

9. Implementation

PLANS MUST BE SUITABLE.

"That these plans may be suitable to the future wants of the growing population of the city; that they may be nicely adjusted to the varied local conditions which they are intended to fit; that they may be judiciously auxiliary and complimentary to each of the others, the first step to be taken is that of procuring elaborate records of measurements and data of the ground to which they are to be fitted. . . .

It would be folly to have them made hurriedly, as it would be folly to go to work except with plans deliberately pondered with fluent imagination and abundant exercise of searching, comprehensive forecast.

About this work of designing the plans, two things more may be said: First, it must begin, after all needed data are obtained, with the devising of large and comprehensive controlling purposes or motives of design, to which features and details should be steadily made contributive and held subordinate; second, the process of establishing these controlling purposes must be largely a study of the balance of advantages between a number that will suggest themselves; which means a thinking out and comparison of what will be the lasting result of pursuing each under such management, and such outlays for maintenance and improvements as, years ahead and continuously, the city can reasonably be expected to provide. The cost of maintaining parks is a matter of more importance in determining plans for them than the cost of forming them.

To plan features and details first, as at the outset of a Park Commission's work there is always some pressure on it to do, would be as foolish a way of going to work as to build the chimney pieces and buy the carpets and wall papers of a dwelling-house before planning its walls and partitions."—Excerpts from First Annual Report, Louisville Board of Park Commissioners, July 1891, prepared by F. L. Olmsted & Co., Landscape Architects

Chapter 9 Implementation

Prepared by Andropogon Associates, Philadelphia PA

"We need to recognize this master plan as a dynamic tool, not as a static point of reference that becomes less and less relevant as times passes. We must structure a planning process that is interactive and brings the community of interests together. The Conservancy should foster a new ethic of stewardship, which reconnects the communities to the parks and their values. The Conservancy is the 'forum' and leader through which this interactive, inclusive planning process is conducted."—Jack Trawick, Executive Director, Louisville Community Design Center, and member of the Louisville Olmsted Parks Conservancy's Master Planning Committee, 1993.

Key Roles & Responsibilities for a Public-Private Partnership

The ultimate purpose of this plan will be to renew and sustain the Olmsted parks and parkways through the 21st century. This will depend upon the effective evolution of a public-private partnership between the public and the Louisville and Jefferson County Parks Department and the Conservancy. Key roles and responsibilities of this partnership are described below.

Funding for Capital Projects

Public funds are to be invested primarily in the park's infrastructure—roads, paths, drainage, utilities and facilities. The Conservancy's funds are to be invested in park renewal and enhancement efforts, which may also involve renovations to park infrastructure.

Funding for Operations

The renewal of the Olmsted Parks & Parkways must go hand-in-hand with the renewal of Metro Parks. A core recommendation of this Master Plan is to effect the required linkage of three components: (1) Programming to help park users and park managers become "stewards" of their parks; (2) upgrading Metro Parks' staff, equipment, and training for ongoing in-house projects and to provide maintenance; and (3) a coherent sequence of capital improvements, to address features and infrastructure that need rebuilding. To initiate major capital projects without the other components would lead to failure and wasted funding. The budgets for capital projects and Metro Parks operations should reflect these interwoven components.

Staffing & Initiatives for Master Plan Implementation

Establish a "Planning & Design Group" with existing Metro Parks staff, including a new program and special events coordinator, park landscape architects, planners, and engineers and the Assistant Director of Metro Parks [Note: In place since January 1994].

Two in-house landscape architects to provide on-going planning and design support as well as construction review and project administration of proposed capital projects [Note: In place since January 1994]. On-going planning and design support includes continued inventory and monitoring, coordinating community and on-site review of proposed projects, field review and staking of proposed design and management projects, as well as construction review and administration for capital projects.

Establish a landscape management crew with a designated landscape manager to oversee and coordinate all landscape management programs for the Olmsted parks and parkways. Reporting to an Assistant Director of Operations for Metro Parks, the landscape manager would be responsible for monitoring, maintaining management logs, coordinating with all related agencies, and overseeing all staff and volunteer efforts. A significant level of specialized training will be necessary because of the innovative management strategies proposed, therefore prior background and expertise are not as important for this position is a keen desire to develop an ecologically based management program that utilizes Metro Parks staff as well as volunteers. Background in natural resources would be useful, whereas specialization in horticulture or forestry may actually be an impediment. Landscape management should be implemented as soon as possible and may require some shifts in current budgets and staffing. The magnitude of change will necessitate significant additional funding. One option might be a single grant for a five-year landscape management demonstration program that would include funding for staff (initially a landscape manager and staff of two to four people), equipment and materials, and professional consultation for training and review of ongoing management and monitoring work.

Establish an infrastructure crew skilled in carpentry, masonry, plumbing, drainage system and paving repairs and construction to build, install and maintain small shelters and signs, rebuild stone steps and paths and repair large picnic shelters and park buildings. This crew could function initially as a two-person team, working on signage, carpentry and masonry, and build up to a larger group as tasks and skill requirements increase.

Designate responsibilities for parkways coordination and establish interagency coordination with Metro Parks as the lead agency for the Olmsted Parkways. The Conservancy would develop the renewal strategy and a public education and information program.

The extensive resources of the golf course operations, with their own personnel and equipment, which are now independent from park operations, should be explored for their potential help.

We cannot emphasize enough how important these staffing and initiatives are. The Master Plan is but a piece of paper. Its success is completely dependent upon developing the staff and expertise in-house to fully realize the vision. At this time, there is no more important role that Metro Parks and the Conservancy can play than establishing these crucial positions and initiatives. The people who will eventually have the greatest responsibility for implementing the plan on the ground should be incorporated into the master planning effort as soon as possible.

Stewardship Councils

"When the parks and parkways were first envisioned, some lay outside the city limits. They led the growth of the city and brought the city together. The renewal of the Olmsted parks and parkways could, once again, bring its communities together—it's not east versus west versus south, but rather the recognition that you're a piece of a whole system."—Pat Zimmerman, past president, Louisville Friends of Olmsted Parks, and member of the Louisville Olmsted Parks Conservancy's Master Planning Committee, 1993.

The planning process should be participatory and inclusive from decision making to implementation. The current degradation of the parks is ultimately due to a breakdown in the relationship between the community and the landscape. Restoring and sustaining the values of these parks and parkways over time will depend upon reestablishing positive interactions with these landscapes. Open, direct communication and a broad level of participation should be encouraged at every opportunity, empowering park users and managers alike with both responsibility and accountability.

Stewardship Councils for each of the Olmsted parks and parkways will further public education and understanding of the parks and parkways renewal. The Stewardship Council is one way to bring Metro Parks and park interest groups together and to monitor and assess the evolution of the Master Plan and park improvements. Resolving park circulation and path usage is an appropriate exploration for the Stewardship Council, and should lead to volunteer park projects.

To educate park users to be more respectful of park resources will require the joint efforts of Metro Parks, the Conservancy, the Stewardship Councils and the community at large. One such joint effort recently occurred in Philadelphia and is called a "Park Watch."

"This Park Watch was born out of the need to unite the diverse user groups through communication and understanding into a volunteer corps dedicated to protect the Park for enjoyment now and by future generations. We share [this park] today with thousands of visitors who do not always understand this fragile treasure nor its regulations and etiquette. Crime and injuries are increasing. Our purpose is to bring the diverse user groups together to discuss how others enjoy the Park, what is safe and polite conduct, the logic and importance of rules, and to assume personal responsibility. Together we will produce a code of conduct (rules) updated for the 90's, and seek solutions to conflict, Park damage, and other problems. The code of conduct will be communicated through hand-out literature, events, media, work with student groups, etc. . . . In pairs, volunteers will patrol with radios on foot, horseback and bicycle along . . . the trails and perimeter parking areas. The patrols will report injuries and crime and log needed trail work. They will also non-confrontationally communicate Park regulations and etiquette. We call upon those who walk, run, ride, fish, birdwatch, or otherwise refresh their souls in the [Park] to join us to create a united active group."—Newsletter of the Friends of the Wissahickon, Philadelphia PA (Autumn 1993).

Advisory Committee

There is clearly a "learning curve" involved with the implementation of these recommended staffing and program initiatives. This Master Plan recognizes that making these changes will be a heuristic process that is guided by stated principles, in which the participants will learn by doing. The Advisory Committee should oversee this learning process, and assess and improve it.

All proposed projects and programs should be reviewed by the Advisory Committee, with recommendations to the Director of Metro Parks. Given the need to coordinate Metro Parks operations with the Master Plan as well as the need to become better coordinated once City-funded and Conservancy-funded projects get underway, a project review process is recommended.

All proposed projects by Metro Parks, the Conservancy and any others, should meet a review criteria, to be developed by the Advisory Committee. This should include review of natural and historic conformance, management/maintenance needs, needs for public education and in-house training and equipment, private/public partnership mix, volunteer and/or Stewardship Council roles, monitoring for assessment and repairs, etc.

Annual Master Plan Review

To assess the "learning curve," Master Plan objectives and implementation progress, an annual review is suggested with Metro Parks, the Conservancy, Stewardship Council and members of the master planning team, with a restatement of priorities and objectives as required. This should occur in coordination with annual budgetary cycles.

Key Roles & Responsibilities For A Public-Private Partnership

	Louisville and Jefferson County Parks Department	Louisville Olmsted Parks Conservancy
Funding for Capital Projects	<ul style="list-style-type: none"> • Public funds for park infrastructure 	<ul style="list-style-type: none"> • Private funds for park renewal and enhancement projects
Funding for Operations	<ul style="list-style-type: none"> • Designate Assistant Director of Operations for Metro Parks • Public funds for upgrading training, maintenance and equipment 	<ul style="list-style-type: none"> • Private funds for specialized training, monitoring, and equipment
Staffing for Master Plan Implementation	<ul style="list-style-type: none"> • Establish Planning & Design Group within existing Metro Parks staff, including park landscape architects, planners and engineers [Note: In place since January 1994] 	<ul style="list-style-type: none"> • Administer fund-raising, provide planning and design consultants for renewal projects, and advise Planning & Design Group
Initiatives for Master Plan Implementation	<ul style="list-style-type: none"> • Establish infrastructure crew to build and repair specialized park features • Establish landscape management crew to develop techniques and train park staff and volunteers • Administer volunteer program and special events 	<ul style="list-style-type: none"> • Establish Stewardship Council for continued public input • Monitor progress of infrastructure and landscape management crews
Initiatives for Parkways Renewal	<ul style="list-style-type: none"> • Designate responsibilities for parkways coordination • Establish interagency coordination with Metro Parks as the lead agency • Upgrade tree and grounds maintenance and tree replacements 	<ul style="list-style-type: none"> • Coordinate volunteer park projects and special events • Advise on parkway renewal and develop public education and information program
Reviews for Master Plan Implementation	<ul style="list-style-type: none"> • Establish Advisory Committee to review projects, management and issues 	<ul style="list-style-type: none"> • Coordinate meetings and serve as technical advisor to the Advisory Committee
Annual Master Plan Review	<ul style="list-style-type: none"> • Review projects and training annually to set priorities and objectives for the following year (prepared by Advisory Committee) with public input & review 	<ul style="list-style-type: none"> • Prioritize objectives annually, based on project and fund-raising performance (prepared by the Conservancy) with public input & review

Recommended Groups

- **Planning & Design Group**
Metro Parks Assistant Director, landscape architects, planners and engineers
- **Stewardship Council**
The Conservancy coordinates meetings with park neighbors and user groups, Louisville Friends of Olmsted Parks, Metro Parks and expert advisors as needed
- **Advisory Committee**
Recommendations to Director of Metro Parks, with annually appointed members including:
 - One Parks Board representative
 - One Conservancy Board member (preferably from Master Planning Committee)
 - One member of Louisville Friends of Olmsted Parks
 - One representative from each of the parks and parkways committees of the Stewardship Council (four total)
 - Two Metro Parks staff and Conservancy Executive Director

Metro Parks Management Policy Options

Prepared by Landscapes, Westport CT

In order to incorporate consistent maintenance and monitoring of the park's infrastructure as well as begin the landscape management recommendations of this report, potential savings within current Metro parks operations should be explored.

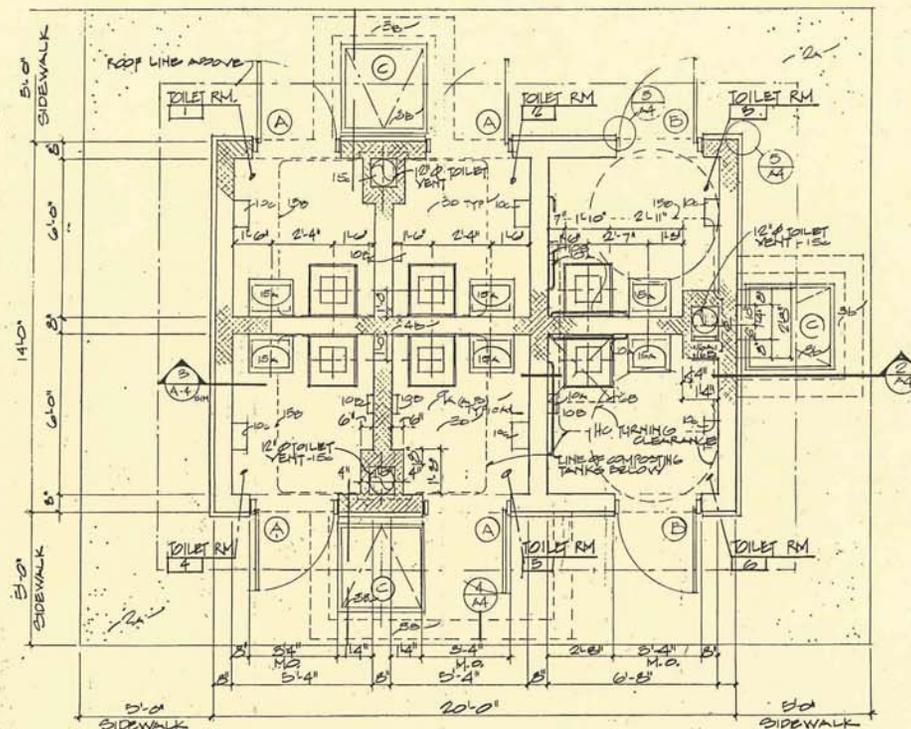
Carry In-Carry Out Trash Policy

According to Metro Parks staff, 25% to 30% of labor is allocated to trash collection. This could be cut by more than 50% if the parks implemented a "carry in-carry out" trash policy. Along with the state park system of New York, the 16 parks in the Monroe County Parks, Rochester NY began implementing such a policy in the spring of 1993. Areas with concessions were provided with trash cans, such as golf courses and special park use areas (the amphitheater area and overlooks at Iroquois Park would be appropriate examples). Before this new policy, it took about 130 hours/week to dispose of trash for a typical park. The new policy, has reduced the work load to 73 hours/week, as there is still litter clean-up required for people who don't use trash cans or don't yet know of the policy. In general, public response has been good, with the greatest success in parking areas near picnicking—people are not dumping, they are carrying out their trash.

Vandalism Policies

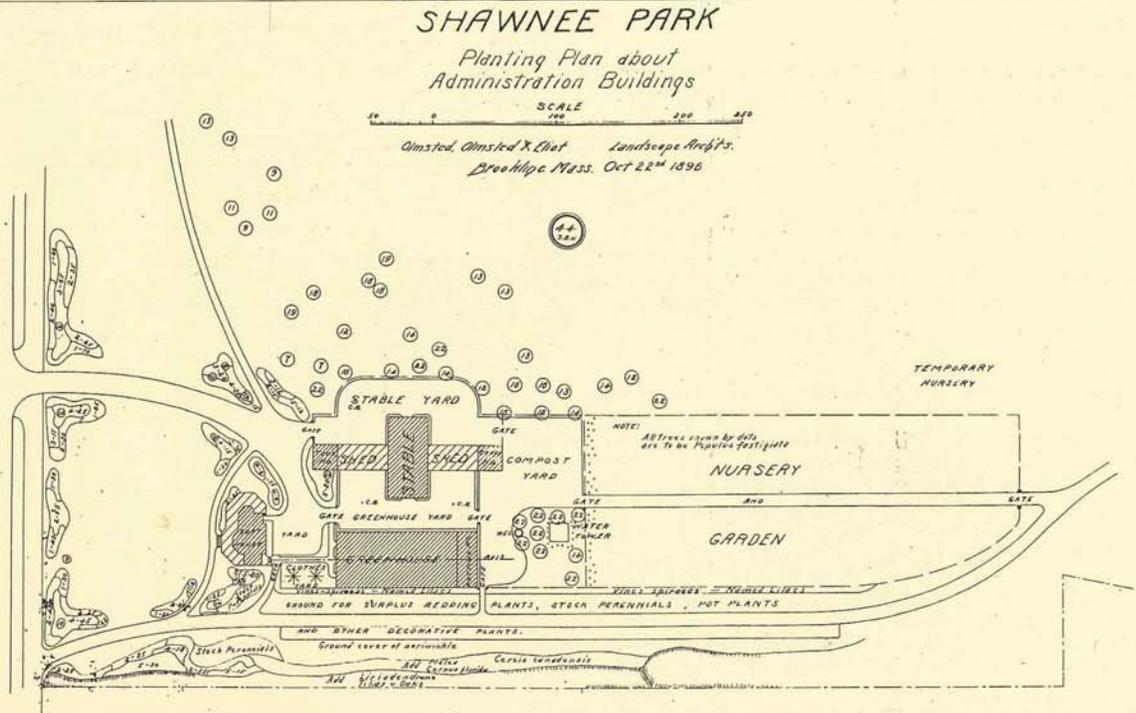
Another maintenance problem and expense is vandalism to the park's restrooms, picnic tables, furnishings and facilities. There are three basic approaches to park vandalism: (1) protect the resources better; (2) make the resources tougher; often called "site hardening" or "vandal-proofing;" and (3) educate park users to be more respectful of park resources. The Louisville Olmsted parks would benefit by addressing all three approaches.

In terms of resource protection, consideration should be given to closing park drives at night, particularly those not used by neighbors or emergency vehicles for access to other parts of the city—this could include, for example, all of Shawnee Park and the hilltop at Iroquois Park. Park hours should be listed on signs as "Dawn to Dusk." Park hours, with drives closed and gated, should be a 6 a.m. or 7 a.m. opening and a 10 p.m. closing, to minimize access during high-vandalism hours. Also, certain drives not essential for park circulation and subject to dumping, such as the old river road in Shawnee Park and the roadway near the horse stable in Iroquois Park, should be restricted to non-vehicular traffic.



Plan of restroom with exterior doors to toilet and sink, six total. Drawing by MRB Group, Architects, Rochester NY. (Monroe County Parks, Rochester NY)

9. Implementation



Historic plan for administration building complex in Shawnee Park by Olmsted, Olmsted & Eliot, Landscape Architects, October 21, 1896. (FLOHNS)



View of fenced area behind Maintenance complex in Shawnee Park, highly visible and intrusive in park. (Landscapes, 1993)

In terms of making the resources tougher, vandal-resistant design and economy of maintenance and repair should be considered. For example, two or three high poles with multidirectional lights could be used for lighting ballfields, rather than many lower poles, which are more difficult to re-lamp, more subject to vandalism and less attractive in the park environment. It should also be noted that so-called "vandal-proof" designs can backfire—a thick concrete bench can often be seen as a challenge for vandals to uproot, while an attractive, sturdy wood bench may actually engender respect.

Given that almost half of the parks' picnic tables are stolen or damaged each year, a policy on picnic tables should be developed. Picnic pavilions could have fixed tables and the provision of unfixed tables in the parks could be discontinued on a trial basis until the "learning curve" of park user education and respect rises. Metro Parks could provide unfixed tables on a reservation basis for a fee, to cover costs of placement, removal and repair. Metro Parks should also continue to review its new policy on reservation fees for picnic tables, pavilions and other facilities to ensure that these fees cover the costs of vandalism, repair and trash clean-up.

All restrooms should be locked at night, as this is when much of the vandalism and crime occurs. Also, the design and re-design of restrooms should consider the organization of individual exterior doors accessible only to one stall with a sink and a toilet. This organization is much less vandal prone and also safer for park users. A policy should also be developed on which restroom facilities should be winterized—in Cherokee Park, for instance, the restroom on Bonnycastle Hill could be closed, while the proposed renovated restroom on Barringer Hill could be heated, since this is where winter sledding could occur. Another option to explore is the compost restroom facility, which has lower operational costs, and where three tanks are built with six toilet stalls—all six having individual exterior doors.

Park lighting needs a policy in order to manage operating costs. Certain areas, such as league ballfields and special facilities, such as the amphitheater, can and should be lit, to accommodate night-time use to extend lighting beyond these facilities can dramatically increase costs.

Maintenance Centers & Staffing

Prepared by Landscapes, Westport CT

Infrastructure & Features Maintenance Operations and Staffing Recommendations

The development of a park and parkway "Features, Furnishings and Infrastructure Crew" is recommended. The members of this crew would have carpentry, masonry, plumbing and drainage system skills. They would construct, install and maintain the small shelters and the signs recommended in this chapter. They would also rebuild modest, masonry elements within the parks such as the stone steps. Care of larger picnic shelters and park buildings, including painting, repairs and general upkeep, could also be within this crew's work description. The infrastructure component of the crew is also needed to address the balance of built elements within the parks and parkways. This crew would be responsible for subsurface drainage system maintenance and plumbing systems for fountains and buildings. They may also work on pavement repair for paths, path reconstruction and park drive stabilization of roadway edges and adjacent drainage structures and swales.

This crew could function initially as a two-person team working on signage, carpentry and masonry, building up to a larger group as tasks and skill requirements increase. Just as a landscape manager and a trained crew is required to renew the landscape of the parks and effectively manage it, a parallel crew is required to address the features, furnishings and infrastructure elements of the parks.

Facility Recommendations

Work spaces that are designed for the tasks intended, are well supplied with tools and equipment and function efficiently are needed in each of the parks. The composition and skills of the parks' work force is proposed to change, so existing buildings should be modified or new ones constructed to suit the future spaces and equipment they are intended to house. The condition of the three existing structures would indicate that a well designed, efficient new maintenance center is needed at Iroquois Park. Improvements are also required at Shawnee and Cherokee Parks. In-house staffing skills and capabilities are directly linked to the implementation, ongoing progress and success of the park and parkway master plan. Facilities that effectively support these efforts must be provided.

Existing Conditions

The maintenance complex at Shawnee Park is located in the southwest corner of the park, a little farther into the park than was shown in the Olmsted plan. It includes a maintenance building with an office and work space that was renovated in the late 1970s and a metal storage structure open on three sides. The complex is surrounded by a large fenced enclosure. Seen from the park drive, the chain link fence at the bottom of a small plateau is obtrusive and the vehicles and buildings within the maintenance complex are all in full view from the park.

The maintenance center in Iroquois Park is sited in a narrow ravine and as a result is visually separated from park users and the park landscape. The three buildings, a storage and work area, a foreman's office and work space and a caretaker's home are all in poor condition. Drainage patterns running downhill cause water infiltration into the storage and work area building.

The maintenance facility in Cherokee Park is located on Cochran Hill in the area of the park isolated by the construction of Interstate 64. One building contains an office, storage and work spaces and a caretaker apartment. The roof leaks and the overhang is rotted.

Historic Principles and Materials

Historically each park was designed with a center of operations and maintenance. The siting of these centers was intended to separate them from the larger park landscape containing the related activities. A visual buffer around these centers was also intended, using both topography and plantings when possible. The intended arrangement of the Shawnee Park administrative center provides a detailed example of what was intended. The Shawnee Park Planting Plan about the Administration Building, by Olmsted, Olmsted & Eliot, 1896 shows the organization of the complex which included several buildings—greenhouse, stable, sheds, water tower and superintendent's house and outdoor work spaces—stable yard, nursery garden and "ground for surplus bedding plants," etc. The area is edged on two sides with extensive shrub and tree beds. To the west, facing into the park, dogwood, redbud, birch and tulip trees form a dense grove, and, to the north, tulip trees surround the water tower while an informal double row of upright poplars screens the whole complex. This composition of plantings clearly indicates an intent to place both decorative and visual screening plantings around the maintenance areas.

Project Review Criteria

Prepared by Andropogon Associates, Philadelphia PA

As seen from the five perspectives of historic resources, natural resources, infrastructure, use, and maintenance, the following should be reviewed:

1. Original Conditions (pre-Olmsted)

Refer to historic surveys, plans and documents.

2. Historic Design Intent (Olmsted)

Refer to historic plans and documents, with interpretation as required from historians and historic landscape consultant.

3. Changes Over Time

Note major changes over time, from pre-Olmsted and historic design intent to the present day.

4. Current Conditions

Describe the existing natural and cultural resources that are in the area of influence of the project. For proposed changes that involve construction (versus landscape management work), provide an updated topographic survey of the project area, with one-foot contours, tree trunk elevations and canopy spread, drainage infrastructure and special features.

5. Proposed Renewal

On the updated survey, show the extent of proposed work. Show also how future or existing features will be accommodated into the proposed work. If necessary, show how the Master Plan should be updated to reflect this proposed project—for example, a new parking area may require that a future path be routed along another alignment and this should be noted. Finally, in light of the above four items, assess how this renewal addresses historic resources, natural resources, infrastructure, use and maintenance, particularly in terms of sustainability.

6. Future/Additional Steps

If monitoring or special measures are required to implement this project, it should be clearly described and delegated to a Metro Parks staff person to manage and report back to the Advisory Committee from time to time.

Historic Resources Checklist

Prepared by Landscapes, Wetsport CT

A sequence of steps is followed in order to develop sound recommendations for the future of these historic landscapes. The steps in the preservation planning process, followed in this master planning project are:

- *Historic research for the site with historic context provided by comparable properties nationwide;*
- *Detailed inventory of the existing conditions;*
- *Analysis of the character-defining features of the landscape over time;*
- *Exploration of treatment alternatives and selection of a treatment followed by treatment implementation;*
- *Landscape management of natural and built elements to address ongoing preservation;*
- *Interpretation of landscape to the public.*

The following checklist conforms to the "Guidelines for Rehabilitation" in *Guidelines for the Treatment of Historic Landscapes* (Washington, D.C.: USDOL, National Park Service, Preservation Assistance Division [May 1992 draft], pp 45-66): "Rehabilitation encourages improvements to a historic property that make possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historical or cultural values. Archeological investigations may be required prior to replacement of missing historic features or projects involving new construction. In rehabilitation, the entire history of the landscape is retained for interpretation." Guidelines, excerpted here, include:

- *Topography:* "design, construction and character of topography";
- *Vegetation:* "the history, location, species composition, and character of the vegetation";
- *Natural Systems:* "the location, extent, and existing conditions of the natural resources and systems including geology, hydrology, plant and animal habitats that support character-defining features, or are important for their natural resource values";
- *Circulation:* "the existing condition of the circulation features such as roads, paths, parkways, drives, trails, walks, parking areas, and canals, as well as their alignment, surface treatment, width, edge, grade, materials, furnishings, views/vistas, walls, signs, and infrastructure";

- *Water Features:* "... ponds or lakes, streams ... and their shape, form, sound, edge and bottom construction/material, water level or depth, movement or flow, reflective qualities, water quality, and associated plant and animal life";
- *Furnishings and Objects:* "the existing conditions of site furnishings and objects and their materials such as metal, stone, masonry, or wood";
- *Structures:* "walls, terraces, arbors, gazebos, follies, stadiums, tennis courts, playground equipment, plazas, greenhouses, cold frames, steps, bridges, and dams ... the existing conditions of the landscape structures and their materials such as wood, masonry, stone, and metal";
- *Spatial Organization:* "the existing condition of the spaces, views, and vistas of the landscape as well as the features which define them such as hedgerows, walls, fences, fields, forests, water, topography, circulation, and structures."

Natural Resources Checklist

Prepared by Andropogon Associates, Philadelphia PA

The Natural Resources Checklist describes the major components of any project review process and conforms to the Guidelines for a Sustainable Landscape found in the Introduction to this report.

- *Follow a participatory and inclusive process from decision making to implementation.*

A description of the planning, design, and implementation process should be developed for the participation of those who use, maintain, administer, regulate and otherwise impact this landscape. This process may use existing review structures or establish new ones.

- *Monitor and assess, and periodically modify all actions.*

A monitoring plan should be developed that includes baseline information on existing conditions, proposed monitoring activities, management requirements and criteria for project evaluation.

- *Initiate life cycle costing at every level.*

Materials Program should be developed that reflects the highest levels feasible for reusability, amount of non-recyclable and recycled materials, absence of non-reusable, ozone-depleting or hazardous materials. Materials used should not have undue environmental impacts associated with their production or disposal.

- Energy Conservation Plan should be developed including construction as well as ongoing maintenance.

- *Give highest priority to natural and cultural features that cannot be replaced elsewhere.*

Inventory existing natural and cultural features that are in the area of influence of the project. Every effort should be made to be as inclusive as possible, addressing viewsheds and noisesheds and airsheds as well as more direct impacts.

- *Incorporate restoration of natural systems into all aspects of management.*

Terrain, geology and soils—Develop a description of measures taken to retain or restore the natural terrain of the site; protect special geologic features and restrict grading, compaction and other soil damage.

Natural ground and surface water and wetlands—Develop an inventory and description of the existing ground and surface water conditions and wetlands, as well as a protection plan for these resources. Develop a description of how the project or activity will contribute to the restoration of the natural hydrologic regimen, including an overview of the site's water budget. Develop measures to protect the quantities and quality of recharge and runoff and reduce the velocity.

Vegetation and wildlife—Develop a description of the existing site habitats as well as how they have changed over time. Develop a description of the patterns of the distribution of native plant communities and what measures have been taken to reconnect fragmented habitats. Develop measures to protect and enhance the structure and composition of these habitats. Develop description of the proposed management program and its objectives and assessment criteria.

- *Use native plants throughout the parks, not just in "natural" areas.*

Develop a Plant List, including provenance (geographical origin of seeds and planting stock), method of propagation and transplanting. Locally native species, ecotypes and genotypes should be used and may require local propagation rather than purchasing stock of more distant origin. Non-grafted plants should be used except where there is no alternative propagation method.

Where there is no available and reliable technique for establishing the desired native community, an interim trial program should be described, and how it will be assessed and revised over time.

Infrastructure Checklist

Prepared by PDR Engineers, Louisville KY

Reference to "park standards" implies that, during the course of these reviews, park standards would begin to be developed for future project reviews.

Drainage

- Will there be increased stormwater runoff from the proposed project?
If yes, then:
 - Will the increased runoff create flooding problems downstream?
 - Are downstream drainage structures capable of handling the increased flow? If not, flooding may result.
 - If downstream flooding problems are possible, can the project accommodate a detention pond, or some other means of slowing stormwater flow off the site?
- Will the project alter existing drainage patterns?
If yes, then:
 - Does the project adversely affect quantity or quality of flow into a wetland?
 - Will the flow be directed to an area that can convey the flow on a proper drainage course without creating flooding?
 - Is the revised topography consistent with the historical plan for the parks?
- Is there a possibility of contaminants in the stormwater runoff from the site, for example, oil from maintenance garages, fertilizers, etc.?
If yes, then special permitting, may be required.
- Is the project site prone to erosion problems?
If yes, then:
 - Are special precautions to be taken to control erosion in swales and on hillsides?
 - Special precautions must be taken during construction.
 - Will planned site vegetation be able to control erosion, and support foot traffic?
 - Are planned slopes stable, particularly when wet?
 - Do project associated walking paths, bridle trails and public gathering areas utilize erosion control measures? Do paths tend to parallel the ground contours, rather than cut perpendicular to them? Does path design include measures to keep users on trail rather than take shortcuts?
- Is the project within the 100-year floodplain? Can the project withstand periodic flooding? Special permits may be required from MSD and the Division of Water.
- Is the site normally free-draining? Does water tend to stand in the area after a rain?

- Does the roof have an adequate slope to drain?
- How does the roof drain? gutters and downspouts? interior roof drains? Will the gutters, scuppers, or roof drains clog with leaves and forest debris? If there are no gutters and the roof drains over the eaves, can the vegetation and grade around the building support free-falling water? Will the foundation be adversely affected by water collecting around the building perimeter?
- Will there be roof-top HVAC equipment on the building? Will the equipment be visible from the ground or from observation areas around the site?
- Has the building landscaping been approved by Metro Parks' Landscape Architect? Does the landscaping comply with park standards?
- Does the building require dumpster service for trash? Is the dumpster hidden from public view? Can the dumpster delivery truck access the dumpster?

Parking and Roadways

- Will the planned project create an increase in traffic and increase demands on parking? If yes, then:
 - Do the existing roads have the capacity to handle the traffic? Will there be event-type peaks in traffic flow that may cause problems along existing roadways inside and outside the park? What can be done to minimize the impact on existing roads?
 - Are safety problems created when traffic enters the site? Are there visual barriers at egress locations?
 - Does the project adversely affect normal traffic flows? If so, is a traffic study required?
 - Are there adequate parking spaces? If not, and if the project would only infrequently create high parking demands, can parking be safely provided along roadways? Can pedestrians safely access their cars along the roadway after an event?
 - Can parking overflow area be provided off of paved areas? Can the vegetation withstand traffic, particularly if it rains during an event? Is special underdrainage and turf reinforcement required? Is the area prone to erosion or flooding?
 - Is the existing and planned signage easily understood, located in optimum locations, and in compliance with park standards?
 - If an off-road surfaced parking area is planned, are park standards followed in terms of landscaping, lighting, driving surfaces, layout, drainage, signage, etc.?
 - Does the planned asphalt or concrete drive surface comply with Park Standards in terms of mix design, engineering properties, color, texture, thickness, sub-base thickness, edge treatment (curbs), shoulder width, drainage, directional marking, parking space striping, etc.
 - Is there proper allowance for emergency vehicle access (firelanes, ambulance, tow trucks, police, etc.), especially if the project will create event-type demands in traffic facilities?

- Will the project require routine delivery truck service? What route will delivery trucks take to the site? Is there a location for loading/unloading the trucks?

Utilities

- Does the project create a demand on utilities (electrical, gas, water, sewers, telephone)? If yes, then:
 - Are there adequate utilities available, in the proper "configuration," i.e., electrical phase, gas and water pressure, etc.? Can utilities be brought in from outside the park?
 - If the project would only require sporadic utility connections, such as during special events, can the utility connections be safely and discretely maintained when not in use?
 - Will there be adequate lighting, within the site and along access corridors? Do the light fixtures comply with park standards?
 - Are there adequate floor drains, particularly in "well" areas?
 - Will the project require additional fire hydrants?
 - Is there adequate lighting along roadways, particularly if the project utilizes parking along roadways? Do the lighting fixtures meet park standards?
 - Will utility service be above or below ground? Will above-ground service be visually acceptable? Will trenches for below-ground service adversely affect vegetation? Have trench routes been approved by the Landscape Architect? Do trench details comply with park standards?
 - Are there adequate communication services available, particularly during an event?

Structures

- Does the architecture of the structure comply with park standards and the historical plan for the park?
- Does the structure utilize materials that comply with park standards?
- Are the structure's materials "low maintenance" and "vandal resistant"? Can graffiti be easily removed?
- Can the structure be easily cleaned?
- Are all areas of the structure accessible to the handicapped and meet ADA standards? Are fixtures suitable for handicapped users? Are restroom fixtures "vandal resistant" and in compliance with park standards?
- Is there adequate utility service for the structure?
- Is there adequate ventilation?

9. Implementation

- Will the structure be utilized during winter months? If not, can the structure be easily winterized? Are there adequate means to “drain down” pipes and winterize the building?
- Are doors and windows vandal resistant?
- Will the structure require provisions for additional utility demands during events, for example, additional electrical service to connect sound systems during concerts? Are easily accessible connections available for such needs? Can the connections be protected when not in use?
- Does the site drain away from the building?
- Is there adequate lighting in and around the structure?
- Is the access to the facility perceived to be safe?
- Has a Geotechnical Report been prepared and followed?

Use & Maintenance Checklist

Proposed projects should also be reviewed by Metro Parks staff and the park’s Stewardship Council to determine its impact on existing park uses and maintenance needs. Their recommendations should be reviewed by the Advisory Review Board and incorporated into the proposed project when feasible.

- Are there conflicts between existing and proposed park uses? How are these new uses to be reconciled? Is there consensus on the Stewardship Council for the proposed uses and project program?
- Does Metro Parks have the training, equipment and staffing required to implement and manage the proposed project? How is training and staffing to be funded and integrated into the project, so that the completed project can be maintained?
- How are the new uses to be monitored to assure their effective integration into the park’s overall planning and maintenance efforts? Does the project require special design standards or volunteer maintenance efforts to be effective? Is there a defined follow-through program for monitoring the project’s effectiveness, and is there an assessment and repair period for project refinements and adjustments should these be required?

Olmsted Design Concepts: The Seven S’s and Characteristics

Prepared by Charles Beveridge

Another perspective for a project review criteria are the 7S’s—the design concepts used by Frederick Law Olmsted, as defined by Charles Beveridge, author of the Olmsted Papers. These were innovative in his day and much copied since.

1. Scenery—Design of “passages of scenery,” from the smallest space to the areas intended for active use.

- Avoid hard edges or specimen planting.
- Indefinite boundaries.
- Constant opening up of new views and vistas.
- Create pastoral oasis in the midst of the park.

2. Style—Designing in specific styles, each for a particular effect.

- Pastoral scenery: interspersing broad expanses of gently rolling greensward with groves of trees and peaceful bodies of water.
- Picturesque scenery: rich and varied planting that create “complexity of light and shadow near the eye.”

3. Suitability—Creation of design that are in keeping with the natural scenery and topography of the site: respect for, and full utilization of, the “genius of the place.”

4. Subordination of all elements, all features and objects, to the overall design and the effect it is intended to achieve.

- Consistent use of easy grades, sinuously curving roads and paths.
- The gradual merging of ways at easy angles.
- Design so there is no need for constant decisions about which path to take.
- Structures, roadways, paths and even gardens should blend in with the surrounds and not intrude on the scenery.

5. Separation of ways and scenery styles.

- Paths that lead visitors quickly away from the boundary areas.
- Flow of wagons and carts (cars) should not intrude on the scenery.
- No one use intrudes on another.
- “Plant out the city” with a green barrier of trees and shrubs on the perimeter.
- Avoid incongruous mixture of styles.

6. Sanitation—Provide for adequate drainage and other engineering considerations, not simply arranging of surface features.

- “Important that the drainage of the park should be ‘thorough’ in all its parts, that no soil on which either grass, trees or shrubs are expected to flourish, should be exempt from the direct draught of a subterranean tube.”
- A plan of drainage should be sketched without regard to hidden rock or the minor undulations of the surface.
- Use of plantings that would both harmonize with the scenery and be most sure to flourish.

7. Service—Plan designs so that they will serve a “purpose of direct utility or service”; that is, will meet fundamental social and psychological needs.

- Parks are to be set aside for the enjoyment of all citizens.
- Social reform through art (landscape scenery) by providing all classes with the taste and manners of gentlemen.
- Employ landscape design to nurture the civilizing process in the urban environment.
- Park “keepers” to patrol, keep order, aid visitors.
- Provide two different kinds of social interaction, separated from each other: (a) informal spaces (“country greens”) for “neighborly activities,” such as picnics, playgrounds, etc.; (b) formal spaces for “gregarious activities” such as promenades, carriage (car) concourses and concert areas where people could mingle and “see and be seen.”

These are some of the reasons to support the claim that an Olmsted landscape is a work of art. His innovative approaches have had a tremendous influence on the profession and totally changed the idea of what a park should be.

Future Planning Considerations

Metro Parks, with the Advisory Committee, Stewardship Council and the Conservancy, will need to further develop cooperative relationships with other agencies involved in park projects. The projects for Shawnee Park, for example, will involve a close working relationship with the Department of Public Works and the design consultants for Riverwalk. There will also need to be ongoing work with MSD regarding drainage infrastructure improvements, floodway management and access to flood control structures in the parks.

For Iroquois Park, the issues of resolving the trail alignments—the feasibility of a perimeter bridle trail and a multi-use path on or near Rundill Road—will involve close review of existing site conditions, working with park visitors on trail use, and schematic designs for the alignments to prepare cost estimates and better assess impacts. Clearly, the long-term needs of the horse stables must be also be addressed, as well as an assessment of the repair and stabilization needed for eroded bridle trails. As noted earlier, it is recommended that horses not be permitted to use the trails on the sloped forests above Rundill Road until trail repairs are implemented and there is agreement on trail use. Volunteers, with Metro Parks and professional advice, can be used to map the conditions of the existing trails in the park. Immediate protections for the lowland forests should also be implemented, particularly where eroded bridle trails have disturbed wide areas in the woodlands.

Cherokee Park's Trail System

The Advisory Committee will need to address a process that can help resolve the controversy about Cherokee Park's trails. As noted earlier, trail issues need to be integrated into the landscape management program for the woodlands. However, given that some parties believe that bicycles should be banned from woodland trails while others see them as compatible, there is still a need to advance a plan to stop the ecological degradation. Therefore, we recommend a process that involves all parties and points of view to work out practical solutions and educate the public regarding the plan.

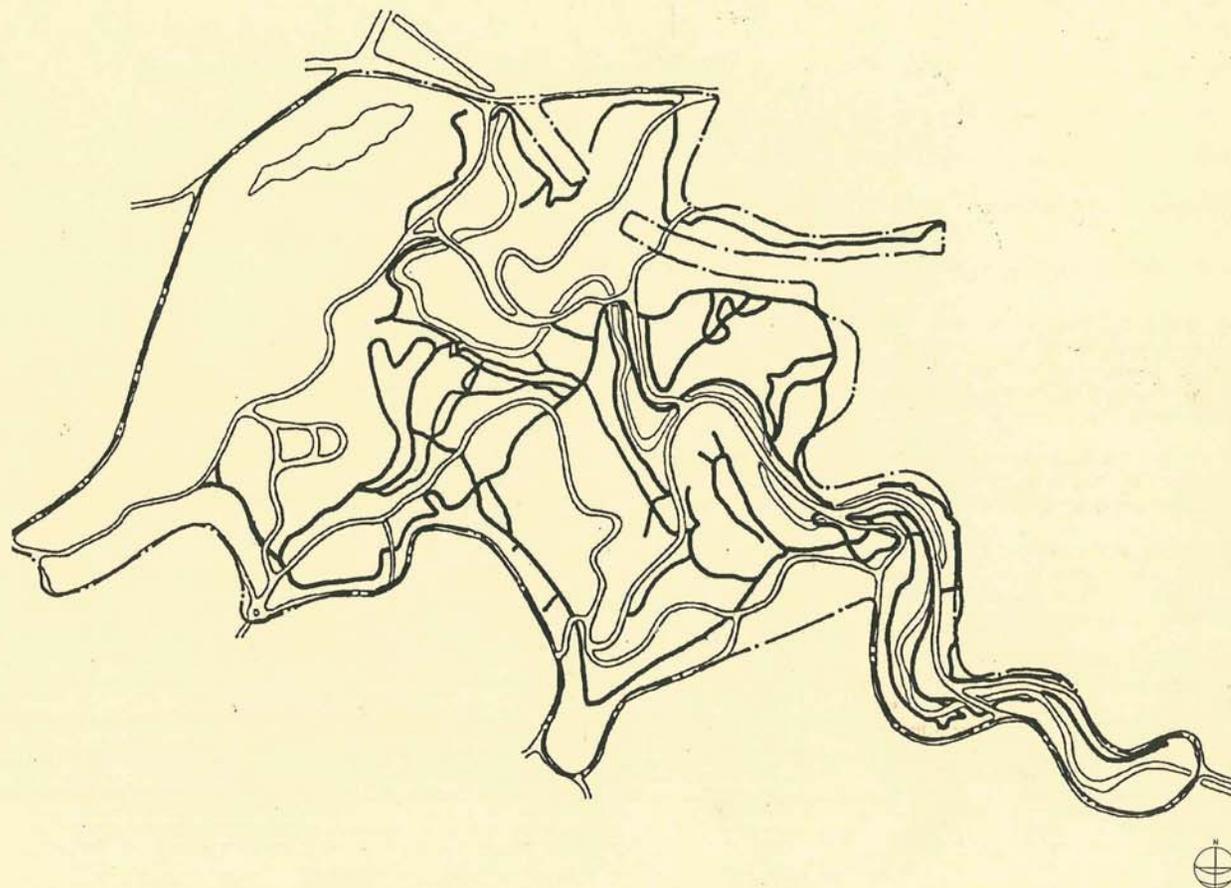
The master planning team urges all parties to strive toward agreement on shared use of the park. In doing so, seek a balanced approach based on the historic principle of "separation of ways" to minimize conflict between users.

No trail use plan should go forward without the following components in place:

- A Park Watch group of volunteers to communicate the rules of trail use and monitor trail use;
- Trail repair volunteers to close rogue trails and stabilize disturbed woodlands;

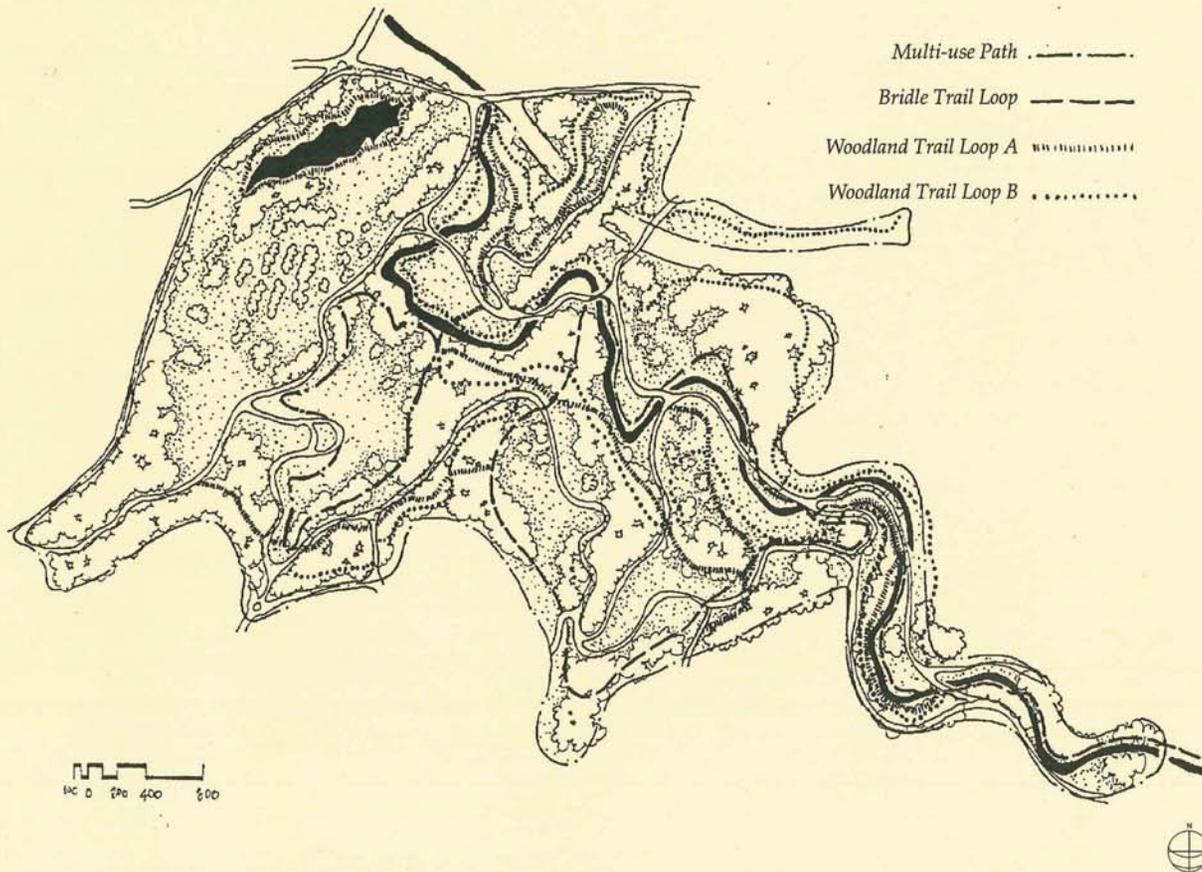
Cherokee Park's Existing Trail System

This is a summary map of the park originally made by members of The Friends of Olmsted Parks, Kentucky Trailmen, and community volunteers at 1"=200' scale in the fall of 1992, showing existing park trails. The map prepared by the Friends is further noted, describing areas where paths are eroded or woodland disturbance is evident.



Illustrative Plan for Cherokee Park, with Designated Trail Loops

Note: These are possible loops which relate to historic Olmsted proposals and minimize disturbance to woodlands; trail use is subject to resolution by the Advisory Committee and Metro Parks.



- Capability of Metro Parks staff and equipment to reconstruct paths and drainage infrastructure, stabilize gullies and manage woodland projects;
- A system to monitor and evaluate the trail work and use to refine long-range directions for permanent improvement projects. The natural systems of the woodlands are either improving or degrading—there is no static condition. The process of designating paths and testing appropriate use becomes a tool for improving woodland quality by closing rogue trails, stabilizing eroded areas and providing more information about appropriate, non-degrading use while implementing the actual woodland management projects.

There are several factors that lead the master planning team to recommend the development of woodland trails for separate, or shared, uses in Cherokee Park. First, the Olmsted approach to various modes of movement is a "separation of the ways." In Inquois Park, for example, pedestrian, bicycle, bridle and vehicle ways were planned. Charles Beveridge recommends that this principle of separation also be applied to the woodland trails of Cherokee Park.

We suggest a pilot project for woodland trails in Cherokee Park to establish a series of loops – the first will be the paved, multi-use Barringer Hill path loop, which would connect with the Bridle Trail Loop for equestrians and walkers. "Loop A" is for walkers only, and "Loop B" could serve a multi-use purpose. These loops are in general accord with the original Olmsted proposal. The bridle trail should be at least six feet wide to allow horses to pass one another. A multi-use path that combines walkers and bicyclists should be at least three feet wide; Loop B is one of the few existing paths that would not require extensive clearance and grading to meet the required width for multi-use.

The illustrative plan shows these potential loops, although the exact routing will have to be verified in the field to determine specific path links and needed repairs to make the loops functional. Several existing rogue, or highly eroded, trails should also be closed. The trails would require signage and volunteer trails monitoring and repair crews. The alternative alignments for trails should be staked out in the field, reviewed with the Stewardship Council and Advisory Committee, and costed with schematic designs based on updated topographic surveys. Areas prioritized for trail repairs should also integrate landscape management objectives.

The "learning curve" associated with educating park users on the proper use of the path loops in wooded areas and the capacity of Metro Parks staff and volunteer crews to monitor and repair the paths will require a reasonable amount of time to assess. This project should adhere to the principle that park uses should be accommodated without degrading natural and historic features and landscape character.

Physical & Viewshed Encroachments

Encroachment on the physical and visual spaces of the parks and parkways is an ongoing planning issue that should be addressed consistently. In the case of the parks, the first point of clarification should be a boundary survey and simple demarcation that differentiates park lands from the lands of abutting owners. For example, current trail use appears to have extended from an area of Cherokee Park onto the lands of the Presbyterian Seminary. The encroachment of abutting property owners into green spaces of the parkways was discussed in Chapter 6, and the clarification of the public right-of-way is an issue for parkway renewal.

Added to these aspects of physical encroachment are visual encroachments within directly adjacent private properties or within viewsheds from the parks and parkways. Golf courses are located within Cherokee and Iroquois Parks and abut River Glen Park. While the use of park lands for golf is compatible with the parks, there is currently a lack of coordination of facilities and access that should be addressed. Golf course parking is generally obtrusive and could be planned to fit into the park landscape more effectively. Golf course stormwater management is not adequately addressed and is causing erosion and runoff problems in the parks. Providing visual and physical access to golf course areas for the broader public should also be considered in perimeter areas. At Shawnee Park, the Riverwalk is intended to provide a continuous trail along the Ohio River and would include a segment along the golf course. At Iroquois Park, this access would include both pedestrian and bridle trail uses. At Cherokee Park, a perimeter path around Willow Pond could be possible with some adjustments in the location of tees and greens. Also, the conversion of turf to meadow in areas where playability is not a problem should be explored. Landscape plantings, in character with the surrounding natural habitats as well as the historic design intent, should be initiated.

Another aspect of visual encroachment is the potential development of properties within the viewsheds of the parks. While local zoning should address residential uses and bar inappropriate developments abutting the parks, some review of zoning may be in order to confirm the level of local control on private property owner development. Commercial uses as currently developed along the New Cut Road frontage of Iroquois Park, already detract from the park setting, with large paved areas for parking, lack of vegetation and large, brightly colored signs. A review of commercial zoning requirements as they relate to park lands and parkway surrounds should be given further study for clarifications and requirements.

Along parkway margins, several types of visual encroachments occur. The screening of commercial uses is an issue at many parkway intersections. The Olmsted firm provided designs for parkway edge shrub plantings that can be applied to these situations. Ideally, six feet of land

on the adjacent private property should be added to six to ten feet of parkway right-of-way for a total planting area of twelve to sixteen feet. The plantings should be of shrubs with a mature height of five to ten feet, using mostly deciduous shrubs, such as viburnums, and some evergreen shrubs for all-season screening. These shrubs should not be pruned to artificial shapes. At least a double row of shrubs should be used and the plantings should be informal in arrangement, not placed in straight lines. They should not be kept as mulched beds, but should be planted with a ground layer of ivy and ferns.

Disaster Response

Cherokee Park was devastated by the 1974 tornado. This type of natural disaster event can affect the City of Louisville in the future and damage the park and parkway lands in the process. If and when a disaster occurs, the first response should be to fully record the status of the resources in the damaged condition with ground plane and aerial photography and an accompanying written description and inventory. If public safety is in danger, the area should be secured from public access and any utility issues such as downed electric lines, should be resolved. With the recording and safety issues resolved, an expert group should view the conditions, prior to major repair work. Clean up of damage should proceed after the visual and written record has been made and a field visit has been conducted to review proposed repairs. Repair and renewal following such a disaster should include requests for funding to replace the lost elements of these public landscapes in-kind based on the records made of the loss.

Project Cost Estimates & Phasing for the Parks & Parkway

Too often master plans become a case of injecting dollars into capital projects for one or two funding rounds. Without a matching increase in staffing, expertise and commitment, these improvements degrade quickly and the investments fail to fulfill their promises. A current reality that must be faced for this Master Plan to succeed is that Metro Parks has very limited staffing, insufficient equipment and is in need of additional skills. Current resources are not adequate to meet the challenge of sustaining the Olmsted legacy. Therefore, the renewal of the parks and parkways must go hand-in-hand with the renewal of Metro Parks, with the support of the Conservancy and the public at large.

The transition to sustainable park management will depend on developing the expertise of the Parks Department and related city agencies, as well as the level of participation and education of the public, who are as much a focus of this plan as capital improvements. The users are involved in educational programming and are pivotal to the realization of the projects by their direct actions. At the same time, the caretakers are monitoring, assessing and revising implementation techniques to make them more cost effective over time.

These recommendations represent new roles and real change. This challenge will be met only if all involved are full participants and work together as a team. It is the building of in-house expertise and investment in the community and public/private partnerships that will sustain the park's vitality for enjoyment by future generations.

Summary of Costs

Shawnee Park: \$8,658,000.

Iroquois Park: \$15,525,000.

Cherokee Park: \$16,889,000.

The Olmsted Parkway: \$13,799,000.

New parkway linkages: \$14,867,000.

Total parks & parkways: \$69,738,000.

Grand total, say: \$70,000,000.

Project Cost Estimates for Shawnee Park

For project areas description and plan, refer to Chapter 3.

Project Area No.	Project Area	Total Project	Site Preparation & Earthwork	Roads Drainage & Infrastructure	Paths & Bridle Trails	Landscape Planting & Management	Features & Amenities	Mobilization 6%	Establishment Maintenance	Contingency 10%	Design & Engineering 10%
1	Active Recreation Complex	\$2,405,000	\$212,000	\$514,000	\$111,000	\$236,000	\$757,000	\$109,800	\$58,300	\$193,980	\$213,378
2	Great Lawn	\$1,251,000	\$161,000	\$327,000	\$170,000	\$89,000	\$201,000	\$56,880	\$34,800	\$100,488	\$110,537
3	Music Concourse & River Vista	\$991,000	\$41,000	\$155,000	\$91,000	\$254,000	\$185,000	\$43,560	\$59,900	\$76,956	\$84,652
4	Concourses & River Slopes	\$1,448,000	\$187,000	\$197,000	\$35,000	\$386,000	\$261,000	\$63,960	\$80,700	\$112,996	\$124,296
5	Eastern Hornung Field	\$672,000	\$70,000	\$182,000	\$91,000	\$81,000	\$80,000	\$30,240	\$25,300	\$53,424	\$58,766
6	Paddy's Run	\$511,000	\$53,000	\$57,000	\$93,000	\$89,000	\$85,000	\$22,620	\$27,100	\$39,962	\$43,958
7	Broadway & Park Entrance	\$365,000	\$32,000	\$188,000	\$19,000	\$30,000	\$9,000	\$16,680	\$7,900	\$29,468	\$32,415
8	Parkway Edge	\$517,000	\$14,000	\$305,000	\$0	\$73,000	\$0	\$23,520	\$14,600	\$41,552	\$45,707
9	Maintenance Facility	\$220,000	\$8,000	\$63,000	\$5,000	\$17,000	\$75,000	\$10,080	\$3,900	\$17,808	\$19,589
10	Lily Pond	\$278,000	\$23,000	\$102,000	\$18,000	\$23,000	\$46,000	\$12,720	\$6,400	\$22,472	\$24,719
	Subtotals	\$8,658,000	\$801,000	\$2,090,000	\$633,000	\$1,278,000	\$1,699,000	\$280,260	\$318,900	\$689,106	\$758,017

Notes

- Estimates are based on 1994 prices from generalized conceptual master plans; further estimates will be done at the schematic design and construction document phases.
- Estimates do not include costs of Riverwalk and road re-paving projects by the Department of Public Works and certain drainage by MSD.
- "Site Preparation & Earthwork" includes demolition, erosion and sediment control, and earthwork.
- "Roads, Drainage & Infrastructure" costs involve park drive edge stabilization, inlet and culvert reconstruction and pavement repairs. Substantial cost savings could be accrued if this work were performed by Metro Parks infrastructure crew.
- "Paths & Bridle Trails" and "Landscape Planting & Management" costs involve path reconstruction, landscape stabilization, and landscape management and planting. Substantial cost savings could be accrued if this work were performed by Metro Parks infrastructure and landscape management crews, along with volunteer management projects.
- "Features & Amenities" includes buildings and bridges, active recreation facilities, and amenities: monuments, pavilions, overlooks, shelters, benches, signage, and park furnishings.
- "Mobilization" includes Contractor office, storage areas, and such sanitary and utilities required during construction by law or regulation, and insurance and bonds required by the contract.
- "Establishment Maintenance" includes additional costs, above and beyond normal park maintenance operations, to establish landscapes cited under "Landscape Planting & Management" for a two-year period (20% of "Landscape Planting and Management" cost) along with maintenance and stabilization of park paths and bridle trails for a two-year period (10% of "Paths & Bridle Trails" cost).
- Contingency is standard flexibility factor for project scope and cost estimates.
- Project totals and item totals have been rounded to the nearest thousand dollars.

Project Phasing for Shawnee Park

Project Area	Project	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000 to FY 2005					FY 2006 to FY 2010					
								2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1	Active Recreation Complex	Survey, Pre-Design & Planning	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design
2	Great Lawn	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design
3	Middle Concourse & River Vista	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design
4	Concourses & River Slopes	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design
5	Eastern Hornung Field	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design
6	Paddy's Run	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design
7	Broadway & Park Entrance	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design
8	Parkway Edge	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design
9	Maintenance Facility	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design
10	Lily Pond	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design	Design

FY 1994 Fiscal Year 1994: 1 July 1994 to 30 June 1995

-  Survey, Pre-Design & Planning
-  Design
-  Construction
-  Establishment Maintenance
-  Ongoing Management by Metro Parks & Volunteers

Project Cost Estimates for Iroquois Park

For project areas description and plan, refer to Chapter 4.

Project Area No.	Project Area	Total Project	Site Preparation & Earthwork	Roads Drainage & Infrastructure	Paths & Bridle Trails	Landscape Planting & Management	Features & Amenities	Mobilization 6%	Establishment Maintenance	Contingency 10%	Design & Engineering 10%
1	Summit Field and Overlooks	\$1,399,000	\$132,000	\$258,000	\$84,000	\$303,000	\$260,000	\$62,220	\$69,000	\$109,922	\$120,914
2	Olmsted Woodland Trail	\$557,000	\$27,000	\$14,000	\$85,000	\$196,000	\$75,000	\$23,820	\$47,700	\$42,082	\$46,290
3	Forest Preserve Interpretation & Management	\$813,000	\$75,000	\$35,000	\$75,000	\$275,000	\$125,000	\$35,100	\$62,500	\$62,010	\$68,211
4	Rundill & Uppill Roads	\$2,706,000	\$42,000	\$943,000	\$0	\$826,000	\$170,000	\$118,860	\$165,200	\$209,986	\$230,985
5	Lowland Forest Bridle Trails	\$2,496,000	\$177,000	\$0	\$960,000	\$622,000	\$15,000	\$106,440	\$220,400	\$188,044	\$206,848
6	Sloped Woodland Trails	\$2,745,000	\$137,000	\$90,000	\$707,000	\$918,000	\$90,000	\$116,520	\$254,300	\$205,852	\$226,437
7	Active Recreation & Parking	\$3,371,000	\$223,000	\$528,000	\$138,000	\$1,117,000	\$437,000	\$146,580	\$237,200	\$258,958	\$284,854
8	Horse Stables Area	\$531,000	\$27,000	\$44,000	\$20,000	\$239,000	\$45,000	\$22,500	\$49,800	\$39,750	\$43,725
9	Parkland Perimeter	\$500,000	\$22,000	\$25,000	\$16,000	\$217,000	\$75,000	\$21,300	\$45,000	\$37,630	\$41,393
10	Maintenance Facility	\$407,000	\$12,000	\$45,000	\$0	\$42,000	\$250,000	\$20,940	\$8,400	\$36,994	\$40,693
	Subtotals	\$15,525,000	\$874,000	\$1,982,000	\$2,085,000	\$4,755,000	\$1,542,000	\$674,280	\$1,159,500	\$1,191,228	\$1,310,351

Notes

- Estimates are based on 1994 prices from generalized conceptual master plans; further estimates will be done at the schematic design and construction document phases.
- Estimates do not include costs of Riverwalk and road re-paving projects by the Department of Public Works and certain drainage by MSD.
- "Site Preparation & Earthwork" includes demolition, erosion and sediment control, and earthwork.
- "Roads, Drainage & Infrastructure" costs involve park drive edge stabilization, inlet and culvert reconstruction and pavement repairs. Substantial cost savings could be accrued if this work were performed by Metro Parks infrastructure crew.
- "Paths & Bridle Trails" and "Landscape Planting & Management" costs involve path reconstruction, landscape stabilization, and landscape management and planting. Substantial cost savings could be accrued if this work were performed by Metro Parks infrastructure and landscape management crews, along with volunteer management projects.
- "Features & Amenities" includes buildings and bridges, active recreation facilities, and amenities: monuments, pavilions, overlooks, shelters, benches, signage, and park furnishings.
- "Mobilization" includes Contractor office, storage areas, and such sanitary and utilities required during construction by law or regulation, and insurance and bonds required by the contract.
- "Establishment Maintenance" includes additional costs, above and beyond normal park maintenance operations, to establish landscapes cited under "Landscape Planting & Management" for a two-year period (20% of "Landscape Planting and Management" cost) along with maintenance and stabilization of park paths and bridle trails for a two-year period (10% of "Paths & Bridle Trails" cost).
- Contingency is standard flexibility factor for project scope and cost estimates.
- Project totals and item totals have been rounded to the nearest thousand dollars.

Project Phasing for Iroquois Park

Project Area	Project	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000 to FY 2005					FY 2006 to FY 2010					
								2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1	Summit Field and Overlooks	Survey, Pre-Design & Planning	Design	Construction	Establishment Maintenance	Ongoing Management by Metro Parks & Volunteers												
2	Olmsted Woodland Trail		Survey, Pre-Design & Planning	Design	Construction	Establishment Maintenance	Ongoing Management by Metro Parks & Volunteers											
3	Forest Preserve Interpretation & Management		Survey, Pre-Design & Planning	Design	Construction	Establishment Maintenance	Ongoing Management by Metro Parks & Volunteers											
4	Rundill & Uppill Roads	Survey, Pre-Design & Planning	Design	Construction	Establishment Maintenance	Ongoing Management by Metro Parks & Volunteers												
5	Lowland Forest Bridle Trails		Survey, Pre-Design & Planning	Design	Construction	Establishment Maintenance	Ongoing Management by Metro Parks & Volunteers											
6	Sloped Woodland Trails				Survey, Pre-Design & Planning	Design	Construction	Establishment Maintenance	Ongoing Management by Metro Parks & Volunteers									
7	Active Recreation & Parking				Survey, Pre-Design & Planning	Design	Construction	Establishment Maintenance	Ongoing Management by Metro Parks & Volunteers									
8	Horse Stables Area		Survey, Pre-Design & Planning	Design	Construction	Establishment Maintenance	Ongoing Management by Metro Parks & Volunteers											
9	Parkland Perimeter					Survey, Pre-Design & Planning	Design	Construction	Establishment Maintenance	Ongoing Management by Metro Parks & Volunteers								
10	Maintenance Facility			Survey, Pre-Design & Planning	Design	Construction	Establishment Maintenance	Ongoing Management by Metro Parks & Volunteers										

FY 1994 Fiscal Year 1994: 1 July 1994 to 30 June 1995

-  Survey, Pre-Design & Planning
-  Design
-  Construction
-  Establishment Maintenance
-  Ongoing Management by Metro Parks & Volunteers

Project Cost Estimates for Cherokee Park

For project areas description and plan, refer to Chapter 5.

Project Area No.	Project Area	Total Project	Site Preparation & Earthwork	Roads Drainage & Infrastructure	Paths & Bridle Trails	Landscape Planting & Management	Features & Amenities	Mobilization 6%	Establishment Maintenance	Contingency 10%	Design & Engineering 10%
1	Barringer Hill Trail and Vista	\$928,000	\$68,000	\$279,000	\$115,000	\$195,000	\$27,000	\$41,040	\$50,500	\$72,504	\$79,754
2	Barringer Hill Overlook	\$601,000	\$25,000	\$20,000	\$46,000	\$55,000	\$310,000	\$27,360	\$15,600	\$48,336	\$53,170
3	Central Woodlands Management & Trails	\$1,224,000	\$55,000	\$0	\$366,000	\$415,000	\$25,000	\$51,660	\$119,600	\$91,266	\$100,393
4	Scenic Loop	\$1,554,000	\$29,000	\$600,000	\$0	\$251,000	\$292,000	\$70,320	\$50,200	\$124,232	\$136,655
5	Perimeter Woodlands Management & Trails	\$2,205,000	\$55,000	\$0	\$599,000	\$842,000	\$45,000	\$92,460	\$228,300	\$163,346	\$179,681
6	Barringer Springs to Beargrass Creek	\$725,000	\$54,000	\$83,000	\$91,000	\$275,000	\$12,000	\$30,900	\$64,100	\$54,590	\$60,049
7	Bonneycastle Hill Recreation Area	\$935,000	\$65,000	\$109,000	\$61,000	\$217,000	\$238,000	\$41,400	\$49,500	\$73,140	\$80,454
8	Willow Pond	\$594,000	\$19,000	\$0	\$40,000	\$288,000	\$68,000	\$24,900	\$61,600	\$43,990	\$48,389
9	Big Rock	\$619,000	\$29,000	\$62,000	\$17,000	\$310,000	\$15,000	\$25,980	\$63,700	\$45,898	\$50,488
10	Two-Way Park Drives	\$1,934,000	\$39,000	\$950,000	\$0	\$357,000	\$106,000	\$87,120	\$71,400	\$153,912	\$169,303
11	Beargrass Creek Floodplain	\$4,815,000	\$869,000	\$0	\$0	\$2,475,000	\$24,000	\$202,080	\$495,000	\$357,008	\$392,709
12	Golf Course	\$523,000	\$31,000	\$100,000	\$0	\$83,000	\$0	\$12,840	\$16,600	\$22,684	\$24,952
13	Maintenance Facility	\$232,000	\$12,000	\$45,000	\$0	\$42,000	\$75,000	\$10,440	\$8,400	\$18,444	\$20,288
	Subtotals	\$16,889,000	\$1,350,000	\$2,248,000	\$1,335,000	\$5,805,000	\$1,237,000	\$718,500	\$12,693,500	\$1,269,350	\$1,675,542

Notes

- Estimates are based on 1994 prices from generalized conceptual master plans; further estimates will be done at the schematic design and construction document phases.
- Estimates do not include costs of Riverwalk and road re-paving projects by the Department of Public Works and certain drainage by MSD.
- "Site Preparation & Earthwork" includes demolition, erosion and sediment control, and earthwork.
- "Roads, Drainage & Infrastructure" costs involve park drive edge stabilization, inlet and culvert reconstruction and pavement repairs. Substantial cost savings could be accrued if this work were performed by Metro Parks infrastructure crew.
- "Paths & Bridle Trails" and "Landscape Planting & Management" costs involve path reconstruction, landscape stabilization, and landscape management and planting. Substantial cost savings could be accrued if this work were performed by Metro Parks infrastructure and landscape management crews, along with volunteer management projects.
- "Features & Amenities" includes buildings and bridges, active recreation facilities, and amenities: monuments, pavilions, overlooks, shelters, benches, signage, and park furnishings.
- "Mobilization" includes Contractor office, storage areas, and such sanitary and utilities required during construction by law or regulation, and insurance and bonds required by the contract.
- "Establishment Maintenance" includes additional costs, above and beyond normal park maintenance operations, to establish landscapes cited under "Landscape Planting & Management" for a two-year period (20% of "Landscape Planting and Management" cost) along with maintenance and stabilization of park paths and bridle trails for a two-year period (10% of "Paths & Bridle Trails" cost).
- Contingency is standard flexibility factor for project scope and cost estimates.
- Project totals and item totals have been rounded to the nearest thousand dollars.

Project Cost Estimates for The Parkways

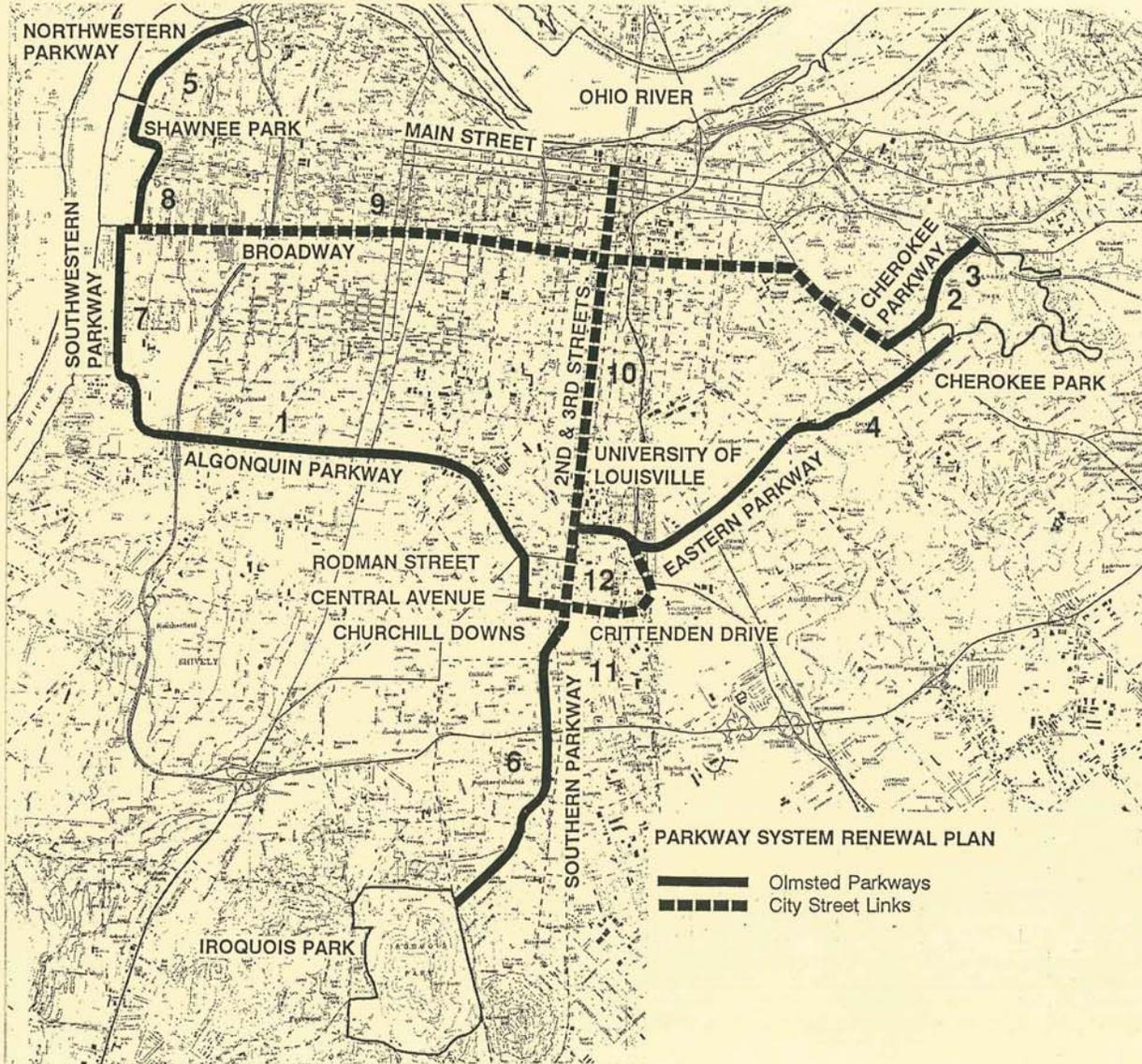
Prepared by Landscapes, Westport CT

Project Area No.	Parkway Area	Total Project	Limestone Curbing & Road Edge	Multi-Use Paths (8'-0" width)	Lighting & Wiring	Traffic Signals & Signage	Landscape Turf, Edge & Trees	Mobilization 6%	Establishment Maintenance	Contingency 10%	Design & Engineering 10%
1	Algonquin Parkway—3.2 miles	\$4,056,000	\$918,000	\$425,000	\$1,088,000	\$133,000	\$510,000	\$184,440	\$102,000	\$336,044	\$359,448
2	Cherokee Parkway—0.3 miles	\$270,000	\$3,000	n/a	\$89,000	\$29,000	\$76,000	\$11,820	\$15,200	\$22,402	\$23,122
3	Cherokee Parkway, Park Entrance to Lexington Avenue—.8 miles	\$856,000	\$144,000	\$53,000	\$402,000	\$24,000	\$38,000	\$39,660	\$7,600	\$70,826	\$77,149
4	Eastern Parkway—3.2 miles	\$2,503,000	\$1,013,000	\$408,000	\$120,000	\$171,000	\$204,000	\$114,960	\$40,800	\$207,176	\$223,814
5	Northwestern Parkway—1.2 miles	\$1,449,000	\$346,000	\$80,000	\$410,000	\$53,000	\$205,000	\$65,640	\$41,000	\$120,064	\$127,970
6	Southern Parkway—2.6 miles	\$1,327,000	n/a	\$172,000	\$740,000	\$115,000	\$6,800	\$62,028	\$1,360	\$109,719	\$120,555
7	Southwestern Parkway—2 miles	\$2,751,000	\$570,000	\$252,000	\$673,000	\$115,000	\$456,000	\$123,960	\$91,200	\$228,116	\$241,808
8	Southwestern Parkway along Shawnee Park 1.2 miles	\$587,000	\$141,000	\$48,000	\$205,000	\$19,000	\$38,000	\$27,060	\$7,600	\$48,566	\$52,663
	Subtotals, 14.5 miles of Olmsted Parkway	\$13,799,000	\$3,135,000	\$1,438,000	\$3,727,000	\$659,000	\$1,533,800	\$629,568	\$306,760	\$1,142,913	\$1,471,834
9	Broadway—7.2 miles	\$4,382,000	\$1,112,000	\$515,000	\$1,313,000	\$190,000	\$248,000	\$202,680	\$49,600	\$358,068	\$393,875
10	2nd & 3rd Streets—3.8 miles	\$6,229,000	\$1,084,000	\$502,000	\$2,562,000	\$188,000	\$450,000	\$287,160	\$90,000	\$507,316	\$558,048
11	Rodman/Central/Crittendon—2.2 miles	\$2,256,000	\$571,000	\$132,000	\$721,000	\$75,000	\$225,000	\$103,440	\$45,000	\$182,744	\$201,018
12	Bridge over Rail/Highway	\$2,000,000									
	Subtotals, 13.2 miles of new linkages	\$14,867,000	\$2,767,000	\$1,149,000	\$4,596,000	\$453,000	\$923,000	\$593,280	\$184,600	\$1,048,128	\$1,152,941

Notes

- Estimates have been developed as generic costs along the 14.5 miles of Olmsted Parkway and also for the 13.2 miles of intended linkages along city streets.
- Estimates do not include demolition; replacement of underground water, sewer, and storm drainage; or repaving projects.
- As these estimates are based on a visual assessment of the Parkways without a detailed inventory or quantification of deterioration, they should be viewed as providing a sense of the intensity of costs required, rather than detailed budgetary numbers. They are provided so that the Parkways are seen as a significant component of the overall renewal of the Olmsted Parks and Parkways.
- "Mobilization" includes Contractor office, storage areas, and such sanitary & utilities required during construction by law or regulation, and insurance & bonds required by the contract.
- "Establishment Maintenance" includes additional costs, above and beyond normal Parkway maintenance operations, to establish landscapes cited under "Landscape Planting & Management" for a two-year period (20% of "Landscape Turf, Edge & Trees" cost).
- Contingency is standard flexibility factor for project scope and cost estimates.
- Project totals have been rounded to the nearest thousand dollars.

Project Areas for The Parkways



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