TECHNICAL ADVISORY COMMITTEE MEETING 3 – SEPTEMBER 10, 2018

Airport Master Plan
WELCOME & INTRODUCTIONS

Kimberly Moss, Doug Hammon (The Ohio State University)
Member Introduction

- Name
- Organization
MEETING PURPOSE, FORMAT AND DISCUSSION GUIDELINES

Marie Keister (Engage Public Affairs)
Meeting Purpose/Agenda

- Public/stakeholder input update
- Progress/schedule update
- Facility requirements & alternatives
- Runway alternatives
- Taxiway alternatives
- Terminal area alternatives
- Next steps
PUBLIC AND STAKEHOLDER INPUT UPDATE

Marie Keister (Engage Public Affairs)
E-News Update

• Alerted stakeholders that the public meeting will be rescheduled to fall
• Invited recipients to review available Master Plan chapters and ask questions or provide comments
Worthington Meeting

• Project team met with City of Worthington council leadership in July to explain the master plan and answer questions
Worthington Comments

• Airport a wonderful educational asset to the community
• Worthington residents tend to be more supportive of investments related to the academic mission of the airport
• Forecasts seem to favor economic development
• Optimistic growth forecasts could encourage airport to overbuild facilities, which could increase demand
• Keep resident concerns in mind:
  o Increased demand and extended runways may increase noise
  o Increased airport demand could increase traffic on surrounding roadways
  o Extending current airport runway(s)
PROGRESS/SCHEDULE UPDATE

Maria Muia (Woolpert)
TAC = Technical Advisory Committee

The Ohio State University Airport Master Plan

- Existing Conditions
- Environmental Overview
- Aviation Forecasts
- Facility Requirements
- Alternatives Development
- Financial Implementation
- Airport Layout Plan/Mapping, Survey & Data Development
- Final Documents
FACILITY REQUIREMENTS & ALTERNATIVES

Maria Muia, Woolpert
Facility Requirements and Alternatives

1. Facility Requirements – are the facilities in place to meet the needs of the users?

2. If not, what are the alternatives to meeting those needs
Facility Requirements and Alternatives

- Ensure safety and security is the first priority, followed by meeting customer needs with quality service.
- Focus on the needs of all general aviation with an emphasis on students.
- Promote compatible land use on the airport.
- Co-locate like users/services where possible.
- Plan landside development in an efficient, flexible and cost-effective manner.
- Preserve investment in existing facilities, property contiguous with taxiways and aprons for aviation purposes with airside needs.
- Maintain Class IV, Part 139 Standards and all FAA regulations and design standards.
- Be mindful of airport impact on neighborhoods.
## Winds

### Wind Data Table

<table>
<thead>
<tr>
<th></th>
<th>10.5-KNOTS</th>
<th>13-KNOTS</th>
<th>16-KNOTS</th>
<th>20-KNOTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RUNWAY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All-Weather Wind Data Observations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runway 9-27</td>
<td>90.45 %</td>
<td>94.74 %</td>
<td>98.68 %</td>
<td>99.74 %</td>
</tr>
<tr>
<td>Runway 5-23</td>
<td>88.56 %</td>
<td>94.00 %</td>
<td>98.26 %</td>
<td>99.59 %</td>
</tr>
<tr>
<td>Combined</td>
<td>99.78 %</td>
<td>97.60 %</td>
<td>99.49 %</td>
<td>99.93 %</td>
</tr>
<tr>
<td>Instrument (IFR) Wind Data Observations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runway 9-27</td>
<td>91.45 %</td>
<td>95.50 %</td>
<td>99.00 %</td>
<td>99.84 %</td>
</tr>
<tr>
<td>Runway 5-23</td>
<td>90.95 %</td>
<td>95.44 %</td>
<td>98.86 %</td>
<td>99.78 %</td>
</tr>
<tr>
<td>Combined</td>
<td>95.88 %</td>
<td>98.45 %</td>
<td>99.74 %</td>
<td>99.98 %</td>
</tr>
</tbody>
</table>

**Note:** Crosswind component computed using runway true bearing (87.4 & 49.1)

**Source:** FAA Airport GIS – “Station 724288 Ohio State University Arpt Annual Period Record 2008 – 2017”
Critical Design Aircraft

Primary runway (existing Runway 9R-27L) C/D-II (e.g. Gulfstream 450)

Parallel runway (existing Runway 9L-27R) A-II (e.g. Pilatus PC-12)

Crosswind runway (Runway 5-23) B-I (small) (e.g. Cessna Citation CJ1)
## Runways

### Runway Length Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Dry</th>
<th>Wet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport Elevation</td>
<td>906 ft. MSL</td>
<td></td>
</tr>
<tr>
<td>Mean daily maximum temperature of the hottest month</td>
<td>84 F</td>
<td></td>
</tr>
<tr>
<td>Maximum difference in runway centerline elevation (gradient)</td>
<td>12 ft.</td>
<td></td>
</tr>
<tr>
<td>Small aircraft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100% of small aircraft (12,500 lbs. or less &amp; less than 10 passengers)</td>
<td>4,000 ft.</td>
<td></td>
</tr>
<tr>
<td>100% of small aircraft (12,500 lbs. or less 10 or more passengers)</td>
<td>4,250 ft.</td>
<td></td>
</tr>
<tr>
<td>Large aircraft of 60,000 pounds or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75% of these large aircraft at 60% useful load</td>
<td>4,820 ft.</td>
<td>5,405 ft.</td>
</tr>
<tr>
<td>75% of these large aircraft at 90% useful load</td>
<td>6,570 ft.</td>
<td>7,000 ft.</td>
</tr>
<tr>
<td>100% of these large aircraft at 60% useful load</td>
<td>5,620 ft.</td>
<td>5,620 ft.</td>
</tr>
<tr>
<td>100% of these large aircraft at 90% useful load</td>
<td>8,320 ft.</td>
<td>8,320 ft.</td>
</tr>
</tbody>
</table>

Source: AC 150/5325-4B, Runway Length Requirements for Airport Design
Runways

Alt. 1 –
Extend 27L
1000 feet
Runways

Alt. 2 – Extend 9R 500 ft. and 27L 500 ft.
Runways

Alt. 2 –
Extend
9R 500 ft.
and
27L 500 ft.
Runways

Alt.3 – Extend 9R 1000 feet
Runways

Alt.4 – Extend
9L 1700 ft.
and
27R 1306 ft.
Runways

Alt. 4 – Extend 9L 1700 ft. and 27R 1306 ft.
Comments?
Runways

<table>
<thead>
<tr>
<th>Runway ID</th>
<th>Highest PCI</th>
<th>Lowest PCI</th>
<th>Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>9R-27L (Primary)</td>
<td>99</td>
<td>77</td>
<td>Preventative maintenance is appropriate for most of the runway.</td>
</tr>
<tr>
<td>9L-27R (Secondary)</td>
<td>99</td>
<td>3</td>
<td>Most of this runway was rehabilitated in 2017; so routine preventative maintenance is appropriate for most of it. The section that was not rehabilitated (approximately 500 feet on the 9L end) should be reconstructed as soon as funds can be programmed.</td>
</tr>
<tr>
<td>5-23 (Crosswind)</td>
<td>77</td>
<td>74</td>
<td>Preventative maintenance needed</td>
</tr>
</tbody>
</table>
Taxiways
Taxiways

<table>
<thead>
<tr>
<th>Runway</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1%</td>
</tr>
<tr>
<td>09R</td>
<td>24%</td>
</tr>
<tr>
<td>27R</td>
<td>14%</td>
</tr>
<tr>
<td>09L</td>
<td>7%</td>
</tr>
<tr>
<td>27L</td>
<td>50%</td>
</tr>
<tr>
<td>23</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: CHM radar sample of 40% of operations
Direct Access to Runway without Turn

Taxiways
Taxiways
Taxiways

Direct Access to Runway without Turn
## Taxiways

<table>
<thead>
<tr>
<th>Taxiway ID</th>
<th>Highest PCI</th>
<th>Lowest PCI</th>
<th>Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90</td>
<td>68</td>
<td>Preventative maintenance</td>
</tr>
<tr>
<td>C</td>
<td>91</td>
<td>42</td>
<td>Reconstruct section with 42 PCI; preventative maintenance for the remainder</td>
</tr>
<tr>
<td>D</td>
<td>89</td>
<td>76</td>
<td>Preventative maintenance</td>
</tr>
<tr>
<td>E</td>
<td>31</td>
<td>0</td>
<td>Reconstruct</td>
</tr>
<tr>
<td>F</td>
<td>32</td>
<td>15</td>
<td>Reconstruct</td>
</tr>
<tr>
<td>G</td>
<td>0</td>
<td>0</td>
<td>Reconstruct</td>
</tr>
<tr>
<td>H</td>
<td>55</td>
<td>43</td>
<td>Overlay/Reconstruct</td>
</tr>
</tbody>
</table>
Airfield Marking and Lighting

<table>
<thead>
<tr>
<th>Airfield Marking and Lighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrade to LED lighting where possible when useful life is surpassed.</td>
</tr>
<tr>
<td>Relocate airport beacon.</td>
</tr>
<tr>
<td>Relocate electrical vault to midfield.</td>
</tr>
</tbody>
</table>
## Aircraft Hangars, Apron, and Auto Parking

### Aircraft Hangars and Apron

<table>
<thead>
<tr>
<th>Description</th>
<th>Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-9 additional T-hangars</td>
<td>(55 spaces)</td>
</tr>
<tr>
<td>61,000 SF. of additional conventional hangar.</td>
<td>(14 Jets/10 Rotor spaces)</td>
</tr>
<tr>
<td>30,000 SF. Flight Education hangar and associated apron.</td>
<td>(25-30 spaces)</td>
</tr>
<tr>
<td>Academic Maintenance Hangar.</td>
<td></td>
</tr>
<tr>
<td>150 total tiedowns.</td>
<td></td>
</tr>
</tbody>
</table>

### Access and Auto Parking

<table>
<thead>
<tr>
<th>Description</th>
<th>Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport signage on I-270.</td>
<td></td>
</tr>
<tr>
<td>Vehicle parking spaces for buildings without dedicated parking.</td>
<td></td>
</tr>
<tr>
<td>Terminal Area</td>
<td>323 spaces</td>
</tr>
<tr>
<td>Non-Terminal Area South Side</td>
<td>112 spaces</td>
</tr>
</tbody>
</table>
## Security, Storage, Maintenance

### Airport Fencing, Security and Lighting

10 to 12-foot chain link perimeter fence with 3 strands of barbed wire outriggers and 2-feet buried where does not exist.

### Airport Storage, Maintenance and Electrical Vault Buildings

- Heated storage for fuel trucks, maintenance equipment, and snow removal equipment.
- New midfield electrical vault.

### Equipment

Consider replacing equipment older than 10 years - KOSU has 30 pieces over 10 years old.
## Services, etc.

<table>
<thead>
<tr>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-fueling with spill containment.</td>
</tr>
<tr>
<td>Dedicated deicing pad with runoff containment/mitigation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compass calibration pad.</td>
</tr>
<tr>
<td>U.S. Customs Service.</td>
</tr>
<tr>
<td>Completed perimeter road within fence.</td>
</tr>
<tr>
<td>Aviation academic and research support center.</td>
</tr>
</tbody>
</table>
Terminal Area Land Uses

CO-LOCATING LIKE SERVICES
- SMALL GA
- LARGE/CORP. GA
- AIRPORT OPS SUPPORT
- TRANSIENT RAMP
- ACADEMIC
- AIRCRAFT/PILOT SERVICES
Terminal Area Alternatives
THE OHIO STATE UNIVERSITY AIRPORT MASTER PLAN

TERMINAL AREA - ALTERNATIVE 1

1. Flight School Hangar and Apron
   - 20,000 SF Hangar
   - 37 Tie Downs (Neatly)
   - 17 Tie Downs (Pull Through)
   - Option for Flight Education Operations Support Facility and/or Parking Lot
   - Relocate existing T-Hangars (19 units) and Airport Storage Building

2. T-Hangars
   - 61 New T-Hangars Total
   - 19 Relocated Units
   - 42 Units for Future Growth
   - Relocate Access Road to Tower
   - Approx. 20 Parking Spaces off of Access Road
   - Reconstruct Parking Lot near Control Tower
   - Approx. 44 Parking Spaces
   - New Parking Lots to the South

3. Transient Corporate Hangar
   - 20,000 SF Corporate Hangar
   - Temporary or Overnight Traffic
   - Approx. 45 Parking Spaces
   - New Security Gate and Access Road
   - Gain 24 C.A. Tie Downs

4. Based Corporate Hangar
   - New Based Corporate Aircraft Must Move to Future Corporate Air Park

5. Academic Maintenance Hangar
   - 25,000 SF Hangar
   - 11,400 SF Academic Center
   - Approx. 45 New Parking Spaces

6. OSU Aircraft Maintenance Hangar
   - 17,000 SF Hangar
   - Larger Aircraft Maintenance
   - Close Proximity to Academic Maintenance Program

7. De-Icing Facilities
   - One ADG II De-Icing Pad

LEGEND
- Future Building
- Optional Future Building
- Future Pavement
- Existing Building (on Airport)
- Existing Building (off Airport)
- Existing Pavement

Student Walking Path
Existing Security Gate
Future Airport SRE Storage (10,000 SF)
### PROS
- Keeps student in visual contact when walking to flight school aircraft staging area
- Establishes a corporate campus for all future corporate hangars
- No impact of drainage swale
- Flight school hangar has expansion potential
- Co-location of T-hangars

### CONS
- Student walking across transient apron
- Neither apron nor corporate hangar can be built before crosswind is closed or corporate campus initiated
- Requires relocation of existing users in 2 T-hangar bldgs.
- Short on T-hangars
- No corporate hangar space available until corporate campus is initiated
FS AC Hangar Location
The Ohio State University Airport Master Plan

Terminal Area Alternatives

ALTERNATIVES

1. FLIGHT SCHOOL HANGAR AND APRON
   - 30,000 SF HANGAR
     - APPROX. 25-30 AIRCRAFT
   - OPTION FOR FLIGHT EDUCATION OPERATIONS SUPPORT FACILITY
   - NEW PARKING LOT
     - APPROX. 84 PARKING SPACES
   - 169 TOTAL TIE DOWNS

2. TRANSIENT CORPORATE HANGAR
   - 20,000 SF CORPORATE HANGAR
   - TEMPORARY ON-DAY TRAFFIC
   - ROUTE FROM TERMINAL TO HANGAR CROSSES AIR TRAFFIC

3. BASED CORPORATE HANGAR
   - NEW BASED CORPORATE AIRCRAFT MUST MOVE TO FUTURE CORPORATE AIR PARK

4. ACADEMIC MAINTENANCE HANGAR
   - 25,000 SF HANGAR
   - 11,400 SF ACADEMIC CENTER
   - APPROX. 45 NEW PARKING SPACES

5. OSU AIRCRAFT MAINTENANCE HANGAR
   - 18,000 SF HANGAR
   - LARGER AIRCRAFT MAINTENANCE
   - CLOSE PROXIMITY TO ACADEMIC MAINTENANCE PROGRAM

6. DE-ICING FACILITIES
   - ONE ADD'AL DE-ICING PAD

TERMINAL AREA - ALTERNATIVE 2

REVIEWED AND DISMISSED
### Terminal Area Alternatives

**Pros**
- Co-location of T-hangars
- Co-location of maintenance hangars
- Co-location of academic uses
- No impact of drainage swale
- Allows for 1 corporate hangar without infrastructure needs of corporate campus

**Cons**
- Neither apron nor transient corporate hangar can be built before crosswind is closed
- Requires relocation of existing users in 2 T-hangar bldgs.
- Short on T-hangars

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**Reviewed and Dismissed**
Comments?
Next Steps

• TAC provide comments back to OSU team on runway and terminal area alternatives by Sept. 24
• TAC meeting summary posted online
• Next TAC meeting: Winter 2019 (tentative)
• Brief Worthington City officials: Winter 2019 (tentative)
• Brief Dublin City Council: Winter 2019 (tentative)
• Brief Northwest Civic Association: Winter 2019 (tentative)
• Public meeting: Winter 2019 (tentative)
QUESTIONS & DISCUSSION
THANK YOU

osuairport.org/airport-facilities/master-plan