



IJEAST

INTERNATIONAL JOURNAL
OF ENGINEERING APPLIED SCIENCE
AND TECHNOLOGY



VOLUME : 6 ISSUE : 2 Print / Issue Publication Date: 25-Aug-2021



ISSN : 2455-2143



DOI : 10.33564/IJEAST.2021.v06i02.024

Indexed In



WWW.IJEAST.COM

editor@ijeast.com

URBAN GREENWAYS AS PLANNING STRATEGY

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Abstract— Cities across the world have developed urban greenways as a tool to tackle the problems caused by rapid and unsustainable urbanisation. In many of the countries greenways are used to achieve a number of environmental, economic, and social goals. Greenways are recreational trails that provide functions beyond recreation, such as storm water management, economic development, community development, and aesthetic improvements. However, greenways are not a new idea. The popularity of greenways has grown because greenways fulfil many functions, while bringing numerous benefits to the cities in which they are implemented.

Keywords— Greenways, Recreational trails

I. INTRODUCTION

Urban areas are great magnets to most humans. Indeed, around 2.8 billion people worldwide live in urban areas. Urban areas are the nucleus of economic growth, the major sources of new technology and wealth. However, they also face significant problems: uneven urban development, creation of economic and social 'sink' areas, and environmental decay (urban areas are the major consumers of natural resources and the largest producers of pollution and waste). The massive increase in urbanization and the impact of urban areas on the global environment mean that creating more sustainable urban areas is essential to sustainability at the national and international level.

The rest of the paper is organized as follows. Concept of Greenways and its advantages are explained in section II. Case studies along with analysis are presented in section III. Concluding with recommendations for planning Greenways are given in section IV.

II. CONCEPT OF GREENWAYS

A. Characteristics and functions –

When planned and executed in the right way, urban greenways tie together the environmental, economic, and social equity goals of sustainable development and lead to improved urban resilience. Changing of conditions, conceptions and tendencies lead to change of the concept and scope of greenways. There are five key characteristics for this Greenways – Linear,

Linkage, Multifunctional, Consistent and Spatial strategy component of the original image detail (high frequency).

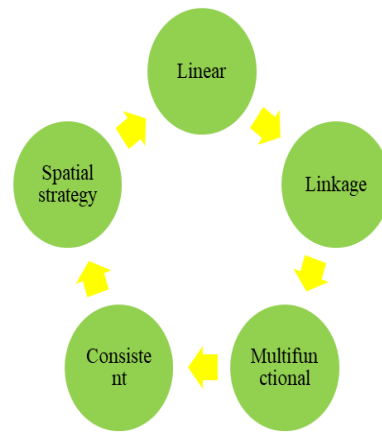


Fig. 1. 5 key characteristics

B. Benefits of Greenways –

Greenways provide many benefits that increase quality of public life with using spaces for multiple goals. Benefits of greenways can be broadly classified in to 3 categories – Environmental benefits, Economic benefits and social benefits.

Table -1 Benefits of Greenways

Environmental benefits	Economic benefits	Social benefits
Helps to restore and protect the natural environment	Retention and corporate relocation	Can be a means of education
Enhance environment quality	Induce positive publicity for business	Enable a better appreciation and awareness of nature and the environment
Support local plant and animal community	Enhance the facilities for employees	Provide an alternative transport route
Provide wildlife corridors	Stimulate higher productivity	Democratize the public mobility
Support	Provide direct	Enhance wellbeing



biodiversity	employment opportunities	through contact with nature
Protect waterways and kept unpolluted	Attract tourism and enable commercial opportunities	Provide visual relief, especially in urbanized areas
Help to reduce flood hazard	Improve the overall appeal of a community to prospective new residents	Induce healthier lifestyles
Reduce problems of soil erosion and downstream sedimentation	Increase real-estate property values	Provide access and linkage between natural and cultural sites
Induce a more efficient utilization of land	Helps to create tax revenue and reduce public costs	Help to preserve monuments and historical buildings
Limit urban growth	Cost effective strategy for providing outdoor recreation	Enhance sense of community
	Reduce car related family budget	Anchor for revitalizing neighborhoods and building healthy communities
		Facilitate social equity and therefore, social cohesion
		Positive influence on human behavior and helps to reduce crime

III. CASE STUDIES AND ANALYSIS

Urban greenways offer numerous benefits to the cities in which they are implemented, but much work goes into the creation of a greenway. Hundreds of greenway trails exist across the world presenting numerous urban greenway examples to study. How cities are planned, funded and implemented Greenways? To get an idea regarding the planning and implementation of Greenways, 3 case studies were studied. The planning processes, implementation, stakeholders involved, levels of coordination, and sources of funding for these three examples were studied.

Table -2 Case studies

Sl No	Greenways	Location	Length	Year opened
1	High Line	New York	2.33km	2009

2	Lambro river valley	Italy	17km	2000
3	Multipurpose greenway	Concord	37km	2002

Category	High Line	Lambro river valley Greenway	Multipurpose Greenway
Place	New York	Italy	Concord
Type of Greenway	Recreational greenway	Urban river side and natural corridor that are of ecological importance.	Multipurpose greenway.
Before Greenway	Elevated track for goods transport. After 1980 the structure was abandoned and left to rust and became grown over with weeds.	Polluted Lambro River due to dumping of waste. Traffic congestion. Lack of pedestrian paths and bicycle paths	Encroachment and booming growth. Riparian corridors. Polluted Rocky River.
Purpose of Greenway	To preserve the historic structure. To develop public space for people's benefits.	Protection and conservation of Lambro River. Connect people with natural resources and centers of life.	Multipurpose greenway system to tackle the problems of rapid growth and expansion.
Implementation of Greenway	Public private partnership model	Regional level Greenway planning 4 phases	Greenway planning for North Carolina. Broadly 7 steps to be followed
Community participation	Good involvement of people.	Very less involvement	Equal importance to public
Challenges	Funding for the developments	Unawareness of people regarding	Unawareness of people regarding



	Grass root support.	greenways. Lack of people's participation Densely populated areas	greenway. Increased urbanization and expansion.
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IV. RECOMMENDATIONS FOR PLANNING

The Greenway Plan can be developed through extensive outreach and dialogue with a wide range of interested stakeholders, including local public officials, local institutions, adjacent property owners, and the general public. The entire planning process can be organized in to 4 components:

- Background – What is the Plan? Overall project goals, objectives and context.
- Existing Resources – What do we have? Description of the area and its social and physical characteristics, as well as existing parks, recreation, cultural, and natural resources
- Recommendations – What do we want? Opportunities for local trail network and associated open spaces.
- Design Guidelines – What will it look like? Design description of typical trail types, including a survey of comparable trails in the local area. Idea regarding design components.
- Implementation Plan – How do we get it? Action plan to outline a realistic approach to implement the recommendations, including costs, timeline, and responsible parties.

Factors to be considered for Greenway

To develop a greenway certain factors to be considered. All these factors together will form a Greenway

- Understanding of natural resources within the area
- Understanding of centers of life
- Analysis of all routes and networks within the area
- Connect nearby open space facilities to form recreational activities
- Link recreation areas with residential, commercial, and cultural destinations
- Reserve existing open space for future recreation areas and to conserve natural resources
- Proper planning and implementation

1. Sustainable Design

To be successful in the long term, a greenway must be designed to be physically, ecologically, and economically sustainable.

2. Aesthetic Value

When designing each greenway network, careful attention must be given to its “look and feel,” so that is designed appropriately to its specific setting.

3. Paved Trails

The Greenways Plan proposes a combination of paved and unpaved trails, to allow for different types of uses and different types of sites. Paved surfaces can be recommended to be asphalt.

4. Natural Surface Trails

For trails located in a natural setting, or intended for use mostly by people on foot, an unpaved or “soft” trail surface is appropriate. An unpaved surface can be constructed at far lower cost than a paved trail.

5. Amenities

Amenities and features as parking, restrooms, tables and benches, trash receptacles, bike racks, lighting, welcome signage, maps and directional signs, drinking fountains, and vending machines, rent a shop for cycles etc.

V. REFERENCE

[1] Aylin Salici, Mustafa Kemal University, Architecture Faculty, Department of Landscape Architecture, Turkey

[2] Ahern, J., 1995. Greenways as a Planning Strategy. *Landscape and Urban Planning*. Volume:33, 131-155 p.

[3] Ahern, J., 2004. Greenways in the USA: Theory, Trends and Prospects (Jongman, R. and G., Pungetti). *Ecological Networks and Greenways, Concept, Design, Implementation*, Cambridge University Press, 34-55 p. ISBN 0521827760.

[4] Ashley Conine, 2004. Planning for multi – purpose greenways in concord, North Carolina, *Landscape and Urban Planning* 68, 271-287 p.

[5] Bischoff, A., 1995. Greenways as Vehicles For Expression. *Landscape and Urban Planning*. Volume: 33, 317-325 p.

[6] Fabos, G.J., 1995. Introduction and Overview: The Greenway Movement, Uses And Potentials of Greenways. *Landscape and Urban Planning*. Volume: 33, 1-13 p.

[7] Natalia Fumagalli, Claudia Colombo, Paolo Stefano Ferrario, Giulio Senes, Alessandro Toccolini, Department of Agricultural and Environmental Sciences, University of Milan, Italy, *Journal of Agricultural Engineering* 2013; volume XLIV:183

[8] Scudo, K., 2006. The Greenway of Pavia: Innovations in Italian Landscape Planning. *Landscape and Urban Planning* 76, 112-133 p.

[9] Searns, R.M., 1995. The Evolution of Greenways as an Adaptive Urban Landscape Form. *Landscape and Urban Planning* 33, 65-80 p.

[10] www.umass.edu/greenway/, (accessed on 11/10/2017)

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2455-2143