

2024 Knob Noster Comprehensive Plan



Growing with purpose

2024 Knob Noster

Comprehensive Plan

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Noster Comprehensive Plan



Growing with purpose

Knob

1 Plan Foundations

Knob Noster is a smaller rural community, population approximately 2,782, that serves not only its own diverse population but the military community that resides at Whiteman Air Force Base (WAFB). The city and Whiteman AFB share a unique relationship due to their proximity to one another. Knob Noster provides an array of mercantile goods and services to base personnel. Knob Noster strives to create a community where residents of the City and those of Whiteman AFB want to live, local businesses flourish, and a sense of community is achieved.

Although not always cohesive in process, decisions pertaining to where and how Knob Noster should grow, whether by residents or City staff, have always been focused on retaining current residents and businesses while working to attract new ones. Knob Noster hopes to create a city and surroundings that will become conducive to industries and businesses; thus providing a positive influence on the economic development of Knob Noster and fostering incremental population growth.

Knob Noster is no longer a community isolated from its neighbors. It shares many of the same goals and visions with surrounding communities. While other communities may influence the growth of Knob Noster, the City leaders acknowledge that solid planning will help guide Knob Noster into the future. The following Comprehensive Plan shall serve as the guiding document for future development within Knob Noster.

Authority for Planning

Missouri law requires any municipality with a planning and zoning commission to adopt a comprehensive plan to guide the physical development of the municipality. Sections 89.350 of the 2018 Revised Statutes of Missouri state that the general purpose of the plan “should be to guide the coordinated development of the municipality, in accordance with existing and future needs, to best promote the general welfare, as well as efficiency and economy in the process of development.”

It should be made clear that this Plan is not a set of regulations or zoning ordinances. This plan is a guide for growth and development within Knob Noster, providing direction for its preferred future goals, objectives, and policies. The Planning Commission should review or reconsider the comprehensive plan annually in order to ensure that the document is still valid and relevant. During this review, the Planning Commission should propose—if deemed appropriate—amendments, extensions or additions to the Plan following the same procedure as for adoption of the original Plan.

The administration of zoning and subdivision regulations is subject to certain legal limitations. One of the most important limitations requires that zoning and subdivision regulations not be applied in an “arbitrary or capricious” manner. Decisions regarding zoning and subdivision issues cannot be made without consideration of the principles, circumstances, and policies related to the public health, safety, and welfare of the City of Knob Noster.

The Comprehensive Plan

The Comprehensive Plan is an official public document adopted by the Planning and Zoning Commission for the physical development of the community within the City of Knob Noster and its “Planning Area”. The Comprehensive Plan indicates, in general, how the citizens of Knob Noster want the City to develop and grow in the next 10 to 25 years. It is also a rational guide for physical development that fosters quality growth and redevelopment of the City.

The 2024 Knob Noster Comprehensive Plan (referenced hereafter as “the Plan”) is the official update to the 2007 Knob Noster Comprehensive Plan. Long range in nature, the Plan is intended to become a source of direction and guidance for continued growth.

This update comes at a critical juncture in Knob Noster history as development to the north of US Highway 50 continues. Additionally, areas to the northeast and northwest are currently available for development and growth. Continued redevelopment within the central portion of Knob Noster is also important for a vibrant community. Enforcement of current codes and policies, have led to several parcels being cleared for redevelopment while additional infill projects are progressing at the time of this update. The ways in which Knob Noster will continue to encourage growth and redevelopment form the overall goals of the Comprehensive Plan.

The Comprehensive Plan is a policy document that provides a coordinated approach to making many decisions regarding land use, development, and growth for Knob Noster. As such, the Plan is one of the primary tools used by the Knob Noster Planning and Zoning Commission, the Board of Aldermen, and City Administration in making decisions that affect the future of the community.

Planning Area

The planning area for the 2024 Comprehensive Plan includes all parts of the incorporated City along with extended areas around that abut the city boundary with the exception of Whiteman AFB. Additionally, the land use planning area incorporates the area currently covered by the Military Airport Zoning Commission jurisdiction. The extended areas abutting the Knob Noster boundary are included in the planning area for consideration and utilization in the land use section of this plan.

Throughout the past, Knob Noster has completed numerous planning projects and a variety of focused studies. These completed projects and studies have created a library of resources to reference and build upon while crafting this Comprehensive Plan update. The resources created have influenced the formulation of current policy objectives and will continue to influence those objectives for the future.

This section will highlight some of the previous planning efforts and studies completed by Knob Noster and summarize the recommendations concluded in each.

1992 Comprehensive Plan

The 1992 Comprehensive Plan used a process to bring together regional and local participants to analyze trends, draft community goals, objectives and policies, and to set the tone for future development of Knob Noster.

2004 Strategic Plan

During the planning process for the 2004 Strategic Plan, input was sought from the public through a community survey and public meetings. A vision statement and mission statement were then developed based on the input gained through the survey and meetings. Still relevant today, the vision statement that was developed is used for this planning effort also.

The 2004 Strategic Plan focused on while providing goals and strategies for the following areas:

- Government - Community Development - Communication - Economic Development - Image - Tourism
- Recreation - Disaster Planning - Infrastructure

Several strategies outlined in the Strategic Plan have been completed, and more are currently in progress. The Strategic Plan is being updated and evaluated as envisioned and provides an invaluable backdrop to this Comprehensive Plan.

2006 Knob Noster CHAT Report

The Community Housing Assessment Team (CHAT) report shows several key issues in Knob Noster's housing market and provides strategies for housing improvements. The report identifies community assets and discusses housing related issues and challenges. The report also outlines key strategies for improving community appearance, downtown development and community enhancement.

In addition to the housing demand assessment, the report outlines key objectives and strategies for a successful housing and development program. Some of those key objectives outlined were:

- 1) Encourage affordable homeownership opportunities on lots that are already created by subdivision development.
- 2) Use existing homes and potential redevelopment sites, including infill lots, as a resource for sound and attractive affordable housing.
- 3) Improve community expectations for property maintenance and the visual qualities of highly visible corridors.
- 4) Implement a strategic downtown program that improves the district's image, makes being in downtown a pleasant experience, takes full advantage of development opportunities, and creates a solid cooperative framework.
- 5) Makes investments in key community facilities that improve the city's regional competitive posture.

6) Market Knob Noster successfully as a great community for military families and an opportunity center for younger households.

7) Creates a foundation of private financial support for necessary community investments

2019 Wastewater Engineering Study

In February 2019, Larkin Lamo Rynearson completed a feasibility study of potential wastewater collection and treatment connections with Knob Noster State Park. The MDNR funded study also considered the potential for increased wastewater flows which might result from industrial development on properties along the northwest city boundaries. The study recommended three alternate solutions to the City of Knob Noster.

Alternate No. 1—Non-Discharge with Land Application

The publication “No-Discharge Alternative Evaluation MDNR PUB 2665” outlines several options to consider when reviewing the feasibility for land application and was used in the preparation of this section.

Alternate No. 2—Regionalization Connection to Whiteman AFB WWTP

The City of Knob Noster and the Whiteman Air Force Base each operate a Wastewater Treatment Facility and are only located approximately four miles from each other. The communities have been in contact about a regionalization approach that could be mutually beneficial. From January 2013 through June 2018 the average daily flow to the Whiteman AFB WWTF was 640,000 gpd with an average daily max of 897,000 gpd. The WWTF has a design of 2.19 MGD, or about 30% of the plant capacity. The under-utilization of the WWTF presents challenges that could be minimized with additional influent. Using the current ADF for Knob Noster, the combined flow to Whiteman would be 1,075,000 gpd. This would result in an approximate usage rate of 49% during an average day event. This usage rate would still provide for some expansion capabilities into the future and could improve daily operations.

Alternate No. 3 – Construction of a sequencing Batch Reactor (SBR) Facility

A feasibility level evaluation of a 0.5 MGD SBR Treatment Facility is being provided for comparison purposes to the land application and pumping options discussed in the alternates listed above. The proposed site for the facility would lie to the east of the current lagoons, which includes sufficient space for expansion. Five mechanical plant alternatives were previously considered as part of a study for the City of Knob Noster in 2011. In this report the SBR facility was not the least expensive option, but engineers believe it presents the best alternative for the City to meet current and future permit requirements.

Source: Larkin Lamp Rynearson. (2019). Wastewater Facility Plan for the City of Knob Noster, Mo.

Street and Roadway Study

City leaders and staff recently worked together to identify and inventory existing street conditions in the city. The resulting inventory continues to serve as the basis for the ten-year street improvement plan pursued by city crews and used for budgeting purposes among city leaders in allocating resources for street maintenance and roadway improvements.

2013 Sidewalk Inventory and Study

Pioneer Trails RPC staff used ArcGIS and Google Earth to assess the sidewalks of Knob Noster. This assessment included sidewalk length and condition. Every street within the City was condensed into sections by blocks. Each section was rated, after physically reviewing the section then reviewers selected the description that best suited what they observed. At the time Knob Noster contained an estimated 23,010 linear feet of existing sidewalk with 39% considered to be in good condition, 44% in fair condition and 17% in poor condition.

2006 Housing Study

In 2006 the City partnered with Aquila and RDG Planning & Design to develop a Community Housing Assessment Team (CHAT) report that highlighted several key issues in the City's housing market and provided strategies for housing improvement. The report analyzed key demographic and income trends to estimate that between 2006 and 2015, there would arise a need for 215 more housing units for new residents, as well as to replace existing units. The City of Knob Noster experienced a surge of new housing construction activity during the 1990's, most of which accounted for replacement of existing, deteriorated units.

2023 PGVA Housing Assessment and Market Analysis

Whiteman Area Leadership Council had PGAV conduct a Housing Assessment and Market Analysis in 2023. Their study found "new housing construction has occurred near the Base and City of Knob Noster. Approximately 14 percent of housing within that sub-geography has been built since 2010, signaling a response by developers to increased demand." With continued demand for construction of new housing units, Knob Noster's average housing value can be expected to continue rising.

Affordable housing values, combined with an incrementally growing stock of new housing units, makes Knob Noster an attractive place for residents to look for home ownership compared to other surrounding markets. This increase in market attractiveness will require the Planning and Zoning Commission to perform some research and add definitions to the city code to better regulate "tiny houses", Modular homes, Mobile homes, Manufactured homes and other accessory buildings potentially planned as residences in the form of "mother-in-law houses".

The PGAV Housing Assessment and Market Analysis study further found that "The highest affordability ratio occurs within the Base and the City of Knob Noster with approximately 89 percent of single-family housing costing less than 30 percent of a person's median monthly income. This is opposite for rental properties and apartments, where Knob Noster and the Base had the lowest affordability ratio (78%) compared to all other Sub-geographies." The same PGAV study also found that "Vacant housing units are highest within the City of Knob Noster which shows approximately 19 percent of housing units are vacant." The City should continue to balance new single-family unit construction and multi-unit construction with maintenance or removal of older units, to provide a wider range of single-family housing options for home buyers.

2021 Community Housing Assessment

City leaders engaged Goldstone Consulting to perform the Knob Noster Community Housing Assessment to examine housing affordability, demand and supply in the immediate market represented by the community. The study presented the following analysis.

"the Housing Development Analysis estimates a forecast of production targets for owner and renter-occupied units based on the following assumptions:

** Housing units will be distributed in correlation to the income demands exhibited in the Housing Affordability Analysis and the Knob Noster Housing Survey data.*

** Low-income residents will be accommodated predominantly in rental units.*

** Though renter occupancy accounts for a significant portion of the housing in the City of Knob Noster, income-driven demand development suggests that the region's housing unit needs should be divided 80/20 between owner and renter-occupied units over the next fifteen years.*

** Development not completed in each period would add to the following period.*

Due to projected population fluctuations and household distribution changes, housing development is expected to be at its peak need within the next decade. The City of Knob Noster is anticipated to require 79 additional units during this period. To meet specific income-based demands, the bulk of new development should focus primarily on single-family, owner-occupied units valued at greater than \$135,000. Considering the current valuations on homes in Knob Noster, expansion focus could narrow to prop

erty values between \$175,000 and \$400,000. Additionally, rental housing development should focus on units with an expected rent range between \$750 and \$1500 per month. To meet projected renter demand, a combination of single-family units and smaller apartment complexes or duplex properties may be considered."

The study recommended new lot development and the use of infill lots wherever feasible. Although the study may not fully account for the elasticity of demand in the housing market, the resulting recommendations harmonize fully with the findings reported within this Comprehensive Plan. The Knob Noster Community Housing Assessment is further discussed and cited on pages 24 and 25 of this document.

Other studies

See pages 42 and 43 of this Comprehensive Plan for references to and inferences drawn from other studies related to WAFB.

Missouri Legislation

Several legislative bills have been proposed to enhance the ability of Knob Noster to effectively plan around Whiteman Air Force Base (WAFB). Recent legislation (HB135) allows Johnson County, MO to plan and zone an ovoid area of approximately 3,000 feet surrounding WAFB, centered on the airfield runway.

The bill also benefits military families. Any child who has successfully completed an accredited pre-kindergarten or kindergarten program in another state will be eligible for admission into kindergarten in this state, being exempt from the kindergarten birthday cut-off. The state board of education is required to promulgate a rule to permit the issuance of a provisional certificate of license permitting the holder to assume classroom duties pending the completion of the required background check when the applicant is the spouse of a military member stationed in Missouri who has relocated in the past year, provided the applicant otherwise qualifies and the other state required a background check for the issuance of a teaching certificate.

***Knob Noster is to be a diverse, sustainable and viable community,
providing the best possible services to the citizens of Knob Noster”***

The vision statement is the starting point for the Comprehensive Plan. The following plan narrative, maps, and actions derive their principal direction from this vision. A vision statement reflects the community's desires for the future – and is one of the most important parts of the Comprehensive Plan.

During the 2004 Strategic Plan development, the City of Knob Noster crafted a vision statement for the community. That vision statement had been adopted as the vision of this Comprehensive Plan and is stated below;

***“The vision of Knob Noster is to be a diverse, sustainable and viable community,
providing the best possible services to the citizens of Knob Noster”***

This vision statement clearly identifies the community's desire to maintain, promote and develop their city as a desirable place to live for people of all walks of life. Available housing, retail, public services and recreation opportunities are all factors that contribute to the community's desirability. Knob Noster has already established itself as a family-friendly community, and this plan will help the City to build upon that quality as development progresses.

Community Form & Identity

A “healthy” Knob Noster community of the future will consist of a well-designed network of vibrant neighborhoods, parks, and schools within walking distance of shops, civic services, jobs, and transportation. Future development will be guided by the central goal of building a “community”. This plan will help to further define the goals and vision laid out in the city's Strategic Plan, and will become a tool for achieving those goals.

Economic Opportunity

Knob Noster must have a sustainable tax base to provide quality services to residents and will target financial investments where they will be most effective and where they will help to achieve the community's vision. The Plan recognizes that local and global economic forces have a direct impact on local employment and quality of life. The ability for citizens to live, work and shop in the community is a key factor in retaining and attracting residents. Residents must be able to spend their money in the same community in which they live and work in order to create

a healthy tax base. The Plan will establish the groundwork for creating that opportunity. **Physical**

Design Standards

For Knob Noster to continue to grow as a healthy, vibrant and beautiful city, design standards must be implemented. Future development should strive to meet a certain level of quality for the betterment of the entire community. In working to create a defined identity, design standards can be used as a tool to create cohesion throughout the entire city.

The Role of the Plan 2

Purpose

The Comprehensive Plan is the official land use policy guide for development in the City of Knob Noster. As such, the Plan serves a multi-layered purpose.

1. Serves as a “database” for the City’s long-term planning policies
2. Defines the City’s major planning goals
3. Analyzes the factors that affect Knob Noster’s development and their planning implications
4. Depicts the future land use policies as a graphic representation in the form of the future land use plan map
5. Presents recommended changes to the City’s land use and development control regulations
6. Provides a policy basis for evaluating future annexation requests

Public Benefits

Local government has a broad ability to facilitate private development and promote the public welfare. The legislation of land use for public welfare must be balanced with a property owner’s rights to promote the reasonable economic use of his property. The Plan strives to balance the interests of all parties and provides a guide for City officials to best serve the needs and interests of the public.

As an example, preservation of historic structures or natural resources can be planned for the benefit of the public, as well as individual property owners. Inclusion of landscaping, lighting, drainage, buffering, sidewalks, and public spaces in development proposals will promote both the public and private welfare.

Planning Time Frames

The policies and recommendations outlined within this Plan are long-term in nature, representing the vision of the future physical condition of the community and its socio-economic well being. The Plan is generalized to accommodate the very dynamic nature of community planning.

The Plan also has a near-term focus. It provides a foundation for land use and development control regulations. The Plan outlines the City’s intentions for development and outlines recommended modifications to current regulations.

Plan Implementation

The healthy and orderly growth of Knob Noster will rely on the successful implementation of the Comprehensive Plan. The development policies found within the Plan are formulated around a scope that looks ahead and even beyond a pre-set time horizon.

At the same time, near-term implementation is important. Regulation of land development is one way the Plan is implemented. A Capital Improvement Plan (CIP), or other sources of funding such as Tax Increment Financing (TIF) are additional means of implementing the Plan.

The following are the roles played by key policy makers and officials, and the relationship of the Plan to Knob Noster's regulations.

The Public's Role — Civic Responsibility

Civic responsibility is critical to the strength of the community. Many Knob Noster citizens spend hours of their free time trying to make the community a better place. The citizens understand that their neighborhoods and community will survive only with their participation. At the same time, they recognize that the well-being of the community is in their individual interest. Knob Noster's community strength builds

from the bottom up. Where there is a sense of responsibility towards the neighborhood, there is a sense of responsibility toward the larger community. As such, proposals and requests of the residents of Knob Noster should be embraced. As important as these may appear, city staff has the responsibility to balance these requests with reasonable fiscal constraints and consideration for potential new residents, not yet represented within the community. The Knob Noster Comprehensive

Plan is developed based on these principles.

Role of the Planning & Zoning Commission

The following are the roles of the Planning and Zoning Commission in the community building process:

- 1) Adopt a Comprehensive Plan for the physical development of land within the City of Knob Noster and the surrounding unincorporated planning area, which together form the Knob Noster community.
- 2) Serve as an advisory body to the Board of Aldermen.
- 3) Hold public hearings to obtain public opinion regarding each rezoning, special use permit application and proposed text amendment.
- 4) Adopt a recommendation to the Board of Aldermen on each zoning and special use permit application and proposed text amendment.
- 5) Approve or disapprove preliminary plats.

Role of the Board of Aldermen

The following are the roles of the Board of Aldermen in the community building process:

- 1) Enact and amend the Zoning Regulations and zoning district map after considering the Planning and Zoning Commission's recommendation;
- 2) Enact and amend the Subdivision Regulations after considering the Planning and Zoning Commission's recommendation;
- 3) Approve annexations following consideration by the Board of Adjustments;
- 4) Approve Special Use Permits after considering the Planning and Zoning Commission's recommendations;
- 5) Grant waivers to required public improvements and/or public improvement specifications of the Subdivision Regulations as deemed necessary
- 6) Approve engineering plans for construction of public Improvements
- 7) Approve financial guarantees or financing mechanisms to ensure construction of all public improvements within subdivision plats;
- 8) Accept public improvements after they have been constructed and are found to have been constructed in accordance with the approved engineering plans;

Role of the Zoning Ordinance

The Zoning Ordinance of the City of Knob Noster is a legislative tool used for implementing the Comprehensive Plan. The purpose of a Zoning Ordinance is to:

- 1) Protect and promote public health, safety, convenience, comfort, and general welfare.
- 2) Create a comprehensive and stable pattern of land uses on which to plan for transportation, water supply, sewerage, schools, parks, public utilities, and other facilities;
- 3) Encourage appropriate uses of land;
- 4) Maintain and stabilize the value of property;
- 5) Reduce fire hazards and improve public safety and safeguard the public health; 6) Decrease traffic congestion and its accompanying hazards;
- 7) Prevent undue concentration of population;

Role of the Subdivision Regulations

The Subdivision Regulations of the City of Knob Noster are another legislative tool for implementing the Comprehensive Plan by guiding the subdivision and development of land. The Regulations provide coordination of otherwise unrelated plans as well as internal design of individual sites. The Regulations also provide the community the means to allocate the costs for

installing public facilities made necessary by subdivision proposals and to provide a set of rules and regulations that may be uniformly applied to all developments regardless of how big or small.

The general purpose of Subdivision Regulations is to:

- 1) Protect and promote the public health, safety, convenience, comfort, and general welfare;
- 2) Guide future growth and development;
- 3) Provide for the proper location and width of streets, roads, building lines, open space, and recreation and to avoid congestion of population;
- 4) Protect and conserve the value of land, buildings, and improvements, and to minimize conflicts among the uses of land and buildings;
- 5) Establish reasonable standards of design for subdivisions to further the orderly layout and use of land; and
- 6) Ensure that public facilities, including parks, roads, water, sewer, and drainage facilities are adequate.

Demographics 3

This chapter includes citywide demographic trends as they relate to regional and statewide trends. It also includes analyses by the Census Blocks within the City of Knob Noster and its

surrounding planning area, including Whiteman Air Force Base. For the purposes of this report, all population data has been obtained through the U.S. Census Bureau. Finally, there is also a summary of key findings, and a discussion of how demographic trends relate to the Comprehensive Plan.

The U.S. Census Bureau's 2020 Census Brief stated that the Nation's population increased 22.7 million people from 2010 to 2020. Missouri's population grew by 1.17 million during the same period, a growth rate of 19 percent. Johnson County grew by steady 2.46% from 52,595 in 2010 to 53,889 in 2021 according to the ACS 5-year estimates.

Since Knob Noster is adjacent to Whiteman Air Force Base (WAFB), it is crucial to study trends within the Base as they affect growth in Knob Noster. According to the WAFB Fiscal Year 2005 Economic Impact Report, there were over 7,660 Active Duty, Reserve, Guard and civilians as signed to the base. Over 3,827 of those were active-duty military. As of the 2020 Census, over 2,890 people lived on base, including military dependents.

Current Population

The City of Knob Noster has experienced continuous incremental growth since 1990. During the period ending in 2020, the City of Knob Noster added 6.5% increase in its total population altogether.

Table 3-1 identifies the 1990 to 2000 Census population and percent change, as well as the 2010 and 2020 estimates, for The City of Knob Noster, WAFB, Johnson County and the State of Missouri. The 2020 Census estimate indicates that Knob Noster has added 40 new residents since 2010—a more gradually measured pace than the 1990s.

Table 3-1: Population Trends 2000-2020

			2000 - 2010 Comparison		2010 - 2020 Comparison	
	2000	2010	Difference	% Change	2020	Difference % Change
Knob Noster - 65336	2427	2740	313	12.90	2782	42 1.53
Whiteman AFB - 65305	3836	3347	-489	-12.75	2896	-451 -13.47
Johnson County	48258	52041	3783	7.84	54013	1972 3.79

Source: US Census Bureau 2000, 2010, 2020 Census

Population Estimates & Projections

If the City of Knob Noster is to continue to outpace regional growth and increase its population from today until 2025, several infrastructure investments at the local, regional, and state levels will become key. Based on

a study by Aquila, Knob Noster was expected to add another 130 residents between 2005 (the date of the study) and 2010. Census estimates, however, show a slightly higher pace of growth between 2000 and 2005—about 1% a year. Had this growth rate continued beyond 2010, the city would have added 344 people during the current decade. Applying the more conservative assumption about growth rates in the longer-term future—a slower rate of 1.3% a year from 2010 to 2025—the City’s population would grow to about 3,192 residents by 2025. **Table 3-2** shows a breakout of these numbers. Whiteman Area Leadership Council had PGAV conduct a Housing Assessment and Market Analysis in 2023. Their study found “The aggregated population of the Base and the City of Knob Noster was the only to decline among all sub-geographies. Population decreased by over 1,750 persons from 2000 to 2020.” This decrease was reversed after 2010 with slow growth starting from 5,265 residents accumulating to the 5,350 population in aggregate with the base over those decades. This plan update finds the recent trends most compelling for projection of continued incremental increases in population for both jurisdictions. Some chance of population decrease should be taken into account, if only to spur planning to avoid that possibility.

Table 3-2: Population & Income Projections

Population Projections 1990 2000 2010 2015 2020 2022 2025 2030 2035

Knob Noster	2,261	2,427	2,709
Growth Rate		7.34%	11.62%
Population Change		166	282
		Average Growth 2015-2022	

Source: US Census Bureau

2,807	2,821	2,835
Growth Rate: 0.5%		
2,821	2,849	2,877
Growth Rate: 1.00%		

Income Projections	1990	2000	2010
Median Household Income (\$)	21,670	30,865	38,094
Amount Change (\$)		9,195	7,229
Growth Rate		42.43%	23.42%
		Average Growth 2015-2022:	
Per Capita Income (\$)	9,736	15,702	19,117

2025	2030	2035
56,654	64,659	73,795
Growth Rate: 14.13%		
59,568	71,482	85,778
Growth Rate: 20%		

City leaders may gain some perspective on the importance of maintaining population levels by referring to the work of Robert Wuthnow. Wuthnow notes that 48% of the 2,800 American cities with more than 1,000 but less than 2,000 population lost residents from 1980 to 2010. For the 2,600 American cities with more than 2,000 but less than 5,000 residents, only 42% experienced population loss in the same period. Maintaining a population greater than 2,000 might be considered as an important city goal, especially during times of potential military force reduction.

Racial & Ethnic Make-up

The ethnic and minority population in the City of Knob Noster shows strong diversity compared to most rural Missouri cities of equivalent size. In 2021 Johnson County was rated 91.74 in terms of the Census diversity index. **Table 3-3** indicates that the population in Knob Noster is appreciably more diverse than that in Johnson County or the state of Missouri as a whole. (In Census 2020, people were allowed to select multiple races as well as ethnicities; therefore, a breakdown of racial categories does not add up to the total population. Also, Hispanic is considered an ethnicity, not a race, and is counted exclusive of racial category.)

Table 3-3: Population Diversity Trends						
	Knob Noster		Whiteman AFB		Johnson County	
Total Population	2782		2896		54013	
	Count	% of Total	Count	% of Total	Count	% of Total
Population of one race:	2,504	90.01%	2,541	87.74%	49,810	92.22%
White alone	2,065	74.23%	2,063	71.24%	45,354	83.97%
Black or African American alone	228	8.20%	246	8.49%	2,369	4.39%
American Indian and Alaska Native alone	21	0.75%	26	0.90%	305	0.56%
Asian alone	75	2.70%	79	2.73%	844	1.56%
Native Hawaiian and Other Pacific Islander alone	27	0.97%	15	0.52%	215	0.40%
Some Other Race alone	87	3.13%	113	3.90%	723	1.34%
Population of two or more races:	278	9.99%	355	12.26%	4,203	7.78%
Population of two races	265	9.53%	304	10.50%	3,951	7.31%
Population of three races	9	0.32%	42	1.45%	220	0.41%

Population of four or more races	4	0.14%	8	0.28%	28	0.05%
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Source: US Census Bureau 2020 Census

Knob Noster Comprehensive Plan: Chapter 3 ¹⁹

Household Type & Size

The average number of persons per household in The City of Knob Noster is 2.14, compared to 2.44 per household among the 6.16 million population for the State. Also, 67% of the households in the City of Knob Noster identified themselves as “families”, compared to 85% for the state of Missouri. This would indicate that the family size in Knob Noster (3.20) is relatively lower than that of the state, like the average household size. The City’s strong school system is a great asset to families and, anecdotally seems to be one of the primary reasons residents remain connected to the city.

Table 3-4: Household Characteristics			
	Knob Noster	Whiteman AFB	Johnson County
Households of Only One Race			
Total:	1233	940	19607
Family households:	547	847	12519
Married-couple family	321	755	9930
Other family:	226	92	2589
Male householder, no spouse present	113	24	1082
Female householder, no spouse present	113	68	1507
Households of Two of More Races			
Total:	72	92	1,006
Family households:	37	92	421
Married-couple family	36	92	303
Other family:	1	0	118

Male householder, no spouse present	0	0	13
Female householder, no spouse present	1	0	105
Nonfamily households:	35	0	585
Householder living alone	19	0	298
Householder not living alone	16	0	287

Source: 2022 American Community Survey 5-Year Estimate

Note: All data taken from the Censes Bureau American Community Survey Estimates have an inherent margin of error. Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error.

Knob Noster Comprehensive Plan: Chapter 3²⁰

Age Distribution

Compared to the State, the City of Knob Noster has a higher percentage of young families, first -time home buyers and a lower percentage of empty nesters and retirees (**Table 3-5**). Also, the median age in the City of Knob Noster is 29.5—much lower than the State average of 38.3. Those numbers would indicate that the services and amenities found in Knob Noster make it an attractive place to live for young people. It would also suggest that Knob Noster has a relatively adequate supply of affordable housing, making it a draw for first time home buyers, as well as retirees.

The chart in **Figure 3-5** identifies the proportion of each major age group in the City of Knob Noster. Over half of the City’s population is between the ages of 5 and 34, which is a relatively consistent percentage for Johnson County as a whole.

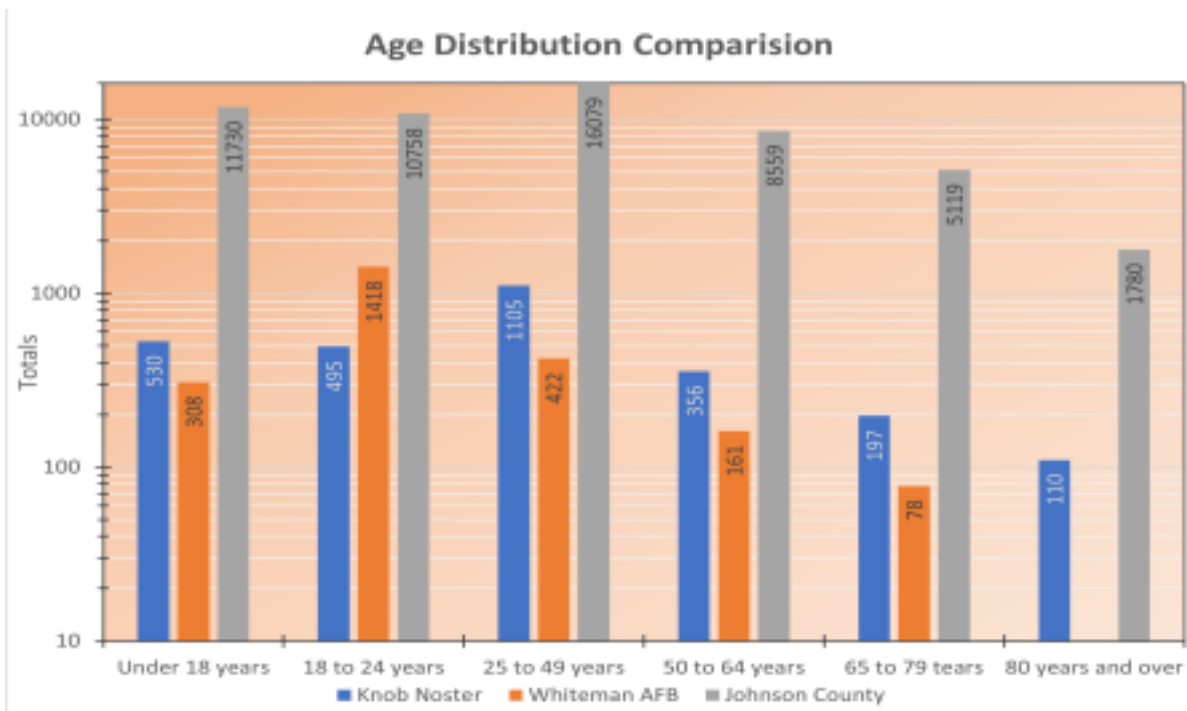


Table 3-5: Age Distribution

	Knob Noster			Whiteman AFB			Johnson County		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total population	2,793	1,458	1,335	4,119	2,350	1,769	54,025	27,678	26,347
Under 18 years	530	222	308	1,440	550	590	11,730	5,951	5,779
18 to 24 years	495	337	158	1,418	938	480	10,758	5,683	5,075
25 to 49 years	1,105	618	487	1,531	862	669	16,079	8,530	7,549
50 to 64 years	356	164	192	30	0	30	8,559	4,174	4,385
65 to 79 years	197	61	136	0	0	0	5,119	2,463	2,656
80 years and over	110	56	54	0	0	0	1,780	877	903
Median Age (years)	29.5			22.1			31		

Source: 2022 American Community Survey 5-year Estimate

Note: All data taken from the Censuses Bureau American Community Survey Estimates have an inherent margin of error. Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error.

Median household income (MHI) means half of all households have incomes above the median amount, and the other half have incomes below that amount. MHI provides one measure of the ability of the City of Knob Noster households to meet the costs of food, clothing, housing, health care, transportation, childcare, and higher education. Per capita income is computed by dividing the sum of personal income for a given geographic area by the total population for that area. Personal income is the sum of individual income received from employment, self

employment, investments, and transfer payments for all households for a given area. Per capita income, therefore, is an indication of the quality of labor force available and, wages and salaries disbursed in each location.

Overall, the median household income (MHI) in the City of Knob Noster is \$49,640, compared to \$62,503 and \$64,811 for the county and state respectively (**Table 3-6**). Previously, the median income of Knob Noster householders under age 25 in the 2000 Census was \$30,869, as compared to \$21,403 statewide; and \$18,856 in Johnson County, which indicated a higher-than-average income for young workers during that period. That reflected a strong supply of entry level jobs in the area, offering higher wages than the state-wide average. In the 2022 American Community Survey, the city made a stronger showing of jobs in the \$35,000 to \$50,000 range along with the lower median incomes compared to the county and state.

Strengthening the community incomes within Knob Noster will hinge on housing and land use decisions supporting more mercantile, financial, health, and educational services to attract residents and WAFB personnel to engage locally in activities and pursuits ordinarily offered in cities with twice the population of Knob Noster, itself. A strong volunteer merchant organization can adopt Missouri Main Street principles to retain, grow and attract additional mercantile services and employment into the downtown over time. Attraction of additional industry, whether related or unrelated to the Air Force base, would also help with income stability, but only if higher tier wages become prioritized by city leaders in the seeking of added local industry.

Meaningful comparisons of the Knob Noster economic base can be drawn between the city of Richland, Missouri (proximate to Fort Leonard Wood) and Elwood, Kansas (proximate to Rosecrans Air National Guard installation). Knob Noster enjoys a labor force participation of 72.5% compared to the mere 57% in each of these two peer communities. Knob Noster has more managers and more production and transportation employees than either Elwood or Rich

land, where those peer cities have larger numbers of sales, and natural resources employees. Elwood has a larger number of financial service workers than Knob Noster, but Richland has fewer. Richland has only 13.5% of the workforce providing education services, compared to Elwood at 25% and Knob Noster at 27 percent. Knob Noster has 21.1% government workers, compared to 8.9% in Elwood and 11.2% in Richland. This shows the relatively deep reliance on WAFB as an economic base in Knob Noster, and the strength of the local school system.

The income ranges for Knob Noster and Richland show most of their respective households earning between \$35,000 and 50,000. Elwood has a larger number of households earning between \$50,000 and \$75,000. City leaders in Knob Noster may want to examine the economic base in Elwood more closely for aspects which could become emulated to promote higher earn

ings in Knob Noster over time. A table is provided in Appendix B of this plan for further study of these similarities and differences.

	Knob Noster				Whiteman AFB			
	House holds	Families	Nonfamily Households	Married couple Families	House holds	Families	Nonfamily Households	Married-couple Families
Total	1,305	584	721	357	1,032	939	93	847

Less than \$10,000	6.80%	9.90%	5.30%	0.00%	1.10%	5.20%	0.00%	1.30%
\$10,000 to \$14,999	1.70%	0.00%	3.10%	0.00%	1.00%	1.10%	0.00%	1.20%
\$15,000 to \$24,999	4.40%	4.10%	7.50%	0.00%	4.00%	2.80%	7.50%	3.10%
\$25,000 to \$34,999	7.40%	7.00%	8.50%	1.40%	15.60%	11.40%	58.10%	10.00%
\$35,000 to \$49,999	30.40%	9.20%	44.10%	12.00%	14.30%	15.50%	2.20%	17.20%
\$50,000 to \$74,999	19.90%	18.50%	20.70%	15.40%	25.90%	25.20%	0.00%	25.40%
\$75,000 to \$99,999	11.30%	17.10%	5.70%	25.20%	14.60%	16.10%	0.00%	17.20%
\$100,000 to \$149,999	13.10%	24.80%	3.60%	33.60%	18.50%	17.70%	26.90%	19.60%
\$150,000 to \$199,999	4.40%	7.90%	1.70%	10.10%	1.70%	1.40%	5.40%	1.50%
\$200,000 or more	0.60%	1.40%	0.00%	2.20%	3.30%	3.60%	0.00%	3.40%
Median income	49,640	75,625	43,575	91,648	59,593	58,808	N/A	61,938
Mean income	63,362	80,843	47,485	N/A	73,317	72,309	61,041	N/A

	Johnson County				Missouri			
	House holds	Families	Nonfamily Households	Married couple Families	House holds	Families	Nonfamily Households	Married-couple Families
Total	20,613	12,940	7,673	10,233	2,521,832	1,569,735	952,097	1,168,049
Less than \$10,000	4.00%	2.30%	7.60%	0.70%	5.70%	3.20%	10.70%	1.50%

\$10,000 to \$14,999	3.10%	0.90%	7.20%	0.60%	4.40%	1.90%	9.00%	0.90%
\$15,000 to \$24,999	5.60%	4.00%	9.40%	2.10%	7.70%	4.50%	13.50%	2.50%
\$25,000 to \$34,999	10.50%	7.10%	16.10%	6.20%	8.50%	6.30%	12.80%	4.30%
\$35,000 to \$49,999	13.80%	10.50%	20.40%	8.70%	12.30%	10.40%	16.00%	8.20%
\$50,000 to \$74,999	22.60%	20.70%	24.20%	19.60%	17.90%	17.90%	18.00%	17.00%
\$75,000 to \$99,999	13.40%	17.40%	7.00%	18.10%	13.40%	15.50%	8.90%	16.70%
\$100,000 to \$149,999	18.50%	24.70%	6.40%	29.00%	16.20%	20.80%	7.10%	24.50%
\$150,000 to \$199,999	5.10%	7.10%	1.40%	8.60%	6.90%	9.70%	1.90%	11.80%
\$200,000 or more	3.50%	5.20%	0.30%	6.30%	7.00%	9.80%	2.10%	12.50%
Median income								
	62,503	80,979	40,023	89,547	64,811	83,420	38,435	98,090
Mean income								
	78,854	95,078	48,598	105,415	88,586	108,019	52,852	123,979

Source: MO- 2022 ACS 1-year Estimate, KN, WAFB, JC- 2022 ACS 5-year Estimate

Note: All data taken from the Censuses Bureau American Community Survey Estimates have an inherent margin of error. Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error.

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Housing

The Community Housing Assessment for the City of Knob Noster was commissioned by the city administration and the Economic Development team, and completed by Goldstone Consulting Group in September 2021. The purpose of the analysis is to provide an in-depth exploration of the housing conditions and future needs of the community to create a brighter economic climate.

Paralleled to continued population growth over recent decades, housing demand within the City of Knob Noster is rising. During this same period, local construction has expanded the available housing stock. However, with the recent decline in national mortgage rates, the housing market has taken a dramatic upward trend. To continually address the needs of a diverse community, supporting sustained population increases, housing development must remain an essential focus in the economic development process.

The results of this study find the immediate community housing needs and projected future demands for the City of Knob Noster, will require continued and directed development. In recent years the city has progressed in a positive direction with the construction of new and updated housing, creating viable residences for some community members. However, with the consistent population increases and existing income distributions, a portion of the population is currently underserved with available housing. Due to healthy and sustainable housing market trends, immediate development

opportunities exist within the City of Knob Noster. Multiple strategies and directives should be employed to appropriately address the diverse needs of the local community. The complete analysis presented in the report leads to the following conclusions regarding current housing and future development.

Directed Property Development as the Primary Objective

Considering various factors, current estimations project that a total of 45 additional housing units will be required for the City of Knob Noster over the next five years. Another 39 units are expected to be necessary by 2036. Analysis indicates the greatest need for increased housing stock exists for households with a total income of \$50,000 or more. Evaluating renter-to-owner occupancy, housing market trends, and current construction and land prices suggests housing development over the next fifteen years should be oriented towards owner-occupied units ranging from \$175,000 to \$400,000. These homes should feature three to four bedrooms and multiple bath options.

With multiple ideal locations for infill or new lot development readily available, addressing this need may begin immediately. In addition to serving a higher-income population, financial intervention strategies may be useful in acquiring land or reducing the cost of development in order to increase variety. Targeted new development opportunities also exist to capitalize on the higher distribution of renters within the City of Knob Noster.

Focused Housing Rehabilitation

Though low-income housing is not currently as highly demanded as other options within Knob Noster, the continual development of affordable units should remain a focus of the community. Improving existing housing choices and increasing variety through rehabilitation projects provides an opportunity to meet the needs of a diverse community. With a relatively high vacancy rate, a range of possibilities exists for the revitalization of housing, providing improved selection for current and future residents.

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Additionally, through the implementation of incentive-based programs, updates to currently occupied units offer an opportunity to improve the valuation of targeted areas within the city. Housing rehabilitation serves as a lower barrier to entry method in addressing community needs, especially for the low-income population. In addition, investing in existing properties will facilitate other improvement strategies.

It is important to note that rehabilitation projects are commonly most successful when completed in clusters. Focusing improvements in specific areas will increase the likelihood of a community sustaining the enhanced housing value. Consideration should also be given to the removal of current housing units in favorable locations where rehabilitation efforts may not be feasible.

Community Investment Provides Opportunity for Growth

Partially due to the high distribution of renters, the City of Knob Noster loses residents to relocation at a relatively higher rate than outside communities. Improving upon the local living experience serves to increase the likelihood that families will remain as residents for longer periods of time. By investing in the community infrastructures, such as street and road quality, the desirability of living in Knob Noster may be developed. In addition, ensuring that the community is providing appropriate housing options and continuing to support the local school will likely result in increased resident retention. Whiteman Air Force Base has a dramatic impact on the draw of residents to the City of Knob Noster. Capitalizing on this heightened population base and retaining households for longer periods will continue to boost the local economic climate.

Table 3-7: Housing Characteristics

	Knob Noster		Whiteman AFB		Johnson County	
Total housing units	1388		1059		22605	
	Count	% of Total	Count	% of Total	Count	% of Total
Occupied housing units	1305	94.03%	1032	97.45%	20613	91.19%
Owner-occupied	581	41.85%	28	2.64%	13015	57.58%
Renter-occupied	724	52.15%	1004	94.81%	7598	33.61%
Vacant housing units	83	5.97%	27	2.55%	1992	8.81%

Homeowner vacancy rate	1.2	N/A	N/A
Rental vacancy rate	3.4	0.8	2.6

Average household size of owner occupied unit	2.31	6.31	2.53
Average household size of renter occupied unit	2	3.02	2.24

Year Structure Built

	Count	% of Total	Count	% of Total	Count	% of Total
Built 2020 or later	133**	N/A	0	0.00%	59	0.30%
Built 2010 to 2019	103	7.40%	276	26.10%	2,304	10.20%
Built 2000 to 2009	357	25.70%	352	33.20%	4,886	21.60%
Built 1990 to 1999	197	14.20%	220	20.80%	4,274	18.90%
Built 1980 to 1989	223	16.10%	92	8.70%	2,703	12.00%
Built 1970 to 1979	175	12.60%	64	6.00%	2,724	12.10%
Built 1960 to 1969	102	7.30%	47	4.40%	1,790	7.90%
Built 1950 to 1959	126	9.10%	0	0.00%	1,271	5.60%
Built 1940 to 1949	39	2.80%	8	0.80%	669	3.00%
Built 1939 or earlier	66	4.80%	0	0.00%	1,925	8.50%

Home Values

Less than \$50,000	7	1.20%	0	0.00%	694	5.30%
\$50,000 to \$99,999	59	10.20%	0	0.00%	1,234	9.50%
\$100,000 to \$149,999	196	33.70%	0	0.00%	1,856	14.30%
\$150,000 to \$199,999	110	18.90%	0	0.00%	2,442	18.80%
\$200,000 to \$299,999	172	29.60%	5	17.20%	3,861	29.70%
\$300,000 to \$499,999	27	4.60%	0	0.00%	2,254	17.30%
\$500,000 to \$999,999	10	1.70%	24	82.80%	618	4.70%
\$1,000,000 or more	0	0.00%	0	0.00%	56	0.40%
Median (dollars)	161,700	(X)	-	(X)	206,600	(X)

Source: 2022 American Community Survey 5-Year Estimate

** - Number taken from building permits issued by Knob Noster 2020-2023

Note: All data taken from the Censuses Bureau American Community Survey Estimates have an inherent margin of error. Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error.

Education

The City of Knob Noster has a higher percentage of residents with some college education than the state and county averages. This, along with the fact that Knob Noster residents under the age of 25 have a higher average income, indicates a strong number of good-paying jobs for young residents who do not have a college degree. It also presents the opportunity for the city to promote the strength of its school system.

Knob Noster's public school system is a major asset to the community, providing highly recognized educational programs. Knob Noster R-VIII District students consistently score above state and national averages on standard exams, earning recognition through Bright Flight, Missouri Scholars and national Merit programs; and the high school is designated as "A+" by the state allowing students who meet academic, attendance and citizenship criteria to receive two years of college tuition reimbursement. Given the strength of the school system, the average educational attainment level for the city can be expected to rise. Knob Noster High School enjoys a robust and unique relationship with WAFB. The school operates a chapter of the Air Force JROTC program in conjunction with base personnel. WAFB personnel also contribute to educational opportunities in robotics and other electronics programs in the school.

Table 3-8: Education Attainment Level Characteristics

	Knob Noster		Whiteman AFB		Johnson County	
	Total	% of Total	Total	% of Total	Total	% of Total
Population 18 to 24 years	495		1,418		10,758	
Less than high school graduate	47	9.50%	8	0.60%	472	4.40%
High school graduate (includes equivalency)	237	47.90%	650	45.80%	3,406	31.70%
Some college or associate's degree	193	39.00%	719	50.70%	6,123	56.90%
Bachelor's degree or higher	18	3.60%	41	2.90%	757	7.00%

Population 25 years and over	1,768		1,561		31,537	
Less than 9th grade	13	0.70%	60	3.80%	897	2.80%
9th to 12th grade, no diploma	85	4.80%	2	0.10%	1,511	4.80%
High school graduate (includes equivalency)	587	33.20%	273	17.50%	10,542	33.40%
Some college, no degree	475	26.90%	252	16.10%	6,424	20.40%
Associate's degree	267	15.10%	305	19.50%	3,198	10.10%
Bachelor's degree	182	10.30%	536	34.30%	5,067	16.10%

Graduate or professional degree	159	9.00%	133	8.50%	3,898	12.40%
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High school graduate or higher (25 years +)	1,670	94.50%	1,499	96.00%	29,129	92.40%
Bachelor's degree or higher (25 years +)	341	19.30%	669	42.90%	8,965	28.40%

Source: 2022 American Community Survey 5-Year Estimate

Note: All data taken from the Census Bureau American Community Survey Estimates have an inherent margin of error. Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error.

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Industry & Employment Trends

Employment is measured by the number of full-time and part-time jobs in an area. It includes military support personnel, farm workers and the self-employed as well as the non-agricultural wage and salary workers. The employment levels are measured where the jobs are (place of work) rather than where the workers live (place of residence). **Figure 3-2** shows the distribution of the civilian workforce within Knob Noster’s employment base (not including WAFB). The major employers in Johnson County are listed in **Table 3-9**.

Based on the numbers provided by the 2020 Census, there are more jobs around Knob Noster than there are county residents working in the city (see Appendix A). Some of this can be attributed to WAFB personnel living in areas other than Knob Noster. However, the imbalance presents a unique opportunity for the city to attract new residents and businesses with the abundance of jobs in the immediate area. Given the relatively affordable nature of the housing stock and the strength of the school system in Knob Noster, the city can continue to gain attractiveness as a place to reside in Johnson County as long as the affordable housing stock grows.

<u>Figure 3-2: 2023 Employment by Occupation - Johnson County</u>	
Civilian employed population 16 years and over	24,417
Educational services, and health care and social assistance	6,658
Retail trade	2,797
Manufacturing	2,447
Arts, entertainment, and recreation, and accommodation and food services	2,281
Public administration	2,141
Construction	1,723
Professional, scientific, and management, and administrative and waste management services	1,449

Transportation and warehousing, and utilities	1,417
Finance and insurance, and real estate and rental and leasing	1,081
Other services, except public administration	1,068
Agriculture, forestry, fishing and hunting, and mining	570
Wholesale trade	416
Information	369

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Table 3-9: 2023 Johnson County Major Employers

Employer Industry Employee Count		
Whiteman Air Force Base	Government - Defense	8,188
University of Central Missouri	Higher Education	1,109
EnerSys Energy Products	Manufacturing - Stored Energy	663
Western Missouri Medical Center	Health Care	647
Warrensburg R-VI School District	Elementary/Secondary Education	570
Dollar Tree Distribution Center	Warehouse / Logistics	389
Walmart Supercenter	Retail	368
Knob Noster R-VIII School District	Elementary/Secondary Education	302
City of Warrensburg	Government	254
Missouri Veterans' Home	Health Care	239
Stahl Specialty Co	Manufacturing - Aluminum Casting	220
County of Johnson	Government	207
Rose Acre Egg Farm	Food Production	162
Holden R-III School District	Elementary/Secondary Education	149
Northrop Grumman	Defense Related Services	120
Alstom Signaling	Manufacturing - Signaling Systems	119
Hyvee	Retail	111

Lowe's Home Improvement	Retail	111
CK Enterprises	Manufacturing - Cleaning Solutions/Systems	105
All Pro Electrical Technology	Commercial Electrical Services	92

Summary

The City of Knob Noster is a diverse community with many strengths and opportunities. Recent changes in the overall housing market have highlighted the relative affordability of housing in Knob Noster, compared to the communities surrounding the city. The jurisdiction presents a n appreciable range of affordable housing options, as well as a high number of well-paying entry level jobs. Those facts, combined with the city's strong school system, make it an attractive place for families to live in Johnson County. The relatively affordable housing stock also appeals to empty nesters and retirees, presenting the opportunity to retain retiring Air Force personnel.

In summary, key demographic characteristics are as follows:

- The population of the City of Knob Noster increased by 9 percent in the 1990s and has been experiencing over 1.5% growth a year since 2000. The 2005 Census estimated the population of the City of Knob Noster to be 2,734 and the city is projected to add 910 people by 2025.
- Knob Noster has a richly diverse population, which is one of the key assets of the community.
- The population of Knob Noster includes a trend with families earning more than householders and only slightly lesser incomes than householders of the same cohorts in the county, and statewide in Missouri. The median income of Knob Noster house holders reported in the 2020 Census was \$49,640, as compared to \$64,811 statewide and \$62,503 in Johnson County. This is significant in that Knob Noster families received \$75,625 median income during the same period.
- The City's sizeable young population makes it a place with a concentration of starter families. A portion of the Air Force Base retirees also choose to stay in Knob Noster as their home.
- Employment and housing options are critical to keep a stable and growing population in Knob Noster. Continued partnership with the Whiteman AFB will be an important factor in sustaining the growth of the city.
- In the currently forecasted tight housing market, the City's rate of new housing starts, and subdivision plats will serve as both a driver and an indicator of population increases, which in turn has the potential to attract more services to the community.

4

Existing Conditions

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

Even though the Comprehensive Plan addresses the social and economic development issues facing Knob Noster, its primary concern is the physical development of the City. Among the more important factors affecting Knob Noster's physical development are its environmental and locational characteristics and existing services and facilities.

Permit Trends

Significant numbers of dilapidated structures have been removed through successful code enforcement during the past few years in concerted staff efforts to resolve housing stock deficiencies. Code enforcement initiatives and follow up are ongoing and have not only resulted in the successful clearance of unsafe housing structures; but have also made available cleared sites in the city for infill development. Several mobile home parks with older units—not conforming to modern codes for manufactured homes—were cleared, as well.

Building Permits Issued by Type (2018-2023)

Year	Single Family	Duplex	Multi-Family	Commercial	Total Issued	Value
2018	11	0	0	1	12	\$1,415,590

2019	14	0	0	3	17	\$2,581,279
2020	4	1	14	9	27	\$4,655,716
2021	11	1	8	0	20	\$5,285,145
2022	38	0	0	1	39	\$1,679,331
2023	80	4	2	17	103	\$7,016,0630

There have also been significant increases in building permit activity in Knob Noster in the past few years (Table 4-2). The new housing starts—and subdivision plating—facilitate population base increases that can attract retail commercial businesses in response to increased demand.

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2022 & 2023 Code Enforcement Actions					
Year	Active	Abetment	On-going	Citations Written	Total
2022	0	102	0	12	102
2023	2	102	2	10	104

Water Services

The city is served by a distribution system that consists of three wells, all approximately 1,000 feet in depth, a ground tank and an elevated storage tank providing a combined storage capacity of 700,000 gallons. This system serves approximately 1,250 meter services and 87 hydrants with an average annual use of 101,826,000 gallons.

Sanitary Sewer Facilities

The City's sanitary sewer system extends throughout the city and functions primarily by gravity flow with two pump stations. The wastewater treatment system consists of a 25-acre lagoon and an overland flow treatment system which utilizes 10 fields to treat sewage effluent, and an ultra violet light disinfection system. This system has a capacity of 450,000 gallons per day based on an eight-hour day, five days per week operation schedule. The capacity can be expanded by increasing the hours and days of operation or by increasing the acreage.

In addition to the main facility, a smaller facility is located next to Valley View Subdivision in the southeast section of Knob Noster. This two-cell lagoon treatment facility is owned and maintained by the city and only serves the Valley View Subdivision. In addition to the gravity flow system, there are two lift stations in the system. One is located on Irish Lane and the other on Valley Hill. They utilize two pumps, each with a capacity of 520 gallons per minute, pumps wastewater to the city's sewage treatment plant located west of Knob Noster city limits.

Currently, the City's wastewater treatment facility is operating below its estimated capacity and as such has the capacity to serve up to 6,500 people. This combined with its reliable design— based primarily on gravity flow sewer mains and just two pump lift stations—makes for a very efficient and cost-effective operation. It also provides capacity for serving future annexed territory (such as targeted areas to the north) and to neighboring jurisdictions, such as to the state park's camp site service infrastructure that was annexed in 2023.

Emergency Services

Fire Protection

Knob Noster Fire Department is staffed with 14 volunteers from the community consisting of military personnel stationed at Whiteman Air Force Base, and personnel from the community such as farmers, construction workers, clerks, dispatchers, and factory workers.

Services that the Fire Department provides to the local community include fire protection, fire prevention, rescue services, Haz-mat and emergency medical services. The Knob Noster Fire Department maintains a Class 6 ISO (Insurance Services Office) Rating to help with Insurance Rates.

The Department has several personnel that are certified through the State of Missouri as Emergency Medical Technicians as well as everyone in the department being certified in CPR. The Department runs a First-Responder program in conjunction with the Johnson County Ambulance District.

The Knob Noster Fire Department covers a community of approximately 4 square miles and a population of approximately 2900 citizens. The Department operates 2 class A pumpers, and 2 Utility Vehicle.

In 2003, the Fire Department moved into its new home, a building remodeled to accommodate the Fire Department located at 107 East South Railroad St. KNFD averages approximately 500 calls per year.

Emergency Medical Services (EMS)

Ambulance service to Knob Noster is provided by Johnson County Ambulance service to Knob Noster Johnson County Ambulance District (JCAD). The JCAD was established in 2002 and operates out of five facilities, with two in Warrensburg, one in Holden, one in Pittsville and with house five located at 2342 Irish Lane, Knob Noster. Providing services typically in under 10 minutes. The Knob Noster Fire Department also has four EMTs on staff and is available as a first responder.

Law Enforcement

Police protection is one of the most fundamental services provided by the Municipality and is staffed 24/7. Police protection in the City of Knob Noster is provided primarily by the Knob Noster Police Department. The Knob Noster Police Department is currently slotted for eight full-time and has budgeted for one SRO officer along with an administrative assistant. Officers patrol the city limits of Knob Noster and assist the Johnson County Sheriff's Office on agency assist calls just outside City limits when requested.

The Knob Noster Police Department serves our community with highly trained law enforcement officers committed to achieving excellence in all they do for our community. In addition to patrols and call responses, they provide animal control, fingerprint services, and vehicle verifications.

High Priority Route Accessibility

Routes identified and frequently used by Emergency Medical Services (EMS), and the city's Emergency Manager should be prioritized for the clearing of debris and snow for public safety. Identified routes include:

- US 50 Business • Irish Ln. • Smith Pkwy. • N State • SE State Hwy J • SE • NE Hwy D
- 981st Rd.



Knob Noster

Comprehensive Plan: Chapter 4 ³⁴

Existing Traffic Conditions

The major roads serving Knob Noster are U.S. Highway 50 and Missouri Highway 23. U.S. Highway 50 is a four-lane highway between the Kansas City metropolitan area and Sedalia to the east. From east of Sedalia, U.S. 50 is a two-lane highway, continuing to the State capitol of Jefferson City. According to the Missouri Department of Transportation (MoDOT) 2022 traffic counts, traffic volumes on U.S. 50, directly west of Knob Noster are just over 2,700 vehicles per day (**Figure 4-1**).

Missouri Highway 23 provides a connection between U.S. 50 at Knob Noster and I-70 at Concordia. Highway 23 extends further northward to connect with U.S. 24. Traffic volumes on Route 23 are approximately 912

vehicles per day north of U.S. 50, and have an AADT of 3,622 vehicles per day south of U.S. 50. There are two additional major routes within the City of Knob Noster. McPherson Street is an arterial (Old U.S. 50) which essentially parallels U.S. 50 approximately one-fourth mile to the south. State Street (or Route J) is the main north-south street in Knob Noster south of U.S. 50. State Street also provides access to the north entrance gate at WAFB. The traffic volumes on McPherson and State Streets are approximately 2,163 and 1,450 vehicles per day, respectively.

Route D extends south of U.S. 50 and forms a loop around the southern end of WAFB, connecting with Highway 23 to the west. Existing traffic volumes on Route D are approximately 890 vehicles per day north of the base, and 1,042 on the south end.

Complete Streets

This policy defines Complete Streets by this outcome: All current and projected users of the public rights of way should be able to safely and conveniently reach their destinations along and across a street or road, regardless of their chosen mode of transportation, in order for that street or road to be considered “complete.” “All users” include: pedestrians, cyclists, transit and school bus riders, people with disabilities, motorists, freight haulers, service personnel and emergency responders. “All users” includes a wide range of ages from infants being pushed in a stroller by an adult to elderly people.

While some streets and roads may require changes to the rights of way to better accommodate non-motorized users, many low volume streets and roads will require only minor changes such as signage or restriping, or no changes at all, especially if streets are designed for an appropriate speed.

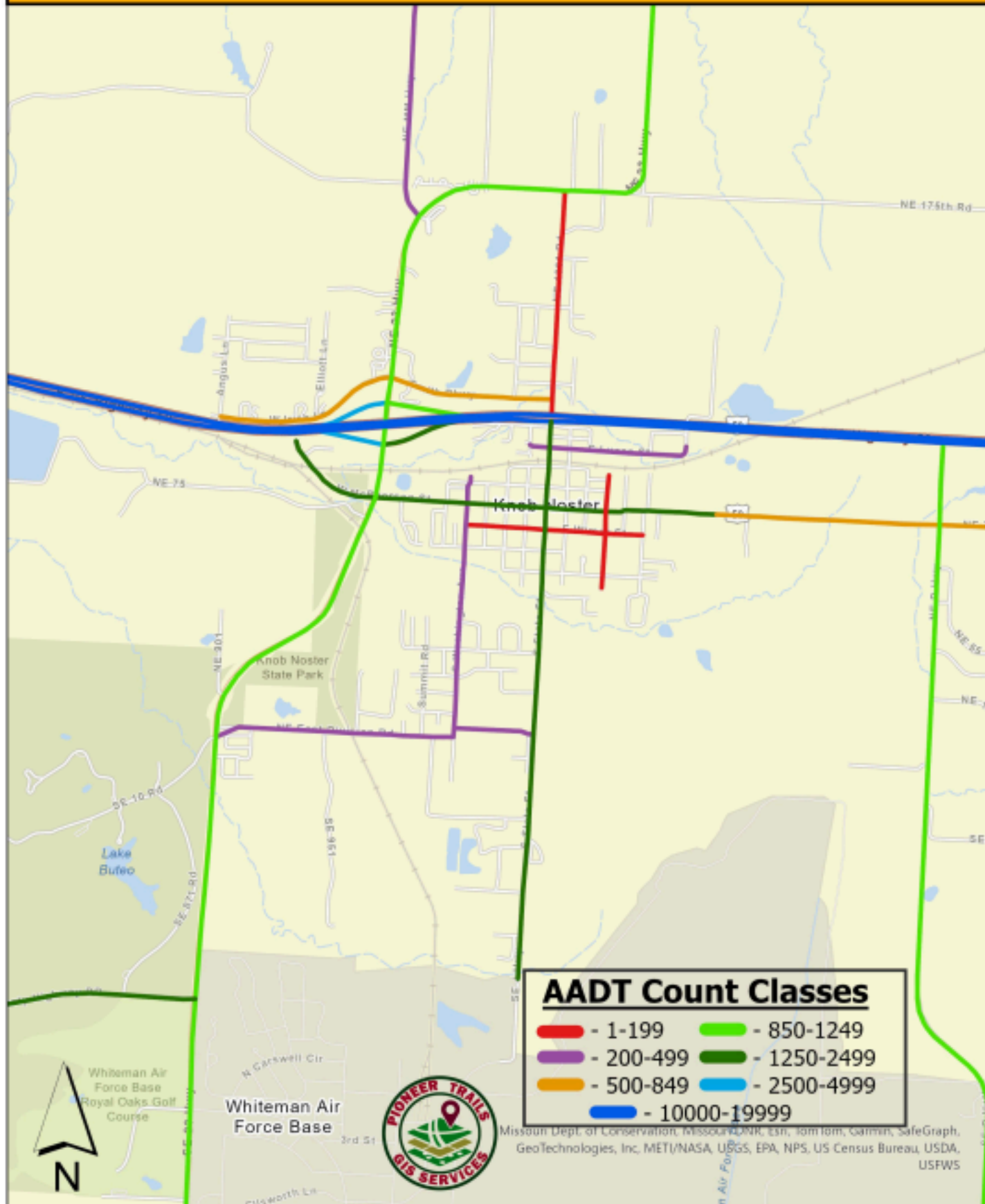
The purpose of this policy is to encourage improvements to the transportation network so that more and more streets and roads in the City of Knob Noster meet this definition, to encourage future designs which accommodate all users and to create an increasingly safe and accessible transportation network for all modes and users.

There is no one design standard that achieves the Complete Streets outcome. Designs for particular projects will be context sensitive, considering adjacent land uses and local needs and in incorporating the most up-to-date, widely-accepted design standards for the particular setting, traffic volume, traffic speed and current and projected demand. Each project must be considered both separately and as part of a connected network to determine the level and type of treatment necessary for the street to be complete.

It is important to note that many low-speed, low-volume residential streets can be considered complete with no additional treatment because pedestrians, people of all abilities, cars and cyclists can already interact there safely. Likewise, many low-volume roads with limited current or projected demand from cyclists, transit riders, pedestrians and people with disabilities may require no additional treatment to be considered complete.

The Planning and Zoning Commission may wish to recommend an ordinance requiring property owners to perform sidewalk construction in the city Right-of-Way, on the site of each permitted new home construction. Additional ordinance clarification of Right-of-Way (ROW) can better define ongoing owner responsibilities concerning easements and sidewalks, along with reminders to residents.

Roads with MoDOT AADT Count



Knob Noster Comprehensive Plan: Chapter 4 ³⁶

Funding Sources

Potential funding sources include the following:

Federal – The replacement for the Fixing America’s Surface Transportation Act (FAST Act), which has yet to be named and adopted, may include new funding mechanisms for infrastructure improvements.

State – The following Missouri Department of Transportation funding should be considered for planning and non-motorized transportation improvements:

- Transportation Engineering Assistance Program (TEAP)
- Transportation Alternatives Program (TAP)

County – The following funding may be available in conjunction with Lafayette County:

- Community Development Block Grant Funds (CDBG)
- County Road Bonds

City – The City may consider funding roadway improvements in the following ways

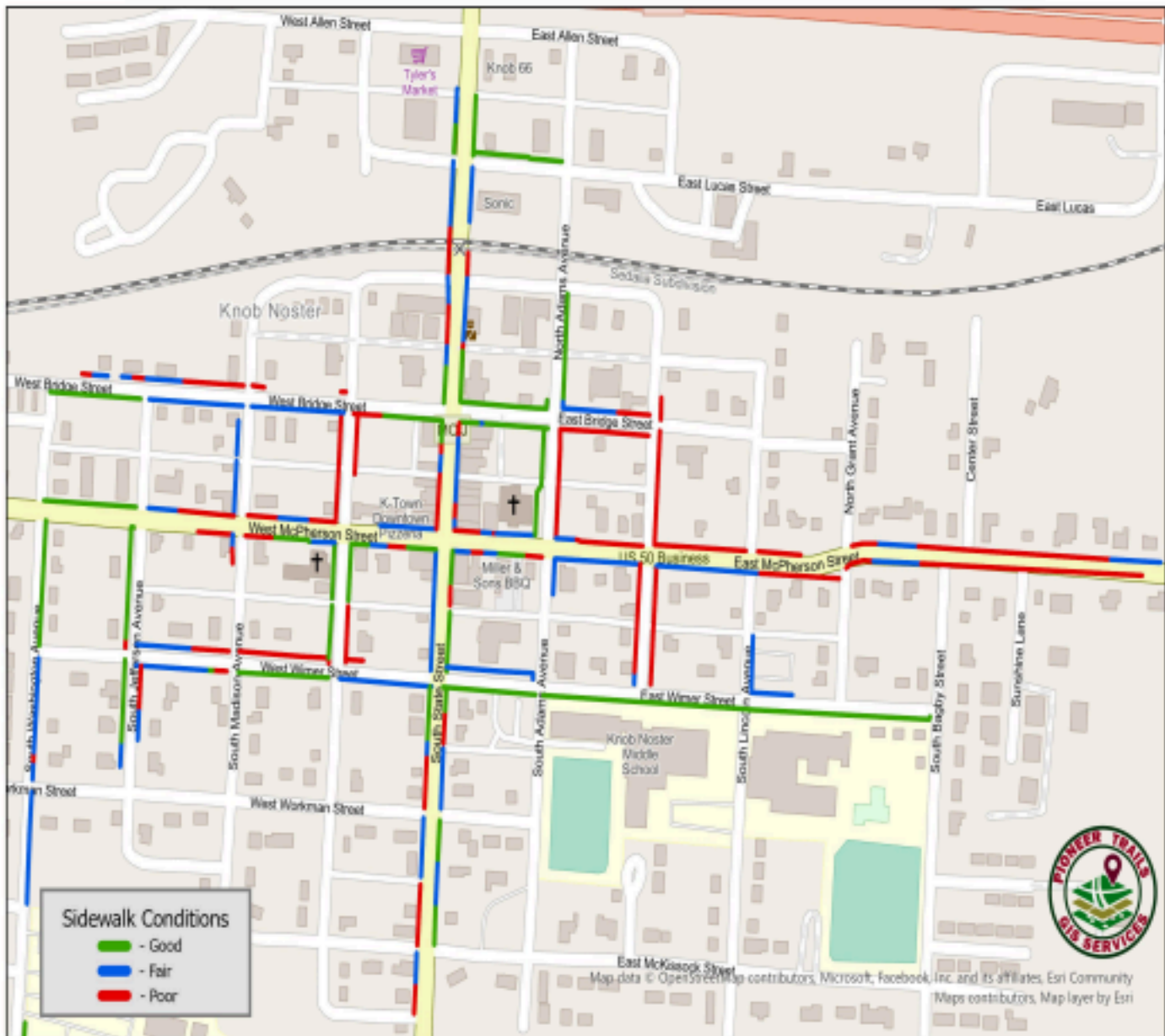
- Capital Improvements Program Budget
- Community Development Block Grant Funds (CDBG)
- General Obligation Bonds
- Roadway improvement taxes
- Missouri Transportation Finance Corporation
- Transportation Development Districts
- Tax Increment Finance

Existing Sidewalk Conditions

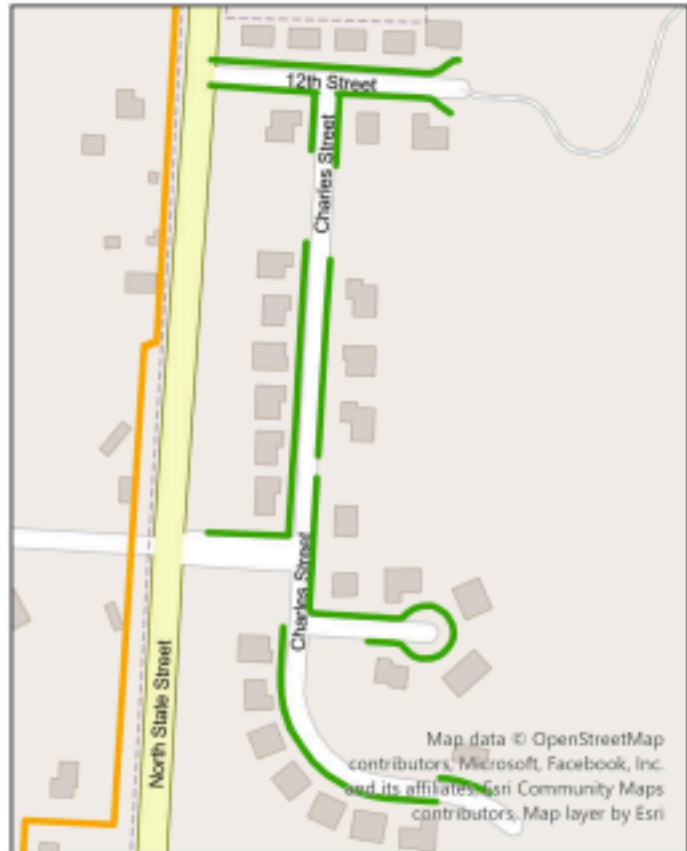
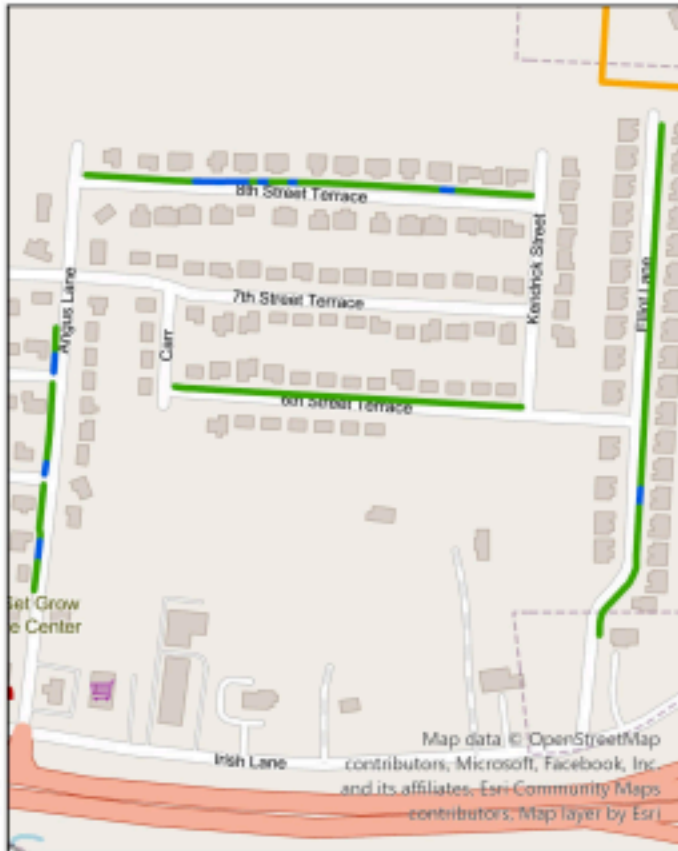
The City of Knob Noster has an approximate 6.71 miles of sidewalks throughout the city, with the majority surrounding the downtown area. The majority of sidewalks upon visual inspection

were determined to consist of an approximate 3.79 miles in good condition, 1.45 in fair, and 1.46 in poor condition in December of 2023. Efforts have been taken by city staff and officials to improve both condition and connectivity with a successful \$471,472 grant application selection for the MoDOT Transportation Alternatives Program (TAP) in November of 2023, and by efforts of the city maintenance crew. Overall, Knob Noster scores 42 out of 100 for car dependence as a city. To improve upon this relatively low walkability score, an ordinance requiring sidewalk construction could become considered for all new home construction permitted outside of new subdivision development.

2023 Sidewalk Conditions - Downtown & Surroundings



2023 Sidewalk Conditions - Other Areas



Sidewalk Conditions

- - Good
- - Fair
- - Poor



Road Improvements

Several street and highway improvements were made during the 1990s to address circulation problems in the

Knob Noster area. The projects had a significant impact on future traffic. The street improvements were initiated primarily through WAFB and coordinated with MoDOT and financed by Defense Access Road (DAR) funds. The construction of the interchange improved the safety of Highway 50, improved access to the WAFB, and provided opportunities for new development near the interchange area.

Several efforts to improve access at State Street and Highway 50 are still being evaluated on an ongoing basis. These alternatives include:

- Potential for a pedestrian overpass of Highway 50, such as at Adams Street as a possible location;
- Additional improvements of right-turn in-and-out lanes on both the north and south side of Highway 50; and
- Continued improvements to McPherson Street from Highway 23 to State Street to accommodate additional traffic volumes.
- No through-movement across Highway 50 is allowed at grade; however, options continue to be studied with MoDOT and the City concerning possible center median turn bays to both accommodate access and safety needs.

Parks, Open Spaces, & Recreation

Just south of Highway 50, off Missouri Highway 23 lies the Knob Noster State Park, which was annexed by the city in 2023. The State Park offers a mixture of prairie, savanna, and forest, with 3,567 acres lying along both sides of meandering Clearfork Creek. Several small lakes in the park cater to fishermen, and non-motorized boats may be used. Picnic sites dot the lakeshore, and three open picnic shelters make an

ideal place for group get-togethers in a tranquil setting.

Several trails run through the State Park, including an equestrian and an all-terrain bicycle trail. Naturalists can hike out to one of the savanna restoration areas and seek out the many bird species found in the park. The Pin Oak Slough Natural Area has been recognized for its unique natural beauty. The Park includes a wooded campground with modern amenities.

“The City of Knob Noster has three city parks and is currently working towards making each park an all-inclusive park with ADA compliance in many areas. This will allow all individuals a safe place for everyone to go to and enjoy themselves without discrimination due to physical abilities. The parks are currently being managed by an all-volunteer park board of eight members with a FY22 operational budget of \$80k. This budget can and will change in coming years due to a tax that was voted on and passed in 2021 to help upgrade the parks as well as storm water drainage throughout the city. The parks board is currently working to build master plans for each park along with 5–10-year goals we would like to accomplish throughout the city which include bike trails and walking trails connecting the city to Knob Noster State Park and Whiteman AFB.

The three parks currently in the city of Knob Noster are Mitch Franklin Park, Cpl. John Welch Memorial Park, and North Side Park (final name to be determined later). Mitch Franklin Park is the original “city park” that was later renamed in memory and to honor a Knob Noster resident for her tireless services to youth sports throughout the city. The park is located at 401 Salem Ave. It includes a skate park, a shelter house, baseball fields, basketball court, picnic areas and playground equipment that is in the process of being upgraded to accommodate people with disabilities. Corporal John Welch Memorial Park is named in honor of a Knob Noster native John Harold Welch, a Purple Heart recipient. Corp. Welch was Killed in action November 1, 1967, during his service in the Vietnam War. The park currently is located at 101 W. Lucas across from Subway.

There are currently plans to erect a war memorial at this location for those who have given their lives in military service to the United States of America. This memorial will also include an area for Prisoners of War that are unaccounted for as well as veterans who served in any branch of the military services. The park currently has play equipment installed with plans for additional amenities in the future.

Northside Park located north of Highway 50 at the end of North Adams Street was donated to the city to be used as a future green space and recreational park. There are currently no amenities or structures on the property, with planning but no 2024 budget item in the works to develop this park. as of January 2024 a stormwater study has been identified as a need prior to development for floodplain remediation. This park has not been officially given a name, however, there are efforts to have the Knob Noster Public Schools host a name drawing in 2024. This generous donation of the land for this future park is possible thanks to Mid-America Landscaping and Tim Stroh & Family. Their donation of the land plus time and effort will make this park a reality for all residents of Knob Noster to enjoy for years to come

Whiteman Air Force Base

Located adjacent to Knob Noster, Whiteman Air Force Base (WAFB) serves as the largest employer in Johnson County and has a significant impact upon the Knob Noster area with 8,188 jobs earning a FY23 total payroll of \$583,334,600. Government workers comprise 21.9% of the civilian workers (5,305 of 24,278 total) in Johnson County according to the 2019 MCDC profile. The existing and possible future missions at WAFB have a direct impact upon the future land use and the economy of the community. WAFB is home of the 509th Bomb Wing, which operates and maintains the Air Force’s premier weapon system, the B-2 Spirit bomber, and has been selected to house the B-21 Raider. There are also several tenant units assigned to the base, including units from the Navy Reserve, Air Force Reserve, and Missouri Army National Guard.

Due to the proximity of WAFB to Knob Noster, many military families choose to live off-base and have selected Knob Noster as their place of residence. Local military personnel and their dependents stimulate Knob Noster's economy through its businesses and housing. In addition, there are many children of active military personnel who attend schools in the Knob Noster School District.

A 2023 study examined the direct economic impacts of the base upon the surrounding area, showing local, annual contract expenditures of \$151,528,400. With the large number of people stationed at WAFB, Knob Noster has an excellent opportunity to grow its economy. With expanded shopping opportunities, Base personnel would be able to spend more of their money in Knob Noster, as opposed to traveling to other cities in the area for goods and services. WAFB also provides a constant market for new housing options, as many military personnel prefer to live off-base.

Whiteman AFB Fiscal Year 2021 and 2022

The 2021 Whiteman Economic Impact Report outlines the economic impact of the Base within a 50-mile radius. The base currently employs 11,584 people, of which 3,841 are in the active duty military, 1,481 listed as Reserve/Guard/ANG and 839 Non-Extended Reserve/Guard totaling total military personnel of 6,161 (53%).

With a total FY22 annual payroll of \$409.2 million the estimated total impact within the region was nearly \$717 million. The Base is also estimated to contribute over 2,000 indirect jobs to the local economy.

In addition to the direct and indirect jobs created by WAFB, a large percentage of retirees continue to live in and around the Base. About 18% of the total retirees in the region (2,426) choose to live in Knob Noster. Warrensburg has about 31%, and Sedalia about 9%, all of whom continue to contribute to the local economy according to the 2021 Whiteman Economic Impact Report. In FY23 total retiree pay amounted to \$116,665,900 for WAFB.

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Whiteman AFB Joint Land Use Study

During the past several decades the U.S. Department of Defense (DoD) has become increasingly concerned about the impacts of conflicting land development patterns, often referred to as encroachment, adjacent to military installations. In 1985 the DoD instituted a cooperative process referred to as a Joint Land Use Study (JLUS) program in conjunction with Pioneer Trails Regional Planning Commission staff to evaluate land use and development trends on property adjacent to active military facilities. The JLUS is typically initiated at military bases with aviation

facilities after the completion of an Air Installation Compatible Use Zone (AICUZ) study that examines possible noise and other related impacts associated with aviation activities. The JLUS is then used to identify actions that could be taken by the community and military installation to solve existing problems and prevent future ones.

The JLUS was completed in September of 2008, finding the growth rate for the study area is projected to be low and there are few parcels with development that conflict with Air Force land use compatibility guidelines. Because of these factors, the opportunity exists to "get ahead of the curve" and maintain a high—and safe—quality of life for city and county residents by ensuring that inappropriate development is not permitted

in zones with accident potential or with zones where noise levels are high.

Revised Missouri Statutes 41.655 and 67.1210 authorizes Johnson County to provide for zoning of unincorporated areas extending 3,000 feet from the installation boundary. The Missouri Statutes also allow for participation of a representative from the military installation as an Ex-Officio member of the Johnson County Airport Zoning Commission. The primary objective is to minimize encroachment to the military installation while minimizing the impact on daily activities for both the public and government. The commission established and approved zoning ordinances and subdivision regulations in 2015. Pioneer Trails Regional Planning Commission staff serve to administer the Military Airport Zoning Commission for Johnson County authorities.

Whiteman AFB & Surrounding Areas Housing Assessment and Market Analysis

According to the study completed in May, 2023. Overall, housing conditions within the PMA (Primary Market Area) and SMA (Secondary Market Area) are conducive to minor growth over the next five (5) years. The majority of population growth and future housing need is expected to occur within the surrounding areas of the cities of Warrensburg and Sedalia. These locations represent the two largest metropolitan areas within the primary market and secondary market. These two cities represent the focal points of growth within both the primary market and the larger secondary market area, which create a ring of density growth that decreases geographically from the center of each location. The one exception is the area around the City of Warsaw, located in the southern portion of the SMA. This area has projected population and housing growth over the next five years comparable to the areas of Warrensburg and Sedalia. This growth is most likely an aggregating of people from Kansas City buying lake homes and population migration, or growth from other metropolitan areas from around the State of Missouri.

Median home values are also strongest in the PMA, Sedalia, and Warrensburg. Median home value within the State of Missouri however, outperforms all other sub-geographies by approximately eleven percent (11%). These trends are expected to continue into 2025. Housing is considered to be affordable to the majority of residents within all Sub-geographies. The highest affordability ratio occurs within the Base and the City of Knob Noster with approximately 89 percent of single-family housing costing less than 30 percent of a person's median monthly income. This is opposite for rental properties and apartments, where Knob Noster and the Base had the lowest affordability ratio (78%) compared to all other Sub-geographies.

Knob Noster Comprehensive Plan: Chapter 4⁴³

5 Land Use

Land use and growth patterns are dictated by the physical circumstances presented by the specific geography of an area as well as various social, economic, and political forces that affect the community through time.

The land use chapter serves as a guide for the planned and orderly growth of Knob Noster. The major elements of the chapter address how and where future development should occur in the city. The future land use map and accompanying text convey the community's goals and objectives.

The recommendations within this chapter were shaped from valuable public input and discussion gained

through a variety of public meetings, workshops, and key person interviews. Core planning ideas and preferences expressed in the public workshop were incorporated and used as a guide for preparation of the Comprehensive Plan. The recommendations of this chapter should be used to shape future planning decisions as the Planning Commission and Board of Aldermen collectively determine the future of Knob Noster in cooperation with the citizens of Knob Noster.

The City of Knob Noster has experienced steady growth over the past decade. Knob Noster is now positioned to serve growth with highway improvements and extension of municipal utilities to annexed areas north of U.S. 50 Highway and infill areas in the south portion of the city.

In response to growth expectations, the community has identified principles and recommendations for guidance, and the future land use plan identifies where growth should occur. The use of land cannot be arbitrarily assigned. It must consider community goals, the economic dynamics affecting growth, and the changing demographics of home buyers. This Future Land Use Plan has been developed with the principles presented in this chapter.

Throughout the comprehensive planning process Knob Noster recognizes the value of understanding the current land use within Knob Noster and how to use that data to prepare and plan for future development.

The annexation of Knob Noster State Park, completed in 2022, expanded the Knob Noster city boundary to the west and greatly increased the total number of acres contained within the City of Knob Noster. The map below (**Figure 5-1**) displays the current city boundary with the inclusion of Knob Noster State Park.

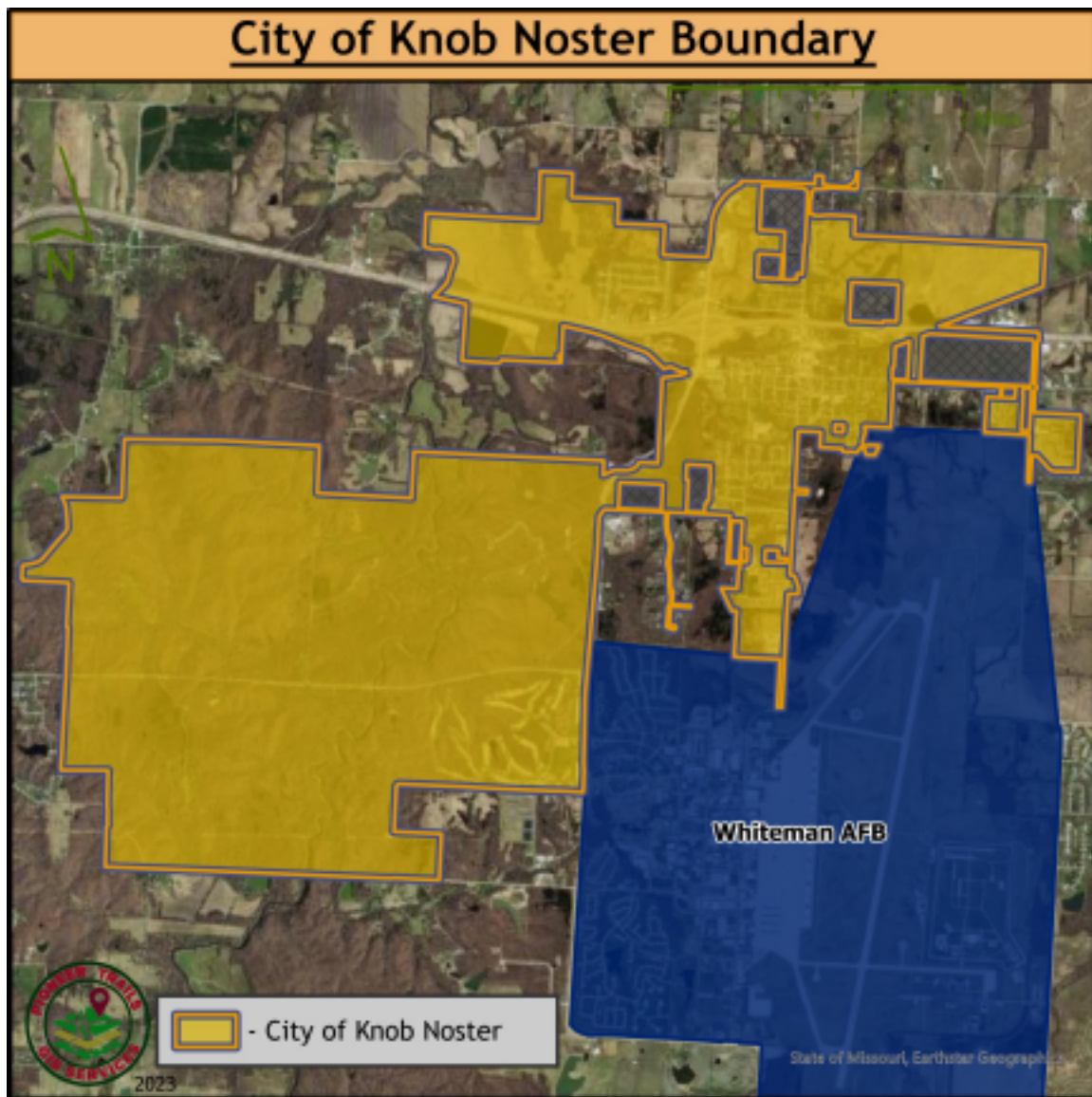


Figure 5-1: Knob Noster Boundary Map

Community Involvement

While Knob Noster was undertaking the 2007 Comprehensive Plan update, the city held a “Focus Session” to gain community input and better understand the issues they felt important. A variety of community members were present and included residents, land owners, business owners, and civic leaders. Through collaboration this group was able to identify a number of issues that could impact future development in or around Knob Noster.

Participants at the “Focus Session” collaborated in a multi-step idea sharing process to identify issues and/or concerns about the future of Knob Noster. Working as one large group participants created a listing of identified issues, the issues were then refined and separated into three categories; quality of life, economic development, and future land use & infrastructure.

With the identified issues now separated, the group moved into a break out session where small groups continued to refine, clarify, and prioritize the identified issues. The following principles and land use recommendations reflect the public comments received during the session and in meetings with the planning commission and city staff members.

Guiding Principles

This Plan advocates the use of land planning principles and development guidelines as the framework for investing in public and private infrastructure. Future land use and development decisions, including individual zoning changes, subdivision plats, site plans, infill development, annexations, and capital improvement programming should be coordinated based on these guiding principles and recommendations. The following guiding principles are concepts developed through the community workshops held during the planning process.

Quality of Life

While the definition of “Quality of Life” is subjective, the focus session participants discussed topics including quality development, “small town” and “family-oriented” ambiance, community atmosphere, and other characteristics that define Knob Noster and make the community a desirable place to live, work and play.

Key issues were the need to provide affordable housing, adequate infrastructure, senior services, and the need to foster and maintain good relationships between Knob Noster and Whiteman Air Force Base.

- 1) Image. Future development and redevelopment should respect the historical patterns and precedents of Knob Noster.
- 2) Visual character derived from topography, woodlands, farmlands, and riparian corridors should be protected where possible when designing infrastructure.
- 3) Services. Development of land in the planned growth area must pay its way for infrastructure.
- 4) Role of Government. The city should continue as partners with the private sector, jointly planning for strategic extension of municipal services, such as into the planned Opportunity Areas (Ref. Opportunity Areas Map).
- 5) The city should continue to coordinate with regional partners, including Johnson County, state, and national partners. Some opportunities for cooperation include MoDOT on design options for improved access to U.S. 50 Highway, and WAFB.

Economic Development

Much of Knob Noster’s current economic viability is based on service industry sectors and the military. Major local employers and facilities such as restaurants and the school district are expected to play a key role in employment and community growth in the future. Participants in the planning process recognized that commercial links to U.S. 50 Highway are critical for continued growth. The aggregated populations of WAFB and Knob Noster indicate that mercantile services in the city should be varied and sized to serve about 5,000 potential customers, since the Base prohibits most mercantile services within that military jurisdiction. Since the amending of RSMo. 71.990 the Planning and Zoning Commission will need to take great care if seeking to prohibit any home-based business. This newer provision of state law has yet to be tested in court as of this writing, but would preclude the city from prohibiting most home-based businesses, with exceptions for protecting public health and safety.

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The following are the economic development issues for Knob Noster in the near term and long-term as identified by the focus session participants:

- 6) Connectivity. Future transportation corridors should be planned and reserved in coordination with future land uses.

- 7) To the greatest extent practicable, natural drainage areas, floodplains, and wooded areas should be preserved and used to serve urbanized areas of the community.
- 8) A grid, modified grid, or hybrid street layout that responds to local topography, water courses and greenways is the preferred street network pattern for new residential neighborhoods.
- 9) Investment. Civic, institutional, and mid-sized commercial uses serving the larger community should be embedded in downtown and the city core area, rather than isolated in remote single-use complexes.
- 10) The McPherson Street corridor should be targeted for revitalization and future growth of higher intensity development. This should occur to the west as infill development on cleared and vacant parcels, and to the east through annexation and compatible development in the Accident Potential Zones (APZ) of WAFB.
- 11) Destination retail and entertainment, and higher density housing should be promoted along U.S. 50 Highway as compatible development in the APZ of WAFB.

Future Land Use & Infrastructure

In recent years Knob Noster has experienced more residential growth and has undertaken some recent annexations. The focus session participants felt the community could position itself in a manner to take advantage of future employment and population by serving growth with infrastructure and zoning land for development, such as along U.S. 50 Highway.

The following are the future land use and infrastructure issues identified for near and long term:

- 12) Infrastructure. Streets and public spaces must be safe pedestrian environments. Properly configured, such spaces will create walkable neighborhoods.
- 13) Housing Choice. Higher building densities and more intense land uses should be provided within and around a neighborhood “center”.
- 14) A range of housing types and price levels must be provided in neighborhoods to allow for a mix of people of diverse ages, races, and incomes.
- 15) Connectivity. Interconnected networks of streets must be designed to encourage walking, and to conserve energy by reducing the number and length of automobile trips.

Current Land Use

To gain a better understanding of the current land use while incorporating recent annexation, Knob Noster decided to review and update their zoning map. The prior zoning map was adopted in 2014 and consisted of blocks of zoning types. The updated zoning map moves from a zoning type block to a zoning type by parcel, thus providing a more complete picture of the city’s zoning.

Knob Noster zoning regulations identify the following zoning types for use within Knob Noster:

Residential-1 Residential-2 Residential-3

Mobile Home Park Commercial-2 Commercial-4

Industrial-1 Agricultural-1 City Owned

State Park Mo DOT

Definitions for each zoning type and procedure for having a parcel zoning type changed can be found in the Knob Noster Zoning Ordinances. The following maps (**Figures 5-2 & 5-3**) display the current zoning for Knob Noster.

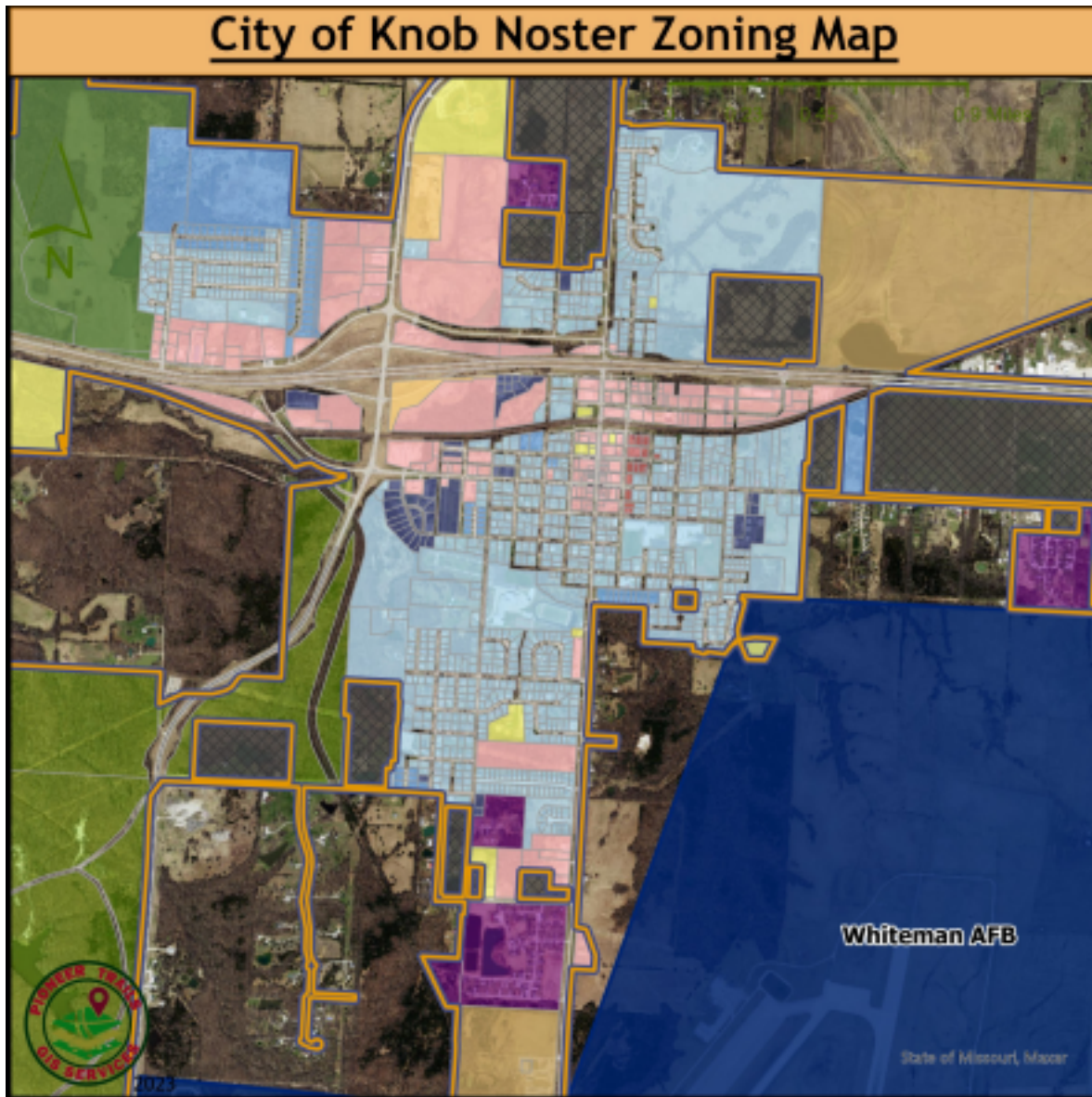
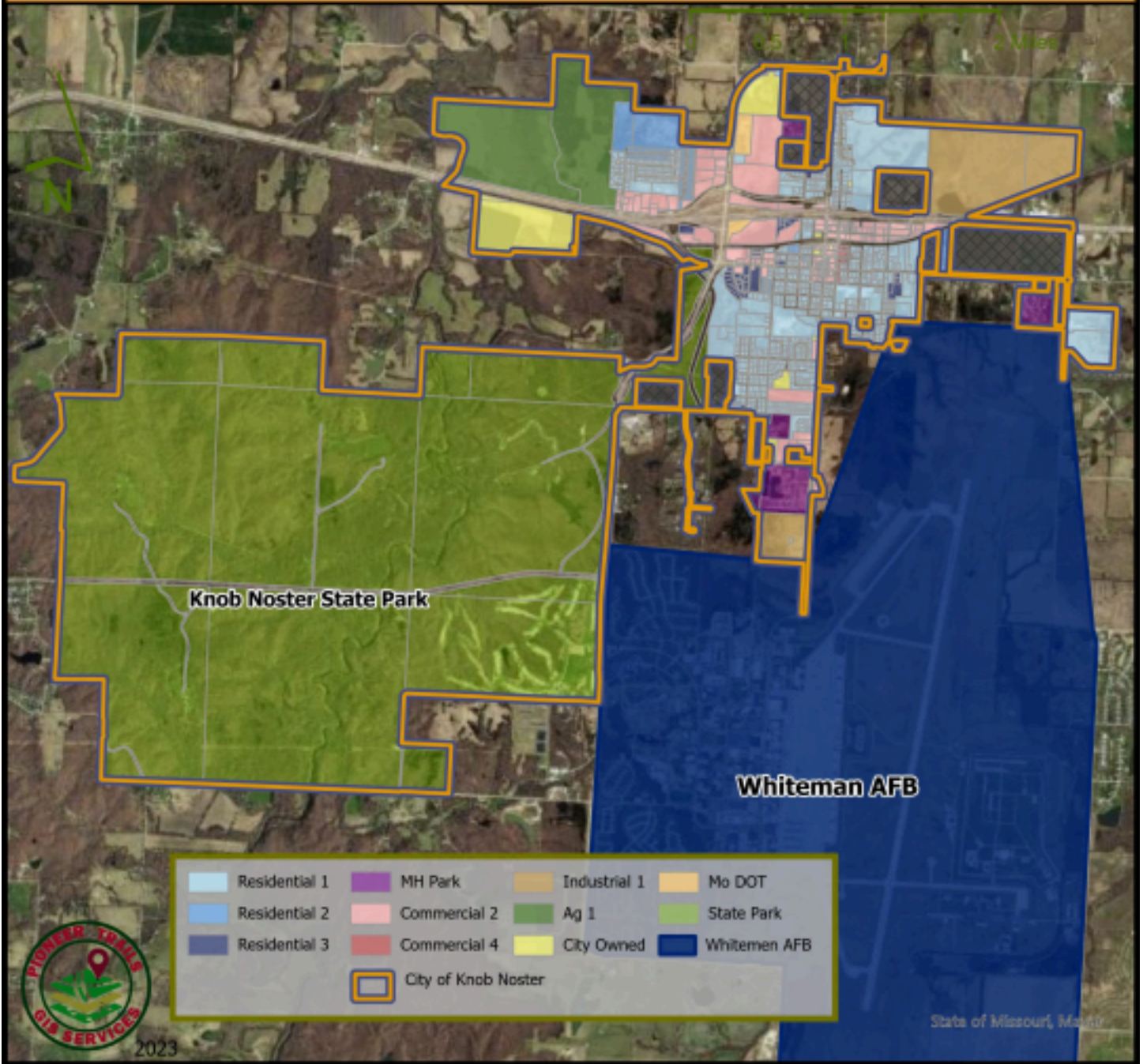


Figure 5-2: Knob Noster Zoning Map—Focused

Figure 5-3: Knob Noster Zoning Map

City of Knob Noster Zoning Map



With the addition of the State Park, the City of Knob Noster now contains approximately 5111.14 acres, compared to 1547.81 acres prior. Knob Noster State Park added over 3000 acres to Knob Noster and now makes up almost 70% of total city acres. Single-family residential zoning is the second largest zoning type with 500.35 acres, accounting for about 10% of total acres.

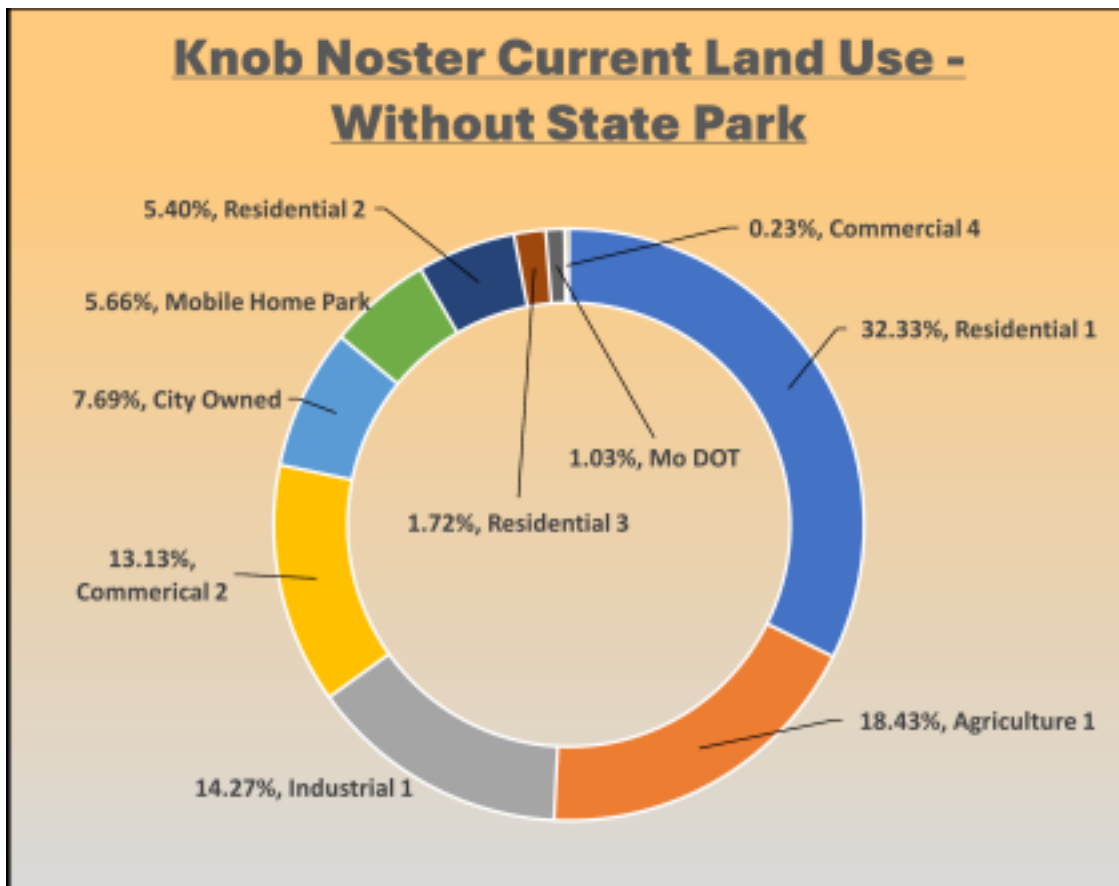
Knob Noster Comprehensive Plan: Chapter 5 ⁴⁹

The table (Table 5-1) and charts (Figures 5-4 & 5-5) below show the breakdown of the total acres within the city, with and without the State Park included. The State Park was excluded from some calculations due to the enormous additional acres contained within the State Park.

Table 5-1: Current Zoning Type Breakdown

Knob Noster Zoning - Current				
Zoning Type	Total Acres	% of Total	% of Total (without State Park)	Parcel Count
State Park	3563.33	69.72%		15
Residential 1	500.35	9.79%	32.33%	826
Agriculture 1	285.23	5.58%	18.43%	3
Industrial 1	220.93	4.32%	14.27%	4
Commercial 2	203.29	3.98%	13.13%	162
City Owned	119.06	2.33%	7.69%	14
Mobile Home Park	87.60	1.71%	5.66%	5
Residential 2	83.53	1.63%	5.40%	93
Residential 3	26.69	0.52%	1.72%	42
Mo DOT	15.99	0.31%	1.03%	2
Commercial 4	3.54	0.07%	0.23%	15
Total Acres: 5111.14		Total Acres (minus State Park): 1547.81		

Figure 5-5: Current Zoning — State Park Not Included



Knob Noster

Future Land Use

The future land use portion of the Plan serves as a guide for the direction and magnitude of future growth, but at the same time accommodates changes in the market demands and our style of living. The Future Land Use Map is but one aspect of the Plan. The entire Comprehensive Plan should be referenced and considered when viewing the maps and for determining the appropriateness of zoning applications.

Having built a solid understanding of the current land use of Knob Noster, the planning committee turned to future land uses to evaluate how Knob Noster might expand and grow in the future. Planning for the future is the essential and having a plan in place to guide that growth is important. A review of the city municipal code showed no satisfactory definitions distinguishing between Modular homes, Manufactured homes, Mobile homes, and “Tiny Houses”. The planning committee recommended that those definitions become sought and considered for inclusion in the city housing ordinances.

When looking at future land use, Knob Noster must consider their unique situation of their proximity to Whiteman Air Force Base (Whiteman/Whiteman AFB). Whiteman AFB is located just to the southeast of Knob Noster and provides a vital source of economic impact for the city, however, Whiteman is NOT included in this plan. Whiteman AFB also has its own zoning commission, the Military Airport Zoning Commission (MAZC). The comprehensive plan committee used the zoning districts designated by the MAZC as a basis when looking at future land use around Knob Noster and Whiteman AFB. The following map (**Figure 5-6**, next page) displays the zoning districts of the MAZC.



Knob Noster Comprehensive Plan: Chapter 5 ⁵³

The planning committee approached future land use planning with the ideology of, “If the opportunity arises and the City of Knob Noster can annex a particular parcel of land, how would the committee want that parcel of land to be zoned?” Any assertions made by the planning committee in future land use planning is

non-binding and only represents the best-case scenario.

The committee decided to align their future land use target types to those set forth by the MAZC where applicable. For the areas not covered by the MAZC, the planning committee reviewed the area around the current city boundary, taking into consideration the current land use, and gave each parcel a target zoning type. The target zoning types are as follows:

- Residential
- Residential/Commercial
- Agriculture/Residential
- Commercial
- Industrial

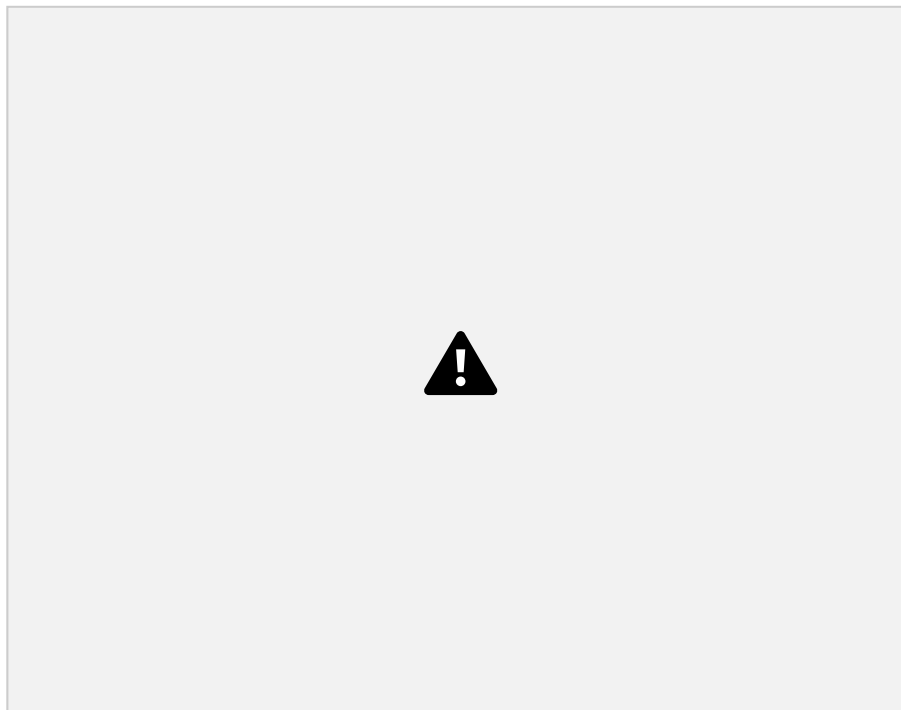
The total number of acres that was targeted when planning for future land use was 10,236.62. Accounting for the most acres, 5,926.18, of future land use was agricultural/residential with residential the second largest at 2,466.69 acres. The following table and chart give a more detailed breakdown of the area that was included in the future land use planning.

Table 5-2:

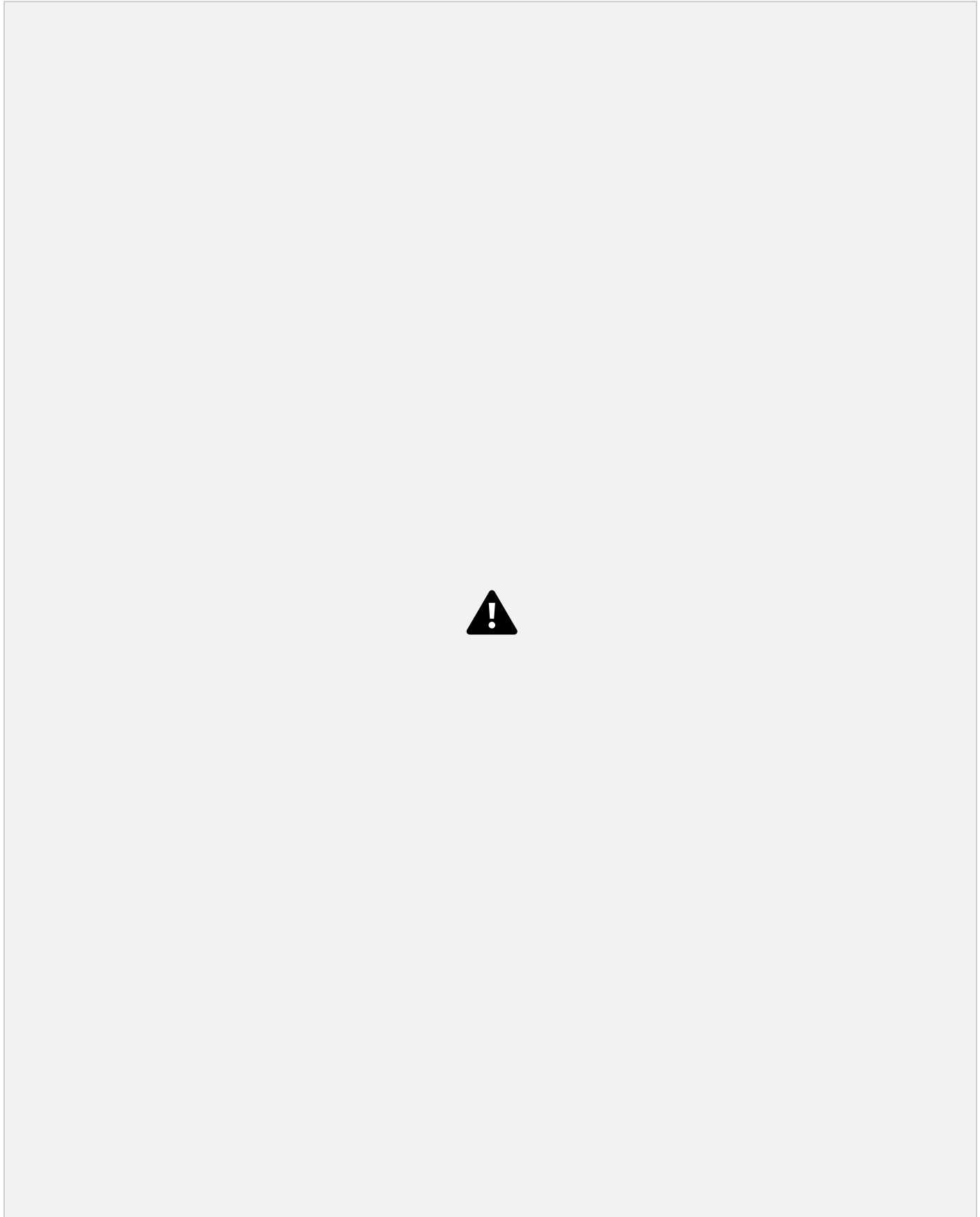
Proposed Future Land Use

Knob Noster - Future Land Use - Proposed			
Zoning Type	Total Acres	% of Total	Parcel Count
Agriculture/Residential	5926.18	57.89%	126
Residential	2466.69	24.10%	789
Residential/Commercial	767.92	7.50%	30
Industrial	582.29	5.69%	11
Commercial	493.54	4.82%	34
Totals:	10236.62	100.00%	990

Figure 5-7: Proposed Future Land Use



All areas that received a target zoning type designation can be seen below in the purposed land use map. **Figure 5-8: Proposed Future Land Use Map**



Future Land Use Recommendations

Noster grows in the future. The following key fundamentals must be addressed as future growth occurs:

Whiteman AFB Interest

The Knob Noster community should address and implement the recommendations of the Joint Land Use Study (JLUS) for WAFB as completed. The city should particularly pursue any necessary revisions to regulatory requirements to manage growth within the Clear Zone/Accident Potential Zones (CZAPZ) surrounding the base, and to comply with the federal Land Use Compatibility Guidelines (LUCG). In addition, these implementation efforts should pursue a real estate disclosure process as well as possible land protection/acquisition opportunities in the CZ/APZ

Future Growth Areas

The areas to the north, northwest and northeast of Knob Noster should serve as Knob Noster's primary growth area since they can most easily be served with extensions of public utilities. As development progresses, it should occur in a compact, orderly pattern to provide public services and utilities most efficiently. In addition to public utilities, community facilities such as parks and public safety facilities must be provided to serve the demands of future growth. Fair and equitable financing mechanisms for these infrastructure and facility improvements, such as impact fees and/or benefit districts, must be approved and implemented to meet the needs of new development.

Annexation Plan

An annexation plan for future growth areas should be developed and implemented by the city of Knob Noster. As annexation occurs, properties should be annexed in an orderly manner and avoid creating unincorporated "pockets" surrounding the city. The annexation of existing pockets should also be considered. The annexation plan should address the following:

- Costs of growth;
- How that cost will affect property taxes and other local taxes; and
- How that cost may be funded with alternate financing mechanisms or revenue sources.

Commercial Development

Increased commercial development, both along Highway 50 and downtown, should be addressed by the City of Knob Noster. Infrastructure improvements downtown should be planned and accounted for in the city budget to encourage additional commercial users to locate in the district. Currently, the State of Missouri owns the streets in downtown Knob Noster, and sidewalks are owned by private business owners. Knob Noster may consider amending current ordinances to allow regulated display of merchandise on sidewalks, as an incentive for business owners to sell the easements to the city. Additionally, a new interchange with Highway 50 and well-designed frontage roads may be considered to increase traffic flow through downtown, and spur commercial development along the highway. Increased retail services in the city, both downtown and along Highway 50, will boost sales tax revenue for the city.

Land Use and Economic Development

The National Association of Development Organizations (NADO) offers the following advice for cities located alongside military installations *"In regions where growing populations face decreasing land availability, development pressure may come into conflict with sound land use planning. This may be especially true where military bases set aside open space for current or future uses in accordance with Joint Land Use Study (JLUS) findings for the area. Managing these high growth patterns while ensuring that military installation*

leadership has the space and capabilities they need to maintain operational capacity is a pivotal aspect of a collaborative and inclusive JLUS planning process. To help ease these development conflicts, the Regional Planning Commission should work to integrate the strategies and recommendations from the local JLUS into regional CEDS processes to foster understanding between private sector priorities and the land use requirements of military installations. Additionally, regional organizations should work with local officials and planning staff to coordinate and align member communities' land use and zoning policies to ensure compatible use of areas surrounding military installations."

Accordingly, Pioneer Trails Regional Planning Commission integrates strategies and recommendations from the Military Airport Zoning Commission (MAZC) and the Knob Noster Planning Commission into the Comprehensive Economic Development Strategy (CEDS) for the region. These include the harmonized overlay of land use regulations around and within areas of recent and planned city annexation where the two jurisdictions overlap.

In areas considered for future annexation which lie outside MAZC jurisdiction, the US Highway 50 corridor offers opportunity to diversify the local economy. A light manufacturing firm, or a set of value-added agricultural firms locating near the rail line could serve to widen the array of Knob Noster economic activities, making the city more resilient. The existing cohort of younger workers could attract those kinds of investments in the city if promoted via Johnson County Economic Development Corporation and Pioneer Trails Regional Planning Commission.

The economic analysis of any place typically involves a strong reliance on trend analysis and comparison. This is needed to put issues into context and perspective. Such a trend analysis is important in the case of Knob Noster because the city lies within a rural setting but economically intertwined with the immediately adjacent population and operations of Whiteman Air Force Base. Cities like Knob Noster (ie. Richland, Missouri and Elwood, Kansas) present opportunities for rural living with the influence of more cosmopolitan expectations, such as prevailing wage pay scales and other standards indicative of wider economic opportunities.

The 2019 American community survey shows a wide variety of mercantile service industry types present in the city of Knob Noster. ACS indicators of industry show agriculture, construction, aircraft part manufacturing, retail trade, transportation, and warehousing, present in the city. Utilities and information services are also present in the city economic base along with financing, insurance, real estate, professional, and management services. Educational services, healthcare, arts, entertainment, and recreation, along with other services and public administration are represented within the local economy. Information services are relatively under represented in the Knob Noster economy.

City staff and the Planning and Zoning commission would serve Knob Noster well by avoiding unpayable long-term liabilities. Incremental growth through infill re-investment in the most productive portions of the city with local entrepreneur partners would likely lead to a stronger economy than investing too heavily on the fringes of the city to attract a large, unfamiliar company to become an economic "knight in shining armor".

6 Appendix

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Appendix A:

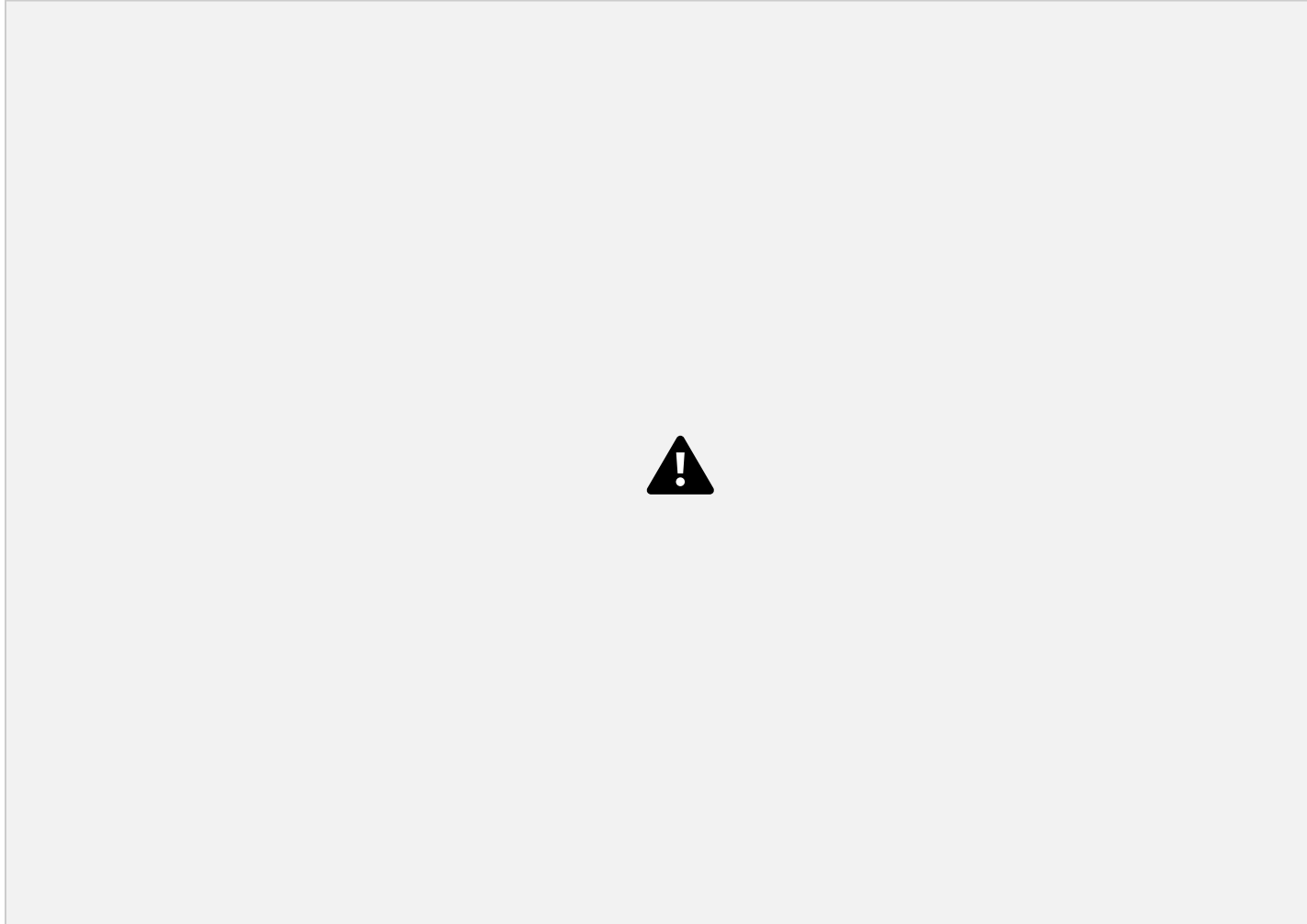
Inflow/Outflow

Medium green = Employed and Live in Selection Area

Dark green = Employed in Selection Area, Live Outside

Light green = Live in Selection Area, Employed Outside

Note: Overlay arrows do not indicate any direction of commuter travel home and employment locations.



Knob Noster Comprehensive Plan: Appendix ⁵⁹

Appendix B:

Knob Noster/Elwood/Richland Comparison Data - ACS 2022 5-year Estimates, data.census.gov						
	Elwood, Kansas		Knob Noster, Missouri		Richland, Missouri	
Label	Estimate	Percent	Estimate	Percent	Estimate	Percent
EMPLOYMENT STATUS						
Population 16 years and over	879	879	2,276	2,276	1,615	1,615
In labor force	508	57.8%	1,650	72.5%	921	57.0%
Civilian labor force	508	57.8%	1,283	56.4%	873	54.1%
Employed	505	57.5%	1,169	51.4%	820	50.8%

Unemployed	3	0.3%	114	5.0%	53	3.3%
Armed Forces	0	0.0%	367	16.1%	48	3.0%
Not in labor force	371	42.2%	626	27.5%	694	43.0%
Civilian labor force	508	508	1,283	1,283	873	873
Unemployment Rate	(X)	0.6%	(X)	8.9%	(X)	6.1%
Females 16 years and over	386	386	1,027	1,027	756	756
In labor force	223	57.8%	678	66.0%	368	48.7%
Civilian labor force	223	57.8%	606	59.0%	368	48.7%
Employed	223	57.8%	544	53.0%	317	41.9%
Own children of the householder under 6 years	107	107	225	225	304	304
All parents in family in labor force 80		74.8%	126	56.0%	278	91.4%
Own children of the householder 6 to 17 years	126	126	278	278	298	298
All parents in family in labor force	89	70.6%	263	94.6%	188	63.1%

OCCUPATION						
Civilian employed population 16 years and over	505	505	1,169	1,169	820	820
Management, business, science, and arts occupations	83	16.4%	320	27.4%	117	14.3%
Service occupations	64	12.7%	212	18.1%	158	19.3%
Sales and office occupations	124	24.6%	167	14.3%	168	20.5%
Natural resources, construction, and maintenance occupations	60	11.9%	85	7.3%	175	21.3%
Production, transportation, and material moving occupations	174	34.5%	385	32.9%	202	24.6%

Note: All data taken from the Censes Bureau American Community Survey Estimates have an inherent margin of error. Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error. In small statistical areas the Censes Bureau may not publish a count or percentage if doing so may compromise anonymity.

Appendix B:

	Elwood, Kansas		Knob Noster, Missouri		Richmond, Missouri	
Label	Estimate	Percent	Estimate	Percent	Estimate	Percent
INDUSTRY						
Civilian employed population 16 years and over	505	505	1,169	1,169	820	820
Agriculture, forestry, fishing and hunting, and mining	0	0.0%	6	0.5%	27	3.3%
Construction	18	3.6%	48	4.1%	84	10.2%
Manufacturing	156	30.9%	144	12.3%	174	21.2%
Wholesale trade	8	1.6%	4	0.3%	11	1.3%
Retail trade	50	9.9%	254	21.7%	208	25.4%
Transportation and warehousing, and utilities	40	7.9%	92	7.9%	45	5.5%
Information	7	1.4%	0	0.0%	5	0.6%
Finance and insurance, and real estate and rental and leasing	37	7.3%	23	2.0%	13	1.6%
Professional, scientific, and management, and administrative and waste management services	34	6.7%	41	3.5%	14	1.7%
Educational services, and health care and social assistance	130	25.7%	316	27.0%	111	13.5%
Arts, entertainment, and recreation, and accommodation and food services	16	3.2%	52	4.4%	49	6.0%
Other services, except public administration	0	0.0%	69	5.9%	11	1.3%
Public administration	9	1.8%	120	10.3%	68	8.3%

CLASS OF WORKER						
Civilian employed population 16 years and over	505	505	1,169	1,169	820	820

Private wage and salary workers	436	86.3%	894	76.5%	704	85.9%
Government workers	45	8.9%	247	21.1%	92	11.2%
Self-employed in own not incorporated business workers	24	4.8%	28	2.4%	24	2.9%
Unpaid family workers	0	0.0%	0	0.0%	0	0.0%

Note: All data taken from the Censes Bureau American Community Survey Estimates have an inherent margin of error. Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error. In small statistical areas the Censes Bureau may not publish a count or percentage if doing so may compromise anonymity.

Knob Noster Comprehensive Plan: Appendix ⁶¹

Appendix B:

Label	Elwood, Kansas		Knob Noster, Missouri		Richland, Missouri	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
INCOME AND BENEFITS (IN 2022 INFLATION ADJUSTED DOLLARS)						
Total households	379	379	1,305	1,305	824	824
Less than \$10,000	32	8.4%	89	6.8%	130	15.8%
\$10,000 to \$14,999	5	1.3%	22	1.7%	70	8.5%
\$15,000 to \$24,999	55	14.5%	57	4.4%	64	7.8%
\$25,000 to \$34,999	25	6.6%	96	7.4%	80	9.7%
\$35,000 to \$49,999	47	12.4%	397	30.4%	238	28.9%
\$50,000 to \$74,999	110	29.0%	260	19.9%	91	11.0%
\$75,000 to \$99,999	33	8.7%	147	11.3%	72	8.7%
\$100,000 to \$149,999	66	17.4%	171	13.1%	59	7.2%
\$150,000 to \$199,999	2	0.5%	58	4.4%	0	0.0%
\$200,000 or more	4	1.1%	8	0.6%	20	2.4%
Median household income (dollars)	57,063	(X)	49,640	(X)	42,561	(X)
Mean household income (dollars)	59,927	(X)	63,362	(X)	81,732	(X)
With earnings	283	74.7%	1,054	80.8%	490	59.5%

Mean earnings (dollars)	56,406	(X)	56,875	(X)	83,088	(X)
With Social Security	165	43.5%	236	18.1%	280	34.0%
Mean Social Security income (dollars)	22,357	(X)	24,554	(X)	20,450	(X)
With retirement income	118	31.1%	376	28.8%	132	16.0%
Mean retirement income (dollars)	21,929	(X)	25,236	(X)	123,863	(X)
With Supplemental Security Income	33	8.7%	70	5.4%	114	13.8%
Mean Supplemental Security Income (dollars)	8,324	(X)	10,360	(X)	9,380	(X)
With cash public assistance income	0	0.0%	29	2.2%	91	11.0%
Mean cash public assistance income (dollars)	-	(X)	2,128	(X)	2,065	(X)
With Food Stamp/SNAP benefits in the past 12 months	54	14.2%	114	8.7%	259	31.4%

Note: All data taken from the Censes Bureau American Community Survey Estimates have an inherent margin of error.

Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error. In small statistical areas the Censes Bureau may not publish a count or percentage if doing so may compromise anonymity.

Knob Noster Comprehensive Plan: Appendix ⁶²

Appendix B:

Label	Elwood, Kansas		Knob Noster, Missouri		Richland, Missouri	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
Families	274	274	584	584	469	469
Less than \$10,000	28	10.2%	58	9.9%	46	9.8%
\$10,000 to \$14,999	1	0.4%	0	0.0%	29	6.2%
\$15,000 to \$24,999	18	6.6%	24	4.1%	8	1.7%
\$25,000 to \$34,999	9	3.3%	41	7.0%	63	13.4%
\$35,000 to \$49,999	26	9.5%	54	9.2%	148	31.6%
\$50,000 to \$74,999	129	47.1%	108	18.5%	62	13.2%
\$75,000 to \$99,999	30	10.9%	100	17.1%	67	14.3%
\$100,000 to \$149,999	29	10.6%	145	24.8%	38	8.1%
\$150,000 to \$199,999	0	0.0%	46	7.9%	0	0.0%

\$200,000 or more	4	1.5%	8	1.4%	8	1.7%
Median family income (dollars)	63,438	(X)	75,625	(X)	44,071	(X)
Mean family income (dollars)	63,072	(X)	80,843	(X)	55,151	(X)
Per capita income (dollars)	22,607	(X)	30,600	(X)	31,824	(X)
Nonfamily households	105	105	721	721	355	355
Median nonfamily income (dollars)	28,229	(X)	43,575	(X)	21,985	(X)
Mean nonfamily income (dollars)	33,834	(X)	47,485	(X)	115,195	(X)
Median earnings for workers (dollars)	29,907	(X)	33,676	(X)	29,964	(X)
Median earnings for male full-time, year round workers (dollars)	45,867	(X)	40,282	(X)	34,722	(X)
Median earnings for female full-time, year round workers (dollars)	35,125	(X)	42,942	(X)	31,190	(X)

Note: All data taken from the Censes Bureau American Community Survey Estimates have an inherent margin of error. Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error. In small statistical areas the Censes Bureau may not publish a count or percentage if doing so may compromise anonymity.

Knob Noster Comprehensive Plan: Appendix ⁶³

Appendix B:

Label	Elwood, Kansas		Knob Noster, Missouri		Richland, Missouri	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL						
All families	(X)	17.5%	(X)	14.6%	(X)	17.5%
With related children of the householder under 18 years	(X)	11.1%	(X)	26.0%	(X)	20.3%
With related children of the household er under 5 years only	(X)	29.4%	(X)	53.3%	(X)	23.7%
Married couple families	(X)	19.9%	(X)	0.0%	(X)	9.1%
With related children of the household er under 18 years	(X)	11.9%	(X)	0.0%	(X)	8.5%
With related children of the house holder under 5 years only	(X)	0.0%	(X)	0.0%	(X)	0.0%

Families with female householder, no spouse present	(X)	15.0%	(X)	41.2%	(X)	59.3%
With related children of the household er under 18 years	(X)	16.7%	(X)	54.7%	(X)	75.0%
With related children of the house holder under 5 years only	(X)	100.0%	(X)	100.0%	(X)	100.0%
All people	(X)	17.9%	(X)	11.1%	(X)	21.0%
Under 18 years	(X)	16.9%	(X)	16.9%	(X)	12.3%
Related children of the householder under 18 years	(X)	16.9%	(X)	16.9%	(X)	12.3%
Related children of the householder under 5 years	(X)	21.8%	(X)	28.9%	(X)	9.2%
Related children of the householder 5 to 17 years	(X)	14.3%	(X)	7.2%	(X)	15.1%
18 years and over	(X)	18.1%	(X)	9.9%	(X)	24.5%
18 to 64 years	(X)	20.0%	(X)	11.4%	(X)	23.3%
65 years and over	(X)	9.9%	(X)	0.0%	(X)	31.0%
People in families	(X)	19.2%	(X)	9.4%	(X)	13.2%
Unrelated individuals 15 years and over	(X)	9.9%	(X)	14.8%	(X)	46.3%

Note: All data taken from the Censes Bureau American Community Survey Estimates have an inherent margin of error. Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error. In small statistical areas the Censes Bureau may not publish a count or percentage if doing so may compromise anonymity.

Knob Noster Comprehensive Plan: Appendix ⁶⁴

Appendix C:

Knob Noster Earnings Data 2020-2021 - ACS 2021 5-year Estimate						
	Knob Noster city, Missouri					
	Total	Percent	Male	Percent Male	Female	Percent Female
Label	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
Population 16 years and over with earnings	1,575	1,575	906	906	669	669
Median earnings (dollars)	31,902	(X)	34,191	(X)	25,733	(X)
FULL-TIME, YEAR-ROUND WORKERS WITH EARNINGS	1,043	1,043	657	657	386	386

\$1 to \$9,999 or loss	38	3.6%	38	5.8%	0	0.0%
\$10,000 to \$14,999	14	1.3%	1	0.2%	13	3.4%
\$15,000 to \$24,999	169	16.2%	70	10.7%	99	25.6%
\$25,000 to \$34,999	226	21.7%	172	26.2%	54	14.0%
\$35,000 to \$49,999	303	29.1%	146	22.2%	157	40.7%
\$50,000 to \$64,999	167	16.0%	146	22.2%	21	5.4%
\$65,000 to \$74,999	40	3.8%	28	4.3%	12	3.1%
\$75,000 to \$99,999	33	3.2%	22	3.3%	11	2.8%
\$100,000 or more	53	5.1%	34	5.2%	19	4.9%
Median earnings (dollars) for full-time, year -round workers with earnings	40,144	(X)	39,489	(X)	40,272	(X)
Mean earnings (dollars) for full-time, year round workers with earnings	43,879	(X)	44,873	(X)	42,186	(X)

MEDIAN EARNINGS BY EDUCATIONAL AT TAINMENT						
Population 25 years and over with earnings	37,292	(X)	41,406	(X)	30,128	(X)
Less than high school graduate	25,156	(X)	27,031	(X)	-	(X)
High school graduate (includes equivalency) 2		(X)	45,278	(X)	22,541	(X)
Some college or associate's degree	38,227	(X)	37,566	(X)	40,387	(X)
Bachelor's degree	59,688	(X)	75,625	(X)	-	(X)
Graduate or professional degree	54,063	(X)	57,708	(X)	-	(X)

Note: All data taken from the Censes Bureau American Community Survey Estimates have an inherent margin of error. Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error. In small statistical areas the Censes Bureau may not publish a count or percentage if doing so may compromise anonymity.

Appendix D:

Selected Economic Characteristics - Comparison - 2022 ACS 5-yeerar Estimate						
EMPLOYMENT STATUS	Elwood, Kansas		Knob Noster, Missouri		Richland, Missouri	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
Population 16 years and over	879	879	2,276	2,276	1,615	1,615

In labor force	508	57.8%	1,650	72.5%	921	57.0%
Civilian labor force	508	57.8%	1,283	56.4%	873	54.1%
Employed	505	57.5%	1,169	51.4%	820	50.8%
Unemployed	3	0.3%	114	5.0%	53	3.3%
Armed Forces	0	0.0%	367	16.1%	48	3.0%
Not in labor force	371	42.2%	626	27.5%	694	43.0%
Civilian labor force	508	508	1,283	1,283	873	873
Unemployment Rate	(X)	0.6%	(X)	8.9%	(X)	6.1%
Females 16 years and over	386	386	1,027	1,027	756	756
In labor force	223	57.8%	678	66.0%	368	48.7%
Civilian labor force	223	57.8%	606	59.0%	368	48.7%
Employed	223	57.8%	544	53.0%	317	41.9%
Own children of the householder under 6 years	107	107	225	225	304	304
All parents in family in labor force	80	74.8%	126	56.0%	278	91.4%
Own children of the householder 6 to 17 years	126	126	278	278	298	298
All parents in family in labor force	89	70.6%	263	94.6%	188	63.1%
COMMUTING TO WORK						
Workers 16 years and over	505	505	1,528	1,528	841	841
Car, truck, or van -- drove alone	362	71.7%	1,251	81.9%	754	89.7%
Car, truck, or van -- carpooled	71	14.1%	228	14.9%	44	5.2%
Public transportation (excluding taxicab)	0	0.0%	3	0.2%	0	0.0%
Walked	3	0.6%	11	0.7%	0	0.0%
Other means	28	5.5%	6	0.4%	21	2.5%
Worked from home	41	8.1%	29	1.9%	22	2.6%
Mean travel time to work (minutes)	16.8	(X)	19.6	(X)	25.9	(X)
OCCUPATION						
Civilian employed population 16 years and over	505	505	1,169	1,169	820	820
Management, business, science, and arts occupations	83	16.4%	320	27.4%	117	14.3%

Service occupations	64	12.7%	212	18.1%	158	19.3%
Sales and office occupations	124	24.6%	167	14.3%	168	20.5%
Natural resources, construction, and maintenance occupations	60	11.9%	85	7.3%	175	21.3%
Production, transportation, and material moving occupations	174	34.5%	385	32.9%	202	24.6%

Knob Noster Comprehensive Plan: Appendix ⁶⁶

Appendix D:

INDUSTRY	Elwood, Kansas		Knob Noster, Missouri		Richland, Missouri	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
Civilian employed population 16 years and over	505	505	1,169	1,169	820	820
Agriculture, forestry, fishing and hunting, and mining	0	0.0%	6	0.5%	27	3.3%
Construction	18	3.6%	48	4.1%	84	10.2%
Manufacturing	156	30.9%	144	12.3%	174	21.2%
Wholesale trade	8	1.6%	4	0.3%	11	1.3%
Retail trade	50	9.9%	254	21.7%	208	25.4%
Transportation and warehousing, and utilities	40	7.9%	92	7.9%	45	5.5%
Information	7	1.4%	0	0.0%	5	0.6%
Finance and insurance, and real estate and rental and leasing	37	7.3%	23	2.0%	13	1.6%
Professional, scientific, and management, and administrative and waste management services	34	6.7%	41	3.5%	14	1.7%
Educational services, and health care and social assistance	130	25.7%	316	27.0%	111	13.5%
Arts, entertainment, and recreation, and accommodation and food services	16	3.2%	52	4.4%	49	6.0%
Other services, except public administration	0	0.0%	69	5.9%	11	1.3%
Public administration	9	1.8%	120	10.3%	68	8.3%
CLASS OF WORKER						
Civilian employed population 16 years and over	505	505	1,169	1,169	820	820
Private wage and salary workers	436	86.3%	894	76.5%	704	85.9%

Government workers	45	8.9%	247	21.1%	92	11.2%
Self-employed in own not incorporated business workers	24	4.8%	28	2.4%	24	2.9%
Unpaid family workers	0	0.0%	0	0.0%	0	0.0%
INCOME AND BENEFITS (IN 2022 INFLATION ADJUSTED DOLLARS)						
Total households	379	379	1,305	1,305	824	824
Less than \$10,000	32	8.4%	89	6.8%	130	15.8%
\$10,000 to \$14,999	5	1.3%	22	1.7%	70	8.5%
\$15,000 to \$24,999	55	14.5%	57	4.4%	64	7.8%
\$25,000 to \$34,999	25	6.6%	96	7.4%	80	9.7%
\$35,000 to \$49,999	47	12.4%	397	30.4%	238	28.9%
\$50,000 to \$74,999	110	29.0%	260	19.9%	91	11.0%
\$75,000 to \$99,999	33	8.7%	147	11.3%	72	8.7%
\$100,000 to \$149,999	66	17.4%	171	13.1%	59	7.2%
\$150,000 to \$199,999	2	0.5%	58	4.4%	0	0.0%
\$200,000 or more	4	1.1%	8	0.6%	20	2.4%
Median household income (dollars)	57,063	(X)	49,640	(X)	42,561	(X)

Knob Noster Comprehensive Plan: Appendix ⁶⁷

Appendix D:

INCOME AND BENEFITS (IN 2022 INFLATION ADJUSTED DOLLARS)	Elwood, Kansas		Knob Noster, Missouri		Richland, Missouri	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
Mean household income (dollars)	59,927	(X)	63,362	(X)	81,732	(X)
With earnings	283	74.7%	1,054	80.8%	490	59.5%
Mean earnings (dollars)	56,406	(X)	56,875	(X)	83,088	(X)
With Social Security	165	43.5%	236	18.1%	280	34.0%
Mean Social Security income (dollars)	22,357	(X)	24,554	(X)	20,450	(X)
With retirement income	118	31.1%	376	28.8%	132	16.0%
Mean retirement income (dollars)	21,929	(X)	25,236	(X)	123,863	(X)
With Supplemental Security Income	33	8.7%	70	5.4%	114	13.8%

Mean Supplemental Security Income (dollars)	8,324	(X)	10,360	(X)	9,380	(X)
With cash public assistance income	0	0.0%	29	2.2%	91	11.0%
Mean cash public assistance income (dollars)	-	(X)	2,128	(X)	2,065	(X)
With Food Stamp/SNAP benefits in the past 12 months	54	14.2%	114	8.7%	259	31.4%
Families	274	274	584	584	469	469
Less than \$10,000	28	10.2%	58	9.9%	46	9.8%
\$10,000 to \$14,999	1	0.4%	0	0.0%	29	6.2%
\$15,000 to \$24,999	18	6.6%	24	4.1%	8	1.7%
\$25,000 to \$34,999	9	3.3%	41	7.0%	63	13.4%
\$35,000 to \$49,999	26	9.5%	54	9.2%	148	31.6%
\$50,000 to \$74,999	129	47.1%	108	18.5%	62	13.2%
\$75,000 to \$99,999	30	10.9%	100	17.1%	67	14.3%
\$100,000 to \$149,999	29	10.6%	145	24.8%	38	8.1%
\$150,000 to \$199,999	0	0.0%	46	7.9%	0	0.0%
\$200,000 or more	4	1.5%	8	1.4%	8	1.7%
Median family income (dollars)	63,438	(X)	75,625	(X)	44,071	(X)
Mean family income (dollars)	63,072	(X)	80,843	(X)	55,151	(X)
Per capita income (dollars)	22,607	(X)	30,600	(X)	31,824	(X)
Nonfamily households	105	105	721	721	355	355
Median nonfamily income (dollars)	28,229	(X)	43,575	(X)	21,985	(X)
Mean nonfamily income (dollars)	33,834	(X)	47,485	(X)	115,195	(X)
Median earnings for workers (dollars)	29,907	(X)	33,676	(X)	29,964	(X)
Median earnings for male full-time, year-round workers (dollars)	45,867	(X)	40,282	(X)	34,722	(X)
Median earnings for female full-time, year-round workers (dollars)	35,125	(X)	42,942	(X)	31,190	(X)

Note: All data taken from the Censes Bureau American Community Survey Estimates have an inherent margin of error.

Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error. In small statistical areas the Censes Bureau may not publish a count or percentage if doing so may compromise anonymity.

HEALTH INSURANCE COVERAGE	Elwood, Kansas		Knob Noster, Missouri		Richland, Missouri	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
Civilian noninstitutionalized population	1,109	1,109	2,426	2,426	2,220	2,220
With health insurance coverage	991	89.4%	2,067	85.2%	2,036	91.7%
With private health insurance	698	62.9%	1,814	74.8%	903	40.7%
With public coverage	402	36.2%	757	31.2%	1,426	64.2%
No health insurance coverage	118	10.6%	359	14.8%	184	8.3%
Civilian noninstitutionalized population under 19 years	275	275	568	568	721	721
No health insurance coverage	20	7.3%	63	11.1%	13	1.8%
Civilian noninstitutionalized population 19 to 64 years	672	672	1,551	1,551	1,247	1,247
In labor force:	462	462	1,256	1,256	843	843
Employed:	459	459	1,142	1,142	790	790
With health insurance coverage	389	84.7%	932	81.6%	703	89.0%
With private health insurance	377	82.1%	905	79.2%	569	72.0%
With public coverage	16	3.5%	153	13.4%	217	27.5%
No health insurance coverage	70	15.3%	210	18.4%	87	11.0%
Unemployed:	3	3	114	114	53	53
With health insurance coverage	0	0.0%	55	48.2%	53	100.0%
With private health insurance	0	0.0%	40	35.1%	2	3.8%
With public coverage	0	0.0%	49	43.0%	51	96.2%
No health insurance coverage	3	100.0%	59	51.8%	0	0.0%
Not in labor force:	210	210	295	295	404	404
With health insurance coverage	185	88.1%	268	90.8%	320	79.2%
With private health insurance	92	43.8%	228	77.3%	123	30.4%
With public coverage	95	45.2%	69	23.4%	279	69.1%
No health insurance coverage	25	11.9%	27	9.2%	84	20.8%

Note: All data taken from the Censes Bureau American Community Survey Estimates have an inherent margin of error.

Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error. In small statistical

Appendix D:

	Elwood, Kansas		Knob Noster, Missouri		Richland, Missouri	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL						
All families	(X)	17.5%	(X)	14.6%	(X)	17.5%
With related children of the householder under 18 years	(X)	11.1%	(X)	26.0%	(X)	20.3%
With related children of the householder under 5 years only	(X)	29.4%	(X)	53.3%	(X)	23.7%
Married couple families	(X)	19.9%	(X)	0.0%	(X)	9.1%
With related children of the householder under 18 years	(X)	11.9%	(X)	0.0%	(X)	8.5%
With related children of the householder under 5 years only	(X)	0.0%	(X)	0.0%	(X)	0.0%
Families with female householder, no spouse present	(X)	15.0%	(X)	41.2%	(X)	59.3%
With related children of the householder under 18 years	(X)	16.7%	(X)	54.7%	(X)	75.0%
With related children of the householder under 5 years only	(X)	100.0%	(X)	100.0%	(X)	100.0%
All people	(X)	17.9%	(X)	11.1%	(X)	21.0%
Under 18 years	(X)	16.9%	(X)	16.9%	(X)	12.3%
Related children of the householder under 18 years	(X)	16.9%	(X)	16.9%	(X)	12.3%
Related children of the householder under 5 years	(X)	21.8%	(X)	28.9%	(X)	9.2%
Related children of the householder 5 to 17 years	(X)	14.3%	(X)	7.2%	(X)	15.1%
18 years and over	(X)	18.1%	(X)	9.9%	(X)	24.5%
18 to 64 years	(X)	20.0%	(X)	11.4%	(X)	23.3%
65 years and over	(X)	9.9%	(X)	0.0%	(X)	31.0%
People in families	(X)	19.2%	(X)	9.4%	(X)	13.2%
Unrelated individuals 15 years and over	(X)	9.9%	(X)	14.8%	(X)	46.3%

Due to the nature of estimates, smaller statistical areas are susceptible to a larger margin of error. In small statistical areas the Censes Bureau may not publish a count or percentage if doing so may compromise anonymity.

Appendix E:

Knob Noster/Richland/ US Housing Comparison Data			
Housing Units By Year Built	Knob Noster, MO	Richland, MO	United States
2010 to 2014	23.50%	13.40%	13.60%
2000 to 2009	23.50%	13.40%	13.60%
1990 to 1999	16.00%	8.50%	13.60%
1980 to 1989	19.20%	5.10%	13.20%
1970 to 1979	14.80%	23.60%	14.80%
1960 to 1969	16.00%	8.50%	13.60%
1950 to 1959	3.90%	7.70%	10.00%
1940 to 1949	4.10%	11.90%	4.70%
1939 or Earlier	3.30%	10.80%	12.20%

Appendix F:

















