APPENDIX C

PARK AND FACILITY NEEDS ASSESSMENT

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NEEDS ASSESSMENT

This section includes the technical data on determining needs for parks and facilities in the Klamath Falls Planning area. A summary of these findings is found in section IV.

PARK LAND INVENTORY

The determination of need for park land is based in part on existing acreage of parks. The table below summarizes the existing park inventory that is used in the needs assessment of individual park types.

Table C-1
Summary of Existing Parks and Facilities
Klamath Falls Planning Area

Park Site	Total Park Land (Acres)	Number of Sites
Mini-Parks	2.50	4
Neighborhood Parks	17.40	4
Regional Parks	435.00	1
Special Use Areas [1]	59.66	8
Open Space Areas	104.00	1
Landscaped Areas	6.71	39
Total	625.27	57

[1] This category includes facilities owned by the City and leased to other agencies

PARK LAND NEEDS

On the following pages, specific needs for each type of park land are discussed. The categories of park land include:

- **Mini-Parks**
- **Neighborhood Parks**
- **Regional Parks**
- **Special Use Areas**
- **Open Space Areas**
- **Landscaped Areas**

Mini-Park Needs

Analysis

Currently there are four mini-parks in the Klamath Falls planning area. Most of the sites are partially developed.

On a per acre basis, this type of park is very expensive to construct and maintain. They also serve a very limited population. Often this type of park is popular in new subdivisions which traditionally have a high ratio of young children. However, as young children grow older, this type of park attracts fewer users.

Table C-2
Existing Mini-Parks
Klamath Falls Planning Area

Park Site	Acres
Pacific Terrace Park	0.60
Henderson Park	0.60
Richmond Park	0.60
Stukel Park	0.70
Total	2.50

Determination of the Standard

1. *Comparison to other cities:* For purposes of comparison, we have listed the ratio of mini-park land to population for selected cities. As you can see, the ratios range from 0.05 to 0.20 acres per 1,000 population. The current ratio in the Klamath Falls is 0.12 acres per 1,000 population and is well within the range of ratio for comparative cities.

Table C-3
Existing Mini-Park Service Levels
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	0.12 acres / 1,000 pop.
Medford, Oregon	0.05 acres / 1,000 pop.
Roseburg, Oregon	0.07 acres / 1,000 pop.
West Linn, Oregon	0.13 acres / 1,000 pop.
Lincoln City, Oregon	0.20 acres / 1,000 pop.

2. *Design Standards:* NRPA has identified the service area of a mini-park to be roughly a quarter-mile radius and designed to serve a specific subdivision.

3. *User trends:* In some communities, the development of mini-parks or playgrounds have become very popular. This is because they are relatively cheap to build and are closer to most residents. However, on a per acre basis, they are very expensive to maintain and provide a limited service.

4. *Recreation Survey:* Respondents to the recreation survey, when asked what type of park system they would like to see in Klamath Falls, showed limited support for mini-parks. Approximately 8% of people responding favored mini-parks, compared to neighborhood parks (50%) and community parks (36%). Also, a question directed at what to do with existing mini-parks revealed that almost 60% of residents were in favor of upgrading and improving the sites, rather than selling them.

5. *Public Meetings:* The community workshop addressed a similar question relating to the type of park system for Klamath Falls. Of the four groups in attendance, none chose mini-park system as their desired choice. The neighborhood park system was considered to be the most desirable.

Recommendations

The following service levels and accompanying table are recommended in determining the demand standard for mini-parks in the City of Klamath Falls.

Desired Level of Service: This type of park should only be used in areas where the population is not sufficient to support a neighborhood park or where there is a limited amount of available land to construct a neighborhood park. The minimum size of a mini-park should be approximately one acre.

Table C-4
Summary of Recommendations
Mini-Parks

Present Inventory (City)	**2.50 acres**
Present Ratio (City)	**0.12 acres / 1,000 pop.**
Recommended Demand Standard:	**Maintain existing ratio**

Comments

In general, it is recommended policy that no additional mini-parks be developed in the City. However, in some areas where development already exists (such as Central Klamath Falls), mini-parks may be the only option for providing services to some neighborhoods. This, in addition to the community's support for upgrading rather than selling existing mini-parks, prompted us to utilize the parks to serve a 1/4 mile radius in some areas. (See Neighborhood Service Area Map, page C-5). Thus the mini-parks that are designated as serving a particular population must be upgraded to provide some of the needs of a neighborhood park facility. Maintaining the existing ratio result in a total need of 3.0 acres by the year 2018. This represents an additional 0.50 acres.

Neighborhood Park Needs

Analysis

There are four sites in the City of Klamath Falls that currently fit into this classification. Kit Carson is a large neighborhood park. Krause Park and Mills-Kiwanis Park have adequate facilities, but Fairview Park needs to be upgraded to meet the neighborhood park standards. The existing neighborhood parks are listed below.

Table C-5
Existing Neighborhood Parks
Klamath Falls Planning Area

Park Site	Acres
Fairview Park	3.10
Krause Park	2.80
Mills-Kiwanis Park	2.40
Kit Carson Park	9.10
Total	17.40

Determination of the Standard

1. *Comparison to other cities:* The table below lists the ratio of neighborhood park land to population bases for selected cities. As you can see, the ratios range from 0.51 to 1.70 acres per 1,000 population. The neighborhood parks in the City of Klamath Falls represent a current ratio of 0.85 acres per 1,000 population, which is similar to the ratio for similar communities.

Table C-6
Existing Neighborhood Park Service Levels
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	0.85 acres / 1,000 pop.
Medford, Oregon	1.70 acres / 1,000 pop.
Roseburg, Oregon	0.51 acres / 1,000 pop.
West Linn, Oregon	0.67 acres / 1,000 pop.
Lincoln City, Oregon	0.60 acres / 1,000 pop.

2. *Service area:* The service area of a neighborhood park is roughly a one-half mile radius. Using this service radius, about one half of the planning area is not currently being served by neighborhood parks. The current location of neighborhood parks are for the most part isolated from one another, meaning that large gaps of residential development exists where no neighborhood parks are found. Dramatic lack in neighborhood service is found in outlying areas such as the south suburbs, Basin View, and Lynnewood Hills area. (See Neighborhood Service Area Map, page C-5)

[neighborhood service map]

3. *User trends:* Users of neighborhood parks tend to be older children and adults who visit on a non-structured and passive basis. Generally, they are in close proximity to most residences, which is meant to encourage pedestrian and bicycle usage.

4. *Recreation Survey:* The survey results showed a strong desire in Klamath Falls for a neighborhood park system. Over half of respondents considered this the favorable type of park system. Also a number of the facilities people identified as lacking could be found in neighborhood parks, such as playgrounds, picnic areas, basketball courts, etc.

5. *Public Meetings*: Similar to the recreation survey, a large majority of workshop participants expressed interest in a neighborhood park system, and facilities found in typical neighborhood parks.

Recommendations

The following service levels and accompanying table are recommended in determining the demand standard for neighborhood parks in the City of Klamath Falls.

Recommended Service Level: The recommended service level for neighborhood parks is that one should be located within a half mile radius of most residents. Some conditions now exist where the level of service will need to be larger than the one-half mile because of inability to find land, low densities or other factors. Thus some parks will need to be larger to serve the area. In some cases an existing mini-parks may be utilized to fill some of the gaps. The minimum size for neighborhood parks should be three acres with an ideal size of approximately 5 acres.

Table C-7
Summary of Recommendations
Neighborhood Parks

Present Inventory (City)	**17.40 acres**
Present Ratio (City)	**0.84 acres / 1,000 pop.**
Recommended Demand Standard:	**3.09 acres / 1,000 pop.**

Comments

Based on the service area analysis, twelve additional neighborhood park sites are needed to provide adequate service within the Klamath Falls planning area. At an average of 5 acres each, this is equivalent to 60 additional acres. If this acreage is added to the existing inventory of 17.40 acres and divided by the 2018 population, we come up with a demand standard of 3.09 acres per 1,000 population. Based on this standard, there is a total current need for 63.43 acres or an additional 46.03 acres of neighborhood park land.

Regional Park Needs

Analysis

There is one regional park in the City of Klamath Falls. This is the most heavily used park in the community, and offers a variety of active and passive uses.

Table C-8
Existing Regional Parks
Klamath Falls Planning Area

Park Site	Acres
Moore Park	435.00
Total	435.00

Determination of the Standard

1. *Comparison to other cities:* For purposes of comparison, listed below are the ratios of regional park land for selected cities. The ratios range from none to 11.71 acres per 1,000 population. The one regional park in the City of Klamath Falls represents a current ratio of 21.19 acres per 1,000 population which is well above average for comparable cities.

Table C-9
Existing Regional Park Service Levels
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	21.19 acres / 1,000 pop.
Medford, Oregon	None
Roseburg, Oregon	11.71 acres / 1,000 pop.
West Linn, Oregon	6.34 acres / 1,000 pop.
Lincoln City, Oregon	7.70 acres / 1,000 pop.
NRPA Recommendation	5-10 acres / 1,000 pop.

2. *Service area:* Regional parks are intended to serve the entire community and beyond.

3. *User trends:* New regional parks are seldom acquired and developed This is because existing communities find little available land for this type of park. The likelihood of developing another regional park in Klamath Falls is low.

4. *Recreation Survey:* The popularity of Moore Park is emphasized by respondents to the survey, showing that the park truly is regional in nature. One issue brought up by residents is the possible future expansion of the park, into the Lynnewood Hills Open Space area.

5. Public Meetings: The workshop participants had no responses regarding additional regional parks, but had input on the use of Moore Park and its future.

Recommendations

The following table contains the recommended demand standard to be used when for regional parks in the City of Klamath Falls.

Recommended Service Level: It is difficult to assess a desired service level for regional parks due to their size and use by a large population base. Future expansion of Moore Park into the open space in Lynnewood Hills would increase the number of regional park acres.

Table C-10
Summary of Recommendations
Regional Parks

Present Inventory (City)	**435.0 acres**
Present Ratio (City)	**21.19 acres / 1,000 pop.**
Recommended Demand Standard:	**21.52 acres/ 1,000 pop.**

Comments

The regional park standards are based on land availability. Although there is no land available to construct additional regional parks, there is open space land adjacent to Moore Park that could be included in the park. The addition of the Lynnewood Hills Open Space to Moore Park would add another 104 acres to the existing 435 acres. This would create a total regional park acreage of 539 acres. When divided by the 2018 population, a service ratio of 21.52 acres per 1,000 population is the result. This is similar to the existing standard of 21.19 acres per 1,000 population. Thus the addition of the Lynnewood Hills open space will meet the demand for regional park land in the next 20 years.

Special Use Area Needs

Analysis

Currently there are eight special use areas in the Klamath Falls planning area. The majority of these sites are owned by the City. There are two sites that are leased to other agencies, but still meet the need of special use areas.

Table C-11
Existing Special Use Areas
Klamath Falls Planning Area

Park Site	Acres
Moore Park Marinas (I,II,III)	23.00
Mills Little League	5.30
Ella Redkey Municipal Pool	2.40
Veteran's Memorial Park	3.30
Putnam's Landing	2.56
Kiger Stadium	11.50
Conger Park*	10.60
Maple Park**	1.00
Total	59.66

* Leased to Klamath Union School District

** Leased to Klamath Art Association

Determination of the Standard

1. *Comparison to other cities:* Because special use areas vary widely from community to community, it is difficult to compare acreage totals. The current ratio of special use areas in Klamath Falls is 2.91 acres per 1,000 population.

2. *Service area:* There is not a defined service area for special use areas considering the various types of facilities they may provide.

3. User trends: Most communities have special use areas ranging from sport field complexes to sites serving a special type of facility.

4. *Recreation Survey:* Participants in the survey expressed a need for an indoor recreation center, an indoor swimming pool, a youth sports complex, and a site for teens. These types of facilities could fall under the special use category if these facilities were located independently.

5. *Public Meetings:* The responses by participants to the community workshop were similar to those of survey respondents.

Recommendations

The following table contains the recommended demand standard to be used for special use areas in the City of Klamath Falls.

Recommended Service Level: It is recommended that the service level for special use areas be increased to accommodate future recreation areas.

Table C-12
Summary of Recommendations
Special Use Areas

Present Inventory (City)	**59.66 acres**
Present Ratio (City)	**2.91 acres / 1,000 pop.**
Recommended Demand Standard:	**5.18 acres / 1,000 pop.**

Comments

To accommodate some of the anticipated specialized facilities that will be developed in the future, the city will need approximately 70 additional acres. If this acreage is added to the existing inventory and divided by the 2018 population, a demand standard of 5.18 acres per 1,000 population is created. If this standard is applied to the existing 1998 population, there is a current need for 46.55 additional acres of land for special use areas.

Natural Open Space Needs

Analysis

Currently there is one natural open space areas in the City of Klamath Falls. It is undeveloped, and not maintained.

Table C-13
Existing Natural Open Space Areas
Klamath Falls Planning Area

Park Site	Acres
Lynnewood Hills	104.00
Total	152.00

Determination of the Standard

Comparison to other cities: For purposes of comparison, the ratio of natural open space land to population is given for selected cities. As one can see, the ratios range from none to 11.18 acres per 1,000 population. The current open space in the City of Klamath Falls represents a current ratio of 5.07 acres per 1,000 population and is with the range of comparable ratios.

Table C-14
Existing Natural Open Space Service Levels
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	5.07 acres / 1,000 pop.
Medford, Oregon	0.80 acres / 1,000 pop.
Roseburg, Oregon	None
West Linn, Oregon	11.18 acres / 1,000 pop.
Lincoln City, Oregon	None
NRPA Recommendation	None

2. *Service area:* There is not a defined service area for natural open space. It is dependent upon the function it serves. As an example, open space can be a preserve for wildlife habitat, act as a separation between neighborhoods or communities, be part of a trail system, or provide a place for quiet and solitude.

3. *User trends:* In communities that are highly developed, the preservation of natural open space is often highly desired.

4. *Recreation Survey:* Several respondents to the recreation survey identify a need for natural open space. When asked what type should be preserved, the most common response was scenic areas for quiet enjoyment. Also high on the list was water related open space such as waterfront areas and stream and creek corridors.

5. Public Meetings: Similar to the recreation survey, there was a good response for open space as a desirable element in Klamath Falls park system. One group of workshop participants considered open space to be the type of park system that the City should try to achieve.

Recommendations

The following table contains the recommended demand standard for natural open space areas in the City of Klamath Falls.

Recommended Service Level: It is recommended that the current service level be maintained at around 5 acres per 1000 people. This means that as the population grows there will be additional demand for natural open space. Acquisition of this land should occur while land is still available.

Table C-15
Summary of Recommendations
Natural Open Space Areas

Present Inventory (City)	**104.0 acres**
Present Ratio (City)	**5.07 acres / 1,000 pop.**
Recommended Demand Standard:	**5.07 acres / 1,000 pop.**

Comments

The existing open space ratio is based on the inclusion of the Lynnewood Hills open space, which is adjacent to Moore Park. As mentioned earlier, expanding the area of a regional park is rare, so to meet regional park needs for the future, this land should be converted from open space category to the regional park category, leaving no classified open space in the planning area.

The residents of Klamath Falls have expressed a desire to have more natural open space as part of the park system. Thus the acquisition of additional natural open space will be necessary to meet future demand. The City is in the process of gathering information on land use and other physical and cultural features for the Land Use Alternatives Analysis. This study should result in an accurate inventory of public lands that could possibly be used as natural open space. It is recommended that 125.25 additional acres of natural open space be acquired by the year 2018 (assuming the 104 acres of Lynnewood Hill is added to Moore Park).

Landscaped Area Needs

Analysis

There are currently ten areas in the city that qualify as landscaped or beautification areas. They vary in size from 0.03 acres to a series of street islands totaling 4.0 acres. They are listed in the table below.

Table C-16
Existing Landscaped Areas
Klamath Falls

Park Site	Acres
Pacific Terrace Islands	4.00
California Median Strips	0.98
Pocket Islands	0.03
Prospect Street Islands	0.22
Campus Islands	0.46
Michigan Island	0.20
Linkville Island	0.09
7th Street Island	0.20
Waterfall Park	0.13
Eldorado Park	0.40

Total	6.71

Determination of the Standard

1. *Comparison to other cities:* It is difficult to compare landscaped areas, because some cities do not provide this type of area. Furthermore, in some communities, this is not a park function but left to Public Works. In Klamath Falls, landscaped areas represent a current ratio of 0.33 acres per 1,000 population.

2. *Service area:* There is not a defined service area for landscaped areas. Each is dependent on the function it serves.

3. *User trends:* In some communities, landscaped areas and city beautification projects are an important part of the cityscape. This includes such areas as city entrance features, hanging baskets, heavy landscaping along major transportation corridors and medians, and general street tree plantings.

4. *Recreation Survey:* There was considerable support in the recreation survey for additional landscaped areas and city beautification projects to improve the overall visual quality of the City of Klamath Falls.

5. *Public Meetings:* The issue of landscaped areas and city beautification was not addressed in the community workshop.

Recommendations

The following table contains the recommended demand standard to be used for landscaped areas in the City of Klamath Falls.

Consultant's Recommended Service Level: It is recommended that the service level for beautification areas be increased to reflect the interest of local residents in city beautification.

Table C-17
Summary of Recommendations
Landscaped Areas

Present Inventory (City)	**6.71 acres**
Present Ratio (City)	**0.33 acres / 1,000 pop.**
Recommended Demand Standard:	**0.50 acres / 1,000 pop.**

Comments

The increase in the demand standard will also add to the total amount of landscaped areas. Increasing the demand standard from 0.33 to 0.50 acres per 1,000 population will require an additional 5.81 acres of landscaped areas by the year 2018. This results in an additional 3.55 acres of landscaped areas currently needed in the Klamath Falls area.

Total Park Land Needs

Analysis

Park sites can be classified into three basic types: (1) developed sites that serve neighborhoods or groups or neighborhoods, (2) sites that serve an area beyond the city such as regional parks or open space areas and (3) special use sites. NRPA suggests that a "core" system of parks consisting primarily of type 1 should range from 6.25 to 10.5 acres per 1,000 population. For Klamath Falls the present ratio is 0.98 acres per 1,000 population for type 1. This is very low, showing a lack of neighborhood-based facilities that serve local populations.

The total park land ratio in Klamath Falls is 30.46 acres per 1,000 population. This large amount is the result of significant acres of park land in the regional park category and open space category. Below are the ratios of total park land for selected cities. Ratios range from 10.20 to 39.9 acres per 1,000 population. The ratio of Klamath Falls is within this range.

Table C-18
Existing Total Park Land Service Levels
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	30.46 acres / 1,000 pop.
Medford, Oregon	39.90 acres / 1,000 pop.
Roseburg, Oregon	17.26 acres / 1,000 pop.
West Linn, Oregon	23.62 acres / 1,000 pop.
Lincoln City, Oregon	10.20 acres / 1,000 pop.
NRPA Recommendation	None

Recommendations

The following table contains the recommended demand standard to be used for total park land in the City of Klamath Falls.

Table C-19
Summary of Recommendations
Total Park Land

Present Inventory (City)	625.27 acres
Present Ratio (City)	30.46 acres / 1,000 pop.
Recommended Demand Standard:	35.41 acres / 1,000 pop.

Comments

Based on the recommended demand standard, by the year 2018 there will be a total need for 886.99 acres of park land and open space. This represents an additional need of 261.72 acres over what now exists. If this standard is applied to the 1998 population, there is a current need for 726.93 acres of land, which is 101.66 more acres than what now exists. While the total amount of park land needed is fairly low, it is important to note which types of parks are deficient. As stated earlier, the types of parks lacking are neighborhood-based.

The recommended demand standard for total park land represents a minimal increase in the existing ratio. The remaining lands will either need to be purchased outright or preserved through the land use process. By far, the most difficult lands to acquire will be the neighborhood park sites. The result of the survey indicated that respondents did not favor acquisition of land for future parks or construction of new parks. While some existing sites can be utilized, there must be new neighborhood and community parks constructed to create a successful park system, requiring additional land.

Regulation Baseball Field Needs

Definition

- *"Regulation or Senior" Baseball, American Legion, Babe Ruth, and High School: 90' bases, 320+ foul line*
- *Junior High School: 80' bases, 280+ foul line*

Current Supply

There are a total of 5 regulation baseball fields located within the Klamath Falls Urban Growth Boundary. Of the five facilities, only Kiger Stadium is owned by the City and it is located on city property within the Wiard Park District. Kiger Stadium is currently operated by the Klamath Babe Ruth Association. It is important to note that 2 of the 5 fields are located on school property. Elmwood Park Ballfields are owned by the County, but leased to the South Suburban Babe Ruth Association.

Table C-20
Existing Regulation Baseball Fields
Urban Area

Number	Location	Comments
1	Klamath Union High School	school field
1	Mazama High School	school field
1	Kiger Stadium	lighted; operated by Babe Ruth
2	Elmwood Park Ballfields (county)	operated by South Suburban Babe Ruth
5	TOTAL (Regulation Baseball Fields)	

Current Demand

In Klamath Falls, the City is not involved in organized sports and has left the management and maintenance of the program to several private agencies and organizations. For purposes of this study, all teams within the urban area that utilize fields during the summer peak season were considered in calculating demand. Programs that exist but are not active during the peak demand season are marked with asterisks and were not calculated in the demand. The programs in the urban area include:

Table C-21
Existing "Senior" Baseball Programs
Urban Area

Program	# of Teams
City Babe Ruth	4
South Suburban Babe Ruth	6
American Legion (Falcons)	2
Mazama High School Baseball*	2
Klamath Union High School Baseball*	2

TOTAL TEAMS	16

Determination of the Standard

1. *Comparison to other cities:* From the table below, the existing field ratio for other communities range from none to 1 field per 7,870. Currently, the ratio within the Klamath Falls UGB for regulation baseball fields is one field per 9,050 population. Taking into account only city limits and accompanying population, the ratio is one field per 20,529 population.

Table C-22
Existing Regulation Baseball Fields Service Ratio
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	1 field / 9,050 pop.
Medford, Oregon	1 field / 7,870 pop.
Roseburg, Oregon	1 field / 6,534 pop.
West Linn, Oregon	None
Lincoln City, Oregon	None
NRPA Recommendation	1 field / 5,000 pop.

2. *Service area:* The NRPA standard recommends a service area of 1/4 mile to 1/2 mile radius for baseball fields. In the Klamath area, the fields are not dispersed equally throughout the UGB, and are located on school property or non-public land. There is a disproportionate number of fields in the incorporated areas.

3. *User trends:* On a national scale, baseball (particularly regulation baseball) has increased substantially over the last several years. Locally, there has been a shift, with more teams originating in the South Suburban league, and fewer players in the City League.

4. *Existing service level:* Field Usage: 14 games/field/week (lighted); 9 games/field/week (non-lighted). Team usage: 2 games, 3 practices per week.

5. *Demand/supply model:* The peak demand for baseball fields occurs from June to August. Only city teams use facilities during summer months. For that reason, the peak demand season is during summer. Thus school programs are not included in the overall demand calculations. The calculations for determining the supply and demand for regulation baseball fields are found in supplement at the end of this section.

Recommendations - (Regulation Baseball Fields)

Recommended Service Level: Field Usage: 14 games/field/week (lighted); 9 games/field/week (non-lighted). Team usage: 2 games, 3 practices per week. Add 10% contingency for field rest and rotation, inclimate weather and scheduling problems.

Table C-23
Summary of Recommendations
Regulation Baseball Fields

Present Inventory (UGB)	**5 fields**
Present Inventory (City)	**1 fields**
Present Ratio (UGB)	**1 field / 9,050 pop.**
Present Ratio (City)	**1 field / 20,529 pop.**
Recommended Demand Standard:	**1 field / 6,500 pop.**

Comments

The present ratio of fields to population is one field per 9,050 population in the UGB, and one field per 20,259 population in the City. Both of these ratios are higher than average for many communities throughout the northwest. Practice fields are a major deficiency in the Klamath Falls area, with City Babe Ruth teams using some non-regulation fields for practice.

Based on the supply/demand analysis, there is a surplus of 12 games a week. This is equivalent to roughly one lighted field or two non-lighted fields. Assuming two additional non-lighted fields, there is a total need for 7 regulation baseball fields. By dividing the present population by 7 fields, and approximate service level can be derived. The recommended service level equals one field per 6,500 population.

If this standard is applied to the 2018 population projections, there will be a total need for 9 fields. This means that an additional 4 fields will be needed over the next 20 years.

In the meantime, there are several ways in which this demand for regulation baseball play could be met:

1. Reduce the amount of games and/or practices each team is allowed per week. This, in effect, permits more teams access to the fields.

2. Add lighting to some fields. Each field could accommodate an additional 5 games per week with lighting.

While these options may help alleviate the immediate need for fields, it reduces the quality of play and will not solve the ultimate need. As Klamath Falls grows there will continually be more need for good game and practice fields. The current situation with some teams using non-regulation fields for practice, means that new fields will definitely be needed.

Youth Baseball/Softball Field Needs

Definition

- *Little League, Youth Softball, T-ball: 60' bases, 180'-200' foul line*

Current Supply

There are a total of 20 youth baseball and softball fields in the Klamath Falls Planning Area. Seven of these fields are within the city limits. The remainder are county-owned, but operated by the South Suburban Little League Association. Mills Little League and Burlington-Northern Little League fields are maintained by the City's Little League Association.

Table C-24
Existing Youth Baseball/Softball Fields
Urban Area

Number	Location	Comments
2	Mills Little League	maintained by Little League
3	B-N Little League Fields	maintained by Little League
2	Mills Kiwanis Park	small; primarily used for T-ball
13	Little League Park	county owned; leased to South Suburban Little League
20	TOTAL (Youth Baseball/Softball Fields)	

Current Demand

In Klamath Falls, there are two organizations that offer youth baseball. They are the City Little League and the South Suburban Little League. They provide youth baseball for boys and girls, as well as a T-ball program. There are additional youth baseball programs that play games occasionally in the region, such as OR-CAL Little League. These programs do not play regularly enough to permit inclusion into the program numbers. All youth baseball and softball have the same basic season. The programs that currently exist in the area are listed in Table C-25 below:

Table C-25
Existing Youth Baseball/Softball Programs
Urban Area

Program	# of Teams
City Little League	28
South Suburban Little League	60
TOTAL TEAMS	88

Determination of the Standard

1. *Comparison to other cities:* Currently, the ratio within the Klamath Urban Growth Boundary for youth baseball/softball is one field per 2,263 population. Taking into account fields and population within the city only, the ratio is one field per 2,933 population. The ratio is significantly lower than other communities throughout the northwest (see table C-26 below).

Table C-26
Existing Youth Baseball/Softball Service Ratios
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	1 field / 2,263 pop.
Medford, Oregon	1 field / 1,722 pop.
Roseburg, Oregon	1 field / 980 pop.
West Linn, Oregon	1 field / 1,815 pop.
Lincoln City, Oregon	None
NRPA Recommendation	1 field / 5,000 pop.

2. *Service area:* The NRPA standard recommends a service are of 1/4 mile to 1/2 mile radius for baseball fields. The fields are currently concentrated in particular areas, with all city fields in Mills Neighborhood, and all county fields at one complex.

3. *User trends:* On a national scale, youth baseball has increased slightly over the last several years. Locally there has been a decrease in city teams and an increase in suburban teams.

4. *Existing service level:* Field Usage: 13 games/field/week (non-lighted). Team usage: 2 games, 3 practices per week.

5. *Demand/supply model:* The peak demand for baseball fields occurs in the summer, from June to August. The calculations for determining the supply and demand for youth baseball/softball fields based on this summer peak demand are found in the supplement at the end of the Appendix.

Recommendations - (Youth Baseball/Softball Fields)

Recommended Service Level: Field Usage: 13 games/field (non-lighted). Team usage: 2 games, 3 practices per week. Add 10% contingency for field rest and rotation, inclimate weather and scheduling problems.

Table C-27
Summary of Recommendations
Youth Baseball/Softball Fields

Present Inventory (UGB)	**20 fields**
Present Inventory (City)	**7 fields**
Present Ratio (UGB)	**1 field / 2,262 pop.**
Present Ratio (City)	**1 field / 2,933 pop.**
Recommended Demand Standard:	**1 field / 1,500 pop.**

Comments

Within the UGB, the present ratio of fields to population is 1 field per 2,262 population. Within the City, the ratio is 1 field per 2,933 population. Both of these ratios are lower than average compared to other communities throughout the northwest. There is a division between the City Little League and the South Suburban Little League, both in numbers of participants and number/quality of fields.

Based on the supply/demand analysis, there is a shortage of fields equivalent to 127 games a week. This represents about 10 non-lighted fields. As a result, a total of 30 fields are needed at this time. By dividing this number into the total urban area population, we derive a recommended demand standard of 1 field per 1,500 population.

If this standard is applied to the 2018 population, there will be a total need for 37 youth baseball/softball fields in the future. This results in a total of 17 additional fields over what now exists in the next 20 years.

Currently, a large amount of the need is being met by teams using non-regulation fields for practices. A number of schools and parks have multi-use backstops or large open areas that teams are utilizing due to the lack of practice facilities. As with regulation baseball, youth baseball/softball can meet some of the increased demand by doing the following:

1. Reduce the amount of games and/or practices each team is allowed per week. This, in effect, permits more teams access to the fields. For example if the number of practices for youth were reduced from 3 per week to 2 per week, the shortage would reduce from 127 games to only 30 games/week.

2. Add lighting to some fields. Each field could accommodate an additional 5 games per week with lighting.

3. Restrict T-ball teams to open grass fields only

While option #1 would help alleviate the immediate need for fields, the quality of play would reduce and not allow the program to expand naturally. If the number of youth who are allowed to play is based on the amount of fields, then it is imperative to provide more fields, rather than restricting the number of teams.

Adult Softball Field Needs

Definition

- *Slowpitch: 275-300' foul line (men's); 250' foul line (women's)*
- *Fastpitch: (men's) - 225' foul line*

Current Supply

There are a total of 10 adult softball fields within the Klamath Falls Urban Growth Boundary. City owned fields are located at Conger Park (3 fields), and Kit Carson Park (1), although the latter field is too small for games. The fields at Mazama High School are leased to the softball association for summer play, from June to August. The remainder of the fields are located at OIT. It is important to note that 9 of the ten fields are located on school district controlled property (lease or outright ownership).

Table C-28
Existing Adult Softball Fields
Urban Area

Number	Location	Comments
2	Oregon Institute of Technology	school field
1	Kit Carson Park	practice field
3	Conger Park	leased to school district
4	Mazama High School	leased to softball association
10	TOTAL (Adult Softball Fields)	

Current Demand

At the present time, there are three organizations offering softball programs. Public programs include a Co-ed, women's slowpitch, and men's fastpitch. In addition, both area high schools offer girls softball in the spring season. Also, OIT has a women's softball team, that utilizes their own facilities on campus. The men's fastpitch league plays all of their games in Medford at the current time, due to lack of local fields.

For purposes of this study, only teams that utilize fields during the summer peak season were considered in calculating demand. Programs that exist but are not active during the peak demand season are marked with asterisks. (See table C-29 for a listing of softball organizations)

Table C-29
Existing Adult Softball Teams
Urban Area

Program	# of Teams
Co-ed Slowpitch	17
Women's Slowpitch	7
Men's Fastpitch	2
Klamath Union High School Girls*	2
Mazama High School Girls*	2
OIT Women's Softball*	1
TOTAL	31

Determination of the Standard

1. *Comparison to other cities:* The ratios for other cities range from none to 1 field per 3,935. The Klamath Falls urban area currently has a ratio of one field per 4,525 population. This ratio is lower than the communities of Medford and Roseburg.

Table C-30
Existing Adult Softball Service Ratios
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	1 field / 4,525 pop.
Medford, Oregon	1 field / 3,935 pop.
Roseburg, Oregon	1 field / 2,800 pop.
West Linn, Oregon	N/A
Lincoln City, Oregon	1 field /3,399 pop.
NRPA Recommendation	1 field / 5,000 pop.

2. *Service area:* The NRPA standard recommends a service are of 1/4 mile to 1/2 mile radius for softball fields. In the Klamath Falls area, the fields are scattered, with a large concentration at Mazama High School.

3. *User trends:* On a national scale, interest in softball has remained somewhat constant for the last ten years. Locally, there has been a major reduction in men's slowpitch teams which reflects the national trend. There currently are no fastpitch teams in the Klamath Falls area but there has been a subsequent increase in Co-ed teams.

4. *Existing service level:* Field Usage: 7 games/field/week (unlighted). Team usage: 2 to 3 games, 2 practices per week.

5. *Demand/supply model:* The peak demand for adult softball fields occurs from June to August, when fields are available. The calculations for determining the supply and demand for adult softball fields are found in the supplement at the end of this Appendix.

Recommendations - (Adult Softball Fields)

Recommended Service Level: Field Usage: 7 games/field (non-lighted) per week. Team usage: 1 game, 1 practice per week. Add 10% contingency for field rest and rotation, inclimate weather and scheduling problems.

Table C-31
Summary of Recommendations
Adult Softball Fields

Present Inventory (UGB)	**10 fields**
Present Inventory (City)	**6 fields**
Present Ratio (UGB)	**1 field / 4,525 pop.**
Present Ratio (City)	**1 field / 3,375 pop.**
Recommended Demand Standard:	**1 field / 5,000 pop.**

Comments

The present ratio of softball fields is one field per 4,525 population. Within the city, the ratio is 1 field per 3,375 population. While the ratio in the UGB is lower than average, the ratio in the City is about average compared to other communities throughout the northwest.

Based on the supply/demand analysis, including the 10% contingency for scheduling conflicts and weather, there is a surplus of fields equivalent to 29 games a week. This means there are currently 4 more fields than are necessary according to the demand. This results in a demand standard of one field per 5,000 population. If this standard is applied to the 2018 population, the result is a total of 11 fields needed by the year 2018. This means that one additional fields are needed in the next 20 years.

The major issue in adult softball is the lack of dedicated fields. Since the majority of fields are located on school property, they are typically in use during the school year. This creates a conflict when softball programs begin in the summer. Non school teams are required to wait until the school teams are done. Also some fields have overlays for soccer, creating a use conflict between the two sports.

An added problem is the prioritization of field use. The fields that are utilized by the adult softball leagues have the following priorities: Women's softball has first choice, followed by Co-ed softball, and then other softball teams. The lack of fields for adult softball has eliminated the Men's Slowpitch program with most players shifting to Co-ed softball. Also, there are two men's fastpitch teams that play in Medford because no fields exist in Klamath Falls.

The need for three additional fields only takes into account the current program and priority of play. It is our opinion that additional programs would develop if more fields were available. The issue for the city is whether additional play should be encouraged or whether the effort should be to just meet the minimum demand.

As with other fields sports, adult softball could meet additional demand by changing the following policies.

1. Reduce the amount of games and or eliminate practices that each team is permitted. For example, if practices for softball were eliminated, instead of a field shortage equivalent to 19 games, there would be a surplus of 37 games/week.

2. Add lighting to some fields. Each field could accommodate an additional 5 and possible 10 games per week with lighting.

3. Utilize fields to existing capacity. Depending on the availability issues, the fields at OIT and Conger Park could be further utilized.

4. Play more days per week.

Soccer Field Needs

Definition

- *Field Dimensions - youth: 55x100 yards; junior: 65x110 yards; adult: 75x120 yards*

Current Supply

There are a total of 18 soccer fields within the Klamath Falls UGB. The majority of these fields are found on school property, with the exception of fields at Moore Park and Krause Park. Conger Park, which is leased to the School District is also open for public use. Many of the school fields are not dedicated fields, meaning they are used for other uses as well.

Table C-32
Existing Soccer Fields
Urban Area

Number	Location	Comments
2	Altamont Elementary (county)	school facility
1	Brixner Junior High (county)	school facility
2	Conger Park	bleachers
1	Krause Park	
2	Mazama High School	overlay on softball (school facility)
4	Moore Park	
1	Pelican Elementary	school facility
1	Peterson Elementary (county)	school facility
1	Riverside Elementary	school facility
1	Roosevelt Elementary	school facility
1	Shasta Elementary (county)	school facility
1	Stearns Elementary (county)	school facility
18	TOTAL (Soccer Fields)	

Current Demand

The Soccer Program in Klamath Falls is managed by Klamath Youth Development. There are currently 50 teams in the program. Some of these teams are from outlying communities and use their own fields. Overall, about 80% or about 40 teams are located in the Klamath Falls urban area. Soccer is played for six weeks in the spring and fall of the year. In some communities, soccer is played throughout the year.

Table C-33
Existing Soccer Teams
Urban Area

Program	# of Teams
Klamath Youth Development Soccer[1]	40
TOTAL	40

(1) The entire program has approximately 50 teams, which includes the entire region The number of teams estimated in the Klamath Falls urban area is 40.

Determination of the Standard

1. *Comparison to other cities:* The table below, shows a ratio from 1 field 998 population to 1 field 3,241 population. The 18 soccer fields in the Klamath UGB equals a ratio of one field per 2,514 population. Just taking into account facilities and population within the city limits, the ratio is one field per 2,053 population. Both of these ratios are with the range of comparable ratios.

Table C-34
Existing Soccer Field Service Ratios
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	1 field / 3,017 pop.
Medford, Oregon	1 field / 3,241 pop.
Roseburg, Oregon	1 field / 1,153 pop.
West Linn, Oregon	1 field / 998 pop.
Lincoln City, Oregon	1 field / 7,198 pop.
NRPA Recommendation	1 field / 10,000 pop.

2. *Service area:* The NRPA standard recommends a service area radius of 1 to 2 miles for soccer fields. In the Klamath area, the fields are well distributed throughout the community.

3. *User trends:* The popularity of soccer has increased significantly on both a national and regional level.

4. *Existing service level:* Field Usage: 13 games/field/week (non-lighted). Team usage: 2 games, 3 practices per week.

5. *Demand/supply model:* The peak demand for soccer is in the fall and spring. The calculations for determining the supply and demand for soccer fields is found in the supplement at the end of this section.

Recommendations - (Soccer Fields)

Recommended Service Level: Field Usage: 7 games/field per week (non-lighted). Team usage: 2-3 games, 3 practices per week. Add 15% contingency for field rest and rotation, inclimate weather and scheduling problems.

Table C-35
Summary of Recommendations
Soccer Fields

Present Inventory (UGB)	18 fields
Present Inventory (City)	10 fields
Present Ratio (UGB)	1 field / 2,514 pop.
Present Ratio (City)	1 field / 2,053 pop.

Recommended Demand Standard:	**1 field / 3,200 pop.**

Comments

The present ratio for the entire Klamath Falls area is one field per 2,514 population. This is about average compared to other communities throughout the northwest.

Based on the supply/demand analysis, there is a surplus of fields equivalent to 58 games/practices per week. This represents a surplus of approximately 4.5 fields or a total demand at this time of 14 fields. The 14 fields results in a recommended demand standard of around one field per 3,200 population.

If this standard is applied to the build-out population, we derive a total need of 17 fields. This means that there is enough soccer fields to meet the demand for the next 20 years.

Tennis Court Needs

Current Supply

There are a total of 26 outdoor tennis courts in the Klamath Falls UGB. Of the courts currently in the city, 10 are located in parks, and 10 are found on school property. There has been discussion of removing two of the six courts in Moore Park. The remainder of the courts are found within the county, with two courts at Shasta Elementary School , and the remaining five found in parks in the Wiard Park District.

Table C-36
Existing Tennis Courts
Urban Area

Number	Location	Comments
6	Moore Park	
3	Kit Carson Park	
1	Stukel Park	
4	Klamath Union High School	school facility
6	Oregon Institute of Technology	school facility
2	Shasta Elementary (county)	school facility
2	Wiard Park (Wiard)	
2	Crest Park (Wiard)	
26	TOTAL (Tennis Courts)	

Determination of the Standard

1. *Comparison to other cities:* From Table C-37 below ,we see the ratios of tennis courts range from 1 court per 933 population to 1 court per 6,543 population. Currently, the Klamath Falls Area has a ratio of 1 tennis court per 1,740 population. This ratio is comparable to other communities.

Table C-37
Existing Tennis Court Service Ratios
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	1 court / 1,740 pop.
Medford, Oregon	1 court / 1,281 pop.
Roseburg, Oregon	1 court / 933 pop.
West Linn, Oregon	1 court / 1,535 pop.
Lincoln City, Oregon	1 court / 6,543 pop.
NRPA Recommendation	1 court / 2,000 pop.

2. *Service area:* NRPA recommends a service area of 1/4 to 1/2 mile radius and courts grouped in configurations of 2-4 courts. There are a number of areas of the city that are not currently within close proximity to a tennis court. Most courts are currently in the northern area of the city

3. *User trends:* On a national scale, interest in tennis has dropped somewhat in recent years.

4. *Existing service level:* No established services for tennis courts

Recommendations - (Tennis Courts)

Recommended Service Level: New courts should be developed at community parks and high schools in groups of two to four courts.

Table C-38
Summary of Recommendations
Tennis Courts

Present Inventory (UGB)	**26 courts**
Present Inventory (City)	**20 courts**
Present Ratio (UGB)	**1 court / 1,740 pop.**
Present Ratio (City)	**1 court / 1,026 pop.**
Recommended Demand Standard:	**1 court / 1,500 pop.**

Comments

The present ratio of tennis courts to population is 1 court per 1,740 population. This is slightly higher than the NRPA guidelines and comparable to communities throughout the northwest. While the number of courts is adequate, there are large portions of the planning area that are not in close proximity to existing tennis courts. If some courts are removed in Moore Park, they should be replaced elsewhere.

A slight increase in the service level is recommended to provide courts where neighborhoods are not served. The recommended demand standard of one court per 1,500 population means that there is a current need for 4 additional courts, bringing the total to 30. If this demand standard is applied to the future population in 2018, there will be need for 37 courts. This means 11 more will need to be constructed in the next 20 years.

Trail/Pathway Needs

Current Supply

There are five major trails in the Klamath Falls UGB. The OC&E trail is a portion of a 64 mile trail rail corridor. The length given is the portion of the trail that exists within the UGB. The remaining 4 trails are within the city. The "A" Canal Bike Trail is located partially in both the City and the Wiard Park District.

Table C-39
Existing Trails/Pathways
Urban Area

Path	Miles	Surface
OC&E / Rails to Trails	3.1	paved
Link River Nature Trail	1.5	unpaved
"A" Canal Bike Trail	6.0	paved
Wing Watcher Trail	1.1	paved
Exercise Path at Moore Park Marina	0.3	paved
	12.0	TOTAL (Trails/Pathways)

Determination of the Standard

1. *Comparison to other cities.* Below is a comparison with other communities. As seen by the table, Klamath Falls has more trails than most communities.

Table C-40
Existing Trails/Pathways Service Ratios
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	0.27 miles / 1,000 pop.
Medford, Oregon	0.10 miles / 1,000 pop.
Roseburg, Oregon	0.31 miles / 1,000 pop.
West Linn, Oregon	0.11 miles / 1,000 pop.
Lincoln City, Oregon	0.02 miles / 1,000 pop.
NRPA Recommendation	None

2. *User trends:* Interest in trail-related activities (walking, hiking, bicycling, jogging, rollerblading, etc.) has shown a remarkable increase in the last six years.

3. *Recreation survey:* The recreation survey revealed a high interest in trail related activities. When given a choice between various park and recreation facilities, trails were most often cited.

4. *Existing service level:* The City, in conjunction with the Rail to Trails Foundation, has established a fairly extensive network of trails.

5. *Demand/supply model:* The following analysis and recommendations are for recreation related off-street pedestrian and bicycle paths and trails. The mathematical model we have developed for identifying trail needs is shown below. This information has been developed over the years by comparing participation levels with known trail systems in other communities.

Paved Pathway Activities	Average Per Capita Occasions
Roller-Skate/Rollerblading	1.5
Jogging/Running	1.7
Bicycling	2.2
Walking	2.8
TOTAL	8.2

Unpaved Trail Activities	Average Per Capita Occasions
Hiking/Backpacking	1.9
Bicycling - Unpaved	1.4
Nature Walks	2.2
TOTAL	5.5

TOTAL Existing Paved Pathway Per Capita Occasions - 8.2
TOTAL Existing Unpaved Trail Per Capita Occasions - 5.5

Source: the 1997 Recreation Survey by JC Draggoo & Associates

Paved Pathway Needs

Based on a population of 45,252 in the UGB and multiplied by an existing per capita occasion rate of 8.2, there is a total annual participation in trail related activities of 371,066 occasions. This information then provides the information for estimating need for paved pathways:

A.	Total participation:	371,066 occasions
B.	% of use on average peak day:	1.8%
C.	% who wish to use trail:	20%
D.	Occasions per mile:	12
E.	Turnover rate:	10

Formula : $\frac{A \times B \times C}{D \times E}$ = 11.13 miles of paved pathway needed

Unpaved Pathway Needs

Based on a population of 45,252 in the UGB and multiplied by the existing per capita occasion rate of 5.5, there is a total annual participation in trail related activities of 248,900 occasions. This information then provides the information for estimating need for unpaved pathways:

A.	Total participation:	248,900 occasions
B.	% of use on average peak day:	1.8%
C.	% who wish to use trail:	20%
D.	Occasions per mile:	12
E.	Turnover rate:	10

Formula : $\frac{A \times B \times C}{D \times E}$ = 7.46 miles of unpaved trail needed

Total Trail Needs

Based on the mathematical model of trail usage, the total amount of trails needed in the Urban Growth Area is 18.59 miles and the current time. When multiplied by the urban population, the result is 0.41 miles per 1,000 population. When compared to the current numbers we find that the Urban Area currently has 1.5 miles of unpaved trails, and 10.5 miles of paved trails. When compared to the amounts needed, the result shows that almost ninety percent of all new trails should be unpaved.

Miles of Paved Pathway:		11.13
Miles of Unpaved Trail:		7.46
TOTAL:	18.59	

Recommendations - (Trails/Pathways)

Recommended Service Level: Based on high interest in trail-related activities, it is recommended that the standard be increased from what now exists. Special emphasis should be placed on connecting trails to other trail system.

Table C-41
Summary of Recommendations
Trails/Pathways

Present Inventory (UGB)	12.0 miles
Present Ratio (UGB)	0.27 miles / 1,000 pop.
Recommended Demand Standard:	0.41 miles / 1,000 pop.

Comments

The present ratio of trails is 0.27 miles per 1,000 population. This is comparable to other communities with good trail systems. There are currently 12 miles of trails in the UGB, and the calculations revealed there is total demand of 18.59 miles, meaning there currently needs for 6.59 miles of additional trails to

meet demand. When extrapolated to 2018 population projections, there is a total need of 22.64 miles, which is a net deficiency of 10.64 miles.

Indoor Swimming Pool Needs

Definition

- *25 meter x 6 lane pool = 3,608 sq. ft. water area*
- *25 meter x 25 meter "L" pool = 4,996 sq. ft. water area*
- *50 meter x 8 lane pool = 8,610 sq. ft. water area*

Current Supply

There are three indoor pools in the Klamath Falls UGB. The YMCA pool is quasi-private, requiring membership to use facilities. OIT has a pool that is open to students, put not to the general public, other than for special programs. Klamath Union High School has an indoor pool which is geothermally heated. Because of its high water temperature, it is suitable for recreation use but not for lap swimming or competitive purposes.

Table C-42
Existing Indoor Pools
Urban Area

Sq. Ft.	Location	Comments
2,300	YMCA	private facility
3,900	Oregon Institute of Technology	quasi-public facility
4,000	Klamath Union High School	quasi-public facility
10,200	TOTAL (Indoor Swimming Pools)	

It should be noted that the indoor pools in Klamath Falls are either public or quasi-public, meaning that they are not accessible to the public 100% of the time. Thus, the total amount of pool area cannot be counted when calculating the existing supply. From our research, we have determined that the pools at OIT and Klamath Union High School should each receive 50% credit for public use. This equates to 1,950 sq. ft. at OIT, and 2,000 sq. ft. at Klamath Union. The pool at the YMCA, is a quasi-private facility and serves a smaller amount of the general public. (we have given it a 25% credit for public use). This equates to 575 sq. ft. of pool area. When all of the pools are combined, the adjusted total existing area of pools is 4,525 sq. ft. This is the figure that will be used in determining the demand standard.

Determination of the Standard

1. *Comparison to other cities:* It is difficult to compare swimming pools from community to community because of their service area. Many serve an area much larger than the city itself. The existing ratio of indoor pool area in the UGB is 100 sq. ft. per 1,000 population.

2. *Service area:* The NRPA service area is 15-30 minutes of travel time. The indoor pools in Klamath Falls are all located within this travel time for all residents

3. *User trends:* On a national scale, swimming continues to be a very popular recreation activity.

4. *Existing service level:* Indoor swimming opportunities is provided by several different agencies. While none of the existing pools are totally accessible to the general pubic, the city is fairy well served by these facilities.

5. *Demand/supply model:* The following demand model was developed from the experience of other communities who have indoor swimming pools and from past aquatic research studies we have conducted. The need for an indoor pool was expressed in the recreation survey.

Demand Model

Based on the recreation survey, the rate for indoor swimming is 1.7 occasions per capita. Based on the current population of 42,252 people in the urban area, the result is:

1.7 x 45,252 = 76,928 Swimming Occasions Per Month

When referenced to the survey results, we see that 36.8% of the population participate in indoor swimming. By applying that number to the total swimming occasions, the result is:

76,928 x 36.8% = 28,463 Swimming Demands Per Month

We have found that 75% of all swimming takes place in shallow water (water 5 feet or less). Using this information, we shall first determine shallow water requirements and then deep water requirement.

Shallow Water Demand

Multiply 28,463 monthly swims by 75%	**=**	**21,257 shallow water swims**
Divide by average of 30 days/month	**=**	**709 daily swims**
Multiply by a 50% peak load factor	**=**	**354 peak swimmers**
Multiply by 12 sq. ft. per swimmer	**=**	**2,412 sq. ft. water area demand**

Deep Water Demand

Multiply 28,463 monthly swims by 25%	**=**	**7,086 deep water swims**
Divide by average of 30 days/month	**=**	**236 daily swims**
Multiply by a 50% peak load factor	**=**	**118 peak swimmers**
Multiply by 27 sq. ft. per swimmer	**=**	**3,188 sq. ft. water area**

demand

Based on these calculations, we can come up with the total demand:

Total Indoor Pool Area Demand	**7,440 sq. ft. water area**
[Minus existing pool area]	**4,525 sq. ft water area**
Net Indoor Pool Area Demand	**2,915 sq. ft. water area**

Recommendations - (Indoor Pools)

Recommended Service Level: Increase the service level to meet demand reflected in the survey, and also the interest in swimming.

Table C-42
Summary of Recommendations
Indoor Pools

Present Inventory (UGB)	**4,525 sq. ft.**
Present Ratio (UGB)	**100.0 sq. ft. / 1,000 pop.**
Recommended Demand Standard:	**164.4 sq. ft. / 1,000 pop.**

Comments

Based on the recommended demand standard of 164.4 square feet of indoor pool area per 1,000 population, a total of 7,440 square feet of water area is presently needed. This means an additional 2,915 square feet of water area is presently needed. If this standard is applied to the 2018 population, a total of 9,078 square feet of indoor pool water area will be needed or 4,536 square feet of more water area than what now exists. This is equivalent to one 8 lane 25 meter pool.

Gymnasium/Court Needs

Definition

- *Basketball Court - 50' x 84' (high school); 50' x 94' (college)*
- *Volleyball Court - 30' x 60'*

Current Supply

There are a total of 24 gymnasiums in the Klamath Falls UGB containing a total of 30 courts. However, for the purposes of this study, we did not count elementary school gymnasiums since they typically serve the needs of the school only. Eliminating the elementary schools reduces the total to 10 gymnasiums or 16 courts. Most of these gymnasiums are located on school property and not available during school hours. Also, keep in mind that the time most available for public use are during the off seasons and during later hours in the evening. This makes it more difficult to attract adults to gym related programs.

Table C-43
Existing Gymnasiums
Urban Area

Number	Location	Comments
3	Mazama High School	5 courts
2	Klamath Union High School	2 courts
2	Ponderosa Junior High	3 courts
1	Klamath County YMCA	2 courts; private facility
1	Brixner Junior High (county)	2 courts
1	Oregon Institute of Technology	2 courts
10	TOTAL (Gymnasiums/Courts)	16 courts

Current Demand

Basketball and volleyball programs are currently provided by the schools in the city and the county, and also from Oregon Institute of Technology. There are programs sponsored by the YMCA, but they use their own facilities. The list of programs is found in table C-44 below:

Table C-44
Existing Basketball/Volleyball Programs
Urban Area

Program	# of Teams
High School Basketball (Boys and Girls)	12
High School Volleyball (Girls)	6
Junior High Basketball (Boys and Girls)	13
Junior High Volleyball (Girls)	8
OIT Basketball (Men's and Women's)	2
OIT Volleyball (Women's)	1

TOTAL	**42**

Determination of the Standard

1. *Comparison to other cities.* For the Klamath Falls area the ratio is 1 gym per 4,525 population or 1 court per 2,828 population. This is similar to other communities throughout the northwest.

Table C-45
Existing Gymnasium Service Ratios
Selected Cities

City	Existing Ratio
Klamath Falls, Oregon	1 court / 2,828 pop.
Medford, Oregon	1 court / 2,043 pop.
Roseburg, Oregon	n/a
West Linn, Oregon	1 court / 2,218 pop.
Lincoln City, Oregon	n/a
NRPA Recommendation	1 gym / 5,000 pop.

2. *Service area:* The NRPA standard recommends a service area of 1/4 mile to 1/2 mile radius for basketball courts. The schools are evenly distributed throughout the urban area.

3. *User trends:* On a national scale, interest in basketball has remained somewhat constant for the last ten years. Interest in volleyball has been steadily increasing.

4. *Existing service level:* The main provider of indoor facilities are schools. Because of their distribution throughout the community, they provide an adequate level of service. However, their hours of availability is somewhat inconvenient.

5. *Demand/supply model:* The peak season for gymnasium use is during the fall and winter. Most basketball programs are active in winter, and most volleyball programs are active in the fall. Analysis for determining supply and demand is located in the supplement at the end of this Appendix.

Recommendations - (Gymnasiums/Courts)

1. *Recommended service level:* Increase the service level based on interest in sports programs. This assumes that the City will begin to provide recreation programs that utilize indoor space.

Table C-46
Summary of Recommendations
Gymnasiums/Courts

Present Inventory (UGB)	10 (16 courts)
Present Ratio (UGB)	1 court / 2,828 pop.
Recommended Demand Standard:	1 court / 2,650 pop.

Comments

The analysis indicated that the supply and demand is relatively equal for gymnasiums currently. From the supply and demand calculations in the supplement to Appendix C, we find a shortage of only 2 games/practices per week. This would mean an additional court is needed in the area. Thus a recommended demand standard of one court per 2,650 population. Applied to the 2018 population the result is a 20-year total of 21 courts, which reflects a need for 5 additional courts.

These recommended demand standard is based on the fact that all of the programs and facilities are offered by schools and occur at school facilities. Thus based on the current programs offered and facilities new school facilities would take up most of the demand in gymnasiums.

This is not taking into account the fact that there are no recreational basketball and volleyball programs offered by the City. The recreation survey showed substantial support for a City-run program. If this were to occur there would undoubtedly be an increase in demand for court programs, which could be met by utilizing elementary schools, increasing the number of possible uses/week, or building new facilities.

supplement to appendix c
DEMAND / SUPPLY CALCULATIONS

DEMAND / SUPPLY CALCULATIONS

Introduction

This appendix contains calculations for determining supply and demand for regulation baseball, youth baseball/softball, adult softball, soccer, and gymnasiums. There are essentially two ingredients that determine sports field needs. These two factors are the *supply*, or number of sport fields available, and the *demand*, which is how much need there is for facilities. However, there are many additional factors that influence both the supply and demand. These are discussed below.

Facility Supply

Facility supply is the number of fields available for games and practices. Facility supply is influenced by the amount of use each field provides, such as if the facility is lighted, if teams share fields, and also the number of games and practices per week allotted to the field. *The supply calculations in this needs assessment is based on the current service level now being provided by the facility providers.* The facility supply only takes into consideration fields that are being used for a particular program. It further assumes that each facility is a dedicated facility and has unrestricted use. As a practical point, many of the fields are being used for more than one program, thus limiting their availability and access to any one sport. This is particularly true in the provision of sports fields where the fields are used during the same season by youth baseball, adult softball, and soccer.

Facility Demand

Facility demand is determined by the number or amount of games and practices permitted for each team. In general it is calculated on a weekly basis. *The facility demand calculations developed in the following pages are based on the current service levels now being provided by program providers.* These service levels are expressed in terms of games/practices per week allowed per team and the amount of play permitted on a specific facility.

In calculating need, a contingency was applied to allow for scheduling problems, bad weather and field rest.

It is important to note that the need for sport fields can be changed by adjusting either the amount of games and/or practices allotted to each team, or to adjust the amount of play permitted on a field.

REGULATION BASEBALL

Calculations

In Klamath Falls, a non-lighted field typically can accommodate one game a night and a lighted field can accommodate two games a night. This does not reflect the availability of the fields in the early afternoon. Supply calculations do not consider multiple use of fields by various programs. The Demand calculation considers summer peak demand, from June to August, thus school teams are not included. Supply and demand calculations determine the following information:

Supply Calculation:

Facility	Games and Practices per weekday	# Days used per week	Total Weekdays	Games and Practices on Weekends	Total Weekend	Total Games and Practices per week
Fields						
Lighted fields	2 (1 field)	5	10	4 (1 field)	4	14
Non-lighted fields	1 (4 fields)	5	20	2 (4 fields)	8	28
					TOTAL (Supply)	42

Demand Calculation (Summer Peak Season):

Program	Number of Teams	Games Played Per Week	Total Game Requirement *	Practices per Week	Total Practices Requirement	Total Games & Practices Requirement
City Babe Ruth	4	2	4	3	12	16
American Legion	2	2	2	3	6	9
South Suburban Babe Ruth	6	2	6	3	18	24
Subtotal	12	6	12	9	36	49
					Add 10% Contingency	5
					TOTAL (Demand)	54

*** Must divide by two since it takes two teams to make a game**

TOTAL FIELD SUPPLY: 42 Games/practices per week
TOTAL GAME DEMAND: 54 Games/practices per week

TOTAL FIELD SHORTAGE: 12 Games/practices per week

YOUTH BASEBALL

Calculations

Typically, a non-lighted field can accommodate one game a night and a lighted field can accommodate two games a night. An occasional game is played at Kiger Stadium, but is not regularly scheduled, so it is not included in the supply calculations. The supply calculations do not consider multiple uses of fields by various programs. Scheduling of practices and locating practice facilities are the responsibility of individual coaches or teams. Based on this, the results are:

Supply Calculation:

Facility	Games and Practices/ weekday	# Days used per week	Total Weekdays	Games and Practices on Weekends	Total Weekend	Total Games & Practices per week
Fields						
Lighted fields	no lighted fields					
Non-lighted fields	2 (20 fields)	5	200	3 (20 fields)	60	260
					TOTAL (Supply)	260

Demand Calculation:

Program	Number of Teams	Games Played Per Week	Total Game Requirement *	Practices per Week	Total Practices Requirement	Total Games & Practices Requirement
City Little League	28	2	28	3	84	112
South Suburban Little League	60	2	60	3	180	240
Subtotal	88	4	88	6	264	352
					Add 10% Contingency	35
					Total (Demand)	387

*** Must divide by two since it takes two teams to make a game**

TOTAL FIELD SUPPLY: 260 Games/practices per week
TOTAL GAME DEMAND: 387 Games/practices per week

TOTAL FIELD SHORTAGE: 127 Games/practices per week

ADULT SOFTBALL

Calculations

In Klamath Falls, there is typically one game played per night on each field. All of the softball facilities are non-lighted. Supply calculations do not consider multiple use fields by various programs. Demand calculation considers summer peak demand, from June to August. There is some overlap with school programs and softball programs during Spring, resulting in a shortage of facilities until school is over. Scheduling of practices and locating practice facilities are the responsibility of individual coaches or teams. Based on this information, we have the following:

Supply Calculation:

Facility	Games and Practices per weekday	# Days used per week	Total Weekdays	Games and Practices on Weekends	Total Weekend	Total Games and Practices per week
Fields						
Lighted fields	no lighted fields used					
Non-lighted fields	1 (10 fields)	5	50	2 (10 fields)	20	70
					TOTAL (Supply)	70

Demand Calculation (Summer Peak Season):

Program	Number of Teams	Games Played Per Week	Total Game Requirement *	Practices per Week	Total Practices Requirement	Total Games & Practices Requirement
Co-ed	17	1	9	1	17	26
Women's Slowpitch	7	1	4	1	7	11
Subtotal	24	2	13	2	24	37
					Add 10% Contingency	4
					TOTAL	41

*** Must divide by two since it takes two teams to make a game**

TOTAL FIELD SUPPLY: 70 Games/practices per week
TOTAL GAME DEMAND: 41 Games/practices per week

TOTAL FIELD SURPLUS: 29 Games/practices per week

SOCCER

Calculations

There are a large number of teams utilizing a number of different facilities throughout the entire urban area. Games are scheduled for particular fields, on weeknights and Saturdays. Scheduling of practices and locating practice facilities are the responsibility of individual coaches or teams. Supply calculations do not consider multiple use of fields by various programs. The peak season for soccer is spring and fall, thus conflicts with school facilities will be the major determinant in altering supply. Based on this information, the following supply and demand is the result.

Supply Calculation:

Facility	Games and Practices per weekday	# Days used per week	Total Weekdays	Games and Practices on Weekends	Total Weekend	Total Games and Practices per week
Fields						
Lighted fields	no lighted fields					
Non-lighted fields	2 (18 fields)	5	180	3 (18 fields)	55	234
					TOTAL (Supply)	234

Demand Calculation:

Program	Number of Teams	Games Played Per Week	Total Game Requirement *	Practices per Week	Total Practices Requirement	Total Games & Practices Requirement
Youth Soccer League	40[1]	2	40	3	120	160
Subtotal	40	2	40	3	120	160
					Add 10% Contingency	16
					TOTAL (Demand)	176

*** Must divide by two since it takes two teams to make a game**

(1) There are 50 teams total in the league. Some teams are from outlying communities and use facilities there, so approximately 40 teams apply to the demand calculation

TOTAL FIELD SUPPLY: 234 Games/practices per week
TOTAL GAME DEMAND: 176 Games/practices per week

TOTAL FIELD SURPLUS: 58 Games/practices per week

GYMNASIUMS/COURTS

Calculations

The majority of gymnasiums are located on school property. Supply calculations include only those gymnasiums and courts that apply to existing basketball and volleyball programs. Depending on facilities, a gym can accommodate two or three basketball games per night, or four to six volleyball games per night. This does not, however, take into account schedule conflicts with school activities or similar instances. Based on this information, we determine the following:

Supply Calculation:

Facility	Games and Practices per weekday	# Days used per week	Total Weekdays	Games and Practices on Weekends	Total Weekend	Total Games and Practices per week
Gymnasiums						
16 Courts	2	5	160	2	32	192
					TOTAL (Supply)	192

Demand Calculation:

Program	Number of Teams	Games Played Per Week	Total Game Requirement *	Practices per Week	Total Practices Requirement	Total Games & Practices Requirement
High School Basketball (Boys & Girls)	12	2	12	4	48	60
High School Volleyball (Girls)	6	2	6	4	24	30
Junior High Basketball (Boys & Girls)	13	2	13	3	39	52
Junior High Volleyball (Girls)	8	2	8	2	16	24
OIT Basketball (Men & Women)	2	2	2	4	8	10
Subtotal	41	10	41	17	135	176
					Add 10% Contingency	18
					TOTAL (Demand)	194

* Must divide by two since it takes two teams to make a game

TOTAL COURT SUPPLY: 192 Games/practices per week
TOTAL GAME DEMAND: 194 Games/practices per week

TOTAL COURT SHORTAGE: 2 Games/practices per week