



PART VI – TRANSPORTATION ANALYSIS - SUMMARY

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1.0 General Information

This section summarizes the Transportation System Report included at Appendix C and provides a general overview of the transportation related context of the study area. For more specific information about issues pertaining to a specific geographic area, refer to the respective chapter of Appendix C.

Ground transportation is a major concern with up to 20,000 employees and numerous contractors and suppliers accessing Kirtland AFB, SNL, and associated organizations every day. The ground transportation system and its efficiency are critical to assessing current and future land uses in the Kirtland AFB area. According to traffic statistics collected by MRCOG, the daily exchange between Kirtland AFB and the community experiences minimal problems. The occasional exceptions often are effectively solved with temporary actions by Kirtland AFB, or simply by drivers exhibiting patience. In addition, approximately 18,000 airline passengers arrive at and depart from the Sunport daily. This volume of passengers adds a significant amount of vehicular traffic into the ground transportation system. Kirtland AFB and the Sunport are generally open to innovations that can improve the productivity of their work forces, and Kirtland AFB has plans to further evaluate new transportation initiatives in the future.

The access gates to the secure Kirtland AFB and the current roadway system are effective, relatively efficient, and adaptable to future changes in regional land uses. The same is true of mass transit services, and the accommodation of bicycling, ride sharing, and other means of connecting Kirtland AFB and Sunport employees to their work places. There are also existing and effective transportation planning and programming processes in place that assess evolving ground transportation needs affected by Kirtland AFB and the Sunport.

MRCOG is the regional Metropolitan Planning Organization (MPO) designated by the Federal and New Mexico governments. It is charged with meeting Federal requirements for multi-jurisdictional planning and programming of transportation projects. The ongoing planning processes have broad-based participation, and the plans provide a methodical process for making transportation investments and improvements.

Kirtland AFB transportation and infrastructure planning and design on the Base are the responsibility of the Kirtland AFB Civil Engineer.

2.0 Air Quality

The Clean Air Act of 1963 (amended in 1970 and 1990) is federal legislation developed to reduce air pollution, protect public health and the environment. The primary strategies the EPA uses to improve air quality are reducing outdoor concentrations of air pollutants, reducing emissions of toxic air pollutants, and phasing out use of chemicals that destroy the earth's ozone layer. Motor vehicle exhaust, gasoline vapors, chemical solvents, and emissions from industrial and electrical generating facilities are all contributors or precursors to air pollution, including nitrogen oxides (NO_x), volatile organic compounds (VOCs), carbon monoxide (CO), methane (CH₄) and ozone (O₃). The combination of sunlight and high temperatures accelerates the formation of ozone, causing it to be an especially important summertime air pollutant in the MRCOG region, often peaking as a result of traffic congestion during peak commuting times.

In addition to the health effects of high ozone levels, failure by a region to meet ambient air quality standards results in a designation by EPA of "non-attainment" which informs the public that the air in the area is unhealthy to breathe, and requires the affected government to develop and implement control plans to reduce ozone-forming pollution. Non-attainment also impacts Federal funding for transportation projects in the area and imposes strict adherence to additional monitoring and reporting of progress to achieve attainment.¹ Further, being classified as a non-attainment area requires participation by Kirtland AFB in the region's plan to achieve "attainment" status and may have negative impacts on the Base's ability to attract new missions.

Since a major source of air pollution is "mobile sources," primarily motorized vehicles, the best way that an individual can cut down on their contribution to air pollution is to use less carbon-derived fuels and reduce their dependence on their motor vehicles, especially the single-occupancy vehicle. Reducing personal vehicle miles driven can be accomplished by ride-sharing, trip chaining, using public transit, and telecommuting. These strategies for the

¹ Federal Register, Vol. 75, No. 11, p. 2938;
<http://www.epa.gov/groundlevelozone/designations/faq.htm#1>



MRCOG region associated with Kirtland AFB commuters are discussed in greater detail in Section 4.0, Mass Transit.

3.0 Transportation Networks

The regional transportation network directly impacts opportunities and limitations on land use. A large number of Kirtland AFB and Sunport employees live in Albuquerque and Bernalillo County. Those who live outside of the County have to use local streets to get to their final destination. Therefore, much of the analysis of the transportation opportunities and constraints are focused on the local road network.

Regional travelers experience congestion at peak travel times as they travel along the two interstate highways, I-40 and I-25. The interstate highway system is becoming increasingly taxed, which is demonstrated by the increasing travel times from Rio Rancho and Los Lunas. Road system capacity and air quality/pollution concerns make alternatives to single occupancy vehicle commuting increasingly important. These issues and options are addressed in Section 4.0.

3.1 Southeast Heights Road Network

Kirtland AFB borders the southern extent of the Southeast Heights of Albuquerque, an area served by a grid of arterial streets, generally oriented east-west, and north-south. As shown in Figure VI – 1, there are five main access gates along the City and northern Kirtland AFB interface. Each of these are secure gates used by commuters and others having business with various Kirtland AFB missions and/or

tenant organizations. Adjacent to three of the primary access gates are contractor access gates. The contractor gate at Truman is, however, only temporary until the Battle Space Environment MILCON is completed. There is an access gate at or near the terminus of four major arterials and one minor north-south arterial. Gibson Boulevard is the only east-west arterial that provides direct access to Kirtland AFB via the Carlisle, Truman, and Gibson Gates.

The Sunport can be accessed directly from I-25 via Sunport Boulevard, as well as from Yale Boulevard, which is a minor north-south arterial street. Additionally, Gibson Boulevard may also serve travelers going to the Sunport.

There is community concern over traffic congestion and delays at the gates that was expressed in the JLUS Public Survey. Individuals identified congestion points approaching the Kirtland AFB entry gates during the morning, as well as congestion on the arterial roads in the evening commute, especially approaching the interstate on-ramps. High vehicle speeds entering and exiting Kirtland AFB were identified as a safety issue in the JLUS Public Survey. Traffic patterns and roadway safety at school locations also posed a concern for a number of Survey respondents.

3.2 Capacity and Congestion

The highest concentration of commuters to and from Kirtland AFB is in Albuquerque's Southeast Heights with the second highest in the Northeast Heights. Southbound Wyoming Boulevard, as it approaches the Wyoming Gate,

Figure VI – 1: Gate Location and Base Area Overview





is the only road approaching a Kirtland AFB entry gate that qualifies as “severely congested” in the MRCOG 2030 Metropolitan Transportation Plan (MTP). The roadway qualifies as severely congested for both the morning and evening peak travel in the 2004 Kirtland AFB conditions analysis as well as the 2015 projected scenario that accommodates all planned capacity improvement projects in the Transportation Improvement Plan (TIP) and MTP in 2007. However, there are substantial average daily traffic volumes on the Southeast Heights arterials and the perception by commuters and Kirtland AFB employees of a problem with traffic congestion documented in the JLUS Public Survey.

Kirtland AFB Rights-of-way for major arterials in the southeast area typically range between 100 feet and 125 feet wide. In addition to being important to the commute by automobile, most of the major arterials are also designated by the Albuquerque/Bernalillo County Comprehensive Plan as “Major Transit Corridors” and include some of the City’s more frequently scheduled bus service.

Kirtland AFB officials identified one of the most significant constraints to the Kirtland AFB vehicular traffic flow is Wyoming Boulevard on Kirtland AFB, south of the gate entrance. The street narrows to four lanes -- two in each direction -- with no median, bike lanes or pull outs of any kind and no separate turn lanes. The lanes vary from 9 to 11 feet wide, and that is the minimal travel lane width for vehicular traffic. While this condition can slow down and calm traffic, it is not desirable if it causes backups. Kirtland AFB has developed plans to improve this section of the road network and is seeking funding sources; however, because of the high project cost, the Base is currently considering a plan to develop the project in phases.

The Sunport, which generates a different traffic pattern and more evenly distributed travel demand, is generally entered and exited by roadways and means apart from those serving Kirtland AFB. Roadways enabling access to the Sunport operate at a relatively uncongested level.

3.3 Gate Capacity

All the gates used for routine, general purpose access to Kirtland AFB are along the northern interface with Kirtland AFB and Albuquerque’s Southeast Heights. The limited access South Gate is discussed in further detail in Section 3.4. There are contractor gates adjacent to the

Carlisle, Truman, and Eubank entrances. Because of the limited purpose of the contractor gates, any additional impact they may have is considered in conjunction with the adjacent primary public access gate.

Community members and Kirtland AFB employees have expressed concern about traffic congestion at the approaches to the gates and the long queuing times to pass through security. The security checkpoint operation is generally an efficient process, and it is a mandatory requirement for Kirtland AFB operations. However, even in optimal conditions, there will be some traffic delay during peak hours due to the procedural requirements. JLUS Survey respondents indicated that they would like to see the capacity at the gate check points increased during peak commute time periods to reduce waiting times.

All gates are manned by guards who check each vehicle’s occupants and verify their status. This process takes time, resulting in temporary congestion for short distances outside each gate during peak hours – a possible five-to-ten minute delay entering during the morning peak. All gates have at least two moving lanes outbound during the evening peak and present relatively little delay to exiting Kirtland AFB.

3.4 South Entrance to Installation

Shown in Figure VI – 2 is an entrance to Kirtland AFB from the south; however, it is not available for general use by the civilian or military work force at Kirtland AFB. The Base has opened the South Gate on a limited basis to alleviate some of the congestion on I-25 and Gibson Boulevard during morning and evening rush hour traffic. Providing increased capacity at the South Gate was identified by community members as an area of interest. Improving access through the South Gate could potentially relieve congestion at the five primary gates and thoroughfares approaching the north side of Kirtland AFB.

The South Gate location would be advantageous for employees traveling from the South Valley, Pueblo of Isleta, Valencia County, and would also be accessible to and from Mesa del Sol. Elected officials and County commissioners representing the southern part of Bernalillo County, all of Valencia County and Pueblo of Isleta view an unencumbered southern entrance to Kirtland AFB as very desirable.



Additionally, the JLUS Survey indicated that there is public interest in improving access to and operations at Kirtland AFB's South Gate. As Mesa del Sol, immediately

to these safety, security, and access concerns, increased use of this Gate is not envisioned by Kirtland AFB. However, due to the expressed public interest, the concept

Figure VI – 2: South Gate and Context



south of Kirtland AFB, is developed that interest will undoubtedly increase. This community interest prompted an evaluation of possible options; however, the Kirtland AFB Civil Engineer indicated there are several reasons to maintain limited access at the South Gate. These include:

- ✓ Extensive roadway improvements, both on Kirtland AFB and in the City, would be required to serve increased capacity of this access route.
- ✓ There are sensitive and toxic materials located in the area near the South Gate.
- ✓ Increased traffic would create greater safety hazards and security issues, potentially compromising Kirtland AFB's ability to pursue its mission.

The access road crosses a munitions haul route and is periodically used as a transport route for large test equipment that can block traffic for extended periods of time.

Kirtland AFB has indicated that there are a number of safety and security issues associated with increasing use of this gate, as well as roadway capacity deficiencies. Due

is further considered in the Transportation Study, and the Base has expressed willingness to revisit the issue if mission changes in the future would make it feasible.

As mentioned in the preceding paragraph, Kirtland AFB will not entertain recommendations to enhance the limited use of the South Gate for the foreseeable future. Mission execution at Kirtland AFB does not warrant increased southern access, and the costs associated with enhancing the South Gate and the road improvements on-base and off-base are very high. Realistically, they are prohibitive. Most importantly, southern access and egress provide no current military value to Kirtland AFB itself or to any of the numerous, diverse missions sited on the Base. Further, increased access from the south could, in itself, promote encroachment on Kirtland AFB missions by additional commercial and residential development to the south. The Mesa del Sol development, which has already been approved by Bernalillo County, the City of Albuquerque, Kirtland AFB (including DOE) and the Sunport is not included in the foregoing statement.





3.5 Safety

Several Survey respondents commented on the high volume of Kirtland AFB traffic potentially causing safety issues for both motorists and pedestrians. Comments indicate that the high speeds of motorists and high volume of traffic create inherently dangerous conditions. Their concerns were primarily an issue at the gates – Carlisle and Gibson – with nearby schools. School employees noted that school buses and parents have difficulty entering the flow of traffic because of the steady stream of vehicles exiting Kirtland AFB. They also commented on the need for better communication between Kirtland AFB and the schools, as well as improved traffic management during school beginning and ending times.

4.0 Mass Transit Services

Lengthy travel time is an obstacle to using public transportation to commute. However, rising gasoline prices have had a parallel increase on the number of public transit customers across the country.

4.1 NM Rail Runner Express

The NM Rail Runner Express (*Rail Runner*) is a major regional rail transit service provider serving Belen, Los Lunas, Pueblo of Isleta, the South Valley, Albuquerque, the North Valley, Bernalillo, and Santa Fe. There are thirteen northbound trains and eleven southbound daily, which are timed to serve the regional commuter population. It serves primarily as regional transportation and also likely serves a minor role for Bernalillo County residents commuting to Kirtland AFB and the Sunport.

At the Downtown Albuquerque *Rail Runner* station commuters can transfer to a number of ABQ Ride routes that will deliver them to various destinations including Kirtland AFB and the Sunport. Of the 4,500 total daily passengers using the *Rail Runner* system, approximately 650 passengers board the trains at the Valencia County stations each weekday, a large proportion of who are morning peak, inbound commuters to Albuquerque. There are no data to indicate the percentage of these regional commuters who travel to, or work at, Kirtland AFB.

In 2007, ABQ Ride added two new commuter connection routes that connect *Rail Runner* passengers to the Sunport and/or Kirtland AFB

Survey respondents indicated that they would like to see improved ABQ Ride bus connections between the *Rail Runner* and Kirtland AFB. Additional connections to the *Rail Runner* could increase future ridership for Kirtland AFB and tenant employees.

4.2 Local Transit

The Rio Metro Regional Transit District is a regional transportation system that serves the residents of Valencia, Bernalillo, and Sandoval Counties. In 2008, residents of all three counties voted to approve a County Regional Transit Gross Receipts Tax of 1/8th of one percent to fund transit services. Los Lunas, Belen, and Rio Rancho have local shuttles that provide service to the NM *Rail Runner* as well as on-demand, curb-to-curb service.

Albuquerque provides the most extensive public transportation service in the region through ABQ Ride, the City's Transit department. Most regional commutes will incorporate ABQ Ride for a portion of their commute between the community at large and Kirtland AFB. In the past five years, ABQ Ride has greatly expanded their services. In 2007, ABQ Ride added three new routes – Route 157, Montano to Kirtland AFB; Route 222, Rio Bravo *Rail Runner* connection to the Sunport; and Route 317, *Rail Runner* connection from Downtown to Kirtland AFB – that serve Kirtland AFB. These three routes provide connections between the community, the *Rail Runner*, and Kirtland AFB.

In Albuquerque, there are eight routes with service connections directly onto Kirtland AFB as well as connections to the *Rail Runner* and Rio Metro bus service in Bernalillo and Sandoval Counties. According to their Transit Planner, ABQ Ride worked with Kirtland AFB to develop the eight routes that have service connections directly onto the Base. At the gate, a Kirtland AFB security guard boards commuter buses and checks the credentials of all passengers before the bus continues onto the Base. As noted in Section 4.0, there are reported delays at the gates due to the passenger verification process.

Most of the eight direct bus service routes run four or five buses in both the morning and afternoon peak; none require a transfer in order to make the commute to Kirtland AFB. Three routes are commuter-oriented “park-and-ride” services, making fewer stops than standard city bus routes.





4.3 Bicycle Commuting

The City of Albuquerque and the greater metropolitan area has over 400 miles of bicycle routes, lanes, and trails that are used extensively for commuting – either bicycling alone or combining a trip with a bus or the train.

Some obstacles to bicycle commuting that JLUS Public Survey respondents mentioned are the lack of connectivity of bicycle facilities in and around Kirtland AFB; the perception of a high rate of crime in the Southeast Heights and fast-moving adjacent traffic. There also is a limited awareness of the City bicycle system, and safe, direct routes to get from home to work.

There is a bicycle circulation system on Kirtland AFB with several multi-use trails, bicycle lanes, and bicycle routes. Kirtland AFB planners would like to improve the internal bicycle facilities with better connections to the external bicycle system, particularly at the Wyoming Boulevard Gate, where a City bicycle route terminates.

4.4 Ridesharing

There is no formally organized rideshare program for Kirtland AFB, SNL, or other tenant employees. Nonetheless, SNL reports a larger number of employees ridesharing daily to Kirtland AFB than the 12.7% Albuquerque average. There are approximately 1,000 registered carpool members, and approximately 40 registered vanpool members. The impediment to a larger proportion of commuters using ridesharing is limited flexibility during the work day, as well as having to depend on someone else's schedule and choice of route and stops for the evening trip home.

4.5 Flexible Work Schedules

While there is no overall integrated plan or program for flexible work force scheduling, the culture at SNL supports the concept. These strategies are already used by a few of the organizations on the installation, but this approach is not typically applicable to military organizations.

4.6 Telecommuting

There is no formalized program or installation-wide policy regarding telecommuting. One of telecommuting's primary benefits that distinguish this strategy from ridesharing, flexible scheduling, public transit and bicycling is that it reduces the total traffic load in the City and on

Kirtland AFB. Because the employee works from home, there is also a reduction in the total VMT related to Kirtland AFB, as well as associated pollution and greenhouse gas emissions.

The classified nature of many of the military missions at Kirtland AFB, as well as the unique requirements of their information processing, greatly restricts telecommuting as an option for military organizations.

5.0 Gibson Corridor

The dense, residential developments adjacent to the north side of Kirtland AFB contribute to the amount of traffic on the arterial streets. Some Kirtland AFB employees and area residents are concerned that the new, high-density residential developments along Gibson Boulevard will increase the traffic density that already exists in this corridor and accessing I-25. However, other residents commented on the desirability of redeveloping Gibson Boulevard with services and restaurants to provide Kirtland AFB employees additional lunch or meeting venues, as well as generally improve the current sense of blight and vacancy along Gibson Boulevard. Additionally, developing a modernized housing stock close to Kirtland AFB may decrease overall congestion in the city by providing employee opportunities for housing closer to the employment center.

6.0 Conclusions

There are established approaches to regional, multi-jurisdictional transportation planning in place for the areas surrounding Kirtland AFB and the Sunport. Only future study of new modal and project initiatives focused on Kirtland AFB-generated traffic appear necessary. Enabling Kirtland AFB representatives to serve on MRCOG transportation planning and programming committees as voting members could institutionalize closer, long-term collaborative planning between the two agencies. At this time, ground transportation problems associated with Kirtland AFB and the Sunport are not perceived by the agencies as sufficient to generate major, new projects, programs, or changes to currently projected priorities.

