When one wants to design a space that is ‘accessible’ or that grants ‘access,’ she will probably, at some point, find herself referring to the Americans with Disabilities Act Standards for accessible design. There she will find descriptions of appropriate pavement and surface coverings, plumbing hardware and incline percentages. The ADA standards and guidelines is a valuable tool to designing accessible spaces, specifically for those with disabilities. However, we must look to expand the definition of access to also acknowledge and include other marginalized populations. When it comes to providing an equal opportunity, designs should also consider people with limited financial capacity and familiarity with nature. In addition, age, gender, literacy, culture and comfort all need to be taken into account when designing for access. While it may be impossible or unfeasible to create a space that is relevant and accessible to all, we must try. Luckily, research in landscape design, land management and the social sciences has been able to identify universal principles and unique elements of physical design that can help attract a wide spectrum of users.

This chapter focuses on how physical design is used and manipulated in intentional ways to connect more and diverse individuals to the natural world. First, it explores the issue of accessibility as it relates to physical design, and then examines fundamental human attractions to certain design principles. This is followed by a discussion and a selection of noteworthy examples of designs in the built and natural landscape that bring people to natural areas and bring natural spaces to people. The chapter concludes with an exploration of under-examined, but important social factors that influence design, such as the visitors’ background and perceived safety.

At the crux of this chapter is a discussion of how design can be used to create experiences in nature that are welcoming, accessible, and familiar. The way to provide these experiences is to build familiar touchstones into the nature experience. Recognizable flora, multi-lingual signs, familiar play apparatus or landmarks build a sense of place and comfort.
4.1 On ‘Access’ in Built Design, Framing the Issue

A major challenge facing recreation service providers and the land trust movement is how to make the preserved spaces and programs attractive and relevant to as many people as possible. A key to addressing this problem lies in making the offerings accessible. The easier a space is to access and relate to, presumably, the more it will get used and attract new users. But, to simply provide the opportunity is not enough. Needs must be met, opportunities must be advertised, and individuals must feel empowered by their experiences. In order to discuss access in the following chapter, it is important to clarify the idea of what access means and how it can be addressed.

The Andersen and Newman Model and the Enabling Factor

One definition of accessibility that is useful is marked in the Andersen and Newman (1973) model. The model defines accessibility as the “ability of the individual to travel to the recreation site or service” and “the extent to which programs are available and accessible to those we serve” (Andersen et al. 1973).

This definition of accessibility will naturally raise questions about the user: Do they have transportation to and from the space? Do they live near the resource? At the same time, providers of the resource, program, or natural space, must also ask themselves “What opportunities do we really provide?” (Andersen et al. 1973). By asking this question and by being reflective, the provider may be able to identify opportunities that actually end up limiting use. For example, what opportunities to attract users are lost when a natural areas park does not provide a map of the trails, when an area has no seating or when certain trails are designated for mountain biking instead of mixed use? What messages are our spaces sending to our visitors?

Dr. Frances Ming Kuo’s 3 Ways to Create Access to Nature

Dr. Frances E. (Ming) Kuo, Associate Professor and Director of the Landscape and Human Health Laboratory at the University of Illinois at Urbana-Champaign provides a framework useful to thinking about accessibility to the natural world. The framework includes three ways of connecting people to nature:

• Provide as much nature, in as many forms, as possible.
• Bring nature to people.
• Bring people to nature.

By expanding the conversation from ‘how do get people to or parks’ to ‘how do we bring nature to people,’ the opportunities for access become more numerous. Design can be leveraged both within small, indoor spaces and landscape level outdoor spaces to ‘bring nature closer to people and bring people closer to nature’ (2010). For a full discussion on designing outdoor spaces see the appendix at the end of this chapter.
4.2 How Design Can Bring Nature to Us

The most direct way to create access to nature is by physically bringing green spaces closer to people. This can be made possible on a macro scale, for example, by building more public parks and creating nature corridors in densely populated areas. Alternatively, it can be achieved on micro levels by ‘greening’ indoor environments. By integrating and inserting opportunities for nature into multiple levels of design it is possible to shift a person’s relationship with nature towards one that is familiar and that may give him or her the confidence and curiosity to explore nature outside of their homes (Kuo 2010).

The Importance of Variety

In the 2010 National Recreation and Parks Association Report, Dr. Kuo proposes that a way designers can create access to nature is by providing “as much nature as possible,” in a variety of forms. Variety ensures that the experience can be accessed by individuals with different levels of learning, ability and also aesthetic preferences. The greater the diversity of the natural experience allows for more chances of interaction and frequency of interaction (Kuo 2010).

The urban landscape can be interpreted as a hierarchy of experiences where each ascending hierarchy represents more involved levels of interaction (Kuo 2010). A view of a mountain from one’s office or a kitchen window box provides a base level experience of nature. A higher level nature interaction may be experienced on a tree-lined street; higher still would be a community garden and eventually a city park and perhaps even a ‘wilderness experience’ in a state or national park.

All are valid ways of experiencing nature and Kuo suggests that landscape designs should provide varying levels of engagement with nature and ways to move between them (Kuo 2010). Individuals will then exercise their choice in whether to transition from one space to the other, and expose themselves to higher level nature experiences.

Eco District of Hammarby Lake City

The Eco District of Hammarby Lake City in Stockholm Sweden is a prime example of how effective design incorporates a variety of natural experiences into a comprehensive plan. Hammarby Sjostad was designed to use half of the amount of energy used in a typical development (Inghe-Hellström 2005). While concerns of access are not mentioned in the design mission, the resulting product provides easy and ample access to nature, whether a citizen is outside or inside. All of the apartments have views of the water or at least of green space and the natural sounds of native reeds and rushes blowing in the breeze can be heard by most residents. A network of varied parks, green spaces and walkways runs through the district to provide a counterbalance to the dense urban landscape.
The vegetation and green corridors that filter storm water runoff pollutants also provide a link and a shortcut to a nature reserve just outside of the city; among the waterfront reeds is a secluded walkways extend out into the water and there is a preserved oak forest on site (Ignatieva 2014). All of these features are experiences that citizens can engage with en route to their normal places of interest or activities.

For more information see the Hammarby Sjostad Case Study:

4.3 How Design Can Bring People to Nature

As Dr. Kuo (2010) writes, the way to create accessible and used spaces “is to find green places, protect them and devise ways to encourage people to spend significant, frequent amounts of time in them.” Design that brings people to natural areas includes macro, landscape-level infrastructure that provides modes or routes such as transportation corridors, public transit and greenways.

Public Transportation

Two questions that arise when assessing the accessibility of a space are, ‘Do users live near the resource?’ and, if not, ‘How will they get to it?’ Accessibility as it relates to transportation is perhaps one of the most blatant measures of designed accessibility, but surprisingly is one of the most under-addressed when it comes to getting people to the more remote natural areas: preserves, state parks, and national parks. When you do not have a car, what are the options?

In Chicago, there are many options, according to Carol LaChapelle, author of the “Have Train, Will Travel” article in the Chicago Wilderness Magazine (Summer 2007). LaChapelle writes, “I've used it all — buses, El trains, and commuter trains, including the South Shore Line to Indiana.” While ‘doable,’ LaChapelle acknowledges that there are many tradeoffs and caveats associated with taking public transportation to natural areas, which automatically excludes certain users. One must have access to the Internet, time to search and plan, knowledge of the place they want to go and probably an existing relationship with the space, or nature at a base level. It is unlikely that an individual who does not have a relationship with nature would go to all the trouble. Another fault in design is that wild land parks and preserves are usually not designed to receive those traveling, at least partially, on foot. If alternative routes or designs exist, then they are poorly indicated. LaChapelle writes of her encounter with this design flaw:

In January, for instance, I took the Metro north to Zion for a first-time visit to Illinois Beach State Park... I walked half an hour from the train stop, down busy Sheridan Road, past a stream of mini malls and fast food joints, just to enter the park at Wadsworth Road, the main entrance to the south end, which was clearly designed for cars, not pedestrians. At that point I was still another 20 minutes away from the hiking trails... The silver lining, however, came when park
staff informed me that I could have stepped onto a bike trail just south of the station — they said they'd put up new signs alerting visitors who arrive this way.

**TriMet, Portland, Oregon**

Portland, Oregon is one city that is ‘getting it right’ in designing for access and in creating connectivity between its urban and natural areas via public transportation and trail networks. Portland’s transit association, TriMet, provides bus, light rail and commuter rail service throughout the region. Their website even has a dedicated ‘Transit to Trails’ page that encourages visitors to “leave the car at home” and use public transit to access the more than 10,000 acres of parks and natural areas. The page is organized by region and has highlighted parks to visit, including a short summary of the park, a link to the trail map, a difficulty rating, bus lines that will take the visitor there and a link to their ‘trip planner’ page.

**NW Portland**

**Forest Park →**
NW 29th Avenue & Upshur Street to Newberry Road, Portland

Forest Park’s 5,156 acres includes natural areas, biking, hiking and equestrian trails and an abundance of wildlife. The 30-mile Wildwood Trail in Forest Park is part of the region’s 40-Mile Loop. 70 miles of trails, fire lanes and gravel road, portions in the Washington Park section are accessible.

**Trail information →**

**Difficulty**
Easy to difficult, depending on trail

**How to get there**
Access available from many points, including MAX Blue or Red Line, 16-Front Ave/St Helens Rd, 20-Burnside/Stark

Plan your trip

For more information see:

The issue of interconnectivity is brought to light in LaChapelle’s excerpt. While multiple public transport options may exist, such as a train to a bike trail or a train to a shuttle or bus, sometimes there is lack of communication between means of transport and the park destination itself. The simplest design solution to remedy this problem may be to provide signage at every node and transfer point that is clear, stated in multiple languages and which uses symbols to indicate direction, wait times and distance to the destination.

**Greenways**

Greenways are spaces that serve the double function of creating local green spaces at the same time they create a way and route to get to a more remote natural area. According to the Trails and Greenways Clearinghouse, a joint project of Rails to Trails Conservancy and The Conservation Fund’s American Greenways Program, “Greenways are corridors of protected open space managed for conservation and recreation purposes. Greenways often follow natural land or water features, and link nature reserves, parks, cultural features and historic sites with each other and with populated areas.”

Greenways are a useful design solution to exposing and providing green space to multiple neighborhoods. Greenways provide a variety of experiences that allow the user to ‘choose your own adventure.’ Important design aspects incorporated into greenways include nodes of passive and active recreation, trails that connect and loop, public and visible entry and access points along street corridors and amenities that provide rest, and encourage gathering like benches, picnic areas and open lawns.

**The Lafitte Greenway & Revitalization Corridor**

A greenway that received national recognition by the American Planning Association in 2013 was the Lafitte Greenway, one of New Orleans’s first revitalization projects since Hurricane Katrina in 2005. Fashioned by the Design Workshop, the Lafitte Greenway will transform a 54 acre site of a former shipping canal into a 3.1 mile linear greenway that provides a multi-modal transportation green corridor and connects nine neighborhoods within a ¼ mile to each other and to the heart of New Orleans. The trail weaves through fields, orchards, rain gardens, recreational spaces and a resurrected, historical community garden. The recreational fields double as storm water reservoirs, and the project restores native ecology and provides essential recreational space for the underserved community. As if that was not enough, the plans were formed through collaboration with local community members whose needs for open space and public programming and whose concerns for safety inform the entirety of the Lafitte Greenway design. Explicitly noted design aspects asked for by community members include shaded recreational zones and places to gather.

For more information see:

4. HOW CAN PHYSICAL DESIGN CREATE ACCESS AND ATTRACT MORE USERS?

*Designing Transitions*

Another small-scale way of ‘bringing people to [more] nature’ is to incorporate design aspects that blur the line between wild and manicured spaces in order to create more accessible and fluid pathways to exploring nature. The Nature and Learning Initiatives Guidelines explain that this new experience may lead to the development of new habits and affinities for nature in the future: “Families may be more apt to adopt a new practice in an unfamiliar place that they can replicate back at home” (Moore 2014).

**Nature Play Zone at the Indiana Dunes National Lakeshore**

The Indiana Dunes National Lakeshore utilizes the opportunity to transition visitors from familiar play and learning settings to more unstructured play areas that engage the user more with nature. The park strategically built the new Nature Play Zone adjacent to the popular Paul H. Douglas Center for environmental education. The natural “Playground” does not have traditional fixtures such as slides or swings but it does have places where children can probe logs, dig in sand and enjoy “hands-on nature experiences” that are inaccessible in other parks.

For more information see:


4.4 Social Factors that Influence Design

So far we have explored how design can be inserted and utilized in different levels of our lives in order to bring nature to people or bring people to nature. The next section acknowledges some of the major social factors that influence physical design, including diversity of user experience and background and issues of safety. This section will also explore tailored design features that comfortably connect users to natural areas.

*The Visitor*

According to Jay Beckwith (2014), a playground design professional, “Good design is all about asking the right questions.” The same applies when designing natural areas. When it comes to the design of the park, preserve, green corridor or path, we need to first ask, “Who is the visitor?” This one question will inform the bulk of the facilities that will need to be offered and the look of the landscape.

When thinking about the ‘visitor’ it is important to think about visitors of the past, present and future. The following questions are designed to encourage the subtle nuances that help to identify different visitors that can and will use the park space. The questions are adapted from Jay Beckwith’s (2014) list of questions from “How Design Relates to Play”:

- What elements exist or can be added that give the space a sense of place?
- How is the space connected to the people who will use it?
At a fundamental level, in order to attract and grant people access to outdoor green spaces we must design to make places “safe, pleasant and rewarding” (J.B. Jackson).

After understanding who the visitor is, we must also try to understand the values that visitor holds and the social factors that affect their use of the natural area. Natural areas are influenced and shaped by the society around them. They are part of a singular system, and behaviors in one affect the other. For example, a park may be designed with all the ‘right’ features, but still be underused because of larger social factors, such as the presence of violence in the surrounding community. That park will not be visited or truly accessible until the larger issues of violence are addressed. In reading this section, it may be useful to measure the success of space and particular design feature by how well it reflects the visitors’ values or how it addresses a present social issue. In thinking about your own spaces, try to gauge what social factors or values enable or inhibit the surrounding community from accessing the space.

**Children and Families**

Key values to keep in mind when designing for children and family are play, safety and wonder. To truly understand (or remember) these values, one must forgo thinking like an adult and begin to think like a child. While an adult may think of and design around the aesthetic features of a space, it is the functional features of the environment that really draw children and honor these values (Acar 2013). When designing to draw children to nature, think about the activities and opportunities that the space creates and invites.

According to Habibe Acar (2013), author of *Landscape Design for Children and Their Environments in Urban Context, Advances in Landscape Architecture*, “Environments that offer opportunity for movement and that offer diversity for children are the most favored” and aid in a child’s natural development. Movement is essential to the discovery and enjoyment of an area and it is an essential component of play. The following open space and natural public areas features, as specified by White and Stoecklin (1998), have been shown to draw the greatest positive response from children and are most utilized:

- Water
- Vegetation including trees, bushes, flowers and the long grass
- Animals and creatures living in ponds, sand and water
- Natural colors
4. How can physical design create access and attract more users?

- Diversity and change
- Places to sit under, in, and on
- Sheltered places/ hidden and private places
- Places providing good views
- Natural and replaceable structures, materials, and equipment (Acar 2013)

While constructing built play areas, design connections to the wider natural areas by building paths and trails that link areas of high active usage to passive hiking areas.

Recommendations to creating effective, child centric corridors and play areas sourced from Nature Play and Learning Places National Guideline (2014) and Parks and Other Green Environments: Essential Components of a Healthy Human Habitat (2010):

- **Signage**
  - Invite children to decorate entrances or personalize signs, especially those that lead into and out of designated play zones.
  - Should be easy to read for people of all levels, include visual representations.
  - Should be at child height or at least visible to children.

- **Names**
  - Consider naming child-friendly areas more playful names that indicate their target visitors. For example, ‘Play Stream,’ or a ‘Critter Creek.’
  - Enclose nature play and learning areas so that families with young children feel safe. A natural looking fence will provide assurance for parent users and allow the children to wander safely within a set boundary.
  - Make trails wide enough to walk side by side with another person.
  - Create child and nature-friendly subdivisions where rules and regulations do not restrict the form of play.

**Seniors**

According to the U.S. Census Current Population Reports, between 2012 and 2050 the U.S. will experience considerable growth in its older population (May 2014). There are projected to be 83.7 million people over the age of 65 in 2050 (Ortman et al 2014). That is almost double its estimate population of the 43.1 million in 2012 (Ortman et al 2014). The size of the older population is important to public and private interests, and designers need to think about designing for this growing user audience. Values to keep in mind when designing for senior visitors are comfort, rest, community and places to socialize.

Comfort is integral when designing for seniors. In order to design open spaces and natural areas that are physically accessible and comfortable, the ADA recreation guidelines can be helpful; it indicates surfaces, gradient, egress and seating standards that apply to older
users with mobility limitations. Other physical components that make for comfortable and usable spaces:

- Railings alongside steps
- At-height drinking fountains
- Benches at the tops of inclines to provide rest
- A variety of well-marked short trails that loop and indicate distance
- Park entrances located near bus stops and crosswalks
- Shelters or seated covered areas that can provide relief from the sun and heat
- Shaded resting spots alongside trails that are strategically positioned to include an ‘experience’ such as a view of a body of water, or within a bird sanctuary. (Judd 2015)

According to the book “People Places: Design Guidelines for Urban Open Space, Part 4,” parks and open space areas serve two functions for senior users (1997). Parks provide peaceful, natural settings where seniors can sit, walk, contemplate nature and be with other people. Thus, in order for design to be accessible, relevant and attractive to older users it must foster revitalization and social opportunities. The “People Places” guidelines suggest the following designs to help cater to, attract and make parks and open spaces welcoming to senior users who seek social interaction:

- Place seating directly inside the park’s entrance and by busy places where there are opportunities to people watch.
- Place benches in a variety of arrangements to facilitate conversation.
  - Make some benches short enough for single users and others long enough so that multiple people can sit together.
- Provide game tables and seating for spectators.

Social programming is a big draw for seniors and so parks and open spaces must be designed to foster programming and aid in socially led interactions. One park designer that weaves the concept of designing open space and parks for social programming and interactions in the senior population is Australian landscape architect, Grant Donald. He is the Creative Director of Silk Tree international and the designer of the world’s first designated “Aged Park” designed for China’s elderly community.

**Wanshou Park, China**

The premise of the ‘Aged Park’ is to provide physical design and programs that are specifically for elderly individuals. The design encourages active engagement in physical and social activities. A key to the design are its flexible spaces that cater to a range of different recreation types and enable any level of active interaction.
4. HOW CAN PHYSICAL DESIGN CREATE ACCESS AND ATTRACT MORE USERS?

For more information see:
Silk Tree International: http://www.silktreegroup.com/active-ageing.html

Culturally Diverse Users

The main challenge in attempting to understand the values of and to create designs for ‘culturally diverse’ users is how not to indulge in stereotypes. While it may be easy to say that ‘Hispanic’ users value ‘family’ and want spaces that will allow them to recreate in big groups, this does not acknowledge the cultural nuances and differences between ‘Hispanic’ communities. For example, a Cuban person and a Peruvian person are both considered ‘Hispanic.’ However, their cultural identity, values, experience of place and preference for site features are probably different. When aiming to design, engage or cater to a group of ‘diverse’ minority users, it is important to understand there is no general principle that will touch and cater to everyone. Before designing, we must understand a visitor’s relationship (or lack of relationship) to the space, observe existing regular patterns of recreation and ask people what they value and want from and in their natural areas and open spaces. All of the information provided in this section is sourced from personal interviews with people who identify as U.S. minorities and from researchers who have conducted ethnographic research on how different cultural groups interact with open spaces and natural areas.

Newcomers and Immigrants

Parks and open space, especially within cities, have the potential to be the unifying and strengthening heart of the community. Research has shown that the best way to create landscapes that are inclusive of immigrant populations is to allow the open spaces to adapt to the communities that surround them.

Lanfer and Taylor (2004) conducted research on use of and engagement in open space and parks by immigrant populations in the culturally evolving city of, what they termed, “New Boston.” The researchers found that immigrants are often drawn to areas that remind them of their home countries. Therefore, a key value for immigrants or newcomers is familiarity. In order to attract a specific cultural group, weave in familiar touchstones into the landscape.

Park designers in the Chumleigh Gardens at Burgess Park in London found that their use of bamboo really resonated with Malaysians and that stunted vegetation planted along a steep cliff evoked a familiar coastline for some Bosnians (Lanfer and Taylor 2004). Herter Park, along Boston’s Charles River is frequented by Guatemalans because it is said to remind them of the riverbanks and the willow trees they left behind (Agyeman 2013). These users were drawn to the look, feel and smell of a familiar landscape. New and existing designs can be utilized and manipulated to evoke these impressions and to help make an often estranged population feel more welcome and at home.
Though it is honorable to try to design specifically for different groups, it is often difficult to represent all culturally diverse users at the same time. There is a risk associated with trying to honor multiple users: the open space may feel fractured. Lanfer and Taylor advise that sometimes it is okay for a park to only reflect one type of ideal or cultural perspective.

**Seattle Chinese Garden**

One example of a park that was designed with the aesthetics and values of a single culture is the Seattle Chinese Garden. It upholds the elements of a traditional Chinese garden and was designed with the help from Seattle’s sister city in China, Chongqing. It reflects the Sichuan province and has been well received by Seattle-ites, both Chinese and non-Chinese visitors.

*Image Source: Seattle Chinese Garden*

For more information see:

**Domestic Minorities**

After interviewing many people on how to attract cultural minorities to natural areas, values are always at the crux of the answer. Several interviewees including Rue Mapp, Founder of
Outdoor Afro, Juan Martinez, Director of Leadership Development for the Children and Natures Network, Ray Oladapo-Johnson, Director of Park Operations for the Emerald Necklace, Alvin Dodson, Director of Park Design for City of Atlanta, and Hanmin Luo, Co-Director of the Wildflowers Institute, have all said that socialization is at the center of how domestic minorities utilize and engage within natural spaces. Therefore, it is essential that if natural areas aim to welcome and accommodate these users, they must improve and expand the facilities that are most utilized for social gatherings. In order to encourage socialization in natural areas consider the following:

- Provide and maintain parking lots, bathrooms and garbage receptacles.
- Create shaded and shared places for picnicking.
- Provide ample seating, especially in play areas so adults can socialize while supervising.
- Make grills and campgrounds big enough to accommodate larger families.

The size of grills and campgrounds is an issue that came up in several interviews. Since most campgrounds are designed for a couple or small family, it makes it more difficult to recreate with and include extended family members. Providing a few ‘oversized’ grills, or a few standard grills placed side by side sends a signal that larger groups are welcomed to use that space.

Another central issue brought up in these conversations is the invalidation domestic minorities feel when critics or researchers say that U.S. minorities have no connection to nature. Juan Martinez (2015) articulated it best in his interview:

*There is a perception that all users are privileged, white, older and middle/upper class people. If you expand your definition of natural areas then you see that that is not true. In urban spaces you see more diverse people fishing, gardening, eating outside, and going for walks... People need to understand that the built environment with some nature is just as valid an experience as the wild spaces that we advocate to conserve.*

Interaction and appreciation of nature does not only mean backpacking, hiking and bird watching. It can mean getting together with family or church members for a picnic, planting in a community garden or napping in the shade of a park tree. The only design recommendation left to make in order to attract domestic minorities to natural areas is to cast a broad net: make green spaces available across the spectrum from within the built environment to the wilderness and create places that are flexible, that allow people to recreate as they choose, and that enable socialization and are that considered ‘safe.’

**Designing for Safety**

One social factor and value that dominates the question of accessibility is the feeling of safety. The safety factor is especially important in cities and urban parks. Hartley (1992), Mitchell (1995) and Berney (2010) all determined that accessibility to urban parks, and the key determinant in whether or not the surrounding population would use that park, relates back to the presence of ‘legitimate behavior’ in that public space. If residents feel that the presence of that behavior is illegitimate and unregulated, then they will perceive the space as unsafe.
While safety is a social concern that cannot be resolved through design, there are features that can help deter illegitimate behavior. Kuo et al. (1998) found that tree density and grass maintenance increased the preference and sense of safety for a sample of low-income residents in Chicago, Illinois. Complimentary, Troy et al. (2012) found an inverse relationship between crime rates and tree canopy cover in Baltimore, Maryland (Santiago et al. 2014). But simply having trees and vegetation is not enough. The spaces are perceived ‘safe’ when the vegetation is cared for. Thus, it is very important that when designing a natural area, a designer and manager spend time thinking about the long term maintenance of the park and its features.

One example of how increasing maintenance of a public space leads to greater perceived safety, access and use is in “Sanchez Park” in Santa Fe, New Mexico. The public park was underutilized due to high crime rates in the low income Mexican-American barrio. In order to create a safe space for children and families, the extended Sanchez family began to clean up their local park, painted murals of Mexican American experiences, and kept the park well maintained, which lead to greater use and a strengthened community (Moore et al. 2014).

Something to keep in mind when landscaping and designing natural urban spaces is that while well-maintained trees and low story vegetation may signal greater overall watch and regulation, shrubs and high grasses may also present opportunities for hiding and illicit behavior. Ground maintenance that establishes clear lines of site to hubs of activity, like a street or passive gathering space should be a best practice. Flowers have also been found to signal ownership and care for a space (Stapleton 2015). Local police routes can also be incorporated into park areas in order to provide a greater sense of safety. Other physical infrastructure solutions as indicated in the Santiago et al. 2014 study of underused ecological amenities in urban park include better lighting, improving controlled access to the facilities, reinforcing entrance locks and installing fences.

_Safedesign™ and Anniversary Park, Hollywood, Florida_

In 1990, Anniversary Park in downtown Hollywood Florida had become a nuisance public space dominated by homeless people and drug users. The trees and vegetation were overgrown, limiting natural surveillance and sightlines. The park was originally designed as a passive recreation space and had benches and tables that were adopted for undesired behavior. Safedesign™ was hired to implement a design that would transform the space. This included trimming up existing trees, removing shrubs and undergrowth to improve natural surveillance. Most seating was removed except those located near the front sidewalk, a small stage was built to use for performances and music, and a mural highlighted local ecology of South Florida was painted on the adjacent building. Low Mexican heather, small pink flowers, a low fence and additional lighting was added. The problems with homeless camping, alcohol consumption and drug use stopped immediately, no additional police patrols were needed or added and daytime park use increased.
Participation and Engagement

In spite of the research and studies being conducted on designing for inclusivity and tailoring natural areas, open spaces and parks to different communities, there will always be inherent flaws in understanding the values of a community from a distance and only through observation. The most powerful tool when designing a space are the voices of the public who will visit the space.

Participation is a tool for empowerment and continued investment in an area and individuals of all ages should be included (Acar 2013). “Participation is local, transparent, inclusive, interactive, responsive, relevant, educational, reflective, transformative, sustainable, personal and voluntary” (Acar 2013). Though people in the community may not be knowledgeable of formal landscape design or conservation terms or practices, their knowledge should not be discounted. They are the local experts of their neighborhoods and of the climate of their community. Two organizations doing excellent work within community engagement and design are The Trust for Public Land and The Wildflowers Institute.

Outreach also has to be designed carefully in order to be accessible to the population it hopes to engage. For example, formal invited or open meetings may not always be the most effective route to engagement and participation. As one Asian immigrant member of a community garden remarks, “If you ask people to come to a meeting with parks authorities to talk about how to get access to green space resources, they are not going to come. They would sooner find an abandoned lot and plant their peppers there” (Lanfer et al. 2010). Formal community meetings are a useful tool to engagement, but they are also off-putting for people who don’t speak the language, who feel participation means regulations and for undocumented community members who don’t want to put themselves at risk by attending a meeting where names are typically recorded. One open space planner for the City of Boston found
that to ensure a democratic process of getting feedback on their open spaces, they needed to go door-door with several interpreters in order to cull the opinions and voices of local communities (Lanfer et al. 2010).

As noted, engagement is a useful tool to understanding community values and desires for a space. It is also a useful tool to employ during times of conflict when spaces are used in an undesired way.

**MC Francis Community Garden and the LA Neighborhood Land Trust**

Neighbors adjacent to the MC Francis Community Garden notified the LA Neighborhood Land Trust of ‘gang activity’ which included loud music, drinking and smoking within the garden. Instead of reporting the incident to the police, the Land Trust, notified the authorities and told them they were going to go through their own process of conflict resolution. The Trust also interviewed community members who reported the illicit behavior, asking the neighbors what exactly was ‘making you feel unsafe.’

The LA neighborhood Land Trust Executive Director, Alina Langworth says that this is a valuable step in the process as it helps to clearly define the problem and to discount any racism or bigotry as a hidden factor. The Land Trust then partnered with a local gang organization, Aztec Rising, to directly engage in conversations with the gang members. Over the course of several meetings, the gang members and garden community members were invited to a lunch within the gardens in order to discuss what safety looked like and meant for the surrounding community. As a relationship between the gang members and the community was built, the illicit behaviors stopped and the gang members became woven into the bigger fabric, and safety, of the garden.

For more information see:


(This story is as presented by Alina Langworth at the 2015 Green and Greater City Parks Alliance Conference)

The keys to the LA Neighborhood Land Trust’s success in handling the conflict was to address each of the users separately, bring in experts (Aztec Rising) and communicate desired use of the space through conversations and an invitation to the garden through a lunch. While this approach may not always work, it is an available avenue that serves to strengthen the community as a whole.

### 4.5 Conclusion

Open spaces, parks, greenways and natural areas can be used and interacted with in many ways. They are stages for activity, discovery, relationship building and contemplation. Each person whom interacts with these spaces is a temporary visitor, expressing herself in the ways
that make the most sense to her, in ways that are the most comfortable and natural. It is the job of the landscape architects, designers, land stewards and managers to create spaces and provide elements, facilities and features that allow for these myriads of expression and also invite the visitor to explore something new. By using universal design principles, community engagement tools and by understanding the values of our visitors, we will be better able to build spaces that are functional, comfortable, and flexible and that are expansive: honoring the past and serving visitors of the present and future.

A space cannot be designed in a vacuum. The natural areas, the parks, the buildings and the people do not exist nor function in silos. They are all part of a unified landscape in which the values and interactions in one bleed into and mix with the other. As the landscape becomes more varied and diverse, the construct of nature and definitions of interaction and use must grow. In order to truly promote access, we must design with a systems approach and look at the big picture—design is only one piece of the access puzzle. When designing for access, we must not tunnel our vision to the features and elements of a space. Remember to step back, learn about the entire landscape, and reflect on how the finished design will meet the needs of the society and build in the potential for more.

Additional Questions to Think About

- Will the visitors have a choice in their level of activity and interaction with the space?
- What are the opportunities and constraints upon access to the resource or services?
- Are there equal opportunities of access and use?

Useful Reading/Works Cited


INCREASING ACCESS TO NATURAL AREAS: CONNECTING PHYSICAL AND SOCIAL DIMENSIONS


Personal Conversations

• Judd, Patrick, telephone conversation with author, April 6, 2015
• Holmes, Walker, in person conversation with author, May 6, 2015
• Elliman, Kim, telephone conversation with author, April 8, 2015
• Martinez, Juan, telephone conversation with author, March 30, 2015
• Mapp, Rue, in person conversation with author, February 6, 2015
• Oladapo-Johnson, Ray, in person conversation with author, April 20, 2015
• Dodson, Alvin, in person conversation with author, April 9, 2015
• Lo, Hanmin, in person conversation with author, April 10, 2015
Appendix 1: Universal Physical Designs and Elements

It seems that humans have a proclivity for open spaces and certain aesthetic characteristics found in the natural world. These preferences have been studied by social scientists and designers alike and can mainly be explained by evolution. Many widely accepted evolutionary hypotheses have shown that over time humans have evolved to prefer landscape qualities that enhanced survival, such as a preference for open areas versus heavily wooded ones. These preferences are explained by several hypotheses including Orians’ and Heerwagen’s the savanna hypothesis (1992), the Appleton’s habitat theory and prospect-refuge theory (1977), Kaplan’s preference matrix (1989) and the Wilson’s biophilia hypothesis (1993 and 1984). Wilson’s biophilia hypothesis is the most useful and holistic hypothesis and framework to employ when designing physical attributes that promote attraction and access.

Biophilic Design

Biophilia, or the ‘love of living systems’ is a hypothesis developed by Edward O. Wilson in 1984, and built on by Peter Kahn and Stephen Kellert, editors of Children and Nature: Psychological, Sociocultural, and Evolutionary Investigations (2002). Biophilic design acknowledges that there are certain health conditions, sociocultural norms and expectations that sway attractions between different groups and subcultures based on ethnicity, gender and age. The research deduces, however, that there is some overriding universality to landscape preferences. It outlines 14 different analogues and elements that create connection with nature and to which humans respond favorably. The following is a modified list of Biophilic patterns, published by Terrapin Bright Green LLC (2014). Under each element, in Italics, are examples that can help a designer or landscape planner achieve the effect.

Nature of the Space: Design aspects to consider and include in outdoor, natural spaces

• Prospect: An unimpeded view over a distance for surveillance and planning.
  – Site trails that reach hill tops, precipices or construct lookout platforms if the natural area is on relatively flat marshland or plains.
• Refuge: A place for withdrawal from environmental conditions or the main flow of activity, in which the individual is protected from behind and overhead.
  – This effect is achieved with rest places off of main trails that carve out a section of the surrounding natural area. This can be as simple as a bench, or as elaborate as an Adirondack shelter if designing for long range, thru-hikers (Good et al.1999).
• Mystery: The promise of more information achieved through partially obscured views or other sensory devices that entice the individual to travel deeper into the environment.
  – Provide bends in trails or slowly reveal desirable destinations; experiencing a waterfall first by hearing it, and then eventually by seeing it is often more enjoyable than happening upon it all at once.

• Risk/Peril: An identifiable threat coupled with a reliable safeguard.
  – A precipice secured with sure railing, a trail that leads in and out of a dark tunnel or thicket, or onto a precarious, but secure landing.

Trolltunga, Norway. The Ledge is Accessible from a Main Trail.

*Image Source: bigstock-Young-girl-on-the-Troll-s-tong-90279512.jpg*
Nature in Space: Design elements that can be utilized indoors, such as in visitor centers or in built environments to reference natural features

- Visual Connection to Nature: A view to elements of nature, living systems and natural processes.
  - *Achieve this by placing overhead skylights, viewing windows, a green wall, art work depicting natural scenes.*

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**The New York Times Building Moss and Birch Garden, by Renzo Piano**

*Image Source: © Hubert J. Steed*

- Non-Visual Connection with Nature: Auditory, haptic, olfactory, or gustatory stimuli that engender a deliberate and positive reference to nature, living systems or natural processes.
  - *Digital simulations of nature sounds, audible and/or physically accessible water features, natural plant smells that can be achieved by bringing in flowers or pine branches.*

- Presence of Water: Enhance an experience of a place by seeing, hearing or touching water
  - *Can be achieved with indoor fountains, water walls and meditation pools. If employed outside in a built environment, the water should be shaded so as to decrease water loss through evaporation and to improve people's enjoyment.*
Seattles Thorton Creek, which was Daylighted and Restored, Transforming a Parking Lot to a Public Park, Swale and Urban Oasis

Image Source: Kaid Benfield

• Material Connection with Nature: Material and elements from nature that, through minimal processing, reflect the local ecology or geology to create a distinct sense of place.
  – Use local boulders to construct seating or play structures.
  – Utilize native plants in visitor center landscaping.

Rock Chairs along the Appalachian Trail

For more information on Biophilic Design see: http://www.terrapinbrightgreen.com/report/14-patterns/#sthash.Wr3SElez.dpuf

**Specific Design Elements to Consider and Incorporate**

The following is a summary of universal design elements and principles compiled from interviews with landscape architects, social scientists, program leaders, designers and the National Learning Initiatives publication, “Nature Play & Learning Places” (2013). This list can be used to encourage accessibility to nature, and make a visitor’s experience more enjoyable regardless of cultural background, age, gender or experience level.

**Entrances**

- These should be portals that announce welcome and provide adequate information to begin a journey.
- The first sign a visitor sees should not be filled with ‘No’s’ or regulations; this limits use and dissuades the visitor.
- Provide accessories like bike racks, water fountains and maps within the surrounding area.
- Provide seating to promote gathering and socializing.
- Consider that the entrance space should be big enough to welcome and invite field trips or larger gatherings.
- Have shaded seating and meeting space for intergenerational visitors.
- Include restrooms nearby.

**Restrooms and Facilities**

- Provide and service them regularly.
- Include them in high trafficked areas such as at trailheads.

**Pathways and Trails**

- Should loop, without dead ends.
- Connect entrance to all major play and learning activity settings.
- Accessible surfaces for multiple users such as pavement or boardwalks for short loop trails.
- Curvy with bends to retain sense of exploration.
- Should have a range of difficulties.
- Elevation gains on a trail encourage people to keep going and give a sense of accomplishment.
- Connect areas and spaces. Trails are the nodes or networks that feed between areas of interest.
- Honor the topography of the space by creating trails and pathways that utilize natural or obvious desire lines (improvised pedestrian trails) and emphasize natural features.
4. HOW CAN PHYSICAL DESIGN CREATE ACCESS AND ATTRACT MORE USERS?

**Signs**

- Comprehensive communication system of information that can easily be read and understood by people of all ages, cultures and backgrounds and abilities.
- Include difficulty or elevation ratings of each hike on the map.
- Invite community members to partake in the design.

**Flexible Use**

- Open areas should allow for wide ranges of activities and give visitors an opportunity to engage in the way they want to.
- Allow users to determine their level of interaction with nature.