



Parks & Recreation Master Plan 2008 - 2025

City of Broken Arrow, Oklahoma



Management Learning Laboratories
Packard & Associates

Parks & Recreation Master Plan 2008-2025

Prepared for

City of Broken Arrow
Parks and Recreation Department

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Introduction

Broken Arrow is a suburban community just to the southeast of Tulsa, Oklahoma, and is noted for low crime, good schools, quality development, and excellent transportation access to surrounding areas. These factors are primarily fueling the growth of the community. Additionally, the community still holds large undeveloped tracts of land adjacent to the Broken Arrow Expressway and Broken Arrow South Loop Creek Turnpike, which offer prime sites for commercial, office, retail, and industrial development. These factors will continue to make Broken Arrow an attractive location for business and residential development.

Growing nearly 35% since 1990, Broken Arrow continues to be one of the fastest growing communities in Oklahoma of those with more than 50,000 persons. Between 1990 and 2000, the City of Broken Arrow added nearly 17,000 new residents, growing from 58,043 to 2000 population of 74,859 as reported by the US Census. In 1980 Broken Arrow was the 28th largest City in Oklahoma, in 1990 it moved up to 9th, and today the City ranks 4th. The estimated 2007 population was 97,949.

Population growth has also been accelerated due to the annexations that have occurred since 2000. Annexing areas containing existing subdivisions has the effect of adding a more substantial amount of population to the city limit's than would normally occur through natural growth and development.

The city limit of Broken Arrow has expanded by more than 5 square miles since 1990 and the fence line by nearly 29 square miles. This continued rapid growth places new and increasing demands on the City's resources, land, environment, and capital infrastructure. Managing growth while at the same time maintaining a good quality of life is the primary challenge facing the community over the next 20 years. *

Purpose

The purpose of the Parks and Recreation Master Plan (Plan) is to provide the basis for decisions, public and private, that relate to park, recreation and open space facilities. Preparation of the plan was directed by the Broken Arrow Engineering and Construction, Parks and Recreation, and Planning Departments of the City; and input from citizens of the community. This Plan is a tool for determining physical facility development, rather than park programming. Recreation programming shall be defined by the City of Broken Arrow based upon the needs and preferences of its residents.

Introduction

The Plan is a statement of public policy for park properties and recreation facilities under the management, care, and control of the City of Broken Arrow City Council with recommendations from the Broken Arrow Parks and Recreation Department. This Plan describes future park and recreation facilities, in terms of recognized standards and residents' desires as expressed through the public input process, includes a section describing existing parks, provides development programs, cost estimates and phasing for existing and new parks, as well as states estimated funding requirements for park development and expansion. A significant purpose of this Plan is to provide guidelines to meet the goal of access to park and recreation opportunities for all citizens of Broken Arrow.

Plan Context

Since the construction of the Creek Turnpike, the City of Broken Arrow has grown from a city to 74,859 in 2000 to a city of over 95,000, and new development has occurred throughout the city. Due to consistent increase in population, it became necessary to reassess how residents currently use the park system and how the parks may better serve the community. Therefore, the *Needs Assessment Survey* (see Appendix B) and the *Report for Broken Arrow, OK: Recreation Community Survey* (Appendix C) prepared by Management Learning Laboratories, was used to explore recreation and leisure interests of Broken Arrow Residents. The *Report for Broken Arrow, OK: Recreation Community Survey*, along with the *East Development District (EDD) Report*, and population projections were utilized to determine future recreational needs.

Relationship to Comprehensive Plan

The Broken Arrow Comprehensive Plan was adopted by the City Council on September 2, 1997, (Resolution 227). The Comprehensive Plan is a long term plan to help guide growth and development patterns and assist with the management of public and capital resources. The Comprehensive Plan includes a planning element for parks and open space reserves, whereas this Plan provides greater detail in terms of needs and specific recommendations for park system growth. It is anticipated that upon adoption of this Plan, it will be incorporated as an element of the City's Comprehensive Plan.

This Plan covers the time period through 2025, in four increments. In order for the Plan to be an effective tool for park development, periodic updates will be required to incorporate changing conditions and to maximize public investment.

Introduction

In addition to the Comprehensive Master Plan, in 1999 students from Oklahoma State University prepared a Parks Master Plan for the City of Broken Arrow. This Master Plan was also used as a reference for planning future trails and green space connections.

Scope of Plan

The boundary for this Plan is the corporate fence line of Broken Arrow. Planning district lines have been determined based on physical barriers such as the Broken Arrow Expressway, population density, and open space needs for a particular area. The sector lines were established to correlate with census tracts wherever possible to facilitate population analysis and projections and may be adjusted, if needed, through time.

One planning district in particular, known as the East Development District (EDD), was established as a Special Development District and implemented through an Overlay Development District process (see *Park Planning Districts* illustration). The purpose of establishing this district is to guide development in a unified rational approach. This area contains a number of undeveloped large tracts of land in limited ownership, making it conducive to master planning and long term development. The purpose of the Overlay District, is to provide opportunities for innovative development methods and principles that will encourage excellence in community design, especially through development of mixed land uses.

Plan Summary

The Plan is divided into several major sections in addition to this Introduction. The second section is *Inventory*, and provides information about the current status of existing parks, as well as, park classifications and development standards. Included are illustrations titled *Park Inventory Matrix* and *Existing Parks and Trails*.

A third section contains *Goals and Policies*. The *Goals and Policies* established in this section reflect the City of Broken Arrow Parks and Recreation Department objectives and provide a foundation for park improvements, expansions, and future decision making.

The fourth section, *Needs Analysis*, includes population data and projections, park acreage projections, maintenance modes, maintenance requirements

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projections, and park needs projections over the study period. Included are illustrations titled *Park Planning Districts* and *Park Service Areas*.

The fifth section is *Development Recommendations*, which defines specific improvements for existing parks. It also includes generalized recommendations for new parks cost estimating and phasing, as well as, maps of existing and new parks, open space and trails. Included are illustrations titled *Proposed Parks and Proposed Trails*.

The *Appendix* includes, *Park Type Standards* from several different cities, the *Needs Assessment Survey* and the *Report for Broken Arrow, OK: Recreation Community Survey*, prepared by Management Learning Laboratories, and the *Maintenance Needs Tabulations*.

Inventory

This section provides information about existing parks, as well as, park classifications and development standards. Included are illustrations titled *Existing Park and Trails, Park Planning Districts, and Park Service Areas*.

Facilities

The City of Broken Arrow has approximately 760 acres of parks and open space available for public access and enjoyment. Approximately 531 acres is devoted to active recreation such as organized sports. The remaining 228.5 acres is intended for passive activities such as picnicking and for open space preservation. Included in the 228.5 acres of passive recreation are 66.4 undeveloped acres.

Existing parks are classified as Mini Parks, Neighborhood Parks, Community Parks, and Regional Parks. Refer to the Prototypical Parks section page 2-3, for a detailed explanation of these classifications.

Pages 2-11 through 2-50, include a detailed description of each park. Table 1, page 2-8, is a Summary of Parks and Trails. Table 2, page 2-10, describes Park Type Standards.

Operations

The Broken Arrow Parks and Recreation Department has a Director with an Administrative Assistant who oversees three main sections: the Recreation Division, the Parks Maintenance Division, and Battle Creek Golf Course.

The Recreation Division has a Manager who oversees the following Facilities/Programs: 1) Central Park Community Center, 2) Nienhuis Park Community Center, 3) Red Cross Learn to Swim Program, 4) Family Aquatic Center, 5) Nienhuis Park Aquatic Center, and 6) Country Aire Pool. The Central Park Community Center has a Supervisor, two full time Recreation Assistants, and three part time Recreation Assistants. The Nienhuis Community Center has a Supervisor, and three part time Recreation Assistants. The Learn to Swim Program has thirteen seasonal positions: an Instruction Supervisor, a Registration Assistant, Head Instructor, and ten Water Safety Instructors. The Aquatics Program has seventy-five seasonal positions: an Aquatic Supervisor and a Concessions Manager. The Central Pool has thirty-three seasonal positions: three Pool Managers, twenty-five Lifeguards, three Concessions Workers, and one Cashier. The Nienhuis Pool has thirty-three seasonal positions: three Pool

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Managers, twenty-five Lifeguards, three Concessions Workers, and one Cashier. The Country Aire Pool has seven seasonal positions: one Pool Manager and six Lifeguards.

The second section, the Parks Maintenance Division, has a Manager and a Parks Maintenance Technician who oversee the following six Facilities/ Programs: 1) Indian Springs Sport Complex (ISSC), 2) ISSC Region Parks, 3) Nienhuis Grounds Section, 4) Nienhuis Region Parks, 5) Forestry and Horticultural, and 6) Building Section. The ISSC Grounds Section has one Grounds Supervisor and one seasonal Parks Maintenance Worker. The ISSC Region Parks has one Crew Leader, three Parks Maintenance Workers, and one Seasonal Worker. The Nienhuis Grounds Section has a Grounds Supervisor and a Parks Maintenance Worker. The Nienhuis Region Parks has a Crew Leader, three Parks Maintenance Workers, and one Seasonal Worker. The Forestry and Horticultural Department has one Horticulturist, two Parks Maintenance Workers, and one Seasonal Worker. The Building Section has one Facilities Supervisor, two Building Maintenance Workers, and one Parks Maintenance Worker.

The third section Battle Creek Golf Course, is managed by Greenway Golf, Inc.

Recreational Programming

While recommendations for recreation programming are not a part of this Plan, it was necessary to acquire an understanding of the breadth and scope of recreation activities planned and coordinated through the Parks and Recreation Department in order to determine facilities needed. Particularly helpful in assessing community needs was the *Report for Broken Arrow, OK: Recreation Community Survey*.

The City of Broken Arrow has an extensive set of sports and recreation programming available throughout the year. Thousands of children and adults participate in a variety of organized sports every year in Broken Arrow. There is organized league play for youth baseball, basketball, girls softball, cheerleading, soccer, football and adult softball. These sports programs are organized and operated by non-profit groups which each have use agreements with the City for the scheduled use of the fields and facilities.

The City of Broken Arrow also offers programs administered by city staff. At the Central Park Community Center there is ladies volleyball, walking, martial arts, self defense, cheerleading, and pickle ball.

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The Nienhuis Park Community Center offers volleyball, rhythmic gymnastics, dance lessons, and walking. The Special Events offered are the Daddy-Daughter Dance each February, the Fishing Derby each June, the Pumpkin-Egg Hunt in October, and Breakfast with Santa in December. Three programs offer children chances to compete on local, state, and national levels: Pitch-Hit-and-Run, Junior Olympic Skills, and Hershey Track Meet, are competitions affiliated with or completely organized by national non-profit organizations with which the City of Broken Arrow participates. Pitch-Hit-and-Run measures baseball fundamental skills. The Junior Olympic Skills has basketball, soccer, tennis, and track competitions. The Hershey Track Meet offers youth age 9-14 chances to compete in track and field events.

The Historical Museum occupied by the Historical Society and Genealogy Society, and The Main Place occupied by the Broken Arrow Community Playhouse and Broken Arrow Seniors, Inc., are two facilities that are owned by the City of Broken Arrow. The programming and the management of these facilities are fulfilled by non-profit groups with use agreements.

Prototypical Parks

In order to help determine park needs and to develop implementation strategies, park prototypes and development standards must be defined. Based on these standards, existing park acreage and facilities can be assessed and specific needs projected.

Parks are classified according to size and facilities. Five primary park types are provided in a typical parks system. They are, 1) Mini Parks, 2) Neighborhood Parks, 3) Community Parks, 4) Regional Parks, and 5) Private Parks. These five park types are used for planning purposes as general guidelines for future development. Site specific park designs can be expected to occasionally vary from the prototypical park descriptions. Facility requirements on a site specific basis should be determined by careful need analysis and be informed by public input whenever possible. A brief description of each park type follows.

Mini Park

A Mini Park is the smallest park classification and is used to address limited or isolated recreational needs. Mini Parks should be located within or in close proximity to a neighborhood area. They may also function very well in an urban area such as a town square. A typical Mini Park is usually between 2,500 square feet and one acre in size and includes specialized facilities that serve a limited population. Parking facilities are generally not provided within a Mini Park.

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Typical components of a Mini Park may be picnic facilities, gazebo or shelter with game tables, benches, older adult facilities such as shuffleboard or horseshoes, playground (usually for toddlers), monuments, and open areas for special event gatherings and activities. Given their small size, they are not intended to be used for programmed activities.

Due to the specialized nature of Mini Parks, small park size and limited number of users, more overall benefit is derived from the neighborhood park in that more of the population can be served. The same amenities and services found in Mini Parks can be incorporated in the neighborhood park setting. Costs can be reduced by centralizing maintenance activities in a fewer number of parks. Budgetary considerations make it more feasible to combine Mini and Neighborhood Parks in order to honor user demands while meeting established parks needs standards. Therefore, in future development it is beneficial to combine Mini and Neighborhood Parks to be used as Neighborhood Parks.

Neighborhood Park

A Neighborhood Park should be centrally located within its service area, which encompasses a one-half mile radius uninterrupted by non-residential roads and other physical barriers. It should also be located within a residential neighborhood, usually within walking distance of everyone living in that neighborhood, or within one-half to one mile of the site. If possible, it is desirable to locate the neighborhood park adjacent to an elementary school site. Little or no parking should be provided since the neighborhood park is designed to serve the walking distance population.

Neighborhood Parks can be as small as one acre, but five acres is a desired minimum size in order to include the types of facilities that will best serve park user needs. An optimum size range could be considered as seven to ten acres with fifty acres as the maximum.

Neighborhood Parks should provide a wide range of recreational opportunities which may include baseball, softball and soccer practice fields, basketball, volleyball, playground equipment, picnic tables and shelter, and toddler playground equipment. Fields should be unlighted.

Community Park

Community Parks are larger in size and serve a broader purpose than Neighborhood Parks. Their focus is on meeting the recreational needs of several neighborhoods or large sections of the community, as well as, preserving unique landscapes and open space. In general, they should be developed

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for both active and passive recreation activities. Potential active recreational facilities include large play structures and/or creative play attractions, game courts, informal ball fields for youth play, tennis courts, volleyball courts, horseshoe areas, swimming pools, archery ranges, and disc golf areas. Passive activity facilities include extensive internal trails (that connect to the community trail system), individual and group picnic areas, general open space and unique landscape/features, nature study areas, and ornamental gardens.

Optimal size for a Community Park is between 20 and 50 acres, but its actual size should be based on the land area needed to accommodate desired areas. The site should be serviced by arterial and collector streets and be easily accessible throughout its service area by way of interconnecting trails. Parking lots should be provided as necessary to accommodate user access. Park lighting should be used for security, safety, and lighting facilities as appropriate.

Regional Park

A Regional Park should serve the recreational needs of everyone in the community and region on a general basis. Usually, Regional Parks are a minimum of 50 acres, with 75 acres or more being optimal, depending upon projected programming needs. The facilities may include a swimming pool, fully lighted sports fields with bleachers and concession areas, lighted tennis courts, picnic areas and shelters, restroom facilities, community centers, gymnasiums, and all of the younger and older citizen's facilities that are in a Neighborhood Park. The Regional Park may also be the site for a recreation center that would include indoor facilities for scheduled activities such as basketball, racquetball, dance, aerobics, table games, and possibly swimming. Lighted parking areas should be provided to serve the users who come for activities after-hours and possibly travel greater distances. For the purpose of this Plan, Community and Regional Park categories have been combined and will henceforth be referred to as Regional Parks.

It should be noted that Haikey Creek Park is considered a Regional Park in this Plan but is not maintained or owned by the City of Broken Arrow. The park serves citizens of Broken Arrow but is owned and maintained by Tulsa County Parks Department, therefore its acreage is not calculated into the *Maintenance Needs Tabulation* (See Appendix D) of this Plan but is included in the *Park Acreage Projections* in Section 4. Battle Creek Golf Course is not used in the inventory because of its specific nature, but is considered a Regional Park within the Broken Arrow Parks system.

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Private Park

Private Park Facility is a classification that recognizes the contribution of private providers to the community park and recreation system. It also encourages cooperation between private and public sectors toward meeting growing park and recreation needs. Given the inherent variability in their size, Private parks have no established site size standards for private recreational facilities. Private parks and facilities include swimming pools, tennis courts, and party house's are generally within a residential development for the exclusive use of residents and are maintained through a neighborhood association. Private recreation facilities are for-profit enterprises, such as health and fitness clubs, golf courses, water parks, amusement parks, private playgrounds, and sport facilities. School playgrounds were not included in this study due to restricted public access during school hours.

Private facilities such as YMCA'S and the Salvation Army Girls & Boys Club were assessed. For the purpose of this Plan they have been identified and labeled for location clarification, but were not expanded upon in the *Park Inventory Sheets* (see Existing Parks and Trails Illustration).

As stated in the Broken Arrow Comprehensive Plan, a growing maintenance concern is presented by the prevalence of private parks installed by private developers and subsequently owned by independent homeowner associations. The durability and safety of equipment installed by private developers can have great variance and is a concern in regards to the quality, installation and maintenance of the facilities. Furthermore, if past trends are an indication, the City may be asked to assume responsibility of these parks at their expense. To avoid future problems, it is encouraged that any private parks be established using the same standards used by the City. Additionally, it is not recommended that Broken Arrow encourage the development of private community pools as part of a Neighborhood Park owned and operated by the homeowners association, as often those facilities do not meet the public health standards required of a municipality. Private Parks are not generally opened for public use and do not always meet the safety and construction standards that are required for Public Parks, and therefore are not included in the *Needs Assessment* section of this document. However, there is future potential for Private Parks to develop a use agreement with the City of Broken Arrow that would allow public trail access through private parks.

Trails

The National Recreation and Park Association define trails as multipurpose pathways and connectors located within greenways, parks, and natural resource areas.

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Trails are classified by type (Types I, II, and III) and/or function (Park and Connector) and serve as a method of conveyance for walkers, bicyclers and in-line skaters. Equestrian trails, usually of grass or wood chips, are primarily for horseback riders and are designated for, but not limited to, equestrian use. Trails serve several important functions within the park system. They facilitate pedestrian movement to and through parks, schools, and adjoining areas and neighborhoods while limiting interaction with motorized vehicles (Types I and II). Trails also effectively tie the various parks and recreation areas together to form a comprehensive park and trail system.

Connector trails (Type III) provide a means of safe travel and connections to and around parks, schools, and through the community and may be either on or off street trails. With the exception of bicycle trails located on streets and boulevards, use by motorized vehicles on all other trails is generally prohibited.

On-street trails are designated by traffic striping and signage at the edge of the roadway to facilitate safety. Exercise trails may also be provided within the limits of individual parks and may or may not connect with a larger trail system.

Inventory

Table 1 - Summary of Parks and Trails

Park Type	Area/ Length	Name
Mini	10.45 acres	Battle Creek Mini, Centennial, Country Aire Tot Lot, Indian Springs Mini, Morrow, Oak Creek South, Rockwood East
Neighborhood	86.6 acres	Aspen Creek, Camino Villa, Copper Creek, Country Aire, Haskell, Leisure, Liberty, Linear, Lions, Rockwood West, Seiling, Timberbrook, Urbana, Vandever, Wedgewood, Wolf Creek
Community	42 acres	Central Park, Jackson Park
Regional	425 acres	Arrowhead, Indian Springs Sports Complex, Nienhuis, Ray Harral Nature Park, Veterans
Special Facilities	116.1 acres	Farmers Market, Historical Museum, The Main Place, Battle Creek Golf Course
Undeveloped	66.4 acres	Buford, Hidden Springs, Pembroke, Tiger Hill, Woodland
Connected Trails	18.25 miles	Liberty Parkway Trail, Linear, County Aire to Country Aire Tot Lot

Inventory

Development Standards

Development standards are general guidelines, which may be used, as a starting point in the process of defining park and facility type needs. Recommendations from several sources, including the National Recreation and Park Association, have been consulted in the preparation of this Plan. Standards are meant to be flexible and responsive to community demands for park and recreation space and facilities.

There are several methods of developing park and recreation standards. The most common methods are:

Park and Recreation Space Based on Area

The area percentage method suggests that a certain amount (a percentage) of area within a development or community should be set aside for park and recreation use. The primary drawback to this method is that it does not consider population densities. Also, limited flexibility makes implementation difficult.

User Characteristics or Demand Projections (Level of Service)

The Level of Service (LOS) demand projection method uses participation rates to determine spatial needs. This method seems to be very relevant to the needs of the community. However, it depends completely on the development of a very detailed database of participation rates per 1,000 people for any activity. It becomes difficult to relate participation in an activity within a given jurisdiction because of the influence of out-of-town facilities and out-of-town users.

Facilities and Activities

A parks system can be evaluated on the types of facilities and activities which are provided for citizens of the community. Such standards may be useful as a general guide but often prove to be irrelevant when applied to a particular community. For example, a park system might have the proper number of softball fields according to the standards, but demand exceeds what the fields can handle. Therefore, it would make sense to build more fields despite what the standards suggest. For this reason, facility type standards were not used to make planning decisions.

Population Ratio (acres of park land per 1,000 people)

Given the influence of standards on the acquisition and development of park and open space, the population ratio standard is the most applicable and defensible. Therefore for the purposes of this Plan, the population ratio method has been chosen to help develop park and recreation standards for the City of Broken Arrow. It is the most realistic and flexible method of determining spatial allocation. As previously mentioned, standards such as those pub-

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lished by the National Recreation and Park Association are applicable only as general guidelines. The standard used to determine neighborhood park calculations will be 3.5 acres for a Neighborhood Park plus .5 acres allotted for a Mini Park to allow 4 acres per 1,000 residents for future Neighborhood Park development. Community/Regional Parks will be 6 acres per 1,000 residents. Standards should be coupled with staff understanding of demands for various facility types.

The Park Type Standards in Table 2 are proposed for Broken Arrow. For other references on park standards, refer to Appendix A.

Table 2 - Park Type Standards

Park Type	Standard (acres/ population)
Neighborhood/Mini	4/1,000
Regional/Community	6/1,000

At this time, a defined standard for provision of trails within a community has not been set forth. However, trails are an integral part of a well balanced park system and play a major role in this Plan. The importance of trails in Broken Arrow is emphasized by three quarters of the Needs Assessment Survey (*Report for Broken Arrow, OK: Recreation Community Survey*) respondents expressing an interest in activities such as running, walking, biking and jogging. Likewise 60% of respondents indicated an interest in nature study and nature walks.

All existing Broken Arrow Parks were visited and inventoried. The following pages provide detailed documentation regarding size, location, park type and facilities for each park.

Inventory

Arrowhead Park



- Acreage: 40 Acres
- Location: 300 E. Washington St.
- Ownership: City of Broken Arrow
- Type of Park: Regional
- Facilities:
 - Playground Units - 1
 - Lighted Ball Fields - 8
 - Picnic Tables - 6
 - Park Benches - 3
 - Concession Stands - 1
 - Restroom Facilities - 1
 - Security Lighting - 20
 - Walking Trail - miles - 1
 - Handicap Parking - 7
 - Parking Spaces - 586

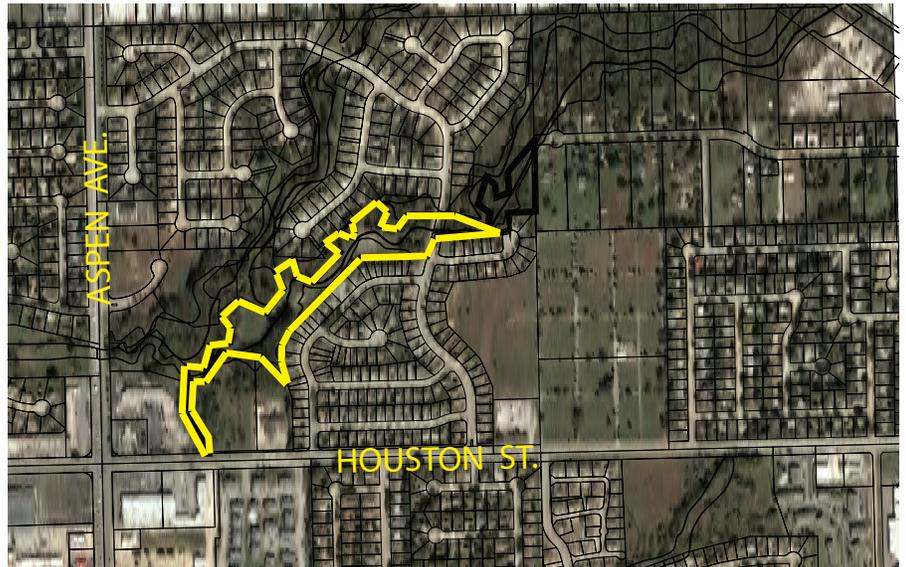


Inventory

Aspen Creek Park



- Acreage: 11.42 Acres
- Location: 320 S. Oak Ave.
- Ownership: City of Broken Arrow
- Type of Park: Neighborhood
- Facilities:
 - Playground Units - 1
 - Shelters with Water & Electricity - 1
 - Grills - 1
 - Unlighted Tennis Courts - 1
 - Picnic Tables - 6
 - Park Benches - 1
 - Security Lighting - 2
 - Outdoor Basketball Courts - 1
 - Walking Trail - miles - .4
 - Parking Spaces - 20



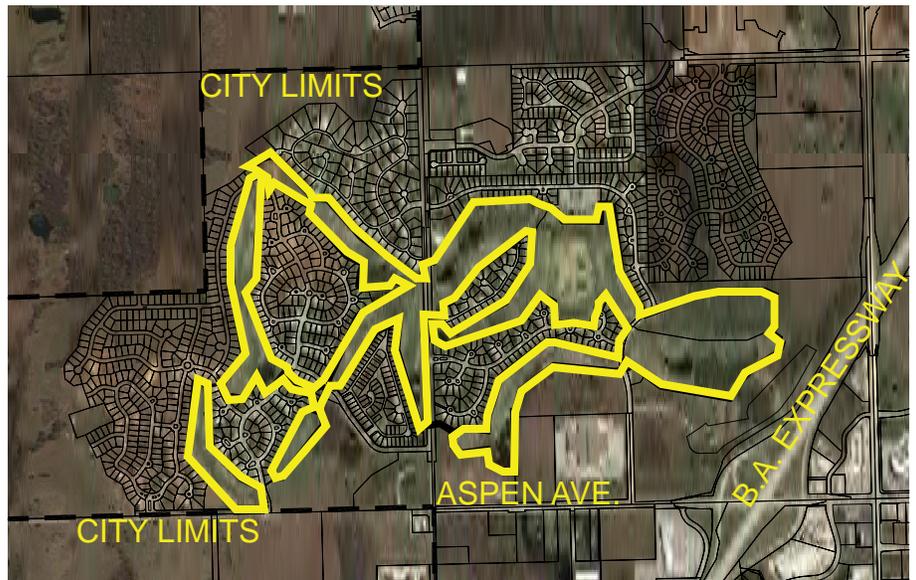
0' 250' 500' 1000'

Inventory

Battle Creek Golf Course



Acreage: 110 Acres
Location: 3200 N. Battle Creek Dr.
Ownership: City of Broken Arrow
Type of Park: Regional
Facilities: Clubhouses - 1
Restroom Facilities - 1
Banquet Facilities - 1
18 Hole Golf Course - 1
Driving Range - 1
Parking Spaces - 120

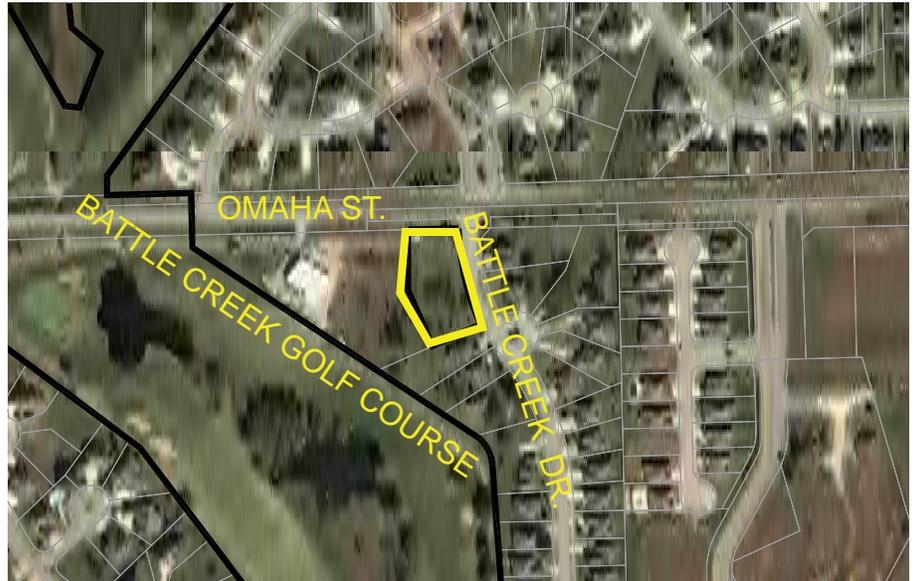


Inventory

Battle Creek Mini Park



Acreage: 0.6 Acres
Location: 51st & Battle Creek Dr.
Ownership: City of Broken Arrow
Type of Park: Mini
Facilities: Playground Units - 1
Shelters with Electricity - 1
Picnic Tables - 1
Park Benches - 1

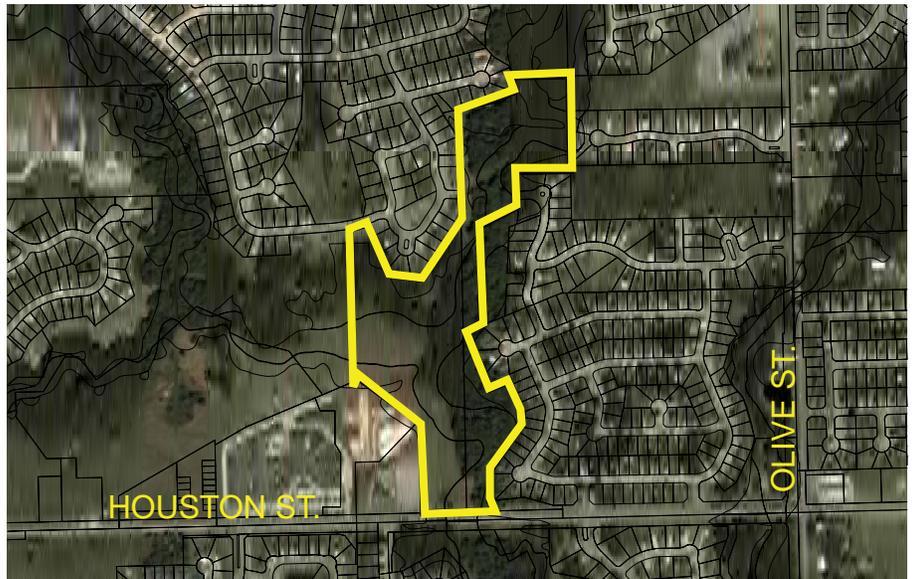


Inventory

Buford Park



Acreage: 34 Acres
Location: Houston & Willow St.'s
Ownership: City of Broken Arrow
Type of Park: Undeveloped Land
Facilities: None - Undeveloped
Future: To be developed as a Neighborhood Park

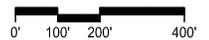


Inventory

Camino Villa Park



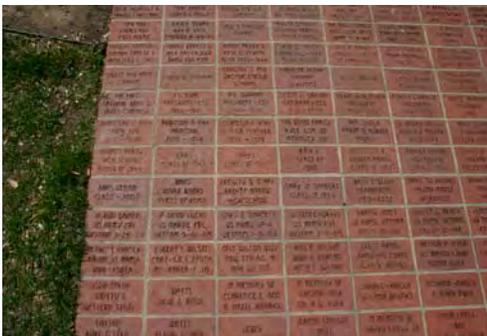
Acreage: 3.48 Acres
Location: 2812 E. Madison Pl.
Ownership: City of Broken Arrow
Type of Park: Neighborhood
Facilities: Meeting Room - 1
Splash Pads - 1
Playground Units - 1
Shelters with Water & Electricity -1
Picnic Tables - 4
Park Benches -3
Restroom Facilities -1
Security Lighting - 4
Parking Spaces - 30



Inventory

Centennial Park

Acreage: 0.25 Acres
 Location: 102 S. Main St.
 Ownership: City of Broken Arrow
 Type of Park: Mini
 Facilities: Park Benches - 14
 Security Lighting - 3
 Parking Spaces - 6



Inventory

Central Park



- Acreage: 28 Acres
- Location: 1500 S. Main St.
- Ownership: City of Broken Arrow
- Type of Park: Community
- Facilities:
 - Recreation Centers - 1
 - Playground Units - 1
 - Shelters with Water & Electricity - 1
 - Shelters with Electricity - 1
 - Grills - 6
 - Lighted Softball Fields - 4
 - Swimming Pools - 1
 - Splash Pads - 1
 - Lighted Tennis Courts - 4
 - Picnic Tables - 22
 - Park Benches - 7
 - Concession Stands - 2
 - Restroom Facilities - 3
 - Security Lighting - 25
 - Handicap Parking Spaces - 12
 - Parking Spaces - 224

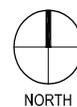
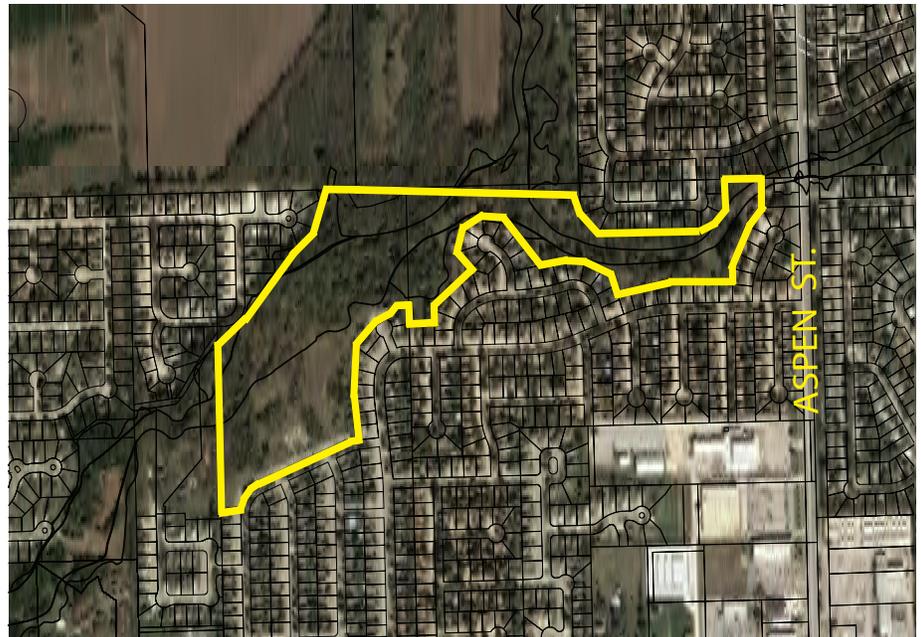


Inventory

Copper Creek Park



Acreage: 18 Acres
Location: 2800 S. Richmond St.
Ownership: City of Broken Arrow
Type of Park: Neighborhood
Facilities: Playground Units -1
Shelters -1
Picnic Tables - 5
Park Benches - 8
Security Lighting - 2
Walking Trail - miles - .25



0' 250' 500' 1000'

Inventory

Country Aire Park



- Acreage: 8 Acres
Location: 100 N. Fir Ave.
Ownership: City of Broken Arrow
Type of Park: Neighborhood
Facilities: Playground Units - 4
Shelters with Water & Electricity - 1
Shelters with Electric Only - 1
Grills - 2
Swimming Pools - 1
Lighted Tennis Courts - 3
Picnic Tables - 8
Park Benches - 4
Restroom Facilities - 1
Security Lighting - 3
Lighted Outdoor Basketball Courts - 2
Walking Trail - miles - 1
Parking Spaces - 34



NORTH

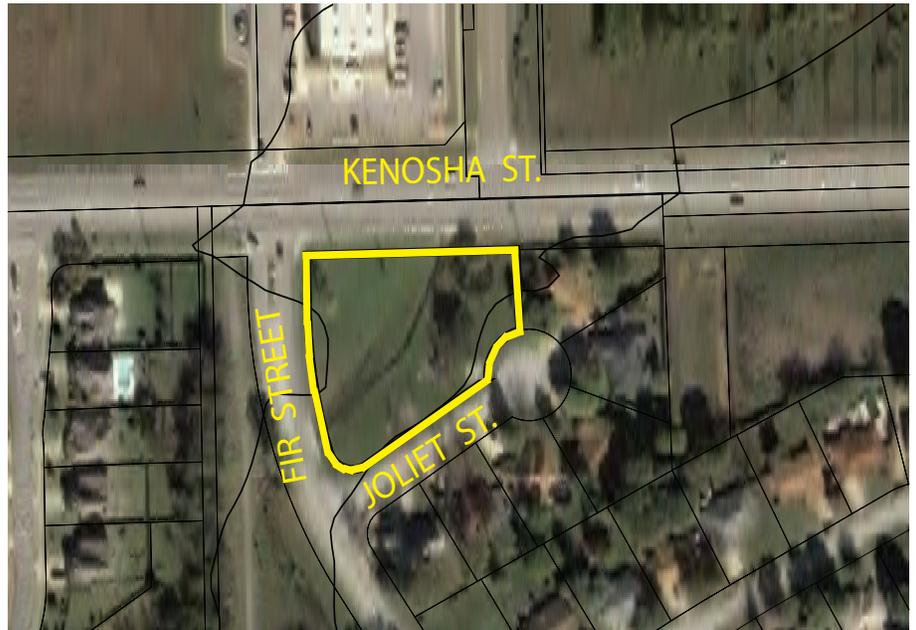
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Inventory

Country Aire Tot Lot



Acreage: 3 Acres
Location: 2604 W. Joliet Ct.
Ownership: City of Broken Arrow
Type of Park: Mini
Facilities: Playground Units - 2
Picnic Tables - 1
Park Benches - 4
Security Lighting - 2
Outdoor Basketball Courts - 1



Inventory



Farmers Market

Acreage: 1.5 Acres
Location: 105 S. Main St.
Ownership: City of Broken Arrow
Type of Park: Special Facility
Facilities: Parking Spaces - 12 plus additional downtown parking
Covered Vendor Pavilions - 2
Security Lighting - 4
Restrooms - 1



0' 50' 100' 200'

Inventory

Haskell Park



Acreage: 3.2 Acres
Location: 601 E. Dallas St.
Ownership: City of Broken Arrow
Type of Park: Neighborhood
Facilities: Splash Pads - 1
Playground Units - 1
Shelters with Water & Electricity - 1
Grills - 2
Park Benches - 3
Security Lighting - 3
Parking Spaces - 25



Inventory

Hidden Springs Park



Acreage: 0.5 Acres
Location: 500 W. Quantico St.
Ownership: City of Broken Arrow
Type of Park: Undeveloped Land
Facilities: None



Inventory

Historical Museum/ Genealogy Center

Acreege: 1.5 Acres
Location: 1800 S. Main St.
Ownership: City of Broken Arrow
Type of Park: Special Facility
Facilities: Local Historical Museum - 1
Genealogical Center - 1
Restrooms - 2
Parking - 20 plus additional downtown parking



Inventory

Indian Springs Mini Park



Acreage: 2.5 Acres
Location: 918 Lynwood Lane
Ownership: City of Broken Arrow
Type of Park: Mini
Facilities: Playground Units - 1
Grills - 1
Picnic Tables - 1
Park Benches - 2
Security Lighting - 2

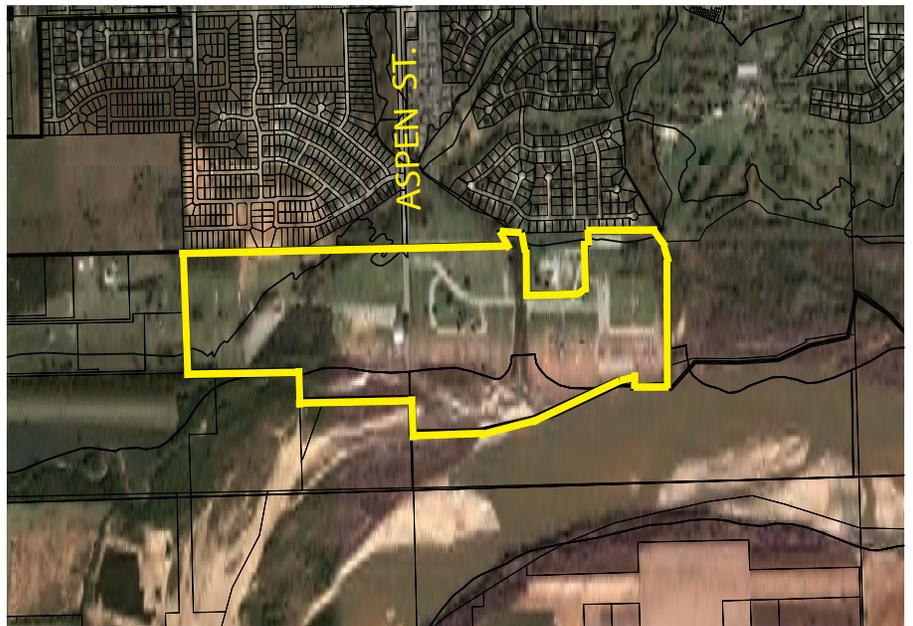


Inventory

Indian Springs Sport Complex



- Acreage: 234 Acres
- Location: 1400 W. Shreveport St.
- Ownership: City of Broken Arrow
- Type of Park: Regional
- Facilities:
 - Playground Units - 1
 - Shelters with Water & Electricity - 3
 - Grills - 4
 - Lighted Baseball Fields - 16
 - Lighted Softball Fields - 2
 - Lighted Soccer Fields - 7
 - Unlighted Soccer Fields - 25
 - Picnic Tables - 17
 - Park Benches - 5
 - Concession Stands - 5
 - Restroom Facilities - 7
 - Security Lighting - 19
 - Parking Spaces - 856



Inventory

Jackson Park



- Acreage: 14 Acres
- Location: 4800 W. Washington St.
- Ownership: City of Broken Arrow
- Type of Park: Community
- Facilities: Fishing Areas - 1
 Playground Units - 1
 Shelters with Electricity - 2
 Grills - 5
 Picnic Tables - 9
 Park Benches - 10
 Restroom Facilities - 1
 Security Lighting - 16
 Walking Trail - miles - 1
 Parking Spaces - 40
 Handicap Parking Spaces - 4

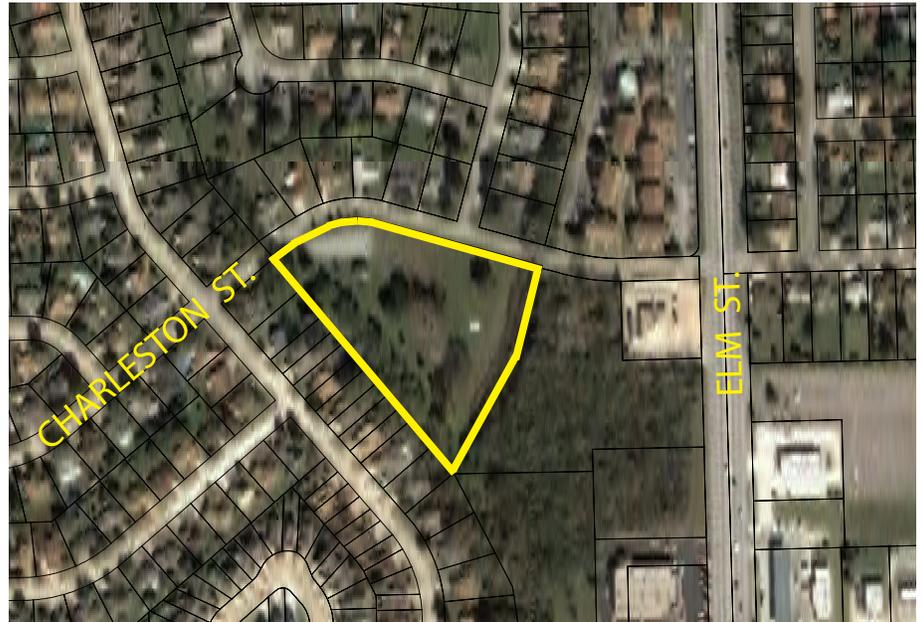


Inventory

Leisure Park



- Acreage: 4.5 Acres
- Location: 801 W. Charleston St.
- Ownership: City of Broken Arrow
- Type of Park: Neighborhood
- Facilities:
 - Playground Units - 1
 - Shelters with Water & Electricity - 1
 - Grills - 2
 - Picnic Tables - 4
 - Park Benches - 3
 - Security Lighting - 3
 - Outdoor Basketball Courts - 1
 - Walking Trail - miles - .1
 - Parking Spaces - 5



0' 100' 200' 400'

Inventory

Liberty Park



Acreage: 8 Acres
Location: 4300 S. 209th E. Ave.
Ownership: Broken Arrow Public School District
Type of Park: Neighborhood
Facilities: Shelters with Water & Electricity - 1
Picnic Tables - 4
Playground Units - 2

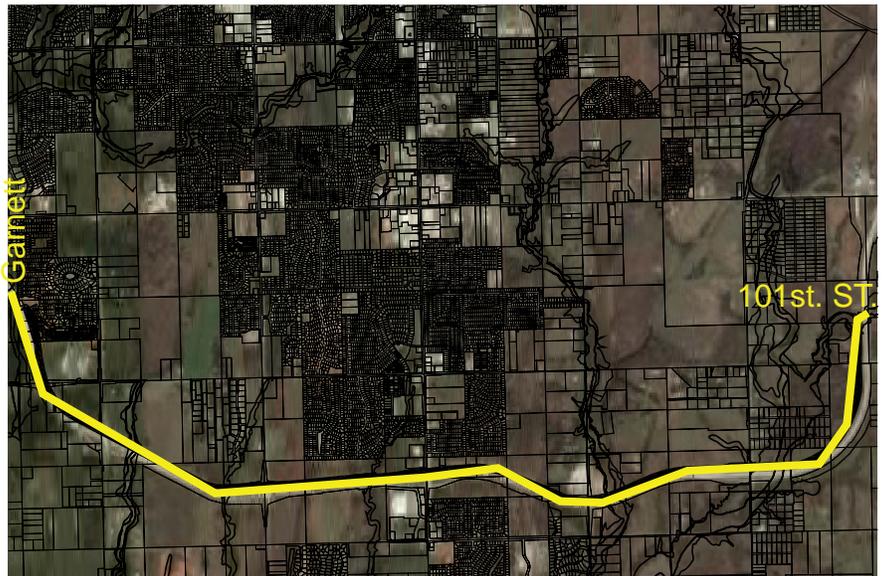


Inventory



Liberty Parkway Trail

Acreage: 10 Acres
Location: 96th/Garnett to NSU 101 St.
Ownership: City of Broken Arrow
Type of Park: Trail
Facilities: Parking Spaces - 100
Walking Trail - miles - 9
Drinking Fountains - 2



NORTH

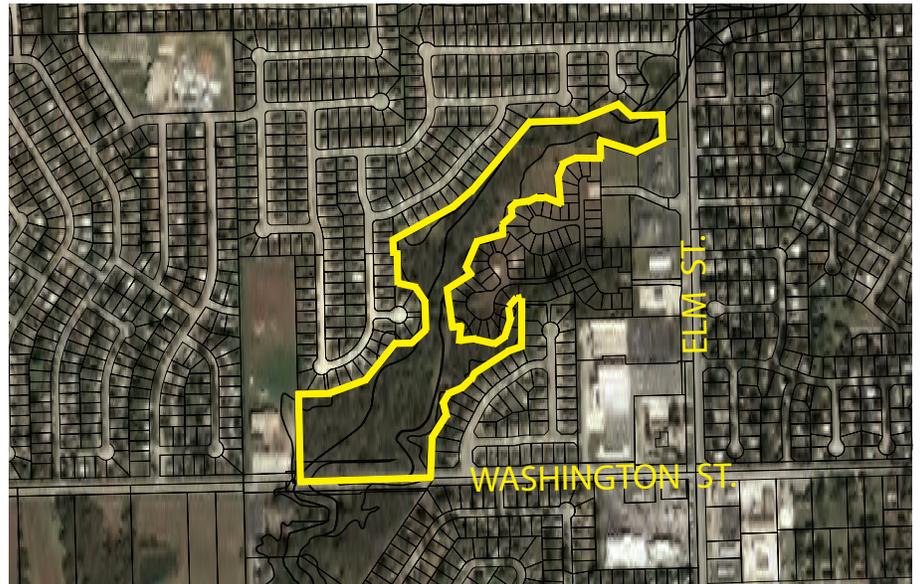


Inventory

Linear Park



Acreage: 10 Acres
Location: Elm & 91st. St.'s
Ownership: City of Broken Arrow
Type of Park: Neighborhood
Facilities: Walking Trail - miles - 1



Inventory

Lions Park



Acreage: 2 Acres
Location: 1948 S. Lions Ave.
Ownership: City of Broken Arrow
Type of Park: Neighborhood
Facilities: Playground Units - 1
Shelters with Water & Electric - 1
Picnic Tables - 2
Park Benches - 2
Security Lighting - 1
Outdoor Basketball Courts - 1

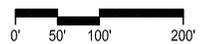


Inventory

Morrow Park



- Acreage: 3 Acres
Location: 2500 N. 11th St.
Ownership: City of Broken Arrow
Type of Park: Mini
Facilities: Playground Units - 2
Shelters with Water & Electric - 1
Picnic Tables - 2
Park Benches - 6
Security Lighting - 7
Outdoor Basketball Courts - 1
Lighted Tennis Courts - 3
Walking Trail - miles - .25
Parking Spaces - 5

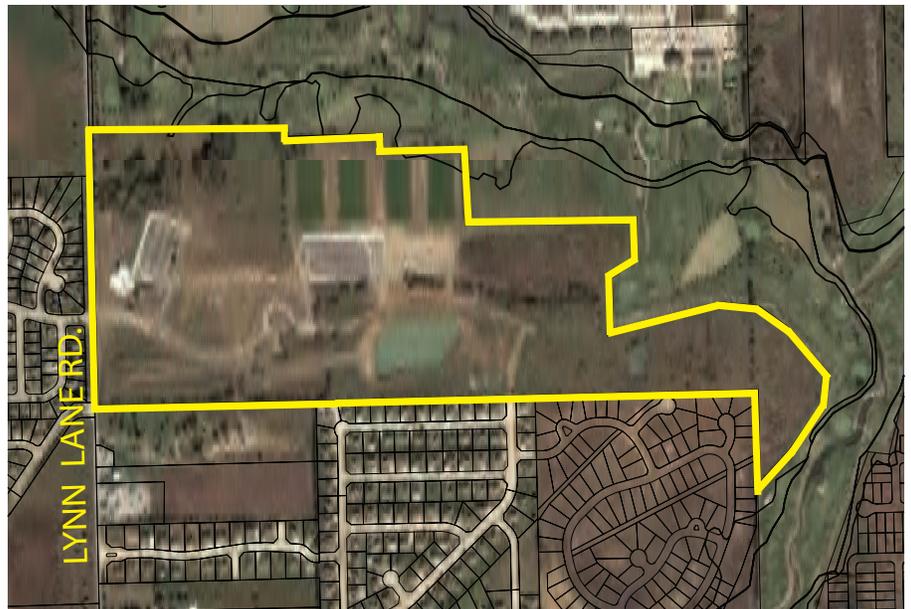


Inventory

Nienhuis Park



- Acreage: 109 Acres
- Location: 3201 N. 9th St.
- Ownership: City of Broken Arrow
- Type of Park: Regional
- Facilities:
 - Rose Garden - 1
 - Recreation Centers - 1
 - Fishing Areas - 1
 - Skate Parks - 1
 - Playground Units - 1
 - Shelters with Water & Electricity - 1
 - Grills - 1
 - Lighted Tackle Football Fields - 4
 - Unlighted Flag Football Fields - 4
 - Swimming Pools - 1
 - Picnic Tables - 5
 - Park Benches - 4
 - Concession Stands - 1
 - Security Lighting - 1
 - Handicap Parking Spaces - 22
 - Parking Spaces - 812



0' 250' 500' 1000'

Inventory



Oak Creek South Park

Acreage: .6 Acres
Location: 2725 E. Louisville St.
Ownership: City of Broken Arrow
Type of Park: Mini
Facilities: Unlighted Fields - 1

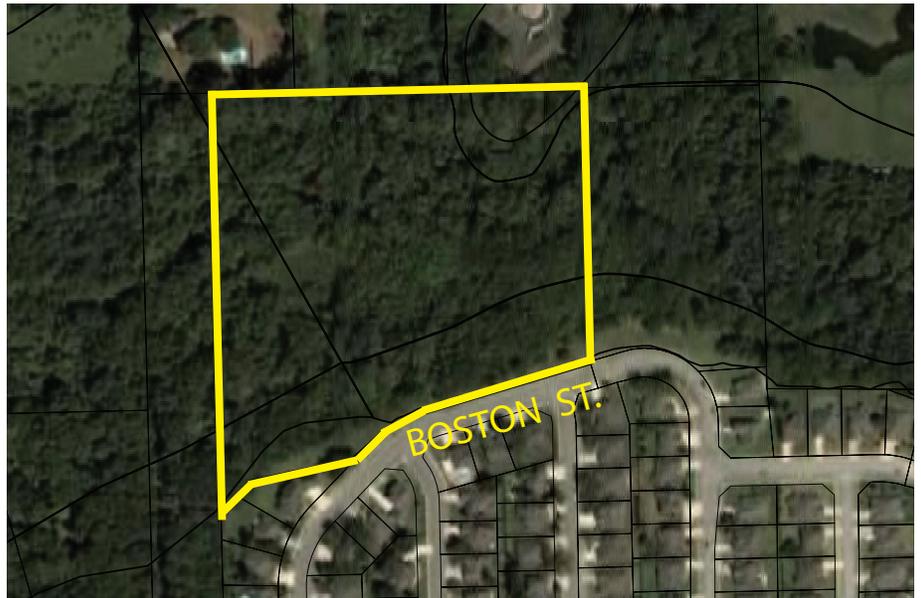


Inventory

Pembrooke Park



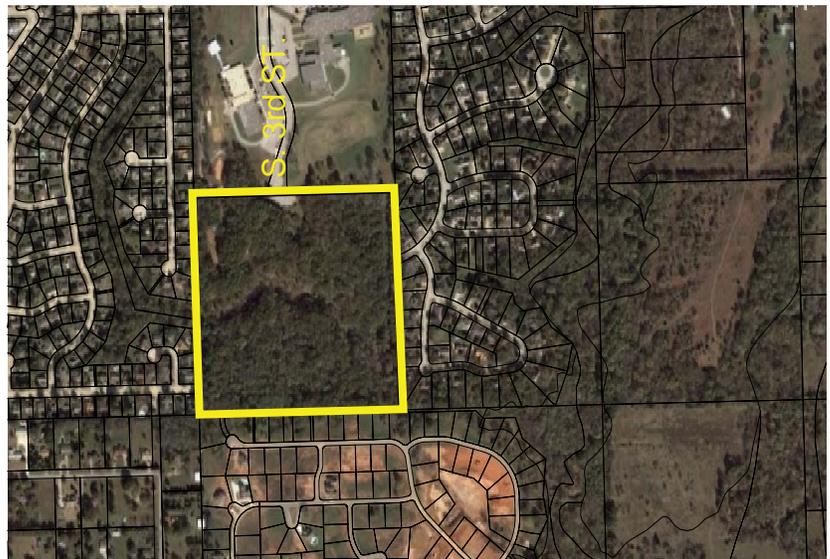
Acreage: 10 Acres
Location: Boston & Olive St.'s
Ownership: City of Broken Arrow
Type of Park: Undeveloped Land
Facilities: None - Undeveloped
Future: To be developed as a Neighborhood Park



Inventory

Ray Harral Nature Park

- Acreage: 40 Acres
- Location: 7501 S. 3rd St.
- Ownership: City of Broken Arrow
- Type of Park: Regional
- Facilities: Shelters with Water & Electricity - 2
- Grills - 1
- Picnic Tables - 6
- Park Benches - 3
- Nature Center - 1
- Walking Trail - miles - 3
- Handicap Parking Spaces - 2
- Parking Spaces - 17



Inventory



Rockwood East Park

Acreage: 0.5 Acres
Location: 901 W. Queens St.
Ownership: City of Broken Arrow
Type of Park: Mini
Facilities: Playground Units - 1
Park Benches - 1



0' 100' 200' 400'

Inventory

Rockwood West Park



- Acreage: 2.5 Acres
- Location: 1308 Narcissus Ave.
- Ownership: City of Broken Arrow
- Type of Park: Neighborhood
- Facilities:
 - Splash Pads - 1
 - Playground Units - 2
 - Shelters with Water - 1
 - Grills - 1
 - Picnic Tables - 2
 - Park Benches - 4
 - Security Lighting - 2
 - Outdoor Basketball Courts - 1
 - Walking Trail - miles - .5



Inventory

Seiling Park



- Acreage: 2 Acres
- Location: 525 W. Iola St.
- Ownership: City of Broken Arrow
- Type of Park: Neighborhood
- Facilities:
 - Splash Pads - 1
 - Playground Units - 1
 - Shelters with Water & Electricity - 1
 - Grills - 1
 - Picnic Tables - 4
 - Park Benches - 7
 - Security Lighting - 2
 - Outdoor Basketball Courts - 1
 - Handicap Parking Spaces - 2
 - Parking Spaces - 28



Inventory

The Main Place



Acreage: 3.1 Acres
 Location: 1800 S. Main St.
 Ownership: City of Broken Arrow
 Type of Park: Special Facility
 Facilities: Playhouse - 1
 Senior Center - 1
 Security Lighting - 7
 Handicap Parking Spaces - 12
 Parking Spaces - 88

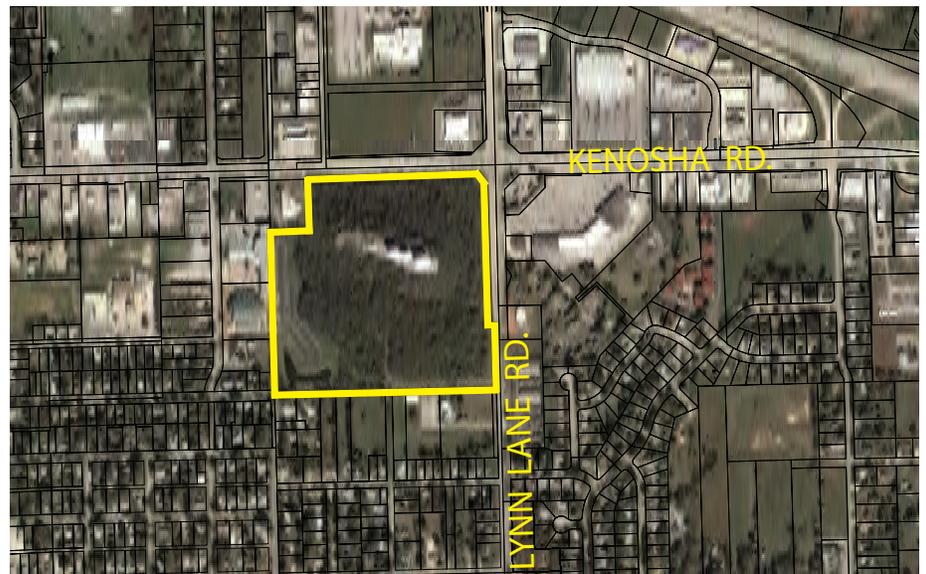


Inventory

Tiger Hill Nature Park



Acreage: 21 Acres
Location: Kenosha & Lynn Lane
Ownership: City of Broken Arrow
Type of Park: Undeveloped Land
Facilities: None - Undeveloped
Future: To be developed as a Nature Park

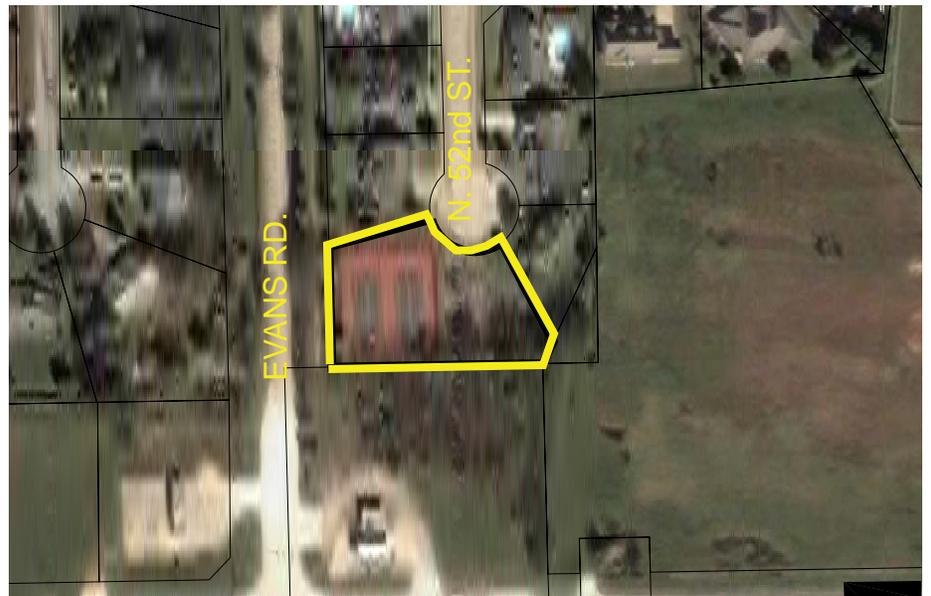


Inventory

Timberbrook Park



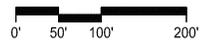
Acreage: 1 Acres
Location: 1200 N. 52nd St.
Ownership: City of Broken Arrow
Type of Park: Neighborhood
Facilities: Playground Units - 1
Lighted Tennis Courts - 2
Picnic Tables - 1
Park Benches - 2
Walking Trail - miles - .25
Parking Spaces - 5



Inventory

Urbana Park

- Acreage: 3 Acres
- Location: 400 W. Urbana St.
- Ownership: City of Broken Arrow
- Type of Park: Neighborhood
- Facilities: Playground Units - 1
Shelters with Water & Electricity - 1
Grills - 1
Picnic Tables - 3
Park Benches - 2
Security Lighting - 2



Inventory

Vandever Park



Acreage: 4 Acres
Location: 1101 W. Ithica St.
Ownership: City of Broken Arrow
Type of Park: Neighborhood
Facilities: Playground Units - 1
Shelters with Water - 1
Lighted Tennis Courts - 2
Picnic Tables - 3
Park Benches - 5
Security Lighting - 3
Parking - 20

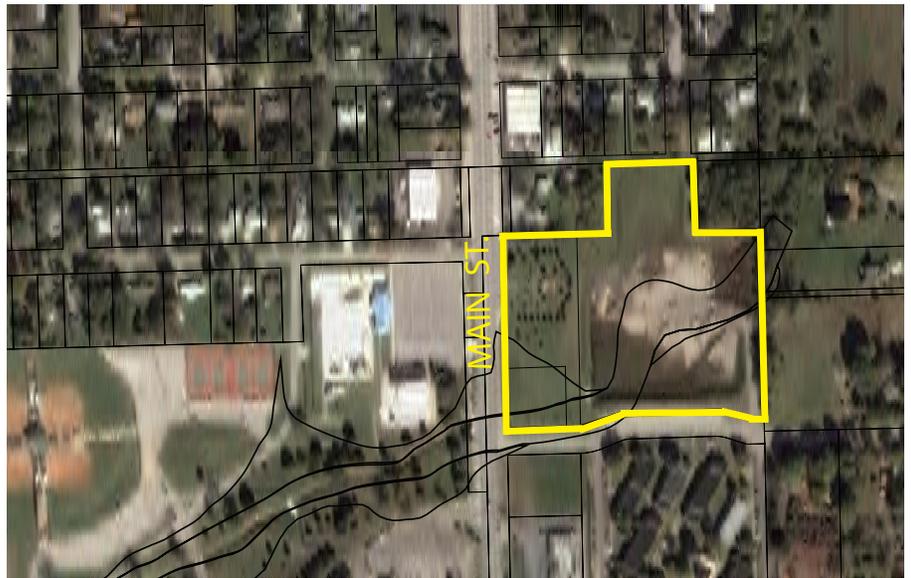


Inventory

Veterans Park



Acreage: 2 Acres
Location: 1111 S. Main St.
Ownership: City of Broken Arrow
Type of Park: Regional
Facilities: Fountains - 1
Statues - 2
Women's War Memorial - 1
Park Benches - 8
Parking Spaces - 15



Inventory



Wedgewood Park

Acreage: 1.5 Acres
Location: 1501 W. Knoxville St.
Ownership: City of Broken Arrow
Type of Park: Neighborhood
Facilities: Playground Units - 1
Park Benches - 3
Security Lighting - 5
Swimming Pools - 1 (Home Owner Association owned)



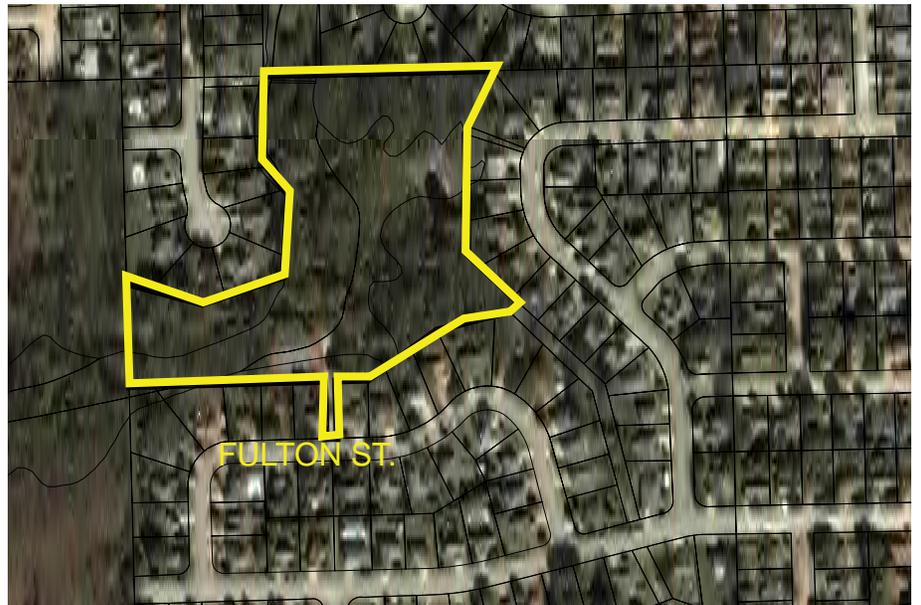
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Inventory

Wolf Creek Park



- Acreage: 4 Acres
- Location: 2501 W. Fulton St.
- Ownership: City of Broken Arrow
- Type of Park: Neighborhood
- Facilities: Playground Units - 1
Shelters with Water - 1
Grills - 2
Unlighted Tennis Courts - 1
Picnic Tables - 4
Park Benches - 6
Security Lighting - 2
Outdoor Basketball Courts - 1
Walking Trail - miles - 1.5



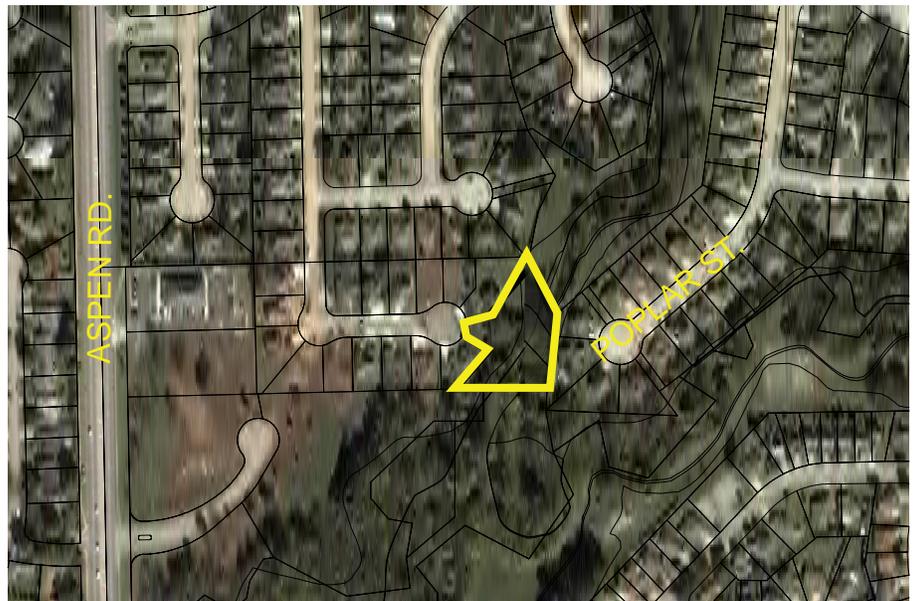
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Inventory

Woodland Park



Acreage: 0.9 Acres
Location: Poplar & El Paso St.'s
Ownership: City of Broken Arrow
Type of Park: Undeveloped Land
Facilities: None - Undeveloped



Goals & Policies

Specific recreational goals and policies have been identified for the City of Broken Arrow. These combine the respective goals and policies from the City of Broken Arrow Comprehensive Plan and those adopted as a part of the INCOG Regional Park and Recreational Plan. The *Report for Broken Arrow, OK: Recreation Community Survey* (See Appendix C) was also used to construct specific goals and policies for this Plan.

Goal 1 - Satisfy In City and Fence Line Recreational Needs and Hierarchy of Demands

The first goal is to ensure that the City has adequate well-planned Neighborhood Playground Parks, Community Parks, and Sport Complexes to suit the wide range of needs and tastes for both active and passive recreation of its citizens.

Policies

1. Encourage the development of both active and passive recreational facilities.
2. Provide an area for recreation (neighborhood, regional park or recreation center) that is within a half mile of every developed urban area.
3. Encourage the development of recreation/education/cultural facilities that enhance the visual and environmental character of Broken Arrow.
4. Coordinate and work with 501(c)(3) non-profit organizations such as the Salvation Army, YMCA, and baseball, soccer, or other sports organizations, schools, other park departments, civic groups, private individuals, or private ventures who have or may wish to establish recreational facilities that would decrease the burden on existing City facilities.
5. Redevelop and improve existing facilities to complement existing neighborhoods taking into consideration such factors as parking, noise, lighting, landscaping, aesthetics, and maintenance requirements and costs.
6. Ensure that new facilities and existing recreational sites are constructed so that they are barrier free, contain designated handicap parking spaces, and minimize the potential for liability.

Goals & Policies

7. Identify under utilized or surplus sites and either reuse them for needed recreational activities or dispose of them through sale or trade.
8. Continue the existing efforts, where possible, and provide facilities for special events.

Goal 2 - Maintain Recreational Sites

The second goal is to establish a high standard for park maintenance through the continuing efforts of the Parks and Recreation Department Policies.

1. Require user group cooperation in keeping sites litter free and properly maintained.
2. Continue an extensive public information process through public involvement in the maintenance and operation of the park system.
3. Provide adequate numbers of trash receptacles at convenient locations throughout recreational areas.
4. Request routine and frequent police surveillance of sites particularly at night to decrease vandalism.
5. Encourage the underground installation of utility lines.

Goal 3 - Harmonize Recreational Development with the Existing Environment

The third goal is to ensure that recreational developments take into consideration the physical features of the land.

Policies

1. Review proposed park land acquisition and development with the City Engineering Department to analyze potential flooding impacts.
2. Where possible, consider potential park use in the design of flood control detention facilities and the use of stormwater detention areas for future park sites.

Goals & Policies

3. Coordinate efforts between the City Engineering Department and the Parks and Recreation Department to resolve recurrent flooding problems through channelization, removal of drainage obstructions, and other drainage improvements in existing parks.
4. In park sites, design channelization projects that do not detract from or destroy the natural appearance of the parks.
5. Plan, design and develop individual park sites with emphasis on locating facilities easily damaged by flood waters outside frequently flooded areas.
6. Plan, design, and develop landscaping for each park site with emphasis on maintaining a natural environment and providing a variety of plants and wildlife. Seek assistance from Oklahoma State University Extension Service and the Oklahoma Forestry Department for Landscape Resources.
7. Incorporate unique physical features into individual park site developments to emphasize their significance.
8. Identify, protect, conserve, and improve physical areas of the environment and make them available for public use or enjoyment to the greatest extent possible.

Goal 4 - Ensure Necessary Funding

The fourth goal is to allocate or reallocate park finances in accord with facility usage patterns and the adopted Parks and Recreation Master Plan.

Policies

1. Analyze both present sources of funding and new funding alternatives to determine if revenues will meet park demands. Develop new funding alternatives.
2. If finances are insufficient to satisfy all recreational needs, priority for funding shall be given to trail and recreational facilities serving the needs of children and senior citizen's.
3. Implement user fees for both residents and non-residents for selected facilities and activities.

Goals & Policies

Goal 5 - Develop a Comprehensive Trails System

The fifth goal is to ensure the improvement and implementation of a City wide trail system.

Policies

1. Where opportunities arise, extend the trail system into neighborhoods adjacent to parks.
2. Ensure safe and convenient access to the trail system by users.
3. Minimize disruption of adjacent neighborhoods caused by park usage.
4. Encourage the development and use of bikeways and sidewalks as an alternative mode of transportation.
5. Incorporate, where possible, drainageways, easements, rights-of-way, and park land to develop trails linking parks and other destination points.
6. Pedestrian and bicycle movements should be separated as much as possible from vehicular traffic and prohibited on arterial streets.

Needs Analysis

An analysis of current and projected needs was conducted in order to better understand the Broken Arrow community park system. Reviewed in this analysis were the *Broken Arrow Population Analysis and Projection* provided by Packard and Associates, the *Report for Broken Arrow, OK: Recreation Community Survey* prepared by Management Learning Laboratories, and the *Maintenance Needs Tabulation* prepared by Howell & Vancuren, Inc. The analysis of this information not only provided a foundation for design recommendations, but was also critical for locating the placement of new parks and suggested programming.

Population Data & Projections

As the population of Broken Arrow grows, the needs of the community will likely increase concurrently. In order to accommodate these changes, it is important to consider population projections over the next 10 to 15 years and plan accordingly with these numbers as a reference.

Table 3 - Broken Arrow Population Projections by PPD

PPD	2000	2008	2011	2015	2019	2025
1	7,668	9,036	9,549	10,233	10,917	11,944
2	4,881	5,439	5,648	5,927	6,205	6,624
3	9,425	10,313	10,646	11,090	11,534	12,200
4	24,645	26,309	26,933	27,765	28,597	29,845
5	44,510	46,590	47,370	48,410	49,450	51,010
TOTAL	91,129	97,687	100,146	103,425	106,703	111,623

Source: 2000 US Census

INCOG - TMA 2030 Population Projections by Transportation Analysis Zone (TAZ)

The *Broken Arrow Population Projections by Park Planning District* prepared by Packard and Associates, present the projections by Park Planning District (PPD), from 2000 through 2025. The 2000 population is based on the 2000 Census within the PPD. The 2008 projection and the incremental projections to 2025 were made utilizing the Tulsa Metropolitan Area (TMA) 2030 Population Projections by Transportation Analysis Zone.

The planning area population is expected to increase by 12.5% or approximately 14,000 persons from 2008 through 2025. 57% of the total population growth is projected to occur in the south PPD #4 and #5, the remaining 43% is projected to occur in the north and east PPD #1, #2, and #3.

Needs Analysis

Illustration – Park Planning Districts

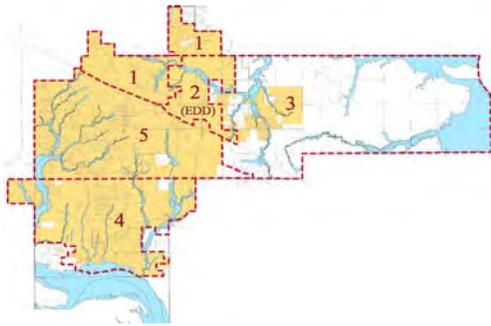


Table 4 - Population Densities per Land Mass

PPD	Area: Square Miles	2008 Population	2025 Population	2025 Density: Persons per Sq. Mile	2025 Population Ranking	2025 Density Ranking
1	8.9	9,036	11,944	1,342.02	4	2
2	5.99	5,439	6,624	1,105.84	5	4
3	41.96	10,313	12,200	290.75	3	5
4	22.56	26,309	29,845	1,322.92	2	3
5	23.15	46,590	51,010	2,203.46	1	1
TOTAL	102.56	97,687	111,623			
Avg. Densities		952.49	1,088.37			

Average 2008 density of entire Park Planning Area = 952.49 persons per square mile.

Average 2025 density of entire Park Planning Area = 1,088.37 persons per square mile.

Once population numbers were determined, it was necessary to identify how each PPD addressed the supply and demand of park space.

Park Acreage Projections

Parks are generally classified according to size and facilities. In order to help determine park acreage needed, park prototypes and development standards specifically for the Broken Arrow Parks and Recreation Master Plan were defined in Section 2-4. Based on these standards, this Plan uses a two park model; 1) Neighborhood/Mini Parks and 2) Regional/Community Parks. It should be stressed that these park types are used only as general guidelines for planning purposes. Site-specific park designs can be expected to occasionally vary from the prototypical park descriptions.

The following tables are based on a comparison of population and park standards, and summarize park acreage needs over the planning period. Hidden Springs and Woodland Parks have been omitted from Acreage Supply and Demand calculations as they are currently undeveloped, with no plans to develop in the future. Buford, Tiger Hill and Pembroke Parks are also undeveloped, however they are considered in the calculations as they will be developed in the future. Haikey Creek Park has been calculated into the acreage needs for PPD 4 although it is developed and maintained by Tulsa County Parks Department and is not officially a part of the Broken Arrow Parks and Recreation Master Plan. Battle Creek Golf Course is not included in Needs Demands calculations, as it is a special use facility.

Needs Analysis

Illustration – Park Planning Districts

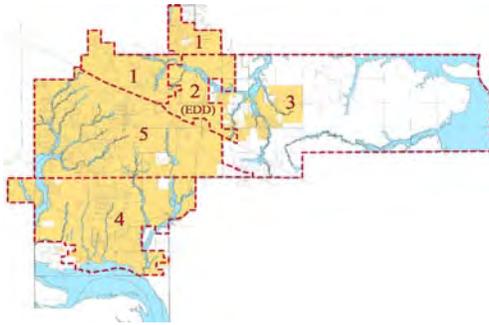


Table 5 - Mini & Neighborhood Park Acreage Needs (4 acres/1000 population)

PPD	Current Supply	2008 Needs	2011 Needs	2015 Needs	2019 Needs	2025 Needs
1	11.60	36	38	41	44	48
2	3.50	22	23	24	25	26
3	1.00	41	43	44	46	49
4	7.00	105	108	111	114	119
5	94.95	186	189	194	198	204
TOTAL	118.05	391	401	414	427	446

Table 6 - Regional & Community Park Acreage Needs (6 acres/1000 population)

PPD	Current Supply	2008 Needs	2011 Needs	2015 Needs	2019 Needs	2025 Needs
1	109.00	54	57	61	66	72
2	0.00	33	34	36	37	40
3	0.00	62	64	67	69	73
4	425.00	158	162	167	172	179
5	134.10	280	284	290	297	306
TOTAL	668.10	586	601	621	640	670

1. Battle Creek Golf Course excluded from calculations.
2. Approximately 200 acres in Indian Springs Park is dedicated specifically to active sports fields and related parking.
3. Approximately 20 acres in Arrowhead Park is dedicated specifically to active sports fields and related parking.
4. Approximately 15 acres in Nienhuis Park is dedicated specifically to active sports fields and related parking.

Needs Analysis

Table 7 - Mini & Neighborhood Park Acreage Surplus or Deficit

PPD	Current Supply	2008 Surplus or Deficit	2011 Surplus or Deficit	2015 Surplus or Deficit	2019 Surplus or Deficit	2025 Surplus or Deficit
1	11.60	-25	-27	-29	-32	-36
2	3.50	-18	-19	-20	-21	-23
3	1.00	-40	-42	-43	-45	-48
4	7.00	-98	-101	-104	-107	-112
5	94.95	-91	-95	-99	-103	-109
TOTAL	118.05	-272.70	-282.53	-295.65	-308.76	-328.44

Illustration – Park Planning Districts

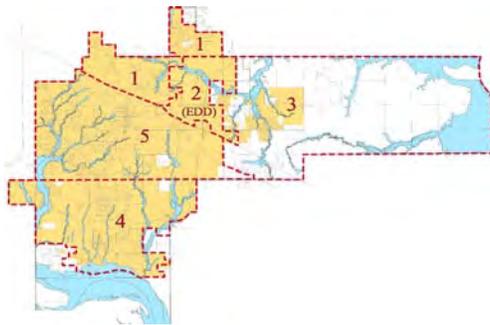


Table 8 - Regional & Community Park Acreage Surplus or Deficit

PPD	Current Supply	2008 Surplus or Deficit	2011 Surplus or Deficit	2015 Surplus or Deficit	2019 Surplus or Deficit	2025 Surplus or Deficit
1	109.00	55	52	48	43	37
2	0.00	-33	-34	-36	-37	-40
3	0.00	-62	-64	-67	-69	-73
4	425.00	267	263	258	253	246
5	134.10	-145	-150	-156	-163	-172
TOTAL	668.10	82	67	48	28	-2

PPD 5, with a 2008 deficit of 91 acres, has seven new Neighborhood Parks recommended for development. There is also a need for Regional Parks for PPD 5 by the year 2025 by a 172 acre deficit. PPD 5 is also planned to receive a regional outdoor event facility.

PPD 4 and 5 have the greatest deficiency of 112 and 109 acres respectively in the Neighborhood Park assessments for 2025 populations. PPD 3 has a great deal of land that has yet to be developed or annexed into the City Limits. The ability to incorporate additional parks into an undeveloped area is usually favorable due to the freedom of the park planning process. Therefore, three new Neighborhood Parks and one Regional Park have been planned for this District 3.

PPD 1 and 4 have a surplus of land for 2025 population in the Regional Park category. Districts 2 and 3 have projected Regional Park acreage deficits of 40 and 73 acres.

Park development outside Broken Arrow Corporate limits will occur as development defines areas of population density to support neighborhood parks. As development occurs in these areas, either park funds or park land will be

Needs Analysis

provided by the developer to support additional park needs in each sector per Broken Arrow development ordinances.

Park Preference Survey

Another key component of understanding and assessing the needs of the Broken Arrow Community is the *Report for Broken Arrow, OK: Recreation Community Survey*. Rather than base recommendations on quantified data alone, qualitative information was collected in the form of a preference survey and analyzed by Management Learning Laboratories. This study provided invaluable information about the importance of various park facilities, programming, wants and needs. It also provided helpful feed-back regarding the perceived maintenance and overall satisfaction of current facilities. It should be noted that the study was intended to collect information about the community as a whole rather than any one specific user group. The objective of the study was to obtain the relevant information that will help the Parks Department do its job more effectively by enabling it to be more responsive to the recreating needs of the residents of Broken Arrow. Additionally, the Parks and Recreation Department will benefit by learning about the residents' awareness of the recreation activities within Broken Arrow.

Assessment Methods

To determine Broken Arrow's park and recreation needs, six focus groups were established to identify issues relating to the parks and recreation system. With the background information collected by these focus groups, a questionnaire was designed to elicit respondent interest in various recreation categories such as, arts and crafts, performing arts, sports and athletics, etc. (see Appendix B). A sample of 4,000 addresses was randomly selected from a complete list of Broken Arrow residents. Once the addresses were compiled the questionnaire was mailed to each household with a postage-paid return envelope. At the conclusion of the study, 135 studies were returned as non-deliverable and a total of 529 questionnaires were completed and returned for an overall response rate of 13.7%.

Needs Analysis

Assessment Findings

The first section of the questionnaire asked respondents to indicate his/her level of interest for each of the fifteen categories of recreational activities. Responses indicating great interest or some interest in a given activity were compiled when evaluating the community's preferences. Based upon this study, the community has shown specific interests in the following areas of park programming. For additional detail refer to Appendix C.

- **Special Events:** more than 83% of the respondents indicated an interest in one or two day events, festivals, shows, fairs, etc. This is supported by the fact that nearly a third of the respondents have participated in special events, and also gives credence for the proposed Events Park.
- **Sports and Athletics:** nearly 79% of the respondents showed an interest in baseball, soccer, basketball, football, tennis, and other sports. This is consistent with the need for the athletic play fields, which were indicated as an area of importance for 78% of the surveyed community members. Additionally, approximately half of the respondents have participated in sport or athletic related activities.
- **Passive Recreation:** 78% of all respondents indicated an interest in sitting in the parks, enjoying the scenery and similar passive park activities. More than a third of the respondents indicated they have participated in such activities and would like to see more opportunity for passive recreation facilities.
- **Fitness:** almost three-quarters of respondents expressed an interest in fitness activities such as in-line skating, running, walking, biking, and jogging, both indoors and outdoors. Nearly a third of the respondents indicated they already participate in such activities. This demonstrates the need for additional trails and walks.
- **Nature Activities:** 76% of respondents indicated they have an interest in gardening and landscaping and 60% of respondents indicated an interest in nature studies, nature walks, bird watching, etc. Additionally, a large number of respondents expressed a need for nature trails.
- **Specialized Activities:** 60%-70% of respondents indicated an interest in activities related to hobbies, arts and crafts, swimming and adventure courses. Respondents specifically expressed a desire for cooking classes, pottery, swimming lessons, hiking, etc. 20%-30% of respondents indicated they have participated in similar activities in the past. It should be noted that recreation activities receiving less

Needs Analysis

than 60% of respondent interest are not highlighted as a priority for programming. However, this does not mean other activities are not of importance. Once the larger, more popular goals are met, these lower priority needs may be addressed as seen appropriate.

The second section of the questionnaire contained statements in which the respondents were asked to agree or disagree about recreation facilities, programs and administration, and funding options based upon a four-point scale. The general findings were:

- Most respondents believe that well maintained park facilities contributed to enhancing the quality of life in Broken Arrow. 69% of the respondents agreed that they were satisfied with the current quality of the parks and 82% agreed that the Parks and Recreation Department offers an essential service to the city and its residents.
- Approximately 71% of the respondents indicated smaller neighborhood parks are preferable to one large centralized park.
- A high percentage of respondents (86%) felt there were a need for family based programs and a slightly lower number (70%) suggesting a need for cooperative programming, possibly with the Tulsa Parks system. There was also an indication of demographic specific programming for groups such as teenagers and those over the age of 55.
- In regards to funding recreation, respondents preferred funding to be generated through grants, private donations and corporate sponsorship. More than 70% of the respondents did not support an increase in property tax and nearly half were against supporting the Parks and Recreation Department with sales taxes. On the other hand, nearly 70% of the respondents were willing to pay a user fee to use certain facilities or to participate in special programs. More than half of the respondents felt that all non-residents using park facilities should be charged a higher user fee.

These findings are critical to fully understanding where to target specific improvements and park development. Another significant issue surrounding new and existing parks and trails is the amount of maintenance associated with new or improved facilities. With this in mind, the following section will address general maintenance needs, projected frequency of maintenance and number of persons required for reasonable park upkeep.

Needs Analysis

Maintenance

Currently public park and playground facilities are generally well maintained to the fullest extent permitted by the City's budget. The Parks and Recreation Department has a regular maintenance and replacement program to ensure current facilities meet resident's needs and standards, with special consideration given to child and adult safety.

Most Broken Arrow residents agree that the park system is well maintained and adds to the quality of life. Therefore it may be assumed that the Parks and Recreation Department is effectively utilizing their current maintenance routine and staff. However, the purpose of this maintenance analysis is to provide an independent evaluation of park upkeep and to project a number of employees needed in order to sustain a high level of service for an expanding park system. Therefore, an analysis has been formulated based on standards for park maintenance developed by The National Recreation and Park Association and on the experience of the Broken Arrow Parks and Recreation Department.

Maintenance Mode Standards

The National Recreation and Park Association developed a comprehensive system which standardizes maintenance activities through the use of modes. A Mode can be defined as the level of intensity required to maintain a park. It is proposed that most parks owned or leased by the City of Broken Arrow can be maintained at a Mode I or Mode II level. Swimming pool and park buildings /structures maintenance are not taken into consideration for this analysis.

The levels for various parks are noted in the Park Maintenance Mode Schedule below.

Mode I

1. Turf mowed 1-2 times per week.
2. Turf maintained at 1-4 inches, depending on grass type.
3. Litter removed before mowing.
4. Sidewalks and curbs edged
5. All amenities trimmed.
6. Hard surfaces cleared of debris.
7. Excessive clippings should be removed.
8. Turf maintained 80% weed free.

Needs Analysis

Mode I Parks

Main Place, Centennial Park, Indian Springs Sports Complex, Nienhuis, and Arrowhead. These are all areas of high visitation and visibility.

Mode II

1. Turf mowed every 7-10 days.
2. Turf maintained at 2-6 inches.
3. Litter removed before mowing.
4. Sidewalks and curbs trimmed back.
5. Trim around most amenities.
6. Hard surfaces cleared of debris.
7. Attempt to evenly distribute clippings
8. Turf maintained 60% weed free.

Mode II Parks

Aspen Creek, Camino Villa, Central, Copper Creek, Country Aire, Country Aire Tot-Lot, Haskell, Hidden Springs, Indian Springs Mini, Jackson, Leisure, Liberty, Linear, Lions, Morrow, Ray Harral, Oak Creek South, Rockwood East, Rockwood West, Sieling, Timberbrook, Tiger Hill, Urbana, Vandever, Wedgewood, Wolfcreek, and Veterans'. These are moderate to high visibility and visitation parks.

Mode III

1. Turf mowed every 14 days or more.
2. Turf maintained at 4-8 inches.
3. Large litter and debris removed before mowing.
4. Trim around major amenities.
5. Control of noxious weeds only.

Mode III Parks

Buford Tract, Hidden Springs, Pembroke and Woodland. These are low visibility/low visitation, or undeveloped parks.

Maintenance Estimates

The maintenance needs analysis accounts for general maintenance of all parks and trails maintained by the Broken Arrow Parks and Recreation Department for the period of one year. The maintenance estimate evaluates the time required to complete a task and the frequency of each task over a one year period.

$$\text{Hours} \times \text{Frequency} = \text{Total Person Hours} / \text{Year}$$

Needs Analysis

The maintenance time required and frequency of each task is established by the mode of maintenance assigned to the park as described by *Park Maintenance Standards* (1986) by the National Recreation and Park Association. The total maintenance cost for a park over a one year period is estimated by multiplying the total person hours per year by the rate of pay for an employee hired to complete the tasks.

$$\text{Total Person Hours / Year} \times \text{Rate of Pay} = \text{Total Maintenance Cost / Year}$$

The demand on maintenance capabilities will increase with the implementation of new improvements to existing park, and with the acquisition / development of additional park land. The maintenance analysis shows the frequency of the various tasks required to meet the outlined mode standards.

According to the *Maintenance Needs Tabulation* based upon man hours required for Mode I, II, and III level maintenance, 56 full time equivalent employees would be required to maintain current parks. (For the purposes of this study, 2,000 hours per year is considered a full time equivalent employee.) The total number of employees required will increase over the planning period as proposed development occurs. Currently, the City employs 26 full time equivalent park maintenance staff persons. However, as noted in the *Report for Broken Arrow, OK: Recreation Community Survey*, 96% of Broken Arrow residents surveyed felt that the parks were well maintained and add to the quality of life in the community. Therefore the current maintenance regimen is presumably adequate and may not require the suggested number of full time employees.

The following table illustrates the plan, phase and time spans, the number of additional personnel needed to fulfill maintenance tasks as established by the modal standards, and totals of each quantity per phase. In order to determine the maintenance recommended for each phase, the average total annual person hours was determined to be 109 hours per acre. This figure was multiplied by the number of acres projected for each new phase and used in Table 9 to determine an estimated number of people required.

More detailed information related to maintenance requirements and calculations is provided in Appendix D.

Needs Analysis

Table 9 - Plan Phases, Duration and Person Hours

Phase	Duration	Total Hours	Total Persons
Present	2008	111,790	56
I	2008-2011	125,589	63
II	2012-2015	137,361	69
III	2016-2019	171,260	86
IV	2025	195,785	98

It should be noted that the maintenance and personnel guidelines are intended for comparison and establishment of goals only, as budgetary limitations with the City of Broken Arrow will dictate actual resources available.

Needs Analysis Summary

As seen in the population projections, Broken Arrow is growing at a consistent rate and additional park acreage will be needed in order to fulfill the Broken Arrow Parks and Recreation Master Plan. Currently, Districts 2 and 3 have a great deal of land to develop for the purpose of park space.

As for facilities, Broken Arrow residents would like to see an increase in family programming, outdoor or environmental activities, personal fitness, self improvement, special event facilities and programming, and continued efforts to provide aesthetically pleasing park facilities. Neighborhood Parks and connecting trail systems are also of high importance to the community.

Due to the expansion of park space and facilities, maintenance requirements will increase concurrently. However, it is the feeling of the Broken Arrow residents that the parks are generally well maintained and reflect a good standard of upkeep.

Development Recommendations

Development strategies for both existing and new parks are included in this section. Improvements to existing parks were determined through park staff recommendations and through observations made during site visits by planning consultant staff to the park sites. All of the parks in Broken Arrow were inventoried and evaluated to assess the needs and improvements for each park. Public input and findings from the Management Learning Laboratories and the *Report for Broken Arrow, OK: Recreation Community Survey* were also taken into consideration for the recommended development.

As it is desirable to have parks within walking distance of all residents, new Neighborhood Parks were placed in areas which appeared to be under served within a half mile radius of the nearest Mini/Neighborhood or Community/Regional Park. Specific improvements to existing parks, new parks and trails, are detailed in terms of cost and phasing in the Development Program for Existing Parks Table located at the end of this section. The following summarizes the major needs and recommendations which have been identified for many or all of the existing and new parks, as well as, comprehensive standards for park trail and walk systems.

Existing Park Recommendations

Location and types of new parks and trails were determined according to results of the *Report for Broken Arrow, OK: Recreation Community Survey*, the *EDD Study* and information from INCOG. Improvements for existing parks include repairs to facilities and infrastructure, and a system-wide improvement to signage. Tree plantings and electrical line burial are also recommended.

Two existing, yet undeveloped parks, Pembroke and Buford, are to be developed as Neighborhood Parks, while Hidden Springs and Woodland Park, will remain undeveloped. Tiger Hill is proposed as a future nature park.

Two existing Regional Parks are scheduled to receive Master Plan improvements: Nienhuis and Ray Harral.

In Nienhuis the improvements are, for the most part, an extension of the previous Master Plan. Ray Harral is seen as Broken Arrow's untapped natural resource. Currently, Ray Harral has poor trails and erosion. In the future, this park is envisioned as a naturalized park featuring native species.

Central Park is scheduled for removal and relocation of the softball fields to create a more passive and functional park. Overall the goal for Central is to improve the aesthetic quality to make it a centerpiece for the community. The softball fields in Central park will be relocated to Arrowhead Park.

Development Recommendations

New Park Recommendations

Development of new parks is also an important goal of the City of Broken Arrow Comprehensive Plan. These improvements are separated and organized into the appropriate Planning District. Highlights of the new parks plan include two new Neighborhood Parks to be developed in Planning District One. Planning District Two will feature two Neighborhood Parks, as well as, a Regional Park with lighted fields, and Detention Facility Park with practice fields. Park Planning District Three will accommodate three new Neighborhood Parks, as well as a Regional Park with an arboretum. Seven new Neighborhood Parks are recommended for Planning District Four as well as a Regional Recreation Center and Park. Last, Park Planning District Five will accommodate seven new Neighborhood Parks and will also feature a Regional Events Parks (See Table 12).

Trail Standards and Development

The National Recreation and Park Association define trails as multi-purpose pathways and connectors located within greenways, parks, and natural resource areas. Trails serve several important functions within the park system. They facilitate pedestrian movement to and through parks, schools, and adjoining areas and neighborhoods while limiting interaction with motorized vehicles. As stated in the *Report for Broken Arrow, OK: Recreation Community Survey*, between 80% and 88% of survey respondents felt it was important to have nature trails, trails within parks and city-wide connected trails. Ideally, these trails would serve a multitude of purposes including opportunities for walking, running, jogging and other fitness related activities.

The Plan for proposed trails is a result of analyzing the proposed INCOG 2003 Bicycle/Pedestrian Plan, trails in the EDD, and existing trail connections. The goal was to create connections not only within the park system, but also extending when possible to schools and other important public/community facilities. Trail widths vary from 5 foot neighborhood perimeter walks (per Broken Arrow Land Subdivision Code) to 8 foot walks for primary circulation. Ten foot trails have been suggested as an alternative to the 8 foot walks if federal funding is granted (See Table 10). For New Trails cost estimate see Table 13.

Table 10 - Broken Arrow Trail Standards

	5'	6'	8'
Construction Material	Concrete	Concrete	Asphalt
Primary Use	Subdivision/neighborhood connections	Sidewalks/feeders to equipment	Primary circulation around parks

Development Recommendations

Table 11 - Development Program for Existing Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Arrowhead								
1. Phase Two of Administration Bldg	2,000	SF	\$150				\$300,000	
2. New signage - main and informational	1	LS	\$10,000		\$10,000			
3. Youth softball fourplex with parking	1	LS	\$4,000,000	\$4,000,000				
4. Resurface trails - 8' width	3,500	LF	\$20		\$25,000	\$70,000		
5. Tree planting	100	ea	\$250		\$25,000			
Totals for Arrowhead				\$4,000,000	\$35,000	\$70,000	\$300,000	\$4,405,000
Aspen Creek								
1. Realign and overlay main trail - 8' width to serve as primary trail system connector	3,000	LF	\$32	\$96,000				
2. Backstop for practice area	1	ea	\$3,000	\$3,000				
3. Realign and overlay side / feeder trails - 6' width asphalt	800	LF	\$24	\$19,200				
4. New security lighting with underground service	8	ea	\$4,000			\$32,000		
5. New park sign	1	ea	\$1,500	\$1,500				
6. Erosion control at creek edge (Gabions)	1	LS	\$20,000	\$20,000				
7. Tree planting	50	ea	\$250		\$12,500			
Totals for Aspen Creek				\$139,700	\$12,500	\$32,000	\$0	\$184,200
Battle Creek Golf Course								
1. Hallway connection between pro shop/grill and banquet building (25'x8')	200	SF	\$150	\$30,000				
2. Complete sidewalks connections around course and neighborhood at city property - 4' width, concrete	1,140	LF	\$25	\$28,500				
3. Entry landscaping	1	LS	\$60,000	\$60,000				
4. New pump station.	1	LS	\$500,000	\$500,000				
5. Renovate bunkers	1	LS	\$210,000	\$210,000				
Totals for Battle Creek Golf Course				\$828,500	\$0	\$0	\$0	\$828,500

Development Recommendations

Table 11 - Development Program for Existing Parks

* Construction costs reflect line 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Buford (Develop as Neighborhood Park)								
1. Asphalt walking trail - 8' width to serve as primary trail system connector	2,800	LF	\$32	\$89,600				
2. Backstop for practice area	1	ea	\$3,000			\$3,000		
3. Concrete feeder walks - 6' width	400	LF	\$35	\$14,000				
4. Picnic pavilion	1	LS	\$50,000	\$20,000		\$50,000		
5. Clearing and grading	1	LS	\$20,000	\$20,000				
6. Security lighting with underground service	20	ea	\$4,000		\$7,500	\$80,000		
7. Tree planting	30	ea	\$250					
8. Parking	40	spaces	\$1,300	\$52,000				
			Totals for Buford	\$175,600	\$7,500	\$133,000	\$0	\$316,100
Centennial								
1. Remove 8 benches	8	ea	\$100	\$800				
2. Landscape improvements - replace existing grasses, add vines on trellis	1	LS	\$5,000	\$5,000				
3. Add 1 tree at each remaining bench	4	ea	\$400	\$1,600				
			Totals for Centennial	\$7,400	\$0	\$0	\$0	\$7,400
Central								
1. Master plan	1	LS	\$20,000	\$20,000				
2. Replace tennis courts with post-tension slab system new fencing. existing lighting to remain	4	ea	\$120,000	\$480,000				
3. Demolish girls softball complex	1	LS	\$150,000	\$150,000				
4. Splash pad in former softball field area	1	ea	\$250,000			\$250,000		
5. Picnic pavilion in former softball field	1	ea	\$50,000			\$50,000		
6. Remodel community center	8,000	SF	\$75	\$600,000				
7. Additional shade structures at pool	4	ea	\$10,000	\$40,000				
8. Concrete paving for shade structure	15,200	SF	\$6	\$91,200				
9. Tree planting	150	ea	\$250	\$37,500				
10. Bury overhead electrical service lines	1,200	LF	\$190			\$228,000		

Development Recommendations

Table 11 - Development Program for Existing Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Central (continued)								
11. Curb and gutter - roads and parking	8,000	LF	\$30		\$240,000			
12. New security lighting with underground service	20	ea	\$4,000			\$80,000		
13. Future asphalt overlay	12,000	SY	\$15		\$180,000			
14. Creek bank and channel enhancements	1,400	LF	\$100			\$140,000		
15. Concrete walks - 6' width	3,000	LF	\$35		\$105,000			
16. New signage - entry and informational	1	LS	\$40,000	\$40,000				
Totals for Central				\$378,700	\$1,605,000	\$748,000	\$0	\$2,731,700
Copper Creek								
1. Replace eroded trail crossing with gabions	1	LS	\$20,000	\$20,000				
2. Regrade open spaces to facilitate informal field play	1	LS	\$10,000			\$10,000		
3. Additional security lighting along trail with underground service	10	ea	\$4,000	\$40,000				
4. Trails - future asphalt overlay, primary trail, 8' width	4,000	LF	\$20	\$80,000				
5. Trails - future asphalt overlay, feeder trails, 6' width	300	LF	\$12	\$3,600				
6. New signage - entry and informational	1	LS	\$5,000	\$5,000				
Totals for Copper Creek				\$148,600	\$0	\$10,000	\$0	\$158,600
Country Aire								
1. Playground unit	1	ea	\$35,000		\$35,000			
2. Tree planting	75	ea	\$250	\$18,750				
3. Sidewalk along frontage of park 4' width	1,000	LF	\$25		\$25,000			
4. Remove gravel parking lot located east of tennis courts, regrade and replace sod	8,000	SF	\$2	\$16,000				
5. Bury overhead electrical service lines	100	LF	\$190			\$19,000		
6. New security lighting with underground service	10	ea	\$4,000			\$40,000		
7. Resurface trails - 8' width	700	LF	\$20		\$14,000			

Development Recommendations

Table 11 - Development Program for Existing Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Country Aire (Continued)								
8. Curb and gutter at existing lot	750	LF	\$35			\$26,250		
9. New signage - entry and informational	1	LS	\$5,000	\$5,000				
10. Backstop for practice area	1	ea	\$3,000	\$3,000				
Totals for Country Aire				\$42,750	\$74,000	\$85,250	\$0	\$202,000
Haskell								
1. New parking located at west side of park	12	spaces	\$1,300					
2. Concrete border (2' width) as play equipment edge	200	LF	\$20		\$4,000			
3. Add shade structures to splash pad	3	ea	\$7,500	\$22,500				
4. Tree planting	50	ea	\$250	\$12,500				
5. Bury overhead utilities - along 7th St.	500	LF	\$190	\$95,000				
6. New security lighting with underground service	4	ea	\$4,000			\$16,000		
7. Erosion and turf repair	1	LS	\$5,000	\$5,000				
8. New signage - entry and informational	1	LS	\$5,000	\$5,000				
9. New park restroom	1	LS	\$100,000		\$100,000			
10. Curb & gutter for parking lot	750	LF	\$35			\$26,250		
11. New walks - 6' width concrete	300	LF	\$35	\$10,500				
Totals for Haskell				\$150,500	\$104,000	\$57,850	\$0	\$312,350
Indian Springs Mini								
1. Remove & replace w/ concrete steps into park	1	LS	\$12,000	\$12,000				
2. New playground unit for 2 to 5 years olds	1	LS	\$8,000	\$8,000				
3. New walks - 6' width concrete	500	LF	\$35				\$17,500	
4. Replace R.R. tie walls	1	LS	\$10,000	\$10,000				
5. New signage - entry and informational	1	ea	\$1,500	\$1,500				
Totals for Indian Springs Mini				\$30,000	\$1,500	\$0	\$17,500	\$49,000

Development Recommendations

Table 11 - Development Program for Existing Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Indian Springs Sports Complex								
1. Renovate existing parking lot with curb and gutter - East Complex	9,400	LF	\$35		\$329,000			
2. Renovate existing parking lot with paving overlay - East Complex	37,600	SY	\$15		\$564,000			
3. Curb and gutter - West Complex	3,400	LF	\$35		\$119,000			
4. Replace baseball lighting systems on Fields 1-4 & 15-16	6	ea	\$135,000	\$810,000				
5. Restroom and concessions buildings in baseball complex	3	ea	\$350,000	\$1,050,000				
6. New park signage	1	LS	\$20,000	\$20,000				
7. Indoor soccer facility	90,000	SF	\$70				\$6,300,000	
8. New security lighting with underground service	20	ea	\$4,000			\$80,000		
9. Entry feature sign and landscaping at 131 St. and Aspen	1	LS	\$60,000		\$60,000			
10. Additional soccer field lighting for fields on west side	10	ea	\$60,000		\$600,000			
11. Underground drainage systems at west soccer fields	3	ea	\$30,000	\$90,000				
12. Adult softball fourplex with parking	1	LS	\$4,000,000	\$4,000,000				
Totals for Indian Springs Sports Complex				\$5,970,000	\$1,672,000	\$80,000	\$6,300,000	\$14,022,000
Jackson								
1. Large splash pad	1	ea	\$250,000	\$250,000				
2. Curb and gutter for existing parking lot	700	LF	\$35		\$24,500			
3. Additional landscaping (trees and shrubs)	1	LS	\$200,000	\$200,000				
4. Irrigation	250,000	SF	0.75		\$187,500			
Totals for Jackson				\$450,000	\$212,000	\$0	\$0	\$662,000

Development Recommendations

Table 11 - Development Program for Existing Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Leisure								
1. Curb and gutter at existing lot	320	LF	\$35		\$11,200			
2. Asphalt overlay at existing lot	850	SY	\$15		\$12,750			
3. New walks - 6' width concrete	1,200	LF	\$35		\$42,000			
4. Tree planting	50	ea	\$250	\$12,500				
5. Splash pad	1	ea	\$150,000			\$150,000		
6. Restroom	1	ea	\$100,000			\$100,000		
7. New signage - entry and informational	1	LS	\$5,000	\$5,000				
8. New security lighting with underground service	4	ea	\$4,000	\$16,000				
9. Replace shelter roof	1	LS	\$10,000	\$10,000				
10. Backstop for practice area	1	ea	\$3,000	\$3,000				
Totals for Leisure				\$46,500	\$65,950	\$250,000	\$0	\$362,450
Liberty Parkway Trail								
1. Drinking fountains at parking areas	3	ea	\$8,000	\$24,000				
2. New trail head locations	2	ea	\$50,000			\$100,000		
3. New signage at parking areas	4	ea	\$2,000	\$8,000				
4. Restrooms at parking areas	2	ea	\$150,000			\$300,000		
5. Tree planting	200	ea	\$250	\$50,000				
6. Trail head security cameras	4	ea	\$1,500	\$6,000				
Totals for Liberty Parkway Trail				\$88,000	\$0	\$400,000	\$0	\$488,000
Lions								
1. Lighted outdoor basketball court	1	ea	\$140,000	\$140,000				
2. New signage - entry and informational	1	ea	\$5,000	\$5,000				
3. Bury overhead utilities - south and west sides	700	LF	\$190			\$133,000		
4. New security lighting with underground service	4	ea	\$4,000			\$16,000		
5. Concrete border (2' width) as play equipment edge	120	LF	\$20	\$2,400				
Totals for Lions				\$145,000	\$2,400	\$149,000	\$0	\$296,400

Development Recommendations

Table 11 - Development Program for Existing Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Morrow								
1. Tennis courts lighting controls	1	LS	\$10,000	\$10,000				
2. Picnic pavilion	1	ea	\$50,000				\$50,000	
3. Concrete border (2' width) as play equipment edge	200	LF	\$20			\$4,000		
4. New walks - 8' width, asphalt	900	LF	\$32			\$28,800		
5. New security lighting with underground service	3	ea	\$4,000			\$12,000		
6. New signage - entry and informational	1	ea	\$5,000	\$5,000				
Totals for Morrow				\$15,000	\$0	\$44,800	\$50,000	\$109,800
Nienhuis (Complete Master Plan Improvements)								
1. Trail system - 8' width asphalt	7,500	LF	\$32	\$240,000				
2. Park Road A - Entry to rose garden	5,639	SY	\$30	\$169,170				
3. Park Road B - Football parking to east end of park and parking lot	7,200	SY	\$30	\$216,000				
4. Curb and gutter	5,620	LF	\$30	\$168,600				
5. 9 - hole disk golf course	1	LS	\$12,000		\$12,000			
6. Large playground unit	1	ea	\$250,000	\$250,000				
7. Lighted tennis courts	4	ea	\$150,000		\$600,000			
8. Lighted outdoor basketball court	1	ea	\$140,000		\$140,000			
9. Construct second phase of skate park	1	LS	\$700,000			\$700,000		
10. Multi-purpose facility	1	ea	\$4,000,000	\$4,000,000				
11. New security lighting with underground service	30	ea	\$4,000	\$120,000				
12. New signage - entry and informational	1	LS	\$130,000	\$130,000				
13. Tree planting	100	ea	\$250	\$25,000				
14. Lighting of flag football fields	4	ea fld	\$65,000	\$260,000				
Totals for Nienhuis				\$5,578,770	\$752,000	\$700,000	\$0	\$7,030,770

Development Recommendations

Table 11 - Development Program for Existing Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Oak Creek South								
1. Playground unit	1	ea	\$35,000	\$35,000				
3. New picnic pavilion	1	ea	\$50,000	\$50,000				
5. New security lighting with underground service	2	ea	\$4,000	\$8,000				
6. New signage - entry and informational	1	LS	\$1,500	\$15,000				
Totals for Oak Creek South				\$108,000	\$0	\$0	\$0	\$108,000
Pembroke (Develop as Neighborhood Park and Trail Head)								
1. Asphalt walking trail - 8' width to serve as primary trail system connector	2,000	LF	\$32	\$64,000				
2. Parking area	12	spaces	\$1,300					
3. Playground unit	1	LS	\$50,000				\$50,000	
4. Picnic pavilion	1	LS	\$50,000				\$50,000	
5. Lighted tennis courts	2	ea	\$150,000				\$300,000	
6. Clearing and grading	1	LS	\$25,000				\$25,000	
7. Concrete connector walk - 6' width	2,000	LF	\$35				\$70,000	
8. Tree planting	25	ea	\$250				\$6,250	
Total Pembroke				\$0	\$64,000	\$0	\$501,250	\$565,250
Ray Harral								
1. Topo survey and master plan	1	LS	\$35,000	\$35,000				
2. Pave trails on slopes to prevent erosion (8' width)	1,200	LF	\$32	\$38,400				
3. Eradication program to remove invasive plant species	1	LS	\$15,000	\$15,000				
4. Relocate non-native ornamentals to new arboretum	1	LS	\$15,000				\$15,000	
5. Display gardens for native species	1	LS	\$30,000	\$30,000				
6. Small side trails for observation	1	LS	\$20,000	\$20,000				
7. Repair erosion and stabilize problem areas	1	LS	\$15,000	\$15,000				
8. Replace R.R. steps	1	LS	\$10,000	\$10,000				

Development Recommendations

Table 11 - Development Program for Existing Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Ray Harral (continued)								
9. Replace R.R. tie walls with segmental block or other permanent material	1	LS	\$10,000	\$10,000				
10. Improve low water crossing areas - some small bridges needed	1	LS	\$25,000	\$25,000				
11. Expand parking area	20	spaces	\$1,300	\$26,000				
12. New signage - entry and informational	1	LS	\$50,000	\$50,000				
Total Ray Harral				\$274,400	\$0	\$0	\$15,000	\$289,400
Rockwood West								
1. Concrete feeder walks - 6' width	200	LF	\$35				\$7,000	
2. Asphalt perimeter walk - 8' width	1,400	LF	\$32					
3. Restroom	1	ea	\$100,000		\$100,000			
4. Replace shelter roof	1	ea	\$10,000	\$10,000				
5. Add shade structures to splash pad	2	ea	\$7,500	\$15,000				
6. New signage - entry and informational	1	ea	\$1,500	\$1,500				
7. Backstop for practice area	1	ea	\$3,000	\$3,000				
Total Rockwood West				\$29,500	\$100,000	\$0	\$7,000	\$136,500
Seiling								
1. Creek bank and channel enhancements	550	LF	\$100			\$55,000		
2. Curb and gutter - street edges and parking	860	LF	\$35		\$30,100			
3. Overlay existing parking	400	SY	\$15		\$6,000			
4. New parking for east side of park	15	spaces	\$1,300	\$19,500				
5. New security lighting with underground service	4	ea	\$4,000			\$16,000		
6. Asphalt perimeter walk - 8' width	1,300	LF	\$32		\$41,600			
7. Creek crossings	2	ea	\$10,000		\$20,000			
8. Concrete feeder walks - 6' width	600	LF	\$35		\$21,000			
Total Seiling				\$19,500	\$118,700	\$71,000	\$0	\$209,200

Development Recommendations

Table 11 - Development Program for Existing Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Urbana								
1. New walk to picnic pavilion - 6' width	250	LF	\$35	\$8,750				
2. New backstop	1	ea	\$3,000	\$3,000				
3. New signage - entry and informational	1	ea	\$5,000	\$5,000				
4. Bury overhead utilities - west and north sides	450	LF	\$190		\$85,500			
5. New security lighting with underground service	3	ea	\$4,000		\$12,000			
6. Tree planting	25	ea	\$250	\$6,250				
			Total Urbana	\$23,000	\$97,500	\$0	\$0	\$120,500
Vandever								
1. Splash pad	1	ea	\$150,000		\$150,000			
2. Restroom	1	ea	\$100,000		\$100,000			
3. Replace tennis courts with post-tension slab system (including demolition)	2	ea	\$150,000			\$300,000		
4. Concrete border (2' width) as play equipment edge	200	LF	\$20			\$4,000		
5. Asphalt overlay parking lot	634	SY	\$15		\$9,510			
6. New signage - entry and informational	1	ea	\$5,000	\$5,000				
7. New shelter roof	1	LS	\$10,000	\$10,000				
8. Backstop for practice area	1	ea	\$3,000	\$3,000				
			Total Vandever	\$18,000	\$259,510	\$304,000	\$0	\$581,510
Veterans (Complete Master Plan Improvements)								
1. Concrete walks	1	LS	\$35,000	\$35,000				
2. Memorial exhibit areas	2	ea	\$50,000	\$100,000				
3. Irrigation system	1	LS	\$55,000	\$55,000				
4. Landscaping	1	LS	\$50,000	\$50,000				
5. New signage	1	ea	\$5,000	\$5,000				
6. Land acquisition for parking	1	LS	\$150,000	\$150,000				
7. New parking	30	spaces	\$1,300	\$39,000				
			Total Veterans	\$434,000	\$0	\$0	\$0	\$434,000

Development Recommendations

Table 11 - Development Program for Existing Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Wolf Creek								
1. New walks - 6' width	1,000	LF	\$35			\$35,000		
2. Bridge replacement	4	ea	\$5,000				\$20,000	
3. Picnic pavilion	1	LS	\$35,000			\$35,000		
5. New signage	1	ea	\$5,000				\$5,000	
Total Wolf Creek				\$0	\$0	\$70,000	\$25,000	\$95,000
Total Existing Park Improvements				\$19,101,420	\$5,183,560	\$3,204,900	\$7,215,750	\$34,705,630

Development Recommendations

Table 12 - Development Program for New Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Planning District One								
Neighborhood Park 1	18	ac	\$50,000			\$900,000		
Land Acquisition	1	LS	\$880,000			\$880,000		
Facilities Development								
Neighborhood Park 2	18	ac	\$50,000			\$900,000		
Land Acquisition	1	LS	\$880,000			\$880,000		
Facilities Development								
Total New Development District One				\$0	\$0	\$3,560,000	\$0	\$3,560,000
Planning District Two								
Neighborhood Park 1	12	ac	\$50,000		\$600,000			
Land Acquisition	1	LS	\$820,000		\$820,000			
Facilities Development								
Neighborhood Park 2	11	ac	\$50,000		\$550,000			
Land Acquisition	1	LS	\$810,000		\$810,000			
Facilities Development								
Regional Park in EDD (Emphasis on lighted fields)						\$10,000,000		
Land Acquisition	200	ac	\$50,000			\$10,000,000		
Facilities Development	200	ac	\$70,000			\$14,000,000		
Detention Facility Park in EDD (Emphasis on practice fields)								
Land Acquisition	50	ac	\$50,000	\$2,500,000				
Facilities Development	50	ac	\$65,000	\$3,250,000				
Total New Development District Two				\$5,750,000	\$2,780,000	\$24,000,000	\$0	\$32,530,000

Development Recommendations

Table 12 - Development Program for New Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Planning District Three								
Neighborhood Park 1								
Land Acquisition	16	ac	\$50,000			\$800,000		
Facilities Development	1	LS	\$860,000			\$860,000		
Neighborhood Park 2								
Land Acquisition	16	ac	\$50,000			\$800,000		
Facilities Development	1	LS	\$860,000			\$860,000		
Neighborhood Park 3								
Land Acquisition	16	ac	\$50,000			\$800,000		
Facilities Development	1	LS	\$860,000			\$860,000		
Verdigris Valley Regional Park and Arboretum								
Land Acquisition	160	ac	\$50,000				\$8,000,000	
Facilities Development	160	ac	\$60,000				\$9,600,000	
Total New Development District Three				\$0	\$0	\$4,980,000	\$17,600,000	\$22,580,000
Planning District Four								
Neighborhood Park 1								
Land Acquisition	16	ac	\$50,000		\$800,000			
Facilities Development	1	LS	\$860,000		\$860,000			
Neighborhood Park 2								
Land Acquisition	16	ac	\$50,000		\$800,000			
Facilities Development	1	LS	\$860,000		\$860,000			
Neighborhood Park 3								
Land Acquisition	16	ac	\$50,000			\$800,000		
Facilities Development	1	LS	\$860,000			\$860,000		
Neighborhood Park 4								
Land Acquisition	16	ac	\$50,000			\$800,000		
Facilities Development	1	LS	\$860,000			\$860,000		

Development Recommendations

Table 12 - Development Program for New Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Planning District Four (Continued)								
Neighborhood Park 5								
Land Acquisition	19	ac	\$50,000			\$950,000		
Facilities Development	1	LS	\$890,000			\$890,000		
Neighborhood Park 6								
Land Acquisition	15	ac	\$50,000			\$750,000		
Facilities Development	1	LS	\$850,000			\$850,000		
Neighborhood Park 7								
Land Acquisition	14	ac	\$50,000			\$700,000		
Facilities Development	1	LS	\$840,000			\$840,000		
Southside Regional Park								
Land Acquisition	60	ac	\$50,000	\$3,000,000				
Community Center including indoor swimming pool, gymnasium and fitness center	1	LS	\$7,150,000		\$7,150,000			
Typical neighborhood park facilities	1	LS	\$850,000				\$850,000	
Total New Development District Four				\$3,000,000	\$10,470,000	\$8,300,000	\$850,000	\$22,620,000
Planning District Five								
Neighborhood Park 1								
Land Acquisition	16	ac	\$50,000				\$800,000	
Facilities Development	1	LS	\$860,000				\$860,000	
Neighborhood Park 2								
Land Acquisition	17	ac	\$50,000				\$850,000	
Facilities Development	1	LS	\$870,000				\$870,000	
Neighborhood Park 3								
Land Acquisition	17	ac	\$50,000				\$850,000	
Facilities Development	1	LS	\$870,000				\$870,000	

Development Recommendations

Table 12 - Development Program for New Parks

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST	PHASE I 2008-2011	PHASE II 2012-2015	PHASE III 2016-2019	PHASE IV 2020-2025	TOTAL COST
Planning District Five (Continued)								
Neighborhood Park 4								
Land Acquisition	17	ac	\$50,000				\$850,000	
Facilities Development	1	LS	\$870,000				\$870,000	
Neighborhood Park 5								
Land Acquisition	15	ac	\$50,000				\$750,000	
Facilities Development	1	LS	\$850,000				\$850,000	
Neighborhood Park 6								
Land Acquisition	15	ac	\$50,000				\$750,000	
Facilities Development	1	LS	\$850,000				\$850,000	
Neighborhood Park 7								
Land Acquisition	12	ac	\$50,000				\$600,000	
Facilities Development	1	LS	\$820,000				\$820,000	
Events Park								
Land Acquisition	76.6	ac	\$48,303	\$3,700,000				
Multi-purpose events facility	90,000	SF	\$150	\$5,000,000	\$4,250,000	\$4,250,000		
Dog park	15	ac	\$5,000	\$75,000				
Other infrastructure and facilities	50	ac	\$60,000	\$3,000,000				
Total New Development District Five				\$11,775,000	\$4,250,000	\$4,250,000	\$11,440,000	\$31,715,000
Total New Development				\$20,525,000	\$17,500,000	\$45,090,000	\$29,890,000	\$113,005,000

Development Recommendations

Table 13 - Development Program for Trails

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST (8' Trail)	ESTIMATED COST (8' TRAIL)
Planning District One				
Trail B	11,632	LF	\$32	\$372,224
Total Trails District One				\$372,224
Planning District Two				
Trail G	35,100	LF	\$32	\$1,123,200
Trail C	29,060	LF	\$32	\$929,920
Trail D	10,139	LF	\$32	\$324,448
Trail E	2,546	LF	\$32	\$81,472
Trail F	2,679	LF	\$32	\$85,728
Trail II	9,178	LF	\$32	\$293,696
Total Trails District Two				\$2,838,464
Planning District Three				
Trail H	4,055	LF	\$32	\$129,760
Trail I	28,860	LF	\$32	\$923,520
Trail J	93,028	LF	\$32	\$2,976,896
Total Trails District Three				\$4,030,176
Planning District Four				
Trial O	33,088	LF	\$32	\$1,058,816
Trail P	24,619	LF	\$32	\$787,808
Trail Q	28,413	LF	\$32	\$909,216
Trail R	1,815	LF	\$32	\$58,080
Trail W	16,057	LF	\$32	\$513,824
Trail Y	1,597	LF	\$32	\$51,104
Trail HH	4,275	LF	\$32	\$136,800
Trail S	22,652	LF	\$32	\$724,864
Trail T	1,148	LF	\$32	\$36,736
Trail U	1,185	LF	\$32	\$37,920
Trail V	10,358	LF	\$32	\$331,456
Trail X	9,557	LF	\$32	\$305,824
Total Trails District Four				\$4,952,448
Planning District Five				
Trial Z	11,776	LF	\$32	\$376,832
Trail AA	8,050	LF	\$32	\$257,600
Trail BB	2,942	LF	\$32	\$94,144
Trail CC	10,881	LF	\$32	\$348,192
Trail DD	2,831	LF	\$32	\$90,592
Trail K	41,220	LF	\$32	\$1,319,040

Development Recommendations

Table 13 - Development Program for Trails

* Construction costs reflect June 2008 dollars

	QTY	UNITS	UNIT COST (8' Trail)	ESTIMATED COST (8' TRAIL)
Trail L	44,887	LF	\$32	\$1,436,384
Trail EE	1,633	LF	\$32	\$52,256
Trail FF	9,887	LF	\$32	\$316,384
Trail GG	2,518	LF	\$32	\$80,576
Total Trails District Five				\$4,372,000
Bikeways				
Bikeway A	5	mile	\$15,000	\$75,000
Bikeway N	1	mile	\$15,000	\$15,000
Total Bikeways				\$90,000
Total Trails & Bikeways				\$16,655,312

Note: Where 10' trails are used instead of 8' trails there will be a 20% increase in cost.

Appendix A

Park Type Standards

Parks & Recreation Master Plan

City of Broken Arrow, Oklahoma

The following table provides examples of park type standards from several different cities. They are included for reference purposes.

(Acres per 1,000 population)

Source	Mini Park	Neighborhood Park	Community Park
National Recreation & Park Association	.25 - .5	1 - 2	5 - 8
Arkansas State Plan	0.5	2.5	7
Des Moines, Iowa	-	1.25	5
Greensboro, North Carolina	1.5	1.5	2.5
Jackson, Tennessee	-	1.25	5
Kansas City Missouri	-	6	14
Michigan State Plan	-	2.5	5
Norman Oklahoma	-	2.5	5.5
Sand Springs, Oklahoma	0.5	2.5	7
South Carolina Plan	1.5	3	7

Source: Recreation, Park and Open Space Standards and Guidelines, National Recreation and Park Association.

Appendix B

Needs Assessment Survey by:
Management Learning Laboratories

Parks & Recreation Master Plan City of Broken Arrow, Oklahoma

RECREATION INTERESTS

For each activity listed below please circle the appropriate number to indicate whether you and/or anyone in your family would have interest in the activity. Then circle the appropriate number to indicate if you and/or anyone in your family has participated in the activity in the past 12 months.

Category	Example	Not Interested	Interested	Participated
Activities for the disabled	Sports, crafts, trips, social events, etc.	2	1	1
Adventure activities	Hiking, camping, boating, skiing, climbing, etc.	2	1	1
Aquatics	Lap swim, swim lessons, open swim, etc.	2	1	1
Arts & Crafts	Ceramics, photography, calligraphy, painting, etc.	2	1	1
Environmental	Nature study, nature walks, bird watching, etc.	2	1	1
Extreme Sports	Skateboarding, BMX Biking, Snowboarding, etc.	2	1	1
Family Programs	Parties, and parent/child dances, family nights, etc.	2	1	1
Gardening	Gardening, landscaping, etc.	2	1	1
Hobbies	Cooking, flower arranging, models, chess, sewing, etc.	2	1	1
Indoor Fitness	Exercise equipment, jogging track, aerobics, etc.	2	1	1
Outdoor Fitness	In-line skating, running, walking, biking, etc.	2	1	1
Outdoor sports	Fishing, hunting, etc.	2	1	1
Passive recreation	Sitting in the parks, enjoying scenery, etc.	2	1	1
Performing Arts	music classes, dance classes, drama classes, etc.	2	1	1
Special Events	One or two day events, festivals, shows, fairs, etc.	2	1	1
Sports and Athletics	Baseball, soccer, basketball, football, tennis, golf, etc.	2	1	1

ATTENDANCE

Please indicate by circling the appropriate number approximately how many times in the past 12 months you and/or another member of your family utilized the following city facilities and/or programs.

	Never	Once	1 to 6 times	7 to 12 times	13 to 24 times	26 times or more
Community parks & complexes:						
Indian Spring Sports Complex	0	1	2	3	4	5
Jackson Park	0	1	2	3	4	5
Nienhuis Community Center	0	1	2	3	4	5
Central Park Community Center	0	1	2	3	4	5
Sieling Park	0	1	2	3	4	5
Arrowhead Park	0	1	2	3	4	5
Any other city park not listed above	0	1	2	3	4	5
Tuesdays Concerts in the park	0	1	2	3	4	5
Nienhuis skate park	0	1	2	3	4	5
Nienhuis football stadiums	0	1	2	3	4	5
Nienhuis swimming pool	0	1	2	3	4	5
Family Aquatic Center	0	1	2	3	4	5
Country Aire swimming pool	0	1	2	3	4	5
Splash pads	0	1	2	3	4	5
Programs offered by the Parks Department	0	1	2	3	4	5
Programs offered by groups unconnected with the Department in the Parks Department facilities	0	1	2	3	4	5
Battle Creek Golf course	0	1	2	3	4	5
Special events (e.g. Breakfast with Santa)	0	1	2	3	4	5

Please indicate by circling yes if the following are barriers to participation in programs & facilities (indicate all that apply).

Better facilities are available elsewhere	Yes	Lack of variety of programs	Yes
Cost	Yes	Language/Cultural barriers	Yes
Facilities are not modern	Yes	Not having enough time	Yes
Lack of restrooms	Yes	Not interested in what is provided	Yes
Inconvenient location	Yes	Hours of operation	Yes
Inconvenient timing of activities	Yes	Overcrowding	Yes
Lack of accommodations for disabled	Yes	Programs get cancelled	Yes
Lack of cleanliness	Yes	Safety concerns	Yes
Lack of information	Yes	Traffic poses a transportation problem	Yes
Lack of maintenance	Yes	Lack of trails to go to facilities	Yes
Lack of parking	Yes	Other: _____	Yes

Parks & Recreation Master Plan

City of Broken Arrow, Oklahoma

AREAS OF IMPORTANCE

Please indicate by circling the appropriate number how important the following facilities and programs are for the children, teens, adults and seniors in your family.

Very Important	Important	Somewhat Important	Not Important		Very Important	Important	Somewhat Important	Not Important			
A center for special events			4	3	2	1	Horseshoe pits	4	3	2	1
Athletic practice fields			4	3	2	1	Indoor soccer	4	3	2	1
Additional staff			4	3	2	1	Indoor water park	4	3	2	1
After school programs			4	3	2	1	Land acquisition	4	3	2	1
Amphitheater			4	3	2	1	Landscaping	4	3	2	1
Art in parks			4	3	2	1	Martial arts	4	3	2	1
Arts and crafts programs			4	3	2	1	Nature trails	4	3	2	1
Athletic play fields			4	3	2	1	Open space	4	3	2	1
Badminton			4	3	2	1	Park for passive use	4	3	2	1
Basketball			4	3	2	1	Performing arts	4	3	2	1
BMX trail			4	3	2	1	Pickle ball	4	3	2	1
Bocce			4	3	2	1	Racquetball	4	3	2	1
Climbing walls			4	3	2	1	Sand volleyball	4	3	2	1
Connected city wide walking, biking, running trails			4	3	2	1	Senior center	4	3	2	1
Dance programs			4	3	2	1	Shelters	4	3	2	1
Dog park			4	3	2	1	Skate parks	4	3	2	1
Environmental education			4	3	2	1	Special needs	4	3	2	1
Equestrian			4	3	2	1	Splash pads	4	3	2	1
Events park			4	3	2	1	Sports camps	4	3	2	1
Extreme sports			4	3	2	1	Swimming pools	4	3	2	1
Fine arts center			4	3	2	1	Table tennis	4	3	2	1
Adult sports leagues			4	3	2	1	Tennis	4	3	2	1
Firework display			4	3	2	1	Trails within parks	4	3	2	1
Fishing ponds			4	3	2	1	Video surveillance of facilities	4	3	2	1
Fitness center			4	3	2	1	Water aerobics	4	3	2	1
Formal garden areas			4	3	2	1	Volleyball	4	3	2	1
Frisbee golf			4	3	2	1	Weight training	4	3	2	1
Gymnastics			4	3	2	1	Wellness programs	4	3	2	1
Historical programs			4	3	2	1	Winter activities	4	3	2	1
Holiday decoration			4	3	2	1	Year round swimming	4	3	2	1

Please write in the box below any other comments or suggestions you might have:

Appendix C

Report for Broken Arrow OK:
Recreation Community Survey by:
Managment Learning Laboratories



Report for Broken Arrow, OK Recreation Community Survey

Submitted by

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READING/INTERPRETING THE REPORT

This report is the final outcome of the Needs Assessment Study (henceforth referred to as “study”) that was commissioned by the Broken Arrow Parks and Recreation Department (henceforth referred to as “BAPRD”) in 2007. In reading/interpreting this report, it is important to note that the results are presented in several ways. First, there is a narrative description of the findings, which then are supported by tables of data. **Key findings and summaries are underlined in the body of the report.** Recommendations are made across the entire body of the report and are always supported by data. *All recommendations are presented in italics in the body of the report.*

The tables and numbers in the report should be considered carefully. Since there were several questions that addressed similar issues, these items were distributed in different parts of the questionnaire. When combined, these pieces of information together make up the entire report and results. *In many cases, the importance attached to a particular piece of numeric data must be interpreted along with other similar questions in the instrument.* Moreover, before drawing specific conclusions, it is important to recognize that a universal yardstick cannot be used to interpret the results. For example, the results from one section of the questionnaire may suggest that a particular facility, considered by 40% of the respondents to be needed in Broken Arrow, is in fact a significant necessity because most of the other facilities listed in that section received far less endorsement. On the other hand, a particular activity that is considered necessary by 40% of the respondents may be very insignificant in a particular section if there were other activities that received far more support. It is the ranking, as presented in the tables that is most important. Consequently, it is impossible to try to find one percentage as the cut-off point for all the questions. Each question needs to be considered separately and as a part of the section to which it belongs.

INTRODUCTION TO THE STUDY

The study was designed to elicit interest, behavior, demographic, and attitude information from the citizens served by the BAPRD concerning recreation and leisure. It is important to note that this component of the study was intended to obtain information from the entire community and not any specific user group. The objective of the study was to obtain the relevant information that will help the BAPRD do its job more effectively by enabling it to be more responsive to the recreation needs of the residents of Broken Arrow. Additionally, the information can also be used to better organize the internal workings of the BAPRD to stay in tune with the current and future needs of the community. This also implies that the BAPRD will benefit by learning about the residents' awareness of the recreation activities within Broken Arrow. In summary, this study was not a user's survey, but a more comprehensive assessment of the recreation needs, attitudes and opinions of the residents of the entire community. Thus, it should be noted that the primary goal of the study was to obtain information about Parks and Recreation in Broken Arrow.

METHODS AND PROCEDURES OF THE STUDY

Determination of the Sample

While it is desirable to question all of the residents of Broken Arrow, it is not possible to do so due to a variety of constraints including cost, available time and access. However, using the principles of random sampling, it was possible to collect data from a part of the population and then make projections about the entire population. For this reason, a statistically viable and reliable random sampling procedure was used for this study. Given the fact that it was a random sample of the population, it is possible to claim that, within a small margin of error (3.00%), the sample is reliably representative of the community as a whole.

In this case, a sample of 4,000 addresses was selected from a complete list of addresses in Broken Arrow. Addresses were chosen randomly from this sampling frame so that every address had an equal chance of being selected. The addresses then were used in mailing the questionnaires to city residents.

Development of the Questionnaire

Six “focus group” meetings with groups from the town were conducted so that those in attendance could identify issues relating to parks and recreation in Broken Arrow. The meetings were moderated by MLL staff. The MLL staff also held meetings with key city leadership. Overall, the meetings were well attended.

All of the background information gathered in these meetings was used to produce the first draft of the instrument, which contained questions and items specific to the community. These early drafts were then reviewed by the consulting team, as well as by the members of the BAPRD. After a thorough review, a final draft of the questionnaire was approved by the BAPRD.

Questionnaire Contents

The first section of the questionnaire was designed to elicit respondent interest in various recreation categories such as “arts and crafts,” “performing arts,” “sports and athletics,” etc. Respondents were asked to indicate their level of interest in each of the categories. Examples of activities within each category were listed so respondents would know what each category meant.

The next section, labeled, “Attendance,” dealt with the level of use of parks, and attendance at the recreation programs by the respondents. Different types of recreation uses were listed and the respondents were asked to indicate how frequently they had engaged in each use in the past twelve months. Next, there was a section designed to elicit reasons for not using or attending recreation facilities and programs. A list of possible barriers was provided and respondents were asked to indicate if each applied to them and the members of their family. The choices included items such as “lack of information,” “lack of cleanliness,” etc.

The next section, labeled, “Areas of Importance” listed items that were indicated as needs in the various meetings. These included both programmatic and facility additions. The respondents were asked to indicate whether they felt that these additions were necessary.

The next section of the questionnaire dealt with personal opinions of the respondents. There was a series of statements for which they could indicate their level of agreement on a four-point scale that ranged from “strongly agree” to “strongly disagree,” with a fifth “don’t know” option. There were several general areas of personal opinion.

The items dealt with issues such as:

- Respondents’ personal knowledge and feelings about the BAPRD and its offerings,
- Specific improvements that the BAPRD could make in its services,
- General recreation issues related to the BAPRD,
- Opinions about the effectiveness of marketing and publicity efforts of the BAPRD, and
- General questions about the quality of life in Broken Arrow.

Respondents were then provided a section that solicited opinions about funding recreation in Broken Arrow. Several funding options like “corporate sponsorships,” and “property taxes” were offered and the respondents were asked to indicate their support for each method on a four-point scale that ranged from “strongly agree” to “strongly disagree,” with a fifth “don’t know” option.

Respondents then were asked about the best ways of keeping informed about public recreation opportunities. They were provided with a list that included items such as cable television, seasonal brochures and word of mouth, and respondents were asked to evaluate them as either “effective” or “not effective.”

The last section of the questionnaire included general demographic questions concerning gender, age, marital status, household composition, length of residence in Broken Arrow, and where generally the respondent lives in the community.

Procedures for Administering and Analyzing the Questionnaires

Once the 4,000 addresses were compiled, each of those addresses was mailed the questionnaire with a postage-paid envelope included to facilitate return; all the 4,000 were also mailed a postcard thanking them for participation in the study and reminding them to return the questionnaire in case they had not. The returns included 135 non-deliverables. At the end of the mailing, a total of 529 questionnaires were returned, resulting in an overall response rate of 13.7%. Data entry procedures maintained confidentiality of all sample members, as well as anonymity of individual respondents.

The data were analyzed using the *CompuRec* data analysis and query program. *CompuRec* is a data analysis package specifically designed to analyze recreation-related data. Data analysis consisted primarily of frequency distributions for each response category on each questionnaire item, in order to determine the percentage of respondents who selected each answer option. This was done for the sample as a whole, and then broken down further into gender, age, and other demographic categories such as geographic location, to support recommendations.

It is important to note that the analysis reported here, as well as the recommendations presented, is primarily based on the aggregate information and data. Furthermore, it should be noted that the data presented in this report are based only on the responses obtained in the community-wide study and the descriptive and narrative information collected in the focus group meetings. There are no presumptions about the actual performance of the BAPRD; only the perceptions of the community are reported. It is quite possible that many of the perceptions do not match the actual activities of the BAPRD. However, the purpose of this report is to present the perception, accurate or inaccurate, to demonstrate how the community feels about the BAPRD.

RESULTS OF THE STUDY: DEMOGRAPHICS

Description of the Population

A set of questions was designed to elicit demographic information such as age, marital status, gender, etc. These questions can provide information about a community's makeup and therefore its possible recreation needs. It is useful to note that the percentages reported and tabulated sometimes add up to 101% or 99% due to the effects of rounding off decimals.

Gender

The sample was made up of 42% male and 57% female respondents which is an acceptable gender distribution given that the Census reports a distribution of 48% males and 52% females (see, <http://www.city-data.com/city/Broken-Arrow-Oklahoma.html>).

Age

The questionnaire provided different age categories and the percentages are reported below. This places the median age in the 35-44 age group which too matches the latest Census information.

Age Category	
18-24	1%
25-34	14%
35-44	25%
45-54	21%
55-64	21%
65-69	8%
70-74	6%
Over 75	4%

Income and Employment

The household income distribution varied from under \$25,000 to over \$125,000 per year, with the median income being in the \$50,000 to \$75,000 range which matches the latest Census information. The specific income categories were as follows:

Income Category	
Under \$25,000	6%
\$25-50,000	21%
\$50-75,000	31%
\$75-100,000	20%
\$100-125,000	12%
Over \$125,000	10%

Residence in Broken Arrow

About 17% of the respondents claimed that they have lived in Broken Arrow for one to three years, while another 21% reported that they have lived there between four and ten years. Another 15% indicated that they have lived in Broken Arrow for eleven to fourteen years. The remaining half indicated that they have been in Broken Arrow for more than fifteen years.

Household composition

The results show that 68% of the households have two adults in the home, while 18% have one adult in the household. Furthermore, nearly 21% have one or more children under five years of age, 21% have at least one child in the six to eleven year range, 20% of the respondents indicated that they have at least one child in the twelve to fourteen year age range, and finally 16% claimed they have at least one child in the fifteen to eighteen year age range. Thus, in total, more than three-quarter of the respondents indicated that their household has at least one child under the age of eighteen. The respondents indicated that 78% were married. Nearly 89% of the respondents claimed to be white, with the rest being primarily a mix of African-Americans and Hispanics. The respondents also claimed that 11% had no access to the Internet with the remainder having access either at home or work or both. About 6% claimed to have a child in a private school and 1% claimed to home-school their child, with the rest claiming that their child was in a public school. The respondents also indicated that 27% owned one or more cat as a pet and 68% claimed to have one or more dog as a pet.

Demographic Overview

The results reported in this document are obtained from respondents who represent a somewhat affluent family-oriented segment of the population. Most of the respondents have children and are in the “middle-income” range. These results are consistent with information available from other sources such as “City-data” which maintains updated information about most US cities. They report the same portion of ethnicities, income, and household composition. Thus, the respondents to the survey can be considered to be generally representative of the community. The respondents also indicated that 26% were in the 74011 zip code area, 46% were in the 74012 zip code area and 29% in the 74014 zip code area. The remaining 9% indicated they lived in a different zip code area.

RESULTS OF THE SURVEY: GENERAL FINDINGS

The following sections of this report describe the findings about the various recreational needs of Broken Arrow residents. The questionnaire was used to explore recreation and leisure interests as well as what residents believe should be areas of emphasis for additional facilities and programs in Broken Arrow. Moreover, information was gathered concerning opinions about various recreation-related issues, including factors that limit the use of facilities and how recreation programs should be funded. Personal opinions about recreation- and health-related issues were also collected. Unless otherwise specified, numbers in parentheses refer to the percentage responding positively to a question. Furthermore, it should be noted that the percentages are estimates and can vary between plus or minus three to five percentage points.

Recreation Interests

The first section of the questionnaire asked respondents to indicate the level of interest they have for each of fifteen different categories of recreational activities. Examples of specific activities pertaining to each general category were provided. The scale included the options, “great interest,” “some interest,” and “no interest.” The results are described in terms of the percentages of respondents who showed interest in a particular recreational activity by selecting the “great interest” or “some interest” option. The results presented in Table 1 are arranged in descending order to highlight the most widely shared leisure interests at the top of the table.

Special events appears at the top of the ranking, with more than four-fifths (83%) of the respondents indicating an interest in one- or two-day events, festivals, shows and fairs, etc. The special events interests are consistent with the widespread need for a place to hold special events and the need for fireworks displays (Table 2). This is also supported by the fact that nearly a third of the respondents have participated in special events. Therefore, *the BAPRD should ensure that it provides opportunities and spaces for their residents to participate in special events.*

Sports and athletics appeared next in the ranking. Nearly 79% of the respondents report that they have an interest in baseball, soccer, basketball, football, tennis and other sports. This is consistent with the need for athletic play fields which was seen as an area of importance by about 78% of the respondents as well (Table 2). Also, nearly half the respondents indicated that they have participated in sports and athletics activities. Given the strong interest in sports and

athletics, *the BAPRD should consider offering more sports and athletic opportunities for their residents.*

Passive recreation activities were also very popular, with more than four-fifths (78%) of the respondents indicating an interest in sitting in the parks, enjoying the scenery and similar activities. More than a third of the respondents also indicated that they have participated in such activities and a large portion of the respondents expressed a need for facilities for passive recreation (Table 2). *The BAPRD should offer opportunities for passive recreation to its community.*

Fitness, in general, was also a top-ranked recreational interest. About three-quarters of the respondents expressed an interest in activities such as in-line skating, running, walking, biking, jogging both indoors and outdoors. Nearly a third of the respondents also indicated that they already participate in such activities and a significant portion of the respondents also indicated a need for facilities related to such activities (Table 2). Given the importance of maintaining fitness, and the strong interest expressed by the respondents, *BAPRD should consider offering residents with more indoor and outdoor fitness activity opportunities.*

Activities that relate to nature are also significantly popular, with more than three-fourths (76%) of the respondents indicating they have an interest in gardening and landscaping whereas 60% of the respondents indicated an interest in nature study, nature walks, bird watching, etc. The respondents also indicated that just under a third of them participate in such activities and a large number of respondents indicated a need for nature trails (Table 2). Therefore, *the BAPRD should consider offering more activities and facilities related to environmental recreation.*

About 60% to 70% of the respondents also indicated an interest in slightly specialized activities related to hobbies, arts and crafts, swimming and adventure activities. Residents indicated a desire for more opportunities related to things such as cooking classes, pottery, swim lessons, hiking, etc. Between 20% to 30% of the respondents also indicated that they have participated in such activities, and there is also a need for facilities related to these activities. Therefore, *the BAPRD should consider providing opportunities for its residents to enjoy the range of activities included in these categories.*

The remaining recreation activities are of interest to less than 60% of the respondents and should remain lower in priority. This does not mean that these kinds of activities, such as family activities, opportunities for the special needs population and extreme sports should be ignored, but they should only be supported once the more popular interests have been accommodated and/or if there is sufficient interest among a small, dedicated group of residents to support such activities. *The BAPRD should first focus on those activities in which most residents are*

interested. Subsequently, those interests that are supported by a smaller subgroup of residents should be accommodated.

The results from these items are presented in the following table. Percentages reflect the proportion of respondents who selected each response option for each activity type.

Table 1: Recreation Interests

	Interested	Participated
Special Events	83%	34%
Sports and Athletics	79%	49%
Passive recreation	78%	36%
Outdoor Fitness	77%	38%
Gardening	76%	30%
Indoor Fitness	76%	34%
Aquatics	73%	32%
Hobbies	69%	27%
Adventure activities	66%	34%
Arts & Crafts	64%	20%
Outdoor sports	61%	32%
Environmental	60%	27%
Performing Arts	48%	14%
Family Programs	47%	16%
Activities for the disabled	27%	4%
Extreme Sports	26%	10%

Personal Opinions

This section of the questionnaire contained several opinion statements with which respondents could agree or disagree. A four-point scale ranging from “strongly agree” to “strongly disagree” was provided, along with a fifth “don’t know” option in case the respondents did not have enough experience with a particular issue to form an opinion about it. For the sake of simplicity of presentation, the results have been collapsed into the categories “agree,” “disagree” and “don’t know,” but BAPRD can use *CompuRec* if more detail is needed to discriminate between levels of agreement or disagreement. These opinion items were generated in part on the basis of the focus group meetings with staff and residents, and they reflect some of the larger issues surrounding the operation of Broken Arrow Park and Recreation Department

facilities and programs. Although the items were arranged somewhat randomly in the questionnaire, the results are presented here around major topic areas.

Opinions about recreation facilities

Four of the items in the opinions section of the questionnaire address the facilities maintained by the BAPRD. More specifically, the items tap into the residents’ opinions about parks and recreation facilities in Broken Arrow and considered alongside the facility-related ideas for new parks and recreation they will help the staff further understand what preferences and needs there may be.

Most residents agreed that the well maintained parks add to the quality of life in Broken Arrow. Nearly all (96%) of the respondents felt that park facilities are an important contributor to enhancing the quality of life in the City. This is especially important since 69% of the respondents also agreed that they were satisfied with the aesthetic quality of the parks. Based on these results, the *BAPRD should continue to provide aesthetically pleasing facilities for its residents that add to the quality of life of the residents.*

The next set of opinions is related to type of facilities that people prefer. Nearly 71% of the respondents agreed that they prefer smaller neighborhood parks as opposed to a large centralized park. Given that some respondents felt that inconvenient location was a barrier to attendance, neighborhood facilities become particularly important. This data suggests that the *BAPRD should consider building smaller parks rather than centralized all-purpose facilities.*

The other facility related issues reflected that only half the respondents were satisfied with the quality of the athletic fields. However, only 13% were dissatisfied, suggesting that most users are satisfied with the athletic facilities and the *BAPRD should continue to provide well-maintained athletic fields for its residents who are regular users of such facilities.* The results from the facility-related opinion items are presented in the next table.

Table 2: Opinions about Recreation Facilities

	Agree	Disagree	DK
Well-maintained parks add to the quality of life in the community	96%	2%	2%
I prefer smaller parks closer to my home over a large centralized park	71%	18%	11%
I am satisfied with the aesthetic quality of city parks	69%	19%	12%
The condition of athletic fields is satisfactory	55%	13%	32%

Opinions about programs and administration

The remaining items in the opinions section of the questionnaire address issues related to programming and general operations of the Department. More specifically, the items tap into the residents' opinions about how the Department responds to programmatic needs of the community and the perceptions of the community with respect to the way the Department handles its internal activities.

Respondents felt that the BAPRD offers an essential service to the City with nearly 82% agreeing with that. This finding is particularly important since it shows that the Department is considered valuable to the City. At the same time, the respondents were lukewarm about the amount of information they get from the Department, since only about 37% of the respondents felt that they received information from the Department. There were more people who felt that they did not have sufficient information. This lack of information is reflected in the fact that only about 60% felt that the staff was courteous and helpful, just as only 39% felt that the leadership was good. While these percentages are lower than desirable, they reflect more on lack of information than on the quality of the Department. As such, the *BAPRD should continue to provide the essential service to the City and aggressively promote its role in the City.*

The respondents expressed a need for more programs for the entire family as well as more cooperative programs. Nearly 86% of the respondents felt that there was a need for programs where the whole family could participate. About 70% of the respondents also suggested the strong need for cooperative programming. Given the strategic location of Broken Arrow close to Tulsa there could be opportunities for collaborative programming. This is specially true since a quarter of the respondents also indicated that there were better facilities available from other recreation providers. There was also some demand for programs specific to demographic categories, with the largest demand (55%) being for activities for the teenagers and those above the age of 55. There was some need for programming for other population groups including 37% of the respondents seeking more programs for people with disabilities. Based on all this data, it is safe to say: *BAPRD should satisfy the different programmatic needs of the different segments of the community it serves particularly by providing opportunities where the whole family can participate and more cooperative programming.*

The results from these questions are presented in the next table.

Table 3: Opinions about Programs

	Agree	Disagree	DK
There is a need for activities for the whole family	86%	2%	12%
The Department provides an essential service to the city	82%	4%	14%
There needs to be more cooperative programs	69%	3%	28%
I am willing to pay reasonable user fees for recreation opportunities	66%	28%	6%
The Department staff are generally courteous and helpful	59%	7%	34%
There is a need for more teen programs	55%	4%	41%
There is a need for special programs for persons over age 55	53%	7%	40%
Non-residents should pay a higher fee to use facilities and programs	52%	42%	6%
I am satisfied with the recreation opportunities I receive for my tax dollars	50%	30%	20%
There is a need for programs for children under 12 years old	41%	14%	45%
The quality of leadership/supervision provided is good	39%	11%	50%
There is a need for more environmental programs	39%	27%	34%
I am aware of the recreation programs and activities that are offered	37%	53%	10%
There is a need for more recreation opportunities for people with disabilities	37%	7%	56%
I would volunteer for activities, programs, and projects	34%	43%	23%
It is easy to register for programs and activities	34%	20%	46%
There is a need for programs for preschool age children	34%	16%	50%
The recreation activities are primarily tailored for the youth	32%	25%	43%

Opinions about funding recreation

There was a section of the questionnaire that focused on funding issues to assess how the community felt about different funding mechanisms. The respondents were offered several different options including items like “bond issues,” and “sales taxes” so that the respondents could express their opinions about each option on a four-point scale similar to the personal opinion questions.

Respondents felt that grants, private donations, and corporate sponsorships should be the preferred way of funding activities. Nearly all the respondents agreed that corporate and private sponsorships along with grants from federal, state and local agencies should be pursued by BAPRD. This study would help in seeking such funding because doing the study demonstrates that the BAPRD is acting in a pro-active way to meet the needs of the population. These three methods also place the least burden on the citizen and the *BAPRD should actively pursue means to gain corporate sponsorships and grants.*

The respondents also supported enterprise operations as source of funding. Nearly 88% of the respondents felt that BAPRD should include enterprise operations with its activities since such elements provide a revenue stream. These operations could include concession stands, golf pro shops, and other such facilities that would allow the BAPRD to open up new revenue sources to support itself. Based on this, it is safe to say: *BAPRD should consider offering concession stands and other stores to supplement its revenue stream, and it is likely that the people will purchase products from such stores.*

Respondents also indicated that they were willing to pay user fees to participate in activities. Nearly 70% of the respondents were willing to pay user fees to use facilities and participate in programs. The BAPRD could use this as a way to support activities that would be of special interest to parts of the community. More than half the respondents also felt that non-residents should be charged a higher user fee. This being the case, the *BAPRD should consider developing a fee schedule for some of its activities, keeping in mind that the resident fee needs to be lower than the non-resident fee.*

More than half the respondents did not support any new taxes and assessments. Nearly 70% of the respondents were against any increase of property tax, just as nearly 50% were against sales taxes supporting the BAPRD. Respondents were ambivalent about a bond issue with nearly the same proportion (45%) supporting and not supporting this. In general, the respondents were not willing to support additional taxes, assessments, and development fees as means of financing BAPRD. The *BAPRD needs to be careful about assessing any new taxes to support its operations.*

The results from these questions are presented in the next table.

Table 4: Opinions about Finances

	Agree	Disagree	DK
Grants from state, federal, & private sources	94%	1%	5%
Corporate sponsorship and donations	93%	0%	7%
Private individual donations	92%	3%	5%
Enterprise Operations	88%	3%	9%
Program user fees for recreation programs	71%	21%	8%
Higher non-resident fees	51%	37%	12%
Referendums for bonds for parks and recreation	48%	20%	32%
Bonds issue to be paid by voter approved property taxes	45%	44%	11%
Sales Taxes	35%	50%	15%
Property Taxes	24%	69%	7%
Special assessments	16%	52%	32%
Impact Development Fees	16%	42%	42%
Independent Park District	11%	48%	41%

Areas of Importance

One section of the questionnaire was designed to determine the importance of various facilities and services in the community. Several recreation facilities and several programs were listed for the respondents, and they were asked to indicate how necessary the service or facility is for them or their family by marking “yes” or “no.” These results can help the Broken Arrow Parks and Recreation Department prioritize its future additions in terms of what the community perceives as necessary; they can also help the BAPRD recognize areas that may be perceived as necessary simply because residents are not aware of existing provisions. The items were listed in alphabetical order in the questionnaire but they have been thematically arranged for ease of analysis and presentation. The items listed included things that might be completely new to the community as well as some things that are already available. The objective of this section was to develop a measure of the current and future needs for things that are already available and things that might become available in the near future.

popular recreation categories. This finding should also be connected with the fact that there was a great demand for recreation for the entire family, and special events such as festivals often offer that opportunity. Nearly 85% of the respondents also indicated the importance of having fireworks displays which serves as a special event just as 80% of the respondents indicated that it was important to have an “events park.” Nearly 82% of the respondents also indicated the importance of holiday decorations, just as 78% expressed the importance of having special winter activities, all of which represent different special events. As such, the *BAPRD should focus on providing facilities that are family-friendly and allow for family recreation including special events like fireworks displays.*

The respondents also indicated the importance of trails of different kinds. Between 80% to 88% of the respondents felt that it was important to have nature trails, trails within parks and city-wide connected trails. These facilities offer opportunities to walk, run, jog and do other fitness-related activities and are consistent with the overall interest in fitness. The *BAPRD should explore ways to add different kinds of trails throughout the city.*

The respondents also indicated the importance of fitness facilities and programs. Nearly 86% of the respondents indicated a need for a fitness center, and 80% indicated the importance of wellness programs and 67% of the respondents indicated the importance of weight training. This reflects the fitness consciousness of the community and the *BAPRD should explore ways to offer fitness and wellness related activities and facilities.*

The respondents also indicated the importance of water-related activities and facilities. Nearly 84% of the respondents indicated the importance of adding swimming pools as well 60% of the respondents indicated the need for splash pads. This reflects a need that was expressed often in the community meetings and is supplemented by the fact that 71% of the respondents pointed out the importance of water aerobics and 72% of the respondents wanted to see opportunities for year-round swimming. About 65% of the respondents also pointed out the importance of having an indoor water park. These needs also fit in with the general fitness focus of the community. The *BAPRD needs to offer swimming and aquatic activities and facilities for the community.*

The respondents also indicated the importance of different kinds of passive recreation facilities. Nearly 84% of the respondents indicated the importance of open spaces just as 83% of the respondents pointed out that it was important to have parks for passive use. This reflects the interest in passive recreation that was noted earlier in the report. About 83% of the respondents also felt suggested that it was important to have shelters which could be used as a resting area in the parks. These findings suggest that *BAPRD needs to provide facilities for passive recreation and sports.*

The respondents also indicated the importance of different kinds of active recreation facilities. Between 74% and 78% of the respondents indicated a need for athletic fields, and practice fields. Between 60% and 70% of the respondents also indicated an interest in basketball and volleyball. This represents that the community has a strong interest in active sports and need the facilities for these activities. The need for practice fields is particularly important since this came up several times in the community meetings as well. This is also related to the fact that these activities often provide opportunities for family recreation which is in high demand in the community. These findings suggest that *BAPRD needs to provide facilities for active recreation and sports including practice athletic fields.*

The respondents also indicated the importance of arts and crafts. Nearly 83% of the respondents suggested that performing arts was really important for the community and 71% expressed the need for arts and crafts programs just as 76% of the respondents indicated a need for a fine arts center and nearly two-thirds of the respondents also indicated the importance of having arts in parks. These findings suggest that *BAPRD needs to provide opportunities for arts and crafts activities.*

The respondents also indicated the importance of facilities that would be of interest to some special groups within the community. This includes the interest in skate parks, climbing walls, horseshoe pits, dog parks among others. Since fewer proportions of the respondents indicated an interest in these opportunities these could be addressed after the more pressing needs have been met. These are not the top priorities for the Department, but the *BAPRD should try and address the special needs of the smaller groups once the more widespread needs have been taken care of.*

The results from the facility-related needs are summarized in the following table. The numbers represent the percentage of respondents who feel the following facilities are important for the children, teens, adults or seniors in their family.

Table 5: Areas of Importance (70% and above)

	Yes
A center for special events	90%
Nature trails	88%
Trails within parks	87%
Fitness center	86%
Firework display	85%
Video surveillance of facilities	84%
Swimming pools	84%
Open space	84%
Performing arts	83%
Park for passive use	83%
Shelters	83%
Connected city wide walking, biking, running trails	83%
Holiday decoration	82%
Wellness programs	81%
Landscaping	80%
Events park	80%
Winter activities	78%
Athletic play fields	78%
Fine arts center	76%
Senior center	76%
Historical programs	76%
Athletic practice fields	74%
Formal garden areas	72%
Year round swimming	72%
Arts and crafts programs	71%
Fishing ponds	71%
Water aerobics	71%
Amphitheater	70%

Table 6: Areas of Importance (69% and below)

	Yes
Basketball	69%
Additional staff	68%
Weight training	67%
Environmental education	65%
Indoor water park	65%
Art in parks	64%
Adult sports leagues	62%
Tennis	61%
Sports camps	61%
Land acquisition	60%
Dance programs	60%
Volleyball	60%
After school programs	60%
Splash pads	59%
Skate parks	59%
Special needs	58%
Climbing walls	58%
Horseshoe pits	55%
Dog park	53%
Gymnastics	53%
Martial arts	52%
Indoor soccer	50%
Frisbee golf	49%
Table tennis	49%
BMX trail	48%
Racquetball	47%
Sand volleyball	46%
Extreme sports	41%
Equestrian	40%
Badminton	32%
Bocce	21%
Pickle ball	16%

Information about Parks and Recreation Opportunities

The next section of the questionnaire asked respondents to indicate which methods of communication would be the most effective in keeping them informed about parks and recreation programs and activities. The scale included the options, “effective,” “ineffective,” and “don’t know.” The results are described in terms of the percentages of respondents who selected the “effective” option.

Direct mail of program book appears at the top of the ranking, with 79% of the respondents indicating this type of communication as being effective. Residents recognize the importance of having Broken Arrow activities listed in print for them and the convenience of having this listing sent to their home, therefore the *BAPRD should try to keep residents informed of upcoming recreation activities through direct mailings of upcoming programs, activities and services.*

Newspaper advertising appeared next in the ranking. Nearly 64% of the respondents recognized that advertisements placed in the newspaper are an effective way of keeping them informed of ongoing recreational and leisure activities. In addition, many people in the community read the newspaper on a daily basis, *therefore advertising activities and/or publishing stories/editorials in the City newspaper is a great way to keep people updated.*

The “Focus” newsletter is also significantly popular. Nearly 58% of the respondents indicate that the newsletter is an effective method for keeping them informed of the upcoming season’s programs and activities. The popularity of the newsletter should be considered alongside the popularity of direct mail. *BAPRD should continue to use the “Focus” newsletter for promoting its programs and facilities.*

A significant number of respondents feel that new digital technologies should be used for promotion and publicity. About half of the residents surveyed said that the Web site and direct e-mail marketing should be used by the Department. Therefore, the *BAPRD should consider marketing information about parks and recreation opportunities through Web sites as well as by announcements e-mailed to community members, especially since this form of publicity is relatively inexpensive and can be frequently updated.*

The respondents feel that word of mouth, and marquees are moderately effective. About 40% of the residents surveyed said that marquees could be used to publicize events and facilities. Similarly, about the same proportion of the respondents felt that word of mouth is a good way of getting information to the community.

The results from these items are presented in the following table. Percentages reflect the proportion of respondents who selected each response option for each method of communication.

Table 7: Information about Parks and Recreation Opportunities

	Effective	Ineffective	Not Sure
Direct mailers to household	79%	9%	12%
Newspaper	64%	13%	23%
Focus Newsletter	58%	10%	32%
E-mail	53%	16%	31%
City Website	47%	24%	29%
Marquees	41%	17%	42%
Word of mouth	36%	34%	30%
Flyers at schools	27%	46%	27%
Flyers in public places	26%	43%	31%
City Cable channel 24	24%	39%	37%

Attendance

One section of the questionnaire asked respondents to indicate how many times they and/or their family have visited various facilities in the past 12 months. The scale included the options, “never,” “1 to 2 times,” “3 to 6 times,” “7 to 12 times,” “13 to 24 times” and “more than 24 times.” The results are described in terms of the percentages of respondents who indicated visiting facilities more than once in the last year. The results presented in Table 8 are arranged in order to highlight the most widely visited facilities at the top of the table.

The Central Park Community Center is the most widely visited facility in Broken Arrow. About 40% of the respondents indicated visiting the facility at least once in the past 12 months. Nearly 9% of residents surveyed said they visit the facility more than 7 times a year, 31% of residents surveyed said they visit Central Park Community Center 1 to 6 times a year.

Indian Spring Sports Complex and the Nienhuis Community Center were also reasonably popular with the respondents. Around one-thirds (35%) of the respondents indicated visiting these two Centers at least once in the past 12 months. Nearly 21% of residents surveyed said they have been to Indian Spring Sports Complex more than 7 times in the past year year, whereas 10% reported the same about Nienhaus. Considering that the three most visited places are the centralized facilities, the BAPRD *should make a concerted effort to maintain and promote the centralized facilities.*

Less than a quarter of the respondents indicated visiting the other facilities. This study was designed to provide information about the community-wide recreation needs and interests and was not intended to be a user study. As such, the low attendance figures reflect that there is an opportunity to attract more people to the facilities and programs offered by the BAPRD. There are specific barriers to attendance, as discussed in the next section, but the BAPRD should be able to overcome some of those barriers to boost the number of people visiting the facilities and participating in the programs. It should be noted that the attendance figures do not reflect how close to capacity each facility is. Indeed, if the facilities are operating close to capacity, and the attendance level is reported as low here, it is an indication that more facilities should be considered before trying to attract more people to the current facilities.

The results from the attendance items are presented in the next table.

Table 8: Attendance

	Never	Once	2-6 times	7-12 time	13-24 times	MT 24
Central Park Community Center	60%	13%	18%	5%	3%	1%
Indian Spring Sports Complex	65%	9%	5%	8%	6%	7%
Nienhuis Community Center	66%	9%	15%	6%	3%	1%
Any other city park not listed above	66%	7%	12%	9%	2%	4%
Splash pads	75%	9%	11%	2%	0%	3%
Programs offered by the Parks Department	78%	11%	10%	1%	1%	0%
Programs offered by groups	79%	5%	9%	4%	1%	2%
Battle Creek Golf course	79%	7%	8%	4%	1%	1%
Jackson Park	80%	8%	9%	1%	2%	0%
Tuesdays Concerts in the park	80%	7%	12%	2%	0%	0%
Nienhuis swimming pool	80%	7%	10%	2%	0%	1%
Family Aquatic Center	82%	4%	8%	3%	2%	1%
Arrowhead Park	83%	5%	5%	1%	2%	4%
Nienhuis football stadiums	84%	3%	7%	4%	0%	2%
Special events (e.g. Breakfast with Santa)	85%	12%	3%	0%	0%	0%
Nienhuis skate park	91%	3%	2%	2%	3%	0%
Country Aire swimming pool	92%	3%	5%	0%	0%	0%
Sieling Park	94%	3%	3%	0%	1%	0%

Reasons for Non-use

After the “Attendance” section, another part of the questionnaire was aimed at investigating the possible factors that limit residents from participating in organized recreation activities offered by the BAPRD. The results are described in terms of the percentages of respondents who selected each option as a reason why they or their family have not participated in programs, activities, and/or not visited facilities.

The most important factor affecting participation is lack of information. About half (48%) of the respondents said they have not participated in programs or attended facilities because they were unaware of the various programs, activities and facilities being offered. These results should be considered in relation to the findings about the most effective ways of keeping residents informed about recreation. *The BAPRD should make good effort to keep residents well informed about recreation opportunities in order to spark participation in programs and events.*

Next in ranking was lack of time. Nearly 45% said they did not participate in BAPRD programs and activities because they did not have enough time and 26% of the respondents indicated that programs were offered at inconvenient times. There is not much that the BAPRD can do regarding the first issue – lack of time, but the BAPRD can attempt to offer programs at times that are more convenient to the community.

Lack of interest in what is offered is another factor affecting attendance. About a third of the respondents said they have not participated in programs or attended facilities because they are not interested in what is offered. This finding needs to be considered in relation to the fact that 23% of the respondents also felt that there were better facilities elsewhere. The respondents also indicated that nearly a quarter to a third of the respondents were finding recreation opportunities through private health and sports clubs, the programs offered by schools, and recreation opportunities offered by neighboring cities. About 40% of the respondents also said that they get their recreation needs fulfilled through programs offered by religious institutions. These findings suggest that there is some degree of competition for the BAPRD and it would be good for the *BAPRD to examine what is being offered by its competition so that BAPRD can meet the needs that might not be met by the others who offer recreation opportunities.*

The remaining factors were not considered significant limitations since about one-fifth or less of the respondents cited these factors as reasons for non-use. While they are the lowest-ranked issues relative to the others, they should not be ignored but the other factors need to be addressed first.

The results from the reasons for non-use are presented in the next table. Percentages reflect the proportion of respondents who indicated each response as a reason for limited participation in programs and/or not visiting facilities.

Table 9: Reasons for Non-use

	Yes
Lack of information	48%
Not having enough time	45%
Not interested in what is provided	30%
Inconvenient timing of activities	26%
Better facilities are available elsewhere	23%
Cost	18%
Lack of variety of programs	18%
Hours of operation	17%
Lack of restrooms	16%
Overcrowding	15%
Inconvenient location	13%
Lack of parking	13%
Lack of trails to go to facilities	13%
Lack of cleanliness	10%
Safety concerns	10%
Traffic poses a transportation problem	10%
Facilities are not modern	8%
Programs get cancelled	5%
Lack of accommodations for disabled	5%
Lack of maintenance	4%
Language/Cultural barriers	4%

SUMMARY

This section of the report takes some of the key recommendations from each section of the report and suggests a plan of action for the BAPRD. Some of these can be achieved in the short term, while others need to be considered as long-term plan elements.

Facilities: The results clearly suggest that the BAPRD needs to emphasize maintenance of its facilities. The following recommendations address this issue:

- *BAPRD should ensure that it provides opportunities and spaces for their residents to participate in special events.*
- *BAPRD should continue to provide aesthetically pleasing facilities for its residents that add to the quality of life of the residents.*
- *BAPRD should consider building smaller parks rather than centralized all-purpose facilities.*

Programming for families: The results clearly suggest that the “family” is important to the respondents and thus the BAPRD should consider the following recommendations as important components of its future plans:

- *BAPRD should consider offering more sports and athletic opportunities for their residents.*
- *BAPRD should focus on providing facilities that are family-friendly and allow for family recreation including special events like fireworks displays.*
- *BAPRD needs to provide opportunities for arts and crafts activities.*

Emphasize the outdoor: BAPRD needs to place significant emphasis on environmental activities and outdoor activities. The results all support the following recommendations:

- *BAPRD should offer opportunities for passive recreation to its community.*
- *BAPRD should consider offering more activities and facilities related to environmental recreation.*
- *BAPRD should explore ways to add different kinds of trails throughout the city.*

Emphasize the person-fitness, self-improvement: The respondents suggest that there is a significant interest in self-improvement and fitness, the BAPRD needs to address those issues using the following recommendations:

- *BAPRD should consider offering residents with more indoor and outdoor fitness activity opportunities.*
- *BAPRD needs to offer swimming and aquatic activities and facilities for the community.*

Financial issues: The respondents had specific feelings about the way in which BAPRD should be funded and how its funding should be used. To that end, the BAPRD should consider adopting the following recommendations:

- *BAPRD should actively pursue means to gain corporate sponsorships and grants.*
- *BAPRD should consider offering concession stands and other stores to supplement its revenue stream and it is likely that the people will purchase products from such stores.*
- *BAPRD should consider developing a fee schedule for some of its activities, keeping in mind that the resident fee needs to be lower than the non-resident fee.*
- *BAPRD needs to be careful about assessing any new taxes to support its operations.*

Administrative issues: Based on the data, the BAPRD should consider the following as recommendations for action with the respect to the way in which it performs its activities:

- *BAPRD should try to keep residents informed of upcoming recreation activities through direct mailings of upcoming programs, activities and services.*
- *BAPRD should make a concerted effort to maintain and promote the centralized facilities.*

Appendix D

Maintenance Needs Tabulation

Parks & Recreation Master Plan

City of Broken Arrow, Oklahoma

Mode 1

Park:	Task:	Units	Quantity	Person Hours/ Unit	Frequency Per Week	Total Person Hours
Centennial Park	Turf mowed 1-2 times per week	AC	0.09	2	2	0.36
	Turf maintained at 1-4"	AC	0.09			0
	Litter removal	AC	0.18	3	2	1.08
	Sidewalks and curbs edged	LF	557.00	1.8	2	2005.2
	All amenities trimmed	SQ FT	286.00	1.5	1	429
	Hard surfaces cleared of debris	LF	0.00	0.1	2	0
	Excessive clippings removed	AC	0.09	0.9	2	0.162
	Turf maintained 80% weed free	AC	0.09	3	1	0.27
The Main Place	Turf mowed 1-2 times per week	AC	0.15	2	2	0.5988
	Turf maintained at 1-4"	AC	0.15			0
	Litter removal	AC	0.15	3	2	0.8982
	Sidewalks and curbs edged	LF	285.00	1.8	2	1026
	All amenities trimmed	SQ FT	286.00	1.5	1	429
	Hard surfaces cleared of debris	LF	31,647.00	0.1	2	6329.4
	Excessive clippings removed	AC	0.15	0.9	2	0.27
	Turf maintained 80% weed free	AC	0.15	3	1	0.45
Indian Springs Sports Complex	Turf mowed 1-2 times per week	AC	187.00	2	2	748
	Turf maintained at 1-4"	AC	187.00			0
	Litter removal	AC	187.00	3	2	1122
	Sidewalks and curbs edged	LF	557.00	1.8	2	2005.2
	All amenities trimmed	SQ FT	286.00	1.5	1	429
	Hard surfaces cleared of debris	LF	0.00	0.1	2	0
	Excessive clippings removed	AC	187.00	0.9	2	336.6
	Turf maintained 80% weed free	AC	187.00	3	1	561
Arrowhead	Turf mowed 1-2 times per week	AC	28.40	2	2	113.6
	Turf maintained at 1-4"	AC	28.40			0
	Litter removal	AC	28.40	3	2	170.4
	Sidewalks and curbs edged	LF	2,514.00	1.8	2	9050.4
	All amenities trimmed	SQ FT		1	1	0
	Hard surfaces cleared of debris	LF	2,514.00	0.1	2	502.8
	Excessive clippings distributed	AC	28.40	0.9	2	51.12
	Turf maintained 60% weed free	AC	28.40	2	1	56.8
Nienhuis	Turf mowed 1-2 times per week	AC	89.00	2	2	356
	Turf maintained at 1-4"	AC				0
	Litter removal	AC	89.00	3	2	534
	Maintain Trail surface	LF	2,800.00	0.25	2	1400
	Sidewalks and curbs edged	LF	2,800.00	1.8	2	10080
	All amenities trimmed	SQ FT		1	1	0
	Hard surfaces cleared of debris	LF	2,800.00	0.1	2	560
	Excessive clippings distributed	AC	89.00	0.9	2	160.2
	Turf maintained 60% weed free	AC	89.00	2	1	178

Parks & Recreation Master Plan

City of Broken Arrow, Oklahoma

Mode 2

Aspen Creek	Turf mowed 7-10 days	AC	0.80	2	1	1.6
	Turf maintained at 2"-6"	AC	0.80			0
	Litter removal	AC	0.80	3	1	2.4
	Sidewalks and curbs edged	LF	2,485.00	1.8	1	4473
	All amenities trimmed	SQ FT		1	1	0
	Hard surfaces cleared of debris	LF	2,485.00	0.1	1	248.5
	Excessive clippings distributed	AC	0.80	0.9	1	0.72
	Turf maintained 60% weed free	AC	0.80	2	1	1.6
Battle Creek Mini	Turf mowed 7-10 days	AC	0.66	2	1	1.32
	Turf maintained at 2"-6"	AC	0.66			0
	Litter removal	AC	0.66	3	1	1.98
	Sidewalks and curbs edged	LF	0.00	1.8	1	0
	All amenities trimmed	SQ FT		1	1	0
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	0.66	0.9	1	0.594
	Turf maintained 60% weed free	AC	0.66	2	1	1.32
Camino Villa	Turf mowed 7-10 days	AC	3.00	2	1	6
	Turf maintained at 2"-6"	AC	3.00			0
	Litter removal	AC	3.00	3	1	9
	Sidewalks and curbs edged	LF		1.8	1	0
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF		0.1	1	0
	Excessive clippings distributed	AC	3.00	0.9	1	2.7
	Turf maintained 60% weed free	AC	3.00	2	1	6
Central	Turf mowed 7-10 days	AC	15.80	2	1	31.6
	Turf maintained at 2"-6"	AC	15.80			0
	Litter removal	AC	15.80	3	1	47.4
	Maintain Trail surface	LF	461.00	0.25	1	115.25
	Sidewalks and curbs edged	LF	8,000.00	1.8	1	14400
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	300,000.00	0.1	1	30000
	Excessive clippings distributed	AC	15.80	0.9	1	14.22
Turf maintained 60% weed free	AC	15.80	2	1	31.6	
Copper Creek	Turf mowed 7-10 days	AC	9.50	2	1	19
	Turf maintained at 2"-6"	AC	9.50			0
	Litter removal	AC	9.50	3	1	28.5
	Maintain Trail surface	LF	1,223.00	0.25	1	305.75
	Sidewalks and curbs edged	LF		1.8	1	0
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	9.50	0.9	1	8.55
Turf maintained 60% weed free	AC	9.50	2	1	19	
Country Aire	Turf mowed 7-10 days	AC	8.00	2	1	16
	Turf maintained at 2"-6"	AC	8.00			0
	Litter removal	AC	8.00	3	1	24
	Maintain Trail surface	LF	1,041.00	0.25	1	260.25
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	660.00	0.1	1	66
	Excessive clippings distributed	AC	8.00	0.9	1	7.2
	Turf maintained 60% weed free	AC	8.00	2	1	16

Parks & Recreation Master Plan

City of Broken Arrow, Oklahoma

Country Aire Tot-						
Lot	Turf mowed 7-10 days	AC	1.00	2	1	2
	Turf maintained at 2"-6"	AC	1.00			0
	Litter removal	AC	1.00	3	1	3
	Sidewalks and curbs edged	LF	260.00	1.8	1	468
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	1.00	0.9	1	0.9
	Turf maintained 60% weed free	AC	1.00	2	1	2
Haskell						
	Turf mowed 7-10 days	AC	2.20	2	1	4.4
	Turf maintained at 2"-6"	AC	2.20			0
	Litter removal	AC	2.20	3	1	6.6
	Sidewalks and curbs edged	LF	930.00	1.8	1	1674
	All amenities trimmed	SQ FT	126.00	1	1	126
	Hard surfaces cleared of debris	LF	450.00	0.1	1	45
	Excessive clippings distributed	AC	2.20	0.9	1	1.98
	Turf maintained 60% weed free	AC	2.20	2	1	4.4
Indain Springs						
Mini	Turf mowed 7-10 days	AC	0.25	2	1	0.5
	Turf maintained at 2"-6"	AC	0.25			0
	Litter removal	AC	0.25	3	1	0.75
	Sidewalks and curbs edged	LF	200.00	1.8	1	360
	All amenities trimmed	SQ FT	600.00	1	1	600
	Hard surfaces cleared of debris	LF	200.00	0.1	1	20
	Excessive clippings distributed	AC	0.25	0.9	1	0.225
	Turf maintained 60% weed free	AC	0.25	2	1	0.5
Jackson						
	Turf mowed 7-10 days	AC	9.50	2	1	19
	Turf maintained at 2"-6"	AC	9.50			0
	Litter removal	AC	9.50	3	1	28.5
	Sidewalks and curbs edged	LF	2679	1.8	1	4822.2
	All amenities trimmed	SQ FT		1	1	0
	Hard surfaces cleared of debris	LF	2679	0.1	1	267.9
	Excessive clippings distributed	AC	9.50	0.9	1	8.55
	Turf maintained 60% weed free	AC	9.50	2	1	19
Leisure						
	Turf mowed 7-10 days	AC	2.00	2	1	4
	Turf maintained at 2"-6"	AC	2.00			0
	Litter removal	AC	2.00	3	1	6
	Sidewalks and curbs edged	LF	374.00	1.8	1	673.2
	All amenities trimmed	SQ FT	283.00	1	1	283
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	2.00	0.9	1	1.8
	Turf maintained 60% weed free	AC	2.00	2	1	4

Parks & Recreation Master Plan

City of Broken Arrow, Oklahoma

Lions	Turf mowed every 7-10 days	AC	1.30	2	1	2.6
	Turf maintained at 2"-6"	AC	1.30			0
	Litter removal	AC	1.30	3	1	3.9
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	1.30	0.9	1	1.17
	Turf maintained 60% weed free	AC	1.30	2	1	2.6
Liberty	Turf mowed every 7-10 days	AC	6.80	2	1	13.6
	Turf maintained at 2"-6"	AC	6.80			0
	Litter removal	AC	6.80	3	1	20.4
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	591.00	0.1	1	59.1
	Excessive clippings distributed	AC	6.80	0.9	1	6.12
	Turf maintained 60% weed free	AC	6.80	2	1	13.6
Linear	Turf mowed every 7-10 days	AC	1.90	2	1	3.8
	Turf maintained at 2"-6"	AC	1.90			0
	Litter removal	AC	1.90	3	1	5.7
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	3,225.00	0.1	1	322.5
	Excessive clippings distributed	AC	1.90	0.9	1	1.71
	Turf maintained 60% weed free	AC	1.90	2	1	3.8
Morrow	Turf mowed every 7-10 days	AC	2.45	2	1	4.9
	Turf maintained at 2"-6"	AC	2.45			0
	Litter removal	AC	2.45	3	1	7.35
	Maintain Trail surface	LF	1,242.00	0.25	1	310.5
	Sidewalks and curbs edged	LF	0.00	1.8	1	0
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	0.55	0.1	1	0.055
	Excessive clippings distributed	AC	2.45	0.9	1	2.205
	Turf maintained 60% weed free	AC	2.45	2	1	4.9
Ray Harral	Turf mowed every 7-10 days	AC	0.00	2	1	0
	Turf maintained at 2"-6"	AC	0.00			0
	Litter removal	AC	40.00	3	1	120
	Sidewalks and curbs edged	LF	0.00	1.8	1	0
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	0.00	0.9	1	0
	Turf maintained 60% weed free	AC	0.00	2	1	0
Oak Creek South	Turf mowed every 7-10 days	AC	0.65	2	1	1.3
	Turf maintained at 2"-6"	AC	0.65			0
	Litter removal	AC	0.65	3	1	1.95
	Sidewalks and curbs edged	LF	0.00	1.8	1	0
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	0.65	0.9	1	0.585
	Turf maintained 60% weed free	AC	0.65	2	1	1.3
Rockwood East	Turf mowed every 7-10 days	AC	0.20	2	1	0.4
	Turf maintained at 2"-6"	AC	0.20			0
	Litter removal	AC	0.20	3	1	0.6
	Sidewalks and curbs edged	LF	100.00	1.8	1	180
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	220.00	0.1	1	22
	Excessive clippings distributed	AC	0.20	0.9	1	0.18
	Turf maintained 60% weed free	AC	0.20	2	1	0.4

Parks & Recreation Master Plan

City of Broken Arrow, Oklahoma

Rockwood West	Turf mowed every 7-10 days	AC	2.80	2	1	5.6
	Turf maintained at 2"-6"	AC	2.80			0
	Litter removal	AC	2.80	3	1	8.4
	Maintain Trail surface	LF	1,426.00	0.25	1	356.5
	All amenities trimmed	SQ FT	1,700.00	1	1	1700
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	2.80	0.9	1	2.52
	Turf maintained 60% weed free	AC	2.80	2	1	5.6
Sieling	Turf mowed every 7-10 days	AC	2.00	2	1	4
	Turf maintained at 2"-6"	AC	2.00			0
	Litter removal	AC	2.00	3	1	6
	Sidewalks and curbs edged	LF	223.00	1.8	1	401.4
	All amenities trimmed	SQ FT	270.00	1	1	270
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	2.00	0.9	1	1.8
	Turf maintained 60% weed free	AC	2.00	2	1	4
Timberbrook	Turf mowed every 7-10 days	AC	0.14	2	1	0.28
	Turf maintained at 2"-6"	AC	0.14			0
	Litter removal	AC	0.14	3	1	0.42
	Sidewalks and curbs edged	LF	0.00	1.8	1	0
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	495.00	0.1	1	49.5
	Excessive clippings distributed	AC	0.14	0.9	1	0.126
	Turf maintained 60% weed free	AC	0.14	2	1	0.28
Tiger Hill	Turf mowed every 7-10 days	AC	0.14	2	1	0.28
	Turf maintained at 2"-6"	AC	0.14			0
	Litter removal	AC	0.14	3	1	0.42
	Sidewalks and curbs edged	LF	0.00	1.8	1	0
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	495.00	0.1	1	49.5
	Excessive clippings distributed	AC	0.14	0.9	1	0.126
	Turf maintained 60% weed free	AC	0.14	2	1	0.28
Urbana	Turf mowed every 7-10 days	AC	2.60	2	1	5.2
	Turf maintained at 2"-6"	AC	2.60			0
	Litter removal	AC	2.60	3	1	7.8
	Sidewalks and curbs edged	LF	340.00	1.8	1	612
	All amenities trimmed	SQ FT	1,400.00	1	1	1400
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	2.60	0.9	1	2.34
	Turf maintained 60% weed free	AC	2.60	2	1	5.2
Vandever	Turf mowed every 7-10 days	AC	2.80	2	1	5.6
	Turf maintained at 2"-6"	AC	2.80			0
	Litter removal	AC	2.80	3	1	8.4
	Sidewalks and curbs edged	LF	330.00	1.8	1	594
	All amenities trimmed	SQ FT	800.00	1	1	800
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	2.80	0.9	1	2.52
	Turf maintained 60% weed free	AC	2.80	2	1	5.6

Parks & Recreation Master Plan

City of Broken Arrow, Oklahoma

Wedgewood	Turf mowed every 7-10 days	AC	0.80	2	1	1.6
	Turf maintained at 2"-6"	AC	0.80			0
	Litter removal	AC	0.80	3	1	2.4
	Sidewalks and curbs edged	LF	0.00	1.8	1	0
	All amenities trimmed	SQ FT	0.00	1	1	0
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	0.80	0.9	1	0.72
	Turf maintained 60% weed free	AC	0.80	2	1	1.6
Wolfcreek	Turf mowed every 7-10 days	AC	0.50	2	1	1
	Turf maintained at 2"-6"	AC	0.50			0
	Litter removal	AC	0.50	3	1	1.5
	Maintain Trail surface	LF	2,635.00	0.25	1	658.75
	Sidewalks and curbs edged	LF	2,700.00	1.8	1	4860
	All amenities trimmed	SQ FT	142.00	1	1	142
	Hard surfaces cleared of debris	LF	0.00	0.1	1	0
	Excessive clippings distributed	AC	0.50	0.9	1	0.45
	Turf maintained 60% weed free	AC	0.50	2	1	1
Veterens'	Turf mowed every 7-10 days	AC	5.5	2	1	11
	Turf maintained at 2"-6"	AC	5.5			0
	Litter removal	AC	5.5	3	1	16.5
	Sidewalks and curbs edged	LF	180	1.8	1	324
	All amenities trimmed	SQ FT	0	1	1	0
	Hard surfaces cleared of debris	LF	180	0.1	1	18
	Excessive clippings distributed	AC	5.5	0.9	1	4.95
	Turf maintained 60% weed free	AC	5.5	2	1	11
	Turf area:		5.5			
Mode 3						
Buford	Turf mowed every 14 days	AC	9	2	0.5	9
	Turf maintained at 4"-8"	AC	9		0.5	0
	Litter removal before mowing	AC	9	3	0.5	13.5
	Major amenities trimmed	SQ FT	0	1	0.5	0
	Weed control for noxious weeds only	AC	9	3	0.5	13.5
	Turf area:		9			
Hidden Springs	Turf mowed every 14 days	AC	0.2	2	0.5	0.2
	Turf maintained at 4"-8"	AC	0.2		0.5	0
	Litter removal before mowing	AC	0.2	3	0.5	0.3
	Major amenities trimmed	SQ FT	0	1	0.5	0
	Weed control for noxious weeds only	AC	0.2	3	0.5	0.3
	Turf area:		0.2			
Pembroke	Turf mowed 1-2 times per week	AC	0.00	2	0.5	0
	Turf maintained at 4"-8"	AC	0.00		0.5	0
	Litter removal	AC	13.00	3	0.5	19.5
	Sidewalks and curbs edged	LF	0.00	1.8	0.5	0
	All amenities trimmed	SQ FT	0.00	1	0.5	0

Parks & Recreation Master Plan

City of Broken Arrow, Oklahoma

Woodland	Turf mowed every 14 days	AC	0.14	2	0.5	0.14
	Turf maintained at 4"-8"	AC	0.14		0.5	0
	Litter removal before mowing	AC	0.14	3	0.5	0.21
	Major amenities trimmed	SQ FT		1	0.5	0
	Weed control for noxious weeds only	AC	0.14	3	0.5	0.21
TOTAL PERSON HOURS: EXISTING						111789.655
TOTAL PERSONS NEEDED						56

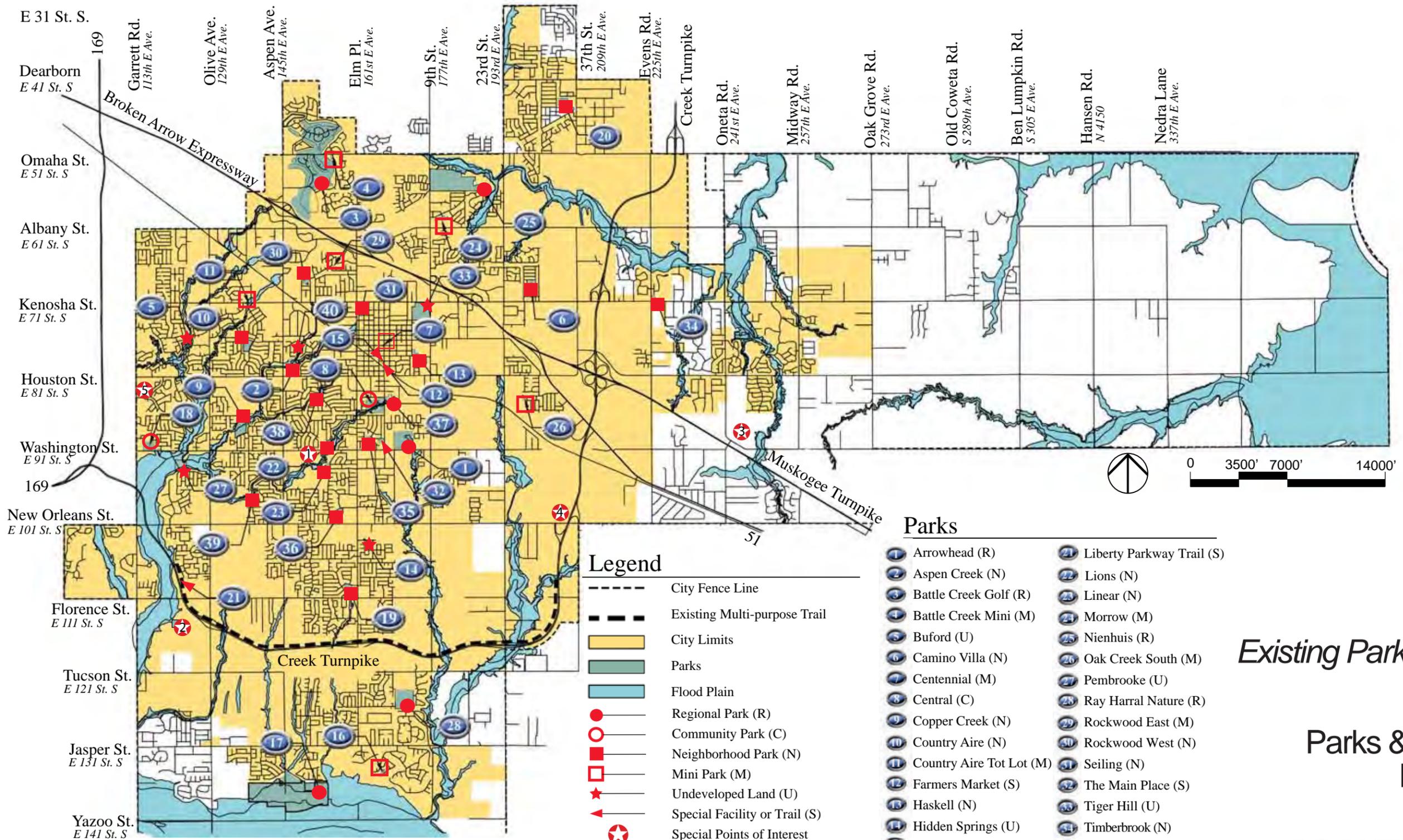
Park:	Task:	Units	Quantity	Person Hours/ unit	Frequency	Total Person Hours
New Parks	Phase I (total acres)	AC	126.60			13799.4
				PHASE I ADDITIONAL PERSONS NEEDED:	7	
				PHASE I TOTAL PERSONS NEEDED:	63	
				TOTAL PERSON HOURS: PHASE I:	125,589.06	
						11772
	Phase II (total acres)	AC	108.00			
				PHASE II ADDITIONAL PERSONS NEEDED:	6	
					137,361.06	
						33899
	Phase III (total acres)	AC	311.00			
				PHASE III ADDITIONAL PERSONS NEEDED:	17	
				PHASE III TOTAL PERSONS NEEDED:	86	
				TOTAL PERSON HOURS: PHASE III:	171,260.06	
						24525
	Phase IV (total acres)	AC	225.00			
			PHASE IV ADDITIONAL PERSONS NEEDED:	12		
			PHASE IV TOTAL PERSONS NEEDED:	98		
			TOTAL PERSON HOURS: PHASE IV:	195,785.06		
					83995.4	
			TOTAL PERSON HOURS: NEW		83995.4	
			PHASE I-IV TOTAL ADDITIONAL PERSONS NEEDED		42	
			2025 TOTAL PERSONS NEEDED		98	
Trails	Existing Liberty Parkway	LF	38,017.00	0.25	0.5	4,752
	Proposed Bikeway	LF	69,220.00	0.25	0.5	8,653
	INCOG 2030 Bicycle/Pedestrian Plan	LF	210,504.00	0.25	0.5	26,313
	East Development District Plan	LF	57,457.00	0.25	0.5	7,182
				TOTAL PERSON HOURS: TRAILS		39,718
			TOTAL PERSONS NEEDED: TRAILS		20	

* THE TOTAL NUMBER OF EXISTING ACRES ≈ 758. BASED UPON THE FORMULA "TOTAL PERSON HOURS/ NUMBER OF EXISTING ACRES" THE AVERAGE TOTAL PERSON HOURS OF MAINTENANCE PER ACRE = 108.61 ≈ 109. THIS FIGURE IS USED IN THE NEW PARK CALCULATIONS TO DETERMINE AN ESTIMATED NUMBER OF PEOPLE REQUIRED FOR EACH PHASE.

Battle Creek Golf Course is not included in the Maintenance Needs Tabulation as maintenance at the golf course is outsourced.

Park or Facility Name	Address or Location	PPD	Acres	Active, Passive, or Undeveloped	* Type of Park	Parking Spaces	Handicap Parking	Rec. Center	Nature Park	Senior Center	Fishing Facility	Skate Park	Splash Pads	Playground Units	Shelters: Water or Electric	Grills	Lit BallFields	Lit Tackle Football	Unlit Flag Football	Lit Soccer Fields	Unlit Soccer Fields	Pools	Lit Tennis Courts	Unlit Tennis Courts	Picnic Tables	Park Benches	Concessions	Restroom Facility	Security Lighting	Outdoor Basketball Court	Walking Trail In Miles
Arrowhead Park	300 E. Washington	5	40	A	R	586	7							1			8							6	3	1	1	20		1	
Aspen Creek Park	320 S. Oak	5	11.4	P	N	20								1	1-W&E	1							1	6	1			2	1	0.4	
Battle Creek Golf Course	3200 N. Battle Creek Dr.	1	110	A	R	120									1-W&E											1	1				
Battle Creek Mini Park	51st & Battle Cr. Dr.	1	0.6	P	M									1	1-E									1	1						
Buford Park	81st & Willow	5	34	U	U																										
Camino Villa Park	2812 E. Madison Pl.	2	3.5	P	N	30							1	1	1-W&E									4	3		1	4			
Centennial Park	102 S. Main	5	0.25	P	M	6																			14			3			
Central Park	1500 S. Main	5	28	A	C	224	12	1						1	1-E	6	4					1	4	22	7	2	3	25			
Copper Creek Park	2800 W. Richmond	5	18	P	N									1	1									5	8			2		0.25	
Country Aire Park	100 N. Fir Ave.	5	8	P	N	34								4	1-E	2						1	3	8	4		1	3	2	1	
Country Aire Mini Park	2604 W. Joliet Ct.	5	3	P	M									2										1	4			2	1		
Farmer's Market	105 S. Main	5	1.5	P	S																										
Haskell Park	601 E. Dallas	5	3.2	P	N	25							1	1	1-W&E	2									3			3			
Hidden Springs Park	500 W. Quantico	4	0.5	P	U																										
Historical Museum/ Genealogy	100 S. Main	5	1.5	P	S	20																									
Indian Springs Mini Park	918 Lynwood Lane	4	2.5	P	M									1		1								1	2			2			
Indian Springs Sport Complex	1400 W. Shreveport	4	234	A	R	856								1	3-W&E	4	18			7	25			17	5	5	7	19			
Jackson Park	4800 W. Washington	5	14	P	C	40	4				1			1	2-E	5								9	10		1	16		1	
Leisure Park	801 W. Charleston St.	4	4.5	P	N	5								1	1-W&E	2								4	3			3	1	0.1	
Liberty Park	4300 S. 209th E. Ave.	1	8	P	N									2	1-W&E									4							
Liberty Parkway Trail	96th/ Garnett to NSU 101st	4	10	A	T	100																								9	
Linear Park	Elm & 91st	5	10	P	N																									1	
Lions Park	1948 S. Lions Ave.	5	2	P	N									1	1-W&E									2	2			1	1		
Morrow Park	2500 N. 11th	1	3	P	M	5								2	1-W&E							3		2	6			7	1	0.25	
Nienhuis Park	3201 N. 9th	1	109	A	R	812	22	1			1	1		1	1-W&E	1		4	4			1		5	4	1		1			
Oak Creek South Park	2725 E. Louisville St.	5	0.6	P	M																										
Pembroke Park	Boston & Olive	5	10	U	U																										
Ray Harral Nature Park	7501 S. 3rd. St.	4	40	P	R	17	2		1						2-W&E	1								6	3					3	
Rockwood East Park	901 W. Queens St.	5	0.5	P	M									1												1					
Rockwood West Park	1308 N. Narcissus Ave.	5	2.5	P	N								1	2	1-W	1								2	4			2	1	0.5	
Seiling Park	525 W. Iola St.	5	2	P	N	28	2						1	1	1-W&E	1								4	7			2	1		
The Main Place	1800 S. Main	5	3.1	P	S	88	12	1		1																			7		
Tiger Hill Park	Kenosha & Lynn	5	21	U	U																										
Timberbrook Park	1200 N. 52nd St.	3	1	P	N	5								1								2		1	2					0.25	
Urbana Park	400 W. Urbana St.	5	3	P	N									1	1-W&E	1								3	2			2			
Vandever Park	1101 W. Ithica	5	4	P	N	20								1	1-W							2		3	5			3			
Veterans Park	1111 S. Main St.	5	2	P	R	15																				8					
Wedgewood Park	1501 W. Knoxville St.	5	1.5	P	N									1														3		5	
Wolf Creek Park	2501 W. Fulton St.	5	4	P	N									1	1-W	2							1	4	6			2	1	1.5	
Woodland Park	Poplar & El Paso	5	0.9	U	U																										
TOTALS			756.55			2470	54	3	1	1	2	1	4	31	27	30	22	4	4	7	25	3	14	2	114	118	9	14	116	10	18.25

* Type of Park: M: Mini Park, N: Neighborhood Park, R: Regional Park, T: Trail, U: Undeveloped Land, C: Community, S: Special Facility



Legend

- City Fence Line
- Existing Multi-purpose Trail
- City Limits
- Parks
- Flood Plain
- Regional Park (R)
- Community Park (C)
- Neighborhood Park (N)
- Mini Park (M)
- Undeveloped Land (U)
- Special Facility or Trail (S)
- Special Points of Interest
 1. Salvation Army Boy's & Girl's Club
 2. Haikey Creek Park (County Owned)
 3. Proposed YMCA
 4. Northeastern State University
 5. Dickenson YMCA

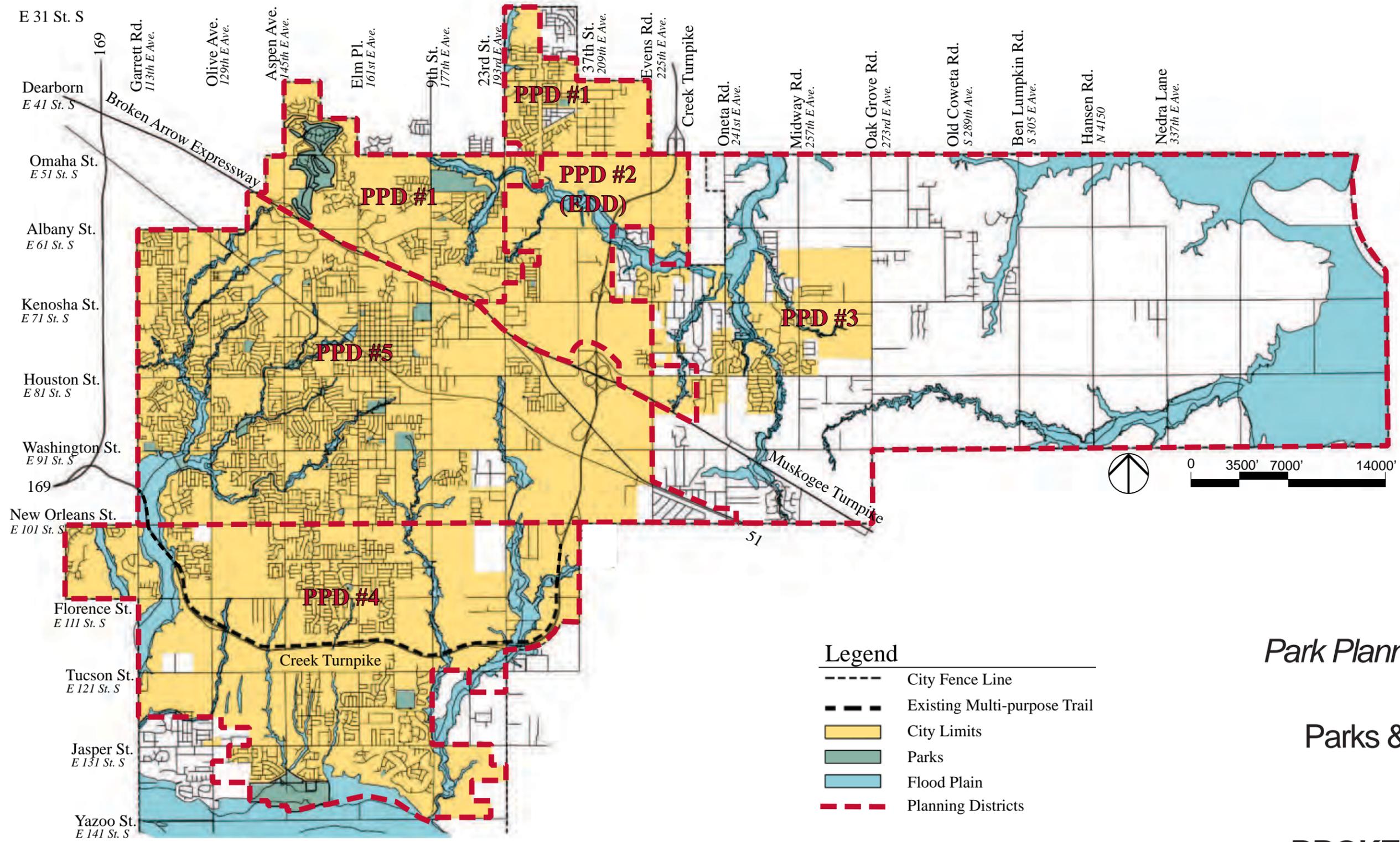
Parks

- | | |
|---------------------------|---------------------------|
| Arrowhead (R) | Liberty Parkway Trail (S) |
| Aspen Creek (N) | Lions (N) |
| Battle Creek Golf (R) | Linear (N) |
| Battle Creek Mini (M) | Morrow (M) |
| Buford (U) | Nienhuis (R) |
| Camino Villa (N) | Oak Creek South (M) |
| Centennial (M) | Pembroke (U) |
| Central (C) | Ray Herral Nature (R) |
| Copper Creek (N) | Rockwood East (M) |
| Country Aire (N) | Rockwood West (N) |
| Country Aire Tot Lot (M) | Seiling (N) |
| Farmers Market (S) | The Main Place (S) |
| Haskell (N) | Tiger Hill (U) |
| Hidden Springs (U) | Timberbrook (N) |
| Historical Museum (S) | Urbana (N) |
| Indian Spring Mini (M) | Vandever (R) |
| Indian Springs Sports (R) | Veterans (R) |
| Jackson (C) | Wedgewood (N) |
| Leisure (N) | Wolf Creek (N) |
| Liberty (N) | Woodland (U) |

Existing Parks and Trails

**Parks & Recreation
Master Plan
CITY OF
BROKEN ARROW,
OKLAHOMA**

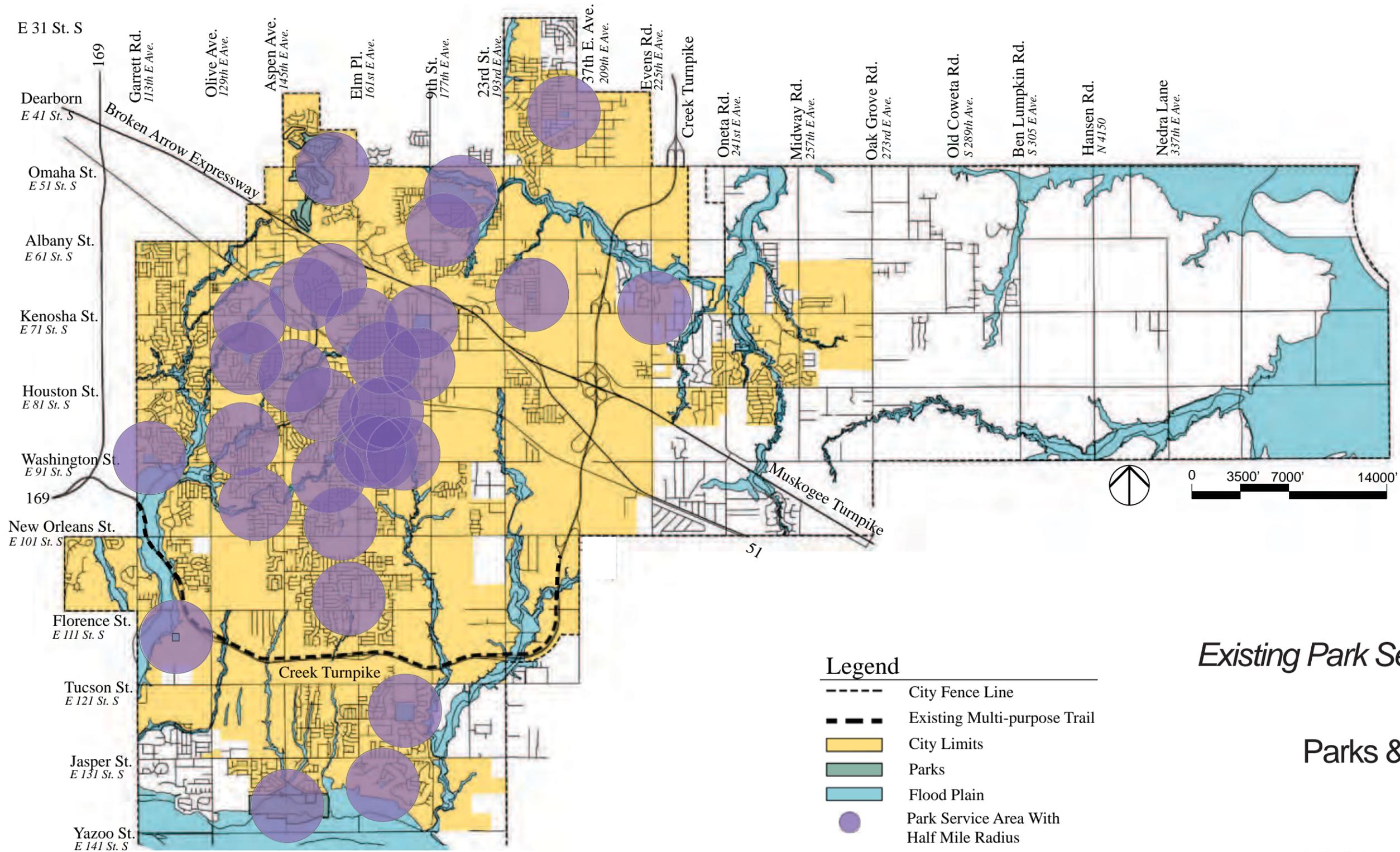




Park Planning Districts

Parks & Recreation Master Plan CITY OF BROKEN ARROW, OKLAHOMA

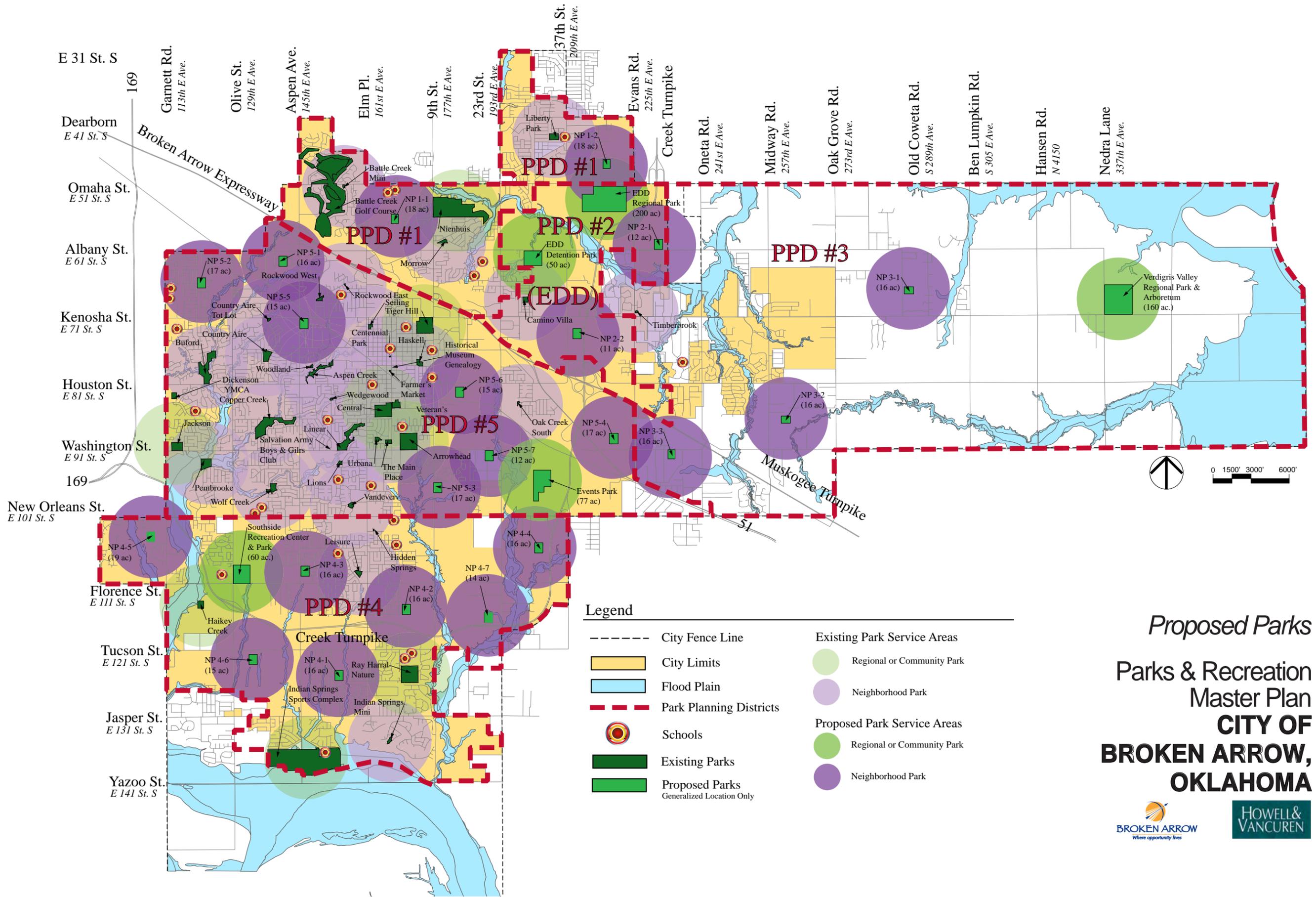




Existing Park Service Areas

Parks & Recreation Master Plan CITY OF BROKEN ARROW, OKLAHOMA

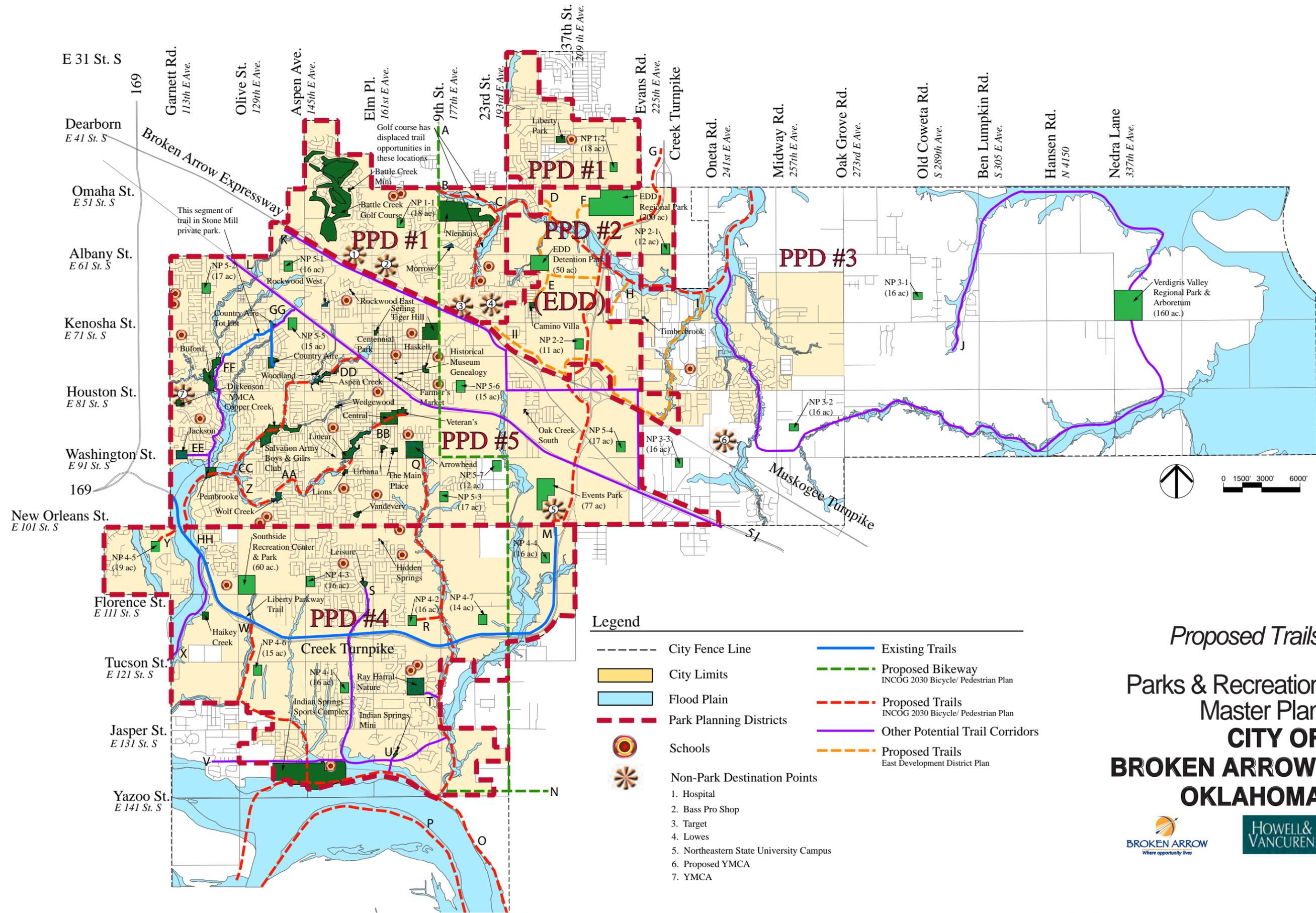




Proposed Parks
**Parks & Recreation
 Master Plan**
**CITY OF
 BROKEN ARROW,
 OKLAHOMA**



- Legend**
- City Fence Line
 - City Limits
 - Flood Plain
 - - - - Park Planning Districts
 - Schools
 - Existing Parks
 - Proposed Parks Generalized Location Only
 - Existing Park Service Areas
 - Regional or Community Park
 - Neighborhood Park
 - Proposed Park Service Areas
 - Regional or Community Park
 - Neighborhood Park



Proposed Trails

**Parks & Recreation
Master Plan
CITY OF
BROKEN ARROW,
OKLAHOMA**

