Prairie Delaware Piper Master Plan

Unified Government of Wyandotte County and Kansas City, Kansas

Approved
February 26, 2004

HNTB
URBAN DESIGN + PLANNING

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INTRODUCTION

This study was initiated to update the 1999 plan. The previous Prairie Delaware Piper Master Plan was completed and adopted shortly after the Major Tourism Plan was adopted in 1998.

An Advisory Committee was selected by the Unified Government to provide input and raise issues that affect the development patterns within the study area in western Kansas City, Kansas.

The issues of concern that have been discussed include:

- Density of residential develop ment
- Housing types
- Quality of design
- Infrastructure improvements including roads and sewers
- Updating the plan approval process

Many of recommendations from the 1999 Plan still apply and have been incorporated into this plan.

1998 Plan

The Steering Committee from that project requested that the Unified Government examine land development opportunities and impacts based on the impending construction of the Kansas Motor Speedway.

Previous Steering Committee members and additional area citizens were that planning process.

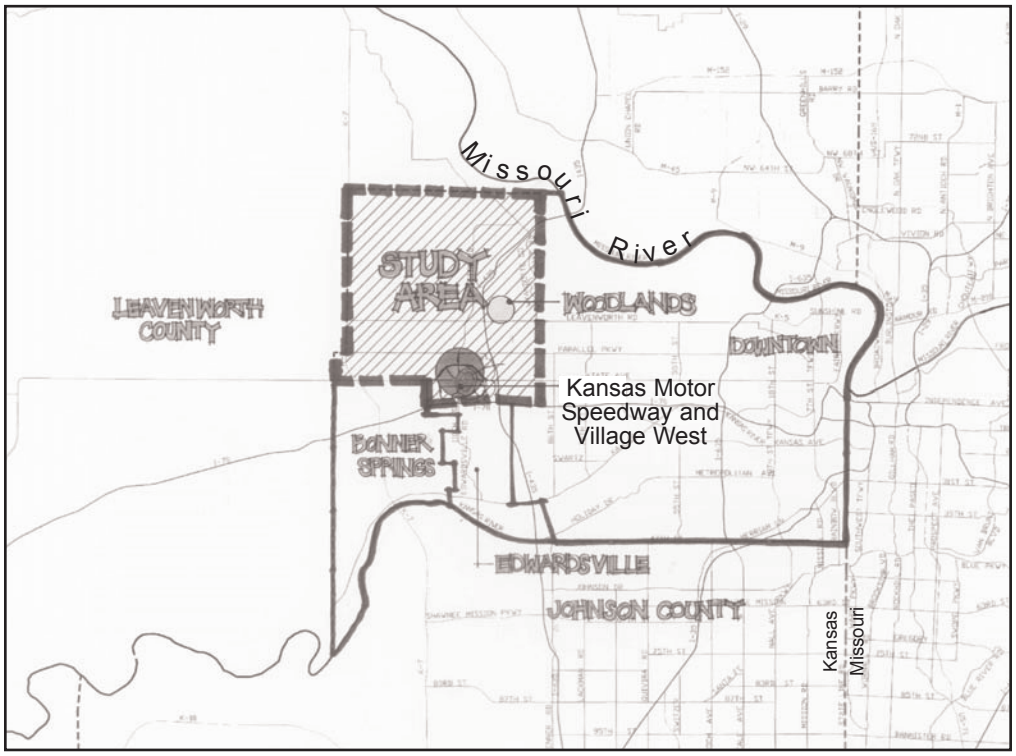
The Prairie Delaware Master Plan was originally prepared in 1980 and amended in 1986. The Major Tourism Plan also amended this plan in 1998. This addition is to be adopted in 2004.

Map 1: Regional Context

EXISTING CONDITIONS

Study Area

The study area includes most of the remaining developable land in Kansas City, Kansas. This area is bounded by the Leavenworth and Wyandotte County line on the north, the Missouri River, Wyandotte County Lake Park and 91st Street on the east, I-70 and State Avenue on the south and K-7 or the Leavenworth and Wyandotte County line on the west.



Map 2: Local Context

Existing Conditions

This area of Kansas City, Kansas includes some exceptionally rich scenic views and attractive rural landscapes. These rolling hills between the Missouri and Kansas Rivers offer a visual character not found elsewhere within the community. The quality of life that the current residents enjoy should be maintained with each new development in this area.

Just as the previous plan noted for this area, the study area is on the fringe of the metropolitan area. However, with the development of the Kansas Speedway and Village West, the landscape for the area is changing significantly and likely to coninue changing over the next twenty years.

Land Use

Over the last two years, developers and land owners have begun to submit large scale residential and mixed-used development plans. These plans have significantly increased the interest of land developers to consider Kansas City, Kansas a desirable residential address.

In addition, existing residential subdivisions are scattered throughout the study area. These generally range in size from two dozen homes to about 300 units or more. Of greater concern are the large residential lots that front many of the arterial streets and potentially land lock large developable parcels.

The area is practically devoid of commercial businesses providing goods and services for daily needs. Village West is serving the surrounding area, but this development is a metropolitan and regional commercial center.

Area residents must still travel beyond the bounds of the study area for groceries and other goods. At one of the community workshops, residents identified the fact that many travel east, to Leavenworth and to Johnson County to do their weekly grocery shopping. To purchase clothes and other dry goods, the majority of those polled shopped in Johnson County.

The area has access to three major open spaces. These are the Wyandotte County Lake Park along 91st Street on the eastern edge of the study area, Wyandotte County Park and Sunflower Hills golf course on the southern boundary of the study area, and Dub's Dread Golf Club which provides an attractive open space amenity for many of the area residents.

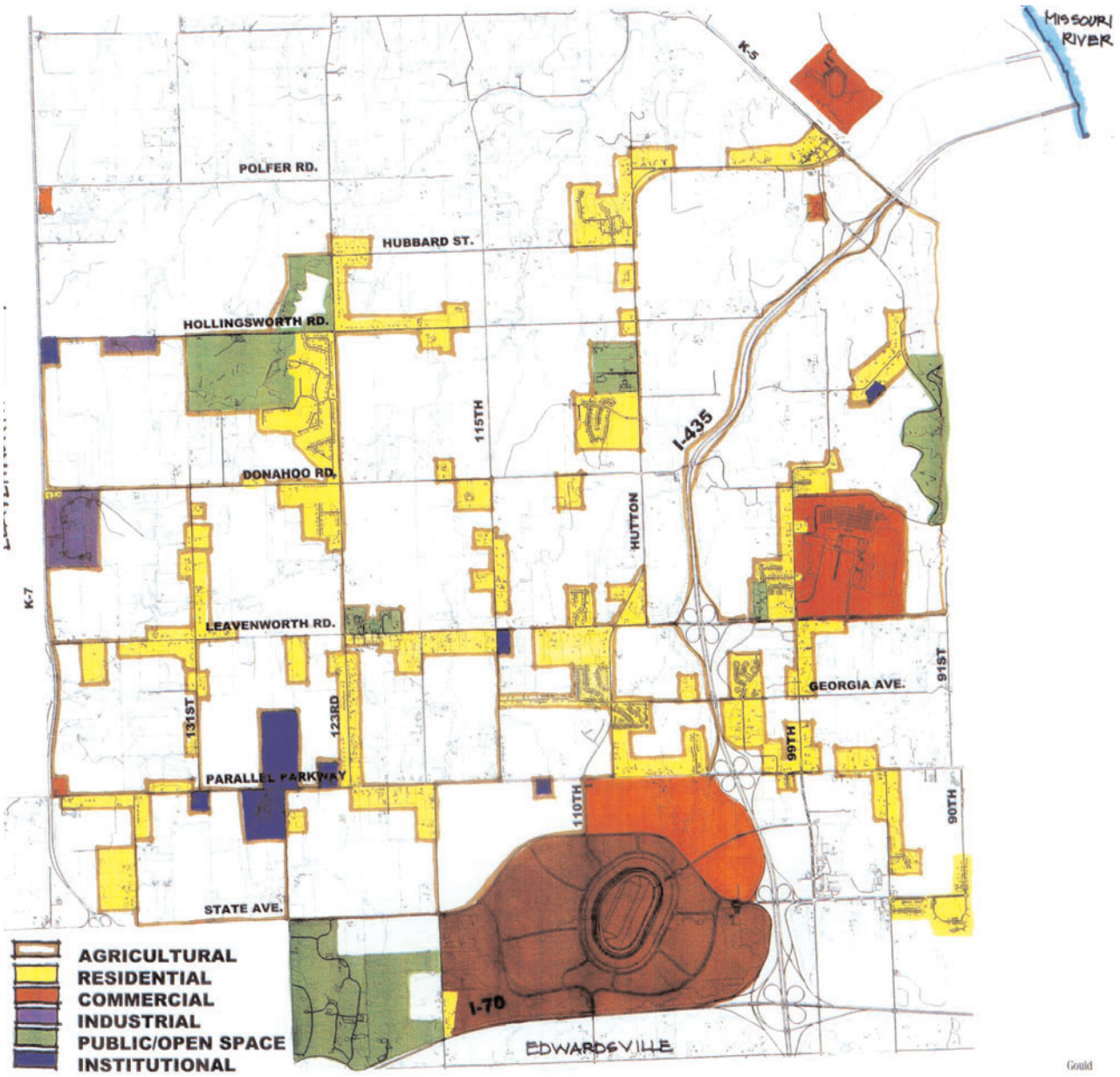
Piper Lake

Fire Station at 123rd and Leavenworth

Entertainment Venues

The study area includes some of the metropolitan area's largest entertainment venues. These include the Kansas Speedway, theWoodlands Race Tracks, the Renaissance Festival, Lakeside Speedway, Verizon Sandstone Amphitheater, the Agriculture Hall of Fame and the multiple venues opening within the Village West development.

The 1.5 mile tri-oval super speedway will initially have a seating capacity of 75,000, with the potential to increase capacity to 150,000. It is estimated that for top racing attractions, 250,000 people may come for the event. In addition, the facility is in use for tours, training and other events throughout the year. Use of the facility includes driver-training, practice, vehicle and vehicle component testing, smaller racing venues and other events.



Map 3: 1988 Existing Land Use

Transportation

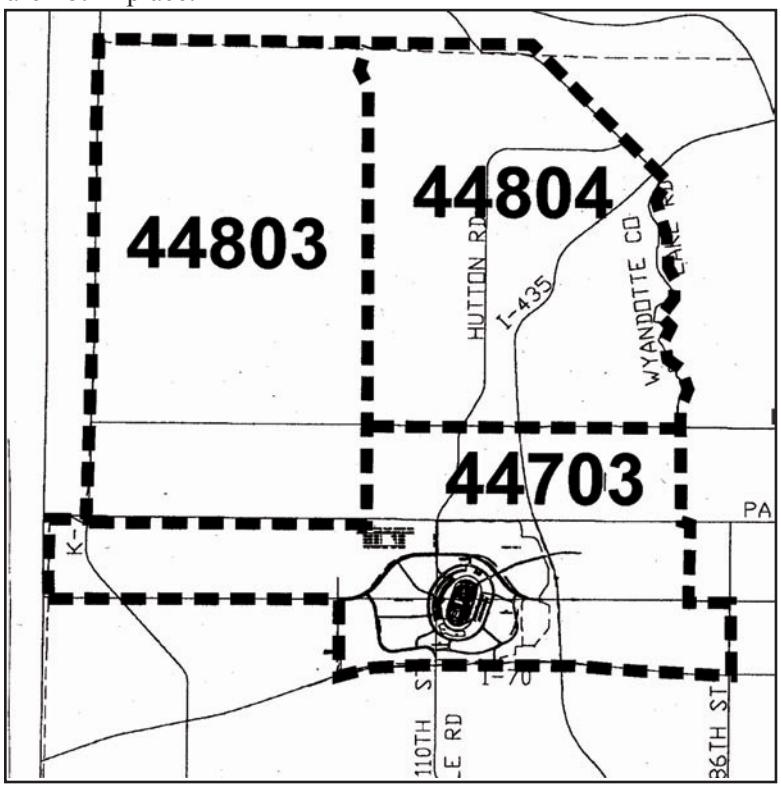
Two interstate highways currently serve the area, I-70 along the southern portion of the study area and I-435 connecting the area to KCI Airport on the north and Johnson County to the south. Three other state highways are within the study area including State Avenue or Highway 24/40; K-7 forming the western boundary of the study area and Wyandotte County/Kansas City, Kansas; and K-5 which parallels the flood plain along the Missouri River.

With few exceptions, the area is well served with section line roads throughout. These serve as the arterial system for future development. Collector roads that are typically located near the center lines of sections designed to serve future development are not in place.

Public Facilities

The study area is served by a police station at 1011 North 80th Terrace. All of the study area is located within precinct 225. Fire Station # 8 is located on the northeast corner of Leavenworth Road and 123rd Street and Fire Station #9 is located at 1011 North 80th Terrace and these two stations serve the entire study area. The West Wyandotte Branch Library is located at 1727 North 82nd Street and serves the entire study area.

All of Piper #203 school district is within the study area, some of the eastern portion of the study area lies within the Kansas City #500 school district, and southern portions are within the Bonner Springs School District #204.



Map 4: Census Tracts

Demographic Trends

The study area is included within three census tracts. The Mid-America Regional Council (MARC) updated their projections in January 1998 before the finalization of the motor speedway plans at 110th Street and State Avenue. The census tracts used for the Prairie Delaware Piper area are 44703, 44803, and 44804 and are illustrated on the Census Tract map. The study area is expected to grow by 4,000 residents and 1,100 households over the next twenty years. The most significant percent change is in the area's projected employment.

The median household income is estimated at $66,910. Retail sales potential of households residing in the study area exceeds $40 million. Since 1990 there have only been 66 dwelling units built per year on average.

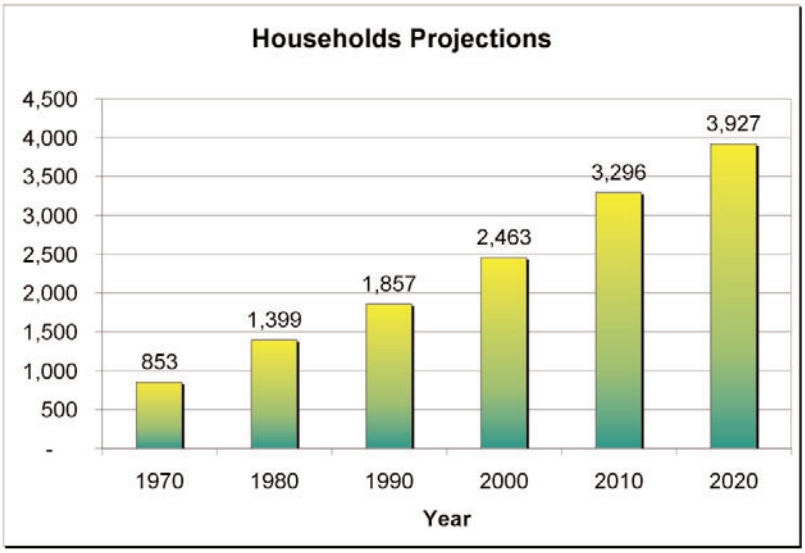


Table 1

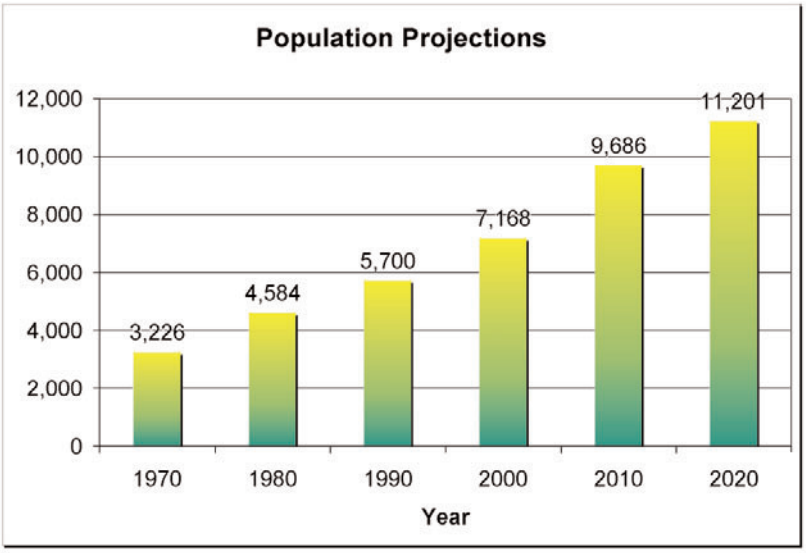


Table 2

Forcast Categories	1970	1980	1990	2000	2010	2020	Percent Change 2000-2020
Population	3,226	4,584	5,700	7,168	9,686	11,201	**56.26%**
Households	853	1,399	1,857	2,463	3,296	3,927	**59.44%**
Employment	483	654	2,387	3,992	7,845	10,879	**172.52%**
Average Income			42,436	66,910			

Table 3: Demographic Summary

Project Goals

The goals of the Prairie Delaware Piper Master Plan are based on direct input from the Steering Committee, community members, Unified Government staff and elected officials. This representative input has provided common ground of community consensus. This agreement resulted from wide ranging discussions with the Steering Committee.

The growth of Kansas City, Kansas in this area is seen as a catalyst for improving the area's public perception and an avenue to strengthen the tax base. The following goals are directed at achieving this mission:

- Control quality development, both residential and commercial.
- Improve image and perception of area.
- Provide attractions for youth, including a community center and recreation activities.
- Concentrate commercial development along K-7 and I-435.
- Provide a central community place with recreational facilities
- Growth and development to be unique and not like other parts of the metropolitan area.
- Provide adequate infrastructure: parks, roads, utilities, drainage.
- Design a well-planned community with a small town character.
- Provide design guidelines to implement a development theme and high quality design.
- Preserve sensitive natural resources and areas.
- Ensure that the plan is implemented.

LAND DEVELOPMENT FRAMEWORK

The planning team evaluated the study area to determine the development feasibility of the land. These natural features form the basis for the Development Policy Plan and are included within this section.

The four natural resource systems that were evaluated include flood plains, stream corridors and steep slopes, soils, and existing vegetation. These systems were individually mapped and then overlaid to understand their relationship and their impact to development.

The following pages describe the four natural features that are mapped and evaluated. These features are:

- Flood Plains
- Stream Corridors / Slopes
- Soils
- Vegetation

Existing Natural features

Flood Plains

Using Flood Insurance Rate Maps, flood plains were identified within the study area. The 100-year flood plain is located in the uppermost portion of the study area, adjacent to the Missouri River and Highway 5. 100 year flood plains also exist in the existing stream corridors. According to the maps, there are also areas of 500 year flood plains and areas of minimal flooding. These occur in the areas between the stream systems Connor Creek and Island Creek and between Conner Creek and Wyandotte County Lake.

The flood plain locations influence the recommendations for development densities. Develop-ment within the flood plain areas is not recommended. It is recommended if development exists within flood plains to install a flood reduction program. Flood plains are affected by land development changes. If permeability of surrounding soils is decreased and storm water runoff is increased, level of hazards will increase in the flood plain areas.

Stream Corridors / Slopes

The variable slope in the study area adds a rich visual character. The majority of the steep slopes are on the northeastern portion of the project area and adjacent to the stream corridors. 2% slopes and fewer are represented in white, on the topography map. White represents a no risk development rating. 3% to 5% slopes are represented in yellow on the topography map. Yellow represents a minor risk development rating. The 6% to 10% slopes are represented in orange on the map. Orange represents a medium risk development rating. Slopes greater than 11% are represented in red. Red represents a high-risk development rating.

The mapping ratings influence the development recommendations. for several reasons. Certain land uses are more appropriate for certain slope percentages, due to cost factors. In addition, when development overbuilds a slope, soil becomes structurally unstable and loss of equilibrium may occur. Developing on portions of steep slopes may intensify risks of landslides and compromise water quality.

Soils

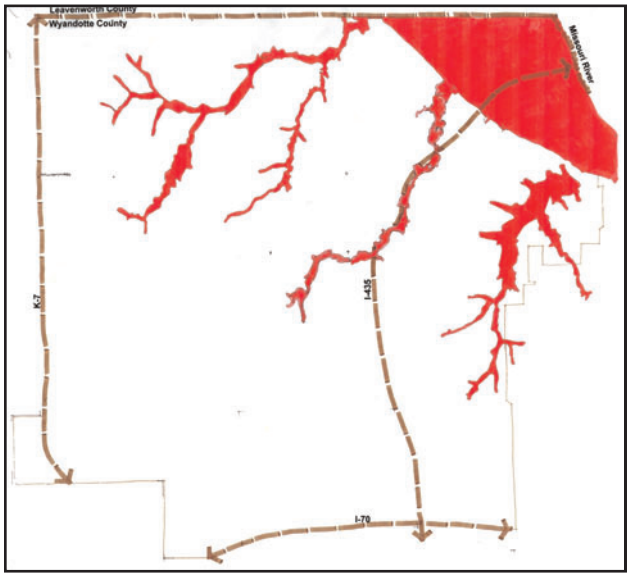
Using the Soil Survey Report for Wyandotte and Leavenworth counties, the soils in the project area were identified and rated. Soil properties, engineering properties, community development suitability, vegetation suitability, wildlife habit capabilities, and recreation limitations were all factors that were rated and mapped.

Soil properties analyzed soil depth to bedrock, water table, texture, shrink-swell potential, permeability, and flooding. Engineering properties analyzed topsoil quality, road appro-priateness, embankment feasibility, irrigation feasibility, and waterway construction. Community develop-ment suitability analyzed the appropriateness for septic tanks, sewage lagoons, dwellings with basements, shallow excavations, and local roads.

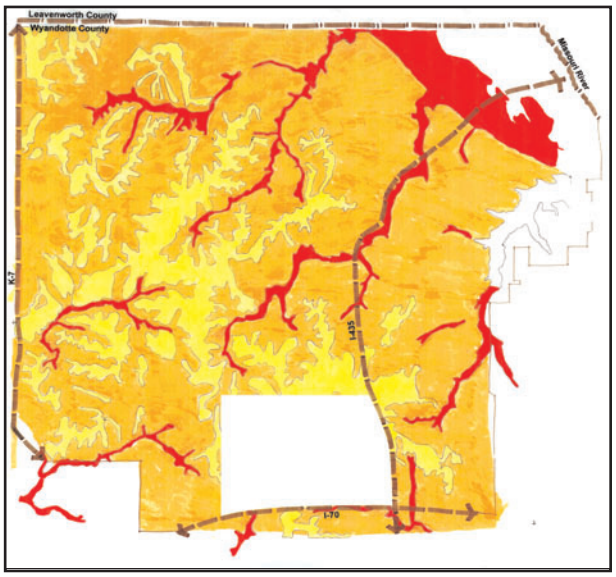
These factors were overlaid to determine the soils best suited for development. The yellow on the map represents low risk. The orange on the map represents medium risk. The red on the map represents high risk.

Existing Vegetation

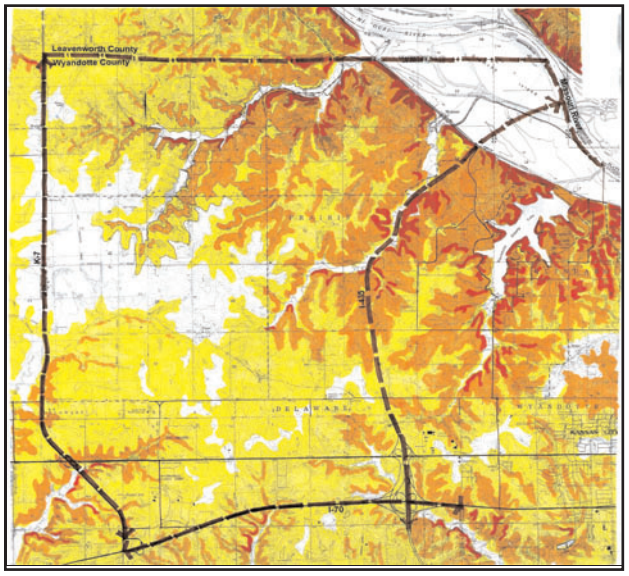
Existing vegetation impacts land development feasibility. Large, dense stands of trees may effect development costs. Removing vegetation may effect environmental quality and visual characteristics currently known to the study area. The majority of the vegetation stands exist in the northeast portions and the southwest portions of the study boundary. Areas with significant vegetation are noted on the map in green.



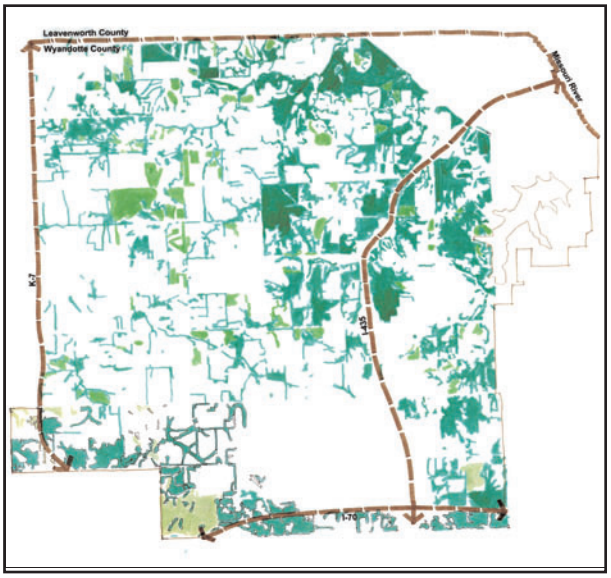
Map 5:Flood Plains



Map 6: Soils Summary



Map 7: Slope Analysis



Map 8: Existing Vegetation

Development Framework

The following development framework is the basis for the future land use plan. This framework identifies factors that affect development potential of land within the study area. The following features influence development:

- natural features which includes steep slopes, flood plains, vegetation and soils,
- existing development anchors, and
- land suitability.

Development Influences:

Natural Systems

The stream corridors, slopes and vegetation within the study area provides the familiar character residents appreciate and want to preserve. It is these features that many believe contribute to the overall quality of life.

Flood Plain

These areas are not conducive to any type of building and development based on severe flooding potential and soil characteristics. Development in these areas is too risky due to land characteristics to recommend building any type of structure. These areas may be appropriate for passive recreation uses and trail connections.

Topographic Divide

This line identifies the ridge that separates natural drainage between the Missouri and Kansas Rivers. The divide separates the ability to provide gravity sewer systems on the south side of the divide to the sewage treatment facility near I-435 and Kaw Drive. One exception to this is the area near K-7 that drains to Wolf Creek in Leavenworth County. Gravity sewer service in this area will need to be addressed. The remaining area north of the divide will require a series of pump stations and force mains to provide public sewer service. Several pumping stations currently exist.

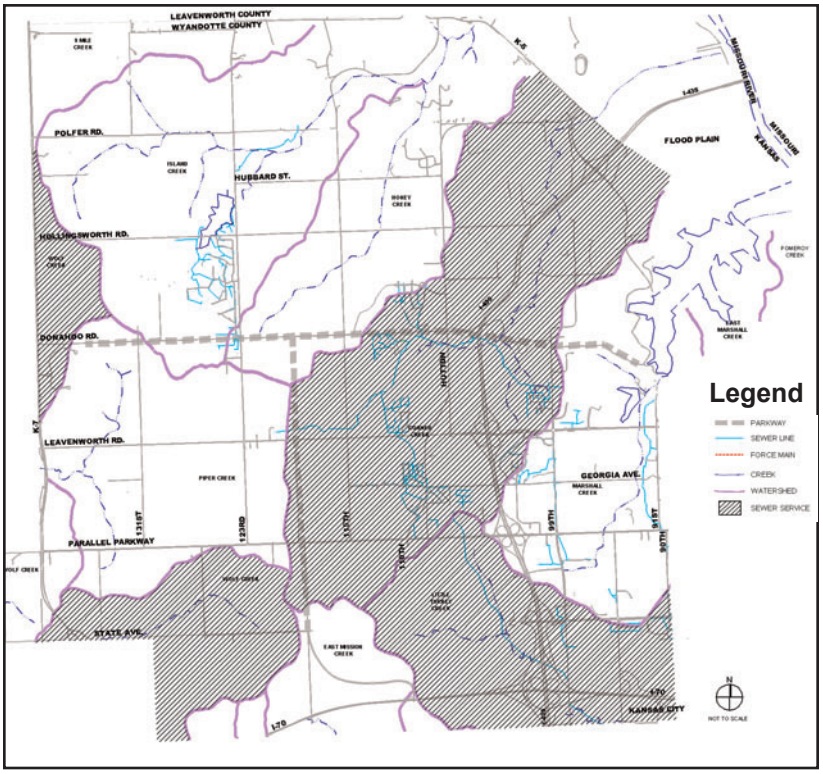
Sewer Shed

Sewer or watersheds are identified so that the reader and users of this plan will understand the development policies that are based on sewer infrastructure. As previously discussed, some areas will require pump stations and force mains, while others require coordination with adjacent jurisdictions.

Only those sheds that cannot be easily served by existing gravity sewer interceptors are identified.

Sewer Service

The area south of the divide and not within the Little Turkey Creek area can be generally sewered through gravity interceptors that access the treatment plant at Kaw Drive and I-435. Some areas will need to coordinate with Bonner Springs.



Map 9:Sanitary Sewer Map

Entertainment Anchors

The Kansas Motor Speedway is the major anchor within the study area. This facility attracts hundreds of thousands of visitors each year and is the catalyst that has spurred development interests within western Kansas City, Kansas.

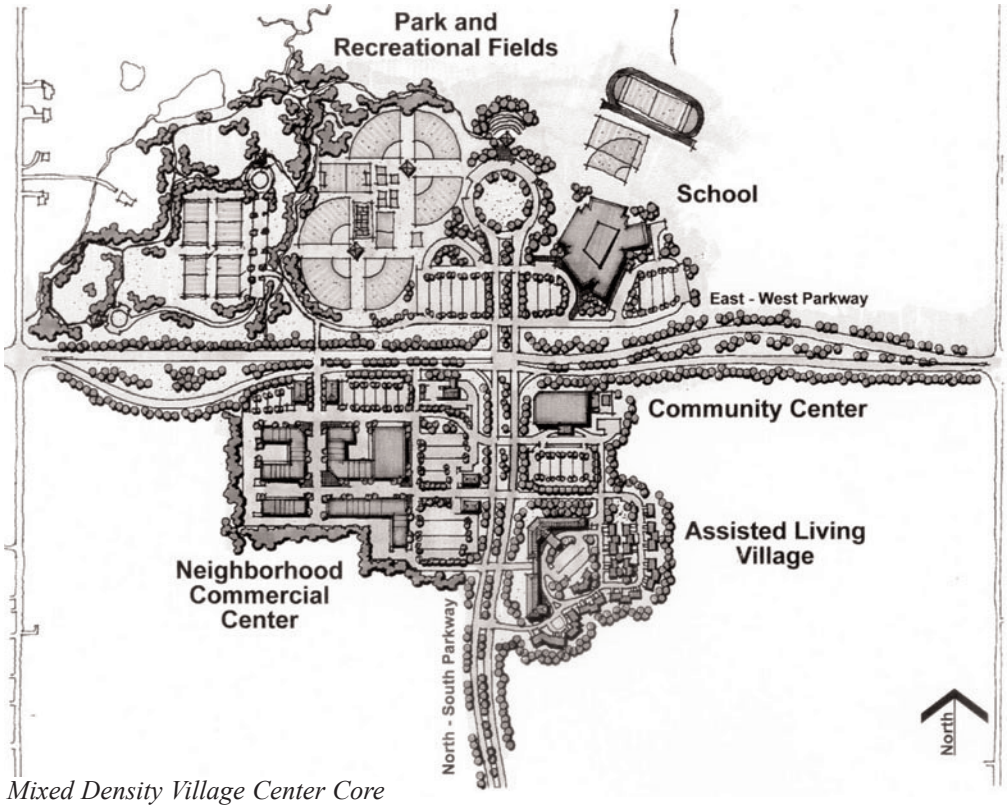
Additional entertainment anchors exist in this area including the Woodlands Race Track, the Verizon Amphitheater, the Agriculture Hall of Fame and the Renaissance Festival. These venues attract visitors to the community as well.

Major Tourism Area

This area is adjacent to the Kansas International Motor Speedway and I-435. This area accommodates major concentrations of large volume retail services that provide goods at a regional scale. In addition, the T-Bones Northern League Baseball Club provides minor league baseball to area fans.

Land identified for regional commercial development should continue be of an adequate size to allow for regional destination-type retail and entertainment develop-ment, where visitors can easily get from one destination to another. It should be close to the speedway to capitalize on spin-off business for complementary activities (dining, lodging, shopping, and entertainment).

Regional commercial development should not be allowed to follow a narrow linear pattern, such as following the length of Parallel Parkway between K7 and I-435. This will have an adverse impact on the quality and type of development that could be achieved with more compactly defined sites of adequate size. There is sufficient regional commercial land specified to accommodate several million square feet of development, depending on the mix of uses. This provides at least a 20-year development horizon.



Mixed Density Village Center Core

Land Suitability:

Land suitability was determined by conducting an inventory of the characteristics of the land and analyzing these factors in regards to their impact on development. The characteristics inventoried were topography, soils, vegetation, and flood capabilities. The land parcels were then grouped into three categories:

- Best Development Areas
- Lower Density Development Areas
- Limited Development Areas

Each of these factors was used to rate land parcels based on potential development ability. The composite of these risk factors determines the land's rating for development suitability. The summary of the analysis is described for each area.

Best Development Areas

This rating was based on low development risk factors for most types of development densities. These lands have minimal slopes, little or no flood capabilities, and no stands of vegetation. The soils in these areas are the most conducive to development due to their soil characteristics. The land areas in this category rating would also be the least costly to develop and have the least impact on the rest of the study area.

Lower Density Development Areas

The land parcels in these areas are more suited for lower density development based on land suitability rating. These areas may have varying slopes, limited but potential flooding, scattered vegetation stands, and soils that may not be conducive to basements, foundations or high-density development. The areas may not be costly to develop, but may have direct impacts on the rest of the study area.

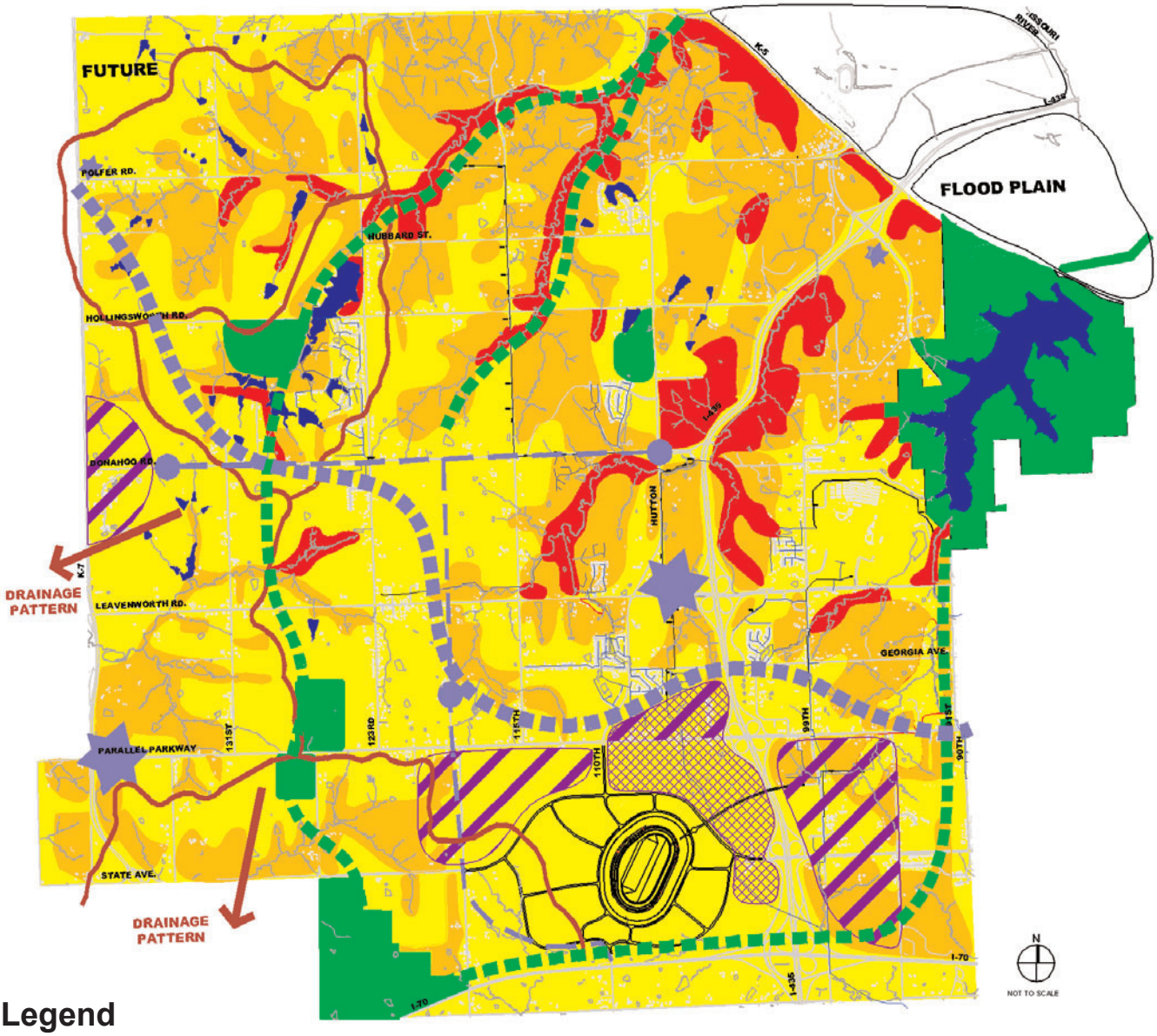
Limited Development Areas

This category for land suitability is not necessarily suited for intense, suburban development. Based on the land suitability factors, these areas may have severe and varying slopes, potential flooding, large stands of vegetation, and soils that are not conducive to building or development due to their material makeup. Development may be costly and pose a risk on the quality of life.

The area north of the divide will require force mains and pumping stations, which will provide sewer service to those areas. The Unified Government is studying the options of building sewer treatment plant along the Missouri River side of the divide. A treatment plant would provide significantly more development potential.

Piper Lake

Map 10: Development Opportunities



Legend

- LIMITED DEVELOPMENT AREA
- LOWER DENSITY DEVELOPMENT AREA
- BEST DEVELOPMENT AREA
- EMPLOYMENT AREAS
- MAJOR TOURISM AREA
- EMPLOYMENT / TOURISM AREA
- DEVELOPMENT CORRIDOR
- TRAIL CONNECTIONS / PARKS
- TOPOGRAPHIC DIVIDE
- RURAL OR NEIGHBORHOOD CENTER
- GATEWAY
- PARKWAY
- SEWER SHED

FUTURE LAND USE PLAN

The following plan recommendations are illustrated on four plans. These plans should be evaluated and considered collectively. These are the:

- Future Land Use Plan
- Development Policy/Phasing Plan
- Transportation Concept Plan
- Open Space Plan

The Land Use Plan illustrates the prefereed development pattern for the Prairie Delaware Piper area. It should be reviewed first before considering the other plan components.

The Development Policy/Phasing Plan is a subset of the Land Use Plan and it divides the study area into two areas. These two areas have specific design standards that apply to development proposals.

The Transporation Plan illustrates the improvements that are contemplated to serve future land use. Right-of-way recommendations are included in the descriptions.

The Open Space Plan illustrates the opportunities to provide open space and make potential greenway connections throughout the community.

Introduction

This Land Use Plan both builds on existing land use patterns and land development capacities. The concentrations of development activities are focused near commercial and employment centers.

One of the challenges for the Prairie Delaware Piper area is to create a variety of distinctly different neighborhoods so that existing and future residents are offered choices of neighborhood and unit types.

LAND USE DEFINITIONS

Low-Density Residential

Low-density residential uses are recommended north of Donahoo Road. Should infrastructure improvements be provided such as public sewer and adequate road arterials, then higher single-family density may be appropriate.

Currently, these areas are not as densely developed as a typical suburban residential subdivision. These areas are for single family detached residential units and should appear to be less dense. Development in these areas should include significant areas for open space to maintain the rural character of the area. These areas may include lots ranging in size from 3 acres to 1/3 of an acre.

Development proposals for lots that front a major arterial, typically described as piano key lots, are not recommended nor encouraged. Clustering units and dedicating large areas for open space are encouraged. Clustering of units would allow for open space and other community amenities.

Low density residential use

Areas within the plan that are limited by transportation and infrastructure improvements as well as the conditions of the existing topography and vegetation afford areas for large lot development. Residential development of these parcels should work with the natural terrain of the site to be functionally compatible with their rural setting.

Rural or very low residential densities are appropriate in the very northern part of the planning area, because of existing conditions and land capacity constraints.

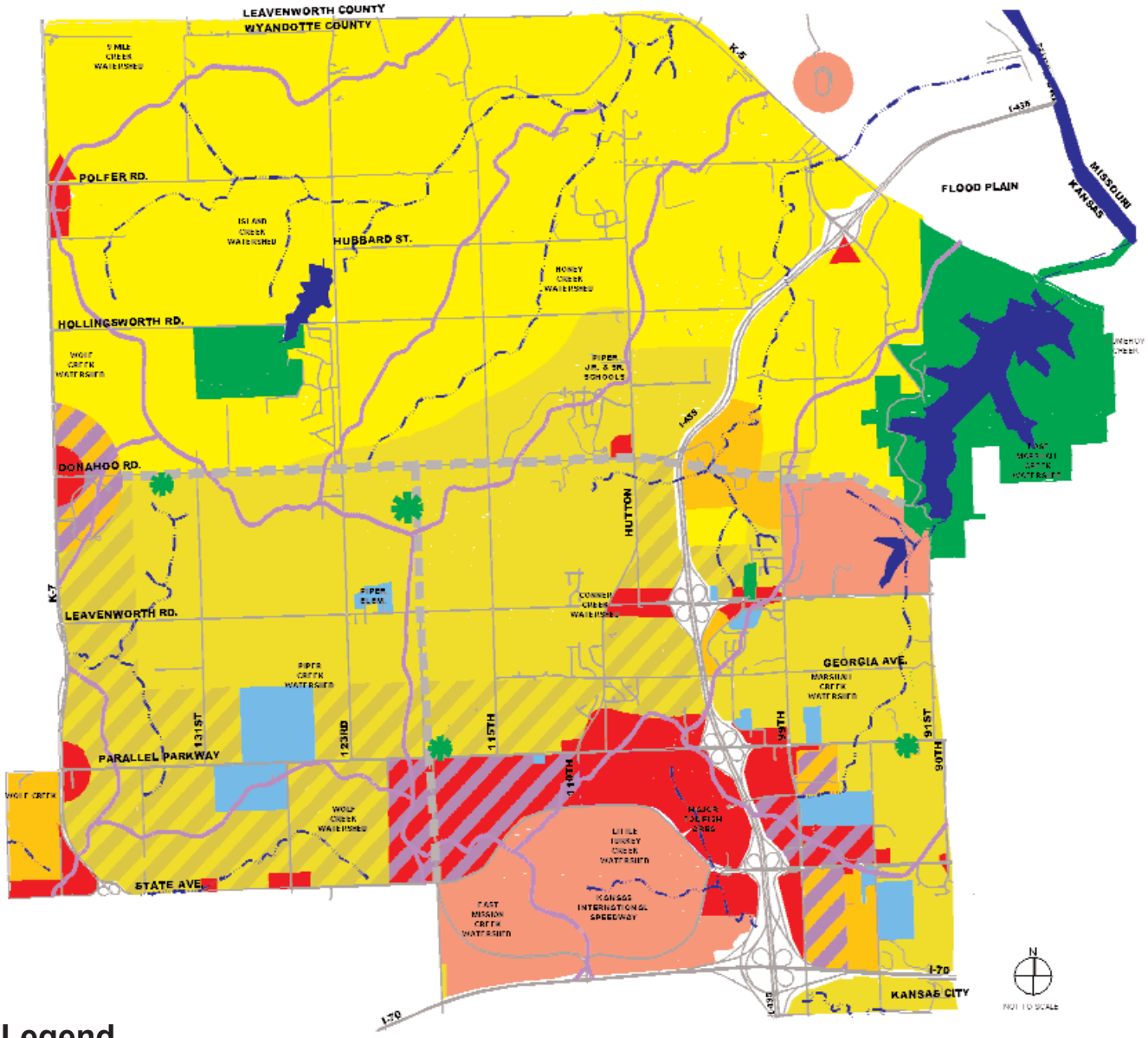
Suburban residential use

Suburban Residential

The majority of the planning area allows for typical single-family detached residential units on what are typically referred to as quarter-acre lots. Generally these subdivisions will develop with 3-to-4 units per acre.

Suburban density development should be primarily located between Leavenworth Road and the more intense commercial, industrial and entertainment uses south of Parallel Parkway. This would create an edge between the mixed use village center and the high intensity activities around the motor speedway.

Map 11: Future Land Use



Legend

- LOW DENSITY RESIDENTIAL
- SUBURBAN RESIDENTIAL
- MIXED RESIDENTIAL
- OFFICE
- BUSINESS PARK
- PLANNED COMMERCIAL
- PUBLIC / SEMI-PUBLIC
- OPEN SPACE
- ENTERTAINMENT
- SMALL COMMERCIAL
- POTENTIAL OPEN SPACE
- PARKWAY
- CREEK
- WATERSHED

Multi-unit, single family residential use

Mixed-Use Residential

Mixed residential development is appropriate in limited areas. These areas could include a variety of residential densities and unit types. These areas could be developed with patio (zero lot line) homes, townhouses, condominiums, garden apartments, housing for seniors, and other multifamily uses. It is the intent that these units would be owner occupied housing. If multi-family apartment units are part of an overall development plan, then these units should be market rate. These areas are along I-435, and buffer commercial/office development and suburban density residential development.

Public oriented uses such as schools, libraries, community recreation facilities (both indoor and outdoor) and places for worship may also be planned within a mixed residential development. See diagram on page 13.

Mixed-use residential includes a minimum of two types of residential units.

No apartments will be allowed north of Leavenworth Road along the I-435 corridor.

Commercial Land Uses:

Small Commercial

The intent of this use is to allow for commercial retail and limited commercial services at major arterials near low-density residential areas of the community. These locations are not intended to provide a complete range of goods and services.

Neighborhood commercial use

Neighborhood Commercial

Neighborhood commerical areas are needed for conveniece retail that would function or develop as a center for local shopping for surrounding neighborhoods. Such a center should have a least a full size grocery, pharmacy and other related retail and service establishments.

Example of Mixed Density

Regional Commercial

This category allows major retail uses, including restaurants and hotels. This would include centers for large discount stores currently called big box centers and have stores that serve large populations.

These should be part of the Major Tourism District or adjacent to Village West. An additional regional commercial center may be appropriate along K-7 with access to a proposed interchange.

Office

This is to encourage the development of business parks. In some cases, this use is located to buffer residential development from more intensive commercial retail development.

Office development is a longer-term opportunity that will follow commercial and residential development. Convenient freeway access is important to attract employees and workers living in other parts of the metropolitan area. The I-435/I-70 interchange location also provides a convenient location between the employment centers along I-29 near KCI and those along I-435 in Johnson County.

Business Park and Light Industry

This category identifies employment areas that are for manufacturing, light industrial uses, distribution-warehouse, trucking and other employment activity. The Kansas City, Kansas area currently has limited available land for industrial uses because of high occupancy rates within the city.

Office park uses may be mixed within areas for light industry for more versatile business parks.

Entertainment

This category identifies areas that have significant capital investment in infrastructure that entertains visitors.

The study area includes several metropolitan venues that attract visitors throughout the area. These include the under-construction Kansas Motor Speedway, the Woodlands Racetracks, and Verizon Amphitheater..

Because of the number of visitors and users of these facilities, there is a need to plan for support commercial and entertainment uses.

Actions

- Encourage retail and commercial development as well as regional shopping within the Major Tourism Area before allowing these regional types of uses in other designated commercial areas.

Public and Semi-Public and Institutional Uses

This category identifies major public and semi-public facilities, lands and private uses for religious institutions. This would also include the Wyandotte County Fairgrounds and the Agricultural Hall of Fame. Not every religious institution is noted on the land use plan. These facilities are allowed within the residential categories. In addition this includes land that is used for private and public schools as well as areas for worship.

In addition, the overall study area will need to include future public and institutional facilities such as schools, a library, indoor and outdoor recreation facilities, places for worship, and potentially a community center.

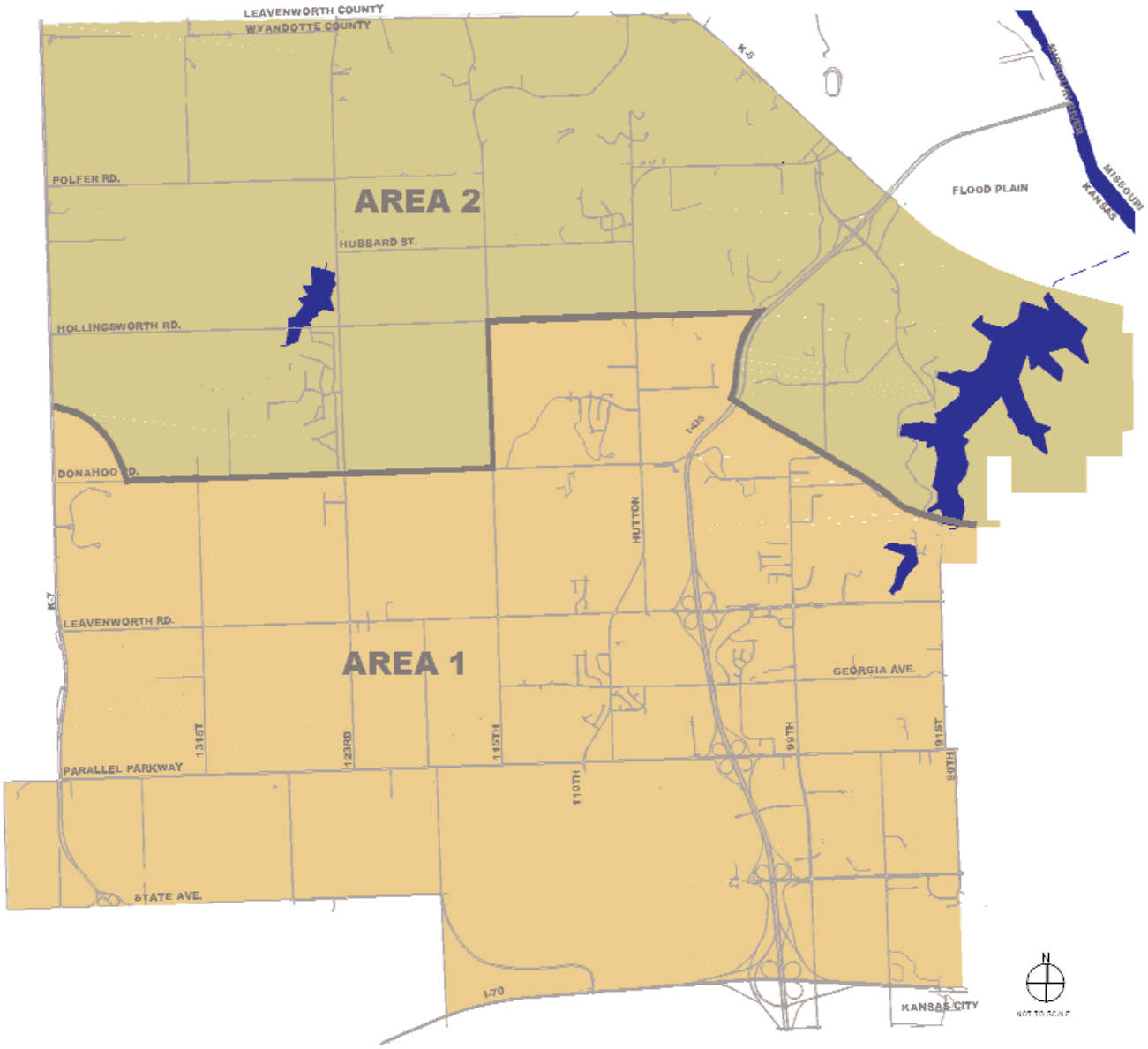
Parks and Open Space

This category identifies existing land use for parks, recreation and open space.

Institutional Uses

In addition, this area should include future public and institutional facilities such as schools, a library, indoor and outdoor recreation facilities, places for worship, and a community center.

Map 12: Development Policies



Development Policies and Guidelines for Area 2

Intent: These parcels are more suited for lower density development due to factors such as varying slopes, limited but potential flooding, scattered vegetation stand, and soils that may not be conducive to basement, foundations or high-density development.

Land Use Type	Average Square Footage Guidelines	Allowed	Minimum Acreage	Open Space	Amenities	Landscape	Archtectural/ Building Design Review
Low Density Residential	See Table 7	Yes	None	12%	• Gazebo and tot lot • Trails • Barbeque and picnic areas		No
Suburban Residential	See Table 7	Yes	–	17%	–		Yes, if buildings are less than recommended square footage
Mixed Residential	–	No	–		–		–
Small Commercial	5,000-25,000 sf per center	Yes	5-10-Acres	12%	• Landscape buffer • Trail		Yes
Neighborhood Commercial	100,000-150,000 sf per center	Yes	15-35-Acres	20%	Landscape buffer • Trail • Outdoor sitting area		Yes
Regional Commercial	150,000-40,000 sf per center	No	–	–	–		–
Office	Sites along I-70, I-435, K-7	No	5-10 Acres (10-Acre maximum)	-	Landscape buffer • Trail • Outdoor sitting area		-
Light Industry/Business Park	Sites along I-70, I-435, K-7	No	–	–	–		–

Table 4

Development Policies and Guidelines for Area 1

Intent: Low development risk factors including minimal slopes, little or no flood capabilities, no significant stands of vegetation, and soils most conducive to development.

Land Use Type	Average Square Footage Guidelines	Allowed	Minimum Acreage	Open Space	Amenities	Landscape	Architectural / Building Design Review
Low Density Residential	See Table 7	Yes	40-Acres: lots clustered lots with open space	10%	See Table 7		No
Suburban Residential	See Table 7	Yes	None	15%	See Table 7		Yes, if buildings are less than recommended square footage
Mixed Residential	See Table 7	Yes	25-Acres	See Mixed Residential Guidelines	See Table 7		Yes
SmallCommercial	5,000-25,000 sf per center	Yes	5-10-Acres	10%	• Landscape buffer • Trail		Yes
Neighborhood Commercial	100,000-150,000 sf per center	Yes	15-35-Acres	15%	• Landscape buffer • Trail • Outdoor sitting area		Yes
Regional Commercial	150,000-40,000 sf per center	Yes	20-100-Acres	15%	• Landscape buffer • Trail • Outdoor sitting area		Yes
Office	Sites along I-70, I-435, K-7	Yes	5-25-Acres	20%	• Landscape buffer • Trail • Outdoor sitting area		Yes
Light Industry/ Business Park	Sites along I-70, I-435, K-7	Yes	40-Acres	25%	• Landscape buffer • Trail • Outdoor sitting area		Yes

Table 5

DEVELOPMENT POLICIES

Single Family Detached Residential Unit Size

Single family detached residential units are in demand in western Kansas City, Kansas. Some standards are needed to enhance the overall quality of development within this area.

Table 6 identifies the square footage requirements for single family detached units. The requirement varies based on the number of units within a subdivision and the location of the subdivision as illustrated on Map 11.

Residential unit square footage requirements are more flexible in subdivisions that have 100 or more units.

Table 6: Residential Unit Size

	Lot Width	Square Feet Minimum*
Area 1**	80-100% 70 feet 0-20% 50 feet	1600
Area 2	85-100% 75 feet 0-15% 50 feet	1750

*Square feet calculation is defined as the usable area, including floor and wall coverings, that is mechanically heated and cooled with proper natural light and egress to meet building code standards - must be shown on building plans to be counted, but does not include the garage.

**Age restricted, single family detached, housing for seniors is allowed in Area 1 with a minimum of 1,250 square feet in a unit with a basement, or 1,400 square feet in a unit without a basement.

Residential Development Amenity Guidelines

Amenities within residential subdivisions are an important factor when potential home buyers consider purchasing a home. Amenities enhance the overall value of a neighborhood and allow residents to meet and get to know one another.

Amenities are required for each residential subdivision. The requirements are based on the number of units within the subdivision.

Residential developments of any unit type with fewer than 50 dwelling units are required to have one small amenity.

Residential amenities

Residential developments with 50-to-200 dwelling units are required to have two (2) amenities. Only one (1) of the required amenities may be a small amenity.

Residential developments with more than 200 dwelling units are required to have three (3) amenities. of which one (1) amenity may be considered a small amenity.

Table 7: Residential Amenity Guidelines

Small:	
	Basketball, volleyball, or other court sport.
	Open play area of at least 15,000 square feet with maximum of three (3) percent slope and tow benches and one play structure.
	One picnic area with a minimum size of five-thousand (5,000) square feet and including a minimum of two (2) picnic tables, one (1) shelter , and one (1) barbeque grill/pit per area.
	Option provided by owner, but must be considered equal to one of the other small options.
Regular:	
	Swimming pool.
	Golf course.
	Residential clubhouse.
	Two (2) basketball, volleyball, or other court sports.
	Two (2) tot lots with a minimum size of four-thousand (4,000) square feet per area, one (1) play structure per tot lot, one (1) bench per tot lot.
	Two (2) picnic areas with a minimum size of five-thousand (5,000) square feet and including a minimum of two (2) picnic tables, one (1) shelter , and one (1) barbeque grill/pit per area.
	Trail(s) for pedestrian and/or bicycles that connect(s) to the overall trail network within the area. This trial may be within preserved natural corridor.
	Option provided by owner, but must be considered equal to one of the other regular options.

Mixed Use Residential Guidelines and Design Considerations

The community needs a variety of housing choices for long term sustainability. The Land Use Plan, Map 10, illustrates areas where mixed use residential development is recommended. These locations have good access to major road arterials and have available sewer access.

The following guidelines and Table 8 describe and define the unit types and amenities required for mixed use residential development proposals.

Guidelines:

- Development sites should be at least 25 acres in sizefor mixed-use or mixed density residential projects.
- Sites that are less than 25 acres in size are recommended for single family detached residential development.
- Establish an overall design theme for a mixed use residential plan.
- Design streets within residential neighborhoods to connect to adjacent uses.
- Avoid designing subdivisions that have all the same unit type and lot size.
- Encourage a variety of architectural styles within each neighborhood.
- Establish landscape standards that provide an overall theme for the development.

Mixed use example

Table 8:Mixed-Use Residential

	Small	Medium	Large
Minimum Acres*	25	100	200
Units*	100 - 299	300 - 649	650 or more
Percent SFD units Minimum Percentage	66	55	50
Percent SFD units Maximum Percentage	None	None	None
Percent Duplex Maximum Percentage	33	30	30
Percent SF Attached (3 or more units) Maximum Percentage	33	30	30
Percent Apartments Maximum Percentage	None	20	25
Commercial Acres Maximum Acres	None	6	15
Commercial SF Maximum Square Feet	N/A	40,000	100,000
Commercial Uses Not Allowed	N/A	Drive-thru commercial	Restricted by plan
Open Space Percent Maximum Percentage	10	12	15
Setbacks	Based on Plan	Based on Plan	Based on Plan
Amenities Required	Trail/sidewalk and bikeway connections	Trail/sidewalk and bikeway connections	Trail/sidewalk and bikeway connections
Additional Amenities Required	2	3	4
Landscape	As required within code	As required within code	As required within code

*A development may use either areas of units to qualify.

Overall Planning and Design

Quality of Design

A common theme throughout all of the community workshops and meetings was the concern and desire that new development be of the highest quality. In the major tourism area now known as Village West, the Unified Government has effectively used design guidelines to achieve the high quality design that was desired.

Quality design impacts both the site design and the building design. This would include establishing standards or design guidelines for:

- New residential neighborhoods,
- Commercial centers, and
- Employment areas.

Actions

- The Unified Government will work with property owners and developers to establish well planned, commercial centers and technology ready business parks along major transportation corridors.
- The Unified Government will work with residential developers to coordinate residential subdivisions to function as neighborhoods with community services including parks, religious institutions, schools and open spaces.
- The guidelines within this plan should be used to evaluate new developments proposed within the study area.

Residential amenity

Land Use Compatibility

New development should be compatible or 'fit' within the overall setting.

Guidelines

- New residential developments that are proposed to adjacent residential subdivision should have lot sizes and unit sizes that are similar in size, or
- New residential developments that are proposed to adjacent residential subdivision should have lot sizes and unit sizes that transition in size from the existing development to the new development if a variety of units types and lot sizes are proposed. The transition can be accomplished by utilizing existing natural features, setbacks, berms and landscaping, or by placing larger lots along a property line.

Residential Design Guidelines

The following design guidelines are for residential developments.

Residential Building Materials

- Primary materials for the fronts of homes should be: masonry, stucco, cement board, and wood siding.
- Accent materials should include real or cultured masonry materials.
- For side and rear building facades the use of use horizontal lap siding and vertical lap vinyl (minimum 42 gauge) siding is acceptable.
- Roof materials should be a composite shingle (35 year minimum) or approved equal.
- Use of plain, flat siding is discouraged as a primary siding material. Use of horizontal siding on the front of the home with panel siding on the sides and rear is discouraged.

Architectural Diversity

- All sides of a building shall display a similar level of quality and architectural interest. The majority of a building's architectural features and treatments shall not be restricted to a single façade. However, direct window conflicts across side property and/or rear property lines should be avoided.
- Incorporate a variety of features such as overhangs, dormers, bay windows, cantilevers, porches, entries, accent materials to provide articulation and interest.
- Include single story elements such as porches, covered entries and second stories that have a set back from the first floor on two story homes.
- Fronts of buildings should be articulated thorough the use of window-bays, insets, balconies, porches or stoops related to entrances and windows.
- The overall residential community should include multiple building elevation designs. One front, side and rear building elevations should not be used on more than 40 percent of the units.

Garages and Carports

- Garages and carports should incorporate architectural treatments that derive from the main building in terms of materials, detailing, roof materials and colors. When possible, side and rear loaded garages and carports are preferred.

Front loaded garages and carports: Front loaded garages should incorporate at least one of the following guidelines to limit the dominance of garage doors on the front facade:

- Incorporate upper level dormers above the garage, or
- Design porches, stoops and/or facades should protrude at least five (5) feet in front of the garage, or
- Use trim, windows and other details to de-emphasize the visual impact of the garage in relation to the rest of the structure.

Safe Rooms

All duplexes and tri-plexes must be built with a tornado safe room for the protection of the occupants.

Housing Style Variation

Residential units within developments of more than 25 dwelling units should have a minimum of three distinctive floor plans, with a minimum of three elevations per floor plan.

Identification Features

All residential developments are required to have entry features. These features may include:

- Neighborhood name within a landscape feature
- Monuments
- Special lighting feature
- Enhanced bus stop
- Fountain
- Special landscape

Commercial Centers:

Commercial centers are based on the concept framework that resulted from the community meetings. Commercial centers should serve the future surrounding neighborhoods. The centers will vary in development intensity and number of goods and services to be provided based on the land capacity analysis and the proposed residential densities.

Specific commercial locations are not identified on the Land Use Plan. identifying appropriate locations is premature while the area is experiencing rapid growth. Market forces will influence the timing and location of commercial centers. The following types of centers are considered:

Rural Commercial Center

The intent of these nodes is to allow for commercial retail and limited commercial services at major crossroads in the rural and low-density residential areas of the community. These areas are not intended to provide a complete range of goods and services. These types of centers should be north of Donohoo Road and have access to at least one arterial.

Neighborhood Commercial Center

Neighborhood commercial centers will offer residents of the surrounding area access to basic, daily goods and services through limited retail and service operations (small market, hair salon, dry cleaners, day care) and other community services). Small restaurants could also be included (coffee shop/café, take-out, sandwich shop, deli, etc.) Development of these services in the low-density residential area helps to preserve the rural aspects of the landscape while allowing residents to remain in the "village" if desired to obtain basic goods and services.

The preferred development pattern would be to cluster these establishments in a compact pattern, with easy pedestrian access among the establishments, rather than in a scattered linear pattern that requires automobile use to get from establishment to establishment. This will help to maintain the small town/village ambience.

These centers will be south of Donohoo Road and should have access to an arterial road and a collector road that directly connects to adjacent neighborhoods.

Commercial Design Guidelines

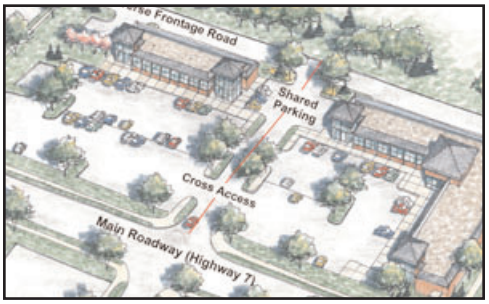
Architectural Features

All sides of a building shall display a similar level of quality and architectural interest. The majority of a building's architectural features and treatments shall not be restricted to a single façade. However, direct window conflicts across side property and/or rear property lines should be avoided.

Incorporate a variety of features such as overhangs, pitched roofs, special roof treatments for flat roofs, cantilevers, entries, covered walkways, accent materials to provide articulation and interest.

Commercial Uses Actions for Implementation:

- Developers should illustrate the need for such centers with appropriate market information.
- Condense number of commercial districts and correlate to land use plan.
- All neighborhood commercial centers should be a planned district.
- Allow on-site density transfer (cluster) to protect sensitive areas
- Review landscaping requirements for all types of development, corridors and villages
- Establish detailed design criteria for residential and non-residential development
- Establish appropriate infrastructure provision requirements.
- Establish minimum and maximum densities for all commercial planned districts.



Small commercial center example

Employment Areas

Locations adjacent to the interstate highway system have been identified as existing or potential employment areas. The Kansas Speedway and Village West development are one center and should continue to develop. Another is along K-7 and Donahoo Road. This potential center is reserved based on the desire to improve K-7 to a limited access highway, planned improvements to Donahoo Road and the planned interchange of Donahoo Road with I-435.

In addition to speedway-related industrial development, the location near the junction of two major interstates makes it attractive for wholesaling, warehousing and distribution facilities. These employment uses also support retail and commercial establishments that will be located nearby.

Landscaping and Screening

The intent of these guidelines is to generally enhance the quality and appearance of developed properties within the City.

All residential lots shall have two trees per five thousand (5,000) square feet per lot, up to five trees per lot. One tree shall be in the front or corner side of the lot.

In all multi-family residential developments, one (1) shade tree per dwelling unit is required in the front or corner side yard, and one (1) tree per four thousand (4,000) square feet of site area for uses other than residences. The latter requirement may be reduced by fifty percent (50%) if specimen trees that are 10 inch caliper or greater are saved on-site. A minimum of 10 foundation shrubs are required for every 200 feet of building perimeter.

The location of all special site features and amenities. The types of features that should be identified include, but not limited to the following: gateways, entry monuments, entry medians, special light fixtures, development identifications signs, club house, pool, trails, all open space features, buffers, etc.

All residential lots shall have foundation plant materials. These shrubs should be planted along the front yard-foundation of a building. Sides of residential units that are visible from the public right-of-way such as those units on a corner lot should also have some foundation plant materials.

- Foundation plant materials means those shrubs that normally attain a height greater than 36 inches at maturity and shall be a minimum of 18 inches in height at time of planting.

Streetscape

.All developments shall be required to have a streetscape. Streetscape elements shall typically include trees, street lighting, sidewalks and other plantings that may be appropriate. Streetscapes may be identified in the City's comprehensive plan or as determined by the Director.

- Generally, streetscape is defined as the area between the property line or right-of-way and the curb or edge of a street. Landscape materials within the streetscape shall not be counted as part of the development site landscape requirements.

Landscape and streetscape amenities

TRANSPORTATION PLAN

The transportation recommendations address current issues and concerns related to mobility in Prairie Delaware Piper plan area. This chapter identifies the key elements of the transportation system, recommended goals for the system, system management and demand management policies, a classification of the transportation system, a recommended future transportation network and bicycle/pedestrian system elements. A primary issue is the lack of a street hierarchy in the community. This plan identifies policies for establishing a street hierarchy with the proposed land use. The recommendations identify specific improvements regarding transportation needs to guide future investment in the study area and determine how land use and transportation decisions can be brought together to benefit the community.

Elements of the Transportation System

The study area is served by a grid system of roadways, with the primary traffic coming in and through the community on Interstate 70 (east/west) and Interstate 435, a loop freeway serving Kansas City Metropolitan Area. The grids of roadways generally follow section lines creating 1 mile square areas of land. For the most part roadways in the study area are 2-lane rural highways. There are three basic modes or groups of transportation in the community:

- Motor Vehicles
- Pedestrians
- Bicycles

Transportation Opportunities

As a first step in the planning process a set of recommended transportation goals has been compiled. The following transportation goals are brief guiding statements for the Prairie Delaware Piper area:

1. Develop an efficient transportation system that will reduce the percentage of single occupant vehicles and reduces congestion.

2. Establish a hierarchy of roadways within the community.

3. Design and enhance transportation facilities in a manner that enhances livability and are in context with the surrounding environment.

4. Implement the transportation plan by working cooperatively with federal, State, regional, and local governments, the private sector, and residents.

5. Maintain a safe transportation system

Policies are statements that describe the actions needed to move the community toward a achieving these goals. Each of the following sections provides a description and policy statements related to the above goals.

Roadway Hierarchy

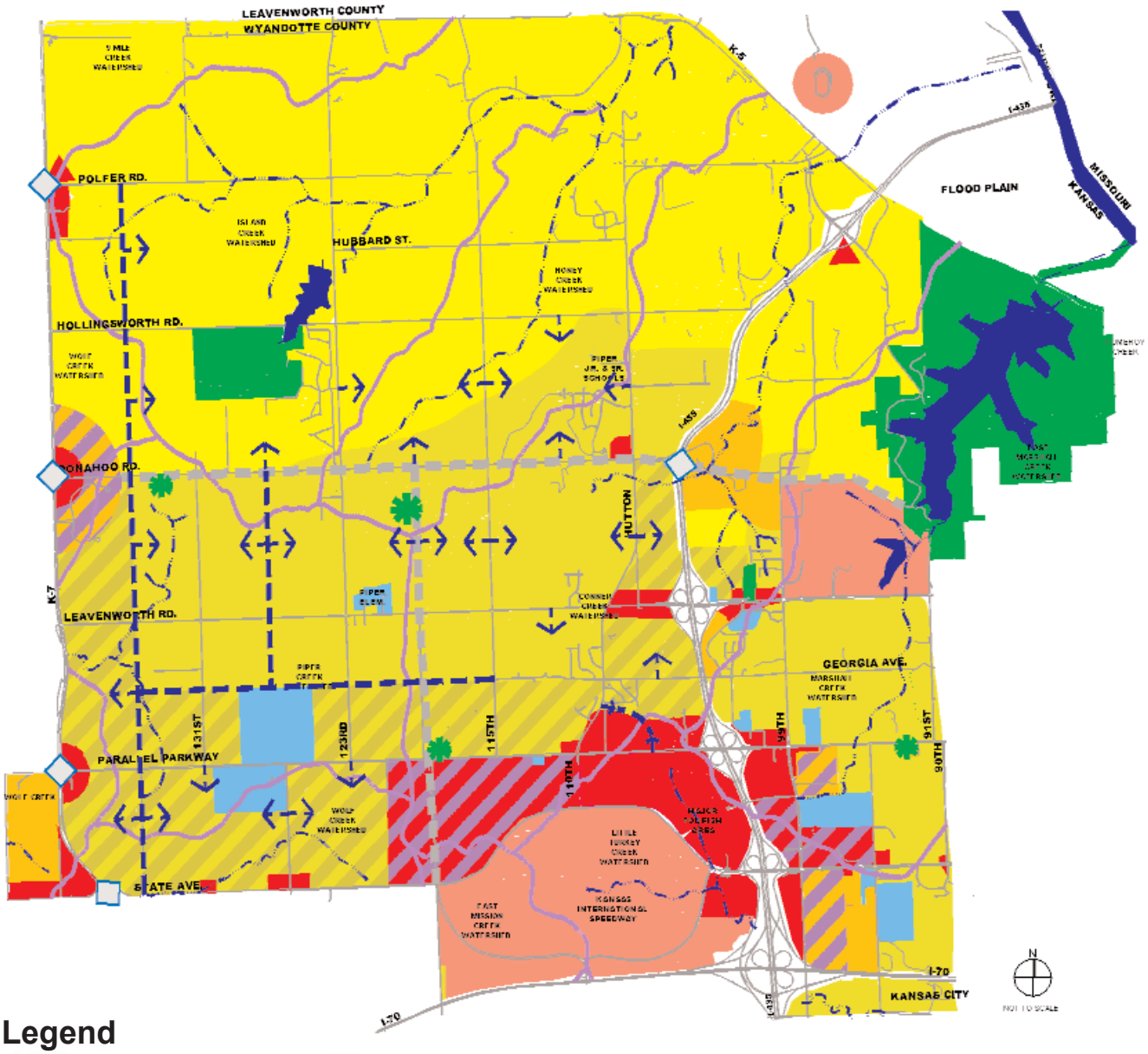
The study area is experiencing rapid growth and this growth is projected to continue. These policies for transportation planning are intended to reduce the impacts of future growth. The transportation network could become congested. Poor performance on arterials and collectors would result in substantial impacts (added through traffic) to other collectors and neighborhood routes (cut through traffic). Ultimately, economic development may be negatively impacted due to roadway congestion.

The recommended policies for the transportation system are to establish a hierarchy of roadways that help disperse traffic more evenly in the community, reduce the need to build roadways greater than four lanes in width, and improve the overall livability of the community. The community is in a unique position to plan early enough to preserve the ability to improve existing roadways and identify where future roadways may be needed.

The greatest problem areas can be grouped into the following areas:

- Lack of a consistent hierarchy of streets.
- Incomplete network of streets related to growth areas of the community.
- Lack of relationship between land use development and transportation system development.

Map 13:Future Transportation



Legend

- LOW DENSITY RESIDENTIAL
- SUBURBAN RESIDENTIAL
- MIXED RESIDENTIAL
- OFFICE
- BUSINESS PARK
- PLANNED COMMERCIAL
- PUBLIC / SEMI-PUBLIC
- OPEN SPACE
- ENTERTAINMENT
- SMALL COMMERCIAL
- POTENTIAL OPEN SPACE
- CREEK
- WATERSHED
- PARKWAY
- LIMITED ACCESS ROADWAY
- FUTURE COLLECTOR
- FUTURE INTERCHANGE

Transportation Definitions

Limited Access Highway

High-speed roadways with at least two lanes in each direction and have limited access through ramping systems.

Major Arterial

Roadway is two lanes in each direction with curb, gutter and sidewalk. This roadway is designed to handle high volumes of traffic.

Minor Arterial

Major road with one lane in each direction, but carries a high volume of traffic.

Collector

This roadway collects cars from neighborhood or local streets to arterial streets.

Rural Arterial/Collector

The concept for this roadway type is to have one travel lane in each direction. This roadway section has drainage ditches on each side.

Parkway

This roadway is proposed to have a wide right-of-way to allow for a median or extensive planting area on each side of the road.

Establish a Hierarchy of Streets (Functional Classification)

Planning for transportation mobility starts by identifying how land use affects traffic flow. A basic tenant of transportation planning is to identify land uses that generate trips (such as residential neighborhoods) and land uses that attract trips (such as offices, and retail centers). The distribution of these land uses affect the number of trips that residents need to make during the day. For example, a typical suburban residential home will generate 10 trips per day. This includes trips to work, school, the mall, soccer practice, etc. Each of these land uses is separate and in a distinct location within the community or region and requires the resident to drive to the activity. Another example is the distribution of land use within established cities where there is a mix of land uses all within close proximity to one-another. This pattern of land use reduces the need for driving within the neighborhood because more of these activities are established within walking distance of the residence.

The transportation planning section establishes a policy framework for a hierarchical system of roadways within the community to serve future land use development and redevelopment in the community. This section of the plan recognizes that communities become dependent on a small number of major arterial roads to convey traffic. Typically, when these roads become congested they are widened and/or major intersection improvements are undertaken in order to maintain the flow of traffic. As roadway cross sections widen to 5 lanes or more, and intersections are designed with right and left turn lanes and dual left turn lanes the roadway becomes a barrier in the community. An intersection with right turn lanes, dual left turn lanes, and two through lanes in each direction can be up to 100 feet wide from edge of

sidewalk to edge of sidewalk. Walking at a rapid pace (about 3mph) it can take 40 seconds to cross the intersection. Often there is not a crossing signal or even sidewalks.

The intent of establishing a hierarchy of roadway is to distribute traffic across a wide range or roadways reducing the demand on any single road within the community. The following are definitions of the function for roadways within county:

Limited Access Highway

These high-speed roadways are at least two lanes in each direction and have limited access through interchanges and ramping systems. Interstate-70 and Interstate 435 are examples of this roadway. The design, function, maintenance, and operation of limited access highways are under the jurisdiction of the state and federal highway. Limited Access Highways provide for rapid and efficient movement of large volumes of through traffic between areas and across the urban area. Not intended to provide land access. Interchange locations within the community should be considered carefully by the local community. The Unified Government should take an active role with the state in future improvements to Limited Access Highways within the community.

Major Arterial Roadways

Major arterial roadways provide for through traffic movement between areas and across the study area with direct access to abutting property. Major arterials are subject to control and coordination over driveway entrances, exits and curb use (parking/no parking).The following represents the recommended Major Arterial Network for the county:

North South roadways:

- 99th Avenue
- Hutton Street
- 115th
- 123rd
- 131st

East/west roadways:

- State Avenue
- Parallel Parkway
- Leavenworth Road
- Donahoo Road
- Hollingsworth Road and Hubbard Street

Design Recommendations:

Right of Way for 102 to 124 feet.

Typical cross section for residential areas would include a center turn lane or raised median (dependent on land use access), two travel lanes in each direction, a ten foot parkway and five foot sidewalk.

Typical cross section for commercial and mixed use village areas would include a center turn lane, two travel lanes, and ten foot curb-line sidewalks.

Major arterial roadways that intersect with other major arterial roadways are expected to become signalized in the future. Recognizing this need for the future it is recommended that the intersection right of way at these points be increased by 24 to 48 feet (for a distance of 200 feet from the center line of the intersecting roadway) to accommodate dedicated turn lanes.

For residential development areas direct driveway access to Major Arterial roadways should not be allowed.

Non-residential development areas (commercial/business office and industrial) would be allowed to have direct access (driveways) to major arterial roadways. In order to minimize the number of curb cuts and conflict points on the roadway these access points will be coordinated between land owners as a part of the development review process. In addition driveway access points shall be aligned across the street and shall not be permitted within 100 feet of an intersection (Some exceptions may need to be considered here for existing gas stations).

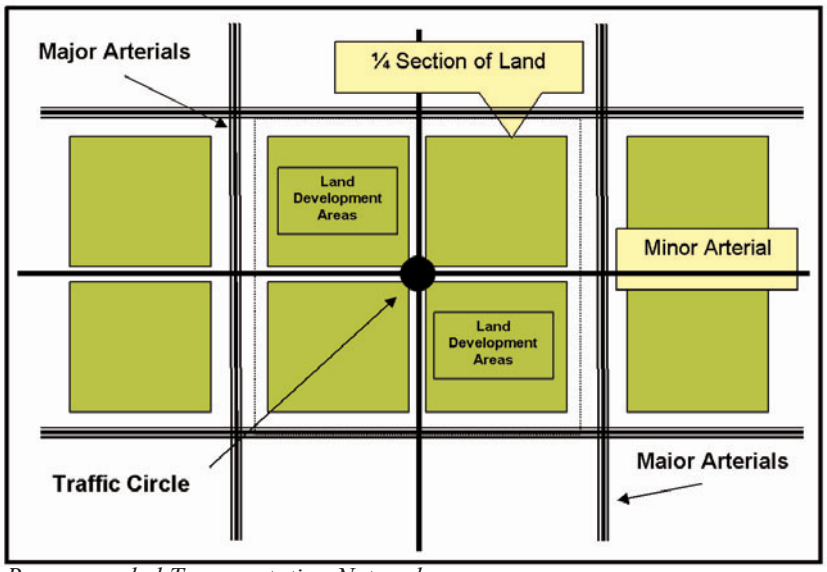
All major arterial roadways should include sidewalks and crosswalks in order to encourage pedestrian use. Areas designated as Mixed Use Village Center would include sidewalks and crosswalks that are designed to conform to the overall plan for the area. Areas where bicycle/pedestrian trails cross major arterials should have special design treatment to warn both user groups of the forthcoming intersection. Signalization for these intersections may be merited dependent on the level of bicycle/pedestrian use.

The design of major arterial roadways shall include parkway and median landscaping and community/gateway monuments that reflect the character of the study area.

Minor Arterial

Minor arterial roadways provide traffic movement between land use areas within the county and provide alternative transportation corridors to the Major Arterial roadways. This allows traffic to be dispersed more evenly throughout the community. Minor arterials provide direct access to abutting property and are also subject to control and coordination over driveway entrances, exits and curb use (parking/no parking).

Within the community there are a large number of existing roadways that have been developed in areas between the major arterial roadway network. At this point many of these roadways do not interconnect. It is the recommendation of this plan that a system of minor arterial roadways be developed roughly following the "half" section lines within the community. The ultimate designation of these corridors will need to be developed in a manner that respects important environmental and community features. An example of this system has been provided in the graphic below.



Recommended Transportation Network

Design Recommendations:

Right of Way for 68 to 70 feet.

Typical cross section for residential areas would include a center turn lane or raised median (dependent on land use access), one travel lane in each direction, a five foot parkway and five foot sidewalk.

Typical cross section for commercial and mixed use village areas would include a center turn lane, one travel lane in each direction, and five foot curb-line sidewalks.

Other traffic calming measures may be integrated into the roadway design in order to maintain safe traffic speed and provide safe crossing for pedestrian and bicycle facilities.

Minor arterial roadways that intersect with other minor arterial roadways are recommended to be served with a traffic circle as the primary intersection design. This creates a focal point for the development occurring within the surrounding quarter sections of land.

For residential development areas direct driveway access to Minor Arterial roadways should not be allowed. Access to residential neighborhoods should be through collector streets.

Non-residential development areas (commercial/business office and industrial) would be allowed to have direct access (driveways) to Minor Arterial roadways. In order to minimize the number of curb cuts and conflict points on the roadway these access points will be coordinated between land owners as a part of the development review process. In addition driveway access points shall be aligned across the street and shall not be permitted within 100 feet of an intersection.

All minor arterial roadways should include sidewalks and crosswalks in order to encourage pedestrian use.

Areas designated as Mixed Use Village Center would include sidewalks and crosswalks that are designed to conform to the overall plan for the area. Minor arterials would be appropriate roadways to act as links in the bicycle and pedestrian trail system for the community. In cases where trail systems need to be linked together the right-of-way for the minor arterial should be increased by 16 feet in order to designate two 8-foot bike lanes along the curb-line of the road. Areas where bicycle/pedestrian trails cross minor arterials should have special design treatment to warn both user groups of the forthcoming intersection.

The design of minor arterial roadways shall include parkway and median landscaping and community/gateway monuments that reflect the character of the Prairie Delaware Piper area.

Collector

These streets "collect" traffic from local streets and distribute it to arterials. Like arterials, collectors are designed for relatively high volume and speeds. However, collectors do provide accessibility within the county to neighborhoods and activity centers. As such, both mobility and access issues should be addressed with these streets.

Design recommendations:

Right of Way for 45 - 55 feet.

Typical cross section for residential areas includes one travel lane in each direction, a five-foot curb-line parkway, and five foot sidewalks. A design option for Collector Roadways would be to include a center turn lane or raised median (dependent on land use access).

Typical cross section for commercial and mixed use village areas would include a center turn lane, one travel lane in each direction, and five foot curb-line sidewalks.

Other traffic calming measures may be integrated into the roadway design in order to maintain safe traffic speed and provide safe crossing for pedestrian and bicycle facilities.

All collectors should include sidewalks and crosswalks in order to encourage pedestrian use. Areas designated as Mixed Use Village Center would include sidewalks and crosswalks that are designed to conform to the overall plan for the area. Minor arterials would be appropriate roadways to act as links in the bicycle and pedestrian trail system for the community. In cases where trail systems need to be linked together the right-of-way for the minor arterial should be increased by 16 feet in order to designate two 8-foot bike lanes along the curb-line of the road. Areas where bicycle/pedestrian trails cross minor arterials should have special design treatment to warn both user groups of the forthcoming intersection.

The design of collectors shall include parkway and median landscaping and community/gateway monuments that reflect the character of the county.

Parkway

Parkways can be designed in several different manners. One way would be to provide a tree-lined median separating the travel lanes. Or, the parkway could be designed in a curvilinear fashion that included a large right-of-way that allowed for double rows of tree plantings and a bikeway along one side of the roadway. Regardless, the parkway right-of-way will be wider than a typical arterial street to allow for special landscaping.

Rural Arterial/Collector

The Rural Arterial/Collector designation would be used in areas that are expected to remain undeveloped through the plan horizon year. The basic design concept for this roadway type is to have one travel lane in each direction. This roadway section does not include curbs and has drainage ditches on each side. This roadway section is designed to maintain the rural character. The recent improvements to Polfer Lane exhibit the character for the main rural roadways.

Pedestrian Transportation Plan

The existing pedestrian system is not well developed in the study area. Sidewalks do not exist in a manner that connects traffic generators (neighborhoods) with traffic attractions (shopping/schools). The objective of this plan will place greater importance on the development of continuous sidewalk facilities that connect land uses together.

Pedestrian Transportation Strategies:

- Connect key pedestrian corridors to schools, parks, recreational uses and activity centers (public facilities, commercial areas, etc.).
- Fill in gaps in the network where some sidewalks exist.
- Signalize pedestrian crossings.
- Create pedestrian corridors that connect neighborhoods.
- Improve streets having sidewalks on one side to two sides.
- As development occurs, construction of sidewalks shall also occur (by developers).
- Reconstruct all existing substandard sidewalks
- Construct sidewalks in existing neighborhoods without sidewalks.
- Utilize utility corridors when possible.

Bicycle Transportation Plan

Bicycle access is a component of the transportation system that has not been given significant attention in previous planning efforts. The bicycle plan component recommends bikeway improvements that close gaps in the existing bicycle network, as well as establish strategies for developing a more complete network of bicycle pathways throughout the community.

Bicycle Transportation Strategies:

- Identify and connect bicycle corridors to schools, parks, recreational uses and activity centers.
- Fill in gaps in the network where some segments of bikeway exist.
- Develop bicycle corridors that connect neighborhoods.
- Construct bike lanes with roadway improvement projects.
- Create bicycle corridors providing mobility to and within commercial areas.
- Connect regional attractions.
- Create multi-use paths with bicycle transportation function: Likely to be used for commuting, accessing transit, or traveling to a store, library, or other local destination. Bicycle/pedestrian sidewalks on bridges are included in this classification. Design includes physical separation from motor vehicle traffic by open space or barrier.
- Utilize utility corridors when possible.

All arterial and collector roads should have bike lanes. The bicycle plan will require incremental implementation. As development occurs, streets are rebuilt and other project funding opportunities (such as grant programs) arise, bicycle improvement projects should be integrated into project development.

Concurrency Standards

Concurrency standards require property owners and developers to show that adequate facilities exist to support a proposed project, considering both existing and programmed infrastructure. Such standards ensure that adequate infrastructure such as improved roads, sewers and schools are built prior to or concurrent with new development. These standards should be developed and utilized to guide development in Wyandotte County. Because of the high number of unimproved roads within the Prairie Delaware Piper area, road standards should be developed first followed by sewer and schools. The roadway recommendations within this report provide an initial step in this direction by providing a mechanism to calculate the impacts of new developments on existing road service levels. If a new development adversely impacts road capacity or service levels, it will be the property owner's responsibility to provide the necessary improvements before such development takes place.

Planned Improvements

K-7

Recently, the Kansas Department of Transportation (KDOT) completed a major study for the K-7 corridor through Leavenworth, Wyandotte and Johnson Counties. A major recommendation of this study is to transform K-7 into a limited-access high-mobility corridor. The plan recommends interchanges every two miles. These interchanges will occur at Parallel Parkway, Donahoo Road and Polfer Road. These recommendations will have profound impacts upon the transportation network and future land use within the Prairie Delaware Piper area. A new frontage road should be constructed to provide properties access to K-7 in between the interchange areas.

Donahoo Road

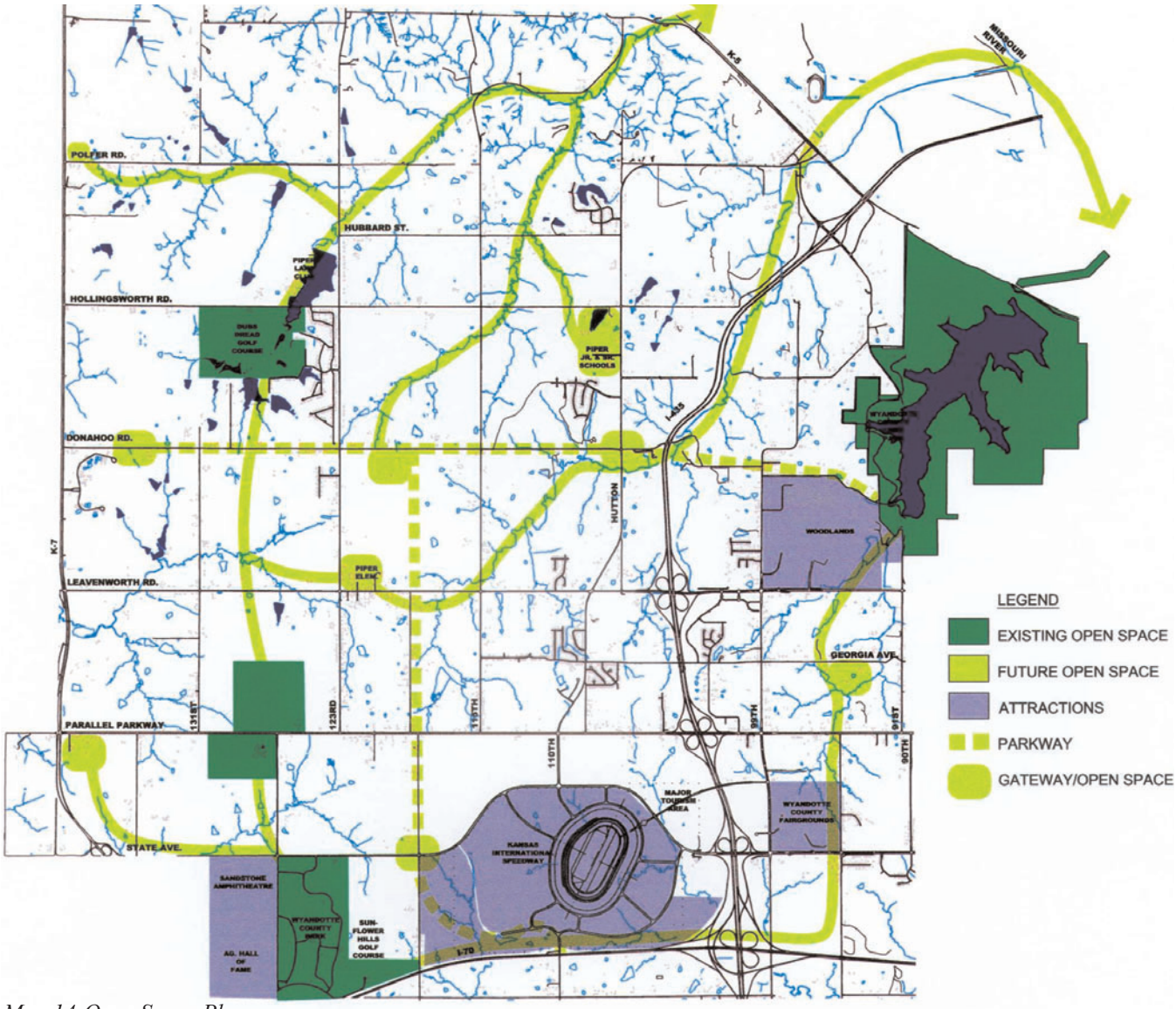
Donahoo Road between Hutton and 97th Street is in need of improvements. In addition, the KDOT has planned an interchange from I-435 in this area. The need for the interchange should be reconsidered based on the land use densities recommended in this plan.

97th and Nelson Lane

The roadway known as 97th and Nelson Lane follows a rather winding way down the valley to the K-5 interchange. This roadway alignment should be reviewed and studied based on the land use recommendations in this plan.

PARKS AND OPEN SPACE

The study area includes two major, regional parks that are already assets. However, additional small neighborhood parks are needed to serve local needs. Some key park locations have been identified on the Development Policy Plan.



Map 14:Open Space Plan

Parks

The project area benefits from two regional parks, Wyandotte County Park, and Wyandotte County Lake Park. These parks attract people from beyond the immediate neighborhoods. Both of these parks offer a wide range of passive and active recreation.

Existing Open Space

Besides the regional parks mentioned above, there are several existing open spaces within the study area. Most of these are part of private or institutional properties. These open spaces are at Dub's Dread Golf Course, Piper Lake Club, the Wyandotte County Fairgrounds, Piper Schools on Hutton Road, and Savior of the World Pastoral Center. These existing open spaces currently provide recreational opportunities.

Attractions

As mentioned in the land use descriptions, there are many regional entertainment areas in and abutting the project area. These include the Veizon Amphitheater, Wyandotte County Fairgrounds, Agricultural Hall of Fame, Woodlands Race Tracks, and the Kansas Motor Speedway. These attractions play a role in the open space network. They act as destinations in the greenway system. In addition, they provide an opportunity to create a network that will serve the community of the Prairie Delaware Piper area.

Future Open Space

There are opportunities to locate future open spaces to provide recreational opportunities in future residential neighborhood and commercial centers. By providing open spaces in the neighborhoods as well as in commercial and office developments, visual resources are protected and the community has areas to gather and socialize. Overall, the quality of life is enhanced

Action:

- A small neighborhood park should be included near neighborhoods with 300-to-500 residential units.

Greenway Opportunities

The unique topography, stands of vegetation, and multiple stream systems, are great opportunities for greenway systems. A greenway system is a feasible method of connecting regional parks, regional attractions, and neighborhood spaces. Providing neighborhood connections to significant destinations allows a means for the community to socialize. It also enhances the quality of life by providing alternative transportation networks while enhancing the visual character of the Prairie Delaware Piper area.

Greenway example

Greenways are identified along stream corridors. These passive open space areas can maintain the open rural character that was identified as an important and desirable characteristic of the plan area. The greenways identified on this plan connect major open spaces throughout the study area. These areas may be acquired through gifts, development easements or acquisition. Some may be used or hiking or biking trails depending on the width and the quality of the natural resources within the greenway corridor.

Gateway

Gateways note that the user or visitor is entering a special zone. The gateways identified on this map will require special design treatment along the proposed parkways. These may include monument structures or special landscaping to identify the district.

Gateway example

Scenic Corridors

Although many scenic corridors exist throughout the study area, none are specifically identified within this plan framework. However, existing trees and dense vegetation frame many of these corridors. One particularly prominent example is along the northbound lanes of I-435, north of Donahoo Road. Other corridors follow valleys along roadways. Where possible, these corridors should be used as an amenity for future development.

Residential Open Space Recommendations

Every new subdivision should contribute towards the outdoors open space and recreation needs of the community.

- Require land (public or private) to be set aside for each dwelling unit or subdivision. At a minimum, at least one-half should be usable, while the other half may be used to protect a stream corridor.
- Allow for fee-in-lieu when land that is identified for open space does not meet the needs of the overall parks and recreation plan. Fees collected should be used within the plan area.

Open Space Amenity

IMPLEMENTATION

This section includes the implementation tools needed to implement the Future Land Use, Transportation and Open Space Plans. The following tools are discussed:

- Phasing of Infrastructure and Development
- Zoning
- Design Guidelines
- Development Review
- Capital Improvements

Phasing Recommendation

The timing of development should take place when infrastructure is available or will be available shortly and when the new development will be roughly adjacent to the perimeter of existing development. There is currently a great deal of undeveloped land in the planning area, but much of it is not ready for immediate development.

The Phasing Plan serves as a guideline for development over the next 10 to 15 years based on the development patterns and demands on the current infrastructure that have occurred over the last few years.

Development should not be permitted to leap-frog or sprawl to new, non-contiguous sites, particularly where infrastructure costs have not been borne by that development. Instead, new construction should follow an orderly pattern that is timed in a manner to ensure that water, sewer, road and storm water drainage are all provided as the next logical step to existing services.

Area 1 (Years 1-10)

Kansas Motor Speedway, Major Tourism Area, Business and Industrial parks and adjacent residential subdivisions

Area 1 is ready for immediate development. There is excellent road infrastructure and access combined with plans for some short term road improvements. Other infrastructure (sewer, water, stormwater) is also available. This site, located in the southeast corner of the planning area, is adjacent to existing development and located in the midst of the entertainment center, where most of the projected tourism will take place. In some instances, development in this area will be infill and/or rehabilitation rather than suburban fringe development. The timing for this location is immediate based upon current market demands.

Area 2 (Future)

Area 2 is currently rural in character and contains topographic and hydrologic constraints to development. Planning and zoning in this area will be designed to protect sensitive and constrained building areas and to protect open spaces for passive and active recreational uses.

Growth within Area 2 should focus on: (1) provision of infrastructure and infill development to the areas with the greatest potential or those areas where development on existing streets on a block perimeter threatens to prevent development on internal lots; and (2) provision of developer-funded infrastructure and construction in areas adjacent to existing development.

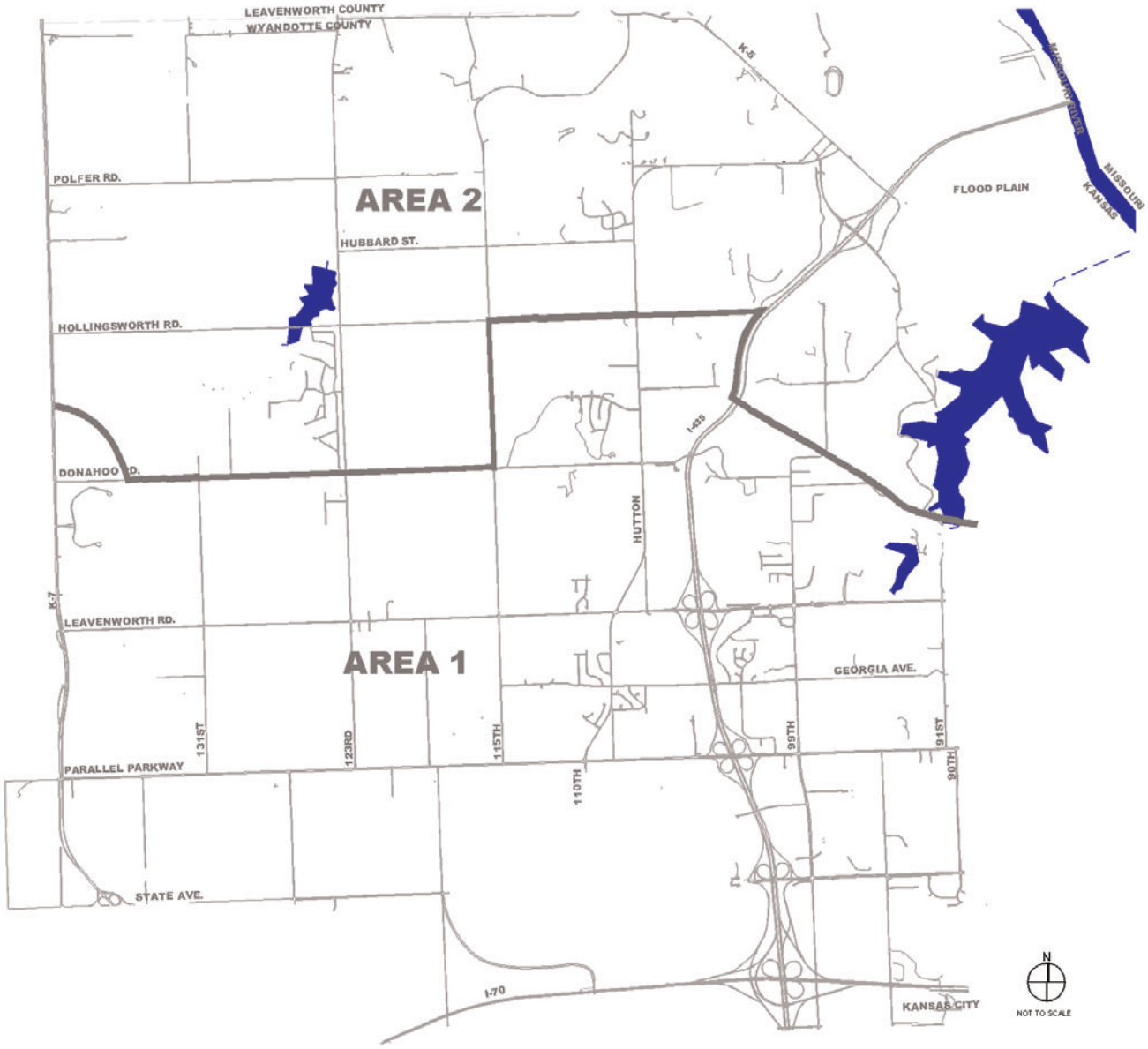
While Area 2 is currently served by limited water and sewer, this area is not ready for large-scale, relatively intense residential development. Instead, development in Area 2should be focused around the existing Dub's Dread area and then be limited to large lot (1-5+ acres) in the remainder of Phase 3. Some of the northern portions of this phase may remain unserved by sewer for some period of time, and lots should be sized accordingly.

Any such development should not take place until infrastructure is provided and the Unified Government determines that development is appropriate in these areas.

Missouri River Flood Plain

Future Phases of development include land area currently without access to public sewer or in the flood plain. These areas may also have potential for large-scale development, but there are significant constraints.

Development along the Missouri River would require the construction of a levee before the area could be developed.



Map 15: Phasing Plan

Implementation Tools

The residents of the Prairie Delaware Piper area have a number of tools available to implement the concepts of the land use plan. Included among these are zoning, subdivision, facility provision (water, sewer, wastewater), and capital improvements programming. The purpose of this memorandum is to outline the contents of each type of regulation necessary to fully utilize the plan.

Zoning Regulations

The Zoning Regulations should be updated to implement this plan. Plan implementation through procedural requirements should achieve the following:

- Require consistency with the plan as part of application approval - strengthening ties between plan design and final development.
- Require submission of development plan with all zoning applications - allows review of landscaping, design, layout, amenities, on- and off-site impacts, infrastructure requirements.
- Include plan-based design requirements in project development plans.
- Require existing and proposed infrastructure check for each project - basis for establishing adequate public facilities requirement.
- Allow a mix of uses and planned development to encourage creativity.
- Include provisions that require consistency between preliminary and final plans so that the plans stay the same as the project moves forward.
- Create a front-loaded approval process so that all development information is submitted at the initiation of the application.
- Establish a process for amending the plan to ensure that specified criteria are met before allowing plan changes.
- Allow staff to request additional information to gauge the impacts of proposed development.
- Specify submission and approval requirements to create a level playing field for both applicant and Unified Government.

Subdivision Regulations

The Subdivision regulations should be updated to achieve the following:

- All steps and procedures for the application process should be specified in the ordinance.
- An applicant will need to submit a complete application - i.e., one that conforms to all the requirements of the regulations - is required to start review process and timelines. Incomplete applications will be returned to applicant.
- Neighborhood meetings should be required for residents included in the statutory notice area.
- Enhance the notice requirements. Mailed notice should include a project sketch and description. Posted notice will be required on the subject property.
- Establish criteria for review of each application type to allow Planning Commission and Board of Commissioners to follow standardized review process. Note that only the process should be standardized, outcomes are not.
- Each application type should have a review and appeal process specified.
- Development plan approval should be added as a prerequisite for rezoning to a non-planned district.

- Development applications should be required to be compatible with the comprehensive plan.
- There should be procedures for permit expiration and revocation. Where rezoning is involved, there should be the option of providing new notice and hearing to revoke a rezoning where the applicant has failed to comply with approval conditions.
- There should be procedures for amendments to preliminary plans and triggers to send amended plans that have not been approved by the staff/PC/BOC back through the development approval process.
- The regulations should establish overlapping preliminary plan and preliminary plat requirements for a streamlined approval process.
- Final plans should be required to be in conformance with preliminary plans or be subject to a second approval process.

Planned Development Criteria

Planned developments are intended to meet or exceed the following:

- Protect and design for the sensitive use of the natural environment,
- Preserve and enhance existing man-made and natural environs on and adjacent to the site,
- Improve access for pedestrians and vehicles to and from the site,
- Encourage urban design solutions that will add long-term value to the community,
- Encourage attractive spatial and visual organization of buildings and other site elements,
- Encourage an appropriate mix of land use, building types and urban design features, and
- Encourage efficient land use activities on and around the site.

The following list identifies the development and planning review criteria that should be considered on every zoning and development proposal:

- Compliance with the Prairie Delaware Piper Master Plan and the Comprehensive Plan,
- Compliance with the Zoning Ordinance (criteria including section 27-1049) and the Subdivision Regulations,
- Compatibility with natural site features,
- Compatibility with adjacent uses,
- Road network and connections to adjacent properties,
- Open space and amenities, including trail connections to existing and proposed parks,
- Landscaping and buffering between residential units, non residential buildings and/or adjacent developments that exceed minimum requirements,
- Special residential features including entry monuments, neighborhood markers, special lighting features, and other neighborhood amenities,
- Percentage of proposed ownership and rental mix, and
- Architectural details of all building types that are not single family detached units.

Landscaping

Landscaping and buffering serve a critical function of buffering more intense uses from less intense uses, as well as adding beauty and interest to individual building sites. With a plan that blends commercial and retail uses and provides for a change of density over three separate areas of development through the Development Policy Plan, it is necessary to ensure that different categories of use are buffered from each other. It is equally important to ensure that landscaping is integrated into all site development to reflect the area's rural character and provide for a blending of uses in the existing landscape.

Design Guidelines

Design guidelines are included in this plan in the Future Land Use plan section. Additional standards should be prepared. The intent is to establish a cohesive design for all development within the Prairie Delaware Piper area. Architectural style of buildings may vary and unique designs are encouraged as part of this commercial entertainment showcase.

Design standards may address the following topics:

- Site and environmental preservation
- Open space.
- Buildings
- Streets
- Parking
- Signage

Impact Review

As part of the planning process, the citizens of the Prairie Delaware Piper area have expressed a strong interest in maintaining the rural character of the community. To implement this through the regulatory process, it is important to understand the impacts of each potential development on the surrounding neighborhoods and overall community. Typical impact review includes traffic impact, environmental impact and fiscal impact. The results of an impact analysis can be used as part of a land use development approval process.

Adequate Public Facilities

Each new development has a measurable impact on the level of service of existing or proposed new public services and facilities. As part of the growth coordination the Unified Government can incorporate required levels of service for specific facilities and services (water, sewer, stormwater, streets) and require that all new development ensure that adequate facilities exist to serve proposed new development. Adequate public facilities can also be addressed through a separate ordinance that deals with facilities and services only

Development Agreements

Large or multi-phase developments can be achieved through a negotiated agreement that specifies the terms of the development and the required approval process. This provides benefits to the development community in terms of flexibility and reduced possibility of change to land development regulations, and allows the governing body greater oversight of the project. Agreements can address timing, location and intensity of development, as well as the timing, location, sizing and funding of infrastructure improvements. Well written agreements can assure the Unified Government that adequate facilities and services will be available

to meet new demands, and assure developers that their investment in a project will not be lost due to some future change in Unified Government regulations or policy.

On- and Off-Site Impacts

Review of proposed developments at a subdivision level also permits the Unified Government to establish conditions to address on-site/site design impacts and off-site (traffic, road maintenance, signals, emergency services) impacts.

Planned Unit Development

Planned unit development is a combination of zoning and subdivision that allows a development to vary from the specific terms of the zoning ordinance in a manner that is consistent with the intent of the ordinance and the requirements of the comprehensive plan.

Capital Improvements Programming

The Unified Government should prepare, adopt and maintain on an annual basis, a five-year capital improvements program (CIP) which prioritizes and directs resource allocation for appropriate projects including streets, water, wastewater, drainage and parks. This should include a financing plan and a schedule for high priority projects. The CIP should also incorporate a one-year capital improvements budget.

The long-range CIP is an important planning tool to ensure the Unified Government has planned the most cost-effective facilities and to determine whether the government will have the capability to fund needed public facilities. The long-range CIP should reflect the size, approximate location and estimated costs of improvements needed to serve anticipated growth for the next 15 to 20 years. This plan is not an engineering document, but should provide enough specificity to determine which costs are required to remedy existing deficiencies and which costs provide new capacity that will be demanded by new development. The long-range CIP should be updated at least once every 5 years or when significant changes to the base systems modify the Unified Government's long term capital investment strategies.

Retention Basins

The Unified Government is considering the concept of establishing substantial retention basins to help control runoff in three watersheds. One should be in the upper Connor Creek watershed somewhere west of Hutton Road. A second would be on the main tributary of Wolf Creek just east of K-7 Highway. The third proposed retention basin would be on the principal stream draining south into Bonner Springs, north of State Avenue and the Sandstone Amphitheater. At this point, it has not been determined if these would be wet or dry. Obviously, the placement, size and type (dry or wet) of the proposed drainage basins could have significant impact on the type and configuration of land uses in the immediate vicinity.

Protect Natural Systems

- Consider establishing buffer areas along streams to minimize impacts of future development and the natural systems. These buffers could range from 75 feet to 100 feet or more on each side of the stream depending on topographic features.

Gravity Sewer

Actions:

- Encourage development where gravity sewer service and pumping stations are currently in place before opening new lands for development.
- Coordinate with property owners to provide gravity sewer service to properties north of Wyandotte County Park.
- Examine limiting the number of years that property taxes for agriculture use of land will be available once sewer service is in place. Encourage land with sewer service to develop.

Protecting the Study Area's Quality of Life

It is imperative that the rural, low-density character that many residents enjoy be protected and maintained in future development projects.

Actions:

- Guide development away from stream corridors so that natural features remain as open green ways and are available as passive or active recreation trails to larger parks within the community.
- Build on soils considered suitable for the appropriate land use
- Consider appropriate development densities when preparing development guidelines.
- Maintain or retain existing vegetation as much as possible.
- Restrict intense development on the toe of slopes.

Promote Area's Identity

The study area is no longer the metropolitan area's best kept secret. With its rolling hills, convenient access to KCI, Johnson County, downtown and beautiful regional parks, this area is being discovered by developers and new homeowners.

Actions:

- Promote area's marketing advantages for commercial, business and residential development. Publicize assets.
- Meet with local real estate officials and inform them about current planning efforts and the intent of this plan.
- Establish common themes through out the area with signage, streetscaping, lighting and other landscaping features.
- Establish an overall design theme for a mixed residential plan.
- Require streets within residential neighborhoods to connect to adjacent uses.
- Avoid designing subdivisions that have all the same unit type and lot size. Encourage a variety of unit types within each neighborhood.
- Encourage mixed uses and mixed densities.
- Establish landscape standards that provide an overall theme for the development.