OKLAHOMA AIRPORTS
CONNECTING YOUR COMMUNITY & AIRPORT
OKLAHOMA’S PUBLICLY-OWNED AIRPORTS

How many publicly-owned airports are there in Oklahoma?
120 Total
- 49 Commercial Service/Regional Business Airports
- 27 District Airports
- 44 Community Airports

Includes 117 locally-owned airports and 3 state-owned

Does not include military airports

Source: Oklahoma Aeronautics Commission.
OKLAHOMA’S PUBLICLY-OWNED AIRPORTS

Source: Oklahoma Aeronautics Commission.
2016 OKLAHOMA AIRPORTS ACTIVITY

→ Approximately 3,213,005 Passenger Enplanements
→ Approximately 1,380,370 Aircraft Flights (Operations)
  ▪ Approximately 115,266 Air Carrier/Air Taxi/Commuter
  ▪ Approximately 221,300 Military
  ▪ Approximately 1,043,804 General Aviation
→ Approximately 3,294 Based Aircraft

Source: Federal Aviation Administration, Terminal Area Forecasts, 2017
OKLAHOMA’S AVIATION AND AEROSPACE ECONOMIC IMPACT

<table>
<thead>
<tr>
<th>Category</th>
<th>Employment</th>
<th>Payroll</th>
<th>Spending</th>
<th>Economic Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>109 Study Airports</td>
<td>74,002</td>
<td>$3.6 Billion</td>
<td>$7.0 Billion</td>
<td>$10.6 Billion</td>
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<tr>
<td>Off-Airport Aviation</td>
<td>58,958</td>
<td>$3.4 Billion</td>
<td>$10.5 Billion</td>
<td>$13.9 Billion</td>
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<tr>
<td>Aerospace Employers</td>
<td>72,648</td>
<td>$4.7 Billion</td>
<td>$14.6 Billion</td>
<td>$19.3 Billion</td>
</tr>
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## OKLAHOMA’S AVIATION AND AEROSPACE ECONOMIC IMPACT

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</thead>
<tbody>
<tr>
<td>Commercial Service</td>
<td>67,692</td>
<td>$3.3 Billion</td>
<td>$6.5 Billion</td>
<td>$9.9 Billion</td>
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<tr>
<td>General Aviation</td>
<td>6,310</td>
<td>$270 Million</td>
<td>$422 Million</td>
<td>$693 Million</td>
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</tbody>
</table>

**Source:** Oklahoma Aeronautics Commission, Oklahoma Aviation and Aerospace Economic Impact Study, August 2017.
OFF-AIRPORT LAND USE COMPATIBILITY

- Types of Non-Comparable Land Uses
- FAA Role
- State Role
- Types of Land Use Controls
- Conflicting Policies and Goals
TYPES OF AIRPORT NON-COMPATIBLE LAND USES

- Noise Sensitive Uses
  - Residences
  - Schools
  - Hospitals
  - Places of Worship
  - Nursing Homes
- Places of Public Gathering
- Height of Structures
- Glare/Lights/Haze/Electronic
- Wildlife Attractants
FAA ROLE IN COMPATIBLE LAND USE PLANNING

→ FAA Sets Standards and Guidelines
  - FAR Part 150 – Noise and Land Use
  - FAR Part 77 – Height Hazard and Obstructions
  - Grant Assurances – Compatible Land Use and Others
  - Advisory Circulars – Wildlife Attractants
  - FAA Memorandum on Land Uses Within a Runway Protection Zone (RPZ)
  - The Federal government has no land use control authority. Only local jurisdictions have that authority as derived from State enabling legislation. Thus, only they have the liability.
FAA ROLE – FAR PART 150 NOISE AND LAND USE

→ Prescribes the procedures, standards, and methodology for developing noise exposure maps and noise compatibility programs for airports.

→ Prescribes systems for measuring noise at airports and surrounding areas that generally provides a highly reliable relationship between projected noise exposure and surveyed reaction of people to noise (sleep and conversation interruption).

→ Determines exposure of individuals to noise resulting from aircraft operations at an airport.
FAA ROLE – FAR PART 150 NOISE AND LAND USE

→ Establishes the 65 DNL as the threshold level of noise compatibility for noise sensitive land uses.

→ Establishes noise compatibility programs that promote a planning process through which measures are taken that reduce the existing noncompatible land uses within airport generated noise.
  ▪ Examines and analyzes various alternative noise reduction techniques.
  ▪ Requires public participation, agency coordination, and cooperation of all interested parties (sponsor, airlines, local land use planners, and citizens).
  ▪ Develops comprehensive and implementable noise reduction techniques and land use controls.
FAA ROLE – FAR PART 77 HEIGHT HAZARD AND OBSTRUCTIONS

- Establishes requirements to provide notice to the FAA of certain proposed construction or alteration of existing structures.
- Establishes standards used to determine obstructions to air navigation, and navigational and communication facilities.
- Establishes the process to petition the FAA for discretionary review of determination, revisions, and extensions of determinations.
FAA ROLE – FAR PART 77 HEIGHT HAZARD AND OBSTRUCTIONS

→ Standards for Determining Obstructions to Air Navigation

- Applies to any object of natural growth, terrain, or permanent or temporary construction or alteration.
- Establishes imaginary surfaces for airports and each runway, based on the category of each runway and the type of instrument approach available or planned for each runway.
- Objects that penetrate the imaginary surfaces are considered obstructions and require further evaluation/mitigation measures.
FAA ROLE – FAR PART 77 HEIGHT HAZARD AND OBSTRUCTIONS

Imaginary Surfaces

- Primary Surface – Centered on runway extending 200’ beyond each runway end.
- Approach Surface – Centered on the extended runway centerline and extending outward and upward from each end of the primary surface.
- Transitional Surface – Extend outward and upward at a 7:1 slope from sides of the primary and approach surfaces.
- Horizontal Surface – Horizontal plane established 150’ above airport elevation.
- Conical Surface – Surface extending upward and outward from the periphery of the horizontal surface.

Source: Federal Aviation Regulations (FAR) Part 77.
FAA ROLE – FAR PART 77 HEIGHT HAZARD AND OBSTRUCTIONS

Source: Federal Aviation Regulations (FAR) Part 77.
**FAA ROLE – GRANT ASSURANCES**

→ When airport owners or sponsors accept FAA-administered funds, they must agree to certain obligations (or assurances).

→ Assurances require the airport owners or sponsors to maintain and operate their facilities safely and efficiently and in accordance with specified conditions.

→ Upon acceptance of funding grants, assurances are incorporated in and become part of grant agreements.
FAA ROLE – GRANT ASSURANCES

→ Grant Assurance #6 – Consistency with Local Plans
  ▪ Projects will be reasonably consistent with plans of public agencies that are authorized by the State in which the project is located to plan for the development of the area surrounding the airport.

→ Grant Assurance #7 – Consideration of Local Interest
  ▪ Fair consideration will be given to the interest of communities in or near where the project may be located.
Grant Assurance #20 – Hazard Removal and Mitigation

- Appropriate action will be taken to assure that such airspace as is required to protect instrument and visual operations to the airport will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.
FAA ROLE – GRANT ASSURANCES

Grant Assurence #21 – Compatible Land Use

- Appropriate action will be taken, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.
FAA ROLE – GRANT ASSURANCES

→ Grant Assurance #25 – Airport Revenues

- All revenues generated by the airport will be expended by it for the capital or operating costs of the airport, the local airport system, or other local facilities which are owned by the owner or operator of the airport.
FAA ROLE — WILDLIFE ATTRACTANTS

→ FAA Advisory Circular (AC) 150/5200-33B provides guidelines for hazardous wildlife attractants on or near airports.

- When considering proposed land uses, airport operators, local planners, and developers must take into account whether the proposed land uses will increase wildlife hazards.

- Recommends minimum separation criteria:
  - 5,000’ from Airport Operations Areas (AOA) for airports normally serving piston-powered aircraft.
  - 10,000’ from AOA for airports normally serving turbine-powered aircraft
  - Five statute miles from AOA if attractant could cause hazardous wildlife movement into or across approach and departure airspace.
**FAA ROLE – WILDLIFE ATTRACTANTS**

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**PERIMETER A:** For airports serving piston-powered aircraft, hazardous wildlife attractants must be 5,000 feet from the nearest air operations area.

**PERIMETER B:** For airports serving turbine-powered aircraft, hazardous wildlife attractants must be 10,000 feet from the nearest air operations area.

**PERIMETER C:** 5-mile range to protect approach, departure, and circling airspace.

*Source: FAA AC 150/5200-33B. Not to Scale.*
FAA ROLE – WILDLIFE ATTRACTANTS

→ FAA AC 150/5200-33B definition of land use practices having the potential to attract hazardous wildlife and threaten aviation include:

- Waste Disposal Operations (solid waste landfills)
- Water Management Facilities (storm water and waste water treatment and management facilities)
- Wetlands
- Golf Courses
Runway Protection Zones (RPZs) are an area at ground level established to enhance the safety and protection of people and property on the ground.

- Trapezoidal in shape and centered on the extended runway centerline.
- Located 200’ from runway ends
- Size dependent on approach speed of most demanding aircraft (Critical Aircraft) having greater than 500 annual operations and the instrument approach with the lowest visibility minimums.
FAA ROLE – RPZ LAND USE GUIDANCE

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Source: FAA Advisory Circular (AC) 150/5300-13 Change 1, Airport Design.
FAA ROLE – RPZ LAND USE GUIDANCE

FAA defined RPZ incompatible land uses include:

- All buildings and structures.
- Recreational land uses (golf courses, sports fields, amusement parks, other places of public assembly).
- Transportation facilities (railroads, public roads/highways, and parking facilities).
- Hazardous material storage.
- Waste water treatment facilities.
- Above-ground utility infrastructure such as electrical substations and solar panel installations.
Aircraft Pilot & Passenger Protection Act (APPPA)

- Signed into law in 2010.
- Regulates the height of structures near public-use airports.
- Requires a permit from the Oklahoma Aeronautics Commission (OAC) prior to construction, installation, or alteration of any structure near a public-use airport under certain circumstances.
- Provides conditions under which a structure is presumed to be a hazard to air navigation.
APPPA OBSTRUCTION DETERMINATION

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Source: Oklahoma Aeronautics Commission.
TYPES OF LOCAL LAND USE CONTROLS

→ Traditional Land Use Controls
  ▪ Land Use Zoning
  ▪ Overlay Zones
→ Subdivision Regulations
→ Easements
→ Transfer of Development Rights
→ Building Codes
→ Capital Improvement Program
→ Comprehensive Plans (Not Really a Control, but a Guide)
PLANNING AND DEVELOPMENT CHALLENGES

→ Conflicting Policies and Goals
  - Open Space/Wetlands vs. Wildlife Attractants
  - Recreation Uses vs. Wildlife Attractants/Grant Assurances
  - Flood Control vs. Wildlife Attractants
  - Conversion of Compatible to Non-Compatible Land Uses
  - Airport Economic Development vs. Close-In Housing
CONCLUSION

→ Encourage cooperation/communication between airports and communities.
→ Better to prevent land use incompatibilities than try to solve land use incompatibilities.
QUESTIONS/COMMENTS?
THANK YOU!

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