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.
THE PROGRESS REPORT OF THE CHARLES B. WHEELER DOWNTOWN AIRPORT

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.

<table>
<thead>
<tr>
<th>Airport Role Ownership</th>
<th>Total Population within Service Area (2011)</th>
<th>Rate of Population Growth within Service Area (2010 - 2040)</th>
<th>Total Employment within Service Area (2011)</th>
<th>Rate of Employment Growth within Service Area (2010 - 2040)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles B. Wheeler Downtown Airport</td>
<td>627,933</td>
<td>8%</td>
<td>364,461</td>
<td>11%</td>
</tr>
</tbody>
</table>

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.

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

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* CAGR - Compound Average Annual Rate of Growth

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**Historic Changes in Based Aircraft**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles B. Wheeler Downtown Airport</td>
<td>296</td>
<td>206</td>
<td>189</td>
<td>237</td>
<td>-59</td>
<td>-1.5%</td>
<td>48</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

**Projected Aviation Demand**

<table>
<thead>
<tr>
<th>Airport</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2035</th>
<th>2015-2035 CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Based Aircraft Operations</td>
<td>237</td>
<td>240</td>
<td>245</td>
<td>264</td>
<td>11%</td>
</tr>
<tr>
<td>Annual Operations</td>
<td>70,200</td>
<td>73,200</td>
<td>79,600</td>
<td>85,600</td>
<td>22%</td>
</tr>
</tbody>
</table>

**Based Aircraft Fleet Mix 2035**

<table>
<thead>
<tr>
<th>Airport</th>
<th>Single Engine</th>
<th>Multi Engine</th>
<th>Jet</th>
<th>Rotor</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles B. Wheeler Downtown Airport</td>
<td>91</td>
<td>72</td>
<td>88</td>
<td>13</td>
<td>0</td>
</tr>
</tbody>
</table>
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.

### Additional Actions Needed to Meet System Performance Measure Objectives

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stormwater Management Plan</td>
<td>$10,000</td>
</tr>
<tr>
<td>Energy Efficient Building Plan</td>
<td>$10,000</td>
</tr>
<tr>
<td>Work w/Surrounding Municipalities to Enact Height Zoning Following Part 77</td>
<td>*</td>
</tr>
<tr>
<td>Establish Plan to Promote the Efficient Use of Water</td>
<td>*</td>
</tr>
<tr>
<td>Establish Plan to Reduce the Generation of Solid Waste</td>
<td>*</td>
</tr>
</tbody>
</table>

\[Estimated \ RASP \ Project \ Costs: \$3,586,776\]
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.