Chapter

3

COMPREHENSIVE PLAN

City of Derby, Kansas

Existing Conditions

Chapter

3

Chapter 3 - Existing Conditions

This Chapter includes summaries of planning elements, infrastructure systems, and public services and facilities that impact Derby's long-term future. In addition, planning for and investment in the city's water, sanitary sewer, and transportation network will impact the direction of Derby's growth in the future.

3.1 Existing Land Use

An inventory and analysis of existing land use is vital in the planning process. **Table 3.A** identifies the existing land uses in Derby and the Planning Area in June 2005 as classified by Sedgwick County. These activities range from rural agricultural uses to industrial uses, with a significant amount of undeveloped (vacant) platted property located on the fringe of Derby primarily consisting of developing subdivisions and business areas in the emerging growth corridors along 63rd Street and Rock Road. The existing acreage calculations for the general land use types exclude right-of-way. Future land use area projections are identified in **Section 5.2, Chapter 5, Future Land Use Expectations**.

Table 3.A: Existing Land Uses, June 2005*

Land Use	City of Derby		Planning Area	
	Acres	% of Total	Acres	% of Total
Single-Family	1,789	41.9%	2,324	8.6%
Multi-Family	144	3.4%	601	2.2%
Institutional	103	2.4%	171	0.6%
Office	45	1.1%	47	0.2%
Retail-Commercial	138	3.2%	11	0.0%
Industrial	28	0.7%	1	0.0%
Warehouse / Mini-Storage	34	0.8%	42	0.2%
Transportation, Communication	63	1.5%	219	0.8%
Cultural, Recreational, Parks & Open Space, Golf	648	15.2%	168	0.6%
Vacant + Agricultural	1,128	23.1%	23,303	86.7%
Residential (786 acres)				
Non-Residential (342 acres)				
TOTAL	4,120	100%	26,887	100%

*Excludes street, utility, and railroad rights-of-way.

Existing zoning in Derby and the unincorporated areas of Sedgwick County (**Ref. Zoning Map**) identify the current pattern of locating higher intensity uses along the K-15 Corridor and along the Rock Road Corridor. A majority of the unincorporated land in the Derby planning area is zoned County "Rural Residential" and subject to the County's zoning regulations. Several section-line arterial street intersections in the

unincorporated area have the County's historic zoning pattern of small commercial tracts at all four corners of the intersection, which is generally inconsistent with current practices of larger planned commercial developments for multiple users. Currently, there are a number of large undeveloped tracts within the City of Derby that are zoned for commercial uses such as in the vicinity of 63rd Street and Rock Road and 63rd Street and K-15. This existing zoning will influence future development in Derby and will likely accommodate the community's commercial needs for the next several years.

In mid 2005 there was approximately 786 acres of vacant residential land (platted and zoned) in the city available for development. If considering an average 150 new single-family dwelling per year constructed at a density of 2.26 dwelling units per acre, the available land area this represents a 10 year supply of land for residential development.

Residential

One of Derby's most valuable community assets is the available supply of good, safe, and decent housing units at affordable costs. Derby's existing housing stock predominately consists of single-family residences, a majority of which have been constructed since the 1970's. Since the 1980's much of the residential development in Derby has occurred east of Dry Creek and north of Meadowlark.

Much of Derby's oldest housing stock is located within the core area of the community generally bounded by Buckner on the west, Meadowlark on the north, Woodlawn on the east, and Kay on the south. A majority of the older homes in Derby are in good condition, but may lack modern amenities thus making them less competitive in the marketplace. Many of these homes may be characterized by small kitchens; small bathrooms or too few of them; one car garages; lower energy efficiency; floor plans that are not open; limited storage; exteriors which need repair or upgrades; and smaller lots that allow for little room for expansion.

Future community planning efforts should promote the preservation, maintenance, and renovation of housing and neighborhoods throughout the city.

Suburban Acreages

Suburban acreage development in Derby's Planning Area currently exists in portions of the unincorporated areas surrounding the city. Such development generally consists of platted or unplatted lots and tracts in the range of 1 to 20 acres in size, and is often associated with residents who desire to live in a semi-rural setting with low density levels, yet relatively close to jobs and amenities of the urban area. Generally, such development consists of large single-family residences, rather than continued agricultural use. The largest concentration of suburban acreages is located east of Greenwich Road. A modest amount of acreage development is currently located in the Spring Creek drainage basin, as well as the north and west sides of Derby. However there are pockets of acreage properties located around Derby in all directions.

Once property is split or subdivided and developed with rural residences, such areas often become pockets of land that obstruct the logical urban growth pattern. Due to their size and configuration, developed acreages typically are much more difficult to redevelop as more dense urban subdivisions and in some instances acreages may be located in the most logical path for the extension of utility lines. Urban growth around acreage development may therefore be more expensive as the city and developers must pursue more costly utility extension alternatives. Also, conflicts tend to occur between residents of acreage properties and developers of land proposed for development as the surrounding area becomes urbanized and the rural character of the area changes. These conflicts can be minimized by directing future acreage development to areas outside the city's future urban growth area and by implementing a "transition policy" to address

development layout, lot sizes, density, and other elements for new developments located adjacent to existing suburban acreages.

Business and Industry

Derby's historic retail and employment corridor has been along K-15 Hwy, primarily extending from 63rd Street on the north to Belmont Street on the south. The community's industrial zone is primarily centered at the vicinity of K-15 and Madison Avenue, as well as west of the AT&SF railroad tracks on the west side of K-15. The City of Derby Business Park located west of K-15 between Madison and McIntosh Street primarily serves small firms with available sites ranging from 1 to 3 acres in size. However, there are currently limited locations available in the community for new larger office/warehouse businesses or office parks. The Arkansas River floodplain currently limits the land area available for new industrial sites in the vicinity of the industrial park, and the at-grade railroad crossings also impact the desirability of locating businesses with heavy truck traffic or large numbers of employees west of the K-15. Therefore, new areas for long term employment growth need to be identified and developed.

In recent years, new retail development has occurred along 63rd Street east of K-15, as well as the emerging Rock Road corridor in the eastern portion of the city. The Rock Road corridor currently has several large undeveloped commercial zoned properties in the stretch from Madison Avenue to 63rd Street. While only partially developed with office and commercial uses, Derby currently has the opportunity to guide future development in the Rock Road and 63rd Street corridors in a quality planned manner to portray the community's desired identity and character.

3.2 Physical Features

The Natural Features Map identifies natural features in Derby and the surrounding planning area. The City is positioned along the Arkansas River and the planning area includes a number of creeks, tributaries, and drainage basins. The natural features in Derby and Sedgwick County can and should be part of planning for future land uses and development. Urban, suburban, rural, and agricultural land uses each have their own unique character. Matching these land uses with the most suitable portions of the planning area will ensure the environmental stewardship envisioned by the Comprehensive Plan.

Drainage Basins

Drainage basins are the natural land boundaries in the planning area that are defined by ridge lines and carry storm water to the system of creeks and leading to the Arkansas River. There are three major drainage basins in Derby's planning area – Trail Creek, Dry Creek, and Spring Creek – as well as portions of several others around the perimeter of the planning area. (**Ref. Natural Features Map**).

Ridge lines are elevated land areas that separate natural basins from one another. The ridge lines in the planning area primarily impact the development of sanitary sewer and storm sewer drainage systems. If a sanitary sewer line must cross a ridge line, the sewer may need to be pumped or forced over the ridge line. Lift stations and force mains add construction and design costs to the project and create future maintenance operation concerns.

Arkansas River and Its Streams

The predominant water body in Derby's Planning Area is the Arkansas River, which defines much of the current western city limits. The Wichita-Valley Center Flood

Control Project (commonly known as the "Big Ditch") diverts a portion of the Arkansas River's flow from the north and west sides of Wichita to a point where it rejoins the River channel near Madison Street.

Trail Creek flows through the oldest neighborhoods in Derby and has been mostly channelized in this core part of the city. The associated Trail Creek drainage basin primarily encompasses the original city neighborhoods between Woodlawn to Buckner from Meadowlark on the north to where it joins Spring Creek south of Hand Park.

Dry Creek and its tributaries is an intermittent stream that enters Derby from the north, extending as far north as the 47th Street South / Rock Road intersection. The creek and its tributaries meander through a number of subdivisions built during the 1980's or earlier, generally between Woodlawn and Rock Road. Dry Creek intersects Spring Creek near the intersection of Kay Street and Brookwood.

The largest watershed in the planning area – encompassing much of the southern portion of Derby and its future growth areas to the east of Rock Road – is the Spring Creek Drainage basin. Spring Creek and its tributaries extend as far north as Pawnee Street in Wichita and reach eastward to areas generally between 127th Street and 143rd Street East. Spring Creek meanders from the northeast to the southwest on its way to its intersection with the Arkansas River at approximately 103rd Street South.

The land west of the Arkansas River is in the Lower Cowskin Creek drainage basin. The main channel of this stream is located west of the Derby planning area. However, the planning area does include a few of the creek's intermittent tributaries. For the most part, the land west of the Arkansas River is extremely flat and is characterized by a large area of Class I Agricultural soil.

Floodplains

For regulatory purposes, a floodplain is often divided into the floodway, composed of the stream channel and adjacent overbank area, and the flood fringe, or outer portion of the floodplain.

Significant portions of the planning area along the Arkansas River, Dry Creek, and Spring Creek fall within the 100-year or 500-year floodplain as designated by the Federal Emergency Management Agency (FEMA). High water tables in the planning area are primarily located along the Arkansas River. If ground water is very close to the ground's surface (generally within six feet), it affects the development of sewer systems and buildings with basements.

Historically, Derby has allowed new development to encroach into floodplain lands. However such lands would ideally be preserved whenever possible. The floodplains and wetlands along the river and creeks provide habitat for wildlife, and are ideal for parks, open space, natural preserves, golf courses, and hike and bike trails because of their diverse vegetation, wildlife, natural beauty, and susceptibility to inundation by water as a result of the flood.

Woodlands

Natural woodlands in the planning area are mostly located along the Arkansas River and along intermittent streams such as Spring Creek. The primary values of the woodlands can be both aesthetic and economic. When left in their natural state, woodlands provide visual relief from agricultural or urban development and can serve as buffers between land uses. The environmental benefits of woodland areas include helping to maintain

air quality, reducing soil erosion, and serving as habitat for wildlife. A substantial system of hedge rows are also present within the planning area and can provide buffering between land uses and properties, a means to control soil erosion, and a home for wildlife.

3.3 Storm Water Drainage

The natural drainage system in Derby's planning area consist of the Arkansas River, and the Trail, Dry and Spring Creeks with their associated tributaries. With the exception of Trail creek, these creeks are heavily wooded, meandering streams that are generally in their natural state. The natural drainage system is supplemented by man made components such as streets, storm sewers, open channels, and detention areas. Streets carry storm runoff from lawns, parking lots, and other impervious surfaces by way of street gutters to the underground system of storm sewer pipes. The effectiveness of the overall drainage system is dependent upon the interaction of both natural and man made features within the drainage basin. The drainage facilities must work in a coordinated manner in order to minimize potential flooding, prevent personal property damage, preserve water resources, enhance aesthetic, and enhance natural habitats and environmental characteristics.

Storm water management benefits the individual and the community at large. Drainage basins, particularly the Spring Creek basin, extend beyond political and property boundaries. Drainage or run-off from outside the City of Derby impacts Derby's drainage system; conversely, run-off from Derby impacts other areas downstream. This requires that a system of management devices be implemented in a coordinated manner with land use development and other infrastructure improvements throughout the county.

3.4 Wastewater Treatment

Wastewater management is the process of removing, reconditioning, and reusing wastewater (sewage) from domestic, commercial, or industrial facilities. Coupled with the City's transportation network, the City's wastewater treatment system represents a key component for how and where Derby will develop in the future. The availability of a reliable and cost effective sanitary sewer network is required if projected urban densities are to be achieved. The timing for construction of wastewater improvements often dictates when land on the City's fringe can develop. In effect, the capacity of the wastewater system, natural and topographic constraints and system design limitations strongly influence the direction and limits of future urban growth and development. In most cases, capacity and design limitations can be solved, but the cost of the solution may be so great that it effectively prohibits development.

Derby's wastewater system is comprised of a collection (piping) system and a central wastewater treatment plant located southwest of K-15 and 91st Street South, just north of Spring Creek. The facility is designed for 2.5 million gallons per day (MGD) and has sufficient room at the facility to double the aeration, clarification, and sludge facilities. Such an expansion would result in 5.0 MGD capacity. In 2005, the treatment facility treated approximately 2.0 MGD with a future capacity at 2.5 times the existing average flow. City staff estimates an expanded plant could serve a corresponding population of about 50,000.

The usual practice of a wastewater system is to utilize gravity flow from the point of origin to a treatment plant. Other types of wastewater treatment exist within the planning area, such as septic tank/lateral fields and lagoons. These types of systems are

generally used for individual residences or small neighborhoods. Developments utilizing these types of systems should be discouraged and should be eliminated when sanitary sewers are made available.

Temporary lift or pumping stations may be necessary where gravity flow is not feasible. However, permanent pumping facilities are not desirable and are discouraged due to the potential for odor, noise, requirements for maintenance, and mechanical or electrical failures that could cause backups resulting in property damage and liability for the City. Temporary or short term pumping facilities may be feasible if they are designed to be removed from service when the collection system is extended.

Package plants – small prefabricated wastewater treatment plants – usually sized to serve 10-500 dwelling units or their equivalent are an alternative to providing secondary treatment to sewage to areas not currently served by the wastewater facility. Such facilities can allow for the development of small areas without a large investment. However, such systems have numerous drawbacks and are typically not desirable because:

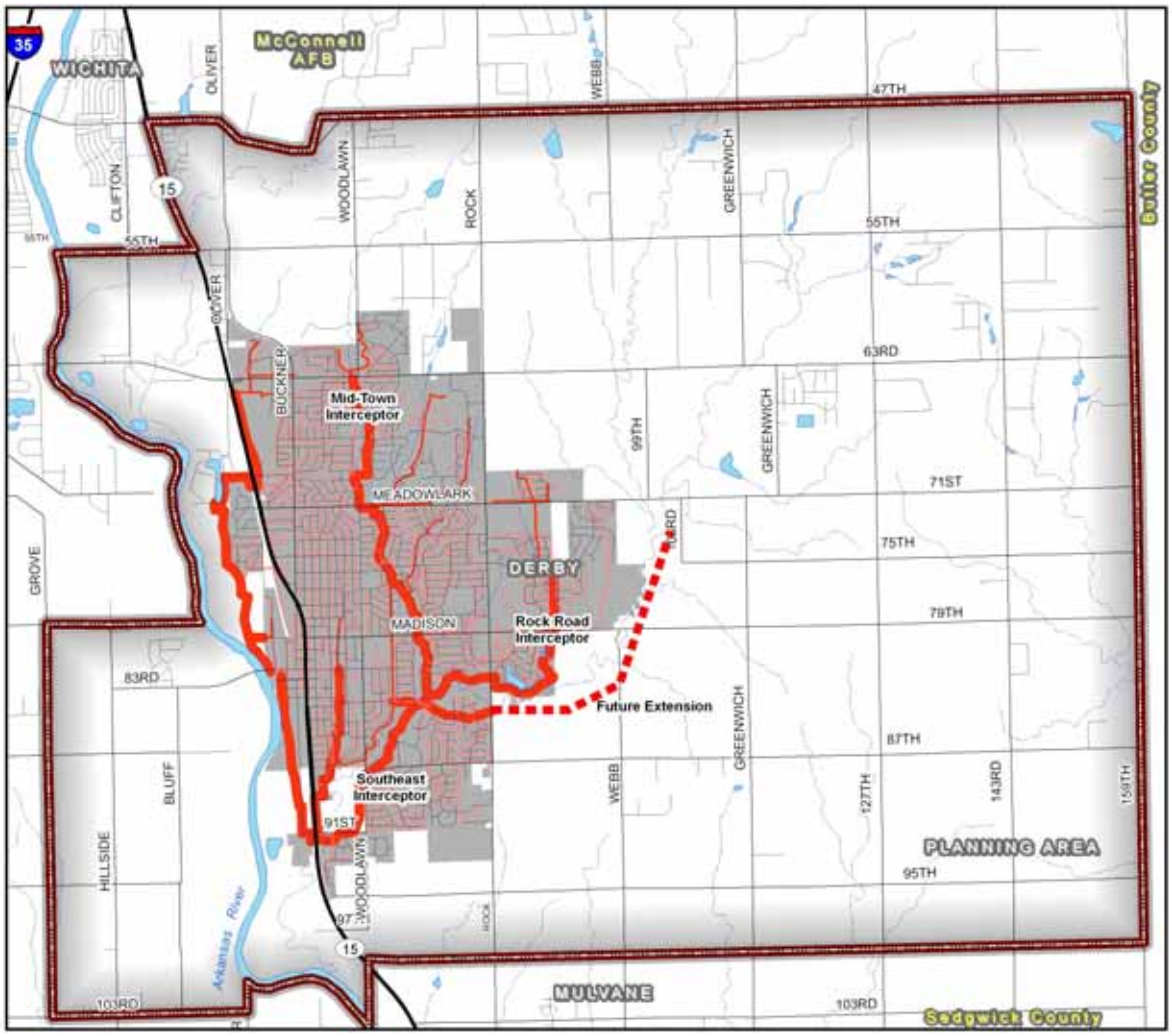
- there is a lack of assurance the package plant will be well operated and maintained;
- health regulations usually require that wastewater treatment plants have skilled operators present at all times, thus the per capita cost of operating sewer smaller package plants is very high; and
- package plants tend to promote "leap-frog" urban development patterns not contiguous to the city, thus making the delivery of public services and emergency services more difficult and expensive.

For Derby to grow west of the Arkansas River, a sophisticated piping system crossing the river and/or pump stations is required. This type of river crossing would be expensive, difficult to construct, and potentially environmentally hazardous. Southward extension of the wastewater system is limited by the location of the current treatment plant and topographic features. Expansion of the wastewater system to the north will be limited in the future primarily due to the desire to limit land use conflicts with McConnell Air Force Base, as well as the need for replacement or paralleling lines to increase sewer carrying capacity. As a result, urban growth served by expansion of the wastewater system in the planning period would most easily occur in the Spring Creek basin due to minimal topographical and land use constraints.

1995 Interceptor Sewer Master Plan Study

An interceptor is a major sewer line that collects the flow of sewage from other sewers and carries it to a wastewater treatment plant. An Interceptor Sewer Master Plan Study was completed for the City in August 1993 and updated in February 1995. The purpose of the study was to determine the sizes and general locations of future interceptor sewers to serve the existing City of Derby and the city's growth areas anticipated within the next 20 years and beyond. The City's existing interceptor lines and future extensions are identified on **Figure 3.1**.

FIGURE 3.1: EXISTING WASTEWATER INTERCEPTOR LINES



The study considered an ambitious annual growth rate of 4% with the same mix of land uses as presently exist within the city. The assumed 4% growth rate is most likely higher than the actual growth rate the city will experience during the planning period. An average density of 3.5 dwelling units per acre was also used to plan for future growth. Using those assumptions, the report concluded that 1,788 acres of new residential development would be needed over a 20-year period to support the projected population growth.

The study recognized the Arkansas River as a natural barrier due to the difficulty and expense of providing City sewer on the west side of the river. Also, the McConnell Air Force Base and its associated Air Installation Compatible Use Zones (AICUZ) to the north of Derby limits the amount of future development. Growth at the southern edge of Derby is limited due to the rolling terrain and limitations for obtaining gravity sewer service. Given the expense of extending services to the west and south, as well as the impact of the AICUZ to the north, the report assumed growth would generally occur to the east and northeast of the city. Lift stations would be an option to serving the southern area. However, the City in the past has preferred to minimize the number of lift stations or pump stations within the collection system due to the maintenance requirements and the potential damages that can occur due to pump failures. Also, the

additional cost for pumps and force mains would be an extra burden on the developers, landowners, and homeowners.

In order to serve the projected 20-year growth, the 1995 Sewer Master Plan suggested extensions to the city's existing interceptor sewers. With these extensions, the sizing of the piping system must consider potential growth beyond the 20-year period of the study. Of the three options listed for relieving the long-range pressure on the Southeast Interceptor, the possibility of a new wastewater treatment plant may be the most difficult option to gain public support.

The 1995 Master Plan included the following general recommendations:

West Side Interceptor Extension

- Eliminate some existing lift stations
- Provide gravity service to existing and future developments in northwest Derby.
- Decrease the flow into the Mid Town Interceptor by serving some land north of 63rd Street South by installing pump stations.

Mid Town Interceptor

- Only three future basins would be connected to this interceptor due to existing flow limitations. Generally these basins are slightly less than a square mile of land located between Woodlawn and Rock Roads and between 71st and 63rd Streets.

Rock Road Interceptor

- Future development in the service area would be limited to an approximately 340-acre area adjacent to the east side of Rock Road from about 71st Street South to 79th Street South.
- Due to maximum flow limitations, land use limitations should be limited to a maximum of 3-dwelling units per acre (rather than 3.5), or construct a parallel line adjacent to the Rock Road interceptor from the west end of the interceptor to near Maxine Court to accommodate the total projected flow.

Southeast Interceptor

- Future extension of the Southeast interceptor along Spring Creek in the Spring Creek basin would allow for an[(Creek)-4.or adevelopmelopm -1.(heasta)0.3-TD-s ow for .6(it7(e)-1.eek)5.

However based on the 2006 capacity calculations and future flow projections prepared by the City of Derby the analysis concluded that up to an additional 8,367 acres can be accommodated in the Southeast Interceptor. Up to 729 acres of growth may be accommodated in the basin served by the Mid-Town Interceptor (north of 63rd Street and west of Rock Road) without exceeding its capacity. The remaining growth area expected to the east of Rock Road can be handled by the Rock Road and Southeast Interceptor sewers.

The City's sewer capacity analysis for future growth area acreage was based on an assumption that all new development would be predominately single-family residential in nature and it would have an average density of 2.26 dwelling units per acre. However, the actual land area that could be accommodated for future growth may be less since expected future development is expected to include other types of land uses and such growth will likely include higher residential densities in some portions of the future growth area. **Section 5.2, Chapter 5, Future Land Use** provides a more detailed review of future land use and future growth area needs based on the 2006 Sanitary Sewer analysis.

3.5 Water Services

The water system serving Derby was owned and operated by the El Paso Water Company until it was purchased by the City of Derby in 2001. This acquisition was important because it meant the Company was no longer in business to generate profits for company stockholders from Derby residents. The Derby City Council currently acts as the Board of Directors of the company, which enables the City to ensure that revenues from water sales are set at levels to cover expenses, rather than set at a level to provide income for investors.

The El Paso Water Company currently operates as an independent company due to IRS regulations. However, it is likely that the El Paso Water Company will be merged into the City organization in the future. Such a merger could take a number of years, depending on IRS rulings.

In years past, the water supply source consisted of a water well field located west of the Arkansas River. Due to concerns about water quality and about the ability of the well field to meet the community's future water needs, an agreement was reached in 2001 for the City of Derby to purchase 100 percent of its treated water from the City of Wichita. The first full year of utilizing 100 percent Wichita water for Derby's water supply began in 2005.

Although Derby's current water usage is entirely supplied from the Wichita system, the City of Derby maintains ownership rights of 700 million gallons of water per year from the El Paso system which are not currently being used. These water rights represent a tremendous asset for the community either as a future water source or as a possible revenue source.

2002 Water Study

A water study was conducted in 2002 to provide a detailed analysis of the City of Derby's water distribution system to determine necessary improvements to utilize the Wichita water supply. The study assumed Derby's population growth reaching 30,400 in 2030, which is generally consistent with the 31,144 population projection for Derby in 2030 by the Metropolitan Area Planning Department. The Water Study also projected growth areas by 2030 would occur contiguous to the existing Derby city limits

mostly in the 63rd Street South and Rock Road corridor, with a limited amount of growth occurring in the southern fringe of the city.

In addition to various system improvements, the 2002 Water Study recommended the following to accommodate future growth.

- Construct a new 1.5 MG water tower at 63rd Street South and Rock Road. The new tower has been constructed and has the capability to serve "high elevation" areas generally consisting of Derby's northeast growth area in the Spring Creek drainage basin including the Derby High School and all areas to the north on the east side of Rock Road, the new golf course community southwest of 63rd Street and Rock Road, and generally all other areas north of a line about one-half mile north of Meadowlark.
- Provide improvements consisting of additional supply lines for the two existing water towers, secondary control valves, and pumps for the pump station. Also, construction of future water supply lines to create loops near the southeast and southwest portions of the city.

With the recommended system of improvements and a dedicated source of water, Derby is expected to have an adequate water supply to meet its needs for the foreseeable future. However, a variety of factors may impact the cost of water for Derby residents during the planning horizon, such as the amount of consumption by residents, operational and maintenance needs, debt service, capital improvement needs, and IRS tax liabilities.

3.6 Public Works

The City's Public Works and Parks Department provides management of the City's infrastructure and recreational facilities, and is comprised of three distinct divisions: Streets, Parks, and Weld Shop.

The Streets division is responsible for the maintenance of over 250 lane miles of streets, alleys and other access ways, in addition to over 150 miles of curb and gutter inside the city limits and nearly fifteen miles of pedestrian hike and bike paths. The division also inspects and maintains of over 3,000 signs; monitors the City's traffic and school crossing signals; pavement markings; hanging light pole banners; provides for support for community events; and provides seasonal snow and ice removal.

City's Parks, Forestry and Stream division provide maintenance of all City-owned properties. The City maintains over 290 acres of park and open space land in 29 different locations, including 93 playground structures, multiple drainage channels, and a variety of equipment and landscaping at the Rock River Rapids Aquatic Park. The basic property maintenance responsibilities also include mowing grass, maintaining and caring for trees, and repairing equipment. The City's Weld Shop division provides assistance for managing facilities and equipment, as well as providing services to other City divisions as well as to the Derby Recreation Commission.

The City's public works facility is a 3.8 acre site located southwest of Market and Water Streets along the Arkansas River. The facility consists of a variety of small buildings with individual functions for the various activities of the department. Due to the limited size of the public works facility, there is currently no available space to locate additional facility needs such as an animal control facility, fire training site, or an area to store and stock bulk materials. In addition, fueling of vehicles occurs at a city fire station. The limited storage area requires the city to use remote storage in park

facilities, and to order supplies in small quantities as needed or have supplies delivered directly to the job site which creates organization and efficiency issues.

A larger facility will be needed in the future to accommodate all of the city's future needs demanded by a larger population. Long-term needs of the public works facility and other City operations that may be located at the facility will require thorough planning through a Master Plan (Needs Assessment Study) to address issues such as the amount of land area needed, location, and building and personnel needs. A space needs analysis for the public works facility should include an operations review, fleet and equipment review, current and future staffing levels, community growth and functions perceived to be incorporated into the facility. The operations review, which includes organization and functions analysis, is ultimately what must be provided to quantify future space needs. In terms of site location options, the K-15 corridor may be the most appropriate area to target for a new facility since the area is predominately nonresidential in nature and would be least impacted by the character and uses which occur at such a facility.

3.7 Emergency Services

Fire Protection

After years of discussion and planning, the City of Derby is in the process of transitioning from a volunteer fire department to a full time paid department to meet the long-term fire protection needs of the community. The full-time department began operation in July 2005. However, volunteer firefighters continue to be utilized to provide service in a backup capacity to the City's full time staff.

Derby is currently served by two city fire stations including Station #1 located northeast of K-15 and Market Street and Station #2 located on the west side of Rock Road south of Meadowlark. Station #2 also shares space with a Sedgwick County EMS facility. Sedgwick County Fire District #1 also operates Station 36, located just south of 63rd Street at 6400 S. Rock Road **(Ref. Public Facilities Map in Chapter 5)**. The City fire stations provide service within the city limits of Derby, while the County station covers a response area of 80 square miles primarily consisting of the unincorporated area around Derby.

Derby's two current fire station locations provide coverage for most of the city within a 1 ½ mile radius, generally considered a 3-minute response area, which provide an adequate overlap within the central part of the city. However, gaps in service are experienced for areas in the far northwest portion of the community including the K-15 corridor, as well as the far southeast portion of the community. Other issues affecting timely response coverage for fire service are areas with dead-end streets that a lack of bridges for major street connections.

While Sedgwick County Fire District #1 currently has a station adjacent to the current Derby city limits along Rock Road, the long-term future of Station 36 is not clear, especially in light of the expanding commercial corridor along Rock Road and Derby's eastern growth pattern. Long-term fire protection needs for the City of Derby will need to address the Spring Creek growth area as the city grows to the east and north, particularly if Fire District #1 pursues a new fire station location to serve the unincorporated area. The city must investigate either developing future large full-service facilities jointly with other emergency services and community service providers, or consider developing multiple smaller stand-alone facilities with minimal equipment and staffing to provide closer and quicker response coverage.

Emergency Medical Services (EMS)

Ambulance service to Derby is provided by Sedgwick County EMS. Currently, agreements with Sedgwick County specify the City of Derby Fire Department to serve as the first medical responders with City Emergency Medical Technicians (EMT) which provides support for Sedgwick County EMS providers.

Law Enforcement

Police protection is one of the most fundamental services provided by municipal government. Police protection in the City of Derby is provided primarily by the Derby Police Department, with assistance available from the Sedgwick County Sheriff's Department. The Police Department is comprised of three distinct divisions: Administration, Operations, and Support. All of these divisions combine to make a full-service department that operates on a 24-hour per day basis. The Police Station is adjacent to Fire Station #1 located northeast of K-15 and Market Street.

One of the foremost concerns of the Derby Police Department is the ability to provide a timely an effective response to routine and emergency requests for service. As the city population continues to grow and its geographic area continues to expand outward, particularly into the Spring Creek drainage basin, the long-term service capabilities of personnel and facilities must be addressed.

3.8 Parks, Open Space, and Recreation

Parks and recreation facilities in Derby are provided by both the City of Derby as well as the Derby School District. The Derby Recreation Commission is the primary organization providing recreation programming at the community's park facilities. One of the primary benefits of the Recreation Commission is the organization's ability to take advantage of parks and facilities operated by both the City and the School District. Both bodies have input to the Recreation Commission Board by their appointees. Funding for the Recreation Commission is provided through the School District's mill levy, while the City of Derby is the Commission's major partner in funding new capital projects.

The City of Derby has thirty park sites located throughout the city, which include six sites currently owned by the city but remain undeveloped. The City's parks and special facilities are identified in **Figure 3.2** and classified as follows:

Mini Parks

Specialized facilities typically with a land area of 1-acre or less that serve a concentrated or limited population or specific group such as children or senior citizens. The typical service area is less than ¼-mile radius. Recommended Derby Standard: 0.5-acres per 1,000 residents.

Duck Creek Park
Phillips Burr Oak Park (a mini-park in its current stage of development)
Triangle Park
Veterans Memorial Park
Ward Clements Park: A roadway park along K-15.
Zollinger Park: A memorial park.

Neighborhood Parks

Neighborhood parks and playgrounds typically have a land area of 15+ acres and are easily accessible to neighborhood population-geographically centered with safe walking and bike access. Such areas may be developed as a school-park facility. Activities may include an area for

intense recreational activities, such as field games, court games, crafts, playground apparatus area, skating, picnicking, wading pools, etc. The typical service area is ¼ to ½-mile radius to serve a population up to 5,000 (a neighborhood). Recommended Derby Standard: 2-acres per 1,000 residents.

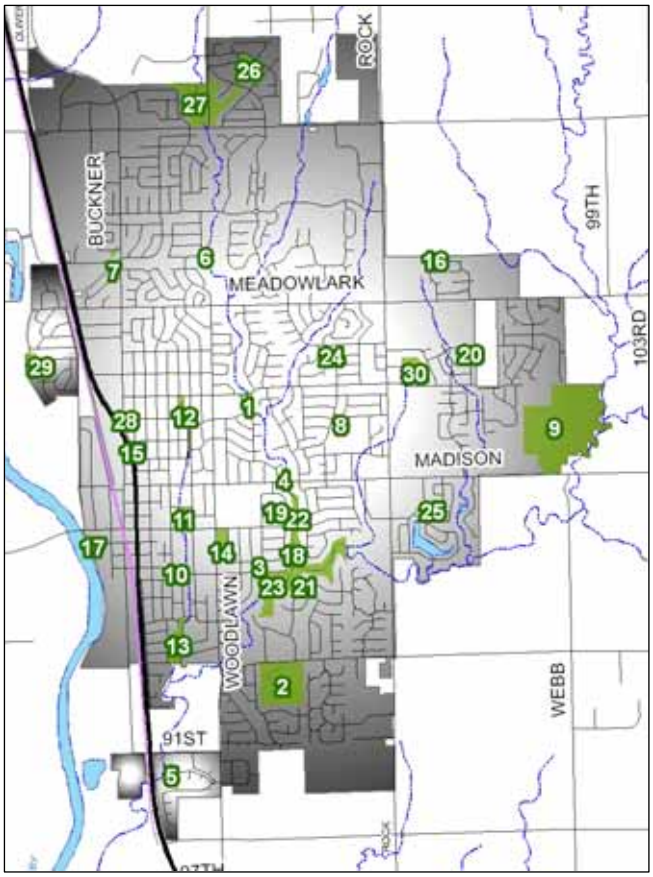
Amber Ridge Park
Crane Park
English Park
Glen Hills Park
Hand Park
Riley Park
Springcreek Park
Stone Creek West (Pond) Park
Woodland Valley Park
Woodlawn Park

Community Parks

Community parks serve several neighborhoods of the community are 25+ acres in size and typically have a 1-2 mile service area. These areas may include intense recreational facilities, such as athletic complexes, large swimming pools, or may include natural features to be preserved for their natural quality and outdoor recreation such as walking, viewing, sitting, and picnicking. Recommended Derby Standard: 8-acres per 1,000 residents.

Garret Park (40 acres)
High Park (107 acres)

FIGURE 3.2: EXISTING PARK SITES (DEVELOPED AND UNDEVELOPED)



1 Crane Park
2 Garrett Park
3 Riley Park
4 Zollinger Park
5 Phillips Bur Oak Park
6 Woodlawn Park
7 Duckcreek Park
8 Tanglewood Ballfields
9 High Park
10 Triangle Park
11 Skate Board Park
12 English Park
13 Hand Park
14 DRC
15 Ward Clements Park
16 Amber Ridge Park
17 Washington Street River Park
18 Brookwood Park
19 Bur Oak Memorial
20 Glen Hills Park
21 Oakwood Valley Park
22 Oak Forest Park
23 Oakwood Valley Open Space
24 Rainbow Valley Pond
25 Springcreek Park
26 Stone Creek Park
27 Stone Creek Pond Park
28 Veterans Memorial Park
29 Woodland Valley Park
30 Rock River Rapids Aquatic

Special Use Parks/Facilities

Special use areas in Derby vary in size and service area. Such areas are intended for specialized or single purpose recreational activities, and could include: golf courses; nature centers; conservatories; arboreta; display gardens; outdoor theaters; or areas that preserve, maintain, and interpret buildings, sites, and objects of archeological significance. These areas may also include plazas or squares in or near commercial centers, boulevards, parkways.

Derby Skate Park (Formerly the site of the Derby Municipal Pool until the opening of Rock River Rapids.)
Derby Recreation Center
Rock River Rapids Aquatic Park
St. Mary's School Site
Tanglewood Athletic Fields and School Facility
Washington Street River Park (Arkansas River access point)

Undeveloped Park Sites

Brookwood Park: 15.4 acres located at Brookwood and Kay
Bur Oak Park: 0.5 acres located at 114 N. Brookwood Dr.
Oak Forest Park: 11.7 acres located at Brookwood and Kay
Oakwood Valley Park: 0.67 acres located at Brookwood and Kay
Rainbow Valley Park: 2.6 acres located at Warren and Ridgecrest
Stone Creek East: 11.8 acres located at 1000 E. Winding Rd.

1999 Parks and Open Space Master Plan

The ***Parks and Open Space Plan for the City of Derby*** was adopted by the City Council in June 1999. The future parks system vision for Derby outlined by the Parks Plan is as follows: "***the City of Derby will provide an integrated, neighborhood-based system that is built on equity in access and a diversity of park types, facilities and programs for all people in the community***."

Through the park planning process, Derby citizens overwhelmingly indicated improvements to the parks and open space system are important. Recommendations of 1999 ***Parks and Open Space Master Plan*** include the following:

- **Adopt standards for developing parks and recreation facilities** that places greater emphasis on the development of active recreation facilities, swimming pools, and trails than the National standards.
- **Priority attention should be paid to capital improvements at the present city parks**, such as additional parking and restrooms, as well as improvements to active and passive recreation facilities.
- **Place emphasis on developing walking and biking trails that link parks to each other.**
- **Acquire open space land outside of flood plain areas for active recreation usages**, such as for activities requires structures.
- **Discontinue acquiring open space that cannot be developed into parks of at least 5-acres or larger.** Generally, at least 80 percent of land acquisitions should be able to be improved for park and recreation purposes.
- Develop a **fee in lieu of land policy and an alternative land acceptance policy** for the acquisition of open space.
- Develop a new outdoor family **aquatic center.** (This objective was realized in July 2004 with the opening of *Rock River Rapids* water park northeast of Rock Road and James Street).
- Develop a **comprehensive capital improvement program**. The highest priorities of such program should be:
    - Improvements to existing parks, especially playground equipment, park restrooms, and parking;

    - Development of walking and biking trails;
    - Construction of an outdoor pool or aquatic center;
    - Enhancements to baseball, soccer, and softball fields;
    - Development of a metropolitan park
- Aggressively pursue completing the **development of High Park**.
- **Consider developing a riverfront park along the Arkansas River**, including trails, playground and picnicking areas, and a site of major special events for the community.
- **Pursue acquisition and development of a metropolitan park of over 200 acres**.
- **Relocate active recreation facilities (baseball, softball, and soccer fields)** that are used for citywide programs out of neighborhood parks to a metropolitan park.
- Give special attention to **expanding programs and facilities for senior adults**.
- Make community involvement a cornerstone of parks and recreation planning and decision making.
- **Provide funding for planning and development of parks and open space through a combination of public and private sources**, including non-tax revenues such as user fees and foundation revenues.
- **Aggressively pursue raising private fund-revenues** to support parks, open space, and recreation initiatives.
- **Emphasize opportunities for partnerships** between the City, School District, and Recreation Commission.
- Emphasize partnerships with non-profit community organizations and Sedgwick County.
- **Use a program fee approach** in which a portion of the user fees are set aside for capital projects.
- Develop written agreements with non-profit community providers using City parks.

The ***Parks and Open Space Plan*** includes an analysis of all parks within the City based on guidelines from the National Recreation and Parks Association (NRPA) and an aggressive 2010 population projection of over 29,000 residents. The 2000 Census data and 2004 Census estimates found actual population growth was not as large as anticipated by the Park Plan. Based on current population projections of 31,114 in 2030, the Park Plan's 2010 recommendations for land area and facilities are generally consistent with the 2030 planning period of the Comprehensive Plan.
Table 3.B outlines the citywide parks and open space needs based on the Comprehensive Plan's 2030 population projection and the land area standards for each type of park recommended by the 1999 Park Plan. A total of 325 acres of park land citywide for mini-parks, neighborhood parks, and community parks are needed to serve the 2030 population. In addition, a regional park of 200-acres or larger continues to be an existing need for the Derby / southeast Sedgwick County area which must be addressed during the planning period.

Due to their size, the addition of the Woodland Valley Park (17-acres) and the Stone Creek West Park (21-acres) in recent years has significantly increased Derby's neighborhood park acreage and the city therefore has a surplus of land in that category. However, the existing neighborhood park acreage is located within the existing city limits and would not serve the city's future growth area. Therefore, neighborhood parks will continue to be a needed facility in the future. Two to four community parks (for a combined total of approximately 100 acres) will be needed by 2030 to serve the planning area. Up to five areas to consider for community park sites are identified in **Chapter 5 (REF. Parks, Trails and Schools Map).**

Table 3.B: City of Derby 2030 Parks and Open Space Needs

Park Category	Existing Acreage	Acres / 1,000 Pop. Standard	2030 Citywide Acreage Needs*	2030 System Deficiency/ Surplus	Number of Parks to meet Standard
Mini-Parks	8	0.5 acres / 1,000	16 acres	(-8 acres)	Up to 16 new parks
Neighborhood Parks/ Playgrounds	69	2.0 acres / 1,000	62 acres	7 acres (surplus)	0**
Community Parks	147	8.0 acres / 1,000	249 acres	(-102 acres)	2-4 new parks
Regional Park	0	7.5 acres / 1,000	233 acres	(-233 acres)	1 new park
Undeveloped Land***	43	--	--	43 acres	--
Total	266 acres		560 acres	294 acres	

*Based on a projected 2030 population of 31,114
**Does not reflect the need for neighborhood parks to serve future growth areas.
***Undeveloped park land currently owned by the city for future mini-park and neighborhood parks. Undeveloped parks include Brookwood, Bur Oak, Oak Forest, Oakwood Valley, Rainbow Valley, and Stone Creek East.

Hike and Bike System

Through the City's Park and Open Space Master Plan process, citizens strongly supported the development of hiking and biking paths in the community. Much of the pathways system is currently located along roadways or within community parks. The paths along city streets typically consist of wide meandering sidewalks of 8-12 feet in width.

In May 2005 the City received an award from the Kansas Department of Transportation to construct an additional 2.7 miles of hike and bike path, and associated landscaping. The new paths will be constructed during 2006-2007 and will be completed in three parts. Upon completion of these paths in 2007, the City will have 16.3 miles of hike and bike paths.

- Part A - Along James Street from Buckner to Woodlawn.
- Part B - Along Woodlawn from Market to Meadowlark.
- Part C - Along Dry Creek from Meadowlark to 63rd Street South.

The Wichita-Sedgwick County Metropolitan Area Planning Department and its adopted Comprehensive Plan for the unincorporated areas identify future regional trail systems along both the Arkansas River and Spring Creek.

Derby Recreation Commission

Recreation services in Derby are one of the primary elements residents identify as contributing to the community's high quality of life. The Derby Recreation Commission (DRC) was created in an April 1980 general election when the citizens of USD 260 voted to create a 1 mill levy tax assessment for establishing an organized recreation program throughout the school district. The Derby Recreation Commission is an autonomous governmental body governed by a five-member board. The board is appointed by the City of Derby (two members), the school board (two members), and an at-large appointment.

The Derby Recreation Commission provides public recreation programming to youth and adults, and also offers special programming. Youth programming includes recreation and special activities, the arts, sports, and aquatics. Adult programming includes fitness, sports, the arts and aquatics. Special programs offered by the DRC target senior citizens, teens, special populations and the Cooper/Oaklawn area. In addition, the DRC operates the Derby Recreation Center, the Oaklawn Activity Center, assists in the maintenance of city and school ball facilities, operates and manages Rock River Rapids, maintains a transportation system for leisure activities and assists local leagues and groups with their leisure pursuits.

The DRC is funded through the school district wide mill levy, user fees, rentals, and gifts and grants. In 2004 the Derby Recreation Commission General Fund budget was funded 55% through tax support and 45% through revenue generation. The DRC does not have legal authority to levy taxes. Any tax increase must be approved by the USD 260 Board and then subject to approval by residents of USD 260. Taxes for the Derby Recreation Commission are collected by the county clerk, distributed to USD 260, and then passed on to the Derby Recreation Commission.

3.9 McConnell Air Force Base

Located just north of Derby, the McConnell Air Force Base serves as one of the largest government employers in Sedgwick County and has a significant impact upon the Derby area. The existing and possible future missions at McConnell have a direct impact upon the future land use and compatibility in northern portion of the City and the economy of the entire community. The primary mission of the Air Force Base is to provide global reach by conducting air refueling and airlift where and when needed. McConnell's existing mission is primarily made up of the 22nd ARW, the 931st Air Reserve Group, and the Kansas Air National Guard's 184th Refueling Wing. There are also a number of tenant units assigned to the Base. The air refueling operations is one of only three supertanker KC-135 Stratotanker wings in the U.S. Air Force.

Because of the close proximity of McConnell AFB to Derby, many persons choosing to live off-base have selected Derby as their place of residence. Local military personnel and their dependents stimulate Derby's economy through its businesses, housing, as well as attracting a large number of military retirees. In addition, there are a sizeable number of children of active military personnel who attend schools in the Derby School District and participate in community events and recreation activities. A 2004 study examined the direct economic impacts associated with expenditures related to on-base activities, as well as indirect impacts related to jobs and expenditures within the area's economy based on a geographic area within a 50-mile radius of the Base. According to the study, payroll and annual base-related expenditures, combined with the estimated value of local wages in the affected area, resulted in an estimated total impact of over $396 million annually in the area's economy due to the operation of McConnell.

Aircraft Flight Patterns and Noise Contours

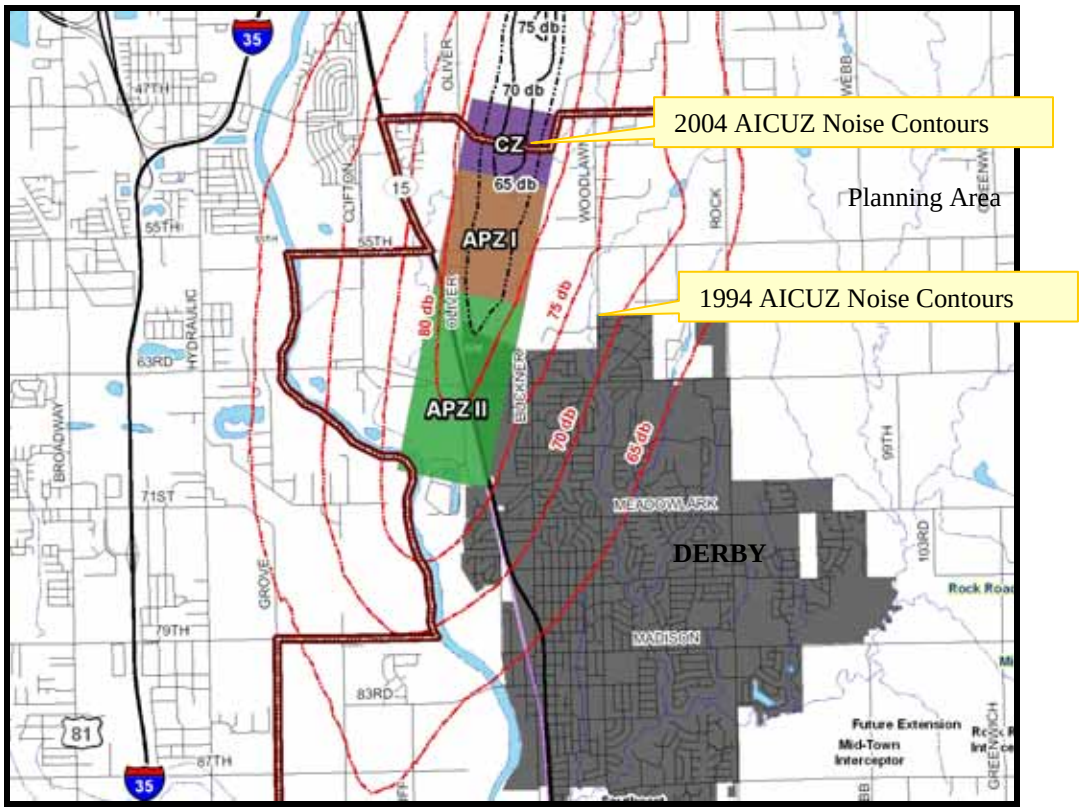
In addition to economic impacts, the mission operations at McConnell Air Force Base also impact land planning and development in the Derby-Wichita area, particularly with land use compatibility around the Base. A major development influence in the Planning Area results from Derby's proximity to McConnell's runways.

Three accident potential zones have been established south of McConnell Air Force Base, as determined by the U.S. Air Force based on examination of past accidents by military aircraft. Potential damage to people and structures from dropped objects or from military aircraft crashes are greater than from general aviation or commercial carriers. The three types of accident potential zones are Clear Zone (CZ), Accident Potential Zone (APZ I) and Accident Potential Zone II (APC II). All three zones have a width of 3,800 feet. **Figure 3.3** depicts the accident potential zones and noise contours associated with McConnell Air Force Base within Derby's Planning Area.

The land area immediately south of McConnell's runways is classified as Clear Zone (CZ). The Clear Zone is 3,000 feet long, and is mostly owned by the federal government. The overall crash risk within the Clear Zone is so high that land use restrictions prohibit, except for crop production, most economic use of the land. The Clear Zone extends southward from 47th Street South and includes a portion of Oliver Street.

Accident Potential Zone I (APZ I) is less critical than the Clear Zone, but significant potential for accidents exist. The APZ I measures 5,000 feet in length and starts at the southerly line of the CZ. It includes the general area around 55th Street South and Oliver.

FIGURE 3.3: ACCIDENT POTENTIAL ZONES AND AICUZ NOISE CONTOURS



Accident Potential Zone II (APZ II) poses less risk than the APZ I. This zone is 7,000 feet in length and starts at the southerly line of APZ I. It includes the K-15 corridor as well as much of the area around the 63rd Street South / K-15 / Oliver intersection.

In 1994 an Air Installation Compatible Use Zone (AICUZ) study analyzed aircraft noise using computer-based noise models as well as identifying accident potential locations related to base operations. The 1994 AICUZ noise contour area (currently referred to as the ***maximum mission area***) was based on McConnell's mission at the time and resulted in noise contours that encompassed approximately 17,777 acres, including a large area in the northwestern portion of Derby.

The AICUZ recommended that residential land uses should be located on property with a DNL of less than 65 and that commercial/retail trade and personal and business service uses are compatible without restriction up to a noise zone of DNL 70. However, these uses are generally incompatible on property experiencing a DNL 80 or above.

In 2004 an updated AICUZ study was completed after the mission of McConnell Air Force Base changed in 2002 from operating B-1, C-12, and F-16 aircraft to the operation of KC-135 aircraft (***existing mission***). The 2004 AICUZ has a significantly smaller noise contour area, containing approximately 2,515 acres. Most of the impact in the Derby area from the existing mission as identified by the 2004 AICUZ falls within the Clear Zones/Accident Potential Zones (CZ/APZ).