



LANDSCAPE ARCHITECTURE and PUBLIC WELFARE

**FOUNDATION PAPER BY ERIN RESEARCH INC.
FOR CLARB
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LANDSCAPE ARCHITECTURE AND PUBLIC WELFARE, 2010

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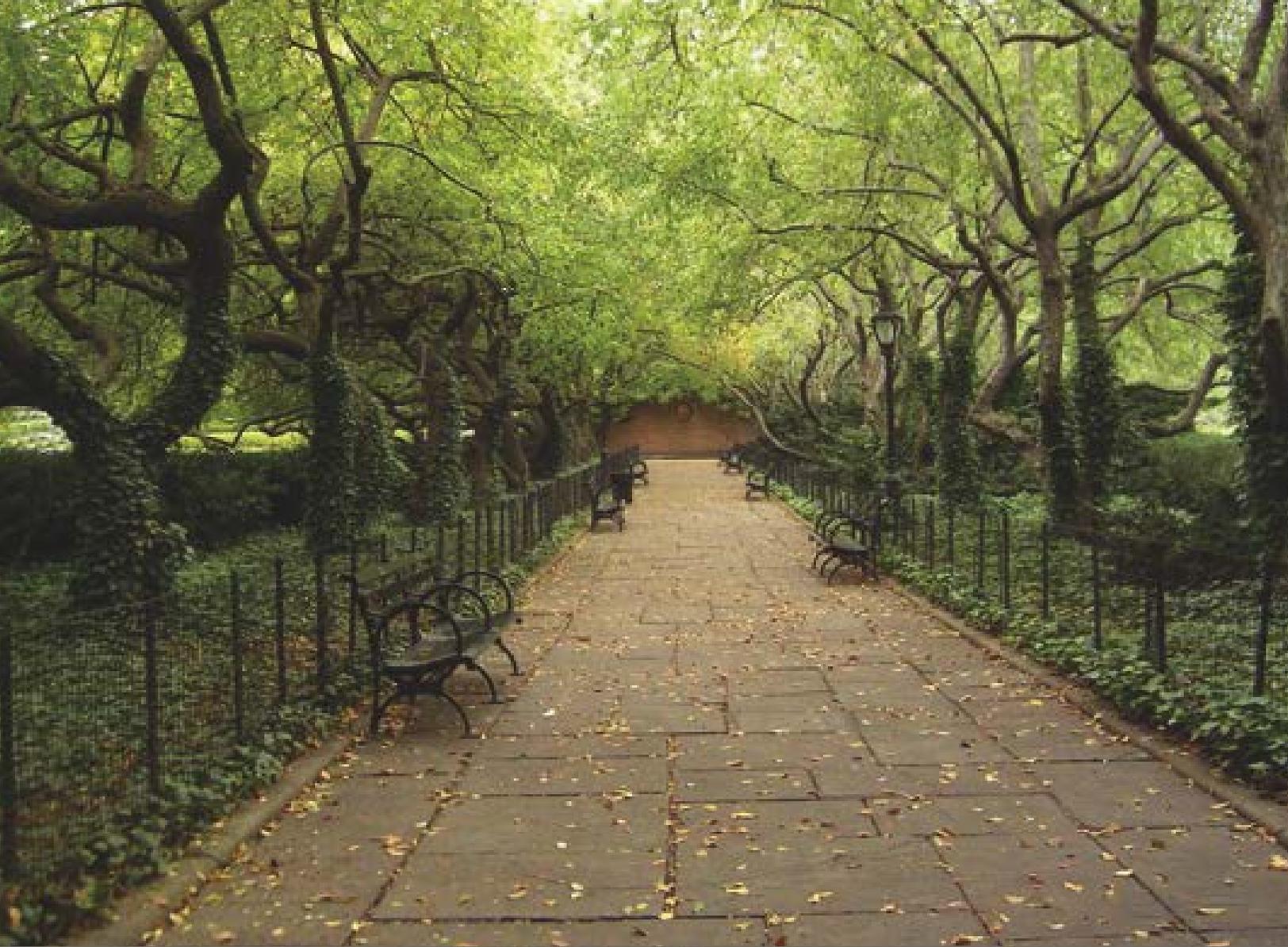
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PART A: DIMENSIONS OF PUBLIC WELFARE

Central Park was designed by Frederick Law Olmsted, considered the founding father of American Landscape Architecture.

**Conservatory Garden, Central Park, New York: Photo by Liz Armstrong
liz@ican.net**

1 Introduction

PURPOSE OF PAPER

This foundation paper is intended for use by a diverse audience, including legislators, practitioners, CLARB exam writers, students, academics, allied professionals and interested members of the general public.

The ERIN Research Inc. paper is termed a “foundation” paper as it provides a platform on which to build the concept of public welfare in Landscape Architecture. It is not intended to be exhaustive, but is a framework for discussion and a route to application.

The paper is a springboard that will assist the profession to build awareness and understanding of its role in enhancing public welfare among its diverse clients and constituents.

BACKGROUND TO THE CLARB INITIATIVE

The Council of Landscape Architectural Registration Boards (CLARB) is dedicated to ensuring that all individuals who affect the natural and built environment through the practice of landscape architecture are sufficiently qualified. To this end, CLARB develops and administers the Landscape Architect Registration Examination (L.A.R.E.).

The L.A.R.E. is designed to assess the knowledge, skills and abilities that enable landscape architects to enhance the health, safety and welfare of the public. While the concept of health and safety (particularly the latter) are well established, there is a lack of evidence that defines what “public welfare” is and how landscape architects positively affect it.

THE CHALLENGE

To clarify what public welfare entails in the context of Landscape Architecture, CLARB has commissioned ERIN Research Inc. to:

- Expand our knowledge of the components of public welfare; and
- Establish the impact or benefits of landscape architecture on public welfare .

By further defining our understanding of public welfare, CLARB will be in a better position to refine those portions of the L.A.R.E. that deal with “public welfare”.

In sum, the challenge is to develop a definition of a concept that is recognized as pivotal but that lacks structure. Like truth or beauty, we intuitively recognize public welfare as a desirable quality, yet have some difficulty pinning it down.

2 Legal definitions

To begin the exploration, two examples of the legal definition of welfare are presented: the first is drawn from legislation and the second is cited from a widely-used legal dictionary.

These two provide a quick thumbnail description of the art of legally defining public welfare. One quickly realizes there is much more to be explored.

STATUTORY DEFINITION – A FEW ILLUSTRATIONS

In many North American jurisdictions, the practice of landscape architecture is governed by legislation.

One example, the Revised Code of the State of Washington, states:

*In order to safeguard human health and property, and to **promote the public welfare**, any person in either public or private capacity practicing or offering to practice landscape architecture for hire, shall be required to submit evidence that he is qualified so to practice and shall be registered under the provisions of this chapter. RCW 18.96.010*

A second example, the 2009 Florida Statute, states:

*The Legislature finds that the regulation of landscape architecture is necessary to assure competent landscape planning and design of public and private environments, prevention of contamination of water supplies, barrier-free public and private spaces, conservation of natural resources through proper land and water management practices, prevention of erosion, energy conservation, functional and aesthetically pleasing environmental contributions to **humanity's psychological and sociological well-being, and an enhancement of the quality of life** in a safe and healthy environment and to assure the highest possible quality of the practice of landscape architecture in this state. 481.301*

A third example, the 1996 Architects (Landscape) Act of British Columbia, states:

The objects of the society [The British Columbia Society of Landscape Architects] are the following:

*(a) to **uphold public health, safety and welfare as it relates to the professional practice of landscape architecture in British Columbia;***

(b) to nurture and further the professional application of landscape architectural knowledge and technique as it relates to the planning, design, development, preservation, protection, restoration, reclamation, rehabilitation, enhancement and management of the environment;

(c) to advance landscape architectural knowledge and technique; and

(d) to further and maintain proper standards of professional landscape architectural practice in British Columbia.

A final example is from the State of Georgia, USA:

Landscape architecture is governed by Georgia Code Ann. 43-23-2 to 19. Landscape architecture is defined as: the performance of professional services including, but not limited to, consultation, investigation, planning, design, preparation of drawings and specifications, and responsible supervision, all in connection with the preservation and determination of proper land uses, natural land features, esthetics, planting plans, the shaping of land to produce the best functional and esthetic effect, and grading plans with determination of drainage. The term shall also include the consideration of environmental problems involving land areas, as such problems relate to the public health, safety and welfare. Ga. Code Ann. 43-23-1(3)

“Public welfare” is not defined in this statute or in other statutes that use the term. The purpose of this paper is to develop a working definition of the term that will clarify the meaning and extent of public welfare as it applies to Landscape Architecture.

LEGAL DICTIONARY DEFINITION – AN ILLUSTRATION

Because Landscape Architects are governed by legislation, the legal description of public welfare is relevant. Black’s Law Dictionary defines the term as follows:

The prosperity, well-being, or convenience of the public at large, or of a whole community, as distinguished from the advantage of an individual or limited class. It embraces the primary social interests of safety, order, morals, economic interest, and non-material and political interests. In the development of our civic life, the definition of ‘public welfare’ has also developed until it has been held to bring within its purview regulations for the promotion of economic welfare and public convenience.

The Black's Law definition expands the meaning of public welfare by listing six components. Each of these resonates with the goals and practice of Landscape Architecture:

1 Safety: *Landscape Architecture has a strong focus on safety. It is grounded in legislation that governs the profession.*

2 Order: *Landscape Architecture explicitly contributes to social order, through the design of functional communities, open spaces, and circulation systems.*

3 Morals: *While Landscape Architecture is not principally concerned with morality, per se, certain initiatives are related to this, for example, designs to discourage undesirable or criminal activity.*

4 Economic interest: *Landscape Architecture considers economic interests either directly or indirectly in several ways:*

- Landscape Architects must work within established budgets set by clients to achieve desired objectives.
- Landscape Architecture considers life cycle costs in making choices for site materials.
- The present and future economic activities that take place in a community are an essential design consideration.
- The economic costs of poorly planned (or simply un-planned) communities are becoming increasingly apparent. Lack of physical activity and street crime are two examples.
- Landscape Architecture seeks to preserve historical flora and fauna, monuments and geographical features.

5 Non-material interests: *Landscape Architecture places a strong value on non-material interests including social interaction, recreation, aesthetics, and enjoyment of the outdoor environment.*

6 Political interests: *Landscape Architectural endeavours often exist within a political context, which may impinge on or shape the planning and design process. In some cases Landscape Architecture can be effective in overcoming social or political problems.*

ASLA has a focus on advocacy and political interests¹. Advocacy focuses of ASLA are:

- Economic Recovery
- Transportation
- Sustainable Design
- Livable Communities
- Water & Stormwater
- Historic Landscapes.

¹ <http://www.asla.org/GovernmentAffairs.aspx>

3 Public Welfare fuses two fundamental concepts



The Wordle shows the relative frequency of the 45 most common words that appear in forty dictionary definitions of public and welfare (omitting welfare in the sense of social assistance). www.wordle.net

The concept of public welfare blends two fundamental ideas: that of *the public realm* and that of *welfare* or *well-being*. Understanding the roots of each of these ideas is essential to unraveling the meaning of the term. Each idea is explored separately in this section.

ROOTS OF THE PUBLIC REALM

A five-year interdisciplinary project at McGill University in Montreal, “Making Publics”, has traced the historical roots of the modern concept of the public realm².

Before about 1600, the concept of a public realm had not developed, and terms such as “the public” or “public opinion” did not exist. The twin poles defining society were Church and State, the latter extending to “men of authority”, largely the nobility.

² <http://makingpublics.mcgill.ca/>. The Canadian Broadcasting Corporation radio program, Ideas, has a 14-part series on this project, <http://www.cbc.ca/ideas/episodes/features/2010/04/26/the-origins-of-the-modern-public/>

This duality was gradually eroded by developments in religion, technology and economics, with the result that a new force emerged: **the public realm**.

One of the early stimuli was the Reformation. The schism forced clergy, both Protestant and Catholic, to justify their positions to parishioners. By so doing, they opened the door to public debate of important ideas, enabling the idea of “public opinion”. While this term did not come into usage for some years, it took hold and is now a cornerstone of democracy and modern value systems.

Likewise, the growth of democratic institutions, such as legislatures and parliaments, gave greater voice to the people, at the expense of the state as defined by nobility.

In the sphere of technology, the printing press enabled the rise of mass literacy and the mass dissemination of ideas.

Finally, economic conditions in Europe began a gradual but bumpy incline following the end of almost constant wars (the 100 years war, the 30 years war), the establishment of trade with Africa, the Americas and the East, and the advent of industrial technologies. Guilds and the emergence of a “middle class” gave expression to this new economic force.

With growing political power, money and knowledge, “the public” became a social force that actively challenged Church and State, and grew in influence over the centuries.

One public or many?

The political, economic and technological forces that shaped the idea of the modern public have continued through to today. The single “public”, which emerged in specific contexts, has limited use today, as different overlapping publics are defined.

A **single universal “public”** may be invoked when all people are affected equally, for example during the recent H1N1 epidemic. But, more often we see fragmented and overlapping publics:

- The driving public competes with the cycling public for consideration on city streets;
- The voting public contrasts with those who are disenfranchised by apathy or by legal and social obstacles;
- Publics can be defined through use of technology: Facebook is a virtual public world.

We propose that “a public” has two defining features:

- It is recognized, formally or informally, as an interest group of consequence;
- It has a voice and can make itself heard.

Black's Law Dictionary seems to support **multiple publics**. It contrasts: “the public at large, or of a whole community” with “the advantage of an individual or limited class”.

This sets out a hierarchy of interests: the public at large, a whole community, limited classes, and individuals. It is consistent with the idea of multiple publics. Moreover, it implies that the interests of a larger community may often trump those of a smaller one.

Without saying so explicitly, Black's Dictionary appears to adopt a Utilitarian view of public welfare: the greatest good for the greatest number.

This said, we must beware of any simple utilitarian hierarchy that equates greater numbers with greater good. The modern view sees no inherent ascendancy of majority over minority interests. Minorities defined by race, religion, and other characteristics are deemed to be essential to the greater good. The tension between majority and minority interests has been central to the definition of public welfare since the end of WWII.

I should like to help everyone, if possible, Jew, gentile, black man, white. We all want to help one another. Human beings are like that. We want to live by each other's happiness — not by each other's misery. Charlie Chaplin in *The Great Dictator*.

Landscape Architecture is solidly rooted in this concept of a public realm inhabited by multiple public constituencies. Further, Landscape Architecture follows the principle that the public should be involved in any process that affects public space. This attitude is expressed, for example, in the “Community design” process, where the Landscape Architect takes on a facilitation role as opposed to dominating the design process.

ROOTS OF “WELFARE”

The word “welfare” has evolved since it first appeared in the fourteenth century.

It was a combination of *well*, in the sense that it is used in common parlance, with *fare*. The latter was originally a verb, meaning “to travel”: the modern German verb *fahren* is a close relative. The phrase “fare well” was a wish on parting: Have a safe journey.

Later it became *farewell*. In *Julius Caesar*, Shakespeare uses both forms in one sentence: “Farewell my dearest sister, fare thee well”.

Originally “welfare” meant the state or condition of how well a person was doing, of one’s happiness, good fortune or prosperity. In *Henry VI*, Shakespeare writes, “Take heed, my lord; the welfare of us all / Hangs on the cutting short that fraudulent man”.

As the idea of the public realm expanded, the concept of a collective public welfare grew with it. In the 20th century, the role of the state in maintaining public welfare became an important focus, and the term took on a much narrower focus. “Welfare programs”, or just “welfare”, describes programs to assist disadvantaged groups, just one of the many publics in society.

The association of welfare with social assistance has led some to prefer the term “public well-being” in the context of Landscape Architecture.

One welfare or many?

The various publics may have different and sometimes competing interests: welfare or well-being may differ from one public to another.

BEYOND HISTORICAL DEFINITIONS

The modern practice of Landscape Architecture demands that we consider three extensions to the common idea of public welfare.

1 The future public: Landscape Architecture often makes long-lasting or permanent changes to the landscape. The publics that are considered in any Landscape Architecture project must therefore include those future publics that will be affected.

2 Public and private interests: In common definitions, public welfare is contrasted with private interests: the two realms often stand in opposition. In Landscape Architecture, this distinction blurs.

- a) From a practical perspective, the transformation of a private space often has repercussions for the public lands that surround it. Visual impacts are obvious. Environmental impacts may also occur as runoff, groundwater, and wildlife do not respect property boundaries.
- b) Privately owned spaces often function as part of the public realm. Spaces around commercial buildings that are open to the public are one example.
- c) Privately owned spaces may be developed explicitly for public use. Golf courses, theme parks, and private camp grounds are examples.
- d) Legislation dealing with handicapped accessibility (e.g., the Americans with Disabilities Act) extends to private properties that are used by members of the public.

As a result, the discussion of public welfare in Landscape Architecture must encompass work done for private clients.

3 Environmental priorities: Human welfare is inseparable from the welfare of the ecosystems that we inhabit. Landscape Architecture either:

- Transforms the natural world or, more often,
- Re-creates developed spaces that become part of a new order which seeks to maintain harmony with nature.

Public welfare/well-being rests on the well-being of the natural world. Public welfare in the context of Landscape Architecture must explicitly include environmental well-being.

TOWARD A DEFINITION OF PUBLIC WELFARE FOR LANDSCAPE ARCHITECTURE

The various Publics and their needs for well-being differ. Public welfare must therefore be defined differently in each new context, and its impact will be assessed using many different measures.

This is a liberating conclusion. **Public welfare is open-ended and developmental.** It is an opportunity that could, and perhaps should, be explored in every Landscape Architecture project.

Components of a definition

1 Domain

Public welfare, in the context of Landscape Architecture, extends to:

- All affected publics, both present and future;
- The well-being of the environment (flora and fauna) in addition to that of the human population;
- The impact of private Landscape Architecture projects on surrounding public spaces;
- The impact of public Landscape Architecture projects on private properties;
- The preservation/conservation/restoration of historic monuments/grounds, wildlife habitats, significant ecosystems, etc.

2 Impacts

The central dimensions of impact include the following. Any given project may emphasize one or more of these key impacts. Landscape Architecture:

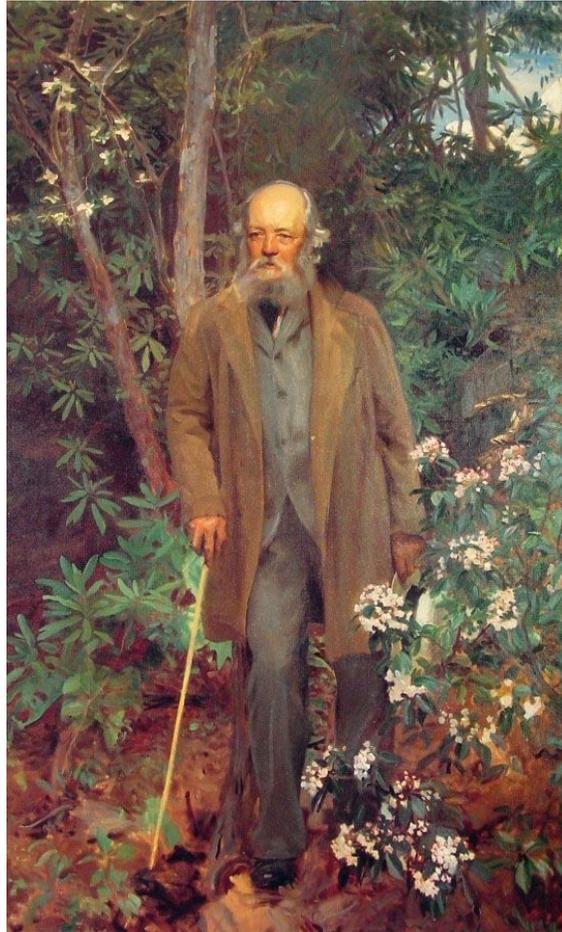
1. Enhances environmental sustainability,
2. Contributes to economic sustainability and benefits,
3. Promotes public health and well-being,
4. Builds communities,
5. Encourages landscape awareness/stewardship,
6. Offers aesthetic and creative experiences, and
7. Enables people and communities to function more effectively.

These impacts are explored in Chapters 4 through 10.

HISTORICAL NOTE

Frederick Law Olmsted (1822-1903) is widely recognized as the founder of American Landscape Architecture and the nation's foremost park maker. His first, his most loved, and, in many ways, his best known work was his design of Central Park in New York City (1858-1876) with his partner Calvert Vaux (1824-1895). He was one of the first to advocate the principles of the City Beautiful Movement in America. He was also one of the first to introduce the idea of suburban development to the American landscape.

"The enjoyment of scenery employs the mind without fatigue and yet exercises it, tranquilizes it and yet enlivens it; and thus, through the influence of the mind over the body, gives the effect of refreshing rest and reinvigoration of the whole system." -- Frederick Law Olmsted (A Clearing In the Distance, 258p.)



Frederick Law Olmsted
by American painter John Singer Sargent, 1895

A WORKING HOLISTIC DEFINITION

Public welfare in the context of Landscape Architecture means the stewardship of natural environments and of human communities in order to enhance social, economic, psychological, cultural and physical functioning, now and in the future.

LOANTAKA BROOK RESERVATION RESTORATION MORRIS COUNTY, NEW JERSEY

Andropogon Associates



One illustration of Landscape Architecture's 'stewardship for public welfare' is Andropogon³ Loantaka Reservation project (New Jersey). Andropogon worked closely with Loantaka park and pipeline personnel to design a revised alignment of a natural gas pipeline, a reduced construction zone and innovative techniques for forest and streambank restoration.

³ <http://www.andropogon.com/>



PART B: IMPACTS OF LANDSCAPE ARCHITECTURE ON PUBLIC WELFARE

**Lerner Garden of the Five Senses, Coastal Maine Botanical Gardens, USA.
www.mainegardens.org/discover/explore-the-gardens/lerner-garden-of-the-five-senses**

4 Overview of the seven major impacts

SEVEN MAJOR IMPACTS

We have identified seven major impacts that Landscape Architecture projects have on public welfare. The following chapters provide examples and source material for each.

1 ENHANCES ENVIRONMENTAL SUSTAINABILITY

Landscape Architecture contributes to environmental sustainability by responding to development challenges with solutions that involve sensitivity towards natural systems. Landscape Architects at the site design level integrate sustainability measures into all designs. Landscape Architecture protects natural systems ensuring that all members of communities have access to common resources and are involved in active conservation of those resources.

2 CONTRIBUTES TO ECONOMIC SUSTAINABILITY AND BENEFITS

Landscape Architecture contributes significantly to economic sustainability. Through its services, landscape architects assist policy makers and others to improve the marketability and long-term value of residential and commercial housing/property. Economic benefits include reduction of crime, smart development and growth, improved air and water quality, efficient energy use, enhanced quality of life and health, and access to culture and recreation.

3 PROMOTES PUBLIC HEALTH AND WELL-BEING

Landscape Architecture is increasingly grounded in the growing body of research in public health. This research makes connections between human health and well-being and the conditions of the outdoor environment. Landscape architecture projects can directly affect the mental and physical health of individuals and communities and provide immediate and lasting therapeutic benefits.

4 BUILDS COMMUNITY

Landscape architects work to help build communities: their work significantly affects quality of life. By creating attractive, functional places, Landscape Architecture encourages people to engage in their surroundings, strengthening social cohesion, which in turn results in healthier, more dynamic, more resilient communities at the local, national and global levels.

5 ENCOURAGES LANDSCAPE AWARENESS/STEWARDSHIP

Landscape Architecture stimulates our awareness of the landscape, and increases our understanding of the role that humans play in it. Landscape Architecture encourages citizens to appreciate landscape and to participate in the processes that shape it. Cultivating a symbiotic and iterative relationship between people and their environment Landscape Architecture encourages protection, stewardship and understanding of the landscape. Landscape Architecture deepens the memory, meaning, sense of identity and culture inherent in the environment.

6 OFFERS AESTHETIC AND CREATIVE EXPERIENCES

Landscape Architecture offers people that which artists offer: the opportunity to experience enjoyment, contentment, stimulation or pleasure by participating in the aesthetic experience of landscape. An important part of this dimension is the preservation and protection of significant historic properties, buildings, structures, districts, cultural landscapes, artistic objects and archeological elements.

7 ENABLES PEOPLE AND COMMUNITIES TO FUNCTION MORE EFFECTIVELY

Landscape Architecture enables people to function more effectively in their environments. On a practical, day-to-day level, landscape architecture facilitates many human activities and functions such as efficient traffic flow, parking, waste collection/recycling, water use/drainage, air quality, optimal use of space.

5 Landscape architecture enhances environmental sustainability

Landscape Architecture contributes to environmental sustainability by responding to development challenges with solutions that involve sensitivity towards natural systems. Landscape Architects at the site design level integrate sustainability measures into all designs. Landscape Architecture protects natural systems ensuring that all members of communities have access to common resources and are involved in active conservation of those resources.

Illustrative projects

MORRIS ARBORETUM, PHILADELPHIA, PENNSYLVANIA

Andropogon Associates



In the mid-1970s the 166-acre Morris Arboretum⁴ was faced with a backlog of deferred maintenance, deteriorated infrastructure, inadequate facilities for visitors, and major circulation problems. Responding to these issues, Andropogon's Master Plan created a vision to preserve and restore historic resources while accommodating the demands of contemporary use.

Landscape architecture is a profession that deals explicitly with the promotion of public welfare through design of the physical environment. The impacts of that design move beyond the physical realm to address social, cultural, environmental and economic factors through the process of design and implementation.

Andropogon Associates is one contemporary Landscape Architecture practice recognized for its expertise in sustainable design. As ecological Landscape Architects, this firm has worked since 1975 to develop sustainable communities that integrate historical, cultural, economic, and environmental concerns.

⁴ <http://www.andropogon.com/>

LURIE GARDENS, MILLENNIUM PARK, CHICAGO IL

Pete Oudolf (planting design), Kathryn Gustafson (landscape architecture)



Lurie Garden⁵ is part of the Millennium Park complex in Chicago, Illinois and one of the largest green roof gardens in the world. In addition to providing green space in the city, Lurie Gardens acts as a sustainable solution to urban development. The planting design by Pete Oudolf speaks to the identity of the space and its host city, featuring two distinctive “plates” with planting styles that reflect the city’s past and its transformation into a more positive and sustainable future.

⁵ http://www.gnlt.com/projects_detail.php?id=22

FRESH KILLS PARK, STATEN ISLAND

James Corner Field Operations [proposed plan]



The design for Fresh Kills Park, a former landfill site⁶ in Staten Island, is the result of an international competition and the work of James Corner and his Field Operations team. Measuring more than 2,000 acres, the scope of the project is unprecedented and has the potential to make a significant impact on the city of New York, the field of landscape architecture and the concept of public space.

The concept behind Lifescape, the Field Operations design, is ground breaking both in design, technology and process. It may be the process that will continue to have the greatest connection to improving public welfare and ensuring the long term success of the project. The landscape will evolve and continue to develop as a function of natural, cultural and social processes resulting in a landscape that is legible as an integral part of the surrounding community.

⁶ <http://www.fieldoperations.net/>

WASHINGTON MUTUAL CENTER GREEN ROOF, SEATTLE, WA

Phillips Farevaag Smallerberg



The 17th floor Washington Mutual Bank roof garden⁷ is a green roof that is a vital social space and the civic heart of the bank's downtown campus. Rather than meet the City of Seattle's minimum open space requirements, the garden's usable area was enlarged threefold to provide decks and pathways that showcase views across Elliott Bay, while integrating elements that tell a story about the bank, its local origins, and the community it serves.

Environmental benefits include the following: captures water, cleans water, conserves water, cools air temperature, creates habitat for wildlife, prevents soil erosion and reduces urban heat.

⁷ <http://www.asla.org/sustainablelandscapes/greenroof.html>

CURITIBA, URBAN PARKS



The city of Curitiba in Brazil⁸ is an excellent example of how design innovation can improve the lives of inhabitants and transform the city into a vibrant and attractive place to live. The city has been praised for its hyper-efficient and inexpensive transit systems, but it is the creation of an extensive urban park system that has succeeded in improving the health and well-being of citizens, while also solving major public health and environmental problems.

The low lying areas of Curitiba had over time developed into slum settlements where landless people set up temporary settlements. These unregulated settlements introduced public health problems for the people living there and put the sensitive ecosystems of the low lying wetlands at risk.

Urban planners in Curitiba recognized the problems and proposed a solution that would solve the environmental problems and improve public welfare of all Curitiba's citizens.

The slum communities were cleared and inhabitants relocated to many of the successful low income housing developments in the city. The low lying areas were then transformed into an extensive park network which provided recreation opportunities and a low maintenance water management system.

⁸ http://upload.wikimedia.org/wikipedia/commons/thumb/a/ac/Curitiba_From_Barigui_Park.jpg/800px-Curitiba_From_Barigui_Park.jpg

http://www.loe.org/images/080418/curitiba_jardim.jpg

Sources: environmental sustainability

ASLA POLICY STATEMENT ON ENVIRONMENTAL SUSTAINABILITY⁹

The American Society of Landscape Architects believes that both human civilizations and the natural ecosystems represent integral parts of our environment and, therefore, must be protected, restored and perpetuated.

In order to provide a healthy, productive, and socially enriching life for all, the Society urges public and private decision makers to employ sustainable design policies and practices, minimize environmental degradation, avoid excessive consumption and respect the needs of future generations.

Rationale

Sustainability is the capability of natural and cultural systems to maintain themselves over time. It is impacted by: (a) individual and collective actions; (b) the amount and the rate of consumption; and (c) the intrinsic properties and carrying capacity of each system. Ideally, sustainable development should incorporate three diverse viewpoints:

- Ecology: preserving the integrity of ecological subsystems, respecting the global interdependence and pursuing environmental stewardship.
- Economics: maximization of human welfare within the constraints of existing capital stock, budget realities, cost-saving considerations, fiscal requirements and available technologies.
- Sociology: key actors are humans whose patterns of social organization are crucial for devising viable solutions for a better future on local, regional, national and global levels. Their concerns include: cohesion of community, equity, social justice, cultural identity, diversity, solidarity, civility, tolerance, pluralism, law and discipline.

Sustainability should be a guiding principle of the landscape planning, design, and management processes as well as decision making. The goals associated with creating a sustainable environment include:

- Reducing pollution and avoiding waste;
- Avoiding, minimizing and/or mitigating human impacts on the environment;
- Protecting and conserving all natural ecosystems;
- Improving production and consumption cycles, including replacement/reduction of non-renewable resources;

⁹http://www.asla.org/uploadedFiles/CMS/Government_Affairs/Public_Policies/Environmental_Sustainability.pdf

- Improving waste collection, recycling and recovery; promoting more efficient energy use and production; and preserving visual and cultural resources for present and future generations.

Communities should accept responsibility for the consequences of planning, design and operational decisions upon human well being, the viability of natural systems and their right to co-exist. Designs should consider long-term value. All products and processes should be evaluated and optimized for the full life cycle to determine the undistorted cost-benefit account of waste and consumption.

Landscape architects, as planners, designers and managers, should share knowledge and encourage communication between colleagues, professionals from other disciplines and fields, public officials and community leaders, clients, developers, contractors, manufacturers and suppliers in order to:

- Enhance the understanding of and strengthen the integral relationship between natural processes and human activity and how the concept of sustainable design fits into everyday life.
- Examine policies, regulations and standards in industry and government to identify barriers to the implementation of the principles of sustainable development.
- Improve policies, practices, processes, procedures, products, and services that link long-term sustainable considerations and development.
- Encourage community and business leaders to bring the existing built and natural environments up to sustainable development standards and to reflect the philosophy of sustainability in the design, planning, and management of their communities.

Other sources

The Sustainable Sites Initiative: Guidelines and Performance Benchmarks 2009.
American Society of Landscape Architects
Lady Bird Johnson Wildflower Center, University of Texas at Austin
United States Botanic Garden

The Sustainable Sites Initiative™ was developed by the American Society of Landscape Architects, the Lady Bird Johnson Wildflower Center at the University of Texas, Austin, and the U.S. Botanic Garden. It is a way to set and evaluate environmental sustainability of site design within the realm of landscape architecture. The voluntary guidelines and rating system are modeled after the LEED building certification program. Sites TM is a credit system based on the designed landscape's ability to achieve sustainable outcomes.

Environmental and Community Health: A Reciprocal Relationship
Jeffery Sugarman
New York City Department of City Planning
p.138-153

The design for the remediation of Fresh Kills landfill site was the result of an international competition and the work of James Corner and his Field Operations team. Over 2,000 acres the project is unprecedented and has the potential to make a significant impact of the city of New York, the field of landscape architecture and the concept of public space. The concept behind Lifescape, the Field Operations design, is ground breaking both in design, technology and process. It may be the process that is and will continue to have the greatest connection to improving public welfare and ensuring the long term success of the project. The landscape will evolve and continue to develop as a function of natural, cultural and social processes resulting in a landscape that is legible as an integral part of the surrounding community.

A Convenient Truth: Urban Solutions from Curitiba Brazil [film]
Maria Vaz Photography & Del Bello Pictures
2007

The city of Curitiba, Brazil is an excellent example of how design innovation has been used to improve the lives of inhabitants and transform the city into a vibrant and attractive place to live. Most notably the city has been praised for its hyper-efficient and inexpensive transit systems. However, it is the creation of an extensive urban park system that has also succeeded in improving the health and well-being of citizens and solved a major public health and environmental problem.

6 Landscape architecture contributes to economic sustainability and benefits

Landscape Architecture contributes significantly to economic sustainability. Landscape architects assist policy makers and others to improve the marketability and long-term value of residential and commercial housing and property. Economic benefits include reduction of crime, smart development and growth, improved air and water quality, efficient energy use, enhanced quality of life and health, and access to culture and recreation.

Illustrative projects

LURIE GARDEN IN MILLENNIUM PARK, CHICAGO, IL

Gustafson Guthrie Nichol, Seattle, WA



This 5-acre garden pays homage to the City's motto, "Urbs in Horto" (City in a Garden), which refers to Chicago's transformation from its flat and marshy origins. Highlights of the garden include the dramatically lit, 15-foot-high "shoulder" hedge. This physical representation of Carl Sandburg's famous description of the "City of Big Shoulders" encloses the garden on two sides and protects the delicate perennial garden. A graceful hardwood footbridge over shallow water divides the garden diagonally between "light" and "dark" plates.

Goodman Williams Group found direct and induced economic impacts from visits to Millennium Park (including hotel, restaurant, shopping and entertainment sources).

OTTERBEIN, BALTIMORE

Land Design Research



In the summer of 1975, 104 badly deteriorated houses in varying degrees of disrepair located between Barre Street to the north, Hughes street to the south, Hanover Street to the east and Sharp Street to the west, were raffled off by the City for \$1.00 as urban homesteads. It took 10 years to create Otterbein, from the day of the first awards to the completion of the last property. All homesteaders were involved in planning Otterbein, from the Exterior Design Standards to the brick and lampposts for the sidewalks. Homesteading involved demolition, planning, house construction and renovation and site development. Subsequently, Otterbein has become a highly desirable residential community in the heart of Baltimore and the property prices have multiplied significantly.

REGENT PARK, TORONTO, ON

NAK Design group/GH3



Regent Park is Canada's largest and oldest public housing project. Located on 70 acres east of the downtown core, it replaced one of Toronto's worst slums with a "garden city" development that, despite the best of intentions, isolated and stigmatized the community. Over time Regent Park suffered from deteriorating infrastructure, escalating violence, poverty, and other social and economic challenges.

Faced with these problems, Toronto Community Housing Corporation and the City approved a 15-year rehabilitation and redevelopment plan in 2003. Dense urban development presents challenges in maintaining or enhancing site ecology. Nonetheless, the project incorporates a containerized roof planting system that covers more than half the roof area, and a stormwater cistern sized to meet all landscape irrigation requirements. Physical connection to the community is reinforced by the extension of pedestrian routes into the site through a network of green walkways, ramps and vertical circulation spaces. These link the major interior and exterior public areas to each other, and render the entire block fully accessible to all residents.

The outcome is that the area is becoming attractive to people from a range of socio-economic backgrounds who treasure the experience of living in the vibrant core. As a result the community of Regent Park is beginning to reap incremental economic benefits.

SUN PEAKS RESORT

Ecosign Mountain Resort Planners Ltd., Whistler, BC



Sun Peaks Resort is located on what was formerly known as the Mount Tod Ski Area in the McGillivray Creek Valley, approximately 360 km north of Vancouver, British Columbia. In April 1992, Tod Mountain was purchased by Nippon Cable Co. Ltd., of Tokyo, Japan which began transforming the ski area (renamed Sun Peaks Resort) into a modern, four-season mountain community.

Ecosign Mountain Resort Planners Ltd.,¹⁰ was involved in the project. Sun Peaks constructed new lifts and landscaped the terrain on three local mountains, in addition to building a new recreation centre, a daylodge, a golf course and over 1,600 new dwelling units distributed amongst eight hotels, fifteen townhouse developments and 250 single family homes.

The mountain resort continues to expand and now boasts a seasonal population of 500 residents and over 6,000 tourist beds. Skier visits at Sun Peaks have increased from 69,000 in 1992/93 to 345,000 in 2007/08.

Ecosign Mountain Resort Planners Ltd., of Whistler, British Columbia, a world renowned planner of ski resorts has also contributed to the designs for the facilities of the Olympic Games in Calgary 1988 (CDN), Salt Lake City 2002 (USA) Whistler (CDN) and Sochi (RUS).

¹⁰ <http://www.ecosign.com/>

HIGH POINT, SEATTLE, WA

Mithun



High Point¹¹ combines ecological and social goals to transform a 34-block, isolated and distressed site into a vibrant, sustainable neighborhood.

Responding to the community's request to re-knit the neighborhood with the surrounding urban context, High Point maintains the varied economic, ethnic, and social backgrounds of its residents while increasing density, reducing neighborhood energy consumption, and drawing the greater neighborhood to its walkable streets and green spaces.

The community includes extensive and accessible parks and civic places of all scales - trails, pocket parks, a regional park, a community center, library, market, garden, and art installations.

Mithun¹², a Seattle-based landscape architecture firm was one of the firms responsible for the design of High Point. Mithun is guided by a set of principles that form its integrated approach to sustainable design, says Susan Olmsted. One principle is “do the math”; another is “create beauty / spirit.” Olmsted said metrics and aesthetics were interdependent — it’s the mix that creates a “sense of purpose.”

Olmsted pointed to Mithun’s well-known High Point affordable community project in Seattle. High Point features a range of sustainable landscape elements, including some 15,000 feet of bioswales.

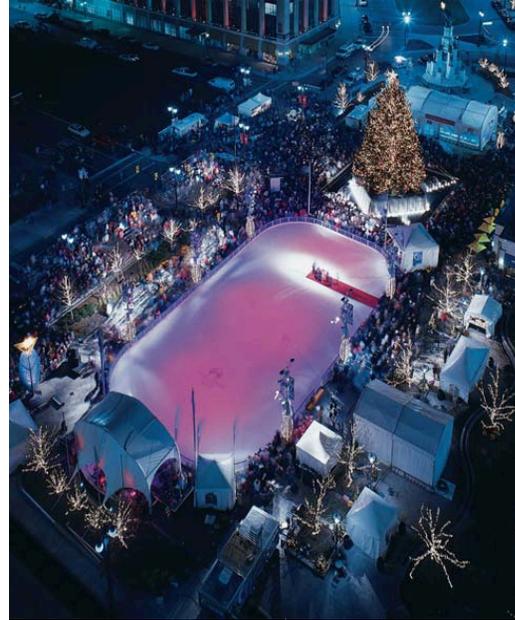
Olmsted focused on the economic benefits. The overall “green” aspect of the project cost just three percent of the total, but yielded 20% of the annual utility savings for the residents, many of which have low-incomes. Additionally, the decentralized green infrastructure system used throughout the housing community enabled the designers to use a smaller detention pond, which freed up land that could be sold, expanding economic gains. In five years, the Seattle Housing Authority “broke even.” Through their work, there had also been a 433 percent increase in density in the community and a 300 percent increase in trees.

¹¹ <http://www.sustainablesites.org/cases/show.php?id=11>

¹² <http://mithun.com/projects/>

CAMPUS MARTIUS PARK, DETROIT, MI

Rundell Ernstberger Associates



Campus Martius Park,¹³ designed by Rundell Ernstberger Associates LLC, is known as “Detroit’s official gathering place.” The 2.5-acre space is a “vibrant central square, created from a desolate downtown parcel, [and] has become the heart of the city’s downtown redevelopment initiative” writes Urban Land Institute (ULI).¹⁴

The park, which draws upwards of two million visitors per year, features extensive landscaping, movable seating, and an ice-skating rink. ULI says the park has catalyzed \$700 million in local real estate development, including new cafes, shops, and the new Compuware world headquarters.

In an interview with Urban Land, Burden said “Campus Martius Park is an exemplary model of a creative transformation of a central city-space. It serves both as a gathering place for resident and visitors, and as a much needed catalyst to the city. This vibrant 2.5-acre green space project optimism and civic pride — quite the opposite of the dire stories and images that often characterized this city.”

¹³<http://www.reasite.com/>

¹⁴<http://dirt.asla.org/2010/06/17/james-corner-field-operations-wins-cooper-hewitts-2010-national-design-award>

Sources: economic sustainability

The effect of open space on single-family, residential home property values.

Soren Anderson

Macalester Journal of Economics, 2000

In this paper, the author determines the effect of open space on residential property values by fitting a standard hedonic pricing model to a sample of homes from within the Minneapolis suburban area. Based on empirical results, he estimates that the externalities generated by adjacency to open space increase residential home property value by approximately \$40,000 (or 20% for a mean-valued home of \$188,000).

The Effect of Landscape Plants on Perceived Home Value

Alex X. Niemiera

Virginia Cooperative Extension, Virginia Polytechnic Institute and State University

Publication 426-087, 2007

Survey results showed that relatively large landscape expenditures significantly increase perceived home value and will result in a higher selling price than homes with a minimal landscape. Design sophistication and plant size were the landscape factors that most affected value. The resulting increase in “curb appeal” of the property may also help differentiate a home in a subdivision where house styles are similar and thereby attract potential buyers into a home. This advantage is especially important in a competitive housing market.

Landscaping and House Values: An Empirical Investigation.

François Des Rosiers, Marius Theriault, Yan Kestens, and Paul Villeneuve

The Journal of Real Estate Research. 23(1/2): pp. 139-161, 2002

This article is the winner of the Real Estate Valuation manuscript prize (sponsored by The Appraisal Institute) presented at the 2001 American Real Estate Society Annual Meeting. This hedonic study investigates the effect of landscaping on house values, based on a detailed field survey of 760 single-family homes sold between 1993 and 2000 on the territory of the Quebec Urban Community. Environmental information includes thirty-one landscaping attributes of both houses and their immediate environment. By and large, a positive tree cover differential between the property and its immediate neighborhood, provided it is not excessive, translates into a higher house value. Findings also suggest that the positive price impact of a good tree cover in the visible surroundings is all the more enhanced in areas with a high proportion of retired persons. Finally, a high percentage of lawn cover as well as features such as flower arrangements, rock plants, the presence of a hedge, etc. all command a substantial market premium.

The Influence of Trees and Landscaping on Rental Rates at Office Buildings

Robert J. Laverne, and Kimberly Winson-Geideman

Journal of Arboriculture. 29(5): pp. 281-290. 2003

This study investigates the effect of trees and landscaping on office rental rates, based on a comparison of 85 office buildings that comprise 270 individual and unique leases in the Cleveland, Ohio, U.S., metropolitan area. Data that describe the quantity, functionality, and

quality of landscaping were gathered from each of the buildings including landscape maturity, the percentage of ground cover (trees, turf, pavement, etc.), and functional attributes (building shade, noise buffer, space definition, recreation, visual screen, and aesthetics). Multiple regression analysis in the form of a hedonic equation was conducted to isolate the economic effects of landscaping. The individual analysis of the variables showed a strong positive effect for those buildings with good landscaping aesthetics and building shade provided by trees.

Urban Open Space: An Investment That Pays. New York: The Neighborhood Open Space Coalition.

Tom Fox. 1990.

Fox differentiates between community and traditional open spaces. Community open spaces are usually low cost, small scale, locally controlled, and user-oriented, in contrast to traditional open spaces, which tend to be high cost, large scale, publicly controlled, and maintained by professionals or corporations. Though both types of open spaces have a role in cities. Fox states that gardens and parks provide relief from stress, reduce perceptions of crowding, lower temperatures, and improve air quality in neighbourhoods. Further, he states his research supports the assumptions of the psychological, social and economic benefits of open-space projects.

Millennium Park Economic Impact Study

Goodman Williams Group / URS Corporation for the City of Chicago

2005

Goodman Williams Group interviewed developers and operators of selected real estate developments in the Study Area to obtain first-hand feedback on real estate performance, and supplemented this information with trend data from secondary research sources. The authors estimate significant direct and induced economic impacts from visits to Millennium Park (including hotel, restaurant, shopping and entertainment sources).

Canada's Ski Resort Designer to the World

David Ebner, Globe and Mail

October 13, 2010

This article describes some of the ski resort projects of Ecosign Mountain Resort Planners Ltd. which works out of Whistler, BC. Ecosign, lead by Paul Mathews, has designed more than 300 resorts in more than three dozen countries around the world including the plan for the home mountain of the 2014 Winter Olympics in Sochi, Russia. This article focuses on Ecosign securing the deal to redesign the ski-lift network at Courchevel, France – for the first time cracking design work for the top tier of French resorts.

7 Landscape architecture promotes public health and well-being

Landscape Architecture is increasingly grounded in the growing body of research in public health. This research makes connections between human health and well-being and the conditions of the outdoor environment. Landscape Architecture projects can directly affect the mental and physical health of individuals and communities.

Illustrative projects

CENTRAL PARK, NEW YORK NY

Frederick Law Olmsted



Frederick Law Olmsted was the designer of Central Park in New York City¹⁵ and the father of modern Landscape Architecture. He recognized the significance and impact of restorative space within the framework of urban life. He designed Central Park to be an escape from the hectic New York lifestyle and provide residents with an escape from the city, in the city. Central Park is one of the most recognized urban parks in the world and was designed based on the philosophy that urban dwellers should have access to green space as a restorative escape from the stresses of the city.

¹⁵ <http://www.nycvp.com/nycvp/CentralPark.jpg>
<http://www.bookingadvisor.com/blog/wp-content/uploads/2010/02/New-York-Central-Park.jpg>

HIGH LINE PARK NEW YORK CITY, NY

Field Operations



High Line, New York City,¹⁶ created places for people that are interesting and memorable. These spaces are integrated into the urban fabric. High Line has that unique quality that defines it as a destination. High Line focuses on the experiential qualities of the landscape. Furthermore, the public space encourages social interactions, thereby strengthening community and improving well being.

¹⁶ <http://www.thehighline.org/galleries/images/high-line-park-photos?page=5>

A little background on High Line Park...

“Initially, trains around here ran on the street level. People called the streets ‘Death Avenue’ due to the fatalities. So they built a raised line for trains to run on to service the local factories and meatpacking plants. But rail traffic gradually declined. It was too expensive to tear it down so it basically rotted away.”

Former mayor Rudy Giuliani wanted to tear it down. David and Robert Hammond, co-founder of the Save the High Line group, saw merit in turning it into an urban park.

Things changed when Michael Bloomberg became mayor, and the High Line Park opened on June 9 of this year [2009].

...Thousands of New Yorkers and tourists gather every day and night to stroll the half-mile section that's been opened, stretching from Gansevoort and Washington in the oh-so-trendy meatpacking district to 20th St. in Chelsea.

It's a public park, but, like Central Park, most of the operating cash comes from private sources. One of the main benefactors of the High Line, which cost some \$169 million, was Diane Von Furstenberg and her husband, Barry Diller, who both own land and offices in the surrounding neighbourhoods.

David talks about how the concrete in the park “reflects the linearity of the tracks.” Other, less poetic types might simply say it's a lovely, well-thought-out park in an area where greenspaces are few and far between.

The High Line, in just a few months, has become a de rigueur spot in Manhattan; a no-cost ribbon of nature during the day and a place where New Yorkers do the equivalent of an Italian or Spanish paseo at night (Jim Byers, Toronto Star, September 3, 2009).

PORTLAND MEMORY GARDEN, PORTLAND, OR

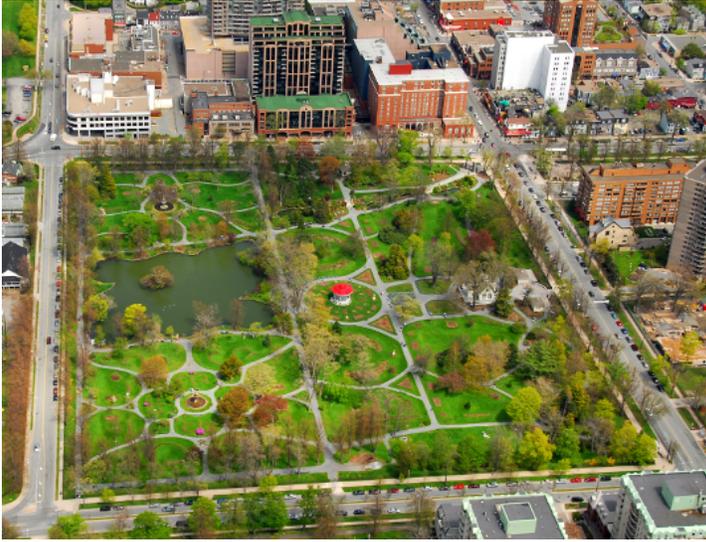


Portland Memory Garden is a garden for people living with Alzheimer's disease and their caregivers. This garden was part of ASLA's 100 parks for 100 cities during the Centennial Celebration in 1999.¹⁷

This garden was designed as a therapeutic place for contemplation, reflection, peace and delight. It creates new memories as well as evokes memories from the past. It is particularly oriented for those with Alzheimer's or other forms of dementia for instance plantings evoked childhood memories: many plant varieties common in older gardens are featured so as to spark pleasant memories.

¹⁷<http://www.centerofdesign.org/pages/memorygarden.htm>

HALIFAX PUBLIC GARDEN HALIFAX, NS, CANADA



The Halifax gardens¹⁸ were created in 1872 by Richard Power, who had gained experience at Central Park in New York. The gazebo was added in 1887. The meandering pathway design and green lawns invite people not just to pass through but be come in and enjoy the environment as an escape from a busy city life. Like Central Park this historic Halifax landmark secures valuable green space in the urban core that would otherwise be developed.

¹⁸ <http://www.halifaxpublicgardens.ca/>

THE RESTORATIVE COMMONS INITIATIVE

Program of Meristem.org¹⁹ was developed to explore and define the concept through research and multidisciplinary collaboration the concept of *restorative commons*. The goal of this initiative is to develop and maintain health promoting urban landscapes.

*For open space to function as a commons, it should be publicly accessible, nonexcludable and managed through shared governance. We consider sites restorative if they contribute to the health and well-being of individuals, communities and the landscape. Individual health includes physical, mental, emotional and social health; community health is considered in terms of rights, empowerment, and neighbourhood efficiency; and landscape health is measured by ecosystem function and resilience-all of which act together in a complex web of relationships.*²⁰

¹⁹ <http://www.restorativecommons.org/Site/Home.html>

²⁰ **Restorative Commons: Creating Health and Well-being through Urban Landscapes**
Edited by: Lindsay Campbell and Anne Wiesen, January 2009, p 11

STANLEY PARK, VANCOUVER, BC, CANADA



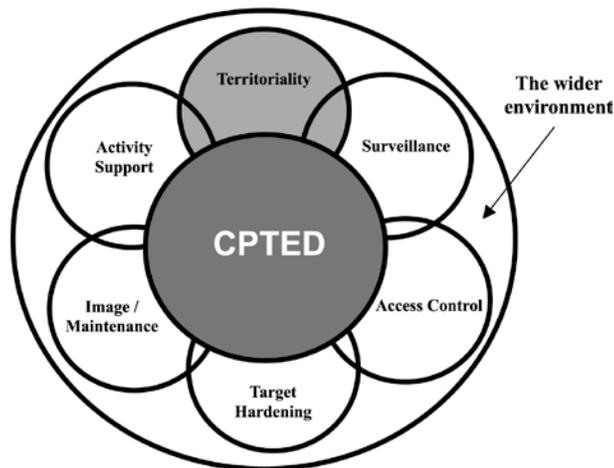
Stanley Park, Vancouver BC

Stanley Park²¹ is a 1,000 acre urban park on the outskirts of the City of Vancouver. Featuring trails, open space and large established trees this park gives urban residents a nearby escape from the city. The park provides the opportunity to lose sight of the city and feel even farther removed from the stresses of everyday life. Yearly visits to Stanley Park, North America's third largest urban core park, are estimated at eight million people. Originally home to Burrard, Musqueam and Squamish First Nations people, Stanley Park today is a place for its citizens to recreate themselves through active sport or passive repose.

²¹ <http://rmmla.wsu.edu/conferences/conf01-Vancouver/conf01.html>

CPTED – PRINCIPLES FOR CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

One example of the impact of landscape architecture on crime is CPTED (Crime Prevention through Environmental Design)²². Recognized internationally, CPTED demonstrates a concept for safer more livable communities through responsible design. Success of these concepts can be evaluated by gauging rates of crime, undesirable activity and visitors' perceptions before and after design changes are made. In some cases, however, contradictions exist between creating safe environments and creating beautiful, inviting and relatable environments.



Source: Adapted from Moffat (1983, p. 23)

²² <http://www.emeraldinsight.com/fig/1130230502001.png>
<http://www.cpted.net/>
<http://www.cptedontario.ca/>
<http://www.designcentreforcpted.org/Pages/Principles.html>

Sources: health and well-being

Planning a Barrier-free City of Toronto: A Statement of Planning Principles Prepared for: The Toronto Joint Citizen's Committee for People with Disabilities

Shane Holten

May 2003

SPH Planning and Consulting

This document calls for changes to urban design principles for the City of Toronto with respect to new standards for barrier-free public environments. This change process involves technical and non-technical solutions, most notably the changing of existing barrier free design "guidelines" to enforceable development policy that would appear in municipal official planning documents. This example also provides an example of institutionalization of design for public welfare and recognizing greater social, cultural and economic implications.

Health Environment and Quality of Life: an epidemiological perspective on urban development

Augustinus E.M Hollander, Brigit A.M Staatsen

Landscape and Urban Planning 65 (2003) 53-62

This article examines public health as it has evolved with urban development including the spread of disease, access to healthy environments and living or neighbourhood conditions. The investigation also includes suggestions about expanding the concept of public health to a more comprehensive discipline focused on prevention, improved quality of life and well-being.

Public Health and the Built Environment: Historical, Empirical and Theoretical Foundations for an Expanded Role

Wendy C. Purdue, Lawrence O. Gostin and Lesley A. Stone

Journal of Law, Medicine and Ethics 31 (2003) 557-566

This article assesses the significance of the relationship between public health and the built environment in a contemporary context. This examination suggests the potential role of government in the regulation of built environment standards for the protection of public health and for public health officials in the generation of new solutions to contemporary public health issues.

The Relationship of Urban Design to Human Health and condition

Laura E. Jackson

Landscape and Urban Planning 64 (2003) 191-200

This article reflects the strength in the argument that design of the urban environment is a universal public health concern. Moving further with the concept, Jackson suggests some potential solutions related to policy, process and design.

Restorative Commons: Creating Health and Well-being through Urban Landscapes

Edited by: Lindsay Campbell and Anne Wiesen

USDA Forest Services

January 2009

Cultivating Resilience: Urban Stewardship as a Means to Improving Health and Well-being

Erika Svendsen

p. 58-90

Urban parks and open space are looked at here as a public good that can positively or negatively affect the collective health and well-being of a community population. It is not however merely the existence of public open space but the quality and level of public engagement that determines the degree of effectiveness. Stewardship, as the active participation in the creation and maintenance of public space, is very important to not only the quality of public space but also to social cohesion that determines the resilience and adaptability of community groups.

The Simple Act of Walking to School: a historic overview of contemporary issues effecting childhood obesity, school placement and active transport

JM Westphal and S Patil

Obesity in Childhood and Adolescence (2007) p. 133-157

Research is focused on children who are a group significantly affected by poor planning and design as they often have little say in how their environments function. By examining the effects on this particular group it becomes clear that land use planning decisions can significantly impact public health, quality of life and well being.

Urban Sprawl and Public Health

Howard Frumkin

May-June 2002

CDC Public Health Reports, Volume 117

Frumkin discusses the various public health consequences of current planning protocol including automobile dependence, urban heat islands, air pollution. Many social issues can also be affiliated with sprawl including mental health issues, social isolation and disconnected communities. Guidelines for urban design are then proposed as possible solutions to widespread problems that are consequences of urban land use planning decisions.

View Through a Window May Influence Recovery from Surgery

Roger. S. Ulirch (1984)

Science, 224, Issue 4647, 420–421

Records on recovery after cholecystectomy of patients in a suburban Pennsylvania hospital between 1972 and 1981 were examined to determine whether assignment to a room with a window view of a natural setting might have restorative influences. Twenty-three surgical patients assigned to rooms with windows looking out on a natural scene had shorter postoperative hospital stays, received fewer negative evaluative comments in nurses' notes, and took fewer potent analgesics than 23 matched patients in similar rooms with windows facing a brick building wall.

8 Landscape architecture builds community

Landscape architects work to help build communities: their work significantly affects quality of life. By creating attractive, functional places, Landscape Architecture encourages people to engage in their surroundings, strengthening social cohesion, which in turn results in healthier, more dynamic, more resilient communities at the local, national and global levels.

Illustrative projects

SOUTH CHICAGO REDEVELOPMENT, LEED ND PILOT PROJECT, FARR ASSOCIATES



The South Chicago project²³ is an example of a large scale development approached from the perspective of the LEED-ND rating system. The existing neighborhood was evaluated and the master plan then created based on the principles for sustainable building, walkable communities, mixed use development, urban restoration, brown field remediation and community identity. This approach represents one that considers the concept of public welfare in a holistic way.

²³ <http://www.farrside.com/RoomToRegion.aspx?cat=4&id=20>

PEARL DISTRICT PORTLAND, OR

Portland Planning Bureau



The Pearl district²⁴ is a former industrial area in Portland transformed into a popular and functioning mixed use neighbourhood. This development model is now being utilized in the city in an effort to integrate more mixed use development with traditional land use development types.

GRANVILLE ISLAND, VANCOUVER BC, CANADA



Granville Island²⁵ is an illustration of mixed use development. It provides opportunities for life, work and recreation within communities designed for livability and connected by sustainable transit and pedestrian corridors.

Promoting the integration of land use types (residential, commercial, institutional and recreational) allows people better access to healthier lifestyles. Integrating higher end residences and lower income or social housing also creates vibrant and diverse communities that are often safer and more resilient.

²⁴ <http://www.portlandonline.com/bps/index.cfm?c=51136>

²⁵ <http://www.sharpdiamond.com/projects/granville.html>

BIDDY MASON PARK, LOS ANGELES, CA

Burton & Spitz, Landscape Architects



Biddy Mason Park is named after Bidy Mason (1818 – 1891) who obtained her freedom from slavery in 1856. Bidy Mason was the first black American female landowner in Los Angeles and founded childcare and midwife services that were affordable to hundreds of people.

The park was built on what was previously a narrow parking lot and a web of raw alleys. The park, designed by landscape architects Burton & Spitz, now offers willow camphor and jacaranda trees that shade courtyards and walkways and ultimately focus on a sculptural of water-spouting pipes.

Biddy Mason Park was created ... to link a new parking garage to both the Broadway and Spring Street historic districts. It has given identity and privilege where there was disrepair, and it has tempted all who use it to notice the historic districts, learn about an important aspect of cultural history and sense the possibilities for further development in the area. The best Spanish-language bookstore is now adjacent, one of the state's largest banks has been tempted to return to an underserved district and a new deli has recently opened.²⁶

²⁶ Places of Privilege, Richard S. Harris, <http://www.escholarship.org/uc/item/1774m3jb>

Sources: Building Community

Community Design Today: From the Inside Out

Randolph T. Hester Jr.

Landscape Journal

1986

Although not a recent example this article examines the practice of community design which was recognized by its practitioners to be rooted in social work, design and environmental psychology.

Where Does Community Grow? The Social Context Created by Nature in Urban Public Housing

Rebekah Levine Coley, William C. Sullivan and Frances E. Kuo

Environment and Behaviour 1997: 29: 468

This study documents the impact that natural elements (mainly trees) have on social interactions and community identity in three inner city housing developments in Chicago. Findings legitimize the concept that the presence of nature improves the social atmosphere. It also recognizes that further studies into the effects of specific elements and environmental characteristics are necessary.

Measuring the Unmeasurable: Urban Design Qualities Related to Walkability

Ried Ewing and Susa Handy

Journal of Urban Design Vol.14 No. 1 65-84

February 2009

Analyzing the quality of urban design is an important part of creating guidelines and principles that shape how development in the built environment is carried out. By establishing a set of principles and attempting to operationalize the concepts, guidelines begin to develop that govern the creation of ideal public environments.

Rethinking Environmental Racism: White privilege and urban development in Southern California

Laura Pulido

Department of Geography, University of Southern California

Annals of Association of American Geographers, 90(1), 2000, p.12-40

Examines how marginalized populations (in Los Angeles, for example) are subjected to poorer environments in terms of health, aesthetics and quality through the emerging concept of environmental racism.

A Seat at the Table: Including the Poor in Decisions for Development and Environment

Joseph Foti and Lallanath de Silva

World Resource Institute

2010

This in depth report brings up the question of access in terms of environmental decision making and development specifically related to poor or marginalized communities. Recommendations are made to increase and enhance access as the welfare component could have potential applications for addressing public concern through design.

Places of Privilege
Richard S. Harris
Design Observer: Places
www.escholarship.org/uc/item/1774m3jb
Summer 1994 (9)2 p.20-23

This article speaks to the philosophy of design for public welfare and the role Landscape Architecture can play in improving livelihoods through the creation of quality public spaces. The design philosophy described here involves striving for equity through the creation of “places of privilege” which can be described as environments that are identifiable, distinctive and supportive to everyday life.

9 Landscape architecture encourages landscape awareness/stewardship

Landscape Architecture stimulates our awareness of the landscape, and increases our understanding of the role that humans play in it. Landscape Architecture encourages citizens to appreciate landscape and to participate in the processes that shape it. Cultivating a symbiotic and iterative relationship between people and their environment encourages protection, stewardship and understanding of the landscape. Landscape Architecture deepens the memory, meaning, sense of identity and culture inherent in the environment.

Illustrative projects

EVERGREEN BRICKWORKS, TORONTO, ONTARIO

Claude Cormier Landscape Architects



Evergreen Brickworks²⁷ is located on a former brickyard in Toronto's Don Valley. The site is currently undergoing a development process and upon completion will include classrooms, community gardens, a park and wetland as well as other community resources related to environmental and social sustainability. As a restored landscape the Brickworks site will exemplify the need for environmental protection and responsible development by providing education to people who have become disconnected from the landscape as a result of urban life.

²⁷ <http://ebw.evergreen.ca/>

FOOTE'S POND WOOD, MORRISTOWN, NJ

Foote's Pond Wood²⁸ is a new 14-acre public park in Morristown New Jersey. The park reconnects the community with a historically rich, but neglected, plot of land consisting of an 80 year-old wood lot and four-acre pond and wetland, and provides a link to an adjacent elementary school, synagogue and Jesuit retreat. The program is to rehabilitate the site for education and contemplative uses without disturbing the essence of the place. The first phase of construction concluded in Autumn 2006. Foote's Pond Wood won a Design Exchange Gold Award for Landscape Architecture and a Torsanlorenzo International Landscape Award Second Prize.



Foot's Field: The Classroom
Dock from the Field

²⁸ <http://www.branchplant.com/landscape/footes.html>

Sources: landscape awareness

Restoring Mill Creek: Landscape Literacy, Environmental Justice and City Planning and Design

Ann Whiston Spirn

Landscape Research Vol. 30 No.3 395 413

July 2005

Whiston Spirn displays through Mill Creek neighbourhood in Philadelphia the potential for implementing a design process that involves understanding landscapes and the processes that shape them. This is referred to as landscape literacy which is a concept that is based in environmental sustainability and building communities that improve the human condition and collective well-being.

2010-11 Landscape and Aesthetics Community Match Program and Procedures Manual Guidelines, Applications, Instructions and Forms for the Community Matching Funds and Transportation Art Programs

Nevada Department of Transportation Roadway Design

Landscape and Aesthetics Procedures Manual

This report expresses the guidelines and principles to be applied to highway design and construction in the state of Nevada. Adopted by the Nevada State Transportation board the 2002 *Landscape and Aesthetics Master Plan for the Nevada State Highway System* is an example of the integration of landscape and aesthetic considerations into the highway development projects. The goal of this policy-based project is to improve quality of life in the state and celebrate the quality and uniqueness of natural landscapes. The document was developed to be a public ally and to provide an accessible community resource.

Pattern and Palette of Place

A Landscape and Aesthetic Master Plan for the Nevada State Highway System

July 2002

Nevada Department of Transportation

Landscape Architecture Section Design Division

This Master Plan outlines a process for ensuring that landscape and aesthetic issues are considered in all phases of highway planning, design and construction by the Nevada Department of Transportation (NDOT). The master planning process created a vision for Nevada's state highway system that advances landscape and aesthetic policies, guidelines, practices, procedures, and standards.

Public Welfare and the Economics of Landscape Aesthetics

Steven C. Bourassa

Landscape and Urban Planning: 22 (1992) 31-39

This article discusses the potential of landscape aesthetics to effect and enhance public welfare interests. Recognizing an evolution towards the regulation of aesthetics in the built environment has legitimized this as a significant concern worthy of public action.

Public perceptions as support for scenic quality regulation in a nationally treasured landscape

Anne R. Kearney, Gordon A. Bradley, Carl H. Petrich, Rachel Kaplan, Stephen Kaplan, Diane Simpson-Colebank

Landscape and Urban Planning 87 (2008) 117-128

This study provides an example of the collection and measurement of landscape perceptions for a specific natural site. Opinions were collected from a variety of different groups and it was determined that despite different backgrounds and points of view visual perception analysis was similar for most participants.

10 Landscape architecture offers aesthetic and creative experiences

Landscape Architecture offers people that which artists offer: the opportunity to experience enjoyment, contentment, stimulation or pleasure by participating in the aesthetic experience of landscape. An important part of this dimension is the preservation and protection of significant historic properties, buildings, structures, districts, cultural landscapes, artistic objects and archeological elements.

Incorporating public art enhances people's enjoyment of public spaces allowing them to see landscapes as a creative expression of place and community that can be playful and engaging. Both temporary and permanent art installations help people to identify with places, reflect on and enjoy the landscapes that support them.

Illustrative projects

PHOENIX CIVIC SPACE PARK, PHOENIX, AZ

AECOM Landscape Architecture



Phoenix Civic Space park²⁹ was designed to reflect the unique climatic characteristics of Arizona. The overhead LED canopy represents lightening touching down during a monsoon rain giving context to the park's creative elements. The park also features a water filtration and recharge system and solar panels that provide power to surrounding residential and commercial communities. These functional elements do not have the same aesthetic impact as the park's public art but are equally important to its presence in the landscape and contribute to the longevity of the design.

²⁹http://www.aecom.com/What+We+Do/Design+and+Planning/Landscape+Architecture+and+Urban+Design/_projectsList/Civic+Space+Park

WANUSKEWIN HERITAGE PARK, NEAR SASKATOON, SK

Crosby, Hanna & Associates



Landscape architects played a key role in planning a site that recognizes the cultural legacy of the northern Plains Indians³⁰. The development of this nationally significant heritage site allows people through the experience of landscape to gain an understanding of important parts of Canada's First Nations history.

³⁰ http://www.crosbyhanna.ca/pdf/wanuskewin_heritage_park.pdf

THE 'VERDANT WALK', 2008 - 2010, CLEVELAND, OH

NorthDesignOffice

The 'Verdant Walk' for Mall B in Cleveland, Ohio³¹ evolved from observations on the city's industrial heritage and new direction toward a sustainable city. Responding to these two forces – Cleveland's industrial heritage and its new green agenda – fabricated steel forms recall the steel industry, while representing new technologies, material uses, and possibilities. They gather, like a herd of futurist beasts, leading the way to a new and prosperous environment. Alluding to moving water, grasses celebrate Cleveland's waterfront location on Lake Erie. Together, the forms and grasses transform the lawn to be enjoyed individually or by group celebration. Gathered in a herd and glowing with excitement, the forms of 'Verdant Walk' invite visitors to join them.



³¹ http://www.northdesignoffice.ca/project_CPA_05.html

FESTIVAL INTERNATIONAL DE L'ART DES JARDINS CONTEMPORAINS AT METIS, QUEBEC, CANADA

The Festival International de L'art des Jardins Contemporains³² at Métis, Québec began in 2000 to showcase cutting edge creativity in design, Landscape Architecture and environmental art. This annual presentation allows visitors to explore artistic expression of garden design within the broader context of the festival landscape. The garden installations are temporary in nature; building within a permanent garden landscape means each design must respond to the concept of time.



1. Le Jardin du Repos, by PLANT Lisa Rapoport, Christopher Pommer, Mary Tremain featured oversized garden furniture which literally and referentially embodied a particular characteristic of the local St. Lawrence River landscape sat within an enormous bed of artemisia. Found objects, materials and forms like mussel shells, intricately fissured beach stones, firewood, hay, gabion walls, corn cribs – ubiquitous in the surrounding area of beach, cottage, farm and historical Victorian garden – were assembled, stacked and stuffed to make the furniture.
2. Core Sample, by North Design Office, featured a collection of textured material from the local landscape. The sample tubes were placed in a landscape that reflected the landforms of the region, including the hills to the south and rocky coast to the north.
3. Dymaxian Sleep, by Jane Hutton & Adrian Blackwell, features a net structure suspended over a bed of aromatic flowers. Inspiration came from Buckminster Fuller's dymaxian projection and the pattern of sleep called Dymaxian Sleep he developed to maximize personal efficiency. In contrast, this installation focuses on creating an environment for play and enjoyment.

³²<http://www.refordgardens.com/english/festival/presentation.php>

EXPO '67, MONTREAL, QUEBEC, CANADA



View of the EXPO '67 site, Montreal, Quebec, Canada (photo by Michael McMordie)³³. “EXPO 67 in Montréal was perhaps the key project of the decade in Canada. Project Planning Associates Limited did the master planning for the entire site, and landscape architects from various firms provided much of the design, technical support, and coordination for Expo as well as the designs for pavilion settings. The involvement of so many offices gave the profession new scope and energy” (The Canadian Encyclopedia, 2010 Historica-Dominion).

³³ <http://www.thecanadianencyclopedia.com/index.cfm?PgNm=TCE&Params=A1ARTA0004505>

Sources: aesthetic and creative experiences

The Shared Landscape: what does aesthetics have to do with ecology?

Paul H. Grobster, Joan I. Nassauer, Terry C. Daniel and Gary Fry

August 2007

Landscape Ecology Vol.22 No.7

Introducing the idea of “ecological aesthetic” as an alternative way of understanding and appreciating the landscape this article examines the relationship between aesthetics and ecology as they are affected by planning and design. Developing an understanding of how people perceive landscapes that are affected to different degrees by human influence has helped the researchers to make connections between stewardship, attachment and identity, and aesthetic experience in the landscape.

Public Art and Urban Regeneration: advocacy claims and critical debate

Tim Hall and Iain Robertson

January 2001

Landscape Research Vol. 26 No.1

This article provides background research for the claims that public art can be used as a centre piece in urban regeneration and community building, both physically and socially. By reviewing these claims in a critical way it is possible to better understand the role that public art can play in urban renewal projects to enhance community identity and sense of place.

Landscape and the philosophy of aesthetics: is landscape quality inherent in the landscape or in the eye of the beholder?

Andrew Lothain

September 1999

Vol.44 No.4 p. 177-198

This article suggests that the quality of landscape can be approached from two contrasting view points. One is the objective view that landscape quality is inherent in the landscape itself and the other is the subjectivist view that landscape quality is based on the assessment and experience of the individual.

Abstract and specific physical attributes and the experience of landscape

A.T. Purcell

March 1992

Landscape and Environmental Management Vol.34 No.3 p. 159-177

How people perceive that landscape can have connections to what they perceive to be landscape and is generally related to the familiar or landscape of “home”. Another experiment would suggest that landscape experience and perception is based on abstractions of landscape including trees, meadows, mountains and rivers regardless of their familiarity.

11 Enables people & communities to function more effectively

Landscape Architecture enables people to function more effectively in their environments. On a practical, day-to-day level, Landscape Architecture facilitates many human activities and functions such as efficient traffic flow, parking, waste collection/recycling, water use/drainage, air quality, optimal use of space.

Illustrative projects

CEDAR LAKE PARK AND TRAIL, MINNEAPOLIS, MN

Jones and Jones Architecture and Landscape Architecture

Cedar Lake Park³⁴ and trail in Minneapolis illustrates the use of land to facilitate recreational activities such as cycling, walking and running: ways that people living in urban areas can incorporate physical activities into their daily lives.

This park incorporates the principle of accessibility. It provides connective pathways as public space for accessible recreation and exercise and connects dense urban areas, in particular residential and mixed use developments.

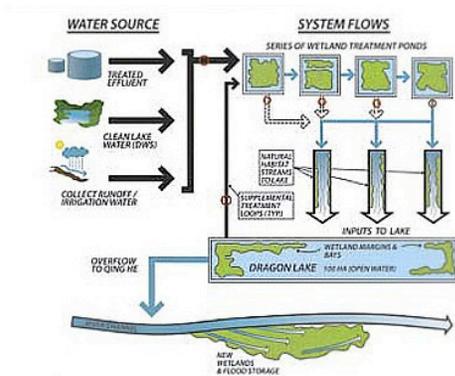
The greenways and connective corridors also facilitate active transport as people make use of them for daily travel.



³⁴ http://www.jonesandjones.com/work/natural.html - p7GPc1_7

2008 BEIJING OLYMPICS

Andropogon Associates



Andropogon's master plan for the Forest Park and the Central Zone of the 2008 Summer Olympic³⁵ included more than eleven square kilometers of programmed open space, natural areas and a 250-acre "Dragon Lake". As one of the finalists of the international design competition to realize the previously approved plan, Andropogon and their Chinese partners employed strategies for urban renewal, transportation, restoration, flood control, recreation, and habitat re-creation; bringing nature back into the city at an unprecedented scale. Because Beijing receives less than 32 inches of rainfall annually, the creation of a healthy and functioning lake required developing strategies for using recycled water. Methods proposed included extensive garden wetlands designed to further cleanse discharge from the sewage plants, capture of runoff, circulation of lake water to maintain lake health, and treatment of black water by "living machine" technology to provide additional sources of water.

³⁵ <http://www.andropogon.com/>

RESIDENTIAL PARKING, BOSWELL AVENUE, TORONTO ONTARIO,

NorthDesignOffice



Using two contrasting stone textures and patterns for a Boswell Avenue residence in downtown Toronto³⁶, a walkway to the front door, distinguishes itself from a paved area that can also accommodate the occasional parked car. This multi-functional use of limited space is also employed in the back, where a small paved area serves as a walkway to the back lane, a place to store bikes and as a dining patio. NorthDesignOffice, Toronto ON 2007.

³⁶ http://www.northdesignoffice.ca/project_BoswellE_03.html

STREETSCAPES

Brief introduction

The street has been recognized as an important space for public life and as an interface between public life and private life, pedestrians and vehicles as well as active space and static space. Streetscape design involves knowledge and balance of all of these factors in the creation of space for the public.

Design of complete streets integrates different modes of transportation with the idea that the street is a vital part of the public domain and should function as public space. Social interactions as well as the cooperation between pedestrians, drivers, cyclists and public transit all characterize a complete street.

Streets are designed at the human scale for both safety and enjoyment of people travelling at driving and walking speeds. Considerations of street and sidewalk widths as well as planting, furniture, building interface and public art contribute to designing at the human scale for the public's welfare. Two examples follow.

SOUTH PARK STREETSCAPE, LOS ANGELES, CA

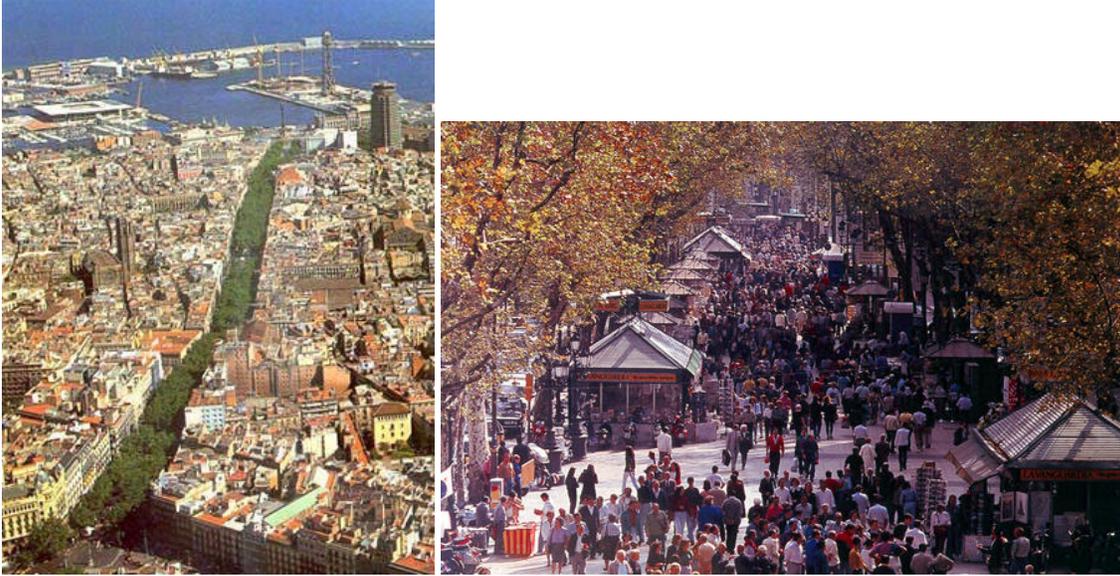
AHBE Landscape Architects



South Park Streetscape³⁷ project in Los Angeles, California is an example of integrating sustainable technologies into a design that works **for** people too. Ample parking pedestrian friendly corridors and attractive store fronts encourage people to use the space while plantings disguise a water collection and filtration system to deal with the inevitable issue of surface water runoff and contamination.

³⁷http://www.ahbe.com/portfolio/southpark_streetscape/index.php?menu=portfolio&menuset=streetscapes

LAS RAMBLAS, BARCELONA, SPAIN

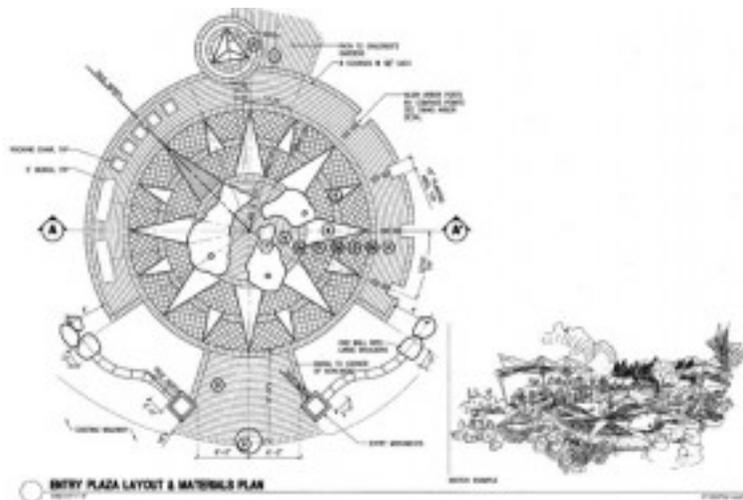


Las Ramblas³⁸ is a central pedestrian boulevard in Barcelona made up of several connected streets making up one of the most important public spaces in the city.

This tree lined street is framed by five to seven storey buildings giving it a manageable human scale that allows people to feel comfortable and welcome in the space. A variety of shops, restaurants, residences and cultural landmarks make this place a popular attraction for locals and tourists.

³⁸ http://www.pps.org/great_public_spaces/one?public_place_id=59

LERNER GARDEN OF THE FIVE SENSES HERB SCHAAL, FASLA, EDAW INC



As any space where an invitation is extended to all publics, the design of public space should be designed so as not to limit access based on disabilities. The Lerner Garden of the Five Senses³⁹ is one example. It balances design integrity and the creation of beautiful and functional spaces while incorporating elements that allow equal access.

Herb Schaal's design of concentric circles⁴⁰ consisting of different paving blocks are overlain with the points of a stylized Mariner's Compass oriented to true north. Carved whales sit in the center of the roughly 32 foot diameter plaza circle with swing benches and elaborate plantings ringing its perimeter.

³⁹ <http://www.maine gardens.org/discover/explore-the-gardens/lerner-garden-of-the-five-senses>

⁴⁰ <http://www.maine gardens.org/childrens-garden/clear-skies-ahead-111709>

Sources: effective functioning

Landscape Design: Designing for local action in complex worlds

Daniel A. Levinthal and Massimo Warglien

May-June 1999

Organization Science Vol.10 No.3

This article emphasizes the importance of local action for functional landscapes. The tradition of design often neglects the needs of local populations in favour of a designer's expert opinion. Successful developments are most often achieved when local people have the opportunity to participate in design decisions and develop landscapes that align with the short and long term needs of the community.

Community Activism vs. Community Design

October 15 2008

Design Observer: Research and Debate

www.designobserver.com

John N. Roberts

In this article Roberts speaks from direct involvement in the redevelopment of Berkley's downtown district. He compares the effectiveness, both in process and outcome, of community design vs. community activism making the case that community activism alone cannot succeed in creating successful physical environments. This hypothesis is backed up by two examples in which activism and design were played out at different degrees and with different results.

Landscape Dynamics and the Management of Change

Robert Wood and John Handley

January 2001

Landscape Research Vol. 26 No.1 p. 45-5

Development in the landscape is driven by factors of change suggested in this article to be obsolescence and dysfunction. Regardless of the reasons for change it is the response from planners, politicians and community members that determines the successfulness of solutions to issues that arise. This article looks at planning structures in the U.K. and the balance between these drivers of change and the management of the development process particularly in the development of community forests in urban areas.



PART C: PLANNING & DESIGN CONSIDERATIONS AND MEASURING IMPACT

**One North Wacker Drive, Chicago, Illinois, designed by Peter Walker and
Partners Landscape Architecture**

www.pwpla.com/index.php

12 Planning & Design Considerations for Public Welfare

Landscape Architecture projects undoubtedly impact the layout and character of the physical environment and, depending on the techniques and principles, have a positive or negative effect on public welfare. This happens at different levels which must be coordinated to achieve and sustain public welfare.

Projects vary in both scale and type which impacts the private and public spheres and affects well being and quality of life in both instances.

Landscape Architects, as design professionals, conduct projects with these factors in mind. Through the principles of planning and design Landscape Architects work to positively impact public welfare and create more beautiful, functional and sustainable outdoor spaces.

The following serves as an overview of the considerations that occur at two key phases of Landscape Architecture process:

- 1 PLANNING CONSIDERATIONS**
- 2 DESIGN CONSIDERATIONS**

1 PLANNING CONSIDERATIONS

At the planning level, basic decisions are made that guide land use patterns and community layout. Planning considerations have the potential to act upon the quality of human communities and natural ecosystems, and in some cases they determine the balance between the two.

These considerations can also be seen as principles which have been adopted by Landscape Architects and other design professionals to use as indicators of the impact, success and opportunities of many projects.

- Smart location
 - The positioning of a building or new development in a logical location that takes advantage of public transportation or minimizes driving
- Environmental impact
 - The planning of a development to minimize negative impacts on wildlife habitats, air quality, watersheds, runoff patterns and environmentally sensitive areas
- Mixed use development
 - The integrated planning that allows residential, commercial, industrial and institutional spaces to be located in close proximity
 - The decrease in the necessity to travel to fulfill everyday needs
- Access to green space
 - The incorporation of open space into the urban fabric and ensuring that it is easily accessible to the general public
 - The provision of available green space in proportion to the requirements of the public that surround it
- Storm water management
 - The due consideration of the planning scale to ensure that communities have a comprehensive system for the treatment of stormwater surface runoff
- Transportation network
 - The establishment of transportation networks that take into consideration the routes used by pedestrians, cyclists, public transit users and cars
 - The maximization of efficiency of sustainable transit
 - The enabling of walkability as a major focus when designing communities and designating land use

2 DESIGN CONSIDERATIONS

Once planning level decisions have determined *where* to develop, the question then becomes *how* to develop and Landscape Architects take a leadership role in employing design considerations that encourage sustainable communities and healthy lifestyles.

These design considerations often become part of municipal or public space guidelines for design developed to ensure that places meet a standard of aesthetic and functional quality.

- Streetscape design
 - Design to encourage people to walk to everyday destinations vs. drive
 - The character and appearance of the route affects transportation choice
 - Creation of streets as places for social interaction and local economic activity
 - The principles of “complete streets” design along with changing legislation and planning regulation moving towards more liveable, safer and healthier streets
- Place making
 - The appropriate design responses to geographic/cultural surroundings
 - Respect for historical context
- Universal accessibility
 - The design of space and elements that encourage use by all people regardless of ability or socioeconomic status
- Local food production (urban agriculture)
 - The access to healthy food is an important public health and welfare concern
 - The incorporation of these local food production elements into site design, particularly in residential community programming
- Water recharge and collection
 - The incorporation of design elements into site design for collection and recirculation of rain water and run off
- Urban forestry (heat island reduction)
 - The importance of urban green space and canopy cover to urban cooling, shade availability, and air quality
- Public art
 - Public art is important for community beautification and identity allowing residents to take pride and claim ownership of their places

- Way finding
 - Way finding, incorporated into the landscape, goes beyond signage and becomes an intuitive way for people to navigate their communities
- Human comfort
 - The understanding of how to meet the physical and psychological needs of humans in the design and furnishing of public spaces
 - The incorporation of a diversity of principles: e.g., defensible space, ergonomics, scale
- Native species and diversity
 - The creative use of native and resilient plants can not only improve urban aesthetics but reduce maintenance inputs and costs

13 Measuring public welfare

This report deals with the *impact* on public welfare. To recognize an impact one must be able to describe it, and more formally, to measure it.

This final chapter proposes four approaches to measuring the impact of landscape architecture on public welfare. Each has its merits and applications. None is inherently better than the others – they are valuable to the extent that they are applied, analyzed and interpreted appropriately and that the results of each method are understood within the context of their limitations.

1 MEASUREMENT BY EXAMPLE

Measurement by example is a rudimentary form of quantifying a concept. We can propose examples of projects that enhance public welfare in some domain (or counter-examples that detract from the public welfare).

When a consensus is reached that a set of examples does, in fact, illustrate the domain in a comprehensive manner, we have then staked out that territory. Landscape Architects and others can study the examples and say, “Yes, I understand the extent of that domain”.

The examples in this report form one such “definition by extension”. Such a set is always open to further refinement. A reader might say, “Yes, these are all examples of the positive impact of Landscape Architecture on public welfare, but some other examples are also needed to make the definition complete.”

2 PRINCIPLES, GUIDELINES AND STANDARDS

Principles, guidelines and standards are closely related and complementary concepts, however they differ in terms of measurement:

Principles are generally abstract ideas that are not directly measurable.

Guidelines are a step less abstract. They refer to the application of principles, and may be quantifiable, though not necessarily so.

Standards are necessarily formulated in objective terms. They are unambiguous measures that can be applied in the same manner in any situation. Design standards do not measure public welfare directly, but specify the components of a landscape that may contribute to public welfare.

LEED-ND specifies design elements using all three, for example:

Principle: Reduced Automobile Dependence

Guideline (labeled “Intent”): Encourage development in locations that exhibit superior performance in providing transportation choices or otherwise reducing motor vehicle use.

Standard: Various measures are given, including the total number of rides available on public transit per weekday, and the percentage of vehicle miles traveled that are in single-occupancy vehicles.

3 PERCEPTUAL MEASURES

Perceptual measures flow from one's awareness of the world around. If the landscape is changed, a person can register this change, and describe it as, for example, better or worse than before.

Methods of systematically measuring the perception of landscape have been developed over several decades by Ervin Zube, J.F. Palmer and others. They draw on methods and statistical techniques that are used in the social sciences generally, but adapting these techniques to landscape architecture is no easy task. The dimensions that need to be measured – visual impact, spaciousness, pattern, texture and so on – have intuitive meaning but are not easily quantified. It has been necessary to develop new methods to quantify relevant dimensions of landscape.

Perceptual research in Landscape Architecture uses the perceptions of both experts and of citizens at large to assess impacts on public welfare. Assessing the visual impact of a structure is one example of perceptual measurements.⁴¹ Often, photographs of different features of the landscape are used to present research subjects with a large number of stimuli in a short period of time.

Paul Gobster et al. summarize the four major perceptual research paradigms that Zube identified as follows:

*...the expert paradigm, a professionally based evaluation of landscape quality often built on design or ecological principles; the psychophysical paradigm, a public-preference approach that links people's landscape quality judgments with external landscape properties; the cognitive paradigm, a person-focused approach aimed at uncovering the meaning and values that landscapes have for people; and the experiential paradigm, a largely qualitative approach aimed at understanding the experiences and outcomes of human-landscape interactions. (Gobster, Paul, James Palmer and Joseph Crystal, ERVIN H. ZUBE (1931-2002) The Significance and Impact of His Contributions to Environment-Behavior Studies. *Environment and Behavior*, Vol. 35 No, 2, March 2003)*

Measuring impact implies measuring change. This often implies a pre-post design where perceptions are measured both before and after a project. Evaluation is a component of many publicly funded projects. Perceptual research can provide compelling evidence of the impacts of Landscape Architecture on public welfare.

⁴¹ See, for example, the Tahoe Regional Planning Agency Design review Guidelines, Appendix H: Visual Assessment Tool for the Review of Projects Located in the Shoreland.
http://www.trpa.org/documents/currentapps/DRG_Appendix_H.pdf

4 PROXY MEASURES

The impact of Landscape Architecture on public welfare may be seen through measures of social and economic functioning that are not specific to Landscape Architecture. The relevant measures will be determined by the goals of the project, and so will vary from one project to another. They may include:

- Economic activity e.g., dollars generated in an area by different types of business
- Health measures, e.g., amount and type of physical activity, obesity rates, air quality
- Travel time
- Tourism activities, e.g., number of visitors, numbers of events
- Creative activities e.g., presence of sculpture, arts, theatres, music, exhibitions
- Learning / educational opportunities and results
- Recreational / leisure attractions
- Crime rate
- Ecological benefits e.g., gardens attract birds, butterflies
- Agricultural or food growing activities
- Community building, e.g., clubs, exercise groups, interest groups, social interaction (overcoming isolation)

Glossary of terms

Access: opportunities to engage in social and development processes that contribute to the creation of a safe healthy and stimulating living environment

Barrier free: related to design criteria (or regulation) specific to the creation of accessible environments for people with disabilities over the long term

Consensus assumption: assumption that there is a reasonable consensus about what the landscape should look like

Defensible space: a living/residential environment which can be employed by inhabitants for the enhancement of their lives while providing security for families, neighbours and friends

Design guidelines: value system for the creation of good design, usually unregulated and based on observed successes and failures

Design principles: more clearly defined design applications that are often implemented to achieve specific goals i.e., transit oriented design principles. Principles are unregulated but usually based on academic and field research.

Design standards: implemented for the protection of public health and safety, inform the physical characteristics of the public realm i.e., surface materials, walkway widths, ramp and stair construction

Externalities: effects or consequences of design and development decisions often beyond the project scope

Human condition: The physical and mental well-being of an individual, community or global population as well as environmental quality and overall quality of life

Landscape and aesthetics: the total visual perception of landscape elements including the design of the elements, views, proportion, integration with surrounding landscape and materials

Landscape literacy: the comprehensive understanding of landscape as a process. Designing for the future means understanding the factors (social, cultural, political, economic and environmental) that have shaped and will continue to shape the landscape

Pareto optimal: named after economist Vilfredo Pareto. Refers to development decisions that make some better off and no one worse off.

Public realm: invited space suggestive of unrestricted access, governed by the principles of civic culture and public life

Resilience: the ability of a community or landscape to respond and adapt to change, increased by the restoration of human and natural systems that encourage interdependence

Restorative commons: a shared landscape that performs restorative functions for natural systems and human communities through a process of stewardship and mutual responsibility

Sustainable development: as defined by the UN World Commission in 1987, sustainable development refers to development that meets the needs of present populations without impacting the well-being of future generations. This definition can be applied in both an environmental and a social context

Universal design: set of principles related to the design of products, buildings and environments that promote unrestricted use by all

Welfare economics: concerned with the way in which private markets do or do not optimize social welfare. Recognizing both equity and efficiency in the allocation of resources and funding

Appendix: Interviews

Interviews with CLARB Public Welfare Task Force

We would like to acknowledge the assistance of the following CLARB leaders and staff who thoughtfully guided and informed the substance of this report, through telephone discussions, sharing of ideas and a review of the report. The list is in alphabetical order.

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