Greenway Planning from an Environmental Justice Perspective: The Development of the East Bay Greenway Concept Plan, Alameda County, CA

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Introduction

The environmental justice movement emerged over 20 years ago, but only recently have planners, environmental advocates and community organizers begun exploring the connections between greenway planning and environmental justice. Projects like the South Bronx Greenway are driven by environmental justice perspectives, conferences like the New York City Greenway Summit are convening communities interested in the topic, and books like *Designing Greenways* are extolling environmental justice as one of the key benefits of greenway planning (Transportation Alternatives, 2007; Hellmund and Smith, 2006). Despite this recent interest, published theories and perspectives on how environmental justice can inform greenway planning are lacking.

This paper reviews the current literature on environmental justice and public space, and evaluates how an environmental justice perspective can be applied to greenway planning. A case study of the planning and design process for the East Bay Greenway Concept Plan, a proposed 12-mile greenway in Alameda County, California, illustrates the benefits and challenges of incorporating an environmental justice perspective into greenway design and planning.

Background/Literature Review

Environmental justice as a movement began from observations that environmental hazards such as toxic waste sites were located disproportionately in neighborhoods with lower income levels and higher proportions of people of color. Recently, the movement has expanded to consider how low income and minority neighborhoods also lack environmental amenities, such as access to parks and greenways (Frumkin, 2005; Hellmund and Smith, 2007).

Studies of greenway use have suggested that trail users tend to be of higher socioeconomic status (higher income and education levels), and that people of color and lower income levels are not using trails in numbers proportionate to their population (Furuseth and Altman, 1991; Lindsey, 1999; Lindsey et al., 2001). From an environmental justice perspective, this unequal use is problematic. It suggests that the benefits of greenways (such as contact with nature, physical activity, and social interaction) are not being experienced by more marginalized populations (Frumkin, 2005).

Literature on environmental justice, marginalized populations, and public space suggest three possible explanations for this disparity in greenway use: inequity of access to quality public space, differences in recreational preferences and behaviors, and feelings of disenfranchisement and disengagement.

In many cities and regions across the United States, neighborhoods with lower income levels and higher proportions of people of color have less access to quality open space than neighborhoods of higher socioeconomic levels (Gobster, 1995; Wolch et al., 2002). Studies of access and equity utilize methodologies such as GIS mapping and U.S. Census data analysis to develop a geographical picture of resource distribution (Talen, 1998; Wolch et al., 2002).

However, even if people of color and lower income levels have access to open space, it can be the case that those spaces do not reflect what these populations want from public space. Different ethnic groups can derive different values and meanings from their public places, and they can prefer different types of recreational activities (Low et al., 2005; Bell and Hurd, 2006). If a park is not designed to meet their values or preferences, they will not use it.

To better design for diverse communities, researchers incorporate international development approaches such as rapid rural appraisals and participatory rural appraisals into public space design and planning (Low et al., 2005; Juarez and Brown, 2008). These approaches combine a variety of anthropological methods, including: historical and archival documents, physical traces mapping, behavioral mapping, transect walks, interviews, focus groups, and participant observation.

Lack of attention to user needs in public space can result in user conflicts (Francis, 2003). Conflicts can include: a perceived lack of safety and security, abuse such as vandalism and overuse, and conflicts between different user groups. As many low income and minority communities also suffer from high crime rates, these conflicts are exacerbated in their public places, often making them unusable. Francis states that good design, programming, and management can address these conflicts, and that increasing the density and diversity of users can reduce conflicts in a public space (2003).

The third perspective on planning and design for marginalized populations comes from the community design movement. In the 1960s, when inner city, low income, and minority neighborhoods were being torn down for urban renewal, community designers worked to empower community residents to speak up against the renewal plans. As Arnstein argues, injustices cannot be solved without addressing issues of power (1969). Even today "…the lack of public participation by these communities in the decision-making process continues to be a key challenge to the environmental justice movement" (Shepard and Charles-Guzman, 2009, p.45). To address environmental injustice one also has to address community empowerment.

Goals and objectives

Being aware of inequities of access, cultural differences, and power relationships are all critical to understanding how marginalized groups use or do not use public space. Therefore, an environmental justice approach to greenway planning needs to address all three of these issues. A planning process that combines equity mapping, anthropological approaches, and community engagement techniques can bring these three environmental justice perspectives into design.

The goal of this paper is to use a case study of the East Bay Greenway Concept Plan to illustrate how these three methods can be incorporated into a greenway design and planning process. By individually evaluating the methods of equity mapping, anthropological approaches, and community participation through the impacts they had on the greenway plan, we can start to understand what each of these approaches can bring to greenway planning and design as well as their limitations.

Method

This case study uses critical reflection on the design process of the East Bay Greenway Concept Plan, similar to the methods used by Lawson (2005) and Juarez and Brown (2008). The author uses her own experience as lead designer on the project as well as the *East Bay Greenway Concept Plan* and *Community Outreach Summary* prepared by Urban Ecology (2008) and *The East Bay Greenway Health Impact Assessment* by Human Impact Partners (Heller and Bhatia, 2007).

The case study starts with a description of the project context. For each environmental justice approach listed in the literature review (access and equity, cultural differences, and community empowerment), there is a description of the methods used, the information gathered, and a discussion of how that information impacted the development of the Concept Plan.

The East Bay Greenway Concept Plan: Case Study

The East Bay Greenway project grew out of the observation that the wealthier communities of Berkeley, Albany, and El Cerritto along the east side of the San Francisco Bay had the Ohlone Greenway, a pedestrian and bicycle path underneath the elevated Bay Area Rapid Transit (BART) tracks; while the communities of Oakland, San Leandro, and Hayward had little more than dirt underneath their BART tracks. To address this inequity, the San Francisco-based nonprofit Urban Ecology with funding from the California Endowment, the California State Coastal Conservancy, and the Evelyn and Walter Haas, Jr. Fund, decided to create a concept plan for converting the dirt area underneath the BART tracks into a greenway.

Urban Ecology developed the East Bay Greenway Concept Plan for three main purposes: to answer questions about the feasibility of the project, to build support from local residents and agencies, and to form local government and community partnerships that could move the plan forward into implementation. The Concept Plan provides design guidelines for the entire corridor as well as preferred and alternative routes for sixteen individual segments of the twelve-mile corridor. Human Impact Partners conducted a health impact assessment of the East Bay Greenway project to highlight the potential health benefits of the project and potential barriers for the project (Heller and Bhatia, 2007).

Access and Equity: To better understand and illustrate the population demographics along the East Bay Greenway, Urban Ecology used GIS mapping and

U.S. Census data to map the populations' race, age, and density along the Greenway. This information was supplemented with maps prepared by the Alameda County Health Department showing the prevalence of poverty, diabetes, heart disease, and asthma in the county; and demographic data and park acreage per neighborhood as reported in the Health Impact Assessment.

The demographic maps demonstrated that the populations adjacent to the proposed East Bay Greenway were disproportionately young, elderly, and people of color. The public health maps showed these populations also suffered disproportionately from poverty, asthma, heart disease and diabetes. Park acreage statistics confirmed our initial perception that these communities had a lack of open space: communities varied in acres of park space per thousand residents, from 0.6 in the Fruitvale neighborhood to 2.1 in Elmhurst, yet all were far below the City of Oakland's standard of 4.0 and the National Recreation and Park Association's standard of 6.0. For comparison, the City of Oakland's citywide average is 5.4 (Heller and Bhatia, 2007).

The maps also illustrated the diversity of the communities along the corridor. As the East Bay Greenway transitions from north to south, it runs through communities that are predominantly Asian American, African American, and Hispanic. While the San Antonio and Fruitvale neighborhoods in Oakland have a high density of youth, San Leandro has high populations of senior citizens near the corridor.

As the maps highlighted the differences of the communities along the corridor, Urban Ecology decided that it was important to approach each community separately to better understand their needs and values and to not create a plan that applies the exact same solution to each segment of the Greenway. However, since there were high numbers of youth and elderly near the corridor, one of the main design goals became to design for beginning and inexperienced cyclists and families.

Mapping the demographics along the Greenway corridor helped Urban Ecology communicate the need for the project to local government agencies and foundations. Seeing how the Greenway could bring transportation and recreation amenities to high-density and traditionally-disadvantaged communities was a compelling argument for local government agencies, and agency staff requested that these maps be the focal point of presentations about the Greenway.

Cultural Differences: Mapping demographic data helped illustrate how the East Bay Greenway neighborhoods are very diverse yet lacking in open space, but it did not guarantee that people would use the Greenway, even if it did exist. In fact, some people during the planning process argued that the Greenway would not be as successful as the Ohlone Greenway because the culture of cycling and running is not as strong in the East Bay Greenway communities. Before investing millions of dollars into this project, it was critical for Urban Ecology to find out if the communities along the East Bay Greenway would value and use the Greenway. To

determine this, we incorporated a variety of anthropological methods to our planning process.

We started with site observations, walking the entire project area, noting how people were currently using the site, and documenting trace evidence of use (such as bicycle tracks and trash). We took these observations to community meetings, where we engaged participants in group discussions, mapping exercises, and a survey.

From site observations, it became apparent that people would use and value the East Bay Greenway. Despite lack of sidewalks and other basic amenities, people were already using the corridor to get to and from school, work, and the BART stations. In community meetings, people were excited about the project; and although they had several concerns (crime, traffic, access, and maintenance), they said the greenway would beautify their neighborhood and help create a sense of community pride.

The site observations and community meetings also highlighted the high potential for user conflicts in the site. Safety and security (violent crime and property crime), abuse (graffiti, vandalism, and lack of maintenance), and user group conflicts (use of the site by the homeless and fear of people from another neighborhood gaining access to their neighborhood) were all potential conflicts that community members were concerned about.

The Concept Plan addressed these potential conflicts through both design and programming recommendations. Lighting and security cameras topped the list of desired amenities by the residents. Design guidelines included recommendations that would maximize visibility, increase connections to active areas, and draw people to the site. Programming recommendations included a greenway ranger program to provide friendly surveillance on the site. Addressing potential conflicts between different user groups proved to be more challenging. Providing separate territories for different user groups proved to be too difficult in the narrow space of the proposed Greenway. We hope that having more people in the space, especially with the park rangers and other programmed activities will make the space feel safer regardless of who is using the site.

Community Empowerment: Community support for the East Bay Greenway was critical to forming local government and community partnerships that could move the plan forward into implementation. Urban Ecology believed that the more community residents were involved in the creation of the plan, the more likely the project would be successful.

The outreach strategy for the East Bay Greenway Concept Plan was to attend existing community meetings along the corridor: neighborhood crime prevention councils, home owners associations, artist cooperatives, bicycle advocacy groups, and a day laborers station. In total, 35 community organizations were consulted.

Urban Ecology visited communities along the corridor twice: once at the beginning of the planning process to learn about their specific neighborhood and obstacles to using the Greenway and the second time to share the preliminary design ideas. The interactive sessions included multiple opportunities for people to voice their thoughts and comments - through spoken word, map drawings, a survey and/or written comments.

What residents had to say had a large impact on the planning and design decisions that went into the Concept Plan. Community participants had a voice in determining the preferred route through their neighborhood, and their input influenced the overall design goals and guidelines. However, due to the regional scope of the project and the time required to advocate for the project, Urban Ecology acted as the primary community advocate at local agency meetings, rather than encouraging other community members to attend.

Although the process did not result in a community-driven movement, Urban Ecology did discover a large number of community organizations in the area who would like to continue to be involved in the project. Community members suggested the following ways to continue to encourage local involvement: hiring local contractors for construction, involving youth groups in the design and development of art work, continuing the partnership with local artists on the creation of public art, and involving local businesses in sponsorship opportunities.

Even if it was not ideal from a community empowerment standpoint, the advocacy approach did prove to be a successful strategy for the East Bay Greenway. The Concept Plan garnered so much support that the Alameda County Transportation Improvement Authority (ACTIA) and the East Bay Regional Parks District (EBRPD) have adopted the project into their master plans. Funding has been secured for the environmental review and next phase of the planning process, and the California Chapter of the American Planning Association awarded the East Bay Greenway Concept Plan the Focused Issue Award of Excellence for 2009.

There was one more limit we found with community empowerment. If the responsibility of funding and implementing the Greenway shifts from regional and local government agencies to the community groups and organizations, the equity issue that spurred the plan in the first place will remain unaddressed. An unintended result of local empowerment could be that better funded communities will have a better maintained greenway while communities with less power and less funding will struggle to keep their greenway usable. This could reinforce community divisions and inequities rather than solving them. Therefore, the Concept Plan recommends creating a joint power authority (JPA) to oversee the maintenance and funding for the Greenway while still encouraging local community organizations to get involved when and where they can.

Discussion and conclusion

The East Bay Greenway case study demonstrates how awareness of access and equity, cultural differences, and community empowerment can contribute to a greenway planning and design. Equity mapping brought to light existing inequities in public space and helped make the case for funding. It created a powerful argument for the East Bay Greenway, and the method could be used to support the creation of greenways in other urban, inner city neighborhoods.

Getting to know community residents' values, informed the design and highlighted issues that needed to be addressed for the plan to be successful. Despite the perception that low income, minority communities might prefer not to use trails or might be less likely to support their creation (Lindsey et al, 2001; Payne et al., 2002), residents along the East Bay Greenway corridor did see the Greenway as a positive resource for their communities. Residents along the East Bay Greenway corridor supported the project because they believed it would make their neighborhood more attractive, increase community pride, provide a safe corridor for walking and bicycling, and deter crime. These objectives and potential benefits of a greenway augment the traditional greenway objectives of nature protection, creation of recreation and tourist opportunities, and protection of historical and cultural heritage as defined by Fabos (1995).

Conflicts can arise in public spaces when user needs are not addressed appropriately, when a space is poorly designed, or in response to larger social problems like crime and homelessness (Francis, 2003; Low et al., 2005). The potential for conflicts on the East Bay Greenway is high; safety and vandalism topped the list of residents' concerns about the greenway. Increasing the number of users in a public space has been shown to be successful strategy for deterring aberrant behavior (Francis, 2003). However, due to the linear nature of greenways, increasing the number of users to a level where there are eyes on every portion of the trail is more challenging that increasing the use of a small park. Similarly, the strategy of providing separate territories for different user groups (Low et al., 2005) is more difficult in a narrow, linear corridor than in traditional park spaces.

Encouraging community involvement in not just the design process but also the on-going programming and maintenance could eventually create a place that the community feels belongs to them. Addressing equity on a regional scale while encouraging grass roots participation, proved to be one of the most challenging aspects of the East Bay Greenway planning process. Although local communities and residents had a large influence on the design process, the planning process was not controlled by local communities or residents. The amount of community control in the process was limited by not only the regional scope of the project but also the lack of resources within the communities themselves. Local community empowerment needs to be matched with regional policy and financial support to ensure that projects of regional scope are implemented in an equitable manner.

Bringing an awareness of equity, cultural differences, and empowerment to the greenway planning process helped create a plan that has widespread regional support. Adding an environmental justice perspective to greenway planning can expand traditional benefits of greenways and can expand the planning process to address a wide range of user needs, values, and perceptions.

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