

CHAPTER THREE: ACTIVITY FORECASTS

OVERVIEW

The purpose of forecasting aviation activity is to identify trends in the growth of based aircraft, aircraft operations, and passenger enplanements at the Kansas system airports. The forecasts are the fundamental starting point for analyzing the future performance of the Kansas airport system, since knowledge of future use patterns at each airport is critical in planning for any facility and service upgrades that might be required. The forecasts presented in this chapter also serve as a valuable tool for the KDOT Division of Aviation, as the forecasts enable the Division to prepare and plan for expected changes in the demand placed upon the state's aviation system.

FORECAST PROCESS

The forecasts developed for the KASP were prepared in close consultation with KDOT's Division of Aviation. Several methodologies were developed and presented to the Division and a preferred forecast was determined through discussions with Division staff. The preferred forecast of each of the following activity measures is presented in this chapter:

- ✦ Commercial passenger enplanements
- ✦ Based general aviation aircraft
- ✦ Total general aviation operations

Aircraft operations projections typically drive capacity-related needs in the system, while based aircraft levels typically drive certain landside facility development needs. Forecasts of passenger enplanements drive capacity planning for the state's commercial airports.

This chapter of the KASP is organized as follows:

- ✦ National Aviation Trends
- ✦ Commercial Service Passenger Enplanement Forecasts
- ✦ General Aviation Based Aircraft Forecasts
- ✦ General Aviation Operations Forecasts
- ✦ Summary

Projections of aviation demand are developed based on relevant trends. Projections are presented on an airport-by-airport basis, as well as on a statewide basis, in the following sections.

NATIONAL AVIATION TRENDS

Nationally, in the period of 2005 through 2008, demand for commercial air service and general aviation has remained strong, and has returned the level of aviation activity in the U.S. to pre-9/11 levels. However, while the demand side of aviation is robust, the domestic airline industry continues to struggle with high operational costs in an environment of intense pricing competition. In both the commercial and general aviation sectors, accelerating fuel prices have rapidly escalated the cost of flying.

This section reviews some of the most important national trends in aviation that have and will continue to impact Kansas. Among the most important factors influencing aviation demand in Kansas today, and in the near future, are the following:

- ✦ Increased competition for market share between network and low cost carriers
- ✦ On-going financial difficulties of the legacy carriers that operate hub and spoke networks
- ✦ A restructuring of regional jet service and regional airlines precipitated by legacy carrier bankruptcies and reorganization
- ✦ A shift in the domestic aircraft fleet from larger jets to regional jets, except at the most congested commercial airports where operations are constrained
- ✦ Further declines in air service to the smallest communities; as the carriers focus on the highest density point-to-point markets
- ✦ Replacement of aircraft in favor of more fuel efficient models both on the commercial side and in general aviation
- ✦ Reductions in recreational (discretionary) flying of general aviation aircraft because of high fuel costs

Commercial Service Trends

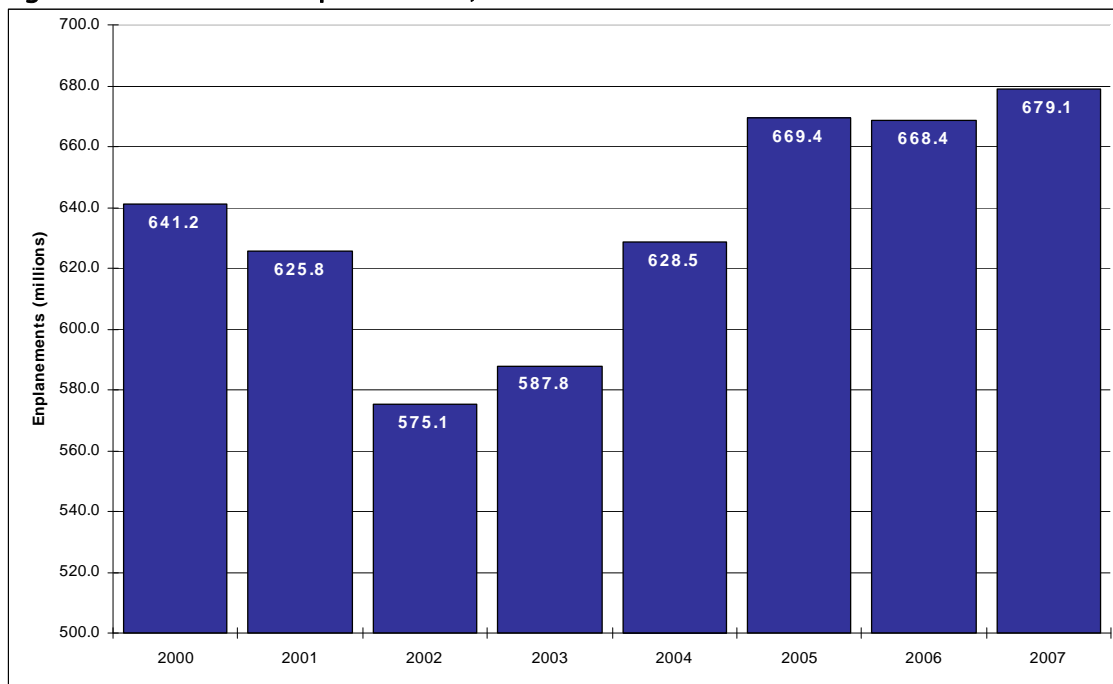
Commercial service includes all scheduled passenger and air cargo flights. Following September 11, 2001, aviation analysts anticipated that it would take some time for commercial demand to return to levels seen in 2000. Indeed, in 2002 and 2003 modest growth in passenger levels occurred, though demand remained below 2001 levels. In 2004, passenger counts at the country's airports had reached 2001 levels, and by 2005, passenger levels at most commercial airports had exceeded 2000 levels. Growth has continued in passenger counts since 2005, though at slower rates than in previous years. **Figure 3-1** shows the trend in total domestic enplanements since 2000.

Jet Fuel Prices

Despite a continuing increase in passenger demand, the escalating cost of fuel continues to disrupt the financial recovery of the commercial airlines. **Figure 3-2** shows the pricing trends of spot crude oil and jet fuel since 1990.

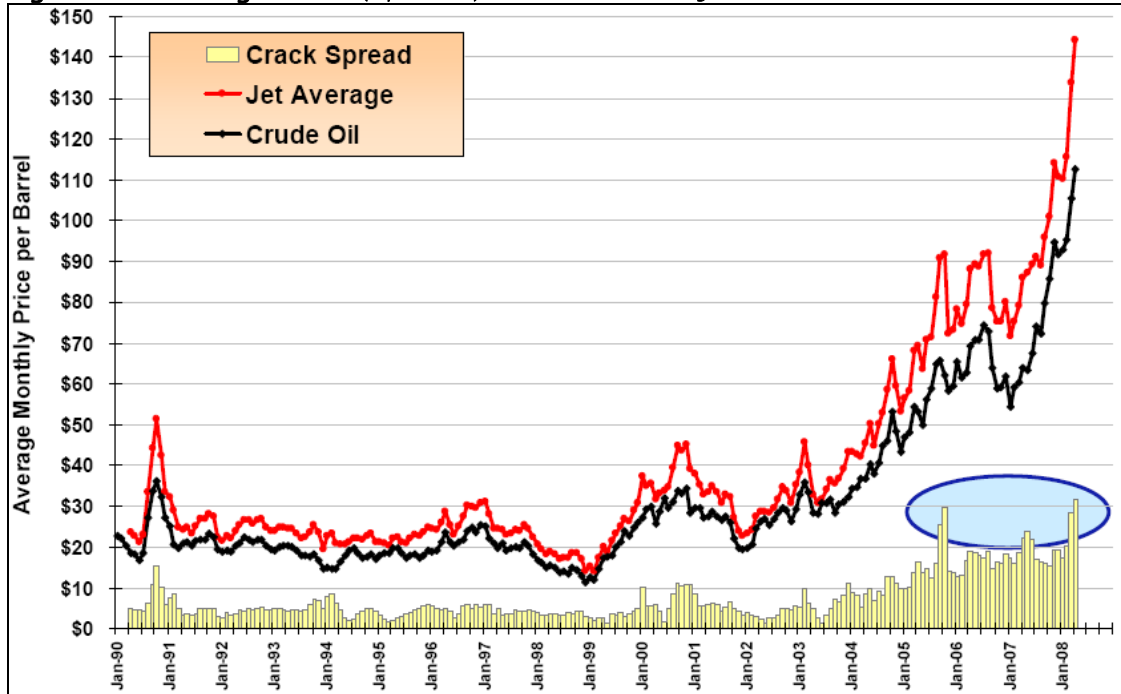
In the last 30 years, there have been three pricing spikes. In 1973-1974, the Arab oil embargo caused the price of oil to spike from \$3 per barrel to over \$11 per barrel. In the 1980s, the price of crude oil moved into the \$20 range. In the 1990's, the price fluctuated between \$20 and \$30 per barrel until mid-2003. In the last four years, the price of crude oil has more than quadrupled; and in 2008, crude oil increased to \$140 per barrel (as of early July 2008) before declining the remainder of the year back to the \$50 per barrel range. In addition, the difference between crude and jet fuel cost per barrel, known as the "crack spread," has increased as well, from a historical average of \$5 to over \$20 since Hurricane Katrina.

Figure 3-1: Domestic Enplanements, 2000-2007



Sources: FAA Aerospace Forecasts, Fiscal Years 2008-2025.
Prepared November 2008.

Figure 3–2: Average Prices (\$/Barrel) of Crude Oil vs. Jet Fuel

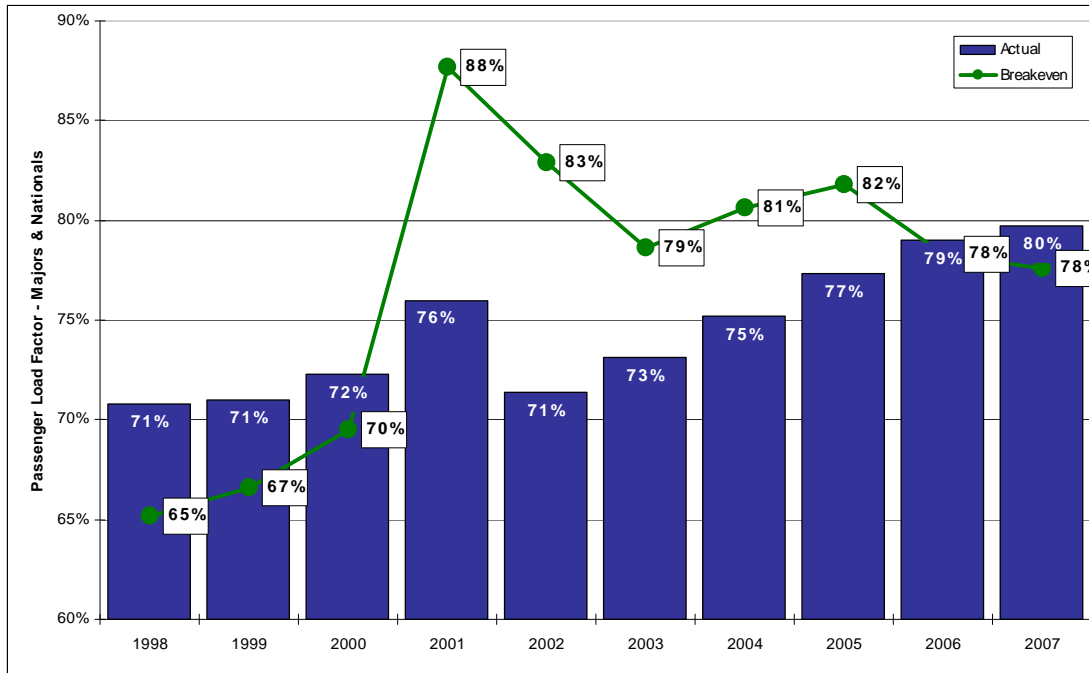


Source: U.S. Energy Information Administration and Air Transport Association.
Prepared November 2008.

High Breakeven Load Factors Reflect Low Fares and High Costs

One way to analyze the cost and revenue components of commercial air service is to compare actual passenger load factors with break-even load factors. **Figure 3-3** compares passenger load factors and break-even load factors for the major carriers, and demonstrates how the airlines are challenged to stay profitable when fares remain low, demand is high, and costs continue to escalate. Beginning in 1995 and continuing through 2000, carrier load factors exceeded break-even points. Break-even points hovered in the mid-60 percent range while actual load factors averaged 70 percent. In 2000, breakeven and actual load factors were nearly equal. However, in the last five years, break-even points averaged in the mid-80 percent range, well above actual load factors. While load factors approaching 80 percent have historically been good news for air carriers, high costs related to oil have continued to prevent most carriers from reaching profitability.

Figure 3–3: Passenger Load Factors and Breakeven Points – Majors & Nationals



Source: FAA Aerospace Forecasts, Fiscal Years 2007-2020.
Prepared November 2008.

Airline Mergers and Acquisitions

Five of the country's six major airlines were engaged in merger talks in early 2008, and Delta Air Lines and Northwest Airlines have recently merged. United Airlines was in talks with Continental (and later US Airways) about a merger, but has recently called off those talks. Airline mergers are being considered again due to high fuel costs and the weak domestic economy. Additionally, several airlines have ceased operations in the past six months, and still another filed for bankruptcy.

To survive, some airlines consider merging in hopes that, by joining forces, they can lower exposure to rising fuel costs and gain cost savings from combining routes and reducing capacity. Airlines hope to create more efficient joint carriers that can effectively compete and win in the global marketplace. For consumers, the worry is that consolidation increases the likelihood for higher fares and service cuts to small communities.

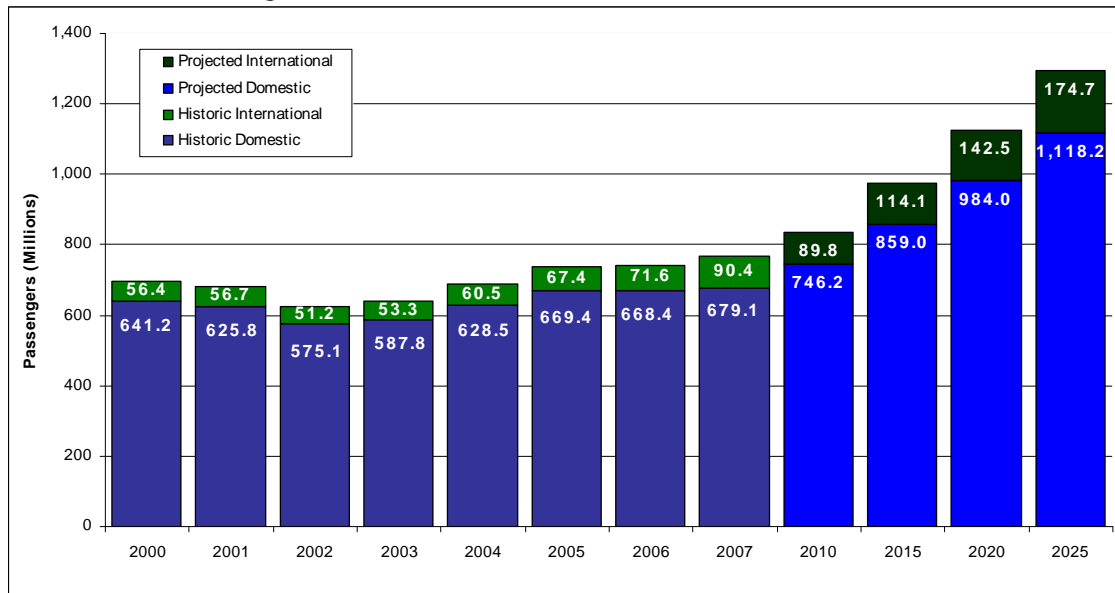
FAA Commercial Aviation Forecasts

Each year, the FAA prepares a 12-year forecast for commercial aviation as part of the *FAA Aerospace Forecasts*. The forecasts are presented in March each year. The most recent commercial aviation forecasts reflect the following average annual growth rates for 2008-2025:

- ✈ Domestic enplanements – 2.72 percent per year
- ✈ International enplanements – 4.79 percent per year
- ✈ Load factors up to 82 percent
- ✈ Available Seat Miles (ASMs) – 4.1 percent per year
- ✈ Revenue Passenger Miles (RPMs) – 4.2 percent per year

The FAA anticipates that international travel will be the fastest growing segment of scheduled air service. In 2007, international ASMs represented approximately 27 percent of the system. By 2025, international ASMs are expected to represent 34 percent of total ASMs. Regional carrier growth is anticipated to slow to 1.3 percent per year after annual increases in the 12 percent range between 2000 and 2006. Passenger yields are projected to improve at an average annual growth rate of 1.7 percent. **Figure 3-4** reflects the most recent FAA forecasts for both domestic and international passengers.

Figure 3-4: U.S. Commercial Air Carriers, Historical and Forecast Domestic and International Passengers (2000-2025)



Source: FAA Aerospace Forecasts, Fiscal Years 2008-2025; Bureau of Transportation Statistics, T-100 International Market and Segment. Prepared November 2008

It is worth noting that the FAA projections do not take into account the recent surge in fuel costs and ongoing difficulties experienced by U.S. carriers. Based on recent events, it appears that the FAA's near-term domestic projections may be overstated. In fact, updated versions of the FAA's forecasts indicate a short-term dip in growth before returning to patterns shown in Figure 3-4.

Also of note is a study being prepared by the city of Wichita regarding the feasibility of in-state airline service to connect Kansas' major cities. As of the writing of this document, the feasibility study is nearing completion. Its results will help the state of Kansas determine the benefits and costs of establishing in-state service.

General Aviation Trends

General aviation (GA) includes all aviation except scheduled passenger or air cargo operations. It includes personal transportation, business and corporate flights, air taxi and helicopter operations. In Kansas, general aviation aircraft are flown for a wide variety of uses in addition to those listed above, including agricultural spraying, flight instruction, military training and exercises, emergency medical evacuation, and fire fighting.

Each year, the FAA and the General Aviation Manufacturers Association (GAMA) review the outlook for the general aviation industry. The FAA's particular areas of interest are the workload at airports with FAA air traffic control towers and contract towers, airspace congestion, and changes in the US fleet mix. GAMA tracks aircraft billings and shipments, among other measures.

The following describes general aviation activity¹ in the US in order to provide a comparison for based aircraft and general aviation activity in Kansas:

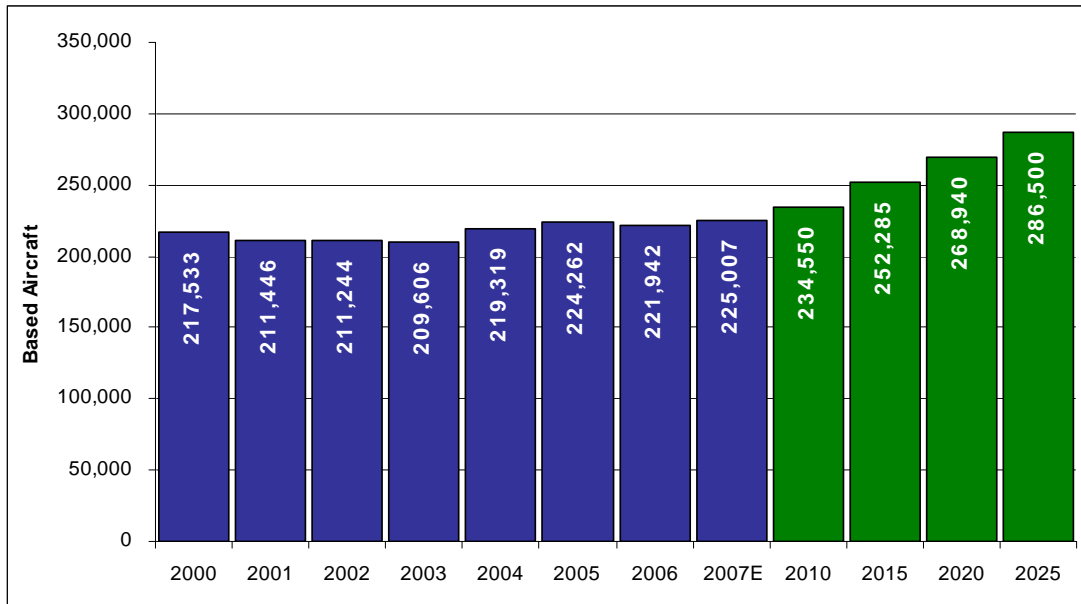
- ✦ There are 224,000 general aviation aircraft based in the US; 3,393 are registered in Kansas.
- ✦ General aviation aircraft fly over 27 million hours in the US and carry 166 million passengers each year.
- ✦ Nearly two-thirds of the hours flown on general aviation aircraft are for business purposes. In Kansas, agricultural spraying also accounts for a large number of aircraft operations and hours flown.
- ✦ Fractional ownership of aircraft is growing. In 2006, 984 aircraft were operated in fractional ownership programs. This is a growing, but relatively small portion of the US fleet.
- ✦ Domestic shipments of new aircraft reached a near term high in 2007.

¹ GAMA Annual Industry Review & 2008 Market Outlook Briefing

FAA General Aviation Forecasts

As part of its forecasting effort, the FAA prepares national forecasts of active general aviation aircraft, fleet mix and general aircraft operations. The active aircraft forecast is presented in **Figure 3-5**. Overall, general aviation aircraft are forecasted to grow at an average annual rate of 1.4 percent for the next 13 years.

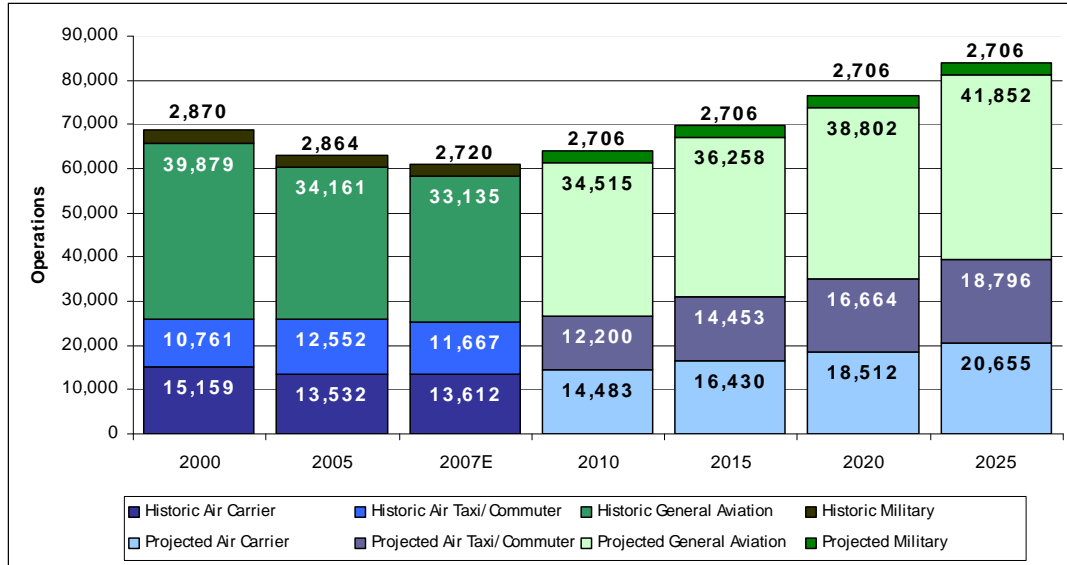
Figure 3-5: Active General Aviation and Air Taxi Aircraft



Source: FAA Aerospace Forecasts, Fiscal Years 2008-2025.
Prepared November 2008.

Figure 3-6 shows forecast operations at airports with either an FAA or contract air traffic control tower. Commercial and air taxi/commuter operations are forecast to grow 2.3 and 2.7 percent annually, respectively. General aviation operations are forecast to grow 1.3 percent per year, and military operations are expected to stay flat.

Figure 3-6: Commercial and General Aviation Operations at Airports with FAA or Contract Towers



Source: FAA Aerospace Forecasts, Fiscal Years 2008-2025.
Prepared November 2008.

In 2006, Kansas, Inc., in conjunction Wichita State University, produced an Aerospace Industry Forecast that provides estimates on the economic impact of and future growth in the aircraft and aerospace manufacturing sector in Kansas. While this study is now somewhat out of date, the indicators of future growth produced in those forecasts agree with the forecast trends noted previously.

Technology Trends

This section discusses the trends in new technology that have the largest potential to impact the future of aviation.

Very Light Jets

Other new, growing segments of the business aircraft fleet mix include business liners and very light jets (VLJ). Business liners are large business jets, such as the Boeing Business Jet and Airbus ACJ that are reconfigured versions of passenger aircraft flown by large commercial airlines. VLJs are a relatively new category of aircraft that includes aircraft like the Embraer Phenom 100, HondaJet, and Cessna Citation Mustang. These are small, single pilot, six-seat jets that cost substantially less than typical business jet aircraft and have been labeled as “personal jets.”

VLJs represent a significant departure from the cost of previously available jet aircraft. The basic Citation Mustang has a price estimated around \$2.4 million and the HondaJet around \$3.6 million. **Figure 3-7** depicts some examples of VLJ aircraft and their general design concept.

As of October 2006, the Eclipse 500, Citation Mustang, and Adam A-500 became the first VLJs to receive full Type Certification by the FAA. The first Eclipse 500 was delivered in January 2007 and the first Citation Mustang was delivered in September 2008. Honda Aircraft Company aims to receive FAA Type Certification for the HondaJet in 2010, with the first HondaJet scheduled for delivery in 2010. (Eclipse filed for bankruptcy in late 2008.)

Figure 3-7: Examples of VLJ Aircraft



Sources: Cessna Aircraft Company; Eclipse Aviation; Embraer Press Room; Honda.
Prepared November 2008.

DayJet, an on-demand jet service provider that served business travelers tired of the air carrier “hassle factor” at a reasonable cost, operated in Florida from October 2007 to September 2008. As of the writing of this chapter, DayJet has ceased operations. Other on-demand providers have similar business models, however, and are projected to initiate service in the future.

Four key features make airports attractive to on-demand operators and their clients:

- ✦ Fixed base operators that provide fuel and other supplies to aircraft operators.
- ✦ Availability of ground transportation such as taxi cab operators and rental cars.
- ✦ Close proximity to customer populations.
- ✦ Runways at least 4,000 feet long with precise navigation and landing guidance.

Business aviation is projected to experience substantial additional growth in the future. The *Honeywell Business Aviation Outlook* projects that more than 7,600 new business aircraft will be delivered by 2012, excluding business liners and VLJs.

The future of the VLJ segment of the business aircraft market appears extremely promising. More than 13 percent of the traditional corporate flight departments knowledgeable about VLJs expressed a strong probability of purchasing these aircraft for their corporate fleets. The respondents indicated that VLJ purchases would be used by approximately 40 percent of the flight departments to replace turboprops, 20 percent to replace very light and light jets, and the remainder would represent additions to the corporate fleet.

A development similar to VLJ aircraft are a newer class of light business jets, including the Beechcraft Premier Jet and Cessna CitationJet. These aircraft fill a niche between VLJs and larger business jets, typically seating six passengers and having greater weight capacity than VLJs. As these aircraft are larger and heavier than VLJ aircraft and are marketed to a different segment of business aircraft users than are VLJs, this type of aircraft is generally included in the jet category rather than VLJs.

Wide Area Augmentation System

The U.S. Department of Transportation (DOT) and FAA are developing the Wide Area Augmentation System (WAAS) for use in precision flight approaches. Currently, the Global Positioning System (GPS) alone does not meet the FAA's navigation requirements for accuracy, integrity, and availability. WAAS corrects for GPS signal errors caused by ionospheric disturbances, timing, and satellite orbit errors, and it provides vital integrity information regarding the health of each GPS satellite.

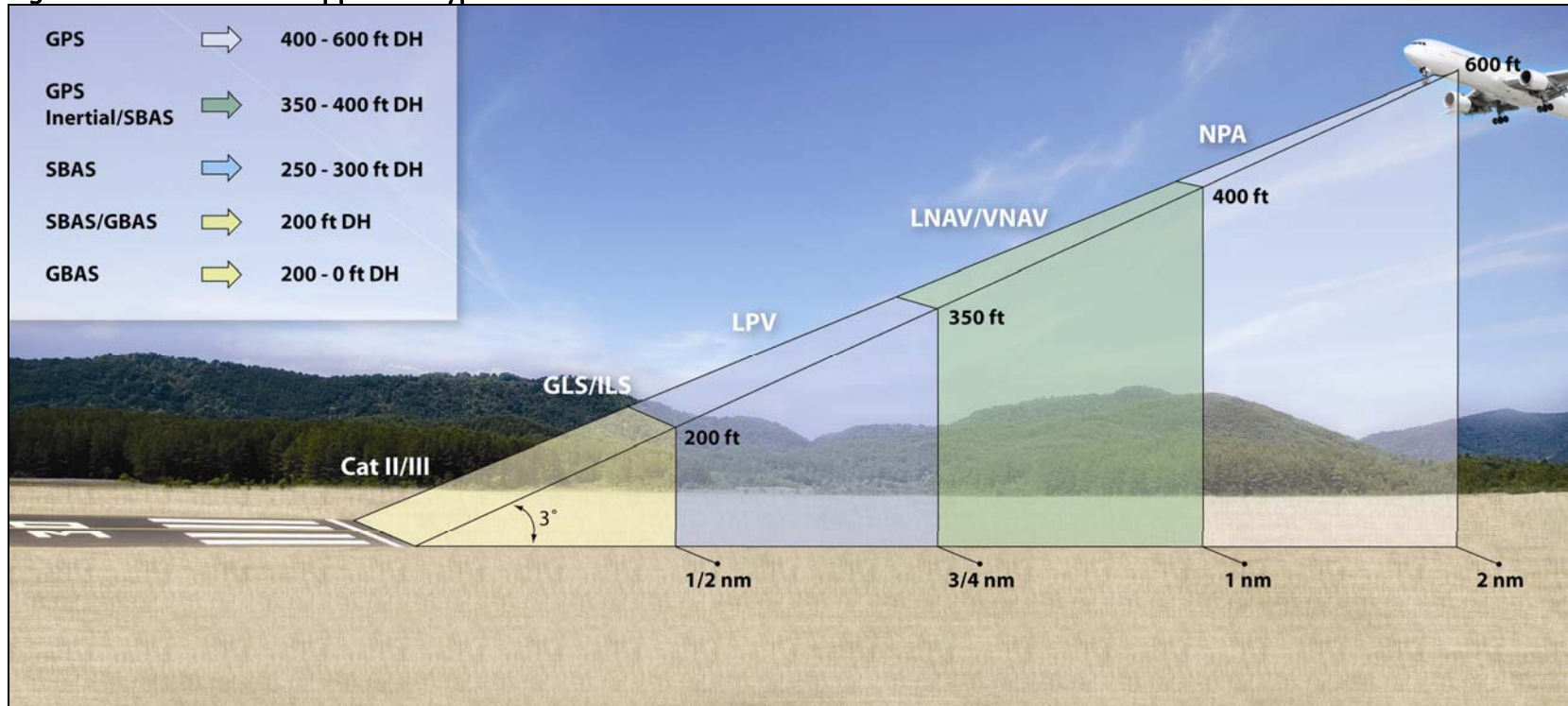
WAAS consists of approximately 25 ground reference stations positioned across the United States that monitor GPS satellite data. Two master stations, located on either coast, collect data from the reference stations and create a GPS correction message. This correction accounts for GPS satellite orbit and clock drift plus signal delays caused by the atmosphere and ionosphere. The corrected differential message is then broadcast through one of two geostationary satellites, or satellites with a fixed position over the equator. The information is compatible with the basic GPS signal structure, which means any WAAS-enabled GPS receiver can read the signal.

GPS NPA (LNAV) refers to a Non-Precision Approach (NPA) procedure which uses GPS and/or WAAS for Lateral Navigation (LNAV). On an LNAV approach, the pilot flies the final approach lateral course, but does not receive vertical guidance for a controlled descent to the runway. Instead, when the aircraft reaches the final approach fix, the pilot descends to a minimum descent altitude using the barometric altimeter. LNAV approaches are less precise and therefore

usually do not allow the pilot to descend to as low an altitude above the runway. Typically, LNAV procedures achieve a minimum descent altitude (MDA) of 400 feet height above the runway. LNAV/VNAV (Lateral Navigation/Vertical Navigation) approaches use lateral guidance from GPS and/or WAAS and vertical guidance provided by either the barometric altimeter or WAAS. Aircraft that don't use WAAS for the vertical guidance portion must have VNAV-capable altimeters, which are typically part of a flight management system (FMS). FMS avionics are more expensive than WAAS receivers. When the pilot flies an LNAV/VNAV approach lateral and vertical guidance is provided to fly a controlled descent, a safer maneuver, to the runway. The decision altitudes on these approaches are usually 350 feet above the runway.

LPV (Localizer Performance with Vertical guidance) is similar to LNAV/VNAV except it is much more precise, enables descent to 200-250 feet above the runway, and can only be flown with a WAAS receiver. LPV approaches are operationally equivalent to the legacy instrument landing systems (ILS) but are more economical because no navigation infrastructure has to be installed at the runway. It is important to note that in order to achieve the best minimums, LPV approaches require an approach landing system (ALS). **Figure 3-8** summarizes the various approaches and their associated minimums.

Figure 3-8: Instrument Approach Types



Source: Federal Aviation Administration. Notes: *GPS (Global Position Satellites), SBAS (Satellite Based Approach Systems), GBAS (Ground Based Approach Systems). Prepared: November 2008.

These WAAS approaches should be considered the same as conventional precision approaches from an airport infrastructure perspective. There were over 1,300 LPV approach procedures published as of September 2008, with the FAA's goal being to produce 500 new LPV procedures each year until every qualified runway in the NAS has one. LPV approaches can currently be found at 833 airports.

It is the intent of the FAA to put LPV approaches with 200-foot decision altitudes and as low as ½ statute miles visibility where the airport infrastructure and environment can accommodate it. The next steps in the LPV evolution are summarized below:

✦ Current:

- CAT I ILS is limited to 200' HAT and ½ mile visibility
- LPV is limited to 200' HAT and ½ mile visibility

✦ Next Steps:

- If airport's ILS has 200' and ½ mile minimums, and
- Has RNAV (GPS) of 250' and ¾ mile visibility, then
- The airport is a candidate for LPV to 200' and ½ mile minimums

KANSAS AVIATION TRENDS

Commercial Aviation in Kansas

Kansas has eight commercial service airports. These airports handled approximately 820,000 enplanements in 2007. The majority of these enplanements occurred at Wichita Mid-Continent, which served 92 percent of all the state's enplanements in 2007. The remaining enplanements occurred at Dodge City, Garden City, Great Bend, Hays, Liberal, Manhattan, and Topeka's Forbes Field. The state is also served by airports in adjacent states, primarily Kansas City. Other airports from which Kansas' commercial passengers depart at times include Denver, Oklahoma City, Tulsa and Joplin.

Figure 3-9 shows historic enplanement figures for Kansas' eight commercial airports. As indicated above, Wichita Mid-Continent is the largest airport in the state in terms of enplanements, with 762,014 in 2007. The remaining seven commercial airports each make up less than two percent of the state's enplanement total. Between 2003 and 2007, statewide enplanements in Kansas grew at a compound annual rate of 1.4 percent per year. Wichita Mid-Continent's enplanements grew at 2.0 percent annually through the same period.

Figure 3–9: Historic Enplanements at Kansas' Commercial Airports, Selected Years 1997–2007

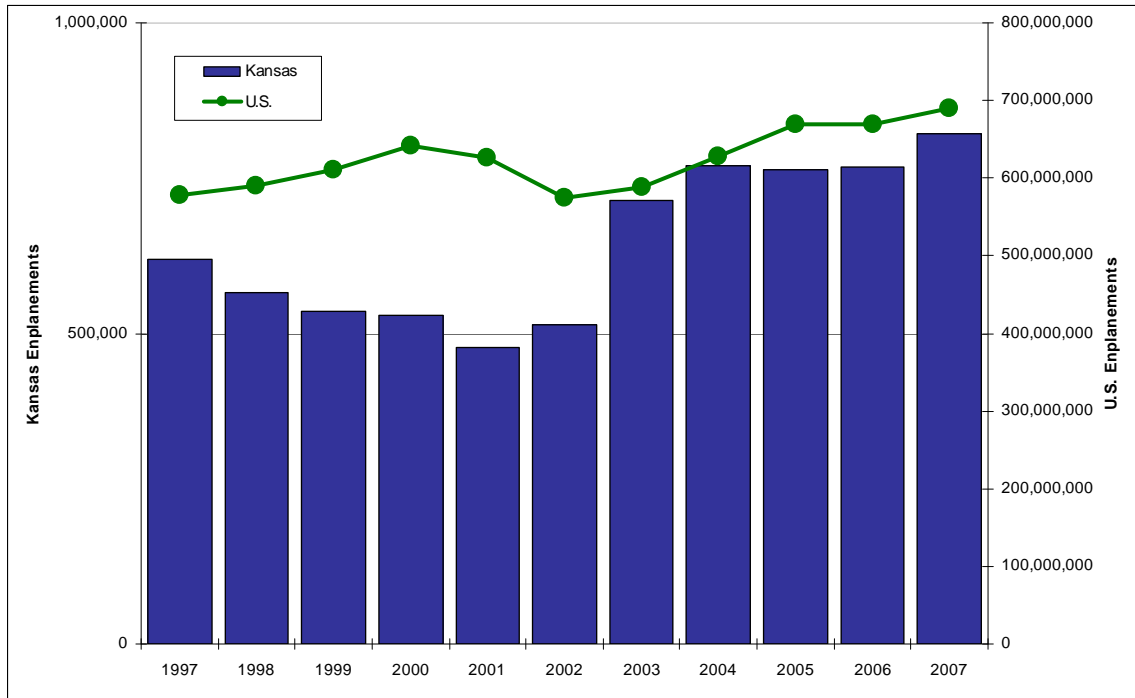
<i>Airport</i>	<i>1997</i>	<i>1999</i>	<i>2001</i>	<i>2003</i>	<i>2005</i>	<i>2007</i>	<i>CAGR 2003-07</i>
Dodge City	0	0	0	1,117	4,272	5,118	35.6%
Garden City	3,359	0	353	5,113	9,771	12,508	19.6%
Great Bend	1,968	3,103	1,198	405	789	827	15.3%
Hays	0	0	0	3,633	7,986	10,173	22.9%
Liberal	2,462	377	320	3,726	4,488	3,980	1.3%
Manhattan	0	0	429	3,466	12,861	13,562	31.4%
Salina	0	0	0	2,955	2,525	3,076	0.8%
Topeka - Forbes Field	1,062	1,019	484	2,977	3,216	12,100	32.4%
Wichita - Mid-Continent	612,145	534,102	476,153	691,117	717,790	762,014	2.0%
Total	620,996	538,601	478,937	714,509	763,698	823,358	1.4%

Source: US Department of Transportation T-100 data.
CAGR: Compounded Annual Growth Rate.
Prepared November 2008.

Also shown in Figure 3-10 are instances when certain Kansas airports were without commercial air service. Dodge City, Hays, and Salina were without service until 2002, while Manhattan was not served by a commercial airline until 2000. Garden City was without commercial service in 1998 and 1999 before regaining it in 2000. Each of these cities is presently served by Great Lakes Airlines, and as indicated in Figure 3-10, demand for air service in most of these cities is currently growing, occasionally by double digits annually. Growth in total enplanements at the state's seven smaller commercial airports in the 2002-2007 period (when all eight commercial airports had airline service) amounted to nearly 31 percent annually. Simultaneously, Wichita Mid-Continent's share of statewide enplanements fell five percent, from 97.6 percent in 2002 to 92.6 percent in 2007. Clearly, demand for connectivity to the nation's air transportation system is strengthening in Kansas' smaller cities.

Figures 3-10 and 3-11 compare Kansas' historical enplanements with U.S. enplanements for the period 1997-2007. As Figure 3-11 shows, Kansas' traffic has largely tracked U.S. trends since 2003, though the state's enplanements had been in a period of decline prior to 2003. It should be noted that the 2002 to 2003 period coincided with Great Lakes' service introductions at six of Kansas' airports. Manhattan saw significant increases in ridership at this time, largely due Fort Riley's growth related to U.S. Army training and deployments. Figure 3-11 shows that Kansas' share of U.S. total enplanements has ranged from 0.08 to 0.12 percent, with an average over the period 1998-2007 of 0.10 percent.

Figure 3-10: Kansas and U.S. Enplanements Compared, 1997-2007



Sources: FAA Aerospace Forecasts, Fiscal Years 2003-2014; FAA Aerospace Forecasts, Fiscal Years 2008-2025; Bureau of Transportation Statistics, T-100 Domestic Market and Segment; FAA CY 2000-2007 Enplanements
Prepared: December 2008.

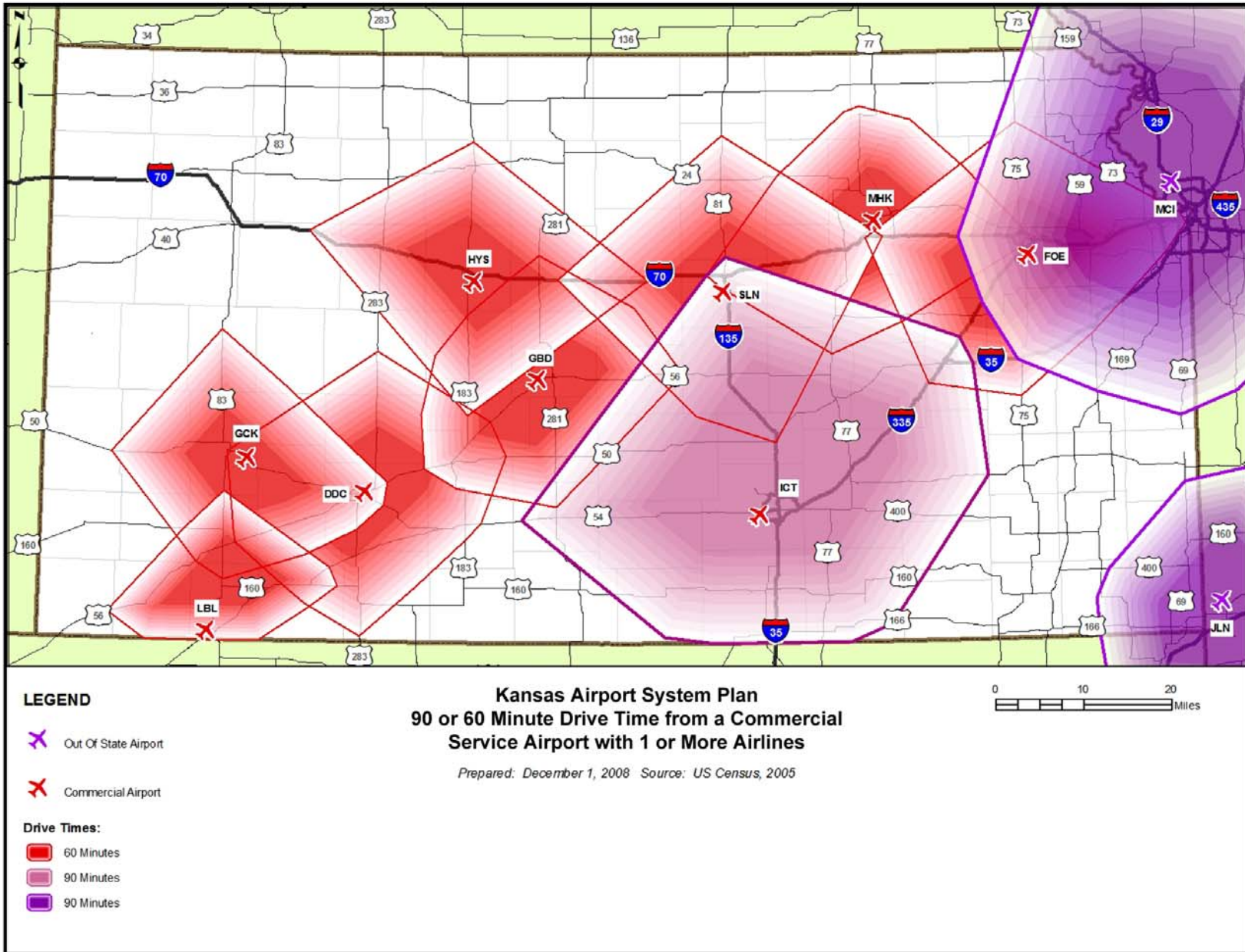
Figure 3-11: Kansas and U.S. Enplanements Compared, 1997-2007

Year	Kansas	United States	% Share	CAGR 1998-2007	
				Kansas	United States
1998	565,815	590,417,146	0.10%	-8.60%	2.18%
1999	535,498	610,927,590	0.09%	-5.36%	3.47%
2000	529,674	641,155,514	0.08%	-1.09%	4.95%
2001	477,739	625,799,975	0.08%	-9.81%	-2.39%
2002	513,328	575,087,498	0.09%	7.45%	-8.10%
2003	714,104	587,829,547	0.12%	39.11%	2.22%
2004	769,575	628,493,362	0.12%	7.77%	6.92%
2005	762,909	669,427,839	0.11%	-0.87%	6.51%
2006	767,543	668,418,019	0.11%	0.61%	-0.15%
2007	822,531	689,442,583	0.12%	7.16%	3.15%

Sources: FAA Aerospace Forecasts, Fiscal Years 2003-2014; FAA Aerospace Forecasts, Fiscal Years 2008-2025; Bureau of Transportation Statistics, T-100 Domestic Market and Segment; FAA CY 2000-2007 Enplanements
CAGR: Compound Annual Growth Rate
Prepared: December 2008.

To differentiate between airports that have different levels of air service, airport service areas shown in **Figure 3-12** assumes 90-minute drive times for airports with more than one airline and 60 minute drive times for airports with one airline. Thus, Wichita Mid-Continent and Kansas City International are assigned 90-minute drive times, while Kansas' seven smaller airports and Joplin, Missouri, are assigned 60-minute drive times.

Figure 3-12: 90 and 60 Minute Drive Times from a Commercial Service Airport with 1 or More Airlines



General Aviation in Kansas

Information on current and historic general aviation based aircraft in Kansas are presented in the following section. Airport activity data provides a good indication of not only the total amounts of activity occurring, but also recent increases or declines in activity levels.

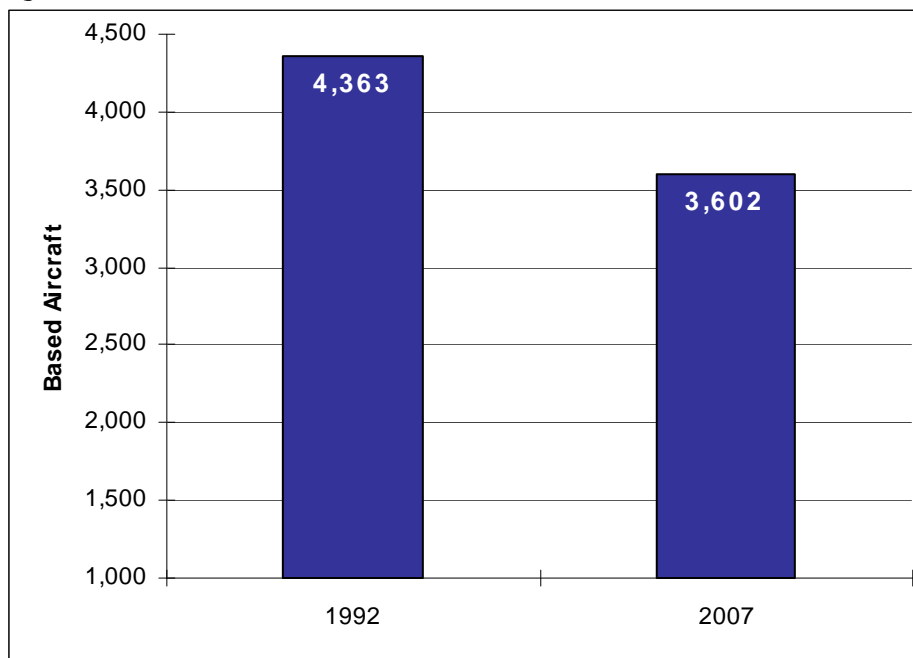
For Kansas' system of airports, historic based aircraft were obtained from the *Kansas Aviation Systems Plan – Phase 6* report prepared by Leigh Fisher Associates in 1995. Current (Year 2007) based aircraft were obtained from KDOT Division of Aviation.

Based Aircraft

Figure 3-13 presents historic and current based aircraft for Kansas' airport system. Based aircraft are general aviation aircraft that are permanently stored at an airport either in hangars or on tie-down spaces. Based aircraft numbers frequently fluctuate based on a number of factors including seasonality, pilot preferences, on-airport aviation services, and the availability of storage units.

Total based aircraft in Kansas' airport system were recorded as 4,363 in the *Kansas Aviation Systems Plan – Phase 6* for the year 1992. From 1992 to 2007, this number declined to 3,602, as reported by KDOT Division of Aviation during the inventory effort of this study. This represents a total decrease of 17.4 percent. The compound annual growth rate of this decline is -1.2 percent.

Figure 3-13: Based Aircraft in Kansas, 1992 & 2007



Sources: *Kansas Aviation Systems Plan – Phase 6*, prepared by Leigh Fisher Associates.; KDOT Division of Aviation. Prepared: December 2008.

Registered Aircraft in Kansas

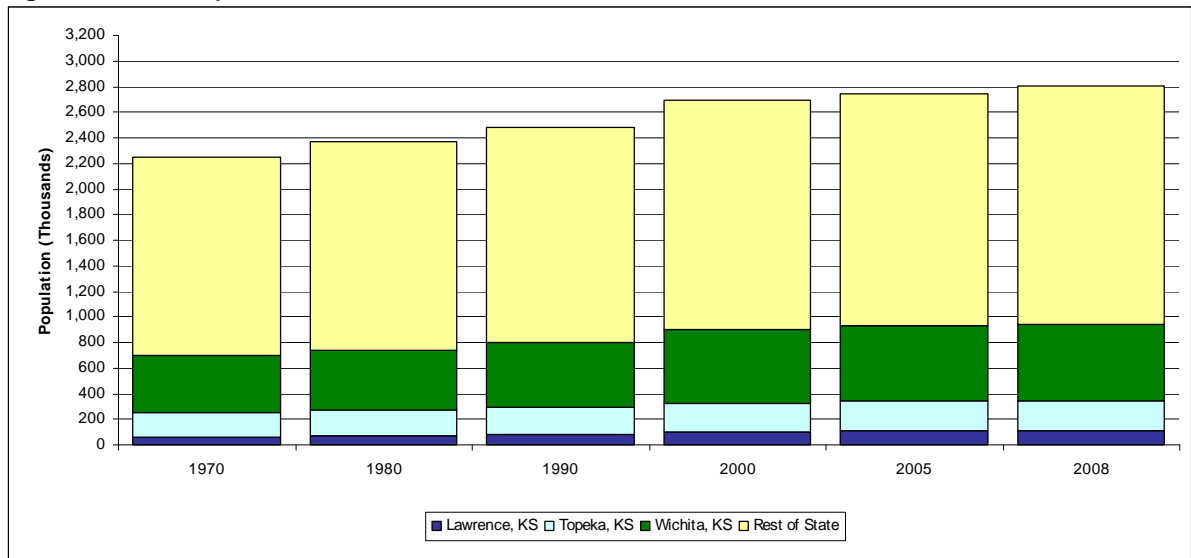
For the KASP, 2007 based aircraft figures were obtained from the KDOT Division of Aviation during the inventory effort. This data differs from the registered aircraft data compiled by the FAA. These differences may be due to a variety of reasons, including the address of the registered aircraft owner versus where the aircraft is based, aircraft based at Kansas airports not included in this study, and other reasons. According to the FAA's Aircraft Registration Inquiry database, there were 6,498 aircraft registered in Kansas as of December 2008.

Economic Trends

Generally speaking, local demand for air service is determined by the level of service, the cost of that service, and the strength of the local economy as expressed by growth in employment and income.

Figures 3-14 and **3-15** show population growth in Kansas' three metropolitan statistical areas (MSAs) and the rest of the state over the last 38 years. The largest MSA contained within Kansas is Wichita, followed by Topeka and Lawrence. The fastest-growing counties in Kansas are Johnson and Douglas counties in the Kansas City and Lawrence areas, respectively, followed by Miami County south of Kansas City. Conversely, the counties of Decatur, Graham, and Ness in the northwestern part of the state experienced the fastest rate of population loss between 1970 and 2008. **Figure 3-16** shows county population growth patterns between 1985 and 2008 graphically.

Figure 3-14: Population Growth, 1970-2008



Source: Woods & Poole Economics 2007 Complete Economic and Demographic Data Source.
Prepared November 2008.

Figure 3-15: Population Growth, 1970-2008

<i>Area</i>	<i>Population in Thousands</i>						<i>CAGR</i>
	<i>1970</i>	<i>1980</i>	<i>1990</i>	<i>2000</i>	<i>2005</i>	<i>2008</i>	<i>2007-2027</i>
Lawrence	58.26	68.06	82.23	100.14	111.52	115.18	1.81%
Topeka	197.61	204.19	210.60	224.87	228.25	230.10	0.40%
Wichita	438.73	469.53	512.16	572.12	586.93	600.56	0.83%
Rest of State	1,553.54	1,628.33	1,676.36	1,795.83	1,821.47	1,858.16	0.47%
Total	2,248.13	2,370.12	2,481.35	2,692.95	2,748.17	2,804.00	0.58%

Source: Woods & Poole Economics 2007 Complete Economic and Demographic Data Source.

CAGR: Compound Annual Growth Rate

Prepared November 2008.

Figure 3-16: Population Growth, 1985-2008

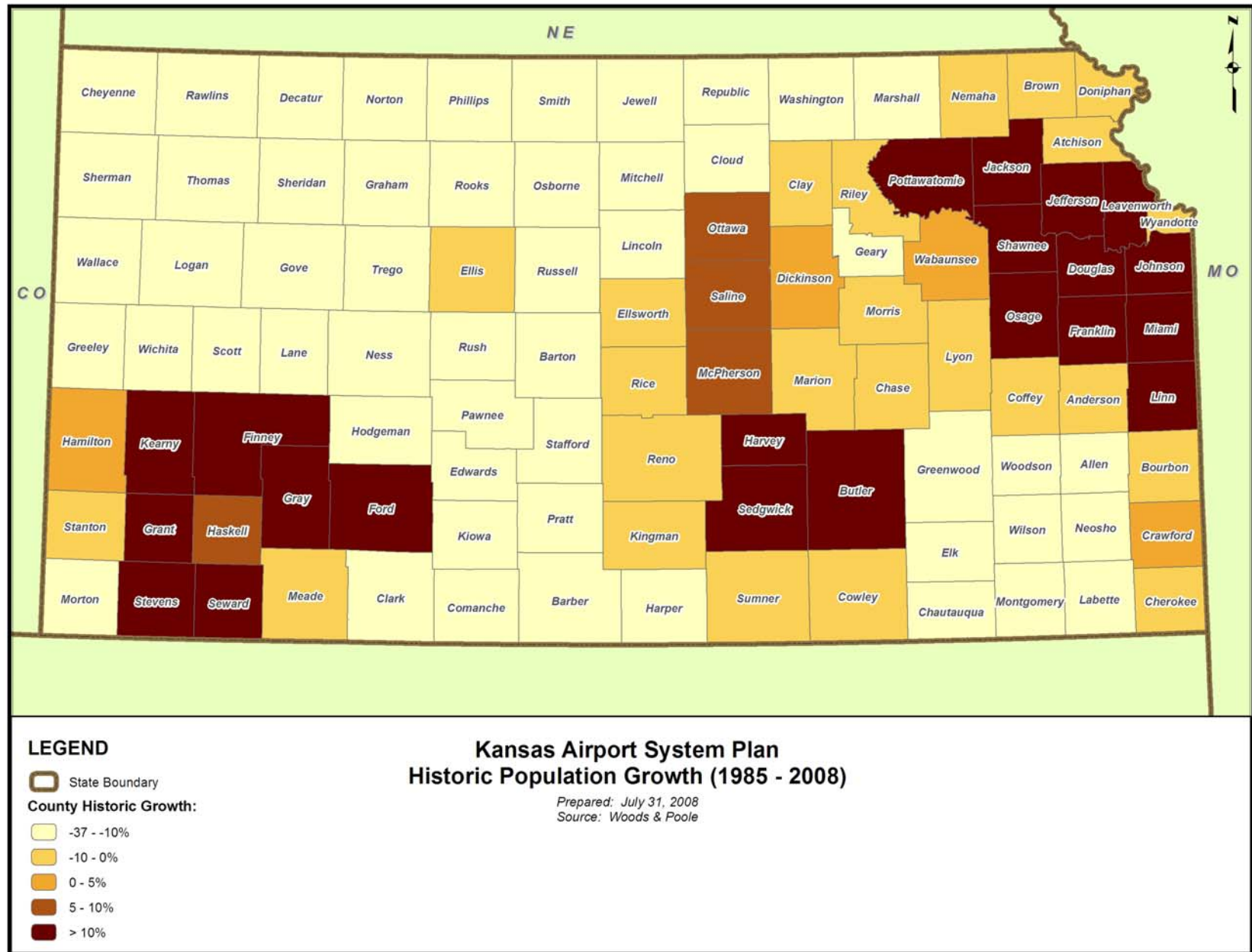
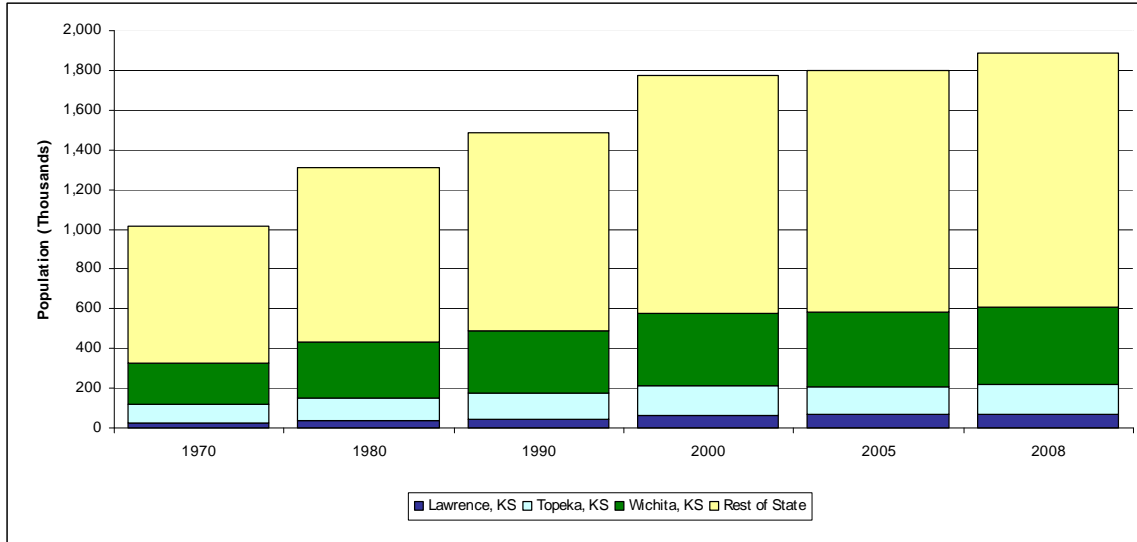


Figure 3-17 shows growth in employment in the three Kansas MSAs and the rest of the state. As expected, historic figures of employment for the state track well with those for population presented above. Figure 3-18 shows this employment data numerically, and Figure 3-19 depicts it on a county-by-county basis in map form.

Figure 3-17: Employment Growth, 1970-2008



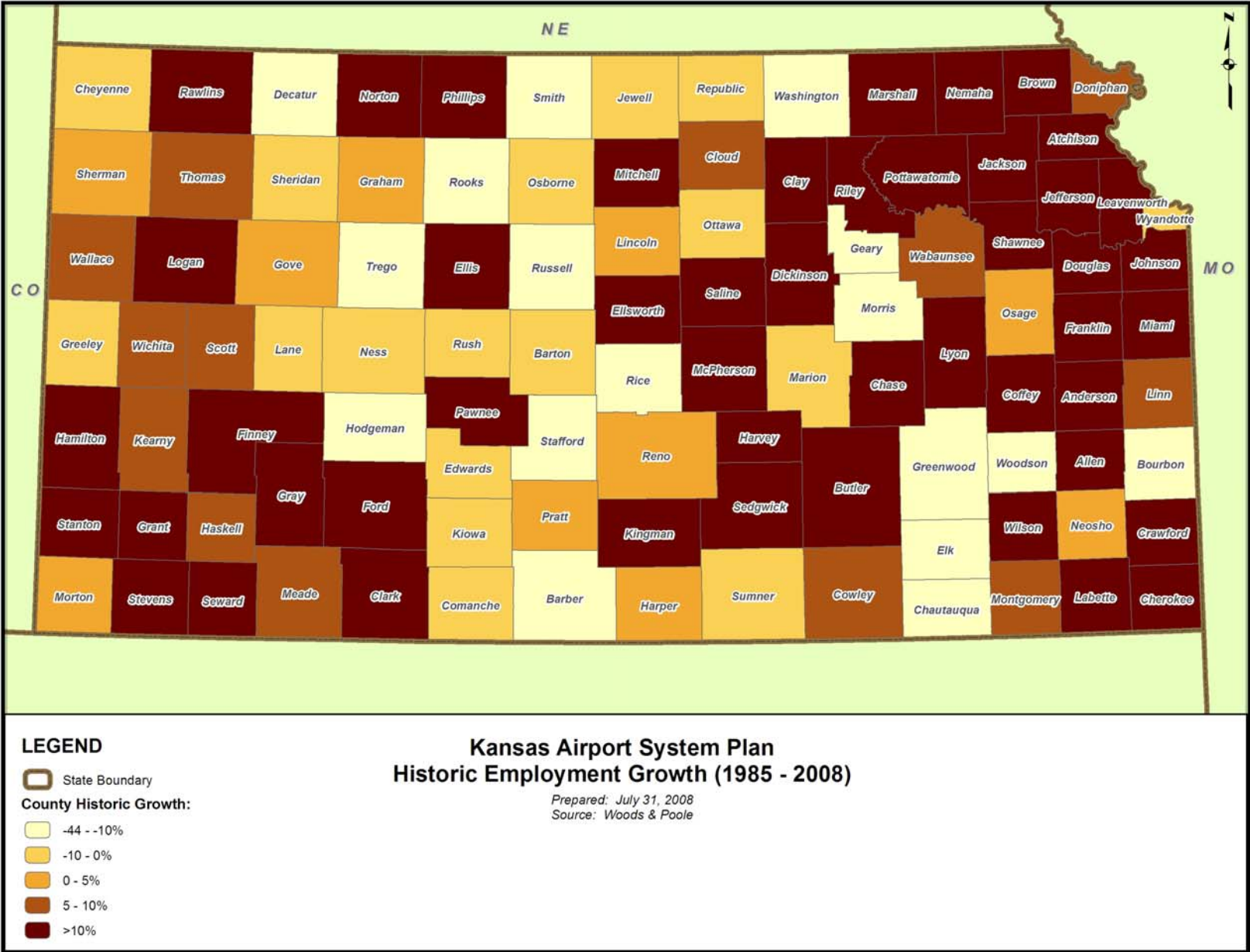
Source: Woods & Poole Economics 2007 Complete Economic and Demographic Data Source.
Prepared November 2008

Figure 3-18: Employment Growth, 1970-2008

Area	Population in Thousands						CAGR 2007-2027
	1970	1980	1990	2000	2005	2008	
Lawrence	23.01	34.59	45.20	64.04	68.19	72.05	3.05%
Topeka	95.35	114.15	128.88	146.25	141.35	147.21	1.15%
Wichita	206.96	283.82	317.99	368.26	373.05	385.80	1.65%
Rest of State	692.09	879.58	990.98	1,192.67	1,217.96	1,279.52	1.63%
Total	1,017.40	1,312.14	1,483.04	1,771.22	1,800.54	1,884.58	1.64%

Source: Woods & Poole Economics 2007 Complete Economic and Demographic Data Source.
CAGR: Compound Annual Growth Rate
Prepared November 2008

Figure 3-19: Employment Growth, 1985-2008



KANSAS COMMERCIAL SERVICE AIRPORT FORECASTS

This section projects based general aviation aircraft, passenger enplanements, and aircraft operations for Kansas' commercial service airports. It is anticipated that Wichita Mid-Continent will continue to be the significant provider of scheduled air service in Kansas. The state's seven smaller commercial airports will continue to serve Kansas' communities.

Wichita Mid-Continent is served by legacy carriers American, Continental, Delta, United, and US Airways, each of which provides service on a variety of mainline and regional jet aircraft to their respective hubs. Wichita is also served by low-cost carriers AirTran, Allegiant, and Frontier. Six of Kansas' smaller airports, namely Dodge City, Garden City, Hays, Liberal, Manhattan, and Salina, are served by Great Lakes to Denver and/or Kansas City. Topeka's Forbes Field accommodates a significant amount of charter activity.

The way that all carriers cope with rising costs will undoubtedly impact Kansas' air service during the 20-year forecast period. In addition, more traditional econometric factors will influence local demand for air service over the forecast period. Key components of the airport activity forecasts include:

- ✦ **Enplanements** are the number of passengers that boarded a commercial aircraft at an airport.
- ✦ **Based aircraft** are the total number of active general aviation aircraft that are either hangared or tied down at an airport.
- ✦ **Operations** are defined as the number of takeoffs and landings. If an aircraft takes off from an airport, and then lands, this is counted as two operations.

The most important factors that will impact demand for scheduled air service are:

- ✦ Economic growth in population, employment and per capita income;
- ✦ Level of air service offered at Kansas' airports;
- ✦ The comparative cost of air travel from commercial airports in Kansas versus neighboring states; and
- ✦ New service for "scheduled charter" carriers (e.g. Allegiant) to new markets.

Commercial Service Airport Enplanement Forecasts

The forecasts presented in this chapter were developed in close consultation with KDOT Division of Aviation. Based on these discussions, it was determined that the best method for forecasting passenger enplanements at Kansas' airports is to adopt the passenger forecasts included in each of those airports' master plans. By their nature, master plans for commercial airports are considerably more in-depth in their research and analysis of the future needs of

an airport, and thus considerable effort is involved in producing an enplanement forecast for a commercial airport. The FAA examines the forecasts presented in any airport's master plan to insure reliability of the forecast and sensibility of the resulting airport planning. It was therefore deemed important to include the forecast effort involved in each of Kansas' eight commercial airports' master plans.

Figure 3-20 reproduces the enplanement forecasts included in each airport's respective master plan. In some cases, the master plan for a particular airport was outdated or in the process of being updated. For those airports, the growth rates inherent to the enplanement forecast for each was applied to 2007 actual enplanements.

Figure 3-20: Commercial Service Airport Passenger Enplanement Forecasts

<i>Airport</i>	<i>Actual</i>	<i>Forecast Periods</i>			<i>CAGR</i>
	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007-2027</i>
Dodge City Regional	5,801	6,493	7,268	9,106	2.28%
Garden City Regional	13,065	19,339	28,627	62,725	8.16%
Great Bend Municipal	844	1,400	2,200	3,500	7.37%
Hays Regional	10,536	9,598	11,084	12,811	0.98%
Liberal Mid-America Regional	5,113	6,079	7,226	10,213	3.52%
Manhattan Regional	14,032	19,388	26,789	51,142	6.68%
Salina Municipal ¹	4,127	4,615	5,161	6,453	2.26%
Topeka - Forbes Field	24,316	29,090	34,800	49,806	3.65%
Wichita Mid-Continent	769,124	810,761	854,652	949,691	1.06%
Total	846,958	906,763	977,807	1,155,447	1.57%

Sources: Forecast growth rates: Airport Master Plans (except where noted); 2007 Enplanement data: FAA Air Carrier Activity Information System.

Note 1: FAA Terminal Area Forecast growth rate applied to 2007 base data.

CAGR: Compound Annual Growth Rate.

Prepared November 2008.

As shown in Figure 3-20, enplanements are expected to grow on the order of approximately 1.57 percent on an annually compounded basis. This results in an increase from 846,114 enplanements in 2007 to nearly 1.15 million in 2027. By comparison, the FAA expects national domestic passenger levels to rise 2.72 percent annually during the period.

Commercial Service Airport Based Aircraft Forecasts

Forecasts of based general aviation aircraft are presented in **Figure 3-21**. The based aircraft forecasts for Great Bend, Dodge City, Hays, Liberal, Manhattan, Salina, and Wichita Mid-Continent were derived from existing master plans, and the based aircraft forecasts for Garden City and Topeka Forbes Field were derived from the FAA's Terminal Area Forecasts (TAF). Overall, based general aviation aircraft at Kansas' commercial service airports are expected to grow from 688 in 2007 to 963 in 2027, a compound annual growth rate of 1.7 percent. According to the forecasts for each commercial service airport, Salina is expected to surpass Mid-Continent for the most based aircraft in this group.

Commercial Service Airport Operations Forecasts

Figure 3-22 shows projections for aircraft operations at Kansas' commercial service airports. Growth in operations is projected to be lower than growth in enplanements at many airports; increases in passenger levels are likely to result in higher rates of aircraft utilization before additional flights are provided at these airports to serve the enplanement growth. Operations are forecast to grow 2.24 percent per year, with the largest growth in operations forecast at Garden City and Wichita Mid-Continent.

Figure 3-21: Commercial Service Airport Based Aircraft Forecasts

Airport	Actual	Total Operations - Commercial Airports			CAGR
	2007	2012	2017	2027	2007-2027
Dodge City Regional	40	44	49	60	2.07%
Garden City Regional	46	50	55	65	1.72%
Great Bend Municipal	31	38	42	50	0.38%
Hays Regional	55	72	79	86	2.32%
Liberal Mid-America Regional ²	56	60	64	72	1.27%
Manhattan Regional	45	45	49	55	1.01%
Salina Municipal ¹	137	168	197	274	3.53%
Topeka - Forbes Field	57	62	67	80	1.70%
Wichita Mid-Continent	221	221	221	221	0.00%
Total	688	760	823	963	1.70%

Sources: Airport Master Plans and KDOT Division of Aviation.

Note 1: Source: FAA Terminal Area Forecast.

Note 2: 2007 Source: FAA Form 5010 Master Record.

CAGR: Compound Annual Growth Rate.

Prepared November 2008.

Figure 3-22: Commercial Service Airport Operations Forecasts

Airport	Actual	Total Operations - Commercial Airports			CAGR
	2007	2012	2017	2027	2007-2027
Dodge City Regional	23,360	26,314	29,641	37,611	2.41%
Garden City Regional	21,535	25,779	30,859	44,220	3.66%
Great Bend Municipal	17,885	19,700	22,300	26,900	2.06%
Hays Regional	32,120	45,407	47,908	51,108	2.35%
Liberal Mid-America Regional	42,340	44,999	47,824	54,019	1.23%
Manhattan Regional	36,135	35,300	38,460	41,960	0.75%
Salina Municipal ¹	85,045	87,568	94,683	106,065	1.11%
Topeka - Forbes Field	44,165	49,218	54,848	68,116	2.19%
Wichita Mid-Continent	168,995	195,738	226,712	304,141	2.98%
Total	471,580	530,023	593,235	734,140	2.24%

Sources: Airport Master Plans and KDOT Division of Aviation.

Note 1: Source: FAA Terminal Area Forecast.

CAGR: Compound Annual Growth Rate.

Prepared November 2008. Kansas General Aviation Airport Forecasts

General aviation activity represents all facets of civil aviation except the activity of certified route air carriers, commuters, and the military. Projections of activity at Kansas' general aviation airports are presented in the following sections. As with the commercial service airport forecasts, the time horizon is 20 years and the base year for the forecast is 2007. Key components of the general aviation forecasts include:

- ✦ **Based aircraft** are the total number of active general aviation aircraft that are either hangared or tied down at an airport.
- ✦ **Operations** are defined as the number of takeoffs and landings. If an aircraft takes off from an airport, and then lands, this is counted as two operations.

Various methodologies used to project activity at Kansas' general aviation airports were evaluated and a preferred projection selected. Preferred projections are used in various components of the system planning process to examine future needs of Kansas' public-use airport system.

In discussions with KDOT Division of Aviation, the following forecast methodologies for general aviation based aircraft were discussed for potential use as the preferred forecast for the KASP:

- ✦ **US Market Share Approach** – The market share methodology uses a top-down approach. In this scenario, Kansas' share of total U.S. active general aviation aircraft and the market share of each study airport in 2007 are assumed to remain constant through the projection period. Based on these assumptions and active general aviation aircraft projections presented in FAA's *Aerospace Forecasts Fiscal Years 2008-2025*, a statewide projection of based aircraft is developed. Using this approach, based aircraft at general aviation airports in Kansas are projected to increase from 3,018 aircraft in 2007 to 3,954 in 2027, representing a compound annual growth rate of 1.36 percent.
- ✦ **Population Methodology** – The population growth methodology uses projections of Kansas' population growth to develop projections of based aircraft through the planning period. Based on current population and based aircraft statistics, a ratio of population per based aircraft was developed for each Kansas county. This methodology assumes that each county's ratio will remain constant through the planning period. For the milestone years, each county's ratio of population per based aircraft is applied to its corresponding population projection to develop a county-specific estimate of based aircraft. The results are summed to develop a projection of statewide based aircraft. In this methodology, based aircraft at general aviation airports are projected to increase from 3,018 aircraft in 2007 to approximately 3,422 aircraft in 2027, representing a compound annual growth rate of 0.63 percent.
- ✦ **Employment Growth Methodology** – The employment growth methodology is similar to the population growth methodology but uses projections of Kansas' employment growth in place of population growth

to develop projections of based aircraft through the planning period. Based on current employment and based aircraft statistics, a ratio of employment per based aircraft was developed for each Kansas county. This methodology assumes that each county's ratio will remain constant through the planning period. For the milestone years, each county's ratio of employment per based aircraft is applied to its corresponding employment projection to develop a county-specific estimate of based aircraft. The results are summed to develop a projection of statewide based aircraft. In this methodology, based aircraft at general aviation airports are projected to increase from 3,018 aircraft in 2007 to approximately 3,683 aircraft in 2027, representing a compound annual growth rate of 1.00 percent.

The following forecast methodologies for aircraft operations were discussed for potential use as the preferred general aviation airport forecasts for the KASP:

- ✦ **Operations per Based Aircraft (OPBA) Methodology** – The OPBA methodology uses the results of each airport's preferred forecast of based aircraft and multiplies that number by an appropriate number of operations per based aircraft to yield projected total annual general aviation aircraft operations for each airport. The OPBA ratio represents all general aviation operations, not just those conducted by the based aircraft. Each study airport's 2007 OPBA ratio was used to develop these projections. The preferred based aircraft projections were used as part of this projection technique. This methodology produces a 2027 projection of 1,447,310 aircraft operations at Kansas' general aviation airports; 2007 total aircraft operations for these airports were 1,415,480. Using the OPBA methodology, annual aircraft operations are projected to grow at a compound annual growth rate of 0.11 percent over the 20-year planning period.
- ✦ **Socioeconomic Methodology** – The socioeconomic methodology uses projections of Kansas's employment growth to develop forecasts of general aviation operations. Based on current employment and aircraft operations statistics, a ratio of operations per capita at study airports was developed for each Kansas county. This ratio is then applied to forecasts of socioeconomic data to arrive at operations forecasts at each KASP airport. In this methodology, operations at general aviation airports are projected to increase from 1,415,480 in 2007 to 1,699,006 operations in 2027, representing a compound annual growth rate of 0.92 percent.

Selection of Preferred Based Aircraft and Aircraft Operations Projections

After consideration by KDOT Division of Aviation, a tiered approach to the employment growth and socioeconomic methodologies were adopted. The first step in developing tiered projections of based aircraft and operations for Kansas' general aviation airports involved splitting the airports into two groups, a "normal growth" and a "low growth" group. The normal growth group included all

airports having primary runways with paved surfaces. The low growth group included all airports that had runways constructed of turf, gravel, or dirt.

Each airport was then assigned to one of three tiers based upon the rate of employment growth of the county in which the airport was located. **Table 3-23** shows the cutoffs in county population growth rates that were used to group the airports into tiers. Growth rates were then assigned to each tier. For normal growth airports in the fastest growing counties (Tier 3), an aviation activity growth rate of 1.68 percent was used, based upon the median growth rate in Tier 3. The growth rate of Tier 2 airports was determined to be half that of Tier 3 (or 0.84 percent), and Tier 1 airports were assigned a 0.42 percent growth rate.

For low growth airports, Tier 3 was assigned a growth rate of 0.75 percent and Tier 2 was assigned half the value of Tier 3 (or 0.38 percent). Tier 1 airports receive a zero growth rate.

Figure 3-23: Tiered Forecast Growth Rates for Operations and Based Aircraft and GA Airports

<i>Tier</i>	<i>County Employment Growth Rate Range</i>	<i>Normal Growth Airports CAGR</i>	<i>Low Growth Airports CAGR</i>
Tier 1	Less than 0.5%	0.42%	0.00%
Tier 2	0.5 to 1.5%	0.84%	0.38%
Tier 3	Greater than 1.5 %	1.68%	0.75%

Source: Wilbur Smith Associates.
 CAGR: Compound Annual Growth Rate.
 Prepared December 2008.

The growth rates shown in Figure 3-23 will be used in developing forecasts of based aircraft and general aviation operations for Kansas' GA airports. The following sections summarize the resulting based aircraft and operations forecasts that result from these tiered forecasts.

Preferred Based Aircraft Forecasts

The preferred forecasts of based aircraft at each of Kansas' general aviation airports appear in **Figure 3-24**. As shown in Figure 3-25, total based aircraft in the state is projected to rise from just under 3,000 in 2007 to over 3,660 by 2027. Johnson County Executive and New Century Air Center in Kansas City's western suburbs will remain the largest airports in Kansas in terms of based aircraft, combining for nearly 600 aircraft by 2027.

Figure 3–24: General Aviation Airports Based Aircraft Forecasts

<u>City</u>	<u>Airport Name</u>	<u>County</u>	<u>Actual</u>		<u>Based Aircraft Forecast</u>			<u>CAGR</u>
			<u>2007</u>	<u>2012</u>	<u>2017</u>	<u>2027</u>		
Abilene	Abilene Municipal	Dickinson	21	22	23	25	0.84%	
Anthony	Anthony Municipal	Harper	11	11	11	12	0.42%	
Anthony	Wilcox Field	Harper	2	2	2	2	0.38%	
Argonia	Argonia Municipal	Sumner	1	1	1	1	0.38%	
Ashland	Harold Krier Field	Clark	5	5	5	5	0.38%	
Atchison	Amelia Earhart	Atchison	39	41	42	46	0.84%	
Atwood	Atwood-Rawlins County	Rawlins	13	13	14	14	0.42%	
Augusta	Augusta Municipal	Butler	94	102	111	131	1.68%	
Baldwin City	Vinland Valley Aerodrome	Douglas	20	21	22	23	0.75%	
Belleville	Belleville Municipal	Republic	12	12	13	13	0.42%	
Beloit	Moritz Memorial	Mitchell	18	18	19	20	0.42%	
Benton	Stearman Field	Butler	92	100	109	128	1.68%	
Bird City	Bressler Field	Cheyenne	2	2	2	2	0.38%	
Bucklin	Bucklin	Ford	1	1	1	1	0.38%	
Burlington	Coffey County	Coffey	32	33	35	38	0.84%	
Caldwell	Caldwell Municipal	Sumner	4	4	4	4	0.38%	
Chanute	Chanute - Martin Johnson	Neosho	24	25	25	26	0.42%	
Cimarron	Cimarron Municipal	Gray	13	14	15	18	1.68%	
Clay Center	Clay Center Municipal	Clay	16	17	17	19	0.84%	
Coffeyville	Coffeyville Municipal	Montgomery	38	40	41	45	0.84%	
Colby	Shalz Field	Thomas	18	20	21	25	1.68%	
Coldwater	Comanche County	Comanche	4	4	4	4	0.42%	
Concordia	Blosser Municipal	Cloud	15	15	16	16	0.42%	
Cottonwood Falls	Chase County	Chase	2	2	2	2	0.38%	
Council Grove	Council Grove Municipal	Morris	0	0	0	0	0.75%	
Dighton	Dighton	Lane	3	3	3	3	0.42%	
Dodge City	Wilroads Gardens	Ford	1	1	1	1	0.38%	
El Dorado	Capt. Jack Thomas	Butler	29	32	34	40	1.68%	
El Dorado	Patty Field	Butler	2	2	2	2	0.75%	
Elkhart	Elkhart-Morton County	Morton	12	12	13	13	0.42%	
Ellinwood	Ellinwood Municipal	Barton	5	5	5	5	0.38%	
Ellsworth	Ellsworth Municipal	Ellsworth	28	29	30	33	0.84%	

Figure 3–24: General Aviation Airports Based Aircraft Forecasts (cont.)

<i>City</i>	<i>Airport Name</i>	<i>County</i>	<i>Actual</i>		<i>Based Aircraft Forecast</i>			<i>CAGR</i>
			<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>		
Emporia	Emporia Municipal	Lyon	48	50	52	57	0.84%	
Eureka	Eureka Municipal	Greenwood	11	11	12	13	0.84%	
Fort Scott	Fort Scott Municipal	Bourbon	23	24	25	27	0.84%	
Fowler	Fowler	Meade	2	2	2	2	0.00%	
Fredonia	Fredonia	Wilson	5	5	5	6	0.84%	
Gardner	Gardner Municipal	Johnson	108	117	128	151	1.68%	
Garnett	Garnett Municipal	Anderson	13	14	14	15	0.84%	
Goodland	Renner Field - Goodland Mun.	Sherman	24	26	28	33	1.68%	
Greensburg	Paul Windle Municipal	Kiowa	6	6	6	7	0.42%	
Harper	Harper Municipal	Harper	13	13	14	14	0.42%	
Herington	Herington Regional	Morris	11	12	13	15	1.68%	
Hiawatha	Hiawatha Municipal	Brown	7	7	7	8	0.38%	
Hill City	Hill City Municipal	Graham	10	10	10	11	0.42%	
Hillsboro	Alfred Schroeder Field	Marion	6	6	7	7	0.84%	
Horton	Horton Municipal	Brown	0	0	0	0	0.38%	
Hoxie	Hoxie - Sheridan County	Sheridan	7	7	7	8	0.42%	
Hugoton	Hugoton Municipal	Stevens	22	23	24	26	0.84%	
Hutchison	Hutchinson Municipal	Reno	35	36	36	38	0.42%	
Independence	Independence Municipal	Montgomery	62	65	67	73	0.84%	
Ingalls	Ingalls Municipal	Gray	3	3	4	4	1.68%	
Iola	Allen County	Allen	16	17	17	19	0.84%	
Jetmore	Jetmore Municipal	Hodgeman	1	1	1	1	0.42%	
Johnson	Stanton County Municipal	Stanton	41	42	43	45	0.42%	
Junction City	Freeman Field	Geary	22	23	24	26	0.84%	
Kingman	Kingman - Clyde Cessna Field	Kingman	20	20	21	22	0.42%	
Kinsley	Kinsley Municipal	Edwards	3	3	3	3	0.42%	
La Crosse	Rush County	Rush	4	4	4	4	0.42%	
Lakin	Lakin	Kearny	5	5	5	6	0.84%	
Larned	Larned - Pawnee County	Pawnee	25	26	26	27	0.42%	
Lawrence	Lawrence Municipal	Douglas	66	72	78	92	1.68%	
Leavenworth	Sherman Army Airfield	Leavenworth	32	33	35	38	0.84%	
Leoti	Mark Hoard Memorial	Wichita	6	6	6	7	0.42%	
Lincoln	Lincoln Municipal	Lincoln	5	5	5	5	0.42%	
Lucas	Lucas	Russell	3	3	3	4	0.84%	
Lyndon	Pamona Lake	Osage	5	5	5	6	0.84%	
Lyons	Lyons - Rice County Municipal	Rice	22	22	23	24	0.42%	
Mankato	Mankato	Jewell	2	2	2	2	0.42%	
Marion	Marion Municipal	Marion	16	17	17	19	0.84%	
Marysville	Marysville Municipal	Marshall	6	6	7	7	0.84%	
McPherson	McPherson	McPherson	45	47	49	53	0.84%	
Meade	Meade Municipal	Meade	13	13	14	14	0.42%	
Medicine Lodge	Medicine Lodge	Barber	4	4	4	4	0.42%	
Minneapolis	Minneapolis City-County	Ottawa	2	2	2	2	0.42%	
Moline	Elk County	Elk	2	2	2	2	0.38%	
Montezuma	Montezuma Municipal	Gray	3	8	10	10	1.68%	

Figure 3–24: General Aviation Airports Based Aircraft Forecasts (cont.)

<i>City</i>	<i>Airport Name</i>	<i>County</i>	<i>Actual</i>		<i>Based Aircraft Forecast</i>			<i>CAGR</i>
			<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>		
Moundridge	Moundridge Municipal	McPherson	14	15	15	17	0.84%	
Neodesha	Neodesha Municipal	Wilson	2	2	2	2	0.84%	
Ness City	Ness City Municipal	Ness	6	6	6	7	0.42%	
Newton	Newton City/County	Harvey	111	113	116	121	0.42%	
Norton	Norton Municipal	Norton	20	20	21	22	0.42%	
Norwich	Norwich	Kingman	6	6	6	7	0.42%	
Oakley	Oakley Municipal	Logan	11	11	12	13	0.84%	
Oberlin	Oberlin Municipal	Decatur	15	15	16	16	0.42%	
Olathe	Cedar Air Park	Johnson	4	4	4	5	0.75%	
Olathe	Johnson County Executive	Johnson	234	254	276	327	1.68%	
Olathe	New Century Air Center	Johnson	193	210	228	269	1.68%	
Onaga	C.E. Grutzmacher Municipal	Pottawatomie	0	0	0	0	0.38%	
Osage City	Osage City Municipal	Osage	13	14	14	15	0.84%	
Osborne	Osborne Municipal	Osborne	7	7	8	8	0.84%	
Oswego	Oswego Municipal	Cherokee	10	10	11	12	0.84%	
Ottawa	Ottawa Municipal	Franklin	45	47	49	53	0.84%	
Oxford	Oxford Municipal	Cowley	5	5	5	5	0.42%	
Paola	Miami County	Miami	22	23	24	26	0.84%	
Parsons	Tri-City	Labette	16	17	17	19	0.84%	
Phillipsburg	Phillipsburg Municipal	Phillips	9	9	10	11	0.84%	
Pittsburg	Atkinson Municipal	Crawford	40	42	43	47	0.84%	
Plainville	Rooks County	Rooks	3	3	3	4	0.84%	
Pleasanton	Gilmore	Linn	1	1	1	1	0.84%	
Prairie View	Van Pak	Phillips	0	0	0	0	0.38%	
Pratt	Pratt Industrial	Pratt	25	26	27	30	0.84%	
Rose Hill	Cook Airfield	Sedgwick	38	40	41	45	0.84%	
Russell	Russell Municipal	Russell	20	21	22	24	0.84%	
Sabetha	Sabetha Municipal	Brown	4	4	4	5	0.84%	
Satanta	Satanta Municipal	Haskell	7	7	8	8	0.84%	
Scott City	Scott City Municipal	Scott	27	28	29	32	0.84%	
Sedan	Sedan City	Chautauqua	3	3	3	3	0.38%	
Seneca	Seneca Municipal	Nemaha	0	0	0	0	0.38%	
Smith Center	Smith Center Municipal	Smith	17	17	18	18	0.42%	
St. Francis	Cheyenne County Municipal	Cheyenne	12	13	13	14	0.84%	
St. Mary's	St. Mary's Airpark	Pottawatomie	1	1	1	1	0.38%	
Stafford	Stafford Municipal	Stafford	5	5	5	5	0.38%	
Stilwell	Hillside	Johnson	11	11	12	13	0.75%	
Stockton	Stockton Municipal	Rooks	3	3	3	3	0.38%	
Sublette	Sublette Flying Club	Haskell	3	3	3	4	0.84%	
Syracuse	Syracuse - Hamilton Co. Mun.	Hamilton	36	37	38	39	0.42%	
Topeka	Philip Billard Municipal	Shawnee	88	92	96	104	0.84%	
Tribune	Tribune Municipal	Greeley	17	18	18	20	0.84%	
Ulysses	Ulysses	Grant	48	50	52	57	0.84%	
WaKeeney	Trego WaKeeney	Trego	11	11	12	13	0.84%	
Wamego	Wamego Municipal	Pottawatomie	7	7	8	8	0.84%	

Figure 3–24: General Aviation Airports Based Aircraft Forecasts (cont.)

<u>City</u>	<u>Airport Name</u>	<u>County</u>	<u>Actual</u>	<u>Based Aircraft Forecast</u>			<u>CAGR</u>
			<u>2007</u>	<u>2012</u>	<u>2017</u>	<u>2027</u>	
Washington	Washington County Memorial	Washington	3	3	3	4	0.84%
Wellington	Wellington Municipal	Sumner	37	39	40	44	0.84%
Wichita	Beech Factory	Sedgwick	60	63	65	71	0.84%
Wichita	Cessna Aircraft Field	Sedgwick	16	17	17	19	0.84%
Wichita	Col. James Jabrara	Sedgwick	105	109	114	124	0.84%
Wichita	Maize	Sedgwick	60	63	65	71	0.84%
Wichita	Riverside	Sedgwick	32	33	35	38	0.84%
Wichita	Westport	Sedgwick	16	16	17	17	0.38%
Wichita	Westport Auxiliary	Sedgwick	105	109	114	124	0.84%
Winfield	Strother Field	Cowley	21	22	23	25	0.84%
Yates Center	Yates Center	Woodson	0	0	0	0	0.38%
Statewide Total			2,987	3,140	3,303	3,661	1.02%

Source: Wilbur Smith Associates, Woods and Poole Economics.
 CAGR: Compound Annual Growth Rate.
 Prepared December 2008.

Preferred General Aviation Operations Forecasts

The preferred forecasts of operations at each of Kansas’ general aviation airports appear in **Figure 3-25**. As shown in Figure 3-25, aircraft operations at Kansas’ general aviation airports is expected to grow by 0.92 percent compounded annually. This forecast results in overall state operations at GA airports growing from 1.41 million in 2007 to just less than 1.7 million in 2027. As with based aircraft, Johnson County Executive and New Century Air Center are expected to remain the state’s busiest GA airports in terms of operations, with nearly 180,000 takeoffs and landings (over 10 percent of the state’s total) occurring at the two airports annually by 2027.

Figure 3–25: General Aviation Airports Operations Forecasts

<i>City</i>	<i>Airport Name</i>	<i>County</i>	<i>Actual</i>		<i>Operations Forecast</i>		
			<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>CAGR</i>
Abilene	Abilene Municipal	Dickinson	35,770	37,298	38,891	42,284	0.84%
Anthony	Anthony Municipal	Harper	6,188	6,319	6,453	6,729	0.42%
Anthony	Wilcox Field	Harper	80	82	83	86	0.38%
Argonia	Argonia Municipal	Sumner	2,600	2,650	2,701	2,805	0.38%
Ashland	Harold Krier Field	Clark	2,500	2,548	2,597	2,697	0.38%
Atchison	Amelia Earhart	Atchison	2,288	2,386	2,488	2,705	0.84%
Atwood	Atwood-Rawlins County	Rawlins	12,410	12,673	12,941	13,495	0.42%
Augusta	Augusta Municipal	Butler	36,135	39,274	42,686	50,424	1.68%
Baldwin City	Vinland Valley Aerodrome	Douglas	804	835	866	934	0.75%
Belleville	Belleville Municipal	Republic	7,665	7,827	7,993	8,335	0.42%
Beloit	Moritz Memorial	Mitchell	20,075	20,500	20,934	21,830	0.42%
Benton	Stearman Field	Butler	10,585	11,505	12,504	14,771	1.68%
Bird City	Bressler Field	Cheyenne	1,612	1,643	1,674	1,739	0.38%
Bucklin	Bucklin	Ford	1,508	1,537	1,566	1,627	0.38%
Burlington	Coffey County	Coffey	20,075	20,932	21,826	23,731	0.84%
Caldwell	Caldwell Municipal	Sumner	1,872	1,908	1,944	2,020	0.38%
Chanute	Chanute - Martin Johnson	Neosho	18,615	19,009	19,412	20,243	0.42%
Cimmaron	Cimarron Municipal	Gray	3,484	3,787	4,116	4,862	1.68%
Clay Center	Clay Center Municipal	Clay	24,090	25,119	26,192	28,477	0.84%
Coffeyville	Coffeyville Municipal	Montgomery	5,512	5,747	5,993	6,516	0.84%
Colby	Shalz Field	Thomas	6,500	7,065	7,678	9,070	1.68%
Coldwater	Comanche County	Comanche	804	821	838	874	0.42%
Concordia	Blosser Municipal	Cloud	14,600	14,909	15,225	15,877	0.42%
Cottonwood Falls	Chase County	Chase	1,144	1,166	1,188	1,234	0.38%
Council Grove	Council Grove Municipal	Morris	396	411	427	460	0.75%
Dighton	Dighton	Lane	1,508	1,540	1,573	1,640	0.42%
Dodge City	Wilroads Gardens	Ford	200	204	208	216	0.38%
El Dorado	Capt. Jack Thomas	Butler	13,140	13,640	14,159	15,258	1.68%
El Dorado	Patty Field	Butler	648	704	765	904	0.75%
Elkhart	Elkhart-Morton County	Morton	5,980	6,107	6,236	6,503	0.42%
Ellinwood	Ellinwood Municipal	Barton	1,144	1,166	1,188	1,234	0.38%
Ellsworth	Ellsworth Municipal	Ellsworth	20,075	20,932	21,826	23,731	0.84%
Emporia	Emporia Municipal	Lyon	31,390	32,731	34,129	37,106	0.84%
Eureka	Eureka Municipal	Greenwood	4,000	4,171	4,349	4,728	0.84%

Figure 3–25: General Aviation Airports Operations Forecasts (cont.)

<i>City</i>	<i>Airport Name</i>	<i>County</i>	<i>Actual</i>		<i>Operations Forecast</i>			<i>CAGR</i>
			<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>		
Fort Scott	Fort Scott Municipal	Bourbon	10,950	11,418	11,905	12,944	0.84%	
Fowler	Fowler	Meade	1,000	1,000	1,000	1,000	0.00%	
Fredonia	Fredonia	Wilson	3,952	4,121	4,297	4,672	0.84%	
Gardner	Gardner Municipal	Johnson	25,915	28,166	30,613	36,163	1.68%	
Garnett	Garnett Municipal	Anderson	10,950	11,418	11,905	12,944	0.84%	
Goodland	Renner Field - Goodland Municipal	Sherman	43,070	46,812	50,878	60,102	1.68%	
Greensburg	Paul Windle Municipal	Kiowa	3,692	3,770	3,850	4,015	0.42%	
Harper	Harper Municipal	Harper	3,068	3,133	3,199	3,336	0.42%	
Herington	Herington Regional	Morris	11,680	12,695	13,797	16,299	1.68%	
Hiawatha	Hiawatha Municipal	Brown	1,092	1,113	1,134	1,178	0.38%	
Hill City	Hill City Municipal	Graham	14,600	14,909	15,225	15,877	0.42%	
Hillsboro	Alfred Schroeder Field	Marion	4,992	5,205	5,428	5,901	0.84%	
Horton	Horton Municipal	Brown	100	102	104	108	0.38%	
Hoxie	Hoxie - Sheridan County	Sheridan	11,680	11,927	12,180	12,701	0.42%	
Hugoton	Hugoton Municipal	Stevens	9,855	10,276	10,715	11,650	0.84%	
Hutchison	Hutchinson Municipal	Reno	59,130	60,382	61,661	64,300	0.42%	
Independence	Independence Municipal	Montgomery	10,585	11,037	11,509	12,513	0.84%	
Ingalls	Ingalls Municipal	Gray	1,200	1,304	1,418	1,675	1.68%	
Iola	Allen County	Allen	16,425	17,127	17,858	19,416	0.84%	
Jetmore	Jetmore Municipal	Hodgeman	600	613	626	652	0.42%	
Johnson	Stanton County Municipal	Stanton	22,995	23,482	23,979	25,006	0.42%	
Junction City	Freeman Field	Geary	28,105	29,305	30,557	33,223	0.84%	
Kingman	Kingman - Clyde Cessna Field	Kingman	9,490	9,691	9,896	10,320	0.42%	
Kinsley	Kinsley Municipal	Edwards	2,288	2,336	2,386	2,488	0.42%	
La Crosse	Rush County	Rush	3,276	3,345	3,416	3,562	0.42%	
Lakin	Lakin	Kearny	4,004	4,175	4,353	4,733	0.84%	
Larned	Larned - Pawnee County	Pawnee	12,045	12,300	12,561	13,098	0.42%	
Lawrence	Lawrence Municipal	Douglas	32,850	35,704	38,805	45,840	1.68%	
Leavenworth	Sherman Army Airfield	Leavenworth	20,440	21,313	22,223	24,162	0.84%	
Leoti	Mark Hoard Memorial	Wichita	4,992	5,098	5,206	5,428	0.42%	
Lincoln	Lincoln Municipal	Lincoln	14,235	14,536	14,844	15,480	0.42%	
Lucas	Lucas	Russell	4,992	5,205	5,428	5,901	0.84%	
Lyndon	Pamona Lake	Osage	300	313	326	355	0.84%	
Lyons	Lyons - Rice County Municipal	Rice	12,045	12,300	12,561	13,098	0.42%	

Figure 3–25: General Aviation Airports Operations Forecasts (cont.)

<i>City</i>	<i>Airport Name</i>	<i>County</i>	<i>Actual</i>		<i>Operations Forecast</i>		
			<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>CAGR</i>
Mankato	Mankato	Jewell	5,356	5,469	5,585	5,824	0.42%
Marion	Marion Municipal	Marion	9,125	9,515	9,921	10,787	0.84%
Marysville	Marysville Municipal	Marshall	8,030	8,373	8,731	9,492	0.84%
McPherson	McPherson	McPherson	40,150	41,865	43,653	47,462	0.84%
Meade	Meade Municipal	Meade	4,992	5,098	5,206	5,428	0.42%
Medicine Lodge	Medicine Lodge	Barber	2,392	2,443	2,494	2,601	0.42%
Minneapolis	Minneapolis City-County	Ottawa	10,950	11,182	11,419	11,907	0.42%
Moline	Elk County	Elk	600	611	623	647	0.38%
Montezuma	Montezuma Municipal	Gray	996	1,083	1,177	1,390	1.68%
Moundridge	Moundridge Municipal	McPherson	9,490	9,895	10,318	11,218	0.84%
Neodesha	Neodesha Municipal	Wilson	1,196	1,247	1,300	1,414	0.84%
Ness City	Ness City Municipal	Ness	4,004	4,089	4,175	4,354	0.42%
Newton	Newton City/County	Harvey	64,970	66,346	67,751	70,651	0.42%
Norton	Norton Municipal	Norton	5,044	5,151	5,260	5,485	0.42%
Norwich	Norwich	Kingman	468	478	488	509	0.42%
Oakley	Oakley Municipal	Logan	12,045	12,559	13,096	14,238	0.84%
Oberlin	Oberlin Municipal	Decatur	7,072	7,222	7,375	7,690	0.42%
Olathe	Cedar Air Park	Johnson	3,276	3,401	3,530	3,804	0.75%
Olathe	Johnson County Executive	Johnson	70,445	76,565	83,216	98,302	1.68%
Olathe	New Century Air Center	Johnson	58,035	63,077	68,556	80,984	1.68%
Onaga	C.E. Grutzmacher Municipal	Pottawatomie	100	102	104	108	0.38%
Osage City	Osage City Municipal	Osage	1,976	2,060	2,148	2,336	0.84%
Osborne	Osborne Municipal	Osborne	5,876	6,127	6,389	6,946	0.84%
Oswego	Oswego Municipal	Cherokee	600	626	652	709	0.84%
Ottawa	Ottawa Municipal	Franklin	4,316	4,500	4,693	5,102	0.84%
Oxford	Oxford Municipal	Cowley	2,496	2,549	2,603	2,714	0.42%
Paola	Miami County	Miami	9,855	10,276	10,715	11,650	0.84%
Parsons	Tri-City	Labette	5,980	6,235	6,502	7,069	0.84%
Phillipsburg	Phillipsburg Municipal	Phillips	9,125	9,515	9,921	10,787	0.84%
Pittsburg	Atkinson Municipal	Crawford	23,725	24,738	25,795	28,045	0.84%
Plainville	Rooks County	Rooks	3,172	3,307	3,449	3,750	0.84%
Pleasanton	Gilmore	Linn	1,976	2,060	2,148	2,336	0.84%
Prairie View	Van Pak	Phillips	150	153	156	162	0.38%
Pratt	Pratt Industrial	Pratt	11,315	11,798	12,302	13,376	0.84%

Figure 3–25: General Aviation Airports Operations Forecasts (cont.)

<i>City</i>	<i>Airport Name</i>	<i>County</i>	<i>Actual</i>		<i>Operations Forecast</i>		
			<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>CAGR</i>
Rose Hill	Cook Airfield	Sedgwick	10,220	10,657	11,112	12,081	0.84%
Russell	Russell Municipal	Russell	12,045	12,559	13,096	14,238	0.84%
Sabetha	Sabetha Municipal	Brown	4,212	4,392	4,579	4,979	0.84%
Satanta	Satanta Municipal	Haskell	2,964	3,091	3,223	3,504	0.84%
Scott City	Scott City Municipal	Scott	8,030	8,373	8,731	9,492	0.84%
Sedan	Sedan City	Chautauqua	600	611	623	647	0.38%
Seneca	Seneca Municipal	Nemaha	300	306	312	324	0.38%
Smith Center	Smith Center Municipal	Smith	4,004	4,089	4,175	4,354	0.42%
St. Francis	Cheyenne County Municipal	Cheyenne	3,952	4,121	4,297	4,672	0.84%
St. Mary's	St. Mary's Airpark	Pottawatomie	552	563	573	596	0.38%
Stafford	Stafford Municipal	Stafford	1,612	1,643	1,674	1,739	0.38%
Stilwell	Hillside	Johnson	1,976	2,051	2,129	2,294	0.75%
Stockton	Stockton Municipal	Rooks	648	660	673	699	0.38%
Sublette	Sublette Flying Club	Haskell	600	626	652	709	0.84%
Syracuse	Syracuse - Hamilton County Municipal	Hamilton	4,992	5,098	5,206	5,428	0.42%
Topeka	Philip Billard Municipal	Shawnee	63,875	66,603	69,448	75,507	0.84%
Tribune	Tribune Municipal	Greeley	2,652	2,765	2,883	3,135	0.84%
Ulysses	Ulysses	Grant	21,535	22,455	23,414	25,457	0.84%
WaKeeney	Trego WaKeeney	Trego	1,976	2,060	2,148	2,336	0.84%
Wamego	Wamego Municipal	Pottawatomie	3,744	3,904	4,071	4,426	0.84%
Washington	Washington County Memorial	Washington	1,716	1,789	1,866	2,028	0.84%
Wellington	Wellington Municipal	Sumner	17,885	18,649	19,445	21,142	0.84%
Wichita	Beech Factory	Sedgwick	32,850	34,253	35,716	38,832	0.84%
Wichita	Cessna Aircraft Field	Sedgwick	100	104	109	118	0.84%
Wichita	Col. James Jabrara	Sedgwick	38,325	39,962	41,669	45,304	0.84%
Wichita	Maize	Sedgwick	2,288	2,386	2,488	2,705	0.84%
Wichita	Riverside	Sedgwick	13,870	14,462	15,080	16,396	0.84%
Wichita	Westport	Sedgwick	864	881	897	932	0.38%
Wichita	Westport Auxiliary	Sedgwick	120	125	130	142	0.84%
Winfield	Strother Field	Cowley	6,500	6,778	7,067	7,684	0.84%
Yates Center	Yates Center	Woodson	1,300	1,325	1,350	1,402	0.38%
Statewide Total			1,397,595	1,461,830	1,529,780	1,677,864	0.92%

Source: Wilbur Smith Associates, Woods and Poole Economics.
 CAGR: Compound Annual Growth Rate.
 Prepared December 2008.

TAF FORECAST COMPARISON

To examine the forecasts prepared above for unrealistic expectations, they were compared to the FAA's Terminal Area Forecasts (TAF). The Terminal Area Forecast (TAF) system is the official forecast of aviation activity at FAA facilities. These forecasts are prepared to meet the budget and planning needs of FAA and provide information for use by state and local authorities, the aviation industry, and the public. The TAF includes forecasts for:

- ✈ FAA towered airports
- ✈ Federally contracted towered airports
- ✈ Non-federal towered airports
- ✈ Non-towered airports

The TAF includes forecasts for active airports in the National Plan of Integrated Airport System (NPIAS). While not all of Kansas' airports are included in the TAF forecasts, the comparison of the TAF to the KASP forecasts among those airports that are included serve as a useful reliability test for the KASP forecasts.

It is important to note that the TAF base data for 2007 does not always match actual 2007 data as recorded by KDOT Division of Aviation. These base-year differences explain some of the variance in the TAF forecasts versus the preferred KASP forecasts.

Figure 3-26 shows the KASP forecasts of enplanements compared to the TAF. Of note are the differing base year data among airports; the TAF uses slightly different data than the base data contained in the TAF and thus the forecasts at certain airports vary. Notably, the Air Carrier Activity Information System (ACAIS) data that underlies the KASP enplanement forecasts includes non-scheduled charter activity, which is prevalent at many Kansas airports, particularly Forbes Field in Topeka.

When taken together, the combined KASP enplanement forecasts for the eight commercial airports are within 2.07 percent of the summed TAF forecasts in 2027. While the TAF concentrates the majority of future Kansas enplanement growth at Wichita Mid-Continent, the KASP shows a somewhat lower growth rate at Mid-Continent and higher enplanement growth at the smaller commercial airports.

Figure 3-27 shows the KASP forecasts for based aircraft compared to the TAF forecasts. For the majority of Kansas' airports where a comparison to TAF data can be made, the TAF and KASP forecasts are similar. Notable exceptions include Dodge City, Emporia, Hill City, Hutchinson, Junction City, and Syracuse, which the TAF projects to decline in based aircraft counts, and Manhattan and Wichita Mid-Continent, where the TAF forecasts to increase at a faster rate than does the KASP forecast.

Figure 3-28 shows the KASP forecasts of operations compared to the TAF. In several instances, the TAF projects growth well below that of the KASP. Wichita Mid-Continent, McPherson, Goodland, and Lawrence are examples of airports where the TAF shows considerably less growth than does the TAF. It should be noted that the TAF forecast modeling process does not adequately capture aerial agricultural applicator (ag spraying) activity, something that occurs with regularity in Kansas. In cases where ag spraying is prevalent, the TAF may underestimate current and future activity.

SUMMARY

The projections developed in this chapter will be used in the evaluation of the Kansas airport system’s ability to accommodate future demand. The projections provided in this chapter are considered planning estimates and are based on information gathered from all available sources. These projections were generated to a system planning, rather than a master planning, level of detail. Comprehensive airport development plans will continue to provide guidance for actual airport development as individual airport plans are developed from an examination of each airport’s local conditions and operating environment.

Figure 3-29 summarizes the preferred statewide forecasts for the study airports.

Figure 3–29: KASP Forecast Summary

<i>Activity</i>	<i>Actual</i>		<i>Forecast</i>		
	<u>2007</u>	<u>2012</u>	<u>2017</u>	<u>2027</u>	<u>CAGR</u>
Enplanements					
Commercial Service Airports	846,958	906,763	977,807	1,155,447	1.57%
Based Aircraft					
Commercial Service Airports	688	760	823	963	1.70%
General Aviation Airports	<u>2,987</u>	<u>3,140</u>	<u>3,303</u>	<u>3,661</u>	<u>1.02%</u>
Total Based Aircraft	3,675	3,900	4,120	4,626	1.16
Operations					
Commercial Service Airports	471,580	530,023	593,235	734,140	2.24%
General Aviation Airports	<u>1,397,595</u>	<u>1,461,844</u>	<u>1,529,810</u>	<u>1,677,938</u>	<u>0.92%</u>
Total Operations	1,869,175	1,991,867	2,123,045	2,412,078	1.28%

Source: Wilbur Smith Associates.

CAGR: Compound Annual Growth Rate.

Prepared December 2008.

Figure 3-26: Terminal Area Forecasts Comparison – Enplanements

<u>Airport</u>	Actual Total Enplanements - Commercial Airports				TAF Comparison				<i>KASP 2027 Percent Difference from TAF</i>
	<u>2007</u>	<u>2012</u>	<u>2017</u>	<u>2027</u>	<u>2007</u>	<u>2012</u>	<u>2017</u>	<u>2027</u>	
Dodge City Regional	5,801	6,493	7,268	9,106	5,028	5,090	5,170	5,332	70.78%
Garden City Regional	13,065	19,339	28,627	62,725	10,796	12,243	13,900	17,880	250.81%
Great Bend Municipal	844	1,400	2,220	3,500	844	844	844	844	414.69%
Hays Regional	10,536	9,598	11,084	12,811	8,983	8,983	8,983	8,983	42.61%
Liberal Mid-America Reg.	5,113	6,079	7,226	10,213	4,442	4,535	4,630	4,800	112.77%
Manhattan Regional	14,032	19,388	26,789	51,142	13,702	14,123	14,570	15,500	229.95%
Salina Municipal ¹	4,127	4,615	5,161	6,453	2,309	2,561	2,920	3,611	78.70%
Topeka - Forbes Field	24,316	29,090	34,800	49,806	14,189	14,301	14,421	15,000	232.04%
Wichita Mid-Continent	769,124	810,761	854,652	949,691	758,388	810,859	884,820	1,060,000	-10.41%
Total	846,958	906,763	977,807	1,155,447	818,681	873,539	950,258	1,131,950	2.07%

Sources: Forecast growth rates: Airport Master Plans (except where noted); 2007 Enplanement data: FAA Air Carrier Activity Information System; TAF Forecasts: FAA Terminal Area Forecasts.

Note 1: FAA Terminal Area Forecast growth rate applied to 2007 base data.

CAGR: Compound Annual Growth Rate.

Prepared November 2008.

Figure 3-27: Terminal Area Forecasts Comparison – Based Aircraft

<i>City</i>	<i>Airport Name</i>	<i>Actual</i>		<i>Based Aircraft Forecast</i>				<i>TAF Based Aircraft Forecast</i>				<i>KASP 2027 Percent Difference from TAF</i>
		<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>			
Abilene	Abilene Municipal	21	22	23	25	22	23	23	23	7.9%		
Anthony	Anthony Municipal	11	11	11	12	11	11	11	11	8.7%		
Anthony	Wilcox Field	2	2	2	2	N/A	N/A	N/A	N/A	N/A		
Argonia	Argonia Municipal	1	1	1	1	N/A	N/A	N/A	N/A	N/A		
Ashland	Harold Krier Field	5	5	5	5	N/A	N/A	N/A	N/A	N/A		
Atchison	Amelia Earhart	39	41	42	46	39	39	39	39	18.2%		
Atwood	Atwood-Rawlins County	13	13	14	14	13	13	13	13	8.7%		
Augusta	Augusta Municipal	94	102	111	131	95	100	105	114	15.1%		
Baldwin City	Vinland Valley Aerodrome	20	21	22	23	N/A	N/A	N/A	N/A	N/A		
Belleville	Belleville Municipal	12	12	13	13	8	10	12	17	-23.2%		
Beloit	Moritz Memorial	18	18	19	20	18	17	16	14	39.8%		
Benton	Stearman Field	92	100	109	128	N/A	N/A	N/A	N/A	N/A		
Bird City	Bressler Field	2	2	2	2	N/A	N/A	N/A	N/A	N/A		
Bucklin	Bucklin	1	1	1	1	N/A	N/A	N/A	N/A	N/A		
Burlington	Coffey County	32	33	35	38	31	31	30	28	35.1%		
Caldwell	Caldwell Municipal	4	4	4	4	N/A	N/A	N/A	N/A	N/A		
Chanute	Chanute - Martin Johnson	24	25	25	26	25	27	30	37	-29.5%		
Cimmaron	Cimarron Municipal	13	14	15	18	6	6	6	6	202.3%		
Clay Center	Clay Center Municipal	16	17	17	19	17	17	17	17	11.3%		
Coffeyville	Coffeyville Municipal	38	40	41	45	40	40	40	40	12.3%		
Colby	Shalz Field	18	20	21	25	20	20	20	20	25.6%		
Coldwater	Comanche County	4	4	4	4	N/A	N/A	N/A	N/A	N/A		
Concordia	Blosser Municipal	15	15	16	16	9	9	9	9	81.2%		
Cottonwood Falls	Chase County	2	2	2	2	N/A	N/A	N/A	N/A	N/A		
Council Grove	Council Grove Municipal	0	0	0	0	N/A	N/A	N/A	N/A	N/A		
Dighton	Dighton	3	3	3	3	N/A	N/A	N/A	N/A	N/A		
Dodge City	Dodge City Regional	40	44	49	60	39	35	33	28	115.2%		
Dodge City	Wilroads Gardens	1	1	1	1	N/A	N/A	N/A	N/A	N/A		
El Dorado	Capt. Jack Thomas	29	32	34	40	29	29	29	29	39.5%		
El Dorado	Patty Field	2	2	2	2	N/A	N/A	N/A	N/A	N/A		
Elkhart	Elkhart-Morton County	12	12	13	13	7	7	7	7	86.4%		
Ellinwood	Ellinwood Municipal	5	5	5	5	N/A	N/A	N/A	N/A	N/A		

Figure 3-27: Terminal Area Forecasts Comparison – Based Aircraft (cont.)

<i>City</i>	<i>Airport Name</i>	<i>Actual</i>				<i>Based Aircraft Forecast</i>				<i>TAF Based Aircraft Forecast</i>				<i>KASP 2027 Percent Difference from TAF</i>
		<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	
Ellsworth	Ellsworth Municipal	28	29	30	33	15	17	19	22					50.4%
Emporia	Emporia Municipal	48	50	52	57	46	43	40	35					62.1%
Eureka	Eureka Municipal	11	11	12	13	14	14	14	14					-7.1%
Fort Scott	Fort Scott Municipal	23	24	25	27	31	31	30	27					0.7%
Fowler	Fowler	2	2	2	2	N/A	N/A	N/A	N/A					N/A
Fredonia	Fredonia	5	5	5	6	N/A	N/A	N/A	N/A					N/A
Garden City	Garden City Regional	46	50	55	65	41	45	48	53					22.1%
Gardner	Gardner Municipal	108	117	128	151	96	96	96	96					57.0%
Garnett	Garnett Municipal	13	14	14	15	13	13	14	15					2.4%
Goodland	Renner Field - Goodland Municipal	24	26	28	33	26	27	28	32					4.7%
Great Bend	Great Bend Municipal	31	38	42	50	32	32	31	29					72.4%
Greensburg	Paul Windle Municipal	6	6	6	7	N/A	N/A	N/A	N/A					N/A
Harper	Harper Municipal	13	13	14	14	N/A	N/A	N/A	N/A					N/A
Hays	Hays Regional	55	72	79	86	62	62	63	66					30.3%
Herington	Herington Regional	11	12	13	15	12	13	14	15					2.3%
Hiawatha	Hiawatha Municipal	7	7	7	8	N/A	N/A	N/A	N/A					N/A
Hill City	Hill City Municipal	10	10	10	11	8	7	7	6					81.2%
Hillsboro	Alfred Schroeder Field	6	6	7	7	N/A	N/A	N/A	N/A					N/A
Horton	Horton Municipal	0	0	0	0	N/A	N/A	N/A	N/A					N/A
Hoxie	Hoxie - Sheridan County	7	7	7	8	N/A	N/A	N/A	N/A					N/A
Hugoton	Hugoton Municipal	22	23	24	26	22	23	23	25					4.0%
Hutchison	Hutchinson Municipal	35	36	36	38	33	30	25	20					90.3%
Independence	Independence Municipal	62	65	67	73	21	21	22	22					233.1%
Ingalls	Ingalls Municipal	3	3	4	4	N/A	N/A	N/A	N/A					N/A
Iola	Allen County	16	17	17	19	16	17	19	21					-9.9%
Jetmore	Jetmore Municipal	1	1	1	1	N/A	N/A	N/A	N/A					N/A
Johnson	Stanton County Municipal	41	42	43	45	41	41	41	41					8.7%
Junction City	Freeman Field	22	23	24	26	21	19	17	14					85.8%
Kingman	Kingman - Clyde Cessna Field	20	20	21	22	20	20	20	20					8.7%
Kinsley	Kinsley Municipal	3	3	3	3	N/A	N/A	N/A	N/A					N/A
La Crosse	Rush County	4	4	4	4	N/A	N/A	N/A	N/A					N/A
Lakin	Lakin	5	5	5	6	6	6	6	6					-1.5%

Figure 3-27: Terminal Area Forecasts Comparison – Based Aircraft (cont.)

<i>City</i>	<i>Airport Name</i>	<i>Actual</i>				<i>Based Aircraft Forecast</i>				<i>TAF Based Aircraft Forecast</i>				<i>KASP 2027 Percent Difference from TAF</i>
		<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	
Larned	Larned - Pawnee County	25	26	26	27	25	25	25	25					8.7%
Lawrence	Lawrence Municipal	66	72	78	92	64	65	65	65					41.7%
Leavenworth	Sherman Army Airfield	32	33	35	38	N/A	N/A	N/A	N/A					N/A
Leoti	Mark Hoard Memorial	6	6	6	7	6	6	6	6					8.7%
Liberal	Liberal Mid-America Regional	56	60	64	72	60	60	62	65					10.9%
Lincoln	Lincoln Municipal	5	5	5	5	N/A	N/A	N/A	N/A					N/A
Lucas	Lucas	3	3	3	4	N/A	N/A	N/A	N/A					N/A
Lyndon	Pamona Lake	5	5	5	6	N/A	N/A	N/A	N/A					N/A
Lyons	Lyons - Rice County Municipal	22	22	23	24	22	22	22	22					8.7%
Manhattan	Manhattan Regional	45	45	49	55	46	51	55	73					-24.7%
Mankato	Mankato	2	2	2	2	N/A	N/A	N/A	N/A					N/A
Marion	Marion Municipal	16	17	17	19	N/A	N/A	N/A	N/A					N/A
Marysville	Marysville Municipal	6	6	7	7	6	6	6	6					18.2%
McPherson	McPherson	45	47	49	53	38	38	39	42					26.7%
Meade	Meade Municipal	13	13	14	14	13	13	13	13					8.7%
Medicine Lodge	Medicine Lodge	4	4	4	4	8	8	8	8					-45.6%
Minneapolis	Minneapolis City-County	2	2	2	2	N/A	N/A	N/A	N/A					N/A
Moline	Elk County	2	2	2	2	N/A	N/A	N/A	N/A					N/A
Montezuma	Montezuma Municipal	3	8	10	10	N/A	N/A	N/A	N/A					N/A
Moundridge	Moundridge Municipal	14	15	15	17	N/A	N/A	N/A	N/A					N/A
Neodesha	Neodesha Municipal	2	2	2	2	N/A	N/A	N/A	N/A					N/A
Ness City	Ness City Municipal	6	6	6	7	6	6	6	6					8.7%
Newton	Newton City/County	111	113	116	121	120	127	135	150					-19.5%
Norton	Norton Municipal	20	20	21	22	16	16	16	16					35.9%
Norwich	Norwich	6	6	6	7	N/A	N/A	N/A	N/A					N/A
Oakley	Oakley Municipal	11	11	12	13	10	10	10	10					30.0%
Oberlin	Oberlin Municipal	15	15	16	16	5	5	5	5					226.2%
Olathe	Cedar Air Park	4	4	4	5	N/A	N/A	N/A	N/A					N/A
Olathe	Johnson County Executive	234	254	276	327	235	239	242	251					30.1%
Olathe	New Century Air Center	193	210	228	269	201	221	242	296					-9.0%
Onaga	C.E. Grutzmacher Municipal	0	0	0	0	N/A	N/A	N/A	N/A					N/A
Osage City	Osage City Municipal	13	14	14	15	13	13	13	13					18.2%

Figure 3-27: Terminal Area Forecasts Comparison – Based Aircraft (cont.)

<i>City</i>	<i>Airport Name</i>	<i>Actual</i>	<i>Based Aircraft Forecast</i>			<i>TAF Based Aircraft Forecast</i>				<i>KASP 2027 Percent Difference from TAF</i>
		<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	
Osborne	Osborne Municipal	7	7	8	8	N/A	N/A	N/A	N/A	N/A
Oswego	Oswego Municipal	10	10	11	12	6	6	6	6	97.0%
Ottawa	Ottawa Municipal	45	47	49	53	24	23	22	20	166.0%
Oxford	Oxford Municipal	5	5	5	5	N/A	N/A	N/A	N/A	N/A
Paola	Miami County	22	23	24	26	23	23	23	23	13.1%
Parsons	Tri-City	16	17	17	19	15	15	15	15	26.1%
Phillipsburg	Phillipsburg Municipal	9	9	10	11	9	9	9	9	18.2%
Pittsburg	Atkinson Municipal	40	42	43	47	37	38	38	38	24.4%
Plainville	Rooks County	3	3	3	4	N/A	N/A	N/A	N/A	N/A
Pleasanton	Gilmore	1	1	1	1	N/A	N/A	N/A	N/A	N/A
Prairie View	Van Pak	0	0	0	0	N/A	N/A	N/A	N/A	N/A
Pratt	Pratt Industrial	25	26	27	30	22	22	22	22	34.3%
Rose Hill	Cook Airfield	38	40	41	45	N/A	N/A	N/A	N/A	N/A
Russell	Russell Municipal	20	21	22	24	22	22	22	22	7.5%
Sabetha	Sabetha Municipal	4	4	4	5	6	6	6	6	-21.2%
Salina	Salina Municipal	137	168	197	274	145	168	197	274	0.0%
Satanta	Satanta Municipal	7	7	8	8	7	7	7	7	18.2%
Scott City	Scott City Municipal	27	28	29	32	18	18	18	18	77.3%
Sedan	Sedan City	3	3	3	3	N/A	N/A	N/A	N/A	N/A
Seneca	Seneca Municipal	0	0	0	0	N/A	N/A	N/A	N/A	N/A
Smith Center	Smith Center Municipal	17	17	18	18	17	17	17	17	8.7%
St. Francis	Cheyenne County Municipal	12	13	13	14	12	12	12	12	18.2%
St. Mary's	St. Mary's Airpark	1	1	1	1	N/A	N/A	N/A	N/A	N/A
Stafford	Stafford Municipal	5	5	5	5	N/A	N/A	N/A	N/A	N/A
Stilwell	Hillside	11	11	12	13	N/A	N/A	N/A	N/A	N/A
Stockton	Stockton Municipal	3	3	3	3	N/A	N/A	N/A	N/A	N/A
Sublette	Sublette Flying Club	3	3	3	4	N/A	N/A	N/A	N/A	N/A
Syracuse	Syracuse - Hamilton County Municipal	36	37	38	39	29	28	26	22	77.9%
Topeka	Forbes Field	57	62	67	80	60	61	62	65	22.9%
Topeka	Philip Billard Municipal	88	92	96	104	92	101	111	130	-20.0%
Tribune	Tribune Municipal	17	18	18	20	17	17	17	17	18.2%
Ulysses	Ulysses	48	50	52	57	48	48	48	48	18.2%

Figure 3-27: Terminal Area Forecasts Comparison – Based Aircraft (cont.)

<i>City</i>	<i>Airport Name</i>	<i>Actual</i>	<i>Based Aircraft Forecast</i>				<i>TAF Based Aircraft Forecast</i>				<i>KASP 2027 Percent Difference from TAF</i>
		<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>		
WaKeeney	Trego WaKeeney	11	11	12	13	11	11	11	11	18.2%	
Wamego	Wamego Municipal	7	7	8	8	N/A	N/A	N/A	N/A	N/A	
Washington	Washington County Memorial	3	3	3	4	N/A	N/A	N/A	N/A	N/A	
Wellington	Wellington Municipal	37	39	40	44	30	30	30	30	45.8%	
Wichita	Beech Factory	60	63	65	71	N/A	N/A	N/A	N/A	N/A	
Wichita	Cessna Aircraft Field	16	17	17	19	N/A	N/A	N/A	N/A	N/A	
Wichita	Col. James Jabrara	105	109	114	124	108	108	108	108	14.9%	
Wichita	Maize	60	63	65	71	N/A	N/A	N/A	N/A	N/A	
Wichita	Riverside	32	33	35	38	N/A	N/A	N/A	N/A	N/A	
Wichita	Westport	16	16	17	17	N/A	N/A	N/A	N/A	N/A	
Wichita	Westport Auxiliary	105	109	114	124	N/A	N/A	N/A	N/A	N/A	
Wichita	Wichita Mid-Continent	221	221	221	221	214	218	223	250	-11.6%	
Winfield	Strother Field	21	22	23	25	23	23	23	23	7.9%	
Yates Center	Yates Center	0	0	0	0	N/A	N/A	N/A	N/A	N/A	
Statewide Total		3,675	3,827	4,049	4,514						

Source: Wilbur Smith Associates, FAA Terminal Area Forecasts.
 CAGR: Compound Annual Growth Rate.
Bold indicates commercial service airports.
 Prepared December 2008.

Figure 3-28: Terminal Area Forecasts Comparison - Operations

<i>City</i>	<i>Airport Name</i>	<i>Actual Operations Forecast</i>				<i>TAF Comparison</i>				<i>KASP 2027 Percent Difference from TAF</i>
		<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	
Abilene	Abilene Municipal	35,770	37,298	38,891	42,284	35,800	35,800	35,800	35,800	18.1%
Anthony	Anthony Municipal	6,188	6,319	6,453	6,729	2,450	2,450	2,450	2,450	174.7%
Anthony	Wilcox Field	80	82	83	86	N/A	N/A	N/A	N/A	N/A
Argonia	Argonia Municipal	2,600	2,650	2,701	2,805	N/A	N/A	N/A	N/A	N/A
Ashland	Harold Krier Field	2,500	2,548	2,597	2,697	N/A	N/A	N/A	N/A	N/A
Atchison	Amelia Earhart	2,288	2,386	2,488	2,705	8,085	8,085	8,085	8,085	-66.5%
Atwood	Atwood-Rawlins County	12,410	12,673	12,941	13,495	2,450	2,450	2,450	2,450	450.8%
Augusta	Augusta Municipal	36,135	39,274	42,686	50,424	36,000	36,000	36,000	36,000	40.1%
Baldwin City	Vinland Valley Aerodrome	804	835	866	934	N/A	N/A	N/A	N/A	N/A
Belleville	Belleville Municipal	7,665	7,827	7,993	8,335	3,680	3,680	3,680	3,680	126.5%
Beloit	Moritz Memorial	20,075	20,500	20,934	21,830	3,924	3,924	3,924	3,924	456.3%
Benton	Stearman Field	10,585	11,505	12,504	14,771	N/A	N/A	N/A	N/A	N/A
Bird City	Bressler Field	1,612	1,643	1,674	1,739	N/A	N/A	N/A	N/A	N/A
Bucklin	Bucklin	1,508	1,537	1,566	1,627	N/A	N/A	N/A	N/A	N/A
Burlington	Coffey County	20,075	20,932	21,826	23,731	5,880	5,880	5,880	5,880	303.6%
Caldwell	Caldwell Municipal	1,872	1,908	1,944	2,020	N/A	N/A	N/A	N/A	N/A
Chanute	Chanute - Martin Johnson	18,615	19,009	19,412	20,243	4,660	4,660	4,660	4,660	334.4%
Cimmaron	Cimarron Municipal	3,484	3,787	4,116	4,862	3,500	3,500	3,500	3,500	38.9%
Clay Center	Clay Center Municipal	24,090	25,119	26,192	28,477	3,430	3,430	3,430	3,430	730.2%
Coffeyville	Coffeyville Municipal	5,512	5,747	5,993	6,516	5,550	5,550	5,550	5,550	17.4%
Colby	Shalz Field	6,500	7,065	7,678	9,070	3,440	3,440	3,440	3,440	163.7%
Coldwater	Comanche County	804	821	838	874	N/A	N/A	N/A	N/A	N/A
Concordia	Blosser Municipal	14,600	14,909	15,225	15,877	3,435	3,435	3,435	3,435	362.2%
Cottonwood Falls	Chase County	1,144	1,166	1,188	1,234	N/A	N/A	N/A	N/A	N/A
Council Grove	Council Grove Municipal	396	411	427	460	N/A	N/A	N/A	N/A	N/A
Dighton	Dighton	1,508	1,540	1,573	1,640	N/A	N/A	N/A	N/A	N/A
Dodge City	Dodge City Regional	23,360	26,314	29,641	37,611	23,501	23,501	23,501	23,501	60.0%
Dodge City	Wilroads Gardens	200	204	208	216	N/A	N/A	N/A	N/A	N/A
El Dorado	Capt. Jack Thomas	13,140	13,640	14,159	15,258	5,880	5,880	5,880	5,880	159.5%
El Dorado	Patty Field	648	704	765	904	N/A	N/A	N/A	N/A	N/A
Elkhart	Elkhart-Morton County	5,980	6,107	6,236	6,503	6,000	6,000	6,000	6,000	8.4%
Ellinwood	Ellinwood Municipal	1,144	1,166	1,188	1,234	N/A	N/A	N/A	N/A	N/A
Ellsworth	Ellsworth Municipal	20,075	20,932	21,826	23,731	20,075	20,075	20,075	20,075	18.2%
Emporia	Emporia Municipal	31,390	32,731	34,129	37,106	10,800	10,800	10,800	10,800	243.6%

Figure 3-28: Terminal Area Forecasts Comparison - Operations (cont.)

<i>City</i>	<i>Airport Name</i>	<i>Actual Operations Forecast</i>				<i>TAF Comparison</i>				<i>KASP 2027 Percent Difference from TAF</i>
		<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	
Eureka	Eureka Municipal	4,000	4,171	4,349	4,728	4,170	4,170	4,170	4,170	13.4%
Fort Scott	Fort Scott Municipal	10,950	11,418	11,905	12,944	9,570	9,570	9,570	9,570	35.3%
Fowler	Fowler	1,000	1,000	1,000	1,000	N/A	N/A	N/A	N/A	N/A
Fredonia	Fredonia	3,952	4,121	4,297	4,672	N/A	N/A	N/A	N/A	N/A
Garden City	Garden City Regional	21,535	25,779	30,859	44,220	21,693	22,920	23,956	26,000	70.1%
Gardner	Gardner Municipal	25,915	28,166	30,613	36,163	19,850	19,850	19,850	19,850	82.2%
Garnett	Garnett Municipal	10,950	11,418	11,905	12,944	2,940	2,940	2,940	2,940	340.3%
Goodland	Renner Field - Goodland Mun.	43,070	46,812	50,878	60,102	5,650	5,650	5,650	5,650	963.7%
Great Bend	Great Bend Municipal	17,885	9,570	9,570	9,570	9,570	9,570	9,570	9,570	0.0%
Greensburg	Paul Windle Municipal	3,692	3,770	3,850	4,015	N/A	N/A	N/A	N/A	N/A
Harper	Harper Municipal	3,068	3,133	3,199	3,336	N/A	N/A	N/A	N/A	N/A
Hays	Hays Regional	32,120	32,200	32,200	32,200	32,200	32,200	32,200	32,200	0.0%
Herington	Herington Regional	11,680	12,695	13,797	16,299	11,600	11,600	11,600	11,600	40.5%
Hiawatha	Hiawatha Municipal	1,092	1,113	1,134	1,178	N/A	N/A	N/A	N/A	N/A
Hill City	Hill City Municipal	14,600	14,909	15,225	15,877	1,472	1,472	1,472	1,472	978.6%
Hillsboro	Alfred Schroeder Field	4,992	5,205	5,428	5,901	N/A	N/A	N/A	N/A	N/A
Horton	Horton Municipal	100	102	104	108	N/A	N/A	N/A	N/A	N/A
Hoxie	Hoxie - Sheridan County	11,680	11,927	12,180	12,701	N/A	N/A	N/A	N/A	N/A
Hugoton	Hugoton Municipal	9,855	10,276	10,715	11,650	5,635	5,635	5,635	5,635	106.7%
Hutchison	Hutchinson Municipal	59,130	60,382	61,661	64,300	51,310	56,332	60,873	68,000	-5.4%
Independence	Independence Municipal	10,585	11,037	11,509	12,513	6,130	6,130	6,130	6,130	104.1%
Ingalls	Ingalls Municipal	1,200	1,304	1,418	1,675	N/A	N/A	N/A	N/A	N/A
Iola	Allen County	16,425	17,127	17,858	19,416	3,922	3,922	3,922	3,922	395.1%
Jetmore	Jetmore Municipal	600	613	626	652	N/A	N/A	N/A	N/A	N/A
Johnson	Stanton County Municipal	22,995	23,482	23,979	25,006	10,300	10,300	10,300	10,300	142.8%
Junction City	Freeman Field	28,105	29,305	30,557	33,223	5,402	5,402	5,402	5,402	515.0%
Kingman	Kingman - Clyde Cessna Field	9,490	9,691	9,896	10,320	4,900	4,900	4,900	4,900	110.6%
Kinsley	Kinsley Municipal	2,288	2,336	2,386	2,488	N/A	N/A	N/A	N/A	N/A
La Crosse	Rush County	3,276	3,345	3,416	3,562	N/A	N/A	N/A	N/A	N/A
Lakin	Lakin	4,004	4,175	4,353	4,733	4,000	4,000	4,000	4,000	18.3%
Larned	Larned - Pawnee County	12,045	12,300	12,561	13,098	6,125	6,125	6,125	6,125	113.8%
Lawrence	Lawrence Municipal	32,850	35,704	38,805	45,840	12,260	12,260	12,260	12,260	273.9%
Leavenworth	Sherman Army Airfield	20,440	21,313	22,223	24,162	N/A	N/A	N/A	N/A	N/A
Leoti	Mark Hoard Memorial	4,992	5,098	5,206	5,428	5,000	5,000	5,000	5,000	8.6%

Figure 3-28: Terminal Area Forecasts Comparison - Operations (cont.)

<i>City</i>	<i>Airport Name</i>	<i>Actual Operations Forecast</i>				<i>TAF Comparison</i>				<i>KASP 2027 Percent Difference from TAF</i>
		<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	
Liberal	Liberal Mid-America Regional	42,340	44,999	47,824	54,019	43,550	43,550	43,550	43,550	24.0%
Lincoln	Lincoln Municipal	14,235	14,536	14,844	15,480	N/A	N/A	N/A	N/A	N/A
Lucas	Lucas	4,992	5,205	5,428	5,901	N/A	N/A	N/A	N/A	N/A
Lyndon	Pamona Lake	300	313	326	355	N/A	N/A	N/A	N/A	N/A
Lyons	Lyons - Rice County Mun.	12,045	12,300	12,561	13,098	5,150	5,150	5,150	5,150	154.3%
Manhattan	Manhattan Regional	36,135	35,300	38,460	41,960	28,330	29,985	31,341	34,000	23.4%
Mankato	Mankato	5,356	5,469	5,585	5,824	N/A	N/A	N/A	N/A	N/A
Marion	Marion Municipal	9,125	9,515	9,921	10,787	N/A	N/A	N/A	N/A	N/A
Marysville	Marysville Municipal	8,030	8,373	8,731	9,492	8,000	8,000	8,000	8,000	18.7%
McPherson	McPherson	40,150	41,865	43,653	47,462	8,580	8,580	8,580	8,580	453.2%
Meade	Meade Municipal	4,992	5,098	5,206	5,428	5,000	5,000	5,000	5,000	8.6%
Medicine Lodge	Medicine Lodge	2,392	2,443	2,494	2,601	2,400	2,400	2,400	2,400	8.4%
Minneapolis	Minneapolis City-County	10,950	11,182	11,419	11,907	N/A	N/A	N/A	N/A	N/A
Moline	Elk County	600	611	623	647	N/A	N/A	N/A	N/A	N/A
Montezuma	Montezuma Municipal	996	1,083	1,177	1,390	N/A	N/A	N/A	N/A	N/A
Moundridge	Moundridge Municipal	9,490	9,895	10,318	11,218	N/A	N/A	N/A	N/A	N/A
Neodesha	Neodesha Municipal	1,196	1,247	1,300	1,414	N/A	N/A	N/A	N/A	N/A
Ness City	Ness City Municipal	4,004	4,089	4,175	4,354	4,000	4,000	4,000	4,000	8.9%
Newton	Newton City/County	64,970	66,346	67,751	70,651	65,044	65,044	65,044	65,044	8.6%
Norton	Norton Municipal	5,044	5,151	5,260	5,485	5,060	5,060	5,060	5,060	8.4%
Norwich	Norwich	468	478	488	509	N/A	N/A	N/A	N/A	N/A
Oakley	Oakley Municipal	12,045	12,559	13,096	14,238	2,700	2,700	2,700	2,700	427.4%
Oberlin	Oberlin Municipal	7,072	7,222	7,375	7,690	5,150	5,150	5,150	5,150	49.3%
Olathe	Cedar Air Park	3,276	3,401	3,530	3,804	N/A	N/A	N/A	N/A	N/A
Olathe	Johnson County Executive	70,445	76,565	83,216	98,302	71,980	80,501	86,765	100,000	-1.7%
Olathe	New Century Air Center	58,035	63,077	68,556	80,984	58,662	64,544	69,326	78,000	3.8%
Onaga	C.E. Grutzmacher Municipal	100	102	104	108	N/A	N/A	N/A	N/A	N/A
Osage City	Osage City Municipal	1,976	2,060	2,148	2,336	4,410	4,410	4,410	4,410	-47.0%
Osborne	Osborne Municipal	5,876	6,127	6,389	6,946	N/A	N/A	N/A	N/A	N/A
Oswego	Oswego Municipal	600	626	652	709	600	600	600	600	18.2%
Ottawa	Ottawa Municipal	4,316	4,500	4,693	5,102	8,085	8,085	8,085	8,085	-36.9%
Oxford	Oxford Municipal	2,496	2,549	2,603	2,714	N/A	N/A	N/A	N/A	N/A
Paola	Miami County	9,855	10,276	10,715	11,650	6,450	6,450	6,450	6,450	80.6%
Parsons	Tri-City	5,980	6,235	6,502	7,069	6,000	6,000	6,000	6,000	17.8%

Figure 3-28: Terminal Area Forecasts Comparison - Operations (cont.)

<i>City</i>	<i>Airport Name</i>	<i>Actual Operations Forecast</i>				<i>TAF Comparison</i>				<i>KASP 2027 Percent Difference from TAF</i>
		<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	
Phillipsburg	Phillipsburg Municipal	9,125	9,515	9,921	10,787	1,472	1,472	1,472	1,472	632.8%
Pittsburg	Atkinson Municipal	23,725	24,738	25,795	28,045	8,340	8,340	8,340	8,340	236.3%
Plainville	Rooks County	3,172	3,307	3,449	3,750	N/A	N/A	N/A	N/A	N/A
Pleasanton	Gilmore	1,976	2,060	2,148	2,336	N/A	N/A	N/A	N/A	N/A
Prairie View	Van Pak	150	153	156	162	N/A	N/A	N/A	N/A	N/A
Pratt	Pratt Industrial	11,315	11,798	12,302	13,376	6,862	6,862	6,862	6,862	94.9%
Rose Hill	Cook Airfield	10,220	10,657	11,112	12,081	N/A	N/A	N/A	N/A	N/A
Russell	Russell Municipal	12,045	12,559	13,096	14,238	4,170	4,170	4,170	4,170	241.5%
Sabetha	Sabetha Municipal	4,212	4,392	4,579	4,979	4,250	4,250	4,250	4,250	17.2%
Salina	Salina Municipal	85,045	87,568	94,683	106,065	85,045	87,568	94,683	106,065	0.0%
Satanta	Satanta Municipal	2,964	3,091	3,223	3,504	2,205	2,205	2,205	2,205	58.9%
Scott City	Scott City Municipal	8,030	8,373	8,731	9,492	8,000	8,000	8,000	8,000	18.7%
Sedan	Sedan City	600	611	623	647	N/A	N/A	N/A	N/A	N/A
Seneca	Seneca Municipal	300	306	312	324	N/A	N/A	N/A	N/A	N/A
Smith Center	Smith Center Municipal	4,004	4,089	4,175	4,354	2,695	2,695	2,695	2,695	61.6%
St. Francis	Cheyenne County Municipal	3,952	4,121	4,297	4,672	3,950	3,950	3,950	3,950	18.3%
St. Mary's	St. Mary's Airpark	552	563	573	596	N/A	N/A	N/A	N/A	N/A
Stafford	Stafford Municipal	1,612	1,643	1,674	1,739	N/A	N/A	N/A	N/A	N/A
Stilwell	Hillside	1,976	2,051	2,129	2,294	N/A	N/A	N/A	N/A	N/A
Stockton	Stockton Municipal	648	660	673	699	N/A	N/A	N/A	N/A	N/A
Sublette	Sublette Flying Club	600	626	652	709	N/A	N/A	N/A	N/A	N/A
Syracuse	Syracuse - Hamilton Co. Mun.	4,992	5,098	5,206	5,428	5,000	5,000	5,000	5,000	8.6%
Topeka	Forbes Field	44,165	49,218	54,848	68,116	40,244	41,583	42,622	45,000	51.4%
Topeka	Philip Billard Municipal	63,875	66,603	69,448	75,507	66,089	74,429	81,340	95,300	-20.8%
Tribune	Tribune Municipal	2,652	2,765	2,883	3,135	2,650	2,650	2,650	2,652	18.2%
Ulysses	Ulysses	21,535	22,455	23,414	25,457	10,050	10,050	10,050	10,050	153.3%
WaKeeney	Trego WaKeeney	1,976	2,060	2,148	2,336	2,000	2,000	2,000	2,000	16.8%
Wamego	Wamego Municipal	3,744	3,904	4,071	4,426	N/A	N/A	N/A	N/A	N/A
Washington	Washington County Memorial	1,716	1,789	1,866	2,028	N/A	N/A	N/A	N/A	N/A
Wellington	Wellington Municipal	17,885	18,649	19,445	21,142	7,840	7,840	7,840	7,840	169.7%
Wichita	Beech Factory	32,850	34,253	35,716	38,832	N/A	N/A	N/A	N/A	N/A
Wichita	Cessna Aircraft Field	100	104	109	118	N/A	N/A	N/A	N/A	N/A
Wichita	Col. James Jabrara	38,325	39,962	41,669	45,304	38,300	38,300	38,300	38,300	18.3%
Wichita	Maize	2,288	2,386	2,488	2,705	N/A	N/A	N/A	N/A	N/A

Figure 3-28: Terminal Area Forecasts Comparison - Operations (cont.)

<i>City</i>	<i>Airport Name</i>	<i>Actual Operations Forecast</i>				<i>TAF Comparison</i>				<i>KASP 2027 Percent Difference from TAF</i>
		<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	<i>2027</i>	
Wichita	Riverside	13,870	14,462	15,080	16,396	N/A	N/A	N/A	N/A	N/A
Wichita	Westport	864	881	897	932	N/A	N/A	N/A	N/A	N/A
Wichita	Westport Auxiliary	120	125	130	142	N/A	N/A	N/A	N/A	N/A
Wichita	Wichita Mid-Continent	168,995	195,738	226,712	304,141	167,953	177,837	186,390	200,000	52.1%
Winfield	Strother Field	6,500	6,778	7,067	7,684	5,150	5,150	5,150	5,150	49.2%
Yates Center	Yates Center	1,300	1,325	1,350	1,402	N/A	N/A	N/A	N/A	N/A
Statewide Total		1,869,175	1,977,593	2,104,453	2,387,339					

Source: Wilbur Smith Associates, FAA Terminal Area Forecasts.

CAGR: Compound Annual Growth Rate.

Bold indicates commercial service airports.

Prepared December 2008

