## 3.1 Chronology of Events

This JLUS document is one step in an ongoing effort by the Flint Hills local governments and Fort Riley to address compatibility around the post. The following timeline of actions represents a desire on the part of local and military officials to be proactive in dealing with land use and noise issues and to protect the health and well-being of both the military and civilian communities.

| | |
|---|---|
| 1986 | Fort Riley first publishes noise contours as part of the Installation Compatible Use Zone program |
| Jul 1993 | Fort Riley updates the Installation Compatible Use Zone Study |
| Jun 2001 | Fort Riley completes an Installation Environmental Noise Management Plan |
| Sep 2002 | DoD accepts Fort Riley JLUS nomination |
| Dec 2002 | Organizing committee holds kick-off meeting |
| 2003 | Organizing committee develops a Request for Proposal for consultants to perform work |
| Mar 2004 | Army updates noise contours with BNOISE2 (Blast Noise Impact Assessment) software |
| Apr 2004 | JLUS contract awarded |
| Jun 2004 | Kick-off meeting for JLUS committees |
| Jun-Nov 04 | Committees study impacts/develop compatibility tools/hold public sessions |
| Dec 8/9 04 | Open House |
| Jan 27 05 | Final Draft JLUS Report |

## 3.2 Economic Impacts of the Installation

Over the years, Fort Riley has become a major economic force in the Flint Hills region. The military and civilian payroll, coupled with spending in goods and services, infuse the regional economy with almost a billion dollars each year. Table 3 demonstrates the economic significance of post operations on the surrounding communities.

**Table 3. Total Economic Impact, Fort Riley, FY 2003**

| | |
|---|---|
| Charitable Contributions | $20,850 |
| Construction | $70,228,486 |
| Education | $12,219,181 |
| Health Care | $20,069,531 |
| Payroll | $707,227,138 |
| Supplies/Services/Contracts | $56,937,562 |
| **TOTAL Economic Impact** | **$866,702,748** |

Source: Fort Riley Annual Economic Impact Summary for Fiscal Year 2003

The post has over 11,000 assigned military personnel, almost 5,000 civilian employees, and processed approximately 26,500 annual and weekend reserve component trainees during Fiscal Year 2003. The State of Kansas is also home to approximately 19,000 military retirees dependent on Fort Riley services.

**Table 4. Total Personnel and Family Statistics, Fort Riley, FY 2003**

| | |
|---|---|
| Civilians | 4,813 |
| Family Members | 12,151 |
| Military | 11,616 |
| Reserve Trainees | 26,539 |

Source: Fort Riley Annual Economic Impact Summary for Fiscal Year 2003

## 3.3 Military Mission and History

Fort Riley is steeped in the history of the military and the settlement of the American west. The post contains three historic districts with approximately 287 historic buildings, monuments, and structures.

The installation began in 1853 as a cavalry outpost to secure the largely unsettled western territory. Following the Civil War, Fort Riley was home to the 7th Cavalry Regiment and its commander, General George A. Custer. The famed "Buffalo Soldiers" of the 9th and 10th Cavalry Regiments were also stationed at the fort several times during their history.

As many frontier forts closed following the end of the campaign against the Native Americans, Fort Riley continued as a site for state militia units to encamp and train.

In the 20th Century, Fort Riley grew to support American participation in major international conflicts. During World War II, some 125,000 soldiers trained at the fort's facilities. It was also during this era that the Army purchased 31,720 acres to expand the post.

The statue of the cavalry soldier "Old Bill," by western artist Frederic Remington

In 1955, the 1st Infantry Division, Big Red One, arrived at Fort Riley, signaling the post's transition from a training and educational center to home base for a major infantry division. In 1966, the Army acquired an additional 50,000 acres to accommodate its expanding training needs.

In the spring of 1995, the Army transferred the Headquarters of the 1st Infantry Division from Fort Riley to Germany. But in June of 1999, Fort Riley once again became a Division Headquarters with the reactivation of the 24th Infantry Division (Mech).

Nicknamed the "Victory Division," the 24th ID currently consists of an active component headquarters at Fort Riley and three separate brigades: 30th Heavy Separate Brigade at Clinton, North Carolina, 218th Heavy Separate Brigade at Columbia, South Carolina, and the 48th Separate Infantry Brigade in Macon, Georgia. Active duty units currently stationed at Fort Riley include the 1st Brigade Combat Team, the 1st Infantry Division, the 3rd Brigade Combat Team, the 1st Armor Division, and the 937th Engineer Group.

As America's Warfighting Center, Fort Riley's primary mission is to:

- provide mission ready, deployable forces to Combatant Commanders;
- provide readiness and training oversight to three National Guard Separate Brigades;
- support soldiers and their families with well-being services; and
- provide infrastructure and services to accomplish the mission, while being good stewards of the environment and fiscal resources

## 3.4 Current and Future Military Operations

Fort Riley facilities provide year-round support for live-fire exercises, maneuver training for mechanized/armored vehicles, attack helicopter gunnery, small arms firing, mortar, artillery and tank firing exercises, and maneuver training for almost all weapons systems in the Army. The installation uses its 100,656 acres of land intensively to accommodate the wide range of mission related activities. Maneuver areas take up 70,000 acres and, when combined with other training areas, equal more than 90 percent of post land. Table 5 shows the military assets currently assigned to Fort Riley.

**Table 5. Fort Riley Training Assets**

| | |
|---|---|
| Tracked Vehicles | |
| Tanks | 180 |
| Bradley Fighting Vehicles | 110 |
| Other | 640 |
| Wheeled Vehicles | 3,985 |
| Rotary Wing Aircraft | 15 |

Bradley Fighting Vehicle

Major facilities on Fort Riley include the Douthit Multi-purpose Range Complex (MPRC), a 6,900-acre site in the northwest portion of the post where tanks and Bradley Fighting Vehicles (BFV) travel on existing roads and fire at moving, pop up targets to simulate battle conditions. Primary weapons fired in the MPRC are the 120mm gun on the M1 Tank and the 25mm gun on the BFV.

Douthit Multi-purpose Range Complex

Units also fire the attack helicopter, TOW (Tube-launched, Optically-tracked, Wire command-link guided) missiles, and small arms at the MPRC. All munitions fired in this area of the post are inert (non-explosive).

The Artillery and Mortar Impact Area consists of 16,200 acres in the center of Fort Riley. Soldiers fire both live and inert (non-explosive) rockets/missiles (LAW, AT4, TOW, Dragon, Stinger and 2.75 inch rocket) into the Impact Area. This is the only area of the post where explosive munitions are used. Mortar firing points, rifle ranges, and artillery observation points surrounding the site also accommodate the firing of small arms (shotgun and M16 rifle), machine guns, and TOW missiles. The Impact Area also includes Range 18 in the southern section of the site, which serves as the installation's second gunnery range for tanks and BFV. With the exception of the MPRC and the Impact Area, units use range lands to conduct coordinated maneuvers of troops and vehicles, which may or may not involve the firing of weapons.

The Milford Amphibious Training Area is a 3,000-acre site on Milford Lake north of the city of Milford that supports the deployment of ribbon bridges and water crossings of the BFV. At Range 52 near the Impact Area, soldiers conduct engineering training, such as demolitions, claymore mines, and Mine Clearing Line Practice Charges.

Marshall Army Airfield (MAAF), Fort Riley's on-post airfield, consists of a 4,400-foot long runway (140 feet wide), 40-foot wide taxiways, and 48,000 square yards of parking aprons. The MAAF serves 15 UH-1 helicopters for medical evacuation flight training. The helicopters based at MAAF do not fly set schedules.

The post also has three drop zones: the Milford Drop Zone, the Riley Drop Zone, and the Timber Creek Drop Zone. Air Force C-130 aircraft use the Timber Creek Drop Zone about 25 times a year to drop objects or equipment.

The current military environment is extremely fluid and dynamic. The post has been operating at a high tempo since initiation of hostilities in Afghanistan and Iraq. Fort Riley's foreseeable military mission will continue to evolve as a result of both planned growth on the post and broader Army policy (see Figure 3 – On-Post Activity)

The Army conducted an environmental assessment for a proposed Automated Multi-purpose Training Range (AMPTR) and the upgrading of capabilities at the MPRC. The analysis identified as the preferred alternative the construction of the new automated facility adjacent to the existing MPRC in the northwest portion of the post. The purpose of the AMPTR is to:

- increase training capacity;
- increase training realism;
- conduct coordinated training exercises; and
- allow for digital communications, targeting and scoring equipment.

As discussed more fully in Section 4, operations at the enhanced MPRC and the new AMPTR would affect the post's noise environment. Munitions fired at the facilities would not generate more noise, but additional range capacity would allow for a higher throughput of training units, therefore increasing the intensity and frequency of range use.

The Army also assessed the environmental effects of a proposed Air Assault Landing Zone to support joint operations with the Air Force. The Army's preferred alternative is to construct a new Air Assault Landing Zone near the existing Timber Creek Drop Zone. The purpose of the landing zone is to:

- integrate transport aircraft with ground units; and
- practice the loading, transporting, and off-loading of troops or equipment during assault landings.

The C-130 Hercules and C-17 Globemaster aircraft would conduct exercises at the airstrip about four times each year. Expected aircraft operations would affect the noise environment surrounding the post, particularly for areas west of the installation, such as Wakefield.

Several factors, however, would limit expected increases in aircraft noise, including the use of the airstrip only during short intervals, the integration of new flights into existing air-drop operations, and the flying of low level operations over post land. Noise associated with ground training would not increase in conjunction with planned airstrip exercises.

The Federal Aviation Administration (FAA) designates a significant portion of the airspace around Fort Riley as Class E Controlled Airspace, extending from 1,200 feet Above Ground Level (AGL) to 17,999 feet above MSL. The designation as Class E airspace allows the FAA to manage air traffic in the local area and to protect aircraft during instrument approaches.

The Army is seeking designation of airspace north of the installation as a military operations area (MOA). The area would allow for close air support aircraft, such as Air Force F-16s and A-10s, to fly safer approaches toward the post during joint training operations with ground forces. The MOA eliminates the risk of military and civilian aircraft conflicts by restricting commercial and general aviation aircraft from flying in an area between 7,000 and 18,000 feet above ground level. The FAA would activate this imaginary safe "box" only when military aircraft are flying in the area.

An existing MOA—the Ada Military Operations Area—is in place west of the installation over Clay County. The proposed Riley MOA would link to the Ada MOA and then extend north of the post for approximately 20 miles. Joint military training is becoming more common at installations around the country and the presence of an approved MOA at Fort Riley would enhance the ability of the post to host such exercises.

The Army has also assessed the environmental consequences of proposed urban terrain facilities on post. The preferred alternative is to construct the facilities at five sites on the range area north of Custer Hill and the Impact Area. The proposed facilities simulate urban warfare conditions and would likely increase noise levels primarily on-post due to more small arms firing, vehicle movement, and demolition activities.

In addition to growth planned by Fort Riley, the Army disclosed plans to assign a new infantry brigade to the installation in October 2005. The brigade, which will add, at least temporarily, about 3,400 new soldiers to the post will be organized as a Unit of Action.

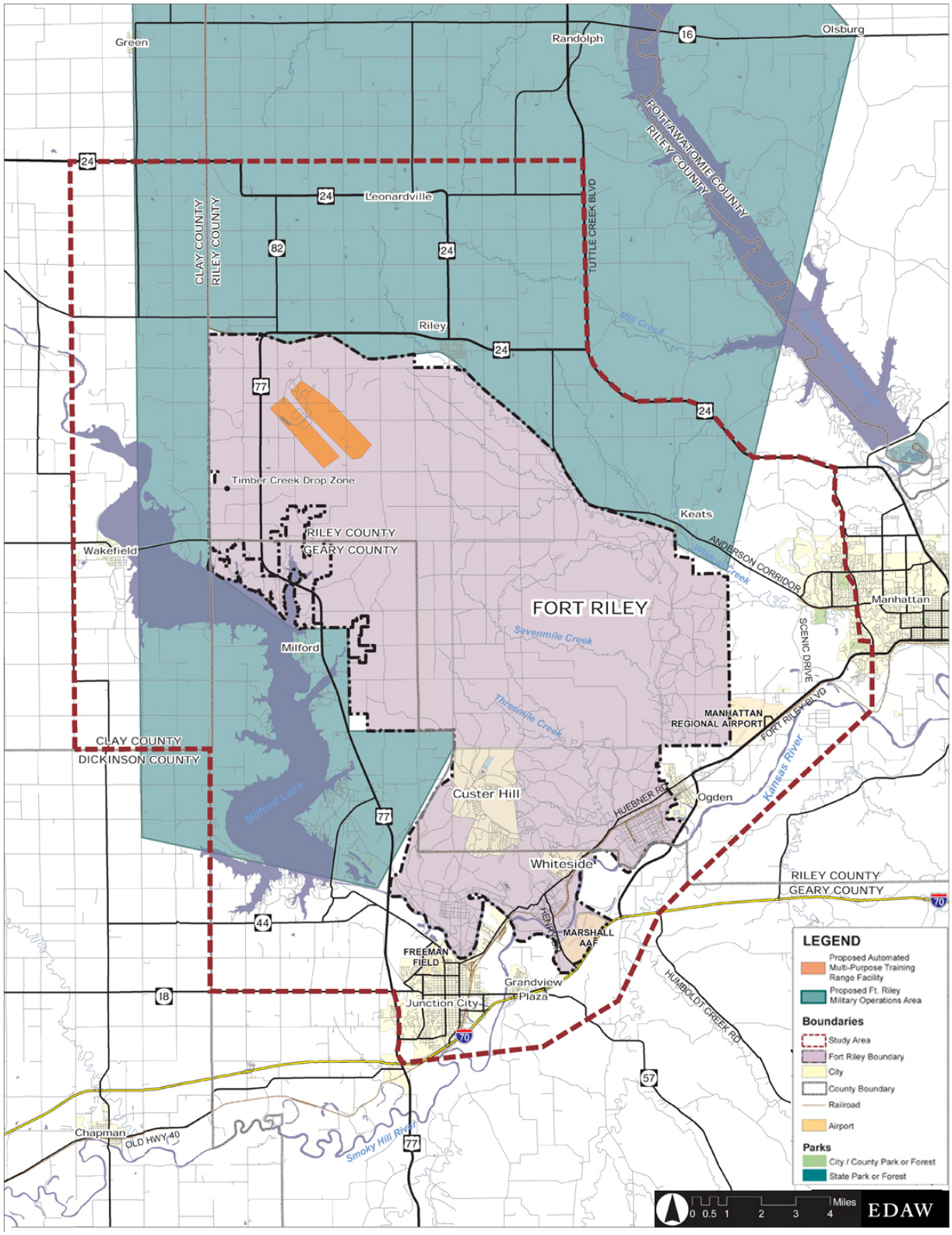
To better meet today's global security threats, the Army is promoting the concept of modularity, which seeks to convert large units attached to Divisions into smaller stand-alone units that can deploy rapidly to areas of conflict anywhere in the world. These stand-alone, or modular, units are called Units of Action (UAs).

The Army would reorganize by shifting units and personnel from one installation to another, or by restructuring troops on a given installation to meet the modular design, or both. Modular reorganization of forces at Fort Riley could result in more intensive use of installation training lands, the addition of an aviation component to support UA activities, and an increase in the number of soldiers stationed at the post.

Under modularity, more units would train on the installation, producing more noise from small and large arms weapons firing. However, the proposed units would be "lighter" than current units, relying less on heavy armored assets, such as the M1 Abrams tank. Thus, single blast noise events from the 120mm main gun, a major generator of noise affecting off-post lands, would not likely increase as a result of the reorganization. The operation of multiple helicopters to support UA missions, however, could generate additional noise impacts.

With the emphasis on stand-alone units, more soldiers would be assigned to the post. Increased personnel would likely place higher demands on local housing, schools, and infrastructure, but would also lead to offsetting job creation and long-term economic growth in the region.

## Figure 3 On-Post Activity



## 3.5 Other Regional Facilities

### Freeman Field

Freeman Field sits on a 205 acre site approximately one mile northwest of Junction City's downtown. Facilities include a primary north-south runway at 3,495 feet in length and two cross-wind runways. A variety of small general aviation aircraft use the airport. As of 2000, the airport accommodated an estimated 26,500 annual general aviation operations and 28 based aircraft, along with an estimated 500 military operations.

Air safety zones around the airport reflect Part 77, Federal Aviation Administration (FAA) Regulations, which are established to protect the airspace and runway approaches from hazards that could interfere with aircraft operations (see Figure 4 – Air Safety Zones). The zones are a series of imaginary surfaces defining the airspace around the airport. As shown in Figure 4, these surfaces include:

- a primary surface immediately surrounding the runway;
- an approach surface that continues from the primary surface but widens and rises upward; and
- the transitional surface (horizontal and conical), which begins at the outside edge of the primary surface.

Transitional zones are subject to height restrictions and any object that penetrates the surface requires FAA review to determine any possible air navigation hazards. The transitional zones for Freeman Field travel southeast and southwest from the runways, covering portions of Junction City.

The Master Plan for Freeman Field calls for runway improvements and construction of hangars and aircraft parking aprons to accommodate the full mix of small aircraft that could use the airport in the future.

### Manhattan Regional Airport

Manhattan Regional Airport provides regional airline service between Manhattan and Kansas City for approximately 22,000 passengers each year. General aviation services at the airport include air charter, flight instruction, air photo, major aircraft maintenance, transient aircraft refueling (Jet-A and 100LL), tie-down, and shelter.

The airside infrastructure features two runways, five taxiways, and two parking aprons. This infrastructure normally supports aircraft equivalent in size to a DC-9 or B-737, but can also accommodate the occasional use of commercial aircraft as large as the B-757 or military C-17.

The Manhattan Regional Airport is adjacent to the eastern boundary of the installation. As with Freeman Field, Figure 4 – Air Safety Zones illustrates the Part 77 air safety zones around the airport. The southwestern approach safety zone passes over the cities of Grandview Plaza and Ogden and portions of the post. The northwestern approach safety zone passes over a small portion of the eastern boundary of Fort Riley.

The airport has accommodated C-17 military aircraft on previous medical and military airlift support missions. The city of Manhattan and Fort Riley, however, are pursuing a Memorandum of Understanding/Letters of Agreement to establish the airport as a regular point of transfer for troops and equipment assigned to the post. Under the agreement, the airport would construct and then lease for military use a ramp west of the terminal to accommodate wider body aircraft, such as a C-5, C17 or KC/DC-10. Facilities would also include "hot" ramps for the loading and unloading of munitions. The addition of military operations at the Manhattan Regional Airport is not expected to alter existing noise contours.

### Highway K-18

A 6.8-mile section of Highway K-18 from southeast of the city of Ogden to the Seth Child interchange in Manhattan is under study to determine the alignment and right-of-way for future access, site layout and platting along the corridor (see Figure 5 – Transportation Systems).

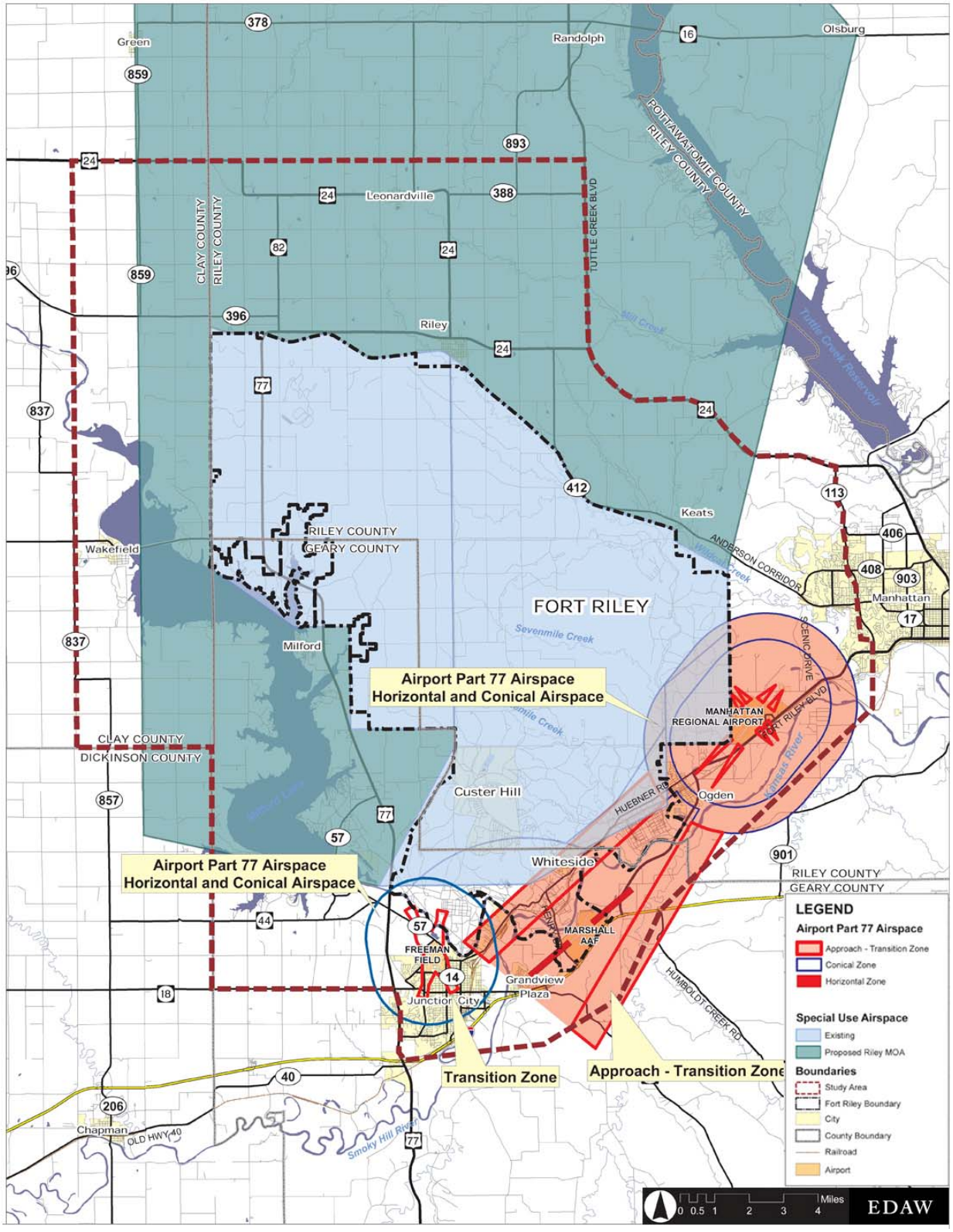
The consultant team and the Kansas Department of Transportation are currently revisiting the original corridor re-alignment concept, which unexpectedly encroached on the site of the proposed joint military-civilian ramp at the Manhattan Regional Airport.

Though a planning and engineering process separate from the JLUS will set the re-alignment of K-18, this report recommends that local stakeholders stress the following land use compatibility and access goals as part of the final corridor design:

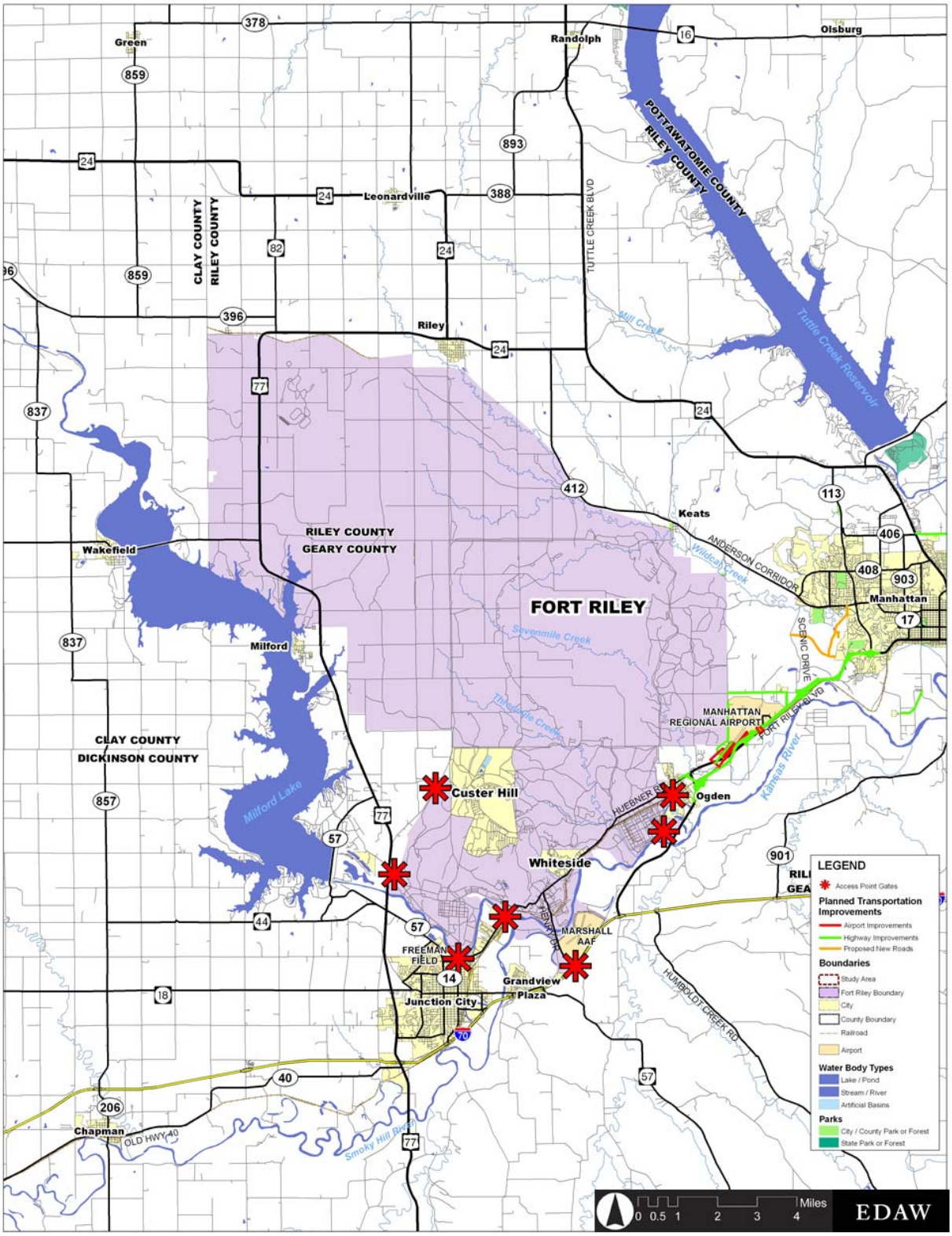
- maximize the flexibility for the Manhattan Regional Airport to conduct joint military and civilian operations;
- maximize the flexibility for Fort Riley and city of Ogden to access K-18 safely from both the east and west; and
- ensure continued sufficient access to Fort Riley's Ogden Gate.

In addition to the K-18 issues, Figure 5 illustrates the seven access gates scattered around the post.

## Figure 4 Air Safety Zones



## Figure 5 Transportation Systems



## 3.6 Regional Demographics and Growth Patterns

The Flint Hills region is primarily rural with the exception of two larger population centers at Junction City and Manhattan. The community of Riley is also just north of the post. As shown in Tables 6 and 7, projections indicate relatively modest overall population growth in the region through 2040, though the city of Manhattan is expected to add about 25,000 new residents during that period.

**Table 6. Population Growth and Projections by County**

| Counties | 1990 | 2000 | 2010 | 2020 | 2030 | 2040 |
|---|---|---|---|---|---|---|
| Clay | 9,158 | 9,248 | 9,333 | 9,418 | 9,503 | 9,588 |
| Geary | 30,648 | 31,440 | 32,293 | 33,146 | 33,999 | 34,852 |
| Riley | 67,139 | 73,919 | 80,569 | 87,219 | 93,869 | 100,519 |
| MUA | na | 50,144 | 53,873 | 57,879 | na | na |

Source: Kansas Water Office and Manhattan Urban Area Comprehensive Plan

Note: MUA = Manhattan Urban Area

**Table 7. Population Growth and Projections by City**

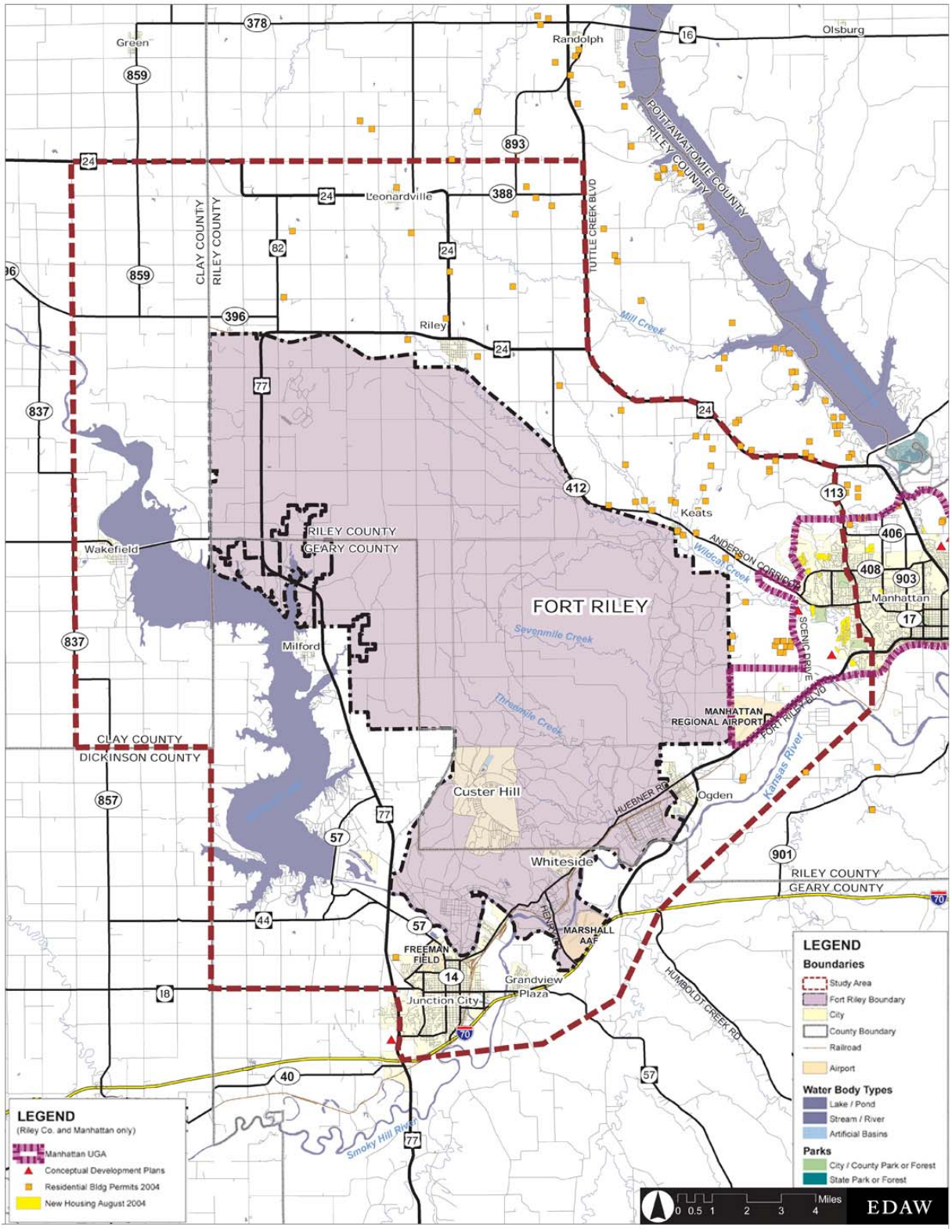
| Cities | 1990 | 2000 | 2010 | 2020 | 2030 | 2040 |
|---|---|---|---|---|---|---|
| Grandview Plaza | 1,233 | 1,281 | 1,323 | 1,364 | 1,406 | 1,447 |
| Junction City | 20,642 | 21,711 | 22,493 | 23,276 | 24,059 | 24,841 |
| Manhattan | 37,569 | 43,079 | 49,508 | 55,937 | 62,366 | 68,795 |
| Milford | 579 | 538 | 523 | 508 | 493 | 478 |
| Ogden | 1,494 | 1,301 | 1,304 | 1,307 | 1,310 | 1,313 |
| Riley | 804 | 853 | 910 | 966 | 1,022 | 1,078 |
| Wakefield | 900 | 913 | 932 | 950 | 969 | 987 |

Source: Kansas Water Office

Figure 6 – Community Development Activity illustrates recent growth patterns in communities surrounding Fort Riley. Two trends could raise compatibility issues with post operations in the foreseeable future—the spread of Manhattan's expanding population along the West Anderson corridor toward the post and the emergence of dispersed residential uses within rural areas north of the installation.

The city of Manhattan issued permits for 1,405 dwellings, including both multi-family and single-family units. Figure 6 also identifies additional areas of development interest for which concepts have been prepared. Growth in rural Riley County has been more sporadic. The county issued 136 residential building permits between 2001 and 2004. The city of Riley, adjacent to the post on the north, has also seen new residential growth west of the city along Highway 77 with the Madison Addition (18 lots) and Madison Addition Phase II (15 lots) subdivisions. Junction City also has new housing planned west of Freeman Field and southwest of downtown along Route 77.

## Figure 6 Community Development Activity



## 3.7 Environmental Resources

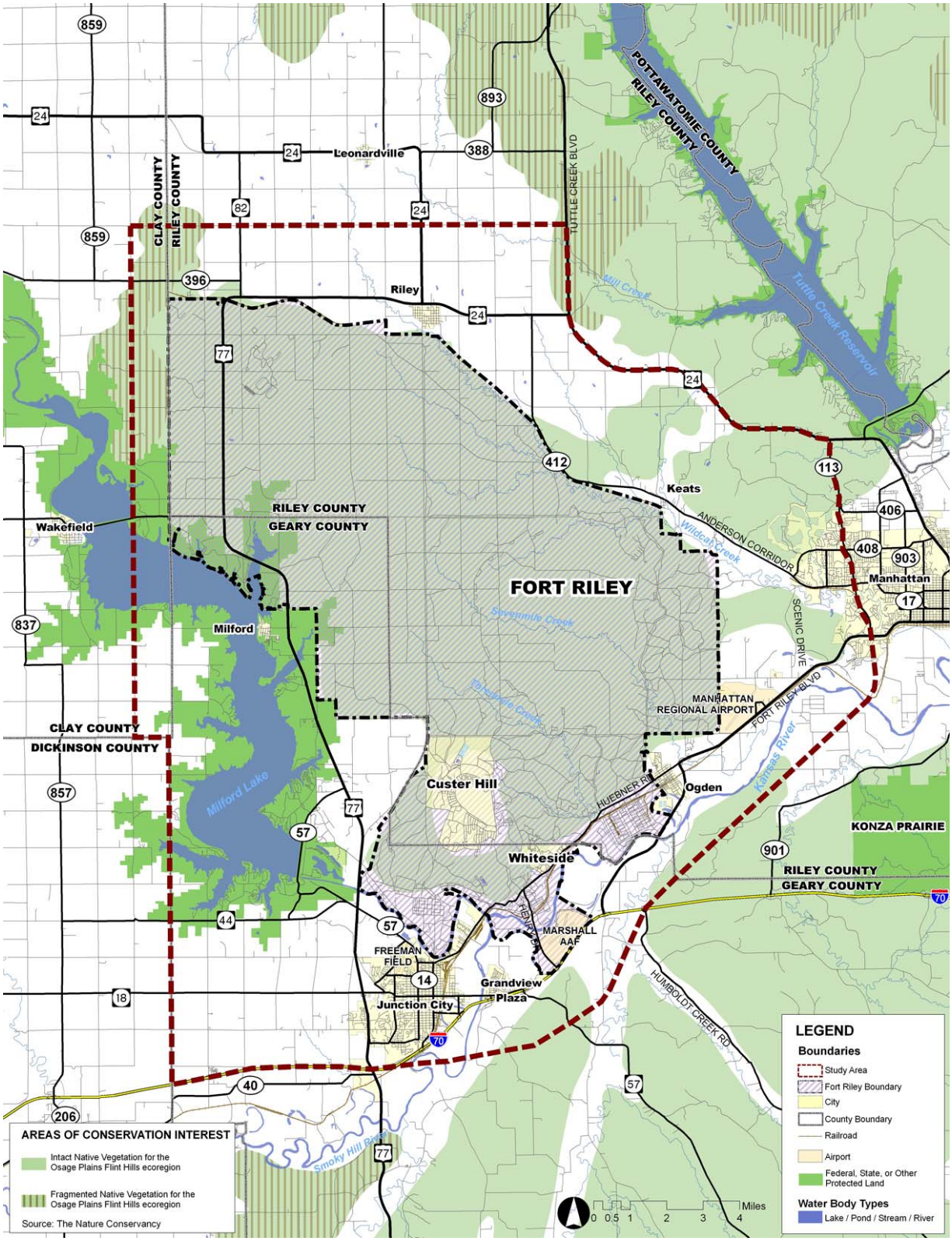
Figure 8 - Environmental Resources shows major natural features in the Flint Hills region, including critical habitat, prime soils, wetlands, slopes, parks and trails, areas of conservation interest, the 100-year floodplain, and locally designated sensitive resources. The region is also part of the very unique tallgrass prairie ecosystem. Only four percent of North America's presettlement tallgrass prairie still exists today and the State of Kansas contains some 80 percent of this scarce landscape.

To preserve dwindling prairie resources, Fort Riley has formed the Fort Riley Tallgrass Prairie Partnership, a cooperative and voluntary program that works with landowners in the area to conserve the landscape. Participating landowners are eligible for an inventory of grassland resources on their property, technical assistance to maintain and enhance habitat, and cost-sharing assistance for habitat improvement projects. Cooperating partners in the program include:

- The US Fish and Wildlife Service
- The U.S. Department of Agriculture
- Kansas State and Extension
- Kansas Farm Bureau
- Kansas Livestock Association
- The U.S. Department of Army
- Kansas Department of Wildlife and Parks

Non-profit conservation organizations such as The Nature Conservancy are also targeting the remaining contiguous areas of prairie for preservation. The Nature Conservancy has identified areas of intact and fragmented native vegetation near the post. Figure 7 – Areas of Conservation Interest shows land with possible conservation value surrounding Fort Riley.

## Figure 7 Areas of Conservation Interest, The Nature Conservancy



Fort Riley and the surrounding grasslands of the Flint Hills communities form a core habitat area for many species of plants and animals. Inventories at Fort Riley have documented the presence of four Federally-listed and eight State-listed species, and 23 rare species. Though not documented, studies also indicate that an additional nine listed or rare species could exist on post.

There is no federal threatened and endangered species critical habitat on Fort Riley. However, the state has designated critical habitat on post for four species: bald eagle, piping plover, least tern and Topeka shiner.

The prairie chicken, a native bird of the Flint Hills region, is in decline

A function of increasing development near the post is the fragmentation and reduction of environmentally sensitive resources, which in turn isolates Fort Riley as an intact, quality habitat. Species drawn to the remaining habitat on the post could trigger federal protections that restrict the use of installation lands for training purposes.

Along with the protection of threatened or endangered species, Fort Riley has cooperated with the Kansas Department of Wildlife and Parks to reintroduce huntable populations of elk and eastern wild turkey on post lands.

Agricultural conservation is also a critical issue in the region. Fort Riley currently has approximately 2,000 acres that may be used for row crop production, restricted to the fire breaks around the post. Agricultural leases are in place for many of these areas. Fort Riley also leases about 40,000 acres for hay production, scattered around post. No lease options exist for grazing on installation lands due to the lack of fencing and water.

## Figure 8 Environmental Resources