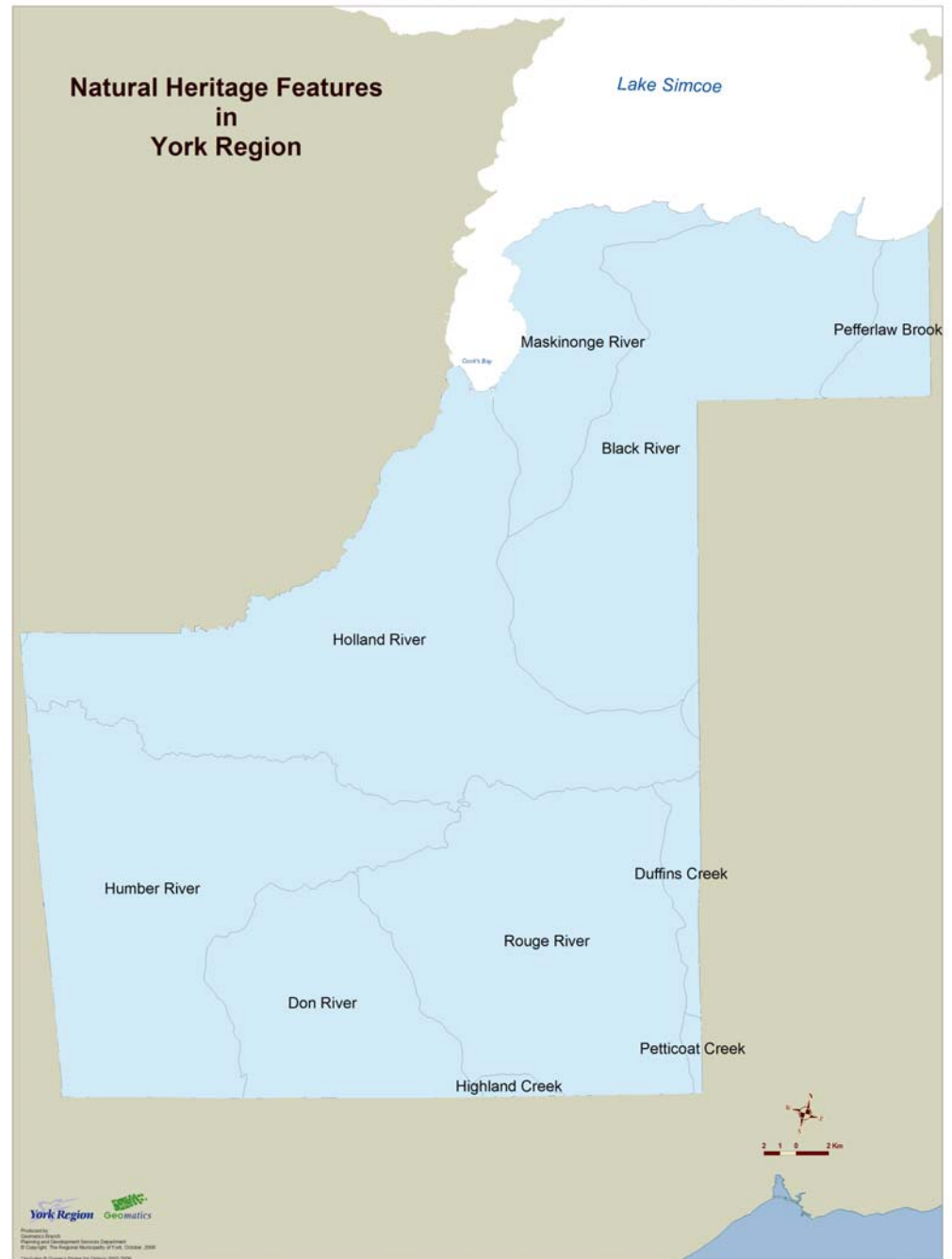


York Region



CURRENT SYSTEM

- AQUATIC COMPONENTS

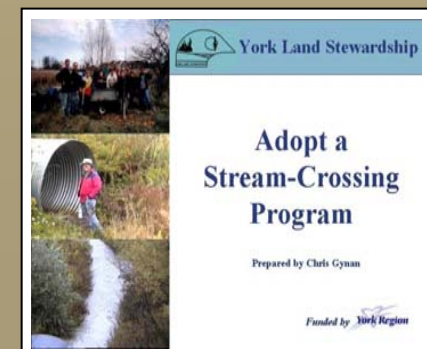
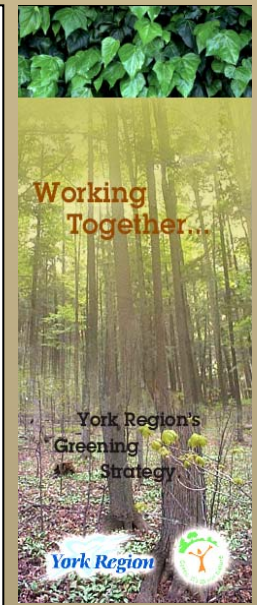
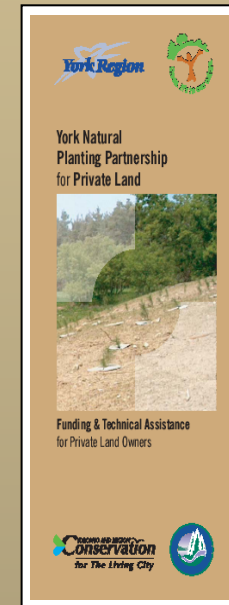


GIS & MAPPING



OTHER TOOLS & SUCCESSES

- LSEMS – LSRCA/MNR
- TERRESTRIAL NH SYSTEM MODEL – TRCA
- ROUGE PARK, OAK RIDGES CORRIDOR PARK
- GREENING STRATEGY – SINCE 2001
 - 500,000 TREES AND SHRUBS PLANTED
 - SECUREMENT STRATEGY \$1.4M / year
 - ENVIRONMENTAL ED 5000 PARTICIPANTS
 - YORK REGIONAL FOREST FSC CERTIFIED
 - FOREST CONSERVATION BY- LAW
 - PESTICIDE REDUCTION STRATEGY
 - SALT REDUCTION POLICY
 - STREETSCAPING – URBAN FOREST
 - STATE OF ENVIRONMENT (SOE) REPORTING



ECOLOGICAL CONCEPTS

IMPORTANT TO NATURAL HERITAGE SYSTEM
PLANNING ARE:

1. LANDSCAPE RETENTION - PROTECTION
2. LANDSCAPE RESTORATION - REHABILITATION
3. ECOSYSTEM REPLACEMENT – NO NET LOSS/NET GAIN

ECOLOGICAL SYSTEMS FRAMEWORK

1. PROTECT - WHAT YOU HAVE

Legislation, policy, partnerships, education and stewardship

BUT NOT



ECOLOGICAL SYSTEMS FRAMEWORK

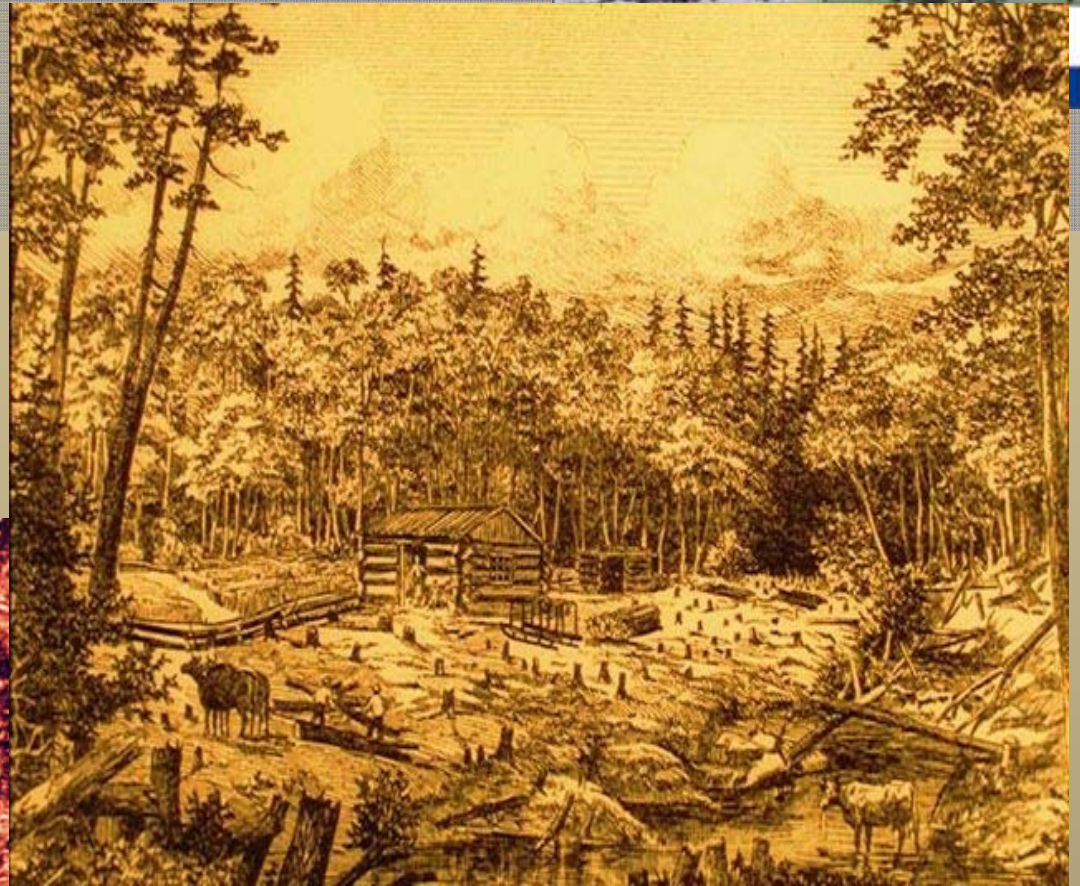
1. PROTECT - WHAT YOU HAVE

Legislation, policy, partnerships, education and stewardship

2. REHABILITATE - WHAT YOU HAVE LOST

Strategic programs, tools, incentives and innovation

BUT NOT



ECOLOGICAL SYSTEMS FRAMEWORK

1. PROTECT - WHAT YOU HAVE

Legislation, policy, partnerships, education and stewardship

2. REHABILITATE - WHAT YOU HAVE LOST

Strategic programs, tools, incentives and innovation

3. COMPENSATE - FOR 'UNAVOIDABLE' LOSS

Example - administer, encourage and influence the principle and practice of net gain or no net loss of environmental features and functions









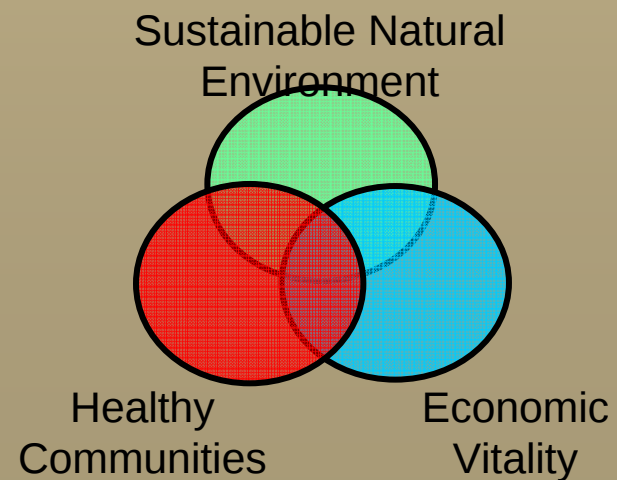
Natural Heritage Workshop Infrastructure Planning

Natural Heritage Workshop
November 1st, 2006

Infrastructure Planning



- Plan, implement and monitor capacity
- Monitor demand
- Assess capacity and demand balance
- Advise land use planning/growth management initiatives

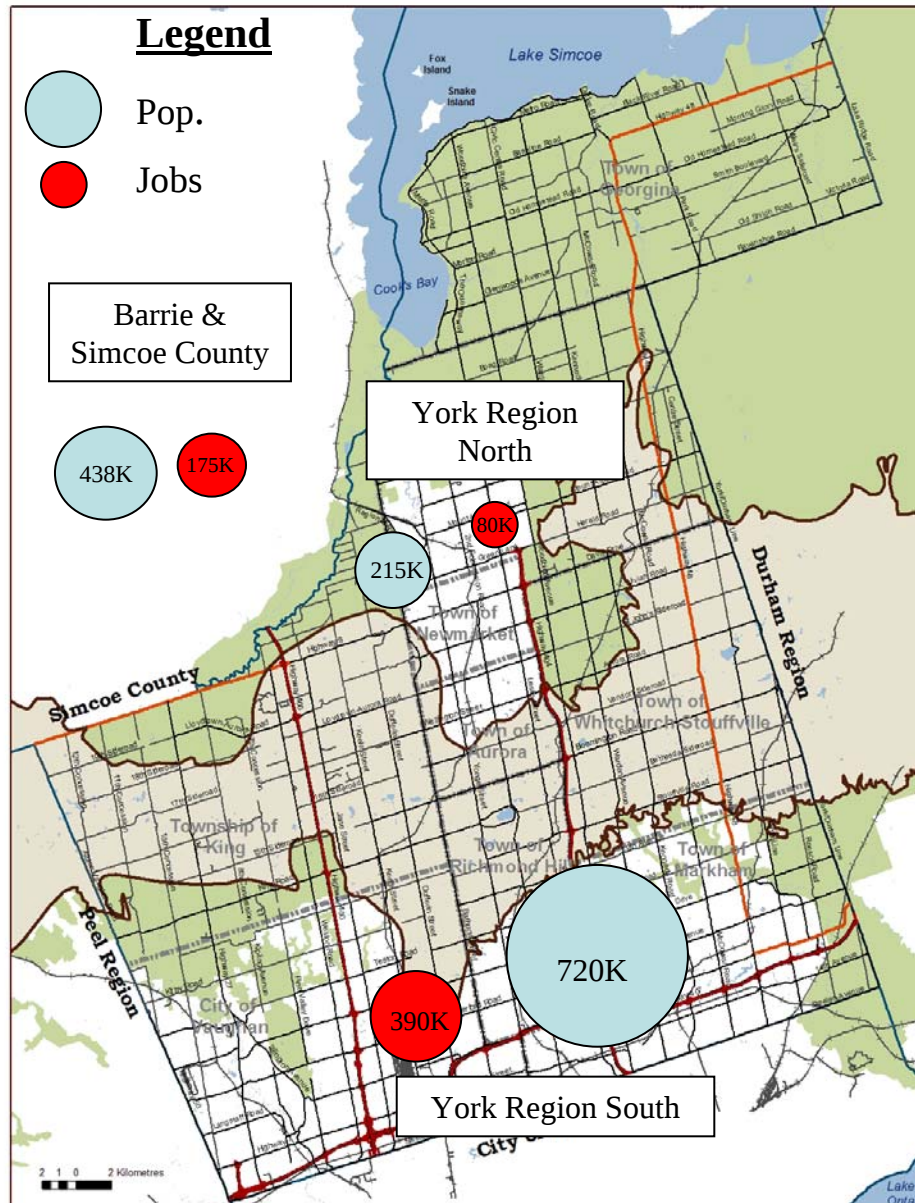


Sustainable Approach to Natural Environment



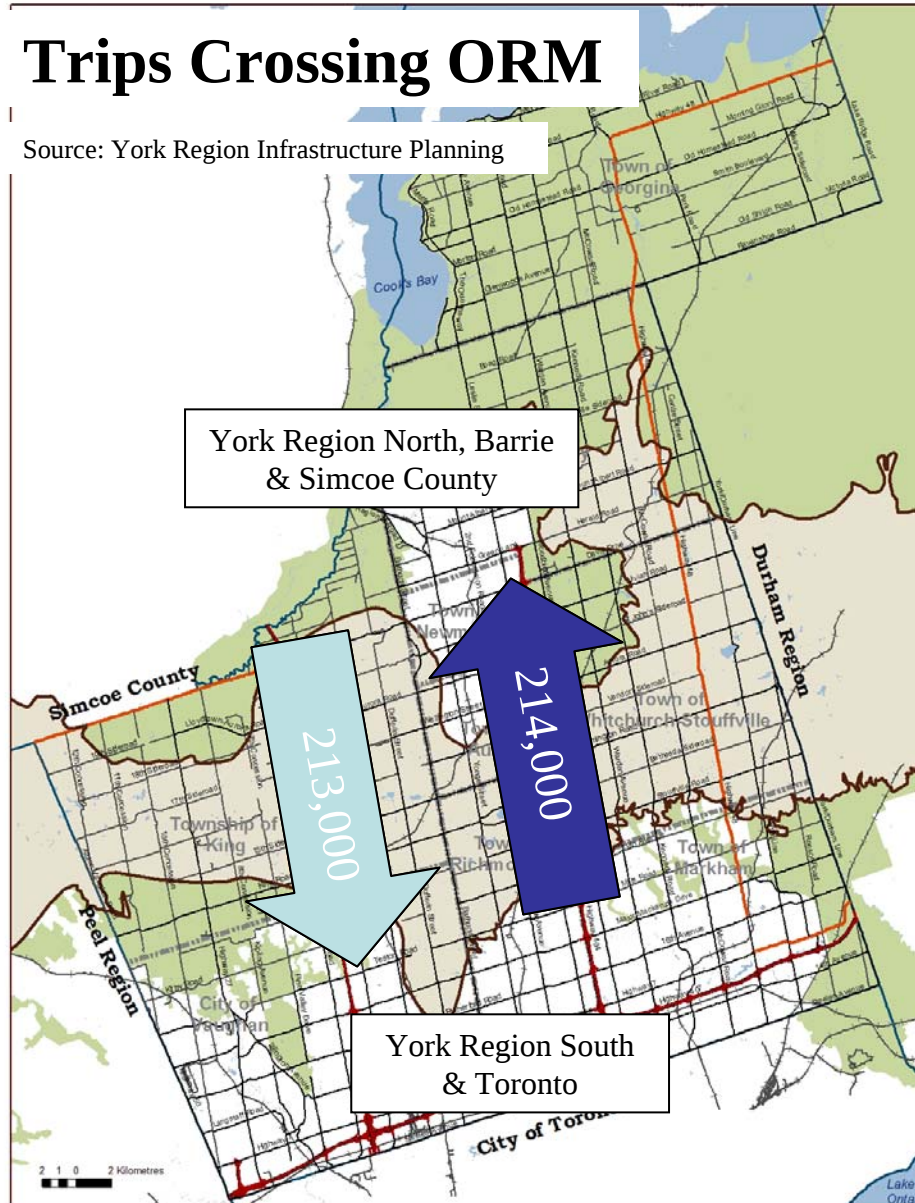
- Natural heritage system is key input to development of infrastructure master plans
- Identify what, where and degree of impact
- Develop infrastructure plans that minimize net impact and maximize gain
- Involve the public and stakeholders at the early stages

Consider Infrastructure Planning



Trips Crossing ORM

Source: York Region Infrastructure Planning

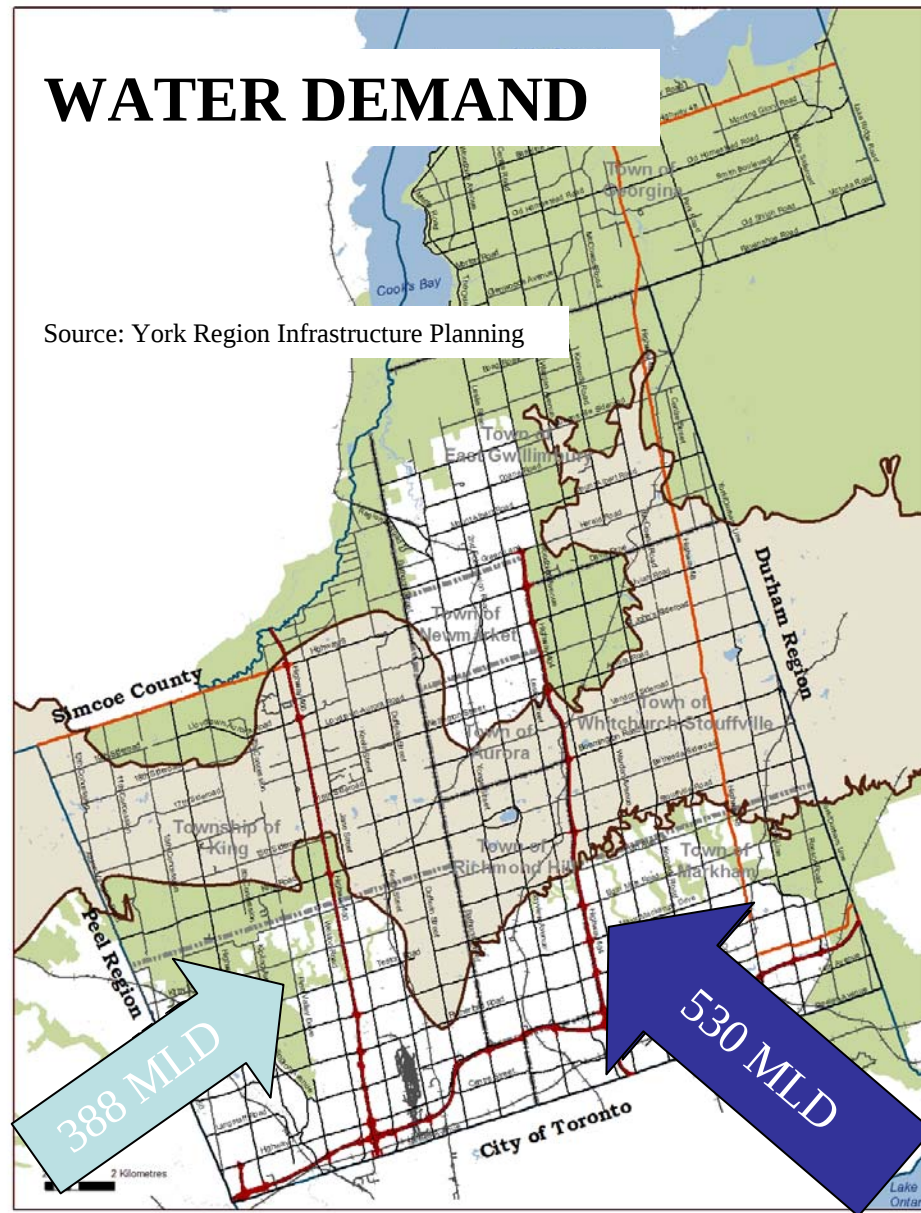


Travel Pattern

- Today: **133K** vehicle-trips cross ORM **twice** a day
- In 2031: **213K** vehicle-trips will cross ORM **twice** a day
- Larger if growth jumps greenbelt to Simcoe

WATER DEMAND

Source: York Region Infrastructure Planning



York Region

Lake Consumption Volume



In 2006

- from Peel Region – 33.6 MLD (Max. Day)
- From Toronto – 460 MLD (Max. Day)

In 2036

- from Peel Region – 388.3 MLD (Max. Day)
- from Toronto – 530.1 MLD (Max. Day)

4R Approach to Sustainable Transportation



- **R**educe need to travel – growth management and better land use policies
- Alte**R**native modes – policies and support infrastructure/programs/services
- Public t**R**ansit (+ school busing) – build infrastructure and improve services
- Optimize **R**oads – maximise/optimize existing capacity and expand if necessary

Example of 4Rs

2001 Observed

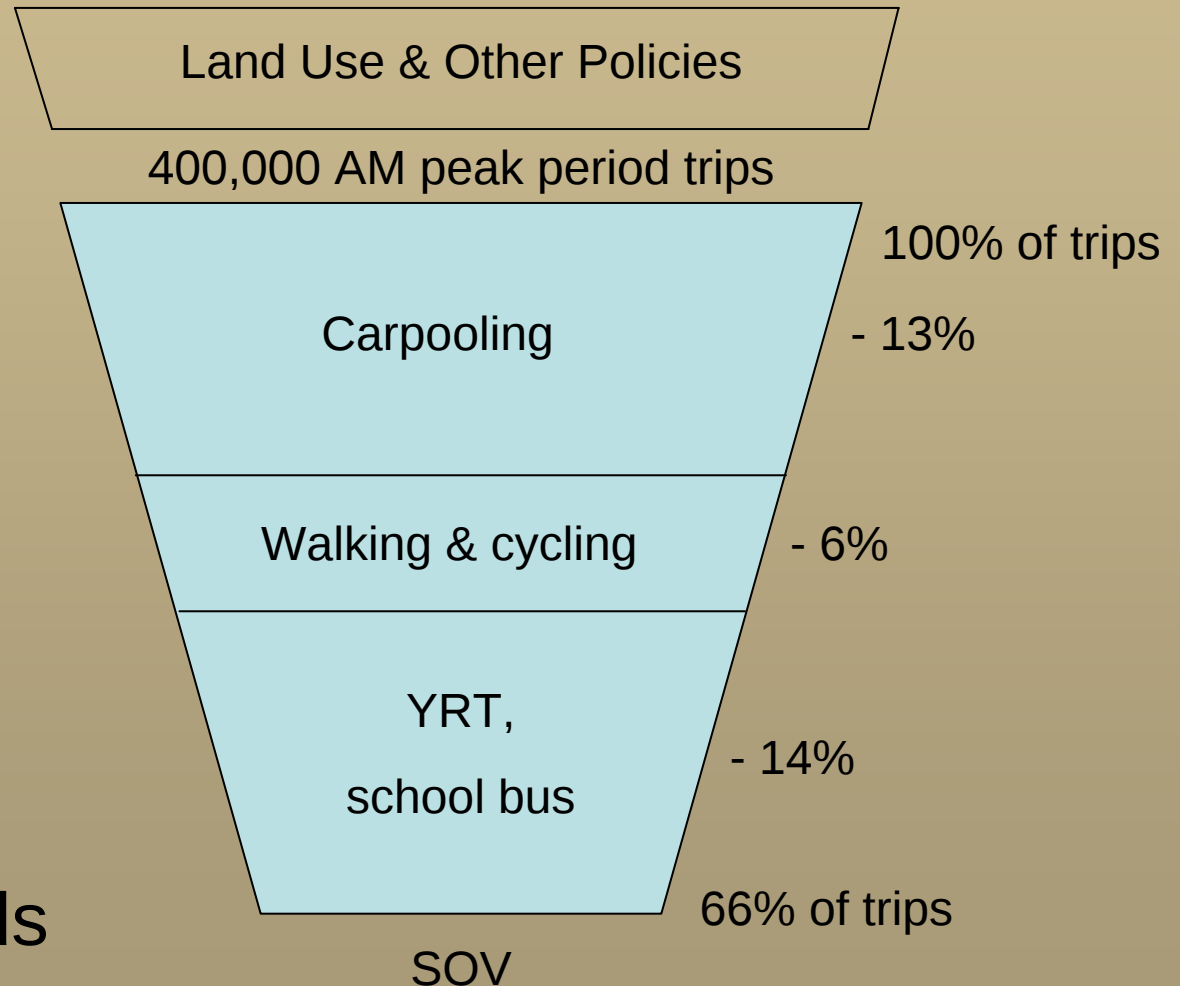


■ **R**educe need to travel

■ **A**lte**R**native modes

■ Public t**R**ansit

■ Optimize **R**oads



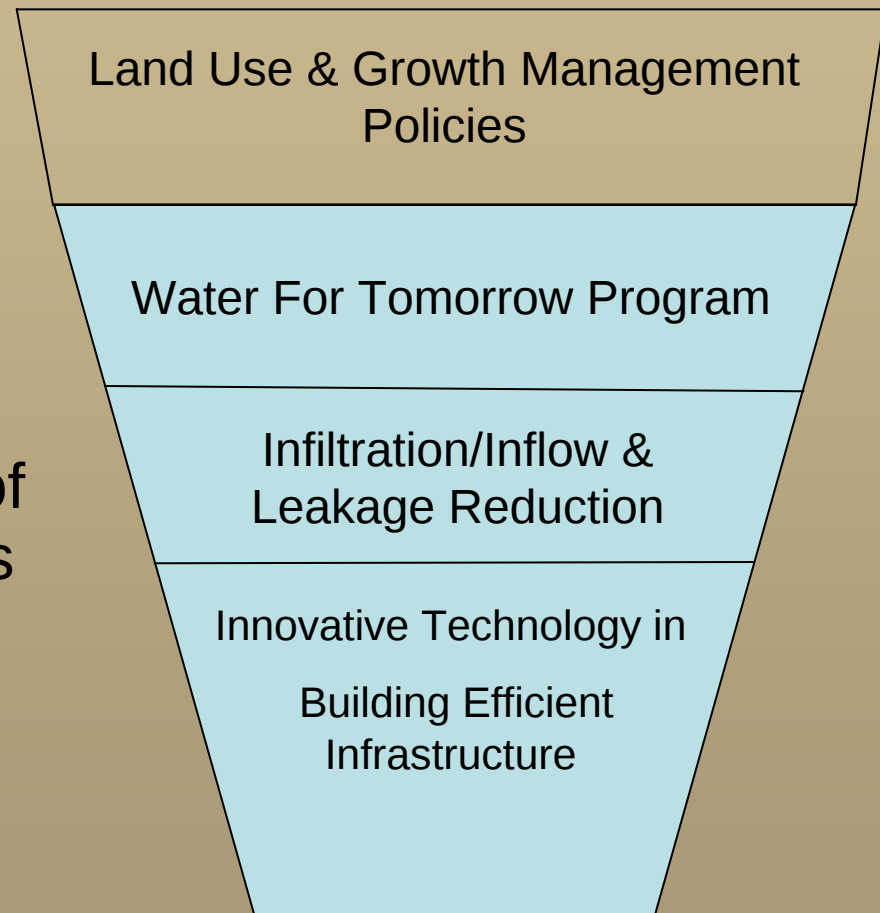
4R Approach to Sustainable W & WW Infrastructure



- **Restrict** the water consumption rate – by intensification as part of the growth management policies.
- **Reduce** the water consumption – by enhancing Water for Tomorrow program.
- **Recover** the capacity – by reducing Infiltration/Inflow in Sanitary pipes and water leakage.
- **New uRban Infrastructure** – by applying innovative technologies in building more efficient infrastructure.

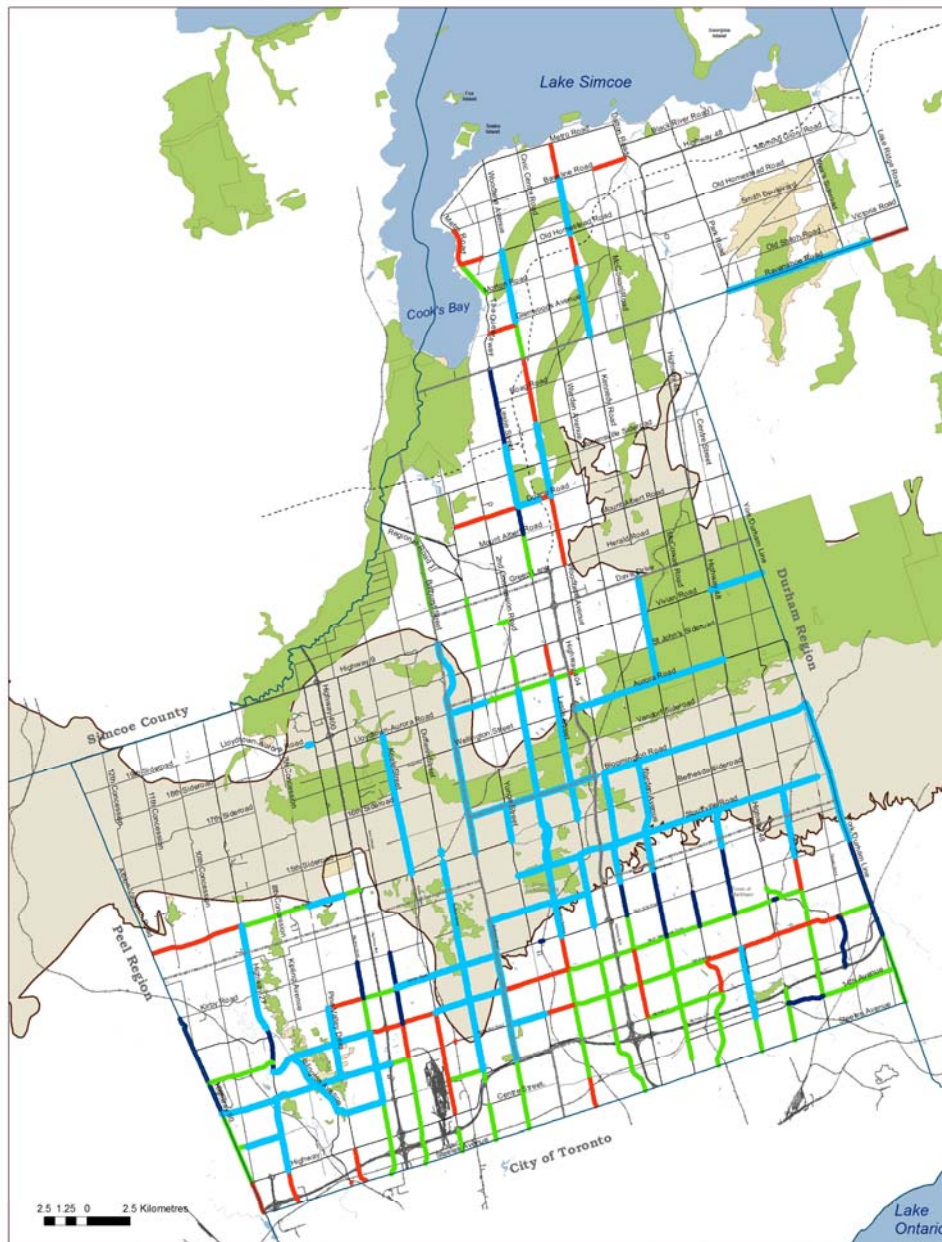
Example of 4Rs

- **R**estrict the consumption rate (L/cap.day)
- **R**educe the water consumption
- **R**ecover the capacity of the conveyance systems
- New u**R**ban Infrastructure

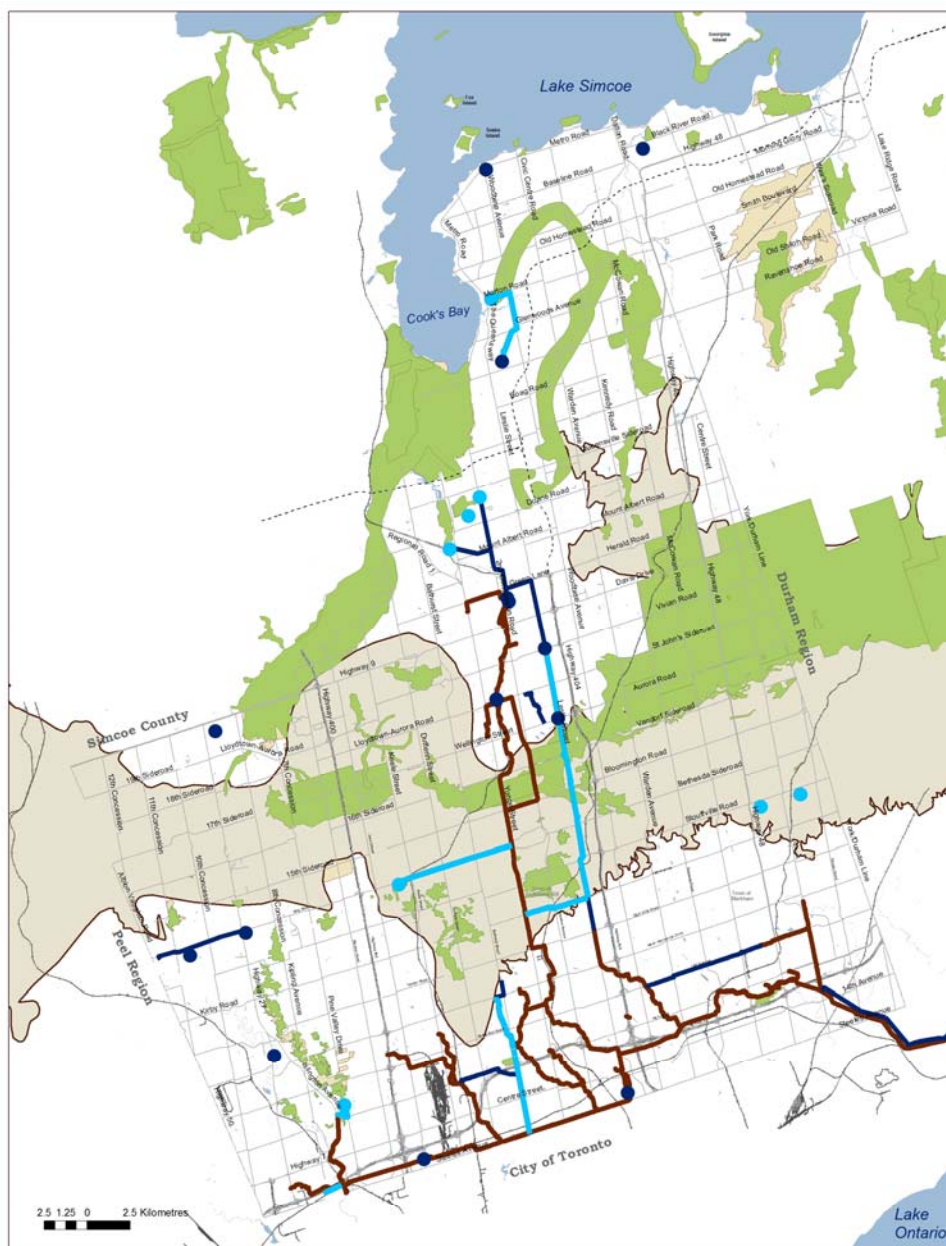


Sample Analysis

Transportation System



- 30 Year Roads Development Charges Bylaw
- Oak Ridges Moraine
- ESA
- ANSI
- Accumulated impact of the Natural Heritage features



Sample Planning for Tomorrow Wastewater System

- Existing YDSS
- Future YDSS System & Facilities
- Accumulated impact of the Natural Heritage features

Actions Taken (Transportation)



- Planning for Tomorrow
- TMP Update
- Viva & YRT expansion
- Smart Commute Initiative (e.g. carpooling, incentives for transit/bike use, alternative work arrangements, promotion of alt. modes)
- Ped/Cycling Master Plan
- ITS Strategic Plan
- Toward Great Regional Street policy
- Arterial road corridor reviews
- Context sensitive road design (e.g. St. Johns Side Road)

Actions Taken (Water & Wastewater)



- Water for Tomorrow Program
 - Water Metering
 - Low-Flush Toilet Flappers
 - Low-Flow Showerheads
 - Faucet Aerators
 - Workplace Water Audits
 - Water Efficient Grading
 - Landscape Audits
 - Education / Promotion
- Infiltration/Inflow Monitoring and Reduction Program
- Leak detection and repair

St. Johns Sideroad



- Engineering decisions made to protect, restore and enhance the wetland
- Wetland habitat improvements:
 - Minimized road footprint and Wetland loss
 - Dry culverts to direct animals under road
 - Wet culverts for unobstructed duck/goose/fish passage
 - Wetland water circulation improved with 2 larger culverts
 - Root wads installed to provide fish habitat and structure
- Monitoring program of effectiveness



19th Avenue Interceptor – Richmond Hill

Earth Pressure Balance Tunnelling Machine (EPBTM)



- Environmental Management Training for Contractor
- Earth Pressure Balance Tunnelling Method used for this project to:
 - Minimize the requirement for construction dewatering or lowering of the water table
 - Sediment and siltation control and monitoring
 - Minimize construction nuisance to traffic
 - Minimize environmental impacts
 - Minimize potential impacts to surface features and residential properties



What we know



- Growth coming – significant demand
- Reduce demand as much as possible
- New infrastructure still needed
- Locate infrastructure in best possible places
- Coordinate all infrastructure
- Minimize impacts

Challenge



- Need more innovative ways to plan for infrastructure to protect natural heritage
- Need to identify what is most important
- Need to apply best practices in planning and construction