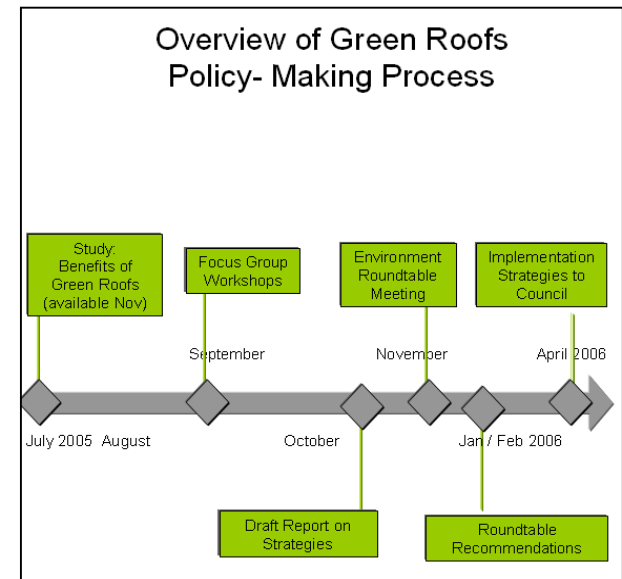


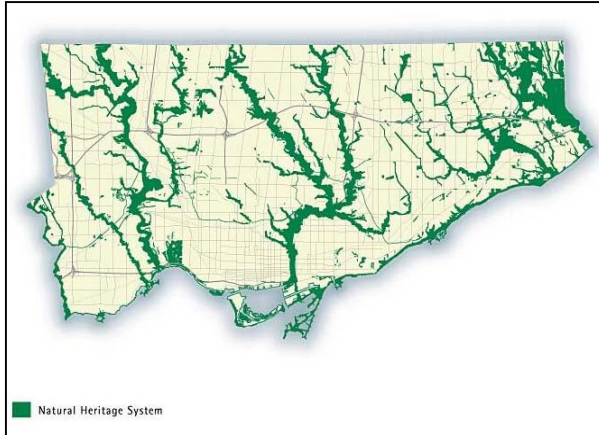
The City recognizes that green roofs hold the potential to offer a wide range of benefits for Toronto. The study, *The Environmental Benefits and Costs of Green Roof Technology*, determined the monetary values of some of green roofs' important benefits, including mitigating developments' impact on stormwater quality and quantity, improving buildings' energy efficiency, and reducing the urban heat island and thereby improving air quality. These benefits and others - such as the value of having pleasant, natural green spaces in built up areas, and the provision of habitat to certain kinds of birds and invertebrates - also have values that cannot be defined solely in monetary terms.

This report has surveyed the variety of policies that other municipalities, who are leaders in green roof development, have employed to encourage green roofs. It has also listed the full range of options, including those identified in two stakeholder workshops, that Toronto could use to encourage more construction of green roofs. This report has discussed each of these options, and proposed specific actions that will promote the development of green roofs in the City of Toronto. The following summarizes these recommended actions:

- 1 For the purposes of promoting, encouraging, or requiring green roofs, a green roof should be defined as a system where a vegetated area becomes part of the roof. Green roofs should include the following components: vegetation, growing medium, filter layer, drainage layer, root resistance layer (if necessary), and waterproof membrane. They should also meet the criteria outlined in this report (Section 4).
- 2 A policy should be adopted to install green roofs on all new City buildings where the roof profile so permits and, where feasible, on existing buildings when roofs are due to be replaced.
- 3 Green roof policies should be implemented through development approval processes. City Planning staff should actively encourage including green roofs on appropriate buildings through rezoning and site plan approval applications.

CONCLUSIONS





Toronto's Official Plan seeks to protect, preserve and enhance the natural environment.

- 4 Efforts be made to work with the Toronto Atmospheric Fund (TAF) and the Better Buildings Program (BBP) to determine the feasibility of incorporating green roofs in provision of TAF or BBP loans.
- 5 Any grant program should begin with a pilot grant program for retrofitting existing roofs, to test the level of interest amongst building owners, and the kind of incentives to which they respond best. More information is still needed to determine the best design for an incentive program.
- 6 Consideration should be given to reducing water rates for properties with green roofs.
- 7 When a Section 37 agreement is being secured (where the impetus for providing the density bonus was for another purpose - such as providing park improvements, daycare, etc.), efforts should be made to secure green roofs in such an agreement, and include detailed arrangements for maintenance.
- 8 The City should produce a technical booklet, which includes information about Toronto's green roof policies and programs, Toronto's criteria for green roofs, the City's design and construction approvals process as they relate to green roofs, and construction and maintenance guidelines for different kinds of green roofs.
- 9 The Toronto and Region Conservation Authority should be requested to provide advice on plant materials to encourage biodiversity.
- 10 The City should hold technical workshops targeting developers and building owners.

- 11 The City should produce and distribute brochures and posters about green roofs and that the City use limited and targeted advertising to promote green roofs.
- 12 Staff training sessions should be held to highlight the benefits to Toronto of green roof development, to familiarize staff with the City's green roof policy, to explain how staff will be responsible for implementing the policy, and to address staff questions and concerns.
- 13 City staff in each relevant division should be identified and designated as the "first port of call" for inquiries relating to green roof development.
- 14 Information from green roof owners and installers about the costs of installation and maintenance, and benefits like energy savings, should be collected. This would allow the City to provide examples of costs and benefits to building owners looking for such information. A list of green roofs in Toronto should also be made available to the public.
- 15 The City should add a Green Roof category to the Green Toronto Awards to highlight the City's new green roof policies and programs.
- 16 The City should invite Toronto-based Green Roofs for Healthy Cities to hold their next available international conference in Toronto, to heighten general awareness of green roofs, highlight the City's new green roof policy, and showcase some of the existing green roofs in Toronto.
- 17 Consideration should be given to whether the City can partner with certain public agencies in furthering research work on green roof materials and systems.

