

APPENDIX 3: SUSTAINABILITY KPIS

+ Amended Sustainability KPIS for the Town of Innisfil



December 2022

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Explanation of Sustainability KPI Document

Each KPI theme is broken into the following:

- Suggested Metrics – sustainability indicators to be measured
- Origin and Context – where these indicators have been used in similar projects
- Reference Benchmark – further explanation to justify the indicator

Colour coding:

- Blue – KPIs that are an extension to current planning policy
- **Orange** – KPIs that meet basic planning policy

The Quality of Lake Simcoe and Stormwater Management



- Promote urban growth while preserving water quality and riparian (wetland) Habitats at Lake Simcoe
- Increase the amount of effluent diverted from wastewater plant to other uses
- Protect water quality during construction and demolition phases; capture and manage rainfall to reduce, and better filter, stormwater runoff; meet LSRCA guidelines that protect Lake Simcoe

Suggested Metrics	Origin/Context	Reference Benchmark
Increase the percent of treated water diverted from the wastewater plant to other uses (i.e., flushing toilets in the new condo buildings). This will reduce the level of potable water that is being used.	Canadian Guidelines for Domestic Reclaimed Water for use in Toilet and Urinal Flushing ¹	<ul style="list-style-type: none"> - Canadian authorities encourage the use of greywater to flush toilets so long as it is properly treated to ensure pathogenic microorganisms (bacteria, protozoa and viruses) are at low enough levels to not pose risks to health. - Achieve 20% better-than-code water efficiency.
Percentage of riparian areas under management / protection plans to provide buffer zones for soil erosion and flood mitigation.	Canadian Government maintaining biodiversity in riparian areas ²	<ul style="list-style-type: none"> - Use native species and correct harvesting patterns to mimic natural disturbance patterns to maximize biodiversity while protecting the shoreline buffers or reserves around most water bodies. - Improve the Lake Simcoe watershed’s capacity to adapt to climate change and where relevant act to mitigate the impacts of invasive species from entering the Lake.
Ensure the new development has no adverse affect on the local fish population in Lake Simcoe or the habitats directly surrounding the lakes perimeter.	Lake Simcoe Protection Plan ³	
Stormwater management: <ul style="list-style-type: none"> - Preparation of a stormwater management monitoring procedure - Creation of new “greened acres” and incorporation of Low Impact Development practices such as rainwater harvesting - Real-time surface water flow monitoring: % pollutant loading 	Credit Valley Conservation (Ontario) Stormwater Management Monitoring Strategy Report (2012) ⁴ Green City, Clean Waters Plan, Philadelphia (2011) ⁵ Stormwater Management Guidelines, Alberta (1999) ⁶ Lake Simcoe Protection Plan	<ul style="list-style-type: none"> - Existence of a stormwater management monitoring procedure - One-third of all impervious surfaces served by a combined sewer converted to green spaces e.g., City of Edmonston has 700,000 coliforms per 100ml of stormwater compared to 26,000 per 100ml in Seattle - Removal of 80% of TSS and Phosphorus levels from stormwater - Build on the protections for the Lake Simcoe watershed that are provided by provincial plans that apply in all or part of the Lake Simcoe watershed, including the Oak Ridges Moraine Conservation Plan and the Greenbelt Plan, and provincial legislation, including the Clean Water Act, 2006, the Conservation Authorities Act, the Ontario Water Resources Act, and the Planning Act

Protection of the Environment and Green Space



- Growth while preserving natural and agricultural land
- Create resilient landscapes that support tree growth and enhance the urban forest, restore and enhance natural features and ecosystems
- Design integrated and quality parks, open spaces and green spaces that are biodiverse, socially inclusive and support mental and physical health

Suggested Metrics	Origin/Context	Reference Benchmark
Trees as proxy for green space: <ul style="list-style-type: none"> - No. trees planted annually - % Canopy cover - Management of Environmentally Significant Areas (ESAs) 	Toronto Strategic Forest Management Plan (2012-2022) ¹	<ul style="list-style-type: none"> - No. trees planted with >75% survival rate within 5 years of planting - 40% target canopy cover - 10% of ESA areas actively managed (Toronto: 13.4% of ESAs managed)
Protection of the Urban Forest, i.e., tree filled areas found in large settlements or along the Lake Simcoe Shoreline	Innisfil Our Place Plan (policy 15.1) ²	- Protect the stock of existing trees along Lake Simcoe shoreline and expand the tree canopy
Access to green space <ul style="list-style-type: none"> - (Distance/time) of varying sizes - Parkland dedication rate subject to maximum allowed by legislation (under planning act) - Provision of inclusivity features in parks 	Toronto Parkland Strategy (2019) ³	<ul style="list-style-type: none"> - Toronto, Canada: “Parkette” of less than 0.5ha must be accessible to all residents within 0.5km or a 5–10-minute walk - Toronto, Canada: 5% of new residential/2% of non-residential development dedicated to parkland - No. of inclusivity features per park (e.g., boardwalks, ramps, toilets)
Parks are key community spaces that enhance place making within the town.	Innisfil Our Place Plan 2018	<ul style="list-style-type: none"> - To provide a broad range of parkland, recreation and leisure opportunities. - To encourage park design to reflect the recreation needs of different cultures.

Transportation and Mobility



- Prioritize walking, cycling, public transit, electric and zero-emission automobiles (EV, ZEV), and car-sharing
- Align transportation planning and land-use planning to support each other

Suggested Metric	Origin/Context	Reference Benchmark
<p>Active transportation:</p> <ul style="list-style-type: none"> - Improve cycling sustainability - Implement new cycling routes to increase usage 	<ul style="list-style-type: none"> - Cycling behaviour in 17 countries across 6 continents: levels of cycling, who cycles, for what purpose, and how far? (2021) ¹ 	<ul style="list-style-type: none"> - Achieve at least 15% active transportation mode share <ul style="list-style-type: none"> - Will lead to half of cyclists being women and better representation of the wider population - If fewer than 7% cycle, it is likely predominantly younger men commuting, and indicates lower levels of comfortability to choose cycling - Increase km cycle routes with footfall counters to measure use
<p>Active mobility: increase the number of cyclepaths</p>	<ul style="list-style-type: none"> - Innisfil Our Plan (policy 5.2) ² 	<ul style="list-style-type: none"> - Establish new active transport routes and monitor implementation on an annual basis using automated footfall counts and cycle path user counts
<p>Reduce car focus:</p> <ul style="list-style-type: none"> - Number of vehicles available to use on a car share scheme examples being Hiyacar, Turo or Getaround - Car free pedestrian-oriented streets - Non-car based transport share schemes including bikes and e-scooters. Measured by number of bikes/e-scooters and also availability of “dock” across the area. - Reduce car focus, reduction in car use will have a large positive impact. 	<ul style="list-style-type: none"> - Data-led metric (no. car share users) - Orbit Sustainability checklist 	<ul style="list-style-type: none"> - Examples of removing cars from urban areas include: Culdesac, Tempe (Arizona), which completely excludes cars; The Point, Draper (Utah), which reduce cars to one per family

Transportation and Mobility



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Suggested Metric	Origin/Context	Reference Benchmark
Provision of EV-ready parking within all multi-residential units	- Innisfil Our Place Plan 15.2.5	- EV supply equipment provided for all multi-unit residential and commercial developments. - EV Charge points: based on national estimates there is currently 0.03 EV charging points per EV vehicles in Canada. A minimum of 0.03 charging bays per EV would be needed.
Urban layout focuses on the creation of a 15 minute city	- United Nations Climate Change a 15 minute city ³	- The majority of everyday activities are within 15 minutes of each other i.e. workplaces, shops, parks, schools – should be within a fifteen-minute walk or cycle. If there are key assets where this would not be possible additional public transport needs to be provided.

Buildings



Buildings

- Building orientation for improved sustainability, waste reduction, night glare reduction, reduce energy loads
- Integrated and visible green infrastructure in buildings (green walls, planters, roof gardens) and amenity spaces
- Encourage the use of products and materials that minimize the lifecycle impact to the environment

Suggested Metric	Origin/Context	Reference Benchmark
Building sustainability: <ul style="list-style-type: none"> - Energy efficient design using Passive House design principles - Implement water-efficient fixtures - % rainwater retained from roofs of each building - % coverage of green infrastructure on buildings - % Sustainable materials sourced for construction (mass timber, recycled components etc.) - Third party certifications like LEED building and Toronto Green Standards to measure level of building sustainability - sustainability standards were identified by Council as a priority 	LEED Construction and Demolition Waste Management Credit ¹ Passive House Standard for Energy Efficiency ²	<ul style="list-style-type: none"> - All buildings 25% better than OBC SB-10 Division 3 - Minimum 75% rainwater retained from roofs of each building - E.g. Paris, France: roofs of less than 5% slope and area of 100m² or above must be entirely covered in vegetation or installed with energy efficiency/generation devices
Landscape sustainability: <ul style="list-style-type: none"> • Drought tolerant, native and pollinator-friendly species in planting and landscaping • Balance of paved surfaces vs green areas to reduce potential of heat islands. 	Paris Biodiversity Plan ³ Orbit Sustainability Plan and Checklist Heat Island Compendium US Environmental Protection Agency ⁴	<ul style="list-style-type: none"> - 100% of planting/landscaping contains drought tolerant species - Designing buildings and landscapes to minimize Urban Heat islands
Waste management: <ul style="list-style-type: none"> • % recycling rate of construction waste • Quantity / % waste diverted on site 	Orbit Sustainability Plan and Checklist	<ul style="list-style-type: none"> - Identify carbon footprint for all major construction materials being used on the project, and identify alternative materials to reduce embodied carbon by 20% - Minimum 75% or no more than 12.2kg / sqm waste generation

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Social and Cultural Viability



Social and Cultural Viability

- Provide a range of affordable and attainable housing options as well as support aging in place, accommodate growing families
- Inclusivity of spaces for all social and cultural backgrounds

Suggested Metric	Origin/Context	Reference Benchmark
Access to healthy food - Engagement in community-led food projects e.g. greenhouses and / or community freezers	- Canadian Local Food Infrastructure Fund Reporting Requirements ¹	- Support the development of community initiatives that will prevent food poverty in the new development
Affordability: - House price affordability - Provide affordable homes - Provide programme for homeless prevention	- Data led metric - Orbit Sustainability checklist - Rough Sleep Action Plan London City Hall ²	- Consider the ratio between average annual earnings and average house price, at the local level versus the national level - 10-25% housing units in the orbit to be deemed affordable, these will be in all neighbourhoods - GLA Rough Sleep Action Plan outlines how government bodies will work together to end homelessness in London. Taking a holistic approach of the individuals needs.
Inclusive and flexible growth: - Diversity in housing stock	- Data metric	- Consider the demographic need in the town, and consider how new housing development would satisfy the needs as they stand but also future changes in demography
Number of multi-function spaces	- Orbit sustainability checklist	- A high proportion of spaces should double as community assets –tornado shelters, emergency shelters and medical tents.