

# Green Development Standards: Towards Implementation



**Clean Air Partnership**

# Presenter – Vanessa Cipriani

- **Project Coordinator for Clean Air Partnership's Transition 2050 Project, the Climate Action Support Centre (CASC)**
- **CASC project includes creating toolkits for municipalities on reducing GHG emissions from new and existing buildings in the corporation and community**



# Agenda

- **CASC project**
- **Introduction to GDS**
- **The Benefits of GDS**
- **Legislative Authority for GDS**
- **Jurisdictional Examples**
- **Milestone Framework for Implementation**



# Climate Action Support Centre (CASC) Project

- FCM funded project
- 8 municipalities worked together to develop a Toolkit for municipal staff to develop or improve their Green Development Standards (GDS)



# Purpose of the CASC project

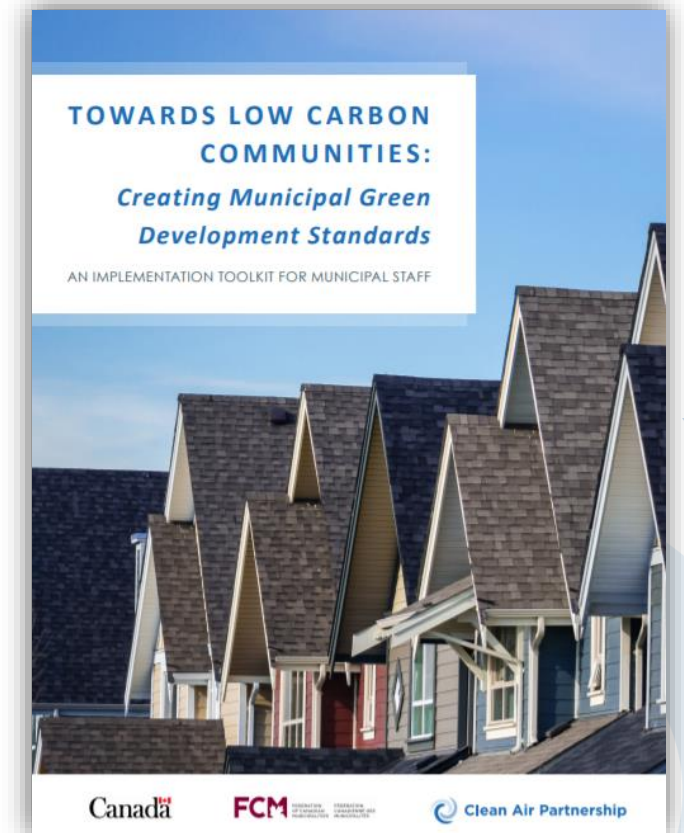
- Increase municipal capacity to communicate about GDS, develop GDS, and implement GDS in their communities
- Provide training and resources to support municipal staff
- Identify uptake levers and incentives



# CAP's GDS Toolkit can

- **Help municipal staff:**
  - Communicate to decision makers the value of GDS
  - Understand the legislative authority for creating GDS
- **Provide:**
  - A milestone framework for tracking your progress with GDS
  - Resources, education for staff and stakeholders
  - Sample metrics to be used in developing your own GDS

**Clean Air Partnership**



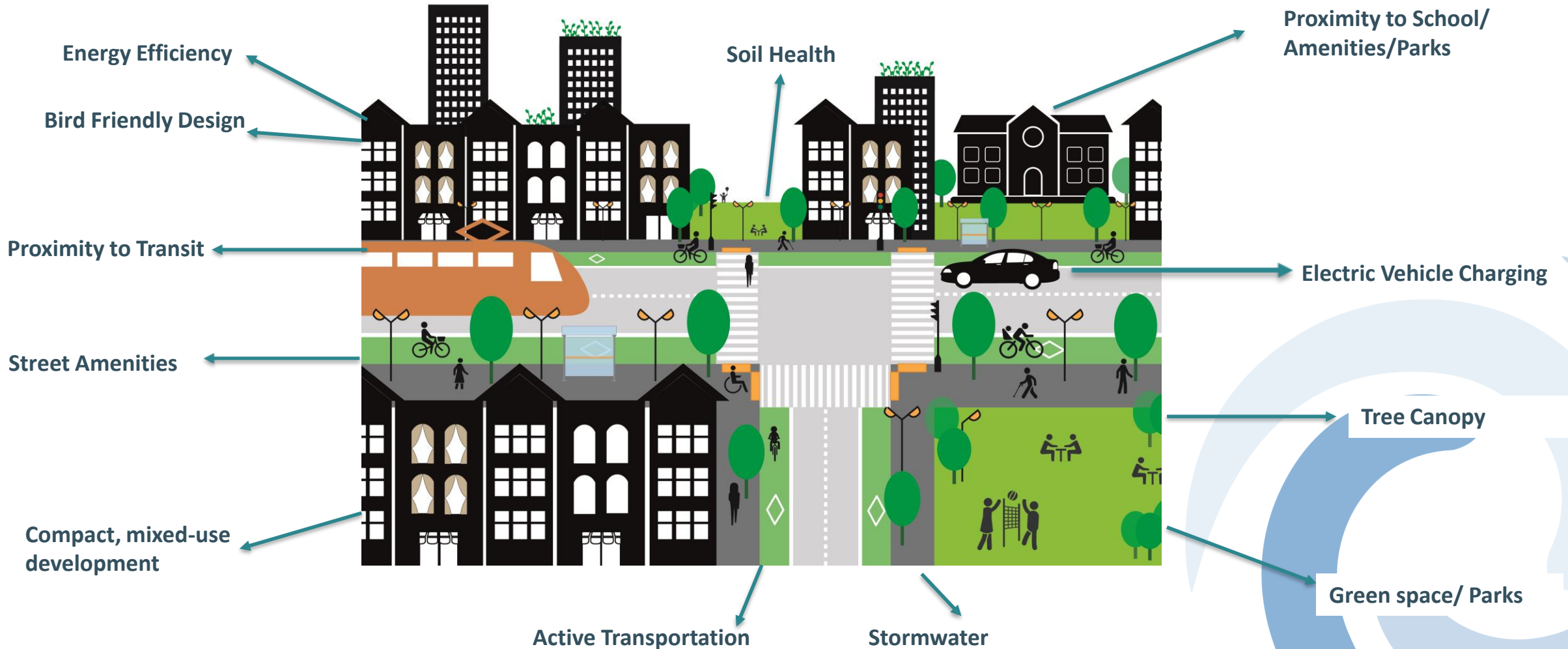
# What are Green Development Standards (GDS)?

- **Voluntary or mandatory standards implemented by municipalities to encourage sustainable community design**
- **Guide development at a level of planning and design that focuses on the community as a whole**
- **Integrated into the planning approvals process for development applications**





# What do Green Development Standards cover?

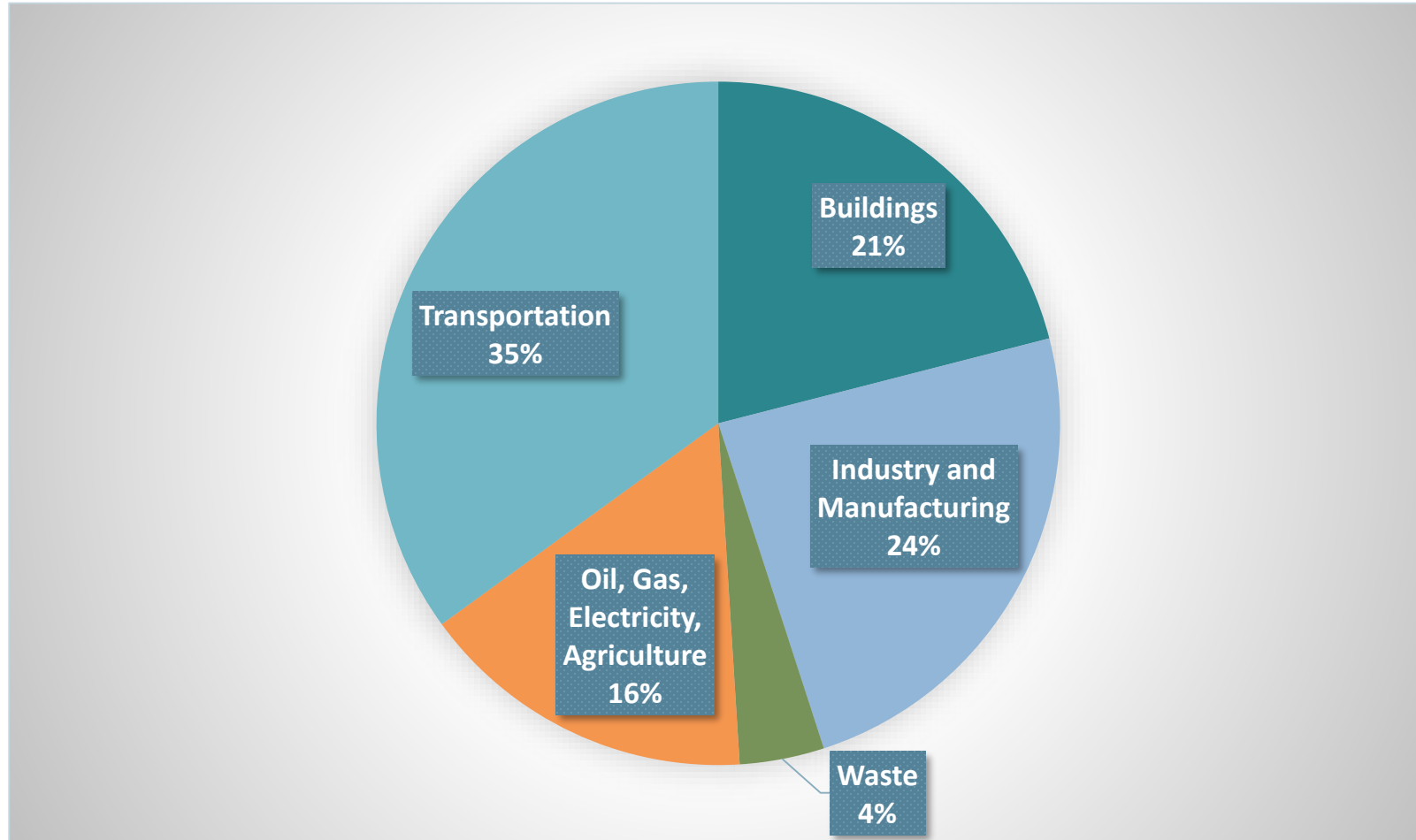





# Why Green Development Standards?

- COVID response must address our community design
- Climate emergencies are being declared all over the world
- Ontario's population is projected to grow by 30.2 per cent (4.3 million) between 2017 to 2041.
- In order to reach GHG targets, new buildings and neighborhoods need to be built to minimize GHG emissions through:
  - Energy efficient building principles (easier to build to net zero than retrofit)
  - Connected communities with active and public transportation

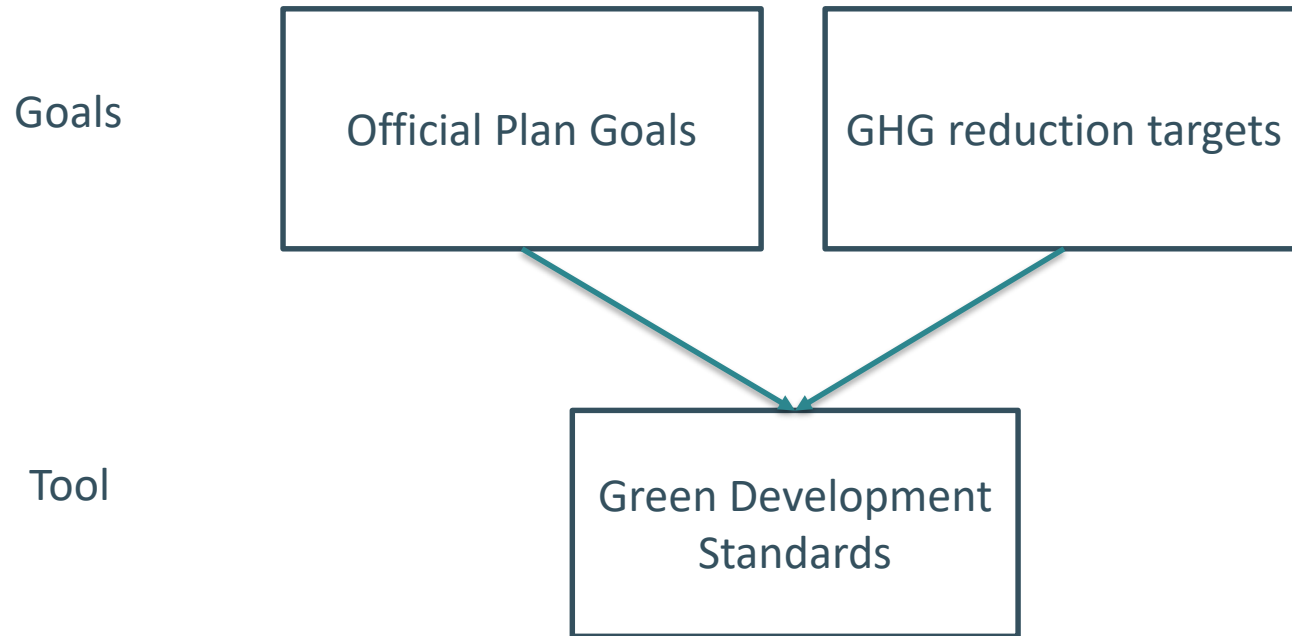
# Ontario GHG Emissions by Sector



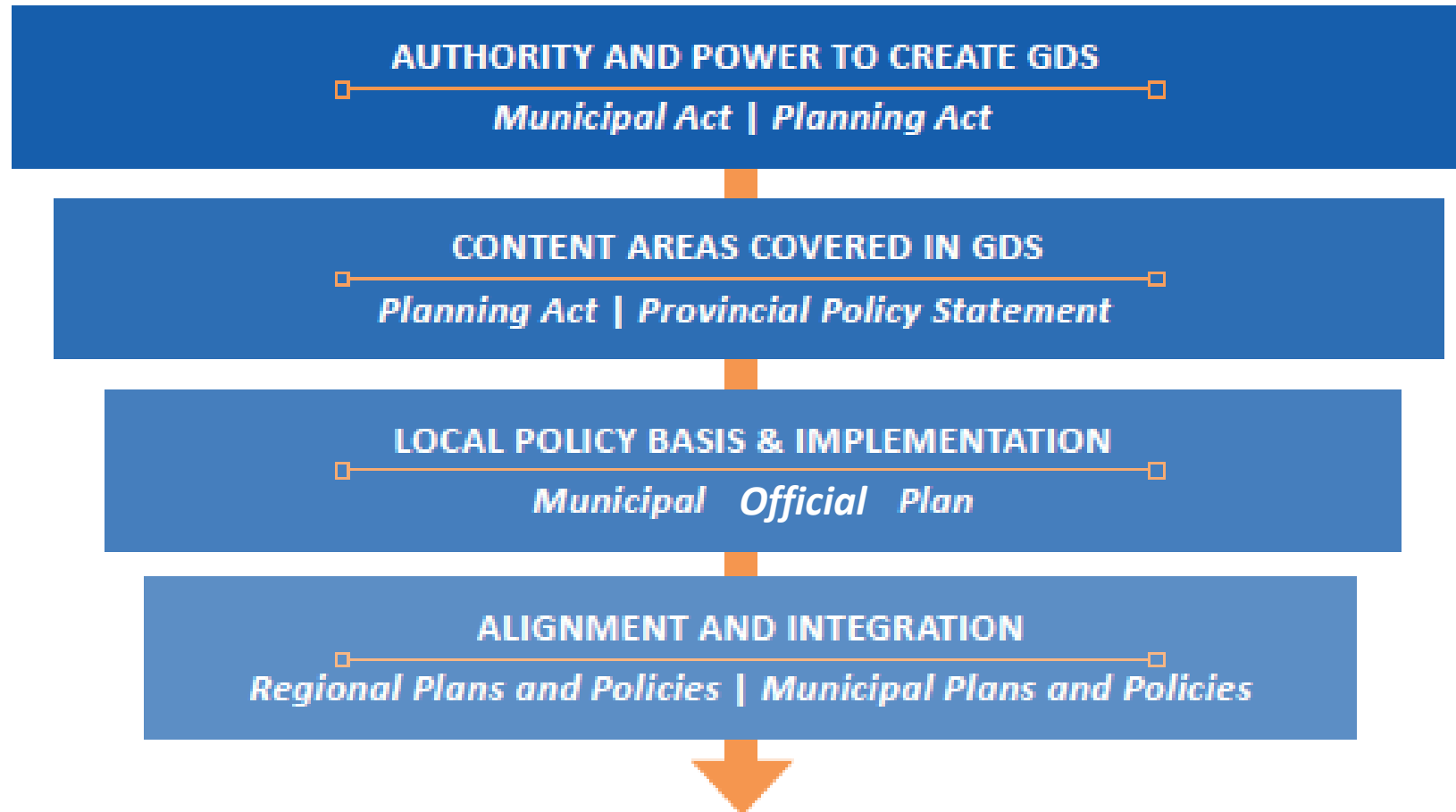
# GDS as an Implementation Tool

- Integrating standards and requirements that already exist into one place 
- Key tool for municipalities to implement the goals of their Official Plans and to stimulate local economic development
- Increasing growth offers a key opportunity to ensure that new developments consider public health, climate change, energy, and resource use

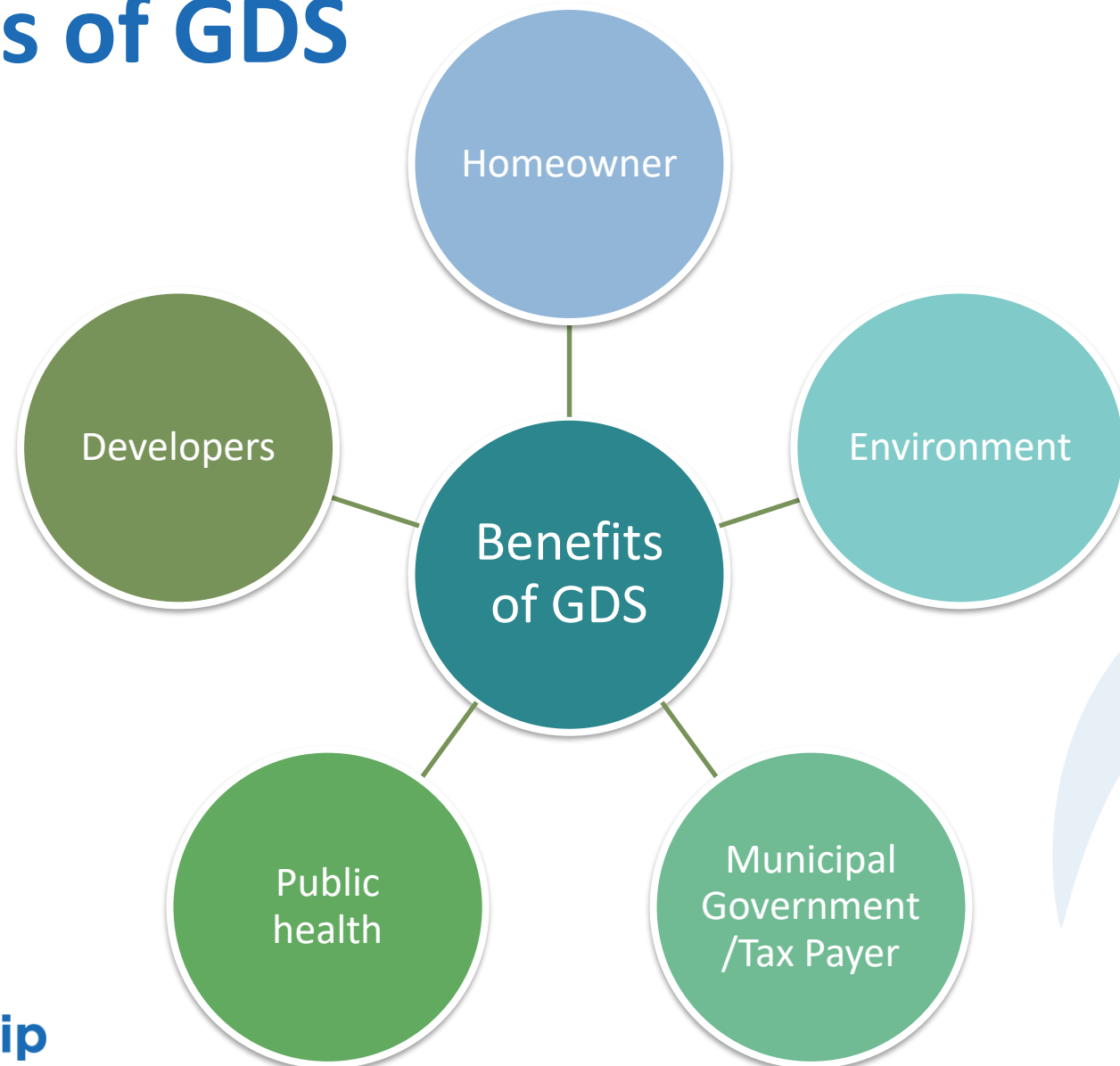
# A tool for implementation



# Legislative and Policy Context for GDS



# The Benefits of GDS



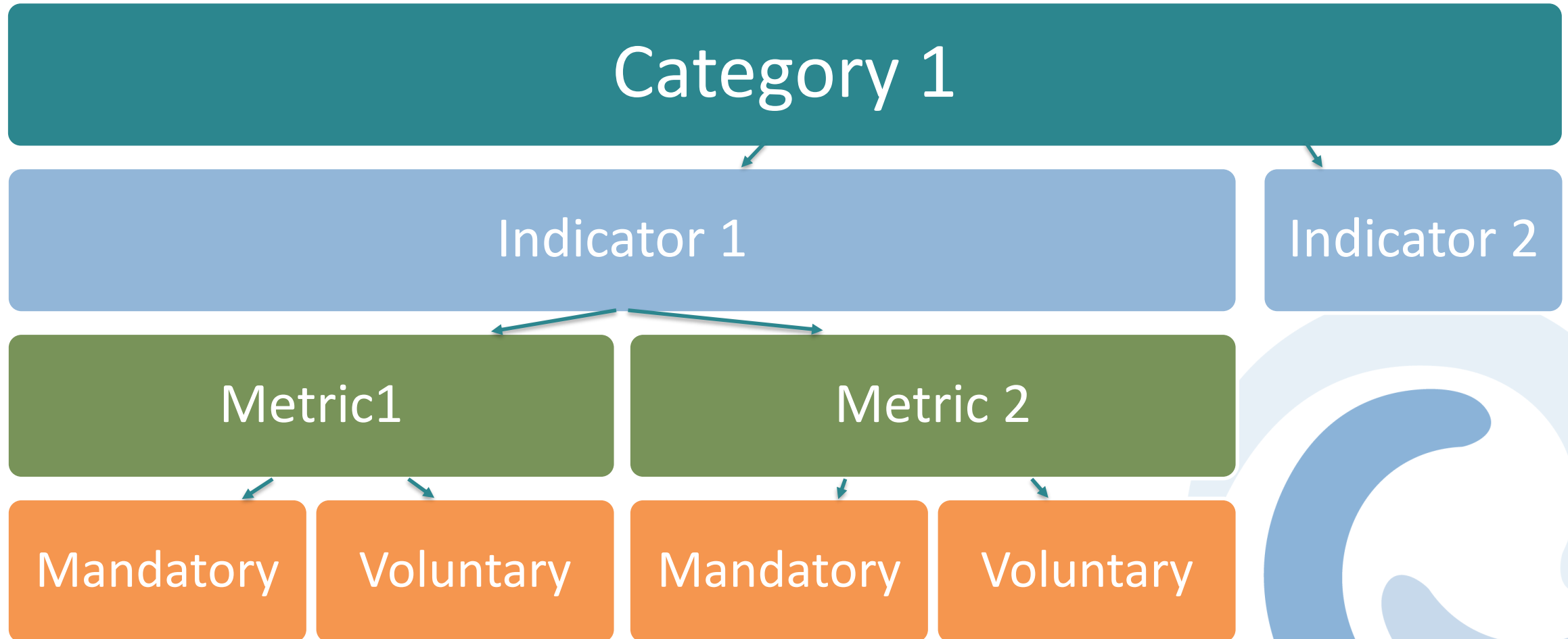
# Key Outcomes of GDS for communities

- **Minimize GHG emissions**
- **Preserve the natural environment**
- **Create thriving, connected communities**
- **Improve public health**
- **Support the local economy**
- **Provide flexibility and certainty for developers**

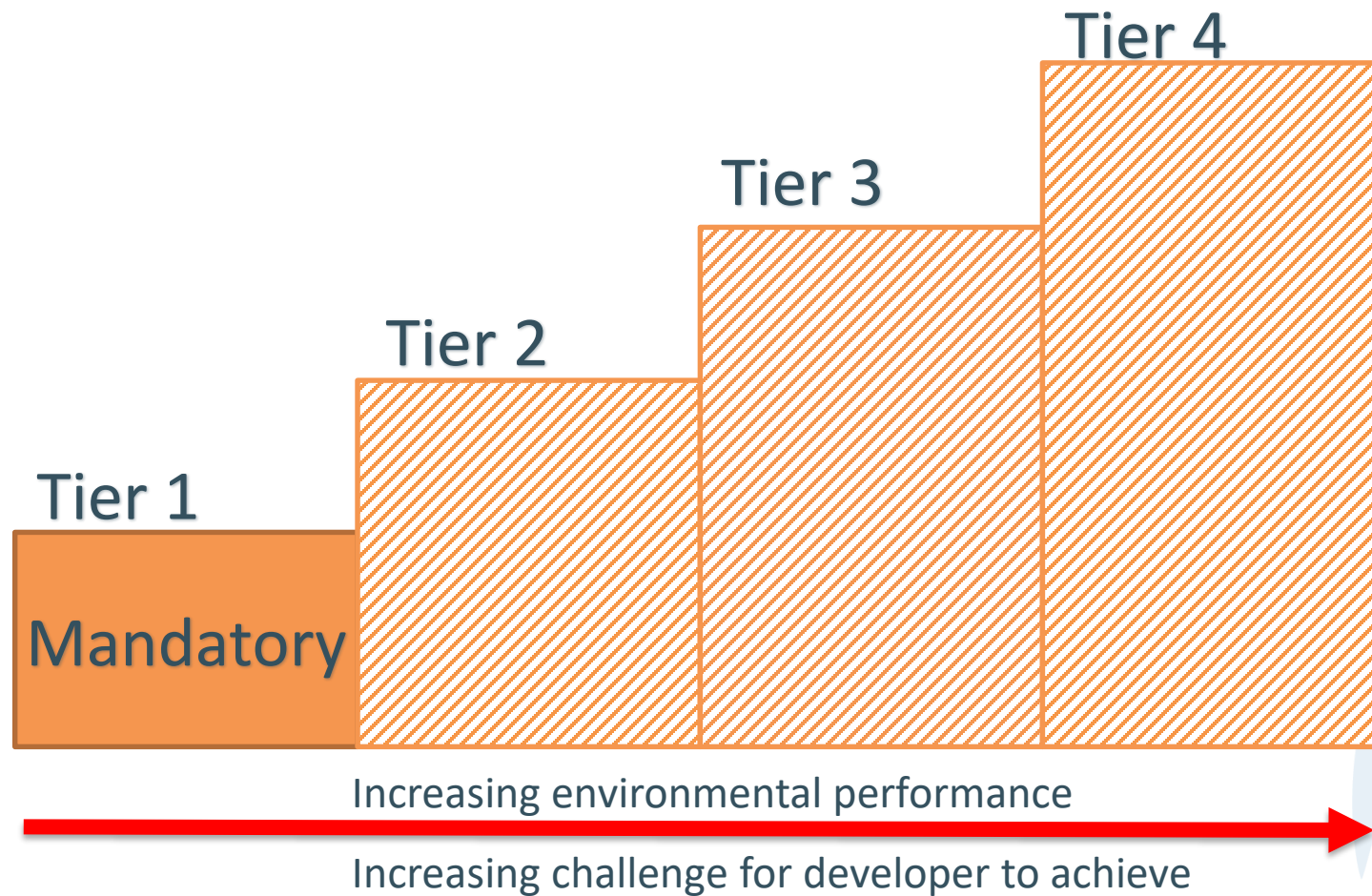




# What do Green Development Standards look like?



# Tiered, Prescriptive Approach to GDS



# Tiered Approach to GDS (Toronto Green Standard)

- Example metrics from Toronto Green Standard version 3 for Low Rise Residential

Increasing environmental performance



Development Feature	Water Balance (Stormwater Retention): Capture and manage rainfall to improve water quality and aquatic ecosystem health while enhancing the resilience of infrastructure to extreme rainfall events.
TIER 1	<b>WQ 2.1 Stormwater Retention &amp; Reuse</b>  Retain runoff generated from a minimum of 5 mm depth of rainfall from all site surfaces through infiltration, evapotranspiration and water harvesting and reuse.
TIER 2	<b>WQ 2.2 Advanced Stormwater Retention &amp; Reuse (Core)</b>  Retain runoff generated from a minimum of 10 mm depth of rainfall from all site surfaces through infiltration, evapotranspiration and water harvesting and reuse.
TIER 3	<b>WQ 2.3 High Performance Stormwater Retention &amp; Reuse (Core)</b>  Retain runoff generated from a minimum of 25 mm depth of rainfall from all site surfaces through infiltration, evapotranspiration and water harvesting and reuse.

# Menu Approach to GDS (example)

Category	Points
Infrastructure and Buildings	25 Points available
Built environment	25 Points available
Mobility	25 Points available
Natural environment and open space	25 Points available
<b>Total Points Available</b>	<b>100</b>
<b>Minimum Points Required</b>	<b>70</b>

8 metrics in this category

# Menu Approach to GDS (example)

Category 1 (i.e Infrastructure and Buildings)	
Metric 1	
Mandatory	0 points
Recommended Minimum Target	2 points
Aspirational Target	2 points
Metric 2	
Mandatory	0 points
Recommended Minimum Target	2 points
Aspirational Target	2 points
<b>Point Total</b>	

# Menu approach (Vaughan example)

Planning Act, PPS provide broad areas to cover

Building Types

Third Party Systems (eg. LEED)  
Other GDS  
Regional Plans/Policies

Site (S) Metrics												
Category	Indicator	Metric	Mandatory Target	Recommended Minimum Target			Aspirational Target			Precedent	Points	Implementation
				Single Family	Multi	Commercial / Retail/Inst	Single Family	Multi	Commercial			
Infrastructure and Buildings	Energy conservation	Building energy efficiency	OBC	EnerGuide 83 2 POINTS	35% improvement 3 POINTS		EnerGuide 85 2 POINTS	35% improvement or more 11 POINTS	LEED ND GIBp2 TGS TIER I & TIER II	21	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement	

Mandatory Measures

Voluntary Measures

Can be adjusted to reflect cost/effort/municipal priorities

# Example Metric

<b>Metric</b>	<b>Tree Canopy- Maintaining existing trees and Soil Fertility</b>
<b>Applies to</b>	Draft and Site Plans
<b>Mandatory</b>	Arborist Report provided that identifies and evaluates where onsite healthy mature trees will be protected (in-situ or moved) or removed. Where healthy mature trees must be removed, new trees (not including street trees) are provided on site or as determined by the municipality to mitigate the lost canopy coverage of the trees removed.
<b>Voluntary</b>	75% of healthy mature trees greater than 20 cm. DBH are preserved in situ on site.
<b>How It is Demonstrated</b>	Arborist Report that clearly reports total number of trees removed, to be protected, and to be moved. Also include percentages of tree health.
<b>Who is Responsible for Reviewing</b>	Parks/Natural Heritage Planning
<b>Rationale</b>	As part of the urban forest, street trees provide a range of ecosystem services including: cleaning air; intercepting rainfall that helps to mediate storm flows; evaporative cooling and summer shade to reduce building cooling loads; wind breaks; and carbon sequestration. As community amenities, street trees promote active transportation by providing a more walkable pedestrian environment.



# GDS Examples in Ontario



# The Toronto Green Standard

- **Covers private and city-owned buildings**
- **Tiered system, where Tier 1 is mandatory and Tiers 2-4 are voluntary**
- **Financial incentives – Development Charges Refund Program (voluntary)**



# ENERGY EFFICIENCY, GHG & RESILIENCE



Development  
**Feature**

## Energy Efficiency

Reduce energy loads in buildings, encourage passive design strategies and provide protection during power disruptions

### TIER 1

#### GHG 1.1 Building Energy Performance

Design the building(s) to achieve at least ENERGY STAR® for New Homes, version 17 or R-2000® requirements.

### TIER 2

#### GHG 1.2 Advanced Building Energy Performance (Core)

Design, construct and label the building(s) to achieve at least ENERGY STAR® for New Homes, version 17 or R-2000® requirements.

City-owned buildings (Agencies, Corporations and Divisions) Residential uses:

Design, construct and label the building to achieve at least ENERGY STAR® for New Homes, version 17 or R-2000® requirements. The CHBA Net Zero Home Labelling Program, Passive House or an alternative zero emissions standard certification is encouraged.

#### GHG 1.3 Energy Efficient Appliances (Core)

Where supplied, for each unit, provide ENERGY STAR® labeled refrigerators, ceiling fans, clothes washers and dishwashers.

• Example metrics from TGS v3 for Low Rise Residential

# Toronto Green Standard- unique feature

- Energy modelling requirement
- Using *Planning Act* section 41 authority to request energy modelling reports
- Developers must show a 15% energy efficiency improvement above the OBC or GHG targets specified by the city
- Key learning: Developers recognize that building to higher energy efficiency can increase the capital costs, however these will pay for themselves over time through ongoing energy costs savings.

# Vaughan/Brampton/Richmond Hill

- **Menu of metrics worth different points, where applicants must demonstrate a minimum score**
- **Scores relate to 3 levels of sustainability, where applicants must achieve the base level to be considered**
- **Applicants encourage to explore incentives from Enbridge**
- **Created online scoring tool, guidebooks, and manual**

# Halton Hills

- **Uses a LEED-like checklist approach**
- **No mandatory requirements, but applicants must meet a minimum threshold**
- **Points for each metric are based on the significance of the environmental performance and the difficulty/cost associated with implementation**



- Example metrics from Halton Hills GDS for Low Rise Residential

		Criteria	Points	Rationale	Implementation	
<b>Air Quality</b>						
<b>Air Quality</b>	<input type="checkbox"/>	1	<b>Use low or no VOC paints and finishes (e.g. adhesives, sealants, paints, carpet).</b>	<b>1.0</b>	Using paints and finishes that are rated as having no or being low-VOC (volatile organic compounds) helps improve indoor air pollution as these products eliminate or reduce the amount of contaminants released by these products into the air.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	2	<b>Install HVAC systems that reduce exposure to indoor air quality pollutants by ventilating with outdoor air.</b>	<b>2.0</b>	Heat Recovery Ventilation systems that use outdoor air can improve indoor air quality.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	3	<b>Provide additional street trees at least 10% above the minimum required by the Town's Development Standards either within the street right of way and/or in nearby public open spaces.</b>	<b>3.0</b>	Trees improve air quality, reduce heat island effects and enhance the streetscape for pedestrian usage	Demonstrated at time of: draft plan of Subdivision approval – street tree planting plans Secured by: Subdivision agreement
	<input type="checkbox"/>	4	<b>If surface parking is provided other than in individual driveways, plant shade trees at a minimum ratio of 1 tree native to Halton Region for every 5 parking spaces provided.</b>	<b>2.0</b>	Trees reduce heat island effects of large expanses of hard surfaces	Demonstrated at time of: Site Plan approval – landscaping plans Secured by: Site Plan agreement
		<b>Maximum Possible Points</b>	<b>8.0</b>			



# Clarington

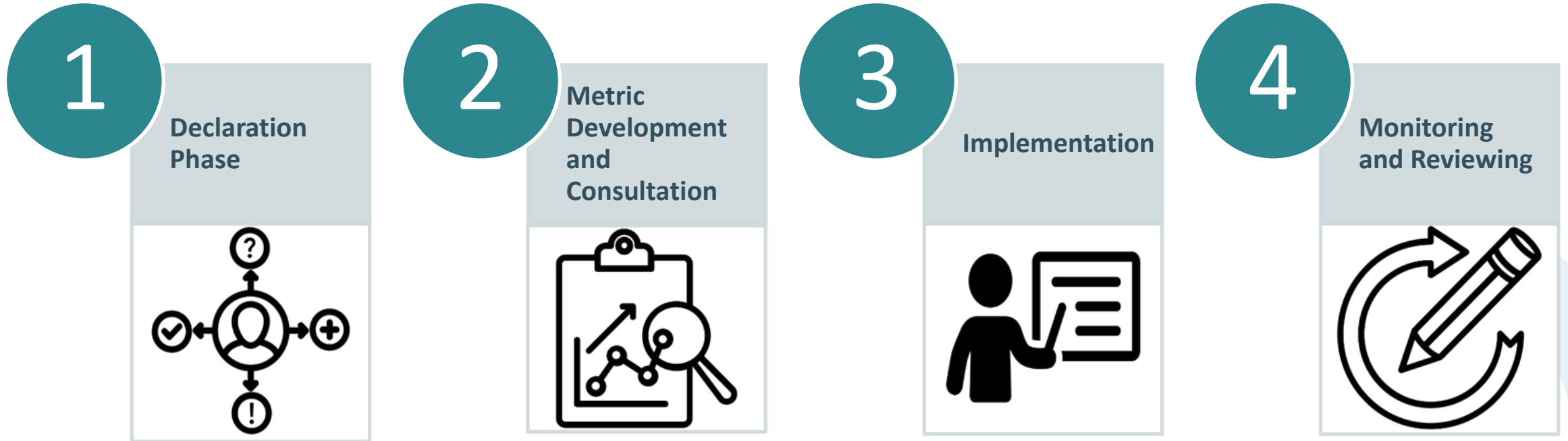
- **Priority Green Clarington is a checklist of recommended standards**
- **Currently being applied to 11 secondary plans**
- **Not yet mandatory and enforced across all development scales**



# Key Opportunities for your municipality

- **Develop GDS to apply to corporate municipal buildings**
- **For lower-tier: Develop and incorporate GDS into the planning approvals process**
- **For upper-tier: develop a framework for GDS to guide lower-tier municipalities**
- **Integrate any existing performance checklists, urban design guidelines, and other sustainability design briefs into GDS**
- **Align strategic goals around climate adaptation and infrastructure maintenance with the development of GDS**
- **Use any major redevelopment area opportunities and secondary plans (e.g. Brownfields) to create a test-bed for policy and technology innovation.**

# The Milestone Framework for Implementing GDS in your Municipality



# Milestone 1: Declaration Phase

1

- **Step 1: Establish a working team and build the value proposition for GDS in your municipality**
- **Step 2: Identify the objectives for your project and ensure alignment with other policies**



## Milestone 2:

- **Step 1: Conduct analysis of best practices and a jurisdictional scan of programs**
- **Step 2: Develop metrics**
- **Step 3: Develop an Internal and External Consultation Plan**

2

Metric  
Development  
and  
Consultation



# Supporting Tools and Resources

- **Guidebooks and training programs**
- **Submission Requirements:**
  - Summary Letter
  - Metric Score
  - Technical Background Report
  - Checklists



# Consultation, Consultation, Consultation

- Engagement, education, and training are critical for the success of your GDS
- Interdepartmental training with staff is key
- Secure a council champion to ensure momentum





# Eg. Municipal Staff Workshop #1

TARGET AUDIENCE	WORKSHOP AGENDA	POST-WORKSHOP 1 ACTION ITEMS
<p>Municipal staff from multiple departments should be invited, such as:</p> <ul style="list-style-type: none"> <li>» Planning</li> <li>» Engineering</li> <li>» Stormwater Management</li> <li>» Transportation</li> <li>» Infrastructure</li> <li>» Natural Environment</li> <li>» Parks and Urban Forestry</li> <li>» Solid Waste/Public Works</li> <li>» Urban/Community Design</li> <li>» Cultural Heritage</li> </ul>	<p><b>1. Presentation:</b> General project introduction and description of key deliverables.</p> <p><b>2. Breakout groups:</b> Each breakout group will be assigned a test site. Each group will have 1-2 hours to do the following:</p> <ul style="list-style-type: none"> <li>» <b>Demonstrate</b> how the metrics may be applied to the selected test site.</li> <li>» <b>Assess</b> whether the proposed metrics: <ul style="list-style-type: none"> <li>↳ Were understandable, measurable and quantifiable.</li> <li>↳ Applied to the test site in question.</li> <li>↳ Had clear, consistent language/terms.</li> </ul> </li> <li>» <b>Review</b> the accompanying tools for the metrics (checklist, guidebook, manual etc.).</li> <li>» <b>Provide</b> technical feedback on implementation, the draft metrics, and any targets or compliance thresholds.</li> </ul>	<p><b>1. Consolidate and review</b> feedback gathered from the workshop.</p> <p><b>2. Identify metrics</b> that require more discussion or additional technical input.</p> <p><b>3. Create a revision log</b> for the metrics in order to track the evolution of the targets and metrics, to be updated through the course of the project based on feedback received.</p>

# Eg. Developer Engagement Workshop

*Purpose:* To introduce the project objectives to the development community, including consultants.

OBJECTIVES	TARGET AUDIENCE
<ol style="list-style-type: none"><li>1. <b>Identify</b> current regulatory, policy and industry barriers for sustainable development.</li><li>2. <b>Introduce the project.</b></li><li>3. <b>Introduce the structure</b> of the sustainability metrics.</li><li>4. <b>Identify high priority</b> indicators/metrics.</li><li>5. <b>Explore</b> and seek feedback on possible incentive mechanisms.</li></ol>	<ul style="list-style-type: none"><li>» Developers</li><li>» Industry associations</li><li>» Consultant firms working in the municipality</li></ul>

Source: CAP Green Development Standards Toolkit

# Eg. Public Engagement Avenues

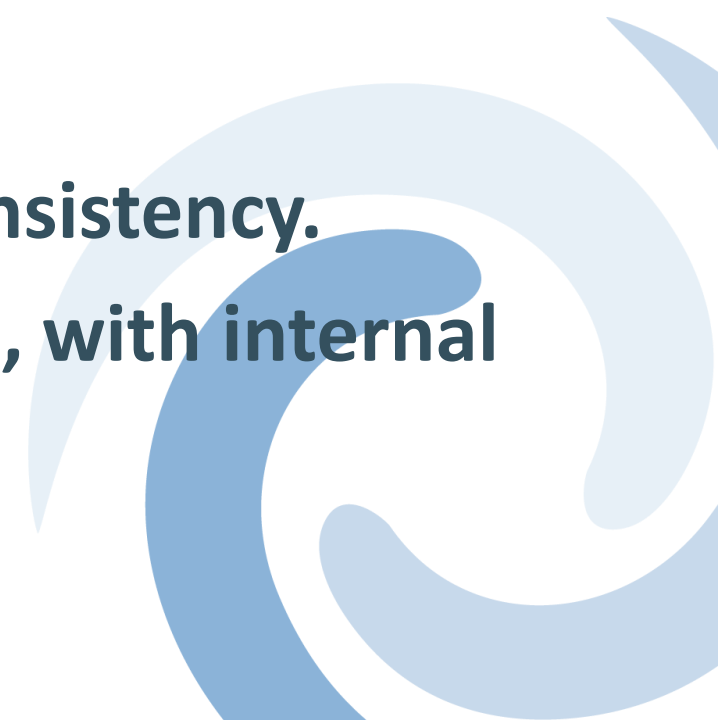
**Purpose:** To share the project objectives with the public, its benefits for the community, and how GDS can help further municipal priorities.

OBJECTIVES	TARGET AUDIENCE	METHOD
<ol style="list-style-type: none"><li><b>1. Introduce</b> the project.</li><li><b>2. Identify</b> the goals of the GDS.</li><li><b>3. Seek</b> public input on the GDS.</li></ol>	<ul style="list-style-type: none"><li>» Community Groups</li><li>» Educational Institutions</li><li>» Individuals</li></ul>	<ul style="list-style-type: none"><li>» Post documents on municipality's website for public comment.</li><li>» Public Open House sessions.</li><li>» Information Tables at large community events and community centres.</li><li>» Include updates in councillor newsletters.</li></ul>

Source: CAP Green Development Standards Toolkit

# Design Principles For Good Green Development Standards

- **Ensure tools are easy to use**
- **Define the desired performance threshold**
- **Do not reinvent the wheel**
- **Seek partnerships with other municipalities**
- **Level the playing field — developers want consistency.**
- **Conduct engagement throughout the process, with internal and external factors.**



## Milestone 3:

- **Step 1: Update and Review internal planning application review processes**
- **Step 2: Communicate GDS project to stakeholders**
- **Step 3: Train staff and applicants**

3

Implementation



# Green Development Standards (GDS) Implementation Process

1



Inquiry

2



Pre-Submission Meeting/  
Consultation

3



Formal Submission

4



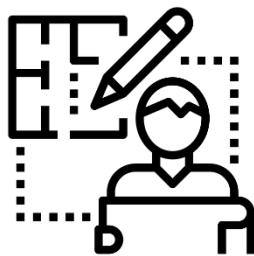
Technical Team Review

5



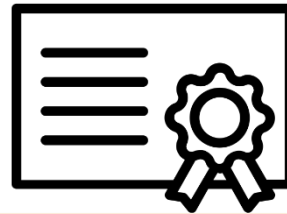
Draft Approval

6



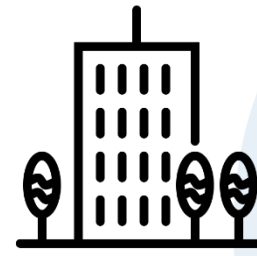
Detailed Design

7



Registration

8



Building Permit

9

Assumption

# Roles and Responsibilities

Party	Example Responsibility
Council	Approve or deny development applications, where GDS and sustainability objectives may be a factor in this decision.
Development Planner	Inform Applicant at Pre-Application Stage of Submission Requirements.
Engineering	Verify metrics are satisfied by submission requirements
Sustainability Staff	Develop guidance documents and tools for applicants

## Milestone 4:

- **Step 1: Develop a continuous process to track and monitor the uptake of the various sustainability metrics**

4

Monitoring  
and Reviewing





# Tying Incentives to GDS

- There is general industry acceptance of municipalities using green development standards
- Incentives can encourage developers to create high-performing projects
- Innovative solutions can provide advantages to the municipality and to the developer



# Determining Effective Incentives

- Stakeholder Engagement: Understand the needs and motives of your audience
  - This builds a sense of ownership of the proposed program
  - This can maximize program value – ensure the incentives will be used
- Predictability and Simplicity: Programs need to last as long as projects, and be easy to navigate with minimal administrative burden
- Partner with local utilities, non-profits, and other industry actors
- Ensure financial and administrative feasibility for the municipality



# Potential Incentives for Green Development

1. Community Improvement Plans
2. Development Charge Rebates
3. Tax Increment Based Grants
4. Expedited Approval Process
5. Recognition Program
6. Density/Height Increases
7. LIC Financing



# Best Practices

- **Find your Champions/Success Stories**
- **Build on an Existing Process and Enshrine in Official Plan**
- **Building of Metrics through internal workshops**
- **Set Quantifiable, Measurable Metrics**
- **Allow for Flexibility**
- **Test Real Applications with the Development Industry**



# Thank you



GDS Toolkit is available [here](#)



Past webinars are available by request



Contact Vanessa Cipriani [vcipriani@cleanairpartnership.org](mailto:vcipriani@cleanairpartnership.org)