

Making the Case for Green Infrastructure

Bringing the *Green Infrastructure Charrette Program* to your community

Why green infrastructure? Living green infrastructure like street trees, bioswales, green roofs, living walls, and rain gardens help manage stormwater while providing a myriad of other benefits, including improved water quality, reduced stress on grey infrastructure, improved air quality, and reduced energy use.

Why are we not building green infrastructure? There are many obstacles to green infrastructure implementation - perhaps the largest are a lack of understanding about the value of the benefits provided, and a lack of vision about how green infrastructure would change communities.



A reimaged neighborhood in Philadelphia, PA

Why a Green Infrastructure Charrette? The Green Infrastructure Foundation (GIF) has developed the Green Infrastructure Charrette program to address these obstacles. The program creates conceptual plans that help stakeholders re-imagine their communities with green infrastructure, and provides the economic analysis, tools and momentum required to move towards implementation.



Charrette participants in Harlem, NY

What does the program involve? A one-day design charrette where multidisciplinary experts team up with local stakeholders to redesign their communities with green infrastructure, along with a customized cost-benefit analysis, based on a matrix developed by GIF. The combination of visuals and economic analysis creates a strong case for green infrastructure investment. This program offers brilliant green visions to communities - visions that can set the stage for detailed green infrastructure planning. Visit greeninfrastructurefoundation.org/charrette to explore reports on completed projects in Ontario and Harlem, NY.

What is the cost? A typical charrette can be held for \$20,000. GIF will work with local champions to help raise funds, and are always seeking grants to support our work. This budget is an estimate and contingent on travel requirements, scope, and other community needs. Costs can be reduced if local partners provide in-kind support (in the form of a venue, catering, local logistical and administrative support, etc.).

What is the time commitment? The green infrastructure charrette is a one-day exercise, and all participants would commit to attending that day, as well attending a one-hour webinar held in advance. GIF provides up to 40 hours of senior and 160 hours of junior staff time before, during, and after the charrette. The amount (and cost) of staff time could be reduced in the event of local, in-kind contributions of time for the charrette.

	EXAMPLE PUBLIC RETURN ON INVESTMENT (ROI) COST-BENEFIT ANALYSIS			
	YEAR 1	YEAR 5	YEAR 25	YEAR 50
Intensive Green Roof	-626,876	337,168	4,193,345	9,013,565
Rain Garden	-269,575	-148,151	-334,016	-398,457
Bioswale	-5,625,249	-6,268,612	-8,842,064	-12,058,878
Permeable Paving	-924,500	-1,105,100	-1,827,500	-2,730,500
Tree - Small	-35,853	-17,054	236,596	614,523
Tree - Large	-459,712	564,022	13,991,145	33,985,026
Tax Effect	0	79,194	2,771,780	5,939,528
TOTAL ROI	\$-7,941,764	\$-6,558,533	\$10,189,286	\$34,364,806

Example of one output from a cost-benefit analysis in Harlem, NY

Who is involved? GIf staff and experienced practitioners from around the country will be brought in to facilitate the charrette, conduct the cost-benefit analysis, refine visuals, and assemble all of the component into a final report with recommendations. GIf typically seeks a local partner (such as a local government agency, or a non-profit organization) to help set local priorities, select sites, build local support, and assist with recruitment of charrette participants. GIf is committed to working with the local partner to disseminate and champion the findings of the final report. The best charrette will include 15-20 local participants, with a mix of architects, landscape architects, developers, business owners, engineers, community members, planners and policy makers. GIf will work with the local partner to identify and invite the right mix of people.



A greened streetscape in Hamilton, ON

What is the process? The charrette requires at least eight weeks of preparation before the charrette to organize event logistics, and eight weeks after the charrette to conduct the cost-benefit analysis, compile and refine information, and draft the final report. A typical time line would be:

Week	Tasks	Week	Tasks
1-2	<ul style="list-style-type: none"> Identify and begin recruiting charrette partners (city agencies, community groups, etc.) Define site parameters and identify key stakeholders within each site 	9	<ul style="list-style-type: none"> Hold the one-day charrette
3-4	<ul style="list-style-type: none"> Research local cost-benefit values, and incorporate into cost-benefit matrix Finalize list of invited participants 	10-11	<ul style="list-style-type: none"> Compile charrette results Begin refining visual planning tools
5-6	<ul style="list-style-type: none"> Assemble site maps; identify opportunities and constraints from previous planning Finalize location and catering Identify and train facilitators Develop a localized pre-event webinar 	12-15	<ul style="list-style-type: none"> Conduct cost-benefit analysis Complete first draft of charrette report Circulate draft report for comments and revise as needed
7-8	<ul style="list-style-type: none"> Finalize charrette goals and working sub-groups among stakeholders Conduct webinar on green infrastructure concepts and charrette process 	16	<ul style="list-style-type: none"> Work with local partners to draft a plan for implementation of report recommendations



A vision for a new river's edge in Brampton, ON



About The Green Infrastructure Foundation (GIF) is a 501 (c)(3) charitable organization that partners with communities to shape healthy, resilient, and sustainable places. GIF is seeking interested communities across North America to partner with on green infrastructure charrettes. For more information, visit greeninfrastructurefoundation.org or contact Rohan Lilauwala (rlilauwala@greenroofs.org / 416-971-4494 x231).