Master Plan Public Webinar

Mobile Downtown Airport
August 4, 2020
Welcome

- Mary Mullins Redditt, Outreach Coordinator and Webinar Facilitator
  - Info@maamasterplan.com (include who you are)

- Meeting agenda and Zoom logistics
  - One and one-half hours, Webinar format
  - Mobile Airport Authority Staff and Consultant Planning Team Members

- Feedback
  - Maamasterplan.com
  - Click on “feedback” tab
Opening Remarks

- By Mobile Airport Authority President Chris Curry
Master Plan Video

Video available at http://www.mobairport.com/masterplan/
Background

- Airport Master Plan is a concept for long-term development

- Airport master plans are prepared to support the modernization or expansion of existing airports or the creation of a new airport

- The master plan is the sponsor’s strategy for the development of the airport

- The goal is to guide future airport development that will cost-effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts
Master Plan Products and Outcomes

PRODUCTS

- Ultimate land use plan for the airport
- Sound and comprehensive development plan
  - Schedule (Planning Activity Level)
  - Capital improvement plan
- Business and financial plan
- Airport layout plan

OUTCOMES

- Stakeholder / community consensus
- Coordination with regional plans
- Foundation for ensuing efforts
  - Federal Aviation Administration (FAA) approvals
  - National Environmental Policy Act (NEPA)
  - Others as required
Agenda

- Aviation Demand Forecasts
- Facility Requirements
- Key Airport Facilities
  - Passenger Terminal and Landside (Ground Transportation and Parking)
  - Airport and Airline Support (Air Traffic Control Facility, Aircraft Rescue and Firefighting Facility, Multi-Use Aviation Area)
  - On-Airport Land Use Opportunities
  - Airfield
- On-Airport Development Plan
- Environmental Overview
- Crepe Myrtle Trail Assessment
Aviation Demand Forecasts
Aviation Demand Forecasts

- Report completed and approved by the FAA

- Forecasts future enplanements and aircraft operations (incl. passenger airline, cargo, general aviation, military) through 2040

- Does not take into account impact to the aviation industry caused by COVID-19
  - No guidance yet from the FAA; actual future aeronautical activity will likely be less than forecast until the aviation industry recovers to pre-pandemic levels

- Forecasts are presented in planning activity levels (PALs)
  - Recognizes uncertainties associated with forecasting
  - Tied to milestone activity levels rather than arbitrary years
## Aviation Demand Forecasts

<table>
<thead>
<tr>
<th></th>
<th>Existing (2018)</th>
<th>PAL 1 (2025)</th>
<th>PAL 2 (2030)</th>
<th>PAL 3 (2035)</th>
<th>PAL 4 (2040)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enplaned Passengers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOB (a)</td>
<td>303,871</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BFM</td>
<td>-</td>
<td>523,000</td>
<td>588,250</td>
<td>614,500</td>
<td>640,750</td>
</tr>
<tr>
<td><strong>Aircraft Operations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commercial</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOB</td>
<td>13,986</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BFM</td>
<td>4,468</td>
<td>24,360</td>
<td>26,180</td>
<td>26,600</td>
<td>27,000</td>
</tr>
<tr>
<td><strong>General Aviation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOB</td>
<td>9,253</td>
<td>9,190</td>
<td>9,310</td>
<td>9,450</td>
<td>9,580</td>
</tr>
<tr>
<td>BFM</td>
<td>14,359</td>
<td>14,800</td>
<td>15,010</td>
<td>15,220</td>
<td>15,440</td>
</tr>
<tr>
<td><strong>Military</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOB</td>
<td>48,373</td>
<td>49,970</td>
<td>49,970</td>
<td>49,970</td>
<td>49,970</td>
</tr>
<tr>
<td>BFM</td>
<td>45,267</td>
<td>43,670</td>
<td>43,670</td>
<td>43,670</td>
<td>43,670</td>
</tr>
<tr>
<td><strong>Total Aircraft Operations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOB</td>
<td>71,612</td>
<td>59,160</td>
<td>59,280</td>
<td>59,420</td>
<td>59,550</td>
</tr>
<tr>
<td>BFM</td>
<td>64,094</td>
<td>82,830</td>
<td>84,860</td>
<td>85,490</td>
<td>86,110</td>
</tr>
</tbody>
</table>

a) Enplanements/operations are shown for both BFM and MOB to capture the total Mobile market demand.

Facility Requirements
Facility Requirements

- Requirements calculated for airfield, terminal, landside, and airport support facilities
- Documentation complete in draft form
- Requirements will guide development of new terminal and supporting facilities
- All requirements summarized represent the end of the planning period (PAL 4, 2040)
Airfield Requirements

- **Critical Design Aircraft:** Airbus A-300 (C-IV) for primary runway and associated facilities

- **Hourly Weighted Runway Capacity:** 88.6 operations/hour in visual meteorological conditions (VMC)

- **Annual Service Volume (Capacity):** 184,111 annual operations in PAL 4

- **Runway Length:** Sufficient

- **Instrument Approach:** Upgrade to Category II/III instrument landing system (ILS)
Terminal Requirements

- **Total Number of Gates**: 8
- **Holdroom area**: 7,500 sq. ft.
- **Airline Check-in**: 12 *positions*, 5,600 sq. ft.
- **Security**: 4 *security lanes*, 5,000 sq. ft.
- **Baggage Claim**: 2 *claim devices*, 12,000 sq. ft.
- **Concessions**: 10,000 sq. ft.
Ground Transportation and Parking Requirements

- **Public, Employee, and Commercial Parking**: 2,600 stalls (low), 3,500 stalls (high)
- **Rental Car Facility**: 108,000 sq. ft. (low), 192,000 sq. ft. (high)
- **On-Airport Roadways**: new roadway configuration to serve terminal
- **Curbside**: 375 linear ft. for arrivals, 350 linear ft. for departures
- **Commercial Vehicle Hold Lot**: 60 stalls, 22,000 sq. ft.
General Aviation and Cargo

- **Air Cargo Facilities**: 2,895 sq. ft.

- **General Aviation /Fixed Base Operator Facilities**: 3 acres (parcel) / 13,346 sq. ft. (apron)
Airport Support Facilities

- Aircraft Rescue and Firefighting (ARFF): 9,000 sq. ft.
- Air Traffic Control: 135,500 sq. ft. (3 acres)
- Airport Administration: 26,908 sq. ft.
- Fuel Storage: 106,100 gallons (Jet-A) / 12,200 gallons (AvGas)
- Airline Maintenance Facility: 58 acres
- Airport Maintenance Facility: 8,188 sq. ft. (maintenance building) / 20,204 sq. ft. (maintenance yard)
Passenger Terminal and Landside
Planning Assumptions

- Maintain utilization of Interim Terminal (22,800 sf) and LCC/ULCC service at BFM

- Interim Terminal can be used as a transition facility for relocated and new carriers prior to the opening of the new terminal

- The timetable for new terminal development and Legacy airline relocation to BFM would require adoption of a schedule accommodating required planning, design, environmental and construction activities
Future Terminal Location Study Area

- Airport boundary
- Corridor 1
- Terminal Study Area
Future Airport Access

[Map showing airport boundary with major roads and streets labeled: BROAD ST, INTERSTATE 10, MICHIGAN AVE, PERIMETER RD, DAUPHIN ISLAND PKWY, CASSIE LN, GATOTKOCO DR, DAUPHIN ISLAND PKWY.]
Existing Conditions

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal building (ft²)</td>
<td>22,800</td>
</tr>
<tr>
<td>Curb length (ft)</td>
<td>140</td>
</tr>
<tr>
<td>Gates</td>
<td>3</td>
</tr>
<tr>
<td>Parking (acre)</td>
<td>1.5</td>
</tr>
<tr>
<td>Parking (stalls)</td>
<td>176</td>
</tr>
</tbody>
</table>

Terminal building
Surface parking
New Terminal Options

▪ Evaluated 5 options

▪ Conducted detailed evaluations

▪ Short listed 3 final options

▪ Recommending a preferred option for MAA approval

▪ Continued Planning for new terminal is a work in progress
Preferred Terminal Option

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal building (ft²)</td>
<td>130,000</td>
</tr>
<tr>
<td>Curb length (ft)</td>
<td>530</td>
</tr>
<tr>
<td>Gates</td>
<td>8</td>
</tr>
<tr>
<td>Parking area (acre)</td>
<td>31.5</td>
</tr>
<tr>
<td>Parking capacity (stalls)</td>
<td>3,505</td>
</tr>
<tr>
<td>New apron (yd²)</td>
<td>35,500</td>
</tr>
<tr>
<td>Buildings affected*</td>
<td>9</td>
</tr>
</tbody>
</table>

* Exclude Existing FBO and small structures

Legend:
- Terminal building
- Parking garage / Surface Parking
- Apron
- Rental car facility

---

Leigh Fisher

Mobile Downtown Airport Master Plan Public Webinar 8/4/2020
Preferred Terminal Option (continued)

- **Airport Access**
  - Ingress and Egress: New terminal access loop road north of current Penske property

- **Terminal**
  - Situated to reduce the new apron construction and relocation of PetroClean and ASF on Perimeter Road at north of new terminal access loop road
  - Moderate future expandability beyond planning period to east (1 gate) and west (1-2 gate)

- **Airside**
  - Shorter taxilane to reach the farthest gate

- **Landside**
  - New 5-level parking garage in front of the terminal; connected to the terminal by crosswalk
  - New access road to existing terminal building area south of current Penske facility
  - Michigan Avenue terminates at south of Avenue N
  - New rental car facility at current Penske facility

- **Least environmental impact of all options**
Airport Traffic Control Tower (ATCT) Facility
Overview

Site 3a was chosen as a preferred site for the future air traffic control facility at BFM based on our preliminary evaluation of visual performance criteria with FAA ATCTVAT tool, and line of sight and shadow study using a 3D model.
Site 3a – Shadow Study

- **No obstruction**
  - Runway 14-32
  - Runway 18-36
  - Taxiway A
  - Taxiway K

- **In viewshed**
  - Taxiway H (partially in shadow)
  - Taxiway L
Site 3a – Viewshed

Eye height: 116.8’

Taxiway H is visible approximately 150’ from the intersection of Taxiway A and H

Eye height: 166.8’ (+50’)

Taxiway H is visible approximately 200’ from the intersection of Taxiway A and H
Summary

▪ Issue: Taxiway H is only visible approximately 150’ from the intersection of Taxiway A and H
  — If controller eye level is raised to 166.8’ (+50’), Taxiway H is visible approximately 200’ from the intersection of Taxiway A and H
  — If higher tower is not feasible, accept 150’ visibility on Taxiway H and make the rest non-movement area

▪ Issue: No landside access
  — Relocate Taxiway K to south
Aircraft Rescue and Firefighting (ARFF) Facility
Overview

- Studied 4 potential sites
- Facility requirements:
  - 3-bay space with overhead doors on both sides
  - offices, training, berthing, and fitness rooms
  - approximately 9,000 sf
Methodology

- Computer based analysis based on travel time and total response time

- Turn-out time (activation time) is not included
  - Provided by operations

- Within 3 minutes from the time of the alarm, at least one required ARFF vehicle must reach the midpoint of the farthest runway serving air carrier aircraft or reach any other specified point of comparable distance on the movement area that is available to air carriers, and begin application of extinguishing agent.
Recommendation

- **Site 1 is recommended**
  - Offers good access
  - On airport property
  - Does not require land acquisition
  - Does not require crossing an active taxiway (after Taxiway K relocation)
  - Is centrally located
Multi-Use Aviation Area
Potential Sites

- **Site 1**
  - Near Runway 14 Threshold
  - Approximately 32 acres

- **Site 2**
  - Along Runway 18/36
  - Approximately 30 acres

Site includes airfield access
Recommendation

- **Site 1 is recommended**
  - On-airport property
  - Good airside and landside access
  - Limited environmental impacts (area already developed)

- **Potential challenges**
  - Allowable height of building and hangars limited by airspace and transitional surface impacts
On-Airport Land Use Opportunities
Aviation Development Opportunities - Future

Red outline is leasehold being returned to MAA
Aviation Development Opportunities - Ultimate

Red outline is leasehold being returned to MAA
Future Airfield Development

- Construct future parallel taxiway
- Extend Airbus Way
- Relocate Taxiway K
- Add shoulders on Taxiway A south of Runway 36
- Upgrade Runway 32 to CAT II/III Instrument Landing System (ILS)
- Relocated ARFF
- Relocated ATCT
- Construct access taxiway
- Extend Airbus Way
On-Airport Development Plan
On-Airport Development Plan – PAL 1
On-Airport Development Plan – PAL 2
On-Airport Development Plan – PAL 3

Airfield
Passenger terminal
Ground transportation / Parking
Airport / Airline support
Aircraft Rescue & Firefighting
Air Traffic Control
Air cargo
Multi-use aviation area
Military
Commercial
Strategic reserve
Vacant
Building - Existing
Building - New
Taxiway / taxi lane - New
Airport property line
Aeroplex property line
Airbus leasehold
Railroad
1. Wash rack
2. Fuel farm
3. Surface parking
4. Rental car facility
5. Parking garage

Leigh Fisher
Mobile Downtown Airport
Master Plan Public Webinar 8/4/2020

0 500’ 1,000’ 2,000’
On-Airport Development Plan – PAL 4

Airfield
Passenger terminal
Ground transportation / Parking
Airport / Airline support
Aircraft Rescue & Firefighting
Air Traffic Control
Air cargo
Multi-use aviation area
Military
Commercial
Strategic reserve
Vacant
Building - Existing
Building - New
Taxiway / taxilane - New
Airport property line
Aeroplex property line
Property line - Ultimate
Airbus leasehold
Railroad
1. Wash rack
2. Fuel farm
3. Surface parking
4. Rental car facility
5. Parking garage

0  500’  1,000’  2,000’
Environmental Overview
Environmental Overview

- “Proposed actions” that have potential to impact the environment, alter airport operations or obstruct airport navigation are required to be evaluated under the National Environmental Policy Act (NEPA) and its implementing regulations issued by the Council on Environmental Quality (CEQ) [codified in 40 CFR Parts 1500-1508].

- The FAA can only “unconditionally” approve change to an ALP if an environmental analysis has been prepared in accordance with NEPA and CEQ regulations.

- FAA Order 1050.1B and 5050.4B establishes FAA policies and procedures to help airport comply with NEPA environmental review.
# Environmental Overview

<table>
<thead>
<tr>
<th>Environmental Categories</th>
<th>Resources Evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td>Greenhouse gas emissions, construction emissions</td>
</tr>
<tr>
<td>Water Resources</td>
<td>Wetlands, creeks, floodplain, surface waters, stormwater management</td>
</tr>
<tr>
<td>Biological Resources</td>
<td>Protected plant, fish and wildlife species</td>
</tr>
<tr>
<td>Section 4(f) Sources</td>
<td>Parks, Wildlife Refuge, Public Lands</td>
</tr>
<tr>
<td>Noise-compatible land use</td>
<td>Local jurisdictions, community development plans, existing land use</td>
</tr>
<tr>
<td>Hazardous Materials</td>
<td>Solid Waste, Pollution Prevention Plans</td>
</tr>
</tbody>
</table>
Environmental Overview

- Proposed action alternatives are evaluated from an environmental perspective for impact.

- Proposed actions that require environmental effects evaluation:
  - New terminal construction
  - Roadway improvements
  - New taxilane(s)
  - Building demolition
  - Tenant relocations

- The overview presents environmental conditions and constraints for consideration during planning.
Baseline 2018 Noise Contours
Future 2040 Noise Contours
Crepe Myrtle Trail Assessment
Crepe Myrtle Trail Assessment

- Included on Airport Layout Plan for FAA and TSA evaluation
Thank you

Maamasterplan.com
Click on “feedback” tab