

A Nonlinear Approach to Open Space

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This article traces the development of the Raleigh Greenway system. A nonlinear approach to greenway preservation evolved because of the existing institutional structure in Raleigh and the ever-changing greenway constituency. After considerable struggle, the greenway concept is now embraced in many communities across North Carolina and a simpler, more linear approach to creating greenways is in place.

Introduction

Raleigh was the first city in North Carolina to undertake a greenway program. Today it is recognized as a national leader in community-wide linear open space development. To begin to understand how Raleigh attained this position of respect, it is necessary to reflect on the physical, political, and social conditions that existed nearly 20 years ago, as the city began to formalize an open space plan.

As the Capitol City, Raleigh is one of the few cities in the United States planned prior to its development. Its location along a ridgeline was designed with a grid layout, and five public squares with the central square being the site of the capitol building. Over the next 180 years, the city grew down the hillsides toward the major drainage ways that flow into the Neuse River. The grid pattern was abandoned shortly after development spread beyond the original city limits. Up until the 1950s, numerous neighborhood parks were left along the streams of the expanding city, however, after the Korean War, the development community began to incorporate the use of large earth-moving machinery into their businesses. This radically changed the way growth was to occur and overpowered the respect that had been historically given to the natural characteristics of the landscape.

Raleigh has traditionally had a council-manager form of government. The council was elected at-large and the mayor chosen from among their ranks. By the late 1960s there was increasing public debate over whether this system was truly representative. A well-organized business community seemed to promote and finance candidates more successfully than neighborhood interests. The fact that virtually every mayor in memory was a developer made the council an easy target for neighborhood activists who were outraged about rezonings, thoroughfare plans, and

development that they perceived as threats to their homes and lifestyles.

By the late 1960s and early 1970s the environmental movement was washing like a tidal wave across the nation. Having learned from the civil rights and anti-war movements, citizens inclined to promote environmental protection were well equipped to plea their cases. The city was rife with environmental issues. Road proposals that would have taken public parklands and wetlands raised the issue of disappearing open space. Recurring flood damage begged the prudence of development in floodplains. Streams that ran red and were "too thick to drink and too thin to plow" proved to be a catalyst for debate about sediment control.

Into this arena moved the linear open space issue. Having been considered as a concept in Raleigh's planning efforts since the era of the City Beautiful movement, and later offered as green fingers stretching throughout the city, "greenways" as a term of art were first proposed in three pages of the 1969 parks and recreation master plan, *Park With a City In It*. The way in which the Raleigh greenway system was transformed from a linear open space concept into reality is a story of power, enlightenment, participatory democracy, and survival of the fittest.

The Next Step

In retrospect it is obvious that a linear approach could not have succeeded in creating a greenway system. A process of establishing a city policy, amending the comprehensive plan, securing a budget, and assigning operational responsibility was too simple and even inappropriate in this case. At the time it was not obvious that this linear approach would not work, but it was clear that the existing institutional structure would not support creation of a greenway system. What evolved, more

through cooperation and shared interests than through a specific plan, was a nonlinear approach. Institutional issues were addressed pragmatically, and once resolved they were fed back into the process of addressing the next institutional issue. This had a cumulative effect of changing the foundation upon which civic and business decisions were made, and has resulted in the creation and metamorphosis of the greenway system.

During the 1960s, a program between the Raleigh and North Carolina State University's School of Design was established, whereby a small grant was made each year to support a student project of benefit to the Parks and Recreation Department. In 1970, a request was made to use the city's grant to study the greenway concept in more detail. The mayor at the time was the developer responsible for a regional shopping center in a local floodplain. Having been on the receiving end of endless criticism about anticipated traffic and environmental problems resulting from the shopping center project, the mayor was hypersensitive about focusing any more attention on issues relating to streams or floodplains. The study request never saw the light of a council meeting, and a different study request was later substituted.

In 1971, the School of Design reapplied for a grant to study greenways. The city had a new mayor, also a developer, but one who did not have the baggage of past investments. He also had a bring-everyone-together approach to issues, so the study was approved with a committee of representatives from city agencies assigned to oversee its preparation. Thus began a one semester project that required eighteen months to complete.

The resulting report was *Capital City Greenway*, 100 pages of primer and consciousness building. The report discussed a broad range of greenway objectives and benefits. One critical concept presented is the fact that linear open space has significantly more perimeter or edge than traditional consolidated parks. This edge may be used to buffer competing land uses and soften the urban image. Linear open space can connect traditional parks and other activity centers such as schools and shopping centers. They can also accommodate popular recreation activities, such as jogging, walking, bicycling, and canoeing which may not be compatible with traditional urban parks. When associated with streams, which are also linear systems, the open space allows flooding to occur without damage to buildings, or disruption of the local economy or individual lives. Environmentally, linear open space acts as a vegetated buffer along streams to protect water quality and fragile natural ecosystems such as wetlands. Further, the urban environment is enhanced through air quality, temperature, and noise moderation resulting from the conservation of vegetation. Finally, these areas function as wildlife corridors, allowing a greater diversity of animals to travel through and survive within urban areas.

The report noted the increasing need for recreational opportunities close to home, a trend that has continued and become even more important with today's demographics, economy, and lifestyles. It also included a methodology for determining greenway widths, the roles of various actors for creating greenways within the urban development process, and several design considerations needed to bring the greenway concept into practice. Transmitted to Raleigh's city council in the fall of 1972, the report was officially "accepted," but then disappeared within the city administration.

The Reluctant Bride

It is not surprising that the greenway concept did not immediately take root in city programming. Having been promoted more by the public than by the city's administration, there were political, institutional, and budget barriers to overcome. The city government was moving in a direction that did not include a significant new program. Even the representatives of city agencies who participated in the preparation of the Capital City Greenway report had not reached a consensus on what they wanted the greenway to be.

Raleigh's Planning Director was a strong advocate for linear open space and felt that the entire length and width of the city's floodplains should become greenways. This seemed to be his response to the growing recognition that controls were needed on floodplain development.

On the other hand, Raleigh's Parks and Recreation Director advocated the use of sidewalk width greenways to minimize conflict with development interests and to make the system more economically feasible. From his perspective, the continuity of the greenway's trail system was the key factor in its design.

In the early 1970s, there was virtually no one in the city administration who could deal with the environmental concepts inherent to greenways. Environmental protections were just becoming part of federal law, and the role of states was in the process of being defined. Moreover, it would be years before local governments would be compelled to undertake the most rudimentary environmental protections. Nevertheless, it was clear that the greenway issue was inexorably tied to issues that had to be acted upon before there would be a reasonable chance for greenways to progress.

A Partial Solution

Two related issues began to move through the city's and then the county's governing processes. After years of public discourse, a flood in early 1973 thrust the issues of floodplain regulation and sediment control to the forefront. These issues were stalemated until a second

flood in mid-1973 occurred, tipping the scales and persuading local officials to approve floodplain and sediment control regulations.

Prior to enactment of these regulations, all land was considered to have equal value, regardless of its environmental characteristics. From that time on, however, real estate interests began to realize that floodplains were less developable, and that areas with steep slopes and erodible soils had additional costs included in their development. About the same time, Section 404 of the Clean Water Act of 1977 restricted the filling and development of wetlands. The environmental and fiscal debts from unwise development would no longer be passed on to or borne by the public.

While none of the new "environmental" regulations created a greenway or gave the public any right to use the effected areas, they were invaluable in allowing the greenway concept to mature. All of the regulations were disincentives to development in the areas along streams which were the target area for the proposed greenway system. The changes in perception, attitudes, and market values that accompanied the new regulations allowed greenways to compete for a place in the urban landscape.

Politics - The Art of the Possible

Other changes occurring in Raleigh at this time were bigger than greenways but accommodated the continued institutionalization of the greenway concept. Prior to 1974, citizens had successfully petitioned for a referendum to change the process for electing their city council and mayor. The new process involved electing several council members representing specific districts, several at-large council members, and the popular election of the mayor. This, it was argued, would give neighborhood candidates a competitive chance to gain office, and would be a more representative form of government. Voters approved the new process.

In 1974, two years after the greenway report had been accepted by the city, the new, more neighborhood-oriented council agreed to establish a Greenway Commission. This body was to consist of 18 citizens who would advise the council and administration on matters of greenway creation. Yet even this step forward was not without both external and internal compromise. Externally, nearly a dozen representative greenway advocates were meeting with their champion from the new city council. Their preference was to seek a greenway authority with independent budget and decision-making power, although this concept was politically impractical. Greenway advocates did not want greenways added to the existing Parks and Recreation Commission, because they thought a new program could not mature in competition with established parks and recreation activities. They also felt

that greenways should not be added to the existing Planning Commission because this body did not have implementation capacity and conceptually, should probably not be given such responsibility. The compromise was to create an Advisory Greenway Commission with the Planning Department providing staff to the Greenway Commission, and the Parks and Recreation Department providing construction and operation personnel. Internally, council members agreed to the establishment of the Greenway Commission only after they were each assured two appointments, even though this produced an almost unworkably large commission.

The city administration also had roles to play and compromises to make. Historically, the Planning Department performed comprehensive planning and administered land use regulations, but had little responsibility for facility design. They inherited this new responsibility when the Greenway Commission and program were created. Until this time, the Parks and Recreation Department had provided for organized recreation activities, but unlike league sports, greenways had no organized and defined constituency. The new greenway program required the department to seek out a new advocacy group, and to support a program that was important for both its environmental and recreational benefits.

The greenway program benefited from the changes in city council elections. Its prospects were also improved by the adoption of floodplain and sediment control regulations. On the other hand, the greenway program required the city administration to expand the perspective and breadth of its services and operations. All of these amounted to major institutional changes brought about by citizens' involvement in their government.

The Constituency - An Evolving Advocacy

Normally, when citizens seek specific actions from their government there is an identifiable constituency. In the case of Raleigh's greenway program, that has not always been true. What has been most perplexing to decision-makers is that the source of greenway advocacy has continually changed. It was never clear whether popular support was an "inch wide and a mile deep" or "a mile wide and an inch deep".

In the early years of greenway concept development and program creation there was an intentional and concerted effort of public education. This was carried out first by citizen-advocates as a means of increasing public support, and then by the Greenway Commission. The greenway message of environmental, recreational, city form, and quality of life benefits was delivered to any group that would listen. Hundreds of presentations occurred over a three or four year period.

The League of Women Voters was active on a broad range of issues including participatory government and citizen involvement through neighborhood-created organizations. The League also had an environmental agenda reflecting new national concerns. Floodplain regulation, sediment control, and greenways became a focus for carrying that agenda forward locally. Once the greenway program was established, they moved on to other issues.

The greenway issue provided a positive topic and high visibility for the rapidly expanding Sierra Club. Typically an organization is only as good as its individual leaders, and the local Sierra Club group had several excellent leaders who were greenway advocates. Funds were raised for a sophisticated multi-projector slide show on the greenway concept. This show replaced all previous educational programs because of its quality and the energy of its presenters. The Club could also be counted on to take an adversarial position on the need for floodplain regulation and sediment control. Once the greenway program was established, the Club continued its direct advocacy by getting its leaders appointed to the original Greenway Commission, but the Club began to broaden the scope of its issues overall.

Wake Environment was another local organization which supported environmental management through land use decisions and greenways. The rational message and persuasive approach of its leaders ultimately made Wake Environment a victim of its own success. Most of its leadership was absorbed into appointed boards and commissions, or elected office. This internalization process was instrumental in the establishment of the greenway program, but it led to the demise of the organization.

After 1974, the character of greenway advocacy changed as the issues moved away from program creation and toward greenway development. There was a year or so of quiet activity as the necessary institutional planning occurred and the program's direction was charted. Once the implementation of the greenway system was begun, neighborhood groups became the advocates. Garden clubs, homeowners associations, and similar groups competed for priority positions on the greenway construction schedule. Not surprisingly, as their individual projects were completed these groups became less involved, causing a constant turnover of advocates and an appearance of diminished support for greenway programs.

The nature of greenway advocacy took another turn after 1980. It became increasingly obvious that there was a need for coordination between local governments to ensure that greenways continued and interconnected across jurisdictional lines. The Triangle Greenways Council (TGC) was established to promote greenways in the six-county Triangle Region. Although their dream is for a greenway encircling Raleigh, Durham, and Chapel Hill,

their work has remained strictly local. Efforts of TGC members have been directly or indirectly responsible for the creation of separate greenway programs in the City of Durham, the Town of Chapel Hill, and in Wake County. Other communities within the Triangle area continue to accumulate linear open space, even though they have yet to establish greenway programs. Volunteers from the TGC are presently constructing a 40-mile section of the Mountains-To-Sea trail at Falls Lake, and trails at Jordan Lake and in Duke Forest. The presence of TGC has subtly elevated the greenway issue throughout the area.

The Triangle Land Conservancy (TLC), a progeny of the Triangle J Council of Governments, was created to fill the need for a private organization to actively conserve land in an area of rapid urbanization. TLC is presently coordinating the preparation of biological inventories for each of the region's six counties. These inventories are the foundation for private and public efforts to protect the special places and resources described within each county inventory. Many stream corridors are identified in the inventories as existing or potential greenways. The majority of lands owned by TLC includes streams, such as the 250-acre White Pines Preserve at the confluence of the Deep and Rocky Rivers. The existence of TLC has added a new dimension to greenway efforts, even though their conservation goals are much broader.

The constituency for greenways has changed significantly over the years. It has evolved from groups with multiple interests focusing on greenways for Raleigh, to single interest groups focusing on greenways for the region. Now that greenways have been built, it is clear that they are heavily used facilities. Many developers are donating open space for greenways and using the proximity as a marketing tool to increase the value and desirability of their projects. In Raleigh, greenways have come to be expected as a community facility, but greenway users remain an unorganized constituency.



A segment of the Capital Area Greenway

Today and Tomorrow

Over the past two decades, tremendous strides have been made to accommodate greenways into the fabric of urban development. Even today this metamorphosis is continuing.

Several years ago the Greenway Commission was merged into the Parks and Recreation Commission. This change was viewed with some skepticism by greenway advocates, since it was still uncertain whether the program was mature enough to compete with traditional parks and recreation programs. The concern is now being replaced with renewed faith in the program as the transition appears to be moving smoothly.

Public advocacy groups continue to be on the cutting edge of greenway activity. The Triangle Land Conservancy and the Triangle Greenways Council joined forces in 1985 to prepare a report entitled *Future of the Neuse River*. This document asks what role the river will serve in the community's future, and has been a catalyst for public policy discussion. To further increase public appreciation of the river, these groups have sponsored canoe trips along the river each spring and fall. They have also adopted the upper Neuse River, as part of the North Carolina Department of Natural Resources and Community Development's Streamwatch Program, and will be preparing a "how-to" report on planning canoe trails.

The city's administration that was once reluctant to pursue greenways is now embracing the program. A major sewer line proposed along more than 10 miles of the Neuse River presented an unprecedented greenway opportunity. By seeking greenway and sewer easements concurrently, the city has secured 5.8 miles of the needed greenway right-of-way. The remaining greenway lands can be accumulated as specific subdivision and land use plans are received for city review and approval. In another recent development, Wake County and the municipalities with land use jurisdiction along the river have begun a Neuse River corridor study. The results of this study should be a coordinated effort and a plan for public protection and use of the river.

Regulations continue to play an important role in greenway development. Raleigh was the first North Carolina city to adopt development impact fees. Through this system, the provision of greenway open space can be deducted from impact fees owed. This perpetuates the greenway network in the absence of a mandatory dedication of open space provision, which has never been included in the city's subdivision requirements. Nationally, Section 319 of the Clean Water Act Amendments requires every state to prepare a plan for controlling non-point source pollution or surface water runoff. This program is expected to be implemented in the 1990s. Since vegetated buffer strips along streams are an accepted method for

controlling agricultural runoff, it is anticipated that greenways may very well become an accepted method of controlling urban runoff.

In Reflection

Raleigh's greenway efforts have been a success, but not a total success. Retrofitting the greenway into those parts of the city that were developed prior to 1970 is still problematic. One neighborhood wanted a greenway so much that it raised \$300,000 to buy out a developer and save the last remaining open space. Unfortunately, this is not a universally applicable solution for completing the greenway network. The opportunities to move previously developed structures to make room for a greenway corridor have also been limited and expensive. Perhaps there is still something to be learned and an innovative solution found to resolve this impasse.

From its humble beginnings in Raleigh, the greenway concept has spread within the immediate region and to the other major urban centers within the state. For the past two years a Greenways In North Carolina conference has been held to spread the word further. A recent count identified more than 35 local government greenway programs in the state.

The greenway concept is so logical and so attractive that the President's Commission on Americans Outdoors included a recommendation for a nationwide network of greenways in its recent report. Nationally, the concept provides an opportunity for large-scale river and wetland protection, as well as the connection of national parks and refuges with population centers. Locally, the concept provides a mechanism for integrating the growing body of knowledge about environmental management with close-to-home recreation opportunities, and improvement of the urban aesthetic and quality of life. A linear approach to creating greenways did not exist in the 1970s, yet today, many of the institutional underpinnings for greenway programs are in place in state and local governments across the country. Thus a simpler, more linear approach to creating greenways is now possible, and they will continue to spread as long as there are enlightened citizens and public administrators. □

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