

EXCELSIOR SPRINGS MEMORIAL AIRPORT SYSTEM SUMMARY REPORT



In 2015, the Mid-America Regional Council (MARC) completed a regional aviation system plan (RASP) for a nine-county study area focused on the Kansas City Region. The study area included parts of both Kansas and Missouri. The RASP considered 13 general aviation airports in the study area, including the Excelsior Springs Memorial Airport. This report focuses on two important topics: individual finding and recommendations in the system plan for this facility; and various benefits the airport provides/ supports in the study area.

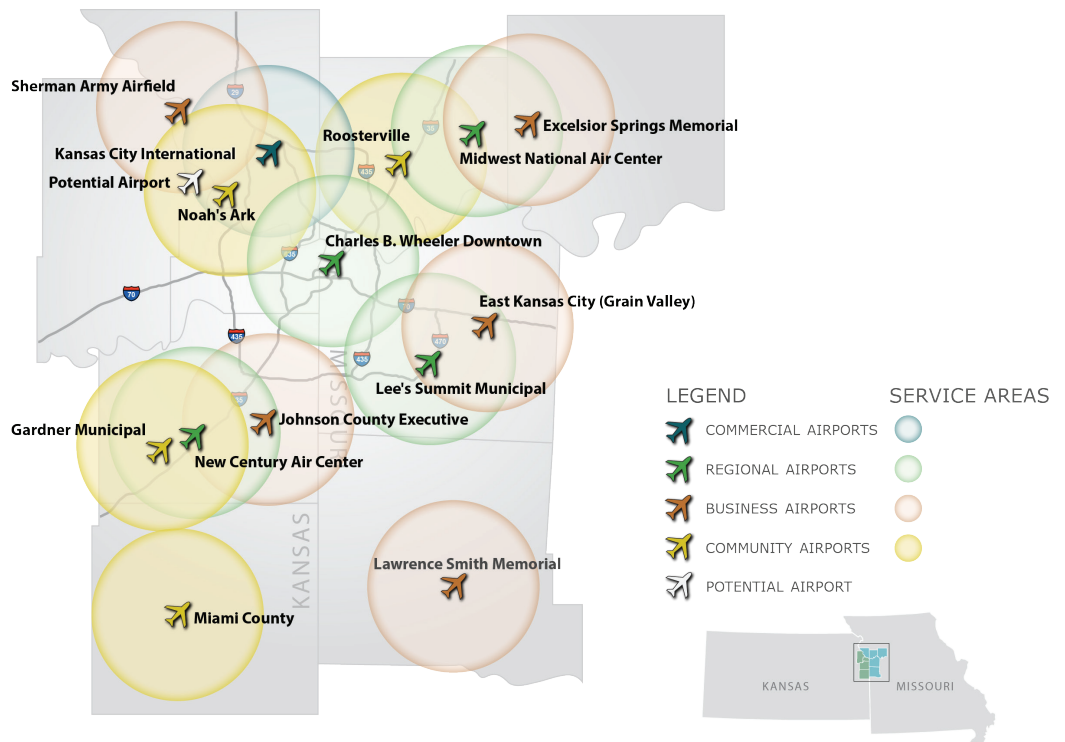
Aviation system plans are top-down studies that must still be implemented from the bottom up by individual study airports. The ultimate success of the plan depends on each airport implementing recommendations from the study and following through on any identified improvement actions. Individual airport improvements will result in the enhancement of overall system performance.

As the map below shows, within the regional system, Excelsior Springs Memorial Airport is designated as a Business Airport. Within the regional system, a Business Airport is described as follows: Business

Airports accommodate local business activities and general aviation users. The Excelsior Springs Memorial Airport is a publicly-owned; however, the airport is not included in FAA's National Plan of Integrated Airport Systems (NPIAS). The airport is included in the Missouri State Airport System.

The regional aviation system plan identified a number of projects that the airport could consider to meet facility and service objectives identified for a Business Airport. Facility objectives used in the regional system plan are based on FAA guidelines and objectives from Missouri's state aviation system plan. Since the Excelsior Springs Memorial Airport is not a federal airport, the airport is not obligated to meet federal standards, but should ideally meet state and regional facility objectives. A significant portion of the costs identified for possible improvements at the airport is associated with widening and lengthening the airport's runway and providing a parallel taxiway. Meeting the system plan's facility objectives is desirable for all study airports, but not required. It is recognized that it will be a greater challenge for non-federal airports to meet facility objectives established in the system plan.

RASP RECOMMENDED AIRPORT SYSTEM



SERVICE AREA CHARACTERISTICS

The system plan uses a 10-mile radius around each airport to examine current and future population and employment characteristics. The table below shows this information for the Excelsior Springs Memorial Airport. GIS analysis completed in the study shows that when all study airports are considered the Excelsior Springs Memorial Airport ranks in the lower third for its concentrations of both current population and employment. Between now and 2040, the rate of increase for population and employment in the 10-mile radius around the airport is expected to be average, when all system airports are considered. These factors were taken into consideration to develop projections of future aviation demand for the airport.

Population and Employment						
Airport	Role	Ownership	Total Population within Service Area (2011)	Rate of Population Growth within Service Area (2011)	Total Employment within Service Area (2011)	Rate of Employment Growth within Service Area (2011)
Excelsior Springs Memorial	Business	Public	37,240	34%	9,360	25%

FUTURE AVIATION DEMAND

Projections of aviation demand were developed for all study airports. These projections considered service area characteristics, actual historic growth, and FAA projections for the general aviation industry (as contained in FAA's most current National Aerospace Forecast).

Forecasts were developed for both based aircraft and annual operations. Annual operations reflect take-offs and landings performed not only by aircraft that are based or permanently stored at the airport, but also aircraft that are visiting or transient in nature. Projected growth for the airport considers its improved facilities and the fact that airport is expected to play an increased role in serving regional aviation demand.

Based aircraft at the airport are expected, according to RASP projections, to increase from 18 to 20, an 11 percent increase over the period. Almost all of the aircraft based at the airport are expected to be single-engine or small twin-engine planes. Annual operations are expected to increase slightly from 4,000 to 4,900 by 2035.

Projected Aviation Demand					
Excelsior Springs Memorial	2015	2020	2025	2035	2015-2035 CAGR
Forecast of Based Aircraft	18	18	19	20	11%
Forecast of Annual Operations	4,000	4,200	4,600	4,900	23%

* CAGR - Compound Average Annual Rate of Growth

Based Aircraft Fleet Mix 2035					
Airport	Single Engine	Multi Engine	Jet	Rotor	Other
Excelsior Springs Memorial	17	1	0	0	2

RASP IDENTIFIED ACTIONS AND IMPROVEMENTS

As part of the system plan, facility and service objectives were developed for each of the three airport roles: Regional, Business, and Community. The table on the next page shows the ability of current facilities and services at the Excelsior Springs Memorial Airport to meet the objectives for a Business Airport. If study analysis determined that actions were needed to improve the airport to make it fully compliant with its specific objectives, planning level cost estimates were developed for these projects. Costs by recommended improvement are shown in the table to the right.

As shown, the anticipated cost to improve the airport to meet all of its facility and service and performance measure objectives is estimated at almost \$8.3 million. The majority of this cost would be for runway lengthening and widening and for developing a parallel taxiway. The Excelsior Springs Memorial Airport is not eligible for federal funding. As a result, identified projects would need to be implemented primarily with state and local funds. In addition to facility and service needs, airports in the system plan were evaluated for their ability to meet financial, environmental, and social sustainability performance measures. Actions considered desirable to make the Excelsior Springs Memorial Airport fully compliant with all sustainability objectives follow:

- Identify on-airport properties open for aviation related development and for non-aviation development.
- Work with surrounding jurisdictions to attract aviation dependent employers to the airport environs.
- Work with surrounding municipalities to enact height zoning following Part 77.
- Work with surrounding municipalities to adopt land use controls to prevent airport encroachment.
- Develop a noise contour to identify areas surrounding to airport that lie within the contour.
- Establish a stormwater management plan.
- Conduct a wildlife hazard assessment.
- Develop a spill prevention and control plan.
- Establish a plan to promote the efficient use of water.
- Establish a plan to promote the efficient use of energy in buildings and reduce the generation of solid waste.
- Work to establish/provide ground transportation option.

EXCELSIOR SPRINGS MEMORIAL AIRPORT

SYSTEM SUMMARY REPORT

Some of these actions have an associated cost, while others do not. Any associated costs to meet sustainability performance measures are included in the airport's report card.

Excelsior Springs Memorial Airport Report Card					3EX
AIRPORT NAME: Excelsior Springs Memorial Airport			CITY: Excelsior Springs, MO		
AIRPORT CODE: 3EX			AIRPORT ROLE: Business		
Actions Needed to Meet Facility and Service Objectives					
	Actual	Minimum Objective	Compliant	Improvement Needed	Estimated Cost
ARC	A-I	B-II	No	Meet FAA design standards	*
Runway Length	2,000 feet	4,000 Feet	No	Extend runway 2,000 feet	\$2,934,750
Runway Width	47 feet	75 Feet	No	Widen runway 28 feet	\$1,101,412
Taxiway	None	Partial Parallel, Full Parallel if Justified	No	Construct full parallel taxiway	\$3,023,134
PCI	100	70 or Greater	Yes		
Navigational Aids					
Rotating Beacon	Rotating Beacon	Rotating Beacon	Yes		
Wind Sock	Lighted Wind Sock	Lighted Wind Sock/Segmented Circle	Yes		
REILs	----/----	REILs	No	Install REILs	\$66,413
VGSI	----/----	VGSI (VASIs/PAPIs)	No	Install VGSI	\$131,238
Approach Type	VOR or GPS	NPA, LPV Desired	Yes		
Lighting	NSTD LIRL	MIRL	No	Install MIRL	\$254,594
Weather	None	ASOS or AWOS Desired	Yes		
Hangar Storage	28 spaces	100% of Based Aircraft	Yes		
Apron Tie-Downs	10 spaces	20% of Busy Day Transient Aircraft	Yes		
Terminal/Admin Building	1,500 sq. ft. with Restrooms and Pilots' Lounge	1,500 square feet with Restrooms, Conference Room, and Pilots' Lounge	No	Provide designated conference room	\$75,348
Auto Parking	18 spaces	1.5 Spaces per Based Aircraft Departures on Average Day in Peak Month	Yes		
Ground Communications	Public Phone	Public Phone, WiFi and GCO/RCO or ATCT	No	Install GCO/RCO and provide WiFi	\$44,000
Services					
Fuel	AvGas	AvGas and Jet A	No	Install Jet A	\$580,800
FBO	----	Full Service	No	Provide full service FBO	*
Rental Cars	----	Available	No	Provide accessibility to rental cars	*
Additional Actions Needed to Meet System Performance Measure Objectives					
Project Description					Estimated Cost
Identify On-Airport Properties Open for Aviation Development					\$10,000
Identify On-Airport Properties Open for Non-Aviation Development					\$10,000
Develop Noise Contours					\$10,000
Develop Stormwater Management Plan					\$10,000
Wildlife Hazard Assessment/Plan					\$25,000
Spill Prevention, Control, and Countermeasure Plans					\$10,000
Energy Efficient Building Plan					\$7,500
On-Site Ground Transportation (Courtesy Car)					\$10,000
Work w/Surrounding Jurisdictions to Attract Aviation Dependent Employers to the Airport Environs					*
Work w/Surrounding Municipalities to Enact Height Zoning Following Part 77					*
Work w/Surrounding Municipalities to Adopt Land Use Controls to Prevent Airport Encroachment					*
Establish a Plan to Promote the Efficient Use of Water					*
Establish a Plan to Reduce the Generation of Solid Waste					*
Estimated RASP Project Costs					\$8,304,189

Note: * No fixed cost needed
Acronyms defined in Technical Report Glossary

AIRPORT BENEFITS

General aviation airports are often part of the infrastructure needed to attract and retain jobs and to support the vibrancy of the local and/or regional economy. General aviation airports, however, can also support other benefits. The airport has a niche in the regional system supporting hobby pilots and catering to recreational operations. Excelsior Springs Memorial Airport is home to the Northwest Missouri Chapter of the Antique Airplane Association. The Antique Airplane Association has been hosting its 'Annual BBQ & Fly-In on the River' for more than a decade, and it has been cited as one of the largest single-day fly-ins in Missouri, often with more than 70 aircraft attending. As part of a statewide study conducted by MoDOT in 2012, economic impacts of the Excelsior Springs Memorial Airport were estimated. While the data that this estimate is based on is not current, the results still help to show the airport's annual positive economic impact.

Estimated Annual Economic Impact			
Airport	Total Jobs	Total Payroll	Total Output
Excelsior Springs Memorial	4	\$114,000	\$411,000

Total annual economic impacts for the airport are attributed to one or more of the following four economic activity centers: airport management, airport tenants, average annual capital investment, and spending by visitors who arrive on general aviation aircraft. Total impacts represent both direct and indirect impacts. Indirect impacts result from re-circulating direct impacts, once the direct impacts enter the economy being studied. Indirect impacts were estimated using an input/output model. Since economic impacts are a "snapshot" in time of airport conditions that existed when the study was completed, it is likely that annual economic impacts for the airport have changed.

The Excelsior Springs Memorial Airport supports non-stop flights on general aviation aircraft to destinations around the U.S. These instrument flight rule (IFR) flights were obtained from FAA data and represent only an estimated 3 percent of all of the airport's annual operations. This map shows how the airport ties the Kansas City area to other cities around the country.

EXCELSIOR SPRINGS MEMORIAL AIRPORT PROVIDES NON-STOP FLIGHTS TO ANYWHERE!

EXCELSIOR SPRINGS MEMORIAL Airport (3EX)
IFR Flight Map | January 2014 - January 2015

LEGEND
IFR Flight Plans Completed as Filed
Reported IFR Operations: 22



USER OUTREACH

As part of the system plan, outreach was completed through an online survey to collect additional information of how the study area relies on and benefits from general aviation airports. This survey, that was advertised through a press release sent to all media outlets in the study area, enabled airport users and employers to provide input on how they use the airports.

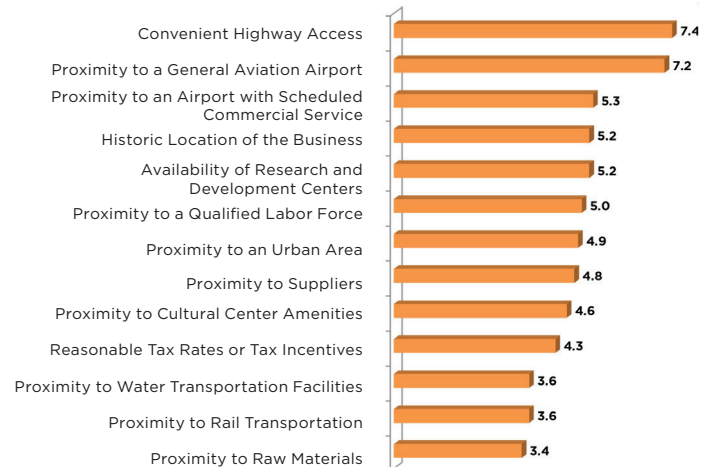
Survey responses from area employers show that the types of employers that most frequently rely on general aviation aircraft for travel and improved efficiency include:

- Government
- Professional Services
- Construction
- Retail Trade
- Health Care
- Real Estate
- Technical Support
- Finance and Insurance
- Social Services

Employer responses often indicated that more than 50 percent of their employees in the study area improve their job efficiency by using general aviation. Since this survey was geared to gather information from users/employers that benefit from general aviation, the high employee reliance is not surprising. Airports included in the regional study accommodate business aviation to varying degrees, some less than others.

For businesses that rely on general aviation, the online survey also gathered information on how important the proximity of a general aviation airport is to their business location. Again, since general aviation-dependent businesses were targeted as the respondents for this survey, the high rating given to general aviation airport proximity is not unexpected. Nevertheless, for those employers in the study area that do rely on and benefit from one of the general aviation airports, only proximity to highway access is more important to the location of their business in the nine-county study area.

IMPORTANCE OF LOCATION FACTORS TO LOCAL BUSINESSES



By improving general aviation airports in the study area, such as the Excelsior Springs Memorial Airport, the Kansas City metropolitan area will be able to continue to realize various economic benefits.