

Camp Crowder Training Center

HARRY S TRUMAN COORDINATING COUNCIL

Joint Land Use Study



APRIL 23, 2014

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In addition, two steering committees guided the development of the JLUS, the Technical Committee and the Policy Committee, which included the following members:

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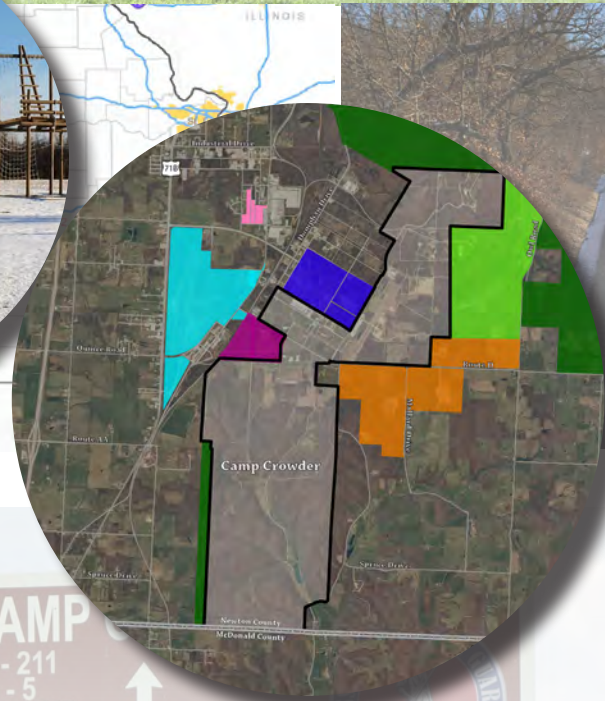
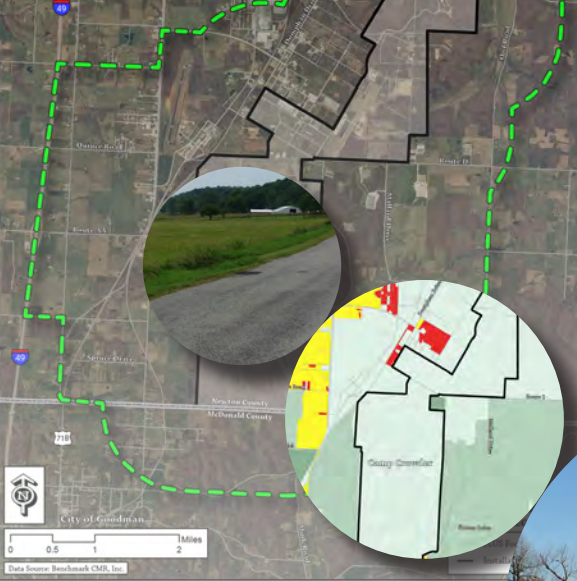


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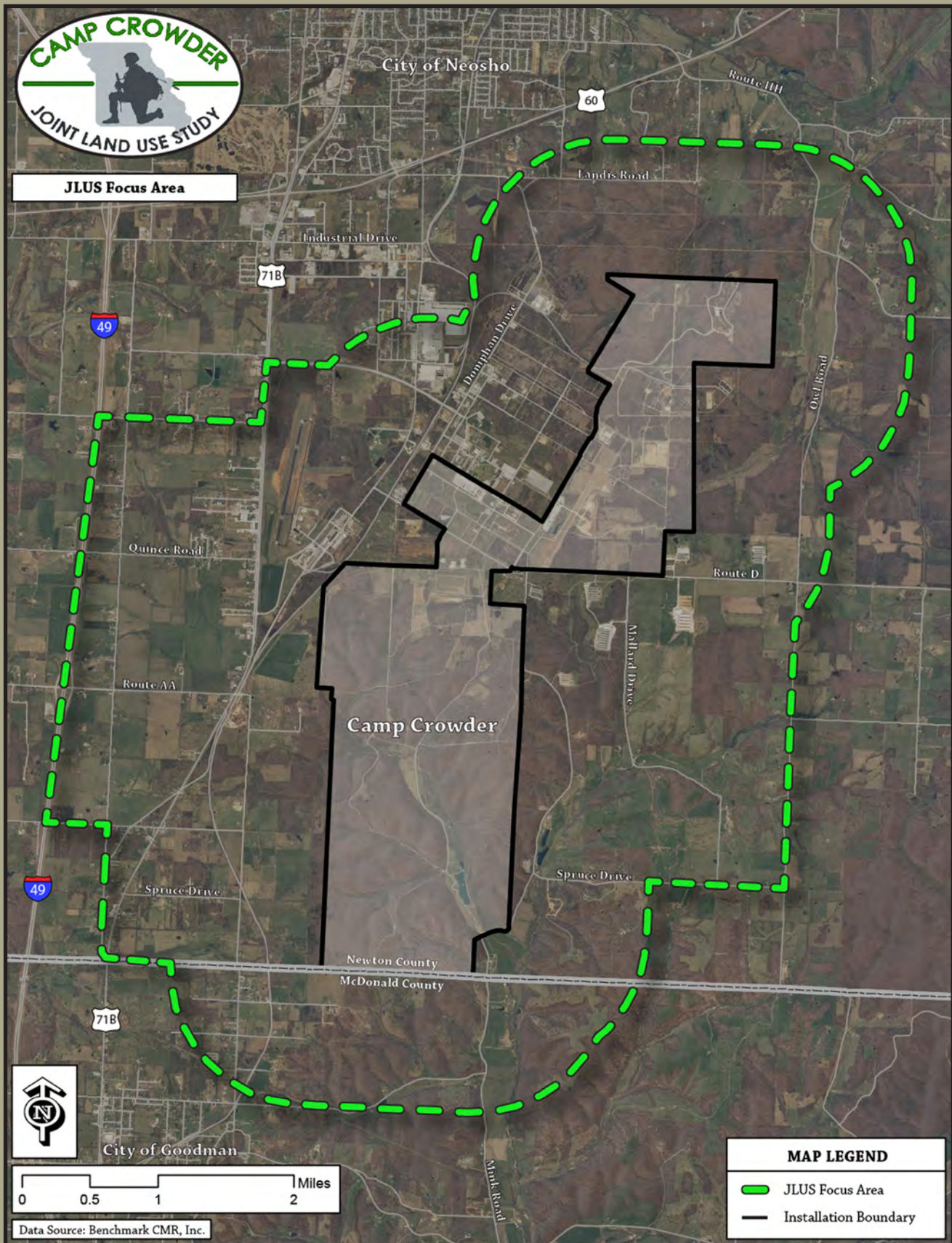
Executive Summary

What is a Joint Land Use Study?

A Joint Land Use Study (JLUS) is a collaborative land use planning effort between military installations and their surrounding communities. After engaging community members about land use issues related to the installation, the study identifies actions that the communities and the installation could take to encourage compatible land uses around the installation. The study does not require the implementation of any particular strategy, but rather assesses the various tools available to the communities to implement if they so choose.

The Department of Defense's Office of Economic Adjustment (OEA) funded this study, which was sponsored by the Harry S

Truman Coordinating Council and completed by White and Smith Planning & Law Group, with partners Marstel-Day, LLC, and Benchmark CMR, Inc., between August 2013 and May 2014. It is the result of a collaborative effort between Camp Crowder, the Harry S Truman Coordinating Council, the City of Neosho, Newton County, McDonald County, the City of Goodman, and other affected stakeholders. Two steering committees (a Policy Committee and a Technical Committee) oversaw the study, which also involved extensive input from members of the general public as well as members of Camp Crowder, the Missouri Army National Guard, and local, regional, and state officials.





Goals and Objectives of the Camp Crowder Joint Land Use Study

The primary goal of a JLUS is to preserve long-term land use compatibility between a military installation and the communities that surround it. The completion of a JLUS—and the implementation of its recommendations—provides mutual benefit to the military installation and the local communities. A JLUS benefits the installation by helping it avoid complaints regarding its impacts, such as noise, or non-compatible land uses in its vicinity. The study benefits local jurisdictions by providing tools they can implement to help lessen those impacts on their citizens, while also sustaining the mission of the installation.



Joint Land Use Studies:

- Examine the existing and potential land use incompatibilities surrounding the military and National Guard installations;
- Identify ways that the installation and surrounding communities can reduce incompatibilities; and

- Create a plan that the installation and local communities can implement in whole or in part to encourage compatible land uses around the installation and to mitigate the off-post training and operational impacts.

The objectives of Joint Land Use Studies are to:

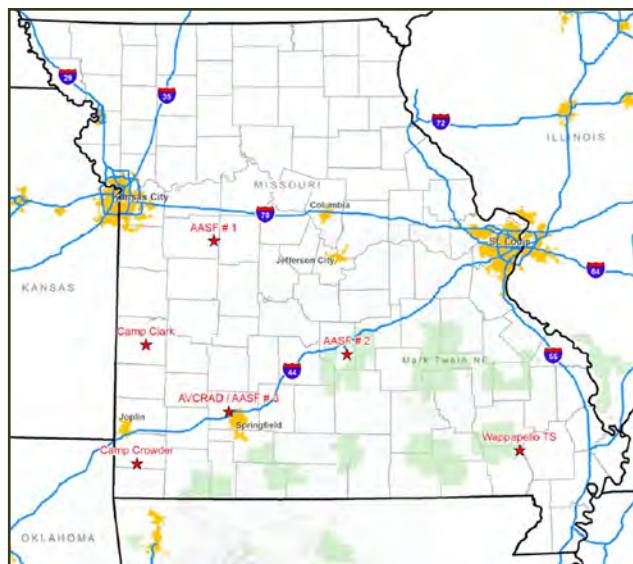
1. **Increase Awareness.** Because the JLUS process involves months of collaboration by installation officials, local governments, and community members, one objective is for these groups to better understand the role the installation plays in the community—including the impacts it has on the community and the impacts that the community has on it.
2. **Encourage Collaboration.** Another objective is to encourage future collaboration on land use issues between the installation and local communities.
3. **Facilitate Land Use Compatibility and Coordination.** A third objective is to provide specific suggestions about strategies that the installation and local communities might use to encourage compatible land uses in the area surrounding the installation.

Specifically, the objective of this JLUS was to promote responsible land use planning near Camp Crowder, to accommodate compatible growth and economic development in the region, to protect public safety and quality of life, and to sustain the mission of Camp Crowder for the long-term.

What is Happening at Camp Crowder?

Camp Crowder was developed as a training center for the United States Army in 1941-42. Although its initial operations came to a close after the Korean War, today it is federally owned and licensed to the Missouri Army National Guard as a guard training facility. Its mission now is to provide pre-deployment training to National Guard units headed to Southwest Asia and Afghanistan. Located on 4,400 acres—4,200 of which are available for training purposes—it is one of three major training facilities of the Missouri National Guard. Camp Crowder's total economic impact on the surrounding communities is \$5.3 million annually.

This past year, Camp Crowder hosted more than 35,000 guard personnel. Due to a policy encouraging all Missouri National Guard training to occur in state, Camp Crowder ultimately will train at least 50% of the state's units. During live fire training events, it can support one battalion-sized combat arms unit, and during training periods without live fire, it can support two battalion-sized combat arms or support units. Camp Crowder has small arms live fire ranges and demolition ranges as well as non-firing maneuver training areas for land navigation training, drivers' training, and tracked vehicle circuit training. A primary focus of the training is Improvised Explosive Device (IED) detection, defense, and countermeasures.



Camp Crowder is located in the southwest corner of Missouri directly south of the City of Neosho in Newton County. It is directly adjacent to McDonald County, with the City of Goodman also nearby. Newton and McDonald counties, which experienced a 32% population growth since 1990, have a combined population of 81,945 residents. While the two counties are expected to grow another 16.7% before 2030, the area can generally be characterized as rural in nature. Residential uses are low in density, and primary employment is found in the sectors of agribusiness (especially poultry hatcheries and turkey production), manufacturing, and local government services.

Most of the land surrounding Camp Crowder today includes uses that are compatible with military training operations, such as conservation, agriculture, institutions (such as schools and religious institutions), and industries. In general, future land use compatibility is also likely both because the major transportation corridors in the area are located to the west of the Training Center and because no water or sewer extensions are planned near Camp Crowder that would facilitate high-density development there.

However, given the proximity of Camp Crowder to the City of Neosho, its borders are directly adjacent to several existing commercial, institutional, and industrial uses. These include a general aviation airport, a sewage treatment plant, a landfill, an industrial park, county fairgrounds, and Crowder College. Residential, agricultural, and conservation uses are also located nearby.

Because aviation at Camp Crowder is very limited, the primary impact on these areas from the military training operations

is weapons training noise. Although Camp Crowder enjoys a strong relationship with the communities that surround it and experiences few noise complaints, this study examines the noise contours generated by training operations at Camp Crowder to determine the extent of potential compatibility issues related to noise.



Camp Crowder generates noise from two sources, which this study evaluates separately: noise from small arms fire and impulsive noise created by light and heavy detonations during demolition training activities. This study evaluates small arms noise using the two noise contours identified in the Missouri National Guard's 2013 *Operational Noise Management Plan*: Noise Zone III and Noise Zone II, which are associated with peak noise levels of more than 104 decibels and between 87-104 decibels, respectively. Impulsive noise is evaluated using noise contours associated with "high complaint risk" (more than 130 decibels) and "moderate complaint risk" (between 115-130 decibels). Generally, uses that are more tolerant of noise such as industrial, commercial, and agricultural are considered compatible in the studied areas for both types of noise. Noise-sensitive uses such as residences and institutions (schools, religious institutions, hospitals, etc.) are considered less compatible, although measures such as sound-buffering building techniques can be used to make them more compatible.

The communities surrounding military installations can also have impacts on the military training operations. For example, Camp Crowder has experienced impacts resulting from the interference of outdoor lighting with night training activities and the interference of overflights by civilian aircraft with general training activities.

The recommendations contained within this JLUS are intended to help both Camp Crowder and the local communities lessen their impacts on each other through compatible land use initiatives.

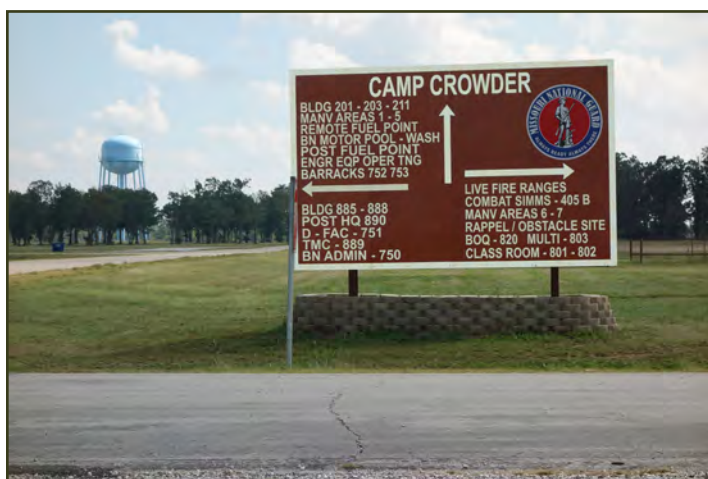


Overview of the Joint Land Use Study

This report contains the following six chapters.

CHAPTER 1: PURPOSE AND PROCESS

The first chapter of this report explains what the Camp Crowder JLUS sought to accomplish and the method by which it was created. It also gives background information about Camp Crowder and the local communities. It includes an overview of the entire report.



CHAPTER 4: A VISION FOR CAMP CROWDER AND THE COMMUNITY

Chapter 4 looks at the nature of future military operations at Camp Crowder as well as future land uses of the surrounding communities so that the suggested implementation strategies and tools can take those into account.

CHAPTER 5: IMPLEMENTATION STRATEGIES AND AVAILABLE TOOLS

This chapter identifies the strategies and tools that are available to the installation, the local communities, and other key stakeholders to encourage compatible land uses around Camp Crowder and ongoing coordination on these and other efforts.

CHAPTER 6: THE MOVE FORWARD — JLUS STRATEGY RECOMMENDATIONS

This chapter details a plan for implementing the study's recommendations so that Camp Crowder, the local communities, and other key stakeholders can decide which, if any, of the suggested strategies and tools to implement in the short-, medium-, and long-term planning timeframes.

APPENDICES

The appendices of this report includes public survey results, meeting minutes of the JLUS Policy and Technical committees, and samples or preliminary drafts of several suggested strategies and tools.

CHAPTER 2: BACKGROUND

The next chapter describes land uses at Camp Crowder and in the surrounding communities, and explains the potential for both to experience challenges related to the encroachment of development around the Training Center. This chapter also examines how the area's economic, demographic, environmental, and cultural characteristics affect its land use.

CHAPTER 3: LAND USE COMPATIBILITY ASSESSMENT

This chapter examines the impact of Camp Crowder's military training operations on surrounding lands, and the development of surrounding lands on the military training operations at Camp Crowder.



Implementation Strategies

The study identifies tools for the local communities to consider, in order to reduce encroachment-related issues around the Training Center. However, because the values and needs of each community are different, additional public deliberation should take place before any decision is made to implement a particular tool. The tools are organized on a continuum from those that are voluntary in nature to those that would mandate actions in any community that elects to use them.

The following matrix identifies the tools recommended for consideration and indicates the suggested planning timeframe for each. In addition, a description of each of the eight overarching categories of tools also is given.

INTERAGENCY COOPERATION

Because the coordination of land use issues by multiple jurisdictions is a complex process, the study suggests the creation of a regional working group to lead the JLUS implementation effort. A Memorandum of Understanding—a type of non-binding agreement between various groups—also is suggested to maintain an ongoing framework for coordination. Specific interagency cooperation efforts, such as additional coordination with the Neosho Hugh Robinson Airport to make sure that the airspace over Camp Crowder remains clear during training exercises, should be considered as well. Two resources available to help with these efforts are the Missouri Military Preparedness and Enhancement Commission and the newly formed Missouri Military Partnership. It is anticipated that an existing agency, like the Harry S Truman Coordinating Council could coordinate the activities of a regional working group.

PUBLIC OUTREACH

While Camp Crowder has communicated and coordinated well with the communities that surround it in the past, additional measures may be taken to increase public awareness about the nature of the Camp Crowder Training Center.



Category	Implementation Tool	Timeframe		
		0-2 years	2-5 years	More than 5 yrs.
Interagency Coordination	Create Regional "Joint Land Use Working Group"	✓		
	Create Memorandum of Understanding to Coordinate Efforts	✓		
	Coordinate with Neosho Hugh Robinson Airport	✓		
	Participate in Efforts of Missouri Military Preparedness and Enhancement Commission	✓		
	Participate in Efforts of Missouri Military Partnership	✓		
Public Outreach	Create a Joint Land Use Website	✓		
	Create Joint Land Use Brochures	✓		
	Create Public Signage Indicating Presence of Training Operations	✓		
	Increase Awareness of Civilian Pilots About Safety Risks and Impacts of Entering Camp Crowder Airspace During Training	✓		
	National Guard Outreach	✓		
	Inform Hunters & Other Recreational Users		✓	
	Supplement Existing Websites with Information About Impacts; Add Notifications to Property Records	✓		



BUSINESS AND ECONOMIC DEVELOPMENT

The business community could also support land use compatibility efforts, through, for example, the formation of Military Affairs Committees by the Chamber of Commerce, or additional coordination between the Neosho Area Business and Industrial Foundation, Inc. and Camp Crowder.

TRAINING MISSION STRATEGIES

Camp Crowder already is taking steps to lessen training impacts on the local communities, which should continue into the future. For example, the Training Center already is implementing two Department of Defense programs—the Ranges and Training Lands Program and the Integrated Training Area Management Program—that help manage its training operations such that they have as little impact on the surrounding communities and the natural environment as possible. Additionally, the Missouri National Guard’s 2013 Statewide Operational Noise Management Plan evaluates noise impacts, including those at Camp Crowder, and provides suggestions for the mitigation of these impacts. Camp Crowder also is in the process of completing a master plan, which will take into account the findings and recommendations of this study.

JOINT LAND USE CONSERVATION PROGRAMS

Several voluntary programs exist that could be used to protect land uses in the vicinity of the Training Center from development with incompatible uses. These programs use federal funds to purchase easements or other property rights from private property owners and conservation groups in order to provide a buffer around military installations.

Category	Implementation Tool	Timeframe		
		0-2 years	2-5 years	More than 5 yrs.
Business & Econ. Dev.	Formation of Military Affairs Committees by Chambers of Commerce	✓		
	Neosho Area Business and Industrial Foundation Involvement in Encroachment-Related Issues	✓		
Training Mission Strategies	Seek Continued Guidance from Ranges and Training Land Program (RTLTP)	✓	✓	✓
	Seek Continued Guidance from Integrated Training Area Management (ITAM) Program	✓	✓	✓
	Continue to Maintain Training Record of Environmental Concerns	✓	✓	✓
	Update Operational Noise Management Plan as Required by Department of Defense	✓	✓	✓
	Ensure Training Center Master Plan Addresses Training Impacts on Surrounding Communities	✓	✓	✓
Joint Land Conservation	Examine Funding for Land Purchase and Easements Through:			
	A. Army Compatible Use Buffer (ACUB) Program	✓	✓	
	B. Readiness & Environmental Protection Integration (REPI) Program	✓	✓	
	C. USDA Farm & Ranchlands Protection Programs (FRPP)	✓	✓	
	D. USDA Wetlands Reserve Program (WRP)	✓	✓	
	E. USDA Grasslands Reserve Program (GRP)	✓	✓	
	F. USDA Sentinel Landscapes Partnership (SLP)	✓	✓	



LOCAL GOVERNMENT PLANNING

All four of the jurisdictions surrounding Camp Crowder are allowed to adopt comprehensive land use plans, although to date only the City of Neosho has done so. Because of its proximity to Camp Crowder, Neosho may consider amending its Comprehensive Plan to include the findings and recommendations from this study. The other jurisdictions also may want to consider adopting comprehensive plans to address noise, lighting, and coordination issues. Under the Missouri statutory framework, these planning policies do not amount to actual regulation of property, but simply state the community's awareness of and policies regarding important land uses and growth.

LOCAL GOVERNMENT GUIDELINES

The local governments also could adopt voluntary guidelines to address certain impacts from Camp Crowder on the surrounding communities and from the surrounding communities on Camp Crowder. Instead of mandating certain actions, the jurisdictions could encourage the use of these voluntary standards as a way to lessen incompatible land uses in the Camp Crowder area.

LOCAL GOVERNMENT REGULATIONS

If any of the local governments wish to go a step further and adopt regulations to address issues of encroachment, they are allowed to do so under state law. All of the voluntary guidelines, as discussed above, could also be made mandatory through the adoption of general zoning and building code regulations, special military overlay zones for the two cities, or limited compatible use districts for the two counties, as well as through other measures.

Category	Implementation Tool	Timeframe		
		0-2 years	2-5 years	More than 5 yrs.
Local Govt. Planning	Neosho Amends Comprehensive Plan to Address Encroachment Issues	✓		
	Jurisdictions Without Comprehensive Plans Consider Adopting Them or Developing Informal Policies for Joint Land Use Planning		✓	
Local Government Guidelines	Inform Citizens About Voluntary Methods of Mitigating Impacts:			
	A. Outdoor Lighting Guidelines	✓		
	B. Discouraging Noise-Sensitive Land Uses		✓	
	C. Sound Attenuation Construction Guidelines	✓		
	D. Voluntary Coordination with Camp Crowder within the JLUS Focus Area	✓		
	E. Voluntary Transferable Development Rights Opportunities	✓		
	F. Voluntary Real Estate Sales and Rental Notification within the JLUS Focus Area	✓		
	G. Voluntary Noise Easement, based on available funding	✓		
Local Government Regulation	Jurisdictions with Zoning and Land Use Ordinances May Require / Counties May Consider Limited Military Districts That Regulate:			
	A. Outdoor Lighting Standards	✓	✓	
	B. Regulation of Noise-Sensitive Land Uses			✓
	C. Sound Attenuation Construction Standards	✓	✓	
	D. Mandatory Coordination with Camp Crowder within the JLUS Focus Area	✓	✓	
	E. Transferable Development Rights	✓	✓	
	F. Real Estate Sales and Rental Disclosure within the JLUS Focus Area	✓	✓	
	G. Noise Easement required as a condition of Approval	✓	✓	



Chapter 1

Purpose and Process

The first chapter of this report explains what the Camp Crowder JLUS sought to accomplish and the method by which it was created. It also gives background information about Camp Crowder and the local communities. It includes an overview of the entire report.

1.0 What is a Joint Land Use Study?

Joint Land Use Studies are collaborative planning efforts undertaken by military installations, other Department of Defense facilities, and the communities and stakeholders surrounding them. The Joint Land Use Study (JLUS) process results in a study outlining relevant demographic and land use background information, identifying potential land use conflicts, and surveying the tools and techniques for augmenting compatibility between military and civilian land uses and communication between military and

civilian officials, landowners, and businesses. The Joint Land Use Study does not mandate adoption of any particular tool or technique, but outlines those available should the community wish to go further.

Nearly one hundred of these studies have been

completed to date, and more than 50 currently are underway. Community members impacting or impacted by the local installation are fully engaged over the course of the Study in an effort to increase land use compatibility and cooperation between the community and the installation. JLUS participants typically include:

- local and regional government agencies;
- state and other federal agencies;
- business alliances and chambers of commerce;
- private enterprise and affected property owners;
- conservation and environmental groups;
- utilities and service providers;
- transportation and infrastructure interests; and
- schools, colleges, and other educational organizations.

The JLUS is not a zoning document and does not mandate any particular tool or technique. The JLUS, rather, provides an assessment of existing conditions and a survey of available tools for the local community to evaluate.



However, the list of participants will vary from one JLUS to another, depending on the proximity of the installation and its impacts to other land uses and their impacts on the installation. JLUS's are funded by the Department of Defense's Office of Economic Adjustment (OEA).

The Harry S Truman Coordinating Council was the local sponsor, in this case, and selected White & Smith Planning and Law Group, with partners Marstel-Day, LLC and Benchmark CMR, Inc. (the "JLUS Project Team") to complete the Study.

1.1 Study Goals and Objectives

While the goals of a Joint Land Use Study will vary from one installation to another, the overarching goal is to inventory potential and current incompatibilities in land use, identify measures for mitigating incompatibilities, and to detail a plan for facilitating compatible land use, regional coordination, and the ongoing mission of the local installation. The objectives are to:

INCREASE AWARENESS

The JLUS process involves months of collaborative planning by installation officials, local governments, and other members of the public and private sectors. The planning process involves extensive review of background information and the facilitation of understanding within the community of the role the installation plays and the impacts it has on the community and, of course, the impacts the community has on the installation. This increased awareness in the community leads to better communication and understanding as the community and installation interact in the future.

ENCOURAGE COLLABORATION

Typically building on a history of prior collaborative efforts, the JLUS process identifies tools and processes for augmenting collaboration between the installation and its community partners after the JLUS is completed.

FACILITATE LAND USE COMPATIBILITY AND COORDINATION

Enhanced awareness and increased collaboration provide a foundation for land use compatibility that fits the individual local jurisdictions. Compatibility tools can include anything from simply formalizing coordination processes, to the adoption of local government regulations prescribing land uses that are considered

compatible with the installation. These alternatives are included in the Joint Land Use Study as options for the local community to evaluate.

The Camp Crowder JLUS was conducted as a joint venture between Camp Crowder, the Harry S Truman Coordinating Council (HSTCC), the City of Neosho, Newton County, McDonald County, the City of Goodman (the JLUS Jurisdictions), and other affected stakeholders. The objective of the JLUS was to promote responsible land use planning near Camp Crowder, to accommodate compatible growth and economic development in the region, to protect public safety and quality of life, and to sustain the mission of Camp Crowder for the long-term.

The Study was conducted between August 2013 and May 2014. Members of Camp Crowder, the Missouri Army National Guard, local, regional, and state representatives, and other entities and individuals familiar with and impacted by Camp Crowder participated in the study, as did members of the public through a series of four (4) public meetings held in October and December 2013 and on March 22, 2014. The Study was overseen by two steering committees, a Policy Committee and a Technical Committee. The members of these committees are identified in the Acknowledgements section of the report. The minutes from the Steering Committees' meetings are included in Appendix G.

The JLUS process is an important one that brings members of a unique community into a focused dialogue regarding the role of and relationship between the military installation or National Guard training center, surrounding local governments, the business community, residents, and other organizational and individual stakeholders. This Study resulted from that process and includes a series of regulatory and non-regulatory tools that the local community will evaluate and consider for implementation after the Study is completed.

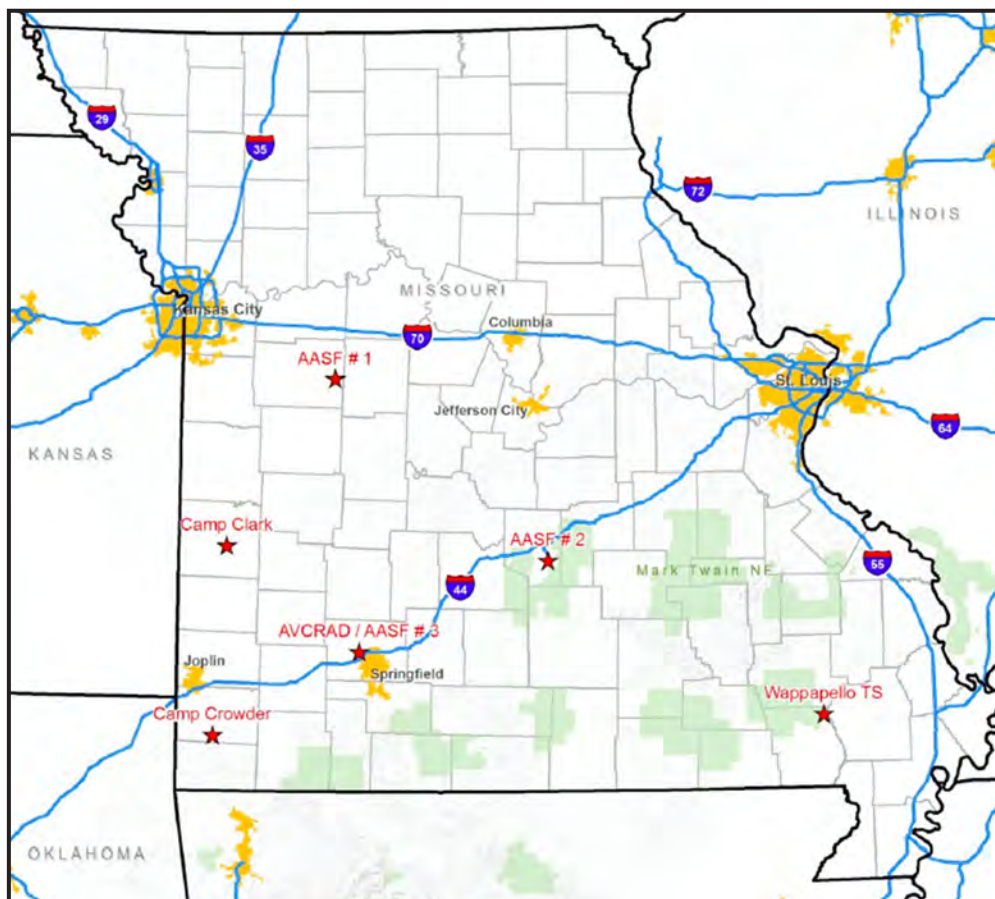


1.2 The Missouri Army National Guard (MoARNG)

The Missouri Army National Guard (MoARNG) trains and organizes a community-based force of individuals as units prepared to defend and serve both the citizens of Missouri and the citizens of the United States. It is housed under the Missouri Department of Public Safety and the U.S. National Guard and includes both the Missouri Air National Guard and the Missouri Army National Guard. MoARNG operates three training facilities, similar to Camp Crowder, in addition to three aviation facilities.

Camp Crowder Training Center is one of three major training facilities operated by the National Guard in Missouri, in addition to three aviation facilities. In addition to Camp Crowder, the other two non-aviation training centers include Camp Clark in Nevada and Wappapello Training Center south of Lake Wappapello.

The map below indicates the location of the Camp Crowder Training Center in relation to the other five MoARNG and aviation Training Centers.



1.3 The JLUS Focus Area

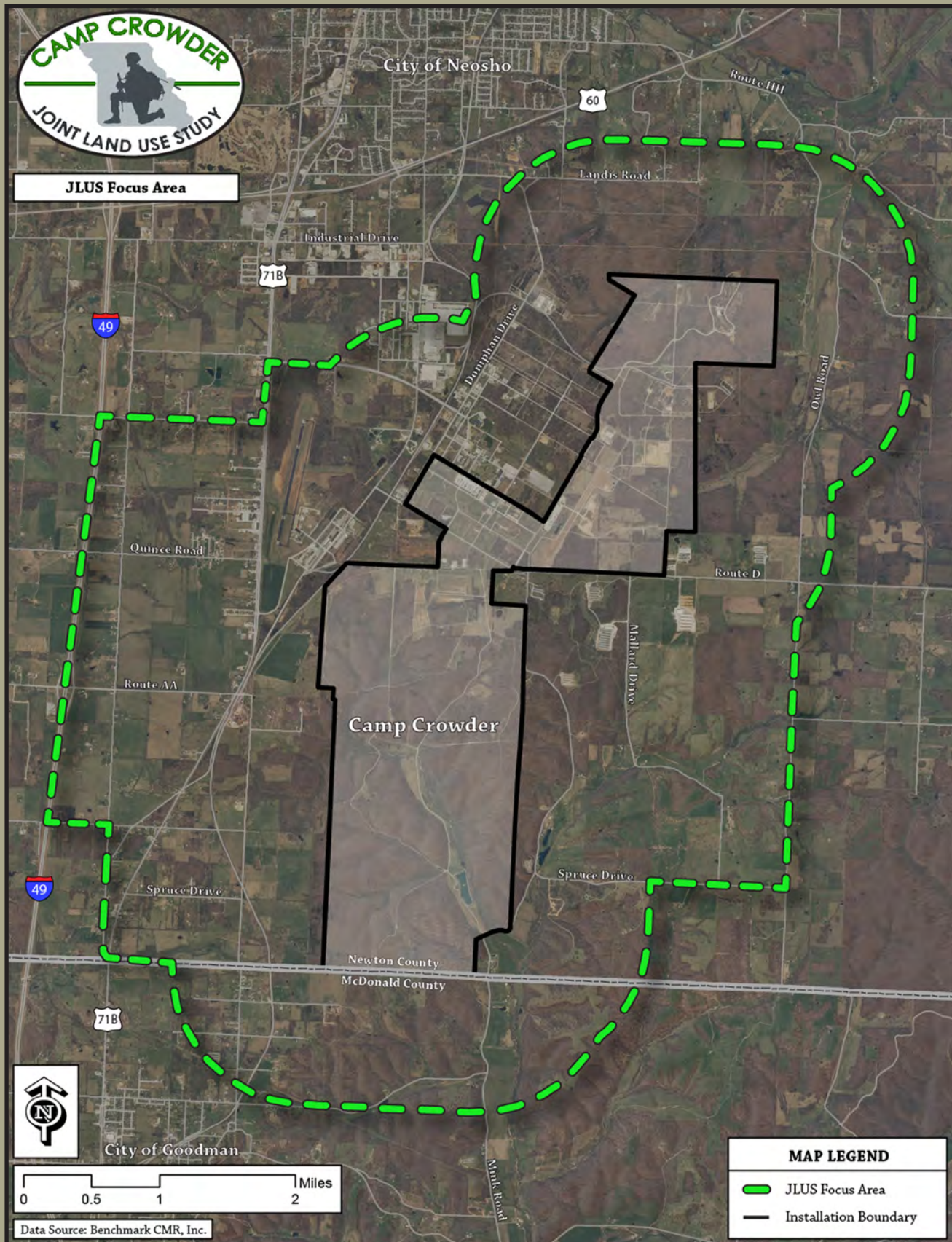
In order to define a JLUS Focus Area for this Study, the most significant noise impacts associated with Camp Crowder's training missions were identified and mapped. These areas are detailed in Chapter 3's "Land Use Compatibility Assessment."

The JLUS Focus Area extends generally one mile from the installation boundary, except in those areas where the most immediate noise impacts extend greater than a mile from the

Training Center. In those areas, the JLUS Focus Area boundary was extended to the nearest prominent feature, such as a road, beyond the area covered by a noise impact zone. It is within this "focus area" that the detailed land use compatibility analyses were conducted. However, all noise impacts identified in the 2013 *Statewide Operational Noise Management Plan* are evaluated in the JLUS and are discussed in Chapter 3.



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1.4 The JLUS Process

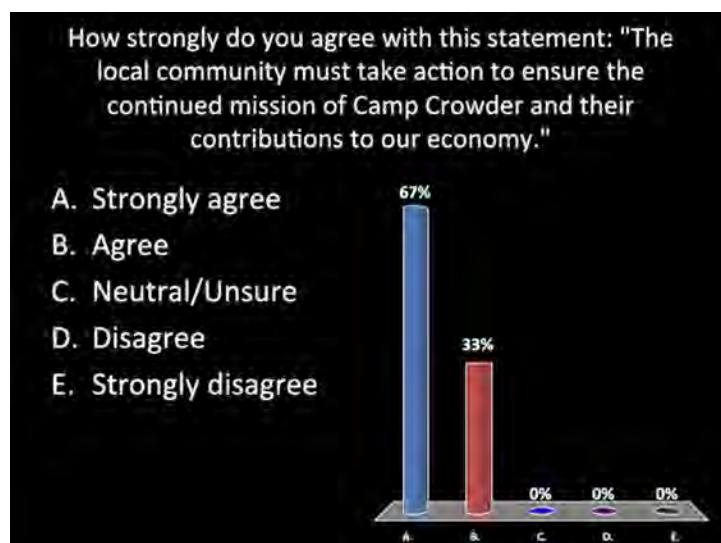
The Camp Crowder JLUS process was comprised of three major components:

- Evaluation of Existing Conditions;
- Land Use Compatibility Assessment; and
- Study Development and Implementation Options.

Each of these steps was guided by the JLUS Policy and Technical Committees (the “Steering Committees”) and each reflects input by community stakeholders and the public at-large. The following sections detail each of the three phases of the Study.

EVALUATION OF EXISTING CONDITIONS

The Existing Conditions evaluation included site visits, background document review, and meetings with the public and key stakeholders in the community identified by the JLUS Technical and Policy Committees.



In order to refine our understanding of the community’s view of Camp Crowder and its role in the region, a Public Survey was conducted. The Survey started with a live-polling exercise held at the first Public Outreach Meeting on October 1, 2013. Members of the public entered their response in real time and were able to

view the responses of those in attendance. The Public Survey also was made available in hard copy and online at the Project Website through November 15th. The results of the Survey are detailed in Chapter 2 and the full results of the survey are presented as Appendix A to this report.

In addition, a “Strengths, Weakness, Opportunities, and Threats,” or “SWOT,” Analysis was conducted during this component of the Study. SWOT Analyses frequently are used to evaluate how internal and external factors affect an organization’s objectives, in this case, compatible land use. The SWOT analysis established the foundation for the recommendations set forth in the Joint Land Use Study, which will enable Camp Crowder and the surrounding region to build on its strengths, minimize its weaknesses, capitalize on opportunities, and avoid potential threats. The results of the SWOT Analysis are presented in Chapter 6.

LAND USE COMPATIBILITY ASSESSMENT

The Land Use Compatibility Assessment identified existing and anticipated land use trends on Camp Crowder and on the land outside the Camp and within the JLUS Focus Area. This gave the JLUS Project Team and Steering Committees the opportunity to understand what areas already had been developed, those that remain vacant, and those where existing uses already are compatible with operations at Camp Crowder. This detailed assessment is outlined in Chapter 3 of the Study.

STUDY DEVELOPMENT AND IMPLEMENTATION OPTIONS

In this final phase of the Study, the JLUS Project Team assembled all background information, compatibility analyses, and implementation options for the community to consider after the Study is complete. These options include enhanced communication and coordination, regulatory and non-regulatory land use compatibility tools, and public awareness campaigns. As noted, implementation options are presented for consideration by this community to determine for itself the appropriateness of any options for the region.



1.5 The JLUS Public Outreach Campaign



An extensive public outreach effort was conducted as part of the JLUS planning effort. Although the JLUS Policy and Technical Committees included a number of key community stakeholders and agency representatives, it was important to engage directly with members of the community, including residents, business owners, land owners, and other interested parties. The

brief overview of the final Joint Land Use Study report, to direct the reader to other available JLUS resources, and to define the next steps in the consideration of implementation alternatives by this community.

Both brochures were made available on the Project Website, as well as in hardcopy at the Harry S Truman Coordinating Council offices. Copies also were made available to the JLUS Jurisdictions and agency representatives on each of the Steering Committees.

Second, a Project Website was launched during the first phase of the Joint Land Use Study. The website included a general overview of, and “frequently asked questions” related to, the JLUS process, as well as meeting announcements, JLUS materials, copies of public presentations and surveys, and contact information to receive public questions or comments throughout the study by email.



Third, the JLUS Project Team conducted a series of one-on-one, face-to-face interviews with key community stakeholders identified by the JLUS Steering Committees. Most of these interviews were held locally between September 17-19, 2013. Others were completed by teleconference call to accommodate participant availability and schedules.

Public Outreach Campaign had several components, each designed to tap into a particular area of the community.

First, two informational brochures were prepared and distributed during the JLUS process.

The first, which was prepared prior to the initial Public Outreach Meeting, introduced the reader to the JLUS concept and process and outlined what the community could expect from the Joint Land Use Study effort. This brochure was distributed at the first Public Outreach Meeting on October 1, 2013. A second informational brochure was prepared at the conclusion of the Study to give a

Interviewees included representatives from:

- Camp Crowder and the Missouri National Guard
- Neosho Hugh Robinson Airport
- Missouri Department of Natural Resources
- Missouri Department of Conservation
- Missouri Department of Transportation
- New-Mac Electric Co-operative
- Crowder College



- Neosho R-5 School District
- State Representative
- City of Neosho
- Newton County
- Industrial and Business Interests
- City of Goodman
- McDonald County
- Kansas City Southern Railway Company

Finally, Public Outreach Meetings were held throughout each phase of the Joint Land Use Study. The public kick-off meeting was held on October 1, 2013 at the Neosho High School in Neosho. At the meeting, the JLUS Project Team gave the public an

overview of the JLUS process, outlined the deliverables and public input opportunities to result from the Study, and received public comment. As noted above, this meeting also included the kick-off of the Public Survey, which was begun with a live-polling exercise, and was distributed to those in attendance.

The second Public Outreach Meeting was held December 12, 2013 at Crowder College. The JLUS Project Team shared the results of the Public Survey, the SWOT Analysis, and the initial Land Use Compatibility Assessment. An opportunity for public comment also was provided.

Each of the Public Outreach Meetings was advertised in the local media, the Project Website, and, in some cases or as requested, by direct mail to property owners. In addition, presentation materials were posted to the Project Website following each Public Outreach Meeting.

1.6 Overview of the JLUS Report

This report is divided into 6 chapters, each documenting important components and phases of the JLUS process described above. In addition, a number of documents have been included as appendices to the report, including sample or preliminary drafts of JLUS Implementation Tools in order to give the community a thorough idea of the types of techniques available to it during implementation following the conclusion of the Joint Land Use Study. The following briefly describes each of the chapters of the report that follow Chapter 1.

CHAPTER 2: BACKGROUND

The next chapter sets the foundation for the Study by describing land use trends in the region, the nature of operations and training at the Camp Crowder Training Center, and the challenge “encroachment” can create for military and guard installations like Camp Crowder and as well as the “off-post” community. The background assessment also summarizes economic, demographic, environmental, and cultural impacts and resources that are affected by or which affect land use in the JLUS Focus Area and region. Chapter 2 sets the stage for the detailed Land Use Compatibility Assessment in Chapter 3.

CHAPTER 3: LAND USE COMPATIBILITY ASSESSMENT

Chapter 3 defines and identifies potential conflicts that have or could arise between training operations at Camp Crowder and the lands in the JLUS Focus Area. The major potential impacts from Camp Crowder on the community result from sound created by on-post weapons training activities. Unshielded outdoor lighting and the encroachment of noise-sensitive land uses are the major potential impacts from the community onto Camp Crowder. Existing, allowable, and planned land uses were considered in the analysis.

CHAPTER 4: A VISION FOR CAMP CROWDER AND THE COMMUNITY

Having looked at current conditions and land uses at Camp Crowder and the Focus Area, it was important also to take into account anticipated changes at the Training Center and in the off-post community, so that the strategies and tools described in Chapter 5 and prioritized in Chapter 6 reflect near-future reality. Chapter 4, therefore, gives a broad picture of Camp Crowder’s near-term training mission and the surrounding community’s land use and development trends.



CHAPTER 5: IMPLEMENTATION STRATEGIES AND AVAILABLE TOOLS

Chapter 5 describes in detail the tools available to Camp Crowder, the JLUS Jurisdictions, and other key stakeholders to encourage compatible growth in the community and to enhance ongoing communication and coordination efforts. This section not only describes those tools used by military and National Guard communities around the country, but also specifically those authorized in and unique to the state of Missouri. The statutory municipal- and county-classification system that sets out local land use powers is discussed and compared to the generally-applicable list of tools.

CHAPTER 6: THE MOVE FORWARD — JLUS STRATEGY RECOMMENDATIONS

Finally, based on the results of the SWOT Analysis, Chapter 6 prioritizes the tools described in Chapter 5, based on the input of the community, its stakeholders, and the JLUS Policy and Technical Committees. Whether to implement these tools is a decision only the local community can make. However, should it elect to implement the recommendations here, Chapter 6 prioritizes the

available Implementation Tools by category, recommends the appropriate planning timeframe for each tool, identifies affected and/or responsible implementing agencies, and estimates the costs associated with each tool. This chapter of the Study lays the foundation for implementation following the Study's conclusion.

APPENDICES

A number of key documents also have been included as appendices, which augment the discussions in each chapter of the Study.

- A. Public Survey Results
- B. Camp Crowder Training Center Memorandum of Understanding
- C. Sample Comprehensive Plan Amendments, City of Neosho
- D. Case Study: Johnson County, Missouri and Whiteman Air Force Base
- E. Sample Compatible Growth Area Districts
- F. Sample Voluntary Disclosure Form
- G. Meeting Minutes of the JLUS Policy and Technical Committees



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Chapter 2

Background

This Chapter provides important demographic, economic, land use, and training characteristics background. Also included as background, are the results of the Public Survey conducted during the first phase of the Joint Land Use Study. This background sets the foundation for the Land Use Compatibility Assessment in the chapter that follows.



2.0 Camp Crowder Region

Camp Crowder Training Center is an approximately 4,400 acre federally-owned facility licensed to the Missouri Army National Guard, and is located just south of Neosho in Newton County in the southwest corner of Missouri. Its southern boundary is directly adjacent to McDonald County. Newton County, McDonald County, the City of Neosho, and the City of Goodman (in McDonald County) are collectively referred to as the JLUS Jurisdictions in this report.

Situated on the western edge of the Ozarks, the City of Neosho is the county seat of Newton County and is part of the Joplin Metropolitan Statistical Area (MSA). Neosho is home to the National Fish Hatchery, one of 69 fish hatcheries operated by the US Fish and Wildlife Service. Neosho also has a significant manufacturing presence in the region. McDonald County is just south of Camp Crowder and is in the southwestern-most corner of the state. It is part of the Fayetteville-Springdale-Rogers, Arkansas-Missouri MSA. Rural, low-density residential development and

strong agricultural roots generally characterize both Newton and McDonald Counties.

As shown in Figure 2-1, the Bicentennial Conservation Area and the Neosho School District Farm border the northern portion of Camp Crowder. The southern portion of Camp Crowder is primarily surrounded by rural land uses, including a distinct section of the Fort Crowder Conservation Area along the southwestern border of the post. The Fort Crowder Conservation Area is owned by the Missouri Department of Conservation (MDC) and is extremely remote and not easily accessible. The Neosho Hugh Robinson Memorial Airport, a sewage treatment plant, a landfill, an industrial park, and the Newton County Fairgrounds are all located within one mile of Camp Crowder's cantonment area. Crowder College is directly adjacent to the Training Center's western boundary. Because of Camp Crowder's close proximity to its neighbors, it is important to facilitate and strengthen engagement opportunities between Camp Crowder and the JLUS Jurisdictions.

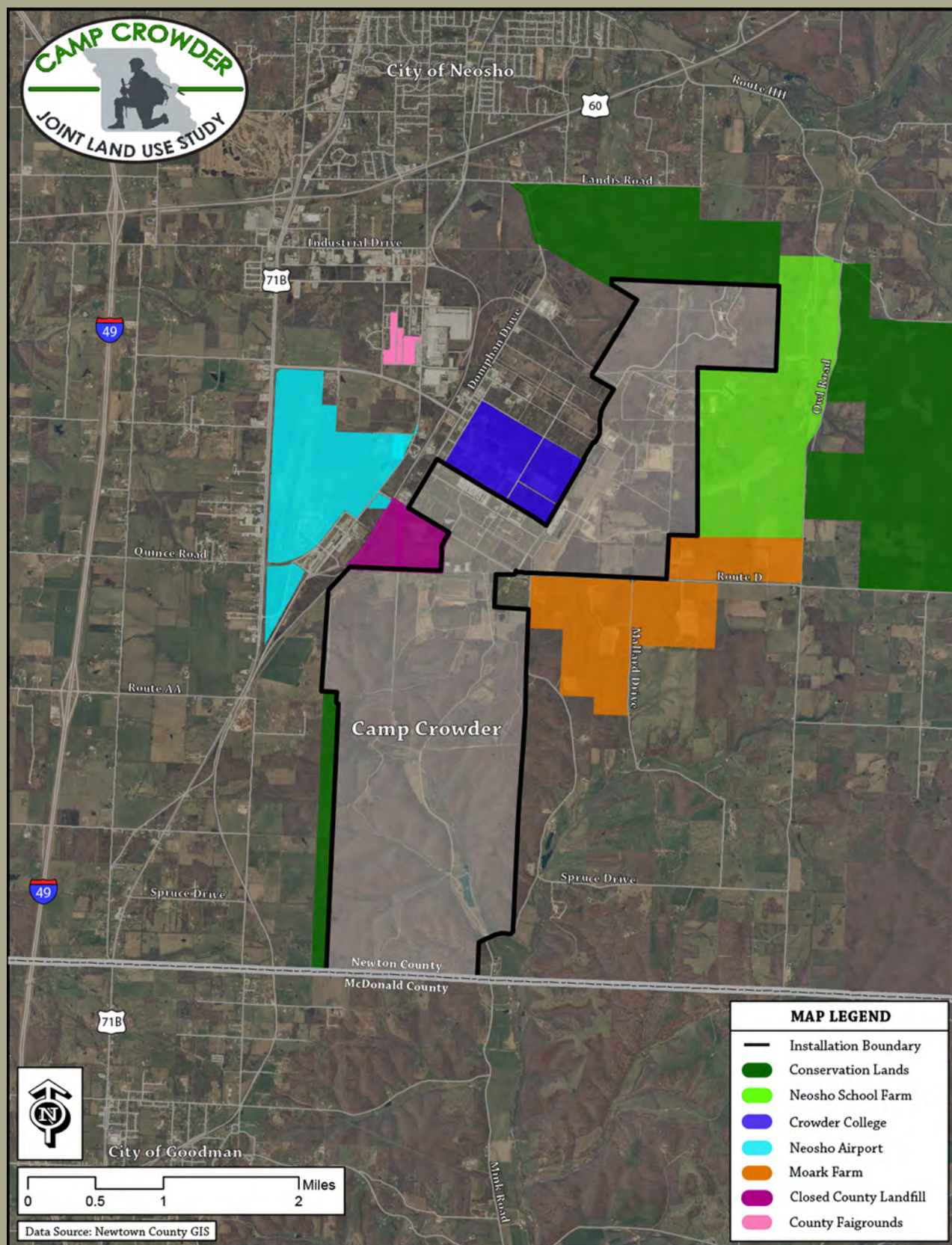


Figure 2-1: Major Land Uses Surrounding Camp Crowder Training Center



Figure 2-2: Range Facilities on Camp Crowder

Range Facility	Range Type
Known Distance (KD) Range	Live-fire small caliber weapons
Non-Standard Small Arms Range	Live-fire small caliber weapons
Machine Gun (MG) Transition Range	Live-fire small caliber weapons
Automated Record Fire (ARF) Range	Live-fire small caliber weapons
Basic 10/25m (Zero) Range	Live-fire small caliber weapons
Combat Pistol Qualification Course (CPQC)	Live-fire small caliber weapons
M203 Range	Grenade Launcher, TPT rounds
AT-4/M2 Range	Anti-Armor Weapons (LAW/AT-4), TPT rounds
Hand Grenade Qualification Course (HGQC)	Grenade course, Non-live practice grenades (M228)
Light Demolition Range	Explosives and Demolition Charges
MOUT Site	Non live-fire small caliber weapons, simulators
Combat in Cities Facility	Non live-fire small caliber weapons, simulators
Snyderville Site	Non live-fire small caliber weapons, simulators

Source: Missouri Army National Guard Statewide Operational Noise Management Plan, September 2013.

CAMP CROWDER MISSION

Camp Crowder Training Center's mission is to provide training areas/facilities, live fire ranges, and billeting for all MoARNG units, which encompasses mobilization pre-deployment training for Missouri Army National Guard units deploying to the Southwest Asia and Afghanistan theatres of operation prior to arriving at their mobilization stations. It provides small arms live fire ranges and non-firing tactical maneuver areas for infantry, engineer, military police, medical, aviation, and other units. Approximately 4,200 of Camp Crowder's 4,400 acres are available for training, including the cantonment area. Camp Crowder has significant training resources at its disposal, from classroom to maneuver areas to small arms weapons ranges. The Training Center can support two battalion sized combat arms units or combat service support units during non-live fire periods and one battalion sized combat arms unit during live fire training events. In addition to the small arms and demolition ranges, Camp Crowder also offers land navigation training, drivers training, and tracked vehicle circuit training,

among other types of maneuver training.

The Range Complex Area is approximately 450 acres and is located south of the cantonment area. The range complex includes six live-fire small arms ranges, as well as several other ranges utilizing Target Practice Tracer (TPT) rounds only. The demolition range is located in one of Camp Crowder's maneuver areas south of the range complex. The range facilities at Camp Crowder are listed in Figure 2-2 above and the training areas are shown on Figure 3-3, in Chapter 3.

Because of its significant training resources and its relative lack of encumbrances, Camp Crowder is considered a unique and important Army National Guard Training Center in the state of Missouri. Although the nature and extent of its training impacts (including the noise contours described in Chapter 3) are expected to remain at or near current levels, the number of personnel training here will increase in coming years, ultimately hosting at least 50 percent of all National Guard training conducted in the state annually.



PUBLIC SURVEY AND SURVEY RESULTS

As part of the Camp Crowder JLUS public outreach efforts, a 22-question survey was developed and distributed to help the JLUS Steering Committees and JLUS Project Team gain insights into the community attitudes regarding Camp Crowder activities. The public was given three options for completing the survey: 1) participate in the real-time survey at the public kick-off meeting that was held on October 1, 2013; 2) complete the survey online using a link on the project's website; or 3) submit a paper copy of the survey, which was provided to the Steering Committees for wider distribution. The full survey results are presented in Appendix A.

A total of 55 survey responses were collected – 12 were collected during the real-time survey at the public kick-off meeting and 43 were collected online. No paper copies of the survey were completed.

Overall, the public survey demonstrated the community's general support for Camp Crowder and the operations occurring at the Training Center, as well as its commitment to take action to protect Camp Crowder's future mission. Some of the key takeaways or points of interest include:

- Most respondents were from Crowder College or other educational entity;
- 24% of respondents live within two miles of Camp Crowder;
- 87% of respondents believe that communication between Camp Crowder and community is either positive or neutral;
- 79% of respondents think the training at Camp Crowder is either "very important" or "important";
- **100% of respondents support the National Guard presence in region;**
- **97% of respondents agree that the community must take action to ensure Camp Crowder can continue its mission;**
- 86% of respondents either "rarely" or "never" hear noise related to National Guard training areas;
- 66% of respondents "hardly notice" noise impacts, while 24% say they don't experience any noise impacts; and
- 74% of respondents "never" feel unsafe due to proximity to Camp Crowder; 25% do not live near Camp Crowder.





2.1 What is Encroachment?



There are many complementary definitions of encroachment. The Department of Defense's (DoD) Office of Economic Adjustment (OEA) defines encroachment broadly and simply as incompatible development, which includes uses that adversely affect public health, safety, and welfare, as well as those that produce noise, smoke, dust, excessive light, electromagnetic interference, and vibration, which impair the military mission. The Army defines encroachment generally as urban development surrounding military installations that affects the ability of the military to train realistically. The 2013 *Missouri Army National Guard Statewide Operational Noise Management Plan* defines encroachment as "the process by which civilian issues impinge upon once-remote military installations".

Generally, encroachment refers to any factors that degrade – or have the potential to degrade – the mission capability of a military facility, installation, operational range, training area, associated special use airspace (SUA), or other areas where the military conducts and plans future testing, training, and general mission activities. This is the definition that the JLUS Project Team has used and which was used in Chapter 3's Land Use Compatibility Assessment.

The most common example of encroachment is that of physical development of lands directly adjacent to the military installation whereby residents or users of that land are not supportive of the negative impacts associated with military testing and training (e.g., noise, safety concerns, and dust) and, therefore, push to limit military operations. In addition to urban development, endangered species/critical habitat, safety/security, air or water quality, energy development, and frequency spectrum interference are among other potential encroachment issues affecting the sustainability of military missions.

The military attempts to mitigate these encroachment impacts through service-level programs, such as the Army's Operational Noise Management Program, which is described in Chapter 5. The Joint Land Use Study program itself is another such tool to manage encroachment and is predicated on the value of collaborative land use planning. The goal of the JLUS is to preserve long-term land use compatibility between the military installation and the surrounding communities. Compatible land use planning can be defined as the balance between the needs and interests of the community and the needs and interests of the military installation.



2.2 Economy of the Region

ECONOMIC CHARACTERISTICS

According to 2008 data from the Missouri Economic Development and Information Center (MERIC), southwest Missouri's economic landscape consists of agribusiness, manufacturing, logistics, and a variety of industries within company management. Additionally, over 14,600 individuals were estimated to be either a farm owner or worker in 2007. Manufacturing was the largest employer, accounting for over one in five jobs, more than any other economic region in Missouri.

Poultry hatcheries and turkey production make up the

overwhelming majority of the agribusiness industry at 70 percent. Food manufacturing also represents the southwest region's largest employer. Though it employs the least number of people, the paper-manufacturing sector boasted a high economic growth rate in the last decade. Trucking services provide a key logistics input for the numerous commodity-based industries and also provides the second highest level of employment, second highest average industrial growth rate, and some of the highest wages in the region. The electrical equipment manufacturing and company management sectors provide technical and logistical support for the region's numerous industries.

Figure 2-3: Newton County, Top Five Average Employers (2012)

Industry	Average Employment by Sector	Total Wages	Avg Weekly Wage	Number of Firms	Average Total Employment, County	% of the Average Workforce
Manufacturing	3,849	\$145,874,353	\$729	81	21,748	17.7%
Local Government	2,427	\$70,751,575	\$562	44	21,748	11.2%
Accommodation/Food Services	1,713	\$24,189,689	\$272	80	21,748	7.9%
Food Services and Drinking Places	1,331	\$18,292,804	\$264	60	21,748	6.1%
Electrical Equipment and Appliance Manufacturing	1,005	\$42,531,296	\$814	3	21,748	4.6%

Source: Missouri Economic Research and Information Center. Census of Employment and Wages Industry by NAICS Sectors

Figure 2-4: McDonald County, Top Five Average Employers (2012)

Industry	Average Employment by Sector	Total Wages	Average Weekly Wage	Number of Firms	Average Total Employment, County	% of the Average Workforce
Manufacturing	2,907	\$86,424,667	\$572	28	7,350	40.0%
Food Manufacturing	2,507	\$71,143,961	\$546	7	7,350	34.1%
Retail Trade	1,025	\$10,490,631	\$394	64	7,350	13.9%
Local Government	822	\$25,097,663	\$585	24	7,350	11.2%
Administrative and Waste Services	368	\$7,662,741	\$405	14	7,350	5.0%

Source: Missouri Economic Research and Information Center. Census of Employment and Wages Industry by NAICS Sectors



The figures below depict the top employing industrial sectors in Newton and McDonald Counties for 2012. The manufacturing sector employed the largest number of employees in both counties. In Newton County, 3,849 manufacturing employees comprised nearly 18 percent of the county's workforce. In McDonald County, manufacturing employed 2,907 workers and food manufacturing employed an additional 2,507, together representing an overwhelming 74 percent of the year's average workforce.

In McDonald and Newton Counties, average total employment grew significantly between 2000 and 2012. The workforce grew 18.8 percent and 17.5 percent, respectively. This is in contrast to statewide employment data; the state of Missouri saw a loss of 2.8 percent of its average workforce. Because Newton and McDonald Counties house a large number of food manufacturing and service-related industries that tend to employ lower-cost labor, it is likely that the decade's Great Recession had a smaller impact on the southwest region's economic situation (as opposed to the statewide aggregate).

Figure 2-5: Average Total Employment by County and State

	2000	2010	2012	2000-2012: % Change
McDonald County	6,186	5,907	7,350	18.8%
Newton County	18,512	20,404	21,748	17.5%
Missouri	2,612,417	2,502,166	2,538,504	-2.8%

Source: Missouri Economic Research and Information Center, Local Employment Dynamics

ECONOMIC IMPACT OF CAMP CROWDER

Although Camp Crowder is not among the region's most significant employers, because of its community-based organization, federal

and state funding for Missouri Army National Guard activities provides an economic benefit to communities throughout Missouri as the money received is turned over several times in every segment of the state economy. Economic benefits occur in the form of military and civilian pay and allowances, the purchase of goods and services, and through capital investments in military construction projects.

While Camp Crowder does not support a significant number of full-time personnel, it still supports the local economy through the purchase of goods and services, particularly during training rotations. It is estimated that over 35,000 personnel visited or were present at Camp Crowder during 2013, with personnel visits undoubtedly contributing to the overall economic impact of the Training Center. The *Missouri National Guard: 2012 Annual Report* estimates the total economic impact of Camp Crowder on Neosho (Newton County) as \$3.6 million and in nearby Anderson (McDonald County) as \$1.7 million, for a total estimated economic impact of \$5.3 million annually on the community.

A February 2013 study prepared for the Hawthorn Foundation, *Missouri's Military Infrastructure: A Base Realignment and Closure (BRAC) Preparatory Assessment*, addressed the statewide economic impact of the Missouri National Guard. According to the study, the operation of the Missouri National Guard supported approximately 18,250 direct and indirect jobs in the state of Missouri, with \$406.3 million of its payroll expenditures attributed to the Missouri economy. The total economic output of the Missouri National Guard's personnel spending was \$943.1 million, of which, household earnings accounted for \$544.4 million. The study did not provide localized assessments of the economic impact of Camp Crowder specifically.

2.3 Demographic Trends

Camp Crowder is located in Neosho and Newton County, with its southern boundary adjacent to McDonald County. The city of Goodman is the nearest city in McDonald County. According to the US Census Bureau, the JLUS Jurisdictions contained a total estimated population of 81,945 residents (Figure 2-6). The City of Neosho – the most populous urban center in the JLUS Focus Area – represents approximately 21 percent of Newton County's

population with 12,121 residents estimated for 2012. The current population has grown by over 32 percent, or approximately 20,000 residents, since 1990.

While each of the jurisdictions has experienced stronger decade-to-decade growth than the state of Missouri as a whole, McDonald County has seen particularly robust growth over the



Figure 2-6: Population Change, 1990-2010

Jurisdiction	1990	2000	% Change 1990-2000	2010	% Change 2000-2010	% Change 1990-2010	2012 Est.
City of Neosho	9,254	10,505	13.5%	11,835	12.7%	27.9%	12,121
Newton County	44,445	52,636	18.4%	58,114	10.4%	30.8%	59,069
McDonald County	16,938	21,681	28.0%	23,083	6.5%	36.3%	22,876
Newton & McDonald Counties*	61,383	74,317	21.1%	81,197	9.3%	32.3%	81,945
Missouri	5,117,073	5,595,211	9.3%	5,988,927	7.0%	17.0%	6,024,522

* The City of Neosho is included in Newton County figures.

Source: US Census Bureau

last 20 years. This is not unlike other primarily rural areas where farmland is trending towards more developed uses. According to the US Department of Agriculture's Census of Agriculture, McDonald County lost 11 percent of its farms from 2002 to 2007; further supporting the notion that the conversion of farmland is supporting countywide population increases. The growth of agribusiness and manufacturing industries within the region has also likely contributed to population growth over the last 20 years.

While this *rate* of change is significant, it is important to note that the *absolute* population numbers are not such that high-density residential development will necessarily be in demand throughout the JLUS Jurisdictions. It does, however, highlight the opportunity for Camp Crowder to work together with its surrounding community to shape the direction of future growth as it occurs.

While approximately one-third of Newton County's population is concentrated in an urban center, McDonald County is almost entirely rural (Figure 2-7 below). The presence of low-density residential development and large swaths of farmland and forestland are generally compatible with Camp Crowder's training mission.

Figure 2-7: Percentage & Population Density of Urban and Rural Areas

County	Urban	Population Density	Rural	Population Density
Newton	35.6%	1,147.2	64.4%	61.7
McDonald	.01%	8	99.9%	42.8
Missouri	70.4%	2,053.5	29.6%	26.6

Source: United States Census Bureau, 2010 Census

The maps on the following pages demonstrate the population density in the area immediately surrounding Camp Crowder in 2000 and 2010 at the census block level. In both years, the areas of significant population density are found primarily in the cities of Neosho and Goodman, with additional development occurring along Interstate 49 and Highway 71. Figures 2-8 and 2-9 below demonstrate a greater population density in the area of Crowder College in 2010, reflective of additional student housing built since 2000. The area immediately adjacent to Camp Crowder remains fairly rural.





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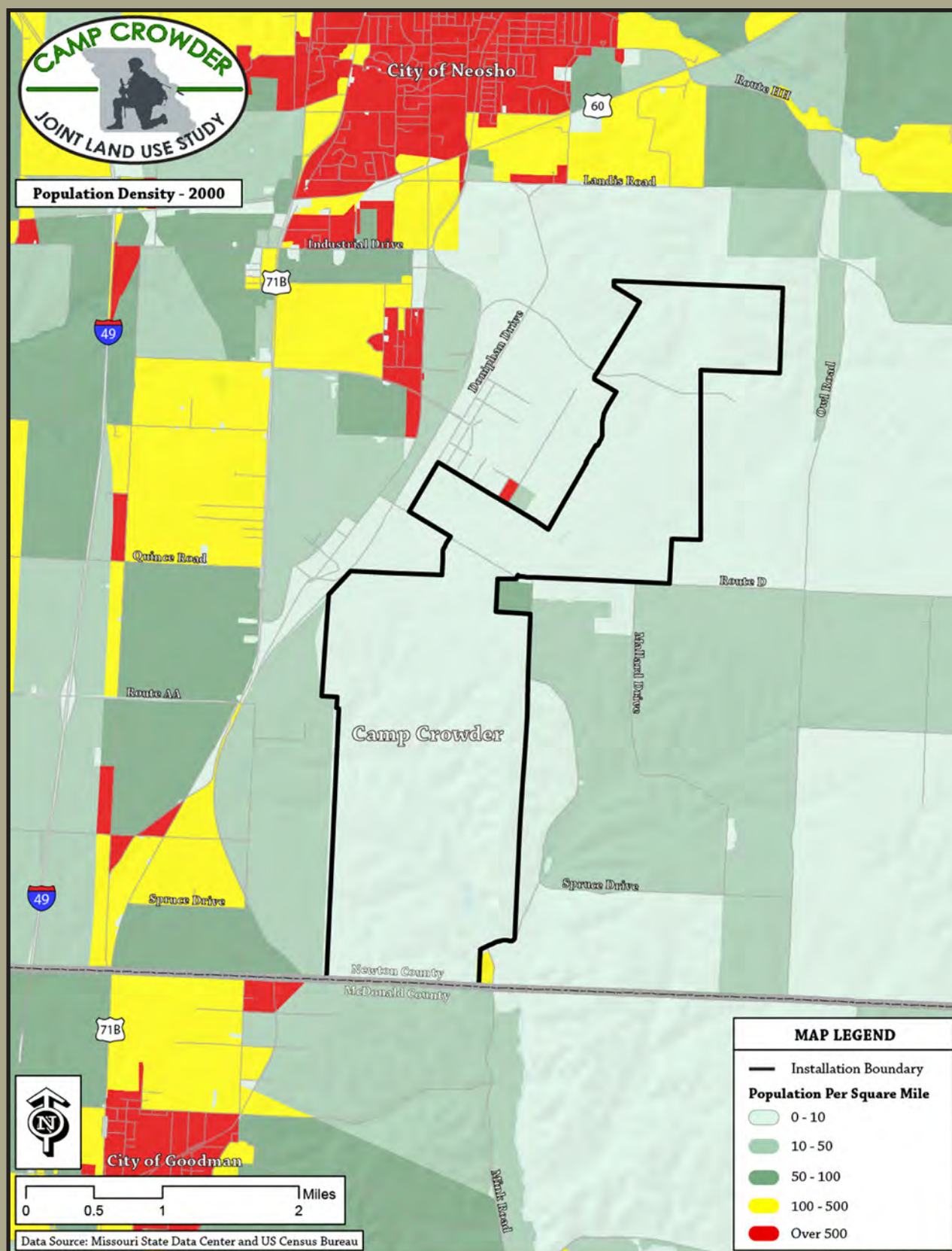


Figure 2-8: Block Level Population Density, 2000



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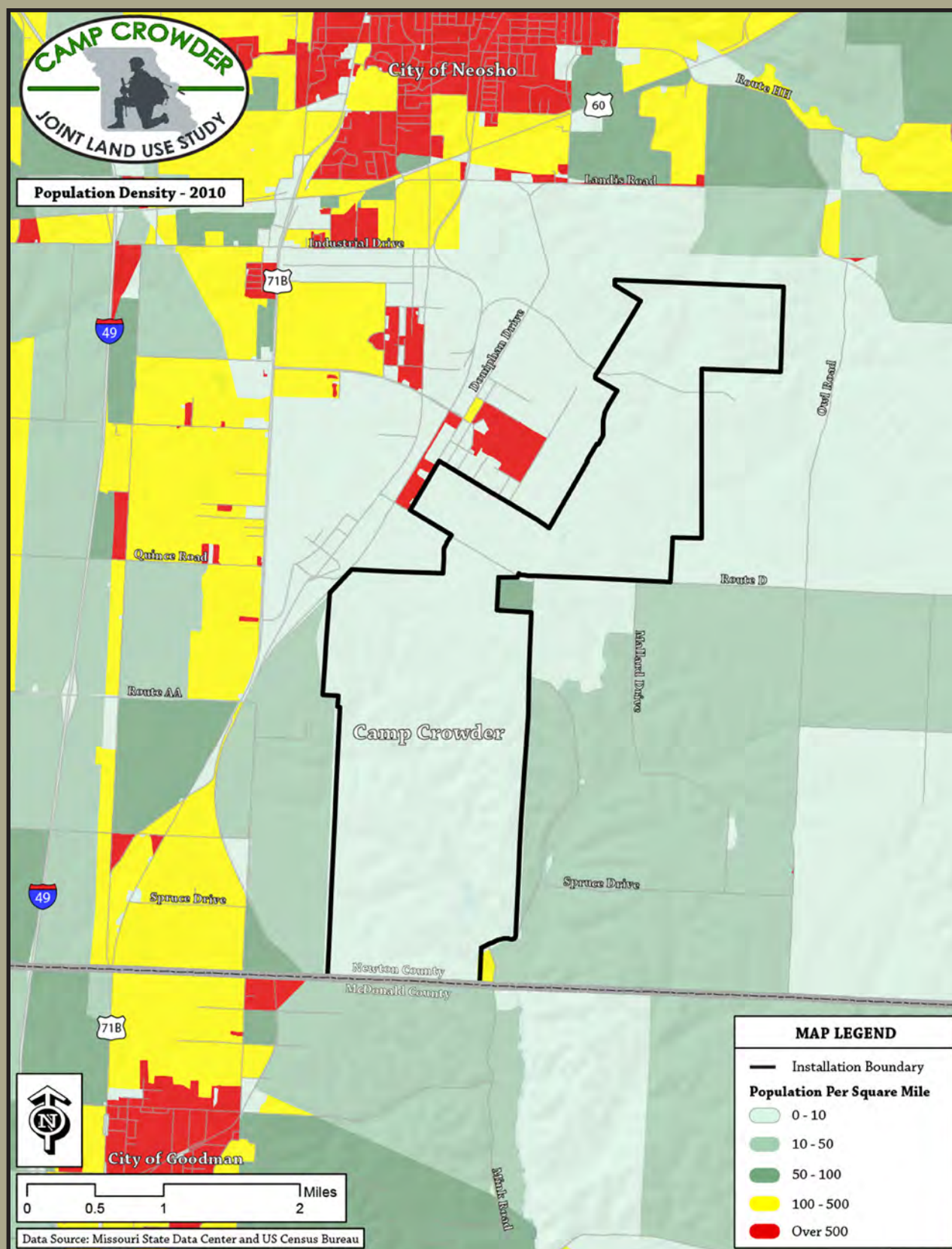


Figure 2-9: Block Level Population Density, 2010



2.4 Environmental Resources

Camp Crowder is located in the Elk River Section of the Ozark Natural Division of southwest Missouri. This area is characterized by prairies and steep, deeply dissected forested valleys and streams. The central portion of Camp Crowder is a nearly flat upland surface, whereas the northern and southern areas have steeper terrain and landscape features that are a result of natural gully erosion due to surface water drainage.

Camp Crowder is located within two of the three watersheds in Newton County. The northern portion of Camp Crowder is located in Spring Watershed, while the southern portion of Camp Crowder and the Cantonment Area are located in Elk Watershed. Water from Camp Crowder drains into tributaries of Shoal Creek and into Buffalo Creek, two of the five streams in Newton County that are listed by the US Environmental Protection Agency (EPA) as impaired water bodies.

Newton County and Camp Crowder are within the Ozark Plateaus aquifer system, which is comprised of three aquifers each containing groundwater that is suitable for most uses. Karst formations such as caves, sinkholes, springs, and losing streams occur within the region. Sinkholes are not common at Camp Crowder; however, losing streams – or influent streams – are more common and result in significant groundwater recharge and the rapid transport of water to nearby receiving springs. As a result, losing streams help recharge the water supply, but they also make it increasingly important for the installation to maintain the quality of surface and subsurface water, both of which could have potential impacts on habitat, species, and the aquifers.

NATURAL RESOURCE MANAGEMENT

Joint Forces Missouri Environmental Management (JFMO-EM) is responsible for directing the management of natural resources (monitoring, minimizing damage, mitigation, rehabilitation, etc.) and for ensuring compliance with all state and federal environmental regulations including the Clean Water Act (CWA) and Endangered Species Act (ESA). The JFMO-EM is also responsible for the development and implementation of the Integrated Natural Resource Management Plan (INRMP) for Camp Crowder. The 2009 Camp Crowder INRMP Update was developed for use by the National Guard Bureau (NGB) and the Missouri Army National Guard as the primary tool for managing natural resources at the installation. The content of the INRMP is used to inform planning, training, and development projects

that have the potential to disrupt natural resources. As such, the INRMP helps facilitate more effective management of natural resources and the sustainment of land for military training while also maintaining ecosystem viability.

Given the topography, hydrology, geology, and highly erodible soils, found at and around Camp Crowder, erosion control and soil conservation are important natural resources management issues that can impact the ability to sustain military operations and natural resources. Compliance with state and federal policies and careful management of soil distributing activities and stormwater are particularly important.

Likewise management of wetlands, which provide important ecosystem services that can alleviate erosion and enhance water source protection, can help address potential mission constraints associated with erosion and water quality. Such ecosystem services include minimizing flooding and storing water. In addition, aquatic vegetation found in wetlands protects shorelines from erosion, provides food and cover for wildlife, and filters sediment, excess nutrients, and other impurities from the water.

According to the 2013 Wetlands Inventory for Camp Crowder, there are 21 separate wetlands within the installation boundary, three fewer than were delineated in the 2005 inventory. These 21 wetlands account for 6.17 acres of Camp Crowder's 4,300 acres and individually range in size from 0.02 to 1.56 acres. Some of these wetlands are emergent wetlands created by manmade ponds. In wetter years, it is expected that these wetlands will transition back to open water.

Although wetlands at Camp Crowder account for less than 1 percent of the land area on the installation and tend to be low quality in terms of function and value, several wetlands were reported to be higher quality and provide valuable ecosystem benefits.

In addition to wetlands, Camp Crowder supports a variety of other plant communities including forests and grasslands. These communities experience few disturbances during most of the year. Therefore, Camp Crowder provides suitable resources for various threatened and endangered species.

There are five federally listed species, one proposed species, and one candidate species that are known to occur in Newton County, Missouri (Figure 2-10). However, there are no critical habitat areas located at Camp Crowder. Critical habitat is an area identified by the US Fish and Wildlife Service (USFWS) as essential for the conservation of a listed species.



Figure 2-10: Federally Listed Species Know to Occur in Newton County, Missouri

Species	Federal Status	Occurrence and Habitat
Ozark cavefish (<i>Amblyopsis rosae</i>)	Threatened	Ozark cavefish have not been observed within the Camp Crowder property. However, the northern portion of Camp Crowder is in the recharge area of Hearrell Spring in Neosho. This spring is a water source for the Neosho National Fish Hatchery, and supports a population of Ozark cavefish. This fish lives its entire life in springs, cave streams, and underground waters. Care should be taken in protecting surface and groundwater resources throughout Camp Crowder.
Gray bat (<i>Myotis grisescens</i>)	Endangered	Mist net surveys conducted at Camp Crowder in 2001 and 2006 did not identify gray bats at the installation. Gray bats use caves and riparian corridor habitat for roosting and foraging.
Indiana bat (<i>Myotis sodalis</i>),	Endangered	Surveys conducted at Camp Crowder in 2001 and 2006 did not identify Indiana bats at the installation. Summer habitat includes small to medium river and stream corridors, and in the winter they hibernate in caves.
Neosho mucket (<i>Lampsilis afinesquaeana</i>)	Endangered	This mussel has not been identified through on-site surveys. This species is endemic to the Spring and Elk River watersheds (Shiver, 2002). This mussel is associated with stable runs, shoals, and riffles with gravely bottoms and moderate currents. Habitat reduction is likely attributed to impoundment, sedimentation, agricultural pollutants, and mining activities (USFWS, 2004).
Rabbitsfoot (<i>Quadrula cylindrica cylindrica</i>)	Threatened	Threats to these mussels include loss and degradation of stream and river habitat due to impoundments, channelization, chemical contaminants, mining and sedimentation. Freshwater mussels require clean water; their decline often signals a decline in the water quality of the streams and rivers they inhabit.
Northern long-eared bat (<i>Myotis septentrionalis</i>)	Proposed as Endangered	Northern long-eared bats use cool places such as crevices and cavities in live and dead trees, or caves to roost in the summer. In the winter they use caves as hibernacula.
Arkansas darter (<i>Etheostoma cragini</i>)	Candidate Species	On-site surveys have not identified this fish at the installation, however, Arkansas darter is found within the Spring and Illinois River Watersheds, and is known to occur near Neosho. The northern portion of Camp Crowder is in the Spring Watershed. This species is threatened by habitat decline, which has resulted from agricultural activities, destruction of stream banks and shallow wetlands, and water pollution (MDC, 2004a).

In addition to federally listed species, there are numerous Missouri Species of Concern within Newton County. Several of the Missouri species of concern found at Camp Crowder grow in moist habitats; therefore, it is important to limit disturbance in the bottomland forests and wetlands.

GROUNDWATER CONTAMINATION

The Pools Prairie site, located in Newton County, south of the city of Neosho, is a National Priorities List Superfund site containing

soil and groundwater contamination. The site includes two areas of residential well contamination that resulted in 37 residential wells exceeding the maximum level for Trichloroethylene (TCE). The Quince Road area of the Pools Prairie site includes the 900 Building, which was formerly part of Camp Crowder and the Air Force Plant 65.

During the late 1990s, efforts were made to address the contamination and, in 1995, bottled water was provided to residents impacted by the contaminated wells. Soil and groundwater



sampling conducted by the USEPA near the 900 Building confirmed there were elevated levels of TCE and other volatile organic compounds. Then, in December 1998, an Administrative Order of Consent (AOC) requiring a public water system to serve the residences impacted by the TCE contamination was signed by the USEPA, Missouri Department of Natural Resources (MoDNR), and the parties potentially responsible for the Pools Prairie Superfund site. In 1999, the USEPA, MoDNR, DoD, and Teledyne Industries, Inc., completed an agreement to address the ground and soil contamination in the Quince Road area of the Pools Prairie Site. As of 2000, the construction of a permanent public water supply, as required by the AOC was completed.

LOCAL CONSERVATION AREAS

The Fort Crowder Conservation Area, located in southern Newton County, was once part of Fort Crowder and is managed by the Missouri Department of Conservation (MDC). Encompassing 2,362 acres, a portion of which is federally-owned, the Conservation area is approximately 60 percent forestland and offers a shooting range, eleven miles of hiking trails, and a number of wildlife improvement projects. The Conservation Area abuts the western

boundary of Camp Crowder. Two other MDC properties, the Bicentennial Conservation Area and Goodman Towersite, exist within five miles of Camp Crowder. Training operations at Camp Crowder are considered compatible with the uses occurring and expected to occur at the Fort Crowder Conservation Areas.

ENVIRONMENTAL STEWARDSHIP AND RELATIONSHIP TO TRAINING MISSION

Training activities at Camp Crowder have the potential to disrupt soils, impact water quality, and affect fish and wildlife resources, including protected species. In accordance with the Sikes Act, training at Camp Crowder is, therefore, conducted in a way that provides for sustainable, healthy ecosystems, complies with applicable environmental laws and regulations, and provides for no net loss in the capability of military installation lands to support the military mission.

At this time, there are no significant environmental concerns that *prohibit* any training activities on Camp Crowder. Only 10 acres of the Training Center require minor restrictions be placed on training due to wetlands, cultural resources, or environmental cleanup.

2.5 Cultural Resources

The MOARNG completed an update to its Integrated Cultural Resources Management Plan (ICRMP) in 2012. The ICRMP functions as a decision document that allows for the integration of cultural resource requirements with ongoing mission activities so the availability of mission-essential land is maintained and compliance with requirements is achieved.

All ranges have been surveyed for cultural resources. A Phase I cultural resources survey was conducted in 2002, 2003, and 2004. The results concluded that:

- Three sites were found to be eligible for the NRHP or require additional investigations;
- Seven sites were recommended for Phase II testing; and
- Only one site – the Atlas Missile Testing Facility – was recommended for NRHP eligibility that does not require further testing.

Notably, Camp Crowder has not been surveyed for a historic district/historic landscape. With respect to archaeological

resources, of the 4,300 acres on Camp Crowder, 3,440 have been surveyed. There are 59 located archaeological sites on Camp Crowder; 11 are eligible and 15 need further evaluation of eligibility for listing in the National Register of Historic Places (NRHP).

Human remains have been identified at Camp Crowder, the only MOARNG installation known to include such. Among the goals and objectives for the 2011 – 2016 ICRMP Update was to provide tribal access to possible sacred site for determination at Camp Crowder to tribal representatives over the next 5 years. Sacred site identification is proposed to be completed in FY15.

The MOARNG began consultation with the State Historic Preservation Office (SHPO) in November 2005 regarding the recommendations made in the ICRMP.

Chapter 3

Land Use Compatibility Assessment

This chapter examines the impact of Camp Crowder's military training operations on surrounding lands, and the development of surrounding lands on the military training operations at Camp Crowder.

3.0 Introduction

Having laid out the overarching factors relating to land use in the area in Chapter 2, this chapter of the Joint Land Use Study analyzes the potential impacts created by the military training and operational missions currently occurring at Camp Crowder and determines the degree of any compatibilities created with the existing and planned land use patterns in the JLUS Focus Area described in Chapter 1. These chapters, along with Chapters 4 and 5, following, establish the grounds upon which the recommendations in Chapter 6 will be made, in order to ensure that development in the communities surrounding Camp Crowder is as compatible as possible with the Training Center's mission. This chapter also serves as a tool for Camp Crowder to better understand the nature and extent of the impacts that it creates in the neighboring community so that it may better plan its mission to avoid any new impacts or to reduce the degree of any current impacts.





3.1 Existing Land Use Pattern

The JLUS Project Team developed a base of information regarding the existing land use pattern in the area covered by the study primarily through the use of aerial photography and locally available spatial data sets to classify land according to its general use. The land use classification was conducted using a Geographic Information System (GIS) to create a spatial database of the JLUS Focus Area that divides lands in the Focus Area into the following six general categories:

- *Residential* – lands used for single or multi-family residential purposes, including both site built and manufactured housing (mobile homes).
- *Commercial* – lands used for the retail sale of goods as well as personal and professional services and similar activities that do not fall into the *industrial* or *institutional* categories.
- *Industrial* – lands used for manufacturing, processing or storing raw materials, resource extraction, warehousing, logistics and similar intensive uses of land.
- *Institutional* – lands used for civic, social, educational, governmental and similar purposes, except those uses that fall into the *industrial* category.
- *Intensive Agriculture* – lands used for the mass housing and care of poultry and livestock where such use is industrial in scale, but does not include the processing of animals.
- *Conservation* – lands owned by a governmental agency or other entity for the purpose of the preservation of the natural resources present on the land, including such lands used for recreational purposes.

Lands that were not developed or used for one of these specified purposes, such as areas used for row crops, pasture land, privately held forest lands, and otherwise “undeveloped” areas were not included in the classification.

In addition to the classification of land use in the Focus Area in the communities around Camp Crowder, the lands within Camp Crowder’s boundary were also evaluated so that a general assessment could be made. For the purposes of this study, the following three generalized land use categories were used for the on-post lands:

- *Cantonment Area* – the portion of Camp Crowder that contains the administrative, educational, billeting and

logistical support functions of the post, including classrooms and other low impact training sites.

- *Training Area* – areas of Camp Crowder used for military field training purposes, excluding areas used for intensive tactical training or live fire weapons training.
- *Heavy Training Area* – areas of Camp Crowder used for weapons ranges and impact areas, and similar high intensity training areas that have the greatest likelihood of producing off-post impacts, or being negatively affected by incompatible land use patterns in the surrounding community.

OFF-POST LAND USE PATTERN

The off-post land use pattern (see Figure 3-2) that was established using the previously described classification method reveals an existing land use pattern around Camp Crowder where approximately 40% of the land in the JLUS Focus Area is in use for one of the five “developed” land uses (residential, commercial, industrial, institutional and intensive agriculture), accounting for 6,173 acres of land. The statistical distribution of the various land uses in the Focus Area is shown in the figure below, which is followed by a narrative discussion of the off-post land use pattern, beginning along Camp Crowder’s northern boundary and moving clockwise around the post.

Figure 3-1: Off-Post Land Use Distribution

Land Use	Acres	% of Focus Area
Residential	2,531	16.3%
Commercial	50	0.3%
Industrial	1,419	9.1%
Institutional	1,452	9.3%
Intensive Agriculture	721	4.6%
Developed	6,173	39.6%
Conservation	1,418	9.1%
Undeveloped (unclassified)	7,979	51.3%
Conservation / Undeveloped	9,397	60.4%
Total	15,570	100%

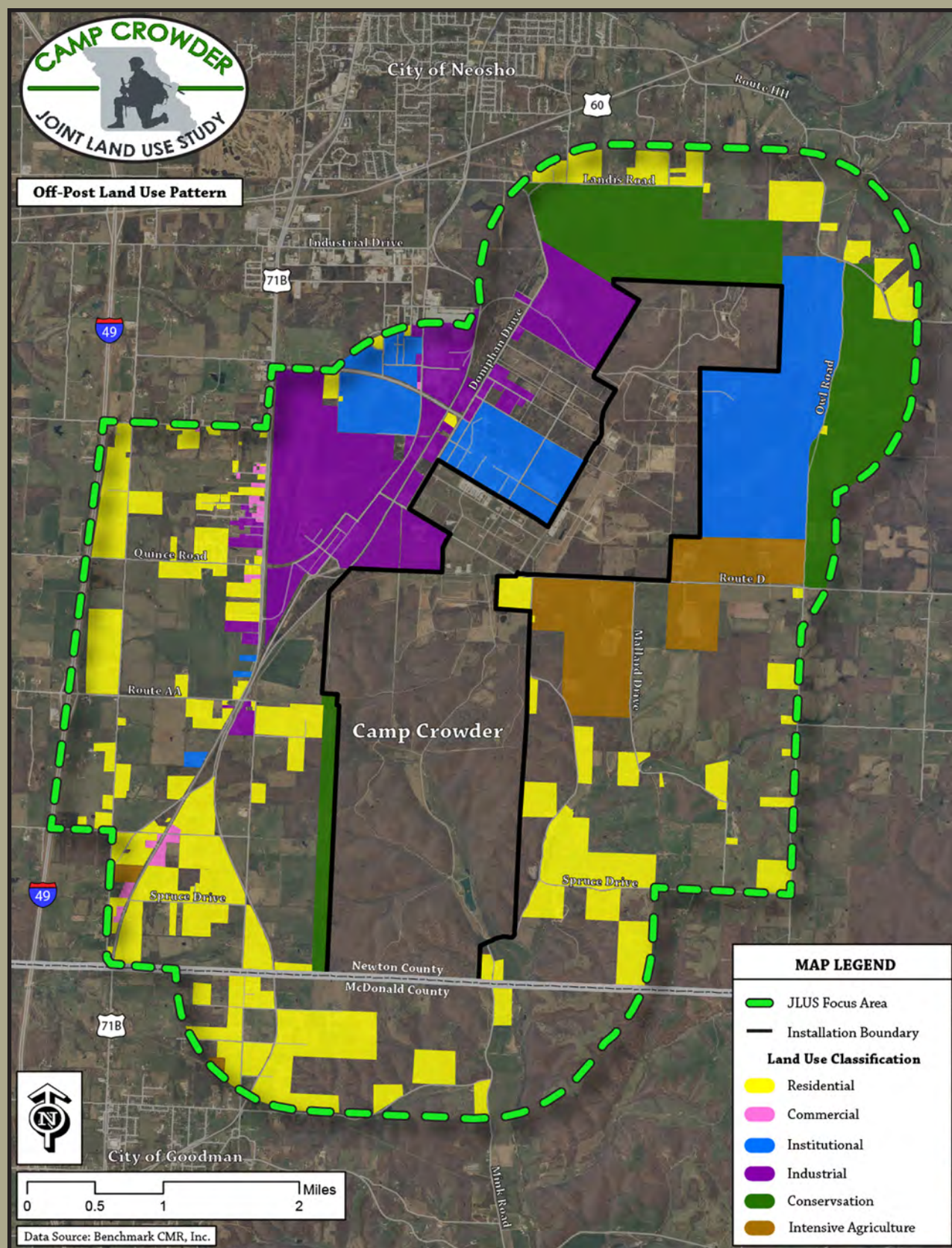


Figure 3-2: Off-Post Land Use Pattern



Northern Focus Area

The northern portion of the JLUS Focus Area use is defined as the area between Camp Crowder's northern boundary and the edge of the Focus Area. Land use in this portion of the Focus Area is characterized predominantly by lands that have been preserved for conservation purposes. The Bicentennial Conservation Area separates Camp Crowder from a rural residential area that has been developed just outside of the Neosho corporate limits along Landis Road.

Northeastern Focus Area

The northeastern portion of the Focus Area is defined as the area between the northern boundary of Camp Crowder and Route D. This area contains large amounts of both institutional and conservation lands, with the Neosho School Farm sharing a long boundary with Camp Crowder in this area. Beyond the School Farm is the Fort Crowder Conservation Area, which occupies the majority of the remaining land area in this portion of the Focus Area.

Lands used for residential purposes are located primarily along Route HH, just north of the Fort Crowder Conservation Area, forming a small rural residential area near the edge of the Focus Area. Along Route D, a tract of land bordered on the north by the School Farm, on the west by Camp Crowder and on the east by the Fort Crowder Conservation Area, has been developed for intensive agricultural use. This use is part of a larger operation that extends into the southeastern portion of the Focus Area.

Southeastern Focus Area

The southeastern portion of the Focus Area is defined as the area extending from Route D southward to the southern boundary of Camp Crowder and the Newton County/McDonald County line. Along Route D, there is a small residentially developed area located immediately adjacent to Camp Crowder, which surrounds this small developed area on three sides. Located immediately east of this residential area is the remainder of the intensive agricultural operation that was described previously. This intensive agricultural use dominates the remainder of the area along Route D.

Throughout the remainder of this portion of the Focus Area, there are a number of rural residential tracts, including some that are immediately adjacent to the eastern boundary of Camp Crowder along Mink Road. Small concentrations of residential use are also found along Spruce Drive and Owl Road. The remainder

of this portion of the Focus Area is characterized by large tracts of farmland in the northern and eastern parts of the area, while forested tracts are more prevalent in the western and southern portions of the area, with woodlands making up a substantial portion of the lands located along Camp Crowder's boundary in this area.



Southern Focus Area

This part of the JLUS Focus Area is defined as the entire portion of the Focus Area that falls within McDonald County, which lies south of Camp Crowder's southern boundary. Areas east of the railroad are characterized by a combination of rural residential development, and larger tracts of farm and forest land, with the latter being more predominant feature. West of the railroad, in the area between the City of Goodman and the county boundary, residential development is more intensive, particularly along Lark Road, where a large number of mobile homes are present.

Southwestern Focus Area

The southwestern portion of the JLUS Focus area is defined as the area west of Camp Crowder that is bordered on the south by McDonald County, the west by I-49 and the north by Route AA. The more intensive residential development pattern that began in McDonald County continues into this part of the Focus Area, with a large number of residentially developed tracts located in the area bounded on the east by the railroad and the west by the US 71 corridor. In addition to residential development, the corridor also contains several commercially used tracts, primarily south of Sorrel Road. Other notable land uses along the corridor include a cemetery (institutional) along US 71 and an industrially used tract



that is located to the southeast of the intersection of the railroad and Route AA.

The area located east of the railroad is sparsely developed, with farmland being the primary feature on the landscape. A small rural residential development is located east of the railroad near the northern end of this sub-area, with several large residential tracts extending eastward from Lark Road along (primarily) the north side of Ronda Road. The majority of Camp Crowder's boundary in this part of the Focus Area is immediately adjacent to a long strip of conservation land that is a "satellite" to the larger Fort Crowder Conservation Area on the east side of Camp Crowder. Like the area east of the railroad, the areas between the US 71 corridor and I-49 are primarily agricultural with a small amount of rural residential development, which is found in greatest part along Kodiak Road.



Western Focus Area

The western portion of the JLUS Focus Area is bounded by Route AA on the south, US 71 on the east, Palm Road on the north and I-49 on the west. The western frontage of the US 71 corridor is heavily developed with a mixture of residential, commercial and industrial land uses. The highest intensity development in this area is located along the central portion of the corridor, which is almost exclusively developed for nonresidential use. The southern leg of the corridor, south of Quince Road is similarly developed, but with a larger residential component due to the presence of a mobile home park in this section. The northern part of the US 71 corridor (north of Pella Lane) is the least intensively developed, with only several small nonresidential uses and some scattered residences.



Moving west from the US 71 corridor, the land use pattern is primarily agricultural and residential; with a number of large tracts of farmland and some more densely developed residential areas. The most concentrated and intensive residential land use in this area is a large mobile home park on the north side of Quince Road, just west of US 71. A second densely developed mobile home park is located midway between US 71 and I-49 on the south side of Palm Road as well. A third concentrated residentially developed area lies just north of the mobile home park on Quince Road, which consists of a large number of site-built single family residences and an approximately equal number of vacant residential lots. The western boundary of the area along I-49 is characterized by rural residential development, with the majority of the land between Kodiak Road and the interstate developed with single family homes on large parcels.

Northwestern Focus Area

The northwestern portion of the JLUS Focus Area is defined as the areas east of US 71 and north of Route AA along Camp Crowder's western boundary and running back to its northern boundary and the northern portion of the Focus Area. The Neosho Hugh Robinson Airport, classified as an industrial land use for the purposes of the study, is the predominant feature in the area, occupying the majority of the land between the railroad and US 71. Immediately east of the airport and adjacent to Camp Crowder is the former city landfill, with which it shares its southern, eastern and northern borders. Industrial land uses are located throughout the remainder of this portion of the Focus Area, primarily along the railroad and Doniphan Drive. This includes the former Air Force missile plant in the northern portion of this area, which is located adjacent to Camp Crowder.



The main campus of Crowder College, an institutional land use that also contains some residential areas as part of the campus, is situated just north of the cantonment area on Camp Crowder, with which it shares its southern and eastern borders. The West Lyon Drive corridor, located north of the airport, is home to a number of other tracts that are classified as institutional land uses, including agricultural tracts that are satellites of the main Crowder College campus, a nursing home, and the county fairgrounds.

Residential land uses are present in several locations in this part of the Focus Area. There is a tract that contains an apartment complex at the corner of Doniphan Drive and West Lyon Drive, a mobile home park on West Lyon Drive just north of the Neosho Hugh Robinson Airport, as well as two residential developments that are located respectively west and north of the fairgrounds.

ON-POST LAND USE PATTERN

The on-post land use pattern at Camp Crowder (see Figure 3-3) is comprised of three general land use classifications, which were discussed in the introduction to the existing land use pattern section. The *Cantonment Area*, shown in gray on the map, is located at the heart of Camp Crowder, sharing a border with Crowder College to the north and Doniphan Drive to the west. Lands designated as *Training Areas*, shown in brown on the map, are primarily located in the northeastern portion of Camp Crowder. There are several other small areas classified as *Training Areas* that are located along Camp Crowder's boundary where it adjoins Route D and Doniphan Drive on the west side of the post, as well as south of Route D in the southeastern portion of the cantonment area. Lands classified as *Heavy Training Area* are located entirely in the southern portion of Camp Crowder, south of the cantonment area and Route D, extending to its southern boundary on the Newton County/McDonald County boundary.



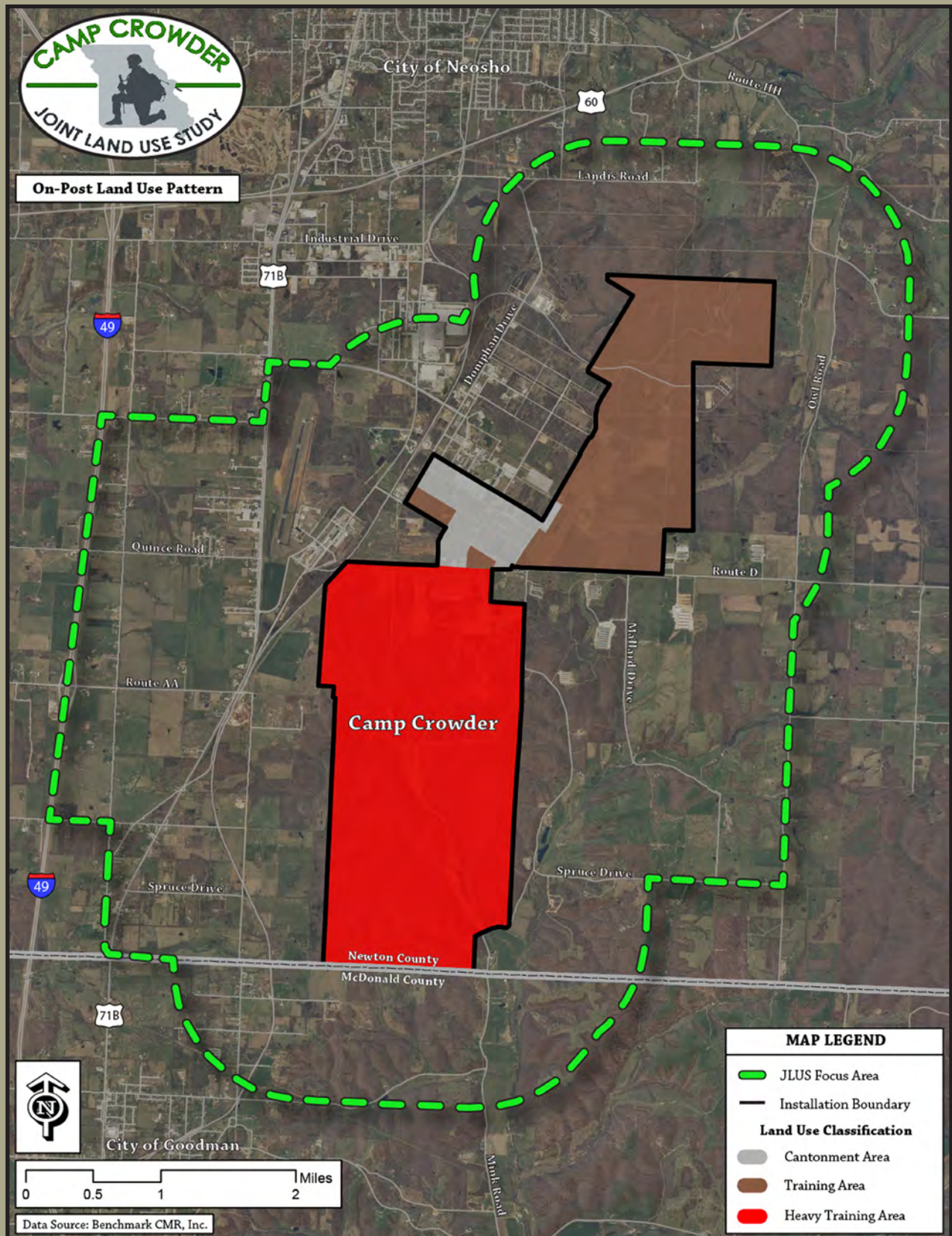


Figure 3-3: On-Post Land Use Pattern



OVERALL LAND USE PATTERN

The combined on- and off-post land use pattern, shown in Figure 3-4, demonstrates the interaction and proximity of the civilian and military land uses in the JLUS Focus area. As the map indicates, the *Heavy Training Area*, which is the assumed point of origin for the highest degree of potential impact, is located primarily in proximity to conservation lands, farms and forestland, scattered low density rural residential development, industrial land uses and intensive agricultural operations. A conclusion could be drawn that there is a generally good degree of compatibility between the location of this higher intensity military land use on Camp Crowder and the land uses that are found on neighboring properties at the present time.

Those portions of Camp Crowder that are classified as *Training Areas* also appear to be situated in proximity to compatible off-post land uses. With neighboring lands used for conservation, industrial, institutional (Neosho School Farm and Crowder College) and intensive agricultural purposes, it would seem that a similar conclusion about these areas being compatible with each other could be drawn given the limited off-post impacts that are likely to be generated by the less intensive military training activities that occur in these areas.

Given the similarity between the functions of the *cantonment area* and Crowder College, it could be assumed, again, that in general terms there is a

high degree of compatibility between this military land use and neighboring land uses off-post, including the industrial uses to the west of the *cantonment area*.

Based on a review of the general land use patterns developed for this portion of the compatibility assessment, it appears that the military land uses and their spatial distribution on Camp Crowder and the land uses present in the neighboring communities are generally compatible with each other at the current time.

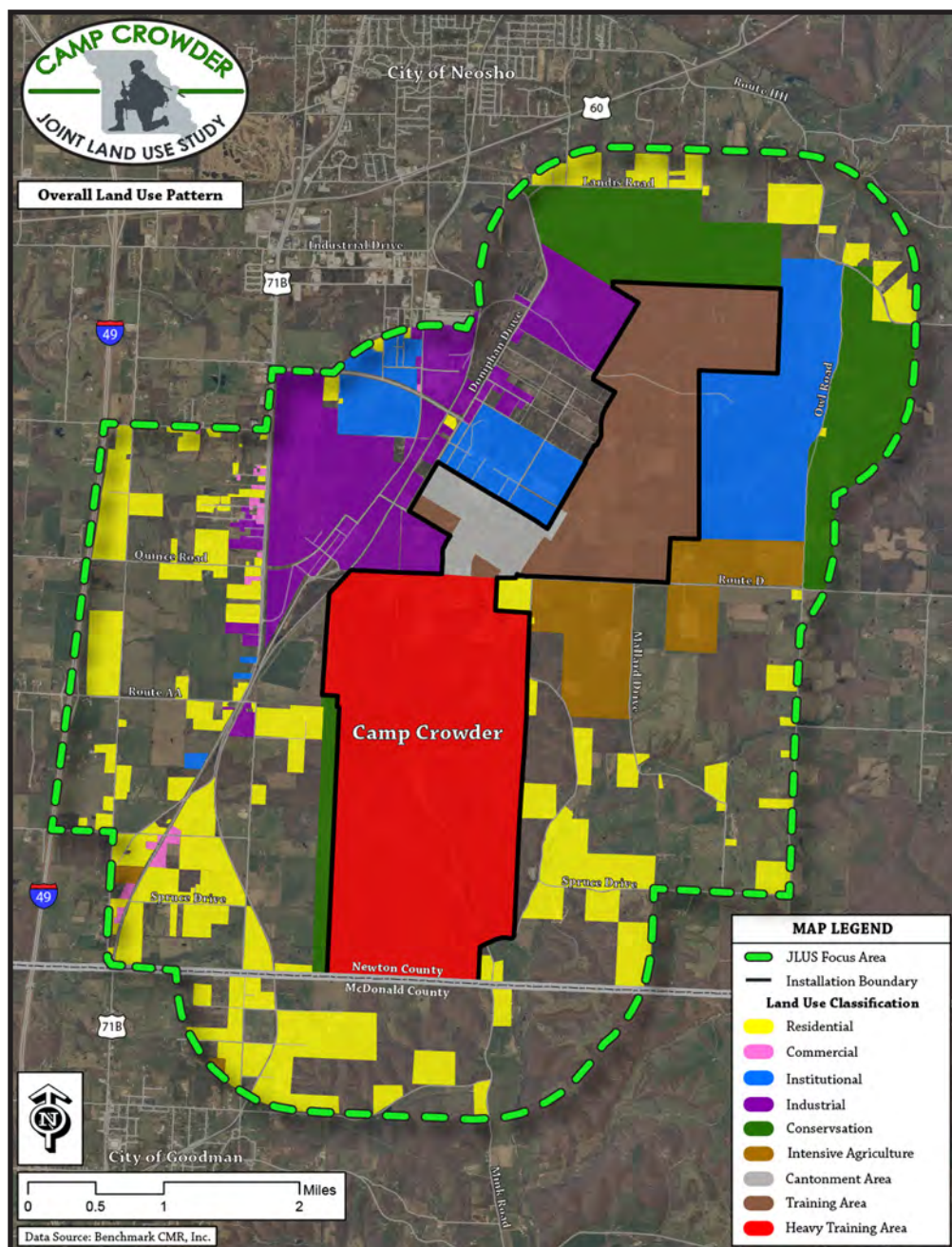


Figure 3-4: Overall Land Use Pattern



3.2 Installation Boundary Status

In addition to identifying and classifying land uses on and off-post, it is also helpful to understand the status of an installation's external boundary. To accomplish this, the boundary of Camp Crowder has been coded with one of three descriptive identifiers based on the use and ownership of the *off-post* lands that are located immediately adjacent to its external boundary. While a certain status does not correlate directly to the degree of compatibility that might exist in a particular area, it is helpful in identifying where the potential for future incompatibility may exist, due to the nature of the ownership or development status of the off-post lands. The three status identifiers used in this portion of the analysis are:

- *Protected* – the boundary is adjacent to conservation lands, or owned and used by a governmental entity for a similar purpose.
- *Developed* – the boundary is adjacent to land that has been developed for residential, commercial, industrial, institutional or intensive agricultural use, other than institutional uses that, by their nature, confer a “protected” status to the land.
- *Undeveloped* – the boundary is adjacent to land that is either forested, used for low intensity agricultural purposes, or is otherwise vacant.

The determination of the status of the Camp Crowder's boundary, when coupled with the overall land use classification, provides a greater degree of insight into the future potential for immediately adjacent undeveloped areas to transition to developed uses which may, or may not, be compatible with Camp Crowder's training mission. It also provides insight into the location of portions of the boundary, that, by their “protected” nature, may be more suited for the proximate location of military training activities that could otherwise negatively impact civilian communities off-post, though a careful analysis of the use of the adjacent “protected” lands is necessary prior to making this type of final land use compatibility determination.

The analysis of Camp Crowder's boundary with the adjacent civilian communities, shown in Figure 3-5, reveals that Camp Crowder's approximately 18.2 mile long external boundary is nearly evenly distributed between the three boundary types. The result of the statistical analysis of the boundary status is shown in the figure below:

Figure 3-5: Installation Boundary Status

Boundary Status	Miles	Percent of Boundary
Protected	5.9	32.6%
Undeveloped	6.0	33.0%
Developed	6.3	34.4%
Total	20	100%

Lengths of Camp Crowder's boundary that are classified as *Protected* exist in two locations. One of these areas is along the northern and northeastern boundary adjacent to the Bicentennial Conservation Area and the Neosho School Farm property, and the other is located along the southwestern boundary where it is adjacent to the conservation lands that are a satellite of the Fort Crowder Conservation Area. The largest portions of the boundary that are immediately adjacent to *Undeveloped* off-post lands are located along Camp Crowder's southeastern boundary in the vicinity of Mink Road, the southern boundary along the Newton County / McDonald County line, the western boundary, just north of the conservation lands, and the northern boundary along Clark Drive. The longest portions of Camp Crowder's boundary that are located adjacent to *Developed* lands off-post include the eastern boundary in the vicinity of Route D, the western boundary adjacent to the former landfill and industrial areas along Doniphan Drive, and the northwestern boundary that is shared with the former Air Force missile.

Like the existing land use analysis for the entire Focus Area, the analysis of the status of the boundary reveals that a good degree of compatibility currently exists between Camp Crowder and the properties located immediately adjacent in the surrounding communities. Since the *Protected* portions of Camp Crowder's boundary provide uninterrupted stretches where future compatibility issues with immediately adjacent neighbors are less of concern, more attention is given to the existing *Developed* and *Undeveloped* portions of the boundary. As discussed previously, the *Developed* portions of the boundary are primarily located adjacent to lands that are used for either industrial or intensive agricultural purposes, which lessens the degree of concern for transitions to incompatible uses along those portions of the boundary.

While there are a few exceptions where potentially incompatible uses are present along the immediate boundary, they are not



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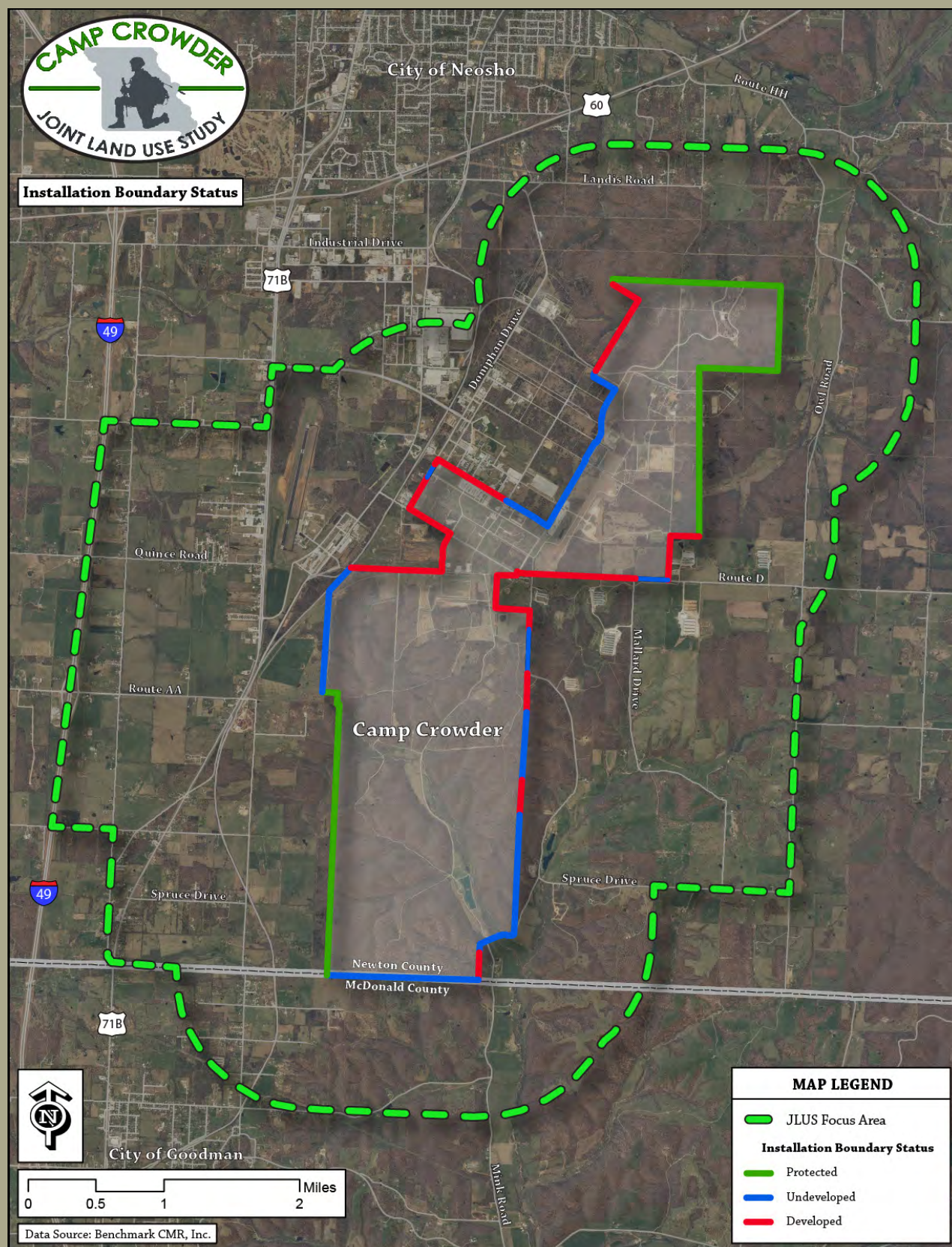


Figure 3-6: Installation Boundary Status



concentrated in any particular area, but rather scattered in pockets of low density rural residential development that is typified by individual dwellings on large tracts of land. The *Undeveloped* portions of the boundary are found primarily in areas where industrial development would be expected, or in more remote rural

areas where a general lack of public utilities and transportation infrastructure makes dense urban development that could attract potentially incompatible uses to the installation boundary less likely.

3.3 Zoning

The portions of the JLUS Focus Area that are located within the jurisdiction of the City of Neosho are the only portions of the Focus Area where a zoning ordinance applies at the present time. The *off-post* areas subject to zoning are located primarily between the western and northwestern boundaries of Camp Crowder and the edge of the Focus Area, while smaller portions of the northern and southeastern Focus Area also contain some zoned property. The map shown in Figure 3-7 provides an overview of the general zoning classifications that are currently applied inside of the Focus Area, with the various districts grouped by their overall intent. A statistical analysis of the distribution of the generalized zoning is shown in Figure 3-8.

Figure 3-8: Summary of Zoning Statistics

General Zoning Classification	Acres	Percent of Total
Residential	99	3.2%
Commercial	308	10.1%
Industrial	2,002	65.4%
Agriculture	650	21.2%
Total	3,059	100%

As the figure and map both show, the overwhelming majority of the Focus Area that is zoned falls into a general industrial zoning district. These industrially zoned areas are located generally along Camp Crowder's western and northwestern boundaries. In general, these industrially zoned areas were formerly part of Camp Crowder when it was an active duty post that have since been developed for civilian industrial purposes. Additionally, industrial zoning has been applied to the airport as well as a small area on the east side of Camp Crowder that extends along a "stem" of Neosho's corporate limits that follows Route D eastward to the Moark poultry operation.

Agricultural zoning, which is the second most prevalent type of district in the zoned portion of the Focus Area, is found in

three locations. The largest area where it has been applied is the Bicentennial Conservation Area along and to the north / northwest of Camp Crowder's northern boundary. The other areas where it has been applied include the agricultural tract that is part of the Crowder College Campus on West Lyon Drive and a portion of the Newton County Fairgrounds, located just north of West Lyon Drive.

Commercial zoning is present in two areas of the zoned portion of the Focus Area. The largest of these is the main campus of Crowder College. A smaller tract on West Lyon Drive, just north of the airport is also zoned with a commercial district, but contains a mobile home park.

Residentially zoned areas make up the remainder of the zoned portion of the JLUS Focus Area. There are two areas zoned for residential use, which are both located toward the western edge of the Focus Area, away from Camp Crowder. The larger of the two areas is located along and north of West Lyon Drive near the western edge of the Focus Area, while a smaller residentially zoned area is located just north of the airport on the south side of West Lyon Drive.

A general assessment of the spatial distribution and composition of the districts within the zoned portion of the Focus Area indicates a relatively high degree of compatibility between the adopted land use policies and the training mission. The industrial, commercial and agricultural zoning districts that are located adjacent, and in closest proximity, to Camp Crowder are typically associated with permitted uses of land that would be compatible with a military installation. Areas zoned for residential uses, which may be less compatible with military training and operations are generally located at a greater distance from Camp Crowder, increasing the potential compatibility of development in those areas, given the buffer provided by physical distance from the potential impacts created at Camp Crowder.

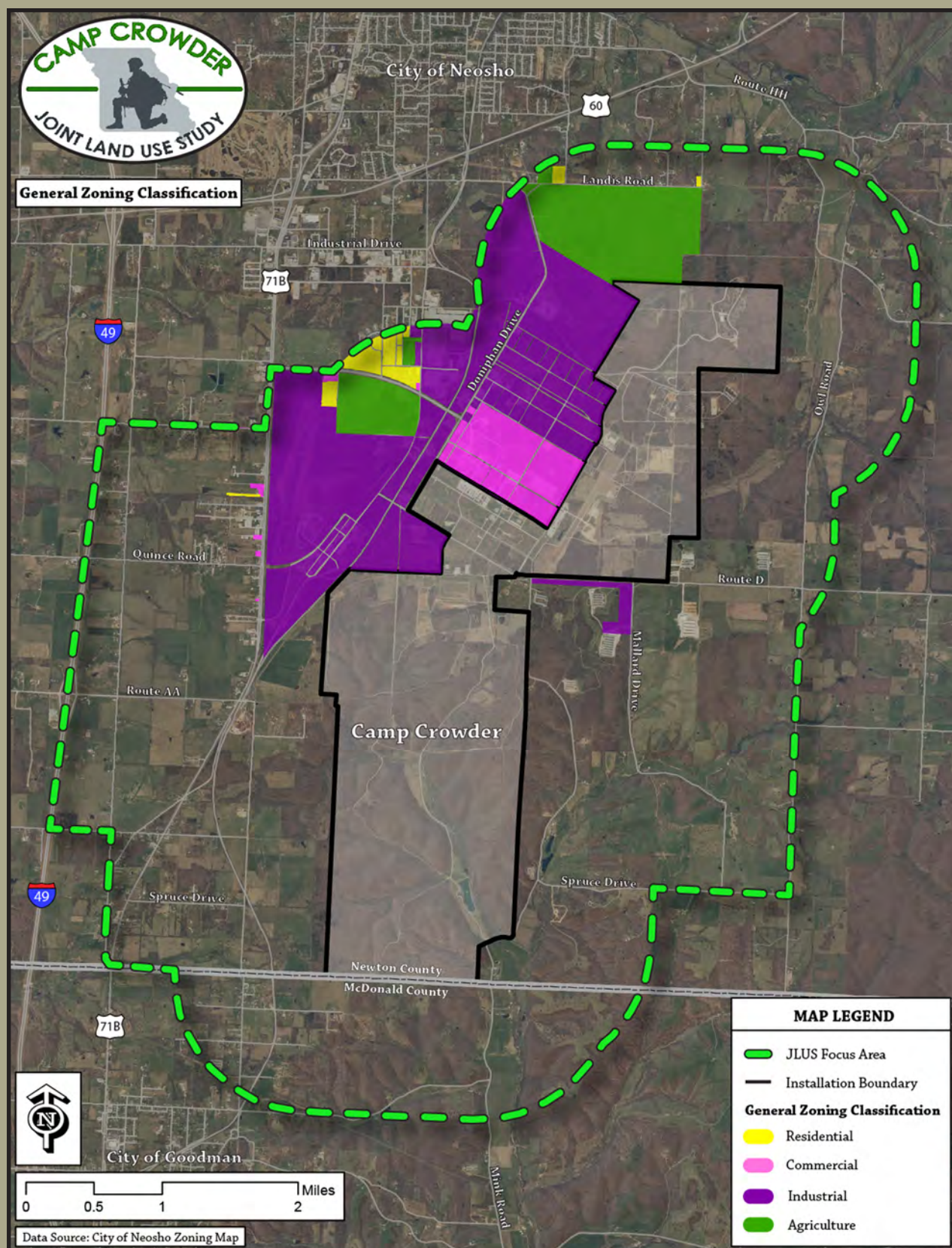


Figure 3-7: General Zoning Classification



3.4 Future Land Use

An area somewhat larger in size than the zoned portion of the Focus Area is depicted on the adopted Future Land Use Map that is part of the City of Neosho's comprehensive plan. This policy document covers areas both within and outside of the City limits, and is intended to guide future land use decisions and policies enacted by the City. As shown in Figure 3-10, the City's Future Land Use Map applies to those portions of the Focus area that are located to the west and north of the northern two-thirds of Camp Crowder's western boundary as well as a small portion of the Focus Area that is east of Camp Crowder in the vicinity of Route D. Like the zoning map, the Future Land Use Map classifies lands in general use categories. The statistical distribution of the future land use classes in the Focus Area is shown in the figure below:

Figure 3-9: Summary of Future Land Use Statistics

Future Land Uses Classes	Acres	Percent of Total
Single Family Residential	1,585	24.2%
Multi-Family Residential	64	1.0%
Commercial	868	10.9%
Industrial	2,190	13.2%
Parks	717	33.4%
Agriculture	1,128	17.2%
Total	6,552	100%

As the figure and Future Land Use Map show, those lands designated by the City of Neosho for future industrial use comprise the largest portion of the off-post area covered by the Future Land Use Map, with nearly one third of the total acreage designated for industrial use. Land designated for single family residential use is the second most prevalent land use designation, comprising nearly a quarter of the off-post lands covered by the Future Land Use Map. Commercial, agricultural and park lands make up the majority of the remainder of the designated future land uses in the Focus Area, with multi-family residential comprising a very small portion of the overall land use pattern, accounting for approximately 1% of the total area.

Industrially designated areas cover approximately the same spatial distribution and extent as the industrially zoned lands discussed in the previous section. Lands designated for this use are found primarily along and to the west of the Camp Crowder's western

and northwestern boundary, extending from Camp Crowder to US 71 in the west and the Doniphan Drive / railroad corridor in the northwestern portion of the Focus Area.

Three portions of the Focus Area covered by the Future Land Use Map are designated for single-family residential use. The largest of these areas is located in the far western portion of the Focus Area, bounded by I-49 on the east, Palm Road on the north, and commercial corridors along US 71 and Route AA on the east and south respectively. The other areas designated for single family residential use are located just north of the Bicentennial Conservation Area on Landis Road, and north of West Lyon Drive in the northwestern portion of the Focus Area.

The small portion of the Focus Area that is designated for multi-family residential land use is located along West Lyon Drive on the north side of the road, extending from Howard Bush Drive in the east to the northwestern boundary of the Focus Area.

Commercially designated areas on the Future Land Use Map are found in several parts of the Focus area. These include the Crowder College Campus, the west side of the US 71 corridor from Route AA to Palm Road, and the north side of the Route AA corridor from US 71 to I-49. Other commercially designated areas include a large tract that lies between the railroad and Camp Crowder's western boundary, the area just south of the airport, and a small area just south of Route D along Camp Crowder's eastern boundary.

Areas designated on the Future Land Use Maps for park use are located in two portions of the Focus Area. The largest of these is the Bicentennial Conservation Area, which is located immediately north/northwest of Camp Crowder's boundary. The second area given this designation is a satellite of Crowder College's main campus that is located on the south side of West Lyon Drive and adjacent to the airport.

The eastern portion of the area covered by the Future Land Use Map (on the east side of Camp Crowder) is primarily designated for agricultural use. Areas given this designation are located south and east of Camp Crowder in the vicinity of Route D, and extend northward from Route D to Landis Road.

Like the assessment of the zoned areas within the Focus Area, a general review of the adopted future land use classifications demonstrates a good degree of compatibility between the future land use policies and Camp Crowder. With the majority of the adjacent and nearby lands designated for either industrial,



commercial, agricultural or park land use on the Future Land Use Map, it could be assumed that future development in these areas, if consistent with the Map, will be of a nature that will more compatible with the training and operational missions of Camp Crowder. With the majority of the potentially incompatible land uses, including single family and multi-family residentially

designated areas located at greater distances from Camp Crowder, the Future Land Use Map is promoting a land use policy that, by its nature, should work to reduce the potential for the establishment of less compatible uses in areas near areas of potential impact from military training activities.

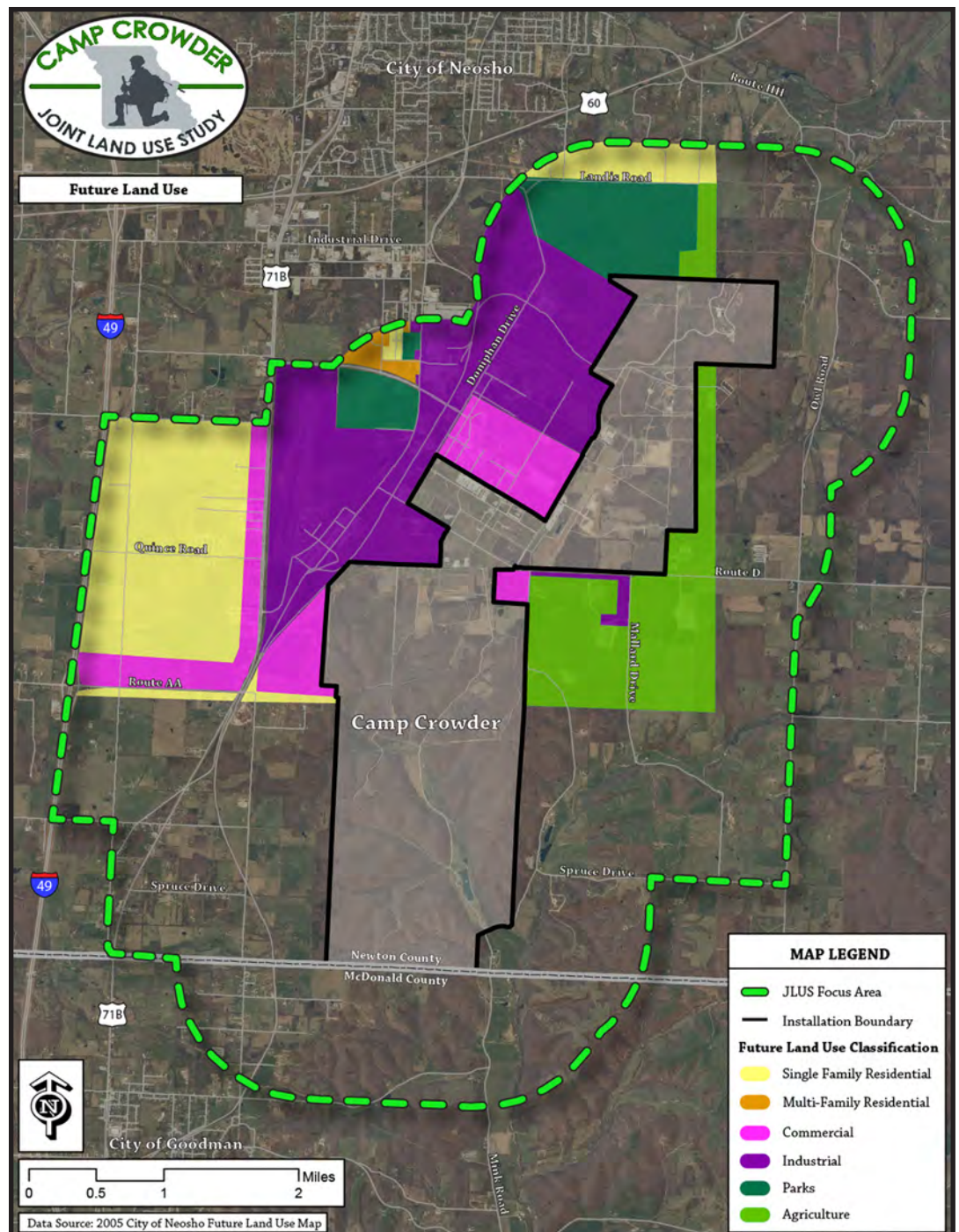


Figure 3-10: Future Land Use



3.5 Military Operational Impact Land Use Compatibility Analysis

The following is an analysis of the discreet and identifiable military operational impacts that are created by the training and other operational activities currently occurring at Camp Crowder. This analysis provides a greater degree of detail to accompany the more generalized land use compatibility assessment above. The results and conclusions contained in this analysis are based upon the best and most current data available, and the findings are based upon generally accepted best practices that are propagated by the Department of Defense for use in such analyses. Local experience and anecdotal evidence may lead to conclusions that are different than the findings detailed below, and should be considered, along with all other evidence, during the formulation of land use and operational policies by Camp Crowder and the potentially impacted communities.

SMALL ARMS NOISE ZONE LAND USE COMPATIBILITY ANALYSIS

The 2013 *Missouri Army National Guard Statewide Operational Noise Management Plan* (ONMP) identifies the presence of areas of potential impacts related to noise that is generated in conjunction with training activities that occur at Camp Crowder's small arms weapons ranges. Weapons fire at these ranges, which are located near the center of Camp Crowder, just south of Route D, are associated with noise levels that are sufficiently loud to create potential noise impacts off-post. These potential impacts have been spatially defined with noise contours known as Noise Zones II and III, which refer to areas of peak noise potential of between 87 dB and 104 dB (Noise Zone II) and greater than 104 dB (Noise Zone III). The following is a discussion of the compatibility of off-post land use within the defined noise contours associated with these noise zones.

Noise Zone III Land Use Analysis

The following analysis examines the compatibility of off-post land uses, zoning, and future land use plans with the Noise Zone III contour associated with the small arms ranges at Camp Crowder. This noise zone corresponds to a peak sound level of greater than 104 dB, making land uses such as residences, schools, public gathering places and other types of noise sensitive uses potentially incompatible during periods of peak noise.

Existing Land Use Compatibility

The map shown in Figure 3-11 details the existing land use pattern found in the off-post areas that are potentially impacted by Noise Zone III. As the map shows, there are two areas that have been classified with a "developed" land use that are impacted by Noise Zone III. Approximately 41 acres of the industrially used land north of Hughes Avenue are impacted, as are slightly more than 8 acres of residentially developed land located south of Route D immediately adjacent to the Camp Crowder's eastern boundary.

The industrially used land, which is the former Neosho landfill, would be deemed highly compatible with the noise potential associated with a Noise Zone III area; however, the impacted residential area would be deemed incompatible with this type of high noise level. The extent of the potential impact is small in area, and appears to directly affect only a single residence, but the dwelling is a mobile home, which would be more susceptible to high noise levels than a site built dwelling.

Zoning Compatibility

As detailed in the map shown in Figure 3-12, the off-post areas that are potentially impacted by Noise Zone III are only partially zoned. The off-post areas within Noise Zone III that are subject to zoning by the City of Neosho are zoned for industrial use, with the general zoning classification covering the entirety of the approximately 41 acres that are within the Noise Zone III contour. Just as with industrial land use, the industrial zoning classification infers a high degree of compatibility with the potential noise impacts.

Future Land Use Compatibility

The areas within Noise Zone III that are covered by the City of Neosho's Future Land Use Map are shown in Figure 3-13. The Future Land Use Map assigns an industrial land use classification to the impacted area north of Hughes Avenue, which is currently both used and zoned for industrial use. The impacted area south of Route D on the eastern boundary of Camp Crowder that is currently used for residential purposes, but outside of the City of Neosho's zoning jurisdiction, has been assigned a commercial future land use classification.



The area designated for industrial land use should be compatible with the potential impacts associated with the Noise Zone III contour. The commercially designated area on the east side of Camp Crowder could potentially be compatible if it were developed with a nonresidential use that was not sensitive to high noise levels, or

sufficient noise mitigation measures were used in the construction of any structures in the designated area to minimize the impact from the potential for high noise levels that are associated with a Noise Zone III area.

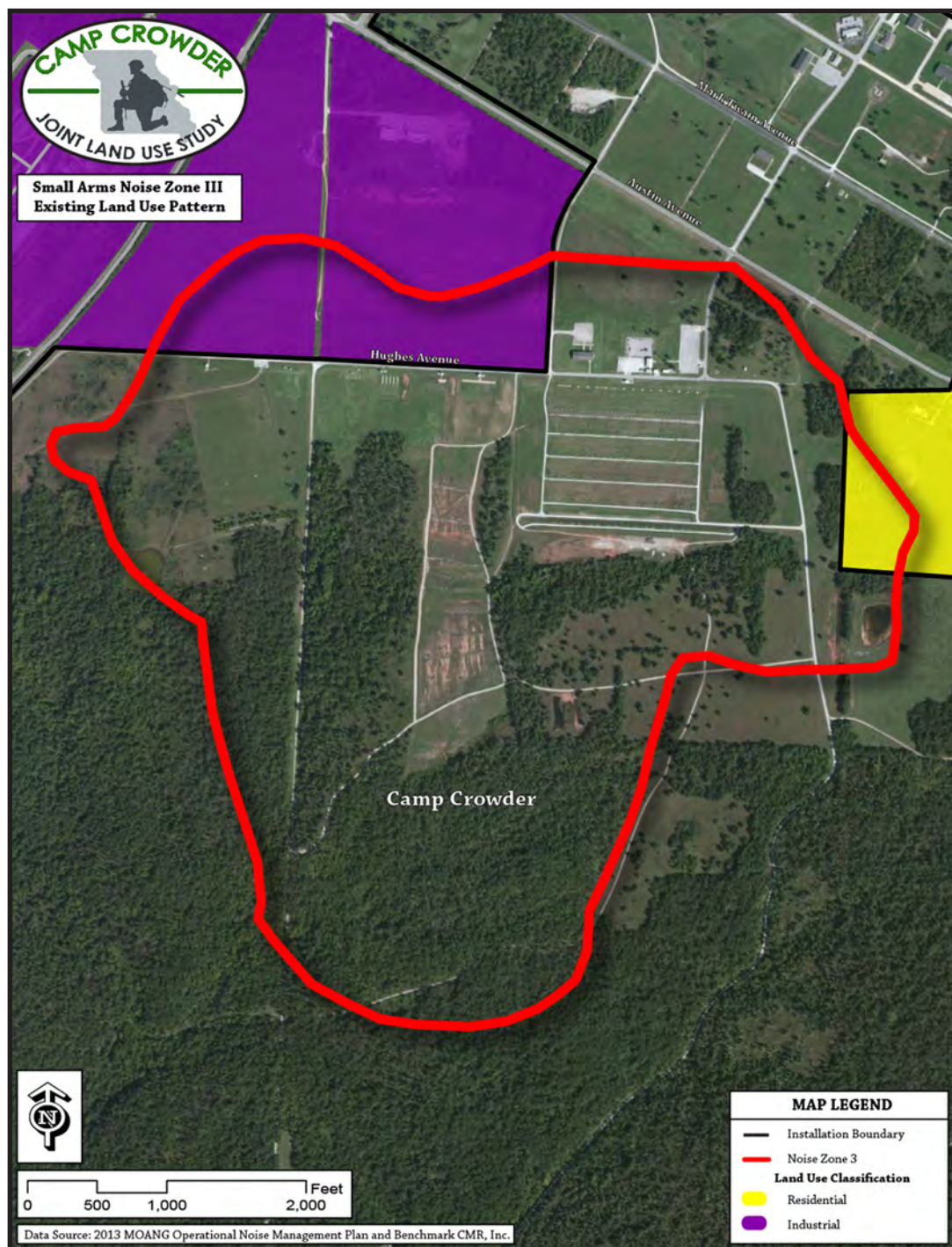


Figure 3-11: Small Arms Noise Zone III, Existing Land Use Pattern



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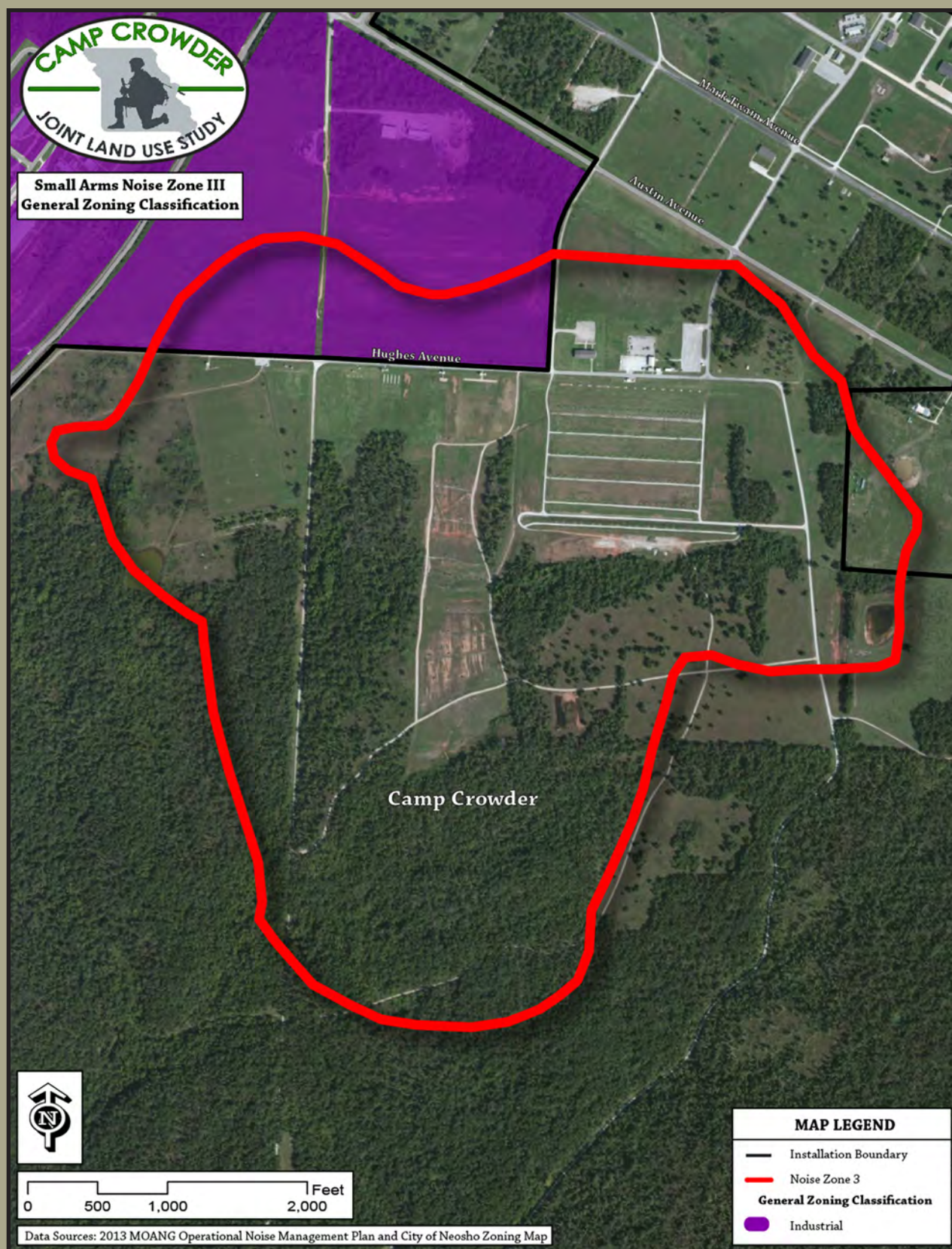


Figure 3-12: Small Arms Noise Zone III, General Zoning Classification



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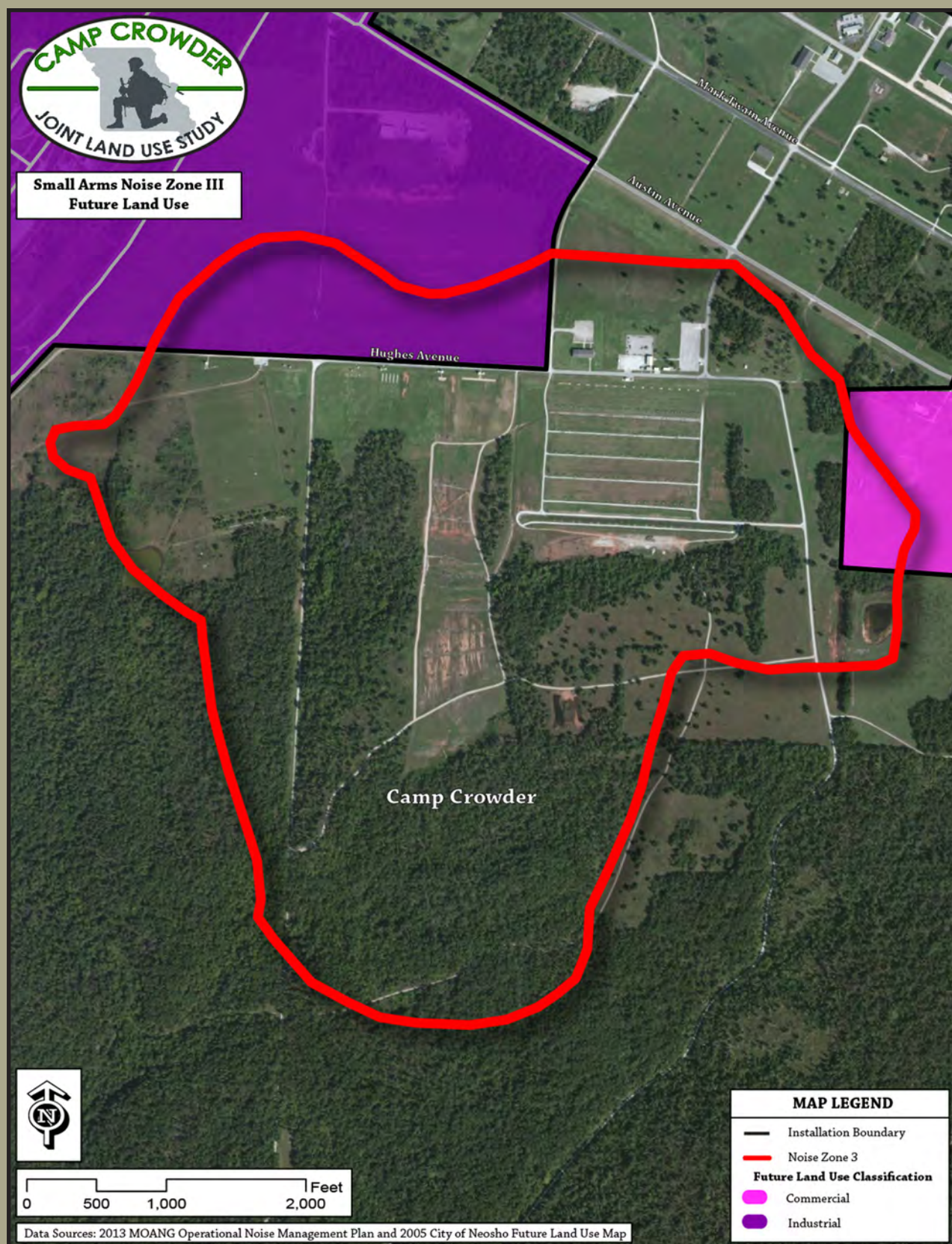


Figure 3-13: Small Arms Noise Zone III, Future Land Use



Noise Zone II Land Use Analysis

The following analysis examines the compatibility of off-post land uses, zoning, and future land use plans with the Noise Zone II contour associated with the small arms ranges at Camp Crowder. This noise zone corresponds to a peak sound level of between 87 dB and 104 dB, making certain land uses that are susceptible to high noise levels potentially incompatible if they are located within this noise contour.

Existing Land Use Compatibility

The map shown in Figure 3-14 details the existing land use pattern found in the off-post areas that are potentially impacted by Noise Zone II around Camp Crowder. In total, Noise Zone II extends over 1,569 acres of land in the surrounding communities. Of this total, approximately 53% is undeveloped or conservation lands and 47% has been classified as being used for either residential, commercial, industrial institutional or intensive agricultural use.

Industrial land uses are found in the northern and western portions of the noise contour, and account for approximately 17.5% of the off-post land uses in this noise zone. The eastern portion of the Noise Zone II contour, south of Route D, is home to approximately 250 acres of land used for intensive agricultural purposes, comprising around 16% of the total off-post lands within the noise contour. These land uses, along with the conservation lands found along the western boundary of Camp Crowder in the noise zone represent the most compatible “developed” land uses found within the Noise Zone II contour.

Lands used for institutional purposes make up only around 1% of the total area contained within the Noise Zone II contour. These uses are found along US 71 near the western edge of the noise contour, as well as where the noise zone goes very slightly into the Crowder College campus in the far northern portion of the zone. Institutional land uses, such as churches, schools and similar establishments can be compatible with noise levels associated with Noise Zone II when certain mitigation techniques are used in construction, but may otherwise be incompatible during periods of peak noise, particularly if unfavorable meteorological conditions are present during peak noise events.

Residentially developed properties within Noise Zone II account for over 12% of the total land area, but this is somewhat misleading given the large tracts on which these widely scattered residences are situated. This is reinforced by the fact that the nearly 200

acres of residentially used land within the noise zone contain only approximately 20 dwellings, for an average density of around 1 dwelling unit per 10 acres of residentially used land. In certain cases residential land uses are shown to be compatible with noise levels found in this zone, particularly if noise mitigation techniques are used in the construction of dwellings to minimize the potential for negative impacts. Given the sparse nature of the residential development in this area, there do not appear to be any major compatibility issues between the existing residential development pattern in the area and the potential noise levels found in this noise contour.

Zoning Compatibility

The map shown in Figure 3-15 identifies the extent of the zoned areas that fall within the Noise Zone II contour. Areas zoned by the City of Neosho account for roughly 20% of the area within the noise zone. Of that, the vast majority is zoned for industrial use, while a much smaller portion, on the campus of Crowder College, is zoned for commercial use. Land uses generally allowed within industrial and commercial zoning districts are typically compatible with the noise levels found in Noise Zone II, inferring that there is a low likelihood of creating new, incompatible uses in the areas zoned by the City of Neosho if the current zoning pattern stays in place.

Future Land Use Compatibility

The City of Neosho’s adopted Future Land Use Map covers the majority of the off-post lands within the Noise Zone II contour, as shown in Figure 3-16. Industrial, commercial and agricultural land use classifications are the primary future land use designations found within the noise zone. Land designated for industrial use is located in the western and northwestern portions of the noise zone in areas that are generally adjacent to Camp Crowder. Commercially designated lands are found both adjacent to Camp Crowder and along the US 71 corridor in the western portion of the noise zone. This designation is also applied in the area that is adjacent to the eastern installation boundary along Route D and along the southern edge of the Crowder College campus. Lands designated for agricultural use are located east of Camp Crowder in the area south of Route D. Only a small portion of the Noise Zone II area covered by the Future Land Use Map is designated for residential development, and this area is near the far western end of the contour, on the west side of the US 71 corridor.

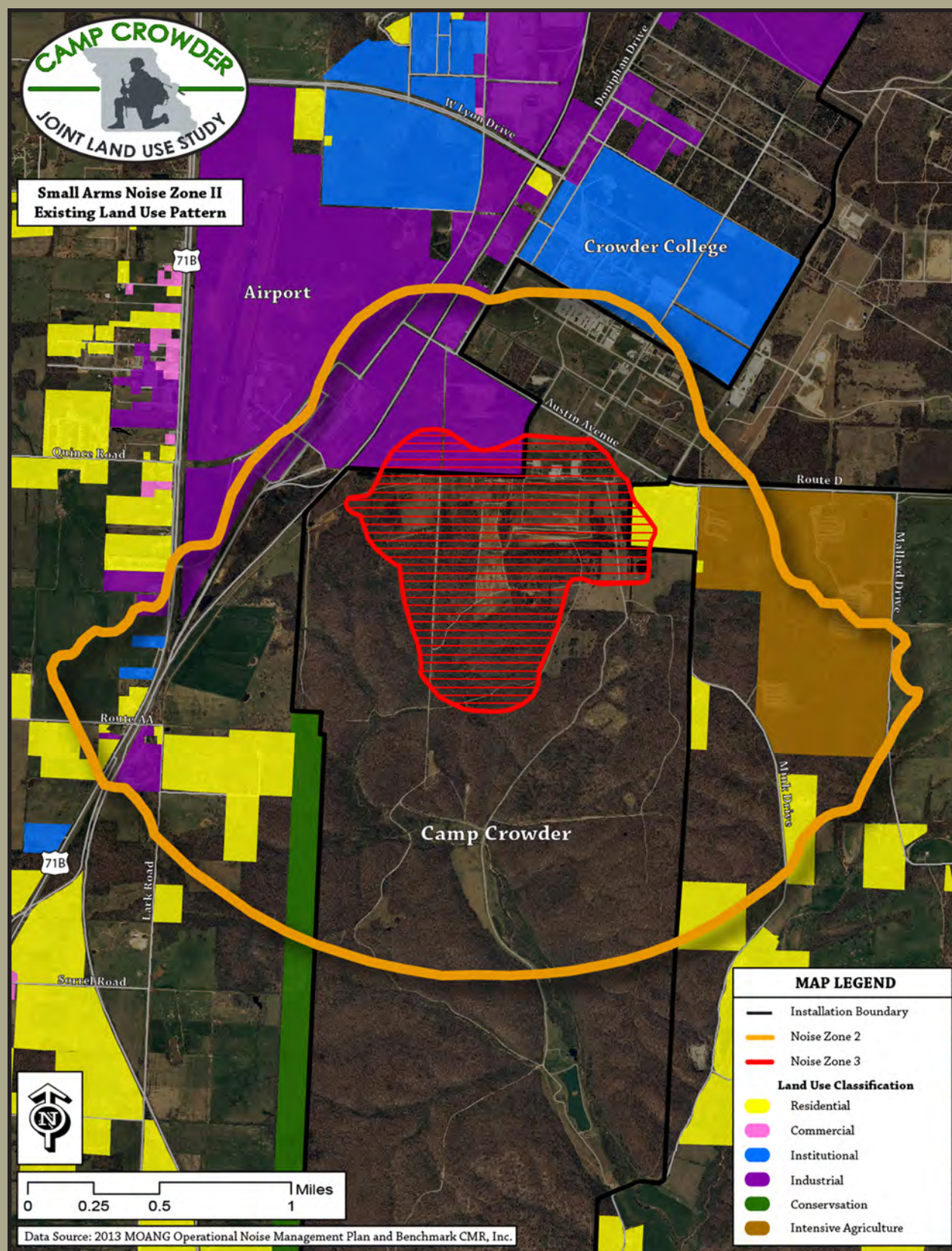


Figure 3-14: Small Arms Noise Zone II, Existing Land Use Patterns



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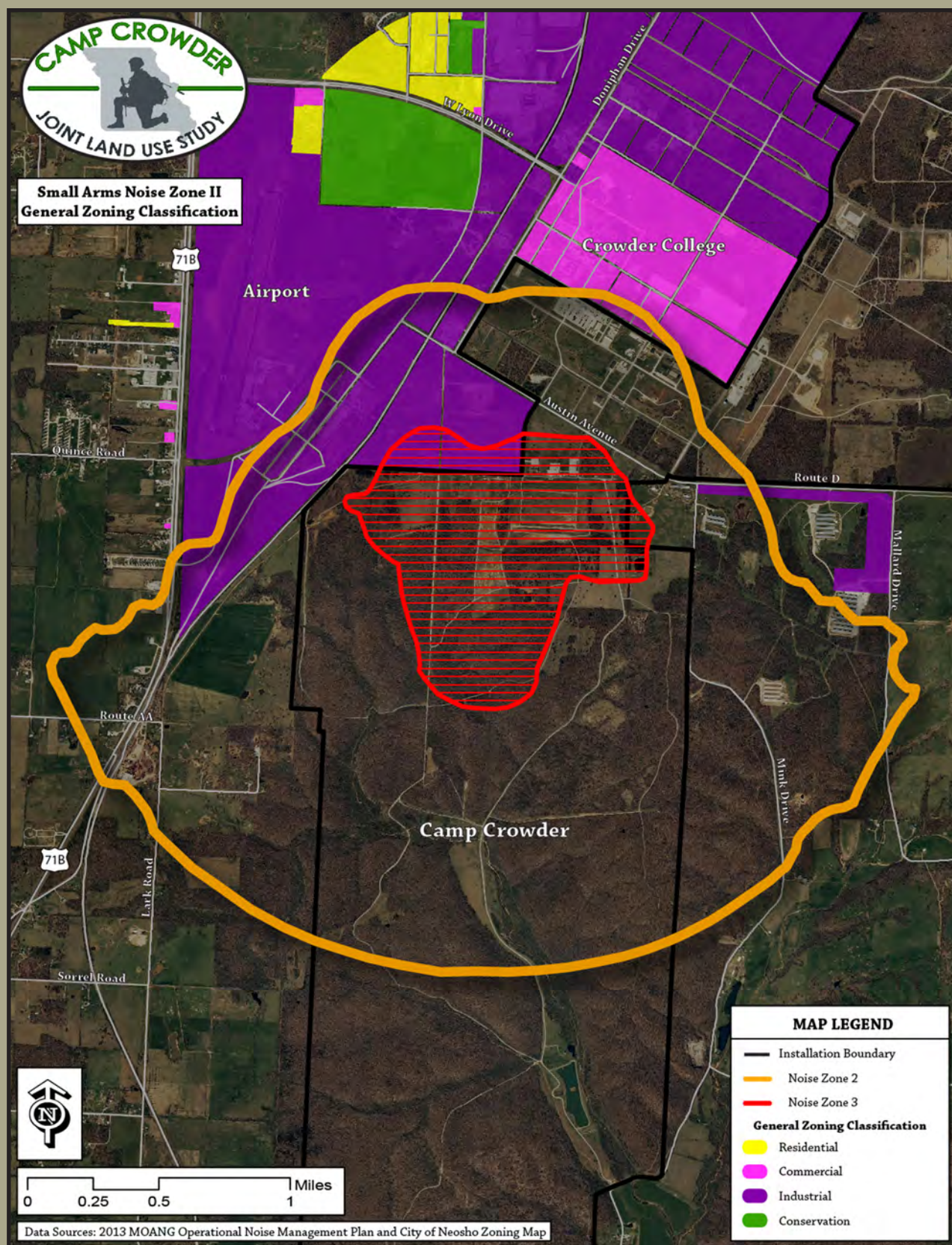


Figure 3-15: Small Arms Noise Zone II, General Zoning Classification



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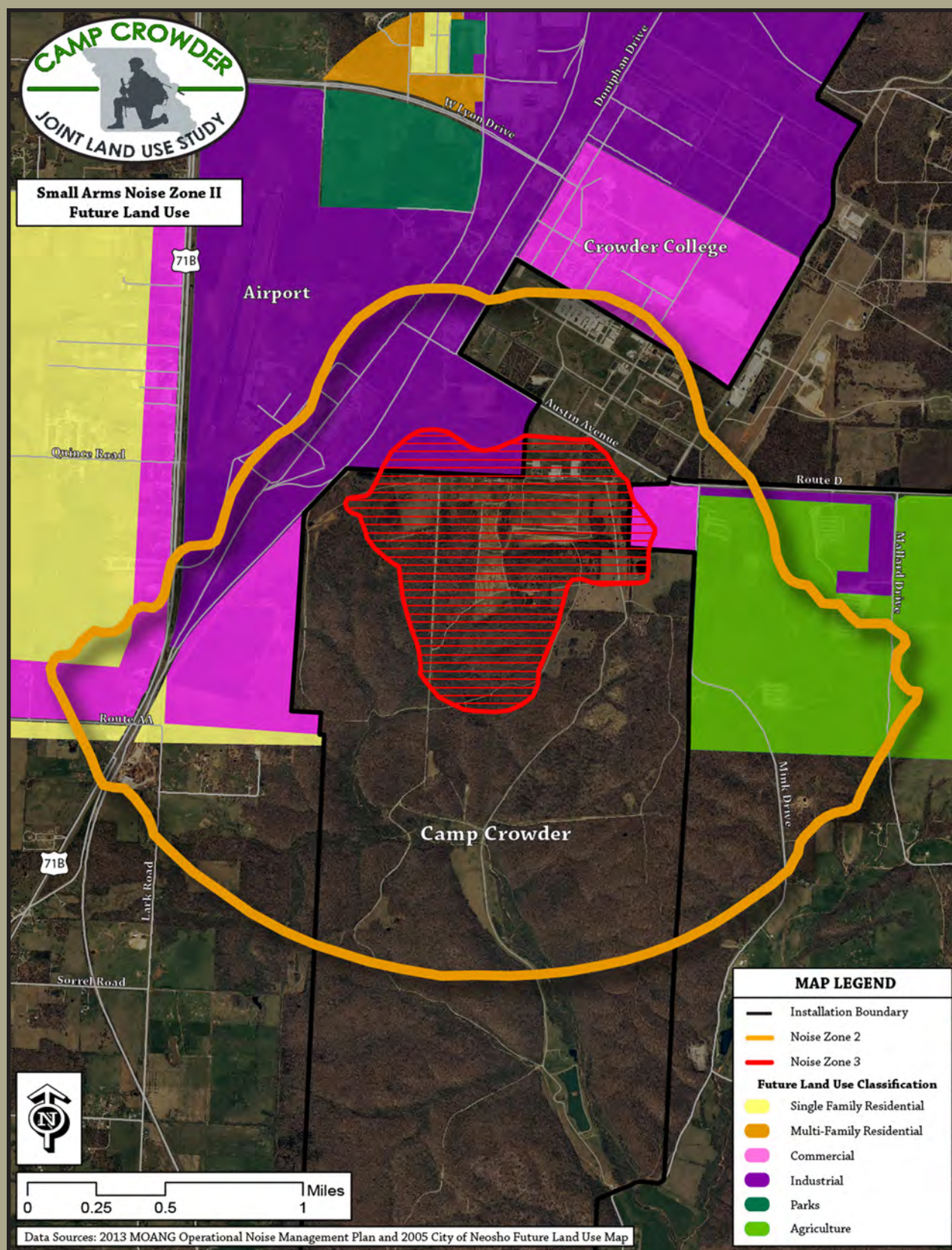


Figure 3-16: Small Arms Noise Zone II, Future Land Use



A general analysis of the adopted future land use pattern indicates a good degree of compatibility between what is proposed on the Future Land Use Map and the current levels of potential impact. The absence of residentially designated lands in close proximity to Camp Crowder greatly improves the potential for future compatibility between civilian land uses and the military training mission at Camp Crowder. As noted previously, this is qualified by the fact that the future land use classifications are only broad guides to future development, and so individual zoning and development decisions would have to be evaluated on a case-by-case basis to determine whether they would be compatible or incompatible.

IMPULSIVE NOISE ANALYSIS

In addition to the small arms noise zones identified in the 2013 Operational Noise Management Plan, the plan also identified a number of potential noise impacts from impulsive noise events created by demolition training activities on Camp Crowder. Given the relative infrequency of these events, a complaint risk-based approach is used to determine whether, and the extent to which, there are areas of potential land use incompatibility with noise impacts created during these training activities. For the purposes of this section, noise zones will be divided into *high complaint risk* and *moderate complaint risk* areas, which correspond to impulsive noise levels of greater than 130 dB and between 115 dB and 130 dB respectively. The following sections discuss the complaint risk areas for both light and heavy demolition charges, as set forth in the ONMP.

Light Charge Demolitions Noise

Noise associated with the detonation of light demolition charges (between 0.25 and 1.25 pounds) at the demolition range on Camp Crowder have the potential to create single, or impulsive, noise events that can carry a long distance from their point of origin, depending on meteorological conditions and other factors, such as terrain and time of day. The following is a discussion of the potential compatibility of off-post land uses with noise events associated with the more frequently used demolitions charges at Camp Crowder.

High Complaint Risk Area

The high risk complaint area is associated with single event noise levels of 130 dB or higher. Noise at that level has been identified to cause a range of potential impacts to noise sensitive uses that may

lead to high numbers of complaints if the noise level is reached frequently, or even in instances where a single noise event occurs.

a. Existing Land Use Compatibility

The off-post high complaint risk noise contour associated with the detonation of light demolitions charges covers a small area adjacent to Camp Crowder's western boundary, totaling less than 130 acres of land (see Figure 3-17). Of this total, approximately 30 acres are in residential use, with the remainder comprised of conservation lands and other undeveloped farm and forestland. Residentially developed tracts in the potentially affected area are large, with only 3 to 4 homes located within the extent of the 130 dB noise contour. Despite the low intensity nature of the residential development in this area, the presence of homes in proximity to this potential noise level does carry a compatibility risk due to the greater likelihood of noise complaints.

b. Zoning Compatibility

The area within the high complaint risk area is entirely outside of the City of Neosho's zoning jurisdiction. If the area did become part of the City, it is likely that it would be zoned in accordance with guidance provided in the Future Land Use Map, which is discussed below.

c. Future Land Use Compatibility

The City of Neosho's Future Land Use Map covers only a small portion of the high complaint risk area associated with light demolition charges (see Figure 3-18). The northern portion of the noise contour is designated for commercial land use, while a small sliver of land immediately south of the commercially designated area is classified for future residential use. While the commercially designated portion of the high complaint risk noise contour is likely compatible with the potential peak noise levels, residential use in this type of noise potential area is generally assumed to be incompatible given the higher risk of complaints associated with this type of land use.

Moderate Complaint Risk Area

The moderate complaint risk area is associated with single event peak noise levels of between 115 dB and 130 dB. While the frequency of complaints is assumed to be lower in this area versus the high complaint risk area, the risk does still exist for incompatible land use situations to arise if a large enough number of noise sensitive land uses are present within this type of noise contour.

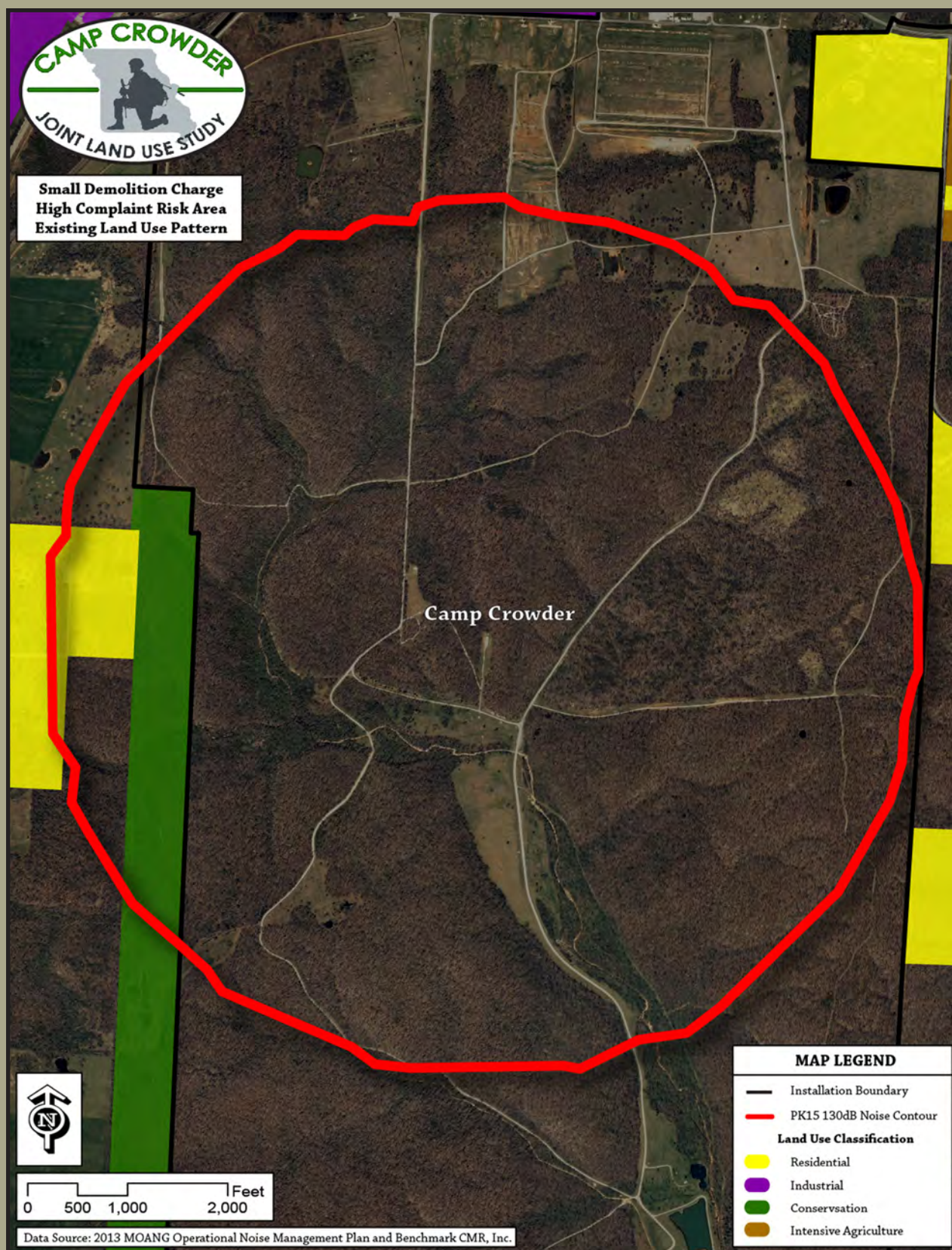


Figure 3-17: Small Charge Demolition Noise High Complaint Risk Area, Existing Land Use Pattern



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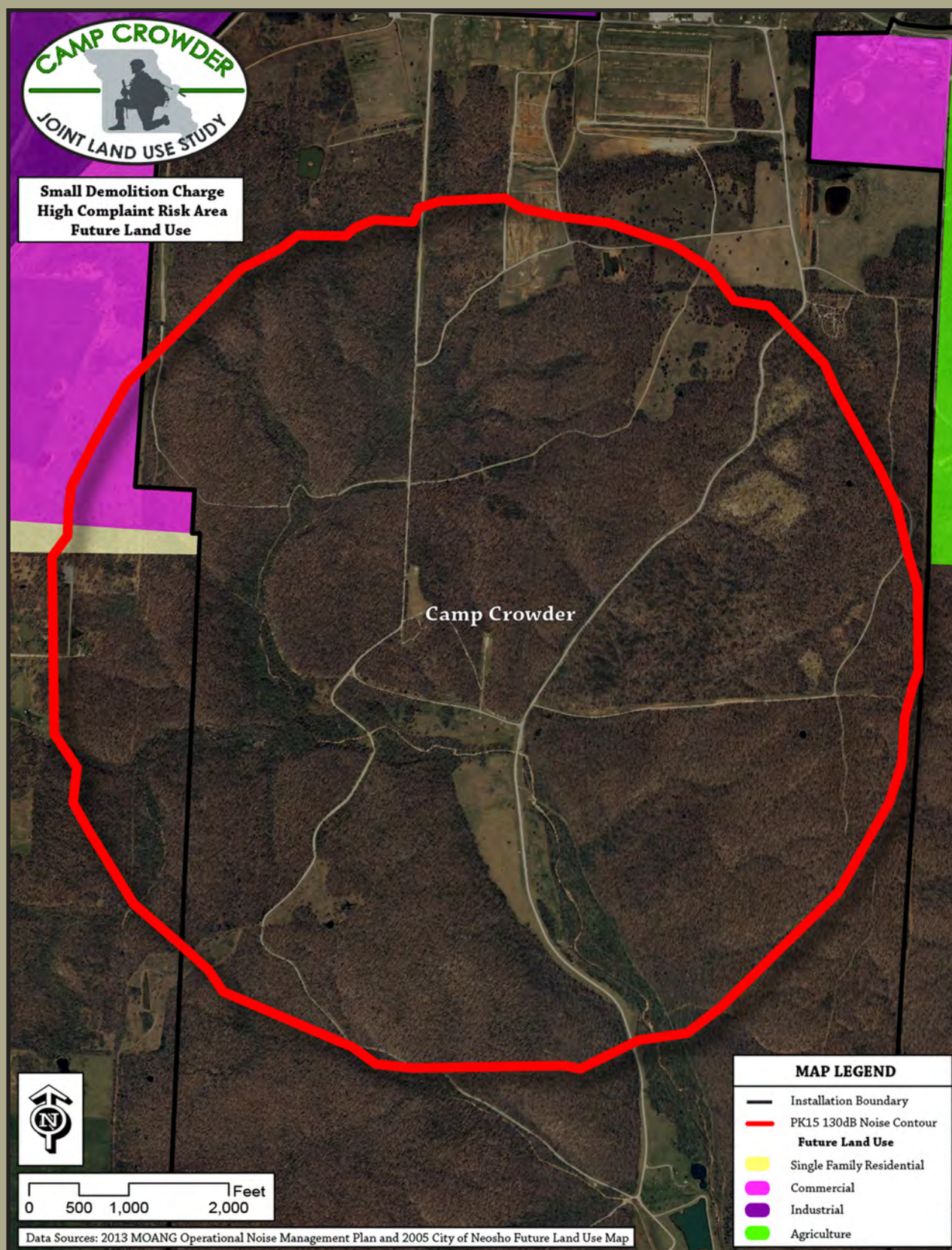


Figure 3-18: Small Charge Demolition Noise High Complaint Risk Area, Future Land Use



a. **Existing Land Use Compatibility**

As the map in Figure 3-19 shows, the moderate complaint risk area for noise associated with light demolition charges extends off of Camp Crowder to the west, north and east, going approximately one mile beyond the edge of the high complaint risk area. The total off-post area covered by the 115 dB to 130 dB noise contour is approximately 3,900 acres of land, of which just over 40% is classified as containing a “developed” land use.

The area of potential impact located west of Camp Crowder contains a mixture of residential and industrial uses, with some small tracts used for institutional and commercial use as well. The majority of the development in this portion of the moderate complaint risk area is focused along the US 71 corridor and areas immediately adjacent to it.

While the industrial and commercial land uses within the noise contour are generally assumed to be compatible with the potential noise environment, the residential and institutional uses may be less compatible, based on their higher assumed susceptibility to high noise levels. Like the majority of the residential development that has been discussed throughout the analysis, residential development in this area tends to be on large lots, and scattered through the area. One deviation from this general pattern is the presence of a dense mobile home park on the west side of US 71 across from Quince Road (airport access). While more widely scattered site built residences are of lower concern from a noise compatibility standpoint within this noise contour, a concentration of mobile homes, which are more susceptible to peak noise levels, provides the primary compatibility issue within the moderate complaint risk area on the west side Camp Crowder.

The northern portion of the moderate complaint risk area is developed primarily with industrial uses, giving this portion of the noise contour a high degree of compatibility with the potential noise impact. A small portion of the extreme northern edge of the noise contour does encroach slightly onto the Crowder College campus, which is designated as an institutional use. The small area of potential impact on this use does not necessarily warrant any concern about compatibility with this noise level given the very small area of impact that is present.

On the east side of Camp Crowder, a number of residentially developed properties fall within the moderate complaint risk area. The low-density rural character of the residential development pattern in this area, however, would be assumed to minimize the potential impacts, though the possibility of complaints remains. The other significant land use in this area

is a large area that is used for intensive agricultural purposes. It is assumed that by its nature, this particular land use should maintain good compatibility with the potential noise levels found inside the noise zone contour.

b. **Zoning Compatibility**

The extent of the coverage of the City of Neosho’s zoning is detailed on the map shown in Figure 3-20. These areas are primarily located in the northern/northwestern portion of the moderate complaint risk noise contour. The total area covered by the City’s zoning in this area of potential impact is approximately 565 acres, or 14% of the total off-post area within the noise contour.

All but a very small portion of the zoned area is designated as an industrial zoning district, indicating a high likelihood of compatibility with the potential noise impacts. Approximately 11 acres of land is zoned for commercial use on the small portion of the campus of Crowder College that falls within the noise contour. There do not appear to be any significant compatibility issues with the commercial zoning given the relatively small area affected.

c. **Future Land Use Compatibility**

Slightly less than half of the off-post lands within the moderate complaint risk area are covered by the City of Neosho’s Future Land Use Map (see Figure 3-21). Future land use classifications in the area include large areas of residential, commercial, industrial and agricultural land use designations.

Just over half of the land area covered by the Future Land Use Map within the noise contour is designated for industrial and commercial use, both of which are likely highly compatible with the potential noise levels in the moderate complaint risk area. Approximately one third of the area shown on the Future Land Use Map is designated for agricultural use, which would also be assumed to be compatible with the potential noise levels.

On the western edge of the moderate complaint risk area, just west of the US 71 corridors, there is an area containing approximately 250 acres of land that is designated for residential use. While lower density residential uses may be somewhat compatible with the noise levels found in a moderate complaint risk noise contour, higher densities of residential development, and certain types of residences, most notably mobile homes, could lead to a higher degree of incompatibility if dense development, such as mobile home parks, were developed within this residentially designated area.

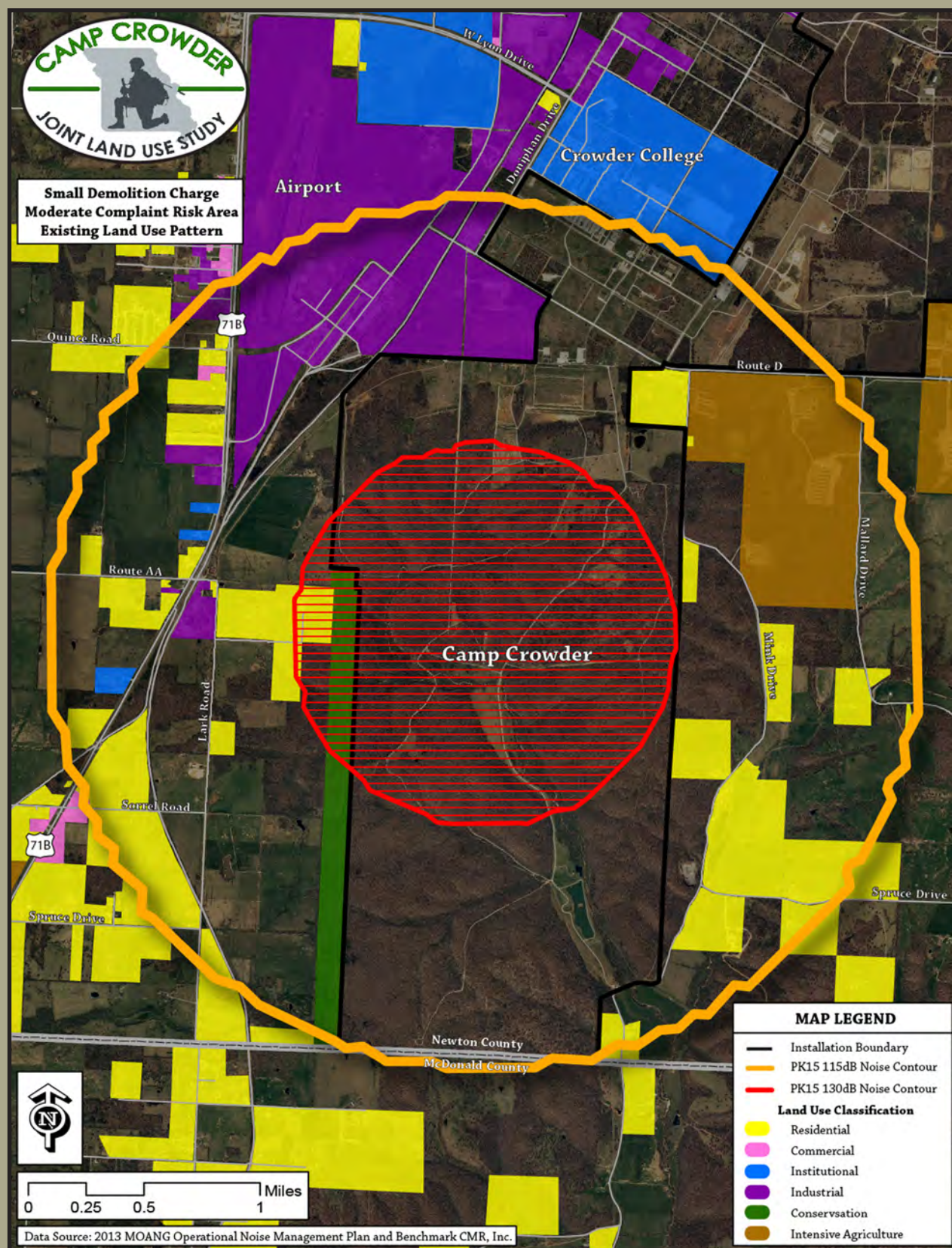


Figure 3-19: Small Charge Demolition Noise Moderate Complaint Risk Area, Existing Land Use Pattern



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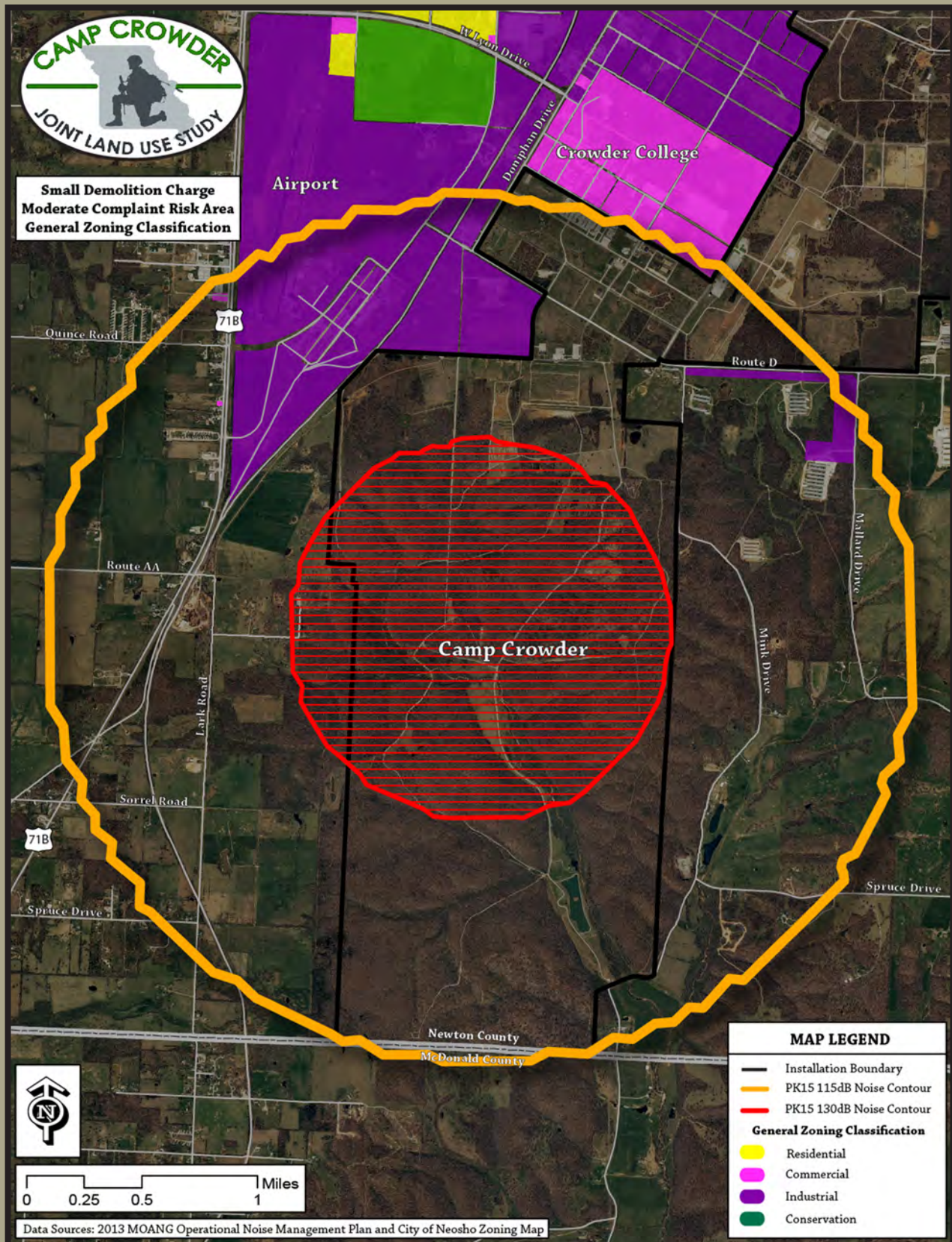


Figure 3-20: Small Charge Demolition Noise Moderate Complaint Risk Area, General Zoning



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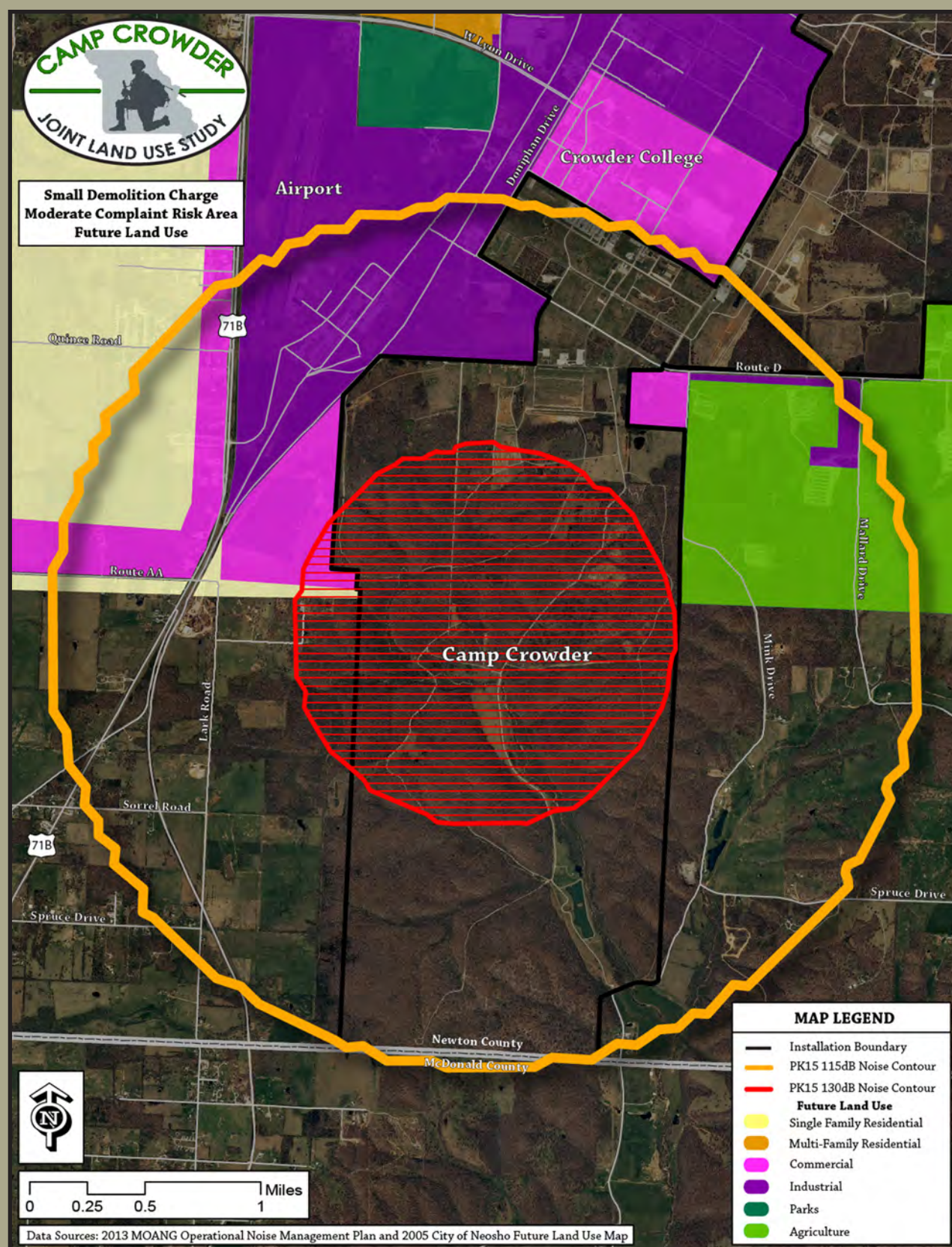


Figure 3-21: Small Charge Demolition Noise Moderate Complaint Risk Area, Future Land Use



Heavy Charge Demolitions Noise

Heavier demolitions charges (up to 50 pounds) are also detonated at the Camp Crowder demolitions range. While the detonation of larger charges is very infrequent, with one detonation per year on average, it is important to understand how an increase in training tempo with heavier charges could affect off-post land use compatibility in the high complaint risk area.

High Complaint Risk Area

Just like the high complaint risk area for the lower weight charges, the noise level associated with the high risk of complaints from the heavier charges is defined as the area where 130 dB or greater noise may be expected to occur. And also like the high complaint risk area for the smaller charges, noise in excess of 130 dB does have the potential to generate complaints, and therefore compatibility issues, when those noise levels interact with noise sensitive land uses, such as residences, schools, churches and similar uses that may be more susceptible to high noise levels.

1. Existing Land Use Compatibility

The high complaint risk noise contour associated with heavy demolition charges extends both west and east of Camp Crowder into the surrounding communities; covering approximately 2,350 acres of land off-post (see Figure 3-22). Of that total, approximately 870 acres, or 37% of the area, contains “developed” land uses, such as residential, commercial, institutional and intensive agricultural uses.

The area west of Camp Crowder that is within the high complaint risk noise contour contains a mix of residential, commercial, industrial and institutional uses. Industrial, commercial and institutional uses are found primarily along the US 71 corridor and in areas adjacent to Camp Crowder’s western boundary. Residential uses are concentrated on the US 71 corridor, but are also found in the area between US 71 and the western boundary of Camp Crowder, though in small numbers and at low densities.

The primary compatibility concerns in this area are related to both the residential uses and institutional uses that are found here. This is tempered to a large degree, however, by the infrequent nature of the impact, as it occurs on average only once per year. More frequent occurrences would likely lead to a lower potential degree of compatibility, but as it currently stands, the likelihood of a large number of complaints from

noise sensitive uses is quite low, with respect to this particular type of training.

The area east of Camp Crowder that is within the high complaint risk area for heavy demolitions charges is largely rural, with scattered rural residential uses and intensive agricultural land use being the primary land uses within the area. While the intensive agricultural uses are generally compatible, there is a degree of potential incompatibility associated with residential uses inside of the noise contour. Again, this concern is greatly tempered by the infrequent occurrence of this type of training, which is very likely unnoticed by residents in the area unless they happen to be present when one of the annual demolitions takes place.

2. Zoning Compatibility

Only a small portion of the heavy demolition charge, high complaint risk area is within the City of Neosho’s zoning jurisdiction. This area, shown in Figure 3-23, is zoned exclusively for industrial use, giving it a high degree of compatibility with this particular training impact.

3. Future Land Use Compatibility

As shown in Figure 3-24, the City of Neosho’s Future Land Use Map covers slightly less than half of the off-post area within the high complaint risk area associated with heavy demolitions training. Industrial, commercial and agricultural future land use designations are assigned to the majority of the covered area, and these are generally assumed to be compatible in most instances with this type of noise impact. Two areas of residentially designated land are also shown in this area on the Future Land Use Map. The first is a thin strip running between Camp Crowder and the railroad, and the second is located just west of the US 71 corridor, in the vicinity of Route AA. While residential use is understood to be generally incompatible with this degree of potential impact, the infrequent nature of the training activity that creates this noise level mitigates the majority of any impact on land use compatibility at the present time.

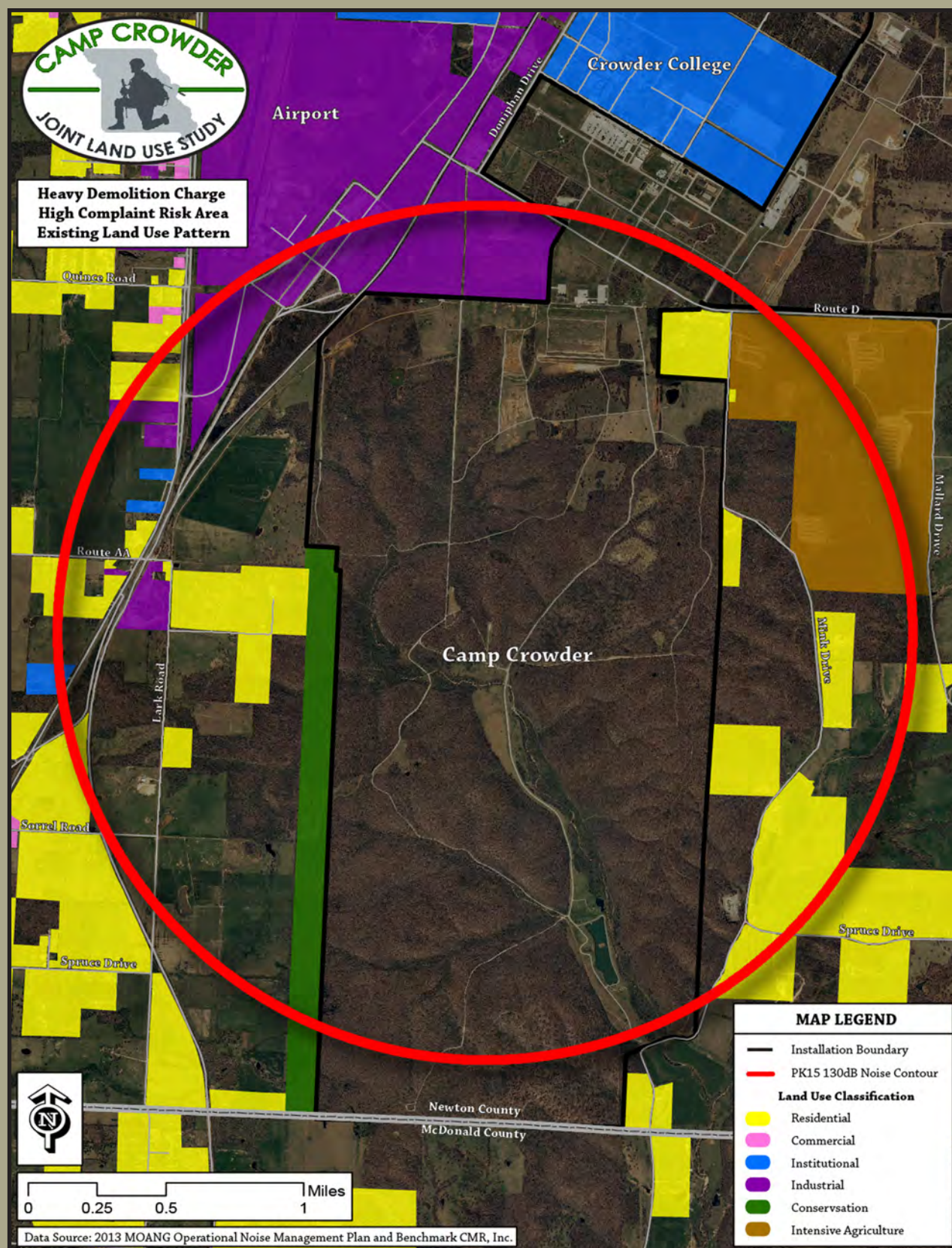


Figure 3-22: Heavy Charge Demolition Noise High Complaint Risk Area, Existing Land Use Pattern



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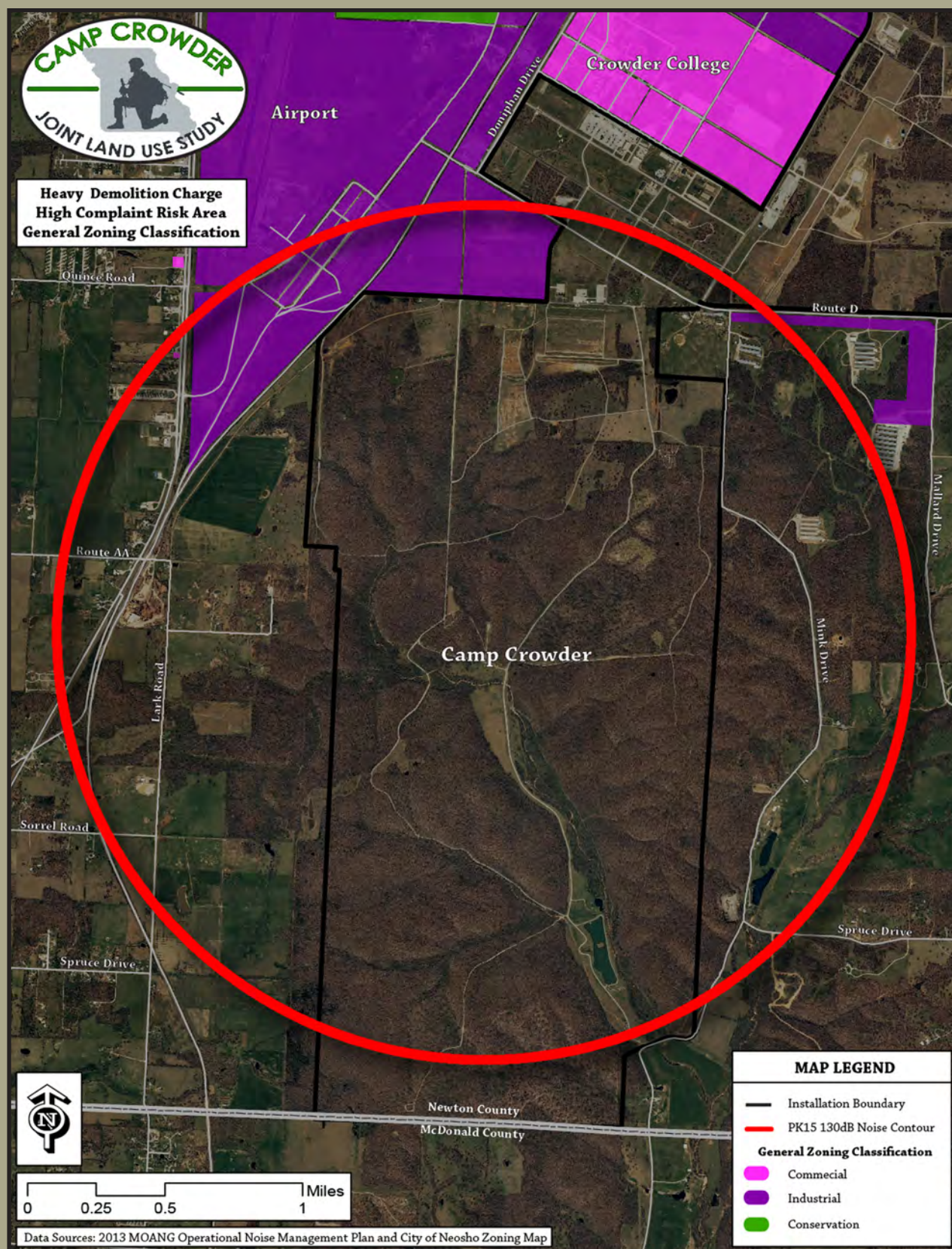


Figure 3-23: Heavy Charge Demolition Noise High Complaint Risk Area, General Zoning Classification



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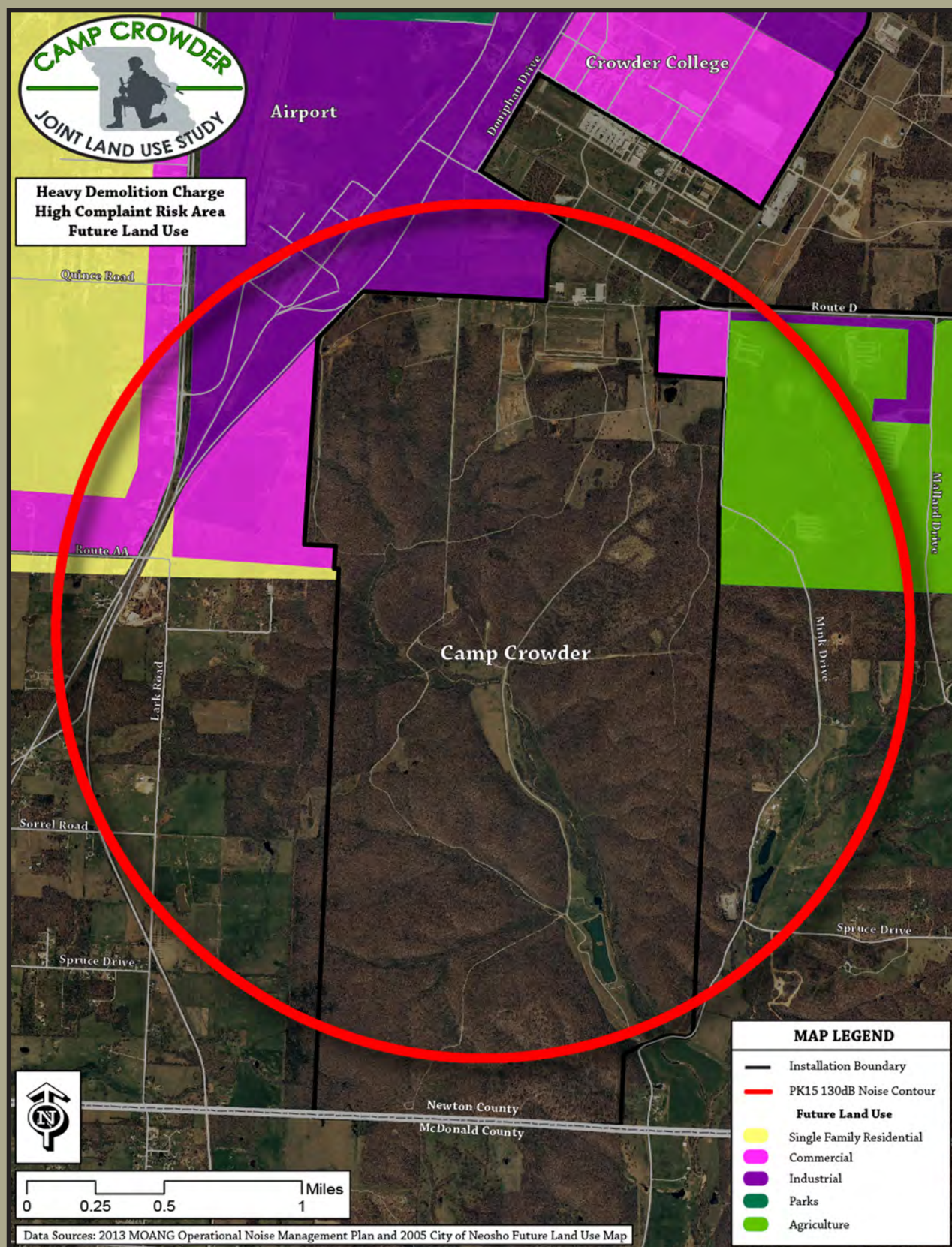


Figure 3-24: Heavy Charge Demolition Noise High Complaint Risk Area, Future Land Use



Moderate Complaint Risk Area

The moderate complaint Risk Area is shown in Figure 3-25, below. The occurrence of this noise impact is infrequent – estimated by Camp Crowder during the study to be once per year. Noise complaints are not historically problematic in this area, which reflected the input of stakeholders and Steering Committee members during the Study. In addition, Camp Crowder already observes training techniques that mitigate sound propagation, including avoiding detonations of this size when there is cloud cover at less than 5,000 feet.

AVIATION OPERATIONS ANALYSIS

Camp Crowder has a limited capacity to conduct aviation training operations with its own facilities. Aviation related facilities at Camp Crowder include a designated helicopter landing zone in the cantonment area and a natural surface landing strip that is located parallel to Clark Drive. While the helicopter landing zone is used on occasion, operations are very limited. Fixed wing operations utilizing the landing strip are not currently authorized. Based on the low intensity of use of aviation facilities at Camp Crowder, there do not appear to be any potential

land use conflicts created by such operations when they do occur. The most likely impact, if any, would likely be related to the occasional operation of rotary wing aircraft at low altitudes as they make their approach to the landing zone in the cantonment area. The frequency of such operations, however, is such that they are unlikely to create any measurable noise or other impacts that would require a more detailed analysis.

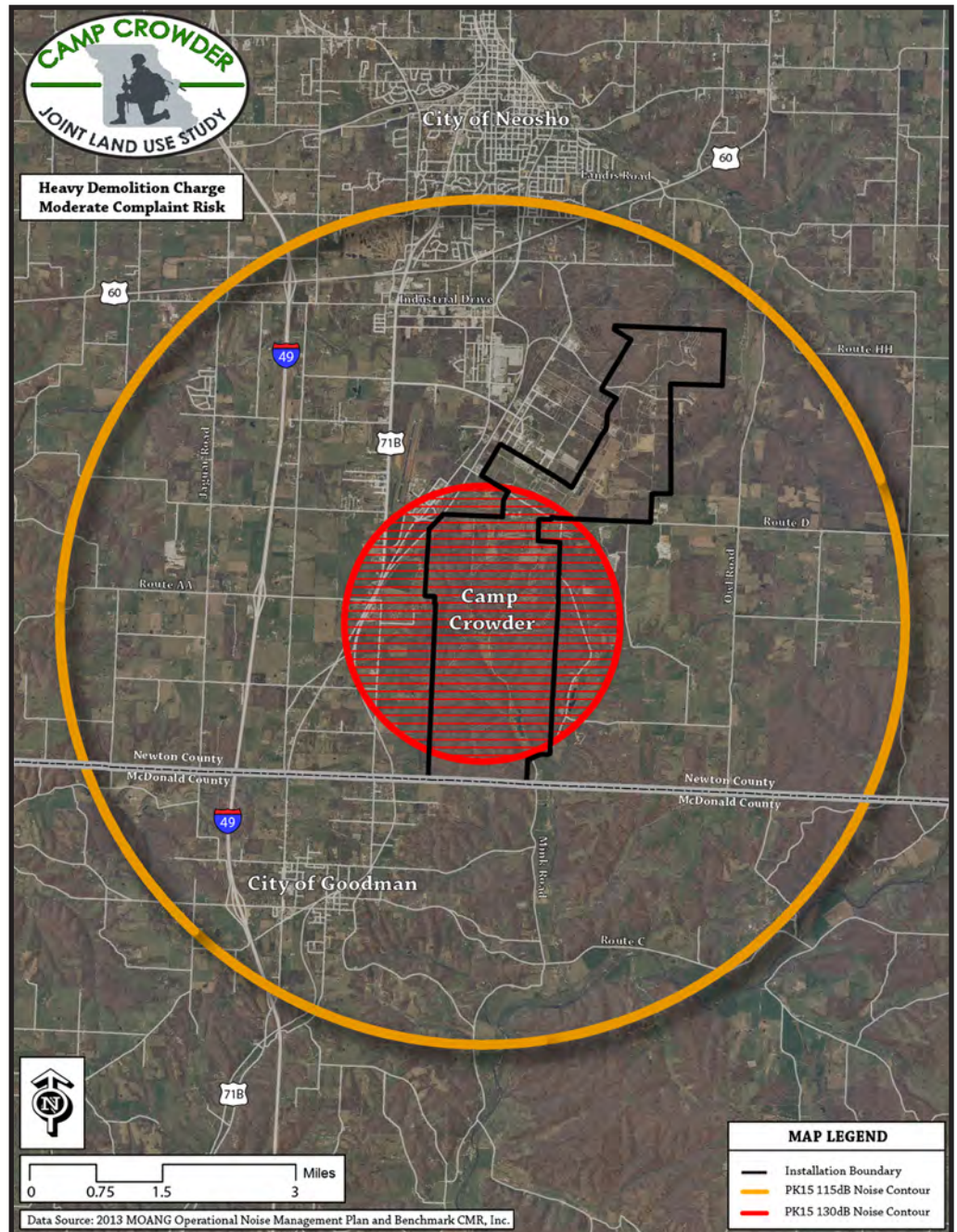


Figure 3-25: Heavy Charge Demolition Noise Moderate Complaint Risk Area



3.6 External Impacts

The following sections discuss the potential impacts created by activities occurring outside of Camp Crowder that may have the potential to impact Camp Crowder. Specifically, the impacts of night lighting in the community, civil aviation activities originating from the Neosho Hugh Robinson Airport, and the adjacent rail line are discussed.

NIGHT LIGHTING

The ability to train and fight in low light environments is a critical component of modern military training and doctrine. As a training post, Camp Crowder can be called upon to provide a wide range of training activities, including night training. These activities necessarily require low ambient light levels to ensure that night vision devices function to their potential and to provide the most realistic training environment possible. High background lighting levels can impair the function of such devices, and take away from the realism in training for which the military strives.

As the maps shown in Figures 3-25 and 3-26 demonstrate, the level of night lighting on Camp Crowder increased dramatically between 1992 and 2010, which are the first and last available datasets. The areas most directly impacted by increases in night lighting include the range complex, which is located in the central portion of Camp Crowder, as well as both the northern and southern training areas on-post, with the greatest impacts seen closest to the urbanized area in and around the City of Neosho and the highway corridors leading into the city.

Degraded night training capacity could impact the ability of Camp Crowder to offer certain dark-sky dependent training activities, especially if light intrusion becomes more pronounced in the range and training areas. Methods of mitigating the impact of night lighting could include “dark-sky” type lighting ordinances that require the shielding of outdoor lighting fixtures and generally directing lights downward to reduce background lighting effects at night.

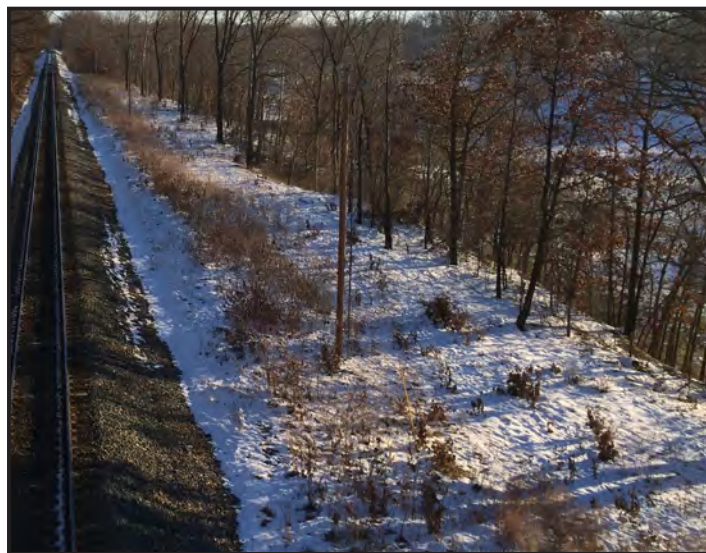
CIVIL AVIATION

The Neosho Hugh Robinson Airport is a general aviation facility located due west of Camp Crowder. While the presence of the airport as a neighbor does not create any direct impacts on Camp Crowder, the traffic pattern observed by departing aircraft can potentially interfere with activities on small arms weapons ranges

when overflights by civilian aircraft occur. This in turn has the potential to impact the ability of units training at Camp Crowder to complete required weapons qualifications due to the heavy scheduling of the ranges during certain times of year.

The reason for the impact on Camp Crowder, which was alluded to previously, is related to the traffic pattern for southbound departures from the airport’s runway. Pilots taking off from the airport will climb to the pattern altitude of around 1,000 feet above ground level and make a 45 degree left hand turn. This occurs generally at a point of around one half miles from the end of the departure runway, and a 45 degree turn at this point leads aircraft directly over Camp Crowder’s range area. When the ranges are active on Camp Crowder, a Notice to Airmen (NOTAM) is in effect, which instructs pilots to proceed for a greater distance downwind before making their left hand turn in order to allow them to clear safety zones above the ranges. Given the irregular schedule of range activity, such notices, posted both locally and by the FAA, are not always observed or followed by pilots, many of whom may be unaware of the presence of active firing ranges in the area if they are piloting transient aircraft.

When the ranges are active, and an aircraft enters the safety zone, the range safety officers are required to halt firing to ensure the safety of the aircraft from any ricocheting or stray rounds. During a weapons qualification event, this can lead to a requirement to restart the qualification from the beginning, which in turn impacts range schedules, and can possibly lead to the failure of a unit to qualify during their scheduled time at Camp Crowder.





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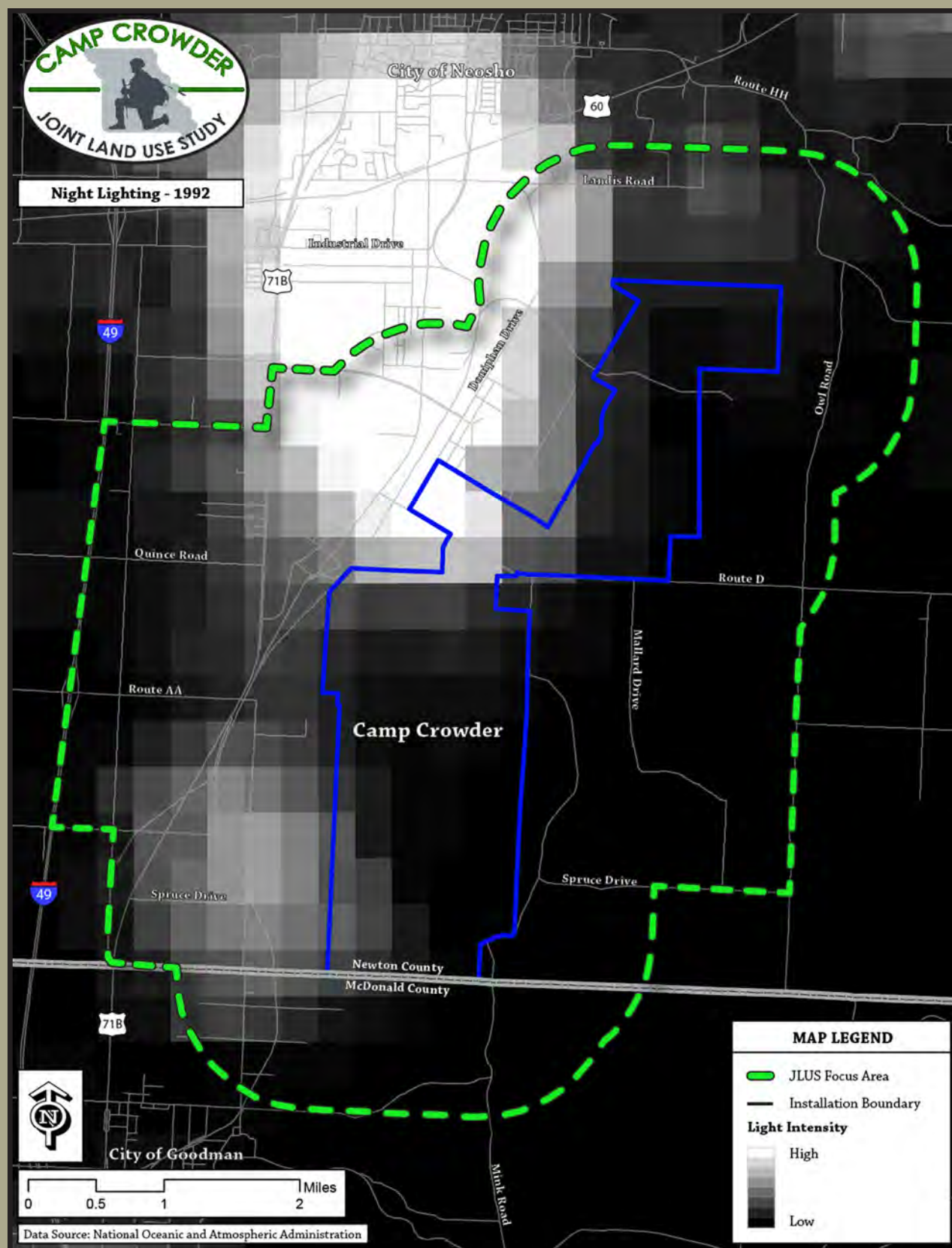


Figure 3-25: Night Lighting – 1992



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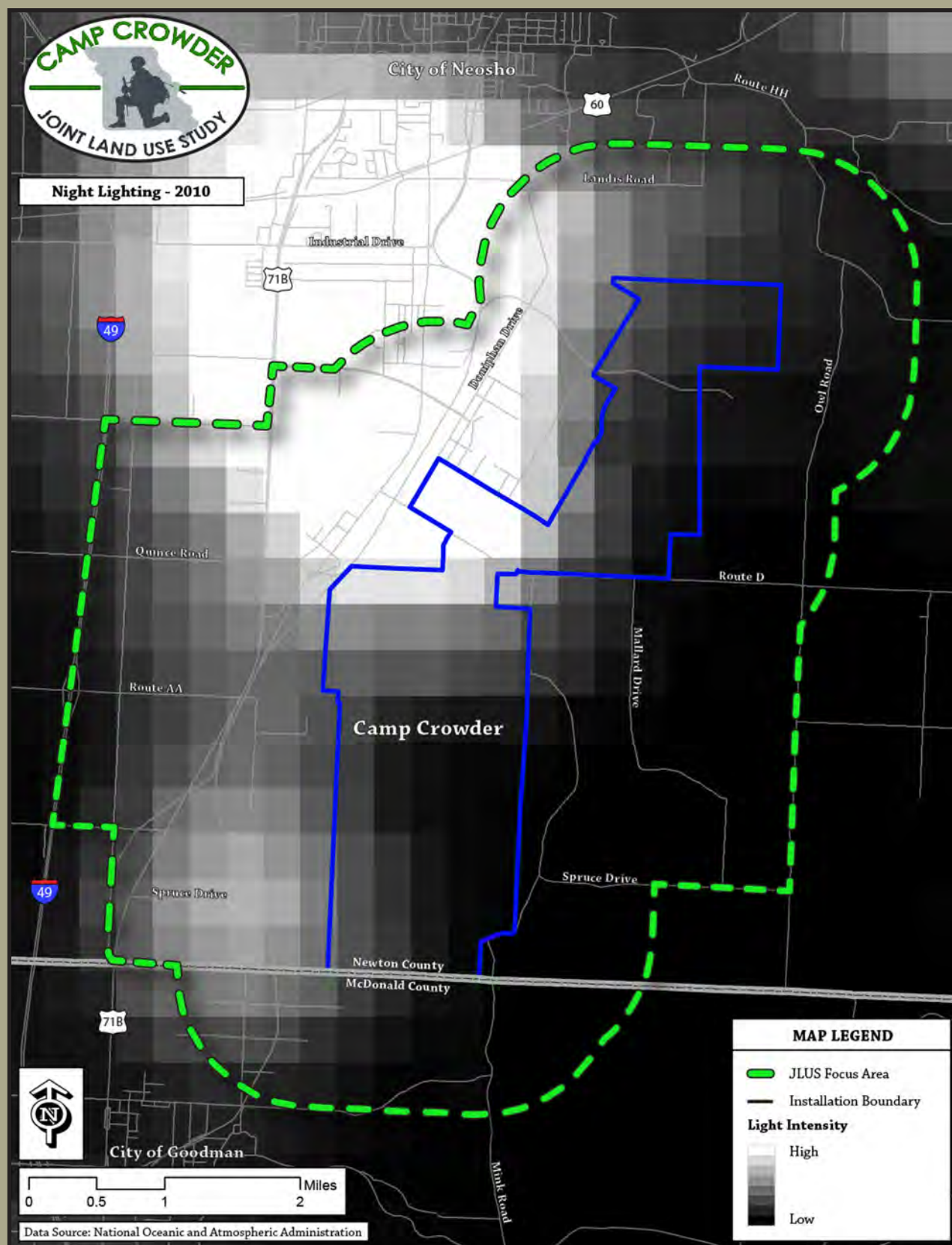


Figure 3-26: Night Lighting - 2010



RAILWAY OPERATIONS

As a neighbor to Camp Crowder, the Kansas City Southern Railway has the potential to influence both daily operations at Camp Crowder, as well as land use around the rail line, which runs along and near its western boundary. An examination of the potential impacts that could be created by this type of facility did not identify any direct impacts that were being created by the railroad, but the potential secondary effects of the presence of the railroad are noted for the purposes of this study. Secondary effects could include the need to create additional spur lines in the area for industrial development, and similar market driven activities that could lead to land use changes around Camp Crowder.



Chapter 4

A Vision for Camp Crowder and the Community

Chapter 4 looks at the nature of future military operations at Camp Crowder as well as future land uses of the surrounding communities so that the suggested implementation strategies and tools can take those into account.

4.0 Where Camp Crowder is Headed

In fiscal year 2013, Camp Crowder hosted more than 35,000 personnel or users on its ranges, maneuver areas, or other facilities. At least one of Camp Crowder's ranges was open and active for approximately 90 days during that time period. Typically, the Training Center is most active during the warm weather months from April through October. This trend is expected to continue in the coming years, although Camp Crowder is currently undergoing an operational expansion that, at its peak, will result in the site hosting over 50 percent of all National Guard training conducted in the state in a given year.¹ This anticipated increase in operations results from a Missouri Army National Guard policy encouraging in-state training of all Missouri National Guard personnel.

Despite the potential increase in number of units training at Camp Crowder, the Training Center is not proposing any new facilities or physical expansion of its boundaries in the foreseeable future. Noise events are not expected to increase in frequency or significance. The impacts of Camp Crowder's future operations on the surrounding community will look much as they do today. It is likely that the economic impact of Camp Crowder on the region will either be sustained near current levels – at approximately \$5 million annually – or will increase marginally to account for increased training levels at the Training Center.



4.1 Where the Community is Headed

PROJECTED POPULATION GROWTH

While Camp Crowder is not expected to significantly change its operations or increase its impacts on the local community, the population of the surrounding region is projected to increase over time, making it important to coordinate efforts to ensure the continued viability of the Training Center. Though the population of the region is anticipated to continue growing over the next 20 years, the rate of growth is projected to be less than what was experienced in the last 20 years (Figure 4-1). Newton and McDonald Counties are estimated cumulatively to grow by 16.7 percent between 2010 and 2030. The concentration of additional growth will not be evenly distributed, with growth likely occurring along major existing transportation routes and utility infrastructure lines. Thus, there is an opportunity for the JLUS Jurisdictions to work with Camp Crowder to target – either through incentives or regulatory mechanisms – development in areas that are compatible with continued mission operations at Camp Crowder.

FUTURE DEVELOPMENT POTENTIAL

As previously mentioned, Camp Crowder is currently surrounded by land uses that are compatible with military training and operations – primarily conservation, agriculture, institutional, industrial, and farm and forestland. Future land use compatibility is also likely. Commercial and residential demand will be concentrated along the major transportation routes, specifically Interstate 49 located west of Camp Crowder. Poor road access and rugged terrain to the southeast and west in Newton County

and to the south in McDonald County is regarded as a deterrent to high-density development along the boundaries of Camp Crowder, particularly in the areas adjacent to the Heavy Training Areas in the southern portion of the Training Center (*see* Figure 3-3). Finally, as shown in the following maps, there are no planned water or sewer expansions expected around Camp Crowder that would make high-density development likely along the eastern boundary of the Training Center.

Despite the lack of adequate infrastructure and poor demand for residential development adjacent to the installation, there is potential for future incompatible development if the conditions were to change or be mitigated. If, for instance, water and sewer lines were extended into Newton County beyond the eastern boundary of Camp Crowder, residential or other incompatible development may occur, which could lead to greater pressures to restrict or prohibit certain types of training occurring at Camp Crowder.

Currently, there are no regulatory barriers in place to prevent incompatible development from occurring or to affirmatively require coordination with Camp Crowder prior to new development occurring within the JLUS Focus Area. While the City of Neosho has zoning in place, the code does not currently account for compatibility with Camp Crowder's military mission as a requirement. Newton County and McDonald County do not have zoning and do not anticipate adopting zoning in the foreseeable future. Goodman has a land use ordinance, but is not located within the significant noise zones evaluated in Chapter 3. Given the lack of regulatory barriers to development, it is important to engage with Camp Crowder in other ways to ensure that mission sustainability is considered in the face of future development.

Figure 4-1: Projected Population Change, 2010-2030

Jurisdiction	2010	2020	2025	2030	% Change 2010-2030
Newton County	58,114	62,218	64,553	66,663	14.7%
McDonald County	23,083	25,625	26,823	28,078	21.6%
Counties Combined	81,197	87,843	91,376	94,741	16.7%
Missouri	5,988,927	6,389,850	6,580,868	6,746,762	12.7%

Source: <http://archive.oa.mo.gov/bp/projections/TotalPop.pdf>

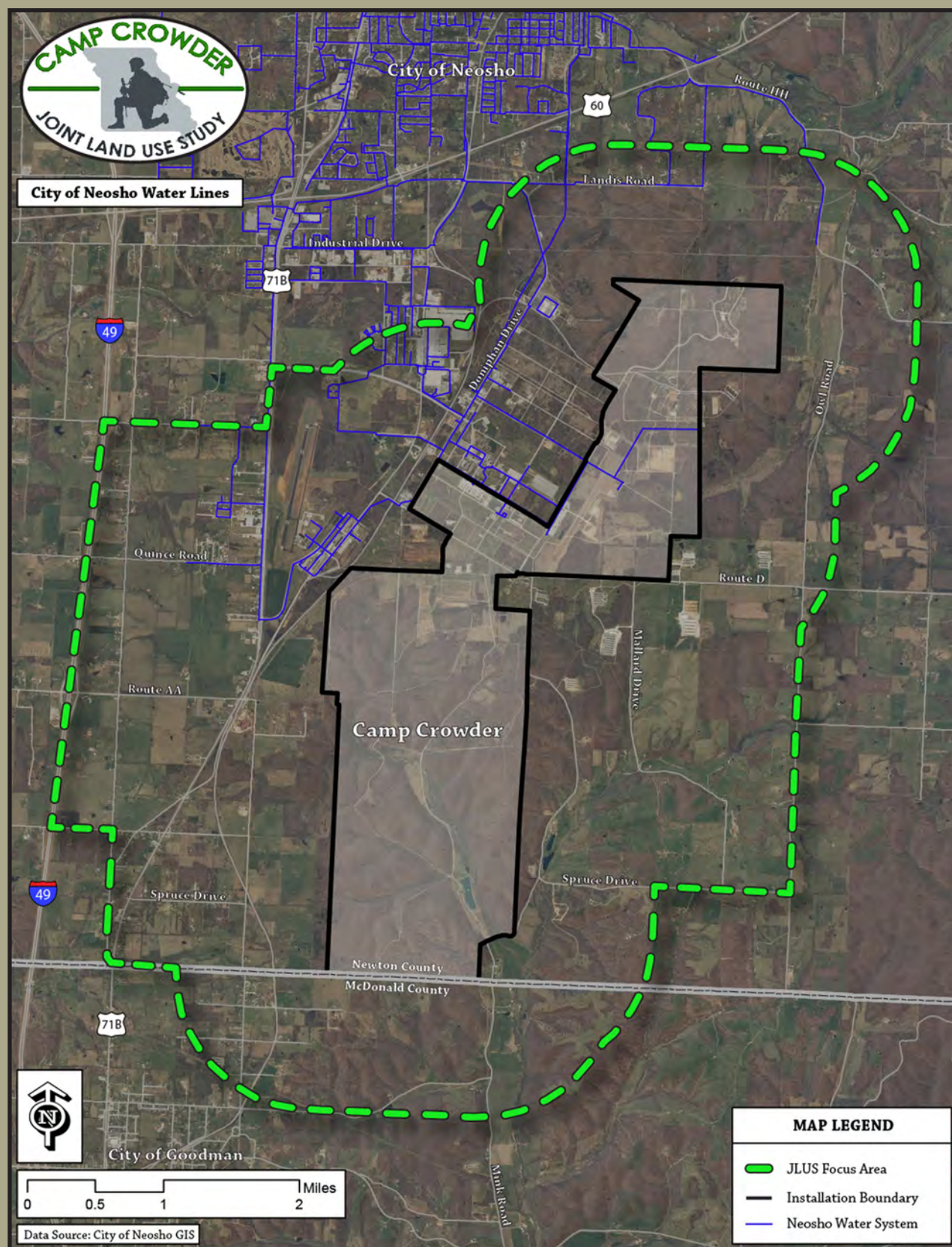


Figure 4-2: City of Neosho Existing Water Lines



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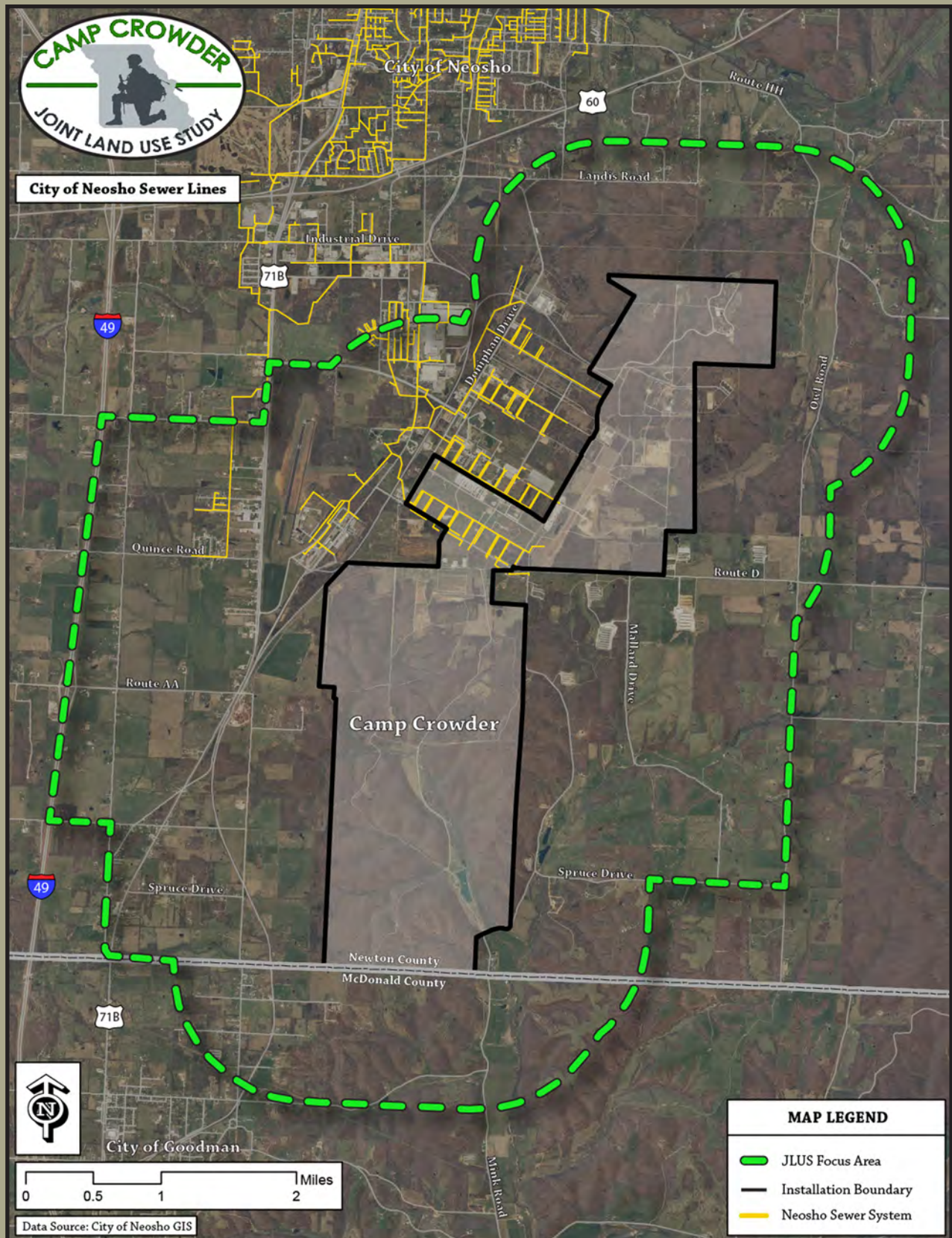


Figure 4-3: City of Neosho Existing Sewer Lines



AGRIBUSINESS AND INDUSTRY NEIGHBORS

While the JLUS process did not uncover any concrete plans to expand or change current agribusiness or industrial operations within the Focus Area, it can be said that these industries are as concerned about maintaining their future operations as Camp Crowder is of continuing its military mission. Generally speaking, agribusiness operations and heavy industrial uses – both of which are prevalent along Camp Crowder’s borders – generate community complaints more often than Camp Crowder’s operations. The same types of development that are incompatible with Camp Crowder’s mission (*i.e.*, residential, some commercial) are also incompatible with agribusiness and industrial operations. Therefore, it appears the interests of nearby agribusiness operations in maintaining reasonable open space within the JLUS Focus Area are consistent

with those of Camp Crowder. Agribusiness and industrial leaders in the region should be encouraged to engage with the JLUS Jurisdictions and Camp Crowder to achieve mutually beneficial goals in this respect.



Implementation Strategies and Available Tools

This chapter identifies the strategies and tools that are available to the installation, the local communities, and other key stakeholders to encourage compatible land uses around Camp Crowder and ongoing coordination on these and other efforts.

5.0 Overview

The coordination of land use issues across jurisdictional boundaries can be a complex process. Since each entity has different authorities to act as well as different resources to employ, they must work together to coordinate land-use planning efforts when a shared mutual interest, like Camp Crowder, is addressed. However, many entities are involved in cross-jurisdictional land-use planning efforts around military installations, ranging from

all levels of government (federal, state, regional, and local), the military and civilian sectors, non-profit organizations, and private landowners. This section gives an overview of efforts that these partners have used to date around the country to address land-use compatibility around military installations and National Guard training centers.

5.1 The Missouri Planning and Land Use Framework

This section outlines the legal authorities of the JLUS Jurisdictions to coordinate land use activities with Camp Crowder and identifies specific joint land use strategies for protecting the Training Center's mission and the quality of life for the communities around it. Our recommendations include a series of tools that

other communities have used as well as some that are emerging in the practice. The Missouri General Assembly has granted varying land use authorities to local governments according to city or county classification and whether, specifically, a jurisdiction has adopted a comprehensive plan or zoning code. Our objective,



Classification of Participating Local Governments

City—Home-Rule Charter Class

Neosho

City – Fourth Class

Goodman

County – Second Class

Newton County

County – Third Class

McDonald County

therefore, is to describe the tools that are authorized for the jurisdictions participating in the Joint Land Use study and, which, if properly drafted and adopted, will support sustainable compatibility between the Camp Crowder and the community.

The planning and zoning framework in Missouri is based on the Standard City Planning Enabling Act promulgated by the U.S. Department of Commerce in the late 1920s. Cities and counties, including the JLUS Jurisdictions, are authorized, but not required, to implement reasonable and properly enacted compatible use tools, should they elect to do so. Compatible use tools include comprehensive planning, zoning, subdivision laws, interlocal agreements, and several other authorized means, which were introduced above and are discussed in more detail here. Notably, the Missouri courts have upheld regulations affecting land use, but which were enacted pursuant to health standards and the police power and not traditional zoning. *See e.g., Borron v. Farrenkopf*, 5 S.W. 3d 618 (Mo. App. W.D. 1999).

Missouri has at least eight separate or supplementary planning and zoning statutes for at least seven different local government classifications. Some cities and counties have more powers, others fewer. Most counties and rural townships have not adopted zoning. Still subject to “Dillon’s Rule,” or, perhaps, a modified version of the Rule, cities and counties have only those powers granted to them by the state. *City of Louisiana v. Branham*, 969 S.W. 2d 332 (Mo. App. E.D. 1998). When the authority of a local government to act is in question, the courts commonly will narrowly construe the scope of that authority against the local government. In addition, Missouri courts have required strict compliance by local governments with any and all procedures required by statute when adopting land use, planning, and zoning tools. *State ex rel. Casey’s General Stores, Inc. v. City of Louisiana*, 734 S.W. 2d 890 (Mo. App. E.D. 1987).²

THE COMPREHENSIVE PLAN

The comprehensive plan is the local government’s basic statement of land use policy, and creation of a plan is the primary function of the local planning commission. In some states, where plans have the force of

The Comprehensive Plan is the communities’ primary statement of how it envisions its future and of its economic priorities.

law, local governments may mandate land use through the plan. This is known as a “plan-as-law” framework. This is not the case in Missouri, where the comprehensive plan is advisory only.³ *State ex rel. Shaefer v. Cleveland*, 847 S.W. 2d 867 (Mo. App. 1992). Nonetheless, the plan does reflect the vision of the community and the direction in which the community sees itself moving. Particularly for local governments that do not have traditional zoning ordinances – like the counties in the JLUS Study Area – the plan stands as the primary articulation of the community’s land use and economic priorities. Of the four local governments in the JLUS Focus Area, only the City of Neosho has an adopted comprehensive plan. As noted, this is not unusual for rural counties and municipalities in Missouri.

PLAN IMPLEMENTATION

Zoning is the division of lands into separate districts and the associated limitations, authorities, or conditions on the use of those lands according to their district. In the modern context, “zoning” includes a zoning map and the written regulations describing allowable uses within the mapped areas. Subdivision regulations, which guide property divisions and improvements (most commonly, for residential uses), act in conjunction with, in lieu of, or independently of zoning regulations. Of the four JLUS Jurisdictions, the City of Neosho has adopted a zoning ordinance and the City of Goodman has adopted a land use ordinance.

Though zoning and subdivision regulations are the most direct and, in some locales, the most common means of implementing the comprehensive plan, plan policies also are implemented through cooperative agreements, design guidelines, historic preservation, redevelopment measures, maps, tax increment financing, and other statutory mechanisms.



5.2 The Land Use Powers by Class of Jurisdiction

This section sets out a more detailed discussion of the powers given to second class counties, third class counties, fourth class cities, and home-rule charter class cities, since these encompass the four local governments participating in the Camp Crowder Joint Land Use Study.

SECOND AND THIRD CLASS COUNTIES (NEWTON COUNTY AND McDONALD COUNTY)

Under Article VI, § 1 of the state constitution and Title VI of the Missouri Revised Statutes, Missouri counties are legal subdivisions of the state. Newton County is statutorily a second class county, and McDonald County is statutorily a third class county. Both derive their planning and zoning powers generally from §§ 64.510 – 64.727, RSMo.⁴

Comprehensive Plan

Section 64.510, RSMo, provides for the preparation, adoption, amendment, extension and carrying out of a county comprehensive plan, which, once adopted, results in the creation of a county planning commission. McDonald County had adopted a comprehensive plan, but citizens voted to eliminate the County planning commission, and therefore the plan, in 2012. Newton County has not adopted a comprehensive plan.

Subdivision

Section 64.580, RSMo, authorizes planning commissions of second and third class counties to adopt or amend subdivision regulations to govern streets, building lines, open spaces, safety, recreation and "...for the avoidance of congestion of population...". The procedures to adopt or amend subdivision regulations are set out in § 64.550, RSMo. Neither McDonald County nor Newton County has adopted subdivision regulations.

Building and Zoning Restrictions

Section 64.620, RSMo, authorizes second and third class counties, with comprehensive plans, to regulate building height, building size, lot coverage, size of yards and open spaces, "density of population," and the location and use of buildings, structures, and of land. Similarly, § 64.620, RSMo provides that these same objectives might be accomplished through the division of the unincorporated portions of the county into separate zones in

accordance with a comprehensive zoning plan (i.e., by adopting zoning).

Section 64.640, RSMo, goes on to provide expressly for the adoption of zoning by the county commission, based on the recommendations of the planning or zoning commission. Neither Newton County nor McDonald County has adopted zoning. These regulations, as well as any others adopted pursuant to second or third class counties' statutory planning and zoning powers, supersede any public or private restrictions on a parcel of land, which may be less restrictive than the zoning, § 64.680, RSMo., including, for example, private easements and deed restrictions.

Voter Approval Required for Planning and Zoning

In Missouri, voter approval is required to adopt or repeal planning or zoning requirements in second and third class counties, *see* § 64.530, RSMo.

CONSTITUTIONAL CHARTER AND FOURTH CLASS CITIES (NEOSHO AND GOODMAN)

Under Article VI, § 15 of the state constitution and Title VII of the Missouri Revised Statutes, there are four classifications of cities: constitutional charter cities, third class cities, fourth class cities, and unincorporated towns.

Neosho is a constitutional charter city that derives its planning and zoning powers generally from Chapter 89, "Zoning and Planning," of the Missouri Revised Statutes.

Goodman is a fourth class city that derives its planning and zoning powers from the same authority.

Comprehensive Plan

Fourth class and charter cities are authorized to adopt comprehensive plans, but they are not required to do so in order to implement zoning. However, if a city has adopted a comprehensive plan, subsequent zoning must be "in accordance with" the plan. *State ex rel. Chiavola v. City of Oakwood*, 886 S.W. 2d 78 (Mo. App. W.D. 1994). Under § 89.360, RSMo., comprehensive plans are adopted by the planning commission, after a public hearing and publication, not by the governing body. Goodman has not adopted a comprehensive plan, but Neosho has.



Subdivision

Section 89.300, RSMo, defines subdivision as “the division of a parcel of land into two or more lots, or other divisions of land...”. The chief legislative body of a fourth class city, like Goodman, may adopt subdivision regulations, upon the recommendation of its planning commission. § 89.410, RSMo. Neosho and Goodman both have adopted unified development codes that include both subdivision and zoning regulations.

Zoning

Chapter 89, RSMo, sets forth the authority, procedures, and parameters surrounding municipal zoning in Missouri. As mentioned above, Neosho and Goodman have adopted unified development codes that include both subdivision and zoning regulations.

Building Codes

Chapter 67, Section 280, RSMo, gives cities the authority to adopt building codes. Both Neosho and Goodman have adopted building codes.

EXISTING PLANNING AND ZONING AMONG JLUS JURISDICTIONS

City of Neosho

The City of Neosho is the seat of Newton County and a home rule charter city. As estimated in 2012 by the U.S. Census Bureau, it had a population of just over 12,000 spread over a land area of nearly 16 square miles. The following is an overview of the planning and zoning efforts that have been performed in the past in Neosho, as well as brief discussions related to the water, wastewater, and other potentially “growth-inducing” infrastructure systems provided by or impacting the Neosho area.

Comprehensive Plan

The City has a comprehensive plan, adopted in 2006. The plan does not discuss how the community might aid in helping Camp Crowder with encroachment issues. The only substantive mention of the Training Center is a brief explanation regarding the water for the City being provided by a water plant that was first constructed in 1941-42 for Camp Crowder. The City may consider adding more analysis into potential compatibility issues related to Crowder during its next comprehensive plan update.

Zoning Ordinance

In order “to make adequate provision for and to guide and direct the future development and growth of the City,” the City of Neosho has adopted a unified development ordinance that includes both zoning and subdivision regulations. See *Zoning Ordinance of Neosho, Missouri*, § 400.010. The zoning regulations are set forth in Title IV, Land Use, of the City Code at Chapter 405. The City uses 15 zoning classifications into which the lands of the City are designated on the official zoning map:

- District “AG” Agricultural Use
- District “R-1” First Dwelling House District
- District “R-2” Second Dwelling House District
- District “R-3” Apartment House District
- District “RD-1” Redevelopment District
- District “T-1” Towers
- District “C-0” Non-Retail District
- District “C-1” Retail Business District
- District “C-2” General Business District
- District “C-3” Commercial Business District
- District “C-5” Commercial Planned Shopping Center District
- District “C-P” Planned Business District
- District “M-1” Light Industrial District
- District “M-2” Heavy Industrial District
- District “M-H” Mobile Home Park District

Id. at §§405.030 and .040.

Chapter 405, Article II, Sections 405.060 through 405.175 of the zoning ordinance, set forth the regulations applicable to each of the 15 zoning districts. These regulations include information about allowed primary and accessory land uses for each district as well as height and area restrictions for each district. Notably, communications towers more than 60 feet tall have their own district (“T-1” Towers), which allows only those towers and uses allowed in the R-3 District. Sections 405.176 and .78 contains special provisions relating to historic districts, the requirements of which are in addition to those imposed by the underlying zoning districts. City Council has appointed a Planning and Zoning Commission as well as a Board of Adjustments and Historic District Commission.



Residential density is limited through minimum lot size requirements for each district in which residences are allowed. For example, in the “R-1” First Dwelling House District, only single-family dwellings are allowed, and the minimum lot size is 7,000 square feet. *Id.* at §405.070. In contrast, the “R-2” Second Dwelling House District allows single- and two-family dwellings, with the minimum lot size 7,000 square feet for single-family dwellings and 3,000 square feet for two-family dwellings. *Id.* at §405.075. The same minimum lot size is required of cluster development and condominiums. *Id.* at §415.070. The “R-3” Apartment House District allows single- and two-family dwellings with the same minimum lot size as the “R-2” District, as well as multi-family dwellings with a minimum lot size of 12,000 square feet. *Id.* at §405.090.

Chapter 405, Article III, Additional Regulations, contains sections that address topics such as special use permits, accessory uses, nonconforming uses, and housing projects; notably, additional height and area restrictions are included in Section 405.210. This article also includes regulations on off-street parking and signs.

Chapter 405, Article IV, Administration, covers building permits, completion of buildings, and certificates of occupancy as well as the board of adjustment, and the process for obtaining special use permits.

Chapter 410 addresses subdivision regulations, including design standards, required improvements, and platting requirements.

Chapter 415 provides for cluster development and condominiums.

Chapter 425 addresses flood damage prevention, including requirements related to flood hazard reduction. Chapter 430 covers stormwater runoff management, including requirements related to management practices, public and private responsibilities, design criteria and performance standards, and bonds and maintenance assurances. The City of Neosho also participates in the National Flood Insurance Program.

Building Code

Neosho adopted the International Building Code 2009 Edition by reference in Section 500.020. Title V of the Neosho City Code contains other regulations relating to the Building Code in Chapters 500 (Building Code), 505 (Electrical Code), 510 (Plumbing Code), 515 (Mechanical Code), 520 (Property Maintenance Code), 522 (Residential Code), 523 (Energy Conservation Code), 524 (Fuel Gas Code), 525 (Dangerous Buildings and Structures), 530 (Moving of Buildings), 535 (Streets, Sidewalks, and Public Places), 540 (Poles

and Wires), 545 (Excavations), and 550 (Housing Rehabilitation Grant Guidelines). The City has a Building Code Board of Appeals and a Board of Appeals for Dangerous Buildings.

The Neosho Building Code contains sections that prohibit anyone from making noises that disturb the peace and tranquility of others, including through the use of mechanical and electronic devices. However, the Code does not include provisions on sound attenuation related to sound or vibration created by training at Camp Crowder, although those could be considered in the future in order to attenuate sound from the firing ranges.

Water and Wastewater Plans

Neosho commissioned a Drinking Water System Master Plan in 2007. Neosho’s water treatment plant was originally constructed in 1942 for the Army during the construction of Camp Crowder; since then, it has undergone two major renovations in 1982 and 1989. The plant conveys water through a 20-inch cast iron transmission main to a ground storage tank and pump station (called the Crowder Pump Station), which then pumps the water into two elevated storage tanks located within the Camp Crowder boundaries. Both the pump station and the two elevated tanks were constructed in the 1940s. Additionally, the City has three large wells that pump water directly into the distribution system.

The City’s Drinking Water System Master Plan examines in detail the existing conditions of the water system’s facilities as well as its current and projected usage to make recommendations about what improvements to make to the system in the future. Most of the recommendations are due to the age of the system. Some of the highest priority recommendations include replacing a 20-inch cast iron water transmission main from the water treatment plant to the Crowder ground storage tank because it is at the end of its useful life and contains lead; replacing old water mains at a rate of 2 miles of pipe per year for 23 years; installing backup power generators at several pump stations, including at Crowder; and upgrading the water treatment plant.

The City also commissioned a Wastewater Master Plan in 2007. The City owns and operates two wastewater treatment plants—the Shoal Creek Wastewater Treatment Plant and the Crowder Wastewater Treatment Plant. The Shoal Creek plant was constructed in 1986 and the Crowder plant in 1973. The Wastewater Master Plan evaluates the capacity of the existing collection and conveyance system, as well as the capacity of these two treatment plants. It determines that the design capacity of both the Shoal Creek and Crowder plants is 3 million gallons per day, but both



experience peak flows of 6.0 million gallons per day. The Plan then makes recommendations for capital improvements to the wastewater system to help the City plan for its future needs. With respect to the Crowder Wastewater Treatment Plant, the recommendations include some improvements to existing equipment and the expansion of an existing lagoon basin for peak flow storage as well as the construction of a new 1-million-gallon peak flow lagoon.

Water and Sewer Extension Plan

The City's Water and Sewer Extension Plan is a policy regarding the extension of water and wastewater services to use when evaluating requests by customers. The City has an obligation to serve not only its own citizens but also neighboring jurisdictions due to contamination at Camp Crowder.

The policy requires any customer wishing to benefit from City water and sewer to have their property annexed by the time water and sewer services are provided, if their property is contiguous to the City's boundaries. If the customer's property is not contiguous at the time the services are provided, the customer must consent to annexation if, at some point in the future, the property becomes contiguous. The policy requires customers whose properties are located inside the City, as well as those outside the city to meet the City's subdivision design and building code requirements.

Highway 60/86 Corridor Plan

Neosho's 2008 Highway 60/86 Corridor Plan examines the impacts of future development on Highway 60, between Lusk Dr. and Highway 71, and on Highway 86, between Harmony Street and Highway 71. The plan notes that the studied area of Highway 60 is relatively undeveloped at this time. Its projected traffic counts assume, based on the City's Future Land Use Map, that the stretch likely will be developed commercially in the future. However, the plan also notes that the development is more likely to include a mix of commercial and low-density residential, and also that the development is likely to occur over a period of many years.

With respect to the studied area of Highway 86, the plan observes that it is already developed commercially, with several large vacant tracts that represent significant development opportunities. A review of the City's Future Land Use map for this area indicates a mix of both commercial and low-density residential.

Using the Land Use Map as the basis to assume future development patterns, the plan suggests that both roadways are likely to be

developed in the future with significant commercial activity, and so makes recommendations regarding access control, the placement of signals, and the development of a supporting collector system to move traffic efficiently. While these corridors do not directly affect Camp Crowder given their location, they support the input received during the course of the study, which was that growth is anticipated to move westward from Highway 71/59, not towards Camp Crowder.

Stormwater Plan

Neosho also has a 5-years Stormwater Management Program, which started June 12, 2013. The plan contains six general strategies related to the management of stormwater: public outreach and education; public involvement and participation; illicit discharge detection and elimination; construction site runoff control; post construction runoff control; and pollution prevention/good housekeeping for municipal operations. While none of these measurable control measures specifically affect Camp Crowder, the fact that the City is taking steps to manage stormwater within its boundaries is significant because that will help the greater region avoid polluted stormwater, protect watersheds, and reduce the risk of flooding and erosion.

Summary – City of Neosho

Through its comprehensive plan and zoning ordinance, the City of Neosho has a traditional framework for maintaining public health and safety and ensuring the compatibility of land uses through zoning. However, the Plan does not detail the relationship or coordination efforts between Camp Crowder, the City of Neosho, and other surrounding jurisdictions, and the zoning ordinance does not include any mitigation of any impacts associated with Camp Crowder.

City of Goodman

The City of Goodman is located in McDonald County just outside the JLUS Focus Area. However, as noted previously, the City is located within the moderate complaint risk zone (115-130 db PK 15 (met)) for heavy demolition charges that occur only once or twice a year at the Camp Crowder Training Center. Though the sound impacts are moderate and the events creating them infrequent, the JLUS Policy Committee included a representative from the City of Goodman. Residents of the area do report hearing noise from the small arms firing range as well in Goodman, though complaints have not been made. The following gives an



overview of the land use and building regulations that have been adopted in Goodman.

Land Use Code

The City of Goodman Board of Aldermen has adopted a unified development ordinance that includes both zoning and subdivision regulations. See generally, City of Goodman Land Use Code. This is the content of Title IV: Land Use of the City Code of Ordinances.

Chapter 400, Planning, Administration, and Enforcement, Article I, explains the authority of the administrative official, the process for obtaining a building permit, and the process by which the City Board of Aldermen may make changes to the Ordinance and the zoning map. Article II explains the authority of the Board of Adjustment and the process for its requesting variances and appeals from it. Article III similarly explains the role of the Planning Commission. Article IV explains what may happen when one violates the ordinance.

Chapter 405 sets forth the zoning regulations. The City uses 14 zoning classifications into which the lands of the City are designated on the official zoning map:

- **Agricultural**
 - ❖ “A-1” Agricultural District
- **Residential**
 - ❖ “R-1A,” “R-1B,” “R-1C” One-Family Residential Districts
 - ❖ “R-2” Two-Family District
 - ❖ “R-3” Multiple Family District
 - ❖ “R-4” Town Houses
 - ❖ “M” Mobile Home District
 - ❖ “P” Planned Environmental Unit Procedure
- **Commercial**
 - ❖ “C-1” Neighborhood Commercial District
 - ❖ “C-2” General Commercial District
- **Industrial**
 - ❖ “I-1” Restricted Light Industrial District
 - ❖ “I-2” Light Industrial District
 - ❖ “I-3” Heavy Industrial District

Id. at §405.040 and .050.

Article II, Sections 405.090 through 405.200 of the zoning ordinance, sets forth the regulations applicable to each of the

14 zoning districts. These regulations include a general description of each district, a list of allowed primary and accessory land uses for each district, and information about height and area restrictions. The Board of Aldermen currently serves as the Goodman Planning Commission and the Board of Adjustment.

Residential density is limited through minimum lot size requirements for each district in which residences are allowed. For example, in the “R-1A,” “R-1B,” and “R-1C” One-Family Districts, only single-family dwellings are allowed, with a minimum lot size of 1 acre if not served by a sanitary sewer system and 7,500 square feet if served by a sanitary sewer system. *Id.* at §405.100.

The “R-2” Two-Family District allows one-family dwellings with the same minimum lot size as in the One-Family Districts, and two-family dwellings with a minimum lot size of 9,000 square feet. *Id.* at §405.110. The “R-3” Multiple Family and “R-4” Town Houses Residential districts allows townhouse and multi-family dwellings at the same minimum lot size as in the One-Family Districts; provided, however, that no development may contain more than 14 dwelling units per acre. *Id.* at §§405.120 and .130.

Article III, Supplementary Regulations, contains sections that regulate signs, accessory buildings, development in floodplain areas, child care centers, parking, and open space requirements. Notably, this Article also allows certain structures to be taller than otherwise would be allowed in the applicable zoning districts, including “tanks, church spires, skylights, steeples, flagpoles, chimneys, ventilating fans, and other appurtenances not used for human use or habitation.” *Id.* at §405.260. However, there were no activities on Camp Crowder that would necessitate or benefit from height restrictions in Goodman.

Chapter 410 includes the subdivision regulations that detail the procedures for planning and developing a subdivision, the preliminary and final platting requirements, and the design standards for subdivisions. The zoning ordinance does not include separate chapters on storm water or floodplain management, although the subdivision regulations do require storm drain plans and the City does participate in the National Flood Insurance Program.

Chapter 415 provides for mobile homes and mobile home parks, including the required plans and licenses, the site area and lot size requirement (at least five acres per park), and inspections.

Building and Construction Code

Title V of the Code of Ordinances contains the Building and Construction Codes. Its chapters include 500 (Building



Regulations), 505 (Dangerous Buildings) and Chapter 510 (Streets, Sidewalks, and Other Public Places). The Goodman Building Code does not include provisions related to noise generally, or specially to sound attenuation related to Crowder, although it may consider these in the future.

McDonald County

In 2011, McDonald County considered adopting subdivision regulations, but ultimately did not do so. Additionally, although it had previously adopted a comprehensive plan, the citizens of the County voted to eliminate the planning commission, and therefore, the County Plan, in 2012. However, the County is included in the Hazard Mitigation Plan, prepared by Harry S

Truman Coordinating Council, and McDonald County does participate in the National Flood Insurance Program.

According to Chapter 3's land use compatibility assessment, noise and lighting impacts may be appropriate for mitigation in McDonald County. As is discussed below, these could be mitigated through a number of regulatory or non-regulatory mechanisms.

Newton County

Newton County is a second-class county with a three-person commission. Newton County does not have a comprehensive plan, planning commission, zoning regulations, subdivision regulations, or building code, although it does participate in the National Flood Insurance Program.

5.3 Tools Available for Maintaining Compatible Land Uses in the Focus Area

This section discusses the tools recommended by the Steering Committees, which should be considered by the local community following completion of the Joint Land Use Study. Inclusion of these tools and a description of how they could be applied locally is intended to provide the community with an understanding of how they might work *if* implemented. Before a final decision by any of the JLUS Jurisdictions to implement a particular tool is made, additional public deliberation will occur, as will the development and consideration of draft implementation documents, based on the values and needs unique to each community and area affected.

The tools listed and discussed here are organized in the manner they were considered by the Steering Committees and the public during the study: starting with those tools that would be voluntary and non-binding in nature and ending with regulatory tools that would be mandatory. Given the diversity of approaches to land use and control among the JLUS Jurisdictions, the Steering Committees found use this continuum of options useful, recognizing that the means of addressing Camp Crowder's presence in one community may be different from those in another. The Implementation Matrix in Chapter 6 also is organized according to these eight (8) categories and is prioritized according to the same continuum.

INTERAGENCY COORDINATION

Joint Land Use Working Group

To facilitate consideration of the tools set forth here, it is recommended that the community empanel a "working group," similar to the Steering Committees that led development of this Study. The group would be "regional" in nature; meaning each of the JLUS jurisdictions would remain involved, as would other levels of government, business entities, and other affected stakeholders. There is, of course, an existing statutory framework for regional planning in the area. The Harry S Truman Coordinating Council is the regional planning commission serving the local governments that surround Camp Crowder, as well as Barton and Jasper Counties.⁵

Although it is not anticipated that that level of organization is necessary to lead the JLUS implementation effort at this point, the Steering Committees felt HSTCC likely to be the appropriate agency for organizing meetings and providing some level of staff support.

Following completion of the JLUS, the JLUS Policy Committee will appoint the Joint Land Use Working Group to convene for the purpose of considering the recommendations set forth here and prioritized in the next chapter. The working group would then prepare the implementation tools for consideration by community stakeholders and leaders.



Memorandum of Understanding

Under Art. VI, § 16 of the Missouri Constitution and § 70.220, RSMo, *et seq.*, cities and counties in Missouri are authorized to enter into intergovernmental binding contracts in order to effectuate powers otherwise granted to them. While limitations on this power exist, the authority has been exercised widely throughout the state for a number of years. Common restrictions on intergovernmental contracting include assuming a power through an intergovernmental agreement that one of the parties otherwise lacks; limitations by local law or local charter; relinquishment of governmental powers; and a failure to comply with required adoption procedures. Otherwise, local governments have the authority to contract with one another to effectuate otherwise legitimate governmental objectives.

No binding agreements of this nature currently exist between the JLUS Jurisdictions and Camp Crowder. Public and Steering Committee input, rather, supported consideration of a non-binding memorandum of understanding, which, though not legally-binding, would help ensure current coordination efforts continue such that local stakeholders are aware of the appropriate avenues for coordination and expectations are established as to the types of activities that will be preceded by coordination and, if appropriate, public input.

Camp Crowder and its nearby communities have a long history of working together. The Training Center has for decades coordinated its activities with local governments, the local school board, state universities and economic development interests, the state, utilities, and other public and private partners. During our stakeholder meetings, we learned that many in the community and the Training Center support formalizing the protocols for ongoing coordination.

A memorandum of understanding, or “MOU,” describes in detail who will coordinate with whom, in what manner, when, and under what circumstances. Additionally, since an MOU does not implicate local zoning powers, each of the local governments involved in the Joint Land Use Study, and other stakeholders, can join the Training Center as parties to an MOU. While non-binding in a legal sense, an MOU represents a public commitment of the community’s stakeholders to the ongoing mission of Camp Crowder and of the Training Center to the local community.

An Annotated Outline of an MOU is included, as Appendix B to the JLUS, which outlines the components the MOU likely will include, based on JLUS Project Team discussions with stakeholders and the Policy and Technical Committees throughout the study.

Coordination with Neosho Hugh Robinson Airport

As is discussed in Chapter 3, during certain training exercises at Camp Crowder, the airspace above the Training Center must remain clear. The nearby Neosho Hugh Robinson Airport routinely coordinates with Camp Crowder so that, when these training exercises occur, civilian pilots are informed and directed to remain outside of the airspace above Camp Crowder. In addition to putting the civilian pilots and aircraft at a safety risk, intrusion into the airspace during training can seriously disrupt the Training Center’s activities and schedules.

Steering Committee members and stakeholders indicated that there still are occasions when training has to be terminated at the Camp because of civilian aircraft. If qualifications are being held and are shut down, in some instances, that qualification must be restarted, perhaps, on a different day. Clearly, this can seriously interrupt the training of National Guard personnel visiting the Training Center at intervals.



Among the steps the Steering Committees recommended for enhancing coordination and public outreach on this point were:

- adding FAA-approved runway signage warning pilots of the potential for military training activities;
- posting similar signage near the driveway entrance to the airport;
- adding photo images of night training to all notices to pilots to demonstrate visually the safety risk to civilian pilots when training exercises occur; and
- making pilots aware, not only of the safety concerns that arise, but also of the disruption to personnel training that occurs if they enter the airspace.



Missouri Military Preparedness and Enhancement Commission

The Missouri legislature established the Missouri Military Preparedness and Enhancement Commission (MPEC) in 2005 to design and implement measures “intended to protect, retain, and enhance the present and future mission capabilities at the military posts or bases within the state.” The nine-member commission:

- Advises the governor and general assembly on military issues;
- Provides recommendations about and assistance with programs that encourage the long-term viability of the military (e.g., regional and interstate alliances and programs to enhance communities’ relationships with military installations);
- Provides information to communities, state and federal legislators, and state agencies regarding federal actions that affect military installations;
- Serves as a clearinghouse for military-related information, especially as it relates to the state’s military installations; and
- Assists communities in retaining and recruiting defense-related businesses, and
- Provides assistance to communities that have experienced a defense-related closure or realignment.

Currently, the Missouri National Guard Adjutant General, Major General Stephen Danner, is on the MPEC Advisory Group.

Missouri Military Partnership

On January 10, 2014, Governor Jay Nixon announced the creation of the “Missouri Military Partnership” to protect, retain, and enhance Department of Defense activities in the state. Missouri State Treasurer Clint Zweifel has been appointed to lead the partnership, which is preparing a report to the Governor on:

“the partnership’s activities and strategies for effective collaboration between the State of Missouri, political subdivisions, businesses and other stakeholders to protect, retain and enhance Department of Defense installations and the positive impacts that such installations have on the economy and quality of life in the State of Missouri.”

State Executive Order 14-1, signed by Governor Jeremiah W. (Jay) Nixon.

The Governor’s order specifically recognizes the indispensable role the state’s National Guard training facilities play in the nation’s

defense. The partnership’s report to the governor is due March 31st of this year.

PUBLIC OUTREACH

Joint Land Use Website and Brochures

It was the overwhelming consensus during the Study and in the Public Survey that coordination between this community and Camp Crowder has always been very good and that this community supports Camp Crowder and wishes to take steps to sustain its presence here.

If a “joint land use working group,” as discussed above, is formed, a website can be maintained at reasonable costs to keep the public and all stakeholders informed of critical information and activities related to the Camp Crowder or otherwise occurring in the JLUS Focus Area. During the development of the JLUS, the JLUS Project Team learned that hardcopy brochures also are effective means of outreach to property owners in the area.

Public Signage

In military communities where public awareness of the presence of military training is low, some have posted signage indicating the presence – or potential presence – of off-post training impacts. This type of signage may put residents and potential residents on notice of training impacts.

In this instance, however, the need for additional information, the awareness that already exists in the community, and the levels of projected growth in the Focus Area, must be weighed against the costs of a road signage program. Nonetheless, members of the Steering Committees felt that even if additional off-post signage was not a priority today in all of the JLUS Jurisdictions, that its use may be appropriate in some and another time, and therefore should be evaluated during the subsequent implementation phase.

Also, historically, there have been instances of trespass, whether accidental or intentional, by hunters and other recreational users onto Camp Crowder. This can expose civilians to dangerous conditions if training is in session. Camp Crowder, therefore may consider additional signage along its boundaries, in addition to the augmented public outreach efforts, in partnership with MDC, which are described below.



National Guard and Military Outreach

Camp Crowder's long presence in this community has resulted in an ongoing and decidedly positive relationship and history of communication and coordination. On-post events and open-house activities can contribute to this relationship by ensuring the community is familiar with the nature of what is done at Camp Crowder and its critical role in the Missouri Army National Guard and nationwide.

The communities surrounding Camp Crowder have long supported the military and their families over the years through several different coordinating organizations, which already exist, including:

- Clyde R. Burdick American Legion Post #163 and United #163 American Legion Auxiliary
- Veterans of Foreign Wars M. Waldo Hatler Memorial Post #4142 and VFW Ladies Auxiliary Post #4142
- Disabled American Veterans
- Daughters of the American Revolution (Neosho Chapter)
- Neosho Exchange Club (especially the "big flag" project honoring service members and veterans)

These organizations not only indicate the importance to the community of Camp Crowder and its military legacy in the region, but also are a source of key partnerships as future efforts are made to sustain Camp Crowder's mission in a manner consistent with the quality of life the region's citizens expect in this area.

Increase Information for Hunters and Other Recreational Users

Hunters, hikers, ATV-users, and others use portions of Camp Crowder, as well as the nearby state conservation lands, for outdoor recreational uses. However, the limitations on the type of hunting that is permitted and the seasons and days during which entry onto Camp Crowder is permitted needs to be made available to the public.

Camp Crowder and the Missouri Department of Conservation, which manages the Bicentennial Conservation Area and the Fort Crowder Conservation Area, which includes a narrow strip of land southwest of the post (see Figure 2-1), may coordinate their outreach efforts to ensure consistent and updated information is available to the public, in order to further protect the integrity of the Training Center's boundaries.

Supplement Existing Websites and Public Outreach Resources

Finally, it is recommended that existing city, county, and other stakeholder websites and public outreach materials be amended to:

- advise their constituents of the Joint Land Use Study and its recommendations;
- include opportunities of additional public input;
- indicate points of contact at Camp Crowder within other agencies if concerns arise related to land use in the JLUS Focus Area; and
- indicate which, if any, of the recommendations set forth here and in Chapter 6 are adopted and how they may affect citizens in the community.

For example, since Newton County does not plan, zone, or enforce a local building code, if noise attenuation standards were available for voluntary use by Newton County residents, the County's website could advise existing and future residents that noise mitigation techniques are available, despite the lack of a regulatory mandate that they be used.

BUSINESS & ECONOMIC DEVELOPMENT

Neosho Area Chamber of Commerce and McDonald County Chamber of Commerce

Because military installations are important to the economic and social fabric of their communities, chambers of commerce often support the business interests of their members as they pertain to the installation through the formation of Military Affairs Committee (MACs). MACs may be engaged in any number of projects, including land-use compatibility efforts like joint land use studies and their implementation. The Neosho Area Chamber of Commerce and the McDonald County Chamber of Commerce do not currently have MACs.

As a Missouri example, the Sedalia Area Chamber of Commerce has established a MAC involving the Whiteman Air Force Base near Knob Noster, in Johnson County. The objectives of the Sedalia Area Chamber of Commerce's MAC include increasing knowledge locally of the Whiteman Air Force Base and of Sedalia's military heritage; coordinating activities that attract base personnel to the market center; and supporting base-sponsored activities.

The Neosho Area or McDonald County Chambers of Commerce could consider establish Military Affairs Committees, as well. The Neosho Area Chamber has an existing Economic Development



Committee, which is charged with working to “enhance the business climate for business and industry expansion and new development for Neosho and Newton County.” A MAC could help the Chamber build on its relationship with the military community that has developed through the organization of its Patriot Day Parade and other initiatives. Similarly, the McDonald County Chamber of Commerce could add this specialized Committee or assign military-related efforts to its existing economic development committees.

Neosho Area Business and Industrial Foundation, Inc.

The Neosho Area Business and Industrial Foundation was founded in 1987 to act “as a catalyst to attract industry, expand job opportunities and improve the quality of life in the Neosho area.” Many of its members are situated near Camp Crowder within the JLUS Focus Area. This group, of course, represents a component of the larger business community represented by the Chambers of Commerce, that is most impacted by Camp Crowder’s operations and training and which have the greater potential for impacting Camp Crowder if incompatible land uses were to come in demand in the Focus Area. It is important, therefore, that this organization remain engaged in communication efforts with and between Camp Crowder and the larger business community.

Training Mission Strategies

1. Ranges and Training Land Program (RTLTP) and Integrated Training Area Management Program (ITAMP)



The Department of Defense (DoD) recognizes that the Army’s ranges increasingly experience impacts from outside their boundaries that can pose challenges to their ongoing training missions. While the United States originally established military installations in rural areas, as the nation’s population has grown, so to has incompatible development near many installations. This encroachment frequently leads to citizen complaints about noise, dust, and smoke from weapons, vehicles, and aircraft, which can in some cases force the installation to choose between being responsive to the complaints and meeting the training and testing needs of the military. Additionally, environmental and cultural resource concerns in the areas around or on military installations also can restrict military training activities.

The DoD, therefore, has developed the Sustainable Range Program (SRP) to improve the way the Army plans, manages, and uses its ranges in support of long-term viability, more efficient and effective training, and reduced demands on water, air, energy, and land. The SRP contains two core programs:

- ❖ The Ranges and Training Lands Program (RTLTP), which guides the policies, programs, and management of the Army’s ranges and their day-to-day operations; and
- ❖ The Integrated Training Area Management Program (ITAMP), which integrates mission requirements with environmental and land management practices on training lands.

Camp Crowder currently is implementing both the Ranges and Training Lands Program and the Integrated Training Area Management Program, making sure to avoid training exercises when possible that would exacerbate noise propagation; for example, by avoiding demolition exercises when the cloud cover ceiling is lower than 5,000 feet.

2. Operational Noise Management Program

In order to address noise from all military activities, the DoD requires each installation to create an Operational Noise Management Plan (ONMP). The goals of the ONMP are to:

- ❖ Control operational noise to protect the health and welfare of people, on- and off-post, impacted by all Army-produced noise;
- ❖ Reduce community annoyance from operational noise to the extent feasible, consistent with Army training and material testing mission requirements; and



- ❖ Engage local communities in land use planning in areas subject to high levels of operational noise and, therefore, a high potential for noise complaints.

The Missouri Army National Guard already participates in this program and the operational noise impacts occurring at Camp Crowder are inventoried and described in the 2013 *Statewide Operational Noise Management Plan*. This plan, in fact, provides the analytical basis for the Land Use Compatibility Assessment in Chapter 3.

3. Camp Master Planning

On December 26, 2013, President Obama signed the National Defense Authorization Act of 2014. Among its many directives, the act requires that master plans for installations will need to be more comprehensive due to new requirements. Most significant is a requirement for the plans to consider “capacity planning through the establishment of growth boundaries around cantonment areas to focus development towards the core and preserve range and training space.” Other new elements include:

- ❖ planning for compact and infill development;
- ❖ horizontal and vertical mixed-use development;
- ❖ the full lifecycle costs of planning decisions;
- ❖ healthy communities with a focus on walking, running and biking infrastructure, pedestrian and cycling plans, and community green and garden space;
- ❖ capacity planning through the establishment of growth boundaries around cantonment areas to focus development towards the core and preserve range and training space; and
- ❖ requiring consideration of ways to diversify and connect transit systems that include the pedestrian realm and enable safe walking or biking.

Camp Crowder is in the process of completing a master plan for the Training Center. This recent directive may offer useful guidance in the completion of that plan; however, most important, it is recommended that facility and range planning take into account the findings and recommendations in the Joint Land Use Study, noting in particular the Land Use Compatibility Assessment in Chapter 3 and the noise impacts described in the 2013 MOARNG *Statewide Operational Noise Management Plan*.

Joint Land Conservation Efforts

In many cases, both the Training Center and surrounding property owners in the JLUS Focus Area will share a mutual interest in the preservation of open space on lands that experience noise impacts from Camp Crowder. As shown in Figure 3-1, about 13.7% of the lands within the Focus Area are currently being used for either intensive agricultural or conservation uses. However, over 50% of the lands in the JLUS Focus Area remain “undeveloped.” Should Focus Area property owners wish to continue or to establish land uses that depend on preserved open space, including some forms of agriculture, then these lands may be eligible for voluntary easements, some of which may be funded by a number of available federal programs. These are discussed here.

1. Readiness and Environmental Protection Initiative (REPI)

The Readiness and Environmental Protection Integration (REPI) program helps protect training grounds from the negative impacts of encroachment through voluntary agreements between military service branches and states, political subdivisions of states, and non-federal conservation organizations to acquire easements or other interests in land in the vicinity of military installations from willing sellers. This helps create a buffer area around training and testing areas to preserve high-value habitat and limit incompatible land use. The FY2003 National Defense Authorization Act gives the statutory authority for this program at United States Code Section 10 U.S.C. 2648a.

The DoD’s Office of the Secretary of Defense (OSD) provides REPI’s funding support and guidance for military service efforts to protect missions and installations. A key aspect of this effort for the Army is the Army Compatible Use Buffer Program discussed below.

2. Army Compatible Use Buffer Program

The Army Compatible Use Buffer (ACUB) program allows the installation to work with voluntary partners to encumber surrounding lands to provide an encroachment buffer without the Army actually acquiring title to properties. The program, however, authorizes the Army to contribute funds to a state government or private conservation organization for the purchase of easements or properties from willing landowners. In all cases, either the original property owner or the non-military partner holds the interest in the property, not the Army. Typically, the original property owner continues to hold title to the property but receives monetary compensation



and tax advantages in exchange for limiting its use in a way that preserves habitat and avoids interference with the nearby military training and testing functions.

3. United States Department of Agriculture partnership efforts

The USDA has several easement programs, such as the Farm and Ranch Lands Protection Program, the Wetlands Reserve Program, and the Grassland Reserve Program, which fund or partially fund easements that can create a buffer around military installations. The USDA's Natural Resources Conservation Service (NRCS) administers these programs, in this case, out of their offices in Columbia or the local office in Neosho.

All three programs offer the *opportunity* to private property owners to participate, but none *require* their participation nor involve condemnation of development rights or property.

The **Farm and Ranch Lands Protection Program (FRLPP)** protects agricultural lands by limiting non-agricultural uses by partnering with approved state, local, and non-profit entities to purchase development rights through conservation easements on private lands. Of the four USDA programs discussed here, this one is the most likely to suit properties in the JLUS Focus Area, as it prioritizes prime farm lands, but also counts preservation of properties associated with historically significant properties among its eligibility factors.

In order to initiate an application for an FRLPP easement purchase, the landowner must have reached an agreement to cooperate with a local land trust to place the easement if the grant is made by the NRCS. NRCS typically has paid for 50% of the appraised value of the development rights removed by the easement, expecting the partnering land trust to pay 25% of the value, and the property owner to dedicate the remaining 25% in value, in exchange for available tax credits.

The **Wetlands Reserve Program (WRP)** offers landowners the opportunity to protect wetlands through easements and cost-sharing agreements. However, the presence of qualifying hydric soils in the areas around Camp Crowder is limited. Nonetheless, interested property owners may contact the NRCS to verify whether wetlands on their property would qualify.

In recent years, the NRCS was able to pay about \$2,780/acre for cropland easements and \$1,400/acre for woodland easements in Newton County. In McDonald County, they have been authorized to pay \$1,650 and \$1,200 respectively.

However, available funding depends on federal Farm Bill budgetary allocations and varies from year-to-year.

The **Grassland Reserve Program (GRP)** similarly encourages farmers and ranchers to sustain grazing lands and compatible non-grazing uses by paying them or entering into cost-sharing agreements with them to limit the use of the lands to those compatible with military training impacts. Again, it is not clear the extent of qualifying grasslands in this area, but in recent years, the NRCS has set eligible purchases in Newton and McDonald Counties at \$1,380/acre of grasslands put to an easement. Competition for available funds under the GRP is high, as NRCS has not been able in recent years to pay 100% of the value of the easements, instead of requiring a land trust or property owner to carry a portion of the cost.

All three of these programs are dependent upon available federal funding and each is initiated by entering the open application cycle usually held annually by the state NRCS office in Columbia.

Since June 2013, an additional USDA program has become available: the "**Sentinel Landscapes**" partnership between the Department of the Interior, the USDA, and the DoD. This program recognizes and rewards landowners who are using their lands in ways that are compatible with the military mission. The NCCS runs this program as well.

All of these USDA programs may be used to protect military installations from encroachment while offering incentives and benefits to nearby property owners. Interested property owners may contact:

Harold Deckerd, P.E.
Missouri NRCS State Office
Assistant State Conservationist
601 Business Loop 70W
Parkade Center; Suite 250
Columbia, Missouri 65203
(573) 876-9421

4. U.S. Forest Service Forest Legacy Program

The US Forest Service Forest Legacy Program (FLP) provides states with federal funding (which requires a state match of 25%) to protect environmentally sensitive forestland. States use this funding for conservation easements or fee transactions to prevent privately-owned forestland from being converted to non-forest use. The forestland remains in private ownership but is encumbered to restrict development, require



sustainable forestry practices, and protect other values. States enter the program voluntarily, as it helps them to develop and implement forest conservation plans. In cases where federal forest lands fall within areas impacting or impacted by military training, the FLP initiative can have mutual benefits to the military, US Forest Service, and private citizens with shared interests in preserving existing, compatible land uses.

Local Government Planning

As discussed earlier in the Chapter, each of the four JLUS Jurisdictions has the authority to adopt a comprehensive land use plan, though they are not required to do so. Of the four jurisdictions, the City of Neosho currently has a comprehensive plan, which was adopted in 2006 and amended in 2013.

Given its proximity to Camp Crowder, it is recommended therefore that the City of Neosho consider amending its plan to include the JLUS planning process and the Study's recommended steps for implementation. Doing so would not effectuate or implement those recommendations, but would integrate the results of this effort into the City's ongoing planning process.

The city of Goodman does not have a comprehensive plan, but is authorized to adopt one. While encroachment onto Camp Crowder is not likely to result from land use activities in Goodman at this time, as noted in Chapter 3, moderate sound impacts from Camp Crowder do occur there (*see* Figure 3-25). If Goodman were to adopt a plan, impacts from or on Camp Crowder's training mission would be addressed there, in broad policy terms, as would any non-binding coordination efforts between Goodman officials, Camp Crowder personnel, and other governmental agencies and stakeholders in the region.

Finally, McDonald and Newton Counties could adopt a comprehensive plan to address noise, lighting, and coordination processes with Camp Crowder. In lieu of mandatory land use restrictions, simply clarifying existing conditions and coordination processes may assure current and future residents, businesses, and National Guard personnel continue to enjoy the benefits of the long history of cooperation that has characterized this community to-date.

For the consideration of the JLUS Jurisdictions and members of this community, Appendix C includes potential changes to Neosho's 2006 *Comprehensive Plan* as a starting point if implementation of this tool is desired. Similar planning policies could be adapted by the JLUS Jurisdictions, were they to adopt comprehensive plans in the future.

Local Government Guidelines

The Land Use Compatibility Assessment in Chapter 3 identifies several areas that may be addressed by the JLUS Jurisdictions that would offset future impacts on, or incompatibilities with Camp Crowder's, training mission. In particular, these were:

- weapons noise resulting from the presence of small arms training ranges;
- impulsive noise events created by demolition training activities;
- outdoor lighting increases that, if significantly increased over time, could impact night training activities at Camp Crowder.

Some of these impacts could be mitigated through a number of regulatory or non-regulatory mechanisms, including:

- outdoor lighting standards;
- sound attenuation construction standards;
- pre-approval coordination with Camp Crowder officials prior to development approvals or land use changes in the JLUS Focus Area;
- transferring development rights out of the JLUS Focus Area;
- real estate disclosures indicating the presence of military training operations; or
- voluntary sale of easements preserving open space in the JLUS Focus Area.

These mechanisms could be made available to the community for voluntary use, without adopting zoning or amending current zoning or land use codes, in the case of Neosho and Goodman. This may be particularly appropriate in Newton and McDonald Counties, which do not have adopted plans or zoning/land use ordinances, as do Neosho and Goodman. However, a voluntary approach is available also to the citizens of Neosho and Goodman should they wish to augment protections of the mission and sustainability of Camp Crowder, but wish not to amend existing zoning and land ordinances. In addition, the City may consider participating in an interlocal coordination agreement, or MOU, with Camp Crowder and other JLUS Jurisdictions to assure current and future residents, businesses, and National Guard personnel enjoy the benefits of the long history of cooperation that has characterized this community to-date.



Similar types of mitigation also could be enforced through mandatory regulations. This option is discussed below.

Local Government Regulations

Since each of the JLUS Jurisdictions is authorized under state law to adopt zoning regulations, special military overlay zones (for the cities) and limited compatible use districts (for the counties) are discussed here. Again, it is important that the decision of whether to incorporate this level of regulation in a given community be made by the individual community and its elected officials after deliberation. Discussion of these tools here is made for the sake of completeness and of ensuring that decision-making is fully-informed during the implementation process.

Zoning Overlays

Although zoning overlays, *per se*, are not expressly authorized by statute, being functionally equivalent to zoning, overlays appear to be an authorized technique, at least in the context of a properly adopted zoning ordinance. The technique is common in Missouri; used to implement historic districts, downtown redevelopment efforts, flood zones, and planned development districts. In fact, Neosho's zoning ordinance currently includes an overlay zone for historic districts (*see* §§405.176 and .78, *City of Neosho Zoning Ordinance*.)

Neosho or Goodman could, therefore, consider a military overlay framework to address lighting and noise impacts in ongoing coordination efforts with Camp Crowder, should they elect to do so.

Whether the counties could do so – were there community support for it – is not clear, however, since neither McDonald County nor Newton County has adopted zoning. In some states, jurisdictions may impose zoning over only a portion, but not all, of the jurisdiction. This is known as “piecemeal” or “partial” zoning. Although the issue has not been addressed directly by the Missouri courts, in *City of Moline Acres v. Heidbreder*, 367 S.W. 2d 568 (Mo. 1963), the Missouri Supreme Court overturned a city ordinance establishing only a single zoning district.

Some statutes do reference “countywide” planning or zoning⁶ or, for example, the adoption of “a county plan for all areas of the county outside the corporate limits of any city...”. *See* § 64.510, RSMo. In any case, the decision to undertake planning and zoning – or to adopt a “partial” military coordination zone – in only a portion of one of the counties in the JLUS Focus Area should

be made after due consideration of applicable statutes, as well as community support, since adoption of zoning in Newton or McDonald Counties would require voter approval by referendum.⁷

Military Compatible Growth Districts

The Missouri General Assembly has granted certain townships, pursuant to § 67.1200, RSMo, and counties, pursuant to § 41.655, RSMo,⁸ the express authority to adopt military airport zoning. That authority has not been granted to any of the local jurisdictions participating in the Joint Land Use Study. However, if any wanted to pursue that authority, an example of a jurisdiction that has successfully done so is Johnson County, which hosts the Whiteman Air Force Base.

The County used the authority granted in RSMo Sections 41.655 and 67.1210 to “minimize encroachment to the military installation while also minimizing the impact on daily activities of both the public and government.” That county ordinance uses 12 districts, ranging from residential to industrial, to protect sensitive areas from uses that may have an adverse effect on the Base. Although the “off-base” impacts in the Johnson County case were aircraft-driven and, in most cases, more severe than those associated with Camp Crowder, its legal and legislative context is perhaps still instructive in this instance. Therefore a case study overview is presented at Appendix D.

Outdoor Lighting Standards

As discussed in Chapter 3, the ability to train and fight in low light environments is a critical component of modern military training and doctrine. Degraded night training capacity could impact the ability of Camp Crowder to offer certain dark-sky dependent training activities, although the threats to this training component at this time are not significant.

Methods of mitigating the impact of night lighting would include “dark-sky” type lighting ordinances that require the shielding of outdoor lighting fixtures and generally directing lights downward to reduce background lighting effects at night. If the JLUS Jurisdictions are interested in lessening the impacts of lights on the Training Center, they could enact these ordinances based on the zoning authority discussed above or simply make the guidelines available to the public for guidance on a voluntary basis.

The Sample Annotated Camp Crowder Compatible Growth Area Ordinance/Military Overlay Ordinance included at Appendix E includes outdoor lighting standards.



Sound Attenuation Guidelines

Sound associated with small arms and demolition ranges on Camp Crowder is transmitted beyond the boundaries of the Training Center and is experienced in varying degrees and with varying frequencies of occurrence in each of the JLUS Jurisdictions. These impacts are detailed in Chapter 3. Some military communities address similar impacts through sound attenuation standards applicable to buildings within similar noise zones.

The question that arises is what type of noise attenuation would be needed or effective near Camp Crowder? Typically, the same standards used for airplane noise will deaden noise created by small weapons fire. The constructions standards set forth in the Navy's 2005 *Guidelines for Sound Insulation of Residences Exposed to Aircraft Operations* (commonly referred to as the "Wyle Report") is commonly used as a guideline for these purposes.

Therefore, it would be expected that if these standards were used in residential construction in Noise Zones II or III (*see, e.g.,* Figure 3-14) that noise created by small arms fire would be diminished on the interior of the home. The cost of doing so might be weighed against the fact that the noise events at Camp Crowder are limited and that noise complaints rarely if ever occur.

Demolition training noise is less effectively diminished by standard noise attenuation standards, because it is the vibrations, which result from low-frequency impulsive noise, that affect residents in these contours (*see, e.g.,* Figures 3-17 to 3-25). Steps, however, can be taken to reduce rattling in the home, including orienting large windows away from the sound source and using construction techniques that reduce rattle. The US Army Corps of Engineers has issued guidelines for rattle-proofing, including *Expedient Methods for Rattle-Proofing Certain Housing Components* (1987).

In the event a JLUS Jurisdiction wishes to *require* sound attenuation guidelines, they should reference Section 67.280, RSMo, which authorizes cities and counties to adopt standard building codes to govern building construction. Neosho has adopted International Code Council building codes by reference, and Goodman has adopted its own building codes; however, neither Neosho nor Goodman have adopted sound attenuations regulations. Neither Newton County nor McDonald County has building codes. Zoning authorities, where they are exercised, also may include sound attenuation standards.

By using sound attenuation standards in high noise areas, communities can assure future residents, in particular, that interior sound levels will be within acceptable ranges for day-to-

day living activities. To implement sound attenuation standards, Newton and McDonald Counties would have to adopt building or land use/zoning codes, and Neosho and Goodman would need to amend their existing codes. As an alternative, outreach efforts can be made to give citizens in or near noise areas advice on voluntarily making sound attenuating improvements on their own.

Mandatory Coordination with Camp Crowder

There currently are active coordination efforts occurring between Camp Crowder and other key stakeholders in the community, including the JLUS Jurisdictions, the Neosho Hugh Robinson Airport, Crowder College, and surrounding industrial and agricultural landowners. However, during the course of the Study, stakeholders and Steering Committee members supported formalizing this process through a written, non-binding agreement. Doing so will put all stakeholders and Camp Crowder on notice of who needs to be contacted, when, and in what circumstances. This would, for example, ensure that the community is aware ahead of time when operational changes are planned at Camp Crowder; and, conversely, ensure that Camp Crowder is aware ahead of time when developments or land use changes are anticipated in areas proximate to the Training Center.

The Memorandum of Understanding approach discussed in the "Interagency Coordination" section of this chapter above provides a framework for voluntary coordination of this nature. However, Neosho and Goodman also could make mandatory coordination with Camp Crowder during the development approval processes, part of their existing land use and zoning ordinances.

Transfer or Purchase of Development Rights

Transferable Development Right (TDR) programs provide a market-driven mechanism to "transfer" development rights from areas designated for protection into areas designated for growth. The transfer is effectuated by placement of an easement over lands in the protected areas and the granting of "bonus" density in the areas designated for growth. In the military context, development rights are transferred out of areas subject to military impacts such as accident potential, noise, weapons fire, or vibration, and into areas designated for and compatible with future growth.

Cities and counties in Missouri have not been expressly authorized to implement TDR programs, *per se*, although the components of a typical program (*e.g.,* placement of voluntary conservation easements in "sending areas" and increases in density in "receiving areas") do appear to be authorized. Nonetheless, the technique



is not widely used and, since the powers of Missouri cities and counties are limited to those granted by the General Assembly, any TDR program should be carefully crafted to fall within the parameters of authority set out by the state.

In addition to *transferred* rights, the *purchase* of development rights programs is another mechanism for removing development rights from protected military zones. Instead of transferring them from one area to another, a governmental or non-profit entity can purchase these rights. Like TDRs, “PDR” protections are achieved by payment to the landowner in the protected area – a noise zone, for example – in exchange for the placement of an easement preventing incompatible uses on the property; similar to the conservation easements discussed above. Under TDR and PDR programs, the landowner voluntarily accepting the easement retains fee simple ownership of the underlying land and may continue to use the property in any manner that is compatible with the Training Center. Military-driven PDR programs often are pursued in partnership with local, state, or national conservation programs.

The challenge with TDR programs, however, is their complexity and the difficulty identifying lands to “receive” development right bonuses. Given the relatively low impacts identified in the Land Use Compatibility Assessment in Chapter 3, and the fact, as discussed in Chapter 4, that significant growth is not anticipated in the JLUS Focus Area at this time, TDRs are likely not a priority today. Nonetheless, their usefulness may increase if development pressure changes in the region.

Real Estate Disclosures

Chapter 339 of Title XXII, RSMo, sets forth the requirements for real estate disclosures in the state. Many communities in the vicinity of military installations require that the presence of known off-installation impacts be disclosed as part of standard seller and landlord disclosure forms. This is not required in Missouri and the state’s current standard real estate disclosure form does not address military impacts.

Nonetheless, authorized JLUS Jurisdictions may consider ordinances that require purchaser and renter disclosure prior to sale or lease or, if not authorized, the voluntary use of disclosure forms. It is necessary and advisable to engage the local and regional real estate community to assure that the content of and means of providing disclosure is appropriate and effective for the Crowder region.

Appendix F includes language for a potential voluntary disclosure form for the Camp Crowder JLUS Focus Area.

Military Impact Easements

A “military impact easement” creates an encumbrance on properties impacted by military training noise. Owners of property with impact easements typically allow the military installation to create noise, dust, vibration, overflight, and other potential intrusions on use of the property and waive any right or claim against the airport for these impacts.

Military impact easements, in contexts similar to Camp Crowder, are voluntarily donated or sold. Some communities require the dedication of an easement as a condition of approval of a development in military impact areas, like the noise zones identified in this Study. However, the legality of these requirements has not been tested in Missouri and the regulatory environment within the JLUS Focus Area and among the JLUS Jurisdictions likely does not support mandatory easements at this time.⁹

A photograph of a yellow observation tower with a black staircase on the left side. The tower is situated on a snowy hill. In the background, there are bare trees and a clear blue sky. The text 'Chapter 6' is overlaid on the right side of the image.

Chapter 6

The Move Forward — JLUS Strategy Recommendations

Chapter 6 sets out and prioritizes the recommendations of the JLUS Policy Committee, based on the analyses conducted, public input received, and the work and input of the JLUS Technical Committee. The recommendations in Chapter 5, which are prioritized in the Implementation Matrix in this Chapter, resulted from a “Strengths, Weaknesses, Opportunities, and Threats” Analysis conducted during the Joint Land Use Study. This “SWOT” Analysis provided the analytical framework of the JLUS Project Team’s analysis and the Policy Committee’s recommendations. The results of the SWOT Analysis are described in the following section, followed by the Implementation Matrix, which prioritizes the Policy Committee’s recommendations for implementation.



6.0 Camp Crowder's Strengths, Weakness, Opportunities and Threats

The initial “Strengths, Weakness, Opportunities, and Threats,” or “SWOT,” Analysis resulted from these first two components of the Joint Land Use Study. SWOT Analyses frequently are used to evaluate how internal and external factors affect an organization’s objectives, in this case, compatible land use around and on Camp Crowder Training Center. The initial analysis was based on the information gathered and evaluated during the “Evaluation of Existing Conditions” component of the Study, as well as the initial Land Use Compatibility Assessment. It also was reviewed and commented upon by the JLUS Steering Committee and presented for public comment in December of 2013.

The key findings described in Chapters 2-5 are highlighted and the “opportunities” for the implementation of this Study are prioritized, in accordance with the importance and urgency the Steering Committees assigned to identified “threats” or

“weaknesses” or, as applicable, the ability to accentuate an existing “strength.” The Steering Committees prioritized implementation alternatives at a joint session on January 28, 2014.

SWOT analyses are a common strategic planning tool used to evaluate how internal and external factors can affect an organization’s objectives; in this case, protecting and encouraging compatible land use between Camp Crowder and the lands in the JLUS Focus Area. In short, it enables Camp Crowder and the surrounding region to build on its strengths, minimize its weaknesses, capitalize on opportunities, and avoid potential threats.

Figure 6-1, below, provides an overview of how these factors apply to Camp Crowder, followed by a more detailed description of how each component of SWOT analysis was developed.

Figure 6-1: SWOT Analysis Overview

Strengths	Weaknesses
<ul style="list-style-type: none"> Surrounding land uses are largely compatible with military operations. Excellent community support and positive reputation. Camp Crowder’s mission is not currently significantly impacted by encroachment threats. Camp Crowder, therefore, has considerable strategic value as an important Missouri Army National Guard Training Center. 	<ul style="list-style-type: none"> Lack of security fencing and prevalence of trespassing on Camp Crowder.
Opportunities	Threats
<ul style="list-style-type: none"> Formalize interaction/communication between Camp Crowder and its neighbors (e.g., Crowder College, Neosho Hugh Robinson Airport, Moark). Enhance communications with Neosho Hugh Robinson Airport to ensure safety with range operations on Camp Crowder. Communicate economic impact of Camp Crowder on community. 	<ul style="list-style-type: none"> No regulatory barriers to incompatible development present in the JLUS Jurisdictions. Conflict between southbound aircraft traffic patterns from Neosho Hugh Robinson Airport and range operations. Unknown potential impacts of climate change on operations.



STRENGTHS

Surrounding Land Uses are Largely Compatible with Military Operations

Camp Crowder is generally surrounded by land uses that are compatible with military training and operations. Adjacent land uses can primarily be characterized as conservation (e.g., Bicentennial Conservation Area, Fort Crowder Conservation Area), institutional (e.g., Crowder College, Neosho School Farm), intensive agricultural (e.g., Moark), industrial (e.g., Neosho Hugh Robinson Airport, the industrial park), farm and forestland, and – to a small degree – very low-density rural residential uses. With the exception of the residential properties, all *current* surrounding land uses appear to be largely compatible with operations undertaken at Camp Crowder.

Current conditions also suggest that *future* land use compatibility is likely surrounding Camp Crowder. Commercial and residential demand – development that is seen as incompatible with military training – is concentrated on the I-49 corridor located to the west of Camp Crowder, but significantly distant from military impact areas. Rugged terrain to the east of Camp Crowder and poor road access immediately west and south of Camp Crowder will significantly impede any higher density residential growth, which would be incompatible with military operations. Additionally, there are no planned water or sewer expansions – generally seen as growth-inducing infrastructure – expected around Camp Crowder in the near future.

Excellent Community Support and Positive Reputation

Camp Crowder has a positive relationship with the JLUS Jurisdictions, as well as its other neighbors such as Crowder College, the Neosho Hugh Robinson Airport, and private industries and businesses. Noise complaints are few and far between and the community is generally supportive of Camp Crowder's operational mission. In fact, the National Guard reports that its records since 2005 indicated that it has received no noise complaints since over that period of time. Because it is a National Guard Training Center (as opposed to a full-time service installation), it is used by local community Guard members and is generally considered part of the community rather than a separate entity. Additionally, Camp Crowder provides access to its classroom and meeting space for community groups and events as appropriate.

Camp Crowder has Considerable Strategic Value as the Premier Army National Guard Training Center in Missouri

Camp Crowder consists of 4,358 acres, 97 percent (4,208 acres) of which is available for training, including the cantonment area. The Training Center can support two battalion sized combat arms units or combat service support units during non-live fire periods and one battalion sized combat arms unit during live fire training events. In addition to the small arms and demolition ranges, Camp Crowder also offers land navigation training, drivers training, and tracked vehicle circuit training, among other types of maneuver training. Because of its significant training acreage and its relative lack of encroachment issues, Camp Crowder is considered the premier Army National Guard Training Center in the state of Missouri. The Training Center is currently undergoing an operational expansion that, at its peak, will result in Camp Crowder hosting well over 50 percent of all National Guard training conducted in the state in a given year.

There are no Significant Environmental Constraints on Training Operations

At this time, there are no federally recognized threatened or endangered species or other environmental concerns that prohibit any training activities on Camp Crowder. Approximately 10 of Camp Crowder's 4,358 acres (less than one-half of one percent) require that minor restrictions be placed on training in particular areas due to wetlands, cultural resources, or environmental cleanup sites. Camp Crowder's value as a Training Center is enhanced because its training space is largely unimpeded by environmental constraints.

Camp Crowder's Mission is not Significantly Impacted by Encroachment Threats

Largely because of these strengths, Camp Crowder is currently conducting a majority of its missions without significant encroachment threats. In areas where encroachment threats exist, the installation has mitigation or management measures largely in place. However, as seen in the "weaknesses" and "threats" section of this SWOT analysis, current success will not guarantee future success without additional engagement, management, and mitigation.



WEAKNESSES

Lack of security fencing and prevalence of trespassing on Camp Crowder.

For the most part, Camp Crowder is surrounded by five-strand barbed wire and signs are posted intermittently along the perimeter of the Training Center. Despite the fencing, Camp Crowder's borders are not secure. Trespassers frequently access the installation for recreational use (e.g., hunting, fishing, off-highway vehicle use) – either purposefully or by accident – from private and undeveloped areas adjacent to the installation. This unauthorized access is a security threat for the installation and has the potential to interrupt training missions on the range.

OPPORTUNITIES

Formalize Interaction/Communication between Camp Crowder and its Neighbors

While Camp Crowder enjoys a positive relationship with its neighbors, no formal channels of communication or recurring outreach opportunities currently exist. Establishing formal mechanisms for communication will allow Camp Crowder, the City of Neosho, Newton and McDonald Counties, Crowder College, the Neosho Hugh Robinson Airport, and other partners (e.g., industry groups, Missouri Department of Conservation) to communicate regularly and to coordinate on issues of mutual concern, including potential mission changes associated with Camp Crowder, regional development proposals, infrastructure plans, transportation improvements, water quality issues, and potential planning and zoning changes. "Formal" interaction may take the form of a Memorandum of Understanding (MOU), a recurring collaborative working group, or other mechanism that requires participation by multiple parties.

Enhance Communications with Neosho Hugh Robinson Airport to Ensure Safety with Range Operations at Camp Crowder

As discussed in the "Threats" section of this SWOT analysis, southbound air traffic patterns currently conflict with Camp Crowder's small arms range training. While notices are provided to pilots to avoid the safety zones above the range areas, they are often ineffective and do not prevent Camp Crowder's training range from being shut down during such conflicts. Outreach efforts should be undertaken with the Neosho Hugh Robinson

Airport to clearly communicate the dangers associated with flying within these safety zones and the impacts to range qualifications training that result if a cease-fire must be ordered. Outreach efforts may include

- revising the standard Notice to Airmen (NOTAM);
- adding informational posters at the airport;
- installing additional signage at the airport or, if allowed by the FAA, at the runways; and
- public service announcements.

Communicate Economic Impact of Camp Crowder on Community

The February 2013 study prepared for the Hawthorn Foundation, *Missouri's Military Infrastructure: A Base Realignment and Closure (BRAC) Preparatory Assessment*, addressed the statewide economic impact of the Army National Guard, and the 2012 Missouri National Guard Annual Report estimated Camp Crowder's economic impact on the community to be \$5.3 million annually. Communicating local economic impacts and placing them in the appropriate local context is important for maintaining supportive relationships with the surrounding community and further enhancing Camp Crowder's value to the region.

Threats

No regulatory barriers to incompatible development present in the JLUS Jurisdictions.

As identified in the "strengths" section above, Camp Crowder currently is surrounded by land uses that are generally compatible with mission operations. Current conditions such as low demand and lack of adequate infrastructure also make it unlikely that incompatible high-intensity growth around the installation will occur unchecked, at least in the near future.

However, there are no established regulatory barriers in place to prevent such development should the conditions change or be mitigated. While the City of Neosho has zoning regulations, Newton and McDonald Counties do not have zoning and offer few opportunities for Camp Crowder to "have a say" in any future developments proposed around the installation. Without some sort of regulatory mechanism in place to allow for greater input into this process, Camp Crowder may be left powerless in the face of potential incompatible growth, were conditions to support it in the future.



Conflict between southbound aircraft traffic patterns from Neosho Hugh Robinson Airport and range operations.

Southbound traffic patterns observed by aircraft departing from the Neosho Hugh Robinson Airport can occasionally conflict with Camp Crowder's weapons range training. Pilots taking off from the airport generally climb to an altitude of 1,000' above ground level (AGL) and then make a 45 degree left-hand turn, which leads aircraft directly over Camp Crowder's range area.

While a Notice to Airmen (NOTAM) is issued that instructs pilots to avoid the range area when the range is active, the notice is often not observed. When the ranges are active and an aircraft enters the safety zone, the range safety officers are required to halt all training operations, which can adversely impact range schedules and may, ultimately, lead to the failure of a unit to qualify during their scheduled time at Camp Crowder.

Unknown potential impacts of climate change on operations.

Climate change has long been identified as a potential concern for operational and installation sustainability. The threat of increased temperatures, drought events, and increased storm frequency and severity has far-reaching implications for both Camp Crowder and the neighboring communities. These potential climate-induced effects have the potential to impact Camp Crowder's facilities and infrastructure, in turn hindering the installation's ability to effectively perform operations and mission-related training. To date, there have been no studies or analyses completed to forecast the potential impacts of climate change on Camp Crowder operations or to identify potential climate adaptation or mitigation opportunities that the installation could undertake with the surrounding region.

6.1 JLUS Implementation Matrix

The JLUS Implementation Matrix summarizes the recommendations set forth in Chapter 5; but, more important, it prioritizes the recommended tools for purposes of implementing the recommendations in this Study. The matrix also identifies the agencies or stakeholders affected by or responsible for implementing or initiating each tool. Finally, for each tool, the estimated costs to implement and the planning timeframe within which the tool would be implemented also are given.

The range of estimated costs for each tool is indicated as follows:

- \$ = less than \$5,000
- \$\$ = between \$5,000 and \$25,000
- \$\$\$ = greater than \$25,000

Estimated planning timeframes similarly are indicated as follows:

- S = Short-term, within the first 2 years following adoption of the 2014 Joint Land Use Study
- M = Medium-term, between 2 years and 5 years following adoption of the 2014 Joint Land Use Study
- L = Long-term, greater than 5 years following adoption of the 2014 Joint Land Use Study

The overall priority given to a given tool, is relative to the urgency of the issue to be addressed, overall costs, and, in particular,

whether immediate safety concerns are at stake. Therefore, priority for each tool is indicated as follows:

- L = Low Priority
- M = Medium Priority
- H = High Priority

Each tool is divided into eight (8) strategic areas, as follows:

1. Interagency Coordination
2. Public Outreach
3. Business & Economic Development
4. Training Mission Strategies
5. Joint Land Conservation Efforts
6. Local Government Planning
7. Local Government Guidelines
8. Local Government Regulations

This categorization is consistent with the organization of the discussion of the tools in Chapter 5 and, as there, is presented in order: from those tools which are voluntary in nature to those which are compulsory, or regulatory, in nature.



JLUS Implementation Matrix

KEY	Planning Term: S (Short) = first two years; M (Middle) = between 2 and 5 years; L (Long) = greater than 5 years (post-JLUS)					
	Priority: L = Low; M = Medium; H = High (indicating relative priority)					
	Estimated Costs: \$ = < \$5,000; \$\$ = \$5,000 to \$25,000; \$\$\$ = greater than \$25,000					
Category	Implementation Tool or Activity	Description	Affected Agencies/Parties	Planning Term	Priority	Resources
Interagency Coordination	Regional "Joint Land Use Working Group"	Designate a working group, based on the Steering Committees model used during the development of the JLUS, to guide the region in the implementation of the JLUS recommendations and ongoing planning efforts related to Camp Crowder. HST Coordinating Council or other agency may provide support.	HSTCC JLUS Jurisdictions Camp Crowder Local Chambers of Commerce Neosho Area Business and Industrial Foundation Other partners as identified	S	H	\$\$\$
	Memorandum of Understanding	Create a Memorandum of Understanding that describes who will coordinate with whom, in what manner, and under what circumstances with respect to land use activities on Camp Crowder and within the JLUS Focus Area.	Joint Land Use Working Group JLUS Jurisdictions Camp Crowder Utilities assoc. with Growth-Inducing Infrastructure Other Public Agency partners	S	H	\$\$
	Coordination with Neosho Hugh Robinson Airport	Increase coordination efforts to avoid additional or future conflicts between civilian air traffic and National Guard training operations; including additional runway and driveway signage; and posting of images of an active range at night.	Neosho Hugh Robinson Airport Camp Crowder	S	H	\$
	Missouri Military Preparedness and Enhancement Commission	Monitor and seek opportunities to participate in the efforts of the Missouri MPEC.	JLUS Jurisdictions Camp Crowder Business and Industry Interests	S	H	\$
	Missouri Military Partnership	Monitor and seek opportunities to participate in the efforts of the newly-created Missouri Military Partnership.	JLUS Jurisdictions Camp Crowder Business and Industry Interests	S	H	\$



KEY	Planning Term: S (Short) = first two years; M (Middle) = between 2 and 5 years; L (Long) = greater than 5 years (post-JLUS)					
	Priority: L = Low; M = Medium; H = High (indicating relative priority)					
	Estimated Costs: \$ = < \$5,000; \$\$ = \$5,000 to \$25,000; \$\$\$ = greater than \$25,000					
Category	Implementation Tool or Activity	Description	Affected Agencies/Parties	Planning Term	Priority	Resources
Public Outreach	Joint Land Use Website	Maintain an independent website including significant land use or operational changes impacting the JLUS Focus Area and information related to applicable mandatory or voluntary standards for mitigating incompatible land uses.	Joint Land Use Working Group JLUS Jurisdictions Camp Crowder	S	M	\$
	Joint Land Use Brochures	Distribute brochures for the public, summarizing the type of information recommended for posting on a Joint Land Use website (above); including opportunities for voluntary easements and development rights acquisition.	Joint Land Use Working Group JLUS Jurisdictions Camp Crowder	S	M	\$
	Public Signage	Consider the need for signage indicating the presence of military training operations in the Focus Area, including along public roadways and along Camp Crowder boundaries, if or when appropriate; indicating the presence of noise and other impacts from military training operations.	Joint Land Use Working Group MoDOT JLUS Jurisdictions Camp Crowder	S	L	\$\$
	Coordination with Neosho Hugh Robinson Airport	Increase public awareness of the safety threats to civilian pilots entering Camp Crowder airspace during training exercises and of the disruption to training and qualification efforts this creates for members of the National Guard.	Neosho Hugh Robinson Airport Camp Crowder	S	H	\$
	National Guard Outreach	Identify events and other outreach efforts that will maintain existing community support and understanding of the importance and mission of Camp Crowder and the Missouri National Guard.	Camp Crowder Joint Land Use Working Group	S	L	\$
	Inform Hunters & Other Recreational Users	Provide materials and information to recreational users of lands surrounding Camp Crowder of restricted areas and allowable vs. prohibited land uses	Camp Crowder MDC	M	M	\$
	Supplement existing websites and resources	Create and display GIS maps of Camp Crowder area on Harry S Truman and JLUS Jurisdictions' websites, with overlays showing where noise and other impacts are likely to be experienced; as well as adding notifications to property records.	Harry S Truman Coordinating Council Joint Land Use Working Group JLUS Jurisdictions Camp Crowder Other Public Agency Partners	S	M	\$\$\$



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	Estimated Costs: \$ = < \$5,000; \$\$ = \$5,000 to \$25,000; \$\$\$ = greater than \$25,000					
Category	Implementation Tool or Activity	Description	Affected Agencies/Parties	Planning Term	Priority	Resources
Business & Economic Development	Military Affairs Committees	Chambers of Commerce should consider forming Military Affairs Committees to help support business and economic development interests related to Camp Crowder.	Neosho Area Chamber of Commerce McDonald County Chamber of Commerce Camp Crowder	S	M	\$
	Neosho Area Business and Industrial Foundation	The Neosho Area Business and Industrial Foundation should consider taking an active role in encroachment-related issues with respect to commercial and industrial development efforts near Camp Crowder.	Neosho Area Business and Industrial Foundation Camp Crowder	S	M	\$
Training Mission Strategies	Ranges and Training Land Program (RTLTP)	Continued guidance from the Range and Training Land Program established by the Army Sustainable Range Program.	Camp Crowder	S/M/L	H	\$
	Integrated Training Area Management (ITAM) Program	Continued guidance from the ITAM Program established as the Army standard for sustaining installation missions and training.	Camp Crowder	S/M/L	H	\$
	Training Record of Environmental Concerns	Continue to maintain the Training Record of Environmental Concerns (TREC)	Camp Crowder	S/M/L	H	\$
	Operational Noise Management Plan	Update Operational Noise Management Plan as required by the Department of Defense.	Camp Crowder	S/M/L	H	\$\$/\$\$
	Training Center Master Plan	Ensure ongoing master planning efforts address and recognize training impacts on areas within the JLUS Focus Area.	Camp Crowder	S/M/L	H	\$



KEY	Planning Term: S (Short) = first two years; M (Middle) = between 2 and 5 years; L (Long) = greater than 5 years (post-JLUS)					
	Priority: L = Low; M = Medium; H = High (indicating relative priority)					
	Estimated Costs: \$ = < \$5,000; \$\$ = \$5,000 to \$25,000; \$\$\$ = greater than \$25,000					
Category	Implementation Tool or Activity	Description	Affected Agencies/Parties	Planning Term	Priority	Resources
Joint Land Conservation Efforts	Land & Easement Acquisition	Examine possible funding opportunities through any of the following programs, which are discussed in Chapter 5.	Camp Crowder JLUS Jurisdictions Joint Land Use Working Group Landowners			
	Available Acquisition Programs	<i>Army Compatible Use Buffer (ACUB) Program</i>		S/M	M	\$/\$\$/\$\$\$
		<i>Readiness & Environmental Protection Integration (REPI) Program</i>		S/M	M	\$/\$\$/\$\$\$
		<i>USDA Farm & Ranchlands Protection Programs (FRPP)</i>		S/M	M	\$/\$\$/\$\$\$
		<i>USDA Wetlands Reserve Program (WRP)</i>		S/M	M	\$/\$\$/\$\$\$
		<i>USDA Grasslands Reserve Program (GRP)</i>		S/M	M	\$/\$\$/\$\$\$
		<i>USDA Sentinel Landscapes Partnership (SLP)</i>		S/M	M	\$/\$\$/\$\$\$
Local Government Planning	Neosho Comprehensive Plan	The City may amend the 2006 <i>Neosho Comprehensive Plan</i> to address the 2014 Joint Land Use Study and its recommendations; identified encroachment issues; and any priorities for protecting lands within the JLUS Focus Area from encroachment and incompatible uses in the future.	City of Neosho	S	L	\$
	Comprehensive Planning in other JLUS Jurisdictions	JLUS Jurisdictions without Comprehensive Plans may consider either adopting plans as authorized (see discussion of Missouri land use powers in Chapter 5) or developing informal policies related to joint land use planning with respect to Camp Crowder.	Newton County McDonald County City of Goodman	M	L	\$/\$\$



KEY	Planning Term: S (Short) = first two years; M (Middle) = between 2 and 5 years; L (Long) = greater than 5 years (post-JLUS)					
	Priority: L = Low; M = Medium; H = High (indicating relative priority)					
	Estimated Costs: \$ = < \$5,000; \$\$ = \$5,000 to \$25,000; \$\$\$ = greater than \$25,000					
Category	Implementation Tool or Activity	Description	Affected Agencies/Parties	Planning Term	Priority	Resources
Local Government Guidelines	Voluntary Compliance Guidelines	Inform the citizens in the JLUS Jurisdictions without zoning or building codes of any opportunities to voluntarily mitigate incompatible land uses or impacts associated with training at Camp Crowder.	Newton County McDonald County City of Neosho City of Goodman			
	Available Voluntary Guidelines	<i>Outdoor Lighting Guidelines</i>		S	H	\$
		<i>Discouraging Noise-Sensitive Land Uses</i>		M	M	\$
		<i>Sound Attenuation Construction Guidelines</i>		S	H	\$
		<i>Voluntary Coordination with Camp Crowder within the JLUS Focus Area</i>		S	H	\$
		<i>Voluntary Transferable Development Rights Opportunities</i>		S	L	\$\$
		<i>Voluntary Real Estate Sales and Rental Notification within the JLUS Focus Area</i>		S	H	\$/\$\$
		<i>Voluntary Noise Easement, based on available funding</i>		S	M	\$
Local Government Regulation	Military Compatibility Overlay Zoning	Jurisdictions with zoning and land use ordinances in place may examine these provisions for the appropriateness of including any of the following areas as a mandatory requirement, as appropriate to the jurisdiction, based on the impacts identified in Chapter 3.	City of Neosho City of Goodman			
	Regulatory Areas for Consideration	<i>Outdoor Lighting Standards</i>		S/M	M/H	\$
		<i>Regulation of Noise-Sensitive Land Uses</i>		L	L	\$/\$\$
		<i>Sound Attenuation Construction Standards</i>		S/M	M	\$
		<i>Mandatory Coordination with Camp Crowder within the JLUS Focus Area</i>		S/M	M	\$
		<i>Transferable Development Rights</i>		S/M	L	\$\$
		<i>Real Estate Sales and Rental Disclosure within the JLUS Focus Area</i>		S/M	M	\$/\$\$
		<i>Noise Easement required as a condition of Approval (see Chap 5 discussion re: legality of)</i>		S/M	L	\$
	Military Land Use Compatibility Districts	The counties may consider limited military coordination other compatibility districts addressing the same areas listed above (see Johnson County, Missouri, for Whiteman Air Force Base Case Study, Chapter 5)	Newton County McDonald County	Same as Above	Same as Above	Same as Above



Endnotes

1. Interview with Lt. Jason Snyder, September 2013.
2. The legal defensibility of any implementing tool will need to be determined on a case-by-case basis, according to the content of the implementing documents, local government classification, and the procedures used to adopt and enforce the regulation or other mechanism. In addition to the underlying authority of each local government to pursue an individual implementation scheme, which is described in general terms here, implementation actions also must comply with legal concepts including preemption, property rights, equal protection, due process, civil rights (religion, speech), statutory limitations (schools, churches, other governmental subdivisions and utilities), and federal laws (telecommunications, housing).
3. RSMo § 89.040 does require a city's zoning regulations to be "made in accordance with a comprehensive plan...". However, the statute does not define "comprehensive plan" and the Missouri courts have adopted the view that, where there is no comprehensive plan, the "plan" is manifest in the general zoning scheme that results from the adopted zoning regulations. *Strandberg v. City of Kansas City*, 415 S.W. 2d 737 (Mo. 1967).
4. Note as well the alternative planning power granted to non-charter third class counties in §§ 64.800-64.905, RSMo.
5. Missouri has 19 regional planning commissions and councils of government organized under the umbrella of the Missouri Association of Councils of Governments (MACOG). In Missouri, regional planning commissions are advisory in nature, and local governments hold membership on a voluntary basis. The role of the regional planning commission or council of government varies in each region, depending upon the needs of the member local governments. They may be involved in activities ranging from land use planning, community development, park siting and development, economic development, infrastructure development, housing initiatives, transportation planning, environmental programs and more.

In the realm of land use planning, regional planning commissions and councils of government often develop regional plans because they are uniquely positioned to create plans that cover multiple geographical and political boundaries. In that way, they help the region as a whole plan for its future growth. They also often help individual jurisdictions create comprehensive plans to guide their own development. In Missouri, since the regional planning commissions and council of governments are required by statute to be purely advisory, the local governments may choose to adopt all or any portion of these plans, but are not required to do so.
6. See, e.g., § 67.1207, RSMo, referring to "countywide planning or zoning pursuant to the provisions of sections 64.510 to 64.695 or sections 64.800 to 64.905..." and § 64.725, RSMo, which provides for a temporary county or township planning commission, and references "countywide" or township level planning and zoning, but not planning or zoning in only a portion of the county outside of individual townships.
7. Also noteworthy is a special provision that allows constitutional charter cities with a population of 35,000 or more that are located in first or second class counties that have planning commissions and boards of zoning adjustment to adopt zoning, planning, subdivision, and building regulations within all unincorporated area extending up to 2 miles from the city limits. Though Neosho is a charter city, its population was estimated at a little more than 12,000 in 2013, making the option of "extraterritorial" zoning in unincorporated Newton County unavailable for the duration.
8. Johnson County, a fourth class Missouri county, has adopted the "Whiteman Air Force Base Zoning Area," after preparing a Joint Land Use Study in 2008. Johnson County does not have zoning for any other portion of its unincorporated areas.
9. In 2010, an Oregon administrative tribunal recently held that aviation easements required as a condition of approval, which set aside airspace for the airport without actually mitigating the impacts of the proposed land use, violated the US Supreme Court's holding in Nollan v. California Coastal Commission, 483 U.S. 825 (1987). See Barnes v. City of Hillsborough, Port of Portland, LUBA No. 2010-011 (June 30, 2010). This administrative opinion, however, identified three components of a required aviation easement, which, in that case, did *not* violate Nollan. Although this opinion is not binding on Missouri courts, to take a conservative approach, we recommend that any easement local requirements consider the holding in Barnes, and otherwise be consistent with state law.



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Appendices

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- A. Public Survey Results
- B. Camp Crowder Training Center Memorandum of Understanding
- C. Sample Comprehensive Plan Amendments, City of Neosho
- D. Case Study: Johnson County, Missouri and Whiteman Air Force Base
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Appendix A

Public Survey Results

December 12, 2013

BACKGROUND

As part of the Camp Crowder Joint Land Use Study's public outreach efforts, a 22-question survey was developed and distributed to help the JLUS steering committees and project team gain insights into the community attitudes regarding Camp Crowder activities. The public was given three options for completing the survey: 1) participate in the real-time survey at the public kick-off meeting that was held on October 1, 2013; 2) complete the survey online using a link on the project's website; or 3) submit a paper copy of the survey, which was provided to the steering committees for wider distribution.

A total of 55 survey responses were collected – 12 were collected during the real-time survey at the public kick-off meeting and 43 were collected online. No paper copies of the survey were completed.

KEY TAKEAWAYS

Overall, the public survey demonstrated the community's general support for operations occurring at Camp Crowder, as well as its commitment to take action to protect Camp Crowder's future mission. Some of the key takeaways or points of interest include:

- Most respondents were from Crowder College or other educational entity;
- 24% of respondents live within two miles of Camp Crowder;
- 87% of respondents believe that communication between Camp Crowder and community is either positive or neutral;
- 79% of respondents think the training at Camp Crowder is either "very important" or "important";
- **100% of respondents support the National Guard presence in region;**
- **97% of respondents agree that the community must take action to ensure Camp Crowder can continue its mission;**
- 86% of respondents either "rarely" or "never" hear noise related to National Guard training areas;
- 66% of respondents "hardly notice" noise impacts, while 24% say they don't experience any noise impacts; and
- 74% of respondents "never" feel unsafe due to proximity to Camp Crowder; 25% do not live near Camp Crowder.

The full survey results are shown below. Please note that some questions allowed multiple responses; thus, the final response count may exceed 55 responses.



SURVEY RESULTS

1. In what area do you live?

Answer Options	Response Percent	Response Count
City of Neosho	36.4%	20
Newton County	43.6%	24
McDonald County	7.3%	4
Other	12.7%	7
	<i>answered question</i>	55
	<i>skipped question</i>	0

2. How long have you lived in the region (defined as Neosho, Newton County, or McDonald County)?

Answer Options	Response Percent	Response Count
More than 20 years	53.7%	29
Between 5 and 20 years	24.1%	13
Less than 5 years	11.1%	6
I do not live in Neosho, Newton County, or McDonald County	11.1%	6
	<i>answered question</i>	54
	<i>skipped question</i>	1

3. What is your current land ownership status?

Answer Options	Response Percent	Response Count
I own property within the region, but do not live there.	3.8%	2
I own property and live in the region.	67.9%	36
I rent property in the region.	15.1%	8
I do not own or rent property in the region.	13.2%	7
	<i>answered question</i>	53
	<i>skipped question</i>	2



4. In what industry are you employed? [Choose ALL that apply.]

Answer Options	Response Percent	Response Count
Department of Defense	0.0%	0
Crowder College, local schools, or other educational entity	66.7%	38
Another federal, state, or local agency	12.3%	7
Agriculture or related field	1.8%	1
Industry, manufacturing, or related field	3.5%	2
Food and beverage, or related field	1.8%	1
Retail or commercial	3.5%	2
Self-employed/Other	7.0%	4
I am not currently employed	3.5%	2
<i>answered question</i>		57
<i>skipped question</i>		1

5. In what age range do you fall?

Answer Options	Response Percent	Response Count
0-17	0.0%	0
18-34	16.7%	9
35-55	50.0%	27
55+	33.3%	18
<i>answered question</i>		54
<i>skipped question</i>		1

6. Are you aware that Camp Crowder is a Missouri Army National Guard installation located in Neosho and Newton County?

Answer Options	Response Percent	Response Count
Yes	100.0%	54
No	0.0%	0
<i>answered question</i>		54
<i>skipped question</i>		1



7. How far away do you live from Camp Crowder?

Answer Options	Response Percent	Response Count
Within 1/2 mile	5.6%	3
Between 1/2 mile and 1 mile	3.7%	2
Between 1 mile and 2 miles	14.8%	8
More than 2 miles	75.9%	41
	<i>answered question</i>	54
	<i>skipped question</i>	1

8. Are you familiar with the types of training conducted at Camp Crowder?

Answer Options	Response Percent	Response Count
Yes	29.6%	16
Somewhat	55.6%	30
No	14.8%	8
	<i>answered question</i>	54
	<i>skipped question</i>	1

9. What types of training have you understood are conducted at Camp Crowder? [Choose ALL that apply.]

Answer Options	Response Percent	Response Count
Live-Fire Demolition	32.1%	42
Rifle/Pistol Qualification	33.6%	44
Helicopter Operations	21.4%	28
Improvised Explosive Device (IED) Detection	10.7%	14
Other (please specify)	2.3%	3
	<i>answered question</i>	131
	<i>skipped question</i>	6



10. Where do you get most of your information about Camp Crowder?

Answer Options	Response Percent	Response Count
Directly from someone who works/trains there	9.3%	5
From friends who know people who work/train there	9.3%	5
Just from general discussion in the community	59.3%	32
From the media	18.5%	10
I don't know anything about Camp Crowder	3.7%	2
	<i>answered question</i>	54
	<i>skipped question</i>	1

11. How would you characterize communication between Camp Crowder and the community?

Answer Options	Response Percent	Response Count
Positive	54.7%	29
Negative	0.0%	0
Neutral	32.1%	17
There is no communication between Camp Crowder and the community	13.2%	7
	<i>answered question</i>	53
	<i>skipped question</i>	2

12. How important do you think the training that occurs at Camp Crowder is:

Answer Options	Response Percent	Response Count
Very important	55.8%	29
Important	23.1%	12
Not very important	1.9%	1
Not important at all	0.0%	0
I don't know enough to characterize the training at Camp Crowder.	19.2%	10
	<i>answered question</i>	52
	<i>skipped question</i>	3



13. Do you know anyone who trains at Camp Crowder?

Answer Options	Response Percent	Response Count
Yes	32.7%	17
No	67.3%	35
	<i>answered question</i>	52
	<i>skipped question</i>	3

14. Do you support the National Guard presence in Newton County?

Answer Options	Response Percent	Response Count
Yes	100.0%	53
No	0.0%	0
	<i>answered question</i>	53
	<i>skipped question</i>	2

15. How strongly do you agree with this statement: "The local community must take action to ensure the continued mission of Camp Crowder and their contributions to our economy"?

Answer Options	Response Percent	Response Count
Strongly agree	49.1%	26
Agree	47.2%	25
Neutral/Unsure	3.8%	2
Disagree	0.0%	0
Strongly disagree	0.0%	0
	<i>answered question</i>	53
	<i>skipped question</i>	2



16. What percent of the regional economy do you understand the National Guard contributes?

Answer Options	Response Percent	Response Count
50% or higher	4.0%	2
Between 30 and 50%	6.0%	3
Less than 30%	32.0%	16
Unsure	58.0%	29
	<i>answered question</i>	50
	<i>skipped question</i>	5

17. How often do you hear noise (e.g., gunfire, demolition, other) related to the National Guard training areas from your property?

Answer Options	Response Percent	Response Count
Daily	2.0%	1
Weekly	11.8%	6
Rarely	47.1%	24
Never	39.2%	20
	<i>answered question</i>	51
	<i>skipped question</i>	4

18. How often do you hear helicopter or other aircraft noise associated with Camp Crowder from your residence or property?

Answer Options	Response Percent	Response Count
Daily	0.0%	0
Weekly	5.9%	3
Rarely	64.7%	33
Never	29.4%	15
	<i>answered question</i>	51
	<i>skipped question</i>	4



19. How severe are the noise impacts from Camp Crowder when you experience them?

Answer Options	Response Percent	Response Count
I hardly notice them.	66.0%	33
They are mildly disruptive.	10.0%	5
They are severely disruptive.	0.0%	0
They're so bad I wish I could move.	0.0%	0
I don't experience any noise impacts from operations at Camp Crowder.	24.0%	12
<i>answered question</i>		50
<i>skipped question</i>		5

20. Do you ever feel unsafe due to your proximity to Camp Crowder?

Answer Options	Response Percent	Response Count
Often	0.0%	0
Sometimes	1.9%	1
Never	73.6%	39
I do not live near Camp Crowder.	24.5%	13
<i>answered question</i>		53
<i>skipped question</i>		2

21. Will you attend the next meeting in December?

Answer Options	Response Percent	Response Count
Yes	28.3%	15
No	28.3%	15
Unsure	34.0%	18
I will try	9.4%	5
I'm going fishing	0.0%	0
<i>answered question</i>		53
<i>skipped question</i>		2



22. If you would like, please enter any additional questions or comments for our review in the space below.

- ❖ "I have heard noise from my place of business, but not my personal property since I don't live near it. However, I have never felt threatened or been concerned by the noise level that I have heard from my business."
- ❖ "Please open Camp Crowder to hunting again. Bow hunting only."
- ❖ "What type of activities would Crowder College do on the Camp Crowder land?"
- ❖ "I work at Crowder College and highly support Camp Crowder being part of our community!"
- ❖ "Upgrades must be accomplished at the Neosho Airport to accommodate any additional mission at Camp Crowder."



Appendix B

Camp Crowder Training Center Memorandum of Understanding Annotated Outline

INTRODUCTION

The following is an outline of a Memorandum of Understanding, or MOU, the parties involved with the Joint Land Use Study may use to effectuate the strategies set forth in the Implementation Matrix in Chapter 6. As discussed in Chapter 5, a MOU would provide one alternative to the creation of an additional regulatory authority. It would formalize coordination protocol and make ongoing coordination efforts consistent and predictable. The MOU would commit relevant parties to a framework for considering implementation of the other recommended strategies.

The reader should note that Memoranda of Understanding are, by their nature, negotiated agreements. The parties do not need to include all of the recommended strategies in an MOU; they may accept certain ones, or they may add provisions other than those included here. This outline simply provides a framework for developing a negotiated MOU consistent with the recommendations of the Joint Land Use Study between all or some of the parties included in the draft.

Memorandum of Understanding for Military Coordination

This Memorandum of Understanding ("MOU") is entered into by and between Camp Crowder Training Center, McDonald County, Newton County, the City of Neosho, and the City of Goodman¹ (collectively referred to as the "Parties")² for the purpose of encouraging compatible growth and Party coordination in the vicinity of the training areas associated with Camp Crowder.

-
- 1 Though not a party to the MOU, a separate regional organization, such as the Harry S Truman Coordinating Council, would provide the organizing framework for adopting, amending, and coordinating implementation of the MOU.
 - 2 Additional parties could join an MOU, of course. For example, the Missouri Department of Transportation, the Missouri Department of Natural Resources, or other coordinating agencies may have a role. Additionally, the decision of one party not to participate in an MOU does not preclude remaining parties from entering and successfully effectuating an MOU.



RECITALS³

Part I: DEFINITIONS

For purposes of implementing the provisions of this MOU, the terms set forth below shall have the following meanings:⁴

Joint Land Use Study means the Joint Land Use Study, administered by the Harry S Truman Coordinating Council, dated *<insert date of final study>*, 2014.

Local Government Parties means McDonald County, Newton County, the City of Neosho, and the City of Goodman.

Off-Post Operational Impacts. *<To be Determined by the Parties.>*⁵

Written Notice means an electronic or hardcopy communication by and between Points of Contact as provided in this MOU.

Part II: POINTS OF CONTACT

<Names of All Parties>

<Official Title>

<Address>

<Phone Number>

<Email Address>

Part III: Short-term Commitments of The Parties (First Two Years)⁶

<This section may include the strategies in the Implementation Matrix indicated by an “S” under the “Planning Term” column to occur within the first 2 years following completion of the 2014 Joint Land Use Study.>

Part IV: Medium-term Commitments of the Parties (Two to Five Years)⁷

<This section may include the strategies in the Implementation Matrix indicated by an “M” under the “Planning Term” column to occur between 2-5 years following completion of the 2014 Joint Land Use Study.>

3 Commonly referred to as the “whereas” clauses, recitals would set out the history of the JLUS process and resulting MOU and the bases for its provisions, including, for example, citizen and personnel safety, specifics of the Camp Crowder training mission, and impacts on the use of affected property.

4 Any terms that are unfamiliar to the general public can be defined to facilitate consistent implementation of the MOU and to avoid confusion after execution.

5 Off-Post Operational Impacts likely would include noise and the lighting impacts discussed in Chapter 3, but may change over time and will ultimately be defined based on the affected JLUS Jurisdictions joining an MOU. They typically would be regarded as impacts outside of the Training Center’s boundaries that are greater than those that exist at the time an MOU is executed and which exceed those associated with normal, historic operations at Camp Crowder.

6 The Joint Land Use Working Group and the parties to a proposed MOU may consider prioritizing the commitments in each Planning Term according to the prioritization indicated in the Implementation Matrix: Low, Medium, or High.

7 See footnote 6.



Part V: Long-term Commitments of the Parties
(Greater than Five Years)⁸

<This section may include the strategies in the Implementation Matrix indicated by an “L” under the “Planning Term” column to occur greater than 5 years following completion of the 2014 Joint Land Use Study.>

Part VI: Miscellaneous

A. *Nature of the MOU*

Though non-binding, legally speaking, the MOU reflects a commitment of the Parties to move forward in a formal manner.

B. *Review*

The Parties will review the MOU at least <to be Determined by the Parties> and make recommendations for any modifications.⁹

C. *Modification*

Modifications to the MOU will be mutually agreed to in writing by the Parties.

D. *Withdrawal*

Any Party may withdraw from participation in the MOU by giving Written Notice to all other Parties. Withdrawal of one Party does not terminate the MOU.

E. *Duration*

The term of the MOU is <to be Determined by the Parties> years and may be extended for additional <to be Determined by the Parties> year terms.

F. *No Agency between the Parties*

It is understood between the Parties to the MOU that no Party will represent to any other party the existence of any agency relationship.

G. *Effective Date*

This MOU is effective upon execution by all Parties.

IN WITNESS WHEREOF, the parties have executed this Memorandum of Understanding on the dates below written.

<INSERT ORGANIZATIONAL NAME OF PARTY>

The _____ day of _____, 20____

<INSERT SIGNATORY’S NAME>

⁸ See footnote 6.

⁹ Review may include, but isn’t limited to, the need to consider additional encroachment protections as development trends change, to clarify administrative procedures, to pursue additional mitigation techniques as funding and technology allow, to address significant changes in Camp Crowder’s missions, or to pursue mitigation funding as it comes available.



Appendix C

Sample Comprehensive Plan Amendments

City of Neosho

As discussed in Chapter 5, the comprehensive plan is the local government's basic statement of land use policy. Purely advisory in nature, it contains the vision of the community and the direction in which the community sees itself moving.

Neosho is the only jurisdiction in the JLUS Focus Area that has adopted a comprehensive plan. In order to help implement the recommendations and strategies from the Joint Land Use Study, Neosho may consider amending its comprehensive plan to take encroachment issues into account. The language included here is simply a suggestion of the types of amendments that Neosho may consider, as it is expected that the language ultimately adopted would reflect public input during the adoption process.

The remaining JLUS Jurisdictions may at some point decide to adopt comprehensive plans. These sample amendments would provide relevant guidance to those jurisdictions as well.

CITY OF NEOSHO

The City of Neosho has a comprehensive plan that was adopted in 2006, but the plan does not discuss how the community might aid in helping Camp Crowder with encroachment issues. The City may, for example, consider adding more analysis into potential compatibility issues related to Crowder during its next comprehensive plan update.

CHAPTER 2: BACKGROUND

The Plan might consider the effects that Camp Crowder has on the community in its "Background" Chapter, through, for example, an analysis of Camp Crowder in the socio-economic section of this Chapter of the Plan. The Plan may specifically identify the Camp Crowder area in its "Planning Opportunities and Constraints" section as well (page 5), much like it does for the Neosho Hugh Robinson Airport.

Future Land Uses in the Camp Crowder Area Should Be Compatible with Military Operations

Land use decisions made during the planning process should promote compatible uses in the Camp Crowder area.

CHAPTER 3: CIVIC INFRASTRUCTURE

Goal #3:

Develop and implement strategies to increase communication between Camp Crowder and members of the Neosho community.

Guiding Principles

The City shall consider several initiatives to ensure that strong communication exists between Camp Crowder and the civilian public about its potential impacts, such as: amending its website to include key information about Camp Crowder's operations and events; developing and/or participating in the development of brochures for the public about the Joint Land Use program as well as about the location of noise and lighting impacts associated with military operations; and creating and displaying GIS maps of Camp Crowder on the City's website, with overlays showing where noise and other impacts are likely to be experienced.



The City should work with other jurisdictions surrounding Camp Crowder to task an existing regional organization with responsibility for guiding the region in the implementation of the recommendations from the 2014 Joint Land Use Study.

CHAPTER 5: PHYSICAL INFRASTRUCTURE

Goal #3:

Plan for future utility infrastructure needs on a regional level.

Guiding Principle

Work with other jurisdictions to create a regional utility service plan and adopt a memorandum of understanding that contains a utility extension policy.

CHAPTER 9: IMPLEMENTATION PLAN

The Implementation Plan lists priority actions related to six categories:

- Civic infrastructure
- Physical image
- Physical infrastructure
- Transportation
- Parks and recreation
- Education

The Implementation Plan first summarizes key actions in each category, and then lists those key actions as a matrix, also indicating their timeframe and which participating groups (the Chamber of Commerce, the City, etc.) are responsible for implementation.

The actions in Chapter 6's Implementation Matrix, which indicate the City as an "Affected Agency or Party," may be added to the City's existing matrix.

CHAPTER 10: LAND USE AND GROWTH MANAGEMENT

Goal #4:

The City will identify and implement strategies to mitigate impacts from and encroachment on Camp Crowder, as identified and discussed in the 2014 Joint Land Use Study, in which the City participated.

Guiding Principles

Work with Camp Crowder officials and the other jurisdiction that participated in the 2014 Joint Land Use Study to encourage development and economic growth in the area of Camp Crowder that is consistent with the ongoing mission of the Training Center.



Appendix D

Case Study: Johnson County, Missouri and Whiteman Air Force Base

Case Study

Whiteman Air Force Base is located in Johnson County, Missouri, near the city of Knob Noster. A 2005 Whiteman AFB Air Installation Compatible Use Zones Study identified noise and accident potential contours outside the boundaries of Whiteman, which impacted private lands and which were recommended for protection.

Unincorporated Johnson County does not have countywide zoning and, in fact, has rejected countywide zoning by referendum on several occasions. However, it does now have the authority to implement “limited-area” military zoning, based on special legislation set forth at § 41.655, MoRS, entitled “Planning and zoning for unincorporated areas near military bases – airport hazard area zoning required (Johnson County).” Like Newton and McDonald Counties, Johnson County does not have an adopted building code.

In September 2007, following a subcommittee’s study of the issue, the Johnson County Military Zoning Commission was created and, two years later, the County adopted the “Military Airport Comprehensive Plan” and began implementing a “Military Airport Zoning Ordinance.” This limited military zoning did not require voter approval, but the process included extensive public outreach, including direct-mail letters to affected property owners and industry representatives.

The only portions of the County subject to the Ordinance are those lands within three thousand feet of Whiteman Air Force Base or within Accident Potential Zones 1 or 2. This area is represented by the hashed line on the map below.

The Ordinance includes the following provisions *only* within the limited “airport zoned area:”

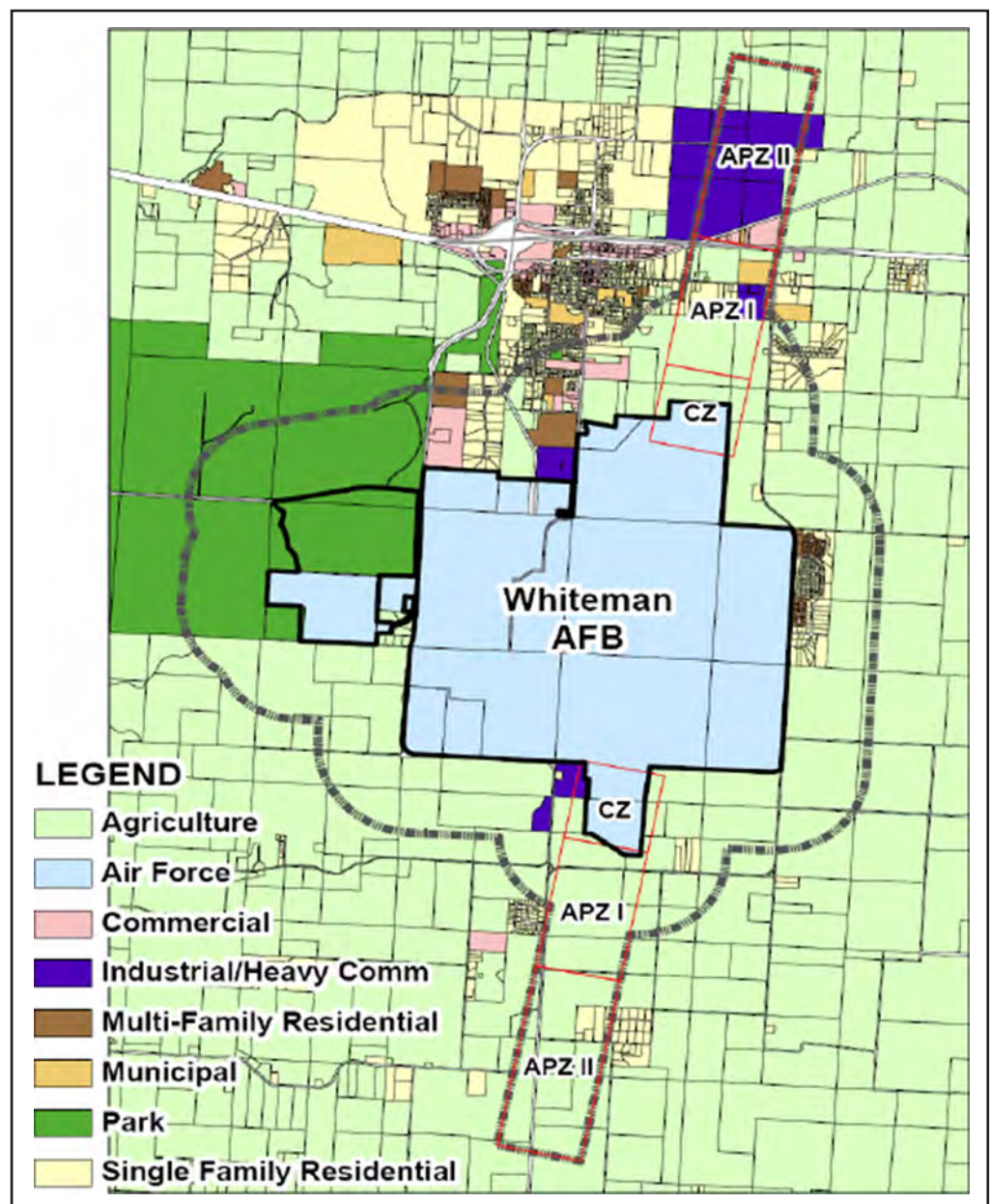
1. No existing land uses or structures are subject to the terms of the Ordinance, unless the use is discontinued for three (3) years (other non-conforming use provisions apply);
2. The Military Airport Zoning Commission enforces the terms of the Ordinance and receives and makes decisions on clearance applications;
3. New applications involving at least 500 square feet of new construction, within the designated area, are required to receive a “military airport zoning clearance” from the Commission;
4. In order to avoid concentration of population within accident potential zones, density, for new homes is limited to 1 unit per 5 acres, with exception of some limited living facilities allowed in a small “out building;”
5. Homes within the zoned area are “highly encouraged” to use sound deadening construction materials to meet or exceed noise level reduction (NLR) standards recommended by the Department of the Navy;
6. Within the military airport zoning area, 5 land use districts are established to ensure that the following use categories are compatible with operations at Whiteman Air Force Base:
 - a. Agricultural and Agricultural Residential;
 - b. Residential;
 - c. Business;



- d. Industrial; and
- e. Municipal or Institutional.

These areas are indicated on the map below.

7. Real estate disclosures are required in the zoned area, notifying potential home buyers that:
 - a. the home is located in an airport zoning area;
 - b. military training can occur twenty-four hours a day;
 - c. that, if the home was built prior to the Ordinance, it may not have been built to withstand the noise levels created by nearby military training operations;
 - d. if the home was built pursuant to reduce indoor noise impacts, what those standards were.
8. Heights are limited to forty (40) feet, unless a different height allowance was made in the AICUZ Report;
9. An appointed “military airport zoning board of adjustment” makes decisions related to modifications and variances needed to avoid unwarranted hardships and undue deprivations of the use of private property. This limited power BOA also handles appeals from administrative decisions in the enforcement of the Ordinance; and
10. Amendments to the ordinance or military airport zoning boundaries are effectuated only by the elected County Commissioners, though property owners also may initiate a change in boundaries.





Appendix E

Sample Annotated Camp Crowder Compatible Growth Area Districts

Note: This sample ordinance is provided as part of the Joint Land Use Study as an example of one option for a JLUS Jurisdictions to consider as they strive to help protect both Camp Crowder’s mission and the quality of life of residents outside the Training Center. Other options are presented in Chapter 5 of the JLUS, some of which may sufficiently address critical needs currently, without the need for regulations at this time. Each jurisdiction should evaluate and determine, on its own, whether a Compatible Growth Area Ordinance¹⁰ is appropriate for all or a portion of its community. If such an ordinance is desired, the JLUS Jurisdictions should note that the framework for adoption varies to some extent by jurisdiction.¹¹

The provisions included here are intended to address most of the major impacts identified in the JLUS; namely, noise, lighting, and the desire for increased coordination between the parties and Camp Crowder on land use matters. Not all of the impacts are experienced in all of the jurisdictions, however.

SAMPLE ORDINANCE

Purpose

The purpose of this ordinance is to protect the safety and quality of life of future residents and employees in proximity to Camp Crowder, to protect the safety of personnel training at Camp Crowder, to accommodate the ongoing mission at Camp Crowder, and to promote the public health, safety, and welfare of the citizens of the City/County.

The intent of the regulations is to ensure that, as provided herein, City/County officials and Camp Crowder coordinate on land use activities impacting or impacted by military training activities. It is the further intent of these provisions to provide reasonable protection against incompatible land uses in the vicinity of Camp Crowder to lessen the impacts of noise on the surrounding community and of off-post lighting on National Guard training activities at Camp Crowder.

10 For Neosho and Goodman, which currently have zoning/land use ordinances, these provisions offer an example of an “overlay” that may be used. The impacts with respect to Goodman are minimal, but since the city was a JLUS participant and has zoning authorities, it is included here.

11 If either Newton County or McDonald County wished to adopt partial compatible growth areas, since neither has zoning and neither expects to consider zoning, they could petition of the General Assembly for limited land use authority similar to that relied upon by Johnson County, Missouri in adopting limited military-compatibility regulations in protection of Whiteman Air Force Base (*see* Appendix D).



Applicability

- (1) Nothing herein shall require a change or alteration to land uses or structures existing on the effective date of this ordinance.¹²
- (2) This ordinance applies only to the following types of development:
 - a. new buildings or structures of at least *<to be determined locally>* square feet; and
 - b. establishment of a new land use after the effective date of this ordinance or the reestablishment of a land use after its discontinuance of *<to be determined locally>* years or more.
- (3) Unless otherwise provided expressly herein, for purposes of applying the provisions of this ordinance to parcels lying only partially within a particular compatible growth area, only the portion of the parcel within the area is subject to the requirements of the applicable compatible growth area.¹³

Definitions

The following terms shall have the following meanings for purposes of enforcing and interpreting this ordinance.

- (1) **Compatible growth area** means an area adjacent to Camp Crowder within which there are documented noise impacts and in which coordination between the County/City and Camp Crowder will occur pursuant to the terms of this ordinance.
- (2) **County military commission** means an appointed commission responsible for overseeing and enforcing the terms of this ordinance as provided herein.¹⁴

Administration (for McDonald County and Newton County).¹⁵

- (1) The County Commissioners will appoint and maintain a county military commission made up of five members as follows:
 - a. Three residents of the County, with at least two such residents residing in a compatible growth area;
 - b. The presiding County commissioner or such commissioner's designee; and
 - c. The County road commissioner.
- (2) The County Commissioners may appoint, as a non-voting ex officio member, a liaison who is stationed at Camp Crowder.
- (3) The county military commission is responsible for maintaining a military comprehensive plan for areas of the County designated as a compatible growth area by this ordinance.
- (4) Any amendments to the military comprehensive plan or to the terms of this ordinance shall be made by the County Commissioners based on the review and recommendation of the county military commission.

12 Ordinances like these commonly exclude existing structures and land uses from its provisions, particularly in cases where existing structures and land uses are generally compatible with nearby military operations. If a JLUS Jurisdiction considers an ordinance similar to this one, it will determine the level or amount of development that would trigger the provisions of the ordinance for that jurisdiction.

13 However, note that, in most cases, if a building is proposed either (a) only partially in a noise-based compatible growth area; or (b) in two separate compatible growth areas, then the more restrictive noise requirements typically will apply to the entire building.

14 Since the cities already have land use and zoning, existing designated boards administering those areas of regulation would oversee and enforce the terms of an ordinance like this one.

15 The manner in which an individual jurisdiction wishes to administer and enforce the terms of this ordinance would be up to its discretion based on subsequently adopted state legislation. The special legislation for Johnson County, for example, includes a limited Board of Adjustment for accepting variance requests and appeals from the decisions of the zoning body enforcing the terms of its military zoning ordinance.



- (5) The county military commission is authorized to coordinate with any other lawfully established county military commission in the vicinity of Camp Crowder for purposes of effectuating this ordinance.

Administration (for the City of Neosho and the City of Goodman). The City's *<designated planning/zoning/land use division>* is responsible for implementing the provisions of this ordinance.

Coordinating officials

At all times following the effective date of this ordinance, the County/City and the Camp Crowder will designate and maintain the following position within their respective agencies.

- (1) County/City coordinating official.
- (2) Camp Crowder coordinating official.

Compatible growth areas

- (1) **Establishment of compatible growth areas.** There are hereby established the following two (2) compatible growth areas, which areas are shown on the compatible growth area map attached hereto:¹⁶
- a. Compatible growth area 1.
 - b. Compatible growth area 2.
- (2) **Compatible use standards.** The following standards apply only within the areas designated as a compatible growth area, as follows:¹⁷
- a. *Compatible growth area 1 (CGA 1).* All land uses otherwise allowed, except for the following noise-sensitive uses:
 1. *<to be determined locally>*;
 2. *<to be determined locally>*; and
 3. *<to be determined locally>*.
 - b. *Compatible growth area 2 (CGA 2).* All land uses otherwise allowed, except that any the following provisions apply to any noise-sensitive land uses and the structures and buildings associated with them:
 1. *<to be determined locally>*;
 2. *<to be determined locally>*; and
 3. *<to be determined locally>*.¹⁸
- (3) **Light emissions.** No development shall be approved that produces light emissions that would interfere with pilot vision and training at Camp Crowder; therefore exterior lighting:
- a. used in conjunction with street, parking, signs, or use of land and structures shall be arranged and operated in such manner that it is not misleading or dangerous to aircraft operating from Camp Crowder;

¹⁶ Potential compatible growth areas could be established based on the noise contours illustrated in Chapter 3 of the Joint Land Use Study; for example within Noise Zones II and III and the small arms and demolition noise zones.

¹⁷ Land uses permitted, encouraged, or discouraged and any conditions on the use of land within the compatible growth areas would be determined by the local jurisdiction considering adoption of a compatible growth districts. However, Army publications such as Operational Noise Management Plans offer relevant guidance as to compatible land use in areas within the noise zones identified in the Joint Land Use Study.

¹⁸ These provisions may include sound attenuation standards.



- b. except for lighting provided in association with single-family homes, mobile homes, and duplexes, exterior lighting, must be fully shielded so that all light emitted by the fixture projects below the horizontal direction and contain shielding permanently affixed to the fixture.¹⁹

Coordination and notice.

(1) **Mission changes.**

- a. The City/County coordinating official will meet on a regular basis with the Camp Crowder coordinating official in order to remain abreast of any changes in mission or training operations that could have off-post impacts on the City/County, its residents, or employees.
- b. In the event that a change in mission or training operations necessitates amendments to this ordinance, including the boundaries of one or more compatible growth areas, the County/City coordinating official will prepare an amended ordinance for consideration of adoption by the jurisdiction's legislative body, as required by Missouri law.

(2) **Development impacts.** In the event that any of the following listed actions are anticipated, the County/City coordinating official will notify the Camp Crowder coordinating official at least **<to be determined locally>** days prior to official County/City action or as soon as possible.²⁰

- a. **<land uses to be coordinated are to be determined locally>;**
- b. **<land uses to be coordinated are to be determined locally>;** and
- c. **<land uses to be coordinated are to be determined locally>.**

Notice under this subsection will be in writing and will advise the Camp Crowder coordinating official of the opportunity to submit comments or recommendations to the City/County coordinating official prior to any hearing or final decision related to the actions listed above.

- (3) **Real estate disclosures.** Sellers of real property within a compatible growth area must disclose the location of Camp Crowder and the existence of this ordinance so that potential buyers are aware that off-post noise and safety impacts may affect the use, value, and enjoyment of the property for sale.
- (4) **No delegation of local authority.** Nothing herein is intended, and should not be interpreted to, authorize or require approval by Camp Crowder.²¹

SECTION 2. SEVERABILITY. If any section, subsection, or clause of this ordinance shall be deemed unconstitutional or otherwise invalid, the validity of the remaining sections, subsections, and clauses, shall not be affected thereby.

SECTION 3. EFFECTIVE DATE. This ordinance shall be effective from and after _____, 20____.

¹⁹ It should be noted that Camp Crowder has a limited capacity to conduct aviation training operations on the installation. Therefore, lighting impacts to the installation from the surrounding community are minimal; however, the jurisdictions may want to consider including provisions that address lighting to provide maximum protection to the Training Center.

²⁰ Some actions to consider adding to this section include: a proposed amendment to a comprehensive plan; a proposed change in zoning map classification, where applicable; or an application for a special exception for a change in land use within a designated compatible growth area.

²¹ The ordinance would not confer decision-making authority to Camp Crowder. It simply would create a formal mechanism for coordinating and receiving comments related to military operations before new land uses or developments are established.



Appendix F

Camp Crowder Training Center Voluntary Real Estate Disclosure

INTRODUCTION

As discussed in Chapter 5 of this study, the State of Missouri does not mandate that sellers of real estate in the vicinity of military installations make known to prospective buyers the existence of known off-post military impacts. Thus, the state's current standard real estate disclosure form does not include a section about military impacts. This is not to say, however, that the JLUS Jurisdictions and other organizations, such as local Realtors' associations, cannot choose to encourage the use voluntary disclosure statements. The primary purpose of using real estate disclosure statements is to protect those involved in the transaction, such as the buyer, seller, and real estate agents, and to allow for fully-informed decision-making by all parties.

CAMP CROWDER AWARENESS ZONE

VOLUNTARY REAL ESTATE DISCLOSURE STATEMENT

If you are contemplating buying, selling or developing a property near Camp Crowder, or are otherwise arranging for a tract of land near Camp Crowder to be occupied, you should be aware that the area depicted on this map *<insert map indicating 2014 Joint Land Use Study "Focus Area">* may be subject to noise or other conditions from military operations at Camp Crowder.

These conditions could possibly include noise from military operations during the day or night.

Camp Crowder is a Training Center for the Missouri National Guard. New occupants or residents moving to locations near its borders should realize that they could experience the above conditions resulting from living near a military Training Center. Additional information concerning Camp Crowder is available at *<web address for applicable JLUS Jurisdiction or a Joint Land Use Working Group>*.



Appendix G

Meeting Minutes for the JLUS Policy and Technical Committees

Meeting Minutes
JLUS Policy Committee for the
Camp Crowder 2013 Joint Land Use Study
OCTOBER 1, 2013
1:30 p.m.

JLUS Team Leader, Tyson Smith, opened the meeting and those in attendance introduced themselves. New Committee Members were identified.

Tyson gave an overview of the stakeholder meetings conducted between September 17th and 18, 2013; listing stakeholders who were interviewed and generalized overview of the feedback, which was positive and supportive of Camp Crowder's mission and continued presence in the community. The Committee also agreed (with the Technical Committee) that Kansas City Southern be contacted so that impacts on or from its operations could be considered.

Tyson gave the Committee some background on the initial noise contours associated with training at Camp Crowder and led a discussion related to the appropriate JLUS study area. The Committee agreed that the primary area of focus should be one mile from Camp Crowder, except where the most immediate noise impacts are more than one mile. However, all noise impacts should be evaluated, regardless of their magnitude. Since the City of Goodman could be impacted, if infrequently, the Committee agreed with the Technical Committee recommendation to invite a representative from the City of Goodman to participate on the Policy Committee.

JLUS Team Member, Elizabeth Scaggs, shared the first informational brochure with the Committee. Elizabeth also reviewed the Public Survey and Polling process with the Committee, including the list of questions, the web-based platform for the Survey and the hard-copy availability of the Survey.

Tyson then reviewed the project website set up by members of Benchmark and reviewed the contents of the Public Meeting to be held that evening.

Finally, Tyson proposed a series of next steps, which were accepted by the Committee; including (a) the end of the public survey on November 15; (b) presentation of the SWOT Analysis, Land Use Analysis, and Survey Results to the Committee in December; and (c) presentation of the SWOT Analysis, Land Use Analysis, and Survey Results at the second Public Meeting in December. The Committee accepted the December 12th dates proposed for these meetings.

The meeting was adjourned at about 2:30 p.m.



Meeting Minutes
JLUS Technical Committee for the
Camp Crowder 2013 Joint Land Use Study
October 1, 2013
11:00 a.m.

JLUS Team Leader, Tyson Smith, opened the meeting and those in attendance introduced themselves. New Committee Members were identified.

Tyson gave an overview of the stakeholder meetings conducted between September 17th and 18, 2013; listing stakeholders who were interviewed and generalized overview of the feedback, which was positive and supportive of Camp Crowder's mission and continued presence in the community. The Committee also suggested that Kansas City Southern be contacted so that impacts on or from its operations could be considered.

Tyson gave the Committee some background on the initial noise contours associated with training at Camp Crowder and led a discussion related to the appropriate JLUS study area. The Committee agreed that the primary area of focus should be one mile from Camp Crowder, except where the most immediate noise impacts are more than one mile. However, all noise impacts should be evaluated, regardless of their magnitude. Since the City of Goodman could be impacted, if infrequently, the Committee elected to invite a representative from the City of Goodman to participate on the Committee.

JLUS Team Member, Elizabeth Scaggs, shared the first informational brochure with the Committee. Elizabeth also reviewed the Public Survey and Polling process with the Committee, including the list of questions, the web-based platform for the Survey and the hard-copy availability of the Survey.

Tyson then reviewed the project website set up by members of Benchmark and reviewed the contents of the Public Meeting to be held that evening.

Finally, Tyson proposed a series of next steps, which were accepted by the Committee; including (a) the end of the public survey on November 15; (b) presentation of the SWOT Analysis, Land Use Analysis, and Survey Results to the Committee in December; and (c) presentation of the SWOT Analysis, Land Use Analysis, and Survey Results at the second Public Meeting in December. The Committee accepted the December 12th dates proposed for these meetings.

The meeting was adjourned at about 11:50 a.m.



Meeting Minutes
JLUS Policy Committee for the
Camp Crowder 2014 Joint Land Use Study
December 12, 2013
1:00 p.m.

JLUS Team Leader, Tyson Smith, opened the meeting and those in attendance introduced themselves. In attendance: 1st Lieutenant Jason Snyder (Camp Crowder, MoARNG), Dana Daniel (City of Neosho), Troy Royer (City of Neosho), Nathan Jurey (HST Coordinating Council), Alan Cook (Newton County Commission), and David Halloway (McDonald County Commission).

The Committee approved the minutes from its October 1, 2013 meeting, without amendment. Tyson gave an overview of the tasks underway and the scope of the presentations for the meeting. Tyson updated the committee on communications with Kansas City Southern Railway representatives and reported that KCSR is unaware at this time of any expansion plans that would impact lands around Camp Crowder or of any activities from Camp Crowder impacting its operations. KCSR representatives advised Tyson that changes to their tracks are market driven and occur as needed and could occur in the future near Crowder. KCSR is aware the JLUS is being performed and its input was welcomed.

He then introduced Elizabeth Scaggs from Marstel-Day and Vagn Hansen from Benchmark.

Vagn reviewed the draft Land Use Compatibility Assessment including:

- Existing, zoned, and future land use designated uses (where available)
- the small arms and demolition training noise contours
- night light impacts from growth between 1992 and 2010
- potential conflicts between Neosho Hugh Robinson Airport and Camp Crowder

Elizabeth then reviewed the initial SWOT Analysis and explained to the committee that it would form the basis for the JLUS Project Team's final recommendations. Elizabeth also reviewed the results of the Public Survey conducted between October 1 and November 15, 2013. The majority of responses was positive and supported the ongoing presence of Camp Crowder and of taking steps to perpetuate its presence.

The Committee then gave the following input:

- **Heavy detonations:** Lt. Snyder confirmed that heavy charges are not detonated unless there is at least a 5,000-foot cloud cover ceiling and that charges of more than 50 lbs are never detonated.
- **Night Lighting:** The Committee discussed potential sources of night lighting around Camp Crowder and, in particular to the southwest and south of the site.
- **Airport Operations:**
 - ❖ Suggested that additional posting at the airport and, if allowed by the FAA, along the runways, to advise pilots of the potential for training to occur at Crowder and for live fire to enter the airspace above the installation
 - ❖ Suggested that civil pilots be aware not only of the dangers created from training fire, but also of the fact that if pilots enter the Training Center, that all training must cease, potentially requiring that qualification training be stopped and, in some cases, terminated for that training day.
 - ❖ It was suggested that if still or video images of the night training that can threaten civilian air traffic can be obtained that it be made available as part of the outreach effort at the Neosho Hugh Robinson Airport.



The Committee otherwise affirmed the preliminary findings in the SWOT Analysis, Land Use Compatibility Assessment, and the Public Survey Results.

Finally, Tyson proposed a series of next steps, which were accepted by the Committee; including (a) a joint meeting of the Policy and Technical Committees on January 28th to prioritize potential JLUS implementation tools and strategies; (b) presentation of the draft JLUS in February to the Committee and; (c) presentation of the draft JLUS to the public in March. The Committee also was invited to attend the public meeting that evening at Crowder College.

The meeting was adjourned at about 2:00 p.m.



Meeting Minutes
JLUS Technical Committee for the
Camp Crowder 2014 Joint Land Use Study
December 12, 2013
2:30 p.m.

JLUS Team Leader, Tyson Smith, opened the meeting and those in attendance introduced themselves. In attendance were 1st Lieutenant Jason Snyder (Camp Crowder, MoARNG), Camille Graves (MoDNR), Nathan Jurey (HST Coordinating Council), Kevin Wilson (representing New-Mac Electric), Julie Zibert (MoDOT), Gary Roark (Newton County EMA), and Jeff Brown (Empire District Electric).

The Committee approved the minutes from its October 1, 2013 meeting, without amendment. Tyson gave an overview of the tasks underway and the scope of the presentations for the meeting. Tyson updated the committee on communications with Kansas City Southern Railway representatives and reported that KCSR is unaware at this time of any expansion plans that would impact lands around Camp Crowder or of any activities from Camp Crowder impacting its operations. KCSR representatives advised Tyson that changes to their tracks are market driven and occur as needed and could occur in the future near Crowder. KCSR is aware the JLUS is being performed and its input was welcomed.

He then introduced Elizabeth Scaggs from Marstel-Day and Vagn Hansen from Benchmark.

Vagn reviewed the draft Land Use Compatibility Assessment including:

- Existing, zoned, and future land use designated uses (where available)
- the small arms and demolition training noise contours
- night light impacts from growth between 1992 and 2010
- potential conflicts between Neosho Hugh Robinson Airport and Camp Crowder

Lt. Snyder updated the Committee on the measures the Camp is taking to reduce the impacts off-site associated with demolition training, including restricts on cloud cover (at least 5,000 feet) and charge (not more than 50 lbs). Tyson then updated the Committee on the suggests made by the Policy Committee with respect to the Neosho Hugh Robinson Airport.

Elizabeth then reviewed the initial SWOT Analysis and explained to the committee that it would form the basis for the JLUS Project Team's final recommendations. Elizabeth also reviewed the results of the Public Survey conducted between October 1 and November 15, 2013. The majority of responses was positive and supported the ongoing presence of Camp Crowder and of taking steps to perpetuate its presence.

The Committee affirmed the preliminary findings in the SWOT Analysis, Land Use Compatibility Assessment, and the Public Survey Results.

Finally, Tyson proposed a series of next steps, which were accepted by the Committee; including (a) a joint meeting of the Policy and Technical Committees on January 28th to prioritize potential JLUS implementation tools and strategies; (b) presentation of the draft JLUS in February to the Committee and; (c) presentation of the draft JLUS to the public in March. The Committee also was invited to attend the public meeting that evening at Crowder College.

The meeting was adjourned at about 3:00 p.m.



Meeting Minutes
Joint Meeting of the JLUS Policy & Technical Committees
for the
Camp Crowder 2014 Joint Land Use Study
January 28, 2014
10:30a.m.

JLUS Team Leader, Tyson Smith, opened the meeting and those in attendance introduced themselves. In attendance: 1st Lieutenant Jason Snyder (Camp Crowder, MoARNG), CPT Charlie Ledgerwood (Camp Crowder, MoARNG), Dana Daniel (City of Neosho), Troy Royer (City of Neosho), Jason Ray (HST Coordinating Council), Alan Cook (Newton County Commission), David Halloway (McDonald County Commission), Julie Zibert (MoDOT), David Brodie (for Paula Brodie, City of Goodman), Jeff Brown (Empire District Electric), Nate Forbes (MDC), and Camille Graves (MoDNR).

The Committee affirmed the minutes from the Policy and Technical Committee meetings held on December 12, 2013, without amendment. Tyson gave an overview of the tasks underway and the scope of the presentations for the meeting. Tyson updated the committee on the Public Meeting held on the evening of December 12, 2013; reporting on the content of the presentation by the JLUS Project Team and the attendance at the public meeting. Tyson also updated the Committees on the recently announced “Missouri Military Partnership” created by Governor Nixon designed to retain, enhance, and protect Department of Defense installations and presence in the state. Tyson indicated that a report from the Partnership is due to Gov. Nixon by March 31st.

Tyson then presented the JLUS implementation tools recommended to address the compatibility impacts identified earlier in the study and reviewed with the Committees in December and resulting from the SWOT Analysis also reviewed in December with the Committees.

The tools discussed were categorized into 8 areas, some voluntary in nature, others compulsory. Tyson described the factors to guide their prioritization and requested the Committees’ direction as he sent through 8 areas and tools within each area.

Committee input included:

- That an implementation working group be assembled based on the steering committee model used during the development of the JLUS; perhaps with coordination and support provided by the HSTCC as funds were available;
- The Committee agreed that whether signage informing the public of off-post impacts from Camp Crowder was not a priority at this point and should be evaluated at the implementation stage, based on other tools proposed for implementation;
- That consideration of whether to adopt new plan or policy measures in the JLUS Jurisdictions other than Neosho were appropriate for evaluation during the 2-5 year planning term;
- The Committee felt that voluntary guidelines should be identified for consideration by Neosho and Goodman, as well as Newton County and McDonald County.
- The Committee felt that any required implementation measures likely are not appropriate at this time in the non-zoned jurisdictions, but that the tools should be identified in the study since they are legal available under the statutory framework. The Committee felt that by including these tools as options, then the community members and officials could evaluate their appropriateness with full information available to them.

The Committees also proposed the addition of a member of the business community to the Committees to replace the Gib Garrow.

Finally, Tyson proposed a series of next steps, which were accepted by the Committee; including (a) a joint meeting of the Policy and Technical Committees on February 25th at 10 a.m. at Bldg 801, Camp Crowder, in order to review the initial draft of the JLUS report; (b) presentation of the draft JLUS on March 26th at 5:30 p.m. at Crowder College to review the draft Report; and (c) presentation of the final JLUS Report to the Committees in joint session on April 23rd at 9:30 a.m. on April 23rd. The JLUS will be presented to the HST Coordinating Council the same day at its regular meeting, starting at 11:30 a.m.

The meeting was adjourned at about 11:35 a.m. **Meeting Minutes**



Meeting Minutes
Joint Meeting of the JLUS Policy & Technical Committees
for the
Camp Crowder 2014 Joint Land Use Study
February 25, 2014
10:00 a.m.

In attendance: 1st Lieutenant Jason Snyder (Camp Crowder, MoARNG), Dana Daniel (City of Neosho), Troy Royer (City of Neosho), Jason Ray (HST Coordinating Council), Alan Cook (Newton County Commission), Julie Zibert (MoDOT), Paula Brodie (City of Goodman), Jeff Brown (Empire District Electric), Nate Forbes (MDC), Kevin Wilson (New-Mac Electric), Mike Franks (Dept of Econ. Dev., NABIFI), Harry Rogers (HSTCC), and Camille Graves (MoDNR).

JLUS Project Manager, Tyson Smith, introduced Elizabeth Scaggs, JLUS Team Member, and introduced new Committee Member, Mike Franks, who replaced Gib Garrow, and Member Paula Brodie, since she was attending her first meeting. Tyson then gave an overview of the tasks underway and the scope of the presentations for the meeting. Tyson and Elizabeth then gave an overview of the first draft of the Joint Land Use Study.

Tyson overviewed the purpose and process for the study, which was detailed in Chapter 1 of the draft JLUS. Elizabeth then reviewed Chapter 2 and Chapter 4, giving the background information for the study and the direction the community and Camp Crowder were anticipated to take in the coming years. Elizabeth explained the sources of the background information and how that information was used to inform the SWOT Analysis and, ultimately, the recommendations in the final chapter of the JLUS.

Tyson then walked the Committee through Land Use Compatibility Assessment set out in Chapter 3 of the draft Report. He refreshed the Committee's memory on the small arms and demolition noise contours that extend beyond the boundaries of Camp Crowder and the existing, zoned, and future land uses within those areas. Tyson also discussed the civil aviation and outdoor lighting impacts that are evaluated in the JLUS, pointing out that these three areas were those highlighted in the SWOT analysis. It was pointed out by the Committee that the narrow strip of land along the southwest border of the southern training range at Camp Crowder, currently owned by the Missouri Department of Conservation, may change ownership in the future as discussions with the Missouri National Guard have been ongoing. However, the Committee recognized that those discussions remain preliminary and that, were the property every transferred to the Guard, that the land use of the property likely would remain the same: as a natural buffer between off-post land uses and the Training areas of Camp Crowder. Committee Member, Mike Franks, discussed how the land use planning around Camp Crowder may be consistent with industrial lands and future industrial opportunities west of Camp Crowder and south of the existing primary industrial areas.

Tyson discussed the Missouri statutory framework for the cities and counties in the JLUS focus area and the scope of their authority to adopt implementation tools in 8 categories. He also reminded the Committees of the state efforts to maintain DoD presence in the state, including the Missouri Preparedness and Enhancement Commission and the newly-created Missouri Military Partnership.

Tyson reviewed the Implementation Matrix and how it reflected the recommendations of the committee as discussed at its last meeting in January; as well as the concise version of the Matrix as it appears in the Executive Summary. The Committee discussed whether to leave the regulatory tools as being considered during the first two years of JLUS implementation, since Neosho and Goodman were the only jurisdictions currently with land use or zoning regulations. No changes were made, leaving it up to the jurisdictions to decide within 0-5 years whether regulatory steps are appropriate in each individual jurisdiction.

Tyson then lead a discussion with the Committees on each of the prioritized tools included in the Appendix of the draft Report. First, he described the nature and potential scope of a Memorandum of Understanding and how this tool can be used to coordinate ongoing activities during and following an implementation phase of the JLUS to follow.

Noting the need to efficiently respond to and inventory inquiries about noise at Camp Crowder, Ms. Brodie indicated that, on occasion, new residents in Goodman will call the City to ask what the noises they hear are. The Committee felt it important to address this sort



of noise inquiry during the JLUS implementation phase. Lt. Snyder indicated that, in most cases, he is aware 60-90 days before heavy detonations occur that were most likely to create noise sufficient to reach Goodman. The current procedure already includes notification to the local stakeholders prior to these heavy charges being used.

The Committee discussed funding and management of a Joint Land Use Working Group website, following the completion of the JLUS project. Options, including city, county, and the HSTCC webpages and support were discussed.

Tyson then reviewed the frameworks for potential comprehensive plan, regulatory, and voluntary real estate disclosure implementation and the appendices associated with each. Tyson reviewed for the Committee's consideration the approach used at the Whiteman Air Force Base in Knob Noster and Johnson County. The Committee discussed whether such an approach might be appropriate in the JLUS Focus Area and agreed that the community, after deliberation and analysis of alternatives, should be involved in that important decision. There was support among a number of committee members for further consideration during implementation and to consider real estate disclosures so that new residents and businesses would be aware of Camp Crowder's presence and training impacts. There was also the suggestion that low density (consistent with existing trends) was appropriate in areas proximate to the Training Center if Camp Crowder is to continue its mission in the region.

Finally, Tyson proposed a series of next steps, which were accepted by the Committee; including (a) presentation of the draft JLUS on March 26th at 5:30 p.m. at Crowder College for the public to review the draft Report; (b) presentation of the final JLUS Report to the Committees in joint session on April 23rd at 9:30 a.m.; and (c) presentation of the final report to the public on May 20th at 5:30 at Crowder College. The JLUS will be presented to the HST Coordinating Council at its meeting on April 23rd at noon.

The meeting was adjourned at about 11:30 a.m.