

Implementing Greenway Networks at the Metropolitan Scale:

Case Studies from North American Cities

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Project Brief

This research examines how greenways and other open space systems are created and protected across multiple political units, various land uses, and diverse natural systems at the metropolitan scale. It will lead to a typology of implementation strategies, using primarily ten extensive case studies of U.S. and Canadian cities. The overall objective of this project is add to the theory and practical knowledge about open space connectivity and to help planners and decision-makers understand the diverse approaches that are used in North America. More specifically, the goal is to examine how cities are building greenways into broader green infrastructure agendas.

Background

In communities across North America, the protection of open space is a critical priority, as we attempt to control sprawl, reverse environmental degradation, and curb urban blight. Nearly every plan for a U.S. community or region includes the protection of open space as a component of physical planning and policy. Connectivity between these urban open spaces is one important aspect of this agenda and an important focus for greenway planning.

In fact, connectivity is a critical concept for using greenway and open-space planning as a springboard for smarter growth. Much recent research on smart growth, regionalism, and growth management advocates for open space connectivity (Hollis and Fulton, 2002; Hough, 1995; Rome, 2001). This involves not only connections among ecosystems and landscapes, but also between people and elements of the built environment. Theoretical roots for connectivity lie largely in the landscape ecology and biogeography literature (Leitao and Ahern 2002; Forman 1995; Soule and Terborgh 1999). For some time, European scholars and planners have been investigating, planning and implementing landscape plans based on connected open space networks. This work has advocated a more serious approach to open space as the city's critical infrastructure, specifically promoting an approach called 'greenstructure' (Beer et al., 2003; Tjallingii, 2003).

The progress made in Europe is an interesting background to green infrastructure planning in North America, which argues for more serious attention to connected open space. The term 'green infrastructure' is being used recently with almost the same frequency and enthusiasm as 'smart growth.' Indeed, the two are often used in the same breath. While green infrastructure presents a persuasive case for taking open-space planning more seriously, so far the literature

promoting green infrastructure as a planning approach outweighs the literature that critically *assesses* its impact and its relationship to established spatial programs (like greenways). There is ample evidence of green infrastructure's ecological soundness in the scientific literature, centered on the need to curtail fragmentation, protect biodiversity and improve water quality. However, there is sparse academic literature that examines how the green infrastructure approach fits within real political and social contexts, that examines the concept as a community planning strategy, or that assesses fiscal effects of greening the gray urban infrastructure.

Scope of Case Study Investigations

My recent research addresses how greenway networks move from planning to implementation and how they contribute to green infrastructure at metro scales (Erickson and Louisse, 1997; Erickson, 2004a; 2004b). This project synthesizes case studies that consider three main factors. First, the *institutional structure* for greenway planning and implementation differs. An important variable in greenway implementation is the level of government involvement and the nature of trans-jurisdictional cooperation. Government agencies are critical facilitators in developing greenway networks: various models of local, regional, state/provincial, and federal interaction affect project outcomes. This work develops models of these institutional structures and predicts their usefulness to North American cities. For instance, Canadian and U.S. cities exhibit some important differences in this regard.

Second, the *competing goals* motivating greenway planning vary among communities, as do the ways in which these goals are resolved in greenway planning and implementation. As Ahern (2002) has shown, various strategic approaches are used in greenway planning. I hypothesize that broad, multi-faceted goals, and the structure to support them, help promote stronger greenway programs and critically move cities toward green infrastructure objectives and outcomes. For example, projects that branch out from traditional parks and recreation foci are more viable and influential -- greenways used for non-motorized commuting or for water quality and wildlife habitat protection. In addition, greenways are being used to green the gray urban infrastructure, for instance in trails aligned on sewer rights-of-ways or restoration projects along power corridors.

Finally, the extent and nature of *collaboration* among public and private greenway planners, advocates and citizens varies. This research documents and analyzes the partnerships and coalitions that form in implementing greenway plans and illustrates how these collaborations impact on-the-ground outcomes. Increasingly, public-private partnerships are critical, but vary in composition, scope and longevity.

Research Methods and Case Study Sites

Qualitative methods are used in this case-based research. The cities examined are: Toronto, Ottawa, Vancouver and Calgary in Canada; and Milwaukee, Chicago, Cleveland, Minneapolis, Seattle and Portland in the northern U.S. Primary data is collected through key informant interviews in each city. Between 10 and 20 interviews are being conducted in each city, using guided interview techniques. Interviewees were chosen from local greenway programs, non-profit organizations, local jurisdictions and state/provincial agencies. Existing documents and archival data is analyzed for an extensive review of the secondary sources, leading to deep descriptive cases of each city. These sources include program histories, planning documents, the legislative record, program budgets, and other written records. Spatial data is the third source of information for the project. Mapped data have been acquired and analyzed for each case study site. These data are analyzed for both an internal summary of for each city and for cross-case conclusions that draw out the relevant generalized themes.

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