



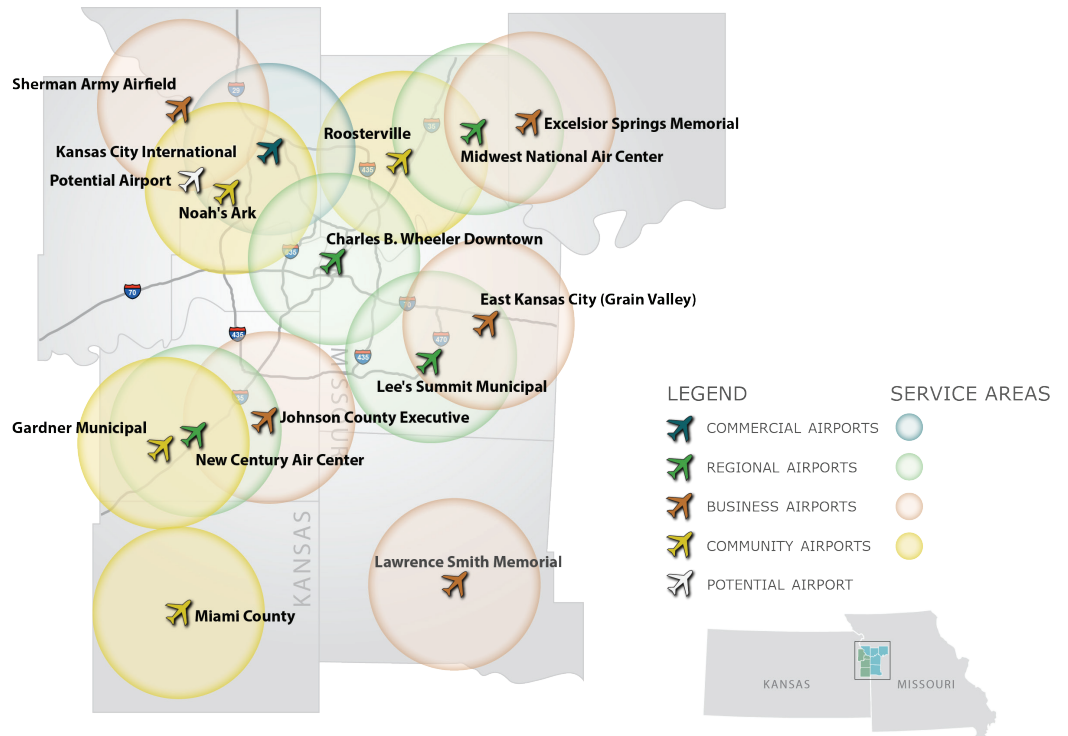
In 2015, the Mid-America Regional Council (MARC) completed a regional aviation system plan (RASP) for a nine-county study area focused on the Kansas City Region. The study area included counties in both Kansas and Missouri and considered 13 general aviation airports, including the Noah's Ark Airport. This report focuses on two important topics. It summarizes individual findings and recommendations in the plan for the airport, and it highlights benefits the airport supports within 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, a role as a Community Airport has been recommended for the Noah's Ark Airport. Within the regional system, a Community Airport is described as primarily supporting personnel and recreational flying. The Noah's Ark Airport is privately owned. The airport is not included in Missouri's State Airport System, nor is the airport included in FAA's federal airport system.

From a facilities standpoint, the Noah's Ark Airport needs improvements to its taxiway system and improvement to the condition of the pavement on its runway. While airports in the regional system — especially those that are privately owned — are not obligated to implement the recommended improvements, the projects identified in the regional plan are desirable to improve overall system performance.

### 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 Noah's Ark Airport. GIS analysis completed in the system plan shows that the Noah's Ark Airport has high concentrations of population and even higher concentrations of employment. Between now and 2040, the rate of increase for population in a 10-mile radius around the airport is expected to be higher than average for all study airports, but the rate of growth for employment in the airport's 10-mile service area is expected to be even higher.

Population and Employment						
Airport	Role	Ownership	Total Population within Service Area (2011)	Rate of Population Growth in Service Area (2011)	Total Employment within Service Area (2011)	Rate of Employment Growth within Service Area (2011)
Noah's Ark Airport	Community	Private	175,372	44%	63,379	86%

## 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.

Based aircraft at the airport are expected, according to system plan projections, to increase from 42 to 47, a 12 percent increase over the period. Aircraft based at the airport will continue to be smaller single-engine planes. Annual aircraft takeoffs and landings are expected to grow from 7,300 to 8,950.

Projected Aviation Demand					
Noah's Ark Airport	2015	2020	2025	2035	2015-2035 CAGR
Forecast of Based Aircraft	42	43	43	47	12%
Forecast of Annual Operations	7,300	7,650	8,350	8,950	23%

\* CAGR - Compound Average Annual Rate of Growth

Based Aircraft Fleet Mix 2035					
Airport	Single Engine	Multi Engine	Jet	Rotor	Other
Noah's Ark	41	0	0	0	6

## 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 to the right shows the ability of current facilities and services at the Noah's Ark Airport to meet the objectives for a Community Airport. If the system plan 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 roughly \$615,000. A significant portion of this cost is related to an improved taxiway system and an improved pavement condition on the airport's runway. The Noah's Ark Airport is not eligible for any public funding. Any development or other projects need to be accomplished with private funds. Lack of public funding may hamper the airport's ability to implement system plan recommendations.

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 needed to make the Noah's Ark Airport fully compliant with all sustainability objectives from the system plan follow:

- Identify on-airport properties open for aviation related development.
- Identify on-airport properties open for non-aviation development.
- Work with surrounding jurisdictions to attract aviation dependent employers to the airport environs.
- Work with surrounding jurisdictions to have the airport included in their Comprehensive Plans.

- 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 spill prevention and control plan.
- Establish a program to promote recycling.
- Assess economic impact.
- Improve entrance road.

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.

Noah's Ark Airport Report Card					06MO
AIRPORT NAME : Noah's Ark Airport			CITY: Waldron, MO		
AIRPORT CODE: 06MO			AIRPORT ROLE: Community		
Actions Needed to Meet Facility and Service Objectives					
	Actual	Minimum Objective	Compliant	Improvement Needed	Estimated Cost
ARC	A-I	A-I	Yes		
Runway Length	3,000 feet	Maintain Existing	Yes		
Runway Width	30 feet	NPIAS-60'; Non-NPIAS-Maintain Existing	Yes		
Taxiway	None	Turnarounds on Each Runway End	No	Construct turnarounds on each runway end	\$365,677
PCI	Unknown	70 or greater	Unknown	Conduct pavement maintenance	\$180,000
<b>Navigational Aids</b>					
Wind Cone/ Segmented Circle	----	Lighted Wind Cone/Segmented Circle	No	Install lighted wind cone/segmented circle	\$29,713
Rotating Beacon	----	Rotating Beacon Desired	Yes		
Approach Type	Visual	Visual	Yes		
Lighting	LIRL	LIRL Desired	Yes		
Weather	----	None	Yes		
Hangar Storage	45 spaces	Maintain Existing	Yes		
Apron Tie-Downs	0 spaces	Maintain Existing	Yes		
Terminal/Admin Building	600 sq. ft. with Restrooms and Pilots' Lounge	Maintain Existing	Yes		
Auto Parking	20 spaces	Maintain Existing	Yes		
Ground Communications	Public Phone, WiFi	Public Phone, WiFi GCO as needed	Yes		
<b>Services</b>					
Fuel	AvGas	AvGas, Jet A as needed	Yes		
FBO	FBO-Limited Service	FBO-Limited Service	Yes		
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
Spill Prevention, Control, and Countermeasure Plan					\$10,000
Assessment of Airport Annual Economic Impact					\$5,000
Improve Airport Entrance Road					\$5,000
Work w/Surrounding Jurisdictions to have the Airport included in their Comprehensive Plans					*
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 Program to Promote Recycling					*
<b>Estimated RASP Project Costs</b>					<b>\$615,390</b>

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.

There are many types of activities that people pursue as hobbies or for recreation. Flying is one of these activities. The Noah's Ark Airport is one airport in regional system that is available to support recreational flying for hobbyists and aviation enthusiasts. It is not possible to put an actual dollar value on benefits that area residents receive from any form of recreation, but there are obvious benefits from a relaxation and enjoyment standpoint. The Noah's Ark Airport contributes to supporting these positive benefits.

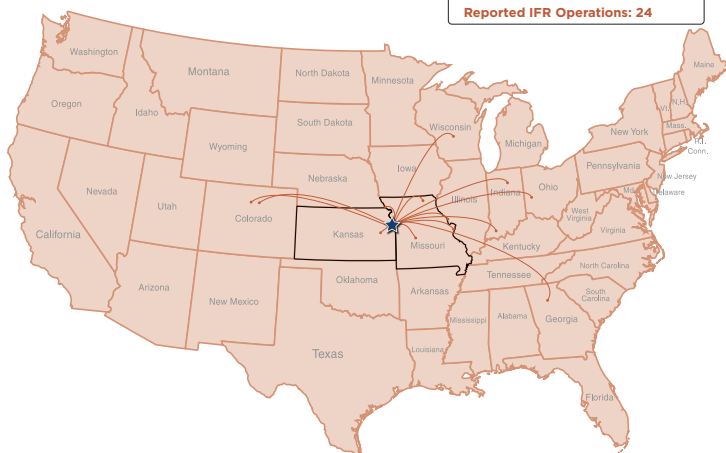
The Noah's Ark Airport is a hot spot for skydiving. The airport is home to the premier Falcon Skydiving Team; which offers tandem skydiving as well as providing certification for skydivers.

The accompanying map shows how the Noah's Ark 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.

### NOAH'S ARK AIRPORT PROVIDES NON-STOP FLIGHTS TO ANYWHERE!

**NOAH'S ARK AIRPORT (06MO)**  
IFR Flight Map | January 2014 - January 2015

**LEGEND**  
IFR Flight Plans Completed as Filed  
**Reported IFR Operations: 24**



## USER OUTREACH

To a lesser extent, the airport also supports the needs of some area and visiting businesses. As part of the system plan, outreach was completed through an online survey to collect information that enabled airport users and employers to provide input on how they use the general aviation airports in the region.

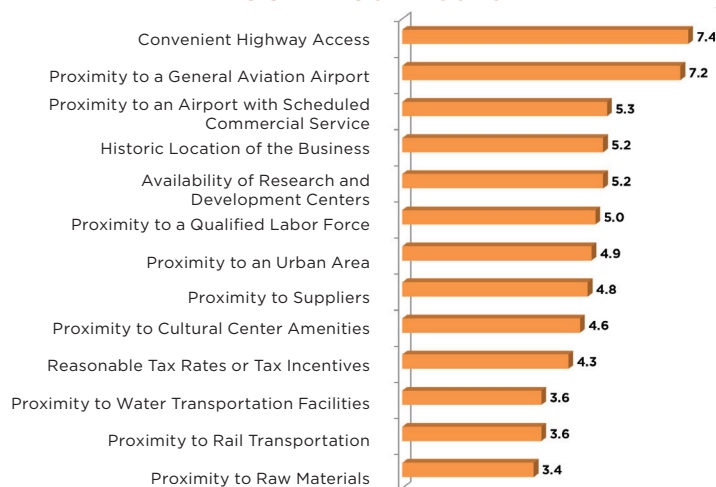
Survey responses from area employers show that the types of employers that most frequently rely on general aviation aircraft for travel and improved efficiency include:

- Government
- Professional Services
- Construction
- Retail Trade
- Healthcare
- 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.

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 Noah's Ark Airport, the Kansas City metropolitan area will be able to continue to realize economic and other benefits.