

## The New Generation of Greenway Planning: More Sustainable Forms for the City

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### Introduction

Greenways are sprouting with a renewed fervor and determinism. Motivating purposes include environmental as well as recreational goals. Charles Little in his landmark book, Greenways for America, has classified greenways into five different types (1990, pp. 4-5):

1. urban riverside/waterfront greenways
2. recreational greenways
3. ecologically significant natural corridors
4. scenic and historic routes, and
5. comprehensive greenway systems or networks

The typical functions of greenways, as recognized by geographer Rutherford Platt, include water resource protection and pollution abatement, riparian habitat enhancement and biodiversity, flood hazard reduction, recreation, environmental education, noise attenuation, microclimate enhancement (for both cooling and pollution abatement), and the reduction of bank erosion and downstream sedimentation (1994). Landscape architect Phil Lewis has cleverly characterized greenways as environmental corridors, which he has dubbed "E-ways," for the main purposes of 1. environment, 2. ecology, 3. education, and 4. exercise (Grove, 1990). In this paper a fifth "e" purpose, that of expression, will be additionally suggested and explored.

First the historical roots of greenways will be discussed, beginning with evolutionary origins of greenways in this country. The recreational and environmental purposes of greenways will be emphasized. New interest in the ecological purposes will be discussed. Different types of greenways will next be described. In conclusion, a discussion about the role of greenways, with rich possibilities for further development, will focus on the simultaneous needs for protecting environmental resources and enhancing recreational opportunities in cities.

### Historic Greenway Evolution

The concept of greenways continues to evolve. Our ancestral greenways are parkways and boulevards. In the book, Greenways for America (1990), Charles Little suggests that the cloudy origin of the term, "greenway," may be a cross between the nineteenth century term "parkway," emphasizing carriage use, and the British term "greenbelt." He attributes the first use of the actual term to William Whyte in the 1959 monograph Securing Open Space for Urban America. Without the use of the actual term, noted Olmsted scholar Charles Beveridge points out that the earliest American greenway elements were proposed by Frederick Law Olmsted in the "Park and Piedmont Way Plan" which included a link between the College of California campus in Berkeley and the city of Oakland. College trustees accepted this part of this proposal on October 3, 1865. Little (1990, p.9) has then suggested that this date should serve as the origins of greenways in America. The main purpose of this original greenway proposal was for pleasure, affording a scenic drive. Subsequent design proposals for single parks throughout the east coast in America, like Central Park and Prospect Park, led Olmsted and his colleague Calvert Vaux to recognize the need for linked open space proposals. They began to recognize the need for citizens to have more opportunities to access nature as an escape from urban stress. Proposals for parkways, as wide pleasure carriage drives, planted with shade trees, date back to 1866 with one for Brooklyn and what is now Queens. Recently in 1990, landscape architect Peter Trowbridge received an American Society of Landscape Architects (ASLA) Professional Merit Award for his work on the Brooklyn-Queens Greenway, which is now respected for its historical heritage, as well. The parkway concept spread throughout America. Another noteworthy historic example is the Minneapolis-St. Paul Metropolitan Park system completed by 1895 by H. W. S. Cleveland. Certainly, the famed work of Olmsted and Charles Eliot on the Emerald Necklace beginning in 1879 should be noted. These and other early models promoted walks and carriage roadways for recreational pleasure in the context of a natural landscape. With the advent and growth of the automobile, parkways designed to accommodate motorized vehicles began with the Bronx River Parkway as early as 1906 (Nolen and Hubbard, 1937). The purpose continued to be programmed for open-ended recreational pleasure.

In later times recreational programs became more structured, organized, and specialized in response to changing times (Cranz, 1982). L. H. Weir, a recreation administrator who wrote about parks and recreation in America between World War I and II, classified the recreational purposes of parks and parkways in meeting human interests into seven

categories. Following the Greek ethic for the "good life," a recreational program should meet these human interests (Doell et al, 1954, p. 40):

1. Physical activities interests
2. Constructive, creative interests
3. Interests in learning about the natural world
4. Interest in communication
5. Interest in expressing feelings, emotions, and concepts
6. Social interest to get together and mingle
7. Fundamental interest in an underlying "higher power."

With all of the opportunities for greenway projects the purpose of expression seems the least dominant. At the same time Weir's list of interests, which were also included in a 1944 survey of recreation for the City of Minneapolis, suggests that an interest in promoting expression is very appropriate.

More recently in the late sixties and early seventies, emphasis has been placed on the economic benefits of urban greenways in particular (Gunn et al, 1972 and 1974). Certainly, the environmental arguments for greenways have been strongly made in general (Platt, 1991, 1994). Emphasis on the historic and scenic values of greenways is easy to find (Riddle, 1993). Recently, the educational role of greenways has been boosted with Lynne Cherry's children's picture book, A River Ran Wild; the environmental purposes of greenways are promoted through the focus on the story of the Nashua River Greenway in Massachusetts and New Hampshire.

Most recently, the emphasis on the ecological purposes of greenways demonstrates exciting new explorations of creative, ecological, and experimental applications (Ahern, 1992). Interest in biodiversity and sustainability will no doubt continue to inspire and inform greenway efforts. Concern for meeting the needs of wildlife, and not necessarily those of humans, tops many landscape ecologists' lists of purposes today. Among these advocates is Richard T.T. Forman (1986). Some of the most creative thinking today with greenways relates to the ecological purposes. Wherever people are still intended as users, the idea of encouraging expression in greenways does not have to be in conflict with the ecological role. Expression and ecology do not need to be mutually exclusive; in many instances they can be very compatible. Robert Searns (1993) has illustrated the potential of this through his discussion of the "new generation" of greenways. It would be both unfortunate and ironic if the potential expressive role were not developed creatively.

Ervin H. Zube (1993) has emphasized the "evolutionary" character of greenways, as well as national parks, as opposed to the notion that they are "revolutionary." Even with later greenway projects from the 1970's, the main purposes were recreation-oriented. In this sense they remained single purpose greenways. Their main mission typically was to provide trails using stream corridors to move about the city on foot or on bicycle to escape the automobile. In the following decades the greenway movement expanded its scope with resource stewardship as an important component. Stream corridors were recognized for their importance as wildlife habitat, as routes of movement and migration among increasingly isolated patches of open space.

Searns reminds us that it was the engineering community who was forced to look beyond single purpose stormwater conveyance to address issues of aesthetics, water quality, wildlife, and stormwater storage amidst growing criticisms. Technology up until this time had a strong single purpose tradition. The unfortunate history of the quest for city water by the engineer for the City of Los Angeles is a powerful model for single purpose solutions. By piping water hundreds of miles from the north in the Owens River Valley, the City of Los Angeles found a new water source. The Los Angeles River then flooded and impeded development in the floodplain. The river was changed into a culvert to convey the water away. More rivers and streams were relegated to concrete channels. Owens Valley dried up. Further damage would have ravaged the area, if it were not for federal intervention. This single purpose solution dictated a narrow course of action with a resulting high cost and consequence to taxpayers. The typical concept of encroach, straighten, and convey continues to burden taxpayers with bail-out costs throughout the country. From single purpose solutions it is a big leap to holistic systems with multi-objective greenways. But the next generation of greenways needs to reach beyond single purpose solutions. There are complex needs beyond simple trails and linear parks. The wider range of objectives includes wildlife habitat and migration, stormwater management, and resource management. A greater range of benefits from multipurpose greenways is afforded, along with a greater complexity of issues which must be addressed. A number of greenway projects offer very interesting and creative ideas for consideration. A few examples will be highlighted.

#### Some Greenway Highlights

Over the past two decades the explosion of greenway projects especially in this country offers a powerful vehicle for open space protection. Ribbons of greenspace can take advantage of existing infrastructure, such as abandoned railroad beds. At the same time these plans and designs are beginning to propose creative schemes for multiple use, not just single use, greenways.

In North Brabant, Netherlands, there are very strong ecological components to the greenway plan. Elements include core natural areas, nature development areas, ecological corridors, and multifunctional forests (Ahern et al, 1997). What is particularly innovative is the advanced application of landscape ecological approaches to landscape planning in a centrally controlled and empowered planning system. Biodiversity is certainly an important greenway goal. If greenways are to be a key element of sustainable landscapes, biodiversity must be an integrated key component in the planning process. The major threat to biodiversity in the world is the destruction of habitat through development (World Commission, 1987). If greenways are to promote the concept of sustainable land use, they must also include social and cultural goals, not just those of environmental protection.

In Tokyo a two-tiered stream was created along a tributary of the Edo River. A deck was built over and enclosing a concrete flood channel; a portion of the water was diverted to form an artificial stream with rocks, meanders, and even trees in rooftop-like planters (Ben-Joseph, 1995). This scheme is an architecturally dominant structure, which is not being suggested as an acceptable alternative to an existing natural stream. But the cultural value of streams and the importance of water to people are illustrated with such an example.

In contrast environmental sculptures by Lynne Hull from Laramie, Wyoming, offer an ecologically activist spirit. Hull's site projects include a "Scatter Hydroglyph," a water cache-basin in the desert for wildlife, "Island," a floating sculpture for waterfowl nesting, and "Grandmother Trees," a songbird habitat. Hull is able to combine ecology and art in her objectives. Here the role of art takes on a central role of nurturing nature. The creative adaption of land for greenways which integrate art, culture, ecology, and technology promise a continued expansion of the greenway movement well into the next century. These kinds of projects represent the next generation of greenway plans and designs.

Expression has not yet been emphasized fully as one of the multiple roles of greenways. It is interesting to note that three major profiles of the Platte River Greenway story (Grove, 1990, Little, 1990, and National Park Service, 1991) feature the leadership of Joe Shoemaker. But none of the accounts features the community participation effort of a ceramic tile project which brightens the concrete walls along the greenway walk under an overpass. Although not a dominant part of the project, it is a small, but important example of an element of expression. The United Bank of Denver sponsored the mural project. Anyone who contributed to the cause could make a tile for the mural. Yet this aspect of the project is not reported in any written account of the Platte River Greenway to date. Also not included in the written accounts is the background of a poem written by a local Denver poet and entitled, "Two Rivers," which is displayed as a bronze plaque on the wall. This is another small example of expression that has not received emphasis. To consider a wider range of expression examples, five different cases follow.

The following examples were selected for discussion here because of the distinct importance and differences in the types of expression which are represented. By no means are the examples intended to illustrate the complete spectrum of expression possibilities. Instead, the examples are offered as a beginning consideration of a larger potential. Expression can include examples communicating both verbally, as well as visually. Types of expression can stem from cultural, social, personal, creative, political, cultural, religious, patriotic, historic, or aesthetic motivations. Selected here are representative personal, patriotic, celebratory, cultural, and political examples.

### 1. Personal

On one basic level expression through the simple exchange of greetings is a typical outcome with many greenway projects. Anne Lusk, starting a successful campaign back in 1981 to knit together a backland trailway to create the Stowe Recreation Path in the Vermont ski town, combined easements, donations, and the purchase of private lands. Lusk is quick to point out that the social value underpins the basic benefits of greenways. She believes that, "People are different on a path...On a town sidewalk strangers may make eye contact, but that's all. On a path like this they smile, say hello, and pet one another's dogs. I think that every community should have a greenway" (Grove, 1990, p. 90-91). Lusk believes that greenway paths somehow foster better personal, social exchanges than do other types of public open spaces.

Beyond the physical exercise opportunities for biking, walking, and cross-country skiing on this trail in Stowe, it is this importance of the social exchanges which is most celebrated by its creator. This particular outcome is not at all unique to Stowe experience. As Anne Lusk suggests, something about the path quality of a greenway brings out a friendliness among people who may remain indifferent to one another along the town sidewalk or in a park. Beyond the trust and feelings of good will many users of greenways express through these greetings and smiles, users of greenways can also express more specialized attitudes and views through their use.

### 2. Patriotic

Historically, the emergency war gardens along greenways, as well as other open spaces, became important symbols for Americans as a means to express their patriotism (Wolschke-Bulmahn, 1992). There was no difference in the meaning of the expression, whether it was along a greenway or in a singular park space. President Woodrow Wilson encouraged Americans to help out, "Everyone who cultivates a garden helps to solve the problem of the feeding of the nations," (Barron, 1917). Railway companies made their rights of way properties available for these patriotic gardens. Gardening became a means of expressing and demonstrating patriotism. This represented a changing role for greenways in response to new needs (Bischoff, 1993, p. 207).

Patriotic gardening extended beyond the practical realm of raising vegetables for food. Garden Magazine authors urged Americans to grow ornamental flowers, as well, as a source of comfort and a spiritual boost. The emergency war gardens from 1917 and 1918 became the victory gardens with World War II. The tradition of such allotment gardens continues today at many sites, including the Fenway Gardens in Boston. The kind of social expression evident in the patriotic gardens of World War I and II demonstrate an important character and potential dimension for communicating strong convictions.

### 3. Celebratory

In a very different way the site of Meanwhile Gardens in London illustrates another potential dimension for expression. Where the war gardens gave its users a new voice to express and exhibit patriotism, British sculptor Jamie McCollough imagined a new way for neighborhood residents to express themselves and celebrate childhood associations. Beginning in 1976 with a vision of reclaiming a 4 acre linear strip along the Grand Union Canal in Paddington, London, McCollough inspired active participation with neighborhood residents in transforming sheer rubble into fantasy-inspired gardens.

McCollough believes that "shaping the ground around you is the most powerful symbol ...(it's) taking control of your own world," (Nicholson-Lord, 1987, p. 117) Participants helped clear away the mess on the site. They then took the opportunity to recreate places for kindling favorite childhood memories- places for skateboards and bicycles, a wall for rock climbing, and an amphitheatre for plays and concerts. Planted earthen berms, curvilinear paths, and shade trees characterize the new landscape image created here. Through the design process of recreating memorable childhood fantasy environments, Meanwhile Gardens has offered its makers and users a kind of commemorative, imaginative, even therapeutic form of expression. This type of creative expression is not commonly associated with the purposes of greenways, though it might be considered less unique for designed individual spaces. When the earlier derelict condition of the site is compared to its subsequent functional human use, this case offers a very hopeful model. With this site the lessons have more to do with the functional qualities achieved for comfort and recreation than with the aesthetic caliber of any design. More recently, Planet Earth has helped expand the community park with a citizen participatory process.

### 4. Cultural

With a very different purpose in mind artist Susan Gamble spent time studying the cultural history of the Tuscon, Arizona, area and the people in its four barrios. Her two year project resulted in a recent installation of a gateway, five columns and four arches, and hundreds of feet of retaining walls with over 100,000 handmade tiles. Using individually-made letter tiles the history of the area is literally spelled out in three languages on the columns. Along the arches and retaining walls tile images of prickly pear cacti edge the fish filled river.

Gamble felt that it was first important to understand representative residents from each barrio before she could interpret and represent their different points of view. She wanted the park to serve as a space neighborhood residents could enjoy as their own. The diversity each different ethnic group from the four barrios offers the city is represented in her work (McGinnis, 1994). In addition to fish and cactus, Gamble used the image of the "sacred heart" to help Tuscon celebrate its cultural history.

### 5. Political

Where Meanwhile Gardens serves as a model for a community participation approach to encouraging social expression, and the Santa Cruz River Park interprets the cultural history of four barrios in Tuscon, Arizona, a recent project to shape a linear "art park" in Berlin offers more of a counter-culture model, with an anti-social tone, some might contend. In the former "no-man's" land strip along the Spree River in central Berlin several avante-garde artists soon after the wall fell seized the opportunity to express themselves with a string of newly created "forbidden art" installations.

There is a lingering sense that the land remains "off-limits," as the installation works demonstrate freedom of speech. It was in this very zone that up until 1989 anyone caught trespassing would be killed. Artists have reconfigured wall elements chronologically accounting for the post war deaths in the zone, year by year. At the base of the wall segments new grave markers are laid bearing the names of those known to have lost their lives, as well as their birth

and death dates. A series of earthen mounds suggest burial mounds, as well as bunkers. Dead trees are planted symbolically. Stenciled on the wall are the words "PARLIAMENT BAUME," (Parliamentary Trees). There are other slogans expressing contempt for America, regarded as a symbol of capitalist corruption. Pleas for world peace also solicit viewers to be friends of the earth. Wildflowers grow around an effort to fabricate a rustic shelter, created out of branches amidst the barren expanse of this historically hostile, haunted strip. Riders on the S-Bahn can glance down at the linear "art park." Some are attracted from this glimpse to explore the chorus of voices expressed in these installations. Some of the voices are angry, some reflective, others hopeful. The artists have created a greenway along the Spree with their linear installations of varying shapes and forms. The space would otherwise not invite visitors to venture forth. Whether such installations are viewed as "public urban commons," or instead as "wastelands," is debatable (Quayle, 1993, p. 212). In any case this site has hosted a profound installation of social-political commentary that dominates with its social expression shaping this space.

### Conclusion

Greenways function in a multitude of ways for the benefit of people, as well as the environment (Searns, 1993). The emphasis traditionally has been for the main purposes of environment, ecology, education, and exercise, as Lewis has suggested (Grove, 1990). With the estimated 500 or more greenway projects in this country, clearly there is a new energy supporting greenway projects today (Jordan and Summer, 1987).

As the examples discussed illustrate, the purposes of greenways can also be extended to include a wide range of expression from verbal to visual. Whether a president is asking his countrymen to display their patriotism by cultivating a subsistence garden along a greenway, or whether avante-garde artists are commenting upon political power, or whether a greenway affords the everyday, friendly, social exchanges that help people feel good about where they are, or whether it is through the actual shaping of greenway landform to evoke special childhood associations that provide an active sense of control and pleasure with the environment, or whether an artist is interpreting the cultural history of an area, greenways offer a full range of opportunities for potential expressions.

Such opportunities to contribute to the spirit of greenways should not be overlooked. The potential powers of expression, encompassing the social, political, cultural, historic, and aesthetic spectrum, can add a richness to the fabric of the greenway heritage. It is very appropriate for the range of expressive powers to be considered as part of the greenway potential. Encouraging more opportunities for expression can be helpful in two important ways. First, it can serve as one means of broadening the meaning of greenways, by adding to their richness. Second, this naturally extends the interest of the public in greenways and builds a larger constituency, which in turn contributes to a wider, stronger, and more active appreciation of greenway efforts.

The need for a greater range of skills and new technologies to address complex issues is both daunting and exciting. Issues of hydrology, hydraulics, fluvial geomorphology, biology, aquatics, ecology, economics, politics, aesthetics, history, and culture suggest the need for a diverse team. The concept of greenways, especially the newly evolving generation of multi-objective greenways, offers a unifying perspective on a range of complex systems. More than a label, the term "greenway" is a first step in popularizing and making comprehensible the notion of holistic thinking and stewardship. Greenways can offer a way to unify several disciplines to move toward a commonality of purpose. Greenway visions can inspire ordinary citizens, politicians, land developers, environmentalists, artists, landscape architects, planners, and engineers alike.

It would be a mistake to think of a greenway as an improvement over nature. Technology is still very primitive when it comes to mending impacts of urban development. While amenities such as trails, interpretive facilities and streamside development can benefit a community, human intervention has its costs. Landscape Architect Bruce Ferguson put it well when he noted, "If we can just stay out of nature's way, it will work" (Ferguson, 1995). The obligation is to mitigate, to heal, and in the process to do no harm. Greenways are and must continue to be places to test, refine, apply, and demonstrate appropriate technologies. At the same time they also need to be amenities, areas to recreate, areas to find artistic and cultural expression. There is a critical need for a public will to support the application of new technologies. There must be room for experimenting, tinkering, and risk-taking. Given the massive failure of so many conventional single purpose technologies, there is little choice but to introduce new approaches to encourage multiple objectives. Greenways need to be viewed as part of the infrastructure, just as important as roads or utilities. Community funding and regulatory policies need to reflect this. Promoting more opportunities for diverse forms of expression offers a noteworthy means of expanding the proverbial territory of the greenway movement and thereby adding to its growing strength, vitality, and spirit in cities.

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