

17.0 AVIATION

Aviation plays an important role in the Kansas City region. As a mode of transportation, aviation provides vital connections for both people and goods to destinations inside and outside of the Kansas City metropolitan area. As an industry, aviation generates 62,526 jobs and an annual output of \$6.1 billion in economic development. Aviation also supplies benefits such as air ambulance services, recreation and tourism.

While the main role of an airport is to provide safe access for local users, airports are also a dynamic part of the economy. Public-use airports are an economic anchor, contributing to each community's economic base by creating jobs and supporting a range of business activities. Air transportation benefits the Kansas City region in a variety of ways:

- It is the region's gateway to the national air transportation system and global economy.
- It is an essential component in the modern global marketplace.
- It attracts and retains business.
- It supports tourism, agriculture, emergency medical services, military personnel and services, and public safety.



Each airport in the metro area is an important component of the Kansas City regional aviation system. To analyze the economic benefits of each airport, the Kansas and Missouri Departments of Transportation conducted economic analyses that evaluated impacts on the states' economies by airport. The methodology used to quantitatively estimate the benefits involved on-site data gathering and surveys mailed to airports and their tenants to tabulate the direct benefits. A survey also sampled general aviation visitors' spending habits while traveling to estimate indirect benefits. The economic benefits of airports on both sides of the state line were expressed in measurable variables which translate to jobs, payroll and output. Figure 17.1 outlines the economic activity for airports in the eight-county Kansas City transportation planning boundary.

Figure 17.1: System airports in the eight-county Kansas City region

Associated City	County	State	ID	Airport	Total Employment	Total Payroll	Total Output	NPIAS
Gardner	Johnson	Kansas	K34	Gardner Municipal	15	\$282,400	\$1,008,800	X
Olathe	Johnson	Kansas	OJC	Johnson County Executive	377	\$10,012,500	\$36,608,900	X
Olathe	Johnson	Kansas	IXD	New Century AirCenter	478	\$24,907,400	\$92,854,500	X
Leavenworth	Leavenworth	Kansas	FLV	Sherman Army Airfield	30	\$960,300	\$2,701,000	
Paola	Miami	Kansas	K81	Miami County Regional	29	\$952,500	\$3,390,000	X
Harrisonville	Cass	Missouri	LRY	Lawrence Smith Memorial	22	\$701,000	\$2,251,000	X
Mosby	Clay	Missouri	GPH	Midwest National Air Center	30	\$1,140,000	\$4,403,000	X
Lee's Summit	Jackson	Missouri	LXT	Lee's Summit Municipal	63	\$1,887,000	\$9,204,000	X
Kansas City	Clay	Missouri	MKC	Charles B. Wheeler Downtown	692	\$29,373,000	\$83,733,000	X
Excelsior Springs	Ray	Missouri	3EX	Excelsior Springs Memorial	4	\$114,000	\$411,000	
Kansas City	Platte	Missouri	MCI	Kansas City International	60,786	\$1,550,032,000	\$5,869,520,000	X
Total					62,526	\$1,620,362,100	\$6,106,085,200	

Source: Missouri Statewide Airports Economic Impact Study 2012 and Kansas Aviation Economic Impact Study 2010

Airports connect surface transportation infrastructure with airways. As such, airports must always be considered critical elements of the total transportation system. While the primary focus of *Transportation Outlook 2040* is development of the surface transportation system, the plan should also be consistent with aviation planning in terms of goals, policies and projects.

MARC has historically maintained a regional aviation system plan that includes an inventory of general aviation facilities and summarizes capital improvement programs for National Plan of Integrated Airport Systems (NPIAS) airports in the eight-county region. Its general purpose is to monitor aviation planning activities for coordination between air and surface modes of transportation. MARC updates the Kansas City's Regional Aviation System Plan every five to 10 years. Unlike the Metropolitan Transportation Plan (MTP) and the Transportation Improvement Program (TIP), the Regional Aviation System Plan is not a financially constrained plan and does not program funds.

The Aviation Advisory Committee facilitates ongoing coordination between aviation and surface transportation planning. This group, a modal subcommittee of MARC's Total Transportation Policy Committee (TTPC), provides input and feedback on transportation

policy matters related to aviation. The Aviation Advisory Committee includes members of TTPC and representatives from the FAA, KDOT, MoDOT, local airports and other aviation stakeholders.

The Airport Improvement Program (AIP) provides grants to public agencies — and, in some cases, to private owners and entities— for the planning and development of public-use airports that are included in the NPIAS. The NPIAS identifies more than 3,400 existing and proposed airports that are significant to national air transportation and eligible to receive federal grants under the AIP. The AIP estimates the amount of funds needed for infrastructure development projects to bring airports to current design standards and to add capacity to congested airports. The AIP is administered by the Federal Aviation Administration (FAA) and is congressionally required to provide a five-year estimate of AIP-eligible development every two years. While the U.S. Department of Transportation encourages coordination between aviation and surface transportation plans, the roles and responsibilities of MPOs are different for these planning processes. For instance, MPOs are not responsible for soliciting and prioritizing airport projects in the AIP.

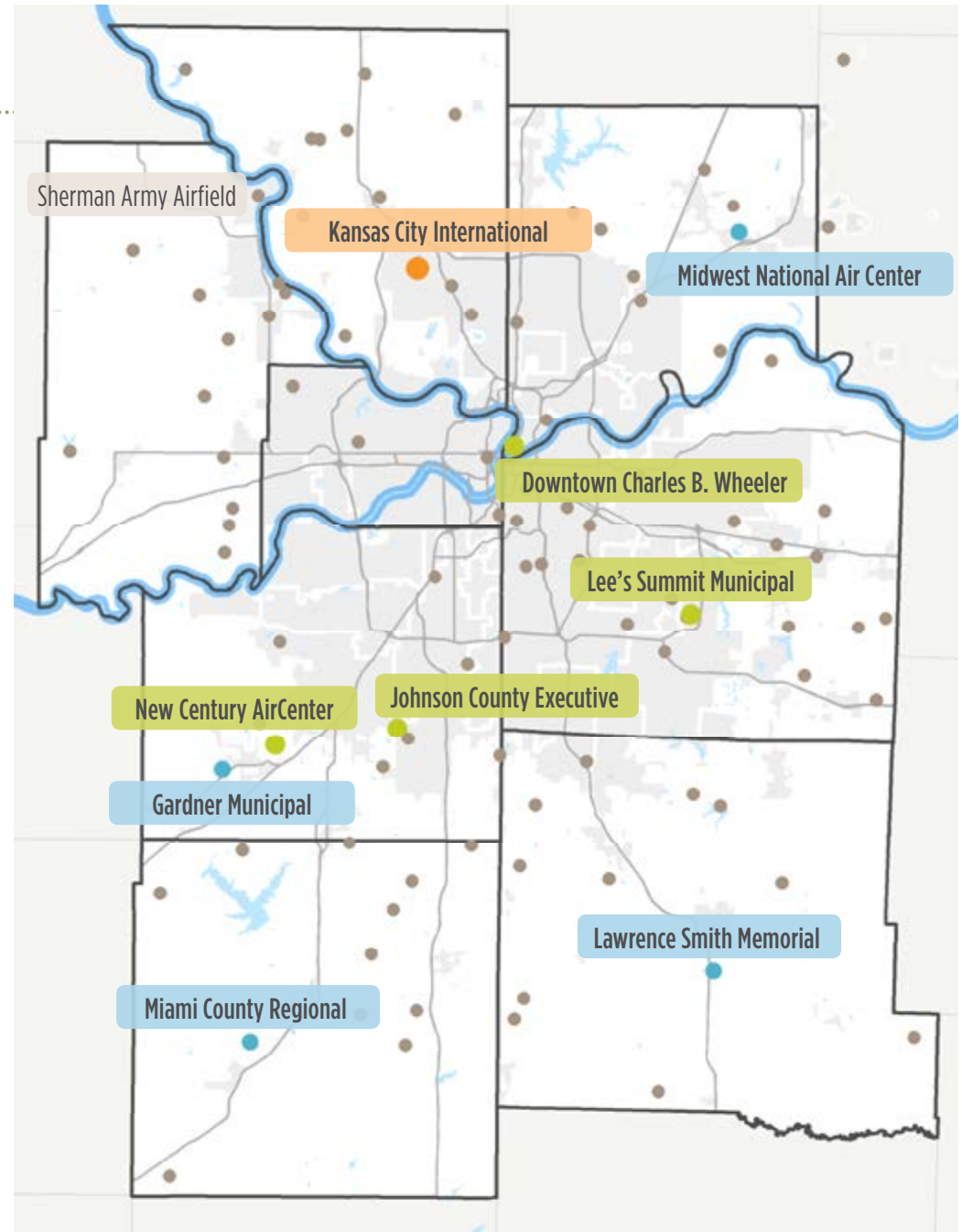
Figure 17.2: Airports in the Kansas City region

Aviation facilities

- Primary / commercial
- General aviation
- Reliever
- Non-NPIAS facilities

The NPIAS includes all commercial service airports, all reliever airports and selected general aviation airports. The FAA developed these categories using clearly defined criteria. According to FAA-published data, the eight-county Kansas City region has 96 aviation facilities, 68 airports and 28 heliports. The locations of these facilities are depicted in Figure 17.2. Of these 96 facilities, nine are classified as NPIAS airports. Figure 17.3 provides a detailed list of NPIAS airports in the region.

Kansas City International Airport (commonly known as KCI, with the airport code MCI) is the primary commercial service airport serving the Kansas City region. It offers scheduled flight service to all major domestic and select international markets. From December 2012 to December 2013, KCI had over 4.8 million passengers boardings, which made it the 35th busiest commercial service airport in the United States.¹ Southwest Airlines dominates the local aviation market with 45 percent of all flights. Delta Airlines represents a distant second with a 12 percent share of the local market. In addition to scheduled passenger service, KCI also handles significant freight activity and is a major employment center in the region.



Needs assessment

The surface transportation systems and natural environment surrounding an airport facility can sometimes present challenges to its operations. Planners must address these concerns in plans for existing airports or proposals for new airports, summarizing nuisances and critical imbalances between the systems and suggesting ways to achieve a safe environment for airport operations.

Obstructions and hazards

The type of landscaping at airports can affect tourism, business and the overall impression of airport operations for passengers. Landscaping needs to be aesthetically pleasing, but it must also agree with the airport's greater responsibility for aviation safety.

Landscaping around airports can promote sustainability, land conservation and other environmental principles. However, airport managers must balance landscape aesthetics with safety concerns. For example, airports may need to limit trees or other vegetation that intrudes vertically into aircraft operating space. Airports with large amounts of surrounding land have more opportunities to encourage land uses that support safe operations, such as farming, which can serve as a natural noise buffer for nearby residential areas.

Landscaping around airports often attracts wildlife, which can also present hazards to operations. The FAA has issued multiple Advisory Circulars to address these concerns. These circulars provide required guidance that must be adhered to by all FAA Part 139 certified airports. The FAA recommends that airport operators approach landscaping with caution and confine it to areas not associated with aircraft movements. A qualified airport wildlife biologist should review all landscaping plans. Airport operators should monitor all landscaped areas on a continuing basis for the presence of hazardous wildlife such as coyotes, deer and a wide range of birds. If hazardous wildlife is detected,



Birds and other wildlife can pose a significant threat for airport operations as bird strikes can cause damage to aircraft and create other safety issues. Areas surrounding airports should be monitored on an ongoing basis for the presence of hazardous wildlife habitation.

corrective actions should be immediately implemented. Turf grass areas and trees can be highly attractive to a variety of hazardous wildlife species, and airport operators should develop airport turf grass management plans as needed, depending on the airport's geographic location and the type of hazardous wildlife likely to frequent the airport. According to the USDA Wildlife Service National Wildlife Research Center, no one grass management regime will deter all species of hazardous wildlife in all situations.

Airport operators should ensure that plant varieties attractive to hazardous wildlife are not used on the airport grounds. Disturbed areas or those in need of revegetation should not be planted with millet seed mixtures or any other large-seed producing grass. For airport property already planted with seed mixtures containing millet, rye grass, or other large-seed producing grasses, the FAA recommends disking, plowing, or another suitable agricultural practice to prevent plant maturation and seed head production.²

Surface transportation infrastructure that surrounds an airport can also cause another nuisance — flight interference. Flight interference may take three forms: airspace obstructions, electrical interference with communication and navigation equipment, and obscured airport lights.

Airspace obstructions — There are few recorded cases of airports having to close down due to the erection of tall structures in runway approach zones, but pilots must exercise special care in and around tall buildings. Other possible obstructions include bridges, highways and other types of transportation infrastructure that may take up airspace.³

One important criteria for selecting a site for a new airport is the type and extent of obstructions, such as buildings, trees and transmission lines, that would require removal. (Specific dimensional criteria are described in Objects Affecting Navigable Airspace, Part 77 of the Federal Aviation Regulations. Removal of hazards or lighting of obstructions is an eligible cost under the Federal-Aid Airport Program.)

Electrical interference — Modern air traffic control requires the use of sophisticated communications and navigation equipment. In areas where air traffic is heavy, a breakdown of, or interference with, communications between the air traffic controller and the aircraft could be disastrous. It is particularly important that there be no interference with aircraft operating under IFR (Instrument Flight Rules) conditions — when weather so restricts visibility that electronic navigational equipment must be relied on exclusively until the aircraft is within a few hundred feet of the ground. Activities such as testing of electrical equipment which might interfere with communication between the airport and the aircraft should be prohibited in specified zones. The FAA and the Federal Communications Commission (FCC) coordinate activities so that broadcast facilities at or near airports and airways do not interfere with aviation safety.

Interference from lighting — An airport facility must make provision to prevent the operation of lights that would create difficulty for a pilot to distinguish between airport lights and others, or would impair visibility in the vicinity of an airport. Lighted outdoor signage, among other things, could be possible disturbance to airport operations, especially at night.⁴

Surface access to airports

Effective coordination between surface transportation and aviation planning processes will ensure that the region continues to have sufficient access to airports and other aviation facilities. Throughout the Kansas City region, the surface transportation system currently provides adequate access to existing NPIAS airports. In fact, all of the NPIAS airports in the Kansas City region are located on or near an arterial roadway that provides a direct connection to the U.S. Interstate Highway System.

While all of the NPIAS airports in the Kansas City region can be accessed by automobiles, only five can be accessed

by fixed-route public transit. As the region strives for better, more affordable mobility for all persons, new routes should be considered for transit riders to reach each airport in the region. Additional transit services will help transport both travelers and airport employees who may not have access to an automobile. The Transit Cooperative Research Program (TCRP) Report 62 reports in great detail how public transportation can be added to an airport's transportation network, as well as the potential users for such services.⁵

Proposed Leavenworth County Airport

Figure 17.3: Fixed bus route access to NPIAS airports

Associated city	County	State	ID	Airport	Bus route	Schedule information
Gardner	Johnson	Kansas	K34	Gardner Municipal	670	Weekday service; peak period only
Olathe	Johnson	Kansas	OJC	Johnson County Executive	661	Weekday service; peak period only
Olathe	Johnson	Kansas	IXD	New Century AirCenter	670	Weekday service; peak period only
Leavenworth	Leavenworth	Kansas	FLV	Sherman Army Airfield	129	Weekdays and weekends, average one-hour headways
Paola	Miami	Kansas	K81	Miami County Regional	152	Weekday service; peak period only

Source: Transit providers' websites and Google Transit

The Air and Business Park Committee for Leavenworth County was formed in 2007 to study the feasibility of developing a new general aviation airport to serve Leavenworth County. The study was funded by contributions from the Leavenworth County Port Authority, Leavenworth County, and the cities of Leavenworth, Lansing, Tonganoxie and Basehor. The study concluded that a new general aviation airport primarily serving Leavenworth County was indeed feasible, as the minimum market demand criteria defined by the FAA were met. Site selection was completed in 2011. Since that time, however, public officials in Leavenworth County have not indicated plans to move forward with construction of a new airport.

Ground access to New Century Air Center via 159th Street

In June 2014, the Olathe City Council authorized acceptance of a \$4.6 million federal grant — the last funding piece needed to allow work on the \$19.3 million 159th Street project, which will get underway in 2015. The project includes reconstructing 159th street between I-35 and Old Highway 56 and installing a bridge that will eliminate an at-grade railroad crossing. The improvements will speed industrial development of several large tracts and provide east-west access to the I-35/Lone Elm interchange, a \$67 million project completed largely with local funds in 2010. Existing projects that will benefit from the improved access include New Century AirCenter, a large multimodal business park; Midwest Commerce Center, home to the Coleman Company's 1.1 million-square-foot distribution center; and I-35 Logistics Park, at 155th Street and Old Highway 56. A 148-acre location just west of the I-35/Lone Elm interchange and a 71-acre tract just east of the interchange are both located near the development site. This project will improve the

area safe, efficient movement of freight, increase area tax revenues and create new jobs.

Kansas City International Airport Planning Studies

For more than 40 years, the Kansas City International Airport has served the needs of travelers to the Midwest. Its nearly 11,000 acres of land make it one of the largest airports in the U.S., and it serves more than 10 million travelers annually. Two major interstates border KCI — I-29 to the north and east and I-435 to the west — along with Highway 152 near the southern boundary. KCI is located in Platte County, Missouri, and is positioned approximately 20 miles from the downtown Kansas City, the downtown business center. KCI is uniquely situated as a major asset in the future development of North Kansas City and for the entire Kansas City region.

The last two KCI Master Plans recommended a new building configuration, with options to build a new single terminal for added convenience, security and operational efficiencies.

In 2011, the FAA provided funding for the Kansas City Aviation Department (KCAD) to initiate the Terminal Advance Planning Study. Its purpose was to validate the findings of the 2008 Master Plan and define a new, state-of-the-art terminal for subsequent design and construction. In addition to identifying a compact and efficient layout for the new terminal concept, the consultant team developed an affordability target of capital and operating cost estimates to verify the financial viability of the project.

The study goals and objectives were developed with input from the public workshops and vetted with key governmental staff, airport officials, FAA and airline stakeholders. These goals are summarized in four primary project strategies:

- Ensuring the highest level of service for the city of Kansas City, Missouri, and the larger region.
- Achieving state-of-the-art passenger conveniences, satisfaction and safety.
- Reestablishing financial viability and efficiency for the airport operations.
- Meeting the environmental and sustainability goals of the city of Kansas City.

In 2013, the city council approved an 18-month study and Resolution No. 130234, which validated the goals and objectives of passenger-demand characteristics to guide the design of a new single terminal complex. The mayor appointed a 25-member citizen group, the Airport Terminal Advisory Group. Its mission was to review appropriate relevant facts, consult with key stakeholders, and make a recommendation regarding the optimal configuration of KCI — one that best serves the envisioned, long-term success of its businesses, residents and visitors from the standpoint of economic impact (affordability and business creation), flexibility (adaptability and convenience) and safety (security and environmental performance). The advisory group presented its recommendation on May 7, 2014, and the city council voted 19-5 in favor of a new single terminal.

Recent aviation plans in the Kansas City region



In summer 2014, the KCAD decided to work cooperatively with airlines to further develop a vision for the future of KCI. The KCAD entered into a mutual agreement with an airline group called EXHIBIT K. Under the agreement, KCAD and the signatory airlines will work together to define a direction and preferred alternative for future capital development of the terminal area. The agreement establishes guidelines related to two alternatives considered viable: major renovation, expansion or re-lifting of the existing terminal area; or new terminal development within the current terminal area.

Within the next 12 to 15 months, the group will identify the best design alternative for KCI and submit its findings to the city council and mayor. This submittal will complete the Exhibit K agreement and the mayor and city council will determine the next steps for the future airport.



Strategies

Several strategies, outlined below, can help airports and communities promote compatible land-use planning and mitigate the effects of obstructions and hazards on airport operations.

17-1: Improve coordination of land-use and aviation planning.

- a. Comprehensive plans and area plans typically provide for organized community growth. In addition to community development issues, these plans should address airport development issues where appropriate.
- b. Joint or regional planning and intergovernmental agreements coordinate planning and zoning efforts among multiple jurisdictions. These plans should address the effects of land-use decisions on airport operations in impacted jurisdictions.
- c. Airport land-use compatibility plans consider the long-term development and viability of an airport and land-use policies that should be applied throughout the airport influence area, regardless of jurisdiction. The agency that develops the plan may not have land use authority to implement its policies. Affected jurisdictions should incorporate the policies into their comprehensive plans and zoning ordinances — which will require communication and coordination with the implementing authority.










17-2: Improve coordination between surface transportation and aviation planning.

- a. Involve aviation stakeholders in development and implementation of MTP and TIP. Coordinate communication among local, state and federal transportation agencies to inform airports of planned surface projects.

- b. Involve aviation stakeholders in the development of corridor, environmental and major investments studies.
- c. Airport Master Plans and Airport Layout Plans (ALPs) provide for the organized and long-term planning and operation of airports. Although these plans may consider the effect of airports on adjacent areas and communities in terms of noise, air quality impacts and more, they often may not consider the resulting growth and development that may occur in the communities. Airport managers should address potential growth issues as part of master planning efforts, to look beyond the airport boundary and into the local community.
- d. Zoning ordinances, which regulate development within a given jurisdiction, should address risks associated with airport operations. For example, height ordinances may regulate the heights of structures, objects or vegetation within the vicinity of an airport, and zoning regulations may be used to restrict the density of proposed development near an airport.
- e. Consider deed restrictions, attached to properties in perpetuity, to address issues such as noise and the proximity and type of development and land uses.

17-3: Develop and maintain the Regional Airports System Plan.

- a. 2015 update to the RASP will incorporate the goals of the plan's policy framework.

<i>Transportation Outlook 2040</i>			
<i>Policy framework strategies and goals:</i>	17-1: Land use and aviation planning	17-2: Surface transportation and aviation planning	17-3: Regional Airports System Plan
 Economic vitality	X		X
 Placemaking	X		X
 Equity	X		X
 Transportation choices		X	X
 Safety and security		X	X
 System condition		X	X
 System performance		X	X
 Public health	X		X
 Environment	X		X
 Climate change and energy use	X		X

Notes:

- 1 Bureau of Transportation Statistics, <http://www.transtats.bts.gov/airports.asp?pn=1&Airport=MCI&carrier=FACTS>
- 2 <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>
- 3 FAA Advisory Circulars on Airport Lighting http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.list/parentTopicID/63
- 4 Improving Public Transportation Access to Large Airports