

PARKVILLE PARKS MAINTENANCE MANAGEMENT ASSESSMENT

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Introduction

This assessment is created for two purposes:

1. To evaluate the current level of maintenance of the Parkville park system.
2. To determine if the current level of maintenance is adequate or if it should be improved.

Ultimately, the level of maintenance must support the Vision and Mission that is presented in the new master plan as well as that of the City. In 2015 the Mayor and Board of Aldermen identified parks as one of the critical success factors to achieve the City's vision. In addition, the long term priorities identified for Parks include establishing it as a stand-alone department and increasing staff resources to maintain all new park areas. That support must include adequate resources in its operating and capital budgets for staff, equipment, and supplies to succeed. The Vision and Mission Statements for Parkville Parks are as follows:

Vision: The city of Parkville will enjoy an accessible, safe and connected community park system, providing regionally significant destinations and preserving and enhancing Parkville's unique natural resource base while maintaining and creating a variety of unique recreational activities.

Mission: Balance the demand for recreation with the need for conservation, maintain park facilities to a high standard, offer a variety of enjoyable, clean, safe and accessible recreational activities and facilities and preserve natural areas.

Summary

If the Vision Statement and Mission Statements as described above that call for regionally significant destinations, and a safe and clean environment, the Park Department's resources must be funded at an appropriate level to accomplish those goals.

Basic Tenets

Basic tenets are the guiding principles or the foundation upon which all recommendations in this report are linked. They are as follows:

- The level of maintenance that exists in the park system is directly related to the resources available to staff.
- The most acceptable level of maintenance is one that provides:
 - safety
 - security
 - approval by citizens-at-large, the board of aldermen, administration; and
 - allows the community to implement its Vision and Mission Statements

Assessment Methodology

To assess Parkville’s level of maintenance within the Parks Department, six categories were analyzed:

- **Superintendent’s perception** of citizen and stakeholder satisfaction
- **On-site observations**
- **Maintenance Type** (preventive, cyclical, corrective)
- **Maintenance Mode** (intensity of maintenance operations as a whole)
- **Function and Frequency of Maintenance**
- **Benchmarking Comparisons**

Superintendent’s Perception

The Superintendent of Parks was asked for his opinion about how others (Mayor, Parkville Board of Aldermen, CLARB, citizens-at-large, City Administrator, Director of Public Works, and he) would rate the maintenance quality of the park system. Clearly, this is a difficult position for the Superintendent to be placed in; however, he is the first to know of issues in the system that generate negative feedback from others, thus his opinion provides an insight that we would otherwise not have. Using a scale of 0 to 10 with 10 being the highest score, the Superintendent’s perception is that other’s would rate the quality of maintenance in Parkville Parks at an 8. This rating compares to a national benchmarking average satisfaction with parks of 85%.

Maintenance Type

There are three maintenance types against which Parkville is evaluated: Preventive, Cyclical, and Corrective. Park staff organizes its work in both the cyclical and preventive categories. Predictable maintenance functions such as those cited in Table 1 are addressed on a scheduled basis, thus embracing both the cyclical (annual) approach as well as the preventive approach. The outcome of this approach is that there are minimal corrective actions required during the year.

1. Preventive – The goal of Preventive Maintenance is to schedule routine actions on each asset that is to be maintained.
2. Cyclical – Cyclical Maintenance generally is defined as the maintenance action on a key element of an asset that will need to be replacement or refurbishment one or more times during the life of the asset.
3. Corrective – Corrective Maintenance is the last type of repair action. Equipment may break down before it is scheduled to be replaced. Generally speaking, corrective repairs should be a relatively small part of the maintenance time. Corrective repairs are a signal that something is not working.

Table 1: Maintenance Types

Type	Parkville	Comments
Preventive	x	Based on preventive processes for the maintenance of the irrigation system, its backflow preventers, and the Depot fountain as specific examples
Cyclical	x	
Corrective		

Maintenance Mode

There are four maintenance modes as described below and against which Parkville is evaluated. These maintenance modes as developed by the National Recreation and Parks Association (NRPA) express varying levels of care for all parks maintenance functions. The national benchmark for dollars spent per acre is shown to the right of each maintenance mode. These figures are based on nationwide data provided by the National Recreation and Parks Agency (NRPA) through their PRORAGIS database.

Table 2: Maintenance level description and national benchmark of dollars spent per acre

Mode	Description	National Benchmark for dollars spent per acre
Mode 1	high level maintenance usually associated with high traffic areas such as those around the perimeter of your buildings and most heavily used parks	\$6,000
Mode 2	high level maintenance associated with well-developed park areas with reasonably high visitation	\$4,500
Mode 3	moderate level of maintenance associated with locations with moderate to low levels of development, moderate to low levels of visitation, or with agencies that because of budget restrictions cannot afford a higher level of maintenance	\$3,400
Mode 4	moderately low level of maintenance associated with low level of development, low visitation, undeveloped areas or remote parks	\$1,800

Although the budgeted amount per acre is \$1,454 per acre for the Parkville park system which is low in the Level 4 category, further analysis and on-site observations lead one to believe that there are a series of factors that place the system above the Level 4 level, perhaps as high as a Level 2. Those factors include:

- Intense maintenance focus on English Landing Park as the destination park in the system
- Efficiency of maintaining English Landing Park because the system’s maintenance facility is located in the park
- Dedication of the park staff to provide the best service it can with the resources that are available

Maintenance Functions and their Maintenance Frequency

Frequency of maintenance is determined by resources, staff efficiency, and citizen expectations. Currently, the city of Parkville has not formally adopted a park maintenance approach and if done would provide useful information which will allow the department to better work with community leaders to align budgeted resources with maintenance level expectations. One such approach would be to implement a new project work order system whereby the department will have the ability to track current man hours needed to maintain the system at its current level and, when needed, it will be in a position to calculate the additional resources needed to elevate overall maintenance functions.

Detailed below in Tables 3 and 4, are staff’s calculations of the man hours available for current tasks and the gap that exists between what is available versus what is needed:

Table 3: Current Maintenance Functions and their Maintenance Frequency

Function	Current Monthly Man Hours	Maintenance Frequency (weekly, monthly or annually)	Additional monthly hours needed to accomplish current maintenance demands
Administration	100	Daily	10
Building maintenance	6	As needed	16
Equipment/vehicle maintenance	16	As needed	12
Facility maintenance	8	Monthly	10
Flower maintenance	16	As needed	10
Mowing/Grounds maint.	480	Daily	160
Athletic Field Maintenance	80	Daily	20
Herbicide application	32	Monthly	32
Irrigation	10	As needed	
Weedeating	160	Daily	40
Recreation equipment	10	Monthly	20
Restroom maintenance	56	Daily	20
Snow removal		As needed	
Training	20	Monthly	20
Trash pickup	80	Daily	20
Tree care/removal	60	As needed	25
Lighting	4	As needed	6
TOTAL	1138		421

Table 4: Future Maintenance Functions and their Maintenance Frequency for Platte Landing Park

Function	Current Monthly Man Hours	Maintenance Frequency (weekly, monthly or annually)	Additional monthly hours needed to accomplish current maintenance demands
Administration	16	Daily	8
Equipment/vehicle maintenance	10	Weekly	2
Wetland maintenance	32	As needed	20
Mowing/Grounds maint.	40	Weekly	8
Herbicide application	32	Daily	10
New Athletic fields Soccer/lacrosse (4 ea.)	0	Daily	90
Irrigation (if new fields are irrigated)	0	Weekly	8
Weedeating	40	Daily	20
Recreation equipment (new playground)	0	Weekly	8
Restroom maintenance	18	Daily	2
Trash pickup	24	Daily	8
Tree care/removal	16	As needed	8
Boat ramp maintenance	4	Bi-weekly	0
TOTAL	232		192

Summary

Based on the totals provided by staff in Table 3, there is a gap of 421 hours monthly to accomplish the tasks that should be completed to maintain the park system. Forty eight percent (48%) of the gap is related to mowing and weed-eating.

The addition of Platte Landing Park has added and will continue to add significant maintenance responsibilities to the Park Department as future development occurs! Additional acreage in the amount of 140 acres, the addition of four new soccer/lacrosse fields, a playground, wetlands, and other amenities will require new resources beyond the current budget.

Benchmarking Comparisons

Comparing key indicators linked to national averages and/or best practices provides another perspective when analyzing Parkville’s level of service that results from its maintenance management.

Table 5: National Averages, Benchmarks, and other Relevant Data

Item	Parkville	National Average and/or Benchmark
Annual budget for capital maintenance, maintenance equipment and asset depreciation	\$192,000 is the average annual allocation of capital dollars for a four year period between 2013 and 2016	High performing agencies develop a percentage of their total assets to be budgeted annually for capital improvements
Expenditures per resident (total park budget / population)	\$64.00	\$71.00
Maintenance budget per acre for maintained areas? (total park budget / total maintained area)	\$1,424	Detailed above in the maintenance level table
Park acres per 1,000 residents	45.0	17.3
Number of full-time employees per 1,000 residents	0.5	0.94
Number of part-time staff employees per 1,000 residents	0.6	0.62
Annual hours allocated to non-park mandates from the board of aldermen or administration; e.g. hanging Christmas lights, setting up for special events?	Still determining.	Varies by community from minimal to extreme. The one weekend per year is definitely on the minimum side
Is there an automatic equipment replacement program based on age or operating hours on each piece of equipment?	No, however the city expects that equipment needs to be replaced should be listed in the CIP during the annual budget process.	Varies; however, an automatic equipment replacement program based on equipment hours of usage or age is the standard
Does the Department have the right kind of equipment for the tasks that it is required to perform?	No. While most tasks can be performed with the equipment currently available, other equipment	Safety, efficiency, and staff morale are of the utmost importance. To achieve the highest level of service, it is

	is needed to more efficiently conduct operations. Future equipment recommendations will be added to the CIP	critical that equipment is of the right type
Are there maintenance tasks, facilities, parks, or amenities that should be outsourced or considered for removal from inventory?	There is a significant amount of mowing of rights-of-way that should be considered	Mowing of rights-of-way is a good candidate for consideration for outsourcing
Are there hobbyists, special interest groups, or other partners who do, or can do maintenance to meet your expectations that will offset your workload?	Volunteer help is provided by special interest groups for smaller projects, but they lack the equipment and skills for bigger projects	Best practices encourage agency's to utilize volunteer help when it is beneficial to both the city and the volunteer/volunteer group projects
Is the Department outsourcing any of its maintenance at this time?	Temporarily outsourcing 10 acres of wetlands until a development occurs and/or funding for larger equipment/manpower is identified.	Outsourcing varies but it has a role and is worthy of consideration as appropriate

Summary

The annual allocation of operating and capital dollars is below the investment that is preferred to maintain and sustain the park system.

Current Capital Maintenance Needs

Discussions with the Superintendent of Parks resulted in the identification of a number of capital needs. Those needs are captured below in Table 6 and have been included in the CIP as requests for future purchase. Equipment listed in Table 6 are currently rented on an as needed basis.

Table 6: A list of current capital and deferred maintenance needs

Item	Approximate Cost for Replacement/Repair
Drill Seeder	5,000
Zero Turn Mower	17,500
6 Series Tractor w/ Turf Tires	30,000
Brush hog mower attachment	19,500
Storage / Maintenance Facility	75,000
Chipper	20,000
TOTAL	\$167,000

Findings and Recommendations

Finding #1 – Park Maintenance Management Plan

The Park Department would benefit from the creation and formal adoption of a maintenance management plan. A city of Parkville Maintenance Management Plan would provide the community with the data it needs to manage the park system as an important business component of the overall city budget.

Recommendation #1

The city should create and formally adopt a park maintenance management plan. In outline form, the formal plan would include the following key components:

- The philosophy of managing the system for cyclical and preventive maintenance and when each is appropriate for Parkville
- Park and asset inventory
- Identification of maintenance activities
- Maintenance levels to be achieved
- Work standards
- Work load distribution
- Staffing requirements to complete each activity that has been identified
- Work schedules on a daily, weekly, monthly, and annual basis
- Maintenance standards

Finding #2 – Level of Maintenance Gap

There is a gap between the available resources for current maintenance requirements and the resources needed to accomplish them.

It is noteworthy that the gap would most likely be more obvious to park users if it were not for the leadership of the park department and a small staff of extremely passionate employees who are dedicated to providing a high level of service. However, it is not in the long term interest of the system to rely so heavily on the energy provided by its current staff as predictable changes may result in a different maintenance level that is below the current one.

Recommendation #2a

As detailed above in Tables 3 and 4, there is a gap between tasks that need to be accomplished in the park system and the resources that are available for them. The recommendation is to seek support from administration and the board of aldermen to close the gap.

As Platte Landing Park is fully developed, its maintenance will add an additional 192 hours (table 4) to the existing gap of 421 hours (table 3) for a total gap of 613 hours that need to be considered for additional funding.

Recommendation #2b

As identified in Table 5, there is a significant amount of mowing of rights-of-way that should be considered for outsourcing. It is recommended that the city out-source mowing of rights-of-way to help close the gap.

Recommendation #2c

It is recommended that adequate staffing levels (as identified in Table 4) be in place prior to further developing Platte Landing Park.

Finding #3 - Financial

There is not a dedicated funding source for the operating and capital improvement budgets of the Park Department.

Recommendation #3a

The city should determine the value of all assets in the park system.

Recommendation #3b

When the value of all assets has been calculated, the city should adopt an approach to re-invest capital dollars back into the system by following this outline:

- Determine an appropriate percentage of the system’s assets that the board of aldermen will re-invest each year
- Continuously update the capital improvement needs of the system and present to the board of aldermen during the annual budgeting process. Current capital needs are detailed above in Table 6. As shown in that table, the current total is \$167,000 for requests that are realistic and typical for the maintenance of a park system. Detailed above in Table 6 and featured below is an image of a maintenance/storage facility that was designed for English Landing Park in the amount of \$160,000.



Image: Proposed Storage, Maintenance Shop and Restroom; 01.07.2016 by Williams Spurgeon Kuhl & Freshnock Architects, Inc.

Recommendation #3c

The city must increase its park department operating budget to narrow the gaps detailed in tables 3 and 4. Offered as informational data for city administration and the board of aldermen to balance the needs of the park system with all of the demands placed on the annual city budget:

- The annual operating park department budget for the city of Parkville is \$7 per resident below the national average

Perhaps the city should ask voters for a ¼ or ½ cent park tax dedicated to operations and development of new facilities.

Finding #4 – Work Order System

The Park Department does not have access to a commercial software program designed for usage as a work order system. The work order system would allow the Park Department to manage all aspects of its operations by providing data to be used for analytical purposes. Accurate data would be used to guide the allocation of resources.

There are several vendors of work order systems that are designed specifically for municipal park departments. Popular vendors are:

- ManagerPlus
- CityWorks
- Trims
- MainTrac

Acquisition software costs range between \$4,000 and \$6,000 with an additional one-time cost of approximately \$1,000 for training. Monthly fees are assessed after one year and typically range between \$300 and \$500 per month.

Recommendation #4a

The city of Parkville should acquire and implement a commercial work order system. When implemented, the system will:

- take the guess work out of capturing the quantifiable data needed to respond to questions from citizens-at-large, administration, board of aldermen or others who inquire about future opportunities and/or issues
- captures the man hours and other resource requirements needed to maintain the system
- be used to schedule work
- be used for collecting important data that can be used to validate operating and capital budget requests

Finding #5 – Automatic Equipment Replacement Program

The Park Department does not have an automatic equipment replacement program. Because equipment has a predictable life, the park system cannot provide the level of maintenance that it should if its equipment is not dependable. The combination of undependable equipment, a small staff, and a gap between maintenance requirements and available resources is not a good formula for the provision of an acceptable level of maintenance.

Recommendation #5a

The city of Parkville should create and formally adopt an equipment replacement program. Guidelines for consideration include:

- 800 hours for an air cooled/gas commercial mower
- 1,200 for diesel mowers
- 5,000 hours for a tractor

Finding #6 – Formal Partnership Policy

The Park Department does not have a formal partnership policy it can use to document its interaction with users and friends of the park system. Numerous special events, athletics, programs, and activities utilize the Parkville park system, thus the need and benefit of a formal user agreement between the city and users.

Recommendation #6a

The recommendation is to develop a formal policy that would include the following as a minimum:

- Contact information
- Date when the agreement will be reviewed on an annual basis
- Goals for each partner and assurance that they are mutually beneficial
- Dollar value of contributions by each partner
- Expected/projected revenue
- How best to communicate
- Insurance requirements
- Agreement terms
- Approved signatures of each partner