

Electric Aircraft Feasibility Study

Next Steps

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Planning for the Next Aviation Revolution

- Electric aircraft are flying today and new companies are entering the market every day
 - Approximately 215 models under development
- WSDOT completed a one year consultant led study on the potential impacts of electric aircraft for Washington State in November 2020
- This technology has the potential to open up new markets for air travel while reducing greenhouse gas emissions
- Planning for implementation of electric aviation is key to successful adoption



Electric Aviation in Washington

Washington State could become the epicenter for electric aircraft

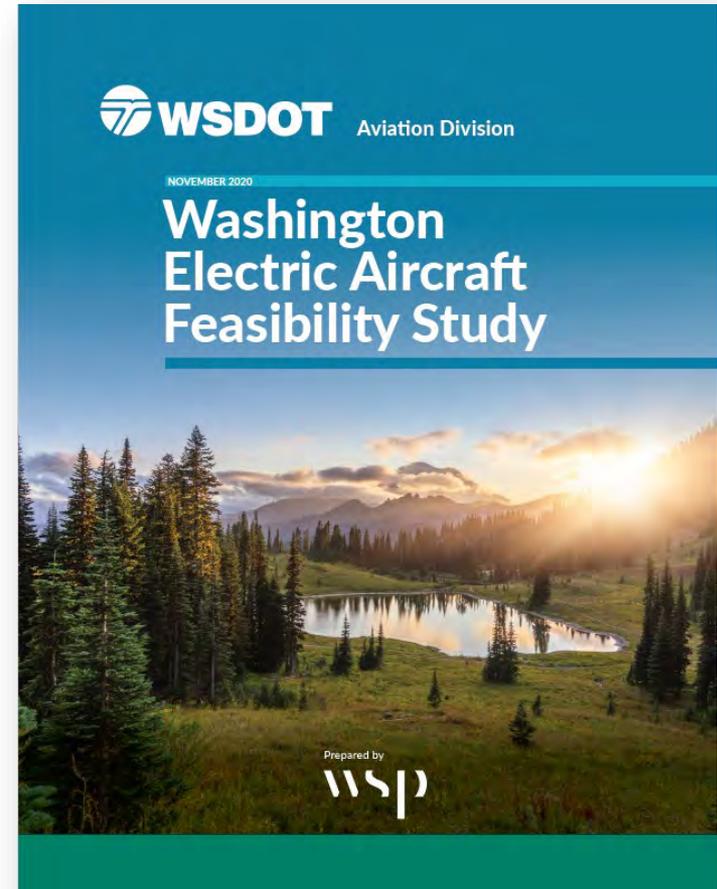
- **Development**
 - magniX, headquartered in Redmond, is developing the next generation of aircraft propulsion with its electric engines
- **Testing**
 - AeroTEC is currently flight testing a Cessna Caravan converted to electric propulsion with a magniX engine at Grant County International Airport in Moses Lake
- **Manufacturing**
 - Recently announced that Eviation plans to assemble the Alice at Arlington Municipal Airport
 - Alice utilizes the magniX engines



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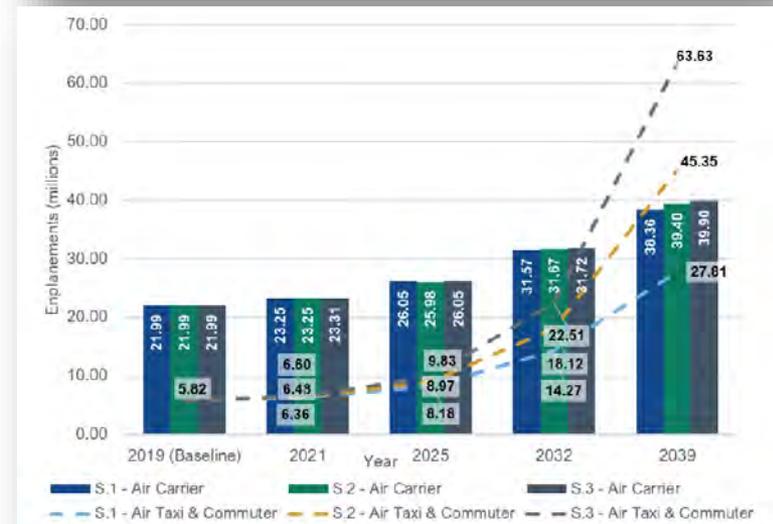
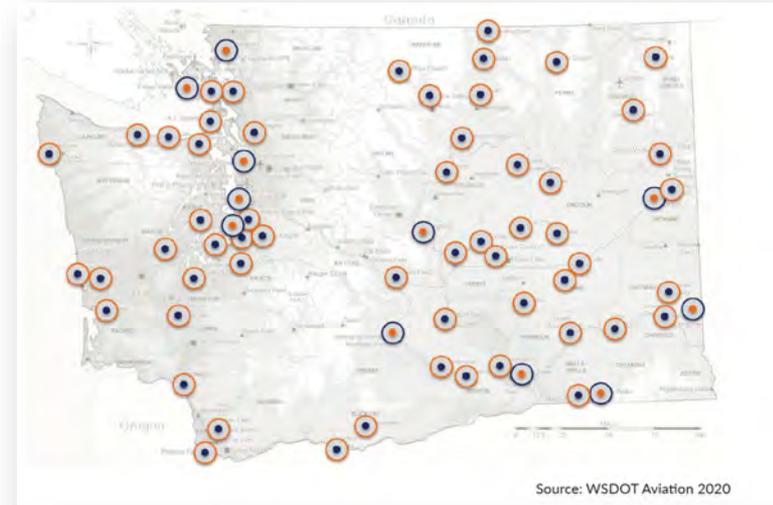
- Study Areas of Emphasis

- Identification of current and projected airport infrastructure improvement needs to accommodate electric aircraft
- Evaluation of projected economic impact resulting from increased access to air transportation
- Demand forecasting for electric propulsion regional passenger air service in Washington State
- Appraisal of potential environmental impact and emission reductions
- Identification of six airports to support beta test of electric aircraft
 - Grant County International
 - Olympia Regional
 - Boeing Field/King County International
 - Spokane Felts Field
 - Yakima Air Terminal
 - Chehalis Centralia Municipal



Washington Electric Aircraft Feasibility Study

- eA has potential to increase flight activity
 - Leading to economic growth supporting jobs and creating business revenues
- Anticipate air taxi & commuter operations ~ 2025, with dramatic growth after 2032
 - Until larger passenger aircraft are viable, airline operations will not see as much growth
- Aviation represents 0.46% of emissions in Washington State and 2.4% of global CO2 emissions which is projected to increase
 - Electric aircraft could help reduce both aviation emissions and noise
- Electric propulsion is key for Advanced Air Mobility prototypes (think Jetsons)



Washington Electric Aircraft Feasibility Study

- Batteries will initially limit the size of all-electric aircraft
 - Small regional aircraft
 - Air taxis
 - Advanced Air Mobility
- Larger aircraft will most likely be powered with combustable fuels for quite some time
 - Aircraft produced today will be flying through 2040
- A more sustainable path forward could include powering aviation with:
 - Sustainable Aviation Fuel
 - Electric Propulsion
 - Hydrogen Fuel Cells



Moving Forward

What is next for electric aircraft in Washington?

- Continue the work of the Electric Aircraft Working Group (EAWG) to maintain dialog with industry stakeholders
- Include electric aircraft in WSDOT Aviation Planning efforts
- Work with airports to include electric aircraft in Master Plan Updates
- Work with the National Association of State Aviation Officials (NASAO) and other federal partners to advance and fund electric aviation on a national level
- At the right time fund infrastructure projects at the selected Beta Test Airports



Moving Forward



What is next for electric aircraft in Washington?

- Encouraging airports to electrify other functions
 - Electric ground support equipment
- Local governments need to consider Advanced Air Mobility (AAM) in their planning processes
 - Review current land use ordinances to facilitate new aviation technology
 - Early planning will help communities be ready for AAM
- On airport power generation
 - Solar, wind, etc.
- Considerations for industry incentives
- As demand for air service increases, sustainable practices will help public acceptance of airports

Questions?

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