

### Technical Advisory Committee Meeting #4

NIRGE

Aviation Planning Group

March 10, 2022



### Introductions

### **Port Staff**

Rudy Rudolph Operations & Airport Director Lisa Parks Executive Services Director

#### **Jennie Foglia-Jones**

Senior Manager of Communications, Marketing & Government Affairs

### **Project Team**

Leah Whitfield

Project Manager

Justin Heid Lead Planner Renee Dowlin Environmental Planner Darren Murata, P.E. Lead Engineer, DOWL

### Participation

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**DRT** 

This presentation will be recorded and posted on the Port's Airport Master Plan Update website.

We will mute all participants during the presentation.

During the alternatives TAC members will have an opportunity to raise their hand to discuss.

Please type in the chat box if you have a comment or question.



# THE AGENDA

- **1.** Project Progress
- **2.** Preferred Alternative Goals
- **3.** Preferred Alternative & Discussion
- **4.** Emerging Technologies
- 5. Next Steps

Project Progress

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- Completed
  - Inventory
  - Forecast Approved by FAA
  - Facility Requirements
  - Three Alternative Concepts
- Current focus areas
  - Coordination with the HCP Team
  - Preferred Alternative Concept
  - Airport Layout Plan
- Future Focus Areas
  - Implementation
  - Part 139 Commercial Service Feasibility Study

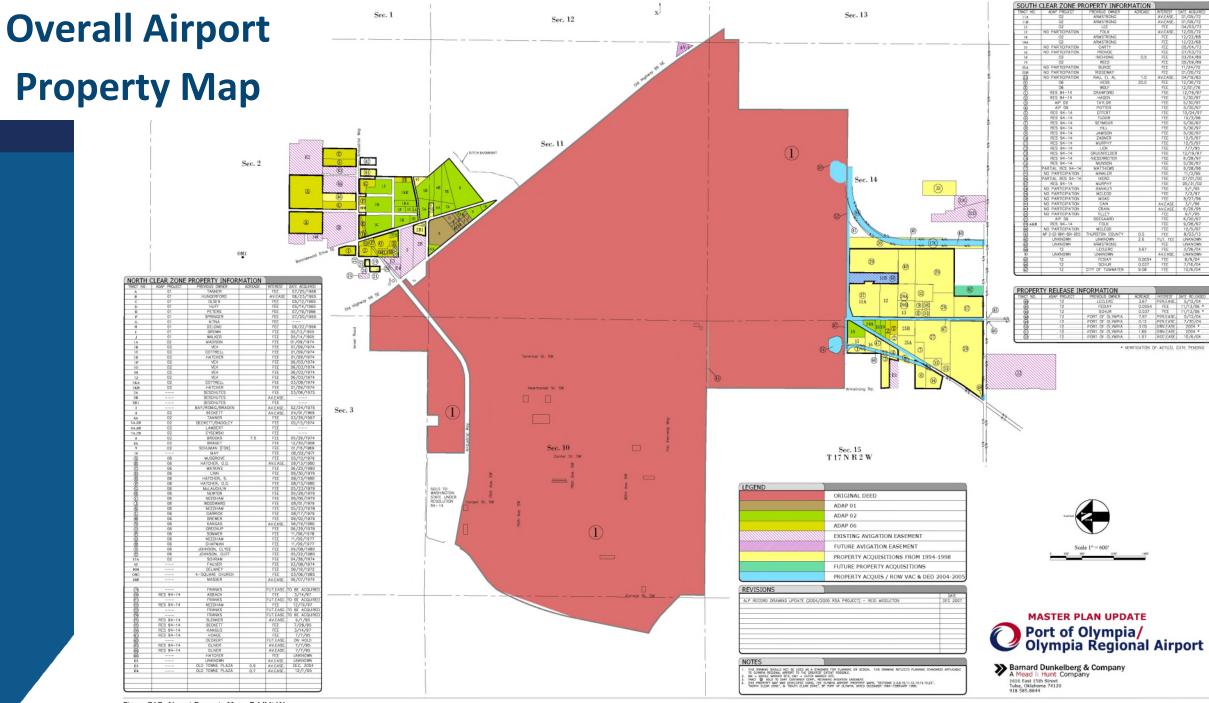
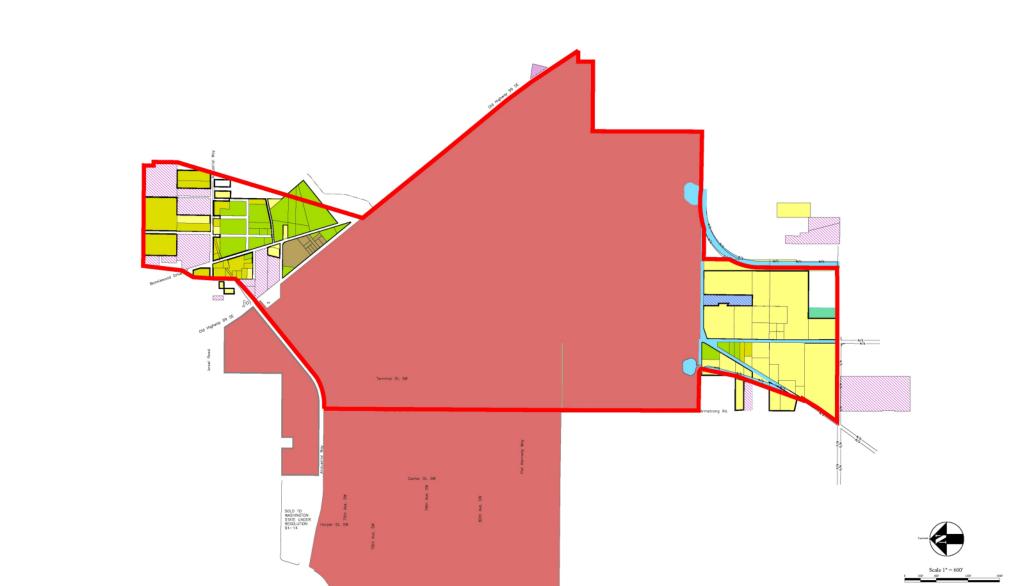
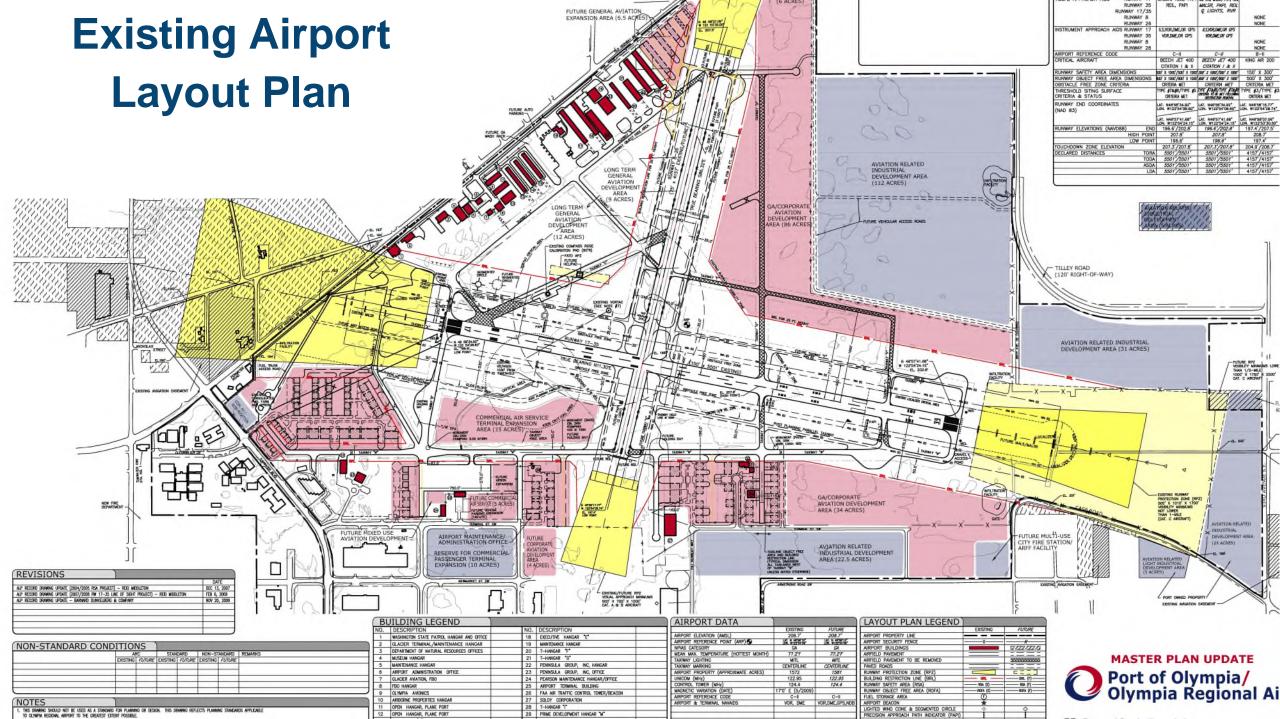


Figure E17 Airport Property Map - Exhibit 'A'

### Master Plan Focus Area

### Airport Master Plan Update





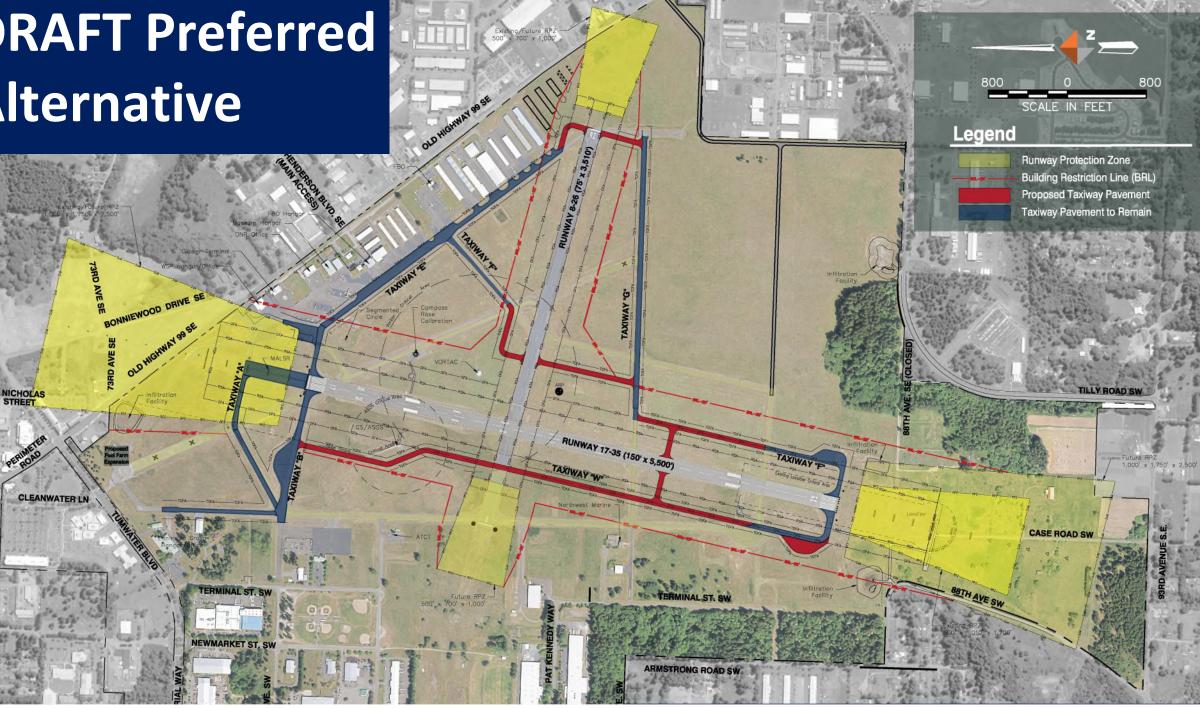
#### OLYMPIA REGIONAL Airport Master Plan Update

Preferred Alternative Goals

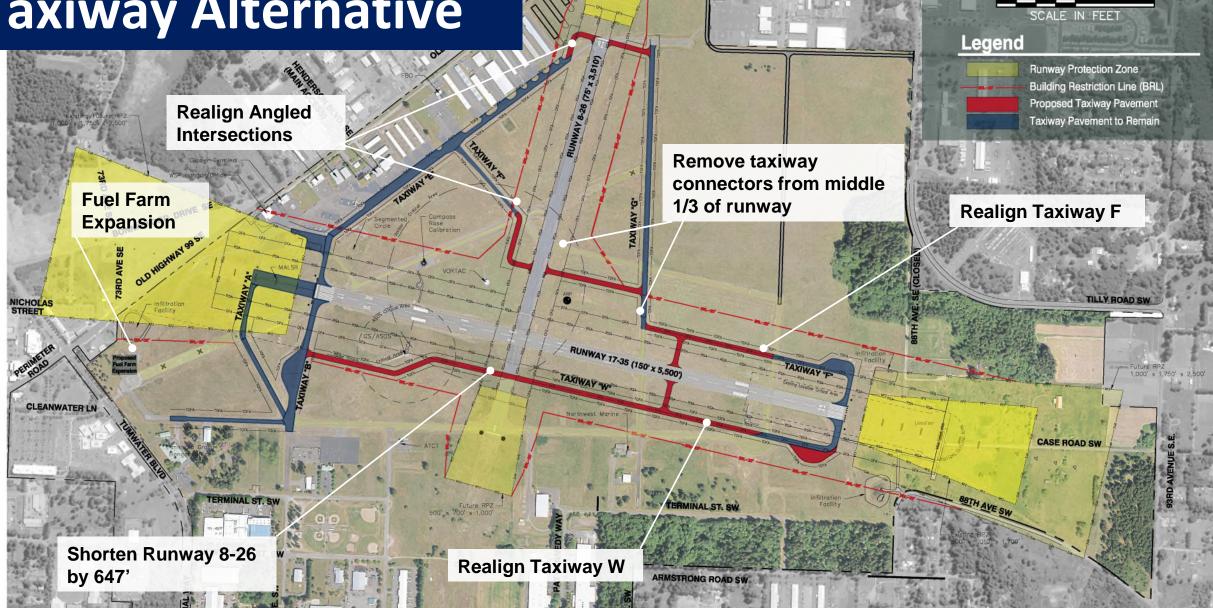
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- Meet FAA design standards
- Meet based and transient aircraft demand
- Maintain crosswind runway for smaller aircraft, while reducing capital and maintenance cost to Port (Note: Crosswind runway in-eligible for FAA funding)
- Prepare OLM for future development
- Prepare OLM for emerging aviation technologies
- Continued Airport self-sufficiency

# **DRAFT Preferred** Alternative



# DRAFT Preferred Taxiway Alternative



800

# DRAFT Preferred Land Use Alternative

Sector Sector

the test	A CONTRACTOR
Development Area	Acres
Aviation Industrial	204 acres
GA (Small)	96.5 acres
GA (Corporate)	50 acres
Commercial Air Service	55 acres
Commercial	3 acres
TOTAL	441 acres
CLEANWATER LN Commercial	GA Small (20.0 Ac)

(3.0 Ac)

**Aviation-Related** 

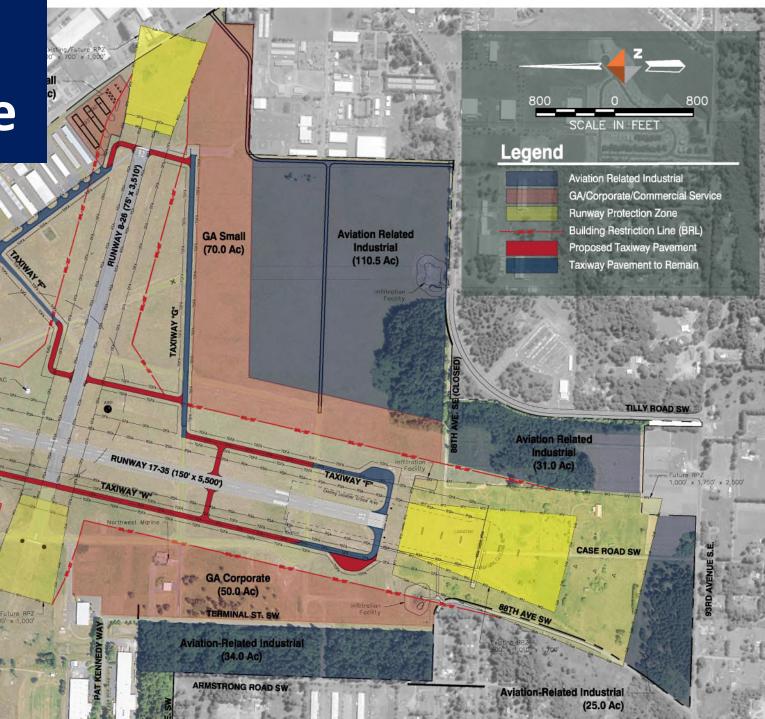
Industrial

(3.5 Ac)

3 acres 441 acres GA Small (20.0 Ac) Ga Small (20.0 Ac) Commercial Air Service (55.0 Ac)

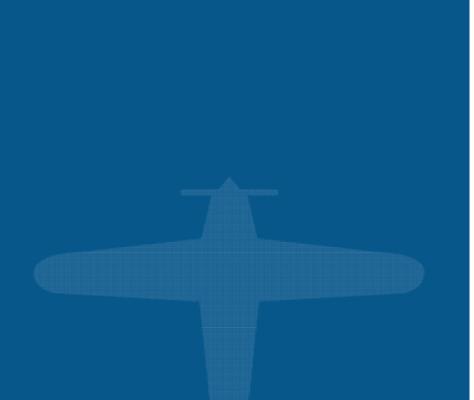
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Emerging Technologies



- Sustainable Aviation Fuels
- Electric Aircraft
- Hydrogen Aircraft



### Sustainable Alternative Fuels (SAF) AKA: Biofuel/Plant Based Fuels:

 Created by using feedstock produced by green plants, that absorb CO2 from the atmosphere and convert it oils/sugars to make low-carbon jet fuel.

#### **Bio/Plant material**

- Waste product
- Bio Mass
- Animal fats

- <u>U.S. SAF Forecast:</u> Currently 27 million gallons to 3 billion by 2030
- SAF is a proven, drop-in technology
- Biofuel can be blended with conventional fuel in



United purchases 10 million gallons at LAX. SAF blend is 50% with Jet A fuel

#### existing system There is adequate space for fuel farm expansion if demand for biofuels occurs.

### Electric Aircraft

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- Electric aircraft technology is projected to help the aviation industry reach reduced emission goals
- Electric aircraft are projected to have lower operating cost
- Electric training and commuter (9-50 seats for flights less than an hour) aircraft are expected as early as 2025
- Electric aircraft are projected to make up 5% of the fleet in the U.S. within a decade

- Study team examining the electrical grid infrastructure to determine any necessary upgrades with Puget Sound Energy.
- A recent report from the Airport Cooperative Research Program suggests the cost of a charger and installation costs are approximately \$200k-250k per charger.
- More economical to charge an aircraft with several small chargers (120KW) than with one large charger (800kW).







### Electric Aircraft

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### Hydrogen Aircraft



anet

What is BBC Future? Future Planet Follow the Food Family Tree

By Caspar Henderson 7th April 2021

A record-breaking commercial-scale hydrogen plane has taken off in the UK, with more set to join it soon. How far can such planes go in cutting the aviation industry's emissions?

### Designers hope hydrogen-powered plane will fly halfway around the world without refueling

Kris Holt 12:24 PM EST • December 6, 2021

Comment







### Hydrogen Aircraft



Lightweight

Hydrogen contains 3x more energy per weight than jet fuel, and enables vastly longer trips than battery power. It is the most energetic non-nuclear fuel and aviation is the most weight-sensitive application.



#### **Carbon-free**

Hydrogen is a true zerocarbon fuel. It is made from water and its only emission is water.



#### Affordable

Hydrogen will be at cost parity with jet fuel starting in 2025, with costs decreasing exponentially.



#### Safe

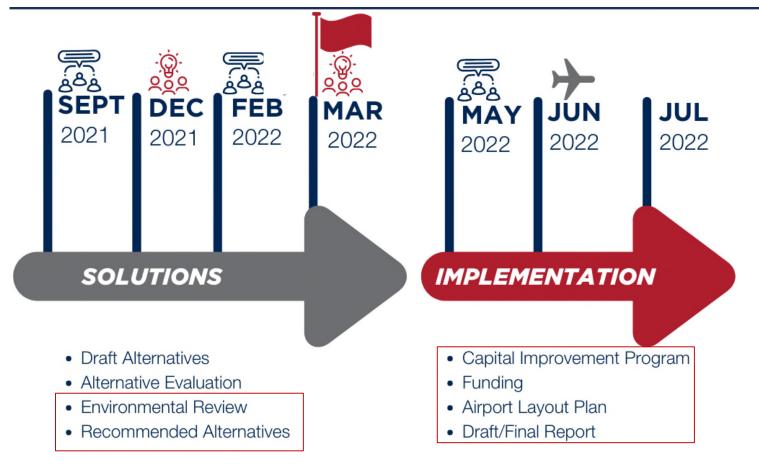
Hydrogen is significantly safer than jet fuel. It has a great safety record in hydrogen-powered vehicles.



Hydrogen fuel cell aircraft are expected to be flying as early as 2030



### Next Steps



#### OLYMPIA REGIONAL Airport Master Plan Update DRT

Questions & Comments

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If you have a comment you can:

**Use the "Raise Hand" button** 

- Under "Participants" or
- Under "Reactions"

Public Comments/Questions: type a comment in the chat box and the study team will update the Q&A as needed.



### Thank you



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