

Our Boone County



OUR COMMUNITY. OUR FUTURE. BOONE COUNTY MASTER PLAN

MASTER PLAN

April 2025

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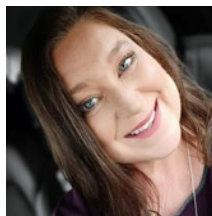
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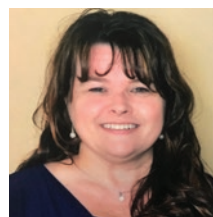
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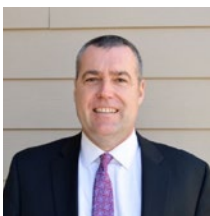
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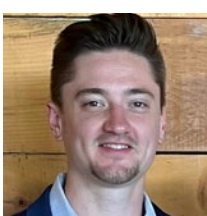
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(Originally part of December 2023 'Discovery Report')	
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(Originally part of December 2023 'Discovery Report')	

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Executive Summary and Background



Overview of Planning Schedule

The graphic below provides an overview of the planning phases. The following pages summarize the results of each phase.



Summary of Existing Conditions and Discovery

(See Appendix for Full Survey Results and Discovery Report)

Existing Conditions & Discovery

Spring - Fall 2023



Boone County population has **increased by over 50%** since the previous county master plan nearly 25 years ago.



Countywide survey and listening sessions found concerns for growth:

- increased traffic congestion
- higher cost of living
- shortage of affordable housing
- loss of farmland and natural areas
- inadequate infrastructure
- potential loss of the picturesque landscape and small-town atmosphere that define Boone County



Residents affirmed county strengths and why it remains an excellent location to live and raise a family:

- natural environment
- scenic beauty
- rural/small-town atmosphere
- strong institutions
- employment opportunities



Boone County has not experienced the extensive sprawl seen in many other regions.

Unincorporated Boone County has grown by approximately 6% in population over the last two decades, with areas of development expanding by only 5%. The City of Columbia, experiencing a 47% population growth, has seen a 30% growth in areas of development.

90%

90% of survey respondents expressed agreement with the statement: **"Future growth in Boone County should better balance development with the preservation of farmland, rural character, and natural areas."** This sentiment was consistently shared by residents across unincorporated areas, Columbia, and other cities within the county.

Conclusions of Growth Analysis and Scenario Planning

(See Chapter 7)

Boone County is projected to need an **additional 37,000 housing units by 2050**. The plan evaluated **three potential growth scenarios**:

Scenario #1
City, Edges, and Rural Estates



Scenario #2
City Focused



Scenario #3
Rural Growth



- **Cities in Boone County will have limited available land to meet total housing demand on their own.** Under all three scenarios, the cities lack sufficient existing land to accommodate future housing needs.
- **The edges of cities will be crucial for accommodating future growth.** The trend of large rural residential estates (five acres) near Ashland, Centralia, and Hallsville could potentially hinder future growth of these cities. If residential densities in the edge areas match those within the existing city limits, the ability to accommodate residential growth would be significantly improved.
- **Scenarios #1 and #3 use roughly twice as much land as Scenario #2.** Scenario #2 is estimated to use approximately 24,000 acres, while Scenario #1, 'Current Trends' and Scenario #3, 'Rural Growth' are expected to require 54,000 acres and 59,000 acres, respectively.

How were the Growth Scenarios evaluated?

Land Requirements:

Although the jurisdiction of the Master Plan is the unincorporated areas of Boone County, the scenario evaluations began with an analysis of existing development densities within the city limits and surrounding areas of the cities. Additionally, existing comprehensive plans and future land use plans of the communities were reviewed.

The analysis involved identifying areas with development limitations, including:

- Natural Resources (100-Year Floodplain, Stormwater Buffer Zone, Sensitive Area Steep Slopes, and Karst Areas)
- Existing Parks and Conservation Areas
- Existing Occupied (Developed) Parcels
- Utility (Sewer) Availability

Key Issues:

The scenarios were also evaluated qualitatively on a scale ranging from "Strong Benefits" to "Low Benefits" for each criteria. These criteria were developed based on key issues identified during the engagement process:

- Transportation
- Natural Resources
- Housing
- Infrastructure (Utilities) and Community Services
- Economic Development
- Rural Character

Growth Analysis & Scenario Planning

Winter - Spring
2023 - 2024



Draft Master Plan

Spring - Fall
2024

Plan Principles and Goals

(See Chapter 3)

LAND USE

A Future Land Use Plan that plans for growth while balancing the preservation of the natural and agricultural heritage of Boone County.

GOALS

1. Respect local community land use planning and decisions.
2. Acknowledge the importance of Boone County's natural resources for ecosystem services, tourism, and quality of life.
3. Balance areas of growth and preservation.
4. Provide expectations of future availability of community services, sewer, and other utilities.

TRANSPORTATION

A safe, efficient transportation system that supports multiple modes of transportation.

GOALS

1. Reduce transportation-related deaths and serious injuries.
2. Promote a multi-modal transportation network.
3. Promote a well-connected multi-use trail and active transportation network, with an emphasis on connecting the two state parks.
4. Continue fiscally responsible transportation investments.

ECONOMIC DEVELOPMENT

Continued growth and prosperity of the Boone County economy.

GOALS

1. Continue to retain and attract a skilled workforce.
2. Ensure availability of developable sites.
3. Continue regional coordination of REDI, City of Centralia, and Southern Boone Economic Development Council on defining targeted industry clusters.

FARMLAND AND RURAL CHARACTER

Preserve the agricultural and rural heritage of Boone County for future generations.

GOALS

1. Maintain and protect land best suited for agriculture, especially prime farmland and farmland of state significance, to remain agricultural.
2. Encourage small farmers, especially growers, of locally grown produce and products that serve local outlets.
3. Evaluate visitor and tourism uses and activities in 'Rural Preservation' and 'Farm Preservation' land use areas that provide property owners additional income and promote quality of life in the County while respecting rural character and neighboring property owners.
4. Help alleviate conflicts between agricultural property owners and non-agricultural neighboring properties.



Draft Master Plan

Spring - Fall
2024

Plan Principles and Goals

(See Chapter 3)

NATURAL RESOURCES

Conserve, protect, and restore Boone County's natural habitats and ecologically significant areas.

GOALS

1. Preserve and protect Boone County's natural habitats and ecologically significant areas.
2. Restore ecological habitats.
3. Continue to improve water quality through watershed scale planning.
4. Reduce future flood-related risks.

UTILITIES AND INFRASTRUCTURE

Fiscally responsible public services, utilities, and infrastructure at locations that efficiently serve the housing and development needs of Boone County.

GOALS

1. Encourage development to occur within areas served (or planned) by public sewer and other utilities and infrastructure.
2. Continue inter-government and utility collaboration.
3. Increase access to High-Speed Internet.

HOUSING

A wide range of housing choices to accommodate the diverse residential needs of Boone County residents and to bolster efforts at worker attraction and retention.

GOALS

1. Support the recommendations and implementation of the Boone County and City of Columbia Housing Study.
2. Increase the housing supply.
3. Increase housing choices.
4. Maintain the value of residential properties.



Draft Master Plan

Spring - Fall
2024

Future Land Use Plan

(See Chapter 4)

The **Future Land Use Plan** is a generalized policy guide for planning future growth, shaping policies, and informing decision-making, formed from the research and community engagement completed throughout this planning process. The **map** is intended to guide future land use decisions, with each land use category reflecting a range of place characteristics.

The **Future Land Use Plan** is organized into **eight land use categories**:

FARMLAND PRESERVATION

RURAL PRESERVATION

CONSERVATION BUFFER

RURAL RESIDENTIAL

HIGHWAY CORRIDOR

LOCAL COMMUNITY PLANNING
DISTRICT

UNINCORPORATED
VILLAGE NODE

REGIONAL ECONOMIC
OPPORTUNITY AREA

Preservation Areas

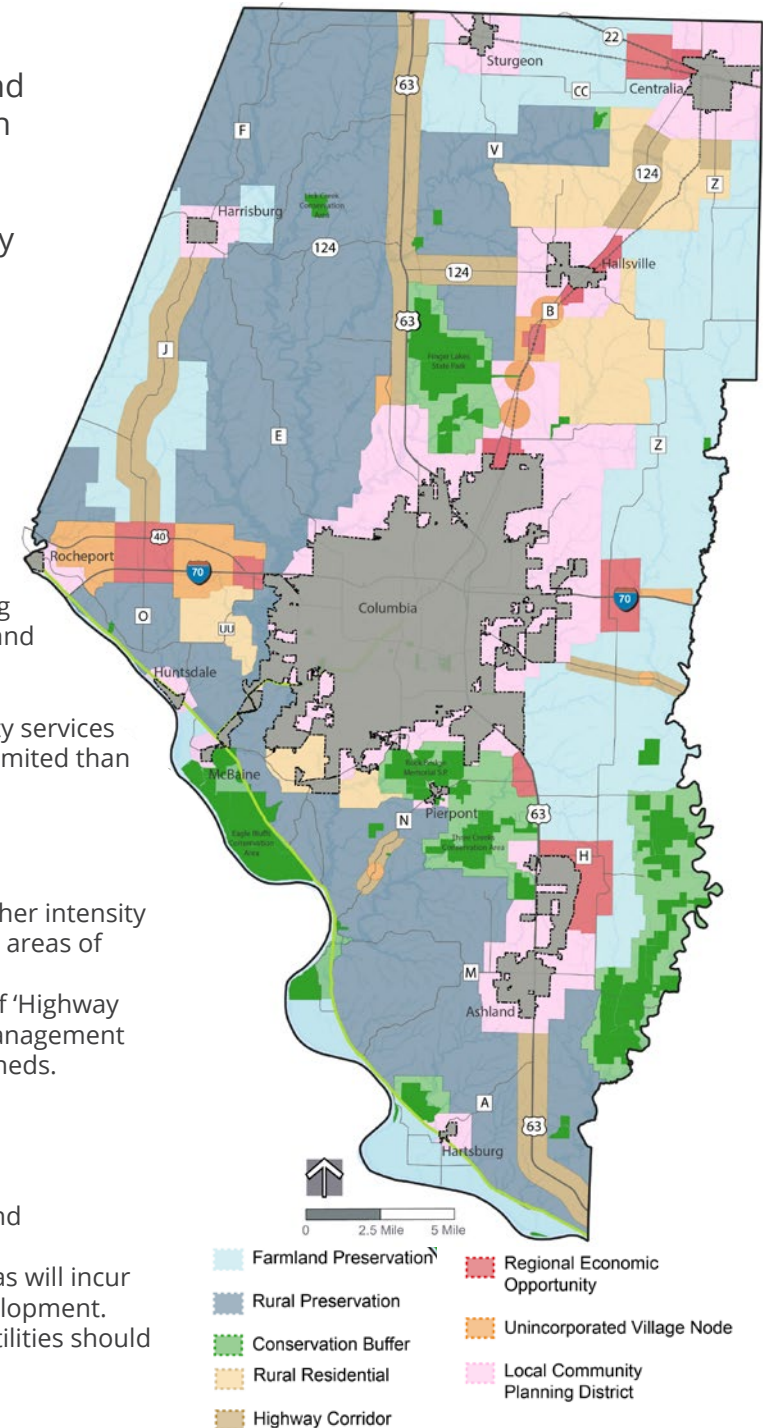
- Priority areas for preserving rural character, farmland, and natural habitats.
- Low development density.
- Recognition that community services and utilities may be more limited than growth areas.

Transition Areas

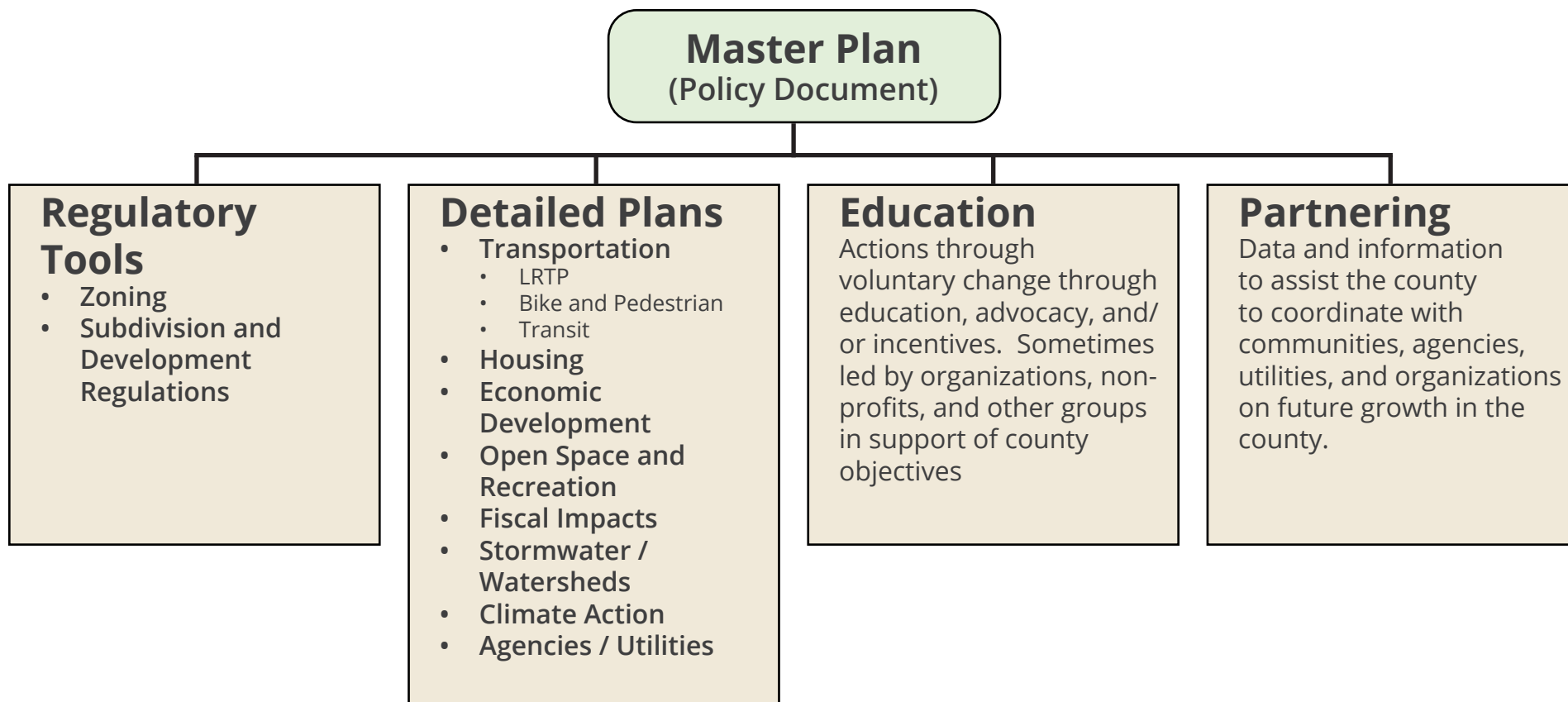
- Transitional areas from higher intensity growth areas to more rural areas of Boone County.
- Important characteristics of 'Highway Corridor' include access management and preserving rural viewsheds.

Growth Areas

- Priority areas for growth and development.
- Recognition that these areas will incur significant man-made development.
- Community services and utilities should be available or planned.



Role of the Master Plan



The role of a master plan is often misunderstood, which is understandable given that these plans are updated infrequently. For example, the last Boone County Master Plan was adopted in 1996.

In simple terms, the master plan is a policy document. As such, it serves as a strategic guide, shaping future actions like regulatory updates, detailed planning efforts, educational initiatives, and partnerships. The chart above highlights the role of the Master Plan in relation to other elements. It should be noted that 'detailed plans' include examples of plans that many counties may develop and are not inclusive of existing or recommended plans for Boone County.

It's important to note that the master plan is not a zoning ordinance, subdivision regulation, budget, capital improvement program, or other regulatory document. Instead, it provides the foundation for the creation of those tools. The plan sets forth a vision for the community's future growth and development.

At the vision and policy level, the master plan will guide county decision-making for years to come. At times the plan will need to be amended or updated. The Planning and Zoning Commission shall approve all amendments and updates to the plan.

Proposed amendments and updates to the plan shall take into account conditions that have changed since the original adoption of the plan.

Key Take Aways of Engagement, Survey, and Existing Condition Data

Is Boone County at a Tipping Point in Terms of Growth? Probably Yes.

Boone County has witnessed substantial population and economic growth in recent decades. The county's population has increased by over 50% since the previous county master plan nearly 25 years ago, with a notable 34% increase between 2000 and 2021.

The countywide survey and listening sessions have highlighted concerns regarding the potential impacts of future growth. These include increased traffic congestion, a higher cost of living, impacts of climate change, a shortage of affordable housing, inadequate infrastructure, and the potential loss of the picturesque landscape and small-town atmosphere that define Boone County.

While future concerns are indeed numerous, residents have consistently affirmed the county's current strengths and why it remains an excellent location to reside and raise a family. These strengths include the natural environment, scenic beauty, the rural/small-town atmosphere, and strong institutions. Additionally, despite apprehensions about future utility capacities, existing utility services, except for internet access, were generally positively rated by residents in the survey.

The available data on current conditions also indicates a relatively efficient pattern of growth over the last two decades. While worries about urban sprawl persist, Boone County has not experienced the extensive sprawl seen in many other regions. One characterization of urban sprawl is when areas of development surpass population growth. Unincorporated Boone County has grown by approximately 6% in population over the last two decades, with areas of development expanding by only 5%. The City of Columbia, experiencing a 47% population growth, has seen a 30% growth in areas of development. For comparison, from 1950 to 2010, the population of the St. Louis urbanized area increased by about 50%, while the land area nearly quadrupled.

Though the St. Louis regional comparison isn't a perfect apples-to-apples comparison for various reasons, it does provide some context regarding areas that have witnessed sprawl - the hollowing out of population in some regions while growth persisted on the urban fringe.

Boone County finds itself at a critical juncture in its history. The Chapter "Growth Projections and Scenario Planning" includes an in-depth examination of different growth scenarios and an evaluation of the impacts.

Strong Areas of Consensus - Especially "Balanced Growth"

The survey and listening sessions revealed numerous areas of consensus among Boone County residents. Notably, residents highlighted the strengths of living in Boone County, including its great location, natural environment, picturesque beauty, institutions, a great place to raise a family, rural/small-town atmosphere, employment opportunities, and a diverse culture. The agreement on these aspects showcases the shared pride and appreciation for the county's strengths.

Moreover, 90% of survey respondents expressed agreement with the statement: "Future growth in Boone County should better balance development with the preservation of farmland, rural character, and natural areas." This sentiment was consistently shared by residents across unincorporated areas, Columbia, and other cities within the county.

However, there were differing interpretations of what "balanced growth" entails. Differing opinions were anticipated at this stage of the planning process. It would have been surprising to witness a convergence of ideas given the complexities of this subject. Although the survey did not ask for solutions for achieving balanced growth, many respondents shared their individual perspectives and recommendations. Not surprisingly, these ideas exhibited a wide range of opinions.

Boone County is a Big County - Needs and Priorities Vary in Different Parts of the County

The engagement, survey, and existing conditions analysis identified many key issues, including higher cost of living, affordable housing options, preserving and improving the natural environment, scenic beauty and the rural/small town atmosphere, improving transportation, preserving farmland, and continuing economic opportunities. However, Boone County is a big county with different needs and priorities in various areas of the county. It was important for the master plan to be nuanced in providing recommendations for different areas.

Boone County Trends

Boone County Trends Over the Last Two Decades

The graphics on the right highlight trends in Boone County over approximately the last two decades (various data sets have slightly different time-frames). It is important to note the data trends listed are *countywide*. The existing condition data will show nuances in the trends, especially in regards to how different geographic areas of the county are growing differently.

- Developed changes are based on land cover data categorized by developed intensity (open-space, low intensity, medium intensity, high intensity). Overall, all developed areas in Boone County grew by about 17% over the last two decades.
- The largest land cover type in Boone County is deciduous forest. About 1% of deciduous forest was lost over the last two decades.
- Overall, the population of Boone County grew by 34% between 2000 - 2021. However, different areas of the county grew at much different rates.
- Job growth grew significantly along with population growth. The range of job growth is because of the different sources of job data.
- Transportation volume is assessed using Annual Average Daily Traffic (AADT) data. Roads and highways in various areas of the county have experienced different rates of increased volume.



17%



Developed,
Open-Space



Developed,
Low Intensity



Developed
Medium Intensity



Developed
High Intensity



1%



Deciduous
Forest



34%



Population



25-31%



Jobs



8-31%+



Transportation

Why Update the Master Plan

BACKGROUND

The current Boone County Master Plan was adopted in 1996, so it has been over 25 years since the last master plan. Since then, Boone County has experienced significant population and employment growth. That growth has spurred demand for housing, services, and infrastructure improvements. As shown by the 2020 Census, Boone County is one of the fastest growing counties in Missouri. This update of the Boone County Master Plan was an opportunity to consider ways to accommodate future population and employment growth by coordinating land use policies, transportation and infrastructure improvements, municipal and county services, and preservation of natural resources.

The State of Missouri provides the authority for counties to prepare countywide master plans. Chapter 64.815 of the Revised Statutes of Missouri states, “The county planning commission shall prepare an official master plan of the county for the purpose of bringing about coordinated physical development in accordance with the present and future needs.”

BENEFITS OF AN UPDATED MASTER PLAN

Logical Land Use Decision Making

The current Boone County Master Plan is over 25 years old. The updated master plan is a guide for the Planning Commission when reviewing rezoning requests, conditional use permits, subdivision plats, and other land use decisions.

Strategic Guide for Future Growth and Change

While the future cannot be predicted, Boone County can plan and manage for growth and change. The plan examined trends in demographics, workforce, mobility, housing, and economic development to best position the county to coordinate with communities, agencies, utilities, and organizations on future growth in the county.

Shared Community Vision

Master plans are an opportunity to develop consensus on a community vision and countywide priorities that will help shape growth in the county for the next 10-20 years. The planning process engaged residents in multiple ways to ensure that residents were included in the planning process.

RECENT PLANS

1996 BOONE COUNTY MASTER PLAN

The Boone County Master Plan focuses much of its research and suggestions around future development in unincorporated areas of the county. While the plan does not rezone any property, it renews the legal basis for zoning outside municipalities with suggested changes to the county's zoning ordinance and subdivision regulations.

The plan's recommendations revolve around general planning, growth management, land use, transportation, inter-governmental coordination, environment, parks, recreation, open space, and community heritage. Key recommendations address evaluating, revising, and updating the plan and land use control mechanisms. Others encourage participation in planning and zoning commissions, task forces, etc. The plan also emphasizes that the county should prepare and annually update a five-year Capital Improvements Program.

2001 BOONE COUNTY VISION PROJECT

Boone County contracted the Wallace House Foundation to direct the countywide process and develop a shared vision of the future as the county experienced a strong rate of growth with the need to preserve existing quality of life.

The Vision Process included group reports, study circle meetings, and a Summit Meeting.

The report recommends positive qualities to maintain that include a mix of rural amenities (agriculture, open space, etc.); Columbia being the more urban environment; vibrant, diversified economy; healthy industries and natural environment; good infrastructure, and participation of residents.

The report's ideas for future action include assembling a committee to address county government limitations and make specific recommendations for legislation at the state level or changes in county government; the development of strategies to conserve productive farmland and natural areas, including transfer or purchase of development rights; the finding of acceptable ways to balance private property rights with preservation of environmentally sensitive areas; and educating and seeking input from the public.

2009 NORTHEAST COLUMBIA AREA PLAN

When Columbia Public Schools chose a new high school site along St. Charles Road, both Boone County and City of Columbia Planning and Zoning Commissions came together to create the Northeast Columbia 2009 Area Plan. The plan covers a 3,104 acre area surrounded by I-70 south, Route Z, Mexico Gravel Road, and Lake of the Woods Road; the area's land uses included agriculture, small neighborhoods, scattered housing on large lots, and some industrial and commercial zoning. The Commissions aimed to make the public's desires for the area clear and guide future development that would accompany the high school.

Goals and Objectives of the plan cover land use patterns, public facilities, efficient traffic movement, protection of the natural environment, and coordination of infrastructure.

2010 EAST AREA PLAN

Boone County and the City of Columbia Planning and Zoning Commissions published this plan in September 2010 to plan for a desired future development pattern of 21 square miles in eastern Boone County: Interstate 70 to the north, US 63 to the west, Richland Road/ State Rte. WW/New Haven Road to the south, and St. Charles Road/ Rolling Hills Road/Olivet Road/ Rangeline Road/Route Z to the east.

The plan covers existing conditions data, future land use allocation and zoning maps, recommendations for growth management, and an implementation plan with a matrix to bring recommended changes to fruition.

Key findings of the plan include that sanitary service availability is limited to the western two-thirds of the study area, naturally limiting development in the Gans and Cedar Creek watersheds; transportation system improvements will be required to adequately support the future development demands within the study area; and new "neighborhood marketplace" nodes may be supportable in locations where future residential development will have sufficient infrastructure and population density in place.

RECENT PLANS

2019 CATSO (COLUMBIA AREA TRANSPORTATION STUDY ORGANIZATION) LONG-RANGE TRANSPORTATION PLAN

This 2019 plan follows the country's Fast Act guiding principles and planning factors for the City of Columbia and surrounding areas in unincorporated Boone County that are projected to urbanize within the next 20 years.

The plan inventories existing transportation in the study area including jurisdictions, public transit, roadways, bicycle and pedestrian facilities, and regional connections. It then breaks down the relationship between land use and transportation as well as overall transportation system management.

The plan outlines specific projects for roadways, bicycle and pedestrian networks, and transit. Roadway projects focus on Business Loop 70, Broadway (Route WW and TT), the Providence Road Extension, the creation of a circumferential roadway system, Stadium Boulevard (MO 740), Gans Road, and MO 163 (Providence Road).

2020 BOONE COUNTY HAZARD MITIGATION PLAN

The 2020 Hazard Mitigation Plan addresses the anticipation and lowering of risks to both lives and properties across Boone County, as the number of FEMA declared Presidential Disasters has increased drastically over the past few decades across the country. Boone County's plan is updated every five years as required by federal law. It profiles eleven natural hazards and eleven technological/human-made hazards.

Some strategies can be put in place via jurisdictions and agencies. Strategies with major funding needs can look to FEMA's mitigation grant programs, however there has been a severe decline in recent years in the amount of available money. Because of this, the plan includes an action plan to strategize and establish local funding sources. The plan hopes to complete many of the actions before the next five-year update to ensure a greater, and more cost-effective, level of protection for the citizens and property of Boone County and its jurisdictions.

2024 BOONE COUNTY AND THE CITY OF COLUMBIA HOUSING STUDY

Boone County and the City of Columbia sponsored a housing study to provide a comprehensive understanding of housing market conditions, community housing needs, and the gaps between housing supply and demand.

The plan's recommendations are organized by strategic and by thematical categories. The four major strategic categories are described as (1) Preservation, (2) Empowerment, (3) Development, and (4) Sustainability. The Preservation recommendations are geared towards ensuring that the existing affordable housing in the City of Columbia and throughout Boone County remains affordable and in good condition for generations to come. The Empowerment recommendations are centered around providing everyone the opportunity to call Boone County home and put down roots. The Development recommendations are focused on facilitating the construction of new homes that address the housing needs of the community. Finally, the Sustainability recommendations are strategies that secure progress towards achieving the community's housing goals for the long-term by ensuring that policies are written, homes are built, and opportunities are created in a way that facilitates lasting impacts.

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Community Engagement



Community Engagement

Community engagement has been an important part of the master plan planning process.

Highlights of the community engagement to date includes:

- Advisory and Technical Committees
- Small Group Listening Sessions
- Website, Social Media, and E-Newsletters
- In-Person and Virtual Open Houses
- Countywide Survey



Community Engagement: Advisory and Technical Committees

An Advisory Committee and a Technical Committee have helped guide the planning process. The Advisory Committee includes representatives from the Boone County Planning Commission, local communities, businesses, organizations, and county residents. The Technical Committee comprises representatives from county departments, utility providers serving Boone County, fire districts, MoDOT, and other agencies. A full list of committee members is available in the acknowledgments section at the beginning of this document.

The committee meeting dates are listed below. Typically, Technical Committee meetings were held at 2:00 pm, followed by Advisory Committee meetings at 4:30 pm.

Committee Meeting #1: June 14, 2023
Committee Meeting #2: August 16, 2023
Committee Meeting #3: October 17, 2023
Committee Meeting #4: January 31, 2024
Committee Meeting #5: July 9, 2024
Committee Meeting #6: December 11, 2024



Community Engagement: Website and E-Newsletters

The central hub for communications during the planning process was the website www.OurBoone.com. It featured the project schedule, materials as they were developed, and links to key resources such as surveys, comment forms, and videos.

The website proved to be a successful tool for outreach. By January 2025, it had attracted over 6,800 unique visitors and generated 10,000 page views.

Throughout the planning process, individuals could sign up for e-newsletter updates. As of October 2024, there had been 696 subscribers, and the planning team had distributed over 20 e-newsletters.

"The website www.OurBoone.com has attracted over 6,800 unique visitors and generated 10,000 page views."



Above: Cover page of the www.OurBoone.com website.

Community Engagement: Small Group Listening Sessions (July 2023)

The planning team held a series of listening sessions throughout the county the week of July 10, 2023. These small group or one-on-one meetings were primarily listening sessions for the planning team to learn about community values, vision, goals, and potential issues. The meetings also helped establish lines of communications to help promote the survey, open houses, and other plan activities.

The small group listening sessions were held over three and a half days. Locations included:

- Monday, July 10, 2023 (Afternoon): Harrisburg School District Community Room
- Tuesday, July 11, 2023 (All Day): Ashland City Hall
- Wednesday, July 12, 2023 (All Day): Boone County Government Center
- Thursday, July 13, 2023 (All Day): Centralia City Hall

Meeting attendees represented a wide variety of community groups, organizations, and agencies. A priority was to meet with groups that were not represented on the Advisory Committee or Technical Committee.

In all, 24 meetings were held over the three and a half days with over 80 total attendees. Some of the groups and organizations represented included:

- Mayors
- City Staff
- Major Employers
- Small Businesses
- School Districts
- Library District
- Agencies
- Community Organizations and Non-Profits
- Environmental Groups
- Fire Districts and Law Enforcement
- Homebuilders and Construction
- Small Businesses
- Realtors



Community Engagement: Open House #1 (September 2023)

An in-person open house was held on Tuesday, September 26, 2023 at the Boone Electric Cooperative - Community Room from 4:30 - 7:00 pm. The meeting was an open house style format with no formal presentation, so attendees were able to stop in anytime between 4:30 - 7:00pm.

The purpose of the open house was an opportunity for attendees to learn about the planning process, view existing conditions, provide feedback, and talk with the planning team.

The open house was well attended with approximately 100 attendees.

An online virtual open house was hosted on Tuesday, September 12, 2023, at 7:00 pm. This virtual gathering utilized a webinar format, featuring a presentation by the planning team and an interactive Q&A session for attendees. The event garnered over 70 registrations. A video recording of the webinar was subsequently made available on the project website (www.OurBoone.com).

Both the in-person and virtual open houses presented the same existing condition information including data on population, jobs, housing, land use, natural resources, and transportation.



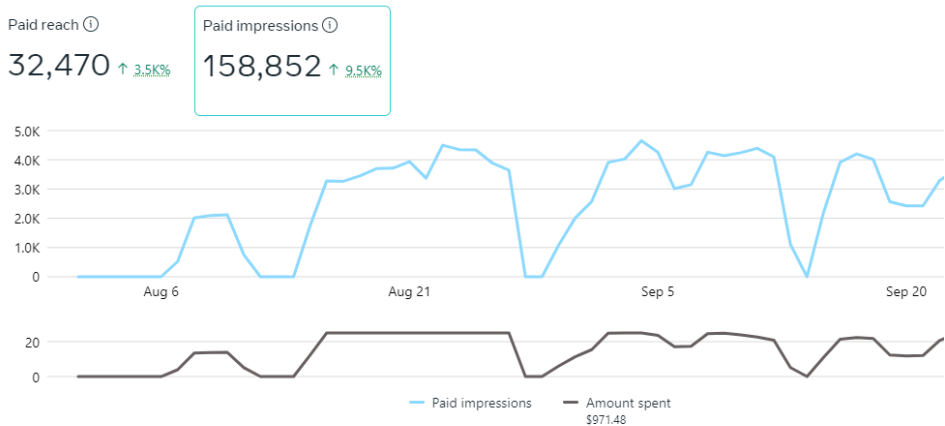
Community Engagement: Countywide Survey (August - September 2023)

A countywide survey took place from early August through the end of September 2023. The survey was primarily online, but to ensure geographic distribution, 2,100 paper surveys were mailed to random households, specifically targeting unincorporated areas of the county. Almost 2,000 survey responses were received (1,985 responses), which includes all paper and online responses.

Marketing and awareness of the survey was particularly extensive. Highlights include:

OVER 32,000 REACH ON FACEBOOK DURING SURVEY

Utilizing Facebook as a primary tool for marketing and raising awareness, a series of boosted Facebook (and Instagram) posts promoting the survey commenced in early August. The focus was on areas outside of Columbia, particularly unincorporated areas and small towns. The effort resulted in an impressive reach of over 32,000 individuals (number of people who saw the content) and over 158,000 impressions (number of times the content appeared on a person's screen).



2,100 MAILED PAPER SURVEYS

In late August 2023, a total of 2,100 paper surveys were mailed to random households, specifically targeting unincorporated areas of the county. The mailed surveys included a self-addressed, stamped return envelope, facilitating the ease of survey return. In total, 261 paper surveys were returned, indicating a return rate of approximately 12.5%. Although slightly below the expected return rate of 15-25% for mailed paper surveys, the paper surveys included instructions on accessing the survey online. Therefore, individuals who received a paper survey may have opted to complete the survey online, potentially boosting the overall response rate.

OVER 3,400 WEBSITE VISITORS

A dedicated website (www.OurBoone.com) was launched in May 2023, serving as a hub for the planning process. The website recorded over 3,400 unique visitors by October 2023, indicating substantial engagement and interest for the plan and survey.

MEDIA COVERAGE AND STAKEHOLDER ORGANIZATIONS

The open houses and survey garnered significant media coverage, amplifying public awareness. Additionally, members of the Advisory Committee, Technical Committee, and stakeholder groups actively shared the survey within their organizations, networks, and contacts, further broadening the survey's reach and impact.

"Paper surveys were mailed to 2,100 random households, targeting unincorporated areas of the county."

Community Engagement: Open House #2 (April 2024)

Open House #2 was held on April 3, 2024. The open house was a virtual open house where participants could participate live via an online webinar or watch a recording of the meeting after the live event. The video recording of the webinar was available on the project website (www.OurBoone.com).

The purpose of the open house was to review growth projections and receive feedback on the three growth scenarios.

To supplement the virtual open house, the planning team held a series of listening sessions throughout the county on April 23 - 24 where residents could receive additional information or ask questions in person. The schedule of the listening sessions included:

April 23, 2024

- Noon, Tuesday, April 23: Harrisburg VFW Community Room
- 4:00 pm, Tuesday, April 23: Centralia City Hall
- 7:00 pm, Tuesday, April 23: Columbia (Boone County Government Center)

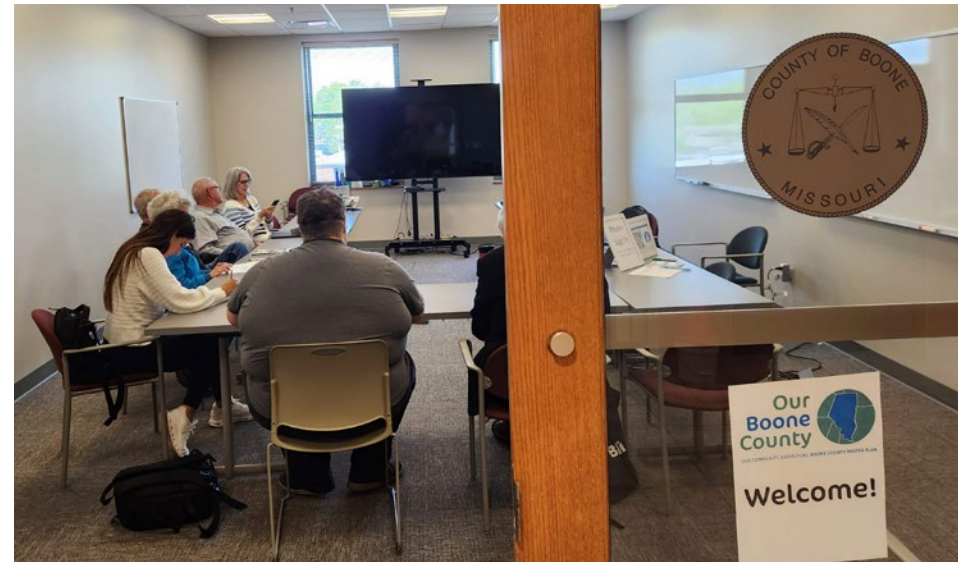
April 24, 2024

- 8:00am, Wednesday, April 24: Columbia (Boone County Government Center)
- Noon, Wednesday, April 24: Columbia (Boone County Government Center)
- 5:00 pm, Wednesday, April 24: Ashland City Hall

The virtual open house was well attended with over 140 registrations. The video recording of the meeting received 148 views.

A key purpose of Open House #2 was feedback on the three growth scenarios, which included:

- Scenario #1: City, Edges, and Rural Estates
- Scenario #2: City Focused Development
- Scenario #3: Rural Growth



Above: Small group listening session in Columbia on April 24, 2024. The in-person listening session was a follow-up to the April 3, 2024, virtual open house.

See the Chapter "Growth Projections and Scenario Planning" for detailed descriptions of each scenario. Feedback from the virtual open house, committees, listening sessions, and public comments strongly favored "Scenario #2: City-Focused Development." Common reasons for this preference included its efficiency in providing community services and infrastructure, as well as its potential to preserve rural areas, natural habitats, and farmland.

Community Engagement: Open House #3 (August - September 2024)

An in-person open house was held on Thursday, September 5, 2024, at the Boone County Government Center from 4:30 - 7:00 pm. The meeting was an open house style format with no formal presentation, so attendees were able to stop in anytime between 4:30 - 7:00pm.

The purpose of the open house was to review the draft master plan elements, including three options for the future land use plan, draft plan principles and goals, and conservation tools.

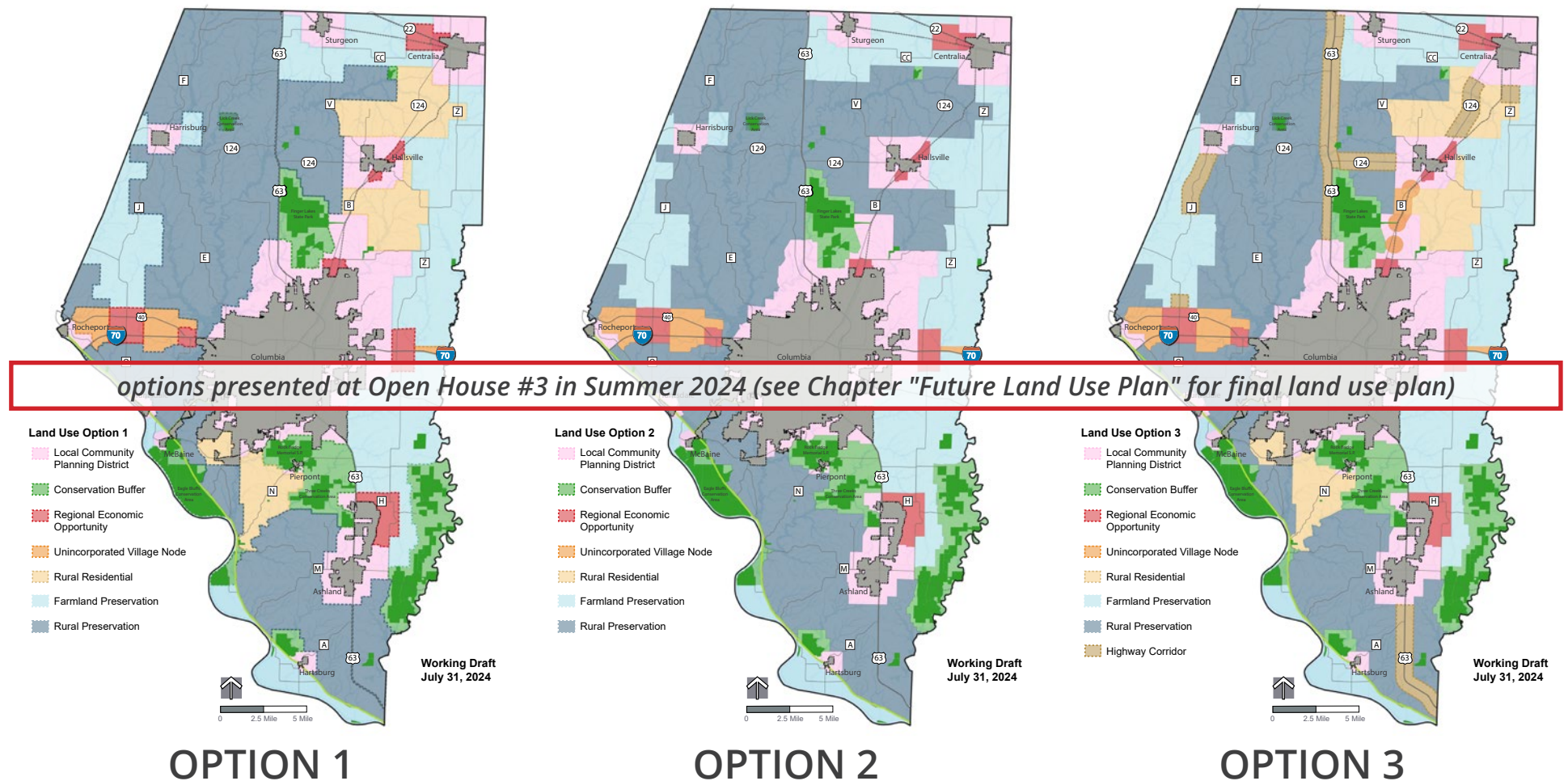
The open house was well attended with over 60 attendees.

An online virtual open house was hosted on August 21, 2024, at 7:00 pm. This virtual meeting utilized a webinar format, featuring a presentation by the planning team and an interactive Q&A session for attendees. The online meeting garnered over 90 registrations. A video recording of the webinar was subsequently made available on the project website (www.OurBoone.com) so that residents could view the video before the in-person open house. The video recording of the meeting received over 130 views.

The same information was presented at both the in-person and virtual open houses. Opportunities to provide feedback on the draft plan included the virtual open house, the in-person open house, and an online comment form, which remained open until September 19, 2024.



LAND USE CONCEPTS PRESENTED AT OPEN HOUSE #3



The above three future land use plan options were presented at Open House #3 for feedback. Comments from attendees and the meeting comment form indicated a slight preference for Option #2 over Option #3, though both options were closely rated.

In contrast, the Advisory and Technical Committees strongly preferred Option #3, citing its more nuanced land use categories, including the additional "Highway Corridor" and "Rural Residential" categories, which were not present in Option #2.

Based on feedback from the open house, committees, and other stakeholders, the planning team refined Option #3 for the final land use plan (see Chapter "Future Land Use Plan"). It is important to note that the future land use plan is not static and should be regularly reviewed, evaluated, and updated.

Principles, Goals, and Recommendations



Chapter Overview

The master plan's recommendations are organized around seven guiding principles. This chapter outlines each principle, along with the associated goals and recommendations. Each principle is grounded in core values expressed by Boone County residents during the community engagement process.

This master plan focuses on critical themes such as land use, transportation, and other priorities identified during the discovery phase. A key theme is balancing future growth with the county's rural character and natural resource strengths. While master plans can cover a broad range of topics, a more focused plan helps prioritize key issues.

Ultimately, this master plan serves as a policy guide, offering direction for future county initiatives, projects, and plans.

The later Chapter "Implementation," outlines the specific actions needed to achieve the goals presented in this chapter.

Vision Metrics

For each principle, a "vision metric" is provided to measure progress and track the plan's implementation. These metrics are designed to be ambitious, serving as key indicators of Boone County's trajectory for each principle. While not all metrics may be immediately attainable, they establish valuable benchmarks for long-term progress. Data sources and additional context for each metric are provided at the end of this chapter.

"Each principle of the plan is rooted in the core values expressed by Boone County residents during the community engagement process."

"Future growth in Boone County should better balance development with the preservation of farmland, rural character, and natural areas."

From the Master Plan Survey - 90% of survey respondents expressed agreement with the above statement.

ALL PRINCIPLES

1. LAND USE

A Future Land Use Plan that plans for growth while balancing the preservation of the natural and agricultural heritage of Boone County.

2. TRANSPORTATION

A safe, efficient transportation system that supports multiple modes of transportation.

3. ECONOMIC DEVELOPMENT

Continued growth and prosperity of the Boone County economy.

4. FARMLAND AND RURAL CHARACTER

Preserve the agricultural and rural heritage of Boone County for future generations.

5. NATURAL RESOURCES

Conserve, protect, and restore Boone County's natural habitats and ecologically significant areas.

6. UTILITIES AND INFRASTRUCTURE

Fiscally responsible public services, utilities, and infrastructure at locations that efficiently serve the housing and development needs of Boone County.

7. HOUSING

A wide range of housing choices to accommodate the diverse residential needs of Boone County residents and to bolster efforts at worker attraction and retention.

PRINCIPLE #1

LAND USE | *A Future Land Use Plan that plans for growth while balancing the preservation of the natural and agricultural heritage of Boone County.*

VISION METRIC

The population growth rate exceeds the rate of developed land areas.

GOALS:



1. Respect local community land use planning and decisions.

- Encourage communities to prepare a future land use plan for areas adjacent to their city limits ('Local Community Planning District').
- Develop a set of design guidelines for the 'Unincorporated Village Nodes,' 'Highway Corridor,' and 'Conservation Buffer' land use categories.



2. Acknowledge the importance of Boone County's natural resources for ecosystem services, tourism, and quality of life.

- Utilize a 'Conservation Buffer' land use to buffer and transition existing conservation and park areas from other land uses.



3. Balance areas of growth and preservation.

- Use the future land use plan to identify priority farmland and rural preservation areas.
- Use the future land use plan to identify economic development areas of regional importance that require larger sites and can leverage Boone County's unique transportation assets, including I-70, Class 1 railroads, and the Columbia Regional Airport.
- Use the future land use plan to identify priority growth areas where increased densities can help ensure efficient utilities and infrastructure.
- Enhance the current point rating system to include the future land use category as one of the quantitative tools to evaluate rezoning, development, and subdivision requests for suitability.



4. Provide expectations of future availability of community services, sewer, and other utilities.

- Use the future land use plan and growth projections to coordinate with state, local, and private entities to plan for and invest in infrastructure, including roads, sewer, and other utilities, in anticipation of growth.
- Acknowledge that some land uses may not have the same level of community services and utility access.
- Continue to utilize the 'sufficiency of resources test' as baseline criteria for rezonings.



Goal 1.1 Respect local community land use planning and decisions.

1.1.A: Encourage communities to prepare a future land use plan for areas adjacent to their city limits ('Local Community Planning District').

The policy of inter-government coordination of future land use planning has had a long history in Boone County. Intergovernmental coordination was one of the key goals of the 1996 Boone County Master Plan. The 2009 'Northeast Columbia Area Plan' and the 2010 'East Area Plan' are examples of Boone County coordinating with the City of Columbia on land use within this plan's 'Local Community Planning District' area.

Boone County should respect the need for local communities to plan for future land use adjacent to their areas. This acknowledges the efforts that many communities are already undertaking. Future land use decisions should be made in accordance with community goals and priorities.

Local planning boundaries allow for efficient annexation. The municipality provides services and infrastructure more efficiently, leading to improved quality and reliability. The areas would gain access to municipal services such as water and sewer utilities, garbage collection, street maintenance, and emergency response services.

The community may prepare a future land use plan for all or part of the areas within their 'Local Community Planning District' in coordination with Boone County. If a community chooses not to prepare a 'Local Community Planning District' future land use plan, then Boone County shall designate a future land use.

Until annexation, Boone County's zoning and other development regulations shall remain in effect.

1.1.B: Develop a set of design guidelines for the 'Unincorporated Village Nodes,' 'Highway Corridor,' and 'Conservation Buffer' land use categories.

The 'Unincorporated Village Nodes,' 'Highway Corridor,' and 'Conservation Buffer' land use categories have limited existing precedence in Boone County. To help residents better understand the goals for each category, a

set of design guidelines should be developed. For "Unincorporated Village Nodes," these guidelines can also serve as an opportunity to establish place-making strategies.

Right: Example of design guides by Chester County that were an early implementation action of the county's master plan.



Goal 1.2 Acknowledge the importance of Boone County's natural resources for ecosystem services, tourism, and quality of life.

1.2.A: Utilize a 'Conservation Buffer' land use to buffer and transition existing conservation and park areas from other land uses.

Boone County has over 20,000 acres of parks and conservation areas in unincorporated areas. Boone County residents and visitors treasure these parks and conservation areas for their beauty and ecological importance. 'Conservation Buffer' areas recognize the importance of park and conservation areas and serve as a transition zone between the park and conservation areas and other nearby land uses.



Goal 1.3

Balance areas of growth and preservation.

Balancing growth and preservation emerged as a core value of residents in the Master Plan survey. Ninety percent of survey respondents agreed with the statement: "Future growth in Boone County should better balance development with the preservation of farmland, rural character, and natural areas."

1.3.A: Use the future land use plan to identify priority farmland and rural preservation areas.

Boone County has a rich agricultural heritage. Preserving farmland maintains this tradition for future generations while enhancing food security and contributing to the economy of Boone County. Preserving farmland helps to maintain the rural character of Boone County. Many residents value the open spaces, scenic landscapes, and cultural identity associated with agriculture. Preserving farmland contributes to the county's overall quality of life and attractiveness as a place to live and visit. 'Farmland Preservation' areas are likely to include a mix of natural habitats and open space in addition to agricultural areas.

Residents value the rural character of Boone, including open spaces, scenic landscapes, natural habitats, and farmland. 'Rural Preservation' are areas with strong rural character with a mix of natural habitats, open space, agricultural areas and limited residential.

Residential uses are low-density, primarily single-family, and typically are located along existing rural roadways rather than in multi-lot subdivisions.

1.3.B: Use the land use plan to identify economic development areas of regional importance that require larger sites and can leverage Boone County's unique transportation assets, including I-70, Class 1 railroads, and the Columbia Regional Airport.

While communities in Boone County have many available areas for job and employment growth, some of these areas include smaller parcels that limit the opportunity for large scale facilities or multiple facilities as part of campus-style or industrial park settings. The 'Regional Economic Opportunity' areas anticipate economic development of regional importance, requiring larger sites that can capitalize on Boone County's

unique transportation assets, including I-70, Class 1 railroads, and the Columbia Regional Airport. Areas of Regional Economic Opportunity may overlap with 'Local Community Planning Districts.'

1.3.C: Use the land use plan to identify priority growth areas where increased densities can help ensure efficient utilities and infrastructure.

Encourage growth in areas like 'Local Community Planning Districts,' 'Unincorporated Village Nodes,' and 'Regional Economic Opportunity' zones at densities that support fiscally responsible costs of public services and facilities. These areas are more likely to be served by public sewer, water, and other utilities, allowing development to make efficient use of existing and planned infrastructure, rather than spreading low-density development over large areas, which requires more expense per capita to provide services and infrastructure. As part of the review of zoning, subdivision, and development regulations, Boone County should evaluate tools to direct development to the planned density for the area.

1.3.D: Enhance the current point rating system to include the future land use category as one of the quantitative tools to evaluate rezoning, development, and subdivision requests for suitability.

Currently, Boone County utilizes a point rating system to evaluate development proposals. The current rating system evaluates properties based on eight factors: proximity to an existing community, sewer availability, type of road access, school district capacity, distance to fire protection, water line availability, flood prone locations, and soil types.

As part of the review of zoning, subdivision, and development regulations, Boone County should update the point rating system to make it a measure of suitability for development. The updated point rating system should consider the goals of each future land use category. For example, a proposed development of prime farmland (based on soil types) in the 'Farmland Preservation' land use area would likely score very low for suitability for development since preserving prime farmland is a key goal of the 'Farmland Preservation' land use category.



Goal 1.4

Provide expectations of future availability of community services, sewer, and other utilities.

1.4.A: Use the future land use plan and growth projections to coordinate with state, local, and private entities to plan for and invest in infrastructure, including roads, sewer, and other utilities, in anticipation of growth.

There are multiple state, local, and private entities that provide infrastructure and services in Boone County. One of the most effective ways for Boone County to continue inter-government and utility coordination is to regularly update growth projections and the future land use plan and share the updates with the local and regional partners. The growth projections allow partners to help anticipate future needs and plan accordingly. By using the future land use plan as a guide, partners can ensure that infrastructure investments are made in the right places at the right times, avoiding reactive, piecemeal development that may be more costly and less effective.

By aligning investments with anticipated growth, partners can focus on areas where infrastructure can be efficiently extended, avoiding sprawl and preserving open spaces and agricultural lands. Regular future land use plan updates are also an essential economic development tool. When businesses know that a community has a clear plan for future growth and the infrastructure to support it, they are more likely to invest in those areas, leading to economic development and job creation.

1.4.B: Acknowledge that some land uses may not have the same level of community services and utility access.

New residents in rural areas, especially if they have moved from a community, often expect the same level of services and utilities as living in a community. Residents should be aware of the potential challenges associated with living in rural areas, such as higher utility connection costs and longer emergency response times.

Residents should also be aware of potential additional long-term costs in areas not readily served by public infrastructure and services, such as the maintenance of private drives and private sewer systems, as well as higher homeowner insurance costs.

On-going awareness could include a "new resident" tab on the Boone County government website.

1.4.C: Continue to utilize the "sufficiency of resources test" as baseline criteria for rezonings.

Rezoning requests are currently evaluated to ensure adequate utility, transportation, and public safety infrastructure is in place to support the zoning change. This resource evaluation should continue.

PRINCIPLE #2

TRANSPORTATION

A safe, efficient transportation system that supports multiple modes of transportation.

VISION METRIC

Zero traffic fatalities and serious injuries in unincorporated Boone County.

GOALS:



1. Reduce transportation-related deaths and serious injuries.

- Develop a countywide Safety Action Plan in partnership with state and local agencies.
- Promote safe speeds and safe travel behaviors through safety awareness campaigns in collaboration with local agencies, healthcare providers, and other partners.
- Identify and address safety issues along high-crash corridors and at high-crash intersections.
- Coordination with MoDOT for improvements to intersections of US-63 and I-70 as development is proposed.



2. Promote a multi-modal transportation network.

- Continue to support multi-modal transportation in partnership with CATSO, MoDOT, transit providers, and other agencies.
- Encourage development densities in existing municipal boundaries and growth land use categories that make transit, walking, and bicycling more efficient.
- Encourage and partner with the City of Columbia to evaluate the feasibility of a commuter line on the COLT rail corridor.



3. Promote a well-connected multi-use trail and active transportation network, with an emphasis on connecting the two state parks.

- Develop a countywide Bicycle and Pedestrian Master Plan in partnership with municipal and state agencies.
- Encourage and partner with the City of Columbia to evaluate the feasibility of a multi-use trail along the COLT rail corridor right-of-way.
- Update subdivision regulations to promote sidewalk connectivity and require plans to connect to existing and planned trail and active transportation networks.



4. Continue fiscally responsible transportation investments.

- Establish a policy for paving gravel roads based on existing and future trips to promote consistency across the system and transparency for county residents and developers.
- Review subdivision regulations regarding roadway improvements for new subdivisions and develop county standards applicable to public and/or private roadways.
- Continue to invest in the Pavement Preservation Program and other roadway improvements before reaching failing pavement conditions that would require more significant reconstruction.
- Use the Future Land Use Plan to coordinate with CATSO and MoDOT to identify transportation investments that will be made by the member jurisdictions.



Goal 2.1 Reduce transportation-related deaths and serious injuries.

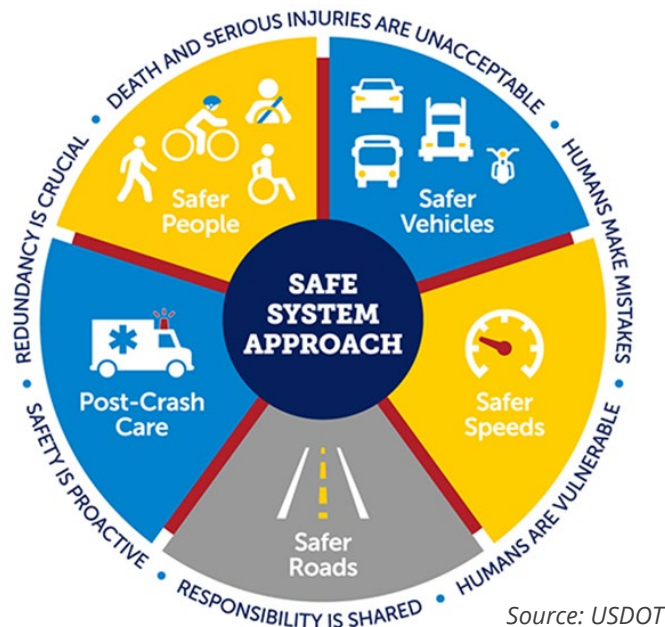
Boone County values safety among its highest priorities when planning, designing, operating, and maintaining its transportation system. To expand the role of safety in transportation decision-making and investments, the following actions are recommended.

2.1.A: Develop a Countywide Safety Action Plan in partnership with state and local agencies.

Roadway safety is essential for residents to thrive while living and working in Boone County. A countywide Safety Action Plan provides Boone County and its transportation partners with a platform for systemically evaluating and addressing roadway safety by focusing on reducing fatal and serious injury crashes. By identifying a high-injury network and prioritizing transportation safety improvements, Boone County can target cost-effective investments that save lives. Utilizing the Safe Systems Approach, recommendations emerging from safety action plans should incorporate strategies to promote safe speeds, design safer roads, encourage safer behaviors, and enhance post-crash care.

2.1.B: Promote safe speeds and safe travel behaviors through safety awareness campaigns in collaboration with local agencies, healthcare providers, and other partners.

Infrastructure and enforcement, while extremely important, are not the only strategies to improve road safety. Education and awareness campaigns in partnership with local agencies and stakeholders can reach a wide audience and help build a shared culture of road safety. Effective messaging for awareness campaigns includes highlighting the impacts of fatal and severe injury crashes on individuals and families, addressing common unsafe behaviors like speeding and distracted driving, and promoting awareness of pedestrians, bicyclists, and transit users.

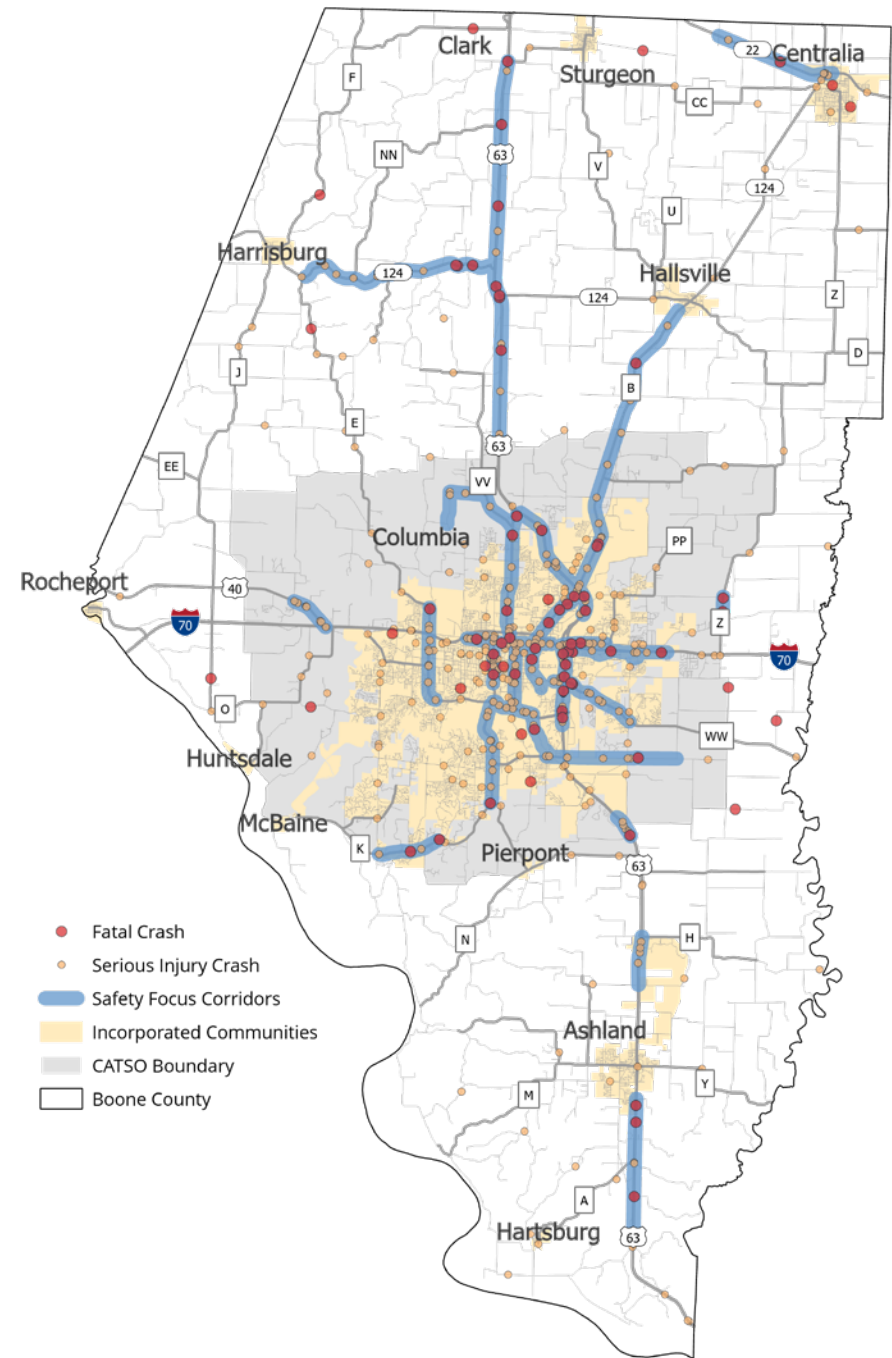


Source: USDOT

2.1.C: Identify and address safety issues along high-crash corridors and at high-crash intersections.

While safety is a priority on all roads in Boone County, strategic investments in safety improvements should target corridors and intersections with high frequencies of fatal and serious injury crashes. Using a data-driven approach incorporating recent crash data and roadway characteristics, Boone County and its transportation partners can further evaluate high-crash and high-risk locations to identify appropriate safety countermeasures. While this process may be part of a comprehensive safety action plan as described under this goal, it can also be conducted on a smaller scale in the interim, focusing on opportunities to enhance safety on corridors for which resurfacing or other improvements have already been programmed.

The Safety Corridors highlighted on the map on this page should further be prioritized based on corridors within the land use categories of 'Highway Corridors,' 'Unincorporated Village Nodes,' 'Regional Economic Opportunity Area,' and 'Local Community Planning District' as these land use categories are expected to be growth (or transitional) areas.

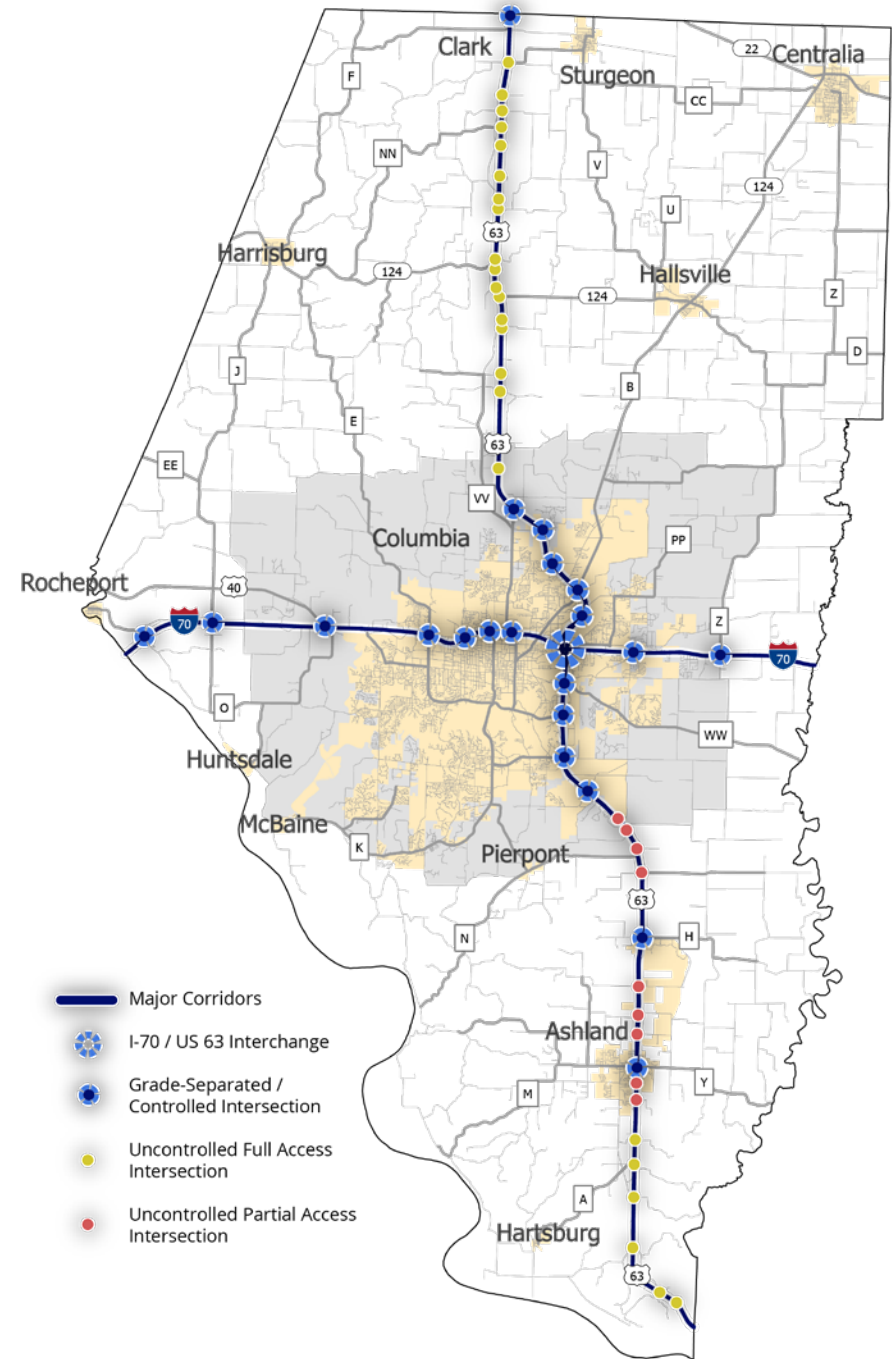


Safety Focus Corridors

2.1.D: Coordination with MoDOT for improvements to intersections of US-63 and I-70 as development is proposed.

The map on this page identifies interchanges and intersections along I-70 and US-63. US-63 has three types of intersections including grade separated/controlled intersections, uncontrolled full access intersections, and uncontrolled partial access intersections. Uncontrolled intersections allows vehicular traffic from intersecting roads to access US-63, but is intended for limited capacity. Increased traffic volumes at uncontrolled intersections along US-63 should be carefully evaluated for safety considerations. Development along US-63 should coincide with appropriate intersection improvements.

Below: Example of an existing uncontrolled, full access intersection at US-63 and Hwy-124. Increased traffic volumes at uncontrolled intersections along US-63 should be carefully evaluated for safety considerations.



I-70 and US-63 Interchanges



Goal 2.2 Promote a multi-modal transportation network.

Walking, bicycling, and transit are integral components of a balanced and inclusive multi-modal transportation network. By expanding access to transit, increasing opportunities for walking and bicycling, and promoting land use and development that encourages these modes of transportation, Boone County and its local agency partners can offer residents a variety of transportation choices to meet their daily needs. Goals for walking, bicycling, and transit vary by location, with distinct needs near communities, job centers, and other population centers compared to the rural areas of the county.

2.2.A: Continue to support multi-modal transportation in partnership with CATSO, MoDOT, transit providers, and other agencies.

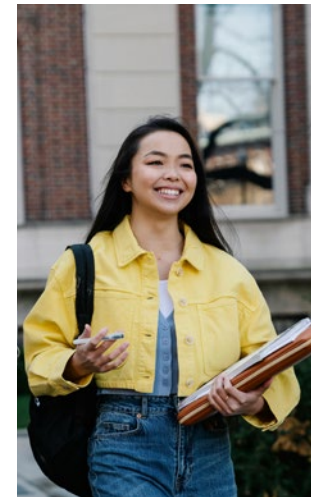
The Columbia Area Transportation Study Organization (CATSO), Boone County, MoDOT, Go COMO, OATS, and other partners in the Columbia urbanized area regularly coordinate to develop long-range plans like the CATSO LRTP to promote responsible and efficient investments in transportation infrastructure. Through these and other regional planning initiatives, Boone County and its partner agencies establish shared transportation goals, identify and prioritize needed improvements, and provide a framework for allocating federal funds through the Transportation Improvement Program (TIP).

2.2.B: Encourage development densities in existing municipal boundaries and growth land use categories that make transit, walking, and bicycling more efficient.

Land use and development patterns influence travel mode choice and behaviors. Higher residential densities and a mix of land uses in close proximity can make walking, bicycling, and transit more convenient and efficient travel choices for Boone County residents. Boone County should encourage new development within the municipal boundaries and designated growth areas to expand travel choices and promote more efficient investment in transportation infrastructure.

2.2.C: Encourage and partner with the City of Columbia to evaluate the feasibility of a commuter line on the COLT rail corridor.

As the county grows in population and workforce, additional transit options can improve access to employment, education, retail, and other essential destinations. The COLT rail corridor, which connects Columbia to Centralia, has been identified for its potential to serve as a commuter rail corridor linking these two cities and supporting continued housing and job growth along Route B and Highway 124. By partnering with the City of Columbia, which owns the COLT rail line, to evaluate the corridor's feasibility to support a commuter rail line, Boone County can take an important step in exploring transit and multi-modal options to support the county's growing population and diverse transportation needs.





Goal 2.3

Promote a well-connected multi-use trail and active transportation network, with an emphasis on connecting the two state parks.

Boone County residents have routinely identified recreation, nature, green spaces, and scenery as key elements to their quality of life in Boone County. Developing a well-connected multi-use trail and active transportation system can expand transportation and recreation choices for Boone County residents and increase access to recreational amenities. It is important to note that Boone County does not have a parks and recreation department that would typically manage a multi-use trail network, as a previous funding proposal for parks did not receive voter support.

2.3.A: Develop a countywide Bicycle and Pedestrian Master Plan in partnership with municipal and state agencies.

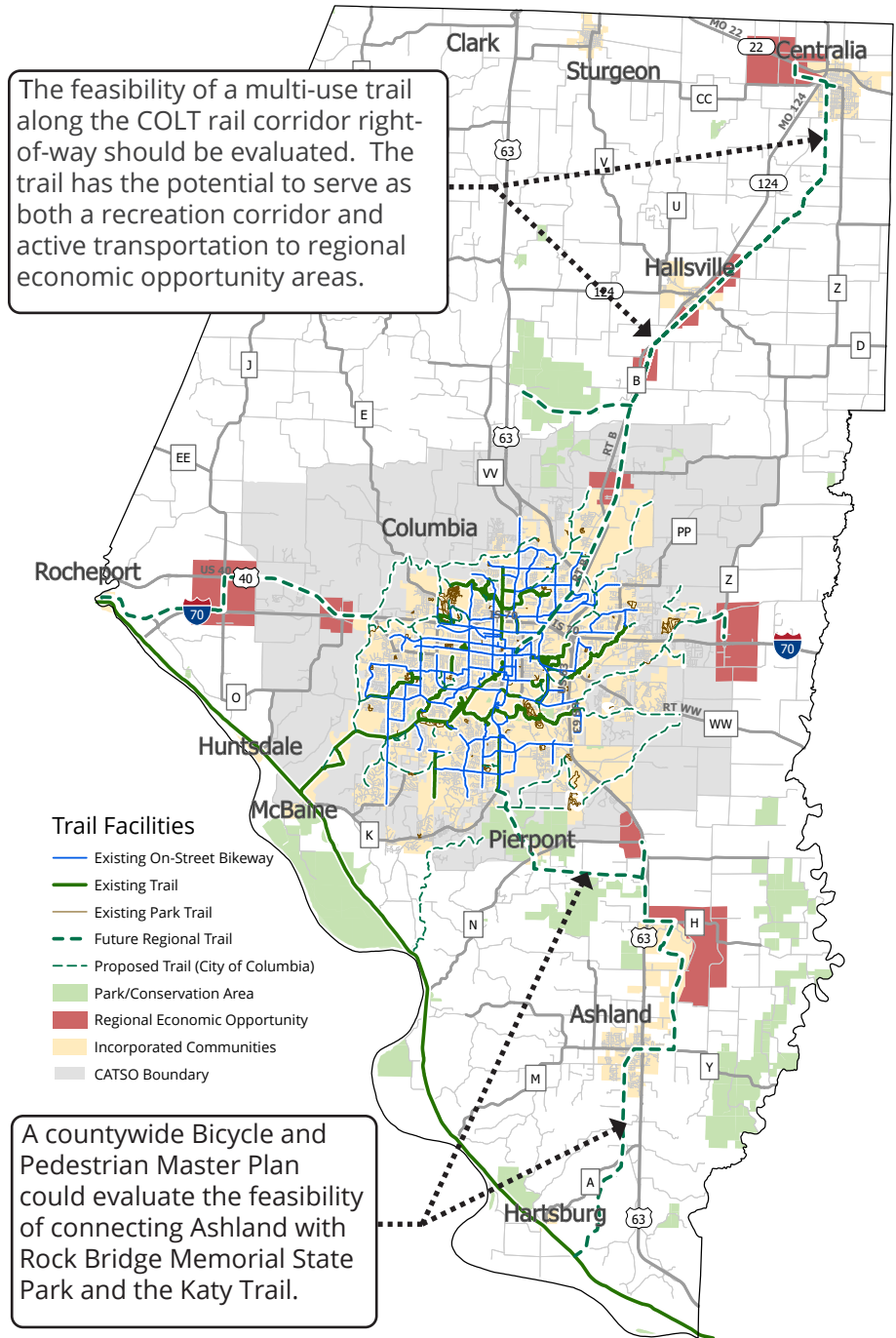
A bicycle and pedestrian master plan creates a long-term vision for the future of walking and bicycling in Boone County and identifies infrastructure projects, policies, and supporting programs to bring that vision to life. Public engagement will be a critical component of the planning process, creating space for Boone County's diverse population to share their needs, values, and aspirations and shape the plan's recommendations. Partnerships with Boone County municipalities, MoDOT, Missouri DNR, and other key stakeholders will ensure that these agencies are represented in the planning process and can support Boone County in its efforts to expand opportunities for walking and bicycling.

While public engagement should shape priorities for destinations and connections, potential plan priorities could include:

- Connecting the two state parks in the county (Finger Lakes State Park and Rock Bridge Memorial State Park).
- Connecting residential growth areas to employment centers.
- Utilizing the COLT rail corridor.

2.3.B: Encourage and partner with the City of Columbia to evaluate the feasibility of a multi-use trail along the COLT rail corridor right-of-way.

A trail along the COLT rail corridor has the potential to serve as a significant active transportation and recreation corridor in a countywide trail system, linking two major population centers and supporting continued housing and job growth along adjacent Route B and Highway 124. A feasibility study to evaluate the rail corridor's potential for a rail-to-trail (converting



Potential Multi-Use Trail Corridors



Goal 2.4 Continue fiscally responsible transportation investments.

the existing rail line to a multi-use trail) or rail-with-trail (adding a multi-use trail adjacent to the existing rail line) will determine the viability of a multi-use trail and provide Boone County and the City of Columbia with cost estimates for construction and next steps in the project development process.

2.3.C: Update subdivision regulations to promote sidewalk connectivity and require plans to connect to existing and planned trail and active transportation networks.

An interconnected system of sidewalks is an asset that benefits all residents, from children walking to school to employees walking to the bus stop to families heading to the park. In order for such a sidewalk system to take shape, it is necessary to have appropriate subdivision regulations that dictate sidewalk placement and design. Boone County should revisit current subdivision regulations to ensure that future developments provide safe, connected pedestrian facilities and connect to existing and planned facilities.

Constructing and maintaining a safe and efficient transportation system covering 691 square miles requires significant investment. Through sound policies and regulations, strong asset management, and proactive preservation activities, Boone County can continue to make fiscally responsible investments in the transportation system.

2.4.A: Establish a policy for paving gravel roads based on existing and future trips to promote consistency across the system and transparency for county residents and developers. *(It is important to note that such a policy would not lead to the paving of all gravel roads; instead, it would acknowledge that gravel road surface is still the appropriate surface for certain contexts.)*

Gravel is an effective, low-cost road surface type suitable for many low-volume rural roads in Boone County. However, as traffic volumes increase as a result of new development or changing traffic patterns, gravel roads deteriorate more quickly and require increased maintenance, reducing their cost-effectiveness. A policy addressing the paving of gravel roads based on current and future needs will provide residents and developers with clear expectations and procedures for when and how Boone County may analyze and, if deemed necessary, pave gravel roads.

2.4.B: Review subdivision regulations regarding roadway improvements for new subdivisions and develop county standards applicable to public and/or private roadways.

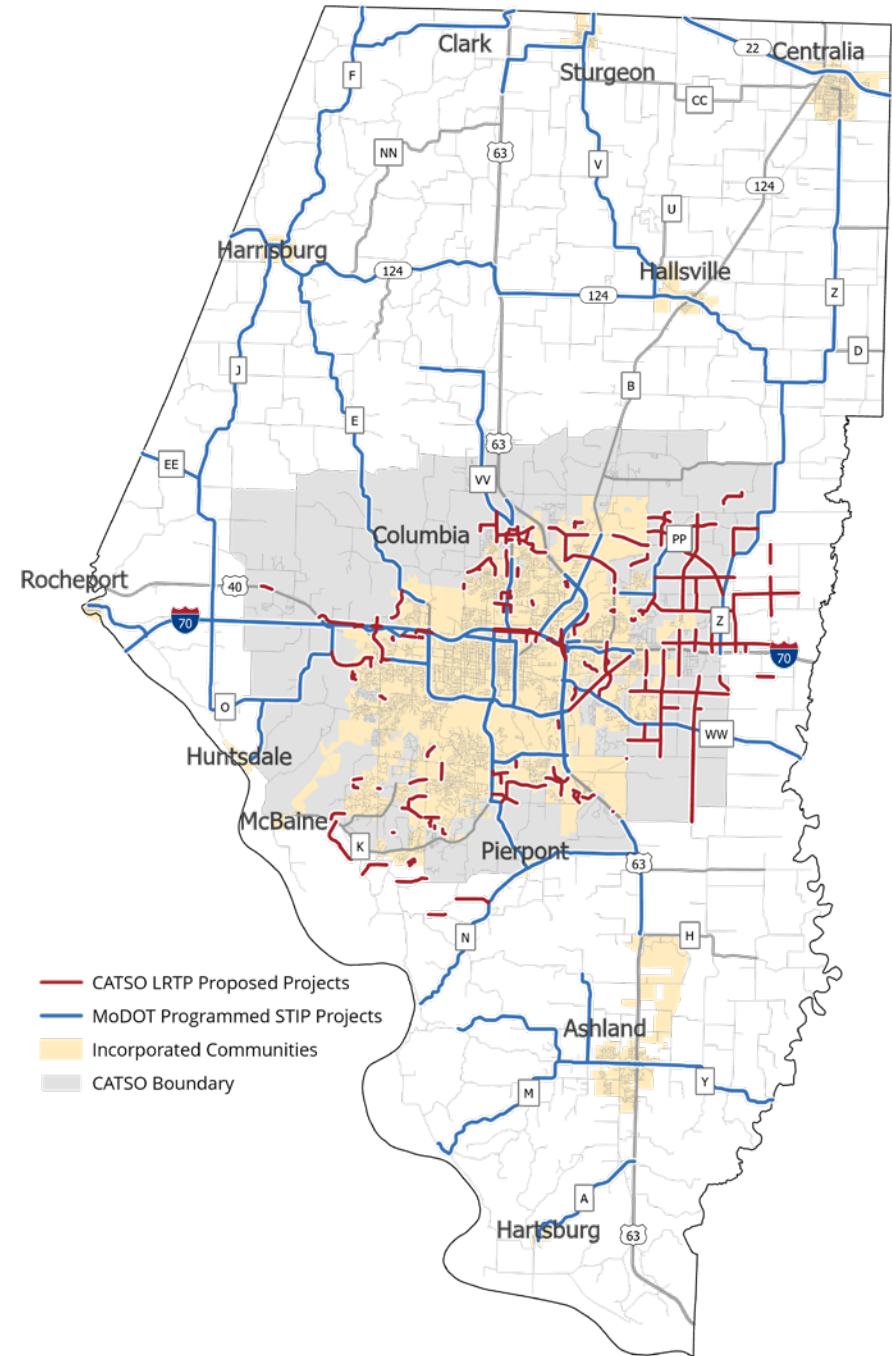
Adhering to consistent standards when undergoing roadway improvements can reduce long-term maintenance costs and help prevent expensive future upgrades. In the event of a change in ownership, private roadways may have an easier integration into the public roadway network if already adhering to county standards. As part of the review of subdivision regulations, county roadway standards should be reviewed for their applicability to various types of subdivisions.

2.4.C: Continue to invest in the Pavement Preservation Program and other roadway improvements before reaching failing pavement conditions that would require more significant reconstruction.

The Pavement Preservation Program exemplifies Boone County's responsible stewardship of public infrastructure and dollars, annually monitoring roadway conditions and allocating resources to address minor deficiencies before they become major problems. Targeted maintenance can extend pavement life and reduce long-term costs by avoiding more frequent and costly reconstruction. Through chip seal application, concrete patching, shoulder repair, and other road and bridge maintenance activities, Boone County's proactive approach extends the life of its 775-plus miles of county roads and rights of way and can reduce expenditures on more costly reconstruction projects that would be necessary to address failing pavement conditions.

2.4.D: Use the Future Land Use Plan to Coordinate with CATSO and MoDOT to identify transportation investments that will be made by the member jurisdictions.

Boone County's future land use plan is a valuable planning tool for coordinating with CATSO and MoDOT on transportation investments, especially new roadways or increasing capacity on existing corridors. The map on this page highlights proposed projects as part of the CATSO's Long Range Transportation Plan (LRTP) and MoDOT's Statewide Transportation Improvement Program (STIP). Many of the projects identified are not funded but are included as illustrative projects for long-term planning. The future land use plan and other analyses, such as safety improvements, can help prioritize projects for funding and implementation.



CATSO and MoDOT Proposed Projects

PRINCIPLE #3

ECONOMIC DEVELOPMENT

Continued growth and prosperity of the Boone County economy.

VISION METRIC

Boone County to be one of the top three counties in Missouri for new job creation (based on percentage increase).

GOALS:



1. Continue to retain and attract a skilled workforce.

- Continue private/public job training partnerships aligned with employer needs to retain and attract workers.
- Incorporate and encourage place-making principles (creating places where people have the options to live, work, and play) in new developments.
- Expand the diversity of housing types and locations to accommodate workers.
- Encourage state, regional, and local programs that increase childcare options for workers.



2. Ensure availability of developable sites.

- Coordinate with City of Centralia, REDI, and Southern Boone Economic Development Council to position 'Regional Economic Opportunity' areas for targeted industry clusters.
- Utilize 'Local Community Planning Districts' land use to support development around municipalities.
- Promote entrepreneurial growth by encouraging development and redevelopment in municipalities that offer right-sized, affordable space for start-ups and growing companies.



3. Continue regional coordination of REDI, City of Centralia, and Southern Boone Economic Development Council on defining targeted industry clusters.

- Define which industries will be targeted for each 'Regional Economic Opportunity' area.
- Communicate the importance of promoting cluster growth in strong and emerging sectors.



Goal 3.1

Continue to retain and attract a skilled workforce.

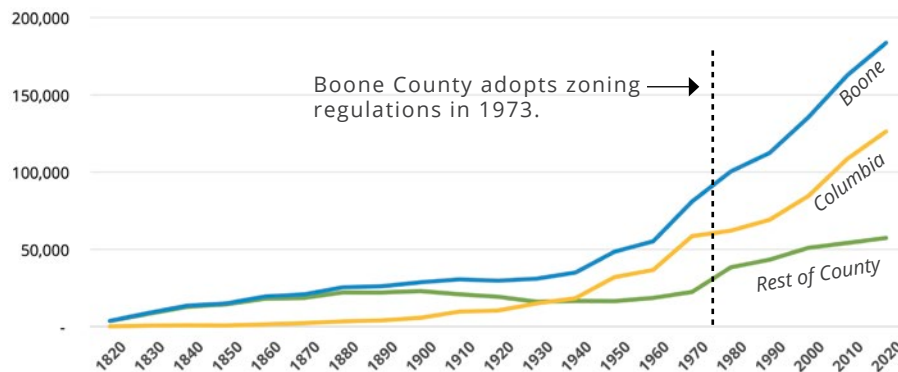
From an economic development perspective, growth in Boone County will require partnerships and collaboration between private and public entities. Boone County does not have economic development staff, thus the county must rely on partnerships with local economic development organizations to implement many recommendations.

Additionally, it is important to remember that many national and even global trends affect economic development. For example, how we work continues to evolve. Spurred by the COVID-19 pandemic, technology has permitted remote work that has profoundly affected the real estate market and development – primarily with respect to office use. Such larger trends impact how recommendations and best practices will be implemented. They are an essential lens for considering how these recommendations are realized in the near- and possibly long-term.

Population and economic growth in Boone County have increased significantly since the adoption of the county's first zoning regulations in 1973.

HISTORIC POPULATION GROWTH COLUMBIA AND THE REST OF BOONE COUNTY, 1820 TO 2020

Source: U.S. Census Bureau



Right: Place-making, especially in urban centers, is essential for creating walkable, livable neighborhoods that enhance quality of life and help attract and retain a skilled workforce.

3.1.A: Continue private/public job training partnerships aligned with employer needs to retain and attract workers.

A key limiting factor for economic growth in Boone County is access to workforce. With low unemployment rates, it appears that the quantity of workers is a greater issue than qualitative constraints. Boone County should support partnerships between business and educational institutions to advance job skills aligned with employer needs and promote labor retention (e.g. like that recommended in REDI's strategic plan) and any dialogue with local colleges and training programs to encourage them to enhance career exposure and exploration among students to help retain and thereby grow the future labor force, particularly in targeted industry clusters. REDI could help connect local employers with universities/colleges and training programs to promote local career opportunities that retain and ultimately attract talent to the community.

3.1.B: Incorporate and encourage place-making principles (creating places where people have the options to live, work, and play) in new developments.

Quality of life is a strength for Boone County and important for attracting and retaining workforce. Following the example of many precedent counties, Boone County should encourage future development in and around its urban centers. Municipalities should also be encouraged to apply place-making strategies for infill and new development. Place-making is a part of economic development that seeks to create walkable, livable neighborhoods and create places where people want to live, work, and play.





Goal 3.2 Ensure availability of developable sites.

3.1.C: Expand the diversity of housing types and locations to accommodate workers.

The cost of living in Boone County, especially housing costs, may be a factor undermining the retention of workers. A focus on fostering development that diversifies the housing stock to accommodate workers at different stages of their careers and a range of incomes at an affordable price point would also enhance the environment for retaining and attracting talent.

3.1.D: Encourage state, regional, and local programs that increase childcare options for workers.

The availability of childcare is critical for retaining and attracting workers in Boone County. The County should support local, regional, and state efforts to expand childcare options for working families.

3.2.A: Coordinate with City of Centralia, REDI, and Southern Boone Economic Development Council to position 'Regional Economic Opportunity' areas for targeted industry clusters.

Access to transportation infrastructure, utilities, and workforce can drive development in Boone County. The land use category 'Regional Economic Opportunity' encourages development and redevelopment in and around incorporated areas that can leverage the unique transportation assets of Boone County, including I-70, Class 1 railroads, and the Columbia Regional Airport. Encouraging development where it will build on or extend existing resources is considered a best development practice and will help to ensure sustainable development that meets current needs without compromising future development opportunities. At the same time, focused development will help preserve valued agricultural uses and natural resources.

Regional Economic Opportunity should include employment or job centers of regional significance that are large scale facilities or multiple facilities as part of campus-style or industrial park settings that align with priority industry clusters as identified by the City of Centralia, REDI, and the Southern Boone Economic Development Council. If economic opportunities of regional significance are proposed outside designated "Regional Economic Opportunity" areas, they should be carefully evaluated, and consideration should be given to updating the future land use plan accordingly.

3.2.B: Utilize 'Local Community Planning Districts' land use to support development around municipalities.

Boone County can support development around municipalities through the 'Local Community Planning District' land use. This acknowledges the efforts that many communities are already undertaking. Future land use decisions should be made in accordance with community goals and priorities with coordination between the municipalities and Boone County.



Goal 3.3 **Continue regional coordination of REDI, City of Centralia, and Southern Boone Economic Development Council on defining targeted industry clusters.**

3.2.C: Promote entrepreneurial growth by encouraging development and redevelopment in municipalities that offer right-sized, affordable space for start-ups and growing companies.

REDI has actively promoted the development of entrepreneurs and new small businesses, which has helped to grow wealth and job opportunities. Boone County should consider working with its municipalities to encourage infill development and redevelopment that offer right-sized, affordable space for start-ups and growing companies that also require greater access to small business development resources. It will be important that Boone County engage with all municipalities in the county to support development that is equitably distributed throughout the county.



3.3.A: Define which industries will be targeted for each 'Regional Economic Opportunity' area.

To foster sustainable growth, Boone County will benefit from a deeper dive into identifying its priority industry clusters with greater specificity and communicating those key target areas ('Regional Economic Opportunity' areas) to the developers and economic development organizations throughout the county. It is an economic development best practice to foster a diverse economy based on local assets and strengths.

3.3.B: Communicate the importance of promoting cluster growth in strong and emerging sectors.

Disseminating the whys and wherefores of promoting cluster growth in strong and emerging industry sectors, like professional, scientific and technical services companies, health care, and food manufacturing, would aid in a more strategic and unified effort in and around Columbia and the county's other municipalities and potentially result in more economically impactful development (i.e., generates tax revenues, community investment and employment opportunities, etc.).

Promoting priority clusters outside of Columbia (e.g., construction, transportation/warehousing, or manufacturing) may also provide a foundation for promoting development that builds on other strengths and may expand opportunity in the county overall.

PRINCIPLE #4

FARMLAND AND RURAL CHARACTER

Preserve the agricultural and rural heritage of Boone County for future generations.

VISION METRIC

No additional loss of prime farmland in Boone County.

GOALS:



1. Maintain and protect land best suited for agriculture, especially prime farmland and farmland of state significance, to remain agricultural.

- a. Minimize non-agricultural residential development in 'Rural Preservation' and 'Farmland Preservation' land use areas.
- b. Encourage voluntary conservation easements for farmland.
- c. Promote cluster residential development.
- d. Evaluate conservation precedents for feasibility in Boone County, including supplemental conservation easement funding and transfer of development rights (TDR) programs.



2. Encourage small farmers, especially growers, of locally grown produce and products that serve local outlets.

- a. Allow for urban farming in all zoning districts to promote community gardens and small-scale farming operations.
- b. Encourage all public entities to explore leasing public land to prospective farmers and market gardeners.



3. Evaluate visitor and tourism uses and activities in 'Rural Preservation' and 'Farm Preservation' land use areas that provide property owners additional income and promote quality of life in the County while respecting rural character and neighboring property owners.

- a. Review and evaluate existing tourism policies in agriculture and rural areas.



4. Help alleviate conflicts between agricultural property owners and non-agricultural neighboring properties.

- a. Consider "good neighbor" education guidance for residential properties in 'Rural Preservation' and 'Farm Preservation' land use areas, where agricultural sounds, smells, and general operations are expected.
- b. Recognize the importance of agricultural equipment to travel safely on county roads.



Goal 4.1

Maintain and protect land best suited for agriculture, especially prime farmland and farmland of state significance, to remain agricultural.

4.1.A: Minimize non-agricultural residential development in 'Rural Preservation' and 'Farmland Preservation' land use areas.

Boone County has nearly 80,000 acres designated as prime farmland, which constitutes almost one-fifth of the county's total land area. It is important to clarify that the prime farmland designation is based on soil types and does not necessarily mean these areas are actively being farmed. These designated areas may include natural spaces or already developed land.

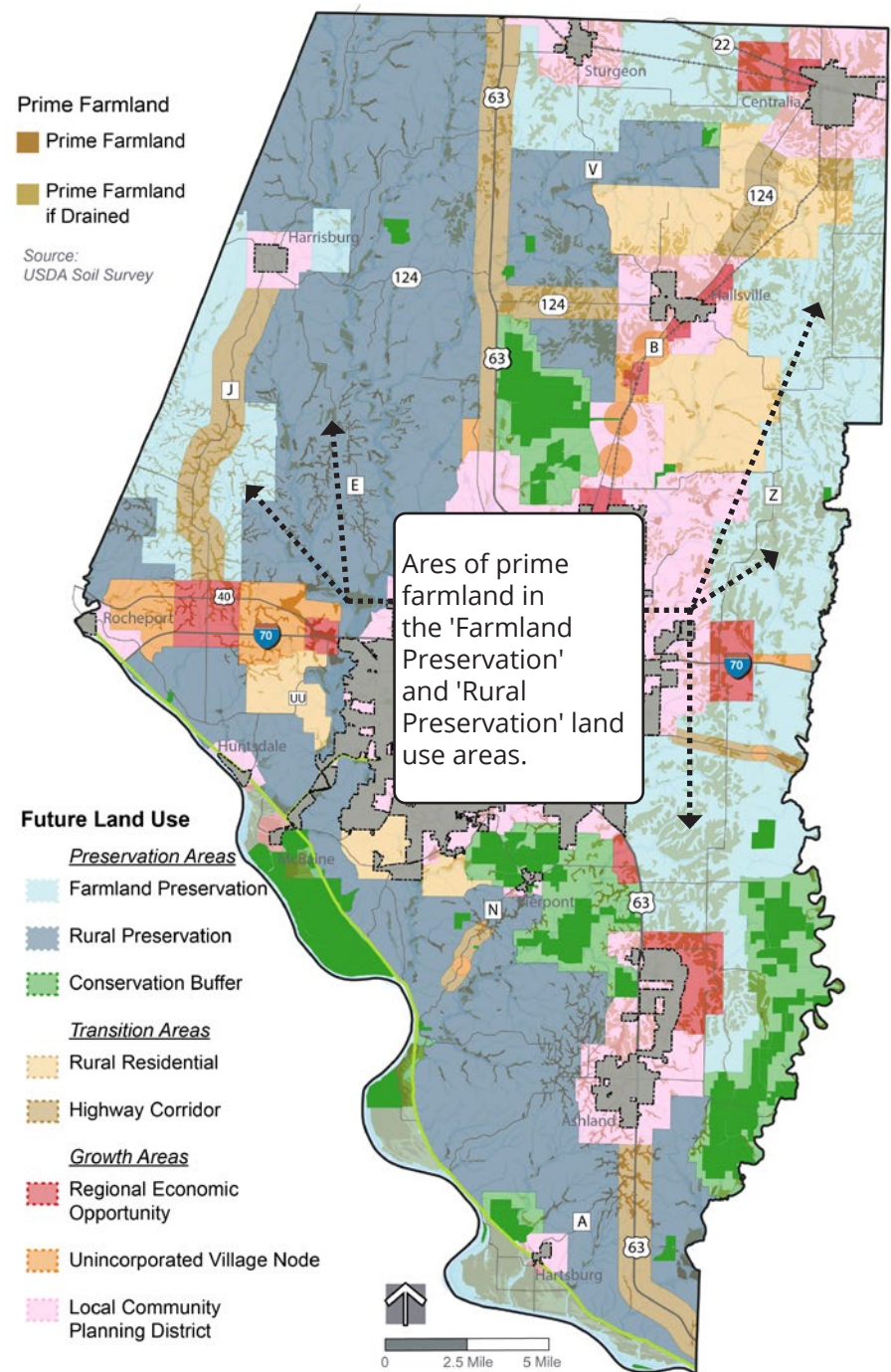
The map on this page shows areas of prime farmland in Boone County, overlaid with the preservation land use categories: 'Farmland Preservation,' 'Rural Preservation,' and 'Conservation Buffer.' While large expanses of prime farmland near Centralia and Hallsville overlap with growth areas, the 'Farmland Preservation' land use category includes significant stretches of prime farmland along the Highway Z and Highway J corridors. Limiting non-agricultural residential development in the 'Farmland Preservation' and 'Rural Preservation' areas will help protect farmland in these regions.

4.1.B: Encourage voluntary conservation easements for farmland.

Conservation easements are voluntary legal agreements that permanently limit the uses of the land to protect its conservation values. The primary goals of conservation easements include maintaining the land's agricultural productivity or preserving the open space and natural habitats of the property. Conservation easements are flexible and can be tailored to meet the needs of the landowner while achieving conservation goals. They can allow for specific uses such as farming, ranching, or forestry under sustainable practices.

Voluntary conservation easements for farmland should be encouraged in 'Farmland Preservation,' 'Rural Preservation,' and 'Conservation Buffer' areas.

See section "Conservation Tools" for a more in-depth discussion of conservation easements.



Areas of Prime Farmland with Future Land Use Plan

4.1.C: Promote cluster residential development.

Cluster residential development (also referred to as cluster subdivisions) is a form of residential development that emphasizes the preservation of natural landscapes and open space. Unlike traditional subdivisions, which often maximize the number of lots on a piece of land, conservation subdivisions cluster homes in a smaller portion of the property, leaving a significant portion of the land as preserved open space. Typically, a minimum of 50% of the tract is preserved as open space.

Benefits of conservation subdivision include preserved open space (farmland, natural habitats, or other open space), the potential for reduced development costs due to fewer infrastructure needs like roads, and the preservation of rural and scenic views.

However, there are several considerations that may limit the widespread use of conservation subdivisions. Clustered residential development will likely require a new public sewer system rather than individual private systems for each parcel. Additionally, proximity between farmland and residential areas could create conflicts related to agricultural noise and dust.

Market and zoning incentives for clustering must be carefully evaluated. For example, existing zoning that allows for smaller parcel sizes (especially five acres or less) may not provide sufficient incentive for developers to pursue clustering. In contrast, zoning that requires larger minimum parcel sizes (ten acres or more) is likely to create a stronger incentive for clustering.

Conservation subdivisions should also allow for future connections to adjacent developments. Many existing examples of conservation subdivisions often feature cul-de-sacs, which can limit connectivity.



Existing Farmland



Typical Large Lot Rural Residential



Conservation Subdivision with Clustering of Residential Lots

Boone County should promote the use of conservation subdivisions not only in 'Farmland Preservation' areas but also within Local Community Planning Districts. For example, the communities of Hallsville and Centralia have significant areas of prime farmland adjacent to their municipal boundaries. Conservation subdivisions could serve as a tool to accommodate growth near these communities while still preserving farmland.

In 'Farmland Preservation' areas, the use of conservation subdivisions should be evaluated to avoid the loss of prime farmland.

4.1.D: Evaluate conservation precedents for feasibility in Boone County, including supplemental conservation easement funding and transfer of development rights (TDR) programs.

See Chapter "Conservation Tools and Precedents" for a more in-depth discussion of conservation easements, conservation subdivisions, transfer of development rights programs, and conservation precedents.

The intent of this master plan is not to recommend specific conservation tools for implementation. Instead, it aims to provide a broader understanding of potential tools and share lessons learned from precedent counties. Following the master plan, Boone County should assess the feasibility of these conservation tools for Boone County.



Goal 4.2

Encourage small farmers, especially growers, of locally grown produce and products that serve local outlets.

There are many ways to encourage small farmers of locally grown produce, including ensuring land availability, improving access to markets, strengthening distribution networks, providing technical assistance, and offering policy support. In the context of land use policy, this master plan focuses on recommendations that promote access to land.

4.2.A: Allow for urban farming in all zoning districts to promote community gardens and small-scale farming operations.

Current Boone County zoning permits "agricultural activities" in all zoning districts. These allowances should be maintained, especially to support community gardens and small-scale farming operations.

4.2.B: Encourage all public entities to explore leasing public land to prospective farmers and market gardeners.

Small farmers often cite access to available land as a significant business barrier. A small farmer growing locally produced goods may need only a few acres or less. However, typical farm leases for large tracts of land may not be practical for their needs. Boone County should encourage public entities to explore leasing land to prospective farmers and market gardeners, helping increase the available land supply.

Below: Small farmers and market gardeners may only need a small amount of land.



Goal 4.3

Evaluate visitor and tourism uses and activities in 'Rural Preservation' and 'Farm Preservation' land use areas that provide property owners additional income and promote quality of life in the county while respecting rural character and neighboring property owners.

4.3.A: Review and evaluate existing tourism policies in agriculture and rural areas.

Agriculture-related tourism can offer multiple benefits, including additional income for rural property owners and farmers. For both visitors and local residents, activities in rural areas can enhance the overall quality of life and raise awareness of the importance of preserving these areas.

However, it is essential to consider the impact on neighboring property owners and the overall rural character. Increased traffic, noise, and differing views on what constitutes beneficial visitor and tourism uses are nuanced topics that require careful consideration. In addition, potential tourism in 'Rural Preservation' and 'Farm Preservation' areas should be dependent on the rural nature of those areas.

The intent of this master plan is not to recommend or evaluate tourism policies. Following the master plan, Boone County should conduct a thorough review and evaluation of existing tourism policies.



Goal 4.4

Help alleviate conflicts between agricultural property owners and non-agricultural neighboring properties.

4.4.A: Consider “good neighbor” education guidance for residential properties in ‘Rural Preservation’ and ‘Farm Preservation’ land use areas, where agricultural sounds, smells, and general operations are expected.

Often, residents may move to rural areas from existing towns and may not be accustomed to living next to active agriculture operations. "Good Neighbor" education can help residents better understand agriculture operations and improve communications and expectations between farmers and non-farmer residents.

Many university agriculture extension services, ag in the classroom programs, and Farm Bureaus offer examples of improving education and awareness of agriculture activities.

4.4.B: Recognize the importance of agricultural equipment to travel safely on county roads.

Recognizing the importance of agricultural equipment on county roads involves ensuring both safety and respect for the vital role that farming plays in Boone County. In addition to policy support, measures could include public education, improved road signage, design considerations like widened shoulders, and law enforcement support.



Above: Example of a farm vehicles public awareness campaign by the Missouri Coalition for Roadway Safety.

PRINCIPLE #5

NATURAL RESOURCES

Conserve, protect, and restore Boone County's natural habitats and ecologically significant areas.

VISION METRIC

Increase the amount of preserved land in unincorporated Boone County to 30,000 acres from the existing 20,000 acres.

GOALS:



1. Preserve and protect Boone County's natural habitats and ecologically significant areas.

- Consider the creation of a countywide Conservation and Parks Master Plan.
- Utilize habitat cores and hub analysis to prioritize voluntary conservation easement locations.
- Evaluate conservation precedents for feasibility in Boone County, including supplemental conservation easement funding and transfer of development rights (TDR) programs.
- Encourage the expansion of park and conservation area boundaries through local and state partners and agencies.
- Evaluate a Sensitive Area zoning overlay in 'Conservation Buffer' land use areas to supplement existing stream buffer, land disturbance, wetland, and sinkhole protections.



2. Restore ecological habitats.

- Regularly review site development standards for current best practices regarding vegetation preservation and landscaping requirements.
- Encourage residential property owners, especially on parcels greater than one acre, to restore or preserve natural habitats instead of having lawns or mono-cultures.
- Evaluate operational strategies for areas maintained by Boone County.



3. Continue to improve water quality through watershed scale planning.

- Continue the ongoing Greater Bonne Femme Watershed Initiative.
- Continue the ongoing Hinkson Creek Collaborative Adaptive Management (CAM) process.
- Evaluate other watersheds for planning initiatives as part of a countywide Stormwater Management Plan.



4. Reduce future flood-related risks.

- Regularly review and update the stormwater and floodplain ordinances and stormwater design manual in the context of the increasingly changing intensity of rainfall events.
- Develop a countywide Stormwater Management Plan to identify flood hazard areas and mitigation strategies (with an emphasis on areas outside of designated regulatory (FEMA) flood hazard maps).



Goal 5.1 Preserve and protect Boone County's natural habitats and ecologically significant areas.

5.1.A: Consider the creation of a countywide Conservation and Parks Master Plan.

A countywide Conservation and Parks Master Plan would create a countywide vision to prioritize land preservation efforts and efficiently use limited resources. It is important to note that a previous vote to fund parks in Boone County did not receive voter support. Therefore, any Conservation and Parks Master Plan will require a careful evaluation of potential funding mechanisms.

5.1.B: Utilize habitat cores and hub analysis to prioritize voluntary conservation easement locations.

Habitat cores are large, unfragmented areas of natural land that provide critical environments for wildlife and plant materials. Prioritizing these areas helps conserve essential ecosystems, ensuring the survival of native species and maintaining ecological balance. Connecting various habitat cores can ensure greater landscape connectivity, promoting biodiversity and allowing species to adapt to environmental changes.

5.1.C: Evaluate conservation precedents for feasibility in Boone County, including supplemental conservation easement funding and transfer of development rights (TDR) programs.

See section "Conservation Tools" for a more in-depth discussion of conservation easements, conservation subdivisions, transfer of development rights programs, and conservation precedents.

Voluntary conservation easements should be encouraged in 'Farmland Preservation,' 'Rural Preservation,' and 'Conservation Buffer' areas.

The intent of this master plan is not to recommend specific conservation tools for implementation. Instead, it aims to provide a broader understanding of potential tools and share lessons learned from precedent counties. Following the master plan, Boone County should assess the feasibility of these conservation tools for Boone County.

5.1.D: Encourage the expansion of park and conservation area boundaries through local and state partners and agencies.

Boone County already benefits from over 20,000 acres of parks and conservation areas in its unincorporated areas. Expanding these parks and conservation lands brings numerous benefits, including increased biodiversity, enhanced watershed protection, and greater public access to nature. Local and state partners are well-positioned to lead this expansion, leveraging their experience in stewardship and maintaining existing lands to maximize these advantages.

5.1.E: Evaluate a Sensitive Area zoning overlay in 'Conservation Buffer' land use areas to supplement existing stream buffer, land disturbance, wetland, and sinkhole protections.

In 2009, Boone County adopted stream buffer regulations, and in 2010 adopted a stormwater ordinance. The stormwater ordinance included enhanced criteria for development near environmentally sensitive areas. In future reviews of existing ordinances, Boone County should evaluate a Sensitive Area zoning overlay in 'Conservation Buffer' land use areas to supplement existing stream buffer, land disturbance, wetland, and sinkhole protections. This will allow Boone County to evaluate current best practices and new data that may be applicable.

Below: Entry to Finger Lakes State Park. Boone County benefits from over 20,000 acres of parks and conservation areas in its unincorporated areas.





Goal 5.2 Restore ecological habitats.

5.2.A: Regularly review site development standards for current best practices regarding vegetation preservation and landscaping requirements.

Site development standards can help ensure best practices for preserving or restoring habitats by encouraging strategies such as placing new open spaces adjacent to existing ones rather than in isolated locations. As part of the regular review of zoning, subdivision, and development regulations, consider incorporating best practices for vegetation preservation and landscaping requirements.

5.2.B: Encourage residential property owners, especially on parcels greater than one acre, to restore or preserve natural habitats instead of having lawns or mono-cultures.

Large expanses of residential lawns can be expensive for homeowners to maintain and create a mono-culture with limited ecological benefits. Restoring (or preserving) natural habitats instead of lawns can have multiple benefits, including increased biodiversity and better stormwater management.

Efforts such as the Greater Boone Femme Watershed Initiative, which works closely with landowners on voluntary habitat restoration and preservation, could be used as a model for broader campaigns across the county to help people learn to protect and restore natural resources on their properties.

5.2.C: Evaluate operational strategies for areas maintained by Boone County.

In addition to policy initiatives, Boone County can enhance ecological habitats through operational improvements. Maintenance strategies, including adjusting mowing schedules, can be applied to areas maintained by the county.



Goal 5.3 Continue to improve water quality through watershed scale planning.

Watersheds provide an essential framework for planning water quality improvements. However, because watershed boundaries often cross multiple jurisdictions, a coordinated effort is necessary to ensure that local decisions consider the broader watershed context. Boone County is already engaged in several watershed initiatives.

5.3.A: Continue the ongoing Greater Bonne Femme Watershed Initiative.

In June 2023, the United States Environmental Protection Agency (USEPA) and the Missouri Department of Natural Resources approved the Greater Bonne Femme Watershed-Based Plan developed by Boone County and project partners. The watershed-based plan contains EPA's nine critical planning elements for Bonne Femme and Little Bonne Femme subwatersheds. The plan will help protect water quality in the watershed by identifying pollutant sources, identifying better management practices to be implemented, setting reachable goals and a timeline for implementation projects, and establishing an evaluation and monitoring program.

5.3.B: Continue the ongoing Hinkson Creek Collaborative Adaptive Management (CAM) process.

The Collaborative Adaptive Management (CAM) process for Hinkson Creek involves Boone County, the City of Columbia, the University of Missouri, and other partners working together to improve water quality in the creek, with the ultimate goal of removing Hinkson Creek from the impaired water quality list. The CAM process has already led to several projects that have improved water quality and reduced flooding.

5.3.C: Evaluate other watersheds for planning initiatives as part of a countywide Stormwater Management Plan.

Managing stormwater presents numerous opportunities for partnerships aimed at improving water quality. The collaborative planning efforts for the Bonne Femme Watershed and Hinkson Creek serve as a model for watershed planning across Boone County. Even though other watersheds in the county may not contain streams designated as impaired by the Missouri Department of Natural Resources (MoDNR), incorporating watershed planning into a countywide Stormwater Management Plan can effectively mitigate flooding impacts and improve water quality.



Goal 5.4 Reduce future flood-related risks.

5.4.A: Regularly review and update the stormwater and floodplain ordinances and stormwater design manual in the context of the increasingly changing intensity of rainfall events.

Regularly reviewing and updating stormwater and floodplain ordinances and the stormwater design manual is essential to address the increasing intensity of rainfall events. As climate patterns shift, existing regulations and requirements in the stormwater design manual may become outdated.

5.4.B: Develop a countywide Stormwater Management Plan to identify flood hazard areas and mitigation strategies (with an emphasis on areas outside of designated regulatory (FEMA) flood hazard maps).

A countywide Stormwater Management Plan is important to identify flood hazard areas and implement effective mitigation strategies, especially in areas not covered by FEMA's regulatory flood hazard maps. These unmapped areas may still be prone to flooding due to localized conditions (especially with increasingly flashy, high intensity storm events).



Above: Road closure in Boone County caused by flooding.

PRINCIPLE #6

UTILITIES AND INFRASTRUCTURE

Fiscally responsible public services, utilities, and infrastructure at locations that efficiently serve the housing and development needs of Boone County.

VISION METRIC

Regular updates (every five to ten years) of the Boone County Future Land Use Plan for coordination with utility and transportation planning in the County.

GOALS:



1. Encourage development to occur within areas served (or planned) by public sewer and other utilities and infrastructure.

- Encourage growth in 'Local Community Planning Districts,' 'Unincorporated Village Nodes,' and 'Regional Economic Opportunity' areas at densities that support fiscally responsible costs of public services and facilities.
- Raise awareness for residents in 'Rural Preservation' and 'Farmland Preservation' land use areas that, because of low-density development patterns and distance from population centers, utilities may require higher connection costs and there may be longer service times for emergency responders.



2. Continue inter-government and utility collaboration.

- Use the future land use plan and growth projections to coordinate with state, local, and private entities to plan for and invest in infrastructure, including roads, sewer, schools, and other utilities in anticipation of growth.
- Encourage the use of Neighborhood Improvement Districts (NID) to upgrade or construct new public sanitary sewer infrastructure.



3. Increase access to High-Speed Internet.

- Support continuing state and regional programs to expand broadband internet access to all areas of the county.



Goal 6.1:
Encourage development to occur within areas served (or planned) by public sewer and other utilities and infrastructure.

6.1.A: Encourage growth in 'Local Community Planning Districts,' 'Unincorporated Village Nodes,' and 'Regional Economic Opportunity' areas at densities that support fiscally responsible costs of public services and facilities.

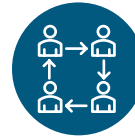
Encourage growth in 'Local Community Planning Districts,' 'Unincorporated Village Nodes,' and 'Regional Economic Opportunity' zones at densities that support fiscally responsible costs of public services and facilities. These areas are more likely to be served by public sewer, water, and other utilities, allowing development to make efficient use of existing and planned infrastructure rather than spreading low-density development over large areas, which requires more expense per capita to provide services and infrastructure.

6.1.B: Raise awareness for residents in 'Rural Preservation' and 'Farmland Preservation' land use areas that, because of low-density development patterns and distance from population centers, utilities may require higher connection costs, and there may be longer service times for emergency responders.

New residents in rural areas, especially if they have moved from a community, often expect the same level of services and utilities as living in a community. Residents should be aware of the potential challenges associated with living in rural areas, such as higher utility connection costs and longer emergency response times.

Residents should also be aware of potential additional long-term costs in areas not readily served by public infrastructure and services, such as the maintenance of private drives and private sewer systems, as well as higher homeowner insurance costs.

On-going awareness could include a "new resident" tab on the Boone County government website.



Goal 6.2:
Continue inter-government and utility collaboration.

6.2.A: Use the future land use plan and growth projections to coordinate with state, local, and private entities to plan for and invest in infrastructure, including roads, sewer, schools, and other utilities in anticipation of growth.

Multiple state, local, and private entities provide infrastructure and services in Boone County. One of the most effective ways for Boone County to continue inter-government and utility coordination is to regularly update growth projections and the future land use plan and share the updates with the local and regional partners. The growth projections enable partners to anticipate future needs and plan accordingly, including coordinating potential joint agreements and achieving efficiencies in common design and maintenance standards. Using the future land use plan as a guide, partners can ensure that infrastructure investments are made in the right places at the right times, avoiding reactive, piecemeal development that may be more costly and less effective.

By aligning investments with anticipated growth, partners can focus on areas where infrastructure can be efficiently extended, avoiding sprawl and preserving open spaces and agricultural lands. Regular updates of the future land use plan are also an important economic development tool. When businesses know that a community has a clear plan for future growth and the infrastructure to support it, they are more likely to invest in those areas, leading to economic development and job creation.

6.2.B: Encourage the use of Neighborhood Improvement Districts (NID) to upgrade or construct new public sanitary sewer infrastructure.

Encourage collaboration between property owners, utility providers, and Boone County to utilize Neighborhood Improvement Districts (NID) to upgrade or construct new public sanitary sewer infrastructure. New NID should consider all immediate and future connections from neighboring properties.



Goal 6.3

Increase access to High-Speed Internet.

6.3.A: Support continuing state and regional programs to expand broadband internet access to all areas of the county.

Residents frequently cited the lack of high-speed internet in some areas of Boone County as a top concern and priority. While Boone County has limited ability to expand broadband internet on its own, the county should support and advocate for continued state and regional programs to expand broadband access until all areas of the county are served.

PRINCIPLE #7

HOUSING

A wide range of housing choices to accommodate the diverse residential needs of Boone County residents and to bolster efforts at worker attraction and retention.

VISION METRIC

No population out migration caused by a lack of suitable housing.

GOALS:



1. Support the recommendations and implementation of the Boone County and City of Columbia Housing Study.



2. Increase the housing supply.

- a. Encourage increased residential densities in existing city boundaries through zoning updates and infill redevelopment opportunities.
- b. Evaluate the use of incentives for builders and developers for infill housing in communities.
- c. Encourage residential densities in 'Local Community Planning Districts' and 'Unincorporated Village Nodes' that match the densities of the nearby community.



3. Increase housing choices.

- a. Encourage neighborhoods in existing cities, 'Local Community Planning Districts,' and 'Unincorporated Village Nodes' to have a mix of housing types, including, but not limited to, single-family homes, townhomes, duplexes, triplexes, quadplexes, retirement, and work/live housing.



4. Maintain the value of residential properties.

- a. Ensure residential design is compatible with surrounding neighborhood context.
- b. Update building and energy codes regularly to stay up to date with state and national updates, while maintaining affordability.
- c. Ensure property maintenance, including private sewer systems.



Goal 7.1 Support the recommendations and implementation of the Boone County and City of Columbia Housing Study.

Boone County and the City of Columbia commissioned a comprehensive housing study in 2024 for Boone County and the City of Columbia. The Boone County Master Plan references the housing study's findings and recommendations. The intent of the housing goals as part of this master plan is to complement the housing study and provide a framework for relating housing to land use policies.



Goal 7.2: Increase the housing supply.

Boone County is growing with a robust economy, among the best in Missouri. That means more workers, more people, and the need for more housing. The housing study provides recommendations on the kinds of housing needed and their prices and rents. The following are methods by which the land use plan and land use policies can increase the housing supply.

7.2.A: Encourage increased residential densities in existing city boundaries through zoning updates and infill redevelopment opportunities.

Boone County's incorporated places - its cities - have effective land use policies and a significant amount of undeveloped land that is either already planned for housing or could be. A key priority of the master plan is to prioritize the development of housing within city limits over unincorporated areas. In addition to undeveloped land, cities should evaluate infill redevelopment opportunities that include residential.

7.2.B: Evaluate the use of incentives for builders and developers for infill housing in communities.

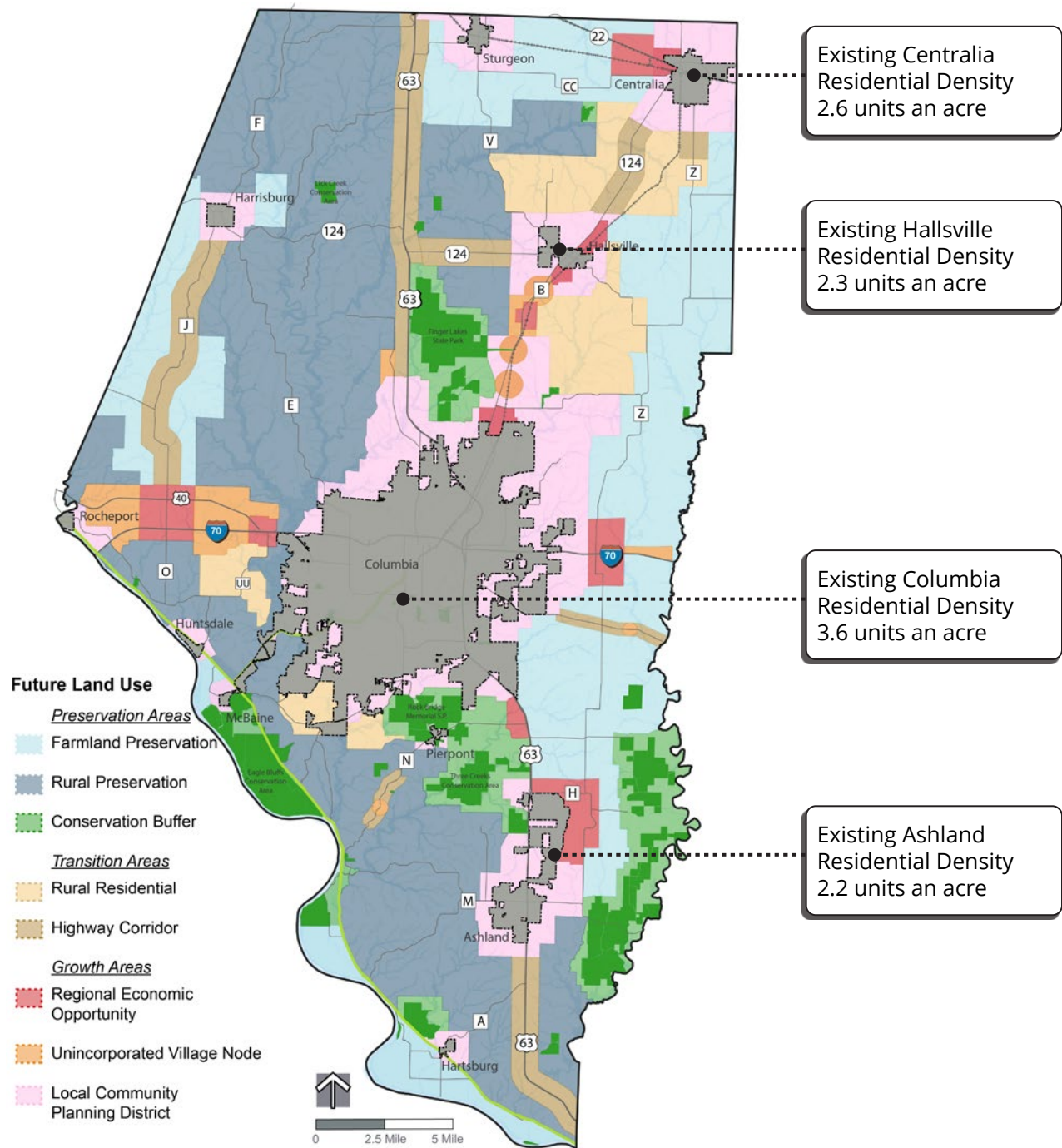
Infill development typically involves utilizing underutilized land within an existing urban area. This approach is often advantageous as it makes use of existing infrastructure, community services, and transportation networks. However, infill development can sometimes be more expensive than developing on a greenfield or vacant site due to potential demolition or repurposing costs. As communities update their comprehensive plans, they should consider offering incentives to builders and developers to encourage more infill housing. This evaluation should include potential federal, state, and county programs, as well as local community incentives, to promote infill development.

'Local Community Planning Districts' are the unincorporated edges of the city. In many instances, the community's future land use plan recommends residential in these unincorporated edge areas. Residential densities in these areas should match the existing density of the nearby community for efficient provision of community services, utilities, and road networks.

'Unincorporated Village Nodes' are areas likely to remain unincorporated. However, they should develop at densities consistent with nearby communities.

The map on this page shows existing residential densities as of 2023. It should be noted that densities were calculated based on available information at the time, and should be considered approximate. As communities update their comprehensive plans, they should calculate their current residential density.

The map also shows the land use categories of 'Local Community Planning Districts' and 'Unincorporated Village Nodes' that should be encouraged to develop at densities similar to their adjacent community. The 'Regional Economic Opportunity' land category is shown for reference.



Community Residential Densities



Goal 7.3 Increase housing choices.

7.3.A: Encourage neighborhoods in existing cities, 'Local Community Planning Districts,' and 'Unincorporated Village Nodes' to have a mix of housing types, including, but not limited to, single-family homes, townhomes, duplexes, triplexes, quadplexes, retirement, and work/live housing.

With economic growth comes more people, more diversity of the workforce, and differing housing lifestyles. As noted in the housing study, Boone County needs a wider variety of housing choices in a wider variety of residential settings. As incorporated and unincorporated housing locations in the county continue to absorb population growth, they also need to be encouraged and potentially incentivized by a broader range of housing types and price points. This approach will help enhance satisfaction for both new and existing households in Boone County.



Above: Duplexes, triplexes, and quadplexes can maintain a similar scale to single-family homes, offering a gentle way to increase density while preserving the character of single-family neighborhoods.

Source: Arlington County Missing Middle Housing Study



Goal 7.4 Maintain the value of residential properties.

Real estate is a long-term investment whether for landlords or homeowners. Such investors want to be sure that county officials and fellow property owners are enforcing high standards of construction, maintenance, and occupancy so that investment values do not deteriorate over time.

7.4.A: Ensure residential design is compatible with surrounding neighborhood context.

Minimum building standards for construction quality, design, and materials ensure that new developments align with a neighborhood's existing character and do not negatively impact property values.

7.4.B: Update building and energy codes regularly to stay up to date with state and national updates while maintaining affordability.

Boone County should regularly update its building and energy codes to align with state and national standards. However, it is also important for the county to assess the financial impacts of these updates to ensure that they do not significantly increase initial housing costs relative to the potential returns from energy efficiency and other benefits.

7.4.C: Ensure property maintenance, including private sewer systems.

Property owners who neglect property maintenance not only compromise the value of their homes but also negatively impact property values in their neighborhoods. Boone County should review and update property maintenance enforcement procedures. This responsibility also extends to the infrastructure serving residential neighborhoods, including private infrastructure like onsite wastewater systems, which affect living standards and neighborhood quality of life. The review of property maintenance procedures should include the development of an operating permit for onsite wastewater systems.

Note about Vision Metrics

Each principle in this chapter includes a "Vision Metric." It's important to understand that the purpose of each vision metric is not to judge the "success" or "failure" of a principle, but to serve as a benchmark for measuring future progress. This approach is similar to the "Vision Zero" metric adopted by many transportation agencies, where the goal is to continuously evaluate and improve traffic safety. While achieving zero transportation fatalities or serious injuries may not be fully attainable, the mindset of "Vision Zero" is to strive for ongoing improvement.

Each vision metric also requires a continuous, collaborative approach toward the goal. If setbacks occur, it's crucial to have open, honest discussions about the reasons and consider new or modified strategies that can move toward positive progress.

Principle #1: The population growth rate exceeds the rate of developed land areas.

This compares the rate of population growth versus the rate of land that is developed as measured by changes in urban (developed) land cover.

Data:

Population growth: Census updates. Developed land areas: Multi-Resolution Land Characteristics (MRLC) 30x30 meter land cover data. The benefits of MRLC data is that it dates back to 2001 and it is updated regularly.

Principle #2: Zero traffic fatalities and serious injuries in unincorporated Boone County.

A "Vision Zero" goal to continuously evaluate and improve traffic safety.

Data: MoDOT regularly publishes crash data by severity type, including for local roads and streets.

Principle #3: Boone County to be one of the top three counties in Missouri for new job creation (based on percentage increase).

By measuring percentage increase, Boone County can compare to larger job centers.

Data: Sources such as Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce and the Census 'On-the-Map' can provide Boone County historical job data. However, to easily compare county-to-county data, the Missouri Economic Research and Information Center (MERIC) should be utilized.

Principle #4: No additional loss of prime farmland in Boone County.

Prime farmland is determined by soil type, making data on its location readily available. Two potential methods for measuring future loss of prime farmland include: One, documenting the acreage of prime farmland during the site review process. Two, using Multi-Resolution Land Characteristics (MRLC) 30x30 meter land cover data to track new development areas (either annually or up to five-year intervals) and overlaying this development data with prime farmland areas.

Data: USDA Soil Survey, Multi-Resolution Land Characteristics (MRLC) 30x30 meter land cover data.

Principle #5: Increase the amount of preserved land in unincorporated Boone County to 30,000 acres from the existing 20,000 acres.

The case studies in the Chapter "Conservation Tools and Precedents" included examples of counties with varying levels of preserved land. For instance, over 30,000 acres were preserved in Lexington-Fayette County, Kentucky, over a two-decade period. Some counties even revised their preservation goals upwards once initial targets were met.

Boone County's vision to increase preserved land by 10,000 acres, a 50% increase, is ambitious yet achievable when compared to other counties.

Data:

Publicly preserved lands, such as conservation areas, are relatively easy to track through updates to property records and data from agencies. However, tracking private land conservation, such as permanent easements discussed in the Chapter "Conservation Tools and Precedents," can be more challenging, especially when multiple private nonprofits are involved in facilitating these easements. The evaluation process for conservation tools should include developing a consensus with Boone County conservation partners (e.g., MoDNR, MDC, nonprofits, Farm Bureau) on methods for measuring and tracking future land preservation.

Principle #6: Regular updates (every five to ten years) of the Boone County Future Land Use Plan for coordination with utility and transportation planning in the County.

This is a simple "complete" or "not-complete" action in terms of regular updates of the Future Land Use Plan with utilities and transportation planning in the county.

Principle #7: No population out migration caused by a lack of suitable housing.

The Census Bureau produces tables showing county-to-county migration using data from the 5-year American Community Survey, with the most recent data available for 2016-2020. However, less readily available is data on why people move; housing may be only one factor in their decision. Tracking general migration trends can help identify emerging concerns, while qualitative research (such as discussions with realtors, resident surveys, or focus groups) can provide additional insights to inform the data.

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Future Land Use Plan



Future Land Use Plan

THE FUTURE LAND USE PLAN IS A GUIDE

The Future Land Use Plan is an essential component of this master plan. This chapter outlines the anticipated pattern and character of land use in Boone County. The map is intended to guide future land use decisions, with each land use category reflecting a range of place characteristics that can be achieved through Boone County development policies.

It is important to remember the difference between the Future Land Use Plan and zoning (and other development regulations). The future land use plan is a policy guide for planning future growth, shaping policies, and informing decision-making. Zoning, on the other hand, is a regulatory tool that defines current legal uses.

While zoning is very specific in terms of permitted uses and development standards, such as lot sizes, setbacks, and density, the Future Land Use Plan is intentionally more generalized in its descriptions. It serves as a goal-oriented document that outlines expectations for each land use category. The Future Land Use Plan broadly identifies the types of land use patterns anticipated throughout the county and their preferred locations. It indicates what land uses are appropriate for the future rather than what currently exists. In many established areas, existing land uses will continue to align with the future land use vision.

Several strategies can help implement the Future Land Use Plan. One approach is updating the zoning ordinance and development regulations to align with the plan's recommendations. Another strategy is to use the Land Use Plan as a reference when reviewing rezoning requests.

When updating the zoning ordinance or evaluating rezoning applications, the Planning and Zoning Commission should consider the context in which the Land Use Plan was adopted. If conditions have changed since adoption, adjusting the land use vision may be appropriate. However, if conditions remain consistent, strong preference should be given to adhering to the recommendations of the Land Use Plan.

THE FUTURE LAND USE PLAN SHOULD BE REGULARLY UPDATED

The Future Land Use Plan should not be considered a static document, especially in a fast growing county like Boone County. The plan and growth projections should be updated at least every five (5) years, and the full master plan should be updated every ten (10) years.

BENEFITS OF THE FUTURE LAND USE PLAN

While the Future Land Use Plan is a policy guide, it does have multiple benefits.

- ***Planning for Growth***
It provides a long-term framework for how the county should develop, ensuring that land use decisions align with the community's goals for the future.
- ***Coordination of Public Services and Infrastructure***
The plan helps the county, utilities, and other partners efficiently allocate resources for infrastructure, such as roads, utilities, and public services, ensuring that these investments support future growth.
- ***Consistency in Decision-Making***
The plan helps ensure consistency, reducing uncertainty for developers, property owners, and residents. It helps avoid incompatible land uses.
- ***Protection of Boone County Character***
The rural and agricultural character of Boone County is a core value for many residents. The plan helps identify key areas of the county where rural landscapes, natural habitats, and farmland should be prioritized.
- ***Attraction of Investment***
A well-articulated land use plan gives investors confidence that the county is prepared for growth, reducing risks and fostering economic development.
- ***Guide for Zoning and Development Regulations***
While the plan is a policy guide, it does provide a foundation for updating zoning ordinances and making rezoning decisions, ensuring they align with the community's long-term goals.

Future Land Use Plan Categories

The Boone County Future Land Use Plan is organized into eight land use categories.

PRESERVATION AREAS

Characteristics

- Priority areas for preserving rural character, farmland, and natural habitats.
- Low development density.
- Recognition that community services and utilities may be more limited than growth areas.

FARMLAND PRESERVATION

RURAL PRESERVATION

CONSERVATION BUFFER

TRANSITION AREAS

Characteristics

- Transitional areas from higher intensity growth areas to more rural areas of Boone County.
- Important characteristics of 'Highway Corridor' include access management and preserving rural viewsheds.

RURAL RESIDENTIAL

HIGHWAY CORRIDOR

GROWTH AREAS

Characteristics

- Priority areas for growth and development.
- Recognition that these areas will incur significant man-made development.
- Community services and utilities should be available or planned.

LOCAL COMMUNITY PLANNING DISTRICT

UNINCORPORATED VILLAGE NODE

REGIONAL ECONOMIC OPPORTUNITY AREA

Future Land Use Plan

The map on this page shows the future land use map. As outlined under the Chapter "Principles and Goals," the goals of the land use plan include:

Respect local community land use planning and decisions.

- Encourage communities to prepare a future land use plan for areas adjacent to their city limits ('Local Community Planning District').

Acknowledge the importance of Boone County's natural resources for ecosystem services, tourism, and quality of life.

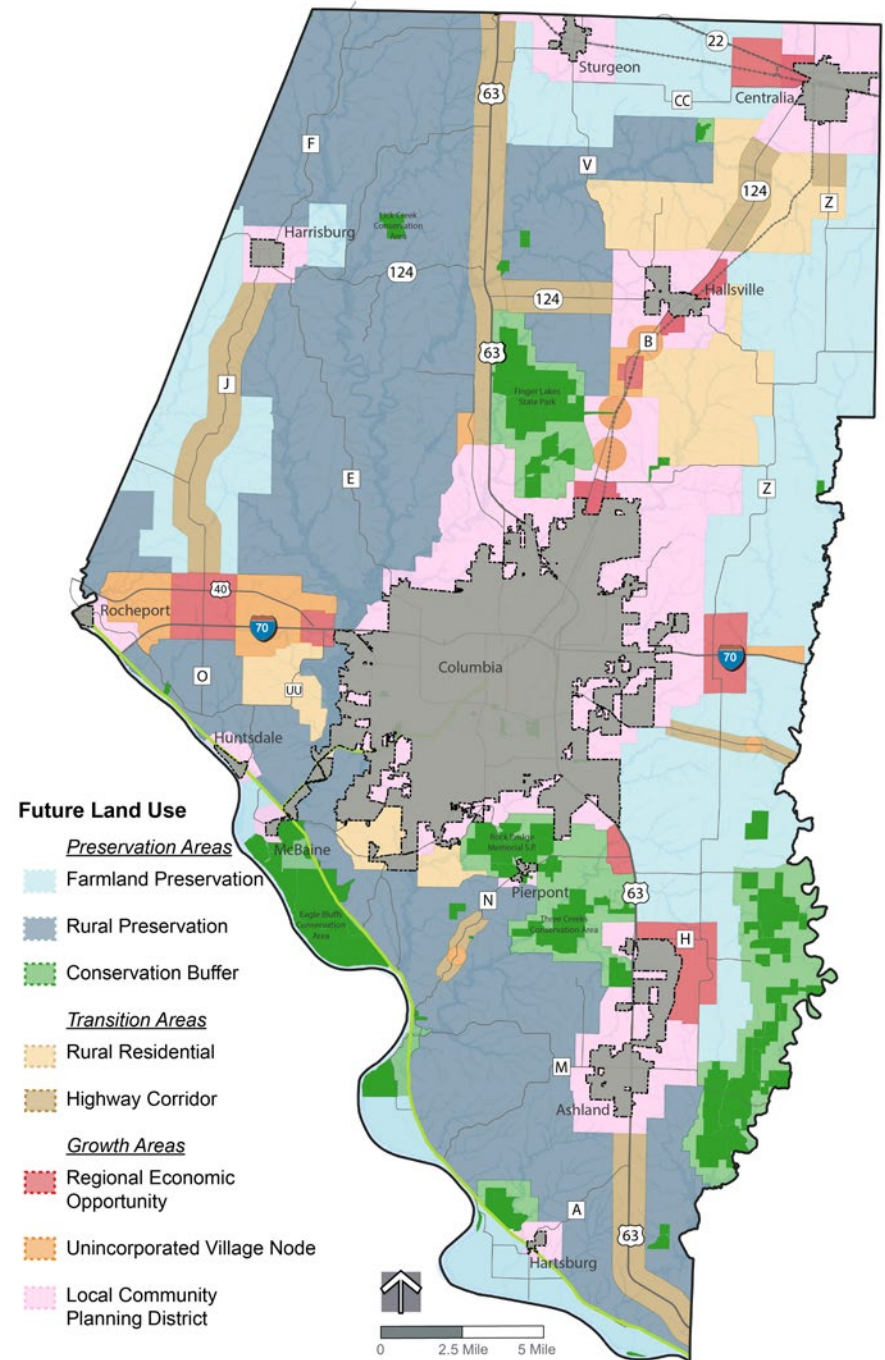
Balance areas of growth and preservation.

- Use the land use plan to identify priority farmland and rural preservation areas.
- Use the land use plan to identify economic development areas of regional importance that require larger sites and can leverage Boone County's unique transportation assets, including I-70, Class 1 railroads, and the Columbia Regional Airport.
- Provide transition areas from growth areas to rural and agricultural areas.

Provide expectations of future availability of community services, sewer, and other utilities.

- Use the future land use plan and growth projections to coordinate with state, local, and private entities to plan for and invest in infrastructure, including roads, sewer, and other utilities, in anticipation of growth.
- Acknowledge that some land uses may not have the same level of community services and utility access.

The following pages describe each land use category.



Future Land Use Map

Future Land Use Plan Category Descriptions

The land use category descriptions on the following pages include:

Preservation Areas

- Farmland Preservation
- Rural Preservation
- Conservation Buffer

Transition Areas

- Rural Residential
- Highway Corridor

Growth Areas

- Regional Economic Opportunity
- Unincorporated Village Node
- Local Community Planning District

There is no standard for how detailed a land use category description should be. While zoning descriptions are typically very specific, detailing permitted uses, lot sizes, setbacks, and density, the Future Land Use Plan is intentionally more generalized. As a guiding document, it offers flexibility, allowing for broader considerations such as natural resources, transportation, and economic development.

For each land use category, information includes:

- Overview of category
- Uses
- Development Density

Additionally, the descriptions outline expectations for:

- Transportation
- Economic Development
- Natural Resources
- Community Services and Utilities
- Housing Mix
- Visual Character

These key issues were frequently highlighted by residents during the planning process. Boone County is geographically large, and needs, expectations, and goals vary across different areas.

It's important to remember that the descriptions for each land use category are purposefully general. They are detailed enough to provide policy guidance, but not so specific as to be overly prescriptive. While this master plan and Future Land Use Plan serve as a guide for more detailed plans, regulatory updates, or design guidelines, those processes should include further public and community input.

It is also important to note that the Future Land Use Plan is not a rigid designation per parcel. It provides a guide for how land should develop over time based on community goals, anticipated growth, and infrastructure needs. By using a guiding approach, the plan can balance flexibility with strategic direction, ensuring it remains relevant and actionable while allowing for case-by-case evaluations, particularly in areas near the boundary edges of Future Land Use Plan categories.

Land Use: **FARMLAND PRESERVATION**



Overview

Boone County has a rich agricultural heritage. Preserving farmland maintains this tradition for future generations while enhancing food security and contributing to the economy of Boone County. Preserving farmland helps to maintain the rural character of Boone County. Many residents value the open spaces, scenic landscapes, and cultural identity associated with agriculture. Preserving farmland contributes to the county's overall quality of life and attractiveness as a place to live and visit. 'Farmland Preservation' areas are likely to include a mix of natural habitats and open space in addition to agricultural areas.

Uses

Typical uses include land devoted to agriculture including working farms used for cultivated croplands, pastures, and livestock operations. Residential should be limited and should include farmstead splits and small farm development. Residential development should be associated with food production or be consistent with the historic use of the property and area. Commercial uses support or are dependent upon agriculture, and tourism that is compatible with rural and agriculture character and respect neighboring property owners. This land use category may also include other types of open space including woodlands, grasslands, waterbodies, and wetlands.

A priority should be the permanent preservation of prime farmland through voluntary conservation tools.

Development Density

Very low development density. Residential should be limited to a minimum lot size of 10 acres or greater.

Higher density residential development may be suitable if residential lots are clustered with a minimum of 50% of the remaining land subdivided as permanently preserved open space or agriculture.

Transportation

Streets and Roads: With very low-density development, future volume increases on county roads will likely remain limited. Coordinate with MoDOT to prioritize improvements on state routes that are increasing in traffic volumes. Recognize the importance for agriculture equipment to travel safely on county roads.

Pedestrians and Bikes: Due to the low-density and distance from destinations, pedestrian travel will be less common. Bicycle networks will be uncommon unless part of planned routes to destinations.

Transit: Due to the low-density, transit will be uncommon but to be encouraged where necessary and feasible.

Economic Development

Focus on agriculture and agri-business. Tourism should be compatible and dependent upon rural and agricultural character and respect neighboring property owners.

Natural Resources

Emphasis on preserving existing natural habitats, especially areas that are part of habitat cores. Encourage permanent preservation through voluntary conservation easements. Encourage new natural ecological habitats through restoration. Utilize watershed approach for best practices related to water quality and stormwater management.

Community Services and Utilities

Sewer service will be limited. Because of low-density development patterns and distance from population centers, utilities may require higher connection costs and longer service times for emergency responders.

Housing Mix

Limited single-family housing that should be associated with food production or be consistent with the historic use of the property and area.

Visual Character

Views of agriculture, open space, and natural resources are valued. Care should be taken to avoid signage, lighting, infrastructure and other features that distract from the rural character. The siting of buildings, parking, and other man-made elements should take into consideration the importance of preserving the rural character, while acknowledging that some man-made agricultural elements can have varying character.

Land Use: **RURAL PRESERVATION**



Overview

Residents value the rural character of Boone County, including open spaces, scenic landscapes, natural habitats, and farmland. 'Rural Preservation' are areas with strong rural character with a mix of natural habitats, open space, agricultural areas and limited residential.

Residential uses are low-density, primarily single-family, and typically are located along existing rural roadways rather than in multi-lot subdivisions.

Uses

Typical land uses include a mix of natural habitats including woodlands, grasslands, waterbodies, and wetlands. Agriculture includes working farms used for cultivated croplands, pastures, and livestock operations. Residential should be limited. Commercial uses support or are dependent upon agriculture, and tourism that is compatible with rural and agriculture character and respect neighboring property owners.

A priority should be the permanent preservation of natural areas and prime farmland through voluntary conservation tools.

Development Density

Very low development density. Residential should be limited to a minimum lot size of 2.5 - 10 acres. Continue measures that ensure minimum parcel size is conducive to on-site, private sewers.

Transportation

Streets and Roads: With very low-density development, future volume increases on county roads will likely remain limited. Coordinate with MoDOT to prioritize improvements on state routes that are increasing in traffic volumes. Recognize the importance for agriculture equipment to travel safely on county roads.

Pedestrians and Bikes: Due to the low-density and distance from destinations, pedestrian travel will be less common. Bicycle networks will be uncommon unless part of planned routes to destinations.

Transit: Due to the low-density, transit will be uncommon but should be encouraged where necessary and feasible.

Economic Development

Focus on agriculture and agri-business. Tourism should be compatible and dependent upon rural and agricultural character and respect neighboring property owners. Smaller parcels in Rural Preservation areas may be suitable for small-scale, locally-operated farming operations such as hobby farms and Community-Supported Agriculture (CSA).

Natural Resources

Emphasis on preserving existing natural habitats, especially areas that are part of habitat cores. Encourage permanent preservation through voluntary conservation easements. Encourage new natural ecological habitats through restoration. Utilize watershed approach for best practices related to water quality and stormwater management. Encourage residential property owners to restore or preserve natural habitats instead of lawns or mono-cultures.

Community Services and Utilities

Sewer service will be limited. Because of low-density development patterns and distance from population centers, utilities may require higher connection costs and longer service times for emergency responders.

Housing Mix

Limited single-family housing on large parcels.

Visual Character

Views of agriculture, open space, and natural resources are valued. Care should be taken to avoid signage, lighting, infrastructure and other features that distract from the rural character. The siting of buildings, parking, and other man-made elements should take into consideration the importance of preserving the rural character.

Land Use: **CONSERVATION BUFFER**



Overview

Boone County has over 20,000 acres of parks and conservation areas in unincorporated areas. Boone County residents and visitors treasure these parks and conservation areas for their beauty and ecological importance. 'Conservation Buffer' areas recognize the importance of existing parks and conservation areas by acknowledging potential priority areas for new parks or conservation areas. 'Conservation Buffer' areas also serve as transition zones between park and conservation areas and adjacent land uses.

Uses

Typical land uses include a mix of natural habitats including woodlands, grasslands, waterbodies, and wetlands. Agriculture includes working farms used for cultivated croplands, and pastures. Residential and commercial should be limited. Natural habitats, agriculture, and limited residential and commercial, serve as a transition and buffer from parks and conservation areas to other land uses.

A priority should be the permanent preservation of natural areas through voluntary conservation tools. Expansion of park and conservation area boundaries are encouraged through local and state partners and agencies.

Development Density

Very low development density. Residential should be limited to a minimum lot size of 10 acres. Continue measures that ensure minimum parcel size is conducive to on-site, private sewers.

Transportation

Streets and Roads: Vehicular access to parks and conservation areas is important, and local roads often experience higher traffic volumes due to visitor activity. Roadway improvements should prioritize safety, particularly with the increased visitor traffic, without compromising the area's natural character and viewsheds.

Pedestrians and Bikes: Bicycle access to parks and conservation spaces is important. All major parks should be linked together by roadway facilities with wide paved shoulders, adjacent multi-use trails, or a comprehensive county wide trail system.

Transit: Transit access to major park and conservation destinations should be provided wherever possible.

Economic Development

Parks and conservation areas are the focus for visitation. Supportive economic development should be limited and allowed within the 'Conservation Buffer' only if necessary. Supportive economic development should not be within preservation areas.

Natural Resources

Emphasis on preserving existing natural habitats, especially areas adjacent to existing park and conservation areas. Encourage new natural ecological habitats through restoration. Utilize watershed approach for best practices related to water quality and stormwater management. Encourage permanent preservation through voluntary conservation tools. Expansion of park and conservation area boundaries are encouraged through local and state partners and agencies.

Community Services and Utilities

Sewer service will be limited. However, sewer access may be desirable to serve restrooms and other park facilities. Utility and service providers are primarily focused on visitor requirements.

Housing Mix

Limited single-family housing on large parcels.

Visual Character

The importance of natural aesthetics in parks and conservation areas is paramount. Care should be taken to respect the natural visual character in the 'Conservation Buffer.' Care should be taken to minimize signage, lighting, infrastructure and other features that distract from the natural character. The siting of buildings, parking, and other man-made elements should take into consideration the importance of preserving the natural character.

Land Use: **RURAL RESIDENTIAL**



Overview

Boone County has many rural areas where single-family homes on large lots, with a median parcel size of five acres, are common. The 'Rural Residential' category recognizes this development pattern and recognizes that additional residential in these areas can help alleviate development pressure in adjacent 'Rural Preservation' and 'Farmland Preservation' areas.

'Rural Residential' is a transitional area from higher intensity areas to more rural areas of Boone County.

Uses

Primarily single family residential.

Development Density

Low development density. Residential may be limited to a minimum of 1 unit per 2.5 to 5.0 acres with private sewer. However, increased residential densities of 1 unit per 1.0 to 2.5 acres with public sewer are encouraged.

Transportation

Streets and Roads: Prioritize improvements to county roads based on Boone County's Rural Road policy. Coordinate with MoDOT to prioritize improvements on state routes that are increasing in traffic volumes.

Pedestrians and Bikes: Due to the low-density and distance from destinations, pedestrian travel will be less common. Bicycle networks should be encouraged through multi-use trails or paved road shoulders (when roads are paved or improved).

Transit: Due to the low-density, transit will be uncommon but should be encouraged where necessary and feasible.

Economic Development

Work from home or other limited home based businesses.

Natural Resources

Recognition that these areas will be a mix of low-density residential and natural areas. Continue best practices for site development regarding water quality, stormwater management, vegetation preservation, and landscaping. Encourage residential property owners to restore or preserve natural habitats instead of lawns or mono-cultures. Subdivisions should include community open spaces.

Community Services and Utilities

Sewer service may be limited. Subdivisions should require new public sewer systems. 'Rural Residential' may have better access to utilities and better emergency response times than 'Rural Preservation' and 'Farmland Preservation' areas, but service may be mixed.

Housing Mix

Single-family housing at low-density.

Visual Character

Rural character is valued, but opportunities to preserve rural and open space views may be limited due to single family housing. Careful design of new landscaping and preservation of natural elements can better blend residential development with the natural surroundings. Residential home materials and design should complement the rural character and be of high quality. Proper maintenance and upkeep of residential properties contribute significantly to the visual character.

Land Use: **HIGHWAY CORRIDOR**



Overview

'Highway Corridor' are areas that due to their adjacency to transportation corridors have existing or anticipated development. 'Highway Corridor' is a transitional area to more rural areas of Boone County including 'Rural Preservation' and 'Farmland Preservation.'

Important characteristics of 'Highway Corridor' include access management and preserving rural viewsheds. (See Transportation and Visual Character sections for details.)

Uses

Typical land uses include a mix of residential, natural habitats, and agriculture. Along county arterials and major roadways, commercial development may be suitable at appropriate intersections or appropriate outer roads.

Development Density

Low development density. Residential may be limited to a minimum of 1 unit per 2.5 to 5.0 acres with private sewer. However, increased residential densities of 1 unit per 1.0 to 2.5 acres with public sewer are encouraged.

Commercial density may vary depending on location and existing development context, but likely smaller scale density to service nearby residential development and vehicular travel.

Large-scale commercial development should be located in 'Regional Economic Opportunity' areas.

Transportation

Streets and Roads: Emphasis on access management best practices to balance safe and convenient access to adjacent land uses and efficient movement along higher speed, rural roadways. New streets connecting to existing rural corridors should be designed to create a system of interconnected streets and blocks (but not necessarily a grid), including stub streets, to adjacent future development, whenever possible. New streets should be platted as public rights-of-way. Streets should follow "Complete Streets" goals of accommodating multiple modes of transportation, including vehicles, bicycles, pedestrians, and transit.

Coordination with MoDOT will be required for any development along a state highway. Increased traffic volumes at uncontrolled intersections along Highway 63 should be carefully evaluated for safety considerations. Development along Highway 63 should coincide with appropriate intersection improvements.

Pedestrians and Bikes: Due to the low-density and distance from destinations, pedestrian travel will be less common. Bicycle networks should be encouraged through paved road shoulders or multi-use trails.

Transit: Due to the low-density, transit will be uncommon but should be encouraged where necessary and feasible.

Economic Development

Work from home or other limited home-based businesses. Along Highway 63, emphasis on local commercial development at appropriate intersections and outer roads. Along other state highways, commercial development may be

suitable at appropriate intersections.

Natural Resources

While these areas may incur development, these areas are also transitions to more rural areas of the county, including important natural habitats. Continue best practices for site development regarding water quality, stormwater management, vegetation preservation, and landscaping. Preserve natural habitats and the above best practices so that they become amenities for new developments and help preserve rural viewsheds.

Community Services and Utilities

Future growth in these areas should occur as utilities are available. Sewer service may be limited. Subdivisions should incorporate new sewer systems. 'Highway Corridor' may have better access to utilities and better emergency response times than 'Rural Preservation' and 'Farmland Preservation' areas, but service may be mixed.

Housing Mix

Single-family housing at low-density.

Visual Character

While these areas may incur development, views of agriculture, open space, and natural resources are valued. Care should be taken to avoid signage, lighting, infrastructure and other features that distract from the rural character. The siting and setbacks of buildings, parking, and other man-made elements should take into consideration the importance of preserving the rural character. Buffering with new landscaping or preservation of existing natural elements contributes significantly to the visual character.

Land Use:

REGIONAL ECONOMIC OPPORTUNITY



Overview

While communities in Boone County have many available areas for job and employment growth, some of these areas include smaller parcels that limit the opportunity for large scale facilities, or multiple facilities as part of campus-style or industrial park settings. The 'Regional Economic Opportunity' areas anticipate economic development of regional importance, requiring larger sites that can capitalize on Boone County's unique transportation assets, including I-70, Class 1 railroads, and the Columbia Regional Airport. Areas of 'Regional Economic Opportunity' may overlap with 'Local Community Planning Districts.'

Uses

Typical uses include employment or job centers of regional significance that are large scale facilities, or multiple facilities as part of campus-style or industrial park settings. Uses should align with priority industry clusters as identified by the City of Centralia, REDI, and the Southern Boone Economic Development Council to provide expansion for existing businesses and attraction of new businesses.

Temporary uses such as agriculture may serve as a "holding" land uses until the area transitions to a regional economic opportunity. Stand-alone commercial uses such as gas-stations, neighborhood retail, or other spot commercial should be strategically located to serve the workforce in these areas, while avoiding fragmentation of the large sites needed for the targeted industries of regional scale. Mixed uses could be part of a larger planned development of a targeted industry.

Development Density

Development and job density can vary depending on the targeted industry cluster.

Transportation

Streets and Roads: Special consideration for street and roadway design to accommodate larger design vehicles and potential peak volumes of traffic, shipments, and deliveries. Recognition of the requirements of emergency responders and services, including the need for multiple access points.

Pedestrians and Bikes: Commuting by automobile will likely remain the primary form of transportation for employees. However, transportation options should be available in the form of sidewalks and shared-use paths, especially from transit stops and perhaps in coordination with longer regional trail networks.

Transit: Transit options should be accommodated.

Economic Development

Significant sites suitable for employment hubs or regional job centers, tailored to host specific industry clusters, are anticipated.

Natural Resources

Recognition that these areas will incur significant man-made development. Continue best practices for site development regarding water quality, stormwater management, vegetation preservation, and landscaping. Incorporate open spaces and the above best practices so that they become amenities for new developments.

Community Services and Utilities

Sites should be "shovel ready" with sewer and other utilities readily available (or planned). Boone County should coordinate with adjacent communities and emergency responders to ensure necessary community services and response times for the particular industry.

Housing Mix

Limited housing is expected. However, innovative live-work, mixed-use developments should be encouraged.

Visual Character

The visual character of 'Regional Economic Opportunity' areas is expected to be a man-made environment of buildings, parking areas, signage, and lighting of various architecture styles and materials based on the type of industry. Building form, site design, and materials should complement other high quality commercial development precedents in Boone County. Sites should include open space that allows landscaping, buffering, stormwater management and outdoor amenities for employees. Signage should be coordinated with the character of the building.

Land Use:

UNINCORPORATED VILLAGE NODES



Overview

To accommodate the growing demand of population and jobs in Boone County, certain areas of unincorporated Boone County should develop at densities consistent with nearby communities.

'Unincorporated Village Nodes' are areas likely to remain unincorporated.

Uses

A mix of uses is encouraged, including but not limited to residential, commercial, and institutional characteristics of neighborhoods. The specific mix of uses will depend on location, access considerations, and existing development context. Development may take the form of linear corridors along major roadways, large districts that serve as regional destinations for commerce, dining, and entertainment, or small nodes.

Development Density

Residential densities should encourage efficient use of infrastructure and community services. While individual lot sizes can vary, gross residential densities should be in the range of 2.0 to 4.0 units an acre.

Commercial density may vary depending on location and existing development context, but likely neighborhood scale density to service nearby residential development as opposed to large scale commercial development that would be better located in 'Regional Economic Opportunity' areas.

Transportation

Streets and Roads: The street network should be designed to create a system of interconnected streets and blocks (but not necessarily a grid), including multiple connections with existing road networks in the county and nearby cities. New streets should be platted as public rights-of-way. Streets should follow "Complete Streets" goals of accommodating multiple modes of transportation, including vehicles, bicycles, pedestrians, and transit.

Pedestrians and Bikes: Development should be walkable with sidewalks on both sides of streets. Bicycle networks should be designated with multi-use trails connecting to the regional bike trail network.

Transit: Transit options should be accommodated.

Economic Development

Emphasis on neighborhood and local commercial development.

Natural Resources

Recognition that these areas will incur significant man-made development. Continue best practices for site development regarding water quality, stormwater management, vegetation preservation, and landscaping. Incorporate open spaces and the above best practices so that they become amenities for new developments.

Community Services and Utilities

Sewer and other utilities should be available or planned. Boone County should coordinate with adjacent communities and emergency responders to ensure necessary community services and response times.

Housing Mix

A mix of housing types to provide housing choices for a wide range of population groups. Neighborhoods with a mix of duplexes, triplexes, and quadplexes with single-family homes should be encouraged.

Visual Character

An emphasis on place-making that seeks to create walkable, livable neighborhoods and places where people want to live, work, and play. Development should include open spaces that allow landscaping, buffering, stormwater management, and outdoor amenities for the neighborhood. Buildings, parking areas, signage, and lighting of various architectural styles and materials based on the type of development. Building form, site design, and materials should complement other high quality development precedents in Boone County.

Land Use: **LOCAL COMMUNITY PLANNING DISTRICT**



Overview

Boone County should respect the need for local communities to plan for future land use adjacent to their areas. This acknowledges the efforts that many communities are already undertaking. Future land use decisions should be made in accordance with community goals and priorities.

Local planning boundaries allow for efficient annexation. The municipality provides services and infrastructure more efficiently, leading to improved quality and reliability. The areas would gain access to municipal services such as water and sewer utilities, garbage collection, street maintenance, and emergency response services.

Planning boundary distance from the City boundary:

- Columbia: [As-shown on Future Land Use Plan]
- Ashland, Centralia, Hallsville, and Sturgeon: One-half to One mile.
- Rocheport: One-half mile, plus one-half mile corridor along Highway BB to Interstate 70.
- Harrisburg, Hartsburg, Huntsdale, McBaine, Pierpont: Up to one-half mile.

The above planning boundary distances are a guide. The actual planning boundary should follow logical considerations such as roadways, natural features (e.g., streams), and other boundaries that would serve as logical limits.

The community may prepare a future land use plan for all or part of the areas within their 'Local Community Planning District' in coordination with Boone County. The future land use plan must be approved by Boone County.

If a community chooses not to prepare a 'Local Community Planning District' future land use plan, then Boone County shall designate a future land use.

Until annexation, Boone County's zoning and other development regulations shall remain in effect.

Uses

Uses per the goals and objectives of the local community, except for areas where 'Regional Economic Opportunity' areas overlap with a 'Local Community Planning District.'

Development Density

Density per the goals and objectives of the local community. Communities should strongly consider residential densities that match gross densities within city boundaries.

Transportation

Per the goals and objectives of the local community.

Economic Development

Economic Development per the goals and objectives of the local community, except for areas where 'Regional Economic Opportunity' areas overlap with the 'Local Community Planning District.'

Natural Resources

Per the goals and objectives of the local community.

Community Services and Utilities

Sewer and other utilities should be available or planned. Future growth in these areas should occur as public water, sewer, and roads are provided. If the boundary of planned utilities differs from the boundary of the 'Local Community Planning District,' the planned limits of utilities should be shown.

Housing Mix

Housing mix per the goals and objectives of the local community. Communities should consider neighborhoods that include a mix of single family homes, duplexes, triplexes, and quadplexes.

Visual Character

Per the goals and objectives of the local community.

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Implementation



Chapter Overview

This chapter outlines the strategies and actions for implementation. As a policy document, the master plan serves as a strategic guide, informing actions such as updates to regulatory tools, detailed plans, education efforts, and partnerships.

It's important to note that the comprehensive plan is not a zoning ordinance, subdivision regulation, budget, capital improvement program, or other regulatory document. Instead, it provides the foundation for the creation of those tools. The plan sets forth a vision for the community's future growth and development.

At the vision and policy level, the master plan will guide county decision-making for years to come. At times the plan will need to be amended or updated. The Planning and Zoning Commission and County Commission shall approve all amendments and updates to the Plan.

Proposed amendments and updates to the Plan shall take into account conditions that have changed since the original adoption of the Plan.

The Planning and Zoning Commission shall regularly review the progress of the plan and update the plan on a regular basis. The recommended frequency for plan updates is outlined in the detailed action plan.

"While all proposed actions in the plan are important, not everything can be accomplished at once. This chapter prioritizes actions, enabling Boone County and its partners to focus on key initiatives first."

This page outlines the individual components of the Action Plan. The Action Plan should be reviewed and updated annually or as needed to ensure it remains current.

Responsibility

Identifies the primary party responsible for each action, as well as additional partners such as other county departments, community organizations, non-profits, agencies, and other groups necessary for successful completion.

Priority

While all proposed actions are important, not everything can be done at once. Prioritizing actions helps the county and its partners focus on the most critical items. Priorities are rated on a scale of 1 to 3, with 1 being the highest priority. The plan aims to limit the number of highest priority items to around ten to fifteen, ensuring focused attention on the most urgent needs.

Plan priorities should be re-evaluated annually or as actions are implemented.

Action Timeframe

- Short-term (1-3 years)
- Intermediate (3-5 years)
- Long-term (longer than five years)
- On-going (on-going implementation)

It's important to note that most initial actions fall within the short-term or intermediate timeframes, as early implementation often involves policy, planning, or regulatory steps that lay the foundation for long-term actions.

Type of Action

Policy:

Actions related to Boone County's programs, strategies, or policies.

Regulatory

Actions involving changes to regulatory documents, such as zoning, subdivision requirements, or development regulations.

Education / Advocacy

Programs or initiatives that promote change through voluntary actions. These are typically led by organizations, non-profits, or outside agencies supporting Boone County's goals. The county may not have direct control over implementation and must focus on education and advocacy.

Partnering

Actions requiring collaboration with municipalities, organizations, non-profits, or outside agencies. Boone County may have limited ability to implement these actions independently and must rely on partnerships.

Future Planning

Additional detailed plans required for specific categories or key issues. While this master plan offers high-level guidance, further planning will be necessary.

Detailed Action Plan: Top Priorities

This page includes the top priority actions (Priority #1).

Action	Unique Identifier	Plan Principle	Plan Goals	Reference to other Goals	Priority	Timeframe (short term, intermediate, long-term, on-going)	Type (Policy, Regulatory, Future Planning, Education/Advocacy, Partnering)	Primary Responsibility	Additional Partners
Coordinate with communities to prepare a future land use plan for all or part of the areas within their 'Local Community Planning District' in coordination with Boone County. If a community chooses not to prepare a 'Local Community Planning District' future land use plan, then Boone County shall designate a future land use.	LU.01	#1 Land Use	1.1		1	short-term	Policy	Boone County Resource Management, Municipalities	
Review and update zoning and development regulations based on the expectations and goals of each land use category.	LU.06	#1 Land Use	1.1, 1.2, 1.3	2.3, 4.1, 7.4	1	short-term	Regulatory	Boone County Resource Management, Municipalities	
As an interim step in reviewing and updating the zoning and development regulations, develop a set of design guidelines for the 'Unincorporated Village Nodes,' 'Highway Corridor,' and 'Conservation Buffer' land use categories.	LU.07	#1 Land Use	1.1, 1.2, 1.3		1	short-term	Policy	Boone County Resource Management	
Encourage development densities in existing municipal boundaries and growth land use categories ('Local Community Planning Districts,' 'Unincorporated Village Nodes,' and 'Regional Economic Opportunity') that make transit, walking, and bicycling more efficient and support fiscally responsible costs of utilities, public services, and infrastructure.	X.01	#1 Land Use, #2 Transportation, #6 Utilities and Infrastructure, #7 Housing	1.3, 2.2, 6.1, 7.2	1.1, 3.2	1	on-going	Policy	Boone County Resource Management	Municipalities
Coordinate with economic development organizations and utility providers to position "Regional Economic Opportunity" areas to foster growth of targeted industry clusters.	X.02	#1 Land Use, #3 Economic Development	1.1, 3.2	3.3	1	short-term	Future Planning	Boone County Resource Management	REDI, City of Centralia, City of Hallsville, Southern Boone Economic Development Council, BCRSD, Water Districts, Boone Electric Cooperative, Ameren
Update future land use plan and growth projections every five (5) years and a full master plan update every ten (10) years to coordinate with state, local, and private entities to plan for and invest in infrastructure, including roads, sewer, schools, and other utilities in anticipation of growth.	X.03	#1 Land Use, #6 Utilities and Infrastructure	1.4, 6.1		1	intermediate	Partnering	Boone County Resource Management	Municipalities, School Districts, MoDOT, BCRSD, Water Districts, Boone Electric Cooperative, Ameren
Develop a countywide Safety Action Plan in partnership with state and local agencies.	T.01	#2 Transportation	2.1		1	short-term	Future Planning	Boone County Resource Management	MoDOT, Municipalities, Boone County Road & Bridge
Organize a series of discussions to better define and prioritize Boone's targeted industry clusters and then communicate those priorities to developers and businesses.	ED.07	#3 Economic Development	3.3	3.2	1	short-term	Partnering	Economic Development Organizations (REDI, City of Centralia, Southern Boone Economic Development Council)	Boone County Resource Management Municipalities, Chambers, Businesses, Developers and Universities/Colleges
Evaluate conservation precedents for feasibility in Boone County, including supplemental conservation easement funding and transfer of development rights (TDR) programs. Analysis should include organizational (staffing) capacity. (This could be done as part of a Conservation and Parks Master Plan.)	X.05	#4 Farmland and Rural Character, #5 Natural Resources	4.1, 5.1		1	short-term	Future Planning	Boone County Resource Management	Greenbelt Land Trust of Mid-Missouri, Ozark Land Trust, Farm Bureau, MoDNR, MDC, NRCS, USDA
Support the recommendations and implementation of the Boone County and City of Columbia Housing Study.	HS.01	#7 Housing	7.1		1	short-term	Policy	Boone County Resource Management	Municipalities, Boone County Community Services

Detailed Action Plan: All Plan Goals

This page and the following pages include all detailed actions, organized by plan principles and goals.

Action	Unique Identifier	Plan Principle	Plan Goals	Reference to other Goals	Priority	Timeframe (short term, intermediate, long-term, on-going)	Type (Policy, Regulatory, Future Planning, Education/Advocacy, Partnering)	Primary Responsibility	Additional Partners
Coordinate with communities to prepare a future land use plan for all or part of the areas within their 'Local Community Planning District' in coordination with Boone County. If a community chooses not to prepare a 'Local Community Planning District' future land use plan, then Boone County shall designate a future land use.	LU.01	#1 Land Use	1.1		1	short-term	Policy	Boone County Resource Management, Municipalities	
Update existing quantitative tools to evaluate rezoning, development, and subdivision requests for suitability based on their future land use category.	LU.02	#1 Land Use	1.3		2	intermediate	Policy	Boone County Resource Management	
As part of the review and update of zoning and development regulations, evaluate the feasibility of maximum lot size to promote higher densities within certain residential zoning districts.	LU.03	#1 Land Use	1.3	1.1	2	intermediate	Regulatory	Boone County Resource Management	
Continue to utilize the 'sufficiency of resources test' as baseline criteria for rezonings.	LU.04	#1 Land Use	1.4		2	on-going	Policy	Boone County Resource Management	
Acknowledge that some land uses may not have the same level of community services and utility access.	LU.05	#1 Land Use	1.4	6.1	3	on-going	Education / Advocacy	Boone County Resource Management	
Review and update zoning and development regulations based on the expectations and goals of each land use category.	LU.06	#1 Land Use	1.1, 1.2, 1.3	2.3, 4.1, 7.4	1	short-term	Regulatory	Boone County Resource Management, Municipalities	
As an interim step in reviewing and updating the zoning and development regulations, develop a set of design guidelines for the 'Unincorporated Village Nodes,' 'Highway Corridor,' and 'Conservation Buffer' land use categories.	LU.07	#1 Land Use	1.1, 1.2, 1.3		1	short-term	Policy	Boone County Resource Management	
Encourage development densities in existing municipal boundaries and growth land use categories ('Local Community Planning Districts,' 'Unincorporated Village Nodes,' and 'Regional Economic Opportunity') that make transit, walking, and bicycling more efficient and support fiscally responsible costs of utilities, public services, and infrastructure.	X.01	#1 Land Use, #2 Transportation, #6 Utilities and Infrastructure, #7 Housing	1.3, 2.2, 6.1, 7.2	1.1, 3.2	1	on-going	Policy	Boone County Resource Management	Municipalities
Coordinate with economic development organizations and utility providers to position "Regional Economic Opportunity" areas to foster growth of targeted industry clusters.	X.02	#1 Land Use, #3 Economic Development	1.1, 3.2	3.3	1	short-term	Future Planning	Boone County Resource Management	REDI, City of Centralia, City of Hallsville, Southern Boone Economic Development Council, BCRSD, Water Districts, Boone Electric Cooperative, Ameren
Update future land use plan and growth projections every five (5) years and a full master plan update every ten (10) years to coordinate with state, local, and private entities to plan for and invest in infrastructure, including roads, sewer, schools, and other utilities in anticipation of growth.	X.03	#1 Land Use, #6 Utilities and Infrastructure	1.4, 6.1		1	intermediate	Partnering	Boone County Resource Management	Municipalities, School Districts, MoDOT, BCRSD, Water Districts, Boone Electric Cooperative, Ameren
Develop a countywide Safety Action Plan in partnership with state and local agencies.	T.01	#2 Transportation	2.1		1	short-term	Future Planning	Boone County Resource Management	MoDOT, Municipalities, Boone County Road & Bridge
Identify and address safety issues along high-crash corridors and at high-crash intersections.	T.02	#2 Transportation	2.1		2	on-going	Future Planning	Boone County Resource Management	Boone County Road & Bridge, MoDOT, Municipalities
Coordination with MoDOT for improvements to intersections of US-63 and I-70 as development is proposed.	T.03	#2 Transportation	2.1		2	on-going	Partnering	MoDOT	Boone County Resource Management, Municipalities, Chambers, Businesses, Developers and Universities/Colleges
Promote safe speeds and safe travel behaviors through safety awareness campaigns in collaboration with local agencies, healthcare providers, and other partners.	T.04	#2 Transportation	2.1	6.2	3	on-going	Education/Advocacy	Boone County Resource Management	Boone County Road & Bridge, MoDOT, Municipalities, University of Missouri, Boone Health

Detailed Action Plan: All Plan Goals

Action	Unique Identifier	Plan Principle	Plan Goals	Reference to other Goals	Priority	Timeframe (short term, intermediate, long-term, on-going)	Type (Policy, Regulatory, Future Planning, Education/Advocacy, Partnering)	Primary Responsibility	Additional Partners
Continue to support multi-modal transportation in partnership with CATSO, MoDOT, transit providers, and other agencies.	T.05	#2 Transportation	2.2		2	on-going	Partnering	CATSO	Boone County Resource Management, Boone County, Road & Bridge, MoDOT, City of Columbia, OATS, Go COMO
Encourage and partner with the City of Columbia to evaluate the feasibility of a commuter line on the COLT rail corridor.	T.06	#2 Transportation	2.2	6.2	2	intermediate	Future Planning	City of Columbia	Boone County Resource Management
Encourage and partner with the City of Columbia to evaluate the feasibility of a multi-use trail along the COLT rail corridor right-of-way.	T.07	#2 Transportation	2.3		2	intermediate	Future Planning	City of Columbia	Boone County Resource Management
As part of the review and update of zoning and development regulations, update subdivision regulations to promote sidewalk connectivity and require plans to connect to existing and planned trails and active transportation networks.	T.08	#2 Transportation	2.3	1.1, 1.2, 1.3	2	short-term	Regulatory	Boone County Resource Management	Boone County Road & Bridge
Develop a countywide Bicycle and Pedestrian Master Plan in partnership with municipal and state agencies.	T.09	#2 Transportation	2.3	6.2	3	long-term	Future Planning	Boone County Resource Management	Boone County Road & Bridge, MoDOT, Municipalities, MoDNR, Regional Non-Profits
Continue to invest in the Pavement Preservation Program and other roadway improvements before reaching failing pavement conditions that would require more significant reconstruction.	T.10	#2 Transportation	2.4		2	on-going	Policy	Boone County Resource Management	Boone County Road & Bridge
Establish a policy for paving gravel roads based on existing and future trips to promote consistency across the system and transparency for county residents and developers. (It is important to note that such a policy would not lead to the paving of all gravel roads, instead acknowledging that gravel road surface is still the appropriate surface for certain contexts.)	T.11	#2 Transportation	2.4		2	intermediate	Policy	Boone County Resource Management	Boone County Road & Bridge
As part of the review and update of zoning and development regulations, review subdivision regulations regarding roadway improvements for new subdivisions to ensure that county standards applicable to public roadways are adhered to regardless of proposed ownership. County roadway standards should be reviewed for their applicability to various types of subdivisions.	T.12	#2 Transportation	2.4		2	short-term	Regulatory	Boone County Resource Management	Boone County Road & Bridge
Use the Future Land Use Plan to Coordinate with CATSO and MoDOT for proposed transportation investments.	T.13	#2 Transportation	2.4	1.4, 6.1	2	on-going	Partnering	Boone County Resource Management	Boone County Road & Bridge, CATSO, MoDOT
Continue public/private workforce partnerships that align workforce skills with employer needs.	ED.01	#3 Economic Development	3.1		2	on-going	Partnering	Universities and Workforce Development Organizations	Boone County Community Services, Employers, RED1, Local Chambers
Connect local employers with schools and training organizations to promote career opportunities.	ED.02	#3 Economic Development	3.1		2	on-going	Partnering	Universities and Workforce Development Organizations	Boone County Community Services, RED1, Employers and Local Chambers, School Districts
Convene municipal leaders and planning staff to learn about and discuss best practices in placemaking principles and how they may be applied to infill and new development.	ED.03	#3 Economic Development	3.1		2	intermediate	Future Planning & Education/Advocacy	Boone County Resource Management	Municipal leaders and planners, Planning Associations (ULI, APA etc.)
Open communications with local partnerships focusing on childcare accessibility to understand needs, opportunities and to identify Boone County's role in supporting these efforts.	ED.04	#3 Economic Development	3.1		3	short-term	Education/Advocacy	Boone County Community Services	Boone County Resource Management, RED1, Employers, Local Chambers, Child Care Providers and School Districts
Use 'Local Community Planning Districts' for municipalities and the County to cooperate on development.	ED.05	#3 Economic Development	3.2		2	on-going	Future Planning	Boone County Resource Management	Municipalities

Detailed Action Plan: All Plan Goals

Action	Unique Identifier	Plan Principle	Plan Goals	Reference to other Goals	Priority	Timeframe (short term, intermediate, long-term, on-going)	Type (Policy, Regulatory, Future Planning, Education/Advocacy, Partnering)	Primary Responsibility	Additional Partners
Work with municipalities to encourage infill development and redevelopment that offers right-sized, affordable space for start-ups and growing companies to expand and diversify Boone's business base and foster wealth building and job growth.	ED.06	#3 Economic Development	3.2		2	intermediate	Partnering	Boone County Resource Management	Municipalities, REDI, Southern Boone Economic Development Council
Organize a series of discussions to better define and prioritize Boone's targeted industry clusters and then communicate those priorities to developers and businesses.	ED.07	#3 Economic Development	3.3	3.2	1	short-term	Partnering	Economic Development Organizations (REDI, City of Centralia, Southern Boone Economic Development Council)	Boone County Resource Management Municipalities, Chambers, Businesses, Developers and Universities/Colleges
Develop communication materials for various stakeholders that identify targeted industry clusters and priorities, their role in and importance for economic growth and job creation and the recommended targeted industry cluster(s) for each Regional Economic Opportunity area.	ED.08	#3 Economic Development	3.3		2	intermediate	Partnering	Economic Development Organizations (REDI, City of Centralia, Southern Boone Economic Development Council)	Boone County Resource Management, Municipalities, Chambers, Businesses, Developers and Universities/Colleges
Encourage neighborhoods in existing cities, 'Local Community Planning Districts,' and 'Unincorporated Village Notes' to have a balanced mix of housing types, including single-family homes, townhomes, duplexes, triplexes, quadplexes, retirement, and work/living housing.	X.04	#3 Economic Development, #7 Housing	3.1, 7.3		2	long-term	Policy & Regulatory	Boone County Resource Management	Municipal governments and residential developers
As part of the review and update of zoning and development regulations, update and enhance provisions for conservation subdivisions.	FR.01	#4 Farmland and Rural Character	4.1	1.2, 1.3	2	intermediate	Regulatory	Boone County Resource Management	
Encourage all public entities to explore leasing public land to prospective farmers and market gardeners in balance with other land use priorities.	FR.02	#4 Farmland and Rural Character	4.2		3	intermediate	Education / Advocacy	Center for Urban Agriculture	Boone County Resource Management, Farm Bureau
Review and evaluate existing tourism policies in agriculture and rural areas.	FR.03	#4 Farmland and Rural Character	4.3		3	intermediate	Policy	Boone County Resource Management	Farm Bureau, MU Extension, and other agriculture trade groups and associations.
Consider "good neighbor" education guidance for residential properties in 'Rural Preservation' and 'Farm Preservation' land use areas	FR.04	#4 Farmland and Rural Character	4.4		3	intermediate	Education / Advocacy	Boone County Resource Management	Farm Bureau, MU Extension, and other agriculture trade groups and associations.
In addition to policy support of recognizing the importance of agriculture equipment to travel safely on county roads, evaluate other measures including public education, improved road signage, design considerations like widened shoulders, and law enforcement support.	FR.05	#4 Farmland and Rural Character	4.4	2.1	3	intermediate	Education / Advocacy	Boone County Resource Management	Boone County Road & Bridge, MoDOT, Farm Bureau, MU Extension
Evaluate conservation precedents for feasibility in Boone County, including supplemental conservation easement funding and transfer of development rights (TDR) programs. Analysis should include organizational (staffing) capacity. (This could be done as part of a Conservation and Parks Master Plan.)	X.05	#4 Farmland and Rural Character, #5 Natural Resources	4.1, 5.1		1	short-term	Future Planning	Boone County Resource Management	Greenbelt Land Trust of Mid-Missouri, Ozark Land Trust, Farm Bureau, MoDNR, MDC, NRCS, USDA
Encourage the expansion of park and conservation area boundaries through local and state partners and agencies.	NR.01	#5 Natural Resources	5.1		2	on-going	Policy	MoDNR, MDC, Greenbelt Land Trust of Mid-Missouri, Ozark Land Trust	Boone County Resource Management
Creation of a countywide Conservation and Parks Master Plan.	NR.02	#5 Natural Resources	5.1		3	short-term	Future Planning	Boone County Resource Management	City of Columbia, MDC, MoDNR, Sierra Club, Greenbelt Land Trust of Mid-Missouri, Ozark Land Trust, Farm Bureau, USDA
Utilize analysis of habitat cores and hub analysis to prioritize voluntary conservation easement locations.	NR.03	#5 Natural Resources	5.1	4.1	3	short-term	Future Planning	Boone County Resource Management	City of Columbia, MDC, MoDNR, Sierra Club, Greenbelt Land Trust of Mid-Missouri, Ozark Land Trust, Farm Bureau, USDA

Detailed Action Plan: All Plan Goals

Action	Unique Identifier	Plan Principle	Plan Goals	Reference to other Goals	Priority	Timeframe (short term, intermediate, long-term, on-going)	Type (Policy, Regulatory, Future Planning, Education / Advocacy, Partnering)	Primary Responsibility	Additional Partners
As part of review of zoning, subdivision regulations, and site development regulations, evaluate a Sensitive Area zoning overlay in 'Conservation Buffer' land use areas to supplement existing stream buffer, land disturbance, wetland, and sinkhole protections.	NR.04	#5 Natural Resources	5.1		3	intermediate	Regulatory	Boone County Resource Management	
As part of review of zoning, subdivision regulations, and site development regulations, regularly review site development standards for current best practices regarding vegetation preservation and landscaping requirements.	NR.05	#5 Natural Resources	5.2		3	on-going	Regulatory	Boone County Resource Management	
Encourage residential property owners, especially on parcels greater than one acre, to restore or preserve natural habitats instead of having lawns or monocultures.	NR.06	#5 Natural Resources	5.2		3	on-going	Education / Advocacy	Boone County Resource Management	MU Extension, MDC, Greater Boone Femme Watershed Initiative, Hinkson Creek Collaborative Adaptive Management (CAM)
Evaluate operational strategies for areas maintained by Boone County for opportunities to enhance ecological habitats.	NR.07	#5 Natural Resources	5.2		3	on-going	Policy	Boone County Facilities Management, Boone County Road & Bridge	
Continue the ongoing Greater Bonne Femme Watershed Initiative.	NR.08	#5 Natural Resources	5.3		2	on-going	Partnering	Boone County Resource Management	Greater Bonne Femme Watershed Initiative
Continue the ongoing Hinkson Creek Collaborative Adaptive Management (CAM) process.	NR.09	#5 Natural Resources	5.3		2	on-going	Partnering	Hinkson Creek Collaborative Adaptive Management (CAM) (Boone County, the City of Columbia, the University of Missouri)	MoDNR, EPA
Develop a countywide Stormwater Management Plan to identify flood hazard areas and mitigation strategies (with an emphasis on areas outside of designated regulatory (FEMA) flood hazard maps).	NR.10	#5 Natural Resources	5.4		2	intermediate	Future Planning	Boone County Resource Management	MoDNR, EPA
Regularly review and update the stormwater and floodplain ordinances and stormwater design manual in the context of climate variability, including intensity of rainfall events.	NR.11	#5 Natural Resources	5.4		2	on-going	Regulatory	Boone County Resource Management	
Raise awareness for residents in 'Rural Preservation' and 'Farmland Preservation' land use areas that, because of low density development patterns and distance from population centers, utilities may require higher connection costs and there may be longer service times for emergency responders.	UI.01	#6 Utilities and Infrastructure	6.1	1.4	3	on-going	Education / Advocacy	Boone County Resource Management	
Meet with utility districts to review future land use plan categories and discuss coordination for future infrastructure needs.	UI.02	#6 Utilities and Infrastructure	6.2		2	short-term	Partnering	Boone County Resource Management	BCRSD, Water Districts, Boone Electric Cooperative, Ameren
Encourage the use of Neighborhood Improvement Districts (NID) to upgrade or construct new public sanitary sewer infrastructure.	UI.03	#6 Utilities and Infrastructure	6.2		2	on-going	Partnering	Boone County Resource Management	BCRSD, Property Owners
Support continuing state and regional programs to expand broadband internet access to all areas of the county.	UI.04	#6 Utilities and Infrastructure	6.3		2	intermediate	Policy	Boone County Resource Management	Missouri Department of Economic Development
Support the recommendations and implementation of the Boone County and City of Columbia Housing Study.	HS.01	#7 Housing	7.1		1	short-term	Policy	Boone County Resource Management	Municipalities, Boone County Community Services
Encourage increased residential densities in existing city boundaries through zoning updates.	HS.02	#7 Housing	7.2		2	on-going	Policy	Municipalities	

Detailed Action Plan: All Plan Goals

Action	Unique Identifier	Plan Principle	Plan Goals	Reference to other Goals	Priority	Timeframe (short term, intermediate, long-term, on-going)	Type (Policy, Regulatory, Future Planning, Education/Advocacy, Partnering)	Primary Responsibility	Additional Partners
Evaluate the use of incentives for builders and developers for infill housing in communities as communities update their comprehensive plan.	HS.03	#7 Housing	7.2		2	intermediate	Policy	Municipalities	
As part of the review and update of zoning and development regulations, evaluate minimum building standards for construction quality, design, and materials.	HS.04	#7 Housing	7.4	1.2, 1.3	2	short-term	Regulatory	Boone County Resource Management	
Regularly review and update building and energy codes to stay up to date with state and national updates while maintaining affordability.	HS.05	#7 Housing	7.4		2	on-going	Regulatory	Boone County Resource Management	
Review and update as needed Boone County's procedures for property maintenance enforcement. The review of property maintenance procedures should include the development of an operating permit for onsite wastewater systems.	HS.06	#7 Housing	7.4		2	intermediate	Regulatory	Boone County Resource Management	

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Conservation Tools and Precedents



Chapter Overview

A key theme that emerged from community engagement for this master plan is the importance of Boone County's agricultural heritage and ecological assets to its residents. However, concerns about the loss of farmland and natural habitats were also frequently expressed.

Two principles of this master plan include "Preserve the agricultural and rural heritage of Boone County for future generations" and "Conserve, protect, and restore Boone County's ecologically significant natural habitats." Several goals in this plan are aligned with these principles.

"Future growth in Boone County should better balance development with the preservation of farmland, rural character, and natural areas."

From the Master Plan Survey - 90% of survey respondents expressed agreement with the above statement.

While this master plan does not recommend specific conservation tools for immediate implementation, it aims to provide a broader understanding of potential approaches and to share lessons learned from other counties. Boone County should assess the feasibility of these conservation tools as an action item following this master plan.

This chapter provides an overview of commonly used conservation tools, explores how other counties have addressed conservation in their master plans, and presents case studies to highlight lessons learned. Given the broad scope of conservation, this chapter focuses on tools available to private landowners. It is not intended as a comprehensive review of all conservation methods. It is also not intended to provide in-depth details for each tool, such as associated administrative or maintenance costs.

While the emphasis of this chapter is on farmland conservation, many of the tools discussed are also applicable to natural habitat preservation.



"Keeping the beauty of Boone County and the rural life alive is important for now and the lives to come."

Boone County Resident (Master Plan Survey)

Private Land Conservation Tools

← **LEAST COMPLEX**

MOST COMPLEX →

Conservation Reserve Program (CRP)



CRP is one of the largest private-lands conservation programs in the United States.

Nationwide
24.8 million acres

Missouri
765,000 acres

Boone County
1,853 acres

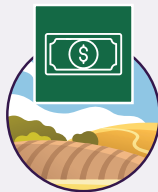
Conservation Easements



*Donated
Conservation Easements*



*Partial Purchase
of Development Rights*

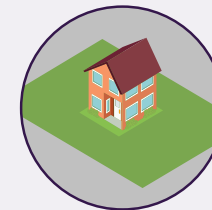
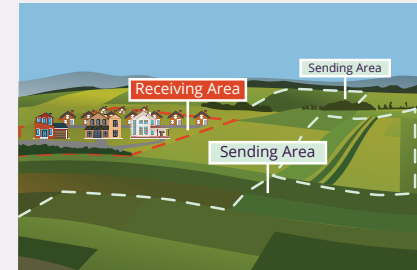


*Full Purchase
of Development Rights*



*Conservation
Subdivisions*

Transfer of Development Rights



Baseline
zoning
density

Increased
density with
TDRs



Welcome to the Marketplace



OPTION 1
50 TDRs Available...
Each TDR costs \$5,000*



OPTION 2
25 TDRs Available...

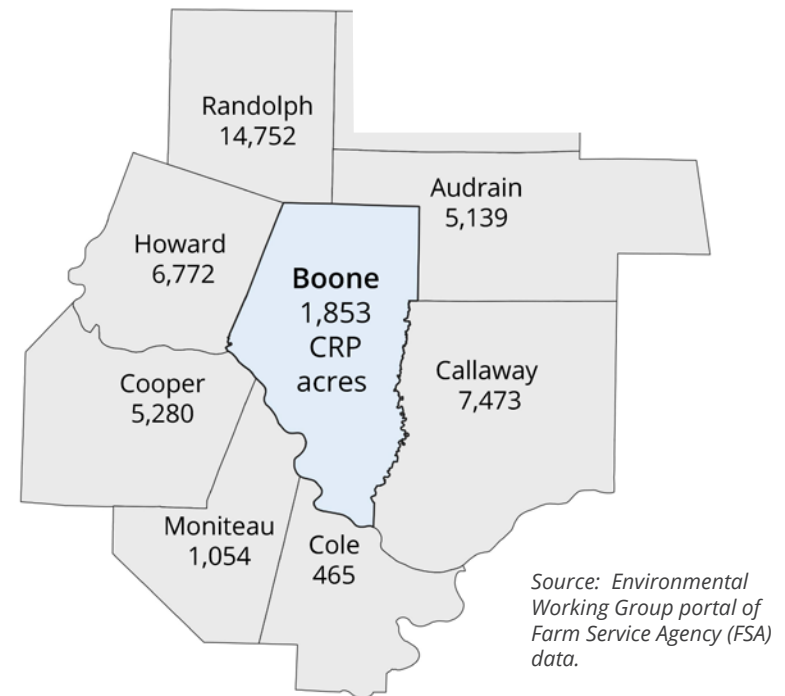
Conservation Reserve Program (CRP)

The Conservation Reserve Program (CRP) is a land conservation program administered by the Farm Service Agency (FSA) in the United States. It was established in 1985 as part of the Food Security Act to address soil erosion, water quality, and habitat loss on agricultural land. Farmers and landowners voluntarily enroll in the program by agreeing to remove environmentally sensitive land from agricultural production and plant species that improve environmental health.

Participants enter into contracts with the USDA, typically lasting 10 to 15 years. In return, they receive annual rental payments and cost-share assistance for establishing conservation practices. Conservation Practices include planting grasses, trees, and other vegetation to prevent soil erosion, improve water quality, and provide habitat for wildlife. Specific practices might consist of buffer strips, riparian zones, and the establishment of wetlands. The CRP aims to reduce soil erosion, enhance water quality by filtering runoff, increase carbon sequestration, and provide habitats for wildlife. The program supports farmers financially through rental payments and cost-sharing.

CRP is not really a practical tool for permanently preserving farmland and natural habitats in Boone County since it is a temporary program (10 to 15 years). CRP is also not conducive to keeping farmland in crop production since it aims to remove environmentally sensitive land from agriculture production. However, it is included here because it is a well-known and frequently used program. Many farmers either have some acreage enrolled in CRP or know a fellow landowner who does. It is also an example of a contract (voluntarily restricting the use of the land) being applied to a property. In many ways, a conservation easement (discussed later in this section) is a permanent example of such a voluntary CRP contract.

In Boone County, 1,853 acres were enrolled in CRP in 2022, according to the nonprofit Environmental Working Group portal of Farm Service Agency (FSA) data. The 1,853 acres in 2022 were down from 3,370 acres in Boone County in 2017. For comparison, neighboring Randolph County had almost 15,000 acres enrolled in CRP in 2022.



2022 CRP Acres - Boone and Neighboring Counties

CONSERVATION EASEMENTS

Meet the Farmer

The farmer owns extensive farmland. As agricultural land, the ground is worth \$9,500* an acre.



OR



\$\$\$

Preserve



The farmer is interested in **preserving farmland**, however she is also interested in the **financial benefits** for her family if she **sold the land for development**.

Are there options for the farmer to preserve her farmland while also benefiting financially from the development potential of her land? The short answer is **YES**.

**Note: Acre valuations are examples only.*

The Farmer's Options

Conservation easements are voluntary legal agreements that permanently limit the uses of the land to protect its conservation values. Conservation easements can be tailored to meet the needs of the landowner. For example, a conservation easement could have:



Partial development (such as a family dwelling on the property).



Or no development.

Determining the Development Rights Value

Development Potential



\$14,500/acre
Fair Market Value

minus



\$9,500/acre
Value after Protection

= \$5,000/acre
Conservation Easement Value
(Development Rights Value)



Donated Conservation Easements

- Landowner donates the conservation easement.
- Value of the easement is generally considered a charitable donation and may be eligible for federal income tax deductions.



Partial Purchase of Development Rights

- Funding sources like the Agricultural Conservation Easement Program (ACEP) under the 2018 Farm Bill that provides financial assistance for conservation easements.



Full Purchase of Development Rights

- Local funding (often in combination with federal and state funding) to purchase the full value of the development rights.

Conservation Easements

Conservation easements are a powerful tool for land conservation, protecting important natural resources while allowing landowners to retain ownership and use of their land. Conservation easements are legal agreements that permanently limit the uses of the land to protect its conservation values.

Landowners voluntarily enter into conservation easements with a land trust or government agency. These agreements are legally binding and remain in effect even if the land is sold or transferred. The easement typically restricts development and certain land uses to preserve the land's natural, scenic, agricultural, or historical qualities. For example, it might prohibit commercial development or subdivision of the property. The landowner retains ownership and can continue to use the land within the terms of the easement. They can also sell or pass on the land to heirs, but the restrictions remain in place.

The primary goals of conservation easements include maintaining the land's agricultural productivity or preserving the open space and natural habitats of the property. Conservation easements are flexible and can be tailored to meet the needs of the landowner while achieving conservation goals. They can allow for specific uses such as farming, ranching, or forestry under sustainable practices. The organization holding the easement, often a land trust or government entity, is responsible for monitoring the land and enforcing the terms of the easement to ensure long-term protection.

While conservation easements can include agricultural land, natural habitats, or open space, this discussion focuses more extensively on agriculture conservation easements since recent federal farm bills have made funding more accessible for agriculture conservation easements.

Permitted	Conditional	Prohibited
 Agricultural activities	 Houses • Number of houses • Reasonable expansion • Farmer or farm worker occupied • Location	 Unlimited residential development
 Agricultural structures	 Permanent agricultural structures • Size • Location	 Unlimited subdivision
	 Subdivision • New parcel size • Remain viable for agriculture	 Commercial and industrial development
	 Rural enterprises • Ancillary to farm business • Support viability for agriculture • Location	 Unlimited commercial mineral extraction
	 Renewable energy structures • Scaled for on farm use • Plan for decommissioning • Location	 Activities that harm agricultural resources or prevent agricultural use
	 Impervious surfaces • Area covered • Location	

Above chart by the Farmland Information Center with typical agriculture conservation easement provisions. Different easement holders (or funding programs) may have different policies. Bullet points list common conditions for permitting certain uses and activities.

Source: Farmland Information Center 2024 fact sheet (Partnership between the American Farmland Trust and USDA Natural Resources Conservation Service).

Benefits of Conservation Easements Include

- **Land Remains Private:** After granting a conservation easement, the landowner retains title to the property and can still use the land. The land remains private (no public access). The landowner can use it as collateral for a loan, sell the property, or leave the land to heirs. Landowners continue to be eligible for state and federal farm programs.
- **Flexibility:** While conservation easements prohibit extensive residential and commercial development, conservation easements will typically allow a family residence, agricultural structures (if an agriculture conservation easement), and other minor improvements. The requirements of a conservation easement are determined by the conservation holder and funding source (if payment is received for the easement).
- **Existing Precedence In Boone County:** Conservation easements already have precedence in Boone County. The non-profit Greenbelt Land Trust of Mid-Missouri holds several private conservation easements in Boone and surrounding counties.

The biggest drawback of conservation easements is that just relying on donated conservation easements will likely not preserve large amounts of farmland or natural habitats in Boone County. Counties with large tracts of land preserved through conservation easements tend to utilize federal, state, local, or private funding programs (or a combination of programs) to purchase conservation easements.

Compensation for Conservation Easements

The value of a conservation easement is determined by several factors, primarily based on the difference between the land's market value before and after the easement is in place. Generally, the higher potential for development ("development rights value") means a higher value reduction when an easement is placed. The development rights value will be the difference between the current unrestricted value of the land and the value as restricted by a conservation easement.

The value is typically established through an appraisal conducted by a qualified appraiser. The appraiser evaluates the property's fair market value without the easement and compares it to the value with the easement's restrictions in place. The easement usually reduces the land's market value because it limits the potential for development or other income-generating activities. This reduction in value represents the easement's worth ("development rights value").

For example, let's say a landowner has agricultural land currently in production with row crops. An appraiser determines that if the land owner sold the property to a developer for residential development, the market value of the land would be \$14,500 an acre. However, if a conservation easement were in place that restricted the land to agriculture production (or other non-developed uses), the value of the land would be \$9,500 an acre. Thus, the easement's value (development rights value) would be \$5,000 an acre.

Donated Conservation Easements

Landowners who donate conservation easements may be eligible for federal income tax deductions and reduced property and estate taxes. The value of the easement is generally considered a charitable donation.

Partial Payments for Conservation Easements

The 2018 Farm Bill, officially known as the Agriculture Improvement Act of 2018, included provisions for conservation easements through programs managed by the USDA. The Agricultural Conservation Easement Program (ACEP) is the primary program under the 2018 Farm Bill that provides financial assistance for conservation easements. The 2022 Inflation Reduction Act included \$1.4 billion in additional funding for ACEP over five years, and it revised ACEP authority, providing Inflation Reduction Act funding for easements that will most reduce, capture, avoid, or sequester greenhouse gas emissions and extending regular program funding through fiscal year 2031.

The program has two main components:

- **Agricultural Land Easements (ALE):** These easements protect working agricultural lands from conversion to non-agricultural uses. They help maintain agricultural viability and prevent urban sprawl.
- **Wetland Reserve Easements (WRE):** These easements focus on restoring, protecting, and enhancing wetlands. They improve water quality, provide wildlife habitat, and offer flood protection.

The USDA provides funds to eligible entities (such as land trusts, non-governmental organizations, and state or local governments) to purchase conservation easements from landowners. The payment typically covers a significant portion of the easement's value, with the remaining value often donated by the landowner.

In addition to easement purchase payments, the USDA offers cost-share assistance to help landowners cover the costs of restoring and maintaining the land under easement. This may include costs for planting vegetation, installing water control structures, or other conservation practices.

To participate in the USDA **Agricultural Land Easements (ALE) program** landowners must meet certain eligibility requirements for the program, including having updated records at the Farm Service Agency (FSA), Adjusted Gross Income (AGI) limits, and compliance with FSA's highly erodible land and wetland conservation requirements.

Full Payments for Conservation Easements

In some cases, landowners receive full payments for the value of their conservation easements. These payments are typically funded through a combination of local, state, and federal sources. This chapter includes a case study of Lexington-Fayette County, Kentucky, where full payments for farmland conservation easements have led to significant preservation efforts.

CONSERVATION SUBDIVISIONS

Existing Agriculture Areas

Productive Farmland

Jane the Farmer has a large tract of farmland. She is able to farm most of the field, except for some drainage and woodland buffers.

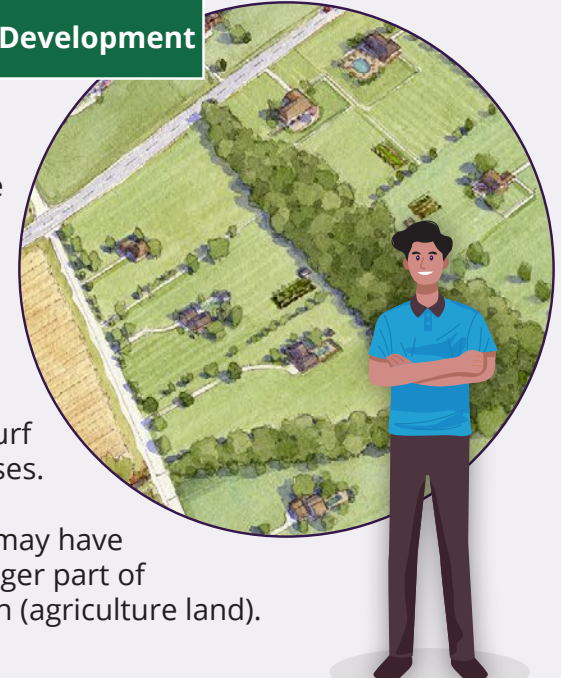


Typical Rural Residential Development

Loss of Farmland

Joe the Developer buys the tract of farmland. The baseline zoning is low density (large lots) residential. The rural lots are popular with homeowners. Yards are large (several acres) with turf grass or pasture type grasses.

While some homeowners may have gardens, the tract is no longer part of productive food production (agriculture land).



Conservation Subdivision

Preserving the Farmland with Residential

Instead of dividing the tract into large lots, the zoning allows a density bonus if the developer preserves a minimum of 50% of the tract as open space. The houses are clustered on smaller lots.



Both Jane the Farmer and Joe the Developer benefit as Jane can continue farming a substantial amount of acreage and Joe can sell more houses than what would have been allowed under the baseline zoning.

Benefits

- Preserved open space (this example includes farmland, but could also include natural habitats or other open space).
- Potential for reduced development costs due to less infrastructure needs like roads.
- Helps to preserve rural and scenic views.

Considerations

- Public central sewer system.
- Farmland and residential proximity could create conflicts with agriculture noise and dust.
- Market / zoning incentive for clustering.
- Connections between subdivisions.
- Sites with existing undevelopable areas ("preserved areas").

Conservation Subdivisions

Conservation subdivisions are an alternative development approach that prioritizes the preservation of natural and agricultural lands while allowing for residential development. Unlike conventional subdivisions, which typically divide a large parcel of land into uniform lots for housing, conservation subdivisions cluster homes on smaller lots to leave a significant portion of the land as protected open space. This open space can include forests, wetlands, agricultural fields, or other ecologically valuable areas.

Conservation subdivisions can be considered part of the conservation easements discussion since the preserved open space is permanently protected and is often managed by a homeowners' association, a land trust, or other entity. Typically, for a development to qualify as a conservation subdivision, 50% or more of the land must be preserved.

The primary goal of a conservation subdivision is to balance development with environmental preservation, maintaining the character of the land and reducing the ecological impact of development.

Conservation subdivisions offer benefits such as reducing stormwater runoff, preserving wildlife habitats, and maintaining scenic views, which enhance the overall quality of life for residents. Conservation subdivisions can also provide opportunities for farming, recreation, or community gardens. Additionally, this development strategy can help municipalities meet conservation goals and minimize infrastructure costs by requiring less road and utility development compared to traditional suburban development.

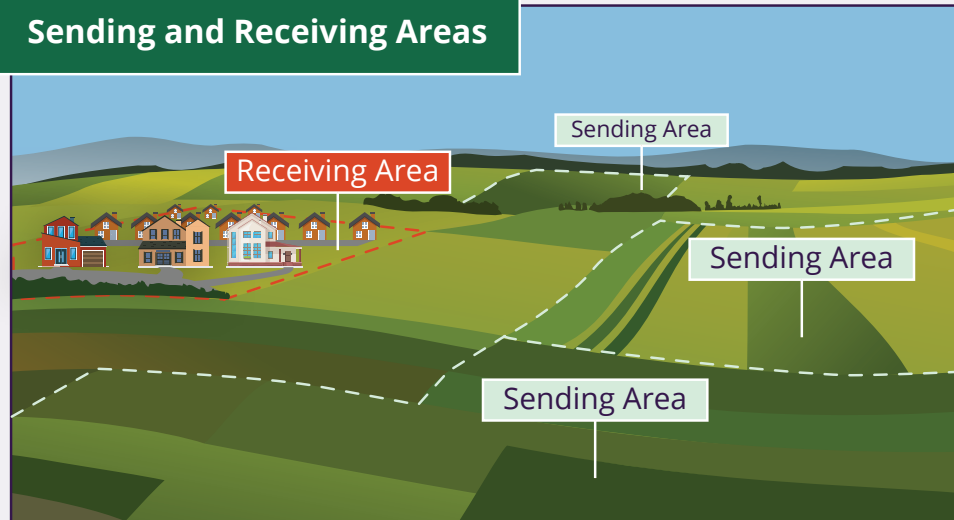
Considerations of Conservation Subdivisions

Conservation subdivisions are frequently highlighted in community plans as a model for development. However, their actual implementation is often constrained by several factors:

- **Sewer System Requirements:** Clustering homes on smaller parcels requires a centralized wastewater system, either through connections to a sewer district or a public subdivision-scale system.
- **Lack of Market Demand for Clustering:** The residential market may not always support demand for clustered development. Additionally, if baseline zoning allows for small lots, there may be insufficient incentives for developers to consider clustering. Clustering typically becomes more appealing when the baseline zoning requires large minimum lot sizes (e.g., 10 acres or more).
- **Tracts with Existing Undevelopable Areas:** Some conservation subdivisions preserve areas that are undevelopable due to natural features such as steep wooded slopes, riparian zones, or wetlands.
- **Connections between Subdivisions:** Many conservation subdivisions feature cul-de-sacs or dead-end streets. However, connected subdivisions are a planning best practice, providing better emergency access, utility connections, and more efficient local travel. Zoning and subdivision regulations should ensure that conservation subdivisions connect to adjacent developments.
- **Potential Conflicts with Agricultural Uses:** While open space in conservation subdivisions could be used for row crop production, it is often better suited for community-scale agriculture or gardens. Row crop or hay production may generate noise and dust conflicts with nearby residential areas.

TRANSFER OF DEVELOPMENT RIGHTS (TDRs)

Sending and Receiving Areas

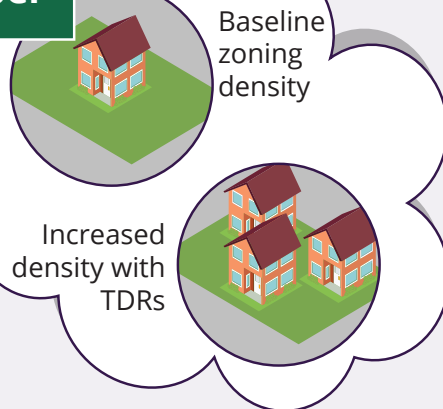


To understand the Transfer of Development Rights (TDRs), we need to understand Sending and Receiving Areas.

Sending Areas are areas where development rights are voluntarily restricted or reduced. They are agricultural lands, open spaces, historical sites, or environmentally sensitive areas. The development rights can then be sold ("transferred") as TDRs (Transfer of Development Rights).

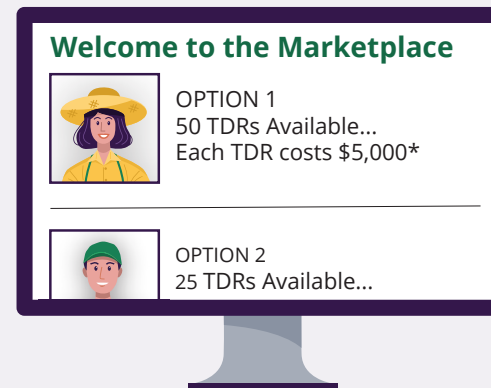
Receiving Areas are areas where higher-density development is encouraged.

Meet the Developer



For example, the Developer found a lot he wants to develop in the Receiving Area. However, the baseline zoning limits the residential density. In order to build at a higher density, the Developer buys TDRs from the sending area.

Transfer of Development Rights Marketplace



With the TDRs purchased through the Marketplace, the Developer can now develop at a higher residential density.

**Fair market value of land (\$14,500/acre) minus the value of the ground without development potential (\$9,500/acre) equals the development rights value (\$5,000/acre). Thus, each TDR value is \$5,000.*

Note: Acre and TDR valuations are examples only.

Transfer of Development Rights (TDR)

A Transfer of Development Rights (TDR) program is a land-use planning tool that allows property owners to transfer the development potential of their land to another location. The goal is to preserve land in areas designated for conservation (sending areas) while directing growth to areas more suitable for development (receiving areas). Both sending and receiving areas are designated by the governmental entity.

In a TDR program, property owners in sending areas can sell their development rights to developers or property owners in receiving areas (typically through a TDR marketplace administered by a governmental entity). This allows the sending area to be preserved for purposes such as agriculture, open space, or environmental protection, while the receiving area can accommodate more intense development than normally permitted by zoning laws.

TDR programs provide a market-based approach to land conservation, enabling landowners to profit from preserving their land without developing it. Meanwhile, developers can build at higher densities in receiving areas, making use of the purchased development rights.

Successful TDR programs depend on clear zoning regulations, adequate demand for increased density in receiving areas, the preservation value of the sending areas, and significant government administration.

However, TDR programs face several challenges. First, creating sufficient demand for increased density in receiving areas can be difficult, especially if local markets do not support higher-intensity development. Administrative complexity is another hurdle, as TDR programs require clear regulations, monitoring, and education. Finally, calibrating the zoning in both the receiving and sending areas must balance the market demand and the incentives to make preservation appealing.

Precedent

This section includes the Missouri enabling legislations for conservation easement and a review of how precedent counties have addresses conservation as part of their master plans.

Missouri Enabling Legislation

In 2011, the Missouri legislature passed enabling legislation for conservation easements. Known as the 'Private Landowner Protection Act,' the statute defines conservation easement and what entities can be a holder of the conservation easement.

Missouri statute:

(1) "Conservation easement", a nonpossessory interest of a holder in real property imposing limitations or affirmative obligations the purposes of which include retaining or protecting natural, scenic, or open-space values of real property, assuring its availability for agricultural, forest, recreational, or open-space use, protecting natural resources, maintaining or enhancing air or water quality, or preserving the historical, architectural, archaeological, or cultural aspects of real property;

(2) "Holder", any of the following:

(a) A governmental body empowered to hold an interest in real property under the laws of this state or the United States;

(b) A charitable corporation, charitable association, or charitable trust, the purposes, powers, or intent of which include retaining or protecting the natural, scenic, or open-space values of real property, assuring the availability of real property for agricultural, forest, recreational, or open-space use, protecting natural resources, maintaining or enhancing air or water quality, or preserving the historical, architectural, archaeological, or cultural aspects of real property; or

(c) An individual or other private entity.

There are many example conservation easements in Missouri, especially donated easements. The Greenbelt Land Trust of Mid-Missouri and the Ozark Land Trust are two non-profits that hold conservation easements in central Missouri.

Greene County, Missouri

The goals of Greene County's Comprehensive Plan include the preservation of agriculture, farmland, and green space conservation and connections. One of the plan's objectives is to "promote land preservation through conservation easements wherever possible."

The plan provides an overview of donated conservation easements and states that the county will support any voluntary conservation easement efforts. It mentions organizations such as the Ozarks Regional Land Trust, Ozark Greenways, and the American Farmland Trust as potential easement holders.

Other tools for farmland preservation mentioned by the plan:

- Using maps to evaluate locations of water sources, soil types, and floodplains, to decide which areas are best to preserve for agriculture.
- Stress the recognition of urban growth boundaries.
- Promoting development in areas that are already zoned for development.

Conservation strategies included:

- Develop a countywide green infrastructure plan.
- Focusing growth and development in specific areas.
- Encouraging inclusion of green space in new developments.

While the plan recommends using conservation subdivisions, it acknowledges the limited interest from developers. To encourage their adoption, it suggests implementing greater density bonuses and utilizing combined wastewater treatment facilities.

Douglas County, Kansas

The Douglas County Comprehensive Plan recommends using conservation easements to preserve and restore natural areas, including native prairies. However, it lacks detailed guidance on implementing these easements.

Following the comprehensive plan, the county developed a separate Open Space Plan that provides direction for conserving natural lands and cultural sites. According to this plan, there are 1,730 acres of privately conserved land, with the Kansas Land Trust holding easements on 1,200 acres. One of the key recommendations of the Open Space Plan is to enhance support for private conservation easements. The plan also proposes the creation of a new county grant program to support conservation initiatives and briefly explores potential local funding sources and staffing recommendations to strengthen conservation efforts.

While Douglas County does not have an extensive conservation easement program, it does maintain strong land policies, with well-defined growth tiers around Lawrence, helping to preserve agriculture and natural habitats in rural Douglas County.

Johnson County, Iowa

Johnson County's agricultural exemption rule has effectively preserved farmland and limited residential sprawl. As of the 2018 comprehensive plan, properties must be 40 acres or more, zoned agriculturally, and actively used for agriculture to qualify for agricultural exemption. Under Iowa's state statutes, agricultural exemption means the property is exempt from all zoning and building permit regulations. The minimum 40-acre property size prevents subdivision, thereby maintaining the agricultural exemption.

The Johnson County comprehensive plan highlights the county's Conservation Strategic Plan as the primary strategy for conservation and preservation. This Strategic Plan outlines three goals for protection: The Johnson County comprehensive plan references the county's Conservation Strategic Plan as the key strategy for conservation and preservation.

The Strategic Plan outlines three goals for protection:

- Grow the county's land holdings in a managed and sustainable manner, with a priority on bio-sensitive areas and lands along rivers and streams.
- Add lands to the public trust that connect to current holdings and reduce fragmentation or isolation of natural areas due to development.
- Acquire more land for trails.

In 2008, Johnson County voters approved a \$20 million bond referendum to protect water quality in rivers, lakes, and streams, enhance air quality through forest protection, safeguard natural areas and wildlife habitat from development, and provide parks and trails.

The Johnson County comprehensive plan briefly references the Conservation Reserve Program (CRP) and the Agricultural Conservation Easement Program (ACEP), with an action item promoting their use.

Additionally, Johnson County has a 'Rural Conservation Zoning District' to encourage conservation subdivisions, requiring a minimum of 50% of the subdivided land to be preserved for open space or limited-use agriculture. Developers can earn a density bonus for meeting this preservation threshold. However, the 2018 comprehensive plan notes that no platting or development had been completed at the time of publication, stating that the requirement to preserve 50% or more of the development as open space, along with installing a DNR-regulated septic system, has proven to be a significant barrier for developers.

Monroe County, Indiana

One of the key principles of the Monroe County Comprehensive Plan is to enhance the protection of existing natural resources and open spaces. A primary goal of the plan is to establish a program for the acquisition of significant natural features by public and private land conservation organizations, aimed at restoration and protection from development.

However, the comprehensive plan does not provide explicit recommendations or actions for creating such a conservation program. As a policy statement, the plan supports and encourages the expanded use of conservation trusts, particularly the Sycamore Land Trust. According to data from the Sycamore Land Trust, the organization has protected 11,432 acres across 26 counties in southern Indiana, though the specific number of acres protected in Monroe County is not clear.

The Monroe County Comprehensive Plan references the Monroe County Parks and Recreation Master Plan for more detailed strategies regarding parks and open space needs. While Monroe County does have an existing county parks system, the master plan's implementation strategy focuses on future funding and investment in existing parks, without provisions for acquiring additional parks or open space. It also does not outline strategies for private land conservation.

It is important to note two key factors related to conservation efforts in Monroe County. First, farming and agriculture are less prevalent here compared to the other five precedent counties. Second, a significant portion of rural Monroe County is already designated as federal conservation lands and state-managed areas. Given these circumstances, it appears that the residents may not view additional conservation measures as a high priority.

Kalamazoo County, Michigan

Kalamazoo County is somewhat unique in that its countywide master plan does not serve as a land use policy document for the unincorporated areas of the county. Instead, the plan functions as an inventory and analysis of the local master plans developed by various communities and townships. The county acts more as a central hub for data and best practices rather than providing land use policy and zoning for unincorporated areas. Additionally, the countywide master plan is intended to serve as a tool for grant eligibility.

Key goals for local plans include "Protect Natural Resources" and "Preserve Agricultural and Rural Land." The plan mentions conservation tools such as conservation easements and public purchase of development rights.

Kalamazoo County benefits from Michigan's Farmland and Open Space Program, which was first adopted by the state in 1974. As of 2016, between 21% and 35% of the county's total farmland was enrolled in the Preservation Program.

This program allows farm owners to enter into development rights agreements with the state, ensuring that the land remains in agricultural use for a minimum of 10 years and preventing development for non-agricultural purposes. In return, landowners receive certain income tax benefits, and the land is exempt from special assessments for sanitary sewer, water, lights, or non-farm drain projects.

In 2017, with support from the Farm Bureau and other organizations, Kalamazoo County considered adopting a Farmland Preservation Ordinance. This ordinance aimed to establish permanent farmland preservation tools beyond the state's temporary programs. It would have created a county Agriculture Preservation Board tasked with purchasing development rights for farmland and set up a fund for this purpose. However, no funding sources were identified or proposed.

Kalamazoo County has an existing county parks system, and the Parks and Recreation Master Plan includes strategies for future funding and investment in existing parks. However, it does not address the acquisition of additional parks or open space, nor does it include strategies for private land conservation.

Nationwide Agriculture Conservation Easement Programs

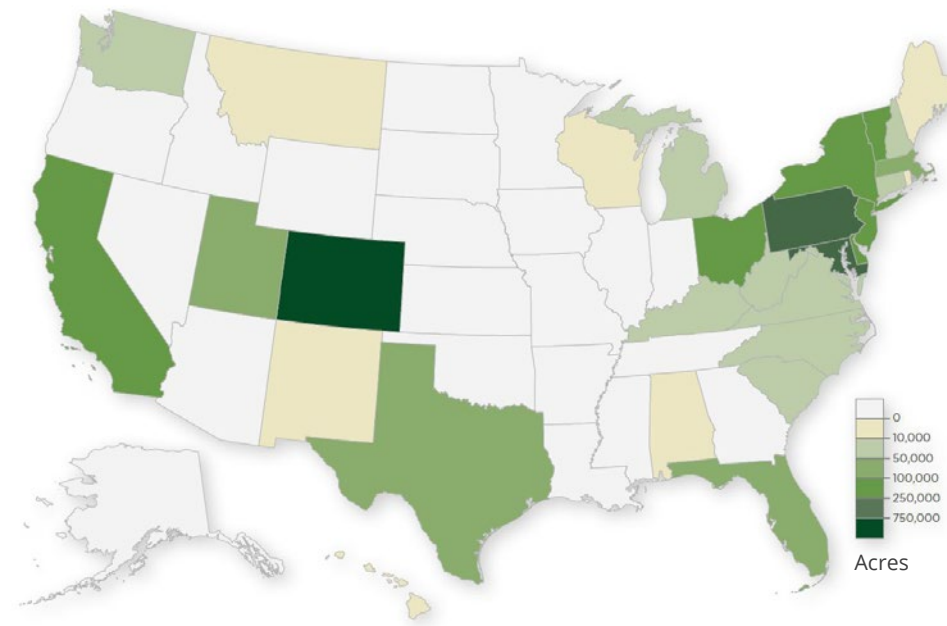
The map on this page from the Farmland Information Center summarizes state-level Purchase of Agricultural Conservation Easement (PACE) programs. For a program to be included in the table, it must have state authorization, protect agricultural land, fund easement acquisitions, and have received funding. According to the Farmland Information Center, Missouri has authorized PACE but has not yet allocated funds or acquired any easements.

It is important to note that this map focuses solely on agricultural easements and does not include other conservation programs aimed at preserving natural habitats or open spaces. As the map indicates, Missouri and its neighboring states have not actively engaged in state programs for purchasing agricultural easements.

In addition to statewide programs, many local jurisdictions, typically counties, have their own programs to purchase agricultural easements. According to the Farmland Information Center, at least 98 independently funded local PACE programs across 20 states have acquired funding and/or easements. To qualify for inclusion, protecting agricultural lands must be a core purpose of these programs, primarily achieved by compensating landowners for the value of the easement.

Local programs often incorporate a mix of funding sources, including local, state, and federal funds. The table on this page highlights the leading local programs.

Acres (by State) Preserved Through Statewide Purchase of Agriculture Easement (PACE) Programs as of 2024



Source: Farmland Information Center 2024 fact sheet (Partnership between the American Farmland Trust and USDA Natural Resources Conservation Service)

Leading Local Purchase of Agriculture Easement (PACE) Programs as of 2020

LOCALITY	EASEMENTS	ACRES PROTECTED
Lancaster County, Pennsylvania	1,022	83,086
Carroll County, Maryland	638	71,649
Baltimore County, Maryland	481	67,051
Frederick County, Maryland	446	62,186
Harford County, Maryland	458	51,461
Routt County, Colorado	65	48,227
Chester County, Pennsylvania	521	41,284
Douglas County, Colorado	32	40,232
Sonoma County, California	85	36,161
Washington County, Maryland	425	34,373
Burlington County, New Jersey	252	33,203
Lexington-Fayette County, Kentucky	277	30,395

Source: Farmland Information Center 2021 factsheet (Partnership between the American Farmland Trust and USDA Natural Resources Conservation Service)

Case Studies

This section presents case studies from other counties regarding the conservation tools discussed in this chapter. Comparing local and county programs can be challenging, as state enabling legislation and state conservation programs often play a crucial role in shaping local options.

This section includes case studies from:

- Lexington-Fayette County, Kentucky
- Kent County, Michigan
- Calvert County, Maryland
- Chester County, Pennsylvania



CONSERVATION TOOLS:

Lexington-Fayette County, Kentucky

The county uses a **Purchase of Development Rights (PDR)** program to preserve farmland, retaining and enhancing agriculture for economic development, tourism, natural resources, and general scenic beauty.

Quick Facts

- Program began in 2000
- Amount of land conserved: 31,085 acres (2023)
- Amount of farms permanently protected: 285
- Goal: Preserve 50,000 total acres
- Approximately 25% of the county's Rural Service Area is protected by easements
- 2024 easement cost: \$3,443 (average of recorded easements)

Overview

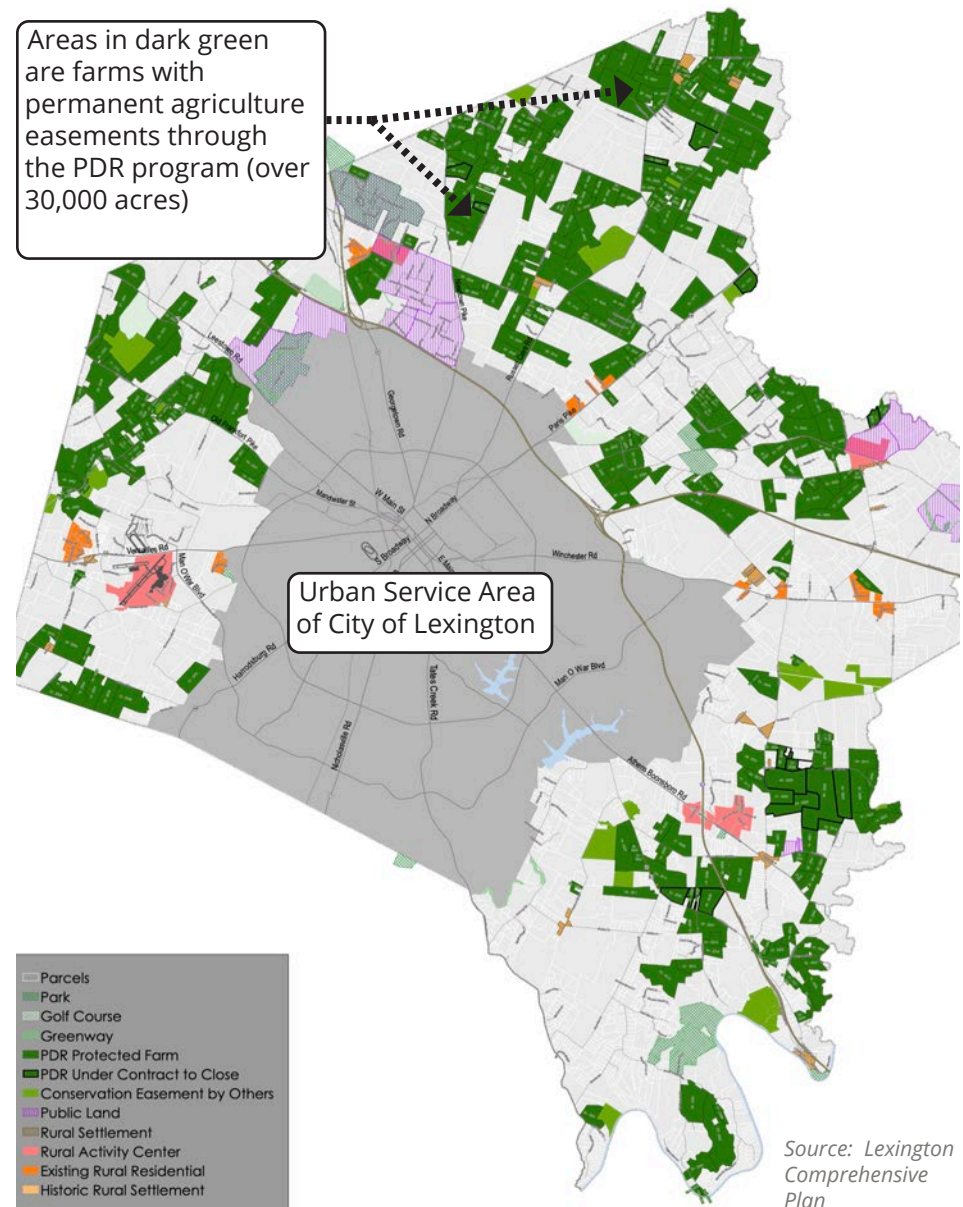
Recognizing the importance of Fayette County's beautiful farmland ("Horse Capital of the World") and high-quality soils to the equine, cattle, and tourism industries, the county initiated a Purchase of Development Rights (PDR) program in 2000. It was Kentucky's first Agricultural Conservation Easement program facilitated by a local government. This program aims to preserve farmland and the county's scenic beauty, thereby supporting economic development, tourism, and natural resources. The program is completely voluntary, enabling property owners (typically farmers) to sell their development rights to the Fayette County Rural Land Management Board (RLMB) as a conservation easement. That land is then preserved as farmland, protecting it from future development.

Property owners with farms of at least 20 acres and located in the Agricultural-Rural (A-R) Zone can apply. Adjacent tracts can also be combined. PDR staff review and evaluate applications based on set criteria. Higher amounts of acreage, public road frontage, and proximity to other rural land and/or conservation easements result in higher scores in the evaluation process.

Other criteria include:

- Quality of soil
- Farm activity
- Agricultural improvements
- Environmentally sensitive areas
- Rural greenways (designated)
- Focus areas (designated)
- Natural protection areas linkages
- Historic / cultural resources
- Scenic resources

Map of Conserved Land in Lexington-Fayette County



Higher-scoring, chosen applications result in a deed/agreement, and move into the appraisal process. RLMB retains an independent certified real estate appraiser for an appraisal of the property; RLMB uses its funds for payment of this process. If the property owner decides to sell below the appraised value, they receive additional points on their evaluation (the lower the price, the higher points gained). Assuming federal requirements have also been met, the RLMB finalizes the Conservation Easement agreement. Property owners (in most cases) receive 50% local and 50% federal funded money. The entire process typically takes 1-2 years.

As of 2019, total spending for conservation easements was close to \$80 million in federal, state, and local funds for approximately 30,000 acres of easements. The City of Lexington contributes approximately \$2 million a year toward the program.

Benefits to Property Owner

The primary benefit to property owners is a cash payment for, essentially, keeping their land as-is. They are able to continue farming and/or the same activities as before the conservation easement. If property owners do not meet the 20 acre minimum, they are able to donate acreage to the program.

Lessons Learned

Who is Involved

The county amended the program to prevent serving County Rural Land Management Board members from financially benefiting from the program via property ownership and applying. Currently, board members must wait one year after being on the board before applying.

Due to the need of matching federal funds, the requirements of the federal program has brought U.S. citizenship of property owners into question. Non-United States citizens owning property that meets the PDR program criteria do not necessarily meet the federal requirements. Locals have also been vocal about non-United States citizens benefiting financially from the locally and federally funded program.

Financials

The county amended the program to eliminate any outside or additional appraisals from being completed during the process. Some property owners had used them to negotiate higher easement payments.

An extremely large farm became a question for the county. The farm met all PDR program criteria, scoring high. The county wondered if they could afford the conservation easement (with or without federally matched funding), and if that amount of money should be spent through PDR as opposed to other county programs.

Questions about Public Access and Spending Priorities

A private property remains private, even after a conservation easement is put into place for the property. The ability for the land to stay private is one of the cornerstones of conservation easements and a important benefit for property owners who are considering to participate. However, as the total amount of federal, state, and local public funds grow for the purchase of the conservation easements, some members of the public are starting to ask whether landowners should consider providing public access. While this discussion has been limited to date, other members of the public have questioned the amount of local funds being spent on conservation easements versus other city programs and services. Supporters of the PDR program point out the economic benefits of the agriculture sector and the tourism benefits to the city and county. According to Lexington's comprehensive plan, the agriculture sector supports one out of every 12 jobs in Fayette County.

CONSERVATION TOOLS:

Kent County, Michigan

The county uses a **Purchase of Development Rights (PDR)** program to address rapid urbanization in the county.

Quick Facts

- Started in 2002.
- A modest PDR program. An average of 125 acres a year preserved. Approximately 3,000 acres preserved since 2004.
- Good model for program eligibility and scoring criteria.

Overview

Kent County Purchase of Development Rights (PDR) program started in 2002 with the passage of a PDR ordinance by the County's Board of Commissioners. The start of the PDR program was the outcome of recommendations to address rapid urbanization in the county. The first application cycle in the county was held in 2004 with 44 applications requesting 5,300 acres be preserved.

While initial demand for farmland to be part of PDR program was high, actual acreage preserved has been relatively modest. As of 2024, approximately 3,000 acres (an average of 125 acres a year) have been preserved according to local news sources. Available information doesn't explain the reason for the low number of acres, but it appears that lack of local funding has limited participation.

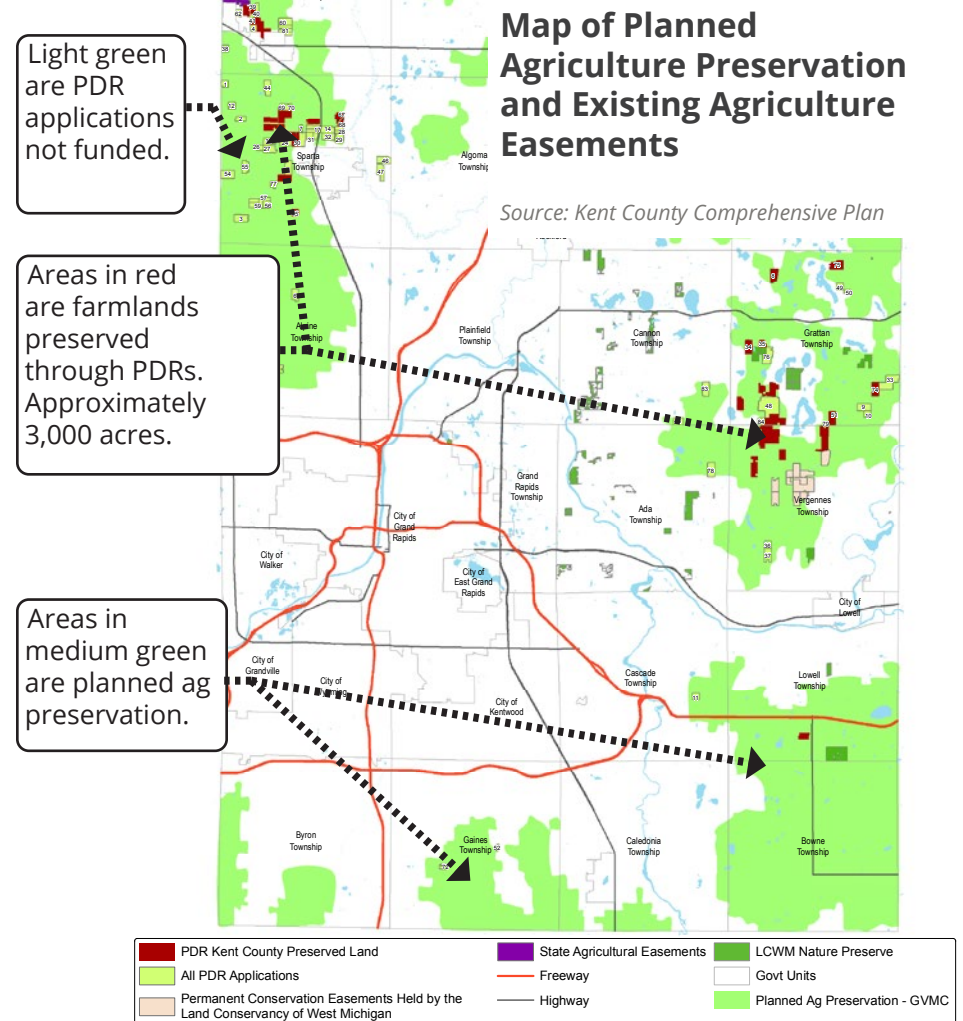
Although participation in the PDR program has been modest, Kent County program requirements are a good model. For example, eligibility requirements include:

- Properties must be at least 51% devoted to agriculture (higher percentages also have a higher evaluation score).
- Properties must not be within an Urban Services District (areas planned for water and sewer).

Applications are also evaluated with a weighted scoring criteria. The highest ranking applications receive priority for available funding.

High ranking criteria include:

- Percent of the parcel with prime soils.
- Percent of the parcel with active (working) agriculture.
- Parcels adjacent to other existing protected land.
- Size of the parcel (larger parcels score higher with 120+ acres receiving the highest score.)



Medium ranking criteria include:

- A success plan to address future viability for continued farming.
- Percentage of surrounding land in agriculture.
- Adjacent road frontage (more road frontage, higher the score).
- Amount of matching funds.

Other criteria (with low rankings) include if the farm is certified organic, listings for critical species, enrolled in Conservation Reserve Program, contains sizable natural features, conservation plan, etc.

CONSERVATION TOOLS: Calvert County, Maryland

The county has used a **Transfer of Development Rights (TDR)** since the late 1970's. But since the early 2010's, the program has turned into more of a **Purchase of Development Rights (PDR)**.

Quick Facts

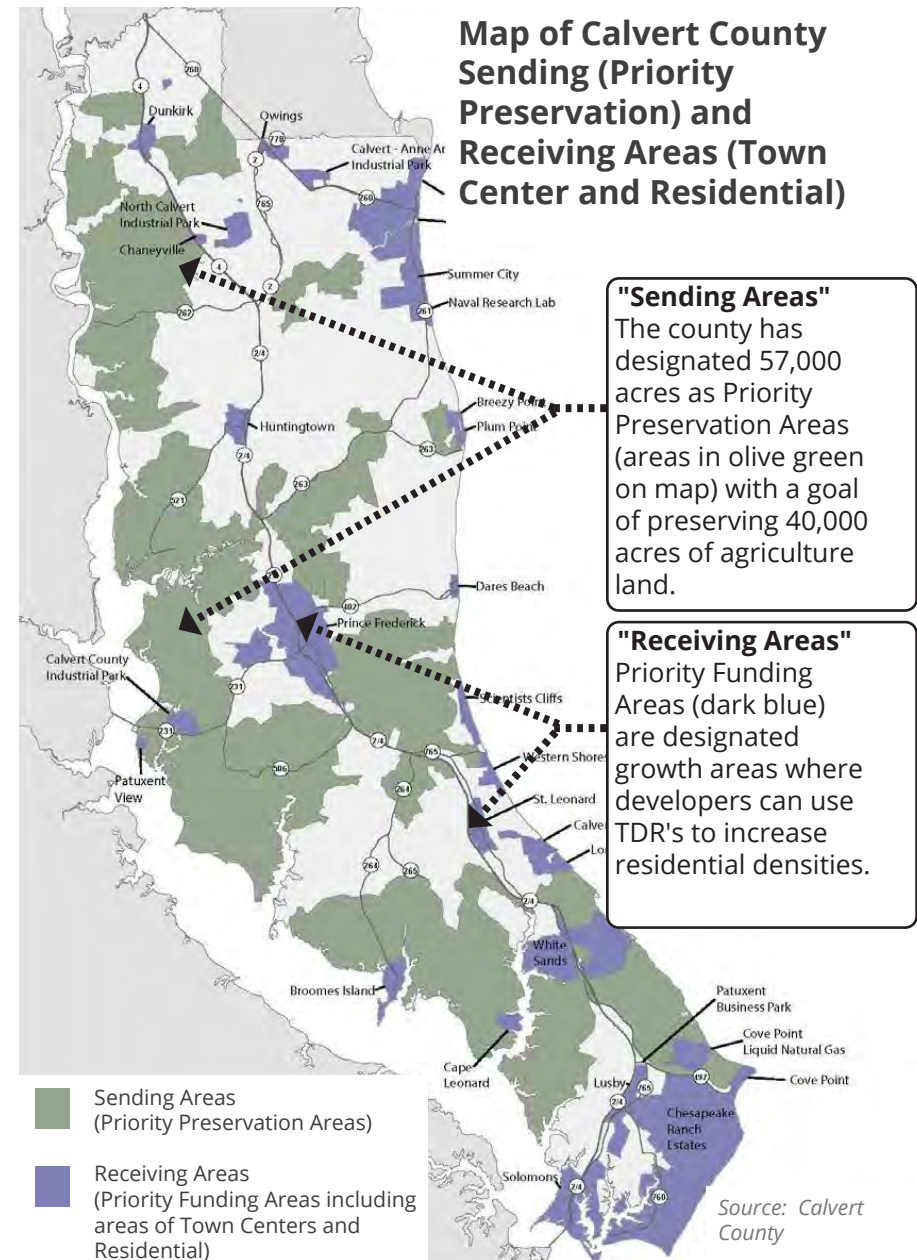
- The county's Transfer of Development Rights (TDR) program started in 1978 with goal of conserving 20,000 acres.
- By 1997, 20,000 acres had been conserved (a combination of TDR and other programs). The county increased the conservation goal to 40,000 acres.
- By 2017, 29,903 acres had been preserved with 14,442 acres conserved through TDR's.
- 2024 value of one TDR is \$5,500 (One acre of conserved land equals one TDR).

Overview

TDR's are one part of Calvert County's conservation strategy. Calvert County utilizes five key programs and tools to preserve farmland and work toward achieving its goal of preserving 40,000 acres of agricultural land. Development and use of these tools began with the designation of county-wide agricultural preservation districts, subsequent adoption of effective land preservation tools, and 1999 and 2003 Zoning Ordinance updates that provided land use controls favorable to the preservation of farmland.

A land owner may petition for the certification of development rights. Once certified, the TDRs can be sold to another party and transferred to a receiving area to increase the number of residential lots/units.

According to the Calvert County Comprehensive Plan, the market for TDRs has varied over time. Between 1978 and 2013, 14,442 TDRs were sold. In 2013 a Calvert County Planning & Zoning review of the county's TDR program concluded that TDR sales had averaged between 500 and 600 per year but that the Great Recession had a profound impact on the use of TDRs and total sales went from 716 in 2003 to 72 in 2012.



In the 1990's Calvert County supplemented the private TDR market with a Purchase and Retirement (PAR) Fund and Leveraging and Retirement (LAR) Fund. The Purchase and Retirement Fund's purpose is to purchase and permanently remove ("retire") development rights from the transferable development rights market. The development rights are retired rather than sold to transfer development elsewhere. Funding for the purchase of development rights has come from the agricultural land transfer tax, the recordation tax, local government funds, and matching funds from the Southern Maryland Agricultural Development Commission and the Tobacco Buyout Fund. Between 1993 and 2016, the county purchased and retired 2,682 development rights through PAR at a total cost of \$10.8 million. The Leveraging Program is similar to the PAR Fund with the primary difference being the amount of development rights that may be sold and the method of payment. The county has purchased and retired 2,597 development rights through the LAR Program since 1999.

TDR's can be purchased by developers to increase residential densities in certain areas of the county. While allowable densities vary in different zoning districts throughout the county, below is one example.

Example	
Baseline zoning:	1 unit per acre
With TDR's:	4 units per acre

Note: Five TDRs are required for each unit above the baseline zoning of 1 unit per acre, so to achieve the full allowance of 4 units per acre, the developer would require 15 TDRs.

Lessoned Learned

Importance of State Programs and Regulations

Maryland has several state programs that influence conservation and growth. Approximately 25% of preserved land in Calvert County has been funded through these statewide conservation initiatives. State land use policies prioritize funding for highways, sewer systems, and water infrastructure in designated growth areas. Additionally, statewide environmental policies address Chesapeake Bay impact regulations and establish requirements for on-site sewer systems, which discourage lower-density residential development.

The TDR Program has evolved into a Purchase of Development Rights Program

Culvert County's comprehensive plan notes the declining demand for Transfer of Development Rights (TDRs) after 2010. A review of the county's program suggests there was a surplus of TDRs because developers were not purchasing enough of them. Consequently, while the county still maintains a TDR program, it has transitioned into a purchase of development rights program through the county's Purchase and Retirement Fund and Leveraging and Retirement Fund.

The reduced demand for TDRs could be due to an overall decrease in residential housing demand or zoning requirements that are not properly calibrated with market demand.

Countywide Zoning

For the most part, Calvert County consists of unincorporated areas. Most "communities" in the county are unincorporated, and thus both land use planning and zoning fall under the jurisdiction of the county. The county only has two towns that are incorporated (North Beach and Chesapeake Beach). The population of the two towns only represent 9.1% of the county's population of 94,573. Thus, the county can calibrate the zoning for the receiving and sending areas for the TDR program.

CONSERVATION TOOLS:

Chester County, Pennsylvania

The county uses multiple tools including **Purchase of Development Rights (PDR)** and **conservation subdivisions** to preserve farmland, natural habitats and open space.

Quick Facts

- Example of multiple conservation tools including conservation subdivisions and agriculture conservation easements.
- Over 68,000 acres of farmland in the county has been preserved as of 2015.
- Almost 130,000 total acres (including farmland, natural habitats, open space etc.) in the county has been preserved as of 2015. Preserved land represents almost 27% of the county.
- 2022 easement cost: \$4,900 (approximate average)

Overview: Farmland Preservation

Chester County, Pennsylvania, employs multiple conservation tools, with this case study focusing on conservation subdivisions and agricultural conservation easements.

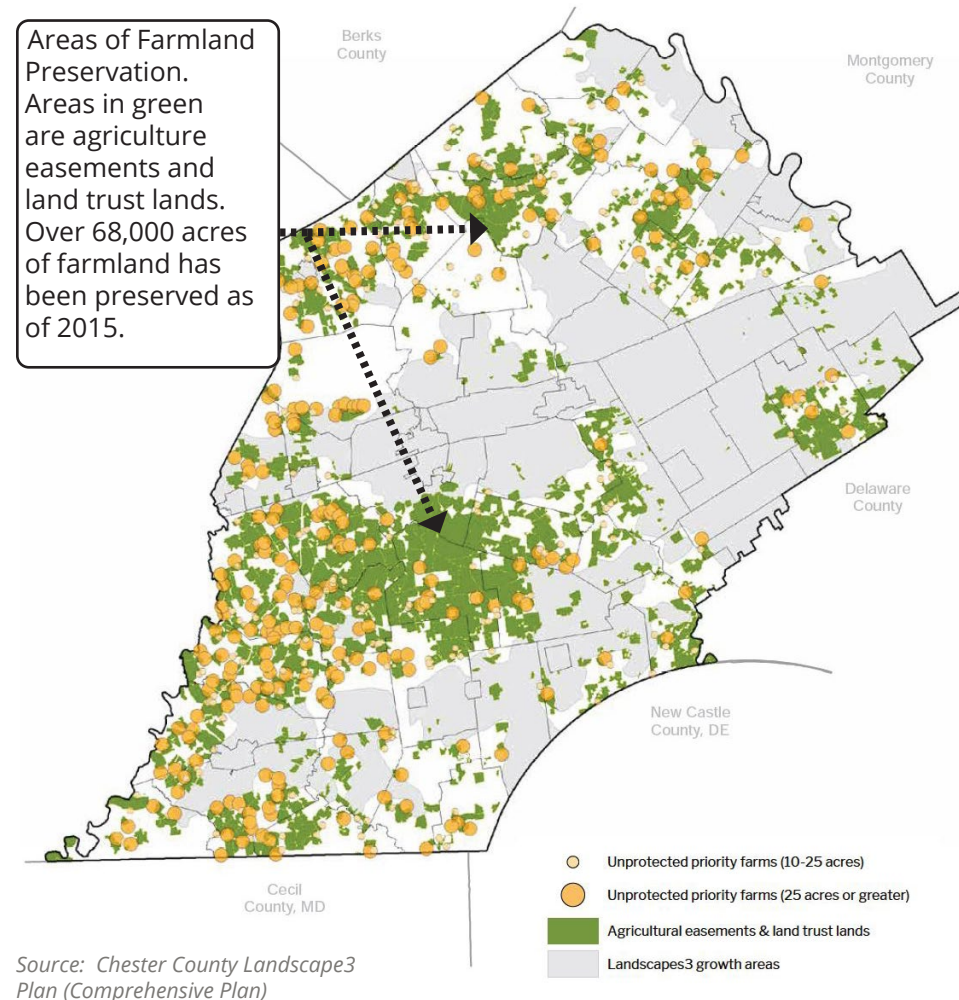
The preservation of farmland has been a priority in Chester County since the adoption of the first comprehensive plan in 1996, which envisioned the preservation of open spaces while concentrating growth in appropriate areas. According to the county's most recent comprehensive plan, approximately 92,000 acres of open space (including farmland) were permanently protected between 1996 and 2015. In total, nearly 130,000 acres—about 27% of the county—have been preserved. These efforts are led by the Chester County Department of Open Space Preservation, in partnership with municipalities and nonprofit land trusts.

A key tool for farmland preservation is the purchase of agricultural conservation easements. According to county data, in 2022, agricultural easements were purchased for 583 acres at an average value of \$4,900 per acre. The funding sources for acquiring these agricultural easements included:

- 44% County share
- 0% Federal share
- 38% State share
- 18% Municipal share

The key lesson learned from Chester County for farmland preservation is the multiple sources of funding (county, state, and municipal) to purchase agriculture conservation easements. Based on most recent data available, over the three years from 2020 - 2022, the county averaged \$1.2M per year in spending toward agriculture conservation easements.

Map of Chester County Agriculture Easements and Land Trust Land



Overview: Conservation Subdivisions

Chester County encourages the use of conservation subdivisions through model ordinances and educational initiatives aimed at local municipalities and townships. The intent is generally to maintain a base density that is neutral or similar to that of conventional developments, although some municipalities allow for additional units to promote the adoption of conservation subdivision options.

Three county-level plans provide policy guidance that supports conservation subdivision development over conventional development: *Landscapes3: County Comprehensive Plan* (2018), *Watersheds* (2024), an integrated water resources plan for the county, and the *Countywide Act 167 Stormwater Management Model Ordinance* (2022).

This page highlights four examples of conservation subdivisions in Chester County, utilizing maps and data from the Chester County Planning website. While most conservation subdivisions in the county have preserved woodlands, two of the examples featured on this page include farmland. Notably, most of these precedent examples do not include streets (or stubs) that connect to adjoining properties. A best practice for subdivisions is to include streets (or stubs for future streets) that connect to neighboring subdivisions.

Chester County has examples of conservation subdivisions dating back to the 1980s. Since much of the underlying zoning is municipal, a deeper analysis is needed to fully understand the drivers and incentives for conservation subdivisions. A recent influence has been the model Stormwater Management Ordinance adopted in 2022, which all Chester County municipalities were required to implement. Because cluster and conservation design inherently involves a design process aligned with stormwater best practices, the ordinance includes an appendix detailing the Conservation Design and Low Impact Development Site Design Process.



Pickering Glenn Conservation Subdivision
 Year Approved: 2000
 Housing: 49 single-family units
 Tract Size: 115.22 acres
 Open Space: 63% (72.56 acres)
 Gross Density: 1 unit per 2.35 acres
 Parcel Size (Estimated): 25,000 - 30,000 SF



Reserves at Chaddsford
 Year approved: 1993
 Housing: 55 single-family units
 Tract Size: 132.77 acres
 Open space: 59% (78.33 acres)
 Gross Density: 1 unit per 2.4 acres
 Parcel Size (Estimated): 29,000 - 34,000 SF



Ponds at Woodward
 Year Approved: 1983
 Housing: 31 single-family units, 24 townhouses
 Tract Size: 120.40 acres
 Open Space: 74% (89 acres)
 Gross Density: 1 unit per 2.2 acres
 Parcel Size (Estimated): not calculated



Ferguson Preserve
 Year approved: 2020
 Housing: 63 single-family units
 Tract Size: 147 acres
 Open space: 112 acres (76%)
 Gross Density: 1 unit per 2.3 acres
 Parcel Size (Estimated): 24,000 - 29,000 SF

A large, stylized number '7' in a light green color, positioned on the right side of the slide. It has a thick horizontal top bar and a diagonal stem that tapers slightly towards the bottom.

Growth Projections and Scenario Planning

GROWTH PROJECTIONS
PRECEDENT COUNTIES
GROWTH SCENARIOS
SCENARIO EVALUATION

Growth Projections

OVERVIEW

To lay the foundation for scenario planning, it is essential to understand anticipated future growth in terms of population and jobs. This section reviews two different growth projections and their potential outcomes for population and employment. Importantly, population growth is then translated into the number of housing units needed.

While the future cannot be predicted, this analysis provides a logical framework for examining potential growth in Boone County. It is important to note that the analysis results in a range of projections. For simplicity, a single growth projection (37,000 housing units) is used for discussion later in this chapter. However, it's critical to remember that any future growth projection should be viewed as a range.



Growth Projections

To lay the groundwork for scenario planning, it is essential to comprehend the anticipated future growth concerning population and jobs. The master plan is utilizing two growth projections:

"More of the Same"

Anticipated growth in Boone County until 2050 is projected to mirror the trends observed over the last two decades.

"Americana"

Growth in Boone County until 2050 is expected to align more closely with national growth trends. This trajectory represents a slower rate compared to recent local growth, and it also considers the national growth trends, which are predicted to slow in the later decades.

These growth projections play a critical role in shaping the master plan, offering a foundation for anticipating and accommodating shifts in population, economic, and infrastructure requirements over time. While the future remains inherently uncertain, the findings of the "More of the Same" and "Americana" projections establish a logical framework for potential growth in Boone County. This analysis aids in informed decision-making for the master plan.

National Trends

The recent slowing of American population growth began about the year 2000 with decreasing growth rates expected for a century.

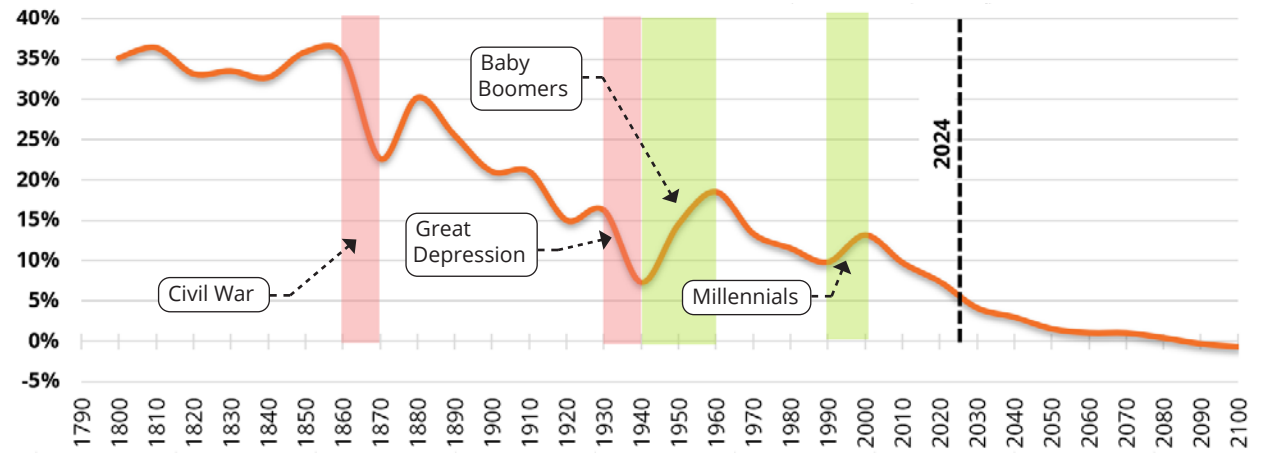
The nation has had growth rate declines in the past. A growth rate decline does not mean population decline; it's just that growth is slower than previously. The most notable rate declines were a result of the Great Depression and World War II (1930s and 1940s) and after the Baby Boom generation was born (1970s and 1980s).

The Baby Boomers triggered a massive baby boom of their own called the Millennial generation which resulted in even more "new Americans" than the Boomer generation. That generation, however, is having many fewer children than their predecessors and future generations will not only be smaller, as a result, but also will likely have fewer children per family, too. The Census projections generally hold net immigration steady year-to-year.

The U.S. Census Bureau projects the country's population will peak in 2080, then decline to 2100. In 2050, the U.S. is projected to have 360,639,000 residents, an 8.2% increase from 2022.

TEN-YEAR PERCENT CHANGES IN U.S. POPULATION (1790 TO 2100)

Source: U.S. Census Bureau



Population Projections

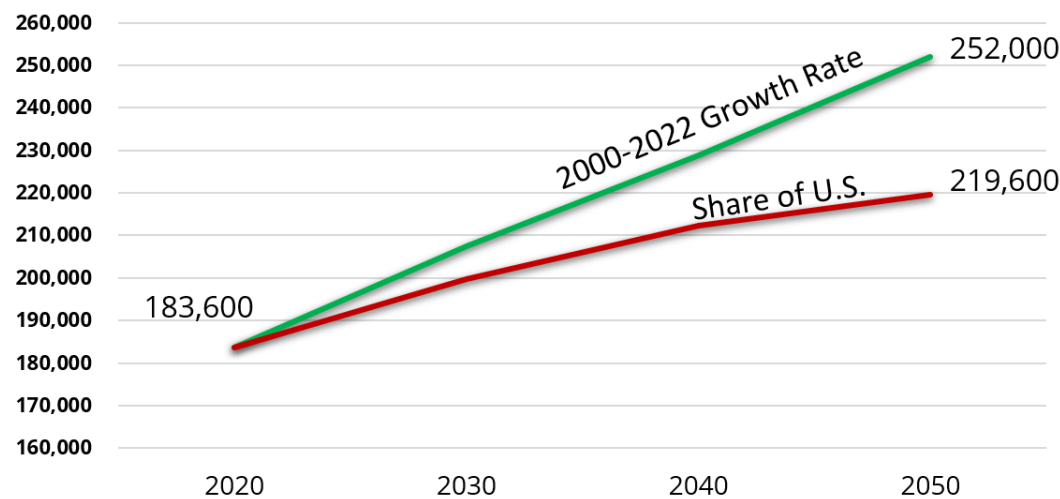
In 2050, Boone County's population could reach 252,000 if the growth rates of the past two decades persist. However, considering the national trend of slowing population growth rates and projecting Boone County's share of the nation ("Americana" projection), the county might see a more conservative estimate of 219,600 residents by 2050.

Boone County stands out from the broader Missouri trend, where there is a general tendency towards slow growth. In 2022, the Columbia metropolitan area, encompassing Boone, Howard, and Cooper Counties, exhibited an increase of 12.4% in population compared to 2010, ranking 98th in growth rate among the 384 U.S. metropolitan areas, placing it almost in the top quartile. In comparison, Springfield followed closely at 111th (11.4%), and Kansas City ranked 128th (9.6%).

This outpacing in population growth within the Columbia area does not extend to its neighboring Jefferson City metro area, which experienced a minimal growth of just 0.2% over the last 12 years.

It is plausible that Boone County will favor higher growth rates rather than lower.

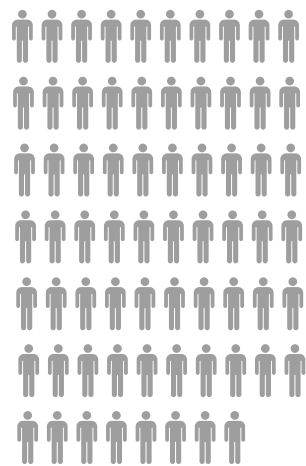
PROJECTED BOONE COUNTY POPULATION SCENARIOS TO 2050
BASED ON PAST GROWTH RATES AND SHARES OF LARGER JURISDICTIONS
Sources: U.S. Census and SLU Community Planning Lab



2050 POPULATION (PROJECTED)

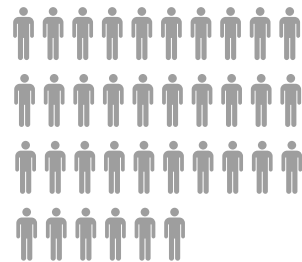
"MORE OF THE SAME"

68,400 More Residents
37.3% Increase



"AMERICANA"

36,000 More Residents
19.6% Increase



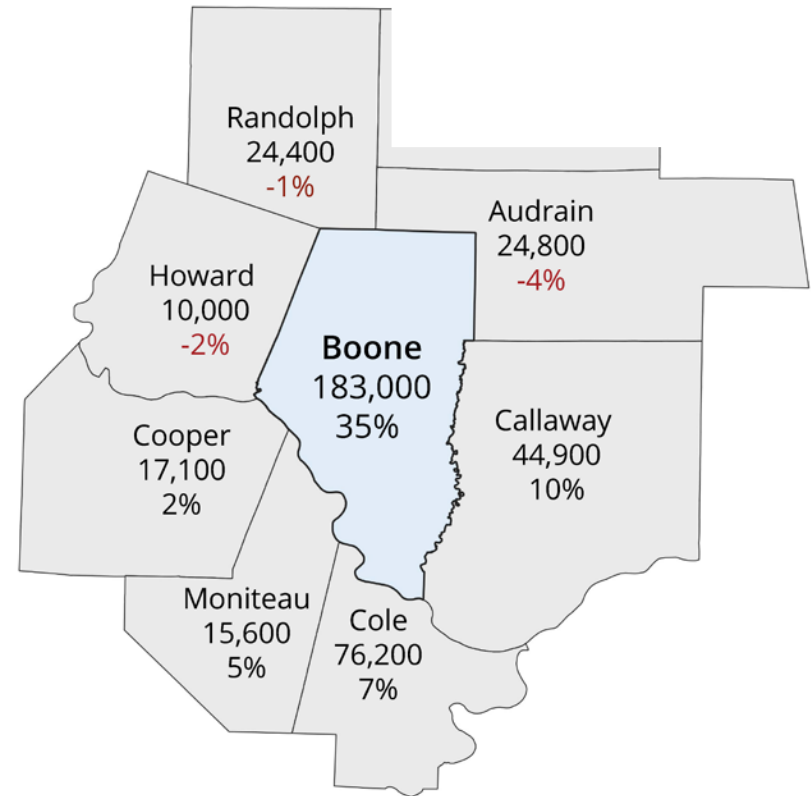
Boone County Competitiveness

As a county (or municipality) analyzes its future potential growth, there are many factors including its competitiveness to nearby locations. Boone County's growth in recent decades has greatly surpassed regional, statewide, and even national growth rates.

Residents have affirmed many reasons why they have chosen to live in Boone County including proximity to jobs, access to amenities and shopping, healthcare, natural resources, community services, and small town atmosphere just to name a few. It is challenging to predict when certain issues might begin to drive growth elsewhere, but based on the population change rates in Boone County's neighboring counties over the last two decades, the county's high growth rate suggests that its strengths will likely continue to outweigh potential challenges. This trend is especially probable if growth can maintain a balance that aligns with the key strengths of living and working in the county.

COUNTY POPULATION IN 2020, AND PERCENT CHANGE SINCE 2000

Sources: U.S. Census and i5Group



Future Household Size

Components of translating population growth to needed future housing is understanding the percentage of population living in households versus group quarters and the number of persons per occupied housing unit.

Boone County had 79,836 housing units in 2020 according to the U.S. Census. 92% of these units were occupied (73,470 households) and eight percent were vacant.

There were 170,780 residents of Boone County living in households in 2020. This was 92.8% of the county's population of 184,040. The other 7.2% of the population (13,260 people) lived in non-household conditions—often termed “group quarters”—such as residence halls, nursing homes, or prisons.

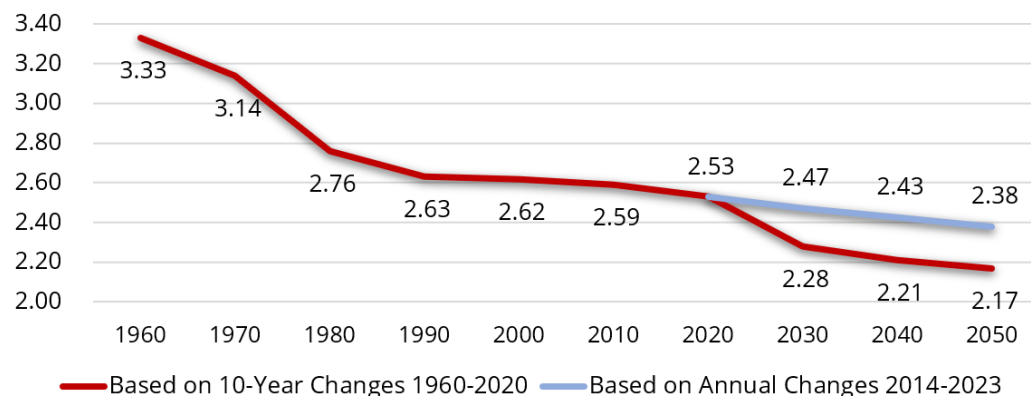
This means that Boone County averaged 2.32 persons per occupied housing unit (excluding group quarters populations) in 2020. The U.S. as a whole averaged 2.53 persons per household in 2020, indicating that Boone County averages 92% fewer people per household than the nation.

The graph on this page suggests two scenarios for average household size in the future. The red line, extending from 1960 through 2020 (actual values) then shows rather steep further declines to 2050 when the nation could average 2.17 persons per household. If Boone County similarly declined and its average household size remained at 92% of the nation, this would leave the county with an average of about 1.99 persons per household.

The blue line, in contrast, is projected from 2020 using near-term trends dating back just to the year 2014. On this basis, the national decrease in average household size is gentler, resulting in 2.38 persons per household in 2050. At 92%, Boone County could have an average of about 2.19.

PROJECTED TRENDS IN AVERAGE HOUSEHOLD SIZE, U.S. TO 2050

Sources: U.S. Census and SLU Community Planning Lab



BOONE COUNTY HOUSEHOLD SIZE

CURRENT



2.32 PERSONS
(per Occupied Housing Unit)

PROJECTED (2050)



1.99 - 2.19 PERSONS
(per Occupied Housing Unit)

Projected Housing Units

With two growth projections (high and low) and two projections for average household size applied to each growth projection, four possible housing trend lines emerge.

The green lines represent high population growth rates. The upper green line assumes low persons-per-household (requiring more units to accommodate the same population) while the lower green line assumes high persons-per-household.

The housing stock always includes a certain share of vacant units. This graph projects total housing units including vacant units - that is, the entire housing stock. The numbers assume a countywide vacancy rate of 8.0 percent in all future years, the same as 2020.

(The U.S. vacancy rate was 9.7% in 2020, and Missouri's rate was 11.0%.)

The high growth scenarios (green lines) would need to add between 36,900 and 48,200 units to accommodate both population growth and a normal vacancy rate.

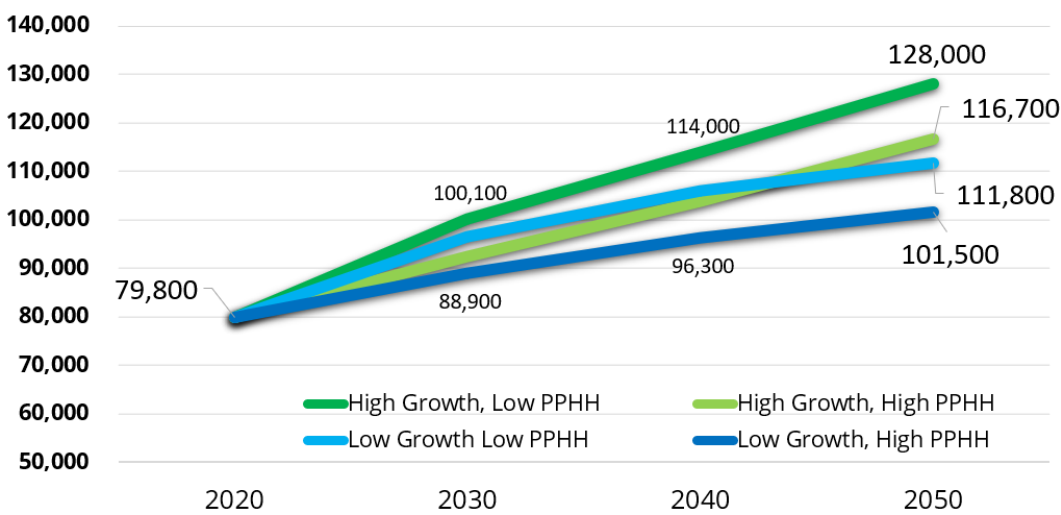
The low growth scenarios (blue lines) would need to add between 21,700 and 32,000 units to accommodate population growth and the vacancy rate.

Projected housing also includes changing household size of the *existing* population.

It is important to emphasize that when referring to housing units, the term encompasses a broad range of dwelling types, encompassing single-family homes, duplexes, apartments, condominiums, and other residential types.

PROJECTED BOONE COUNTY TOTAL STANDARD HOUSING UNITS (INCLUDING VACANT UNITS): HIGH AND LOW GROWTH SCENARIOS, 2020-2050

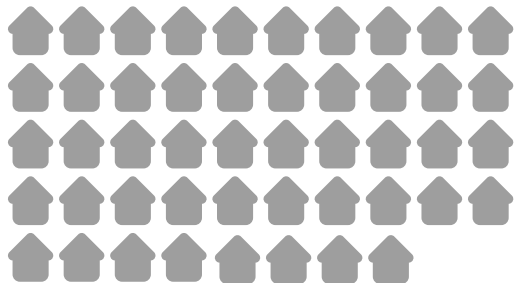
Sources: SLU Community Planning Lab



2050 HOUSING UNITS (PROJECTED)

"MORE OF THE SAME"

48,200 to 36,900
New Housing Units



"AMERICANA"

32,000 to 21,700
New Housing Units



Notes: Includes similar vacancy rates, changing household size for existing residents, and excludes residents in "group-quarters."

Job Projections

Like population growth rates, Boone County is notable for exceeding employment trends set in other jurisdictions. The number of jobs in Boone County increase by more than one-third between 2001 and 2022 according to the U.S. Bureau of Economic Analysis (BEA).

This rate of job growth exceeded Missouri's overall additions of jobs (up 14%) and the United States (up 28%).

Independent projections of jobs are provided by the U.S. Bureau of Labor Statistics (BLS) for the nation and by the Missouri Economic Research and Information Center (MERIC) for the state and large county-based regions of the state.

Using past trends and independent projections of jobs by the BLS and MERIC, the graph on this page shows three possible job growth projections in Boone County.

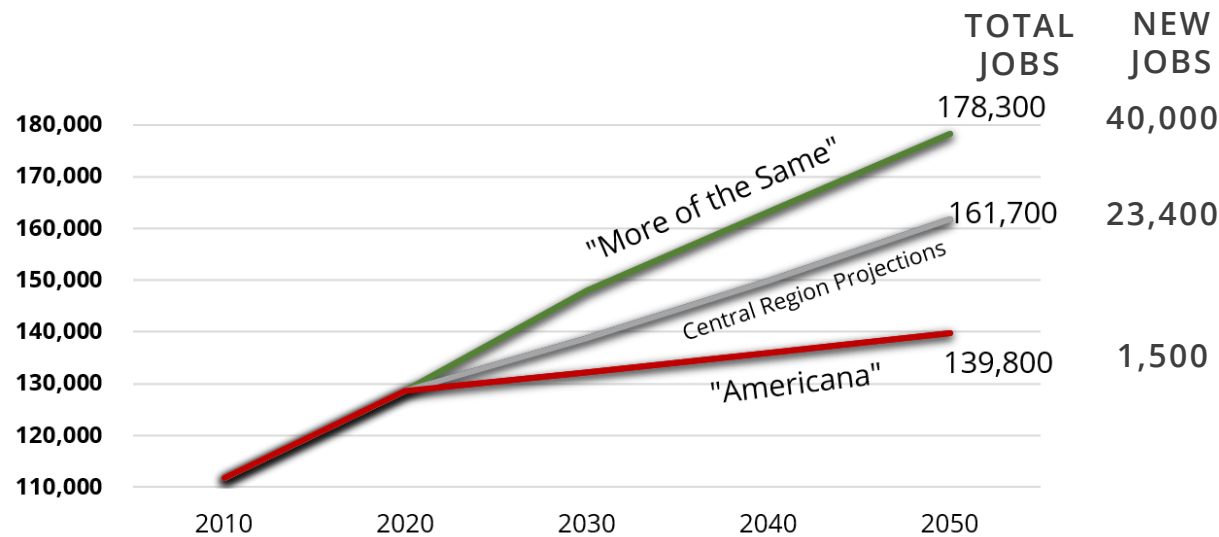
Simply projecting past job growth trends ("More of the Same") in the county would yield 178,300 jobs by 2050, an increase of 40,000 jobs from 2022, or 29%.

At the other end of the scale, the projected rate of job growth in the U.S. to 2032, carried out to 2050 and applied to Boone County, would yield 139,300 jobs - only a one percent increase from 2022.

In between, MERIC's projected growth rate from 2020 to 2030 for all of their central Missouri region, applied to just to Boone County, would yield 161,700 jobs in 2050 (up 17%).

PROJECTED TOTAL JOBS IN BOONE COUNTY, 2010-2050

Sources: U.S. Bureau of Economic Analysis, Missouri Economic Research and Information Center, and Saint Louis University Community Planning Lab



Job Projections

The single largest job sector in Boone County in 2022 was educational services given the prominence of the University of Missouri but also many other private and public schools. Over one fifth (21.3%) of jobs in Boone County are in educational services.

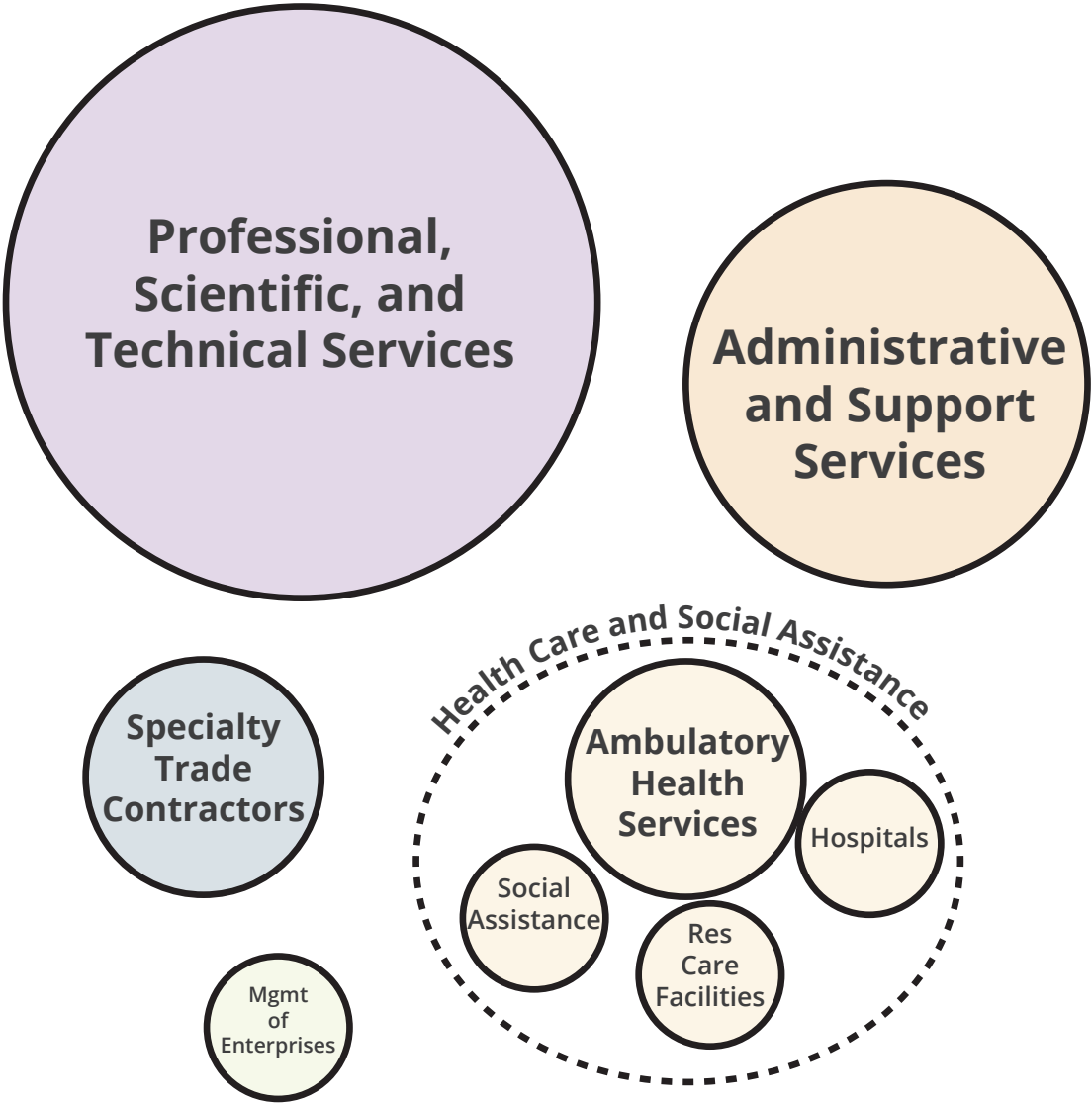
Also leading the job market in the county are the retail sector (9.4% of all jobs in 2022), the health care and social assistance sector (also 9.4%), lodging and dining (7.9%), and finance and insurance (7.7%)

Boone County as a whole is a health care center of Missouri, a higher education center, and a visitor/ shopping/dining center.

Job projections by MERIC for the central Missouri region between 2020 and 2030 include added job counts (net new) by sector. The top job sectors are shown with proportionate share of net new jobs in these sectors could realistically accrue to the Boone County economy (based on Boone County's share of central Missouri jobs in these sectors in 2020).

The largest gains are expected in the 'Professional, Scientific, and Technical' services sector along with the 'Administrative and Support Services' sector. Four of the sectors favor health care and social assistance jobs (ambulatory health, social assistance, residential care, and hospitals).

Expected Future Job Growth Sectors (Proportionate Share of Jobs)



Sources: Missouri Economic Research and Information Center, SLU Community Planning Lab

Precedent Counties

OVERVIEW

Good planning doesn't happen in isolation. It is essential to understand what peer counties, particularly in the Midwest, are doing regarding their countywide master plans and land use strategies.

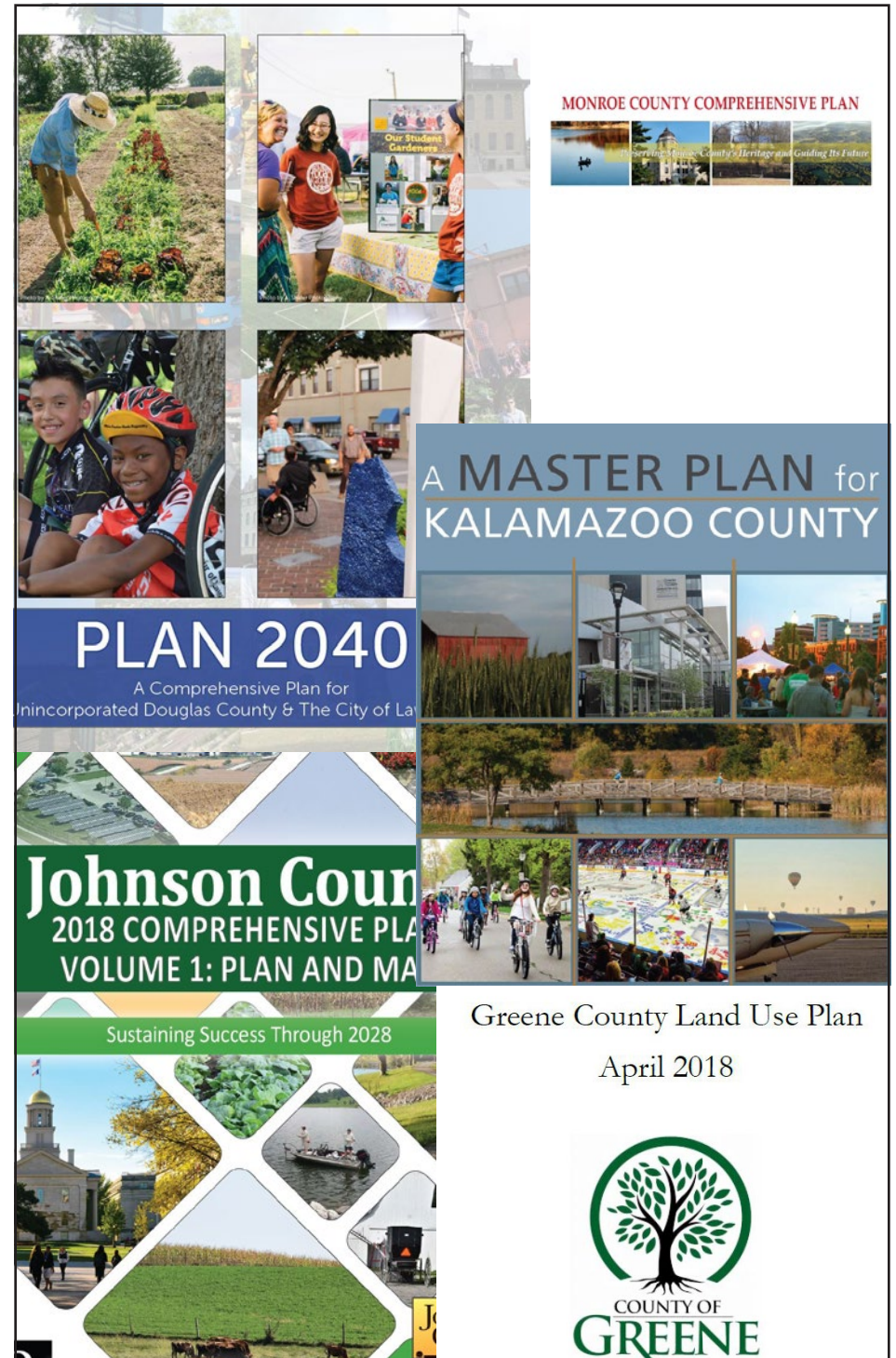
As part of the planning process, an initial screening of sixteen Midwestern counties was conducted to identify potential precedents. From this group, five counties were selected for a more in-depth analysis. One of the goals was to include at least one county from Missouri, while the others were chosen based on characteristics comparable to Boone County (such as population, growth patterns, and typology).

The five counties selected for precedent research are:

- Douglas County, Kansas
- Greene County, Missouri
- Johnson County, Iowa
- Kalamazoo County, Michigan
- Monroe County, Indiana

It's important to clarify that the inclusion of these counties doesn't imply that they represent best practices in planning. While they may have adopted some best practices, the primary value lies in understanding what these peer counties have done and the lessons learned from their master or comprehensive plans. Direct comparisons are often challenging, as state enabling legislation creates different frameworks for county and municipal planning that varies from state to state.

Lastly, while these five counties were the focus of in-depth research, planning practices from other counties were also considered—particularly in the section of the plan that discusses conservation tools.



Precedent Counties

Boone County	
2020 Population 183,000	Change from 2000 35%
Land Cover  12% Developed  39% Forest   45% Agriculture	
Largest City: Columbia (125,900) Latest Plan:	

Johnson County, IA	
2020 Population 154,000	Change from 2000 38%
Land Cover  11% Developed  10% Forest   69% Agriculture	
Largest City: Iowa City (74,400) Latest Plan: 2018	

Monroe County, IN	
2020 Population 148,000	Change from 2000 23%
Land Cover  13% Developed  64% Forest   16% Agriculture	
Largest City: Bloomington (79,800) Latest Plan: 2012	

Greene County, MO	
2020 Population 295,000	Change from 2000 22%
Land Cover  21% Developed  26% Forest   52% Agriculture	
Largest City: Springfield (169,600) Latest Plan: 2018	

Douglas, KS	
2020 Population 123,000	Change from 2000 22%
Land Cover  12% Developed  20% Forest   63% Agriculture	
Largest City: Lawrence (94,900) Latest Plan: 2019	

Kalamazoo, MI	
2020 Population 266,000	Change from 2000 11%
Land Cover  21% Developed  21% Forest   39% Agriculture	
Largest City: Kalamazoo (73,700) Latest Plan: 2018	

This table highlights the common issues and topics addressed in each plan. As shown, conservation of natural resources and farmland, efficient use of infrastructure, balancing growth, economic development, and housing were all shared issues across the counties.

Summary of County Master Plans	Greene Missouri	Douglas Kansas	Johnson Iowa	Monroe Indiana	Kalamazoo Michigan
Joint City and County Plan.		X			X ¹
Use of Growth Boundaries / Growth Tiers / Urbanizing Area.	X	X	X	X	
Promote/Encourage urban infill and higher densities in/or near existing cities.	X	X	X	X	X
Utilize existing utilities and infrastructure and grow with the availability of adequate infrastructure.	X	X	X	X	X
Preserve agriculture land.	X	X	X	X ²	X
Preserve/Conserve/Protect natural resources.	X	X	X	X	X
Preserve rural character		X		X	X
Provide a range of housing and increase affordability. ⁴		X	X	X	X ³
Plan/integrate/enhance multi-modal transportation options.	X	X	X	X	X
Grow the local economy through job creation, developable sites, and other tools.		X	X	X	X
Recognize the importance of water resources (improve water quality, reduce flooding, watershed based planning, etc).	X	X	X	X	X

Notes:

1. County plan is a collection of 24 local government plans (cities, villages, and townships).
2. Of the five precedent counties, agriculture is the least significant for Monroe County.
3. Kalamazoo is the only plan that addresses "missing middle" housing types.
4. Housing in the master plans is often closely aligned with land use and densities, and not necessarily specific housing policies.

Precedent Counties: Future Land Use Plans

The following page presents a diagrammatic version of the land use plans from five precedent counties. A clear takeaway from comparing these future land use plans is that all counties use their plans to help manage growth. While there are slight differences between them, the land use plans generally fall into three broad categories:

City Limits

Municipal or community jurisdictions. These areas are the priority for growth and infrastructure investments.

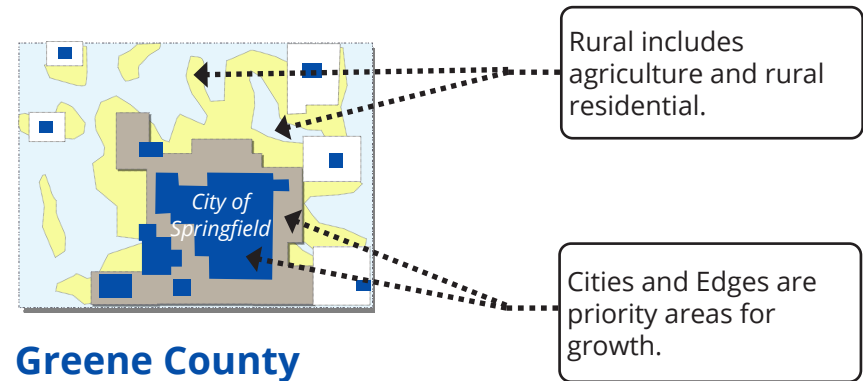
Edges

Areas adjacent to city limits, with some variation in terminology (e.g., urban service area, community growth area, urbanizing area), but generally the next priority for growth.

Rural

The counties aim to conserve agricultural land or natural habitats in rural areas. Some counties have a rural residential land use category to acknowledge existing low-density housing.

A quick look at the five land use plans on the next page shows that counties with fewer land use categories in rural areas (such as Douglas County and Johnson County) also have the least development and population in their unincorporated areas. These two counties have designated most of their rural area as an agriculture land use.



Greene County MISSOURI

City

- City Limits

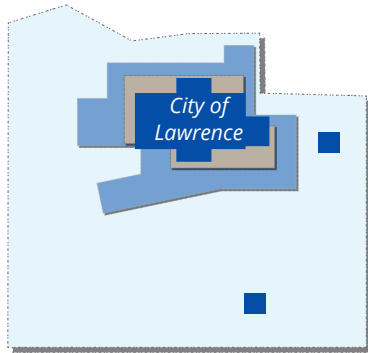
Edges

- Springfield Urban Service Area (USA)
- Community Growth Area

Rural

- Agriculture
- Rural Residential

Precedent Counties: Future Land Use Plans



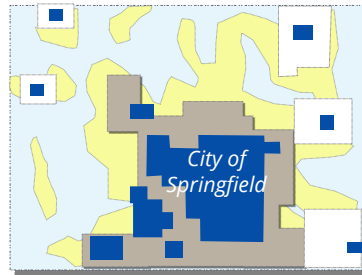
Douglas County
KANSAS

11% Percent of Population in Unincorporated Areas
12% Percent of Total County Developed

City _____
● City Limits (Tier 1)

Edges _____
● Growth Area (Tier 2)
● Growth Area (Tier 3)

Rural _____
● Agriculture



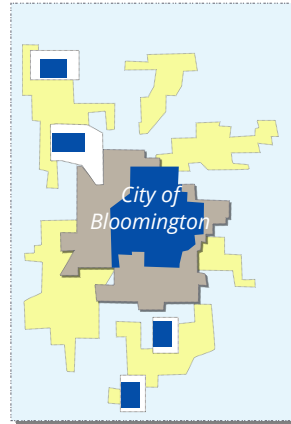
Greene County
MISSOURI

31% Percent of Population in Unincorporated Areas
21% Percent of Total County Developed

City _____
● City Limits

Edges _____
● Springfield Urban Service Area (USA)
○ Community Growth Area

Rural _____
● Agriculture
● Rural Residential



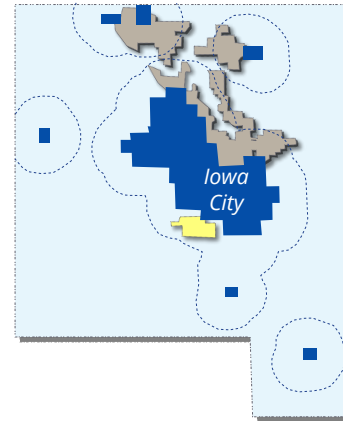
Monroe County
INDIANA

37% Percent of Population in Unincorporated Areas
13% Percent of Total County Developed

City _____
● City Limits

Edges _____
● Bloomington Urbanizing Area
○ Designated Communities

Rural _____
● Farm, Forest, and Managed Land
● Rural Residential



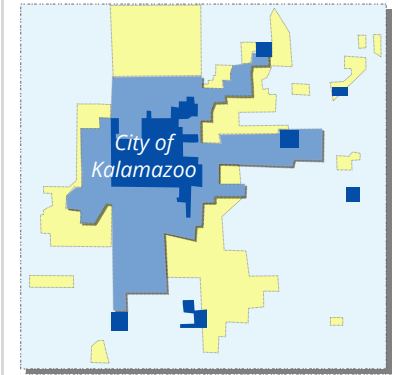
Johnson County
IOWA

16% Percent of Population in Unincorporated Areas
11% Percent of Total County Developed

City _____
● City Limits

Edges _____
● North Corridor Development Area
○ 2-Mile Community Planning Area

Rural _____
● Agriculture
● Residential



Kalamazoo County
MICHIGAN

18% Percent of Population in Unincorporated Areas*
(* Villages and townships may be included.)
21% Percent of Total County Developed

City _____
● City Limits

Edges _____
● Mix of residential, commercial, other

Rural _____
● Agriculture, Parks and Open Space
● Low-density Residential

Highlights of Each Plan

Douglas, KS

Douglas, Kansas' Plan 2040 includes both unincorporated Douglas County and the City of Lawrence. Its chapters address the Environment and Natural Resources, Growth and Development, Lawrence's Neighborhoods and Housing, Transportation, Economic Development, and Community Resources. Like Boone County, this plan acknowledges the importance of the county's rural character, understands its place in the region and communities within it (like Lawrence, a college town).

Key Goals for Growth

- Retaining the rural character of Douglas County.
- Prioritize in-fill development before expanding through annexation.
- Annexation into Lawrence shall be economical and efficient for all parties.

Tools

Urban Growth Area (UGA): An area surrounding an existing urbanized area in which future urban development is anticipated within the scope of the plan, including Growth Tiers 1, 2, and 3 for Lawrence.

Greene, MO

Greene County's Land Use Plan (2018) understands the importance of its natural, cultural, and agricultural areas. The county focuses its growth and land use around the environment. It aims to preserve agriculture and farmland, water quality, green space, endangered species, and connectivity. It also promotes sustainable building practices, urban infill, conservation, community environmental education, and responsible floodplain management.

Key Goals for Growth

- Encourage land best suited for agriculture to remain agricultural.
- Encourage more dense residential and commercial developments in urban areas.
- Encourage urban development to occur closer to areas already served by public sewer and water systems.
- Promote development of denser residential areas nearer to employment and business centers.

Tools

Urban Growth Areas (UGA) for each city: The extent of each UGA is determined by each city. Expected that cities with annex areas of UGA development. Future growth in these areas will occur as public water, sewer and roads are provided.

Monroe, IN

Monroe County's Comprehensive Plan (2012) addresses Economic Development, Residential Development, Transportation, Infrastructure, and Public Services, Environmental Conservation and Natural Resources, and Intergovernmental Cooperation through its chapters. Its Land Use Framework ensures a variety of residential types and locations, both rural and urban. The plan also notes the county's existing communities and how to address their growth together. In 2015, additional Urbanizing Area Plans further address growth:

Key Goals for Growth

- Focus diverse growth near areas of existing infrastructure, development, amenities and services.
- Protect vulnerable lands from encroachment.
- Improve the quality of life within the urbanizing area.
- Support diverse and innovative employment opportunities.
- Develop a sense of place within the urbanizing area.

Tools

Urbanizing Area focuses on area directly outside of the City of Bloomington. Three land use scenarios were created for evaluation. A preferred scenario was chosen by the public.

Highlights for Each Plan

Johnson, IA

Johnson County's 2018 Comprehensive Plan addresses Sustainability, the Local Economy, Infrastructure and Amenities, and Land Use through its chapters.

Key Goals for Growth

- Balance the preservation of agriculturally and environmentally valuable areas with growth pressures.
- Create Development Areas specifically for new rural housing, while continuing non-agricultural growth in the North Corridor.
- Carefully consider areas outside of the North Corridor for non-agricultural growth.
- Use Fringe Area agreements with cities in the county to address mutual growth concerns.
- Consider changing existing zoning agricultural exemption to focus more on use than farm size.
- Promote agritourism.

Tools

Fringe Area Agreements: Johnson County designated "fringe areas" for future growth outside of existing municipalities. These allow for the municipality to review subdivisions within two miles of their city limits, preparing for future growth and potential annexations.

Kalamazoo, MI

The Master Plan for Kalamazoo County (2018) focuses on protecting natural resources, preserving agriculture and rural land, planning specific development areas, planning for multiple transit modes and recreation, addressing housing needs, growing the local economy, and collaborating with municipalities within the county.

Kalamazoo County is unique in that its plan is a collection of 24 local government plans (cities, villages, and townships).

Growth Scenarios

OVERVIEW

Based on the growth projections outlined earlier in this chapter, Boone County may need an additional 37,000 housing units by 2050. But where should this development occur?

This section explores three different growth scenarios:

- Scenario #1: City, Edges, and Rural Estates (Current Trend)
- Scenario #2: City Focused Development
- Scenario #3: Rural Growth

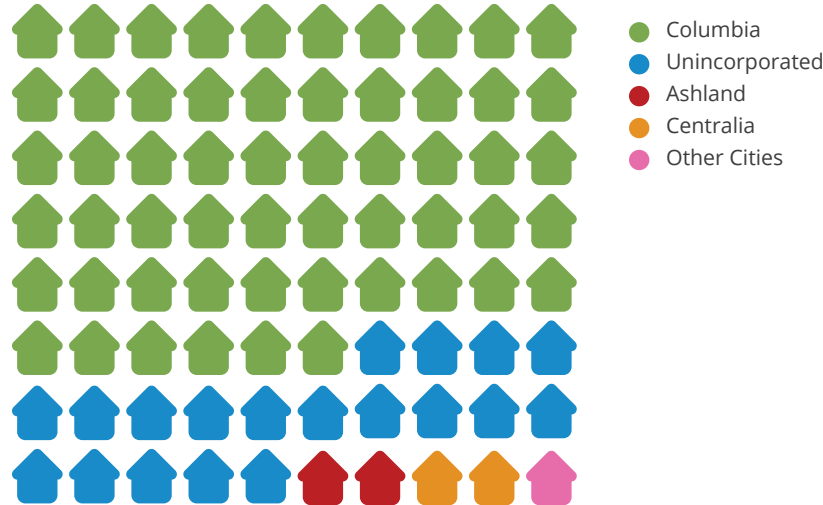
Each scenario is evaluated based on the amount of land required to accommodate the projected growth. The analysis shows that Scenarios #1 and #3 would require nearly twice the land area compared to Scenario #2 'City Focused Development.'

**Scenarios #1 and #3 would
require nearly twice the land
area compared to Scenario #2
'City Focused Development.'**

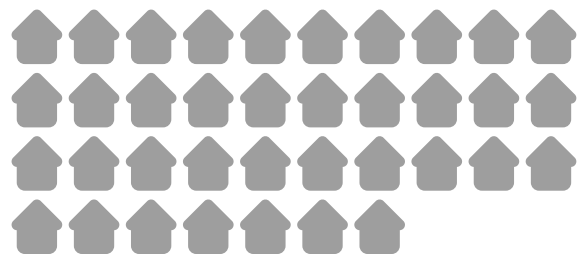


Growth Scenarios

Approx 80,000 Existing Housing Units in Boone County in 2020



Potentially 37,000* New Housing Units Will be Needed in Boone County by 2050



(*) Housing projections had estimates of future housing units of 21,700, 32,000, 36,900, and 48,200. The number used here is toward the upper range and rounded to 37,000 potentially new housing units.

Where Should New Development Go?

Scenario #1: City, Edges, and Rural Estates (Current Trend)

- Cities: continued development trends and densities, mostly new development on vacant and greenfield sites.
- Edges: Continued development trends and densities in edge of cities. Current trends vary by city.
- Rural: Continued popularity of rural residential on large parcels (five plus acres).

Land Use Policies

- General continuance of existing land use policies: preserve good agricultural land, maximize the use of existing infrastructure, discourage development where services are not readily accessible.
- Emphasis on sewer and water availability for new development in edge areas.

Scenario #2: City Focused Development

- Greater emphasis on new development in existing city limits, including a greater emphasis on infill development (Redevelopment or re-use of underutilized properties).
- Greater densities of greenfield sites when developed.

Land Use Policies

- Likely changes in both city and unincorporated land use policies.
- Unincorporated: Changes in land use policies to further encourage or direct growth in cities. Evaluate best practices from other counties including urban service areas, transfer of development rights, minimum residential parcel sizes, etc.
- Cities: Changes in land use policies to encourage infill and higher densities.

Scenario #3: Rural Growth

- Increased development in rural areas, especially rural residential.

Land Use Policies

- Allowance of smaller residential parcel sizes in more unincorporated areas of the county.
- More commercial opportunities in unincorporated areas.

Analysis Overview

Understanding Existing Development Densities

Although the jurisdiction of this plan focuses on the unincorporated areas of Boone County, the evaluation of all three scenarios begins with an analysis of existing development densities within the city limits and edge areas of Boone County's cities. The planning team used a combination of existing land use designations, parcel data, and aerial maps to calculate current residential densities.

It's important to note that densities change over time. For instance, the 2011 'Columbia Imagined' comprehensive plan estimated a gross density of 2.6 units per acre (based on residential development from 1990–2009). However, as part of the master plan analysis, the current gross density in Columbia is estimated at 3.6 units per acre.

For the edge areas of each city, a 1.5-mile boundary was used to calculate edge densities.

Understanding Where Growth Could Occur

Understanding available areas for growth is essential. To determine where growth can occur, it is equally important to identify where growth is restricted. The analysis involved identifying parcels with development limitations, including:

- Natural Resources (100-Year Flood Plain, Stormwater Buffer Zone, Sensitive Area Steep Slopes, and Karst Areas)
- Existing Parks and Conservation Areas
- Existing Occupied (Developed) Parcels
- Utility (Sewer) Availability

Understanding Existing Plans

The analysis included a review of existing comprehensive plans and future land use plans to understand anticipated areas of development. Future land use plans for Boone County communities have been completed at different times, including:

- 2022: City of Hallsville
- 2020: City of Ashland
- 2019: City of Centralia
- 2013: City of Columbia

It's important to note that residential densities will be the primary driver of land use. While job growth is expected to remain strong, its impact on land use, particularly in unincorporated areas, will be more limited. Based on the review of development potential within existing city limits, anticipated job growth can likely be accommodated within or near city boundaries. Economic development in unincorporated areas is expected to serve sectors that require larger land tracts.

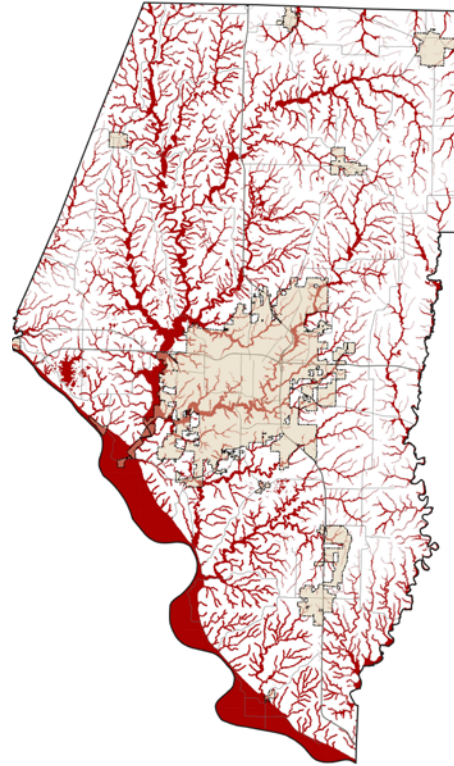
The following pages provide further details on the methodology, data, and analysis.

Understanding Where Growth Could Go

To understand where growth can occur, it's important to first identify areas that are unsuitable or restricted for development.

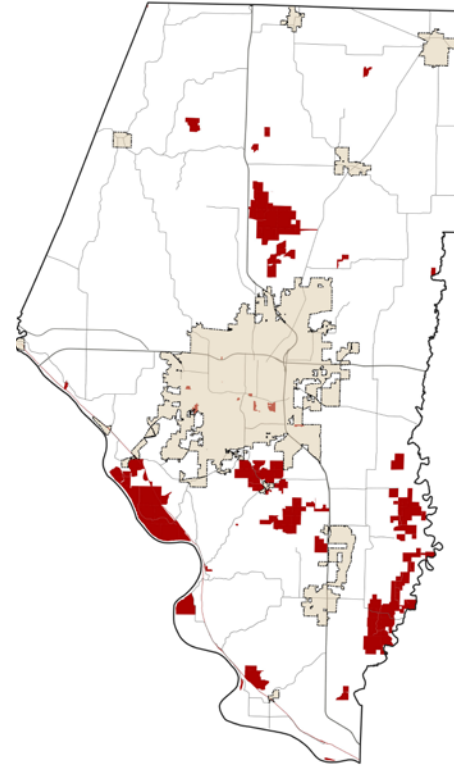
The maps on this page highlight various development constraints, including natural resources, existing parks, conservation areas, and currently occupied parcels.

However, some limitations in the analysis should be noted. For instance, determining whether occupied parcels are viable for future development can be subjective. A large, occupied parcel could potentially be subdivided or redeveloped, whereas an unoccupied parcel might not become available for development or could face uncertain timing.

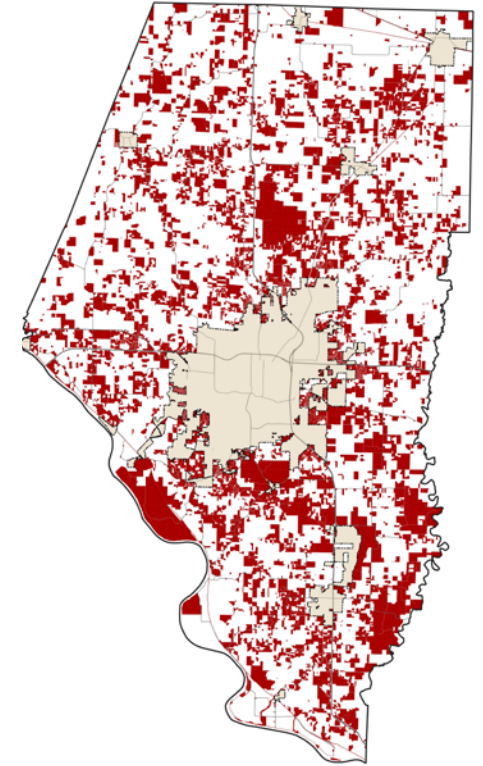


Natural Resources

- 100-Year Floodplain
- Stormwater Buffer Zones
- Sensitive Area Steep Slopes
- Karst Areas



Parks and Conservation Areas



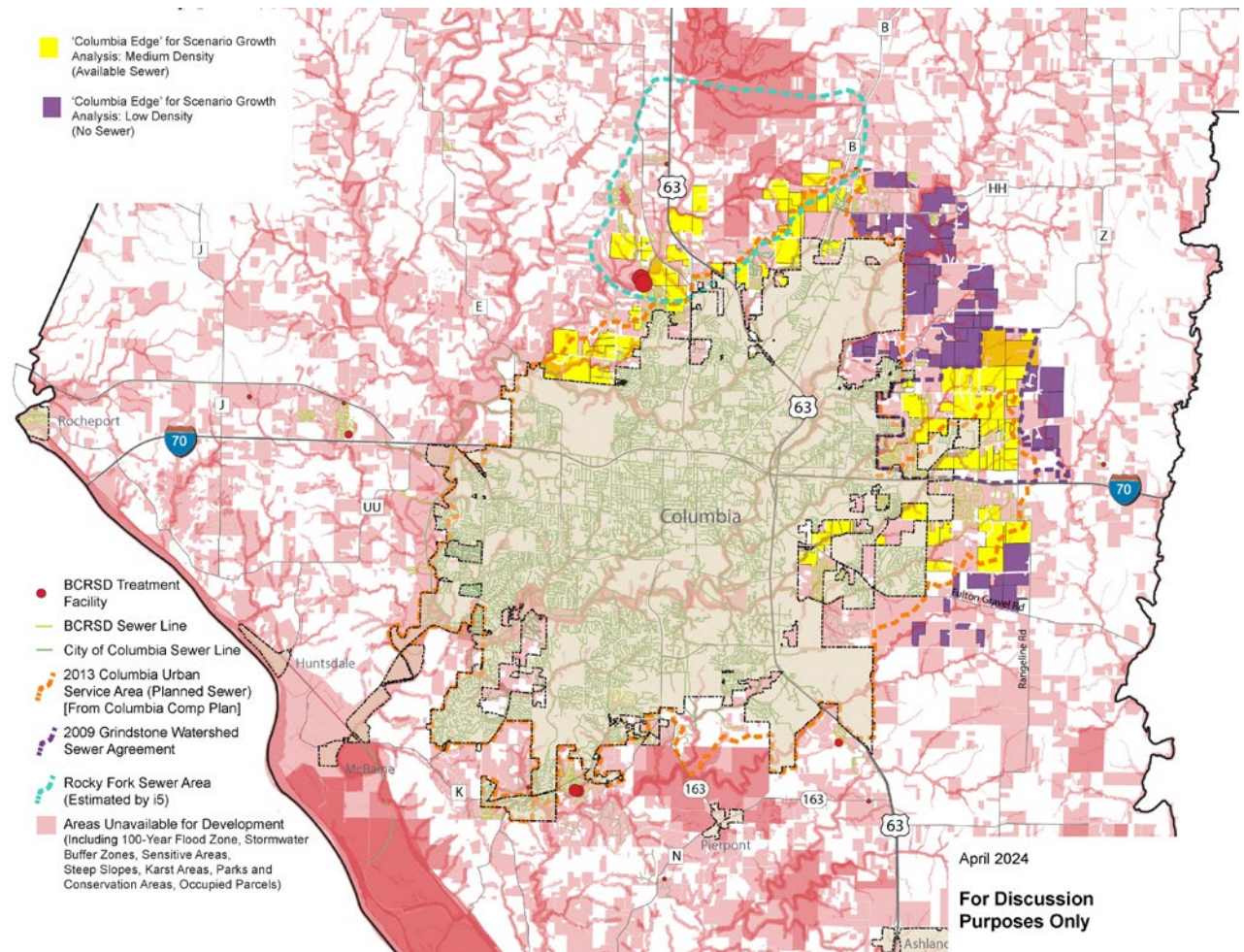
Occupied Parcels

- Existing residential.
- Existing commercial and industrial.
- Existing institutional, exempt, and utilities.

Another important factor in potential growth is the location of existing or planned utilities. For residential development, the availability of sewer service is key in determining potential housing density.

The map on this page reflects planning assumptions regarding available or planned sewer infrastructure near the City of Columbia. This analysis was used to estimate potential future residential growth capacity in the edge areas of Columbia, as shown in the spreadsheet later in this chapter. Areas with assumed available sewer were categorized as medium-density in the growth scenario analysis, while areas without sewer availability were categorized as low-density.

It is important to acknowledge the limitations of this analysis. Assumptions were made based on the best available information at the time. Additionally, while areas were classified as having sewer or no sewer for the purpose of the growth scenarios analysis, this may not represent the same conditions in the future. One goal of this planning process is to share growth projections and future land use plans with agencies, utilities, and other partners in Boone County to support their own facility planning. The map on this page only reflects existing conditions.



Map: Scenario Growth Analysis in Edge Areas of Columbia

It is essential to grasp the existing residential densities to comprehend prevailing development trends. The chart presented on this page offers a comparison of the percentage of parcels of various sizes across different locations in Boone County. Additionally, the chart incorporates the median size of single-family parcels.

The cities exhibit a relatively uniform pattern in their single-family residential densities, with median parcel sizes ranging from 0.25 to 0.32 acres. Similarly, unincorporated areas display consistency, featuring median single-family parcel sizes ranging from 5.0 to 6.7 acres.

Notably, unincorporated areas within 1.5 miles of Columbia showcase residential densities closer to those in the city, with a median parcel size of 0.42 acres.

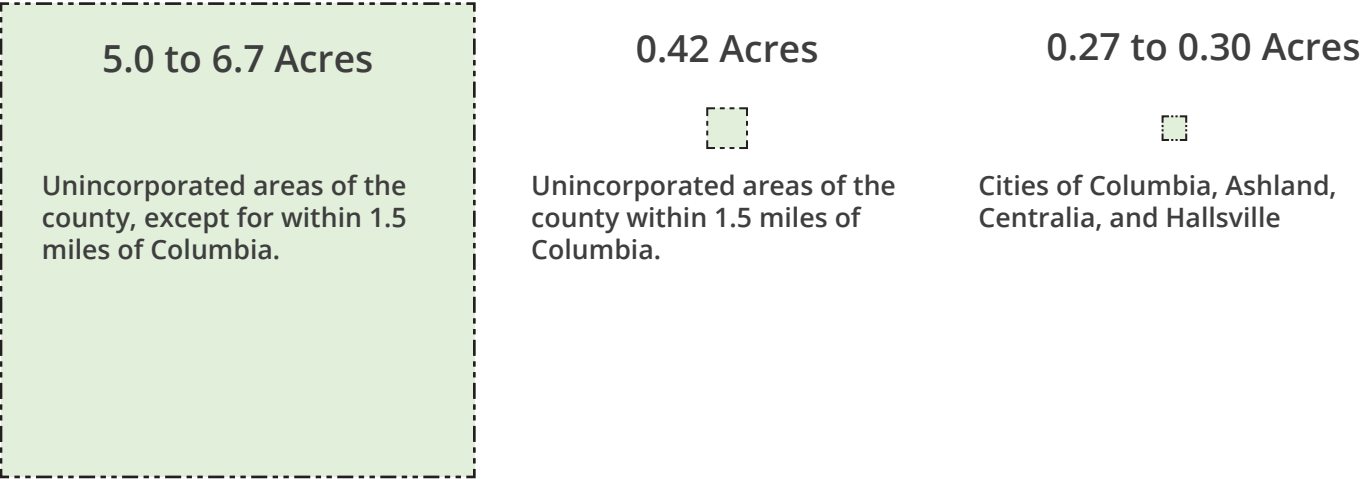
The chart examines the data from a perspective of Cities, Edges [of cities], and Rural areas.

Single Family Residential: Percentage of Various Sized Parcels

Source: Boone County GIS, Boone County Assessor, i5Group

	> 100 acres	40 to 100 acres	20 to 40 acres	10 to 20 acres	5 to 10 acres	2.5 to 5 acres	1 to 2.5 acres	0.5 to 1 acres	0.25 to 0.5 acres	0.16 to 0.25 acres	< 0.16 acres	Median Parcel Size (Acres)	
Columbia Edge (1.5 Mile)	0%	0%	1%	4%	7%	10%	13%	9%	23%	27%	5%	0.42	Edges
Ashland Edge (1.5 Mile)	1%	2%	5%	21%	23%	36%	7%	4%	1%	0%	0%	5.02	
Centralia Edge (1.5 Mile)	4%	1%	9%	21%	26%	24%	11%	3%	0%	0%	0%	6.68	
Hallsville Edge (1.5 Mile)	1%	3%	6%	18%	24%	27%	9%	2%	11%	0%	0%	5.02	
Unincorporated (Excluding 1.5 Mile Areas)	1%	3%	7%	19%	24%	23%	9%	6%	5%	2%	0%	5.15	Rural
City of Columbia	0%	0%	0%	0%	0%	1%	2%	9%	48%	36%	4%	0.27	Cities
City of Ashland	0%	0%	0%	0%	0%	1%	1%	9%	69%	19%	1%	0.32	
City of Centralia	0%	0%	0%	0%	0%	1%	1%	8%	40%	40%	10%	0.25	
City of Hallsville	0%	0%	0%	0%	0%	0%	2%	9%	73%	15%	1%	0.30	

Median Parcel Sizes of Single Family Residential Parcels



Scenario #1: City, Edges, and Rural Estates (Current Trend)

	Acres	Gross Density (units/acre)	Housing Units
Columbia City	5,319	3.6	19,148
Ashland City	588	2.2	1,294
Centralia City	103	2.6	268
Hallsville City	247	2.3	568
Cities Total	6,257		21,278
Columbia Edge Med-density	3,970	1.7	6,749
Columbia Edge Low-density	2,487	0.3	746
Ashland Edge	1,033	0.2	207
Centralia Edge	648	0.2	130
Hallsville Edge	1,699	0.2	340
Edge Total	9,837		8,171
Rural Total	37,755	0.2	7,551
Total Acres	53,849		Total Housing Units
			37,000

Notes:

1. Based on current trends, cities will have limited available land to meet total housing demand.
2. The 7,551 housing units in rural areas would be approximately **twice** the historical average of the share of housing units in rural areas, outside of Columbia's edge.
3. The 0.2 units/acre density for edge areas, although based on current trends, may be an overly conservative estimate. However, it does show the impact if these communities are hemmed in by large residential estates.

Scenario #2: City Focused Development (Opt A)

	Acres	Gross Density (units/acre)	Housing Units
Columbia City	5,319	4.0	21,276
Ashland City	588	2.4	1,411
Centralia City	103	2.9	299
Hallsville City	247	2.5	618
Cities Total	6,257		23,603
Columbia Edge Med-density	3,970	1.8	7,146
Columbia Edge Low-density	2,487	0.3	746
Ashland Edge	1,033	1.1	1,136
Centralia Edge	648	1.3	842
Hallsville Edge	1,699	1.1	1,869
Edge Total	9,837		11,740
Rural	8,284	0.2	1,657
Total Acres	24,379		Total Housing Units
			37,000

Notes:

1. City densities represent a **10% increase from the current (2023) city residential densities**. This doesn't include potential infill of underutilized sites, which could increase available acres.
2. Edge densities are one-half of current (2023) city residential densities within city limits.
3. The 1,657 housing units slated for rural areas would constitute approximately 45% of the historical average share of housing units in rural areas.
4. In comparison to Scenario #1 'Current Trends,' this scenario encompasses half the total acres.

Scenario #2: City Focused Development (Opt B)

	Acres	Gross Density (units/acre)	Housing Units
Columbia City	5,319	4.5	23,936
Ashland City	588	2.8	1,646
Centralia City	103	3.2	330
Hallsville City	247	2.9	716
Cities Total	6,257		26,628
Columbia Edge Med-density	3,970	3.6	14,292
Columbia Edge Low-density	2,487	0.3	746
Ashland Edge	1,033	2.2	2,273
Centralia Edge	648	2.6	1,685
Hallsville Edge	1,699	2.3	3,908
Edge Total	9,837		22,903
Rural	4,625	0.2	925
Total Acres	20,719		Total Housing Units
			50,456

Notes:

1. City densities represent a **25% increase from the current (2023) city residential densities**. This doesn't include potential infill of underutilized sites, which could increase available acres.
2. Edge densities align with the current (2023) city residential densities within city limits.
3. The 925 housing units slated for rural areas would constitute approximately one-quarter (25%) of the historical average share of housing units in rural areas.
4. In comparison to Scenario #1 'Current Trends,' this scenario encompasses half the total acres but accommodates 36% more housing units.

Scenario #3: Rural Growth

	Acres	Gross Density (units/acre)	Housing Units
Columbia City	5,319	2.7	14,361
Ashland City	588	1.7	1,000
Centralia City	103	2.0	206
Hallsville City	247	1.7	420
Cities Total	6,257		15,987
Columbia Edge Med-density	3,970	1.7	6,749
Columbia Edge Low-density	2,487	0.3	746
Ashland Edge	1,033	0.2	207
Centralia Edge	648	0.2	130
Hallsville Edge	1,699	0.2	340
Edge Total	9,837		8,171
Rural	42,807	0.3	12,842
	Total Acres		Total Housing Units
	58,901		37,000

Notes:

1. Estimating potential rural densities is challenging due to the strong dependence on utility availability. This scenario assumes a higher rural residential density. Edge densities align with current (2023) trends, while city densities represent a 25% decrease from existing (2023) city residential densities.

2. For comparison, the entire area of Boone County is approximately 442,000 acres.

Conclusions

The spreadsheet on this and the previous page analyzes the amount of land needed under each scenario to accommodate the projected 37,000 housing units. The results of the analysis include:

- **Cities in Boone County will have limited available land to meet total housing demand on their own.** Under all three scenarios, the cities lack sufficient existing land to accommodate future housing needs. While this analysis did not include potential infill of underutilized sites, it is still unlikely that such infill could fully meet projected growth.
- **The edges of cities will be crucial for accommodating future growth.** The trend of large rural residential estates (five acres) near Ashland, Centralia, and Hallsville could potentially hinder future growth of these cities. As the analysis shows, if residential densities in the edge areas match those within the existing city limits, the ability to accommodate residential growth would be significantly improved. However, large rural estates could constrain this potential, limiting future growth.
- **Scenarios #1 and #3 use roughly twice as much land as Scenario #2.** Scenario #2, 'City-Focused Development', is estimated to use approximately 24,000 acres, while Scenario #1, 'Current Trends' and Scenario #3, 'Rural Growth' are expected to require 54,000 acres and 59,000 acres, respectively.

Visualizing the Growth Scenarios

The following pages provide a general visualization of what the growth scenarios might look like in a rural area of the county.

Scenario #1

City, Edges, and Rural Estates
(Current Trend)



Scenario #2

City Focused



Scenario #3

Rural Growth



*Note: The sketches on this and the following pages are a prototypical representation of a rural location in Boone County. It is not a specific location, but represents characteristics of a rural location. The sketches are not meant to represent recommendations or existing Boone County policies/regulations. The sketches are intended to provide a **general visualization** of potential development patterns of each growth scenario.*

Rural Location: Scenario #1
City, Edges, and Rural Estates (Current Trend)



Mix of large parcel subdivisions and individual parcels fronting roads. Large residential parcels of 5 - 10 acres plus. Median parcel size is 5 to 6 acres.

Farm fields and pastures intermixed with residential parcels.

Woodland

Riparian zone along stream corridors.

Rural Location: Scenario #2
City Focused



Rural Location: Scenario #3

Rural Growth



Existing farm fields and pastures intermixed with residential parcels.

Commercial can vary greatly including retail, restaurants, agri-business, construction, flex space, etc.

Where sewer and utilities can be accommodated, higher density subdivisions may leapfrog other development.

Where sewer is not available, residential parcel sizes will frequently be determined by on-site or private sewer systems per county and state regulations.

Commercial can vary greatly including retail, restaurants, agri-business, construction, flex space, etc.

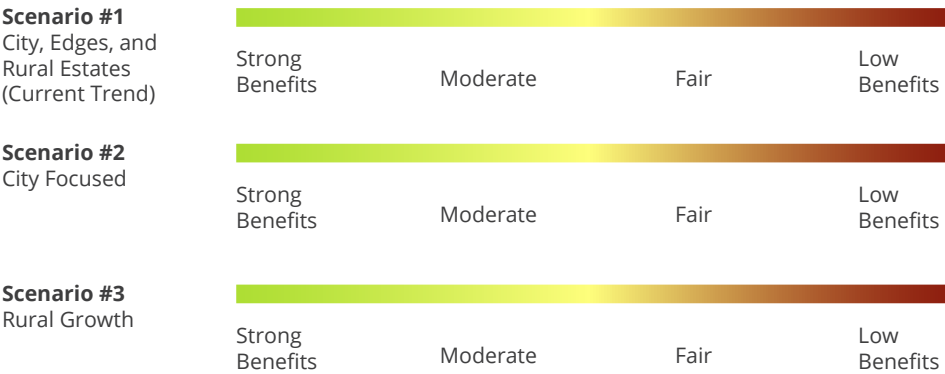
Scenario Evaluation

OVERVIEW

The previous section analyzed the growth scenarios in terms of the land required to accommodate projected growth. This section evaluates each scenario based on the following key issues:

- Transportation
- Natural Resources
- Housing
- Infrastructure (Utilities) and Community Services
- Economic Development
- Rural Character

The scenarios are evaluated through a narrative description and qualitatively rated on a scale from "Strong Benefits" to "Low Benefits" for each criteria. As shown in the evaluation, some scenarios offer similar benefits for certain criteria, while others clearly stand out with distinct benefits compared to the other scenarios.



Criteria to Evaluate Scenarios

On the following pages, the scenarios are evaluated based on the criteria below. These criteria were developed from key issues that emerged through community feedback from the countywide survey, listening sessions, and input from the Advisory and Technical Committees.

Transportation

- Support multiple modes of transportation.
- Increase safety.
- Reduce travel time.

Natural Resources

- Preserve and protect important habitats and sensitive areas.
- Reduce flooding.
- Improve water quality.

Housing

- Increase the variety of housing options.

Infrastructure (Utilities) and Community Services

- Cost effectively expand and maintain utilities.
- Response times for emergency services (fire, ambulance, etc.)
- School enrollments.

Economic Development

- Availability of developable sites.
- Attraction and retention of workforce.
- Aid in supporting targeted industry clusters.

Rural Character

- Preserve farmland.
- Preserve scenic views and rural atmosphere.

Economic Development: Availability of Developable Sites



The availability of developable sites – in the context of economic development, property that is of sufficient acreage, that is not in a flood plain, an environmentally sensitive or contaminated area, and has access to infrastructure (e.g., utilities, roads, rail etc.) to accommodate commercial and/or industrial development – is critical for attracting and expanding businesses that provide employment and taxes for communities. Developable sites may be created in “green field” or undeveloped areas but also may be infill redevelopments on previously developed land where the use is no longer viable (e.g., a closed, former manufacturing site). In the context of this evaluation, developable sites would be sites that are a minimum of 10-acres and could range of to what are considered “mega-sites” (often 200+ acre sites).

According to REDl’s Strategic Plan 2021-2024, lack of urban infill development sites and/or lack of industrial development represent economic development challenges for Boone County. Scenario #2, ‘City Focused,’ offers a mixed bag of potential in terms of assembling large, developable sites. While the City of Columbia has potentially 1,400 acres for future commercial and industrial development, much of this land consists of smaller properties. However, there are larger available sites in parts of the city, especially the Route B corridor. Because Columbia is the center of economic activity in Boone County, limited site availability within the City limits has a greater impact on development opportunities in this scenario. The City of Ashland, on the other hand, has potentially over 1,600 acres of future commercial and industrial development near the airport, with several significantly sized properties. This part of Ashland could be an opportunity area under this scenario. The City of Centralia has potentially about 150 acres within the existing city limits, offering meaningful opportunity for



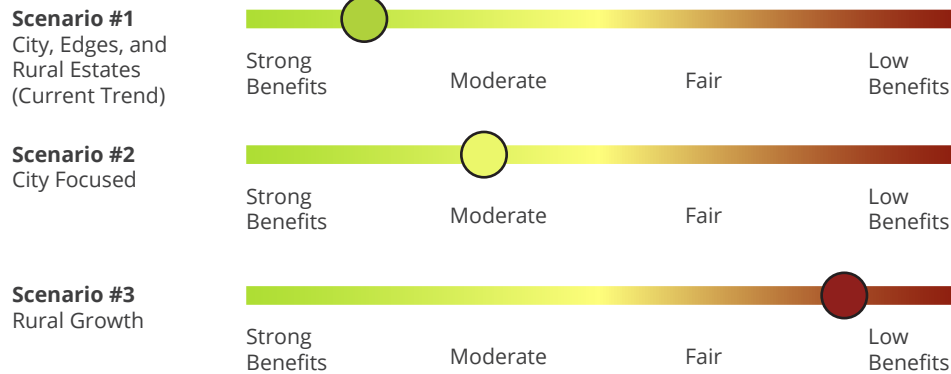
future commercial and industrial development. The City Focused scenario does have the benefit of proximity to workforce and existing infrastructure.

Scenario # 1, ‘Current Trends,’ maximizes opportunities for the creation of developable sites, particularly for light industrial development, by fostering growth in areas that are on the perimeter of and adjoin Boone’s cities. Where land is available, especially land with rail access (for example, the City of Centralia’s future land use plan includes areas of proposed industrial adjacent to the existing city limits along the railroad), it may still require investment in infrastructure to support light industrial development. Likewise, additional infrastructure investment would be anticipated to support business/research parks that would include lab space to grow the professional, scientific and technical services sector that is growth area for the county. Sites developed in proximity to urban centers are attractive to businesses in that they provide greater access to population centers (workers) as well as other resources, e.g. universities and training centers. Additionally, proximity to existing infrastructure reduces the investment necessary to facilitate development.

A downside of Current Trends is that residential growth may carve up available land that would be better suited for commercial or industrial uses because of certain transportation or utility assets. The future land use plan should work in harmony with zoning to ensure economic opportunity areas are available for future growth.

Scenario #3, ‘Rural Growth,’ provides broad opportunities for creating developable sites. Development in rural areas, however, would require the greatest investment in infrastructure and may be cost prohibitive. Further, development in rural areas may present challenges for attracting workforce.

Economic Development: Attraction and Retention of Workforce



Traditionally, economic development focuses on job creation; in contrast, Boone County has experienced job growth that outstrips the availability of a qualified workforce. Continued economic growth in Boone County will depend on its ability to attract and retain workers – a conclusion previously drawn by REDI in its strategic plan.

Scenario #1, 'Current Trends,' would likely yield the most benefits in that commercial and industrial development would be centered around the county's population centers providing residents and businesses with greater access to jobs and workers. Locating businesses in proximity to existing urban centers offers employees access to quality-of-life amenities - housing, transportation, services (e.g., health care, educational etc.), restaurants and entertainment - that are vital for attracting and retaining workers, including younger workers and recent college graduates. Focusing growth in and around existing urban centers also is consistent with some of the attributes that residents identified as strengths that make Boone County a great place to live: locating work opportunities near quality healthcare and education institutions and preserving the natural environment and the county's scenic beauty.

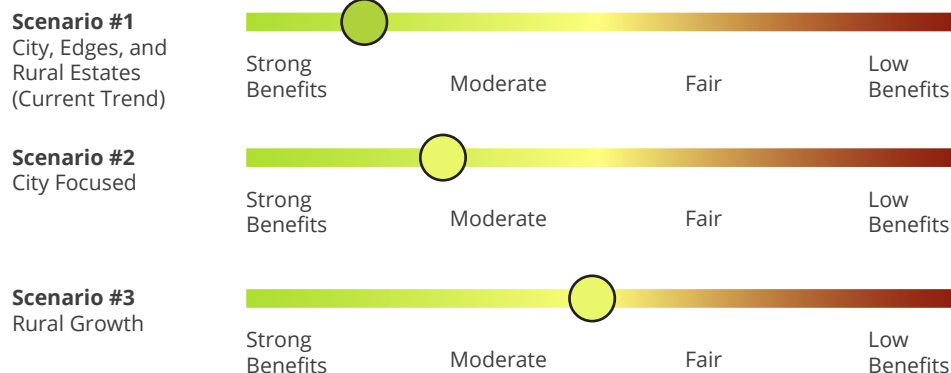
Scenario #2, 'City Focused,' also has the potential to enhance workforce attraction and retention for many of the same reasons as Scenario #1, but the lack of large developable sites may limit job opportunities for certain job sectors. To the extent that smaller sites, and redevelopment of under-utilized sites emerge as an opportunity, this development scenario's contribution to workforce attraction and retention would increase.



With a focus on rural development, Scenario #3, 'Rural Growth,' seems unlikely to positively influence attraction and retention of workforce. A lack of proximity to transportation and other amenities that help attract workers make Scenario #3 a negative for both workers and businesses. While the availability of large tracts of land may be desirable for development of industrial parks and business or research parks, such an approach would undermine the community's priority for the preservation of agricultural land and the natural environment, which are considered assets and an important part of why residents live in Boone County.

Under any of these scenarios, the availability of housing options that are affordable for younger workers and young families will be critical to attracting and retaining employees in these categories.

Economic Development: Aid in Supporting Targeted Industry Clusters



For most communities, the greatest economic growth comes from existing industry sectors or from emerging sectors that are based in local strengths (e.g., that develop out of university led research). Fostering diverse industry clusters helps to ensure a more sustainable and resilient economic and tax base. Professional, Scientific and Technical Services is an example of a growing industry sector in Boone County overall and includes establishments that specialize according to expertise and provide these services to clients in a variety of industries; they include legal advice and representation; accounting; computer services; research services; and veterinary services. Outside of Columbia in Boone County, Manufacturing and specifically food manufacturing is a growing industry cluster. Development that enhances or supports these sectors that offer quality jobs with higher wages is more likely to contribute to continued sustained, economic growth in the county.

Scenario #1, 'Current Trends,' would likely be the most supportive of growing targeted industry clusters. Typically, businesses in similar industries benefit from geographic proximity to each other because they often share similar needs, e.g., a workforce with comparable skill sets; access to similar infrastructure (transportation corridors, utilities, rail etc.); and connections with institutions that advance their businesses (e.g., R&D, labs or workforce training centers). Boone County's food manufacturers illustrate this paradigm: most are clustered along the N. Route B corridor and I-70. Continuing to build on existing concentrations of growth industry sectors would entail focusing development in and around Boone County's urban centers where new firms would benefit from proximity to their business counterparts. From an innovation perspective, entrepreneurship

in any of the growth sectors would benefit from development in or near the resources that support small business growth, which include local universities, especially, University of Missouri Columbia, incubators, and other small business support organizations. Small businesses, especially, benefit from engaging, learning and networking with each other. Land use policies can be used to encourage infill development that can be tailored to new small businesses.

A downside of current trends is that residential growth may carve up available land that would be better suited for targeted industries because of certain transportation or utility assets. The future land use plan should work in harmony with zoning to ensure economic opportunity areas are available for future growth.

Scenario #2, 'City Focused,' also has the potential to support targeted industry growth for many of the same reasons as Scenario #1, but, again, the current lack of developable land reduces the opportunities to attract new, large scale established firm that have space requirements beyond what is currently available within the urban centers or are not compatible with the existing land use (e.g., a larger manufacturer). Scenario #2 would provide similar benefits as Scenario #1 for fostering entrepreneurship and innovative new firms in growth clusters because of access to workforce, resources etc.

Scenario #3, 'Rural Growth,' offers some benefits for growing key industry clusters as development in a greenfield can be tailored to the specific needs of a particular industry or group of similar businesses. Development of a research or industrial park, for example, could be designed to focus on the needs of specific businesses offering specialized lab space or research facilities. Such developments create a campus-like environment that fosters interactions between firms that offer the benefits described in Scenario #1. That being said, these kinds of developments would involve significant capital investment in infrastructure and are the product of an intentional and sustained economic development strategy. Given the needs of entrepreneurs, Scenario #3 is less supportive of industry sector growth for new small businesses and developments targeted at smaller firms may be cost prohibitive.

Natural Resource:

Preserve and protect important habitats and sensitive areas.

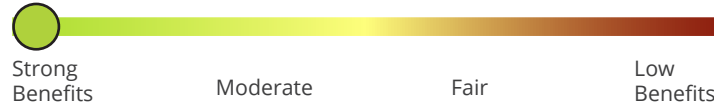
Scenario #1

City, Edges, and
Rural Estates
(Current Trend)



Scenario #2

City Focused



Scenario #3

Rural Growth



Preservation and protection strategies focus on two key characteristics of open space: habitat connectivity and locally significant areas. Habitat connectivity refers to the ability of wildlife and materials, such as seeds, to move across a landscape. For instance, smaller species like frogs and amphibians may struggle to recolonize an isolated patch of forest after local disturbances because other populations cannot reach the isolated area due to habitat barriers. Smaller habitat patches surrounded by barriers may fail to support essential species higher on the food chain, leading to an imbalance that favors species lower on the food chain. The most effective metric for measuring habitat connectivity is the number of acres of connected habitat, where connectivity is defined as a corridor or contiguous habitat without significant breaks or barriers.

Boone County also contains numerous locally significant sensitive areas, primarily defined by the region's unique hydrology. These areas can be preserved or protected under any of the three scenarios; thus, the relative impacts on sensitive areas are not easily compared among them. However, sensitive land protection may be more effectively incorporated into Scenario #2, which directs growth toward existing urban areas, potentially benefiting sensitive areas by reducing adverse impacts. Concentrating growth in urban areas and preserving essential habitat corridors is an important way to maintain connectivity across the county.



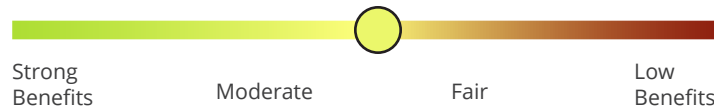
Scenario #1, 'Current Trends,' may yield fair to moderate benefits, especially with the implementation of best practices. For example, large rural residential parcels can incorporate extensive natural habitats. The actual developed area of a rural residential parcel (such as houses and driveways) is relatively small, allowing large portions of the lot to remain (or be restored) as natural habitat instead of being converted to lawn or pasture.

Natural Resource:

Reduce Flooding

Scenario #1

City, Edges, and Rural Estates (Current Trend)



Scenario #2

City Focused



Scenario #3

Rural Growth



Evaluating the relationship between growth patterns, land use policies, and flooding can be challenging, particularly in efforts to reduce or avoid flood risks.

On one hand, the impact of land cover on flooding is relatively straightforward. Sites that closely mimic natural infiltration processes will have a minimal impact on increased flooding. For example, a site that is entirely impervious (such as one covered in pavement and roofs) will generate maximum runoff. In contrast, a site with native habitats like woodlands or prairies will absorb the most rainfall during a storm event. Intermediate land cover types, such as open lawns, can lead to higher runoff rates compared to natural conditions.

All three scenarios must comply with floodplain and stormwater regulations that limit development in flood-prone areas and manage the rate, quality, and volume of stormwater from development and redevelopment sites. Since floodplain and stormwater management practices can theoretically be applied under any scenario, none is inherently more or less likely to result in flooding; therefore, all three scenarios rank similarly in this regard.

However, land use planning that preserves natural flood protection measures (such as floodplains, wetlands, riparian buffers, and natural habitats) can be more beneficial and cost-effective than relying solely on engineered stormwater management practices.



Scenario #1 is likely to see growth concentrated in watersheds currently facing the most development pressure, making it challenging to plan for effective upstream water filtration and retention. This scenario may intensify flood risks in certain watersheds and keep them geographically concentrated.

Scenario #2 would also direct development into already developed and flashy watersheds, potentially intensifying flood risks in specific areas. However, it would limit increased development in other watersheds or the upper reaches of existing watersheds, enhancing opportunities for upstream rainfall infiltration and retention.

Scenario #3 would affect a broader range of watersheds, but effective floodplain and stormwater regulations could mitigate flooding impacts.

Natural Resource:
Improve water quality.



Evaluating potential water quality benefits among the three scenarios is nuanced, as both urbanized and rural areas face water quality concerns but in different ways.

In urbanized watersheds, water quality can be impaired by runoff from impervious surfaces flowing into streams and tributaries, which carries urban pollutants. Pet waste, fertilizers, and herbicides from residential landscapes further degrade water quality. Additionally, higher stormwater velocities in urban areas can increase sediment loads due to erosion.

In rural watersheds, agricultural operations can negatively impact water quality through bacteria and nutrients from livestock and runoff from fertilizers, herbicides, and insecticides used in crop production.

Numerous best management practices (BMPs) exist for site development and agricultural practices to help mitigate impacts on water quality. BMPs such as bioswales, erosion control measures, vegetative buffers, and conservation tillage can minimize sediment, nutrient, and pesticide runoff in both agricultural and urban areas. Although water quality best practices can theoretically be applied in any landscape, there may not be a significant inherent difference among the scenarios. However, this evaluation assumes that increased man-made disturbances to natural hydraulic systems due to development may heighten the potential water quality concerns, leading to a greater number of BMPs needing maintenance or potentially failing over time.

Scenario #1 and Scenario #3 are likely to have the broadest negative effects on future water quality by dispersing sources of pollution across multiple areas and watersheds. If water quality standards cannot be consistently implemented across various neighboring land uses, overall water quality is likely to suffer.

In contrast, Scenario #2 would concentrate water quality impairments from urban sources into a potentially more manageable area, thereby protecting sensitive rural watersheds from degradation related to impervious surfaces. This scenario could also provide opportunities for regional-scale restoration and detention, which may improve water quality.

Rural Character:

Preserve scenic views and rural atmosphere.



A common saying suggests that beauty is "in the eye of the beholder," highlighting its subjective nature. This is especially true for the evaluation criteria where residents often cite scenic views and the rural atmosphere as major strengths of living in Boone County. However, the definition of scenic views varies greatly among individuals.

Scenario #3, 'Rural Growth,' would offer the least benefits for scenic views and the rural atmosphere. Scattered residential and commercial development, especially when unrelated to agribusiness or agritourism, is likely to fragment scenic views.

For some, the uninterrupted natural habitats of woodlands, savannas, or prairies are highly valued. Others may find beauty in farmland or pastures, while some prefer a mix of natural areas, agricultural land, farmsteads, and residential developments scattered throughout the landscape. Additionally, certain types of commercial development related to agribusiness or agritourism are viewed by some as positively contributing to the rural atmosphere.

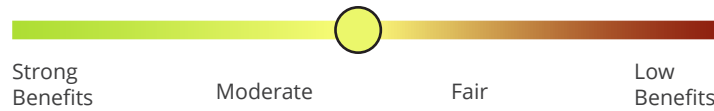
This evaluation examines the overall context of development in rural areas. Less development generally means more natural areas and farmland, leading to greater benefits for scenic views and the rural atmosphere.

Scenario #2, 'City Focused,' would result in less development in rural areas, providing the strongest benefits for scenic views and the rural atmosphere.

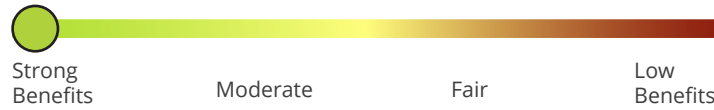
Scenario #1, 'Current Trends,' presents mixed results. Large rural residential parcels can generate varied opinions regarding their impact on scenic views and the rural atmosphere. Perceptions often depend on the context of these residential areas, particularly whether they retain natural features and habitats.

Rural Character: Preserve Farmland

Scenario #1 City, Edges, and Rural Estates (Current Trend)



Scenario #2 City Focused



Scenario #3 Rural Growth



Agriculture is a vital component of Boone County's economy and rural character. Approximately seven out of ten survey respondents "Agreed" or "Strongly Agreed" with the statement, "The loss of prime farmland is a concern in Boone County."

Scenario #2, 'City Focused,' would provide the greatest benefits for preserving farmland in the county. Once farmland is developed for urban, residential, or other uses, it is unlikely to return to agricultural production. Therefore, land use policies that promote infill growth in existing cities would help maintain agricultural land in production.

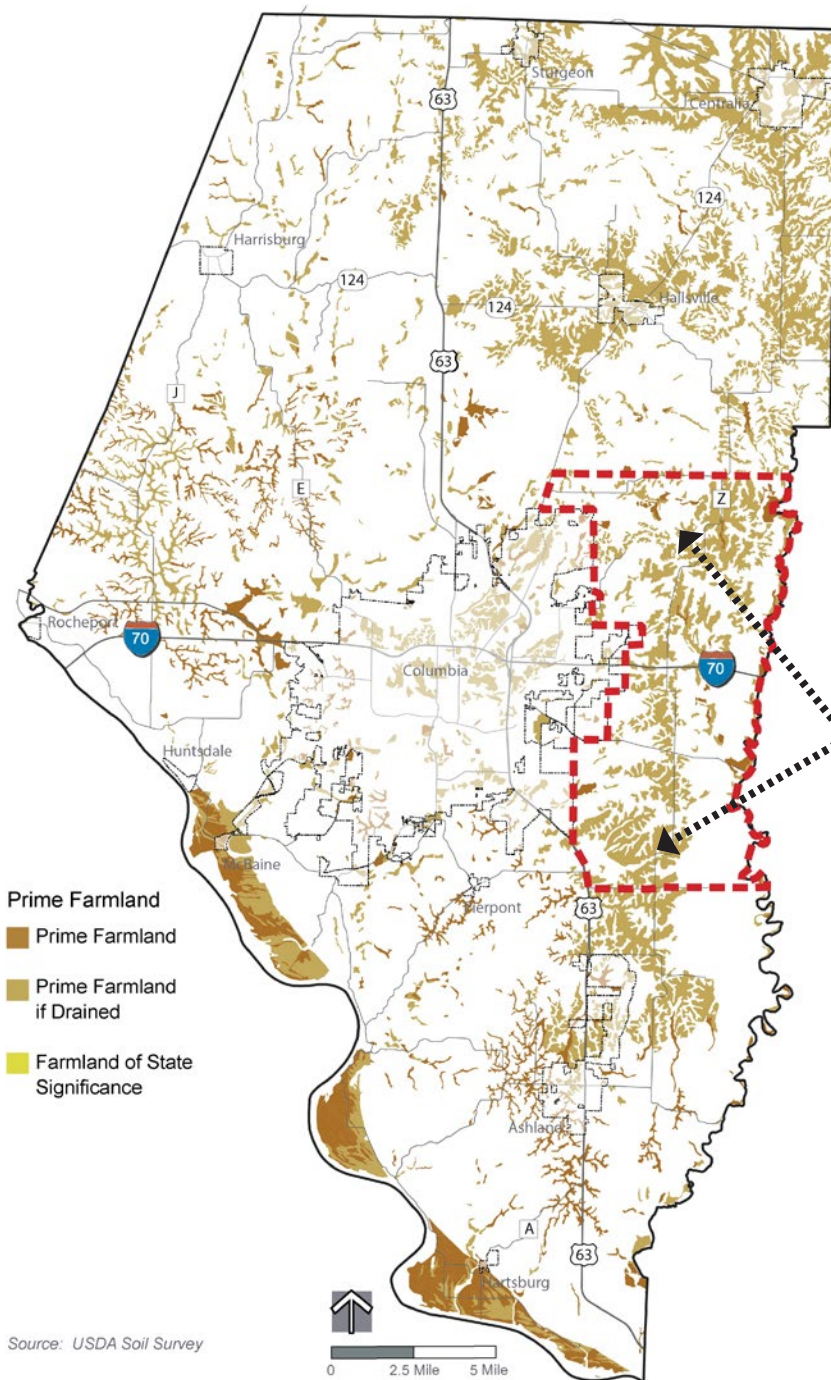
Conversely, Scenario #3, 'Rural Growth,' would offer the least benefit among the three scenarios for farmland preservation. Land use policies that encourage scattered residential and commercial development would not only convert prime farmland but also create additional conflicts with agriculture and nearby development, such as farm machinery on rural roads, noise, and dust from field operations.

Scenario #1, 'Current Trends,' presents mixed results for farmland preservation. One goal of Boone County's existing land use policies is to protect quality agricultural land. However, recent development trends have not consistently supported this goal. Large rural residential parcels of five to ten acres (or more) may preserve "open space" such as lawns and grasslands, but they do not necessarily protect farmland.



Prime farmland exists throughout Boone County, with two main areas: the floodplain of the Missouri River in the southwest and the Highway Z and Rangeline Road corridor, which includes regions near Hallsville and Centralia. The prime farmland along the Missouri River floodplain is relatively protected from future development pressures due to its floodplain designation. In contrast, prime farmland in the eastern part of the county, particularly along the Highway Z and Rangeline Road corridor, is likely to face development pressures under both Scenario #1 and #3.

Even with the anticipated development pressure in Scenario #2, 'Current Trends,' tools such as conservation subdivisions (clustered residential developments) could help balance the demand for rural residential housing with farmland preservation. Conservation subdivisions can achieve similar gross residential densities while preserving large areas of land for farming or natural habitats.



The area shown by the red dotted line includes approximately 43,000 acres, of which 32% is designated as prime farmland.

Development has taken approximately 18% of prime farmland in this area.

'Current Trends' Impact on Prime Farmland

The map on this page shows areas of prime farmland in Boone County. Note that this map does not include "Farmland of State Significance." The 'Discovery Report' provides a map that includes both prime farmland and "Farmland of State Significance."

Boone County has nearly 80,000 acres designated as prime farmland, representing almost one-fifth of the county's total land area. It is important to note that this designation is based on soil types and does not necessarily indicate that the land is actively being farmed. These areas could include natural features like woodlands or even areas of development.

To better understand the impact of development on prime farmland, this page analyzes the area east of the City of Columbia, approximately bordered by Highway HH to the north and Highway AB to the south. The area outlined by the red dotted line covers about 43,000 acres, with roughly 32% (13,500 acres) designated as prime farmland.

Development in this area, including rural residential use, has removed about 18% of the prime farmland (likely within a range of 15% to 21% due to data limitations). Rural residential development often involves large lots with lawns or pasture, taking prime farmland out of crop production.

Despite current development, significant areas of prime farmland remain. Approximately 26% (11,000 acres) of this area is still undeveloped prime farmland.

Prime Farmland Analysis

Infrastructure and Community Services:

Response times for emergency services (fire, ambulance, etc.)

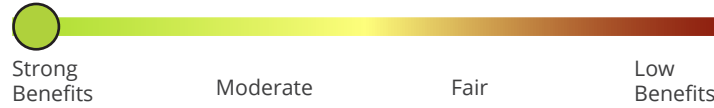
Scenario #1

City, Edges, and
Rural Estates
(Current Trend)



Scenario #2

City Focused



Scenario #3

Rural Growth



Response times for emergency services are often not top of mind for many residents - until they need to call the police, fire department, or ambulance. In those moments, efficient and quick service is expected.

Generally, emergency response times are faster when development is more closely located in the same area. When development is more spread out, response times tend to be slower. To maintain efficient response times in dispersed areas, additional responder facilities are required, which increases costs for emergency services.

Not all emergency services operate the same way. For instance, law enforcement may have designated patrol areas, which can help reduce response times without relying on a fixed facility.

Residents may also experience higher homeowner and commercial insurance premiums due to inefficient response times. Insurance companies often use ISO's Public Protection Classifications (PPC) to calculate premiums. In general, communities with better PPC scores tend to have lower insurance costs. PPC ratings are influenced by several factors, including the geographic distribution of fire stations (which affects response times), water supply availability, dispatch systems, and staffing levels. Scenario #2, 'City Focused,' would offer the most significant benefits in terms of response times for emergency services. Development in or very near cities could be more efficiently covered by emergency responders.



Scenario #1, 'Current Trends,' would provide moderate to fair benefits. While the current trend includes new development in or near cities (and thus efficiently served by emergency responders), the trend of rural residential on large parcels means that many rural residents have much longer travel times from their residence to the nearest service responder.

Scenario #3, 'Rural Growth,' would offer the least benefits for efficient response times for emergency services, as development would likely be much more spread out.

Understanding Response Times

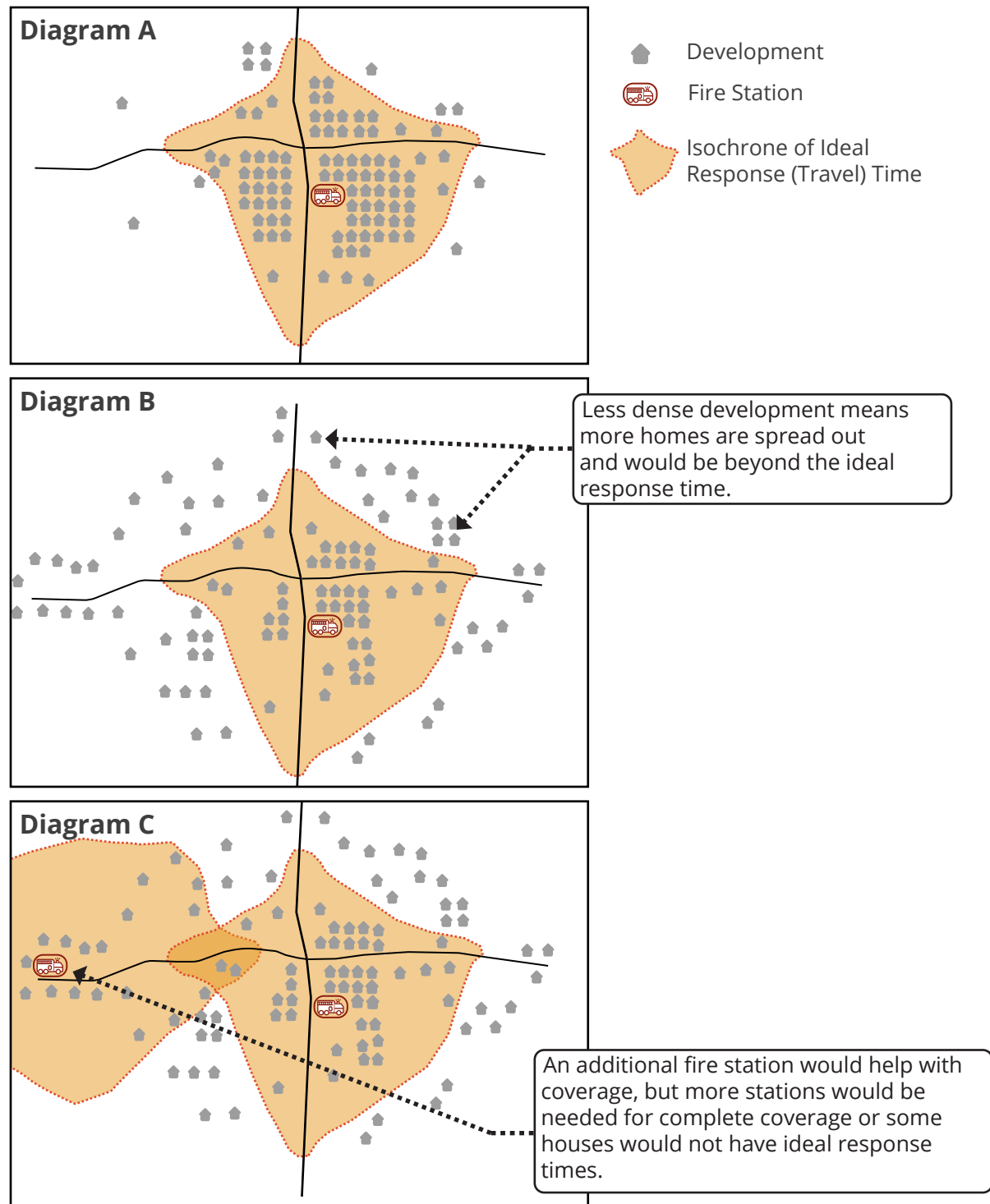
The diagrams on this page illustrate the concept of compact versus spread-out development concerning emergency response times.

The orange areas on the map represent a simplified isochrone map of travel times. Determining the ideal response time for first responders is more complex than a fixed physical distance. Response time essentially reflects travel time, influenced by factors such as traffic volume, street type, and signalization.

Diagram A depicts an ideal scenario where the majority of homes (more compact development) are within the desired response time from the fire station. In this example, only 12% of homes fall beyond the ideal response time.

Diagram B shows the same number of houses as in Scenario A, but they are more spread out. Here, over half of the homes exceed the ideal response time.

Diagram C demonstrates the impact of adding another fire station, which increases coverage for more homes. However, in this scenario, over 35% of homes are still beyond the ideal response time. This indicates that either additional stations would be necessary, or some homes would remain outside the ideal coverage area.



Infrastructure and Community Services:

Cost effectively expand and maintain utilities.

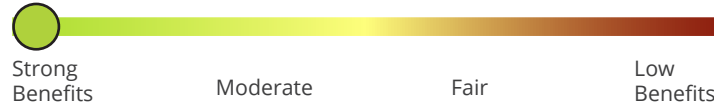
Scenario #1

City, Edges, and
Rural Estates
(Current Trend)



Scenario #2

City Focused



Scenario #3

Rural Growth



Generally, the capital (construction) and maintenance costs for utilities and infrastructure are more cost-efficient with closely clustered development. This concept is intuitive: for example, if a community has a mile-long road with utilities such as water, sewer, and electric lines, the capital and maintenance costs per household decrease as more housing units are added along the same road. Since infrastructure and utility costs are distributed across a utility's entire customer base, higher-density development often subsidizes costs for lower-density development.

In addition to the cost inefficiencies associated with low-density development, very high-density urban areas can also incur higher utility and infrastructure costs. The complexities of urban development, such as utilities being located beneath pavements, can lead to increased life-cycle costs. However, in the context of Boone County, this is unlikely to be a significant concern, except in a few areas of downtown Columbia.

Scenario #2, 'City Focused,' offers the most cost-effective approach for expanding and maintaining utilities, as growth concentrated in or near existing cities best utilizes current infrastructure and allows for efficient expansion.



Scenario #1, 'Current Trends,' presents moderate to fair benefits due to its wide range of densities. Some areas in the county could allow for efficient utility connections; however, many locations, especially those with low-density large residential parcels (commonly five acres), lead to inefficient utility services.

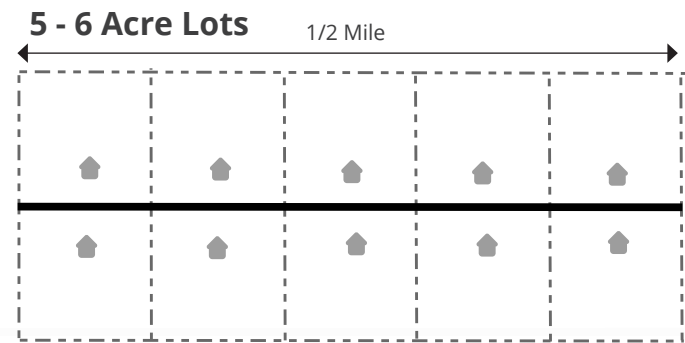
Scenario #3, 'Rural Growth,' would yield the least benefits, as development is likely to be more spread out at lower densities.

Understanding Fiscal Costs of Utilities and Infrastructure

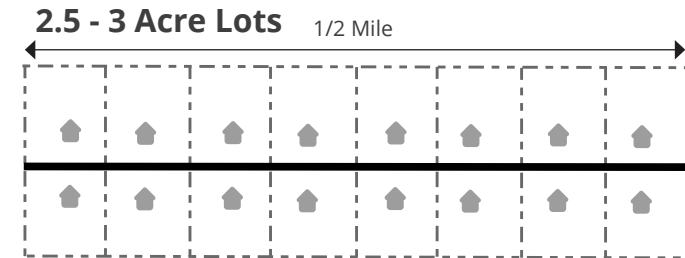
Quantifying the fiscal impacts of infrastructure across different development densities is extremely challenging. First, unit costs for infrastructure can vary significantly based on factors such as location, existing conditions, infrastructure size (e.g., pipe diameter), and quality (e.g., asphalt road versus concrete road with curb and gutter). Second, different types of infrastructure have varying life-cycle costs, which can significantly affect maintenance and replacement cost analyses.

The example on this page focuses on one component of utilities: water lines. The expected budget cost for one mile of new water line is approximately \$300,000. The diagrams on this page illustrate the per-home cost of this new water line based on various densities. It's important to note that narrower lot dimensions could further enhance service efficiencies.

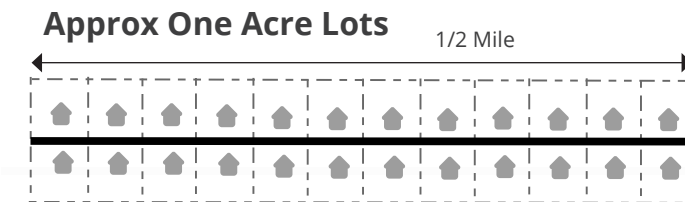
Typically, the cost per home is not directly borne by the homeowner; instead, it is distributed across a utility's entire customer base. Consequently, higher-density development often subsidizes costs for lower-density development.



\$\$\$
\$15,000 per Home



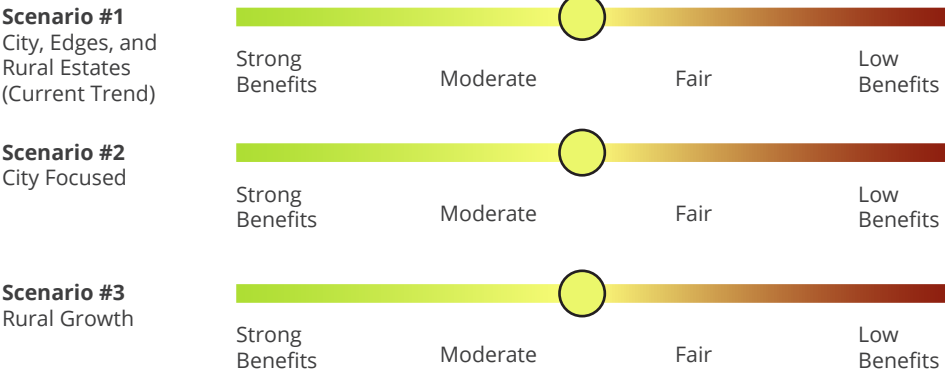
\$\$
\$9,375 per Home



\$
\$6,250 per Home

Infrastructure and Community Services:

School Enrollment



Based on higher-end growth projections, Boone County could add over 68,000 new residents by 2050, representing a 37.3% increase from 2020. Even with somewhat slower growth aligned with national trends, the county could still anticipate a significant increase of 36,000 residents, a 19.6% rise from 2020.

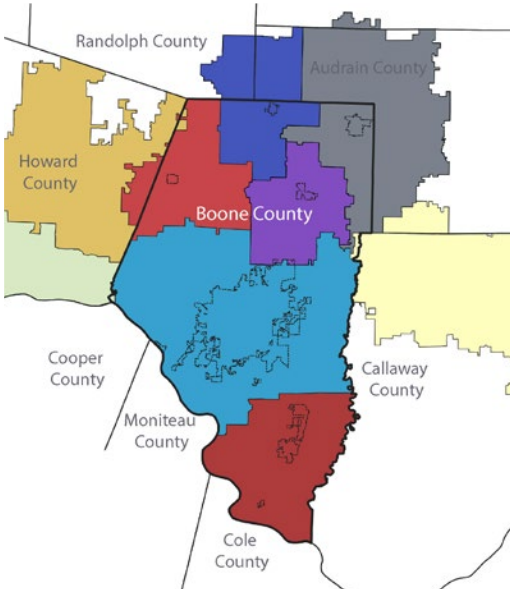
However, certain school districts may experience different growth rates, as parts of the county have had varying growth trends. Columbia Public Schools, Southern Boone County, and Hallsville School District are likely to see higher growth rates.

This population growth will also have a notable impact on school enrollment. In the 2023-2024 academic year, the six largest school districts in Boone County had a total enrollment of approximately 24,000 students, according to data from Public School Review. Columbia Public Schools is the largest district, with around 18,500 students, followed by Southern Boone County (1,900 students), Hallsville (1,500 students), Centralia (1,300 students), Harrisburg (600 students), and Sturgeon (400 students).

The Hallsville School District, with its boundary extending south to the existing city limits of Columbia, may experience higher growth rates due to its closer proximity to growth from the City of Columbia.

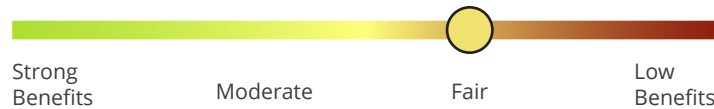
School enrollment may not grow at the same rate as the overall population. A detailed enrollment prediction would require demographic analysis beyond the scope of this study. However, the trend of decreasing household size suggests there will be fewer households with children, and consequently, fewer students. Therefore, while school enrollment is expected to increase, it may not match the growth rates of the overall population.

- School Districts**
- Centralia R-VI
 - Columbia Public Schools
 - Fayette R-III
 - Hallsville R-IV
 - Harrisburg R-VIII
 - New Franklin R-I
 - North Callaway R-I
 - Southern Boone County R-I
 - Sturgeon R-V

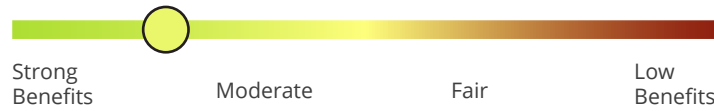


Housing: Increase the Variety of Housing Options

Scenario #1 City, Edges, and Rural Estates (Current Trend)



Scenario #2 City Focused



Scenario #3 Rural Growth



Future housing affordability is a significant concern in Boone County. Residents have voiced their worries through conversations and the countywide survey, highlighting the escalating costs of both purchasing and renting homes. Many express frustration over the lack of affordable starter homes, the limited options for low- and middle-income households, and the perceived poor quality of available affordable housing. To address these concerns, Boone County and the City of Columbia have initiated a joint housing study, commencing in 2024. Housing affordability is a complex issue. This evaluation focuses on whether the scenarios would likely increase the variety of housing options.

Scenario #2, 'City Focused,' presents moderate to strong benefits for widening the mix of housing types. The demographics of future Boone County are expected to differ from those of today, with a significantly larger cohort of senior citizens, single member households, and fewer families with multiple children. This demographic shift indicates a reduced demand for large single-family homes. Additionally, since new development in this scenario is primarily occurring within existing city boundaries, densities will necessarily rise, likely resulting in benefits for infrastructure economies of scale.

To accomplish this, traditional single-family zoning will likely need to be reconsidered in favor of zoning that allows increased flexibility for housing types. This trend is already underway, as cities in the county, especially Columbia, have witnessed an increase in residential densities. For instance, the 2011 Columbia comprehensive plan estimated the existing residential density of 2.6 units per acre, whereas the current residential density is estimated to be 3.6 units per acre.

There are several tools available for cities to increase residential densities, including the addition of more multi-family housing, and changes from traditional single-family zoning to more flexible zoning that would allow duplexes, triplexes, or four-plexes, as well as accessory dwelling units. These tools enable the transformation of areas that once only accommodated single-family homes into a wider array of housing options better suited to the needs of the changing population. They also encourage the rehabilitation of existing housing stock and infill development on land that has already been developed. Additionally, this pattern offers economic benefits through the more efficient utilization of existing infrastructure.



Scenario #1, 'Current Trends,' would offer some benefits, as development would continue in cities, at the edges of cities, and on large rural estates. While there has been an increase in housing options in places like Columbia, the trend of new, large homes may not adequately accommodate the future population, leaving individuals or small families with fewer housing options. Without policies to promote development within or near cities, there is little reason for developers to deviate from long-established practices. The trend of large rural estates, especially near existing city boundaries, could also impede future growth opportunities for cities, as they become surrounded by low-density residential areas.

Scenario #3, 'Rural Growth,' presents a complicated mix of benefits. In the short term, it could increase the availability of single-family homes by permitting smaller lot sizes, albeit with minimum sizes for on-site sewer if a public system isn't available. This may result in somewhat lower purchase prices, especially for starter homes.

However, while initial costs may seem more affordable, long-term expenses could be a concern. Ongoing maintenance costs for private sewer, wells, or driveways might surpass initial savings. In areas serviced by public utilities and roads, sprawling, leap-frog, and low-density development would necessitate continual infrastructure expansion, which can be costly and inefficient.

Although this scenario could diversify housing options in terms of single-family homes, its impact on overall housing variety, including duplexes, triplexes, or other multi-family options, is uncertain. Any evaluation of housing should also consider criteria such as supporting multiple modes of transportation and cost-effectively expanding and maintaining utilities, as these factors can affect a household's long-term costs.

Transportation: Support Multiple Modes of Transportation



A multi-modal transportation network that safely accommodates motorists, pedestrians, bicyclists, and transit users can have a significant impact on quality of life by reducing time spent in motor vehicles, promoting equitable mobility and access to opportunity, and creating opportunities for physically active travel and related improvements to health outcomes. A successful multi-modal network requires not only capital investments in walkways, bikeways, and more robust and efficient transit services, but also smart land use policies that direct growth in a manner that promotes shorter travel distances, increases density, and supports mixed-use and transit-oriented development.

Scenario #2, 'City Focused', would best provide the greatest potential for multi-modal transportation by concentrating development within existing urban areas and creating opportunities for people to travel by foot, bike, or existing transit services.

Scenario #1, 'Current Trends', would still provide opportunities to integrate transit use and support pedestrian and bicycle mobility, though at a greater cost. Growth on city fringe and beyond would require greater capital investments to retrofit roadway infrastructure, currently designed to accommodate only motor vehicle travel, to support active travel modes and to expand transit services to new areas. While roadway redesign can create space for walking and bicycling activity, travel distances may still be too great and discourage active travel.



Scenario #3, 'Rural Growth', would offer few opportunities to support multiple modes of transportation. Rural development results in an increase in residential populations living outside of walking and bicycling distances to everyday destinations like employment, education, retail, and parks. Similarly, rural development does not provide the residential or employment density necessary to support expansion of current fixed-route transit services, and on-demand transit services, with limited service and advance booking requirements, would likely not meet the travel needs of most residents.

Transportation: Increase Safety

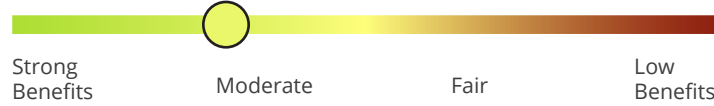
Scenario #1

City, Edges, and
Rural Estates
(Current Trend)



Scenario #2

City Focused



Scenario #3

Rural Growth



Road safety risks exist throughout the county and vary based on land use and transportation contexts. While more crashes occur Columbia and other incorporated communities with higher populations and more vehicle miles traveled, many of these crashes are rear-end crashes and other crash types occurring at lower travel speeds and resulting in a smaller percentage of fatal and severe injuries. In rural and unincorporated areas, many crashes are out-of-control crashes and other crash types occurring at higher speeds that result in a higher percentage of fatal and severe-injury crashes. Ultimately, growth scenarios that can encourage slower traffic speeds and accommodate proven safety countermeasures while still supporting future growth will have the greatest impact on road safety.

All three scenarios are not without road safety challenges. Each will require context-sensitive safety countermeasures to ensure that roadway improvements to accommodate future growth also create safer roads for motorists, pedestrians, bicyclists, and transit users. Thus, while there are safety differences between the scenarios, the range of differences among them is somewhat limited.

Scenario #2, 'City Focused', would afford the greatest road safety benefits to Boone County residents. Concentrated growth and redevelopment within existing urbanized areas will result in fewer vehicle miles traveled when compared to the other scenarios, thereby reducing safety risk and exposure to crashes. In addition, the concentration of development within existing cities will put more cars on slower roads, and the likelihood of crashes resulting in fatal or severe injuries will be lower.

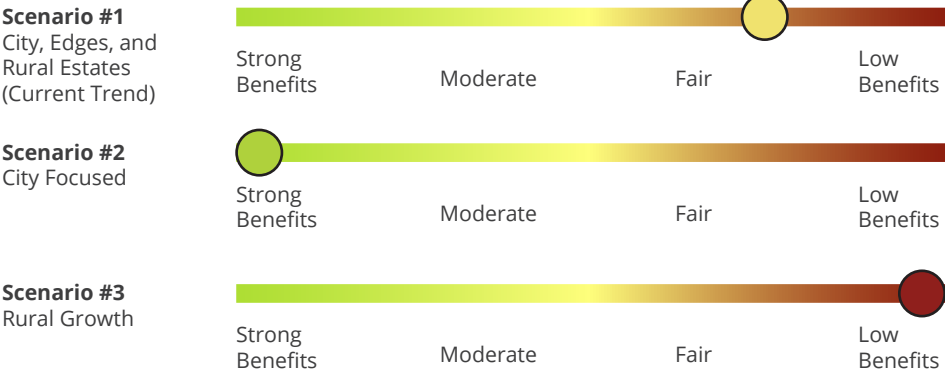


One factor that must be considered is the potential increase in pedestrian and bicycle trips. People traveling by bicycle and foot are at greater risk of fatal and severe injury resulting from a crash. These vulnerable road users rely on safe, connected, and low-stress walkways, bikeways, and road crossings when traveling from Point A to Point B, and without the proper plans, policies, and design standards in place, these facilities may be developed in tandem with future growth and development.

Compared to Scenario #2, Scenario #1, 'Current Trends', would not yield the same level of benefits in terms of road safety. Continued single-family subdivision development on the edges of urbanized areas will put stress on rural highways not designed to accommodate the increase in vehicle traffic, and crashes along these higher-speed highways have greater potential for fatal and severe-injury crashes.

Scenario #3, 'Rural Growth', will also put greater strain on rural highways and exacerbate the same road safety challenges and risks as Scenario #1, though at an even higher rate as more rural residents will be traveling longer distances.

Transportation: Reduce Travel Time



Travel times are dictated in large part by land use and development patterns. Longer distances between residential neighborhoods and developments and commercial, employment, and other popular destinations will naturally result in longer travel times, especially for those who walk, bike, or use public transit.

Ease of access to employment, education, retail, and other community destinations is important to Boone County residents, and many are concerned with the impacts of future growth on traffic operations and congestion. When asked about challenges to quality of life in the next 20 to 30 years, nearly four in every ten residents identified increased traffic congestion as one of their top three concerns. This sentiment was not confined to residents in Columbia or those along Interstate 70 but shared by small town and rural residents as well. Journey to work data from the US Census Bureau reveals that the average commute time for Boone County residents is nearly 19 minutes, with a slightly shorter commute time of 16 and a half minutes for Columbia residents.

Scenario #2, 'City Focused', would yield the greatest benefits for reducing travel times by encouraging growth and development within existing city limits, close to existing employment, education, and commercial destinations. Shorter trip distances not only reduce travel times and vehicle miles traveled, but also have the potential to reduce the use of personal vehicles and promote walking, bicycling, and transit use. While congestion and travel delays may increase during peak hours at major intersections and interstate interchanges, strategies like travel demand management (TDM) and intelligent transportation system (ITS) strategies can promote

safe and efficient traffic movement and mitigate delay, particularly along major thoroughfares and MoDOT highways in and around the City of Columbia.

Scenario #1, 'Current Trends', and Scenario #3, 'Rural Growth', on the other hand, would adversely impact travel times. By encouraging residential development further from employment, education, and commercial destinations, these scenarios increase average travel distances, travel times, and vehicle miles traveled while also reducing the viability of active travel modes (walking and bicycling). These options also put strain on existing infrastructure and require improvements to accommodate increases in traffic volumes during both peak and non-peak hours, including paving of gravel roads, widening of two-lane roads, and operational improvements to support increased traffic volumes on rural Boone County roads and MoDOT highways.

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