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Alternatives for Determining Parks and Recreation Level of Service

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Public agencies use Level of Service (LOS) standards to plan and monitor the quality of services provided to their constituents. For example, transportation planners use roadway LOS to categorize traffic flow and assign “grades” to roadways (e.g., A, B, C, etc.) based on speed, density, and other performance measures. Similarly, utility departments and agencies use LOS standards to characterize the performance of various levels of potable water and wastewater systems.

In contrast, parks and recreation system planning has historically been more art than science. Unlike other elements of the public realm, there are no nationally accepted standards for determining ideal levels of service for parks, indoor recreation centers, athletic fields, trails, and other recreation facilities.

The last set of national guidelines published by the National Recreation and Park Association (NRPA) in 1996 encourages communities to develop their own LOS standards rather than rely on any national standards: “A standard for parks and recreation cannot be universal, nor can one city be compared with another even though they are similar in many respects” (Mertes and Hall 1996, 59). Each city or county must determine the appropriate LOS required to meet the specific needs of its residents.

Peter Harnik (Harnik 2010, 5) summarizes the complexities of parks planning in *Urban Green*:

A major problem for [park] advocates and managers is that parks seem relatively simple and straight forward. People frequently say, “It’s not rocket science, it’s just a park.” No! For rockets ... you need to be good at math. Parks require math plus horticulture, hydrology, psychology, sociology and communication. They are immensely complicated.

Determining LOS standards for parks and recreation systems can be challenging for several reasons. One is the many different

ways in which parks and recreation systems can be measured: typical metrics may address parkland acreage, numbers of recreation facilities, distance to parks and facilities, quality of parks and facilities, operating costs, revenues, or other factors. In addition, LOS metrics can differ between various components of a parks system; for example, LOS may be measured differently for a neighborhood park than a tournament sports facility. Appropriate LOS standards may also differ based on the community context — whether the setting is urban, suburban, or rural.

The purpose of this *PAS Memo* is to assist planners in determining the most appropriate LOS metric(s) to use for their parks and recreation systems, collecting the necessary data, and developing appropriate LOS standards that meet their communities’ specific needs.

Overview of Parks and Recreation LOS

Parks and recreation LOS standards are used in a variety of ways. For example, a LOS analysis can be used to help determine community needs and priorities in conjunction with other techniques such as surveys, interviews, focus group meetings, site visits, public workshops, social media, and online forums. LOS standards can be used to help determine if parkland, facilities, programs, and funding are distributed equitably across geographic, political, and socioeconomic boundaries.

In long-range planning, LOS standards can help planners determine the general size and location of proposed new parks and recreation facilities needed to accommodate anticipated growth. And land development codes and policies (comprehensive plans, land development codes, impact fees, etc.) incorporate LOS standards to help determine the “fair share” of parks and recreation capital and operating costs to be borne by the developers of new residential or mixed use projects.

Table 1 describes the most common parks and recreation LOS metrics, followed by a description of each metric.

Table 1: Common Parks and Recreation LOS Metrics

Metric	Purpose
1. Acres per capita	To determine if a community has enough parkland To determine if parkland is equitably distributed based on population and geography
2. Facilities per capita	To determine if a community has enough recreation facilities such as athletic fields, playgrounds, tennis courts, swimming pools, etc. To determine if the facilities are equitably distributed based on population and geography
3. Building square footage per capita	To determine if a community has enough indoor recreation space such as recreation centers, community centers, senior center, or gymnasiums To determine if the indoor space is equitably distributed based on population and geography
4. Access distance/ time (bike, ped, car, transit)	To determine if parkland and facilities are easily accessible to residents via preferred modes of transportation including driving, transit, bicycling, or walking
5. Quality of facilities and experience	To determine if park facilities and geographies are consistent and equitably distributed across geographies
6. Operating expenditures per acre managed	To help determine if adequate funding is being provided for effective operations and maintenance
7. Operating expenditures per capita	To help determine if adequate funding is being provided for effective operations and maintenance
8. Revenue per capita	To help determine if a community is recovering enough costs to meet expectations and goals
9. Revenue as a percentage of operating costs	To help determine if a community is recovering enough costs to meet expectations and goals

Acres per Capita

The “acres of parkland per 1,000 residents” metric is the most common technique for determining whether a community has “enough” parkland. It is also known as a community’s “acreage level of service.” Acreage LOS is often used as a basis for “benchmarking” or comparing a community’s parks and recreation system against another community, for determining how much parkland should be provided in a new development to meet the needs of new residents, or as a basis for calculating parks and recreation impact fees.

The Acreage LOS metric was first established in the 1930s by George Butler of the National Recreation Association, who proposed a standard of “10 acres of park and open space per 1,000 population within each city, plus an equal area in parkways, large parks, forests, and the like, either within or adjacent to the city” (Mertes and Hall 1996, 6). Butler acknowledged that the standard may vary based on location and other factors, and today there is no published Acreage LOS standard in the U.S. Each community must determine its own standards based on local history, culture, demographics, density, development patterns, and other factors. Today, most communities calculate their current acreage LOS and simply try to maintain the current ratio of acres to population as they grow. It is important to note that Acreage LOS does not address the equitable distribu-

tion of the parkland, the capacity or quality of the facilities, or the level of programming provided.

An often-asked question is, “What should be counted in an Acreage LOS?” Unfortunately, there is no standard answer. Some communities include public golf courses and beaches, while others include publicly accessible lakes and wetlands. Some cities and counties also include public parkland owned by other agencies, such as state parks and national forests. Some communities also count private recreation areas, owned and managed by homeowner’s associations, because these areas help meet residents’ local recreation needs.

Because the primary purpose of Acreage LOS is to measure and monitor a community’s supply of parkland, it is recommended that communities count only developable, publicly accessible parkland within their jurisdiction. Undevelopable lands such as conservation areas, wetlands, water bodies, golf courses, and beaches cannot help a community meet its needs for parks, playgrounds, athletic fields, open play space, recreation centers, and other basic parks and recreation facilities. Privately owned parkland is not open to the public, and could be sold or redeveloped. Public parkland owned by another jurisdiction (such as county-owned parks within a municipality) is already counted by that jurisdiction for its own LOS, and should not be included in a community’s acreage calculation.

Facilities per Capita

Another oft-asked question is, “Do we have enough recreation facilities?” such as athletic fields, swimming pools, playgrounds, and tennis courts. Similar to the parkland acreage metric, there are no LOS standards for recreation facilities in the U.S., and the number of facilities needed can vary widely due to a number of variables between communities. For example, a community with a high percentage of senior citizens might have a much lower need for athletic fields than a community with a high percentage of youth.

When calculating current Facilities LOS, a community may wish to develop a “first-tier” and “second-tier” LOS. The first-tier LOS should count only the community’s own, publicly accessible recreation facilities to develop an accurate baseline LOS. The second-tier Facilities LOS calculation could include additional facilities that help meet residents’ needs, such as publicly accessible school athletic fields and gymnasiums, homeowners’ association pools and playgrounds, and nonprofit facilities such as YMCA pools and Boys and Girls Club gymnasiums. During the needs assessment process, the community can discuss whether the second-tier facilities are actually meeting residents’ needs, thereby potentially reducing the need to build additional first-tier facilities.

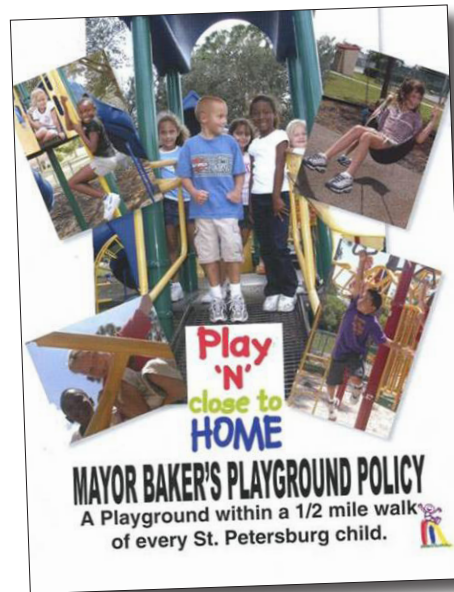
Building Square Footage per Capita

In addition to calculating the number of indoor facilities in the Facilities LOS, a community should also calculate the total square footage of indoor facilities. Recreation and community centers can range from less than 1,000 square feet to over 300,000 square feet, so a simple calculation of the number of facilities (rather than actual square footage) is not sufficient to analyze the true level of service for indoor recreation space. Similar to the Facilities LOS calculations, a community may wish to create a first-tier Facilities LOS of their own indoor facilities and a second-tier LOS of other publicly accessible facilities to enable more thoughtful discussion during the needs assessment process.

Access LOS

Access LOS is expressed as the distance, or amount of time, a resident or visitor must travel to a park or facility. As communities have become more densely populated and congested, it has become more important to ensure equitable access. Many residents do not drive cars in urban areas — either by choice or necessity — and residents are encouraged to take transit, bicycle, or walk to save energy, reduce pollution and congestion, and improve health. Thus access is an important measure of service.

Similar to the other LOS metrics, there are no standard criteria for access LOS. Each community must determine its own, based on land development patterns; street, bicycle, and pedestrian networks; transit access; and demographics. Depending on the area’s values, a standard for a neighborhood park may be a five-minute or quarter-mile walk, while a standard for a community park may be one to five miles. For example, the City of Denver set a goal of a green space within six blocks of



Playground access goal poster, City of St. Petersburg, Florida. Courtesy City of St. Petersburg

every resident, and the City of St. Petersburg, Florida, has a goal of a playground within a half-mile of every resident.

Communities may also wish to establish differential Access LOS standards for specific facilities based on existing or desired land development patterns. For example, in urban core areas

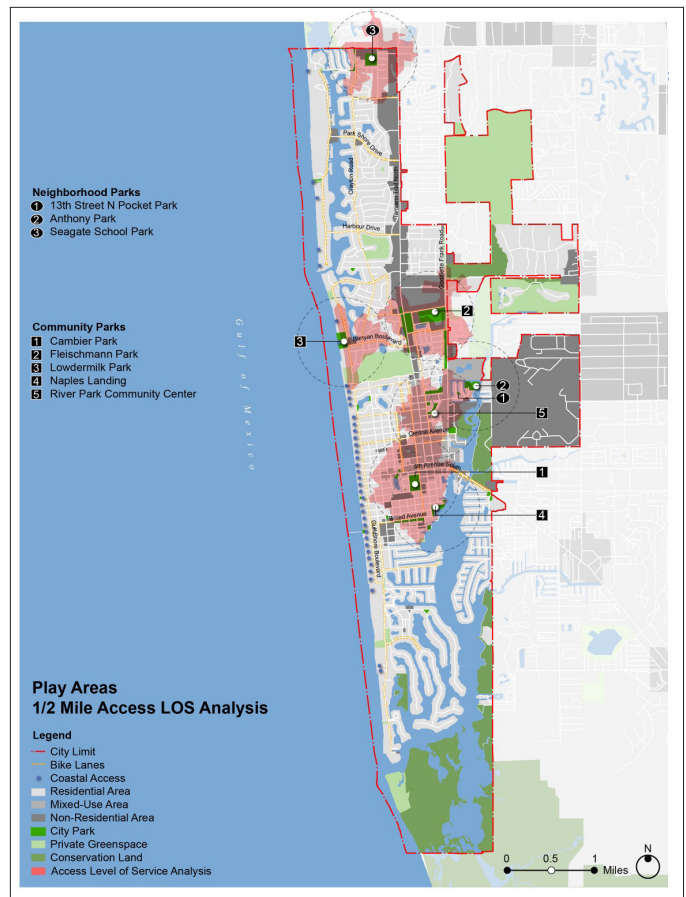


Figure 1. City of Naples, Florida, play area access LOS map. Residents who live within the pink-shaded area have access to a playground within a half-mile of their home. Courtesy Barth Associates

that encourage walkability, an Access LOS of a quarter-mile may be desirable for playgrounds, basketball courts, plazas, and other types of urban spaces or facilities. Conversely a three- to five-mile service area may be acceptable in suburban or rural communities for facilities such as soccer fields and swimming pools.

Communities should conduct a spatial analysis of the parks and recreation system to identify the existing Access LOS for both parklands and facilities. The analysis can also identify gaps in transit, roadway, bicycle, and pedestrian networks. Access to a landlocked park, for example, may be increased by creating new roadway, bicycle, or pedestrian connections, thereby reducing or eliminating the need to purchase additional park land. At the same time, access improvements also can create new recreational amenities, such as sidewalks, bike lanes, or trails. See Figure 1 for an example of an Access LOS map for play areas created through the parks and recreation planning process for the City of Naples, Florida.

Quality LOS

Quality LOS standards are used to measure whether parks and recreation facilities are meeting the design and maintenance criteria established by the local community. Even though a community may be meeting its acreage, facilities, and access LOS standards, it cannot be meeting residents' needs if it provides poorly designed or maintained facilities.

Very few communities have established Quality LOS standards for their parks and recreation facilities. Again, each community should develop its own quality criteria based on community values and priorities. Typical Quality LOS criteria may include the quality of construction materials, the frequency of maintenance, safety inspections, aesthetics, multimodal access, cleanliness, or others. Numerous publications list suggestions for maintenance criteria, including the National Recreation and Park Association's [*Commission for the Accreditation of Parks and Recreation Agencies \(CAPRA\) Standards*](#), Fifth Edition (2014), and also its publication [*Management of Park and Recreation Agencies*](#). Similarly, a wide variety of organizations publish park design guidelines, including the Project for Public Spaces and the Landscape Architecture Foundation.

Once the community has established its Quality LOS criteria, parks and recreation facilities can be evaluated and mapped to illustrate the distribution of different levels of quality throughout the community. For example, Washington, D.C., mapped the quality of its recreation centers based on their condition (deferred maintenance), size, and capacity (see Figure 2).

Operating Expenditures per Acre, Operating Expenditures Per Capita

Two metrics that can be used to gauge whether a community is adequately funded to manage, operate, and maintain its parks and recreation areas are "operating expenditures per acre managed" and "operating expenditures per capita." The first metric is calculated by dividing total operating expenditures by total parkland acres managed by the agency. The second metric is calculated by dividing total operating expenditures by the population of the jurisdiction served by the agency.

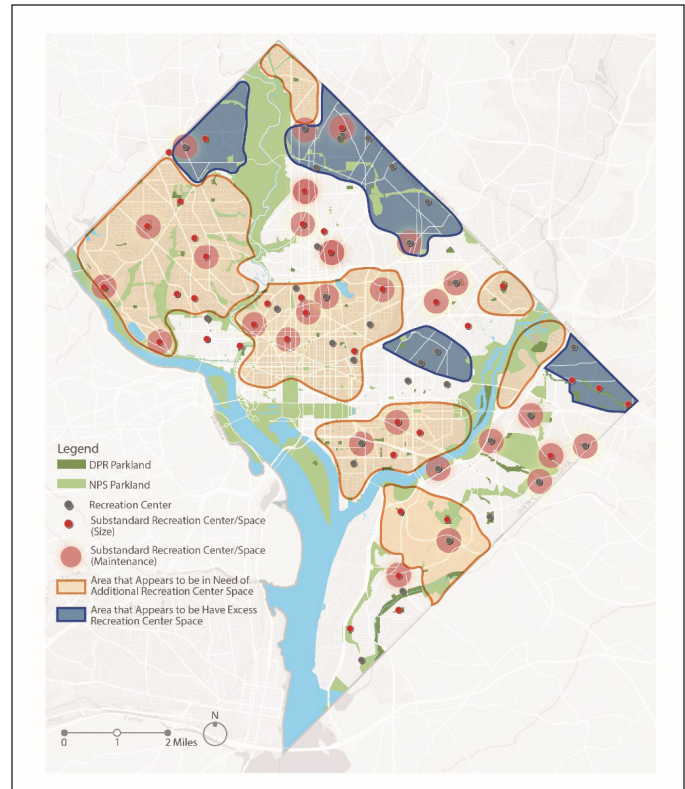


Figure 2. Washington, D.C., recreation center Quality LOS map
Courtesy AECOM Technical Services, Inc.

Operating expenditures include all of the costs to provide parks and recreation services to the community, including personnel salaries, benefits, utilities, equipment, and materials. Operating expenditures may also include debt service if it is paid out of the annual operating budget, as well as any expenditures incurred as part of a special or enterprise fund (such as a golf course) managed by the public agency.

It is important to note that operating costs can vary widely between communities due to differences in parks and recreation facility standards, types of equipment, repair and replacement schedules, types and topography of parkland, degree of maintenance required, levels of use, and other variables. Operating costs and efficiencies can also vary with the number of acres managed and the size of the population served. For example, a community that manages extensive conservation lands will have a lower ratio of expenditures to acreage than a community that primarily manages developed parkland.

Communities that benchmark operating expenditures (see below for discussion of benchmarking) should conduct follow-up research to analyze and document the specific reasons for differences in operating expenditures. For example, it may be helpful to visit and photograph the facilities at benchmarked communities and meet with agency staff to document key differences in facility quality or levels of maintenance. It may also be helpful to determine if a community is serving a larger population than its own residents. Elected officials, managers, and residents may be more supportive of increased operation budgets if they clearly understand the reasons for

variations in funding between communities and the implications of different funding levels.

Revenue per Capita, Revenue as a Percentage of Total Operating Expenditures (Cost Recovery)

Two metrics that can be used to track revenues and compare revenue generation to other agencies are “revenue per capita” and “revenue as a percentage of total operating expenditures.” The first metric is calculated by dividing the total revenues generated by the agency by the population of the jurisdiction served by the agency. The second metric (also known as “cost recovery”) is calculated by dividing the total revenues generated by the agency by the total operating expenditures of the agency. A community’s parks and recreation revenues (also known as “annual direct revenues”) include all of the monies generated directly from parks and recreation classes, programs, memberships, concessions, permits, rentals, and other nontax sources. Revenues do not include funding from taxes, grants, foundations, bonds, assessments, or other indirect sources.

In addition to revenue tracking and benchmarking, these metrics can also be used to establish cost recovery policies and goals. There are no industry standards for cost recovery; each community must establish its own goals. This is typically a policy decision determined by the agency department head, city/county manager, or elected officials. Some communities have established different cost recovery policies for senior, adult, and youth programs, while others have established overall cost recovery goals as a percentage of operating expenses. For example, a community may wish to subsidize youth programs to encourage accessibility, but require 100 percent cost recovery

for adult sports leagues. Databases such as PRORAGIS (see sidebar, “PRORAGIS and Other Parks and Recreation Data Sources”) can help agencies to determine reasonable and realistic cost recovery goals based on data from other agencies.

The Use of Parks and Recreation LOS Metrics Within the Planning Process

Parks and recreation LOS is most commonly addressed within the context of a parks and recreation master plan or needs assessment process.

The typical parks and recreation master planning process consists of four phases: (1) Existing Conditions Analysis, (2) Needs and Priorities Assessment, (3) Long-Range Vision, and (4) Implementation Strategy. Each phase of the process builds on the findings and conclusions from the previous phase(s). The following sections describe the important roles that LOS standards play in each of the first three phases of the process.

Existing Conditions Analysis

The first phase of the planning process, the Existing Conditions Analysis, includes an assessment of both the community and the parks and recreation system. The community analysis focuses on understanding the context of the parks and recreation system within the community’s history, vision, values, demographics, land-use patterns, and standards. This phase typically includes the review of previously prepared guiding documents such as comprehensive plans, vision plans, strategic plans, redevelopment plans, and previous parks and recreation master plans. It is particularly important to evaluate existing and projected future land development patterns and

PRORAGIS and Other Parks and Recreation Data Sources

Several detailed sources for parks and recreation-related data are available to planners for LOS research and benchmarking efforts for their communities. These include:

PRORAGIS: The National Recreation and Park Association (NRPA) developed its [Parks and Recreation Operating Ratio and GIS \(PRORAGIS\)](#) system to replace outdated standards with a database that allows agencies to benchmark their parks and recreation systems against other systems across the country. It is the largest collection of parks and recreation operating data in the U.S. PRORAGIS is typically used in concert with other parks and recreation system planning tools such as mail or telephone surveys, service area analyses, and stakeholder interviews. Its reporting functions provide the ability to perform side-by-side comparisons based on filtered searches including jurisdictional population, department budget, employee number, location, and acres managed. These comparisons allow agencies to benchmark and evaluate performance against most similar agencies and aggregated data from across the country.

The Trust for Public Land (TPL) City Park Facts and ParkScore

The Trust for Public Land is a national nonprofit organization working to create and improve neighborhood parks. TPL’s [ParkScore](#) index measures how well the 75 largest U.S. cities are meeting the need for parks, providing in-depth data to guide local park improvement efforts. TPL’s [City Park Facts](#) is an annually published almanac of the parks and recreation systems of the 100 most populous cities that can be used for benchmarking.

State Comprehensive Outdoor Recreation Plans (SCORPs)

States must prepare and regularly update statewide comprehensive outdoor recreation plans in order to be eligible for federal Land and Water Conservation Fund grants from the National Park Service and U.S. Department of the Interior. Most SCORPs address the supply of and demand for local, state, and federal recreation resources, identify needs and new opportunities for recreation improvements, and set forth implementation programs to meet plan goals (NPS 2008). Many SCORPs also include regional and statewide parks and recreation LOS standards or data that can be used for benchmarking.

demographics to gain a thorough understanding of the types of people who are and will be living in the community; their preferred lifestyles; the density of development in different parts of the community; and other factors that may provide insights into parks and recreation needs, priorities, and desired levels of service.

The existing conditions analysis also includes an analysis of the parks system based on the community's existing LOS standards, if available. They are most commonly found in the comprehensive plan or parks and recreation master plan, and are typically expressed in terms of parkland acreage and/or facilities per 1,000 population. The initial analysis will determine if the existing system is meeting the current LOS standards established by the community.

The assessment of the parks and recreation system includes site visits to evaluate individual parks, based on agreed-upon criteria (as discussed in the previous Quality LOS description), and evaluation of the actual existing LOS, based on the existing LOS standards. While existing standards may include only one or two metrics such as parkland acreage or facilities, the actual LOS would ideally be calculated for all of the LOS metrics listed in Table 1. Each metric is necessary to help determine actual LOS, but no metric is sufficient by itself to develop a comprehensive perspective.

Needs and Priorities Assessment

The purpose of the Needs and Priorities Assessment, the second phase of the planning process, is to determine the gaps between existing and desired conditions. Communities typically use a "triangulated" approach to identifying needs, including various types of qualitative and quantitative techniques to determine top priorities from different perspectives. Qualitative techniques typically include interviews with elected officials, community leaders, and other key stakeholders; focus group meetings with user groups such as sports leagues, seniors, and teenagers; workshops with a project advisory committee and the public; and informal discussions with residents at special events. Quantitative techniques include statistically valid surveys, nonstatistically valid online surveys, and LOS benchmarking.

Benchmarking has replaced standards in determining appropriate parks and recreation LOS. Benchmarking is generally defined as a comparison of the quality of an organization's policies, products, or programs with standard measurements or similar measurements of its peers. In parks and recreation system planning, benchmarking is used to compare one parks and recreation system to another. State and national parks and recreation associations no longer publish recommended LOS standards, but encourage communities to benchmark themselves against other communities. Several databases tracking parks and recreation-related information for hundreds of communities across the country are available to planners for this purpose (see sidebar, "PRORAGIS and Other Parks and Recreation Data Sources").

Some cities and counties benchmark themselves against communities with similar demographics, geography, or climate. Other communities select "aspirational" benchmarks using

cities or counties they wish to emulate. Both PRORAGIS and TPL reporting functions provide the ability to perform side-by-side comparison based on filtered searches including jurisdictional population, department budget, employee number, location, and acres managed. These comparisons allow agencies to benchmark and evaluate performance against the most similar agencies and aggregated data from across the country.

Findings from the LOS benchmarking can be compared against findings from surveys, focus groups, and other needs assessment techniques to determine if the existing LOS is adequate. For example, if the Facility LOS benchmarking for athletic fields indicates that the community provides a lower number of fields per capita than comparable communities — and the statistically valid survey indicates a high unmet need for athletic fields — then the community may decide to establish a higher Facility LOS standard to reflect demand and need.

Long-Range Vision

The third phase of the planning process is to develop a long-range vision. Elements of the vision should include parks and recreation subsystems; preferred service delivery model(s) for each subsystem; a classification typology for each subsystem; and differential land development patterns and lifestyles identification.

Subsystems. Subsystems include the various components of the parks and recreation system, such as parks, trails, athletics complexes, community centers, aquatics centers, civic plazas, and natural areas. Figure 3 shows some of the typical components or subsystems of a parks and recreation system. Each subsystem may use different metrics to measure and monitor LOS.

Service Delivery Models. Once the subsystems are defined, communities need to determine the preferred Service Delivery Model (SDM) for each. The four typical SDMs are: (1) centralized,

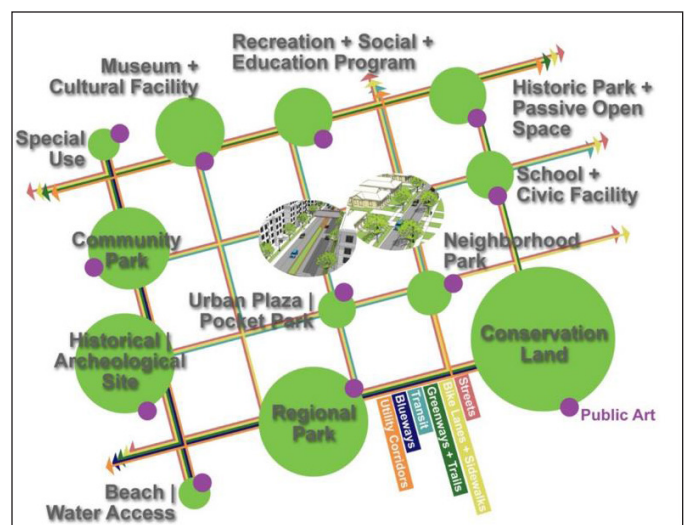


Figure 3. Typical components of a parks and recreation system
Courtesy Glatting Jackson Kercher Anglin Inc.

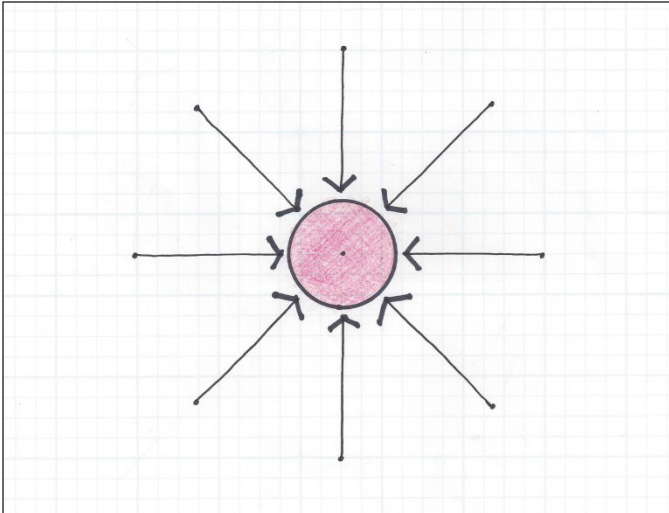


Figure 4. Centralized Model for SDM. Courtesy Barth Associates

(2) decentralized, (3) venues-based, and (4) activities-based.

The centralized SDM (Figure 4) assumes that residents and visitors from throughout the community will drive to the central facility. This model typically applies to regional or signature facilities and subsystems such as an aquatics center, a sports complex, an urban festival park, or a cultural center.

A decentralized SDM (Figure 5), on the other hand, focuses on the equitable distribution of services, measured in terms of distance (Access LOS) or population served (Facility or Acreage LOS). A decentralized SDM assumes that facilities or parks will be distributed equitably throughout the community, e.g., one facility per quadrant, as opposed to a single centralized facility.

A venues SDM (Figure 6) is a variation on the centralized model; it assumes that the system is comprised of specialized facilities that will serve the entire community, regardless of access distance or population densities. For example, the City of Naples, Florida, has a tennis complex, a downtown/ urban festival park, a sports park, a dog park, an environmental preserve, a cultural arts park, a boat ramp park, a city beach, a city

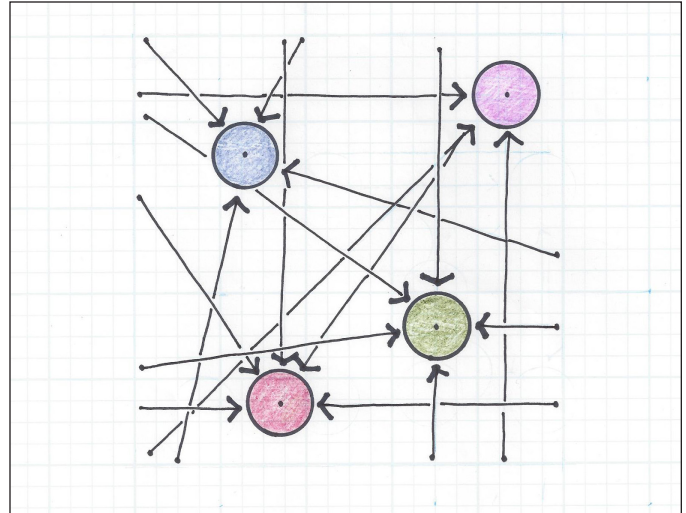


Figure 6. Venues Model for SDM. Courtesy Barth Associates

pier, and an aquatics/community center. Each venue has been planned and designed as a first-class venue to serve the needs of residents citywide.

Finally, an activity-based SDM (Figure 7) focuses on providing desired recreation opportunities throughout the community without regard for the type of park or recreational facility. This model is most common in large, urbanized sites where land is at a premium. A dog park or tennis courts may be located on top of a parking deck, a playground may be provided through a local church, and an athletic field may be provided through partnerships with local schools. For example, the City of Seattle built a mountain bike trail underneath one of its free-way overpasses. The emphasis is not on park or facility types, but on providing access to recreational opportunities wherever and however they can be provided.

As mentioned above, each subsystem may deliver services using a different SDM. For example, an Aquatics Subsystem may deliver services through a single, large, centralized, multipurpose aquatics complex that includes a family water

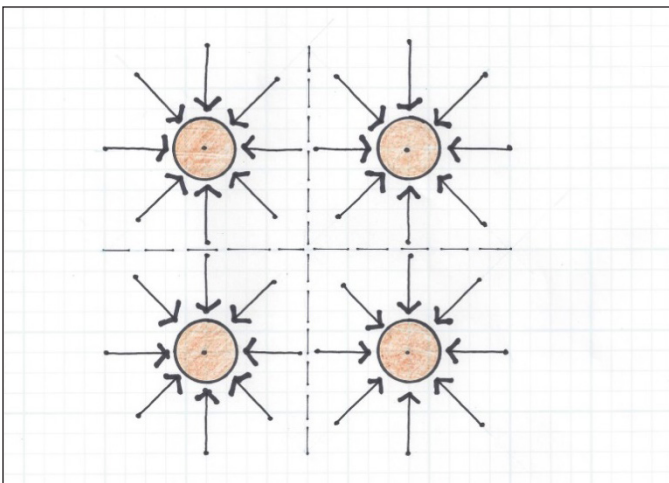


Figure 5. Decentralized Model for SDM. Courtesy Barth Associates

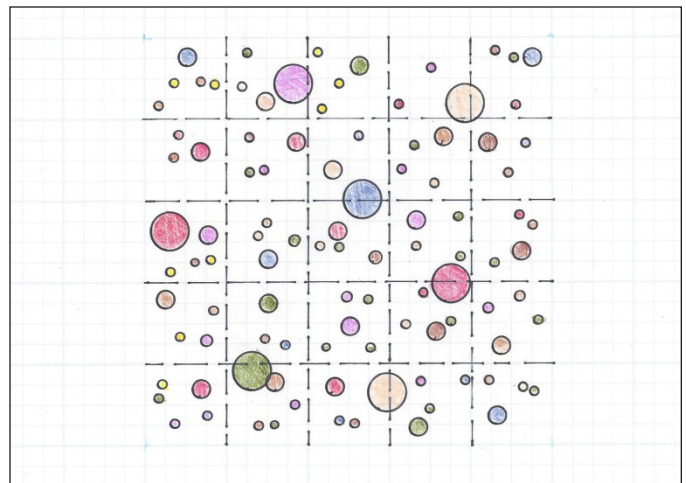


Figure 7. Activity-based Model for SDM. Courtesy Barth Associates

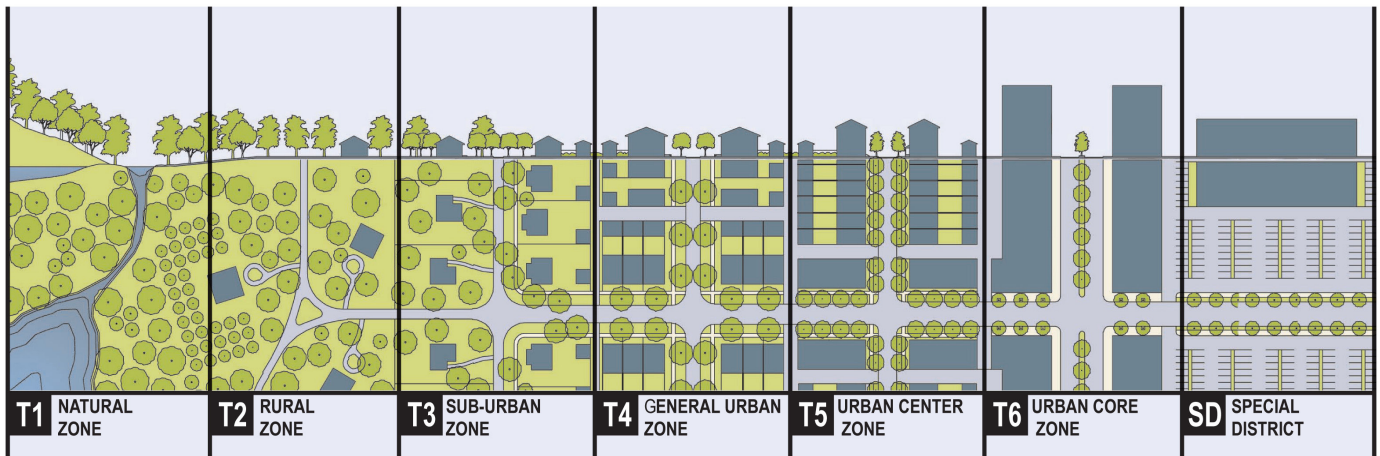


Figure 8. The “transect” illustrates the differences between urban, suburban, and rural development patterns. Courtesy Duany Plater-Zyberk & Company

park, lap pool, and competitive pool. A Neighborhood Parks Subsystem, on the other hand, may deliver services through an equitably distributed decentralized model, where every neighborhood has access to a small public or private recreation area that includes a picnic shelter, playground, basketball courts, and multipurpose lawn. The LOS for each of these two subsystems may be measured very differently.

Classifications. Traditional parks and recreation classifications have included mini-parks, neighborhood parks, school-parks, community parks, large urban parks, natural resource areas, greenways, sports complexes, and special use facilities (Mertes and Hall 1996). However, these classifications do not recognize the wide variety of facilities and spaces found in modern parks systems, including dog parks, skate parks, splash pads, festival ground, mountain bike parks, and others. They also do not reflect variations in levels of amenities and maintenance between facilities within the same subsystem. Therefore, many communities are developing their own classifications systems to better reflect their needs and priorities.

One Florida county is using a three-tiered classification system for each of its subsystems. “Top Tier” facilities include those that are least common and have the highest level of amenities, highest level of maintenance, highest level of staffing, and highest cost recovery goals. “Bottom Tier” facilities include those that are most common and have the lowest level of amenities, maintenance, staffing, and cost recovery goals. Top tier athletic facilities are classified as “Signature Facilities,” middle tier facilities are classified as “Competitive Practice and Game Fields,” and bottom tier facilities are classified as “Recreational Practice and Game Fields.” Similarly, the classification system for the county’s Natural Areas Subsystem comprises Destination Preserves, Enhanced Natural Areas, and Basic Natural Areas; and the classification system for their Community Centers Subsystem is made up of Signature Recreation Centers, Community Centers, and Neighborhood Recreation Centers.

Differential Land Development Patterns and Lifestyles.

Another determinant of a community’s parks and recreation vision — and resulting LOS — is its existing and future development patterns. The “transect” (Figure 8) illustrates the differences between urban, suburban, and rural development patterns.

Recreational lifestyles and needs can vary greatly between these patterns. For example, residents in downtown San Diego indicated that one of their top recreation activities was strolling downtown sidewalks and eating in restaurants, while the top facility priorities for many suburban residents may include bicycling and walking trails, dog parks, and multipurpose fields. Similarly, urban residents often express a desire for facilities such as indoor fitness/ exercise centers within walking distance (about a half-mile) of their homes, while rural and suburban residents are often willing to drive as much as five to 10 miles to a recreation center.

A long-range vision should reflect these differences in both existing and future land development patterns and lifestyles, and a community may wish to create differential LOS standards to reflect these differences as well.

Developing New LOS Standards

There is no single methodology for calculating a community’s desired parks and recreation LOS, but it should be based on the findings and decisions from the planning process including the existing conditions analysis, needs assessment, and long-range vision. The first step is to determine which of the LOS metrics are most appropriate for each subsystem.

The selection of metrics should be based on the values of the community and the ability to collect and maintain the appropriate data. For example, the LOS metrics for a Community Center Subsystem may include Square Footage per Capita, both communitywide and within specific geographic areas; Access LOS (for a decentralized SDM), including differentials for urban, suburban, and rural areas; and Revenues as a Percentage of Operating Costs, based on agreed-upon cost recovery goals for each center.

LOS metrics for an Athletics Subsystem may include fields per capita, broken down between competition, practice, rectangular, diamond, and multiuse fields, and Access LOS for urban, suburban, and rural areas. Depending on the governing body's philosophy and policies, there may be no cost recovery metrics required for recreational fields, but Revenues as a Percentage of Operating Costs may be an important LOS for a tournament-quality sports complex.

LOS metrics for a Neighborhood Park or Playground Subsystem may include Per Capita LOS both communitywide and within specific geographic areas; Quality LOS to ensure equal opportunity for quality experiences; and Access LOS for different development patterns. The Access LOS for a Signature Playground may be very different than the Access LOS for a Neighborhood Playground, and both types of experiences may be important to the community.

Once the desired metrics have been determined for each subsystem, the question must be asked: "Do we have enough?" The summary of findings from the Needs Assessment typically provides the answer, including findings from surveys, public workshops, interviews, focus group meetings, benchmarking, and other LOS techniques. If the Needs Assessment summary indicates a strong need or priority for a certain type of park or facility, the existing LOS is probably too low. By calculating the approximate deficiency in parkland or facilities — based on voids in service areas, lack of capacity, or other deficiencies determined during the needs assessment process — communities can estimate the approximate LOS required to satisfy community needs. The new LOS standards can be used as a basis for determining the types, locations, and size of proposed new parks or facilities for the long range vision. The new LOS standards can also be incorporated into the community's comprehensive plan and land development codes to help implement the new vision.

Trends and Additional LOS Metrics

In addition to the traditional LOS metrics outlined above, communities may wish to add other metrics to gauge their LOS regarding social equity, connectivity, water quality, or other community values and initiatives. These types of metrics are closely related to the Sustainable Development Indicators (SDIs) developed by many communities since the late 1980s to measure and monitor progress towards sustainability goals. SDIs are now viewed as both "a means for assessing the distance between a current state of affairs on the ongoing task of achieving a sustainable way of life" and "a means of instituting dialogue over the very conditions of sustainability" (Scerri & James 2010, 223). Similar to LOS standards, there are no universally agreed-upon sustainable development indicators to help measure and monitor progress towards sustainability.

Several current trends lend themselves to nontraditional parks and recreation LOS metrics, including age-friendly communities, connectivity and walkability, access to nature, sports tourism, and placemaking.

Age-Friendly Communities

Communities throughout the U.S. are recognizing the benefits of creating age-friendly communities. John Crompton at Texas A&M notes that "seniors are moving from being a relatively small fringe group to being a large central focus" of parks and recreation service. "Five changes in the status of seniors suggest that recreation and park departments should ... move them to the center of their service efforts: extension of active retirement time, enhanced discretionary income, contributions to economic development, enhanced leisure literacy and disproportionate political influence" (Crompton 2013). Parks and recreation departments wishing to promote and measure LOS related to age-friendly communities may wish to establish alternative LOS metrics such as:

- Multimodal/Transit Access to Recreation Facilities and Programs for Seniors
- Percentage of Senior Participants
- Percentage of Multigenerational Programs and Activities
- Percentage of Programs that promote Wellness and Active Aging
- Percentage of Opportunities for Paid Work and Volunteering for Older Adults

Connectivity and Walkability

A trend directly related to Age-Friendly Communities is improved bicycle and pedestrian Connectivity and Walkability. Movements such as Smart Growth, New Urbanism, and Complete Streets have been developed in response to increased traffic congestion, automobile-dependent suburban development patterns, and the decline of safe routes for walking and biking. Many parks and recreation departments are actively involved in the development of trails systems as well as safe sidewalk and bike lane connections to parks, community centers, and other recreation facilities.

To indicate their progress towards connectivity and walkability goals, communities may wish to develop LOS metrics such as:

- Percentage of Complete Streets
- Miles of Multipurpose Trails
- Percentage of Parks with Multimodal Bike/Ped/Transit Access

Access to Nature

Recent parks and recreation needs assessment processes across the country indicate that residents feel a real need for access to nature. This need is most acute in urbanizing communities that are losing natural areas and open spaces to higher density development or redevelopment. Richard Louv notes in *Last Child in the Woods* that adults are the predominant users of natural lands, and that today's youth are losing any sense of connection with nature: "In the space of a century, the American experience of nature ... has gone from direct utilitarianism to romantic attachment to electronic detachment" (2008, 16). In response he calls for a new back-to-the-land movement,

including green cities and towns “that, by their very design, reconnect both adults and children to nature” (2008, 276).

Communities wishing to measure access to nature could establish such metrics as:

- Access Distance/ Time to Natural Areas
- Percentage of Residents Who Participate in Nature-Based Programs

Sports Tourism

Sports tourism and travel ball have had a significant impact on parks and recreation agencies in recent years, as many parks and recreation agencies are serving an increasing number of nonresidents. In “Stealing Home: How Travel Teams are Eroding Community Baseball,” author Davie Mendell (2014) laments that “community league games have lost a certain sense of community.” Mendell is concerned about the high costs of travel ball, the added pressure to perform, mental burnout, overly competitive parents, and the added wear and tear on young players. A significant impact of the shift from recreational leagues to travel ball is the added pressure on local governments to pay for “tournament-quality” sports facilities, regardless of where the players reside.

Peter Harnik of the Trust for Public Land (TPL) notes that “visitors put a different kind of strain on city park resources than do full-time residents. Tourists may make little use of pools, recreation centers and dog parks, but they are a big factor in ... signature destinations ... If heavy out-of-town-er park use truly diminishes the experience for residents, the response should be the acquisition of more parkland, preferably with some of the funds derived from nonresidents” (Harnik and Martin 2016). Parks and recreation agencies concerned with the impacts of travel ball or sports tourism may wish to track the number of visitors using local facilities — as well as related costs and revenues — and create separate LOS metrics such as:

- Percentage Use of Facilities by Visitors
- Percentage Use of Facilities by Residents
- Cost per Visitor User
- Cost per Resident User

Such data could be helpful in establishing capital and operating budgets and determining the true costs and benefits of accommodating travel teams and sports tourism.

High Performance Public Space Criteria

The following 25 criteria for a HPPS were developed through a “Delphi process” at the University of Florida involving 22 sustainability experts:

Social Criteria:

- The space improves the neighborhood
- The space improves social and physical mobility through multimodal connectivity — auto, transit, bike, pedestrian
- The space encourages the health and fitness of residents and visitors
- The space provides relief from urban congestion and stressors such as social confrontation, noise pollution, and air pollution
- The space provides places for formal and informal social gathering, art, performances, and community or civic events
- The space provides opportunities for individual, group, passive, and active recreation
- The space facilitates shared experiences among different groups of people
- The space attracts diverse populations
- The space promotes creative and constructive social interaction

Environmental Criteria:

- The space uses energy, water, and material resources efficiently
- The space improves water quality of both surface and ground water

- The space serves as a net carbon sink
- The space enhances, preserves, promotes, or contributes to biological diversity
- Hardscape materials were selected based on longevity of service, social/cultural/historical sustainability, regional availability, low carbon footprint, and/or other related criteria
- The space provides opportunities to enhance environmental awareness and knowledge
- The space serves as an interconnected node within larger-scale ecological corridors and natural habitat

Economic Criteria:

- The space creates and facilitates revenue-generating opportunities for the public and/or the private sectors
- The space creates meaningful and desirable employment
- The space indirectly creates or sustains good, living-wage jobs
- The space sustains or increases property values
- The space catalyzes infill development and/or the reuse of obsolete or underused buildings or spaces
- The space attracts new residents
- The space attracts new businesses
- The space generates increased business and tax revenues
- The space optimizes operations and maintenance costs (compared to other similar spaces)

High Performance Public Spaces

Many parks within the U.S. were developed within the “Recreation Era” between 1930 and 1965, characterized by architectural historian Galen Cranz as emphasizing basic, universal facilities to meet the increased demand for recreation, such as playgrounds, ball fields, and picnic shelters. In 2004 Cranz and Boland identified a new trend in parks and recreation design, the “Sustainable Park,” which responds to the needs for communities to become more ecologically and socially sustainable. Characteristics of Sustainable Parks include self-sufficiency of resources and maintenance, solving larger urban problems outside of park boundaries, and adopting new standards for aesthetics and landscape management (Cranz & Boland 2004).

Communities are becoming more aware of the need to design all parks and recreation facilities as great public spaces that generate multiple benefits. In my recent research at the University of Florida, I created the concept of a High Performance Public Space (HPPS), defined as “any publicly accessible space that generates economic, environmental, and social sustainability benefits for their local community” (Barth 2015). A HPPS can be a park, trail, square, green, natural area, plaza, or any other element of the public realm that generates all three types of benefits. See the sidebar on page 10 for a description of the defining criteria for a HPPS.

While it is not realistic to think that every public park or public space could meet all 25 defining HPPS criteria, every public space has the potential to generate some type of sustainability benefits either directly or indirectly. Parks and recreation agencies interested in promoting any of these criteria could establish appropriate LOS metrics to measure and track their progress.

Final Thoughts for Planners

A thoughtful, meaningful set of Parks and Recreation LOS Standards can be very useful to communities for long-range planning, needs assessments, and growth management. There are very few, if any, state or federal mandates that dictate which metrics must be used; communities are free to develop the LOS metrics and standards that best serve their needs.

Key considerations for selecting LOS metrics include:

- Do the metrics reflect the values and needs that are most important to residents?
- Are the LOS standards, metrics, and definitions logical and easy to understand?
- Is accurate data available for each metric and relatively easy to collect?
- Do the metrics truly represent the actual levels of service provided?
- Collectively, do the metrics and standards provide a comprehensive perspective of LOS, including quantity, quality, and access to facilities and programs, as well as other factors that are important to the community?

LOS metrics and standards should be developed through a comprehensive planning process, as outlined above, including a robust public review process. Preliminary metrics and

standards should be reviewed and discussed with staff, user groups, an advisory or steering committee, key stakeholders, the general public, and elected officials in order to build consensus regarding how Parks and Recreation LOS should be defined, measured, and counted.

Most importantly, LOS standards should not be viewed as static. They should be reviewed and recalculated annually, and updated every five years (at a minimum) in conjunction with a needs assessment process to ensure that they remain reflective of the community’s needs, values, and goals. A comprehensive set of LOS standards, tested and updated regularly, helps ensure that a community is truly meeting residents’ needs and generating the greatest benefits from its parks and recreation system.

About the Author

Dr. David Barth is a registered landscape architect, certified planner, and certified parks and recreation professional who specializes in the planning, design, and implementation of the public realm. He has developed parks and recreation system master plans for over 70 communities throughout the United States including Washington, D.C.; Miami-Dade County, Florida; Norfolk, Virginia; downtown San Diego; and the City of Raleigh, North Carolina; and has led the planning and design of hundreds of parks and trails. He was a co-author of the American Planning Association (APA) PAS Report From Recreation to Re-Creation, as well as a contributor to APA’s Planning and Urban Design Standards for parks and recreation needs assessments.

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