

CAMP^W_G WILLIAMS

JOINT LAND USE STUDY

October 2012



A SPECIAL THANKS

A special thanks to the participating communities that assisted in the development of the Camp Williams Joint Land Use Study and Background Report.

- Bluffdale City
- Cedar Fort Town
- Eagle Mountain City
- Herriman City
- Lehi City
- Salt Lake County
- Saratoga Springs
- Utah County

POLICY COMMITTEE

The Policy Committee served an active and important role in providing policy direction during the development of the Camp W.G. Williams Joint Land Use Study (JLUS). The Policy Committee was comprised of the following individuals:

Name	Title	Entity
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Mark Reid	City Manager	Bluffdale City
LTC Tyler Smith	LTC / Base Operations Manager	Camp Williams (Alternate)
Heather Jackson	Mayor	Eagle Mountain City
Steve Mumford	Planning Director	Eagle Mountain City (Alternate)
Coralee Moser	Councilmember	Herriman City
Raquel DeLuca	Former Councilmember	Herriman City
Gordon Haight	Assistant City Manager	Herriman City (Alternate)
Bert Wilson	Mayor	Lehi City
Doug Meldrum	Econ. Dev. Director	Lehi City (Alternate)
Nicole Dunn	Deputy Mayor	Salt Lake County
Rolen Yoshinaga	Planning Director	Salt Lake County
Travis Van Ekelburg	Urban Planner	Salt Lake County (Alternate)
Shellie Baertsch	Councilmember	City of Saratoga Springs
Jim McNulty	Planning Director	City of Saratoga Springs (Alternate)
COL Matt Price	CFMO Director	Utah Army National Guard
Gary Anderson	County Commissioner	Utah County
Bryce Armstrong	Asst. Planning Director	Utah County (Alternate)

TECHNICAL COMMITTEE

The Technical Committee also served a key role in the development of the Camp W.G. Williams JLUS. They provided the overall technical support, review and guidance of the study. The Technical Committee was comprised of the following individuals

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Matt Branham	LTC / Design and PM	Camp Williams
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Gordon Haight	Assistant City Manager	Herriman City
Heather Upshaw	Planner III	Herriman City
Luann Leavitt	Representative	Jordan School District (JSD)
Kim Struthers	Planning Director	Lehi City
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This study was prepared under contract with Eagle Mountain City, with financial support from the Office of Economic Adjustment, Department of Defense. The content reflects the views of the key partners involved in the development of this study including Cities of Bluffdale, Eagle Mountain, Herriman, Lehi, and Saratoga Springs, the Counties of Salt Lake and Utah and Camp Williams and does not necessarily reflect the views of the Office of Economic Adjustment.

A

Acq – Acquisition
ACUB – Army Compatible Use Buffer
AE- Alternative Energy
AQ – Air Quality
APO – Agriculture Protection Overlay Zone
ASD – Alpine School District
AT – Anti-Terrorism / Force Protection
AT / FP – Anti-Terrorism / Force Protection
ATC – Aviation Troop Command

B

BLM – Bureau of Land Management

C

CIP – Capital Improvement Plan
CL – Competition for Land and Air Space
Comm – Communication
CR – Cultural Resources

D

Disc – Real Estate Disclosure
DNR – Division of Natural Resources
DoD – Department of Defense
DPG – Dugway Proving Ground
DS – Dust and Smoke

F

FAA – Federal Aviation Administration
FC – Frequency Spectrum Capacity
FFSL – Utah Division of Forestry, Fire and State Lands
FI – Frequency Spectrum Interference
FY – fiscal year

H

HA – Housing Availability

Hab – Habitat Management Plan

I

I-15 – U.S. Interstate 15
IC – Intergovernmental Coordination/Communication
IE – Infrastructure Extensions
IED – Improvised Explosive Device
ICRMP – Integrated Cultural Resources Management Plan
INRMP – Integrated Natural Resource Management Plan
IWFMP – Integrated Wildfire Management Plan

J

JLUS – Joint Land Use Study
JSD – Jordan School District

L

Leg – Legislative Initiative
LG – Light and Glare
LI – Legislative Initiatives
LU – Land Use

M

MAG – Mountainland Association of Governments
MCA – Military Compatibility Area
MCAOD – Military Compatibility Area Overlay District
MOU – Memorandum of Understanding

N

NAAQS – National Ambient Air Quality Standards
NR – Scarce Natural Resources
NVD – Night Vision Device

O

OEA – Office of Economic Adjustment

P

Plans – Plans and Programs
PC – Policy Committee

PM-10 – Particulate matter 10 micrometers in diameter

PT – Public Trespassing

R

RC – Roadway Capacity
REPI – Readiness Environmental Protection Initiative
RMP – Resource Management Plan

S

SA – Safety
SITLA – Utah School and Institutional Trust Lands Administration
SLCIA – Salt Lake City International Airport

T

TC – Technical Committee
TE – Threatened and Endangered Species

U

UDC – Utah Data Center
UDOT – Utah Department of Transportation
U.S. – United States
UTARNG – Utah Army National Guard
UTNG AGCW – Utah National Guard Army Garrison Camp Williams
USFWS – United States Fish and Wildlife Service

V

VO – Vertical Obstructions

W

WFRC – Wasatch Front Regional Council
WOD – Wildfire Overlay District
WS – Water Supply and Quality

Z

Zon – Zoning

Table of Contents



Sections

1.	JLUS Project Overview.....	1
2.	JLUS Study Area Profile	6
3.	Assessment Methodology	7
4.	Compatibility Assessment	9
5.	Recommended Plan	13

Figures

Figure 1.	Camp Williams JLUS Study Area.....	5
Figure 2.	Military Compatibility Area Overlay District (MCAOD).....	14
Figure 3.	Impulse Noise MCA	15
Figure 4.	Light MCA	16
Figure 5.	Aviation Safety MCA	17
Figure 6.	Land Use MCA	18
Figure 7.	Sample Strategy Table	20

Tables

Table 1.	High Priority Issues and Strategies.....	21
Table 2.	Medium Priority Issues and Strategies	31
Table 3.	Low Priority Issues and Strategies	34
Table 4.	Awareness Issues and Strategies	37

A Joint Land Use Study (JLUS) is a collaborative planning process that balances the needs of communities and Camp Williams to promote compatible and sustainable growth.

JLUS PROJECT OVERVIEW

The Camp Williams Joint Land Use Study (JLUS) is a joint effort between the cities of Bluffdale, Eagle Mountain, Herriman, Lehi and Saratoga Springs, the counties of Salt Lake and Utah, and Camp Williams. The Joint Land Use Study was undertaken in an effort to guide planning and development in local governments surrounding Camp Williams. Camp Williams is the primary training site for Utah National Guard troops, and is used as supplemental training space for Fort Bragg (California) troops. These activities are vital to continuing the military mission in Utah, and the land used for the activities must be protected. Landowners with property near Camp Williams, and residents and business owners on property surrounding Camp Williams must also be protected from adverse impacts that could occur due to training activities associated with Camp Williams. Joint planning efforts on the part of the local governments and Camp Williams will establish recommended strategies that will equally protect all interested parties.

The Joint Land Use Study for Camp Williams has resulted in a set of strategy recommendations in the areas of policy, planning and zoning, coordination and communication, and outreach. A set of strategies was provided to address each Camp Williams Compatibility Factor. Each Compatibility Factor was assigned a priority of importance (high, medium, low, and awareness) for implementation. ***One of the key recommendations is for the formation of a JLUS Implementation Team that will be responsible for overseeing the progress on implementation in the months and years after the JLUS is completed.*** The recommended strategies are outlined in more detail in Section 5 of this report. Additionally, a Background Report was prepared in conjunction with the JLUS that details the compatibility issues and process that went into the development of the strategies.

These recommendations address the need for increased coordination and communication between the Camp Williams staff, local governments, regional agencies and the public. They also seek to address public health, safety, and welfare, and protection of quality of life in the areas surrounding Camp Williams. The collaborative spirit of the Joint Land Use Study is an effective starting point for a continued collaborative planning and communication effort between all involved parties.

WHY DO A JLUS?

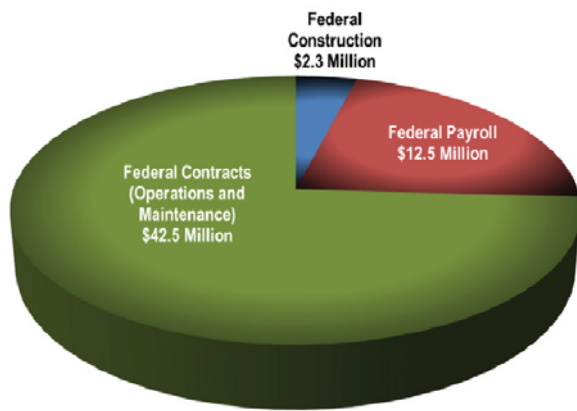
A JLUS is necessary to ensure the future compatibility between land uses necessary to support the continuation of the military mission at Camp Williams and the increasing civilian development occurring near the installation.

Camp Williams operates in a dual-mission capacity – State and Federal. The State mission is authorized by the Governor of Utah in times of emergency, including the preservation of peace, order, and public safety. The Federal mission is enforced by the President of the United States (U.S.) requiring the Utah Army National Guard (UTARNG) to provide well-equipped and well-trained military units to support the U.S. government in times of war and national emergencies.

Economic Benefit to the Region

In addition to being a critical Utah National Guard training facility, Camp Williams is also an important economic engine contributing to the regional economy through sustained direct employment, indirect spending, and construction. The JLUS assists in preserving the continued economic benefit that Camp Williams provides. In 2011, Camp Williams served an important role in the regional economy. Operations at Camp Williams employ federal and federally-reimbursed state employees as well as National Guard members. In fiscal year 2011 (FY11), Camp Williams employed a total of 2,385 personnel, 148 of which are non-military positions. Camp Williams alone employs 27% of the total positions within the UTARNG. In addition, military and civilian personnel who are not in-training or transient-status must reside off-base; therefore, the revenue associated with housing and the purchase of goods and services is directly distributed into the local economies. In FY11, Camp Williams generated over \$57.3 million in economic impact for the local economy. This \$57.3 million impact is broken into three categories: federal construction at \$2.5 million, federal contracts procured at \$42.5 million, and annual payroll at \$12.5 million (see chart on next page).

1. JLUS Project Overview



Community Support

As a community presence, Camp Williams contributes much more than economic benefit to the area. The installation is an important asset to the civilian community, as it is used by federal and local law enforcement for training, local youth groups for team-building retreats, and the public for a variety of special events. The Camp is also valuable through the many community services they support.

Some of the regular public users of Camp Williams include the Honorary Colonels Corps, the Boy Scouts, Civil Air Patrol, and the Freedom Academy along with more than 75 youth groups. The most popular facilities include the rappel tower and Leadership-Reaction Course.

In addition, the units at Camp Williams assist the State of Utah and the local communities during natural disasters and other incidents. For example, the 211th Aviation Battalion assisted the Unified Fire Authority and Utah Forestry, Fire and State Lands in fighting the Herriman Fire in 2010. Thus, the UTARNG and Camp Williams have an important civil role for which they provide numerous services for in the region.

Compatibility Concerns

At Camp Williams, the compatibility concerns relate to the growing population and the expansion of developed land taking place in the incorporated communities surrounding the installation. Over the past 10 years, the local communities surrounding Camp Williams have increased in population by approximately 260%, from a population base of nearly 29,000 in the year 2000 to over

103,000 by the year 2010. By the year 2020, the region is expected to surpass 236,000, representing a ten-year growth rate of nearly 130%. Such growth has the potential to cause development and infrastructure to be located in areas that are adjacent to or proximate to Camp Williams. While adjacent development exists in selected locations along the Camp perimeter, without proper oversight and guidance, this continued pattern of development could unintentionally jeopardize the UTARNG's ability to train its resident and visiting personnel at Camp Williams.

WHAT IS A JOINT LAND USE STUDY?

A JLUS is a planning process accomplished through the collaborative efforts of all key stakeholders in a defined study area. These stakeholders include local, county, regional, state, and federal officials, residents, business owners, non-governmental organizations, and both installation and state military representatives. The purpose of a JLUS is to identify compatible land uses and growth management guidelines within, and adjacent to, active military installations, such as Camp Williams. The intent of the process is to establish and foster a working relationship among a military installation and its proximate local jurisdictions to act as a team to prevent and / or curtail encroachment issues associated with achieving existing mission objectives, allowing mission expansion (no boundary expansion) and fostering community economic development goals.

The Camp Williams JLUS was funded through a grant from the Department of Defense (DoD), Office of Economic Adjustment (OEA), and contributions by Eagle Mountain City. Eagle Mountain City was the administrator for the grant and managed the development of this JLUS.

JLUS Goal and Objectives

The goal of the Camp Williams JLUS is to protect the viability of current and future training operations at Camp Williams while simultaneously guiding compatible community growth, sustaining the environmental and economic health of the region, and protecting public health, safety, and welfare in the areas surrounding Camp Williams.

The primary objectives of the Camp Williams JLUS are the following:

- **Understanding** – Convene community and military representatives to identify, confirm, and understand the issues in an open forum, taking into consideration both community and UTARNG perspectives and needs. This includes public awareness, education, and input organized in a cohesive outreach program.
- **Collaboration** – Encourage cooperative land use and resource planning among Camp Williams and surrounding communities so that future community growth and development is compatible with the training and operational missions at the installation, while at the same time seeking ways to reduce operational impacts on adjacent lands within the study area.
- **Actions** – Provide a set of mutually supported actions (tools, activities, and procedures) to be implemented by the jurisdictions, agencies, and Camp Williams / UTARNG involved in this JLUS. The actions proposed include both operational measures to mitigate installation impacts on surrounding communities and local government and agency approaches to reduce community impacts on military operations. These tools will help both civilian and military decision makers resolve compatibility issues and prioritize projects within the annual budgeting process of their respective military entity / jurisdiction.

JLUS PARTNERS

As highlighted in the objectives stated previously, the JLUS process was designed to create a locally relevant study that builds consensus and obtains support from the various stakeholders involved. To achieve the stated JLUS goal and objectives, the planning process included a public outreach program that utilized a variety of opportunities for interested parties to contribute to the development of this study.

Stakeholders include individuals, groups, organizations, and governmental entities interested in, affected by, or affecting the outcome of the JLUS project. An early step in any planning process is the identification of stakeholders. Informing or involving them early in the project is instrumental in the identification of their most

important issues to address and resolve through the development of integrated strategies and measures. Stakeholders identified for the Camp Williams JLUS included, but were not limited to, the following:

- Camp Williams and UTARNG personnel
- Local jurisdictions (towns, cities, counties and Metropolitan Planning Organizations).
- Other partner agencies and organizations, such as local, regional, and state planning, regulatory, and land management agencies; landholding and regulatory federal agencies; landowner and realty associations; and other special interest groups (including local educational institutions and school districts).
- The general public, including residents and landowners.

These groups of stakeholders played a critical role in the development of the Camp Williams JLUS and Background Report. Their input provided comprehensive, technical guidance relevant to their jurisdiction's policies, regulations, culture, and values. The Camp Williams stakeholder groups helped shape the various strategies identified in this document.

Local Communities

This JLUS could not have been possible without the many hours and efforts provided by the eight JLUS communities affected by this study (see Figure 1 on page 5 for the location of each community):

- Bluffdale City
- Cedar Fort Town
- Eagle Mountain City
- Herriman City
- Lehi City
- Salt Lake County
- Saratoga Springs
- Utah County

1. JLUS Project Overview

Other Agency / Organization Partners

In addition to the partners listed above, the Camp Williams JLUS partnered with other agencies and organizations that provide a state, regional and / or community perspective. These partners brought to the study a vast, expert knowledge base in varying disciplines, including state land use management practices, regional transportation practices, natural resources and fire management, and a local “on-the-ground” perspective relevant to the unique land features as well as land ownership patterns. A complete listing of the affiliated stakeholder groups that played a vital role in the development of the Camp Williams JLUS follows:

- Alpine School District
- Bureau of Land Management (BLM)
- Jordan School District
- Mountainland Association of Governments
- Utah Department of Natural Resources
- Utah Department of Transportation
- Utah Division of Forestry, Fire, and State Lands
- Utah Division of Water Resources
- Utah Schools and Institutional Trust Lands Administration
- Wasatch Front Regional Council

These partners provided invaluable insights and perspectives to the development of the JLUS and the Background Report.



Public Participation

The general public was instrumental in the development of this JLUS and its strategies by providing their perspective and feedback, both in the public forums and through the use of the interactive project website (www.campwilliamsjlus.com). During the development of the JLUS, three public workshops were held to solicit public input on the direction and content of the JLUS.



JLUS Committees

Two committees, comprised of city, county, military, and other partner agencies and organizations, guided the development of the Camp Williams JLUS. These committees were:

- **Policy Committee (PC).** This committee was responsible for leading the direction of the JLUS; its members are listed in the Acknowledgments section of this report.
- **Technical Committee (TC).** The TC identified and addressed technical issues, provided feedback on report development, and assisted in the development and evaluation of implementation strategies. The TC members are listed in the Acknowledgments section of this report.

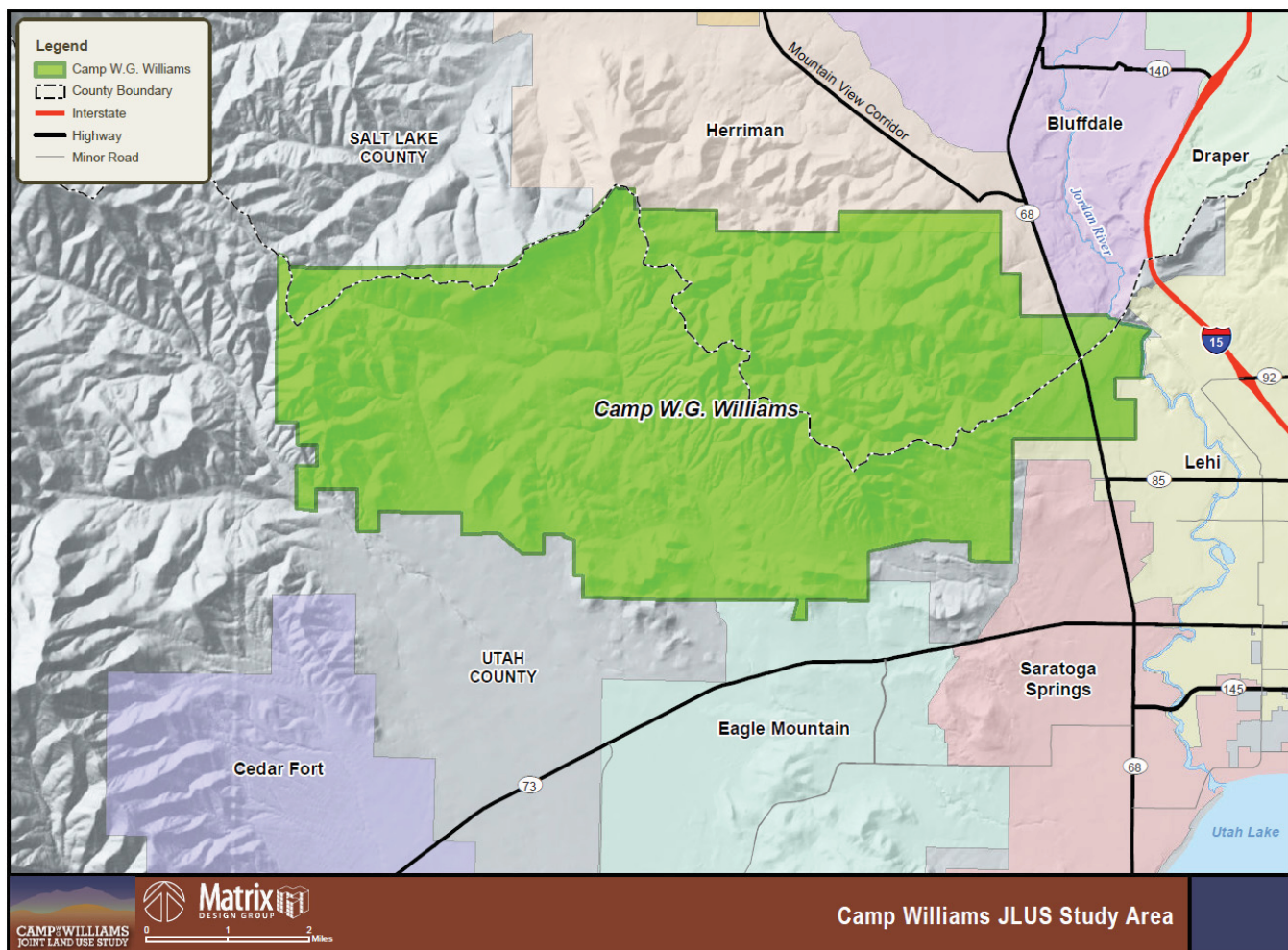
PROJECT STUDY AREA

Camp Williams is located in north central Utah, 26 miles south of Salt Lake City, is situated to the west of Interstate 15 (I-15) and straddles the boundaries of Salt Lake and Utah Counties.

Jurisdictions within the Study Area are the Cities of Bluffdale, Eagle Mountain, Herriman, Lehi, and Saratoga Springs, and the Counties of Salt Lake and Utah.

The Camp Williams JLUS Study Area has been identified to address the surrounding lands proximate to Camp Williams that may impact current or future military operations or be impacted by those operations. The Camp Williams JLUS Study Area encompasses a 2.0- to 3.5-mile area around the boundaries of the installation (depending on the direction) and encompasses approximately 135 square miles (see Figure 1).

Figure 1. Camp Williams Study Area



2. JLUS Study Area Profile

CAMP WILLIAMS

Camp Williams provides training facilities for the Utah Army National Guard and Utah Air National Guard, U.S. Army and Army Reserve, U.S. Marine Corps and Marine Corps Reserve, U.S. Air Force and U.S. Air Force Reserve, and the Reserve Officers Training Corps. Camp Williams is also an important training site for local law enforcement agencies and is frequently used by youth groups. The UTARNG maintains 30 armories in 27 communities within the State of Utah, and of these, Camp Williams is the main training site. With over 24,000 acres, Camp Williams is one of the largest training facilities for the National Guard in the western U.S.

Camp Williams offers a wide variety of training environments to soldiers, airmen, and marines, such as small arms training, artillery firing and maneuvering, basic airborne, demolitions training, land navigation, and helicopter maneuvering. Camp Williams is considered a premier training facility because of the wide array of live-fire and ground maneuvering training ranges it contains and its similarity to the terrain in Afghanistan.

In addition to the live-fire and demolition ranges, Camp Williams has numerous support facilities, such as administration buildings, mess halls, classrooms, and a complex of warehouses, workshops, and maintenance facilities. Camp Williams has a billeting capacity of 2,800 troops. Camp Williams provides facilities, logistical support, and personnel help to military units training at the installation. Camp Williams has the facilities that allow soldiers to train in weapons live-fire familiarization and qualification, basic airborne and jump master refresher courses, military academic courses (including field exercises), battalion-sized field training exercises, group and brigade-sized command post exercises, urban assault and defense training, mobilization processing exercises, artillery battalion live-fire exercises, individual training, and primary leadership development courses. Of the lands designated for training, Camp Williams' 44 training areas encompass a total of 17,603 acres.

The facilities at Camp Williams provide for wide-range training at a single installation. Any training exercises that cannot be conducted at Camp Williams can be scheduled and completed at Dugway Proving Ground (DPG), which is located approximately 100 miles west of

the Camp. Training occurs year-round, approximately 50 weekends per year and 10 to 12 annual training periods of up to 14 days each. The number of personnel who train at Camp Williams can vary from year to year.

LOCAL JURISDICTIONS IN STUDY AREA

Camp Williams is situated between two large metropolitan areas, Salt Lake City and Provo, and is located within two counties, Salt Lake County and Utah County. The cities immediately adjacent to Camp Williams are Bluffdale, Eagle Mountain, Herriman, Lehi and Saratoga Springs. Even though the Town of Cedar Fort is not immediately adjacent to Camp Williams it is within the JLUS Study Area and its annexation boundaries touch the installation. The area surrounding Camp Williams has been rapidly growing in the recent past. High growth rates are likely to continue due to the supply of undeveloped or unincorporated land and the provision of adequate public facilities and services.

STUDY AREA GROWTH TRENDS

Between the Census conducted in 2000 and 2010, Salt Lake County grew by 131,243 persons and Utah County grew by 148,028 persons. While similar in numbers, the growth in Utah County was substantially higher on an annual percentage basis due to its smaller total population in the year 2000. Salt Lake County grew by an annual rate of 1.4% over this time period while Utah County grew at an annual rate of 3.4%. Together, these two counties represented a large percent of the total growth throughout the state.

Within Utah County, the biggest hubs of growth were in the JLUS Study Area and the Provo area. The annual growth rates between 2000 to 2010 in the incorporated communities was greatest in the Utah County cities of Eagle Mountain and Saratoga Springs, which saw annual growth rates of 25.8% and 33.3%, respectively. In Salt Lake County, the greatest percent change in population was seen in Herriman, which had an annual growth rate of 30.5%.

ASSESSMENT PROCESS

The development of the Camp Williams JLUS included three steps (which are described further in the following paragraphs):

- 1) Study Area identification and data collection
- 2) Issue identification
- 3) Evaluation of existing tools

① Study Area Identification and Data Collection

At the start of the JLUS process, the PC and TC were engaged to assist in the identification of the JLUS Study Area and to assist in collecting data concerning compatibility issues.

In terms of a JLUS, the Study Area defines the geographic area used for data collection in support of the study (the area of analysis) and the areas that are used for implementation strategies. During a JLUS, the Study Area usually starts out covering a larger area for data collection, and then is refined to a smaller area once more information on areas of concern are identified. The Study Area for the Camp Williams JLUS was identified by working with committee members to identify areas that (1) may impact current or future military operations, or (2) may be impacted by military operations at Camp Williams.

From the local jurisdictions, information on planning processes, particularly as they relate to issues of compatibility, were collected and assessed. This includes general and specific plans, zoning regulations, and applicable ordinances / codes. Information was also collected relevant to current growth trends and current development applications.

From applicable state and federal land or resource management agencies, information was collected on current plans and planning efforts, resource documents, applications for use of managed lands, and identification of areas of concern.

From Camp Williams, information was collected concerning current and planned facilities, training areas, and operations. This information covered quantifiable use as well as geographic locations for these items.

② Issue Identification

Compatibility, in relation to military readiness, is defined as the balance or compromise between community and military needs and interests. The goal of compatibility planning is to promote an environment where both entities communicate, coordinate, and implement mutually supportive actions that allow them to achieve their respective objectives.

Numerous factors influence whether community and military plans, programs, and activities are compatible or in conflict. For the Camp Williams JLUS, a list of 23 standard compatibility factors was used to confirm the presence of, and establish priorities for, the key Study Area issues.

Issues

At the initial committee workshops and public meetings, these groups were asked to identify the location and type of compatibility issues they thought existed today, or could occur in the future, using the 23 factor areas as a guide. Of the 23 standard compatibility factors, a number of individual issues were identified under each of the 23 factors. However, it was determined that the issues under the Vibration Factor should be integrated with the issues under the Noise Factor, thereby reducing the total number of compatibility factors to 22. Additional technical issues were also added by the consulting team, based on their evaluation of available information and relevant experience on similar projects.

Setting Priorities

For the compatibility factors and issues identified, the public and committees provided input on setting priorities. Priorities were used to determine the type of response and the timing of that response. Three criteria were utilized to prioritize the compatibility factors:

- **Is it a Current Impact?** Each issue was considered based on its current impact to the compatibility of either Camp Williams or the surrounding areas. Issues posing the most extensive operational constraints or community concerns constitute the highest priority.
- **Location.** This criterion assesses the proximity of each issue in relation to activities occurring on Camp Williams and surrounding areas. Issues occurring near the installation are often more critical than those occurring remotely.

3. Assessment Methodology

- **Potential Impact.** Although an issue may not present a current threat to the installation or the community, it may possess the ability to become an issue in the future. Should conditions change, adjacent or proximate development increase, or other issues become apparent, new conflicts with existing or future missions and operational activities at Camp Williams could arise. Issues were considered based on their future potential using the same criteria that were established for current impact.

With a complete list of issues to be addressed in the JLUS, the public and TC were asked to identify the relative priority of each compatibility factor. Based on public and TC inputs on issues, the PC finalized the prioritization of the list of issues, dividing the factors into four categories:

- **High-Priority.** Due to the nature of these issues, an immediate response is warranted. Issues identified as High Priority are to be addressed during the next 1-2 years with a completion date of 2014. (2014).
- **Medium-Priority.** To be addressed 3-5 years after completion of the JLUS (complete by 2017).
- **Low-Priority.** To be addressed within 10 years of completion of the JLUS.
- **Awareness Factors.** Awareness factors are those issues that pose a minor threat to Camp Williams and/or the surrounding jurisdictions and are documented in this JLUS for the purpose of maintaining an operational awareness. These items do not require action to address at the current time, but should be monitored long-term.

③ Evaluation of Existing Tools

In order to develop a plan of action to address compatibility issues, it is important to fully understand the tools already available that can be used. During this part of the JLUS development, existing plans and programs (tools) were reviewed for their applicability to the issues identified. Based on this review, there were three outcomes:

- 1) **Adequate Tool.** The tool is appropriate as currently implemented. This does not mean that the tool fully addresses an issue, but the tool is appropriate in how it addresses the issue.
- 2) **Modify Existing Tool.** If an existing tool can be modified to better address compatibility, this is preferable to the development of a completely new tool.
- 3) **Develop New Tool.** In this case, the existing tools are either inadequate or simply not designed to address the issue at hand.



COMPATIBILITY FACTORS

The previous section described the process used to identify compatibility factors and assign priorities to these factors. During this process, the committees and public also identified a range of individual issue statements under each factor. For instance, under the compatibility factor of “Infrastructure Extensions”, three issue statements were identified/developed: 1) Transportation Infrastructure Extensions, 2) Electrical Infrastructure Extensions, and 3) Water Infrastructure Extensions.

In the remainder of this section, each of the 22 compatibility factors will be briefly described (by priority), followed by a list of the issues identified under that factor. More information on this analysis can be found in Section 3 of the Camp Williams JLUS Background Report.

High Priority Issues

Infrastructure Extensions represent compatibility issues for Camp Williams based on their proposed or planned location. Transportation routes and electrical and water infrastructure impact land uses differently based on location, magnitude of the improvements, and the resulting outcome of the extensions. The result of infrastructure extensions tends to encourage and increase development in the surrounding communities. This development can represent incompatibilities with Camp Williams’ military operations.

Issues

- Transportation Infrastructure Extensions
- Electrical Infrastructure Extensions
- Water Infrastructure Extensions

Interagency Coordination is the communication and collaboration between multiple agencies engaged in a common goal. For the Camp Williams JLUS, interagency coordination represents several challenges for both Camp Williams and the surrounding communities. The lack of interagency coordination in fire response management and planning activities to include infrastructure extensions and development can result in incompatibilities for the sustainment of the Camp Williams mission and the growth of the surrounding communities.

Issues

- Increased Coordination on Fire Management and Response
- Land Ownership on Camp Williams
- Engage Military to Address Mutual Issues
- Noise Complaints

Land Use is the impetus for the Camp Williams JLUS. The JLUS assesses various components of land uses to determine compatibility between unique military missions and the economic vision of the surrounding jurisdictions. This assessment is conducted to attain mutual goals and benefits to enable the military to continue to train its military personnel to achieve optimal readiness, while still allowing for economic development in the adjacent communities. Certain land uses are sensitive to noise, vibration, and other outcomes generated by military training exercises. In contrast, certain land uses employed by communities can limit military training activities.

Issues

- Inappropriate Internal and External Land Use Designations
- Proximate Future Development Projects

Noise and Vibration are the results of both military training exercises as well as construction and development activities. These factors can present as incompatibilities with sensitive land uses. Noise that is loud and extends into the night hours can disrupt the lives of the public in adjacent communities. Also, vibration can disrupt daily living activities. This JLUS strives to understand the needs of the communities to enable quality of life and continue to prepare and ready military personnel for years to come.

Issues

- Demolition and Artillery Firing Grenade Off-Base Noise and Vibration
- Military Helicopter Noise and Vibration Impacts
- Military Operations Noise and Vibration Impacts

Public Trespassing is the unauthorized entry onto lands belonging to other landowners. Camp Williams annually experiences several instances of public trespassing due to the lack of an adequate perimeter fence around the

4. Compatibility Assessment

entire installation, as well as the geography that occurs in the area. The geography encourages hikers and nature enthusiasts to explore and experience the natural world. Trespassing on Camp Williams represents safety concerns for both the public and the military. The installation conducts live-fire training exercises. Trespassing can pose a threat to human life and impede military training due to unauthorized entry into the Camp.

Issue

- An Inadequate Perimeter Boundary Encourages Trespassing

Safety issues are generated by both military and civilian land uses. Safety concerns relevant to military operations include live-fire training exercises and the impacts of those training activities, i.e., wildfires started by live-fire. Safety issues are also evaluated based on the land uses that fall within the military training routes relative to aircraft corridors and the accident potential. In addition, wildfires and trespassing can potentially represent a safety concern for the military.

Issues

- Protection and Maintenance from Mission-Related Hazards
- High Potential for Urban Wildland Fires

Medium Priority Issues

Anti-Terrorism / Force Protection (AT / FP) is the protection and security of the nation's defense and national security. These issues exist when there is a breach of security in relation to the nation's defense. It is important for the UTARNG to address these issues to ensure the military readiness for the State of Utah and the country.

Issue

- Intentional Trespassing

Dust and Smoke is another factor evaluated in this JLUS. Dust and smoke is a by-product generated by both military and civilian activities. Dust and smoke is not only a nuisance relative to visibility, but it is also an issue for the State of Utah as it relates to air quality in Salt Lake and Utah Counties. Dust and Smoke was assessed in this

JLUS in the sense of the nuisance it creates for the general public.

Issue

- Dust and Smoke Generation by Military Training Activities

Roadway Capacity can create incompatibilities between military operations and civilian activities due to limited availability of roadway. Roadway Capacity in the Camp Williams JLUS was evaluated on the basis of public roadways meeting the needs of both military and civilian uses.

Issues

- Military Use of Public Roadways
- Limited Mobility of Future Roadway Network

Vertical Obstructions are structures that impede navigable airspace for both military and civilian aircraft operations. Structures that pose a threat to the airspace for military and civilian aviation include tall windmills and cell phone towers. It is important to ensure the communities adjacent to Camp Williams plan accordingly to safeguard against unintended safety concerns relative to structures that obstruct navigable airspace.

Issues

- Potential for Military Aircraft Collisions with Tall Structures
- Aviation Corridors

Low Priority Issues

Competition for Land and Air Space is defined as multiple uses of both land and air spaces. The Camp Williams JLUS evaluated the land and the air space uses between military and civilian activities. There are several civilian airports in the region that communicate and collaborate to use the airspace. In addition, the military must collaborate with regional airports as well as the Federal Aviation Administration due to the restricted airspace that exists over the Camp Williams installation.

Issues

- Shared Military and Civilian Airspace
- General and Commercial Overflight Route Competition

Frequency Spectrum Capacity is the ability for the military to function and carry out missions based on the availability of bandwidth. This factor presents incompatibilities with the communities in the sense of similar commercial operations using the same communications lines for transmitting operations. For example, the increased development of data centers in communities tends to cause strain on local, available bandwidth.

Issue

- Specific Business and Employment Types Can Attract and Expand Utilization of Bandwidth Utilized by the Military

Frequency Spectrum Impedance is the interruption of electronic signals due to the existence of a structure or object between the source of the signal and its destination (receptor). The Camp Williams JLUS analyzed the existing obstructions to determine compatibility, as well as the likelihood of future incompatibilities with these structures. Such obstructions can include wind turbines and cell towers. There are two structures within the flight corridors that represent potential incompatibilities with both military operations and civilian communications.

Issue

- Wideband Use and Vertical Obstructions Can Restrict or Degrade Communications

Light and Glare can be generated by both military and civilian uses. Typically, light and glare issues represent incompatibilities due to commercial lighting affecting nighttime military training – both on-the-ground and air training exercises. Military uses night vision devices to train in realistic, combat environments. New commercial development can employ unshielded, or non-cutoff lighting that produces ambient urban sky glow; this can degrade the effectiveness of night vision devices.

Issues

- Urban Development Generated Glare
- Improvised Explosive Device (IED) Course Generated Glare

Awareness Issues

Air Quality presents as an awareness issue for Camp Williams through the dust and smoke generated by live-fire training exercises and / or a prescribed fires issue of debris and particulate matter air emissions. Conversely, wildland fires and development activities can also emit air debris, causing the air quality to diminish in Utah.

Salt Lake and Utah Counties are currently designated as a non-attainment area by the National Ambient Air Quality Standards (NAAQS). The man-made and natural activities that generate dust and smoke that contribute to air quality were assessed in the Camp Williams JLUS.

Issue

- Non-Attainment Area Designation.

Alternative Energy is the likelihood of development of alternative energy conversion units within the Camp Williams JLUS Study Area. Alternative energy includes wind and solar energy facilities in the Camp Williams JLUS. Currently, there are two wind turbine facilities in the study area. More specifically, they are located in the flight corridors, which can represent as a vertical obstruction. The uncoordinated placement of these facilities can lead to incompatibilities with the military mission at Camp Williams.

Issue

- Siting of Wind-to-Electricity Turbines



4. Compatibility Assessment

Cultural Resources are those cultural and historic resources that require management and preservation under the National Historic Preservation Act. Camp Williams hosts many cultural and historical sites on the installation that require coordination and compliance with state and federal laws.

Issue

- Cultural Resources Management and Preservation

Housing Availability is the availability of eligible and qualified housing units to the UTARNG. By law, the UTARNG permanent party is required to live off-post in eligible community housing provided by the local jurisdictions.

Issue

- On-Base Housing Inventory for Military Personnel in Training and Transient Population

Legislative Initiatives are those issues that require legislative action or amendments to ensure compatibility factors are addressed within the local jurisdictions. The Camp Williams JLUS process discovered that the jurisdictions do not possess the authority to incorporate military compatibility guidelines and elements in their general and comprehensive plans.

Issue

- Absence of State Legislation Addressing Compatible Planning Around Military Installations

Scarce Natural Resources are the natural resources, such as water, land, and air that must compete with both military operations and community development. As development increases and / or changes, or expansions in UTARNG missions occur, natural resources become increasingly utilized and are not always considered in planning.

Issue

- Mining Operations



Threatened and Endangered Species constitutes a minor threat for Camp Williams and the surrounding communities in this JLUS process. UTARNG complies with the Endangered Species Act by mitigating impacts of various species, including the Bald Eagle. There is a known golden eagle's nest on the installation to which training is off-limits. In addition, Camp Williams and the adjacent communities must collaborate in natural events, such as wildland fires, to ensure the survival of species and their habitats.

Issue

- Habitat Management

Water Supply and Quality is the factor that assesses the quantity and quality of water resources in the Camp Williams JLUS Study Area. This factor evaluates the amount of water that is utilized by the installation relative to the available supply of water and then compares that with the demand and supply that is utilized by the surrounding jurisdictions to provide for the necessary public services. In addition to evaluating the water supply, this factor also reviews the overall quality of public water uses in the JLUS Study Area. Water Quality can be affected by military operations, public recreation use, and stormwater drainage.

Issue

- Stormwater Retention/Drainage

IMPLEMENTATION PLAN

This section identifies and organizes the recommended courses of action (strategies) that have been developed through a collaborative effort between representatives of applicable local jurisdictions, the UTARNG, state and federal agencies, local organizations, the general public and other stakeholders that own or manage land or resources in the region. Because the Camp Williams JLUS is the result of a collaborative planning process, the recommendations in this section represent a true consensus plan; a realistic and coordinated approach to compatibility planning developed with the support of stakeholders involved throughout the process.

JLUS strategies incorporate a variety of actions that can be taken to promote compatible land use and resource planning. Upon implementation, existing and potential compatibility issues arising from the civilian / military interface can be removed or significantly mitigated. As such, the recommended strategies function as the heart of the JLUS document and are the culmination of the planning process.

It is important to note that the JLUS is not an adopted plan, but rather a recommended set of strategies which should be implemented by the JLUS participants in order to address current and potential future compatibility issues.

The key to the implementation of the strategies presented in this JLUS is the establishment of the JLUS Coordinating Committee that oversees the execution of the JLUS. Through this Committee, local jurisdictions, Camp Williams, and other interested parties will be able to continue their initial work together to establish procedures, recommend or refine specific actions for member agencies, and make adjustments to strategies over time to ensure the JLUS continues to resolve key compatibility issues through realistic strategies and implementation.

Implementation Plan Guidelines

The key to a successful plan is balancing the different needs of all involved stakeholders. In working towards a balanced plan, several guidelines became the basis upon which the strategies were developed. These guidelines included:

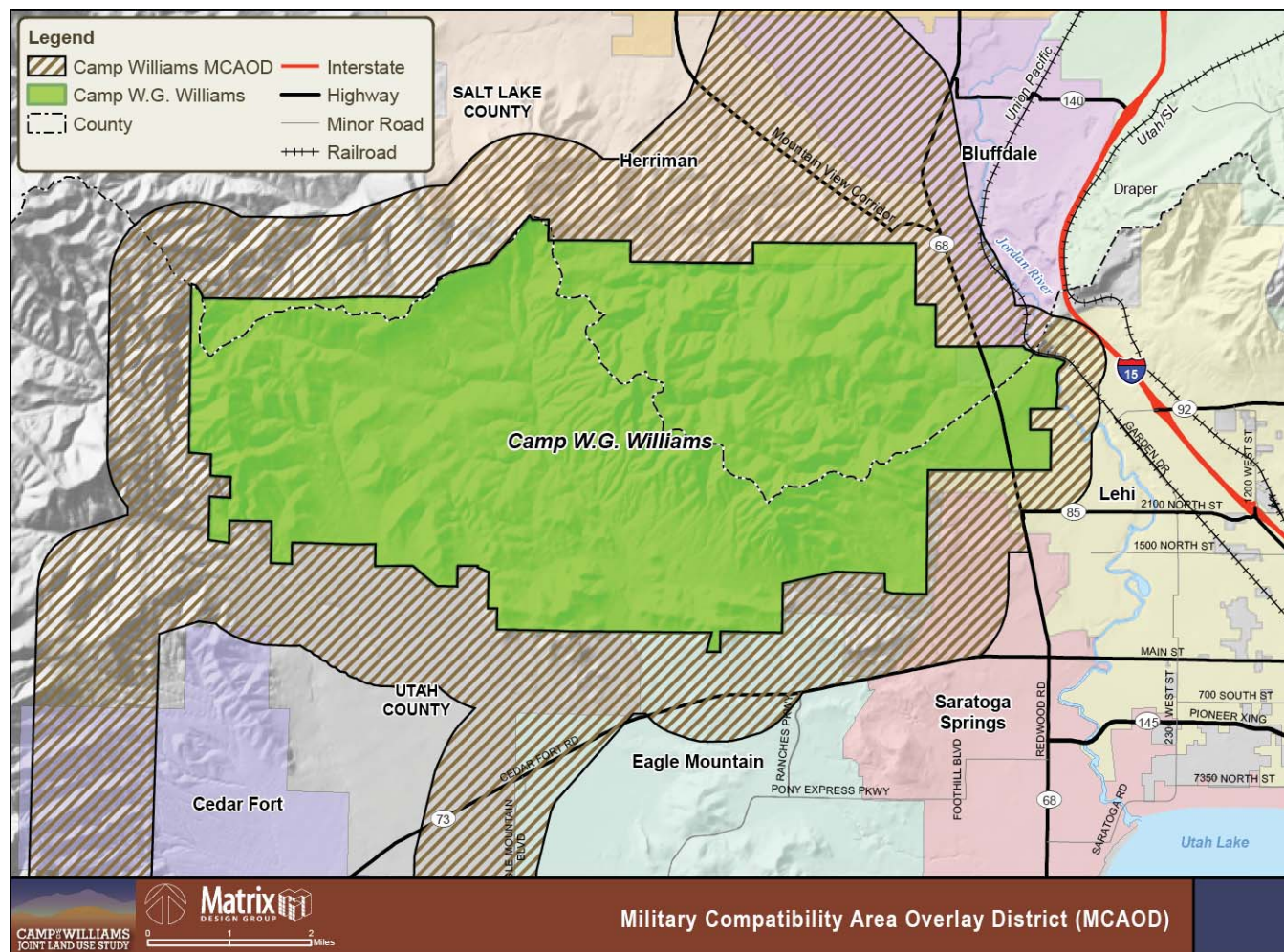
- In concert with the Utah state laws, the Implementation Plan was developed with the understanding that the recommended strategies must not result in a taking of property value. In some cases, the recommended strategies can only be implemented with new enabling legislation.
- In order to minimize regulation, where appropriate, strategies were recommended only for specific geographic areas to resolve the compatibility issue.
- Similar to other planning processes that include numerous stakeholders, the challenge is to create a solution or strategy that meets the needs of all parties. In lieu of eliminating strategies that do not have 100% buy-in by all stakeholders, it was determined that the solution / strategy may result in the creation of multiple strategies that address the same issue but would be tailored to individual agencies.

Compatibility Areas

In compatibility planning, the generic term “Military Compatibility Area” (MCA) is the term used to formally designate a geographic area where military operations may impact local communities, and conversely, where local activities may affect the military’s ability to carry out its mission. The MCAs are geographic areas where the majority of the recommended strategies apply. The proposed Camp Williams Military Compatibility Area Overlay District (MCAOD) is an area that incorporates all subzones.

The MCAOD and MCAs are used to define the geographic areas where the JLUS strategies are to be applied. This technique ensures the strategies are applied to the appropriate areas, and that locations deemed to not be subject to a specific compatibility issue are not adversely impacted by regulations that are not appropriate for their location or circumstance.

Figure 2. Military Compatibility Area Overlay District (MCAOD)



Camp Williams Military Compatibility Area Overlay District

An MCAOD is proposed as the zoning tool used for implementing the policies and regulations associated with each Camp Williams MCA. The MCAOD is designed to reflect the area comprised of all the MCAs combined (see Figure 2).

Camp Williams Military Compatibility Areas

An MCA is a formally designated geographic planning area where military operations may impact local communities and conversely, where local activities may affect the military's ability to carry out its mission. An MCA is designated to accomplish the following purposes:

- 1) Promote an orderly transition between community and military land uses so that land uses remain compatible.

- 2) Protect public health, safety, and welfare.
- 3) Maintain operational capabilities of military installations and areas.
- 4) Promote an awareness of the size and scope of military training areas to protect areas separate from the actual military installation (i.e., critical air space) used for training purposes.
- 5) Establish compatibility requirements within the designated area, such as requirements for sound attenuation, real estate disclosure, and aviation easements.

An MCA delineates a geographical area where strategies are recommended to support compatibility planning and the JLUS goal and objectives.

5. Recommended Plan

To better reflect the area of interest and focus implementation, several MCAs are further divided into subareas.

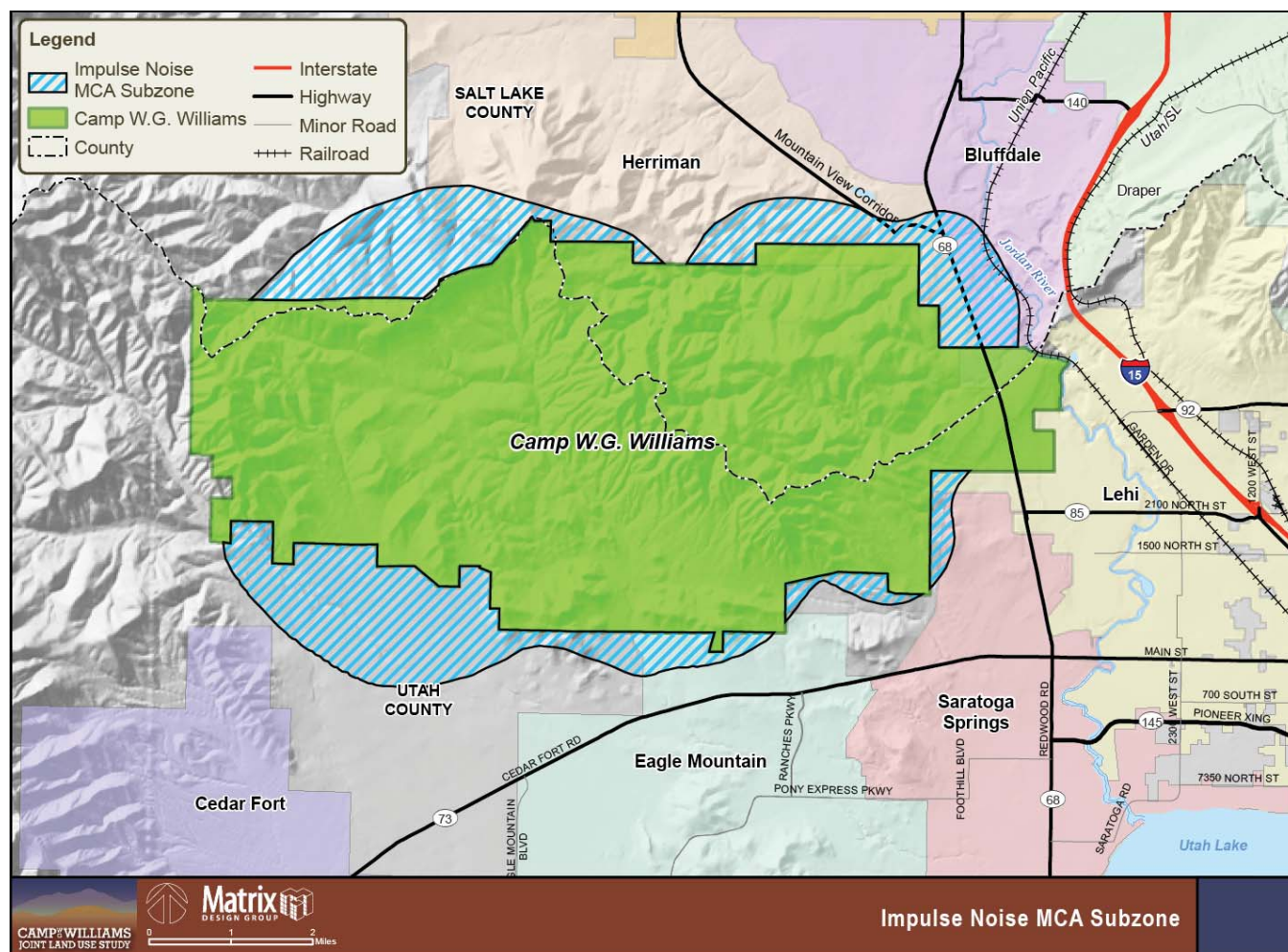
The four MCAs used in the Camp Williams JLUS Implementation Plan are listed below, and shown and described on the following pages.

- 1) Impulse Noise MCA
- 2) Light MCA
- 3) Aviation Safety MCA
- 4) Land Use MCA

Impulse Noise MCA

The Impulse Noise MCA includes all lands located off-installation that fall within the 60-65 dB DNL noise contour for live-fire ranges (see Section 3 of the Background Report for details). Residential developments and other sensitive land uses within this MCA may be subject to sound attenuation measures to reduce noise impacts. Figure 3 illustrates this MCA.

Figure 3. Impulse Noise MCA



5. Recommended Plan

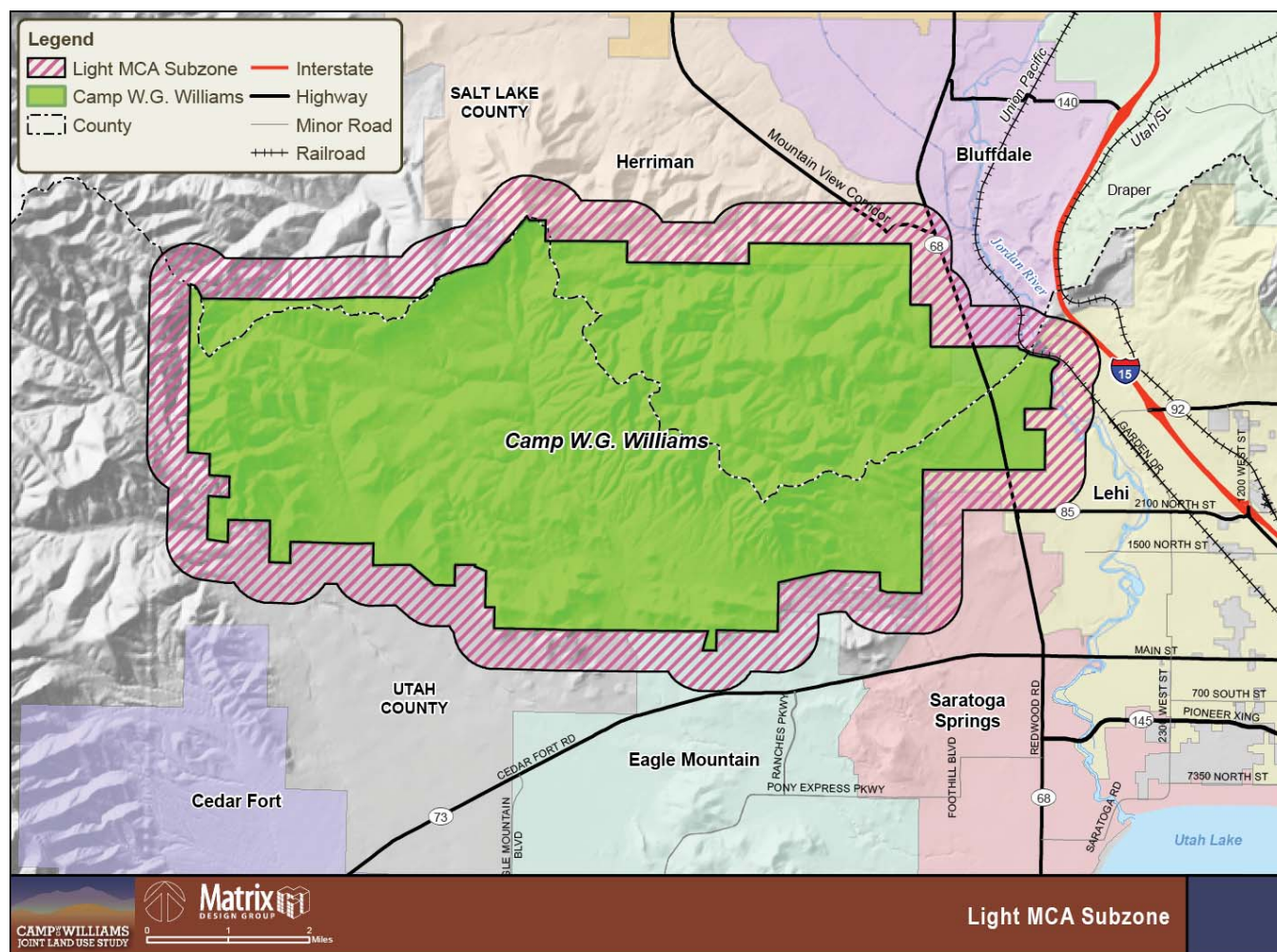
Light MCA

The Light MCA addresses areas that may generate lighting levels that may affect night training missions and operations at Camp Williams (see Figure 4). As described in Section 3 of the Background Report, there are two types of light pollution that can impact military operations: point source lighting, which directly impacts Night Vision Device (NVD) use and training, and ambient lighting or background lighting, where the cumulative effect of light pollution diminishes the capability of NVDs and NVD training. Light intensity decreases with distance, therefore, the more distance between the light source and the military installation, the greater the reduction of light pollution impacts.

LIGHT MCA SUBZONE

This subzone represents a buffer of less than one-half mile from the perimeter of the installation (see Figure 4). New development that falls within this MCA may be subject to lighting regulations that include fully-shielded and / or full-cutoff light fixtures. Additional strategies also include the development of a retrofit program for existing lighting fixtures. For the technical background information, see Chapter 3 of the Background Report.

Figure 4. Light MCA



Safety associated with rotary-wing flight operations is a major concern to both the military and the communities surrounding Camp Williams. The Aviation Safety MCA defines an area of increased concern as an area that is one-half mile on each side of the rotary-wing flight corridors (see Figure 5).

The strategies associated with the Aviation Safety MCA are related to land use planning as it considers accident potential from rotary-wing aircraft, as well as vertical obstructions such as wind turbines and cell towers and their potential impacts on flight safety.

5. Recommended Plan

Land Use MCA

This MCA encompasses the land area within one mile of the boundary of Camp Williams. The land use MCA consists of two subzone areas (see Figure 6) designed to provide a transitional area relative to land use density and intensity transitioning from a less dense area nearer the installation to a denser area further from the installation boundary.

Strategies attached to this MCA are related to land use planning and disclosure requirements (as a part of real estate transactions).

Land Use MCA Subzone A

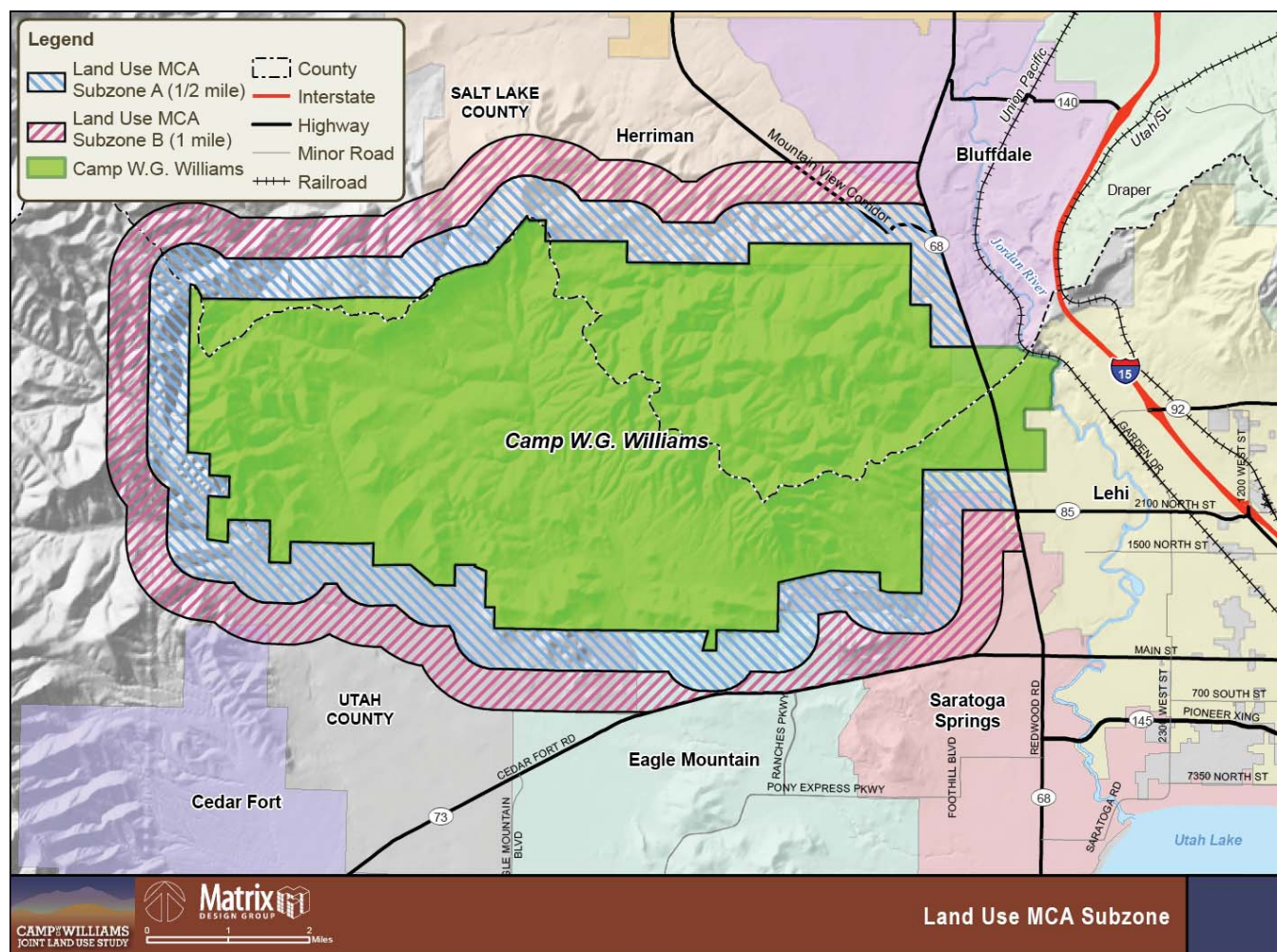
The Land Use MCA Subzone A represents $\frac{1}{2}$ mile area around the perimeter of Camp Williams. This area shall be characterized by lower density / intensity

development to consider the military training operations that occur on Camp Williams. Strategies for this area recommend a development density of one dwelling unit per acre, but no more than two dwelling units per acre. Intensities in this area shall not be more than 0.25 in floor area ratio.

Land Use MCA Subzone B

The Land Use MCA Subzone B represents the area $\frac{1}{2}$ mile to one mile from the installation boundary. This subzone area is designed to be a transitional area where higher densities / intensities than allowed in Subzone A may be considered. Allowable densities would be one to six dwelling units per acre except where the Aviation Safety MCA overlays the Land Use MCA subzone. Where this occurs, the recommended density is one to two dwelling units per acre.

Figure 6. Land Use MCA



How to Read the Implementation Plan

The strategies developed were designed to address the issues identified during preparation of the JLUS. The purpose of each strategy is to:

- 1) Avoid future actions, operations, or approvals that would cause a compatibility issue,
- 2) Eliminate an existing compatibility issue,
- 3) Reduce the adversity of an existing issue, or
- 4) Provide for on-going communications and collaboration.

To make the strategies easier to use, they are presented in a table format that provides the strategy and information on when and how that strategy will be implemented. Figure 7 highlights the format and content of the strategy table, and the following paragraphs provide an overview of how to read the information presented for each strategy in the JLUS.

Issue # – The issue # is an alpha-numeric number that provides a unique reference for each specific issue and strategy.

Type of Strategy. This column identifies the type of strategy being recommended. The column contains one of the following acronyms to represent the tool type:

- Acq – Acquisition
- CIP – Capital Improvement Program
- Comm – Communication and Coordination
- Disc – Real Estate Disclosures
- Hab – Habitat Conservation Tools
- Leg – Legislative Tools
- MOA – Memorandum of Agreement
- MOU – Memorandum of Understanding
- MCA – Military Compatibility Area
- Plans – Comprehensive / General / Master / Hazard / Airport Plans
- Zon – Zoning Ordinance / Subdivision Regulations

Military Compatibility Area (MCA) – This column indicates the applicable MCA, if the strategy relates to an area outside Camp Williams. Please see the heading “Compatibility Areas” for more details.

Strategy – In bold type is a title that describes the strategy. This is followed by the complete strategy statement that describes the action needed.

Timeframe – This column indicates the projected timeframe of each strategy. The timeframes are described below:

2014 Strategy to be completed by 2014 (within 1-2 years of JLUS completion)

2017 Strategy to be completed by 2017 (3 to 5 years from JLUS completion)

On-going An on-going implementation action

Responsible Party – At the right end of the strategy table are a set of columns, one for each jurisdiction, military entity, agency, and organization with responsibilities relevant to implementation of the Camp Williams JLUS strategies. If an entity has responsibility relative to implementing a strategy, a mark is shown under their name. This mark is one of two symbols that represent their role. A solid square (■) designates that the entity identified is responsible for implementing the strategy. A hollow square (□) designates that the entity plays a key supporting role, but is not directly responsible for implementation.

The responsible parties are identified by their assigned acronym in the heading at the top of each page.

BLM	Bureau of Land Management
DNR	Utah Department of Natural Resources
FFSL	Utah Division of Forestry, Fire and State Lands
MAG	Mountainland Association of Governments
SITLA	Utah Schools and State Institutional Trust Lands Administration
UDOT	Utah Department of Transportation
UTARNG	Utah Army National Guard, the agency that provides oversight and administers the budget to all National Guard units in the State of Utah.
UFA	Unified Fire Authority
WFRC	Wasatch Front Regional Council