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Great Lakes Chapter

Toronto and Region Conservation for The Living City

3rd Annual TRIECA Conference – March 25 & 26, 2014
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Showcasing Water Innovation

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A Market-based Approach to Stimulate Innovative Water-Conscious Design / Build in New Development

INNOVATIVE SUSTAINABLE DEVELOPMENT APPROVALS PROJECT

Presentation Overview

- Background
- Challenges for water management in York Region (and Ontario)
- A market-based, integrated water management approach
- Pilot study
- Lessons learned and implications

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The Sustainable Approach to Water Use

Long Term Water Conservation Strategy Goals

1. A new way to think about how we use water
2. Reduce water use through innovation, conservation, policy and behavioural change
3. Plan from 40 years in the future back to the present
4. Sustainable Funding Model

No New Water by 2051

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The Challenge

How to meet the 150 lpcd?

- **Move away from generic, end-user programming to focus on specific/targeted end users and intermediary marketplace (contractors/suppliers)**

- **Market transformation**

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Incenting Green Building

- Reduced development charges
- ‘Bonusing’ – increased allocation
- Expedited approval

Advantages of Expedited Approval

Municipality and Conservation Authority

- Drives sustainable building
- Supports competition for greener building within the industry
- Supports innovation in the marketplace
- Reduces the onus of prescriptive management from government agencies
- Encourages development that create socially & ecological vital communities
- Generates economic return for the municipality

Builder/Developer

- Reduces approval times and associated carrying costs, liabilities and project management and administration costs
- Competitive advantage with early to the market return on investment
- Reduced time means fewer regulation and political changes over the course of the project

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Pilot Project Description

- A new grade-related residential development
- Testing of Integrated Design Process (IDP) and expedited review and approval as an incentive for beyond Ontario Building Code and current requirements for water and energy performance and stormwater management.
- Determining use of performance targets and supporting prescriptive measures (where needed).
- Monitoring and evaluating green technology performance

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Project Partners

Partially Funded by MOE Showcasing Water Innovation

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Newmarket

Lake Simcoe Region Conservation Authority

Toronto and Region Conservation for The Living City

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Innovative and Sustainable Design Approvals Pilot Project Key Map

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REQUIRMENTS & TARGETS

CATEGORY	CURRENT REQUIRED	EXPEDITED APPROVAL MINIMUM TARGET
Stormwater:		
Quality – Phosphorous	**Level 1 / Pre=Post Phosphorus, whichever is lower**	**Further 10% Reduction**
Quality – Total Suspended Solids	**80% removal of TSS**	**Further 10% Reduction**
Quantity – Runoff	**2 to 200 year post to pre control**	**Same**
Quantity – Erosion	**5mm Rainfall Runoff Criteria**	**25mm Rainfall Runoff Criteria**
Quantity - Infiltration	**Water Balance – maintain existing infiltration**	**Same**
Water Conservation	**Ontario Building Code**	**Minimum 25% reduction over Ontario Building Code Standard**
Energy Conservation	**Ontario Building Code**	**Minimum 25% reduction over Ontario Building Code Standard**

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Stormwater Targets

CATEGORY	ORIGINAL TARGET	PROJECTED ACHIEVEMENT
Stormwater	**Phosphorus**: 10% Reduction Post vs. Pre	8% Reduction Post vs. Pre
	Total Suspended Solids: Further 10% Reduction beyond current requirement of 80% removal	16% Reduction beyond current requirement of 80% removal
	Runoff: Same as current requirement	Same as current requirement
	Erosion: Capture first 25mm precipitation on site	Capture first 10mm precipitation on site
	Infiltration: maintain existing levels	Exceed pre-development infiltration rate
Water Conservation	**Ontario Building Code**: 25% over	TBD
Energy Conservation	**Ontario Building Code**: 25% over	TBD

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What Worked Well

- Performance targets – developer identifies options and solutions and proves efficacy
- Integrated Design Process (IDP) – scoping issues and shared approach to options and solutions
- Bi-monthly committee meeting with all key players

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What did not work well

- Perception of “unproven” or “innovative” approaches
- Lack of review and approval personnel with green building/low impact development expertise
- Lack of provincial policy, guidance and regulation to support green building initiatives at the municipal-level
- Perception that current municipal review and approval process is effective and that a fast-track process won’t work.
- Voluntary targets: project partners reconsidered their commitment to the targets and measures to achieve them.

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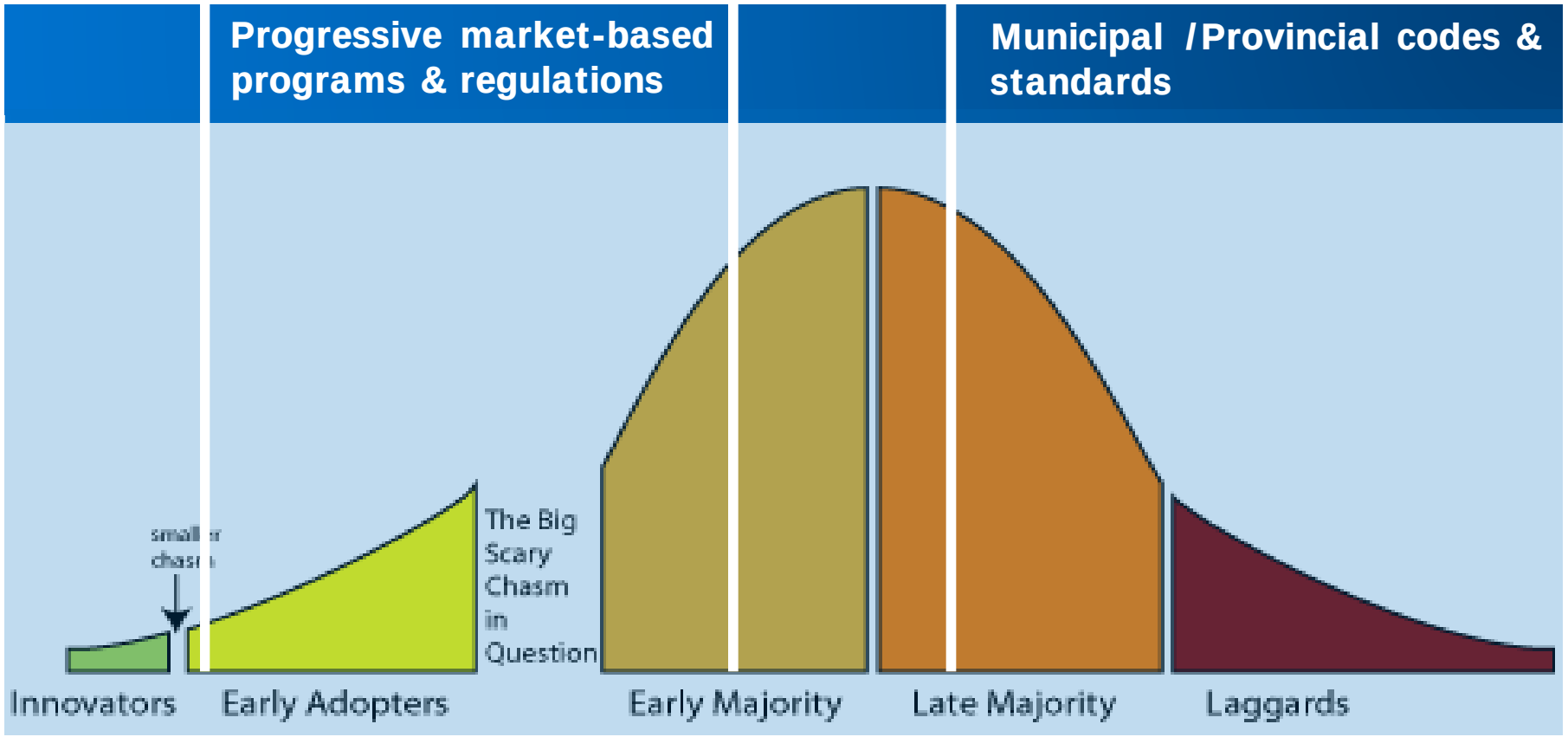
The Biggest Challenge

Geoffrey Moore's 'Crossing the Chasm' diagram
circa 1991



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What We Know

Common elements in leading US jurisdictions:

- Top down leadership with extensive training of staff and delegation of authority
- Programs and support to encourage innovation
- Early widespread application of proven practices and technologies
- State-level guidance and regulation
- Expedited approvals
- Clear and robust pre-submission guidelines
- Fulsome and motivated Integrated Design Process

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Recommendations

- Integrated Water Management (IWM) and market-based approach

Source: Hoban, A.T and Wong, T.H.F (2006:) *WSUD and Resilience to Climate Change*

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Recommendations

- Municipal infrastructure innovation committee:
  - Interdisciplinary
  - Municipal CAOs and Commissioners
  - Key Business Leaders (early adopters)
  - Conservation Authority CAOs and Senior Management
- Re-define municipal infrastructure
- Private property must become part of the infrastructure equation
- Scale and return on investment: District water, communal systems, calculated paybacks based on whole-system assessment

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Thank You!