



Sustainable Neighbourhood Action Program



SNAP PROFILE

Leveraging public infrastructure renewal for multiple outcomes

INFRASTRUCTURE RENEWAL

Challenges and Trends

Municipalities across Canada are contending with the vulnerability of infrastructure to severe weather events and the ongoing challenge of keeping pace with infrastructure maintenance and replacement cycles. Innovative approaches are needed to overcome the many barriers that hinder progress and to address the call for better integration of green and grey solutions in support of climate change and sustainability goals. Collaborative approaches offer the advantage of multi-functional synergies.



*“The Federation of Canadian Municipalities’ Canadian Infrastructure Report Card found that **one third of Canada’s municipal infrastructure is at risk of rapid deterioration**”*

SNAP'S STRATEGIC SOLUTION

Informing planned infrastructure to achieve greater impact

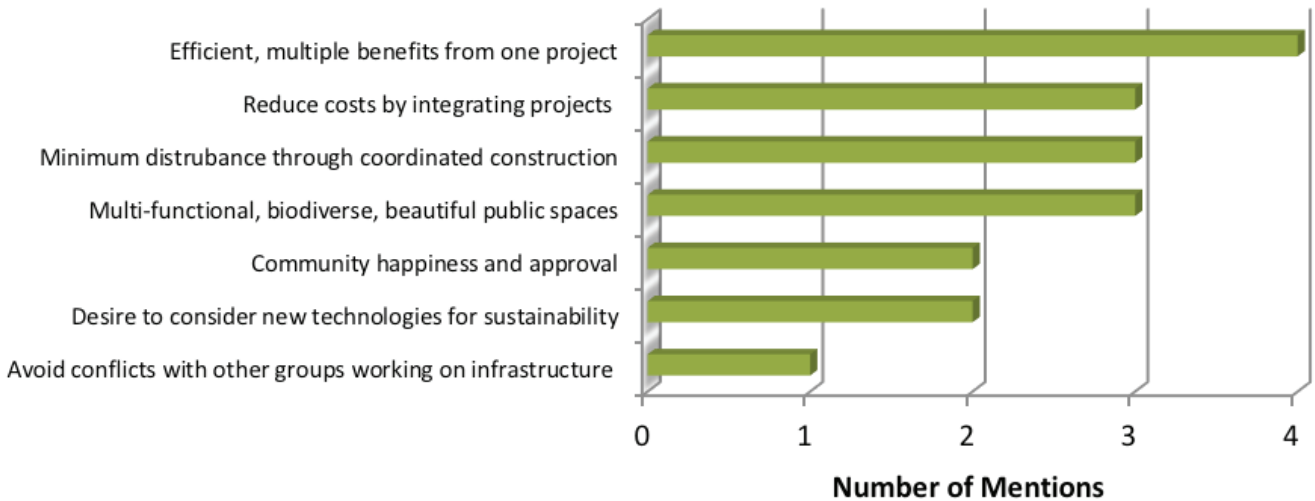
Toronto and Region Conservation Authority (TRCA) and its municipal partners have been developing integrated infrastructure renewal projects for the last six years through the Sustainable Neighbourhood Retrofit Action Plan (SNAP) program. By bringing a neighbourhood perspective, SNAP has maximized value from planned infrastructure projects, introducing additional environmental and socio-economic co-benefits and catalyzing further community participation in complementary local action. These collaborative, multi-beneficial projects provide a basis for innovative partnerships, cost sharing and demonstration of new approaches.



“Integrated design means better projects with multiple benefits” – **Municipal Partner**

Figure 1

Why is an integrated approach to infrastructure renewal needed?



Source: Fail Forward. 2017. *Advancing Integrated Infrastructure Projects – Lessons from Sustainable Neighbourhood Retrofit Action Plan (SNAP)*.

CASE EXAMPLES

Road Right-of-Way

COUNTY COURT BOULEVARD BIOSWALE

County Court SNAP, Brampton

Located in the City of Brampton, the County Court SNAP neighbourhood is home to approximately 5,800 residents of diverse backgrounds and cultures. Driven by the need for stormwater infrastructure retrofits, the County Court SNAP undertook an integrated and collaborative approach to exploring water, energy, and natural heritage retrofit needs based on social and economic interests. As a result, a series of projects that achieve multiple municipal, community, and partner goals was identified. One such showcase project is a bioretention feature within boulevards to support improved stormwater management, neighbourhood beautification, and an enhanced urban forest. It also serves as a model for strategic financing and interdepartmental coordination.

When County Court Boulevard was identified in the City of Brampton's 2014 Road Resurfacing Capital Program for repaving and curb and catch basin repairs, members of the County Court SNAP Implementation Team coordinated with operations staff to integrate two biofilter swales into the project. The integrated project was able to access federal gas tax funding for integrated road projects and drew on existing road resurfacing contingency budget. The project successfully brought together many partners, including designers, engineers, operations and parks staff, planners, TRCA staff, as well as neighbourhood residents and students from a local elementary school, who were involved in the planting of the bioswales.



¹ Reprinted and adapted with permission from Winkelmann, C. "In a SNAP. A Neighbourhood-Based Approach to Integrated Infrastructure Renewal. ReNew Canada. May/June 2016.

Incorporating the biofilter swales into the road resurfacing project added value to infrastructure renewal while meeting a number of sustainability objectives, including improved water quality in Etobicoke Creek, increased habitat, and place-making along the neighbourhood's main thoroughfare. Furthermore, these facilities have the potential to reduce future city-wide maintenance costs associated with stormwater management ponds. Brampton is leading by example and working with TRCA's Sustainable Technologies Evaluation Program (STEP) to measure the project's environmental outcomes.

Our Partners:

City of Brampton, Tree Canada and TD Friends of the Environment Foundation



Park Renewal²

GLENCREST PARK

Bayview Glen SNAP, Markham

Bayview Glen SNAP is home to approximately 2,100 residents. Working closely with the City of Markham, the Bayview Glen neighbourhood was selected for a SNAP because of flood remediation works that Markham is undertaking in response to the West Thornhill Stormwater Flood Remediation Class Environmental Assessment Study. An example of SNAP's integrated planning, the Bayview Glen SNAP is leveraging a traditional infrastructure replacement project to generate an entire park revitalization opportunity with many benefits, including community engagement.

The Glencrest Park renewal project fosters synergies between multiple city led objectives. Instead of simply replacing an undersized storm sewer pipe with a larger pipe, the SNAP team has helped the city and the community to reimagine a water infrastructure project that brings compounded value through ecological function, recreational elements, long-term beautification, and social and educational opportunities. By securing external grant funding to match a portion of the already planned capital budgets for site remediation and playground replacement, the SNAP team was able to maximize the project, which now includes a passive pathway on the site of the former construction road; a meditation garden; naturalization plantings and pollinator gardens; and a rain garden that commemorates a historically piped creek by managing rainwater sustainably before it enters the Don River. Rain gardens transform the landscape of Glencrest Park from maintained turf into a rich mosaic of eco-tones, creating a naturalized landscape and supporting the attenuation of stormwater runoff.

Bringing local schools and residents actively into the process, the public realm project serves as a mechanism for community engagement and the promotion of

resident participation in home retrofit actions addressing—among other sustainability issues—lot level stormwater management to complement the city's flood remediation works.

Our Partners:

City of Markham and RBC Blue Water



²Ibid.

Barriers and Enablers

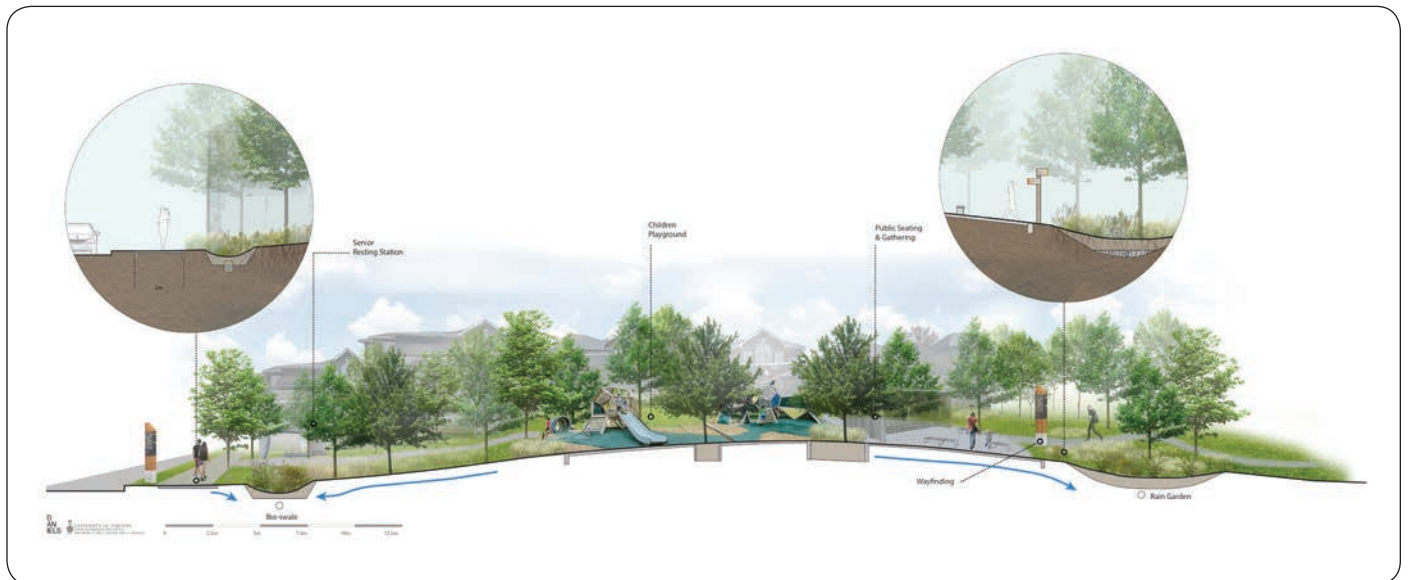
Lessons uncovered through an evaluation of two successful SNAP projects, County Court Boulevard Bioswale Project in Brampton and Glencrest Park Renewal Project in Markham, help understand the barriers and enablers of integrated projects. This evaluation was carried out by Ashley Good of Fail Forward in Summer 2017 and involved interviewing eight stakeholders (from the City of Brampton, City of Markham and TRCA) to uncover their insights and recommendations. The intention is to use these lessons to inform and improve future integrated infrastructure renewal projects to maximize their potential benefits.

BARRIER		EXAMPLES OF BARRIERS	ENABLERS AND LESSONS LEARNED
1	Scope and design limitations when projects are too far along the planning and approvals process	Changes to EA approved projects require EA amendment process Capital budgets and timelines for implementation are already set	Early identification of opportunities at strategic planning stage Internal integration facilitator/ coordinator
2	Departmental silos; Inflexible mandates, budgets, processes, and work plans	Lack of departmental willingness to integrate objectives beyond their mandate; lack of incentive for collaboration	Clear mandate for integrated projects Flexibility in workplans to take advantage of opportunities that arise
3	Timing for effective engagement of all stakeholders	Challenges for the efficient and meaningful involvement of implementation and operations expertise at concept design stage	Early involvement of relevant expertise and decision-makers Culture for inter-departmental collaboration
4	Buy-in, team building, and ownership of project objectives	The new roles and relationships required for integrated projects can make ownership ambiguous Staff turnover or ineffective delegation means those who approved the project might not be around for implementation	One-on-one meetings with key leaders to get buy-in at the top. Infuse “regular” teams with people having an innovation mind-set. Set shared vision, responsibilities as a group
5	Concern that projects could be more expensive and time consuming than “business as usual”	Uncertainty with expected construction costs for innovative features Project managers are lauded for meeting deadlines, rather than delivering great projects	Community engagement builds excitement and support Business cases to show resulting project achieves greater outcomes.
6	Different stakeholder levels of risk aversion versus optimism	Level of comfort with innovative project elements Discrepancy between stakeholder requirements to secure all financing for all phases of the project before implementation of any phases	Use SNAP to pilot new approaches Discuss concerns as a group, share experience to avoid risk and develop contingency plans
7	Inflexible permitting processes	Permit forms do not accommodate for innovative features	Early engagement with permitting agencies.
8	Unforeseen issues (a.k.a. you don’t know what you don’t know)	Underestimated costs Designs need to be adapted	Build a buffer into the project budget and timeline Make hard decisions based on key goals

What's Next?

The SNAP Program welcomes interested partners in its ongoing and new initiatives:

1. **Integrated Projects Screening Process** – A screening process to align multiple priorities, maximize the impact of investments in infrastructure renewal and climate action. This initiative will help “scale up” the practice of integrated infrastructure renewal by informing more projects at earlier stages in their planning cycles, while also helping to identify selected projects for which a neighbourhood scale approach will be effective. This process is being piloted with the City of Vaughan and other SNAP partners.
2. **Upper Nine Stormwater Pond Retrofit and Golf Course Irrigation Water Supply (County Court SNAP, Brampton)** – Identified in the neighbourhood Action Plan, this project achieves objectives of the City of Brampton, Region of Peel, TRCA, a private golf club and local residents. The City of Brampton is completing an Environmental Assessment study for this project, with construction anticipated in 2019.
3. **Suburban Park Renewal Think Tank** – Recognizing the challenges faced by municipalities with a growing legacy of aging park infrastructure and changing community demographics and needs, TRCA and SNAP municipalities are proposing to convene a think tank of experts around park case studies within one or more SNAP areas.



Credit: University of Toronto's John H. Daniels Faculty of Architecture, Landscape, and Design (Professor Liat Margolis and Victor Perez-Amado)

SNAP – A Progressive Approach to Implementation

SNAP is a proven solution for sustainable urban renewal and climate action that places neighbourhoods at the centre of the implementation framework. SNAP helps municipalities and community partners improve efficiencies, draw strong local support and build innovative partnerships for implementation of a broad range of initiatives in the public and private realms.

See other SNAP Profiles in this series:

- Extending the reach of home renovation programs
- Advancing integrated infrastructure projects
- Forging new partnerships for MUR and ICI renewal
- Strengthening community health, wellbeing and resilience

In collaboration with:



Contact Us

To learn more about SNAP, associated activities and ways to get involved contact:
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