GREATER KANSAS CITY
REGIONAL AVIATION SYSTEM PLAN

CHARLES B. WHEELER DOWNTOWN 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 counties in both Kansas and Missouri and considered 13 general aviation airports, including the Charles B. Wheeler Downtown 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.

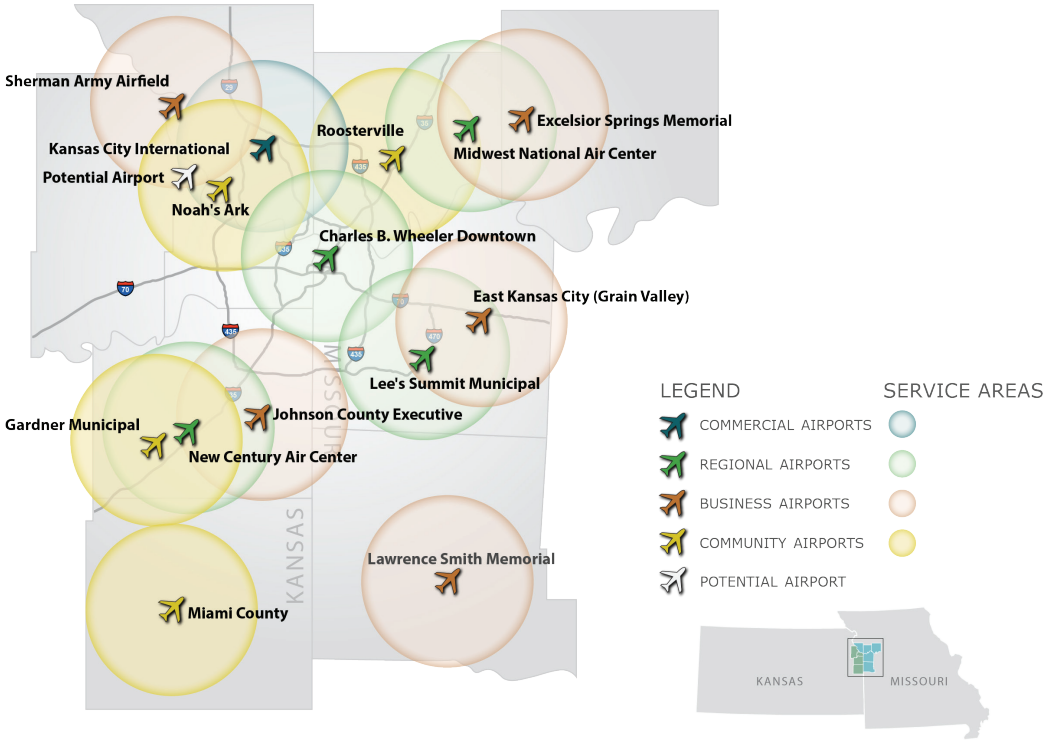
Aviation system plans are top down studies that must still be implemented from the bottom up by individual study airports. The ultimate success of the plan depends on each airport implementing recommendations from the study and following through on any identified improvement actions. Individual airport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

As the map below shows, within the regional system, Charles B. Wheeler Downtown Airport has been designated as a Regional Airport. Within the system plan, a Regional Airport is described as one that accommodate a wide range of general aviation users and support regional economic activities. In the case of the Charles B. Wheeler Downtown Airport, the airport accommodates a wide range of business jet aircraft that are capable of flying to any destination in the U.S.

Some, but not all of the study airports also have federal role definitions from the FAA as part of their ASSET Study. Within the national airport system, the Charles B. Wheeler Downtown Airport has been designated as a National Airport. This FAA designation indicates that the airport not only has regional, but also national significance.

Charles B. Wheeler Downtown Airport serves as the primary alternative to Kansas City International for larger general aviation aircraft and business jets needing access to the downtown Kansas City area. The airport system map shows the airport's proximity to the downtown area. While the airport has sufficient operational capacity, its ability to expand for the development of additional hangars to serve either based or visiting aircraft is somewhat constrained. When the current VOR is decommissioned, additional space for hangar development will be available.

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 Charles B. Wheeler Downtown Airport. GIS analysis completed in the system plan shows that the Charles B. Wheeler Downtown Airport has the highest concentrations for both current population and employment. However, between now and 2040, the rate of increase for both population and employment in the 10-mile radius is expected to be the lowest among all system plan airports.

Population and Employment						
Airport	Role	Ownership	Total Population within Service Area (2011)	Rate of Population Growth within Service Area (2010 - 2040)	Total Employment within Service Area (2011)	Rate of Employment Growth within Service Area (2010 - 2040)
Charles B. Wheeler Downtown Airport	Regional	Public	627,933	8%	364,461	11%

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 takeoffs and landings performed by aircraft that are based or permanently stored at the airport and aircraft that are visiting or transient in nature. Because of its proximity to downtown Kansas City, the airport attracts a high percentage of visiting general aviation aircraft operations.

As the table below shows, the number of based aircraft reported at the airport in 2015 was lower than it was in 2000. Part of this change is undoubtedly related to FAA changes for reporting/counting based aircraft, rather than to an actual decline in the number of planes based at the airport. Perhaps most importantly, between 2010 and 2015 the airport shows a 4.6 percent increase in based aircraft.

Based aircraft at the airport are expected, according to the system plan projections, to increase from 237 to 264, an 11 percent increase over the period. Single-engine planes at the airport are expected to actually decrease between 2015 and 2035, from 91 to 115. But, based jet aircraft are expected to grow from their current level of 53 to 88 by the end of the planning period.

Historic Changes in Based Aircraft								
					2000-2015		2010-2015	
Airport	2000	2005	2010	2015	Change	CAGR	Change	CAGR
Charles B. Wheeler Downtown Airport	296	206	189	237	-59	-1.5%	48	4.6%

** CAGR - Compound Average Annual Rate of Growth*

Projected Aviation Demand					
Charles B. Wheeler Downtown Airport	2015	2020	2025	2035	2015-2035 CAGR
Forecast of Based Aircraft	237	240	245	264	11%
Forecast of Annual Operations	70,200	73,200	79,600	85,600	22%

Based Aircraft Fleet Mix 2035					
Airport	Single Engine	Multi Engine	Jet	Rotor	Other
Charles B. Wheeler Downtown Airport	91	72	88	13	0

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 Charles B. Wheeler Downtown Airport to meet the objectives as a Regional 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. It is quite likely that the airport will have development needs that have not been identified by the system plan's higher level of analysis.

As shown, the anticipated cost to improve the airport to meet all of its facility, service and performance measure objectives is

estimated at roughly $3,6 million. The Charles B. Wheeler Downtown Airport is eligible for local Enterprise Funds, MoDOT state funds, and federal funding from the FAA to address most identified improvement costs.

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 Charles B. Wheeler Downtown Airport fully compliant with all sustainability objectives include:

- Working with surrounding municipalities to enact height zoning following Part 77.
- Establishing a storm-water management plan.
- Creating a plan to promote the efficient use of water.
- Establishing a plan to promote the efficient use of energy in buildings.
- Developing a plan to reduce the generation of solid waste.

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

Charles B. Wheeler Downtown Airport Report Card					**MKC**
AIRPORT NAME: Charles B. Wheeler Downtown Airport		**CITY:** Kansas City, MO			
AIRPORT CODE: MKC		**AIRPORT ROLE:** Regional			
Actions Needed to Meet Facility and Service Objectives					
	Actual	**Minimum Objective**	**Compliant**	**Improvement Needed**	**Estimated Cost**
ARC	D-IV	B-II	Yes		
Runway Length	6,827 feet	5,000 Feet	Yes		
Runway Width	150 feet	75 - 100 Feet	Yes		
Taxiway	Full Parallel	Full Parallel	Yes		
PCI	93	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	REILs	Yes		
VGSI	VASI/PAPI	VGSI (VASIs/PAPIs)	Yes		
Approach Type	ILS	APV	Yes		
Lighting	HIRL w/MALSF	MIRL/MITL with ALS; HIRL/HITL Desired	Yes		
Weather	ASOS	ASOS or AWOS	Yes		
Hangar Storage	226 spaces	100% of Based Aircraft	No	38 Additional Hangar Spaces	$3,566,776
Apron Tie-Downs	50 spaces	20% of Busy Day Transient Aircraft	Yes		
Terminal/Admin Building	2,500 sq. ft. with Restrooms, Conference Room, and Pilots' Lounge	2,500 square feet with Restrooms, Conference Room, and Pilots' Lounge	Yes		
Auto Parking	1,420 spaces paved/100 spaces unpaved	1.5 Spaces per Based Aircraft Departures on Average Day in Peak Month	Yes		
Ground Communications	Public Phone, WiFi GCO	Public Phone, GCO	Yes		
Services					
Fuel	AvGas and Jet A	AvGas and Jet A	Yes		
FBO	Full Service	Full Service	Yes		
Maintenance	Full Service	Full Service	Yes		
Rental Cars	Rental Cars	Available	Yes		

Additional Actions Needed to Meet System Performance Measure Objectives	
Project Description	Estimated Cost
Stormwater Management Plan	$10,000
Energy Efficient Building Plan	$10,000
Work w/Surrounding Municipalities to Enact Height Zoning Following Part 77	*
Establish Plan to Promote the Efficient Use of Water	*
Establish Plan to Reduce the Generation of Solid Waste	*
Estimated RASP Project Costs	**$3,586,776**

Note: 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.

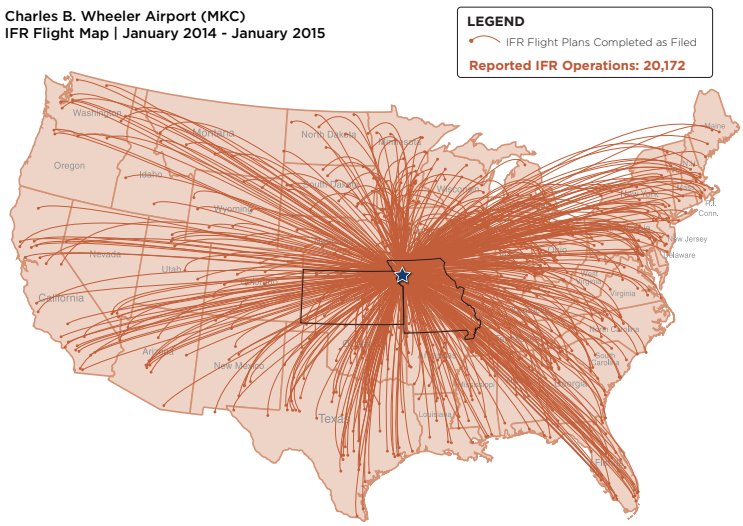
As part of a prior statewide study conducted by MoDOT (completed in 2012), the positive annual economic impacts of the Charles B. Wheeler Downtown Airport were estimated. While the data is not current, the results still help to show the airport's annual positive economic impact.

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 the re-recirculating direct impacts, once the direct impacts enter the economy being studied. Indirect impacts are estimated using an input/output model. Total impacts for the airport, shown here, are the sum of direct and indirect impacts. Since economic impacts are a "snapshot" in time of airport conditions when the study was completed, it is possible that annual economic impacts for the airport have changed.

Estimated Annual Economic Impact			
Airport	Total Jobs	Total Payroll	Total Output
Charles B. Wheeler Downtown	692	$29,373,000	$83,733,000

The map below shows how Charles B. Wheeler Downtown Airport supports nonstop flights on general aviation aircraft to many 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.

CHARLES B. WHEELER DOWNTOWN AIRPORT PROVIDES NON-STOP FLIGHTS TO ANYWHERE!



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:

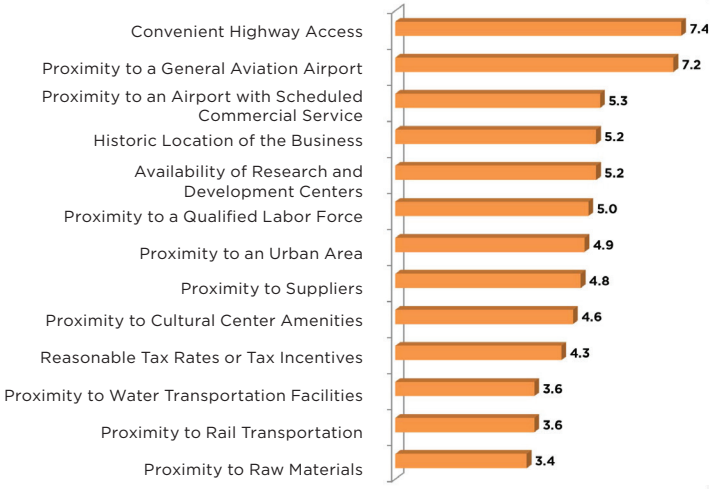
Survey responses from area employers show that the types of employers that most frequently rely on general aviation aircraft for travel and improved efficiency include.

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

Employer responses 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 who 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 Charles B. Wheeler Downtown Airport, the Kansas City metropolitan area will be able to continue to realize economic and other benefits.

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