OREGON DEPARTMENT OF AVIATION

Presentation to the Joint Committee on Transportation

September 23, 2022

(503)378-4880 3040 25TH STREET, SALEM, OR 97302 WWW.OREGON.GOV/AVIATION ORAVIATION

PRESENTATION AGENDA

- ODAV – overview
- Budget challenges
- Federal infrastructure funds
- Emerging Technologies
  - Unleaded avgas
  - Un-crewed Aerial Systems (aka drones)
  - Compatible land use issue for warehouses with last mile delivery via drones
  - Who regulates navigable airspace?
  - Advanced Air Mobility/Urban Air Mobility
- Benchmarking with neighbor states
- Next Steps for UAS/AAM
- Aurora Airport Master Plan update
- Salem Commercial Air Service update

The runway at Cape Blanco, one of 17 airports on the OR coast. Photo courtesy ODAV

OR Department of Aviation

- Who we are – a small 15 person department located at the Salem Airport
- What we do - we provide free or low-cost services to 96 public-use airports, own or operate 28 airports, register aircraft, inspect and license airports, provide a grant program, perform pavement evaluation and maintenance, evaluate tall structures, do system planning, and provide advice to sister agencies and local governments
- We receive no general or lottery fund revenue, and operate mostly on a tax on aviation fuels (3 cents/gallon on Jet fuel, 11 cents on Aviation Gasoline)
- 97% of the aviation fuel sold in Oregon is Jet
- 3 cent tax –
  - 2 cents pass-thru to airports as grants
  - .55 cent earmarked for pavement preservation projects at public-use airports
  - .45 cent for agency operations
- Operating budget is $2.5M/yr (about 22% of total budget)

ODAV office at Salem, photo courtesy of ODAV

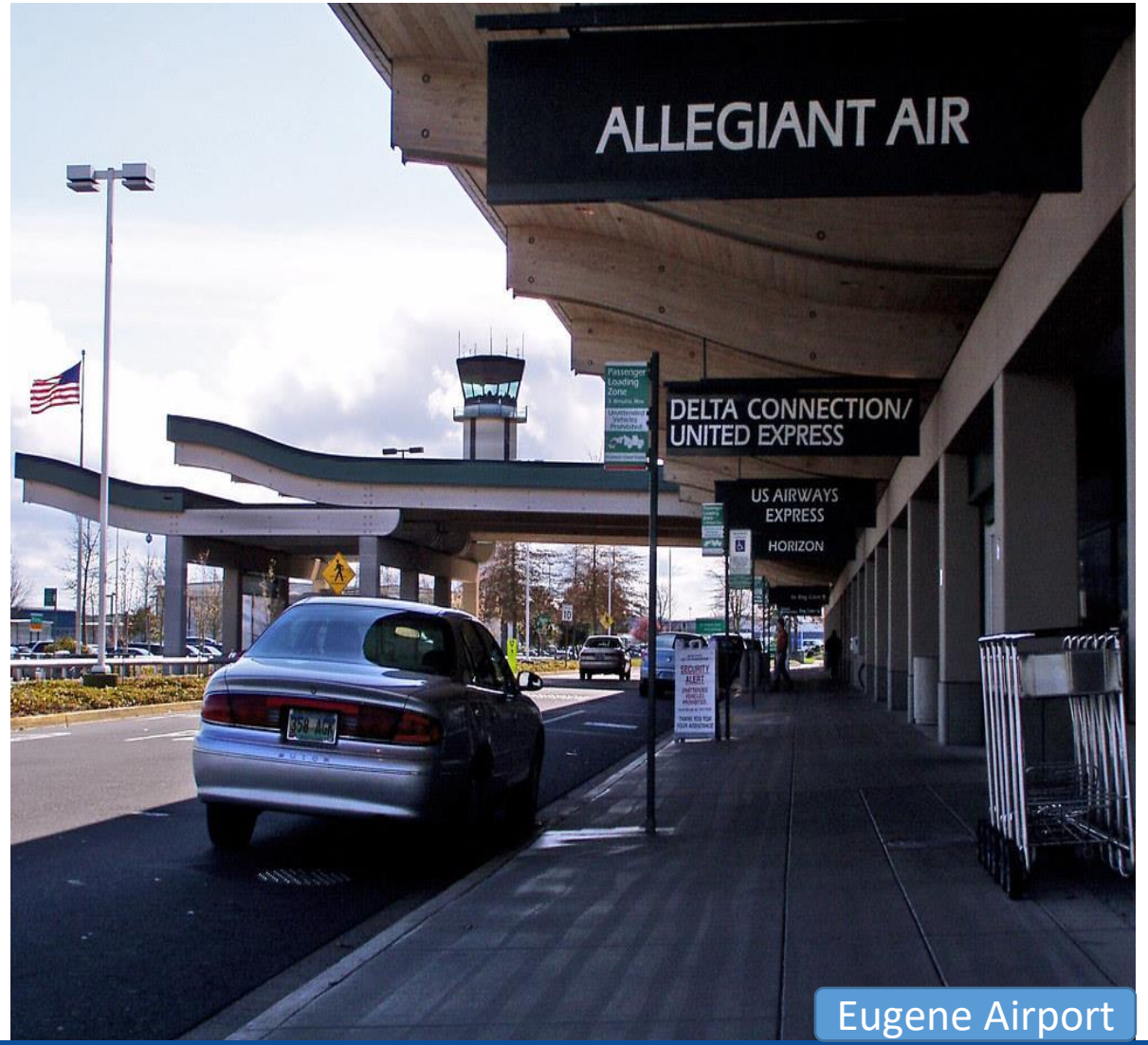
Budget Challenges

- Fuel tax revenues are unstable and inadequate
- 50% of the fuel tax revenue is generated at one airport
- ODAV is understaffed, leading to frequent complaints related to response time and levels of maintenance at the 28 state-owned/operated airports
- Missed opportunities for federal grants due to lack of available matching funds (example – FEMA grant for a statewide airport resiliency assessment)

Photo courtesy of Port of Portland

Federal Infrastructure Funds - IIJA/BIL

- 51 OR airports will receive a total of $42M per year for five years (FY22-26) for a total of $211M
- Most of these $$'s will go directly to the local governments that own the airports
- State has no input in how the funds are spent (except at the 11 state-owned airports receiving BIL funds)
- Amount preset by formula
- NOT discretionary or competitive
- Limited in what the funds can be used for (mostly capital projects)
- FAA refers to it as BIL, but it is the same as IIJA



Eugene Airport

BIL/IIJA amounts per year

- Five commercial service airports will receive $33M (76%) (amount determined by number of enplanements and cargo)
- PDX $20M
- Eugene $3.9M
- Medford $3.8M
- Redmond $3.6M
- North Bend $1.0M

- Local match required, varies 5-25%
- Used for capital projects, not operating costs

- Forty-six General Aviation Airports, (amount determined by classification)
- National (3) $763K (Aurora, Bend, Hillsboro)
- Regional (9) $295K (Corvallis, Grants Pass, Hermiston, K-Falls, McMinnville, Newport, Pendleton, Roseburg, Salem)
- Local (24) $159K (Albany, Ashland, Astoria, Baker City, Bandon, Brookings, Cave Junction, Cottage Grove, Creswell, Florence, Hood River, Independence, Joseph, La Grande, Lakeview, Lebanon, Madras, Ontario, Troutdale, Mulino, Prineville, Scappoose, The Dalles, Tillamook)
- Basic (10) $110K (Burns, Chiloquin, Christmas Valley, Condon, Gleneden Beach, Gold Beach, John Day, Lexington, McDermitt, Myrtle Creek)

Emerging Technologies

Unleaded AvGas, finally

- 97% of the aviation fuel sold in Oregon is Jet A, which does not contain lead.
- 3% of fuel sold in Oregon is Aviation Gasoline (AvGas aka 100LL), the last lead-based fuel sold in the world
- FAA recently approved the use of **unleaded** AvGas for all piston engine aircraft, which may require engine modifications or retrofits
- FAA's plan is to eliminate leaded aviation fuel **by 2030** (seven years)
- Next up will be infrastructure modifications for production, distribution, storage and into-plane deliver
- ODAV is planning to do a feasibility study to identify airports likely to be able to support unleaded fuel sales, both initially and during the transition, as well as an electrification study (pending federal funding)
- Cost for stand-alone storage and into–plane delivery will be a challenge for small airports (cannot co-mingle with current equipment)

One of the first GA aircraft approved for 100UL, with fuel developed by Swift Fuels at Purdue University, photo courtesy Flightaware

Un-crewed aerial systems (UAS aka Drones)

- Four times as many registered UAS in US than conventional aircraft (885K vs 204K)*
- Used across broad range of industries, from agriculture, construction and manufacturing, law enforcement, search and rescue, time sensitive hospital supplies and retail
- Testing new technology at the three Oregon UAS test Ranges (Pendleton, Tillamook and McMinnville)
- Several companies (including Amazon and Walmart) in testing for retail "last-mile' delivery at several locations in US (including Pendleton)
- Expect 30 minute delivery of small packages (less than 10 pounds) in select markets in the next two years

* FAA Administrators Fact Book

Amazon's test UAS for small package delivery

Potential airspace conflicts

- Local decisions that allow warehouse operations with drone launch/return operations may create airspace conflicts with aircraft using nearby airports
- Most traditional aircraft operate above 1000’ AGL, except for arrival and departure
- Delivery UAS expected to operate below 500’ AGL, and are small and hard for a pilot to see (especially during landing/takeoff)

Salem Airport to the left,
Amazon warehouse to the right

Who regulates navigable airspace?

- The air above Oregon does not belong to individuals, local or state governments
- Navigable airspace is controlled by the federal government
- Almost anything in the navigable airspace is regulated by the federal government (aircraft, tall structures)
- States and local governments only own or control what happens on the land
- ODAV advises local governments on compatible land uses (upon request)
- ODAV seeking funding for an update to the Airport Land Use Compatibility Guidebook (20 years old)

Golden Hills Wind Farm near Wasco Airport, photo courtesy ODAV

Advanced Air Mobility

- AAM refers to an air transportation system that moves people and cargo between places previously not served or underserved by aviation, using revolutionary new aircraft, and how those vehicles will safely co-exist with traditional aircraft.
- FAA, NASA and industry partners are looking at integration, noise, future airspace design, vertiport design

Electric Vertical Take-off and Landing (E-VTOL)
5 seat aircraft Photo courtesy Joby Aviation

Advanced Air Mobility (AAM) Mission

Urban Air Mobility

- Subset of Advanced Air Mobility
- By mid-century, 70% of world population will live in urban areas
- Mobility within these areas will require different solutions (including some that are not land based, for short trips in the urban core)
- Traditional aircraft mostly use airports, transporting over 1M passengers per day
- During peak usage periods, about **10K** aircraft in the air over the US
- **With UAM, we could have that many over one major city**
- UAM will utilize verti-ports (located on top of parking garages, high-rises, at park and ride lots, etc.) and need small amounts of land
- On demand air transportation (both crewed and un-crewed) in urbanized communities using VTOL and E-VTOL aircraft with 2-6 passengers, for trips of 5-50 miles, operating at altitudes of up to 5000’ AGL

Picture courtesy NASA

What are the adjacent states doing re UAS/AAM?

- Dedicated staff for UAS/AAM?
  - WA has one FTE for UAS coordination
  - WY has one part-time (70%)
  - ID has one part-time (50%)

- State Funding for UAS/AAM/UAM
  - WA - $1M/yr/5yrs for infrastructure readiness
  - UT - $225K for infrastructure study, $300K on infrastructure projects
  - OR – funded assistance to the three test ranges

- Regulation of UAS
  - WY legislature considering bills on trespass and use around prisons
  - WA has an advisory committee
  - ID starting research project on existing fed/state/local statutes & rules affecting UAS

Pendleton Test range
photo courtesy Union Bulletin newspaper

Next steps for UAS & AAM

- Infrastructure
  - UAS/AAM has different needs than traditional aircraft
- Equity
  - Ensure siting considers access and impacts to underserved communities
  - Consider noise & visual pollution, air quality, jobs
- Health and Safety
  - Policy coordination between FAA, state agencies, and local governments on land use considerations
- Sustainability
  - Clear guidelines for sustainable integration and design
  - Reuse of existing infrastructure
- Multimodal connectivity
  - Connect with existing transportation & mobility hubs
  - Vertiport siting should be part of a comprehensive transportation plan that enhances mobility
- Economic Development
  - Ensure policies support economic growth throughout the state through technology jobs, transportation efficiencies
- Airspace Conflicts
  - Ensuring siting of hubs can exist harmoniously with existing uses such as airports

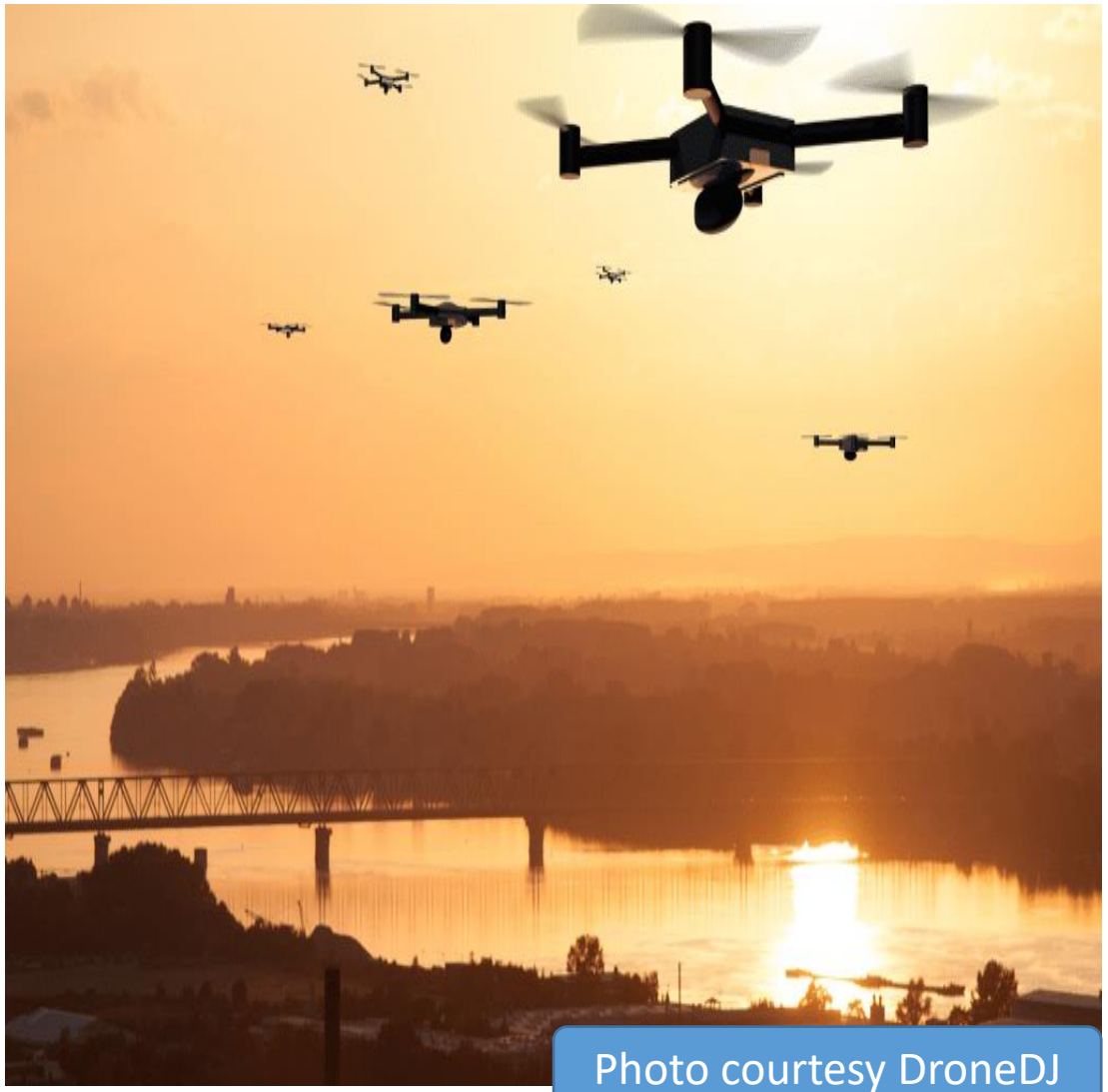


Photo courtesy DroneDJ

Aurora Airport Master Plan update

- Draft chapters 1-3 (out of 8 chapters total) almost complete
- Public Advisory Committee (with reps from 35 organizations) has met three times
- Waiting on FAA approval of forecast
- Next PAC meeting expected mid-November
- Completion expected summer or fall of 2023

Aurora ramp from the tower, photo courtesy ODAV

Salem commercial air service

- Salem was recently awarded a $850K Small Community Air Service Development Grant from FAA for recruitment of airline service
- Airport is in discussion with two airlines to potentially start service in 2023, with potential service to San Francisco, Los Angeles, Las Vegas and/or Phoenix
- Airport staff are working on infrastructure modifications to the terminal and required security plan
- The 2022 Legislature provided $540K for terminal improvements
- ODAV provided $500K for air service recruitment through the ASAP grant program

Photo courtesy Salem Airport

Questions?

Interesting trivia – PDX's long runway and Mount Hood are almost the same length/height (11,000 ft vs 11,237') photo Port of Portland