INTRODUCTION

Over the past 30 years, individual health has become an increasingly more important part of the American way of life as a growing number of Americans have become more conscious of both their mental and physical well-being. This is evidenced by the unprecedented growth in areas such as food supplements, health clubs and fitness magazines. In communities such as Lucas, recreation plays a key role in maintaining, not only the physical health of the residents, but also the emotional health of the community. As such, recreation is rapidly becoming a major factor to life in the community.

The increased need for more leisure activities in rural Texas communities can be attributed to several factors including: an increased life-span, the realization of the health benefits of exercise, the growth of competitive sport leagues, shorter workweeks, more disposable income and major improvements in the methods of transportation. The demand for recreational facilities is characterized by a frequent, almost scheduled, need rather than an annual or seasonal one. Therefore, it is necessary to supply year-round activities with facilities easily accessible to the population served.

Today, many communities have much to consider when developing standards, which guide their local planning efforts for maximizing parks and recreation opportunities. First, the need and demand for park and recreation facilities in a given community is directly proportional to the population and environmental opportunities of the service area. Meeting gross area park standards alone does not adequately address a community's park needs. Perhaps, even more important is the availability of improved and accessible park areas that conveniently provide citizens with a balanced variety of facilities and environmental protection.

The Recreation and Open Space Plan for Lucas will examine the adequacy of existing recreational facilities, the existing and projected demand for recreation, examine potential areas for future development and recommend plans to implement the development of recreational resources for the projected population of 2025.

COMMUNITY COMPOSITION

The City of Lucas contains a total land area of approximately 7,506 acres. Approximately 72 percent (about 5,410 acres) of the land within the existing City is developed, while the remaining acreage is vacant or being used for some agricultural related purpose. Lucas currently has five (5) acres utilized as parkland and has no planned or designated open space system.

According to the 2000 Census, the population of Lucas was 2,890 people, which represents about a 31 percent increase from the 1990 census. According to the Population study conducted as part of this community planning project, the City's population is expected to increase over the next 20 years to about 8,695 people. The median household income in Lucas was $100,220, above the $45,861 state average. Almost 96 percent of all residents (2,890) were above the established poverty line.

It is not anticipated that the demographic composition of Lucas, as if affects recreational needs, will change significantly during the planning period. The 1990 and 2000 population compositions are depicted in Table 6.1.

TABLE 6.1

CITY OF LUCAS

1990 vs. 2000 Population Compositions

CLASSIFICATIONS	1990		2000	
	AMOUNT	PERCENT	AMOUNT	PERCENT
WHITE	2,139	97.0	2,787	96.4
AMERICAN INDIAN	8	0.4	15	0.5
ASIAN OR PACIFIC ISLANDER	4	0.2	9	0.3
BLACK	26	1.2	12	0.4
OTHER RACE	28	1.26	67	2.3
TOTAL	2,205	100.0	2,890	100.0
HISPANIC	88	4.0*	103	3.6*

* Hispanic origin can be from multiple race classifications

Sources: 1990 and 2000 & U.S. Census

The median age of the Lucas population is 39 years. Since 6.6 percent of Lucas population is over 64 years of age and 30.2 percent is under 18 years old, it is evident that the demand for park services must meet the needs of an increasingly younger population while still taking consideration of the elderly.

RECREATIONAL FACILITY NEEDS

LEGITIMATE METHOD OF ASSESSING NEEDS

When determining specific service area needs, and the local strategies for addressing citizen demand for essential recreation facilities, a community should utilize the legitimate method of assessing needs which requires the use of some basic park planning issues including:

- timing of land acquisition;
- trends affecting demand;
- demand based assessment;
- resource-based assessment.
- general design principals;
- regional priorities;
- conventional planning criteria; and
- local determination of standards;

Timing of land acquisition - The City has the responsibility to take the lead in assuring timely reservation and acquisition of lands necessary for the creation of a well conceived park and open space system. If provision of parks and open spaces is to be economically viable, prudent funding limitations require early land acquisition, well in advance of adjacent development. Unless it becomes necessary to correct a condition where a park deficiency is significantly depressing property values, public acquisition of relatively expensive, developed land and/or removal of buildings are both strategies that are neither well-accepted, fiscally responsible, nor financially feasible.

Trends affecting demand - Parks, open space, and recreation facilities are obviously needed to serve all age groups. Further, the citizen demand for addressing this need is increasing with the growth of our population and changing social expectations. A number of trends have affected the volume of demand for recreational facilities:

- The increase in life span coupled with earlier retirement age broadens the service demand for recreational facilities, especially for facilities serving the senior members of our communities.
- The increase in competitive sports activities, particularly for younger age groups, has increased the need for neighborhood park facilities.

- The increase in organized recreation program participation has increased the need for recreational facilities.
- Citizens expect more priority to be given by the public sector to creating a higher quality of life and providing greater environmental protection.

Demand-Based Assessment - This technique relies on information gathered from the City's residents through surveys, meetings and public hearings. Respondents are asked to identify recreational activities most commonly pursued such as golfing, swimming, jogging, league play, tennis, basketball and walking. The results of the questions will provide the City with a better understanding of specific community needs and desires.

Resource Based Assessment - This method of assessing needs identifies assets and resources that could be used for open space, parks and recreation facilities. Analysis of existing and future land use patterns is useful in identifying available open space, while similar analysis of population concentration helps in determining which areas of the City are lacking service.

General design principals - The normal principles which generally apply to the design of most recreation areas and facilities include the following:

1) Active recreation areas should usually be separated according to the age of the users being served. If facilities for children are not separated according to age, the safety of younger children may be unnecessarily compromised; older children frequently tend to monopolize facilities. Certain areas should specifically be designed for use by family groups, which include all ages.

2) The recreation site should be accessible to the people who will use it. Generally the age of the user determines the size of the area served by a park facility. The service area of a neighborhood playground is generally limited to a radius of about one-half mile, which is an easy and safe walking distance for most children. A facility designed to serve the entire family, with auto accessibility, normally serves a one to five mile area.

3) Where locally permissible, combined municipal and school recreation centers are a recommended and functionally appropriate. Recreational facilities should be combined with school facilities wherever possible to serve the educational and

recreational needs of the local neighborhood. The two facilities are closely related and often times their purposes, programs and activities overlap. Summertime use of the school's outdoor facilities allows for an economical expansion of the use. The adjacent park-school grounds should be specifically designed to be complementary and integrated.

4) Where possible, locational choices for recreation facilities should enhance opportunities for environmental protection by incorporating and respecting natural features that may otherwise be harmed by land development required for others.

5) Playground areas should be designed so as to create a play environment that enhances learning and aids in developing the total child. Playgrounds should provide the opportunity for a child to safely interact with the play environment at their own level of development. Where possible, manipulative play opportunities should be provided, allowing the child to build, transport, and change their environment.

   Playground areas should also encourage development of the following: large and fine motor skills; eye-hand coordination; balance and locomotion skills; encouragement for children to learn about themselves in relation to the physical world; and opportunities for fantasy play, social development, and decision-making. Additionally, playground design should provide: a central vantage point for ease of supervision; shaded area for passive play; paved area for pavement games; grassy area for free play; a variety of challenge levels; opportunities for upper body development; and opportunities for learning about the natural environment.

Conventional planning criteria – The National Recreation and Park Association has established a goal of 25 acres of local parkland per 1,000 people. **However, they recommend that communities of 2,500 persons or less make one acre of public parkland available for every one hundred residents, or 10 acres per 1,000 residents**. While there is no criteria that fits every community, the maintenance costs associated with new parks and open space must be appropriately factored into whatever criteria a community adopts.

Local determination of standards - Recommendations for the type, size or number of facilities in a park should be based on an established set of standards, which are deemed by a given community to be acceptable, workable and practical. Various sets of

standards have been adopted by local, state and federal agencies. There are no set of standards that are right for all communities. Like individuals, communities each have their own character, needs, strengths, and weaknesses. The park standards actually adopted by a community are an individual choice, depending upon specific preferences, various unique factors, and environmental opportunities of the community. No entity is better qualified to evaluate local needs than an informed community and its leadership. As a general rule of thumb, the National Recreation Association does offer a broad guideline as they recommend approximately one acre of public parkland be made available for every one hundred residents. (School-owned property is not included in this measurement).

PLANNING PROCESS

The City of Lucas has considered and incorporated the foregoing basic park planning issues into the local planning process to determine local park and recreation opportunities and needs. The current local planning effort started with meetings with both City staff and park board members on March 11, 2004 and March 29, 2004 respectively. During this process, previous City park planning material, which included public meetings and surveys, was consulted and combined with input from the City. The legitimate method of assessing needs was then exercised on this accumulated information to determine specific service area needs, and the local strategies for addressing citizen demand for essential recreation facilities.

At the conclusion of this process, it became apparent that there was a general perceived need for additional parkland, an open space/trail system, equestrian opportunities, greater park accessibility, and a general desire for more recreational facilities for all ages. It was also determined that an updated general parks, open space, and recreation plan was needed to guide local decision-making and coordinate and focus funding efforts.

An updated inventory and analysis of the existing facilities and a basic needs assessment were compared to public input, previously assimilated information, population and growth projections, changes in population composition, an analysis of the City's unique set of opportunities and the basic park and recreation planning principals and standards previously outlined. With the cooperation of the City, a set of goals and objectives that reflects locally determined standards and needs was then

developed. The goals and objectives were translated into a physical parks and open space plan along with implementation recommendations.

INVENTORY OF EXISTING FACILITIES & OPEN SPACE

RECREATIONAL AREAS CLASSIFICATION

The National Recreation and Park Association's (NRPA) "Recreation, Park and Open Space Standards and Guidelines" identifies the types and sizes of parks found in most communities. These classifications are based on the acreage of the recreational area and the types of facilities offered.

Special Parks:

These parks are used for single-purpose or specialized recreational activities such as golf courses, athletic complexes or objects of historical significance. Sometimes linear in nature, these parks can be developed for one or more modes of recreational travel such as hiking or biking. These areas may vary in size and typically serve a region of at least 10 miles in radius. These parks are typically wide enough to protect the resource while allowing for maximum use.

Community Parks:

These parks provide separated facilities for both leisurely and active play areas for all ages. They typically accommodate all-day usage, planned recreational programs for competitive sports, passive entertainment and large group gatherings. Community Parks should be accessible by motor vehicles and have sufficient parking areas. Examples of items often included in these parks are ball fields, swimming pools, tennis courts, restrooms, walking paths, picnic shelters and playground equipment for children of all ages. The service area of a Community Park can be expected to range between two to five miles in radius and include at least fifteen acres. Between five an eight acres of community parkland should be provided per one thousand residents.

Neighborhood Parks:

These parks typically occupy two to four acres and provide both active and passive recreational opportunities for all age groups. Walking trails, ball fields, basketball/tennis courts might be found in a neighborhood park. Some scenic and natural areas are often provided in these parks and are usually separated from the active recreational areas by trees, shrubbery or flowerbeds. Benches and lighting are also often found in

Neighborhood Parks. These parks typically serve an area of one-quarter to one-half mile in radius. Generally, one to two acres of this type of parkland should be provided per one thousand residents.

Playing Fields:

These fields are developed recreational land where active games such as soccer, baseball/softball and football can be played. Often times, schools have playing fields and a community will have modern baseball and softball fields located in a playing field complex. Typically, these areas serve a region of at least five miles in radius and are usually at least three acres in size. At least three acres of playing fields per one thousand residents should be provided.

Passive Recreational Areas:

These areas include land used for general recreation activities such as picnicking, flying kites and or enjoying scenic views. Facilities such as picnic tables, benches and limited parking might be found in these areas. Examples of Passive Recreational Areas include open fields, scenic view sites and small landscaped areas. There are no minimum standards for Passive Recreational Areas.

EXISTING PARKS AND OPEN SPACES

In March of 2004, an inventory of the City's open space, parks and recreational facilities was completed to determine the location, type and number of amenities offered to local citizens. Other than on-campus play areas and sports fields associated with the public schools, there are two municipal park areas which serve the City. Park locations are illustrated in Figure 6.1.

Public Parks:

- Forest Creek Park – (serves local neighborhood)
  - Wooded, two-acre site with parking area
  - (1) gazebo
  - Picnic tables
  - (2) playgrounds (preschool and elementary)
  - Native plant demonstration garden. (Promoted with a descriptive flyer available at City Hall.)

- Lucas Community Park – (serves entire City)
  - Three acre site with parking area
  - (1) baseball/softball field
  - (1) soccer field (undersized)
  - Community Center with a covered patio, picnic tables, bathrooms and a concession stand.

School Facilities:

- Hart Elementary – (serves entire City)
  - (1) playground (elementary)
  - Picnic tables
  - (4) basketball goals
  - (1) gymnasium

U.S. Army Corp of Engineers

- Brockdale Park Boat Ramp – (serves entire City)
  - (1) four-lane boat ramp
  - Parking and bathrooms (always open to the public)

- Brockdale Park – (serves entire City)
  - Group shelter
  - Eight camping/picnic sites
  - (1) restroom with drinking water.

This park is separate from the boat ramp area of the park and is available by paid reservation only. This is a special-use park for boating and fishing and it is handicapped accessible.

❖ Brockdale Park Trailhead – (serves entire City)

- 2.5 acre area, fenced with pipe fencing that includes a horse walk-through gate, a large gate for equipment access to the trail and another large gate to prohibit entry.
- Gravel circular driveway
- Fire pit
- Several metal hitching rails

❖ Trinity Equestrian & Hiking Trail – (serves entire City)

- The Trinity Hiking and Equestrian Trail is 9-miles-long with scenic views of the lake and surrounding land. It runs along the lakeshore from Brockdale Park to Collin Park in St. Paul to East Fork Park in Wylie, bordering ranch land along most of its length.

The trail is maintained by the volunteers of the Trinity Trail Preservation Association with occasional mowing of the trailhead being done by the City of Lucas. A new grant acquired by the Trinity Trail Preservation Association will enable further improvements to the site.

❖ Highland Park and Boat Ramp – (serves entire City)

- (1) four-lane boat ramp with restrooms
- Boating and fishing
- Handicapped Accessible

<u>Other Facilities:</u>

❖ Pocket Park in Stonegate (Private)

- (1) gazebo
- Walking trails
- (1) playground (elementary)
- Picnic tables

It should also be noted that the school facilities are specifically designed for school needs and are not intended to meet the demands and regulations of league play nor to beautify the community. No pedestrian/open space linkages exist to connect the school facilities.

Additional private facilities exist in larger cities such as Allen, Plano and McKinney, and are available only to those able and willing to travel, and pay the required entry fees/dues.

NATURAL FEATURES AND SYSTEMS:
The following existing features represent significant open space/linkage opportunities:

- Existing flood plain areas;
- Creeks and waterways;
- Existing sidewalks;
- Certain other vacant lands and rights-of-way, allowing for trail connections.

The most important natural feature in Lucas is Lake Lavon and the creeks, which feed into it. Constructed in 1954, the lake is owned and controlled by the U.S. Army Corp of Engineers. There are twenty areas along the lake designated for park use, including Highland Park and Brockdale Park which reside in Lucas. These parks provide water-based recreational opportunities that would otherwise not generally be available in the county. The City should work with the Army Corps of Engineers to maximize this resource for the citizens of the region.

HISTORIC AND CULTURAL FEATURES:
Several historic landmarks exist in or near the City of Lucas. Some of these include:

- Fitzhugh Cemetery
- Forest Grove Christian Church
- McKinney Cemetery

While these are currently the only sites that bear historical markers, several other sites exist within the community.

ANALYSIS AND NEEDS ASSSSMENT

After reviewing the natural features and limited inventory of facilities, the general park planning principles and standards, and respecting public input, the minimum standards/criteria for recreational facilities shown in Table 6.2 were developed. All elements of the Legitimate Method of Assessing Needs, including population growth and change in composition, were also contributing factors.

TABLE 6.2

CITY OF LUCAS

LOCALLY DETERMINED PARK AND RECREATION

LEVEL OF SERVICE STANDARDS

Activity/ Facility	**Space Requirements**	**Size and Dimensions**	Orientation	**Units per Capita**	**Service Radius**	**Notes**
Basketball Court	2,400 – 3,036 SF	46 - 50' x 84'	Long axis N-S	1 per 4,000	¼ - ½ mile	Usually in school, recreation or church facility. Safe walking or bike access. Outdoor courts in neighborhoods and community parks.
Racquetball or Handball Court	800 SF for 4-wall / 1,000 SF for 3-wall	20' x 40'. Min. 10' to rear of 3-wall court. Min. 20' overhead clearance.	Long axis N-S Front wall at N	1 per 20,000	15-30 minutes travel time	4- wall usually indoor as part of multi-purpose facility. 3-wall usually outdoor in park or school setting.
Tennis Court	Min. of 7,200 SF per court (2 acres for complex)	36' x 78' with 12' clearance on both sides.	Long axis N-S	1 per 4,000	¼ - ½ mile	Best in series of 2-4. Located in community or neighborhood park near schools
Volleyball Court	Min. of 4,000 SF	30' x 60' with 6' clearance on all sides.	Long axis N-S	1 per 8,000	¼ - ½ mile	Same as other court activities.

Activity/ Facility	Space Requirements	Size and Dimensions	Orientation	Units per Capita	Service Radius	Notes
Multi-Purpose Court	9,984 SF	120' x 80'	Long axis of courts with primary use N-S	1 per 8,000	1-2 miles	Use for basketball, volleyball, roller hockey and tennis.
Adult Baseball Field	3.0 to 3.85 acres	Baselines = 90'; Pitching Distance = 60 ½'; Foul lines = 320'; Center Field = 400'.	Locate home plate so pitcher throws across sun and batter not facing sun. Line from home plate to pitcher's mound runs east northeast.	1 per 10,000	¼ - ½ mile	Part of neighborhood park. Lighted field part of community park.
Little League Baseball Field	1.2 acres	Baselines = 60'; Pitching Distance = 46'; Foul lines = 200'; Center Field = 200'-250'.	Same as adult field.	1 per 4,000	¼ - ½ mile	Same as adult field.
Softball Field	25 to 2.0 acres	Baselines = 60'; Pitching Distance = 46' or 40' for women; Fast pitch field radius from plate = 225' between foul lines; Slow pitch = 275' or 250' for women.	Same as baseball field.	1 per 4,000 if also used for youth baseball.	¼ - ½ mile	Part of neighborhood park. Lighted field part of community park.
Football Field	1.5 acres	160' x 360' with 6' clearance on all sides.	Fall season, long axis NW-SE. For longer periods, N-S.	1 per 10,000	15 to 30 minutes travel time.	Usually part of a baseball, football, soccer complex in a community park or near high school.
Soccer Field	1.7 to 2.1 acres	195' – 225' x 330'-360'	Same as football.	1 per 10,000	1 to 2 miles	Number of units depends on popularity. Youth soccer on smaller fields near schools.

Activity/ Facility	Space Requirements	Size and Dimensions	Orientation	Units per Capita	Service Radius	Notes
¼ mile running track	4.3 acres	Overall width = 276'; Length = 600'; Track width for 8 lanes is 32'.	Long axis in sector from N-S to NW-SE with finish line at northerly end.	1 per 20,000	15-30 minutes travel time.	Usually part of a high school or in community park complex.
Trails	N/A	Well-defined head max. 10' wide, maximum average grade of Well-defined head max. 10' wide, maximum average grade of 5% not to exceed 15%.	N/A	1 system per region.	N/A	Capacity: rural trail = 40 hikers per day per mile; urban trail = 90 hikers per day per mile.
Golf – 9 hole course	50 acres min.	Avg. length = 2,250 yds.	Majority of holes on N-S axis.	1 per 25,000	½-1 hour travel time	Accommodates 350 people per day.
Golf – 18 hole course	110 acres min.	Avg. length = 6,500 yds.	Majority of holes on N-S axis.	1 per 30,000	½-1 hour travel time	Accommodates 500-550 people per day.
Swimming Pool	Varies with size of pool and amenities. Usually ½ to 2 acres.	Teaching = min. of 25 yards x 45' even depth of 3-4 feet; Competitive = min. of 25 x 16 meters, minimum of 27 SF of water surface per swimmer. Deck to water ratio 2:1.	None, although care should be taken in siting lifeguard stations relative to afternoon sun.	1 per 20,000 (pools should accommodate 3-5% of the total population at a time).	15 to 30 minutes travel time.	Pools for general community use should be planned for teaching, competitive and recreational purposes with enough depth (3-4 meters) to accommodate 1 meter and 3 meter diving boards. Located in community parks or schools sties.

Activity/ Facility	Space Requirements	Size and Dimensions	Orientation	Units per Capita	Service Radius	Notes
Picnic Tables	N/A	N/A	N/A	1 per 200	½ mile	Should include trash receptacles and be covered when possible by a pavilion.
Pavilion:	N/A	N/A	None	1 per 10,000	1-2 miles	ADA accessibility should be observed.
Gazebo	N/A	N/A	None	1 per 10,000	¼ - ½ mile	Located in community or neighborhood park near schools
Horseshoe Pit	45’ X 7’	40’ X 3’	Long axis N-S	1 per 10,000	¼ - ½ mile	Located in community or neighborhood park near schools
Shuffle Board Court	57’ X 10’	52’ X 6’	Long axis N-S	1 per 10,000	¼ - ½ mile	Same as horseshoe pit
Washer Pit	25’ X 7’	25’ X 3’	Long axis N-S	1 per 10,000	¼ - ½ mile	Same as horseshoe pit

Source: City of Lucas and TFGA, Inc.

In addition to population demand, there are some important factors that should also be taken into account when considering park and recreation need:

- The school recreation facilities are not intended or designed to meet the same objectives as a public park.
- There is no open space system established in the City of Lucas.
- There are presently inadequate recreational facilities to serve the Lucas service area.

PROBLEMS RELATING TO RECREATION FACILITIES IN LUCAS

When taking locally determined park and recreation standards into account and comparing them to the existing and projected population and anticipated need, it is evident that there are significant areas not addressed by existing parks and recreation facilities in Lucas. The following prioritized listing of the problems relating to recreation facilities and open spaces was developed from accumulated information obtained from the general public, City Council and Staff:

a) Additional parks and open space are needed in the community.
b) A walking trail system has not been established.
c) There are an inadequate number of playgrounds.
d) There are an inadequate number of picnic facilities.
e) Additional equestrian opportunities are needed.
f) Historic sites within the community need to be preserved.

TABLE 6.3

CITY OF LUCAS

FACILITIES STANDARDS &

EXISTIING FACILITIES COMPARISON

Facility	Existing Units	Units Required	Units Needed
Parks/Open Space: (number/acres)	2 / 5 acres	5 / 75 acres	3 / 70 acres
Trails: (Walking/Biking)	0	2 miles	2 miles
Trails: (Equestrian)	0	2 trails	2 trails
Passive Play:	1 acre	20 acres	19 acres
Adult Baseball Fields:	0	0	0
Softball/LL Baseball Fields:	1	2	1
Tennis:	0	0	0
Basketball:	0	0	0
Beach Volleyball:	0	1	1
Roller Hockey	0	0	0
Soccer Fields:(Under-10)	1	1	0
Soccer Fields:(Regulation)	0	0	0
Playgrounds:	1	8	7
Pavilion:	1	2	1
Frisbee Golf Course	0	1	1
Gazebo:	1	2	1

Source: City of Lucas and TFGA, Inc.

POSSIBLE OPPORTUNITIES

The Lucas community has a fortunate opportunity to create a system of parks and open space that will greatly enhance the quality of life for existing and future citizens. The relative geographic distribution and spatial arrangement of the features identified, combine to represent a pattern of opportunity for a cost effective system of accessible parks, open space, and recreational facilities: Possible features which can be used effectively include:

- Existing road rights-of-ways;
- Existing flood plains;
- Undeveloped creek and drainage areas;
- Vacant land adjoining parks, central business district, and schools;
- Existing school sites;
- Existing park sites;
- Undeveloped road rights-of-ways;
- Certain other vacant lands and right-of-way, allowing for trail connections and new park development.

A specific opportunity is a 20 acre piece of property recently donated to the City by the North Texas Municipal Water District (NTMWD). As a condition of the donation, this property must be developed into usable parkland within two (2) years. Once developed, NTMWD has offered the City another 40 acres which will also need to be developed into active parkland.

There is also a possibility that Brockdale Park could become an open facility, no longer requiring reservations. Currently a locked park requiring reservations, the Army Corp of Engineers has extended an offer to the City which would require the City to maintain the park. In return, the park could be utilized as a community park, open to the public.

Another opportunity for parks and open space development is the overhead power line right-of-way in the southern section of the City. This area could be developed into open space linkage by the use of walking/biking or equestrian trails.

There is also the possibility that a new Trinity Equestrian Trail Head will be constructed in the northeastern section of the City. If constructed, it could offer other equestrian opportunities within Lucas.

Finally, the City has adopted an Ordinance requiring new housing developments to dedicate acreage or pay a fee towards the development of parkland. Through this ordinance, community parks can develop as the City grows.

The location of each of the above potential park facility elements is illustrated in Figure 6.2. The strong level of public participation and commitment in the City of Lucas will be the driving force to capitalize on this set of opportunities.

GOALS AND OBJECTIVES

Goals are clear, concise statements that an individual or group desires to accomplish in the future with regard to a general topic of consideration. A goal does not determine how or when any action is to be performed, but does express future intent. Goals are always expressions of present desire, and should be periodically reviewed and adjusted. A set of goals should create a balance between goals that are easy and goals that are difficult to achieve. However, goals are most potent when they clearly articulate an inspired vision of the future.

The results intended by achievement of goals to be set for Lucas recreation and open space planning includes the following:

- To provide for as many, locally determined priority needs as possible.
- To establish new and different park and recreation opportunities within the Lucas jurisdiction and intended service area.
- To improve the geographic distribution/access of park and recreation opportunities.
- To maximize the use of development funds for basic park and recreation opportunities.
- To establish recreational facilities readily availability to minority and low-income citizens.
- To address the needs of all age groups, including the elderly and youth-at-risk.
- To involve the cooperation of other governmental jurisdictions.

- To involve land that would not otherwise be used for open space, park and or recreation purposes, and to involve support by the private sector.
- To provide for acquisition, preservation, and conservation of park and recreation lands that provide needed open space.
- To promote conservation of natural resources by proposing the use of native plant materials and protection of natural waterways.
- To provide for strategic green belt linkages and improvements to historic areas.
- To maximize community support and private contribution.

The goals for the City of Lucas with regard to open space, parks and recreation are listed below. Under each of the overall goals are listed objectives that describe how the goal is to be achieved.

GOAL 1: Preserve natural environment and native ecosystems.

Objective 1.1:
Conserve and protect ecologically sensitive and naturally beautiful areas, e.g. flood plains along creeks, high points with scenic views toward Lavon Lake, etc.

Objective 1.2:
Establish and/or enhance green space and natural areas along flood plains, and promote public access to greenbelt areas with trail systems, e.g. equestrian/hiking trails, etc.

Objective 1.3:
Respect areas with steep slopes and/or scenic views, e.g. knolls and high points, etc.

Objective 1.4:
Encourage and promote water conservation through the use of native plant materials, xeriscape techniques, and other methods.

Objective 1.5:
Maintain high standards for groundwater quality due to the proximity of Lake Lavon.

Objective 1.6:
Maintain high standards for air quality.

Objective 1.7:

Encourage development types, which minimize impacts upon the community's natural resources and visual appeal.

GOAL 2: Provide a comprehensive system of greenbelts, e.g. trails, and open space that is compatible with the environment and compatible with residential neighborhoods.

Objective 2.1:

Develop a comprehensive Parks and Open Space Plan that meets a variety of needs at the neighborhood level as well as for the community as a whole.

Objective 2.2:

Encourage greenbelt and open space dedication during the development review process.

Objective 2.3:

Continue exploring new recreational and social programs for all age groups, especially for the community's youth and teens.

Objective 2.4:

The system should help to define community form and preserve community character.

GOAL 3: Create pedestrian, equestrian and bicycles linkages (connections) between residential neighborhoods, linear greenbelts, schools, public administrative facilities, and other activity centers, whenever physically and financially possible.

Objective 3.1:

Begin obtaining necessary open space/trail easements necessary to connect future parks, schools, and existing and future neighborhoods into an integrated, low maintenance park and recreation system.

Objective 3.2:

Formulate and adopt policies and ordinances that protect the acquired/donated park land and open space easements.

Objective 3.3:
Utilize trails, wherever possible, to connect residential areas with schools and parks.

Objective 3.4:
Encourage the provision of pedestrian, equestrian, and/or bicycle pathways within large private developments.

Objective 3.5:
Design a parks and open space system that is interconnected and multifunctional, which protects important natural, cultural and visual resources while providing appropriate opportunities for recreation.

Objective 3.6:
Integrate planned trails with the county trail plan.

Objective 3.7:
Coordinate planning efforts with those of adjacent cities.

GOAL 4: Develop and maintain the new Lucas parks and open space system.

Objective 4.1:
Determine actual maintenance cost currently needed to maintain existing parks.

Objective 4.2:
Determine maintenance costs associated with acquiring and/or developing new parks and open space BEFORE acquiring and/or developing.

Objective 4.3:
Allocate sufficient funding to maintain existing and future parks and open space before new parks and open space are acquired and/or developed.

Objective 4.4:
Formulate and adopt policies and ordinances that protect existing park facilities.

Objective 4.5:
Revise plans on a regular basis.

Objective 4.6:
Formulate agreements with the local School District, the County, churches and local organizations to participate in the development of new park facilities where possible.

Objective 4.7:
Enforce the City's parkland development ordinance to ensure additional community parks are developed throughout the community.

Objective 4.8:
Provide an additional 70 acres of parks open space to the community.

Objective 4.9:
Construct a series of multi-use trail sections with node amenities planned in a manner to tie into the citywide open space/trail system.

Objective 4.10:
Provide additional playgrounds to the community.

Objective 4.11:
Provide additional picnic facilities to the community.

Objective 4.12:
Provide additional recreational opportunities for the youth in the community.

Objective 4.13:
Provide equestrian opportunities to the community.

Objective 4.14:
Provide a historical/cultural museum to the community.

GOAL 5 – Use county, state and national resources as well as City resources to develop a park system.

Objective 5.1:
Leverage City and private funding against County, State and Federal funding to obtain the most cost effective use of funds.

Objective 5.2:

Use training provided by other agencies to build the City's expertise.

LOCAL PRIORITY NEEDS

In order to most effectively address the forgoing goals and objectives, the following local priority needs should be addressed in the order listed:

Local Priority #1 – Determine actual costs associated with maintaining existing parks and open space system.

Local Priority #2 – Determine actual costs associated with maintaining future parks and open space before acquiring/developing.

Local Priority #3 – Plan, fund and construct a new park on recently donated property behind the existing elevated water storage tank on East Winningkoff. Facilities at the park should include a gazebo and four picnic tables with grills.

Local Priority #4 – Plan, fund and construct phase 1 (1-mile) of a 2-mile, lighted, low maintenance multi-use trail system, with periodic exercise stations along the trail and node amenities, at the new park off of East Winningkoff. (for more detail see Design Guidelines in Physical Plan/Recommendations below).

Local Priority #5 – Formulate agreement with the Army Corp of Engineers to allow for more public access to Brockdale Park.

Local Priority #6 – Acquire new 20-acre tract adjacent to the East Winningkoff Park.

Local Priority #7 – Plan, fund and construct phase 2 (1-mile) of a 2-mile, lighted, low maintenance multi-use trail system, with periodic exercise stations along the trail and node amenities, at the park site acquired in Priority #3, to tie into trail section constructed in Priority #2. (for more detail see Design Guidelines in Physical Plan/Recommendations below).

Local Priority #8 – Plan, fund and construct a picnic pavilion, four picnic tables with grills, a sand volleyball court, two playgrounds and a nine-hole Frisbee golf course on property acquired in Priority #3.

Local Priority #9 – Acquire new 20-acre tract adjacent to park site acquired in Priority #3.

Local Priority #10 – Plan, fund and construct nine additional Frisbee Golf holes on land acquired in Priority #9 to tie into the existing 9-hole Frisbee golf course constructed in Priority #8.

Local Priority #11 - Formulate a method for obtaining open space/trail easements/use agreements. Also, formulate and adopt policies and ordinances to protect the donations/acquisitions as necessary.

Local Priority #12 – Acquire easements under overhead power lines.

Local Priority #13 – Plan, fund and construct an equestrian trail under power lines.

Local Priority #14 – Plan, fund and construct a rodeo arena on property acquired in Priority #9.

Local Priority #15 – Plan, fund and construct an equestrian trail to connect to new Trinity Equestrian trail head to rodeo area. (Site to be determined)

Local Priority #16 – Acquire property to be utilized as a historical/cultural museum.

Local Priority #17 –Develop historical/cultural museum.

Local Priority #18 – Adopt policies and ordinances that enhance program efforts for safe, maintained park, open space and recreation opportunities (both private and public).

Local Priority #19 - Formulate and adopt policies to ensure all private recreational facilities located on public property are maintained and safe for public use.

Local Priority #20 – Add other recreational facilities as needed to meet the foregoing goals, objectives and locally determined standards for recreation and open space.

In addressing the foregoing local priority needs, the plan and implementation sections below have been formulated and should be considered in relationship to the above goals section.

PLAN AND RECOMMENDATIONS

The purpose of the plan and recommendations is to provide community direction in a constantly changing environment. Under existing and currently projected conditions and circumstances, the City of Lucas parks, open space and recreational needs will be well satisfied if the community will work together in organizing, programming, promoting, operating and maintaining the existing and proposed facilities. The costs of private and public time and money will be well spent if the plan recommendations are followed and updated on a regular basis. Few things have so positive an affect on the quality of life in a community as a well-executed plan for a community's parks, open space and recreation facilities.

Acceptance of these plan recommendations does not mean that every proposed facility will be built. Rather, it means that there is an overall vision, which will guide specific short-term decisions. Such individual decision-making processes too often lose sight of the larger, long-range picture of the City's future. These recommendations should be helpful to future decision-making as each plan component is gradually considered for implementation or revision.

The physical recreation and open space plan for the City of Lucas is illustrated in Figure 6.2. The programming of these improvements should be coordinated with the school district (and the school district should be encouraged to coordinate the programming and use of its recreational facilities with the City).

RECREATIONAL AND OPEN SPACE ANALYSIS

Basic principles for the successful development of parks and recreational facilities exist as a guide in communities of all sizes and types. These guidelines provide specific information to community leaders who understand their community’s goals, but who need additional guidance throughout the planning process. While useful, such arbitrary

standards must be considered as they relate to the specific needs and characteristics of the community in which they are applied. As such, modifications will be needed to reflect the unique character of the Lucas community. General open space development guidelines include:

- In most cases, active recreation areas should be separated according to the user's ages, primarily to protect younger children from injury. Some areas should be designated for use by all ages so entire families can enjoy them.
- Recreational areas should be accessible by the age group they are designed to serve. For example, neighborhood playgrounds usually serve an area with a radius of one-half mile, which is a reasonable distance for a child to walk. Care should be taken to ensure that safe pedestrian routs provide access to these facilities. Larger facilities that are designed to serve all members of a family can be accessible by automobiles, thus serving users up to five miles away.
- Combined municipal and school recreational facilities should be used to serve the community and prevent the construction of redundant facilities. If possible, school recreation areas should include parking, drinking fountains and restrooms and should remain open on weekends and during the summer months.
- Greenbelts, hike and bike trails, parkways or paths should be provided to connect large recreational areas, providing access, scenic views and recreational opportunities. Vehicular routes should be encouraged only when recreational areas are separated by more than one mile.

FACILITY STANDARDS

When specific implementation measures are being planned, specific design criteria should be developed and considered prior to purchasing equipment or beginning construction drawings.

<u>Playgrounds:</u>

The selection-of-play equipment for future playground areas and for playground upgrades should generally follow the guidelines described below:

Site Safety: All playground equipment should be located in a manner that observes the recommended use zones and fall zones, and should have the appropriate depth of resilient safety surfacing placed around and under the equipment. The surfacing material should not prevent reasonable access by persons with physical disabilities.

Access and Egress: Each play item should be accessible to the intended user and not overtax their developmental ability. Multi-component structures should provide for a variety of graduated skill levels for user access and egress. Handicapped access and use should be considered and evaluated for each play area.

Swings: Swings should only be placed in the play environment if they can be located out of the general path of safety. Where space permits, there should be a minimum of six swing positions provided for each playground area. A minimum of one swing position should be accessible to persons with physical disabilities. Swing top rail height should not exceed ten feet.

Slides: A variety of sliding experiences should be provided as either freestanding units part of a multi-component play structure. Freestanding slides should not be higher than six feet. Sliding poles are not recommended for children under the age of five. At least one sliding device should be accessible to persons with physical disabilities.

Climbers: A range of climbing opportunities should be made available that provide a variety of challenge levels. The climbing component's material, size, and direction of climb should vary. Climbers may also be used to promote socialization. A structure such as a geo-dome allows several children to use it in different manners at the same time. Climbers offering opportunities for children to move their bodies in, out and through spaces are recommended. An accessible climber should be provided.

Balance and Movement: At least one type of balance activity should be provided in each play area. Balance equipment includes balance beams, net climbers, suspension bridges, chain walks, tunnels and spring platforms.

Upper Body Development: At least one apparatus that increases upper body strength and coordination should be provided for each playground. Accessible apparatus should be provided. The apparatus may be freestanding or part of a multi-component play structure. Design for the open space/trail system should consider the following general guidelines.

Open Space Width: Average of 50 feet with larger widths as needed and available at nodes.

Walking Trails:

When designing future walking trails, the following criteria should generally be followed:

Trail Width: 8 feet preferred; 6 feet minimum.

Trail Material: Asphalt or concrete.

Node locations: Shady, convenient areas at destinations or points of frequent trail access/egress.

Node Amenities: Lighting, drinking fountain, bench, seasonal plantings, change in paving pattern, and incorporation of existing trees for shade.

Street ROW Portions: Where possible, soften edges with tree and shrub plantings; provide an 8-foot sidewalk or a 6-foot sidewalk with a 4-foot parkway between the curb and sidewalk.

Street Crossings: Stripe and sign for pedestrian crossing; provide handicap ramping.

Trail Drainage: Provide drains at low areas; slope to avoid puddling; where crossing drainage flow provide culverts or design to accommodate areas of sheet flow.

Interpretation: Provide markers at natural features of interest to relate to interpretive literature.

Greenbelts:

Green Belts are often created in communities to serve as scenic areas and protective buffers. They are open spaces composed of parcels of land that are adjacent to streams, homes, roads, lakes, parks, or neighborhoods. Signs and buildings are generally discouraged within these areas, but farming, grazing and recreational uses are allowed, as are rights-of-way to private property. Often Green Belts are established to protect flood plains and reduce water pollution along streams and natural drainage ways. Picnic and recreation areas that are allowed to remain in their natural state may be used during warm weather when there is little danger of flooding, though insect infestation may limit their use for this purpose.

Facilities for Elderly Residents:

Approximately seven (7) percent of the Lucas population is over 64 years of age. In addition, many of these residents have some form of disability, which reduces their mobility. Even those who have no disability often find it difficult to enjoy the City's outdoor opportunities unless facilities are provided for the less strenuous activities senior citizens tend to enjoy.

According to the American Gerontological Society, many senior citizens enjoy walking, swimming, lawn games and other activities where they can set their own pace according to their physical abilities and energy levels. In towns like Lucas, which lack indoor sports such as bowling alleys, outdoor facilities for seniors are of crucial importance. A community center can also offer an elderly person indoor recreational activities. This is evidenced in many cities as non-profit organizations are utilized to organize such events.

Golf Courses:

According to the American Society of Golf Course Architects, there are several factors to be taken into consideration when developing a golf course. Generally, 145 to 200 acres of land are needed to build a regulation 6,500 yard golf course and approximately 100,000,000 gallons annually is required to irrigation it. While golf course construction costs vary greatly, generally speaking, most developers or communities can count on spending at least $2,000,000, not including the cost of the land, for a modern regulation-length golf course, nor the cost of maintenance facilities and equipment. In order to maintain even a low end regulation course, a full-time crew of 10 people if often required. A more detailed look at golf course construction and maintenance has been included as Appendix 6.1.

POTENTIAL FUNDING SOURCES FOR RECREATIONAL OPPORTUNITIES:

- Rails to Trails Program (Utilizes abandoned railroad right-of-ways).
- Regional Council of Governments.
- Texas Historical Commission (Works with sites that have been designated with Historical Significance).
- Main Street Program (Texas Department of Agriculture)
- Private Organizations such as churches and the Lions Club.
- Texas Chapter of the Audubon Society (Can aid with birding opportunities in the area)

- Center for Nature and Heritage Tourism at Southwest Texas State University (Can aid with potential Nature and Heritage Tourism in the area)
- Texas Department of Transportation (STEP Program)
- Trinity Trail Preservation Association
- Collin County Park and Open Space grant program

As mentioned in the Goals and Objective section, NO parks and open space acquisition and/or development should occur before associated long-term maintenance costs are accounted for. Agreements should be sought with the various entities involved (the County, local school system, civic groups, organized sports groups, etc…) to ensure the extended usefulness and safety of the new park facilities.