FEBRUARY 2019

MISSOURI

STATE AIRPORT SYSTEM PLAN UPDATE

Individual Airport Report

MoDOT

RICHLAND MUNICIPAL AIRPORT

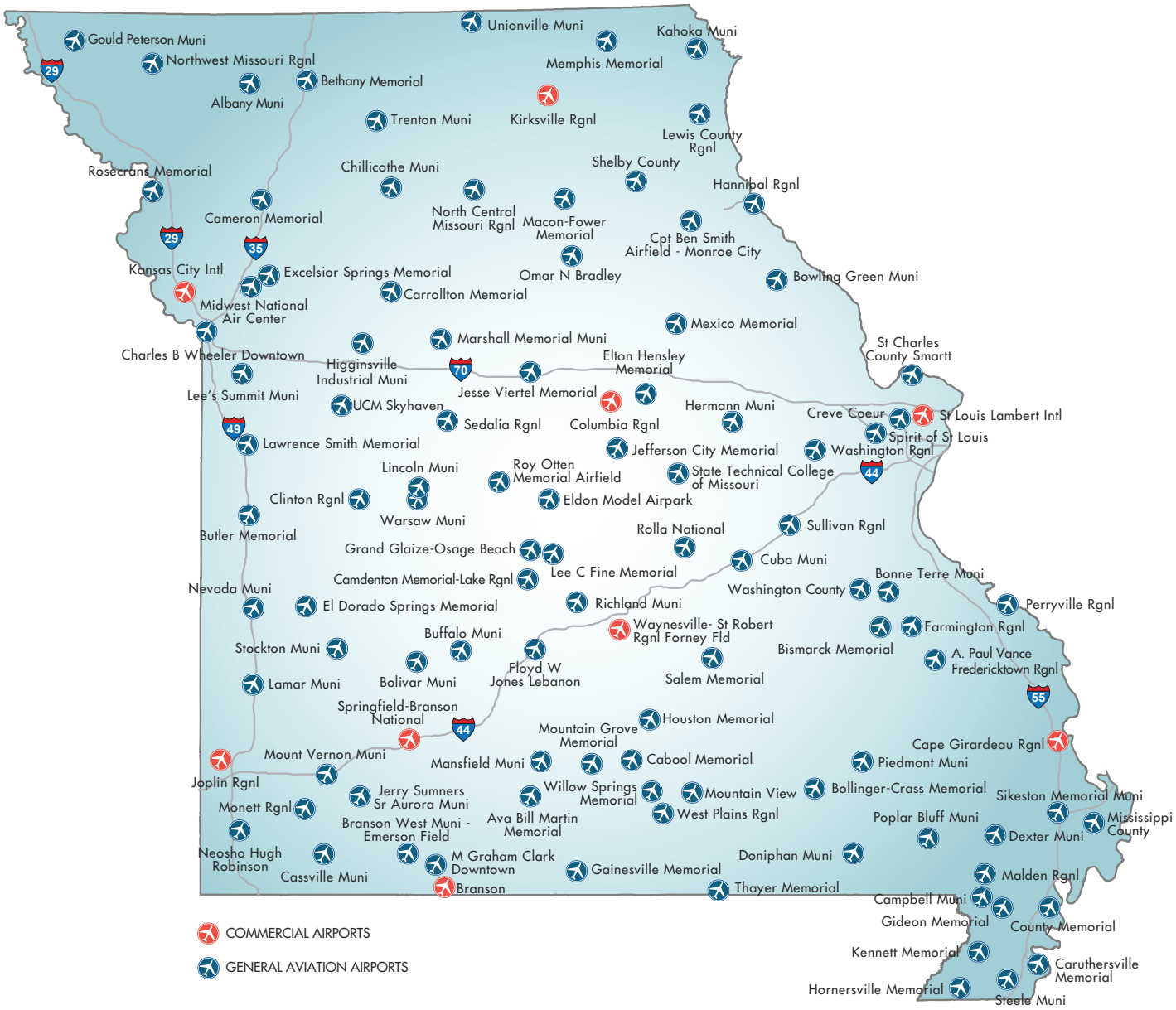
OVERVIEW

The Aviation Section of the Missouri Department of Transportation recently completed an update to the Missouri State Airport System Plan. This report provides a summary of statewide findings and highlights study results as they pertain specifically to Richland Municipal Airport. This summary provides the following:

- System planning process
- Recommended state airport roles
- Recommended role for Richland Municipal Airport
- Outlook for general aviation demand
- Airport facility/service objectives
- Airport report card

EXISTING MISSOURI AIRPORT SYSTEM

In addition to this airport-specific summary report, a Technical Report, a Fact Sheet, and a statewide Executive Summary were also produced. These documents can be provided by MoDOT's Aviation Section upon request, or can be downloaded from MoDOT's website: https://www.modot.org/aviation-general-information.

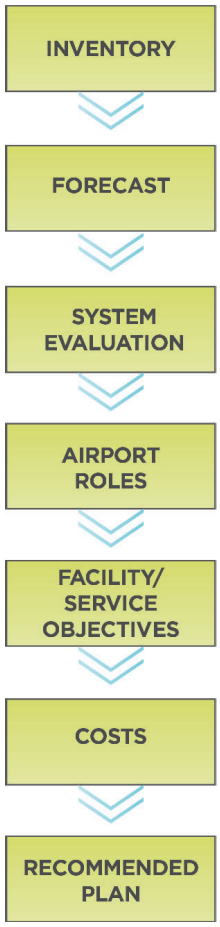


THE SYSTEM PLANNING PROCESS

The process used to update Missouri's State Airport System Plan followed the Federal Aviation Administration's (FAA's) *Advisory Circular 150/5070-7 - The System Planning Process*. The System Plan is important because it enables the Aviation Section to gather information on current activity, facilities, and services at the 107 airports included in the state airport system. While the state airport system includes 107 public-use airports, there are other private-use airports in Missouri. The private-use airports were not included in the System Plan.

Missouri's State Airport System Plan is an important planning document; recommendations in the state study should be considered as individual airport master plans are prepared. In addition, the state study provides important information to the FAA that feeds into the National Plan of Integrated Airport Systems (NPIAS). The general process followed to conduct the update to Missouri's Airport System Plan is shown to the right.

Ultimately, recommendations for Richland Municipal Airport, presented in this report, are a blend of projects/actions identified by the System Plan, initiatives that are included in the Airport's most current Capital Improvement Plan (CIP), and projects related to pavement maintenance and rehabilitation from Missouri's Statewide Pavement Management Plan. By considering all three, a more holistic view of the Airport's near-term development and investment needs is achieved.



MISSOURI STATE AIRPORT ROLES

Missouri's State Airport System Plan was last published in 2002. Since that time, the aviation industry has changed, Missouri airports have changed, and the communities that the airports serve have changed. The update provides the opportunity to set the bar for future system performance. Working with the System Plan's Project Advisory Committee (PAC), recommended roles for all 107 airports included in the Missouri system were identified. Using information on FAA airport roles, based aircraft, anticipated population and employment growth, runway lengths, operational fleet mix, and airport/community characteristics and circumstances, the PAC assigned all system airports to one of the roles shown in the table below.

COMMERCIAL

Commercial airports accommodate scheduled commercial airline flights and a high level of general aviation activity. Airports in this role provide access to the national and global economies. Commercial airports should have a minimum runway length of 6,000 feet.

NATIONAL BUSINESS

The National Business role is a new category for Missouri airports. National Business airports serve almost all business jets and connect Missouri with all domestic and some international markets. National Business airports should have a minimum runway length of 5,500 feet.

REGIONAL BUSINESS

Regional Business airports focus on serving business activity, including many small jet and multi-engine general aviation aircraft. Regional Business airports should have a minimum runway length of 5,000 feet.

BUSINESS COMMUNITY

Business Community airports focus on providing aviation access for small business, recreational, and personal flying activities throughout Missouri and contribute to supporting community economies. Business Community airports should have a minimum runway length of 4,000 feet.

COMMUNITY LOCAL

Community Local airports are important to the communities they serve. These airports primarily serve recreational and personal flying activities and support the local economy. The objective for airports in this role is to maintain the airport's existing runway length.

RECOMMENDED ROLE FOR RICHLAND MUNICIPAL AIRPORT

Each airport's role in the state airport system generally reflects the type of aircraft/customers the airport serves and the characteristics of the airport's service area. The recommended role for Richland Municipal Airport in the state airport system is Community Local.

As a Community Local airport, the System Plan has identified certain facilities and services that should ideally be in place at the Airport. These objectives are considered the minimum to which the Airport should be developed. Based on local needs/justification, it is quite possible that an airport could exceed its minimum development objectives. It is also worth noting that any recommendations for the Airport identified as part of the System Plan need to be substantiated/supported through a local master planning effort and supporting environmental analysis, as applicable. Inclusion of a project in the System Plan does not necessarily signal MoDOT or FAA acceptance of or funding for the project. Richland Municipal Airport's specific objectives, as they pertain to the Airport's recommended role in the state airport system, are listed below.

OBJECTIVES FOR MISSOURI COMMUNITY LOCAL AIRPORTS

AIRSIDE FACILITIES:	
Airport Reference Code:	A-I
Runway length:	Maintain existing length
Runway width:	60' for NPIAS Airports; maintain existing at Non-NPIAS Airports
Taxiway:	Turnaround at both ends
Lighting systems:	MIRL or LIRL*
Approach:	Visual
NAVAIDS/visual aids:	Rotating beacon, segmented circle, and wind cone
Weather reporting:	Not an objective
GENERAL AVIATION FACILITIES:	
Hangared aircraft storage:	Maintain existing
Apron parking/storage:	Maintain existing
Terminal/administration:	Maintain existing square footage of public use space including restrooms, conference area, and pilots' lounge
Auto parking:	Maintain existing
SERVICES:	
Fuel:	AvGas
FBO:	Not an objective
Aircraft maintenance:	Not an objective
Rental car access:	Not an objective
Ground transportation services:	Not an objective

**New runway lighting projects for Community Local Airports must be MIRLs*

OUTLOOK FOR AVIATION DEMAND

While most development objectives for Richland Municipal Airport are driven by role, rather than demand, it is still important to have a general sense of how activity (based general aviation aircraft and annual operations) at the Airport could change in the coming years. The following table shows forecasts for the Airport developed as part of the System Plan. It is worth noting that demand projections developed as part of a State Airport System Plan tend to be far more conservative than forecasts developed as part of an individual Airport Master Plan or Airport Layout Plan report.

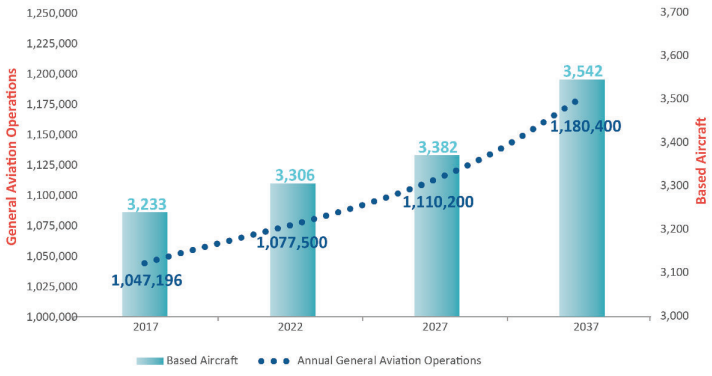
RICHLAND MUNICIPAL AIRPORT FORECASTS OF AVIATION DEMAND

	Based Aircraft	Annual General Aviation Operations
2017 Actual	0	320
2022	0	320
2027	0	320
2037	0	330

Source: 2018 Missouri State Airport System Plan

The forecasts developed for the System Plan generally parallel rates of growth that the FAA anticipates for general aviation on a national basis. The graph below shows statewide projections of based aircraft and annual general aviation operations for the 107 study airports as they were developed in the update to the State Airport System Plan.

STATEWIDE PROJECTIONS OF BASED AIRCRAFT & ANNUAL GENERAL AVIATION OPERATIONS



MISSOURI AIRPORTS PROVIDE ECONOMIC SUPPORT

Missouri airports are important economic engines for the communities they serve. Airports support local and visiting businesses, and airports bring visitors to Missouri for vacation and leisure trips to visit friends and family. In 2012, MoDOT's Aviation Section conducted a statewide economic impact study to measure the annual benefit of each airport. Excluding the significant economic impacts associated with the major commercial airports serving Kansas City and St. Louis, all other commercial and general aviation airports included in Missouri's statewide study support an estimated 14,910 jobs; $543.7 million in annual payroll; and $1.5 billion in total annual output.

Since development costs for all projects at St. Louis Lambert and Kansas City International airports are not reflected in the System Plan, the annual economic impact of the two major commercial airports was not included. When this economic impact is considered, the annual total increases from $1.5 billion to $11.1 billion.

AIRPORT REPORT CARD & RECOMMENDATIONS

This report provides information on facility/service objectives associated with a Community Local airport in the state airport system. The report card on the following pages shows the Airport's ability to meet its objectives. If the Airport does not meet an objective, an estimated cost to enable the Airport to meet the objective was developed. The System Plan also reviewed the Airport's current Capital Improvement Plan (CIP), as submitted to MoDOT. The Airport's CIP was compared to projects recommended by the System Plan to determine if there were any duplications; duplicate projects were removed.

MoDOT also has a Pavement Management Plan for most system airports; this plan was last updated in 2018. Pavement projects that have not yet been completed are also shown in the Airport's report card. The Airport's pavement projects were compared to the projects from the state plan and the Airport's CIP to avoid duplication. It is likely that the Airport will continue to identify development, maintenance, and rehabilitation needs not currently identified in their report card.

AREAS OF FINANCIAL NEED TO MAINTAIN & IMPROVE THE MISSOURI AIRPORT SYSTEM

The accompanying graph shows the various sources for the estimated financial need to maintain and improve airports in the Missouri system.

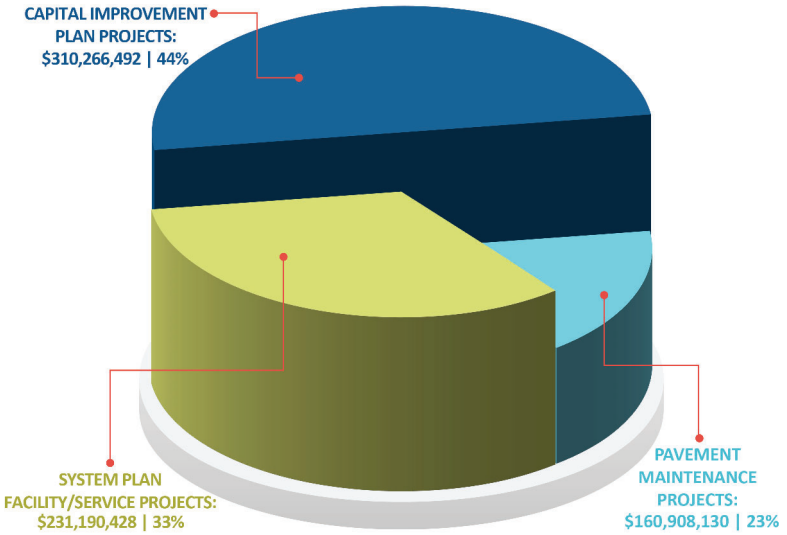
When all System Plan, CIP, and pavement management projects are considered, it is estimated that statewide, a total of $702 million will be needed over the next five years to fully respond to needs as they are known at this time. This results in an average annual statewide need of $140 million in each of the next five years.

The System Plan has estimated that over the next five years, the Richland Municipal Airport could need an estimated $100,000 to address system plan objectives, CIP projects, and pavement maintenance needs. This equates to an average annual need of $20,000 in each of the next five years. Ideally, as Missouri airports are improved, their benefit to the communities they serve increases. Airports are important to attracting and retaining economic development. Investing in airport infrastructure can help with business retention and attraction, making airports worth the investment.

The Airport's report card from the System Plan follows.

EXISTING AIRPORT FACILITIES FOR RICHLAND MUNICIPAL AIRPORT

COMBINED STATEWIDE 5-YEAR DEVELOPMENT COSTS (BY PLAN): ***$702,365,050***



CIP costs captured in the System Plan generally do not reflect those of the Commercial airports, unless there is a potential for the CIP project to be funded through the state's Aviation Trust Fund. Commercial airports and their pavement maintenance needs are not included in the state's Pavement Management Plan; however, the graph above reflects pavement maintenance projects for some Commercial airports if these projects were part of a CIP submitted to MoDOT.

RICHLAND MUNICIPAL AIRPORT REPORT CARD

AIRPORT NAME: Richland Municipal | **CITY:** Richland

AIRPORT CODE: MO1

ACTIONS NEEDED TO MEET FACILITY AND SERVICE OBJECTIVES

Facility Type	Minimum Objective	Actual	Compliance	Action Needed to Meet Criteria	Estimated Cost
ARC	A-I	A-I	Yes		$-
Runway Length (feet)	Maintain existing length	3,000	N/A		$-
Runway Width (feet)	60' for NPIAS airports; Maintain existing at non-NPIAS airports	60	Yes		$-
Taxiway System	Turnarounds both ends	Stub(s), Both Runway Ends	Yes		$-
NAVAIDS					
Rotating Beacon	Yes	No	No	Install rotating beacon	$100,000
Lighting Wind Cone	Yes	Lighted wind cone	Yes		$-
Segmented Circle	Yes	Yes	Yes		$-
REILS	Not an objective	N/N	N/A		$-
VGSI (PAPI/VASI)	Not an objective	None	N/A		$-
Approach	Visual	Visual	Yes		$-
Lighting					
Runway Lighting	MIRL/LIRL*	LIRL	Yes		$-
Taxiway Lighting	Not an objective	None	N/A		$-
Approach Lighting System	Not an objective	None	N/A		$-
Weather	Not an objective	HIWAS	N/A		$-
Hangar Storage	Maintain existing	2	N/A		$-
Tie Downs	Maintain existing	2	N/A		$-
GA Admin Building					
Building Area (Sq. Ft.)	Maintain existing	0	N/A		$-
Public Restroom	Maintain existing	No	N/A		$-
Conference Room	Maintain existing	No	N/A		$-
Pilot Lounge	Maintain existing	No	N/A		$-
GA Auto Parking	Maintain existing	8	N/A		$-
Ground Communications	Public phone	No	No	Provide public phone	$-
Services					
Jet Fuel	Not an objective	No	N/A		$-
AvGas	Yes	Yes	Yes		$-
FBO	Not an objective	No	N/A		$-
Aircraft Maintenance	Not an objective	No	N/A		$-
Rental Cars	Not an objective	Yes	N/A		$-
Transportation	Not an objective	No	N/A		$-

Estimated SASP Facility/Service Project Costs: $100,000

**New runway lighting projects for Community Local Airports must be MIRLs*

CAPITAL IMPROVEMENT PLAN (CIP) PROJECTS PLANNED

Project Type	Project Description	Estimated Cost
None		
Estimated CIP Project Costs		**$-**

MAJOR PAVEMENT MAINTENANCE PROJECTS PLANNED

Project Type	Project Description	Estimated Cost
None		
Estimated Pavement Project Costs		**$-**
Total Estimated Project Costs		**$100,000**

System plan project costs are developed to a planning, not engineering, level of detail. System plan costs are based on typical Missouri unit costs, but airport conditions may cause these costs to vary. Furthermore, bids received may be different from plan estimates. CIP projects in the report card have not been vetted, prioritized, or approved by MoDOT or FAA. A project's inclusion in the report card does not mean that either MoDOT or FAA has approved or committed funds to the project. Some projects will require additional study to justify the need/feasibility of the project, and some projects could require environmental and airspace analysis.

MoDOT

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GLOSSARY OF TERMS

Airport Reference Code (ARC)	A coding system used to relate the airport design criteria to the operational and physical characteristics of the airplanes intended to use the airport or the critical aircraft. It is a two-character code consisting of the Aircraft Approach Category and the Airplane Design Group.
Automated Surface Observation System (ASOS)	Similar data reporting as an AWOS, but usually owned and maintained by the National Weather Service.
Automated Weather Observation System (AWOS)	An automated sensor suite which is voice synthesized to provide a weather report that can be transmitted via VHF radio, NDB, or VOR ensuring that pilots on approach have up-to-date airport weather for safe and efficient aviation operations. Most AWOS observe and record temperature and dew point in degrees Celsius, wind speed and direction in knots, visibility, cloud coverage and ceiling up to 12,000 feet, freezing rain, thunderstorm (lightning), and altimeter setting.
AVGAS	Aviation fuel (gasoline) used for aircraft with internal-combustion engines. The most common Avgas is currently 100LL (Low Lead).
Fixed Base Operation or Fixed Base Operator (FBO)	A business enterprise located on the airport property that provides services to pilots including aircraft rental, training, fueling, maintenance, parking, and the sale of pilot supplies.
General Aviation (GA)	The segment of aviation that encompasses all aspects of civil aviation except certified air carriers and other commercial operators, such as air freight carriers.
Instrument Landing System (ILS)	A precise ground-based navigation system for aircraft that provides precision guidance to an aircraft approaching a runway. It uses a combination of radio signals and, in many cases, high-intensity lighting arrays to enable a safe landing during instrument meteorological conditions.
Localizer Performance With Vertical Guidance (LPV)	An instrument approach procedure that uses wide area augmentation system (WAAS) and very precise GPS capabilities to attain an airplane's position. Although it does provide vertical guidance and can provide minimums consistent with an ILS, an LPV is considered to be a non-precision approach.
Medium Intensity Runway Lights (MIRL)	Runway edge lights are used to outline the edges of runways during periods of darkness or restricted visibility conditions. These light systems are classified according to the intensity or brightness they are capable of producing: High Intensity, Medium Intensity, and Low Intensity. Medium Intensity Runway Lights represent the system typically utilized at most general aviation airports.
Medium Intensity Taxiway Lights (MITL)	Taxiway edge lights are used to outline the edges of taxiways during periods of darkness or restricted visibility conditions. These light systems are classified according to the intensity or brightness they are capable of producing: High Intensity, Medium Intensity, and Low Intensity. Medium Intensity Taxiway Lights represent the system typically utilized at most general aviation airports.
Precision Approach Path Indicator (PAPI)	A path indicator that uses a single row of lights arranged to provide precision descent guidance information during approach to a runway.
Runway End Identifier Lights (REIL)	Provides rapid and positive identification of the approach end of a particular runway. The system consists of a pair of synchronized flashing lights, one on each side of the runway threshold.
Visual Approach Slope Indicator (VASI)	A system of lights arranged to provide vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams.
Visual Glide Slope Indicator (VGSI)	A ground device that uses lights to assist a pilot in landing an airplane at an airport. The lights define a vertical approach path during the final approach to a runway and can help the pilot determine if the airplane is too high or too low for an optimum landing.