1. Public Involvement Summary

A.1. PUBLIC OUTREACH

Public involvement began early and continued throughout the project using multiple avenues of participation. The project team drew upon a variety of resources for this public outreach effort. Tools were designed to ensure that public concerns and key issues were identified and considered, and to demonstrate the Airport and Port's commitment to considering public feedback. Public involvement tools varied in approach and provided a variety of methods for stakeholders to participate in the process.

A.2. PUBLIC INVOLVEMENT TOOLS

A.2.1. SURVEYS

A survey was conducted in the spring of 2021 on behalf of the OLM that included 28 airport users and pilots. Percentages are based on the number of respondents who answered each question.

Of the respondents, there is a range between 1-7 aircraft they each respectively own and operate at OLM. Flight schedules vary from daily, weekly, to monthly and can be categorized as 78% personal use, 35% business (36% own a business in the area), and 57% training/local flying. Of the pilots, 64% of respondents currently hold an instrument rating, 60% commercial, 39% private, and 50% multi-engine. OLM has published instrument approaches that 81% of the based respondents use, and 92% indicate that the runway meets their current needs.

Hangars are utilized by 89% of the respondents. 81% currently rent, 11% own, and 7% are located on the ramp. There is a desire to build hangars by 39% of those surveyed. Several airport issues were presented to the respondents in which they rated the urgency that they should be addressed. The top 4 issues ranked very important were 1.) self-serve fuel: 100LL, 2.) additional box hangars to rent, 3.) additional T-hangars to rent, 4.) Airfield Lighting in areas that only have reflectors.

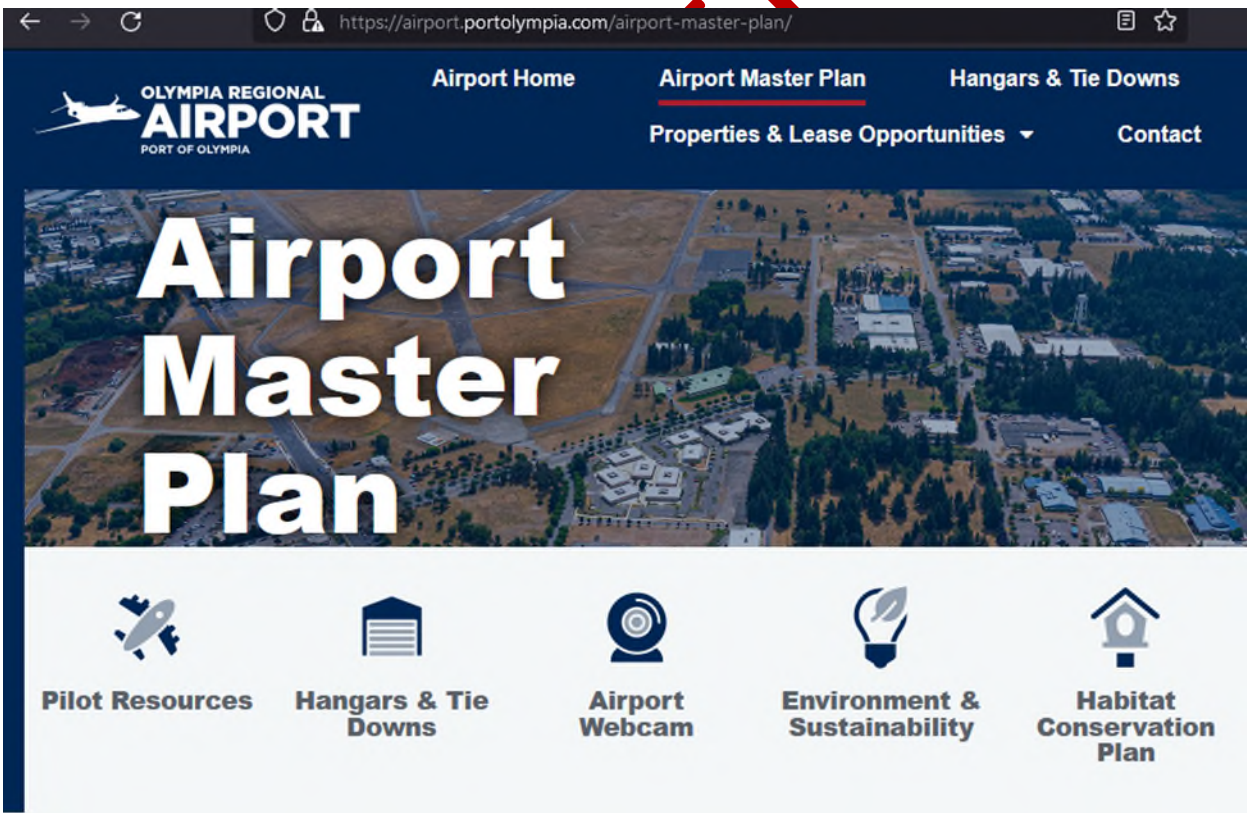
Additional services and improvements that were rated as important or very important by based airport users included comments such as respondents expressing the need for more hangar space, an actual General Aviation pilots lounge (available 24/7), lighted taxiways on the east side of the airport and additional restrooms – possibly located with a future GA terminal. Respondents echo the sentiment of growth possibilities that come with the development of the airport.

A.2.2. PROJECT EMAIL LIST FOR E-NEWSLETTERS

A project email distribution list of agencies, organizations, aviation interests, and individuals with an interest in the airport was maintained throughout the project. The email list was updated based on emails from entities interviewed, those who participated in public and other stakeholder meetings, and other contacts during the project.

A.2.3. WEBSITE

The Airport website (https://airport.portolympia.com/airport-master-plan/) served as a library for the project and housed many of the resources described later in this document, such as the survey link, Fact Sheet, FAQ, open house material, and the previous planning studies completed by the Airport. Viewers of the website also had the opportunity to submit their email address on the site to sign up for the E-Newsletter and to be on the email list. Viewers could also submit comments electronically to the project email address.



A.2.4. FAQS

Throughout the Master Plan Update process comments and questions were received from the public via email and public open house comments and questions. As many people may have had similar questions, a Frequently Asked Questions (FAQ) page was maintained on the Master Plan Update website and updated regularly.

A.2.5. PRESS RELEASES

The project team submitted press releases periodically to The Olympian and social media avenues run by the Port of Olympia.

A.2.6. PUBLIC OPEN HOUSES

The project team hosted three virtual public open house meetings and one hybrid meeting (in person and virtual) open to all interested community members. Meetings were held virtually due to the COVID-19 Pandemic and Port, City, County, and State Requirements. Once in person meetings were able to be conducted the Port opted to include that avenue for communication. The in person meeting still maintained a virtual presence to ensure everyone was afforded the opportunity to participate. The purpose of these meetings was to inform the public of project progress, to solicit input, and gather information for development of the preferred alternative. Meetings were advertised through the project email distribution list, in The Olympian and on the project website. The open houses were formal open houses that typically were scheduled for 90 minutes and covered a presentation on the active portion of the Master Plan Update with an opportunity for public comment.

Each public open house focused on informing the public of specific tasks being focused on by the project team. Copies of boards or presentations are included at the end of this Appendix for review.

Public Open House #1 (September 2021) - Inventory and Forecasts

Public Open House #2 (February 2022) - Facility Requirements and Alternatives

Public Open House #3 (May 2022) – Preferred Alternative

Public Open House #4 (October 2022) – Revised Preferred Alternative and Commercial Feasibility Study

A.2.7. TECHNICAL ADVISORY COMMITTEE MEETINGS

A Master Plan Update TAC was formed and called upon to comment on the master plan update process and findings. This committee was made up of aviation interests and other stakeholder representatives, and advised the master planning team at key stages of the project.

This committee met four times virtually throughout the project. Though not a part of the committee, the FAA Seattle Airport District Office and Washington Department of Transportation – Aviation Division were invited to all TAC Meetings. Additionally, the general public was invited to listen into the discussion.

TAC members included:

Table 0-1: OLM Master Plan Update TAC Members

Name	Representing
Michelle Tirhi	Washington Division of Fish and Wildlife
Max Platt	WSDOT Aviation Division
Dave Ritchie	Washington Department of Natural Resources Aviation
Lt. Krista Greydanus	Washington State Patrol Aviation
James Boone/Rick Johnson	OLM Air Traffic Control Tower
Katrina Van Every	Thurston Regional Planning Council
Brad Medrud	City of Tumwater
Jeff Powell	Airport Hangar Tenant
Mike Theilen	Airport Fixed Business Operator Owner
Shawn Pratt	Airport Fixed Business Operator Owner
Mike Reid	City of Olympia
Cameron Wilson	Port of Olympia Citizens Advisory Committee

Source: The Aviation Planning Group 2022.

A.2.8. PORT OF OLYMPIA MEETINGS

A presentation was given to the Port of Olympia Commission during a Commission meeting in October 2022. The meeting reviewed the progress to date and the findings of the MPU and Part 139 Feasibility study.

A.2.1. COMMENTS (COLLECTION AND REPORTING)

Comments received by the project team during public open houses or electronically (email/website), by phone, or in writing were considered formal public comments.

Formal public comments and project team responses were recorded in a comment database and provided to the Airport and planning team.

PORT of OLYMPIA

Olympia Regional Airport Master Plan Update Log

AL 2022-## **Received Date** **Response Date(s)** **Requester's Name** **Email/Address/Phone**	**Topic:** **Staff that responded:** **Response:**

AL 2022-01 18 January 2022 18 January 2022 Jan Witt ljwitt312@aol.com	**Topic:** Olympia Airport Master Plan - another question Hi Leah, Thank you again for sending the links to meetings and websites I have another question: During the Dec 16 meeting you mentioned a "Commercial Service Feasibility Study." Would you please tell me the names of the agency and consultant that is conducting that study. Thank you! Jan Witt **Staff that responded:** Leah Whitfield from The Aviation Planning Group **Response:** Lisa, It is a component of the master plan that we are completing.

	Leah .
AL 2022-02 17 February 2022 17 February 2022 Glen Anderson glenanderson@integra.net	**Topic:** I STRONGLY OPPOSE expanding the airport. I STRONGLY OPPOSE expanding the airport. **Staff that responded:** Jennie Foglia-Jones **Response:** Mr. Anderson, Thank you for your email dated February 17. Your comments have been logged.
AL 2022-03 17 February 2022 17 February 2022 Meryl Bernstein space4now@gmail.com	**Topic:** Comment 2/17/22 Open House --(in lieu of zoom) To Whom It May Concern; Regrettably, I do not have the ability to connect to zoom using my outdated technology so I am hereby submitting my comment via email. *Please tell me if this will be included or is not acceptable.* COMMENT: We are no longer living in an era where the impact on environs can be overlooked, as generally happens with airport expansions and is likely to be part of your thought process. That is a given, would you not agree? Being from this county, you have undoubtedly witnessed the loss of undeveloped land masses due to residential and commercial expansion. With that comes more vehicles and congestion. The quality of life *that currently remains*, the way Washingtonians are accustomed to and seek out, *is right here in South Thurston county* --the rivers, nature preserves, a State Park, prairies, farmland, equestrian centers, hunting grounds, swimming holes and more. Expanding the airport to accommodate increased flights and larger aircraft would, without a doubt, ruin what is left in our county: Residents relish the fact that a quick drive or bike ride from home to the great outdoors gives them and their children a respite from congestion and a variety of opportunities to recreate. (Mental health is no small part of the benefits derived from easy access to what our county [currently] has to offer.)

	You may not think this bears much weight in light of your task and what you think you should factor into your analysis, however, the resultant noise and exhaust pollution from intensified air traffic will degrade an entire region and that is not something to take lightly. Thank you for including my point of view in your Open House, Meryl Bernstein Thurston resident **Staff that responded:** Jennie Foglia-Jones **Response:** Meryl, Thank you for your comments regarding the Airport Master Plan Update. They have been logged.
AL 2022-04 17 February 2022 17 February 2022 Glen Anderson glenanderson@integra.net	**Topic:** We oppose the airport expanding As residents of Olympia, we treasure Thurston County and its wonderful quality of life. We like the lack of industrial activities, our cultural downtown and the rural quality of much of the County. We are strongly opposed to any expansion of the Olympia Airport. Turning Olympia into a busy airport with warehouses to satisfy the latest business trends is short-sighted, will only profit a minority, and will further jeopardize our already fragile natural areas . The citizens of the County will have to put up with the increased traffic, threats to our natural areas and parks, more noise and more air pollution. Rates of serious illnesses increase the closer one lives to an airport. We want Thurston County to stay healthy. We don't want to become subject to more noise, more traffic, more industry, more of everything that is damaging to the health of people and the environment. There is no way you can expand this airport and not radically change the Olympia we love. We would rather see the funds going into high speed rail.

	Thank you. Warren and Esther Kronenberg Olympia, WA 98502 **Staff that responded**: Jennie Foglia-Jones **Response:** Ms. Kronenberg, Thank you for your email dated February 17. Your comments have been logged.
AL 2022-05 24 February 2022 25 February 2022 Pete Kmet pnkmet@comcast.net	**Topic:** Comment on Airport Master Plan This update to the Airport Master Plan provides an opportunity to create a public mixed use trail around the perimeter of the airport. This trail would be an asset to attracting businesses at the airport, easily passing the test of supporting airport operations. it would provide a regional attraction and opportunity to connect to the long range regional trails system, a branch of which is planned to pass to the south of the airport in the future. It would also help connect residents that live around the airport to businesses at the airport and the larger community. Considerable funding is targeted for trails in the federal infrastructure bill and may represent a once in a lifetime opportunity. There is room around the perimeter of the airport, with perhaps a minor adjustment to the fence in the SW corner, to make a full circle around the airport on Port property. Using airport property for such a trail has precedent. Just south in Lewis County, the airport in Chehalis has a trail around part of its perimeter. On a national level, the Baltimore-Washington International Airport has a full perimeter trail (see attached). This is a much busier airport. I'm sure there are many other examples if one did a little more research. The airport often draws negative public comment because the public views it as a negative polluting, noisy burden on the community, serving a few private pilots and industries that have little connection to the community. Providing a public amenity like this could help change that perspective. It is past time for the Port step up and provide a public amenity at its airport holdings similar to what it has done in its marine holdings.

	Including a conceptual trail plan in the Airport Master Plan would be an important first step. Pete **Staff that responded:** Jennie Foglia-Jones **Response:** Mr. Kmet, Thank you for your comments regarding the Olympia Regional Airport Master Plan Update. They have been shared and logged.
AL 2022-06 27 September 2022 29 September 2022 Uriel uriniguez@gmail.com	**Topic:** Airport plan Airplanes flying too low over the Olympia high school neighborhood has not been resolved. This constituent has concerns over noise and safety. It would be nice if these issues are resolved before any plans on expanding the airport are implementing. Uriel Sent from my iPhone **Staff that responded:** Lorie Watson **Response:** Uriel, Thank you for your email dated September 27. Your comments have been logged.
AL 2022-07 05 October 2022 06 October 2022 Amanda Sanders **amandasandershomes@gmail.com**	**Topic:** Olympia NEW Airport This am I awoke to news that it is being considered to build a massive airport right where I live. We have many wetlands around us,Spurgeon Creek,Sunwood Lake and all kinds of animals that would never be able to find refuge out here. We are also nowhere near the I-5 corridor. I am puzzled and extremely frustrated that this was even brought to the table? We live on an apple orchard out on Spurgeon Creek Rd. We have tribal lands up the street.

	There is no logic to building another airport when there is already an airport established in Tumwater. At what point do taxpayers have to say use our money effectively and quit throwing it around. Lastly, why is it when a barn needs to be built, and addition on a home is requested it becomes an issue where gophers are looked for and if spotted work can not continue. WE HAVE gophers out here and many of us have not been able to build or paid great additional expense to build because Thurston County states they are endangered or there are wetlands here. How can an airport be put on top of wetlands,streams,lakes and these protected gophers so simply when they think they need another airport? Thank you ! Amanda Sanders Broker at Abbey Realty Inc. Cell:360.259.7673 Office:360.459.0428 4621 Lacey Blvd S.E Lacey Wa. 98503 **Staff that responded:** Lorie Watson **Response:** Ms. Sanders, Thank you for your email. The Commercial Aviation Coordinating Commission (CACC) that is investigating a potential Thurston County greenfield site for a new airport is a completely separate entity from the Olympia Regional Airport and the Port of Olympia. Your comment has been forwarded to the CACC for their awareness and to ensure your comment is placed in the record. To submit further comments for consideration by the CACC, please email them directly at CACC@wsdot.wa.gov.
AL 2022-08 05 October 2022 07 October 2022 Jackie Thomason jltandwlt@aol.com	**Topic:** Opposed to Thurston County Site for new airport I have lived in Thurston County since 1986 and in the area near the central proposed area for the airport and definitely in the impact area of the proposed airport since I live in Sunwood Lakes between Rainier Road and Yelm Highway just northeast of Rainier. I am completely opposed to this coming into Thurston County and disrupting our more

	rural and green way of living. This would displace animals (wildlife) as well as families that really don't have the means to move to another more costly area of living (especially with the housing market and cost of living what it is today). Many seniors have retired in this area planning for years to live here where the cost of living is lower to meet their needs/finances. The noise and commercial air traffic (to just name a couple cons) would greatly change all of our lives for the worse. We already deal with JBLM noise and are willing to accept that since the base and flight patterns/training areas were here when we moved in. That was part of the pros and cons contemplated when moving into this area. This proposed airport is another story though. There is plenty of areas wanting a commercial airport to boost their employment opportunities for their communities. There is no reason to force this on a community that does NOT want it. The Thurston County Commissioners have been on record for years that they oppose Thurston County as an airport site. This construction site could easily impact or contaminate our community well (with over 375 families in our development alone). There are also other developments in the area as well as homes with acreage. I have signed the below petition and I am in agreement with it as well as my many family members and friends that all live in the area and most in or near the impact area. Jackie Thomason 7939 Vireo Court SE Olympia, WA 98513 (Sunwood Lakes Homeowners Association) jltandwlt@aol.com 360.456.4536 Petition regarding airport proposed site in Central Thurston County To the WA state legislature, Governor Inslee, WSDOT, Thurston County local leaders, stakeholders and members of the community: We the undersigned strongly oppose creation of a new major commercial airport in Thurston County. We call on the Thurston County commissioners to create consequential and enforceable land use rules to protect the community from this project. We demand that

	Governor Inslee and WSDOT remove the "central Thurston greenfield" site from the Commercial Aviation Coordinator Commission's consideration for a new major airport. The proposed central Thurston site contains 40 acres of land owned by the Nisqually Tribe and also includes parts of JBLM training areas 22 and 23. We ask that the Tribe and the Federal government prohibit the use of their land for a new commercial airport here. Where the aviation industry sees dollar signs, the residents of Thurston County see noise, pollution, sprawl and congestion. We see the destruction of climate, natural resources, water and, in the south county, our rural way of life. The Washington public at large agrees. In 2021 and 2022 surveys conducted by the CACC, the public said no to aviation expansion unless environmental impacts are mitigated. The proposed mitigation of these impacts, such as electric planes, has been small scale and minimal. It is irresponsible to justify major aviation expansion with experimental and premature technology. Adding another major airport to our region is not a sustainable investment in our future. The CACC's vision of unfettered growth in regional aviation does not support Washington's commitment to greenhouse gas reductions of 45 percent below 1990 levels by 2030 and 95 percent below 1990 levels by 2050. Regarding natural resources, the proposed Thurston County Central airport site encompasses 79 acres managed by the Capitol Land Trust as important habitats: The Spurgeon Valley Preserve, the Shermer-Deschutes Preserve and the Bentley Conservation Easement. The proposed site is directly adjacent to the Center for Natural Lands Management's Tenalquot Prairie Preserve and JBLM's Weir Prairie Research Natural Area, both habitat for multiple conservation targets including the federally threatened Mazama pocket gopher, golden paintbrush, Oregon vesper sparrow, the western bluebird and the Taylor's checkerspot butterfly. The proposed site directly overlaps the McAllister Springs Geological Sensitive Area, whose well fields supply drinking water to Olympia and the Nisqually reservation. The majority of the proposed airport site lies on lands that are considered Category 1 – extreme aquifer sensitivity, providing very rapid recharge with little protection from the groundwater pollutants that would be generated by a major airport.

	We question the CACC's growth predictions for the aviation industry. They are unchecked for changes in travel behavior, induced and artificial demand, and other transportation options. We believe that there are better alternatives like high speed rail to meet the region's future transportation needs. However if the growing population of the greater Seattle area must have another major commercial airport, let that community, not ours, bear the burden of its creation.**Response:** **Staff that responded:** Lorie Watson **Response:** Ms. Thomason, Thank you for your email. The Commercial Aviation Coordinating Commission (CACC) that is investigating a potential Thurston County greenfield site for a new airport is a completely separate entity from the Olympia Regional Airport and the Port of Olympia. Your comment has been forwarded to the CACC for their awareness and to ensure your comment is placed in the record. To submit further comments for consideration by the CACC, please email them directly at CACC@wsdot.wa.gov.
AL 2022-09 09 October 2022 10 October 2022 Alaine Schumann and alaine.schumann@gmail.com	**Topic:** Thurston County Airport We are strongly opposed to a large commercial airport in Thurston County. - Lack of infrastructure - parking, restaurants, hotels, gas stations, roads would all have to be built in the area. - Destruction of rural living quality - Noise pollution and lowering of property values in flight paths. - Distance from I-5 - It is easy to travel to the Portland airport from Thurston County. We live at Scott Lake…..south of Tumwater. Alaine Schumann Dan Christoffer Sr. 2523 Blooms Ct SW, Olympia, WA 98512 **Staff that responded:** Lorie Watson

	Response: Ms.Schumann and Mr. Christoffer, Thank you for your email. The Commercial Aviation Coordinating Commission (CACC) that is investigating a potential Thurston County greenfield site for a new airport is a completely separate entity from the Olympia Regional Airport and the Port of Olympia. Your comment will be forwarded to the CACC for their awareness and to ensure your comment is placed in the record. To submit further comments for consideration by the CACC, please email them directly at CACC@wsdot.wa.gov.
AL 2022-10 12 October 2022 12 October 2022 Jeri Dee McAferty nautihorse@gmail.com	**Topic:** East Olympia Proposed Airport Site The satellite view of the proposed area is VERY old. It doesn't show the housing developments that have been built in the last 10 years. There are wetlands in this area. There are several schools in this area. It would displace a lot of families that have been here for years. -- Jeri Dee McAferty "I love a dog. He does nothing for political reasons." - Will Rogers **Staff that responded:** Lorie Watson **Response:** Ms. McAferty, Thank you for your email. The Commercial Aviation Coordinating Commission (CACC) that is investigating a potential Thurston County greenfield site for a new airport is a completely separate entity from the Olympia Regional Airport and the Port of Olympia. Your comment will be forwarded to the CACC for their awareness and to ensure your comment is placed in the record. To submit further comments for consideration by the CACC, please email them directly at CACC@wsdot.wa.gov.
AL 2022-11 12 October 2022	**Topic:** No to Airport in Thurston County Hello,

12 Octoer 2022 Lynn Higgins lynnrhiggins@gmail.com	I am unable to attend the zoom meeting but I am adamantly opposed to an airport in Thurston County. 1. We are still semi-rural and need to preserve all of our open space due to climate change and the investment we as a county are making in salmon restoration so as to save our killer whales. We need to be good stewards of the environment first and foremost. 2. Thurston County is small in size and the area proposed has hundreds of residences located within or adjacent to the boundaries of the plan. Unacceptable. 3. Our county does not have infrastructure to accommodate the increase in traffic, water and sewage and pollution associated with this project. We don't have a population to support the work force therefore they will be traveling to the area on what roads? Why not build it where the population exists to support the work force that is needed. 4. If we are to improve our lives, air travel is not it. We should invest in light rail from Seattle thru Tacoma and onto our area whether that is the Lacey train station or an as yet to be determined location. Not polluting our air with jet fumes etc. 5. Just because Amazon wants an airport, it doesn't mean we should have one. Their interests are not aligned with the sensitive environmental needs of our county. I will never support this move. I believe the port should join with the county commissioners who have voiced their disapproval and stand united with the citizens of Thurston County. If we need to fly we have SeaTac and Portland to choose from. Thank you Lynn Higgins lynnrhiggins@gmail.com 360-819-6713 **Staff that responded:** Lorie Watson **Response:** Ms. Higgins,

	Thank you for your email. The Commercial Aviation Coordinating Commission (CACC) that is investigating a potential Thurston County greenfield site for a new airport is a completely separate entity from the Olympia Regional Airport and the Port of Olympia. Your comment will be forwarded to the CACC for their awareness and to ensure your comment is placed in the record. To submit further comments for consideration by the CACC, please email them directly at CACC@wsdot.wa.gov.
AL 2022-12 12 October 2022 12 October 2022 Michele Stevie mlstevie56@gmail.com	**Topic:** Fwd: Oppose Thurston County commercial airport proposal 10-11-2022 Please see attached letter in oppisition of expanding an airport in Thurston County. Thank you. Michelle Stevie (Included attached letter addressed to Port of Olympia Commission, saved in email.) **Staff that responded:** Lorie Watson **Response:** Ms. Stevie, Thank you for your email. As your letter is addressed to the Port of Olympia Commission, I have copied their staff to ensure it is routed appropriately. The Commercial Aviation Coordinating Commission (CACC) that is investigating a potential Thurston County greenfield site for a new airport is a completely separate entity from the Olympia Regional Airport and the Port of Olympia. Your comment will be forwarded to the CACC for their awareness and to ensure your comment is placed in the record. To submit further comments for consideration by the CACC, please email them directly at CACC@wsdot.wa.gov.
AL 2022-13 12 October 2022	**Topic:** SUPPORT for Building Tenino Airport As a resident and homeowner in Olympia, my family and I HIGHLY SUPPORT building this new airport. It would save us from having to drive in Seattle traffic and it would be much closer and ease traffic. We already have air traffic noise from JBLM.

12 October 2022 Evan E. evanenright@hotmail.com	Please support this proposal and build the airport!!! **Staff that responded:** Lorie Watson **Response:** Evan, Thank you for your email. The Commercial Aviation Coordinating Commission (CACC) that is investigating a potential Thurston County greenfield site for a new airport is a completely separate entity from the Olympia Regional Airport and the Port of Olympia. Your comment will be forwarded to the CACC for their awareness and to ensure your comment is placed in the record. To submit further comments for consideration by the CACC, please email them directly at CACC@wsdot.wa.gov.
AL 2022-14 8 November 2022 8 November 2022 Megan Carns carns.megan@gmail.com	**Topic: Master plan opposition** Hello, My family is opposed to the Master Plan update for the Olympia Regional Airport. Our family have been residents and farm owners for over 100 years and live just a mile from the airport. Increasing air traffic with commercial and cargo flights would affect us and our neighbors greatly. There are many farmers, homeowners, businesses and schools that would be affected. Please reconsider your plan and think of those that live in this area for a reason. It is not to accommodate large business and industrial development. We believe our effort to maintain farmland and rural land matters. Thank you for your time. Megan Carns **Staff that responded:** Lorie Watson

	Response: Hello Ms. Carns, Thank you for your email. Based on your comment about increasing air traffic with commercial and cargo flights, it appears you might be referring to the work of the Commercial Aviation Coordinating Commission rather than the Olympia Regional Airport's master plan update, which does not include changes to the existing use of the airport. The Commercial Aviation Coordinating Commission (CACC) that is investigating a potential Thurston County greenfield site for a new airport is a completely separate entity from the Olympia Regional Airport and the Port of Olympia, and thus separate from the Olympia Airport's Master Plan Update process. Your comment will be forwarded to the CACC for their awareness and to ensure your comment is placed in the record. To submit further comments for consideration by the CACC, please email them directly at CACC@wsdot.wa.gov.
AL 2022-15 10 November 2022 10 November 2022 Kathy O'Halloran ocusack1@comcast.net	**Topic: No jets** Adding commercial jet service to the Olympia Airport will increase noise, pollution and traffic thereby diminishing the quality of life in the area. I do not support this expansion. Kathy O'Halloran **Staff that responded:** Lorie Watson **Response:** Ms. O'Halloran, Thank you for your email dated November 10. Your comments have been logged.
AL 2022-16 29 November 2022 29 November 2022	**Topic: Strongly oppose Coca Cola lease** Hello, We STONGLY OPPOSE the 75-year lease the port commission is planning to enter into with Coca Cola!

Julie Forth julie.forth@icloud.com	We do not want to see the airport becoming an industrial business park. There is a ton of industrial park space that's perfect for what Coca Cola wants to do in North Thurston County near Hawks Prairie, north of I-5, in that already established industrial park area. Moreover, we very much want to see the Olympia Regional Airport used for commercial travel again. It's crazy to us that we have such a fabulous small airport in our city that cannot be used for domestic travel (unless you're wealthy enough to charter a private flight). It's ridiculous that we have to fight an hour or two of traffic north, in order to fly anywhere south, such as Oregon or California. Making real use of the Olympia Regional Airport is certainly preferable to a whole new monitor sized airport in our county. How will the airport ever be of use again to the common citizen if you sign away such large portions of it for a lifetime? Unacceptable! We do NOT support this hasty, unnecessary, and short-sighted plan with Coca Cola. Thank you, Julie Forth Olympia, WA **Staff that responded:** Lorie Watson **Response:** Ms. Forth, Thank you for your email dated November 29. Your comments have been logged. Your email was also forwarded to Mr. Allyn Roe, the Port's Business Development and Real Estate Director.
AL 2022-17 7 January 2023 10 January 2023 Richard Moon moonrb@gmail.com	**Topic: Airport Master Plan Update** Dear Commissioners: I support the Airport Master Plan Update! I support the modifications and improvements described in the Preferred Development Alternative. However, I hope you will prioritize the phase-out of 100LL AvGas by offering unleaded 100UL fuel and SAF, and encouraging users to transition to these fuels as soon as practical. I also hope you will enthusiastically support the development of E-aviation activities and services, as well as solar PV and power storage infrastructure at the

	airport. I believe the Olympia Regional Airport is a critical resource for our community and must be modernized to support future aviation needs and emergency services. Richard Moon Olympia, WA moonrb@gmail.com **Staff that responded:** Lorie Watson **Response:** Mr. Moon, Thank you for your email dated January 7 and your comments regarding the Olympia Regional Airport Master Plan Update. They have been logged. As your email is addressed to the Port of Olympia Commission, we have copied their staff to ensure it is routed appropriately.
AL 2022-18 10 January 2023 10 January 2023 Suzanne Pelley spelley@outlook.com	**Topic: Regional Airport** It becomes obvious the people opposed to a county location for an additional airport don't travel by air. We desperately need more airports. Anyone that has flown out of Sea-Tac finds it an unacceptable process. From Olympia we have to allow a 90-minute drive based on potential traffic, then when get to airport can take 45 minutes circling terminal parking to hopefully find a parking slot, then over the skybridge to terminal interior and with the very long TSA lines we are expected to allow up to 3 hours prior to my flight departure. So, adding all these three-time factors I am now 5 hours from home and not yet on my flight. I took a friend to the airport very recently and dropped her off at departure curb. She texted me and said the TSA line winded through the back-and-forth line in terminal then extended back through the terminal, across the skybridge and out into the parking building just waiting to slowly crawl backwards to this process before even getting ones turn with face to face of TSA check. This is not acceptable. We desperately need a local major airport. Some friends travel to Portland airport for departures. But it is not pleasant on the return from a long flight landing in Portland on the return flight and the still have that long drive home to Olympia.

	Situation is urgent. People opposed obviously don't fly. Suzanne Pelley 3066 Edgewood Dr SE Olympia, WA 98501 360 357 5839 land line and 360 280 7841 cell for texting Email : spelley@outlook.com **Staff that responded:** Lorie Watson **Response:** Ms. Pelley, Thank you for your email dated January 10. The Commercial Aviation Coordinating Commission (CACC) that is investigating a potential Thurston County greenfield site for a new airport is a completely separate entity from the Olympia Regional Airport and the Port of Olympia. Your comment will be forwarded to the CACC for their awareness and to ensure your comment is placed in the record. To submit further comments for consideration by the CACC, please email them directly at CACC@wsdot.wa.gov.
AL 2022-19 10 January 2023 10 January 2023 Brenda Hicks Wickersham wickershambrenda@comcast.net	**Topic: Tumwater residential impact** I personally oppose the creation of a regional airport in the Tumwater/Olympia area. As a resident of the Tumwater/ Olympia area since 1987, I have witnessed the impact of growth. Prior to this, I primarily lived in large metropolitan areas in the Midwest and Seattle. I understand population density and the accompanying living conditions that arise. My Tumwater home is near Olympia High School. Over the years, I have witnessed the increased traffic in our area arising from the many neighborhoods that have been created and travel through our area to access I-5. The current air traffic pattern is directly over our neighborhood. Helicopter traffic particularly creates a noise burden. The impact of the projected increase of air traffic would cause a level of noise and air pollution that would create a negative impact upon our residents. Please reconsider your plan. Perhaps planners would have a different perspective if they lived in the neighborhoods being impacted.

	Brenda Hicks Wickersham Sent from my iPhone **Staff that responded:** Lorie Watson **Response:** Ms. Wickersham, Thank you for your email dated January 10 and your comments regarding the Olympia Regional Airport Master Plan Update. They have been logged. **Follow-up Email Received:** Thank you, Ms Watson, for acknowledging my response. I hope there is lively debate and a sound decision. Brenda Hicks Wickersham
AL 2022-20 10 January 2023 11 January 2023 Patricia Holm pholm76@gmail.com	**Topic: Do not upgrade our airport to accept heavier planes** 2021 airport master plan update. Please do not upgrade the runways to accept heavier planes. We already have enough air traffic; we do not want anymore. Patricia Holm 3803 Giles Rd NE, Olympia, WA 98506 360-357-4151 **Staff that responded:** Lorie Watson **Response:** Ms. Holm, Thank you for your email dated January 10 and your comments regarding the Olympia Regional Airport Master Plan Update. They have been logged.

AL 2022-21 10 January 2023 11 January 2023 Sheryl Barbour sanelranch@yahoo.com	**Topic: airport** It doesn't matter where it goes, they will be noise and traffic. Olympia is the most logical place for this new site. It is close to I-5 (5 min) Already a exit off I - 5 Already has land, flat Accommodations close (number of hotels/motels) Half way between Seattle and Portland Established runways Hangers Roy Does have NO Close access to I – 5 (25 minutes with no traffic) Wetlands Miles to go for any accommodations Two lane roads already over crowded Too close to McCord drop zone air space A real waterway in the middle of the proposed site Please consider these facts for both monetary and practical reasons **Staff that responded:** Lorie Watson **Response:** Ms. Barbour, Thank you for your email dated January 10. Based on your comments about a new airport site, it appears you might be referring to the work of the Commercial Aviation Coordinating Commission rather than the Olympia Regional Airport's master plan update, which does not include changes to the existing use of the airport. The Commercial Aviation Coordinating Commission (CACC) that is investigating a potential Thurston County greenfield site for a new airport is a completely separate entity from the Olympia Regional Airport and the Port of Olympia, and thus separate from the Olympia Airport's Master Plan Update process. Your comment will be forwarded to the CACC for their awareness and to ensure your comment is placed in the record. To submit further comments for consideration by the CACC, please email them directly at CACC@wsdot.wa.gov.

AL 2022-22 11 January 2023 12 January 2023 Cindy Shave eshaves@comcast.net	**Topic: Concern/Comment** Thank you for the opportunity to comment on our Olympia Regional Airport-Master Plan Update, and an on-going concern that has had increased impacts this past year to my family who live at 7730 Osborn St SW, Olympia, WA, on the opposite side of interstate 5, but in line with one of the runways. This past year, we have seen during the day and heard at night increased amounts of loud, vibrating flyovers over our roof and treetops. We don't understand why these flight paths have been so low, instead of well above our home. And it's been concerning and unnerving, as I've listened to hear if a crash will result from them as they go over. I have a video of the sound of one of them if you'd like to hear it. I understand that the FAA is responsible for low flying aircraft and loud noise complaints, other than military. But I believe neighborhood attitudes for our airport can be improved, if the airport also is concerned with the flight patterns of the users of the airport, and work with the users themselves to abate this type of impact to the neighborhoods. Thank you for your consideration of this. Sincerely, Cindy Shave **Staff that responded:** Lorie Watson **Response:** Ms. Shave, Thank you for your email dated January 11 and your comments regarding the Olympia Regional Airport Master Plan Update. They have been logged. Your photos and video of the Department of Natural Resources' fire fighting training exercises were also received.
AL 2022-23 23 January 2023	**Topic: MPU climate mitigation** Greetings, how will the MPU mitigate the expected increase in GHG emissions associated with the expected growth/increase in operations?

24 January 2023 Phyllis Farrell phyllisfarrell681@hotmail.com	Will this Plan be included in the MPU approved by the Port Commissioners? I have reviewed the 2017 Greenhouse Gas Emission Inventory; will there by an updated one for the MPU along with a 20 year Plan to mitigate the expected increases necessary to conform to the Thurston Climate Mitigation Plan goals/actions? Respectfully, Phyllis Farrell, Sunwood Lakes, Thurston County **Staff that responded:** Lorie Watson **Response:** Ms. Farrell, Thank you for your email dated January 23 and your questions regarding the Olympia Regional Airport Master Plan Update. They have been logged and will be reviewed for potential consideration by the Airport Master Plan Update project team.
AL 2022-24 21 May 2024 21 May 2024 Hazel Ray HRay@LundOpsahl.com	**Topic: Airport Master Plan - Status** Hello My name is Hazel Ray with Lund Opsahl, a structural engineering firm in Seattle. I noticed that the schedule for the Airport's MPU has an expected release of 2023, but I couldn't locate this document. Is there an update on this? Thank-you! Hazel Ray She/They LUND OPSAHL 1215 Fourth Avenue, Suite 1200 Seattle, Washington 98161 Phone: 206-402-5156 www.lundopsahl.com

	Staff that responded: Leah Whitfield from The Aviation Planning Group **Response:** Hazel The master plan has been on hold for over a year. We will make sure we update the website with our new schedule. Thank you for bringing this to our attention. We expect a draft later this summer.
AL 2022-25 18 June 2024 21 June 2024 Sue Ellen White sewhite@whidbey.com	**Topic: Adopted Master Plan Update** Hello Ms. Watson: Your timeline for the Master Plan Update of 2021 indicates that you are now nearing the final stages of implementation. To clarify, since I cannot view your webpage now, does that mean that you will adopt the plan in September of 2024 or that you will have finished implementing the plan in September of 2024? Has any official action been taken regarding the final plan? Thank you, Sue Ellen White Editor; book publication management Member, Society of Professional Journalists, retired "Freedom of the press is not just important to democracy, it is democracy." – Walter Cronkite. **Staff that responded:** Chris Paolini, Airport Senior Manager **Response:** Good afternoon Ms. White, I apologize for any confusion regarding the terminology attached to the last phase of the master plan update project. As you mentioned, the goal is to adopt the plan by September 2024. We will be releasing final drafts of 1-2 chapters each month (have not released any yet) for public viewing with a final action by the commission this Fall/Winter to adopt the master plan update in its entirety. The master plan update is a planning document for the next 20-year period. Implementation of the items identified in the master plan update will take place over the next 10–20-year period as FAA and local funding and environmental assessments allow. Again, I apologize for the any confusion, the term

	implementation was intended to mean implementing the master plan update as part of the Port's strategic documents through the adoption process. Thank you for the question and please do not hesitate to let me know if I can be of any further assistance. I hope you have an opportunity to enjoy this beautiful sunny weekend! Take care

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Public Open House Meeting #1

September 27, 2021

The Aviation Planning Group

Introductions

Port Staff

Rudy Rudolph
Operations & Airport Director

Lisa Parks
Capital Investments, Planning & Environmental Programs Director

Jennie Foglia-Jones
Senior Manager of Communications, Marketing & Government Affairs

Project Team

Leah Whitfield
Project Manager, APG

Justin Heid
Assistant Project Manager/Lead Planner

Darren Murata, P.E.
Lead Engineer, DOWL

Renee Dowlin
Environmental Planner

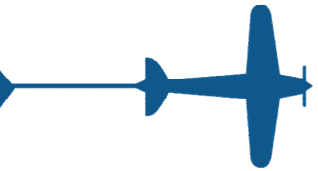
Habitat Conservation Plan

Troy Rahmig, ICF
HCP Project Manager

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Participation



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OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

The Agenda

1. **Overview of the Master Plan Update Process**
2. **Project Schedule**
3. **Airport Inventory** - What infrastructure is at the airport and how is it used?
4. **Draft Aviation Forecast** - What type of activity has historically occurred at the airport?
5. **Draft Aviation Forecast** - What type of activity is expected to occur in the next 5, 10, 15 and 20 years?
6. **Draft Facility Requirements** - How can the airport accommodate existing users and our future users?
7. **Questions & Comments**

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Master Plan Update Process

According to the Federal Aviation Administration (FAA), an airport master plan is…

A comprehensive study of an airport that usually describes the short-, medium-, and long-term development plans to meet future aviation demand.

Follows FAA Advisory Circular 150/5070-6B

What's Included

- Inventory
- Forecast
- Facility Requirements
- Alternatives
- Airport Layout Plan
- Capital Improvement Plan

A master plan's purpose is not to solve the airport's management, operations, or maintenance issues.

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

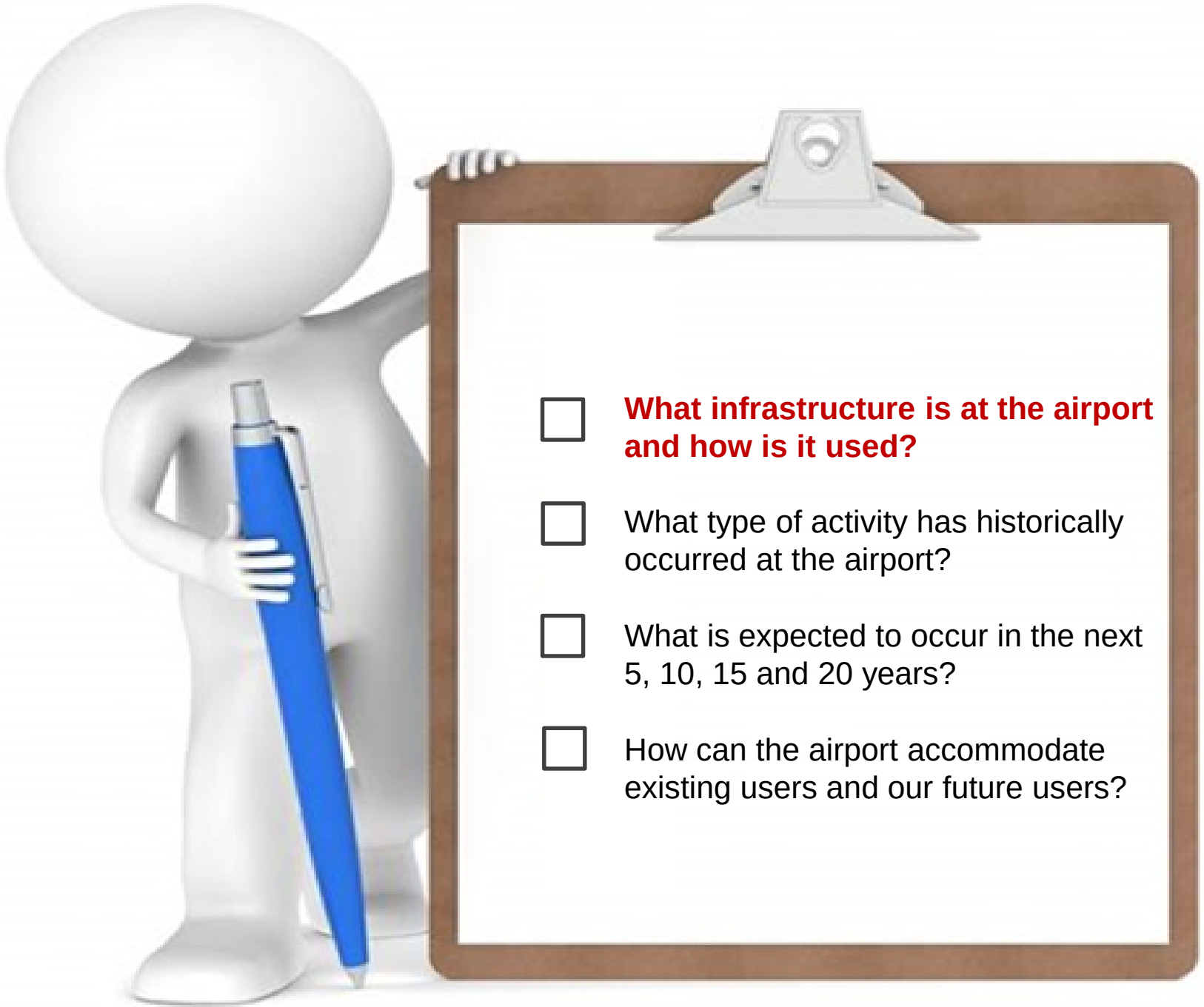
SCHEDULE (Draft)

- Issues
- Airport Inventory
- Aviation Forecasts
- Airport Facility Requirements

- Draft Alternatives
- Alternative Evaluation
- Environmental Review
- Recommended Alternatives

- Capital Improvement Program
- Funding
- Airport Layout Plan
- Draft/Final Report

We Are Here | Technical Advisory Committee Meeting | Public Open House | Feasibility Study Meeting



- [ ] **What infrastructure is at the airport and how is it used?**
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OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Runway Infrastructure

Airport consists of two runways on 845 Acres.

Runways are numbered with their magnetic heading.

- Primary: Runway 17/35
- Crosswind: Runway 8/26

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

AIRCRAFT DESIGN CLASSIFICATIONS

Aircraft Approach Category	
A	Approach speed less than 91 knots.
B	Approach speed 91 knots but less than 121 knots.
C	Approach speed 121 knots but less than 141 knots.
D	Approach speed 141 knots but less than 166 knots.
E	Approach speed 166 knots or more.

Airplane Design Group		
#	Tail Height [ft.(m)]	Wingspan [ft.(m)]
I	<20' (<6m)	<49' (<15m)
II	20' - <30' (6m - <9m)	49' - <79' (15m - <24m)
III	30' - <45' (9m - <13.5m)	79' - <118' (24m - <36m)
IV	45' - <60' (13.5m - <18.5m)	118' - <171' (36m - <52m)
V	60' - <66' (18.5m - <20m)	171' - <214' (52m - <65m)
VI	66' - <80' (20m - <24.5m)	214' - <262' (65m - <80m)

- Runways are designed to accommodate aircraft based on their approach speed and wingspan.
- Combined, these help us determine the geometry of the airfield.

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

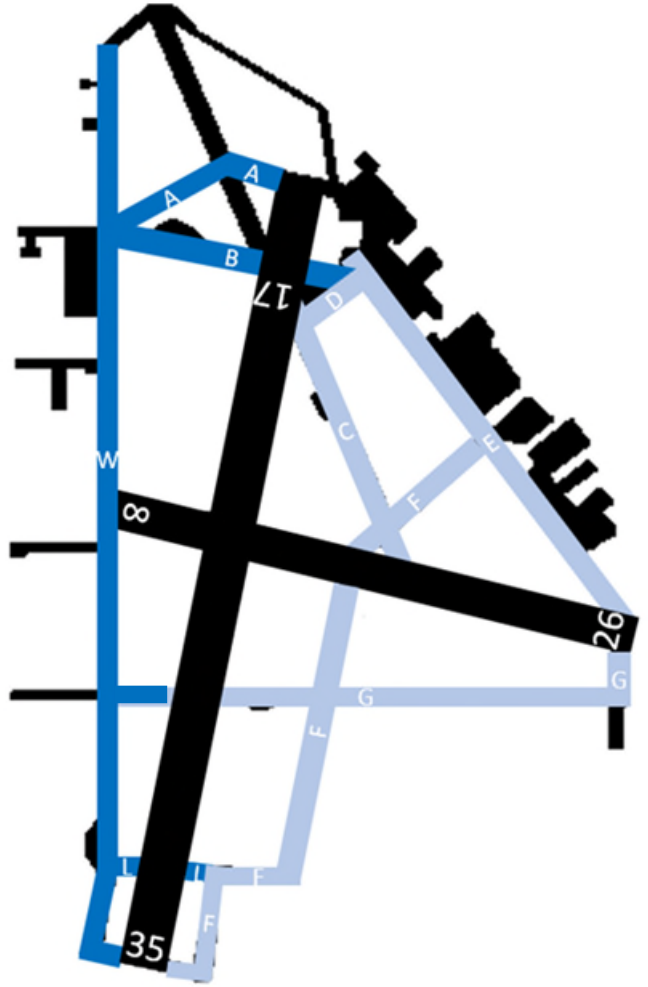
Airport Master Plan Update

Taxiway Infrastructure

The airport has a network of taxiways that connect the hangar areas to the runways.

Taxiways are identified by a letter.

The taxiways are a mixture of lighted taxiways and taxiways with reflectors (unlit).



OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Noticeable Airport Infrastructure

Airport Administration Building

Air Traffic Control (ATC) Tower & Airport Rotating Beacon

VORTAC

- VHF omnidirectional range (VOR) and a tactical air navigation system (TACAN)
- Radio-based navigational beacon

Approach Lighting

- MALSR (Medium Intensity Approach Lighting System With Runway Alignment Indicator Lights)

State Agencies on the Airport

Washington State DOT – Aviation Division

Washington State Patrol

Source: Insideout; Washington State Patrol's blog

Washington State Department of Natural Resources – Fire Aviation

Source: AeroFlite Aerial Firefighting

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Organizations on the Airport

Airlift Northwest – University of Washington School of Medicine & Harborview Medical Center

Source: Airlift Northwest

Organizations on the Airport

Olympic Flight Museum

- Non-profit organization
- Dedicated to the preservation and flying of vintage aircraft
- South Puget Sound's largest collection of vintage aircraft

Source: OlympicFlightMuseum.com

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Aviation Services on the Airport

Fixed Base Operators (FBO)

- Glacier Aviation

- Safety in Motion

Aviation Services on the Airport

Olympia Avionics

Aircraft Avionics Repair and Installation

Avionics include:

- Communication Radios
- Radio Navigational Equipment
- GPS systems
- Transponders
- ADS-B: Automatic Dependent Surveillance - Broadcast

Aviation Fuel

Fuel stored in large bulk tanks and distributed to aircraft utilizing fuel trucks.

Fuel types:

- Jet-A: 44,000 gallons in 3 tanks and 3 trucks
- 100LL: 37,700 gallons in 3 tanks and 4 trucks

Space for 2 more fuel tanks which have recently been leased.

Airport User Survey Summary

- 36% of the respondents currently use the airport for their business
- 39% of the users expressed an interest to build a hangar
- 93% of users indicate the runway meets their needs

Top areas for consideration by based users

- Self-serve fuel: most for 100LL
- Additional hangars to rent/own
- Continued pavement maintenance
- Airfield Lighting
- Improved instrument approaches
- Restaurant
- Commercial/Cargo Service
- More ramp/apron space for helicopters

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Bush Prairie Habitat Conservation Plan (HCP)

HCP Overview

- Will result in endangered species act permits for all port activities for the next 30 years
- Addresses development and operations activities
- Administrative draft HCP to be completed this fall
- NEPA process and permit issuance will extend through 2022

- [x] What infrastructure is at the airport and how is it used?
- [ ] **What type of activity has historically occurred at the airport?**
- [ ] What is expected to occur in the next 5, 10, 15 and 20 years?
- [ ] How can the airport accommodate existing users and our future users?

Current Aviation Activity

Top Uses of the Airport:

- Flight Training
- Business Travel
- Personal Travel
- Law Enforcement
- Charter Flights
- Maintenance
- Fire Response
- Emergency Response

Current Aviation Activity

Based Aircraft:

- 95 Single-engine
- 8 Multi-engine
- 3 Jet
- 18 Helicopter
- 124 TOTAL

Historic Tower (8am-8pm)

*"**Operation**" A takeoff or a landing by an aircraft.*

Month	Year									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total	47,787	61,434	65,573	62,134	56,525	43,071	41,052	54,108	63,194	64,816

Source: OLM ATC 2021

2020 After Hours Operations (8pm-8am)

Organization	Hours
Glacier Aviation Flight School	2,500
Safety in Motion Flight School	780
Department of Natural Resources	225
Northwest Aeromed	250
Washington State Patrol Aviation	800
All Other GA Users	1,095
Total	**5,650**

Source: Stakeholder interviews 2021

2020 Aviation Activity

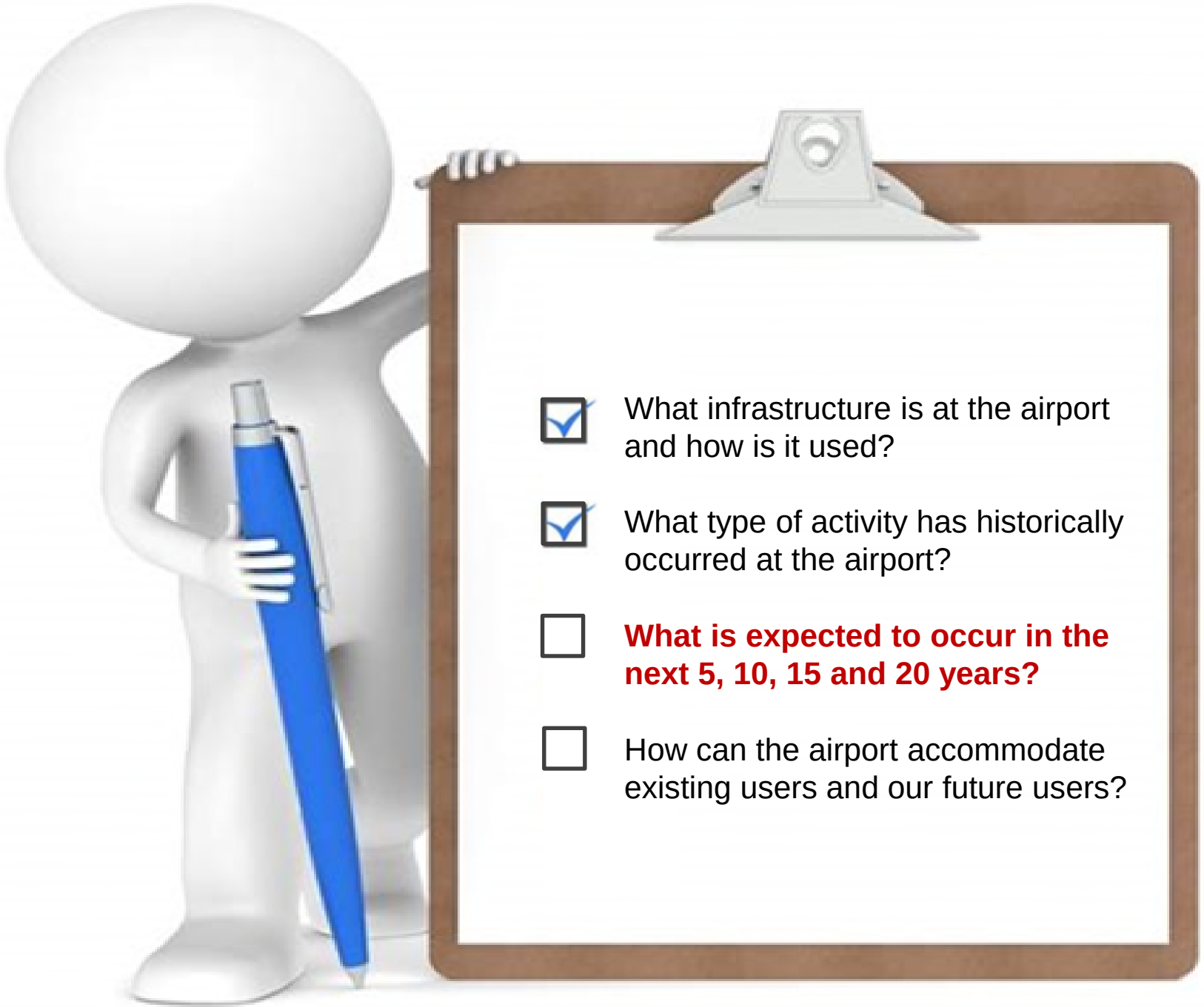
Annual Operations

70,466 Operations per year

- 39,196 GA Local Operations
- 31,270 GA Itinerant Operations
- 193 Operations per day

"Local" *operations include aircraft activity that remains in the vicinity (e.g. traffic pattern) of an airport.*

"Itinerant" *operations include activity that is arriving from or destined for other locations.*



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OLM Forecast

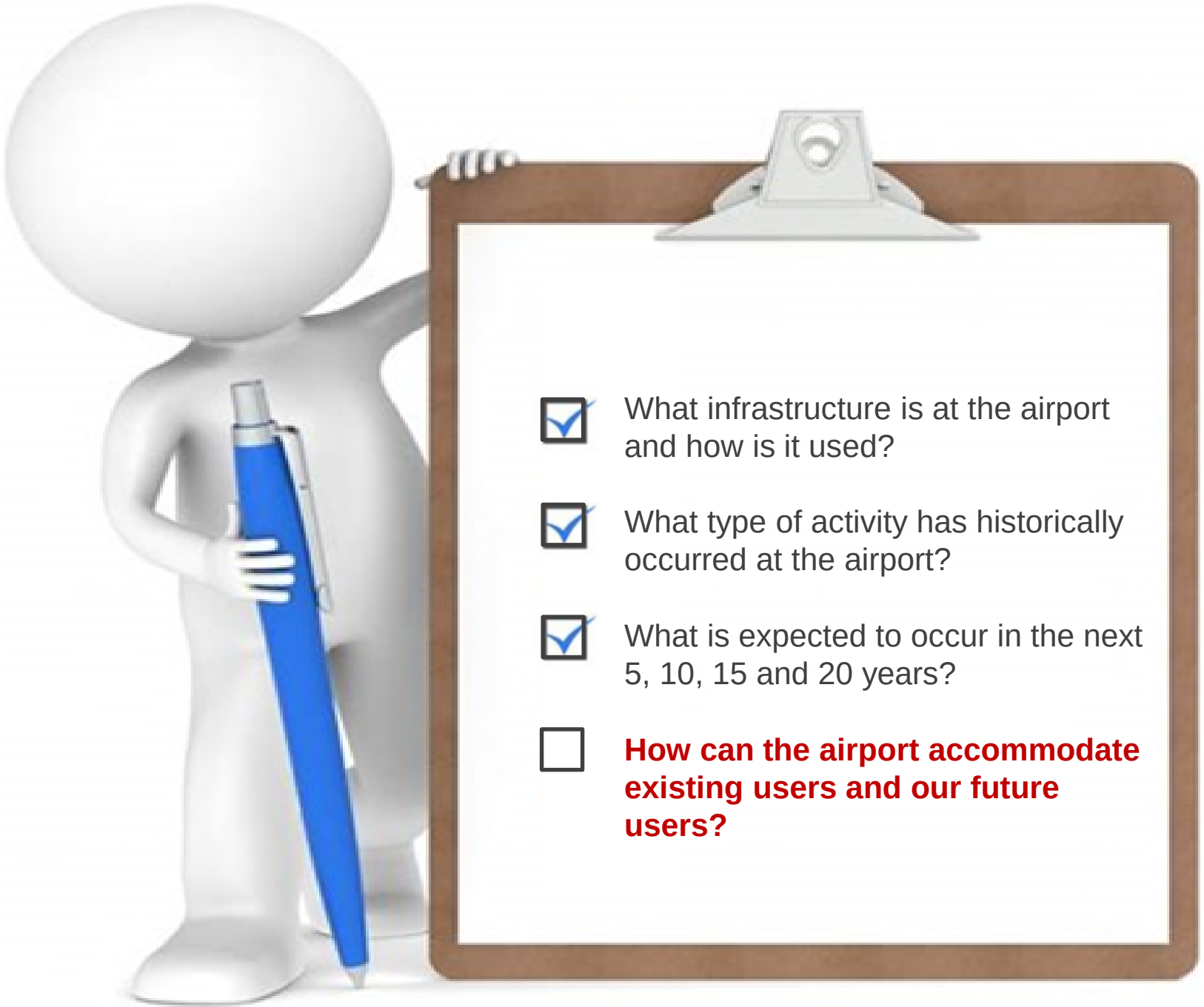
Type of Operation	Base Year	Short-Term Forecast	Intermediate-Term Forecast	Long-Term Forecast	Average Annual Growth Rate
	2020	2025	2030	2040	AAGR
Total Based Aircraft	124	126	129	139	0.57%
Total Operations	70,466	73,775	77,239	84,665	0.92%

Source: The Aviation Planning Group 2021, FAA Airport Master Record 5010 2021, FAA TAF 2019, OFM GMA 2017, OLM Master Plan 2013, and WASASP 2017.

OLM Forecast

Critical Aircraft		
Current (2020) Critical Aircraft	Cessna Citation 560 	B-II
Ultimate (2040) Critical Aircraft	Bombardier Challenger 700 	C-II

Source: The Aviation Planning Group 2021, FAA Airport Master Record 5010 2021, FAA TAF 2019, OFM GMA 2017, OLM Master Plan 2013, and WASASP 2017.



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- [ ] **How can the airport accommodate existing users and our future users?**

Runway Facility Requirements

Both runways have adequate length to accommodate the aircraft that regularly utilize the Airport.

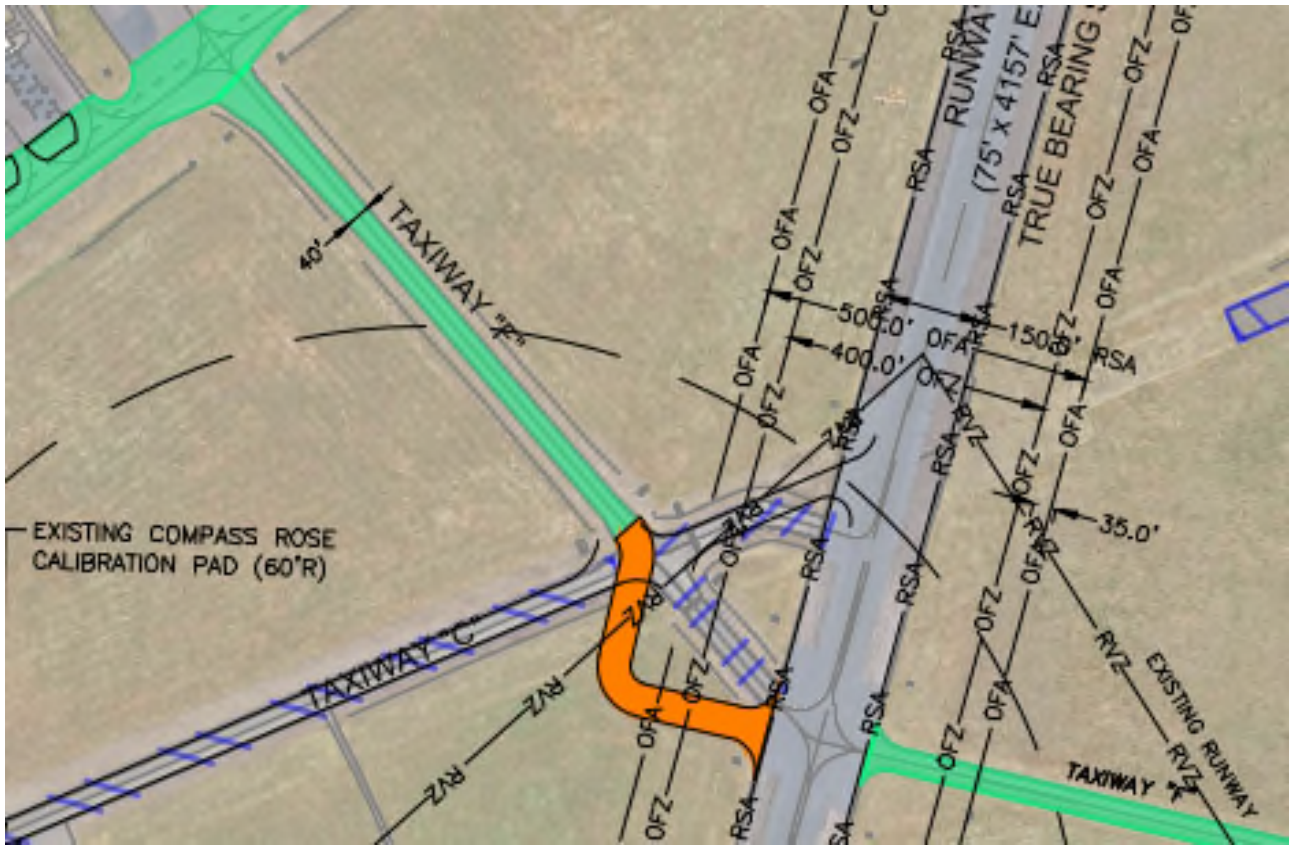
It is recommended that the runways be re-numbered to their corrected magnetic headings due to the changes that have occurred over time from natural magnetic shift.

Taxiway Facility Requirements

Taxiway geometry throughout the airport needs to be revised to meet the following FAA standards:

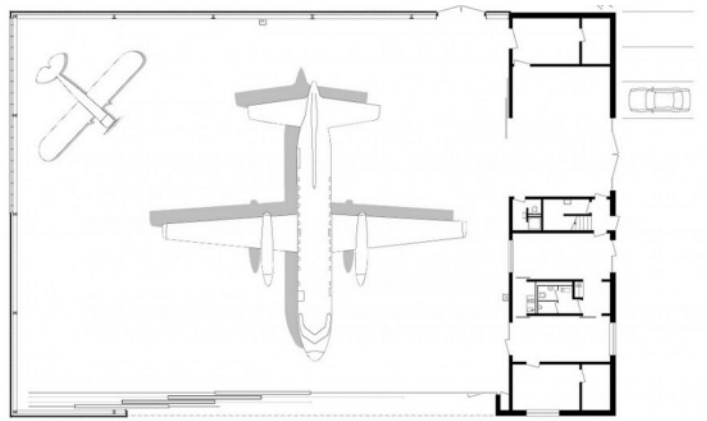
- Removing Direct apron to runway access
- Right-angle intersections
- Optimally locate exit taxiways

Examine taxiway locations for efficiency.

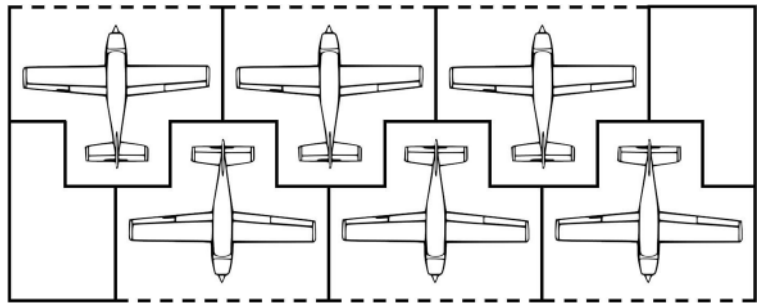


Hangars

- Corporate box hangars



- T-hangars



- Planeports

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Developable Areas

Development Focus Areas:

- Small Hangars
- Corporate Hangars
- General Aviation Terminal
- Aircraft Parking
- Vehicle Parking
- VTOL/Electric Aircraft
- Future Commercial Terminal
- Future Passenger Support Facilities
- Aviation Related Industrial

Sustainable Alternative Fuels

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 oils
- Plant and algae material
- Animal fats

- Biofuels Forecast: 20% of aviation fuel demand by 2040.
- Biofuel can be blended with conventional fuel.

United Airlines buys approximately 10M gallons per year at LAX.

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

Electric Aviation

Washington State Department of Transportation's *Washington Electric Aircraft Feasibility Study* (November 2020) recommended OLM as an initial beta test site for electric aircraft

Manufacturers indicate that by 2023 and 2024 the electric aircraft that are being built and tested in Washington will by flying.

The aircraft are proving to be quieter than traditional aircraft.

The electric aircraft market is expected to cover:

- General Aviation (GA)
- Small Commercial Aircraft (9 Passengers)
- Small Cargo Aircraft

Electric Aviation

Battery swapping

- Replaces a spent battery out of an aircraft with fully charged battery.
- Less peak demand on the electrical grid as opposed to direct aircraft charging.
- Potential to reduce turn-around times for aircraft as well.
- Testing: magniX's eCaravan currently flying out of Moses Lake, WA

On-site, direct aircraft charging

- Similar to current electric vehicle charging
- An industry standard has not yet been established and any charging station infrastructure would require adaptors to accommodate the variety of standards.
- Battery to Battery Charging options

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

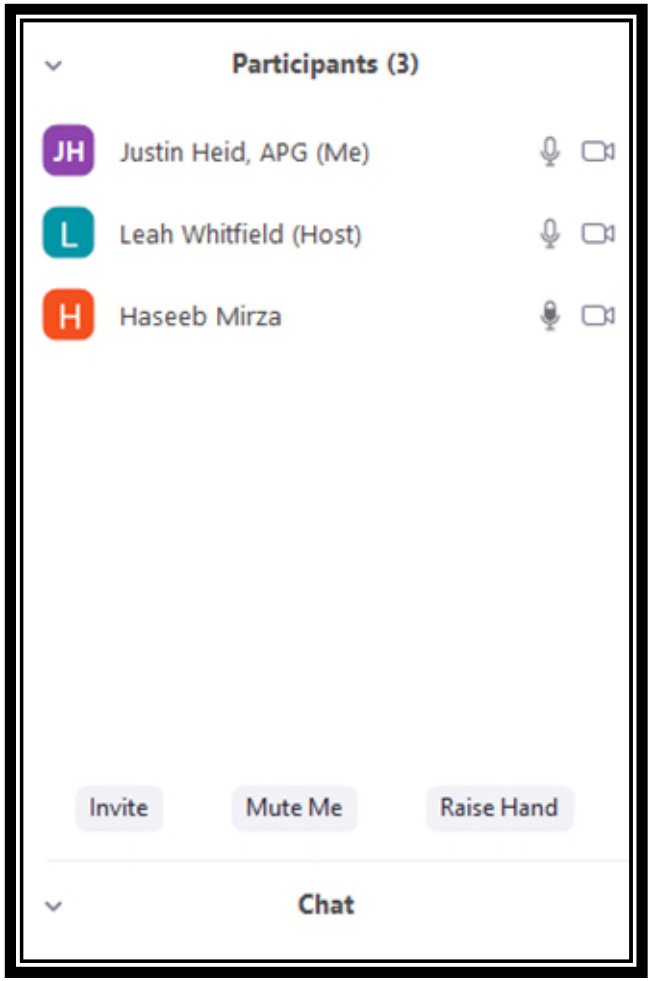
Questions & Comments

If you have a comment or question you can:

Use the “Raise Hand” button

- **Under “Participants” or**
- **Under “Reactions”**

Type a comment in the chat box



Airport Master Plan Update

Next Steps

- Issues
- Airport Inventory
- Aviation Forecasts
- Airport Facility Requirements

- Draft Alternatives
- Alternative Evaluation
- Environmental Review
- Recommended Alternatives

- Capital Improvement Program
- Funding
- Airport Layout Plan
- Draft/Final Report

We Are Here | Technical Advisory Committee Meeting | Public Open House | Feasibility Study Meeting

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

THANK YOU!

Contact:

Leah Whitfield Leah@theaviationplanninggroup.com

Justin Heid Justin@theaviationplanninggroup.com

OLM MPU Email address: AMPUpdate@PortOlympia.com

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Public Open House Meeting #2

February 17, 2022

The Aviation Planning Group

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

Renee Dowlin
Environmental Planner

Darren Murata, P.E.
Lead Engineer, DOWL

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

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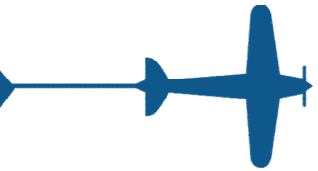

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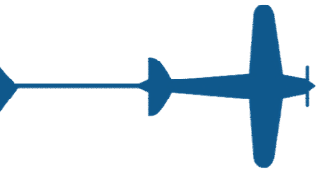
OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Agenda

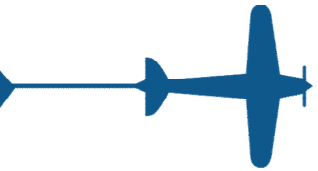


1. **Review of Master Plan Update Process**
2. **Master Plan Update Focus Area & Goals**
3. **Master Plan Update Schedule & Progress**
4. **Review Facility Requirements**
5. **Development Alternatives** – What future development will best meet the airport's facility requirements?
6. **Alternative Fuels**
7. **Next Steps**
8. **Comments**

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Master Plan Update Process



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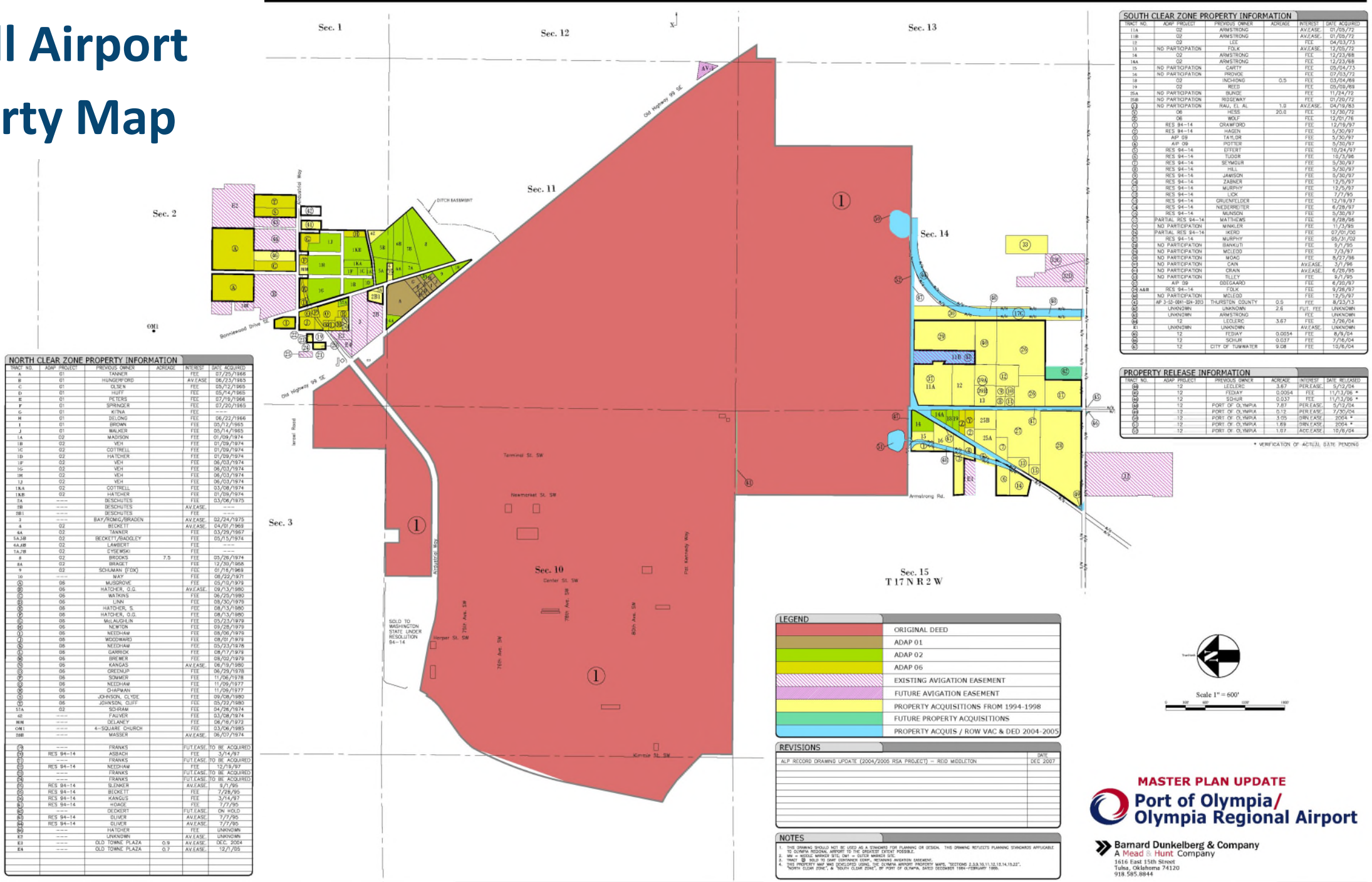
Follows FAA Advisory Circular 150/5070-6B

Master Plan Tasks:

- Inventory
- Forecast
- Facility Requirements
- Alternatives
- Airport Layout Plan
- Capital Improvement Plan

Overall Airport Property Map



NORTH CLEAR ZONE PROPERTY INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE ACQUIRED
A	01	TANNER		FEE	07/25/1966
B	01	HUNGERFORD		AV.EASE	06/23/1965
C	01	OLSEN		FEE	05/12/1965
D	01	HUFF		FEE	05/14/1965
E	01	PETERS		FEE	07/15/1966
F	01	SPRINGER		FEE	07/20/1965
G	01	KITNA		FEE	----
H	01	DELONG		FEE	06/22/1966
I	01	BROWN		FEE	05/12/1965
J	01	WALKER		FEE	05/14/1965
1A	02	MADISON		FEE	01/09/1974
1B	02	VEH		FEE	01/09/1974
1C	02	COTTRELL		FEE	01/09/1974
1D	02	HATCHER		FEE	01/09/1974
1F	02	VEH		FEE	06/03/1974
1G	02	VEH		FEE	06/03/1974
1H	02	VEH		FEE	06/03/1974
1J	02	VEH		FEE	06/03/1974
1KA	02	COTTRELL		FEE	03/08/1974
1KB	02	HATCHER		FEE	01/09/1974
2A	----	DESCHUTES		AV.EASE.	03/06/1975
2B	----	DESCHUTES		AV.EASE.	----
2B1	----	DESCHUTES		FEE	----
3	----	BAY/ROMIG/BRADEN		AV.EASE.	02/24/1975
4	02	BECKETT		AV.EASE.	04/01/1963
4A	02	TANNER		FEE	03/29/1967
5A,5B	02	BECKETT/BADGLEY		FEE	05/15/1974
6A,6B	02	LAMBERT		FEE	----
7A,7B	02	CYSEWSKI		FEE	----
8	02	BROOKS	7.5	FEE	05/26/1974
8A	02	BRAGET		FEE	12/30/1958
9	02	SCHUMAN (FOX)		FEE	01/18/1963
10	----	MAY		FEE	08/22/1971
A	06	MUSGROVE		FEE	05/10/1979
B	06	HATCHER, O.G.		AV.EASE.	09/13/1980
C	06	WATKINS		FEE	06/25/1980
D	06	LINN		FEE	08/30/1979
E	06	HATCHER, S.		FEE	08/13/1980
F	06	HATCHER, O.G.		FEE	08/13/1980
G	06	McLAUGHLIN		FEE	05/23/1979
H	06	NEWTON		FEE	09/28/1979
I	06	NEEDHAM		FEE	08/06/1979
J	06	WOODWARD		FEE	08/01/1979
K	06	NEEDHAM		FEE	05/23/1978
L	06	GARROCK		FEE	08/17/1979
M	06	BREMER		FEE	08/02/1979
N	06	KANGAS		AV.EASE.	06/19/1980
O	06	GREENUP		FEE	06/29/1978
P	06	SOMMER		FEE	11/06/1978
Q	06	NEEDHAM		FEE	11/09/1977
R	06	CHAPMAN		FEE	11/09/1977
S	06	JOHNSON, CLYDE		FEE	09/08/1980
T	06	JOHNSON, CLIFF		FEE	05/22/1980
57A	02	SCHRAM		FEE	04/26/1974
62	----	FAUVER		FEE	03/08/1974
HH	----	DELANEY		FEE	06/16/1972
OM1	----	4-SQUARE CHURCH		FEE	03/06/1985
SHE	----	MASSER		AV.EASE.	06/07/1974
19	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
20	RES 94-14	ASBACH		FEE	3/14/97
21	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
22	RES 94-14	NEEDHAM		FEE	12/19/97
23	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
24	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
25	RES 94-14	SLENKER		AV.EASE.	9/1/95
26	RES 94-14	BECKETT		FEE	7/28/95
28	RES 94-14	KANGUS		FEE	3/14/97
43	RES 94-14	HOAGE		AV.EASE.	7/7/95
45	----	DECKERT		FUT.EASE.	ON HOLD
50	RES 94-14	OLIVER		AV.EASE.	7/7/95
52	RES 94-14	OLIVER		AV.EASE.	7/7/95
56	----	HATCHER		FEE	UNKNOWN
E2	----	UNKNOWN		AV.EASE.	UNKNOWN
E3	----	OLD TOWNE PLAZA	0.9	AV.EASE.	DEC. 2004
E4	----	OLD TOWNE PLAZA	0.7	AV.EASE.	12/1/95

SOUTH CLEAR ZONE PROPERTY INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE ACQUIRED
11A	02	ARMSTRONG		AV.EASE.	01/05/72
11B	02	ARMSTRONG		AV.EASE.	01/05/72
12	02	LEE		FEE	04/03/73
13	NO PARTICIPATION	FOLK		AV.EASE.	12/05/72
14	02	ARMSTRONG		FEE	12/23/68
14A	02	ARMSTRONG		FEE	12/23/68
15	NO PARTICIPATION	CARTY		FEE	05/04/73
16	NO PARTICIPATION	PROVOE		FEE	07/03/72
18	02	INCHONG	0.5	FEE	03/04/69
19	02	REED		FEE	05/09/69
25A	NO PARTICIPATION	BUNDE		FEE	11/24/72
25B	NO PARTICIPATION	RIDGEWAY		FEE	01/20/72
31	NO PARTICIPATION	RAU, ET AL	1.0	AV.EASE.	04/19/83
1	06	HESS	20.0	FEE	12/30/72
2	06	WOLF		FEE	12/01/76
1	RES 94-14	CRAWFORD		FEE	12/19/97
2	RES 94-14	HAGEN		FEE	5/30/97
3	AIP 09	TAYLOR		FEE	5/30/97
4	AIP 09	POTTER		FEE	5/30/97
5	RES 94-14	EFFERT		FEE	10/24/97
6	RES 94-14	TUDOR		FEE	10/3/96
7	RES 94-14	SEYMOUR		FEE	5/30/97
8	RES 94-14	HILL		FEE	5/30/97
9	RES 94-14	JAMISON		FEE	5/30/97
10	RES 94-14	ZABNER		FEE	12/5/97
11	RES 94-14	MURPHY		FEE	12/5/97
12	RES 94-14	LICK		FEE	7/7/95
13	RES 94-14	GRUENFELDER		FEE	12/19/97
14	RES 94-14	NIEDERREITER		FEE	6/28/97
15	RES 94-14	MUNSON		FEE	5/30/97
16	PARTIAL RES 94-14	MATTHEWS		FEE	8/28/96
17	NO PARTICIPATION	MINKLER		FEE	11/3/95
24	PARTIAL RES 94-14	IKERD		FEE	07/01/00
27	RES 94-14	MURPHY		FEE	05/31/02
28	NO PARTICIPATION	BANKUTI		FEE	9/1/95
29	NO PARTICIPATION	MCLEOD		FEE	7/3/97
30	NO PARTICIPATION	MOAG		FEE	8/27/96
32	NO PARTICIPATION	CAIN		AV.EASE.	7/1/96
33	NO PARTICIPATION	CRAIN		AV.EASE.	6/28/95
34	NO PARTICIPATION	TILLEY		FEE	9/1/95
37	AIP 09	ODEGAARD		FEE	6/30/97
39 A&B	RES 94-14	FOLK		FEE	9/28/97
40	NO PARTICIPATION	MCLEOD		FEE	12/19/97
41	AP 3-53-0041-024-2013	THURSTON COUNTY	0.5	FEE	8/23/13
42	UNKNOWN	UNKNOWN	2.6	FUT. FEE	UNKNOWN
43	UNKNOWN	ARMSTRONG		FEE	UNKNOWN
44	12	LECLERC	3.67	FEE	3/26/04
81	UNKNOWN	UNKNOWN		AV.EASE.	UNKNOWN
65	12	FEDIAY	0.0054	FEE	8/6/04
66	12	SCHUR	0.037	FEE	7/16/04
67	12	CITY OF TUMWATER	9.08	FEE	10/6/04

PROPERTY RELEASE INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE RELEASED
64	12	LECLERC	3.67	PER.EASE.	5/12/04
65	12	FEDIAY	0.0054	FEE	11/13/06 *
66	12	SCHUR	0.037	FEE	11/13/06 *
68	12	PORT OF OLYMPIA	7.87	PER.EASE.	5/12/04
69	12	PORT OF OLYMPIA	0.12	PER.EASE.	7/30/04
70	12	PORT OF OLYMPIA	3.05	DRN.EASE.	2064 *
71	12	PORT OF OLYMPIA	1.69	DRN.EASE.	2064 *
73	12	PORT OF OLYMPIA	1.07	ACC.EASE.	10/6/04

* VERIFICATION OF ACTUAL DATE PENDING

LEGEND

	ORIGINAL DEED
	ADAP 01
	ADAP 02
	ADAP 06
	EXISTING AVIGATION EASEMENT
	FUTURE AVIGATION EASEMENT
	PROPERTY ACQUISITIONS FROM 1994-1998
	FUTURE PROPERTY ACQUISITIONS
	PROPERTY ACQUIS / ROW VAC & DED 2004-2005

REVISIONS

	DATE
ALP RECORD DRAWING UPDATE (2004/2005 RSA PROJECT) – REID MIDDLETON	DEC 2007

NOTES

1. THIS DRAWING SHOULD NOT BE USED AS A STANDARD FOR PLANNING OR DESIGN. THIS DRAWING REFLECTS PLANNING STANDARDS APPLICABLE TO OLYMPIA REGIONAL AIRPORT TO THE GREATEST EXTENT POSSIBLE.
2. MM – MIDDLE MARKER SITE; OM1 – OUTER MARKER SITE.
3. TRACT 39 SOLD TO DART CONTAINER CORP., MCMANUS ANDERSON EASEMENT.
4. THIS PROPERTY MAP WAS DEVELOPED USING THE OLYMPIA AIRPORT PROPERTY MAPS, "SECTIONS 2,3,9,10,11,12,13,14,15,22", "NORTH CLEAR ZONE", & "SOUTH CLEAR ZONE", BY PORT OF OLYMPIA, DATED DECEMBER 1984-FEBRUARY 1986.

MASTER PLAN UPDATE

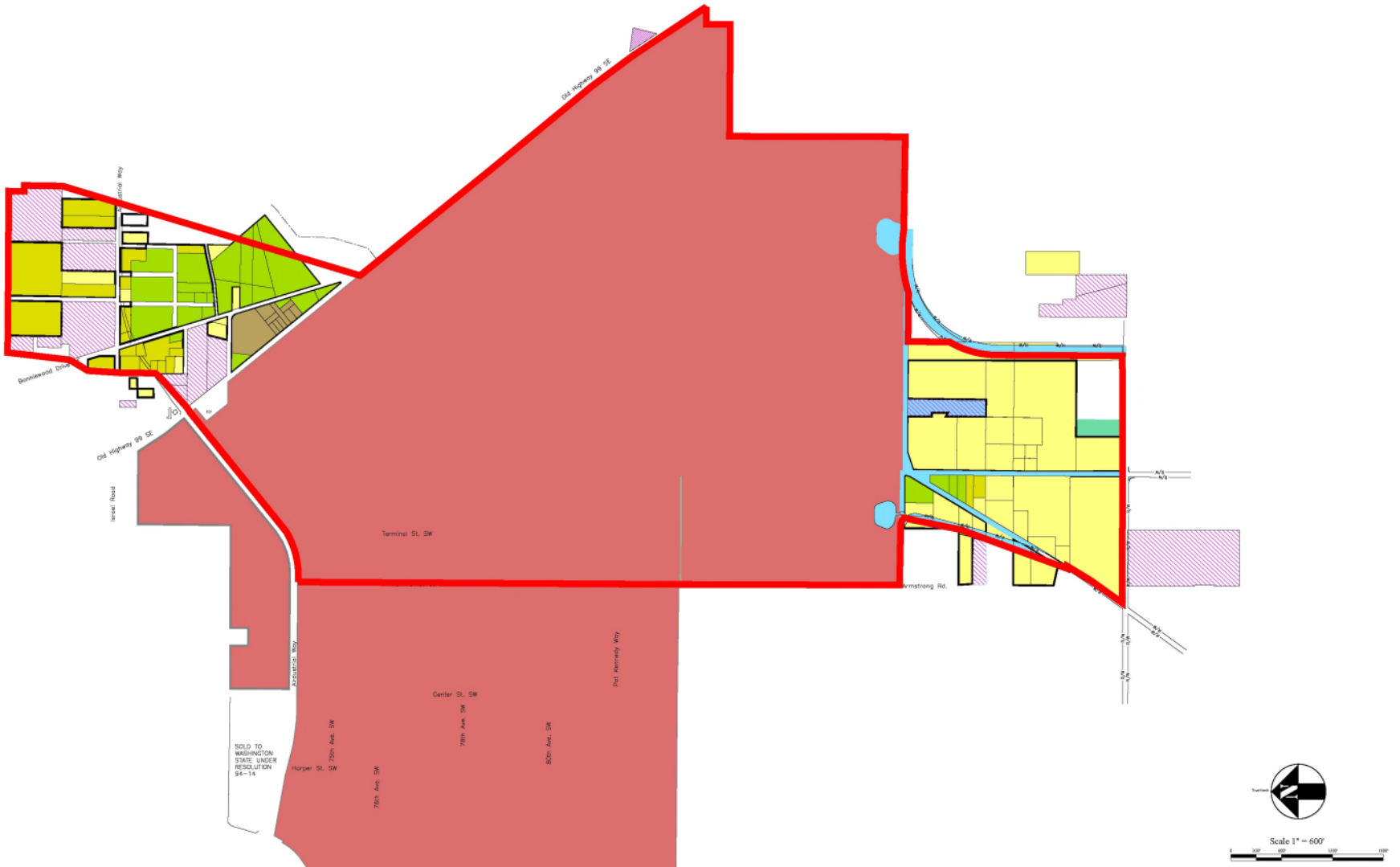
Port of Olympia/ Olympia Regional Airport

Barnard Dunkelberg & Company
A Mead & Hunt Company
1616 East 15th Street
Tulsa, Oklahoma 74120
918.585.8844

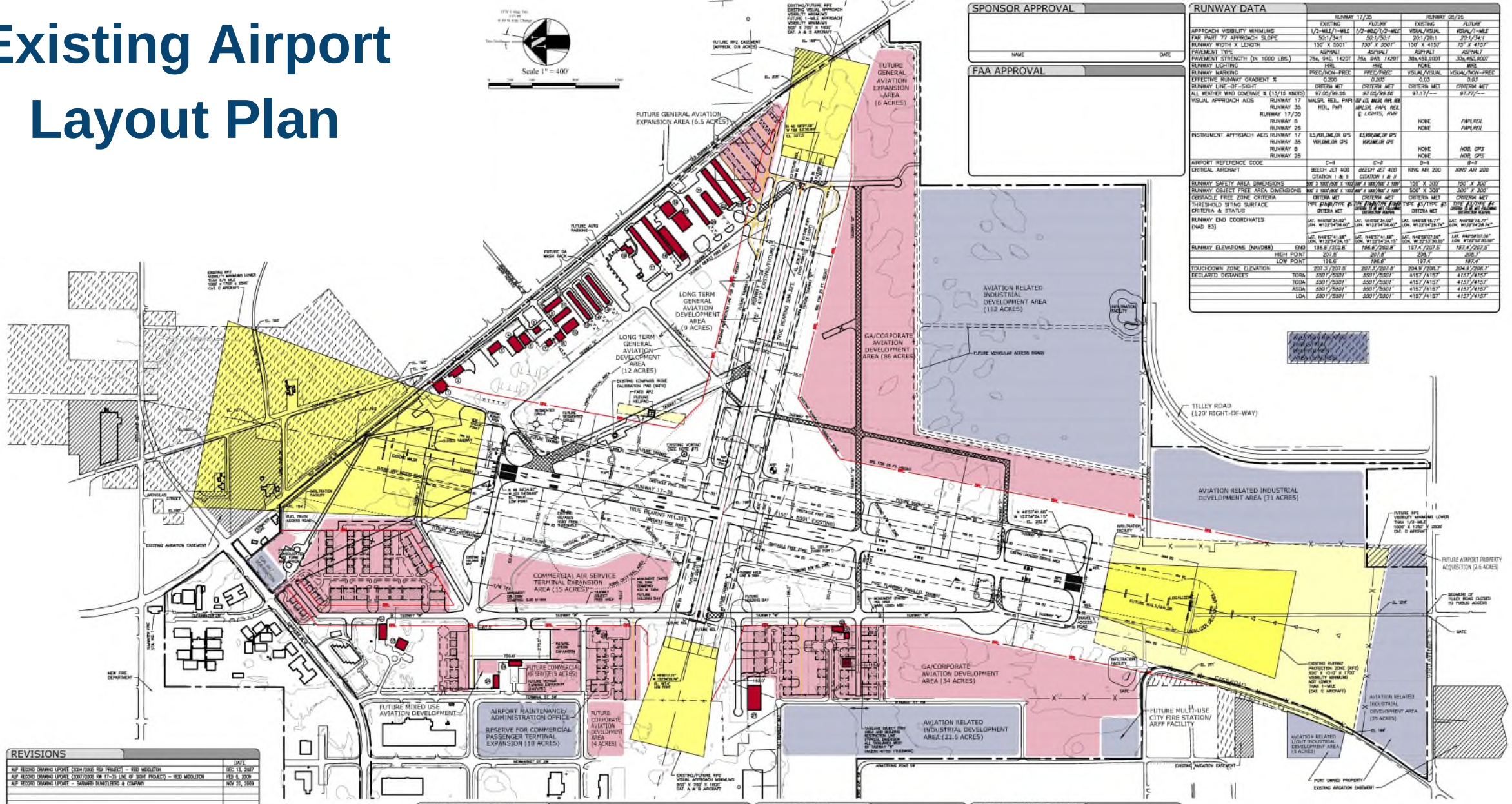
Figure E17 **Airport Property Map - Exhibit 'A'**

Master Plan Focus Area

Airport Master Plan Update



Existing Airport Layout Plan



MASTER PLAN UPDATE

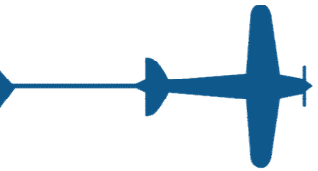
Port of Olympia/ Olympia Regional Airport

Barnard Dunkelberg & Company

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Master Plan Update Goals



- Meet Aviation Demand
- Meet FAA design standards
- Prepare OLM for future development
- Prepare OLM for emerging aviation technologies
- Continued Airport self-sufficiency

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

- Issues
- Airport Inventory
- Aviation Forecasts
- Airport Facility Requirements

- Draft Alternatives
- Alternative Evaluation
- Environmental Review
- Recommended Alternatives

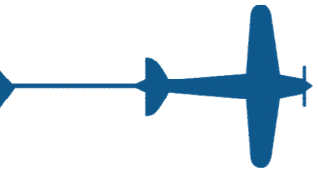
- Capital Improvement Program
- Funding
- Airport Layout Plan
- Draft/Final Report

We Are Here | Technical Advisory Committee Meeting | Public Open House | Feasibility Study Meeting

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Project Update

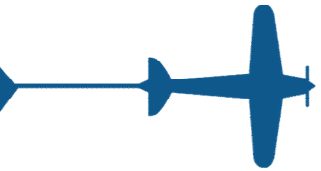


- Completed
  - Inventory
  - Forecast Approved by FAA
  - Facility Requirements
- Current focus areas
  - Coordination with the HCP Team
  - Alternatives
  - Airport Layout Plan
- Future Focus Areas
  - Implementation
  - Part 139 Commercial Service Feasibility Study

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

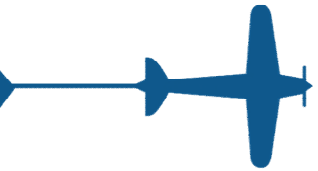
Airport Master Plan Update

Facility Requirements



- Meet based and transient aircraft demand
- Correct taxiway design to meet standards
- Maintain crosswind runway for smaller aircraft
- Evaluate Terminal building
- Airport maintenance building
- Fuel storage expansion
- Integration of emerging trends

Development Alternatives



Alternatives Focus Areas:

- Runways
- Taxiways
- Development Areas
- Alternative Fuels

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

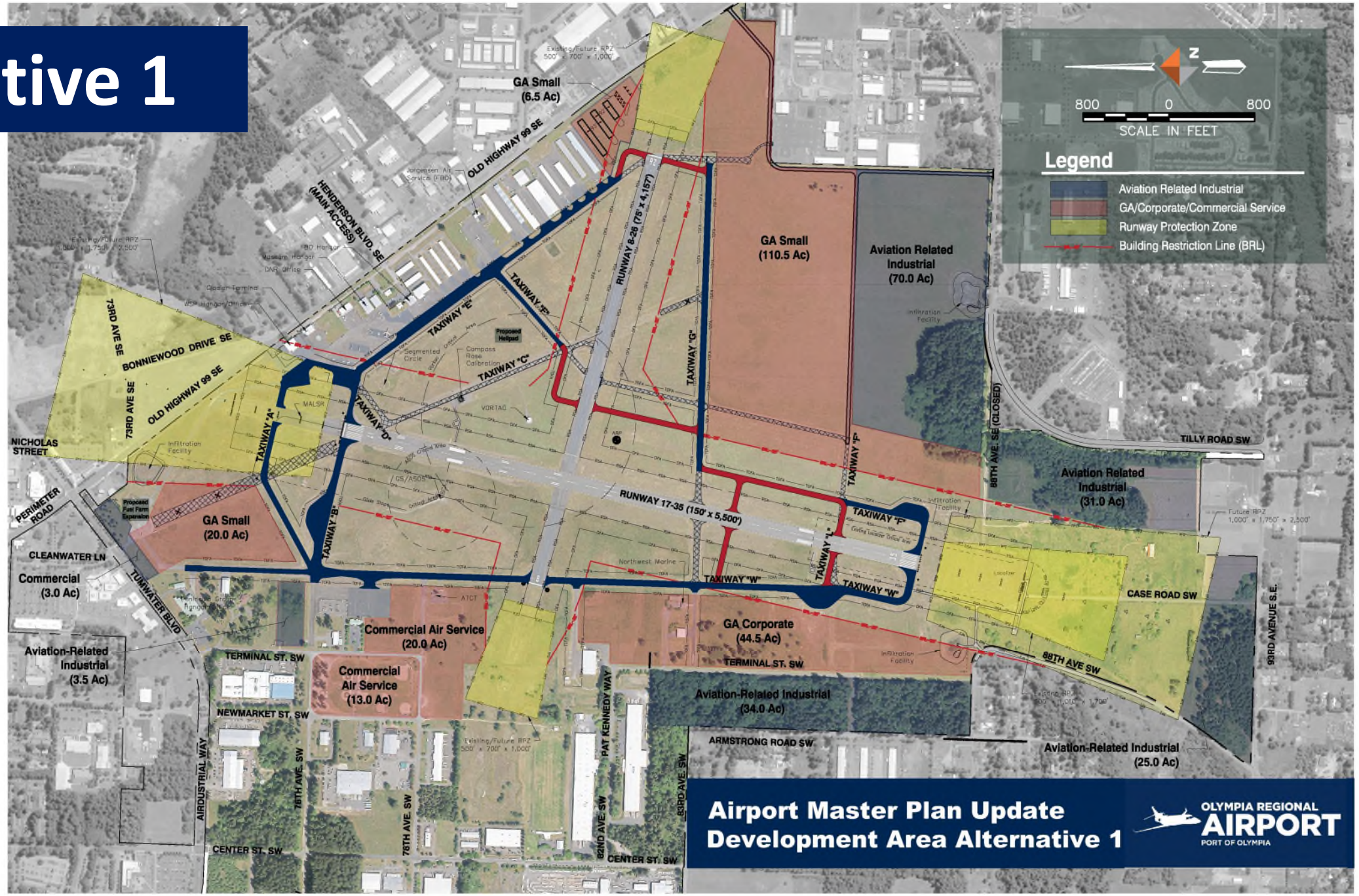
Development Areas

- Airport Related Industrial - support aviation and industrial related uses. Discourages incompatible uses and heights.
- General Aviation (small)

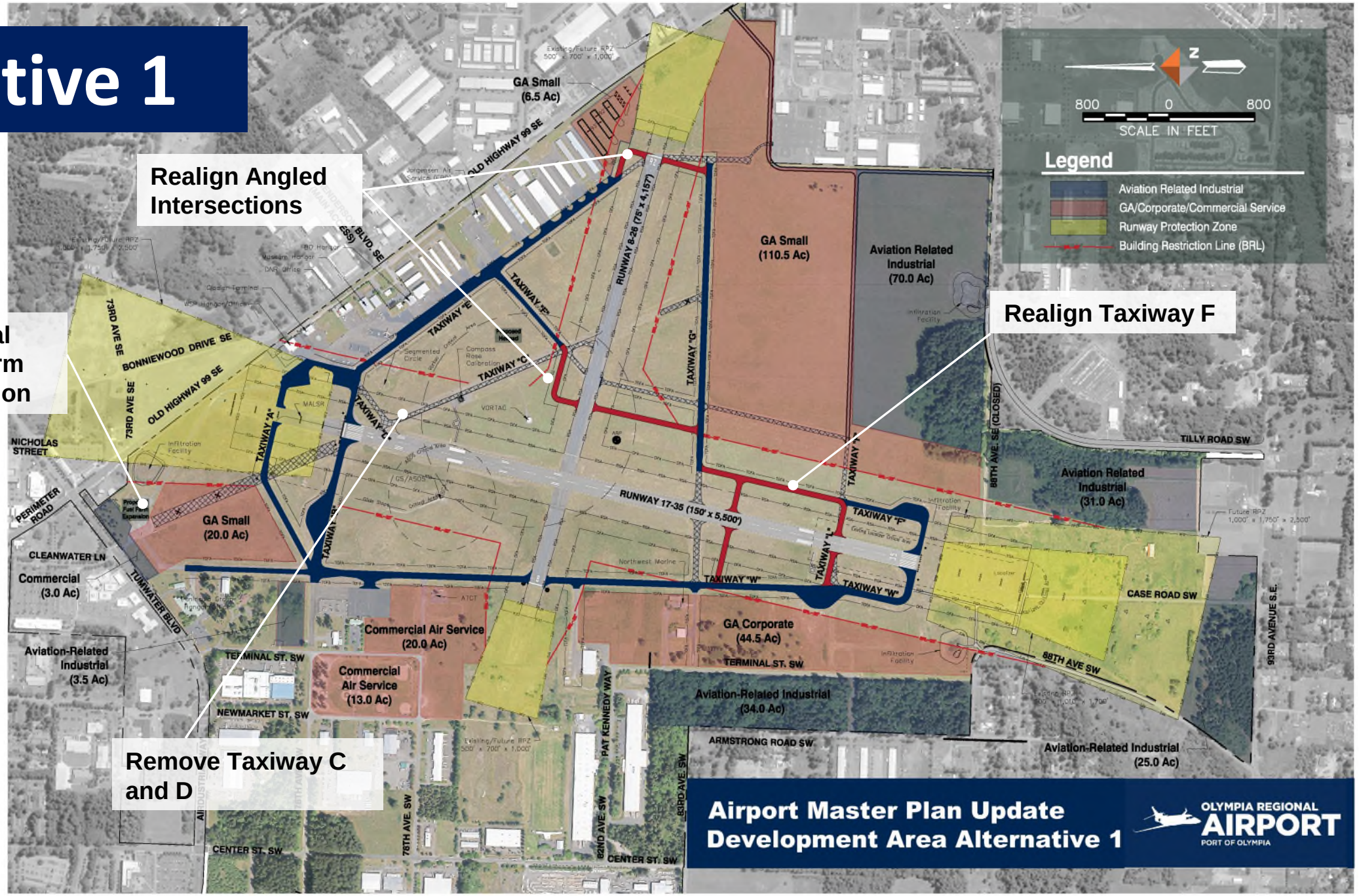
- General Aviation (corporate)

- Commercial Air Service - placeholder for potential future terminal building and associated parking and facilities.
- Commercial – prime road frontage for commercial business

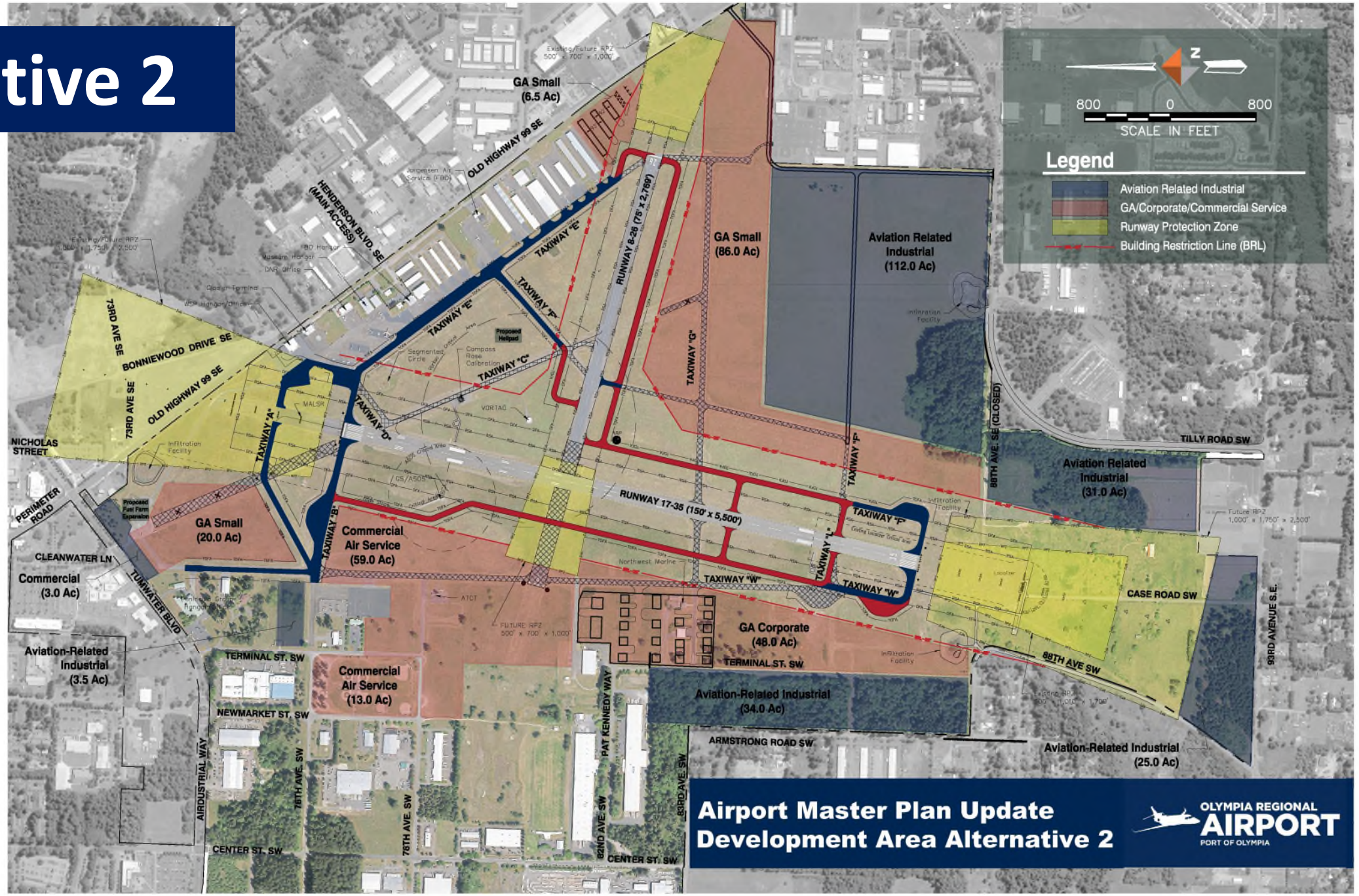
Alternative 1



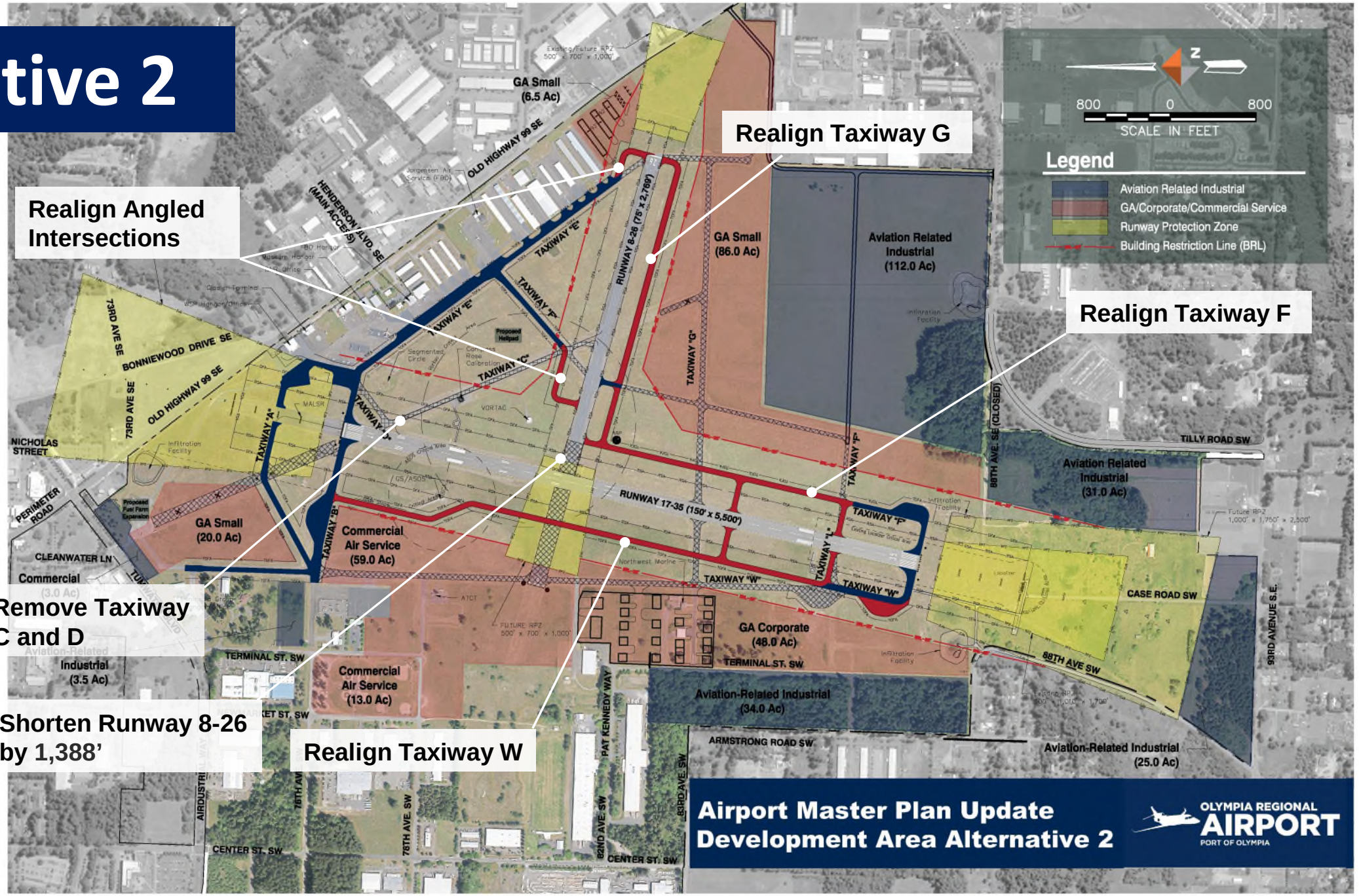
Alternative 1



Alternative 2

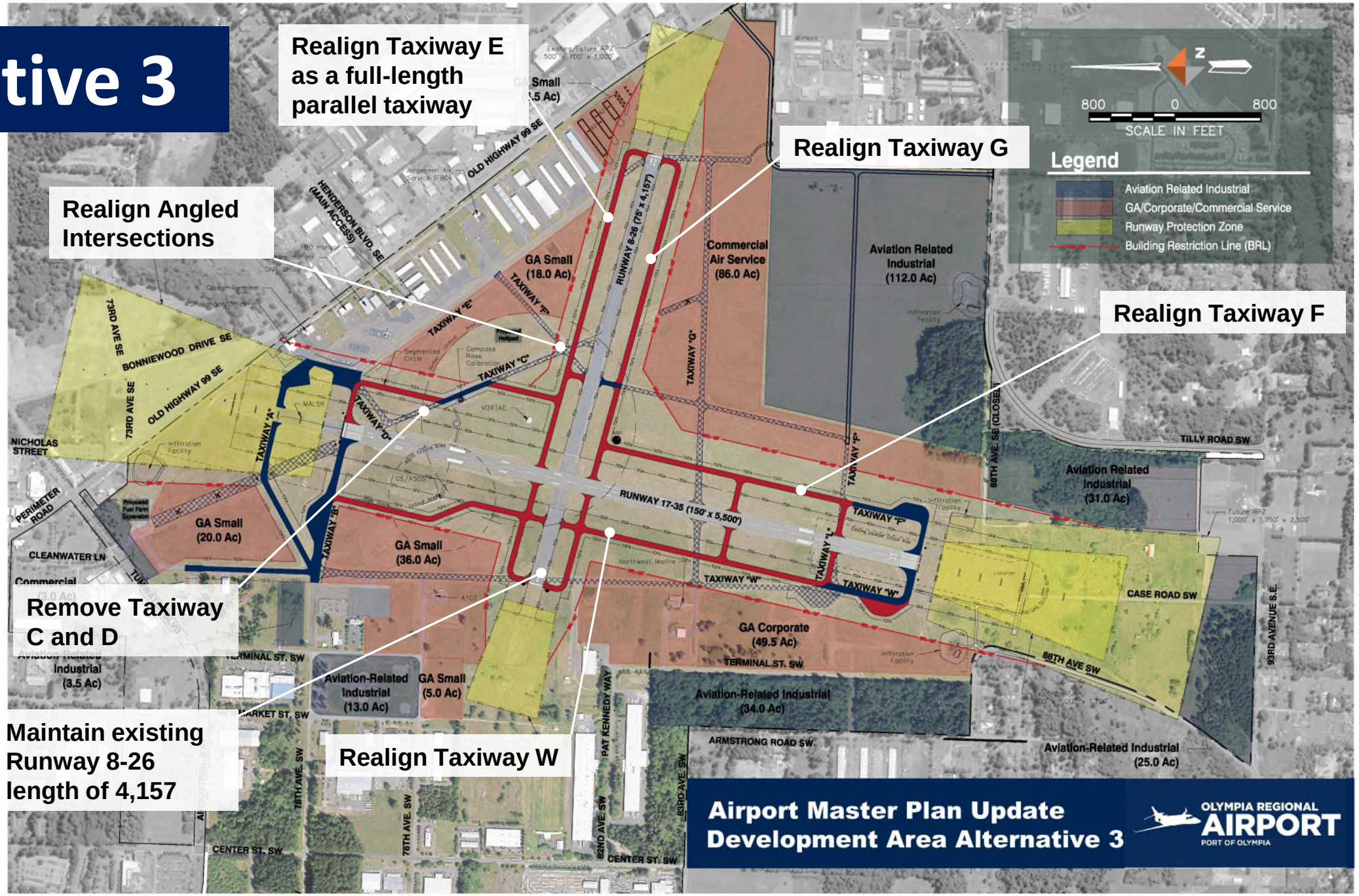


Alternative 2



Alternative 3

Alternative 3

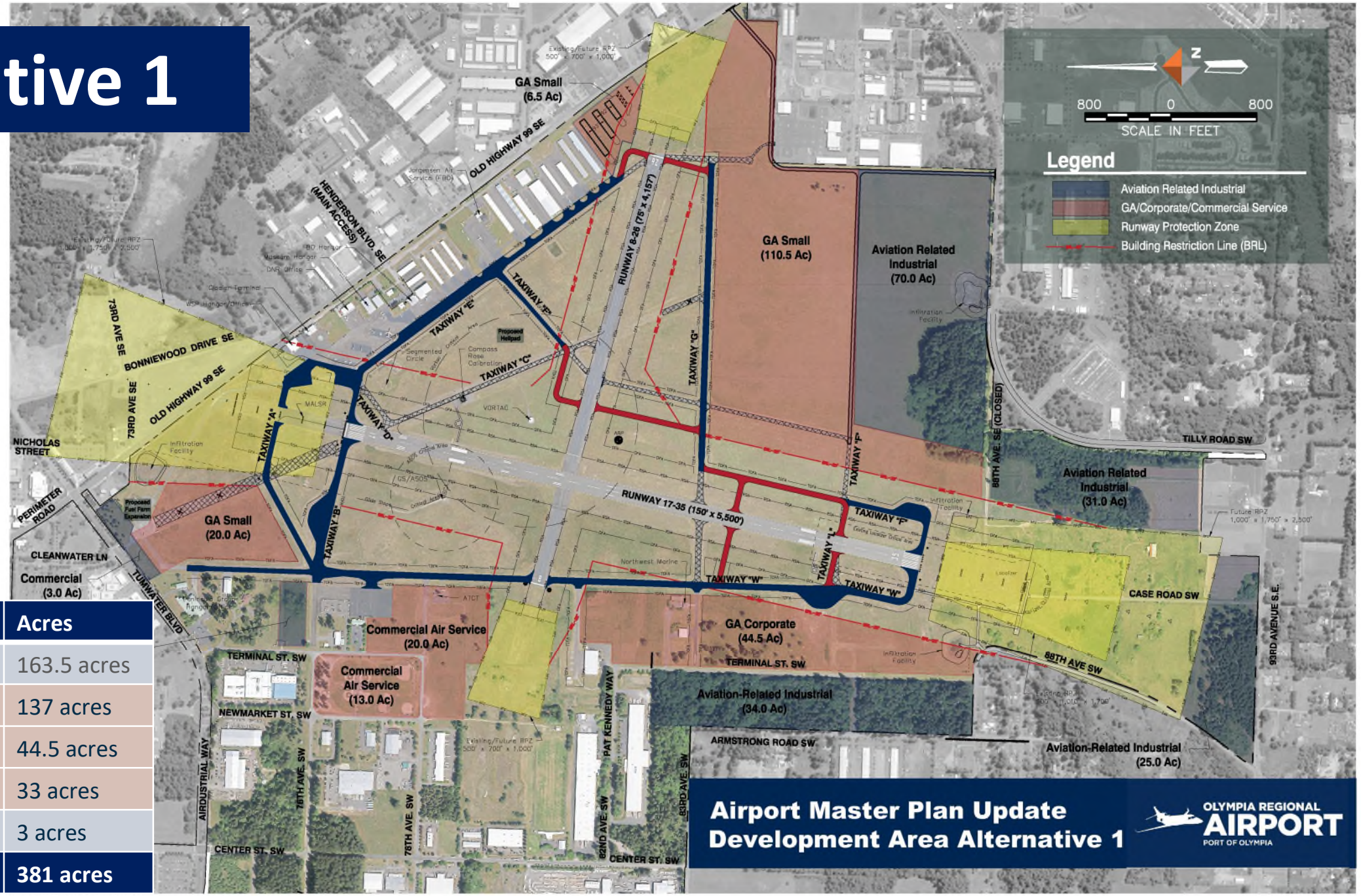


Summary of Proposed Taxiway/ Runway Pavement Changes from Existing ALP

Pavement	Development Alternative 1	Development Alternative 2	Development Alternative 3
TOTAL	885,000 SF less taxiway/runway pavement than existing ALP	911,500 SF less taxiway/runway pavement than existing ALP	490,000 SF less taxiway/runway pavement than existing ALP

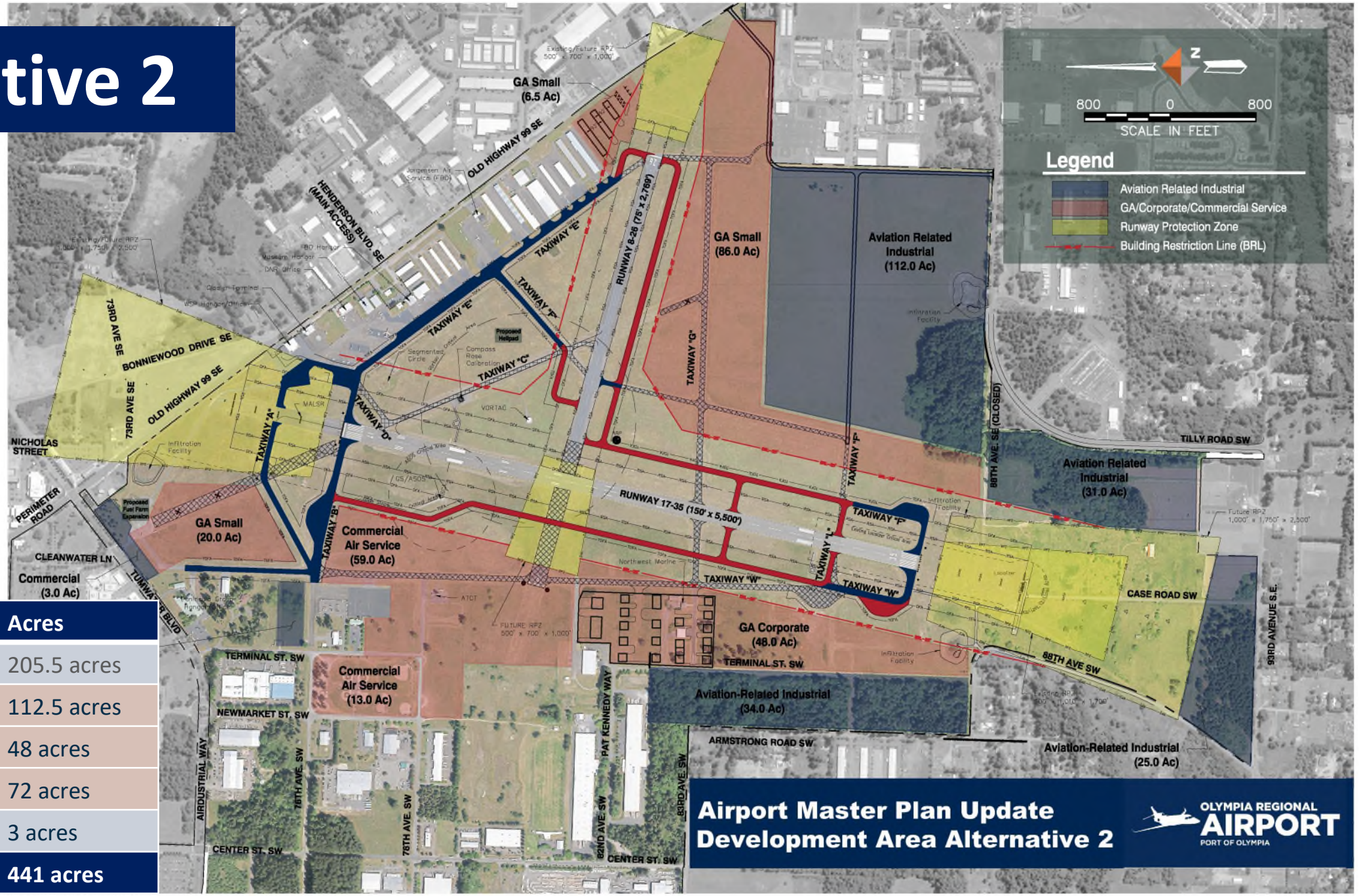
Alternative 1

Development Area	Acres
Aviation Industrial	163.5 acres
GA (Small)	137 acres
GA (Corporate)	44.5 acres
Commercial Air Service	33 acres
Commercial	3 acres
TOTAL	**381 acres**



Alternative 2

Development Area	Acres
Aviation Industrial	205.5 acres
GA (Small)	112.5 acres
GA (Corporate)	48 acres
Commercial Air Service	72 acres
Commercial	3 acres
TOTAL	**441 acres**



Alternative 3

Development Area	Acres
Aviation Industrial	218.5 acres
GA (Small)	85.5 acres
GA (Corporate)	49.5 acres
Commercial Air Service	86 acres
Commercial	3 acres
TOTAL	**442.5 acres**

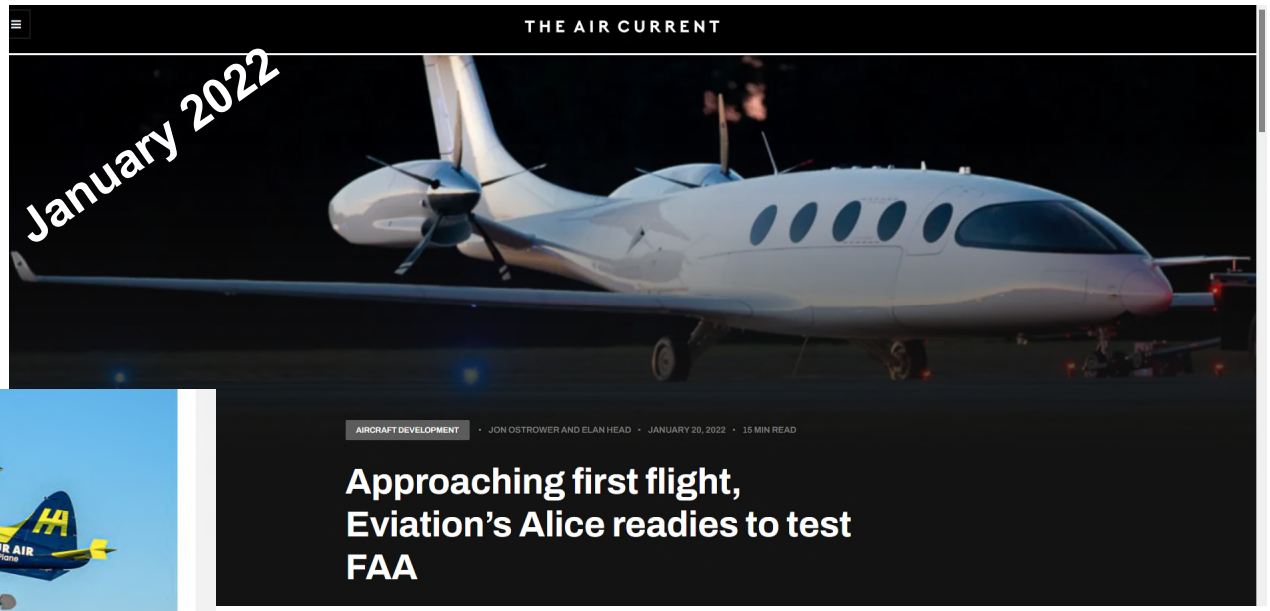
Summary of Developable Land

Development Area	Existing ALP	Alternative 1	Alternative 2	Alternative 3
Aviation Industrial	195.5 acres	163.5 acres	205.5 acres	218.5 acres
GA (Small)	12.5 acres	137 acres	112.5 acres	85.5 acres
GA (Corporate)	160.8 acres	44.5 acres	48 acres	49.5 acres
Commercial Air Service	30 acres	33 acres	72 acres	86 acres
Commercial	1.3 acres	3 acres	3 acres	3 acres
TOTAL	**403.3 acres**	**381 acres**	**441 acres**	**442.5 acres**

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Electric Aircraft in PNW



Harbour Air, magniX, and H55 are partnering to certify the world's first electric Beaver (eBeaver) commuter airplane through a supplemental type certificate program. Harbour Air Photo

In December 2019, Harbour Air made aviation history when the eBeaver flew for the first time, powered by the 750-horsepower magni500 electric motor, on a test flight from Vancouver International Airport's floatplane terminal. The airline's CEO and founder, Greg McDougall, was at the controls.

Since then, flight tests with the eBeaver prototype have been ongoing "to measure and collect data on cruise performance and take-off thrust efficiency; electro-magnetic interference; battery management software logic; noise levels; and more," Harbour Air said in a press

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Electric Aircraft

- Electric aircraft technology is projected to help the aviation industry reach reduced emission goals
- Electric aircraft are projected to have lower operating cost
- Prototype electric aircraft have completed flights in the last few years
- Certifications for 20 passenger electric aircraft air taxi operations and regional flights could be completed by the end of the year
- Electric aircraft are projected to make up 5% of the fleet in the U.S. within a decade

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Electric Aircraft

- Electric aircraft will require megawatts of electrical power
- Airports may need to be involved in the generation, distribution, and supply of electric power to ensure that demand is reliably met
- Existing electrical grid infrastructure may need to be upgraded
- Renewable energy can be utilized to provide power through solar installations and wind turbines
- Development of smart hangars, existing aircraft parking facilities with solar panels and charging stations, can provide an off-grid solution

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Electric Aircraft Outlook for OLM

- Electric aircraft will create new opportunities for airports such as OLM
- Electric aircraft are significantly quieter and have shorter takeoff and landing capabilities allowing smaller or constrained airports to become transportation hubs
- Upgraded capacity will be explored on the west side of the airport

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

Image Credits: Aerospace Technology Institute

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 zero-carbon 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.

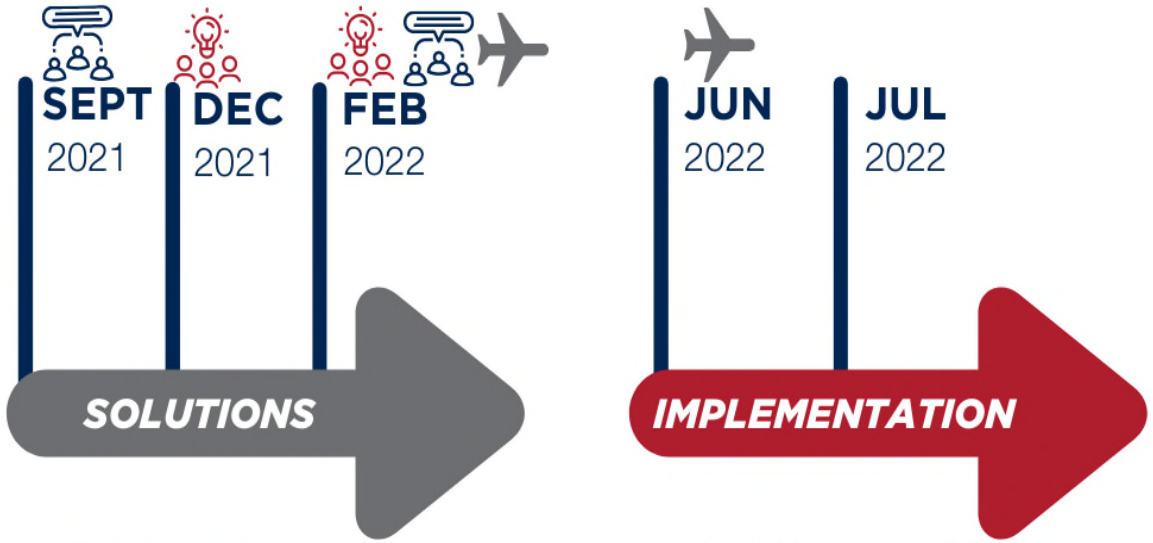
Safe

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

Source: hydrogen.aero

Airport Master Plan Update

Next Steps



- Draft Alternatives
- Alternative Evaluation
- Environmental Review
- Recommended Alternatives

- Capital Improvement Program
- Funding
- Airport Layout Plan
- Draft/Final Report

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

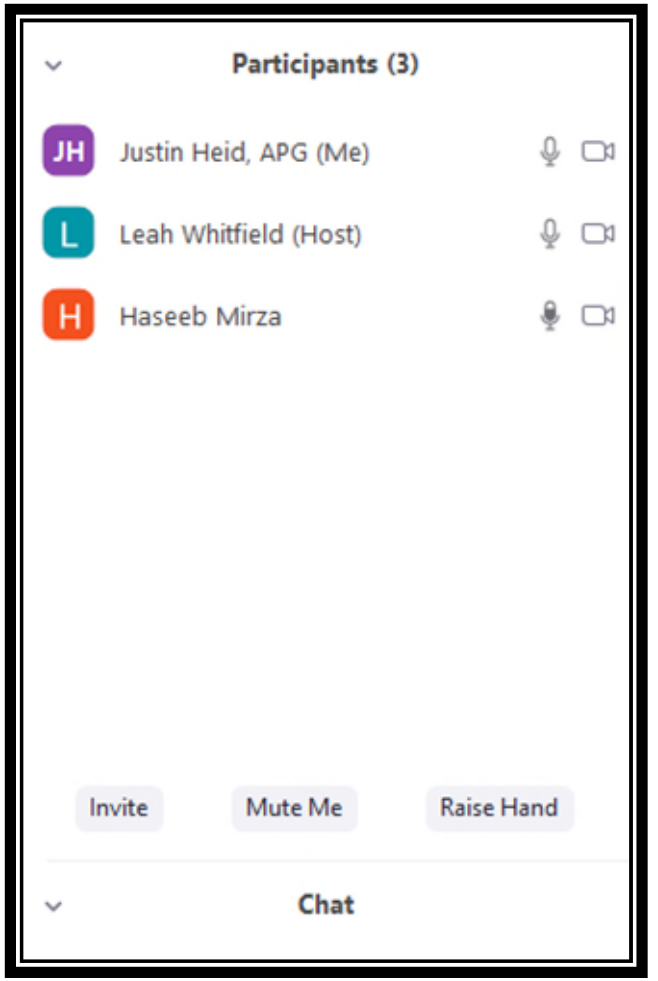
Questions & Comments

If you have a comment you can:

Use the “Raise Hand” button

- **Under “Participants” or**
- **Under “Reactions”**

Comments are limited to 3 minutes.
Type a comment in the chat box



OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Thank you

Any Comments or Questions?

Contact:

Leah Whitfield Leah@theaviationplanninggroup.com

OLM MPU Email address: AMPUpdate@PortOlympia.com

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Public Open House Meeting #3

May 26, 2022

The Aviation Planning Group

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

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

Darren Murata, P.E.
Lead Engineer, DOWL

Justin Heid
Airport Planner

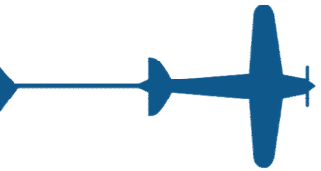
Renee Dowlin
Environmental Planner

Haseeb Mirza
Airport Planner

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Participation



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

We will mute all participants during the presentation.

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

Comments will be heard at the end during the Comments portion of the presentation and a Q/A will be updated on the website.

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Agenda

1. Studies Underway
2. HCP Update
3. Review of Master Plan Update Process
4. Master Plan Update Focus Area & Goals
5. Master Plan Project Update
6. Preferred Alternative
7. Emerging Technologies
8. Next Steps
9. Comments

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Ongoing Port Studies

There are two projects that the airport is involved in.

The **Master Plan Update** is focused on meeting the aviation demand.

The **Bush Prairie Habitat Conservation Plan (HCP)** is focused on protecting and mitigating endangered species in and around the airport and the City of Tumwater by developing a mitigation plan.

WSDOT Studies

A project unrelated to the Master Plan Update and the HCP being conducted by WSDOT is the **Commercial Aviation Coordination Commission (CACC).**

The CACC is a group created by the Legislature to develop recommendations to meet Washington state critical aviation system capacity needs.

OLM is **not** being considered in this study.

If you have questions on that particular study please reach out to the CACC at CACC@wsdot.wa.gov

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

HCP Update

- The **Bush Prairie Habitat Conservation Plan (HCP)** is being developed to balance growth and the preservation of endangered species within the City of Tumwater and its urban growth area.
- The City of Tumwater and the Port of Olympia are jointly developing the Habitat Conservation Plan.
- The goal of the HCP is to consider the streaked horned lark, pocket gopher and vesper sparrow and develop a mitigation plan to allow development.
- HCP is estimated to be complete by end of 2023.

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Master Plan Update Process

A master plan's purpose is not to solve an airport's management, operations, or maintenance issues.

According to the Federal Aviation Administration (FAA), an airport master plan is…

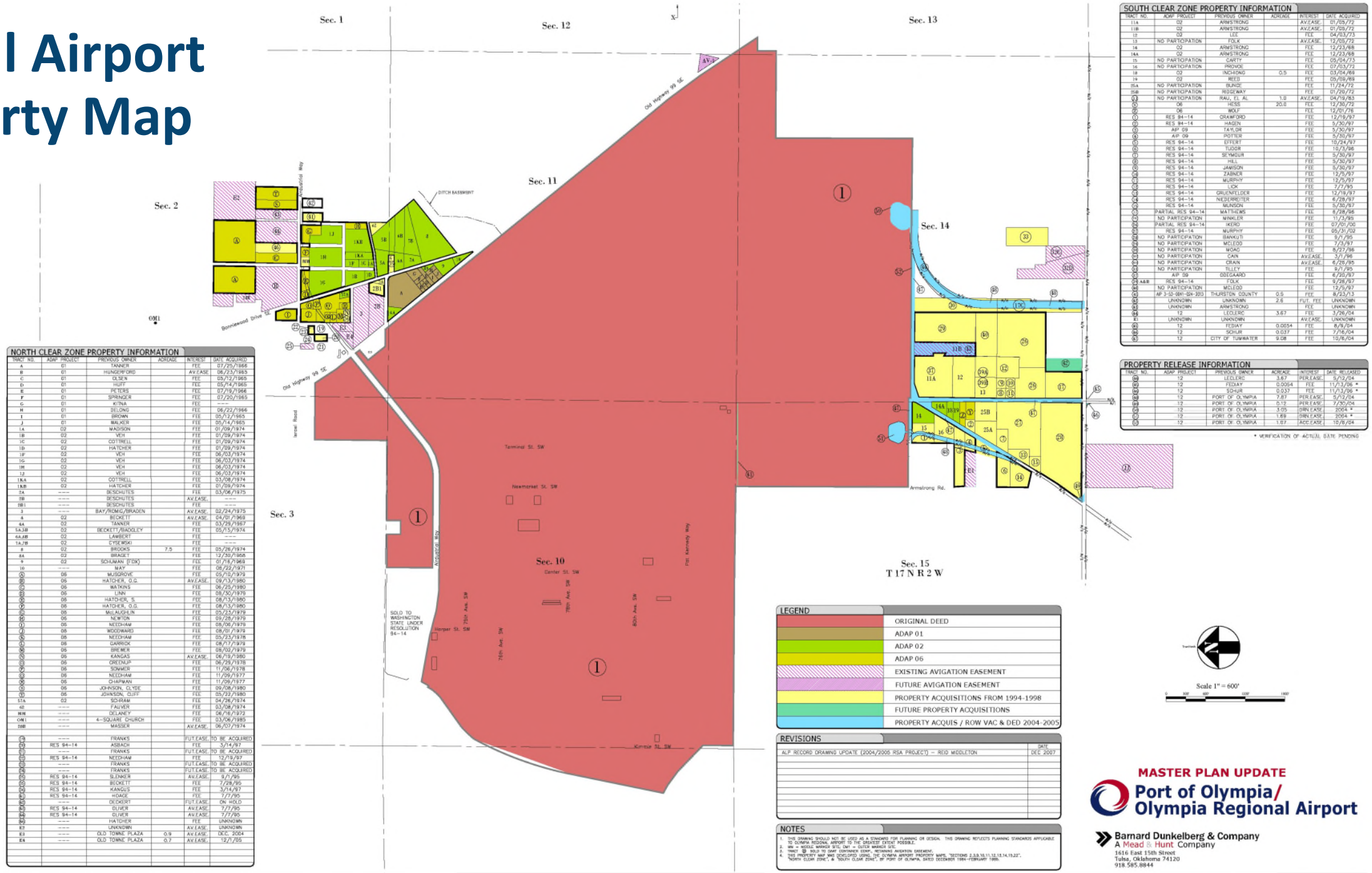
A comprehensive study of an airport that usually describes the short-, medium-, and long-term development plans to meet future aviation demand.

Follows FAA Advisory Circular 150/5070-6B

Master Plan Tasks:

- Inventory
- Forecast
- Facility Requirements
- Alternatives
- Airport Layout Plan
- Capital Improvement Plan

Overall Airport Property Map



NORTH CLEAR ZONE PROPERTY INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE ACQUIRED
A	01	TANNER		FEE	07/25/1966
B	01	HUNGERFORD		AV.EASE	06/23/1965
C	01	OLSEN		FEE	05/12/1965
D	01	HUFF		FEE	05/14/1965
E	01	PETERS		FEE	07/15/1966
F	01	SPRINGER		FEE	07/20/1965
G	01	KITNA		FEE	----
H	01	DELONG		FEE	06/22/1966
I	01	BROWN		FEE	05/12/1965
J	01	WALKER		FEE	05/14/1965
1A	02	MADISON		FEE	01/09/1974
1B	02	VEH		FEE	01/09/1974
1C	02	COTTRELL		FEE	01/09/1974
1D	02	HATCHER		FEE	01/09/1974
1F	02	VEH		FEE	06/03/1974
1G	02	VEH		FEE	06/03/1974
1H	02	VEH		FEE	06/03/1974
1J	02	VEH		FEE	06/03/1974
1KA	02	COTTRELL		FEE	03/08/1974
1KB	02	HATCHER		FEE	01/09/1974
2A	----	DESCHUTES		FEE	03/06/1975
2B	----	DESCHUTES		AV.EASE.	----
2B1	----	DESCHUTES		FEE	----
3	----	BAY/ROMIG/BRADEN		AV.EASE.	02/24/1975
4	02	BECKETT		AV.EASE.	04/01/1963
4A	02	TANNER		FEE	03/29/1967
5A,5B	02	BECKETT/BADGLEY		FEE	05/15/1974
6A,6B	02	LAMBERT		FEE	----
7A,7B	02	CYSEWSKI		FEE	----
8	02	BROOKS	7.5	FEE	05/26/1974
8A	02	BRAGET		FEE	12/30/1958
9	02	SCHUMAN (FOX)		FEE	01/18/1963
10	----	MAY		FEE	08/22/1971
A	06	MUSGROVE		FEE	05/10/1979
B	06	HATCHER, O.G.		AV.EASE.	09/13/1980
C	06	WATKINS		FEE	06/25/1980
D	06	LINN		FEE	08/30/1979
E	06	HATCHER, S.		FEE	08/13/1980
F	06	HATCHER, O.G.		FEE	08/13/1980
G	06	McLAUGHLIN		FEE	05/23/1979
H	06	NEWTON		FEE	09/28/1979
I	06	NEEDHAM		FEE	08/06/1979
J	06	WOODWARD		FEE	08/01/1979
K	06	NEEDHAM		FEE	05/23/1978
L	06	GARROCK		FEE	08/17/1979
M	06	BREMER		FEE	08/02/1979
N	06	KANGAS		AV.EASE.	06/19/1980
O	06	GREENUP		FEE	06/29/1978
P	06	SOMMER		FEE	11/06/1978
Q	06	NEEDHAM		FEE	11/09/1977
R	06	CHAPMAN		FEE	11/09/1977
S	06	JOHNSON, CLYDE		FEE	09/08/1980
T	06	JOHNSON, CLIFF		FEE	05/22/1980
57A	02	SCHRAM		FEE	04/26/1974
62	----	FAUVER		FEE	03/08/1974
HH	----	DELANEY		FEE	06/16/1972
OM1	----	4-SQUARE CHURCH		FEE	03/06/1985
SHED	----	MASSER		AV.EASE.	06/07/1974
19	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
20	RES 94-14	ASBACH		FEE	3/14/97
21	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
22	RES 94-14	NEEDHAM		FEE	12/19/97
23	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
24	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
25	RES 94-14	SLENKER		AV.EASE.	9/1/95
26	RES 94-14	BECKETT		FEE	7/28/95
28	RES 94-14	KANGUS		FEE	3/14/97
30	RES 94-14	HOAGE		FEE	7/7/95
35	----	DECKERT		FUT.EASE.	ON HOLD
40	RES 94-14	OLIVER		AV.EASE.	7/7/95
44	RES 94-14	OLIVER		AV.EASE.	7/7/95
46	----	HATCHER		FEE	UNKNOWN
E2	----	UNKNOWN		AV.EASE.	UNKNOWN
E3	----	OLD TOWNE PLAZA	0.9	AV.EASE.	DEC. 2004
E4	----	OLD TOWNE PLAZA	0.7	AV.EASE.	12/1/95

SOUTH CLEAR ZONE PROPERTY INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE ACQUIRED
11A	02	ARMSTRONG		AV.EASE.	01/05/72
11B	02	ARMSTRONG		AV.EASE.	01/05/72
12	02	LEE		FEE	04/03/73
13	NO PARTICIPATION	FOLK		AV.EASE.	12/05/72
14	02	ARMSTRONG		FEE	12/23/68
14A	02	ARMSTRONG		FEE	12/23/68
15	NO PARTICIPATION	CARTY		FEE	05/04/73
16	NO PARTICIPATION	PROVOE		FEE	07/03/72
18	02	INCHONG	0.5	FEE	03/04/69
19	02	REED		FEE	05/08/69
25A	NO PARTICIPATION	BUNDE		FEE	11/24/72
25B	NO PARTICIPATION	RIDGEWAY		FEE	01/20/72
31	NO PARTICIPATION	RAU, ET AL	1.0	AV.EASE.	04/19/83
1	06	HESS	20.0	FEE	12/30/72
2	06	WOLF		FEE	12/01/76
1	RES 94-14	CRAWFORD		FEE	12/19/97
2	RES 94-14	HAGEN		FEE	5/30/97
3	AIP 09	TAYLOR		FEE	5/30/97
4	AIP 09	POTTER		FEE	5/30/97
5	RES 94-14	EFFERT		FEE	10/24/97
6	RES 94-14	TUDOR		FEE	10/3/96
7	RES 94-14	SEYMOUR		FEE	5/30/97
8	RES 94-14	HILL		FEE	5/30/97
9	RES 94-14	JAMISON		FEE	5/30/97
10	RES 94-14	ZABINER		FEE	12/5/97
11	RES 94-14	MURPHY		FEE	12/5/97
12	RES 94-14	LICK		FEE	7/7/95
13	RES 94-14	GRUENFELDER		FEE	12/19/97
14	RES 94-14	NIEDERREITER		FEE	6/28/97
15	RES 94-14	MUNSON		FEE	5/30/97
16	PARTIAL RES 94-14	MATTHEWS		FEE	8/28/96
17	NO PARTICIPATION	MINKLER		FEE	11/3/95
24	PARTIAL RES 94-14	IKERD		FEE	07/01/00
27	RES 94-14	MURPHY		FEE	05/31/02
28	NO PARTICIPATION	BANKUTI		FEE	9/1/95
29	NO PARTICIPATION	MCLEOD		FEE	7/3/97
30	NO PARTICIPATION	MOAG		FEE	8/27/96
32	NO PARTICIPATION	CAIN		AV.EASE.	3/1/96
33	NO PARTICIPATION	CRAIN		AV.EASE.	6/28/95
34	NO PARTICIPATION	TILLEY		FEE	9/1/95
37	AIP 09	DEEGAARD		FEE	6/20/97
38 A&B	RES 94-14	FOLK		FEE	9/28/97
48	NO PARTICIPATION	MCLEOD		FEE	12/5/97
41	AIP 3-53-0041-024-2013	THURSTON COUNTY	0.5	FEE	8/23/13
42	UNKNOWN	UNKNOWN	2.6	FUT. FEE	UNKNOWN
43	UNKNOWN	ARMSTRONG		FEE	UNKNOWN
44	12	LECLERC	3.67	FEE	3/26/04
51	UNKNOWN	UNKNOWN		AV.EASE.	UNKNOWN
45	12	FEDIAY	0.0054	FEE	8/6/04
46	12	SCHUR	0.037	FEE	7/16/04
47	12	CITY OF TUMWATER	9.08	FEE	10/6/04

PROPERTY RELEASE INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE RELEASED
44	12	LECLERC	3.67	PER.EASE.	5/12/04
45	12	FEDIAY	0.0054	FEE	11/13/96 *
46	12	SCHUR	0.037	FEE	11/13/96 *
48	12	PORT OF OLYMPIA	7.87	PER.EASE.	5/12/04
49	12	PORT OF OLYMPIA	0.12	PER.EASE.	7/30/04
50	12	PORT OF OLYMPIA	3.05	DRN.EASE.	2004 *
51	12	PORT OF OLYMPIA	1.69	DRN.EASE.	2004 *
53	12	PORT OF OLYMPIA	1.07	ACC.EASE.	10/6/04

* VERIFICATION OF ACTUAL DATE PENDING

LEGEND

ORIGINAL DEED
ADAP 01
ADAP 02
ADAP 06
EXISTING AVIGATION EASEMENT
FUTURE AVIGATION EASEMENT
PROPERTY ACQUISITIONS FROM 1994-1998
FUTURE PROPERTY ACQUISITIONS
PROPERTY ACQUIS / ROW VAC & DED 2004-2005

REVISIONS

	DATE
ALP RECORD DRAWING UPDATE (2004/2005 RSA PROJECT) – REID MIDDLETON	DEC 2007

NOTES

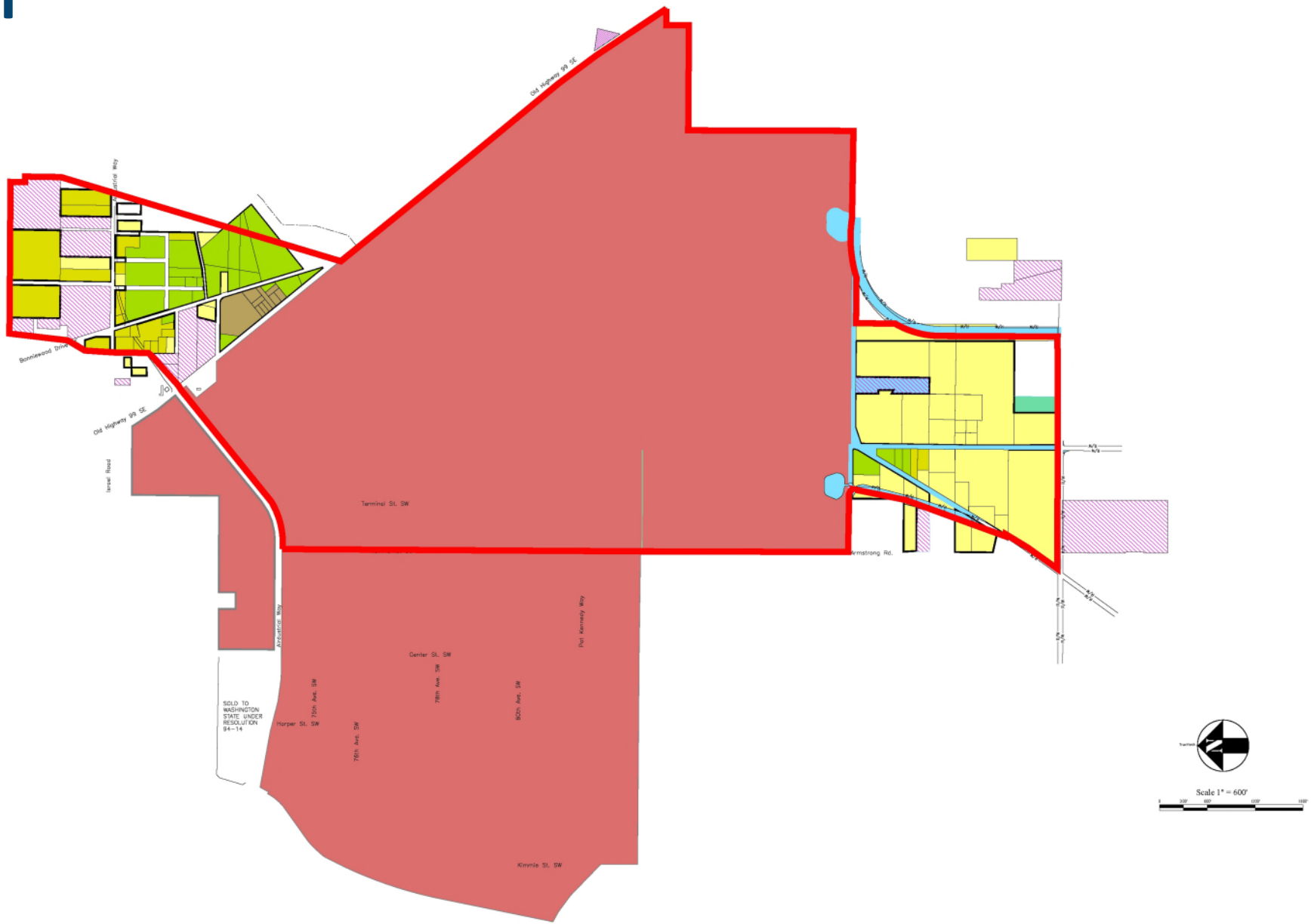
1. THIS DRAWING SHOULD NOT BE USED AS A STANDARD FOR PLANNING OR DESIGN. THIS DRAWING REFLECTS PLANNING STANDARDS APPLICABLE TO OLYMPIA REGIONAL AIRPORT TO THE GREATEST EXTENT POSSIBLE.
2. MM = MIDDLE MARKER SITE; OM1 = OUTER MARKER SITE.
3. TRACT 39 SOLD TO DART CONTAINER CORP., MEMORIAL ANDERSON EASEMENT.
4. THIS PROPERTY MAP WAS DEVELOPED USING THE OLYMPIA AIRPORT PROPERTY MAPS, "SECTIONS 2,3,9,10,11,12,13,14,15,22", "NORTH CLEAR ZONE", & "SOUTH CLEAR ZONE", OF PORT OF OLYMPIA, DATED DECEMBER 1984-FEBRUARY 1986.

MASTER PLAN UPDATE
Port of Olympia/
Olympia Regional Airport

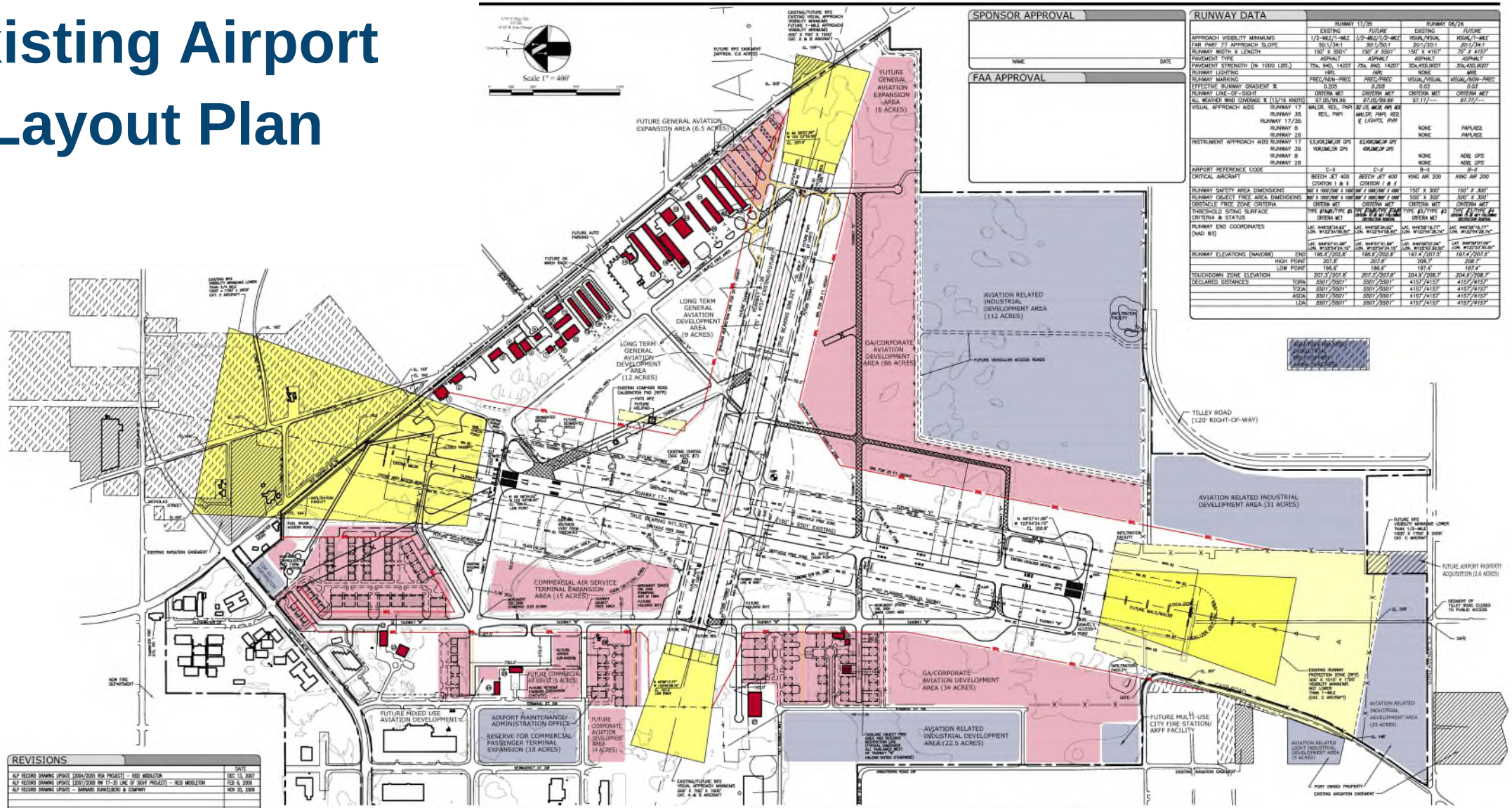
Barnard Dunkelberg & Company
A Mead & Hunt Company
1616 East 15th Street
Tulsa, Oklahoma 74120
918.585.8844

Figure E17 **Airport Property Map - Exhibit 'A'**

Master Plan Focus Area



Existing Airport Layout Plan



MASTER PLAN UPDATE

Port of Olympia/ Olympia Regional Airport

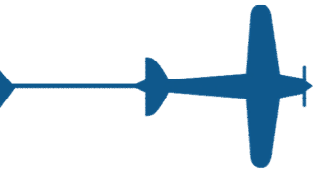
Barnard Dunkelberg & Company
A Mead & Hunt Company
1616 East 15th Street
Tulsa, Oklahoma 74120
918.585.8844

Figure E1 **Airport Layout Plan**

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Master Plan Update Goals



- Meet Aviation Demand
- Meet FAA design standards
- Prepare OLM for future development
- Prepare OLM for emerging aviation technologies
- Continued Airport self-sufficiency

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Project Update

Completed

- Inventory
- Forecast Approved by FAA
- Facility Requirements
- Alternatives

Current focus areas

- Coordination with the HCP Team
- Airport Layout Plan
- Implementation Plan

Future Focus Areas

- Part 139 Commercial Service Feasibility Study

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

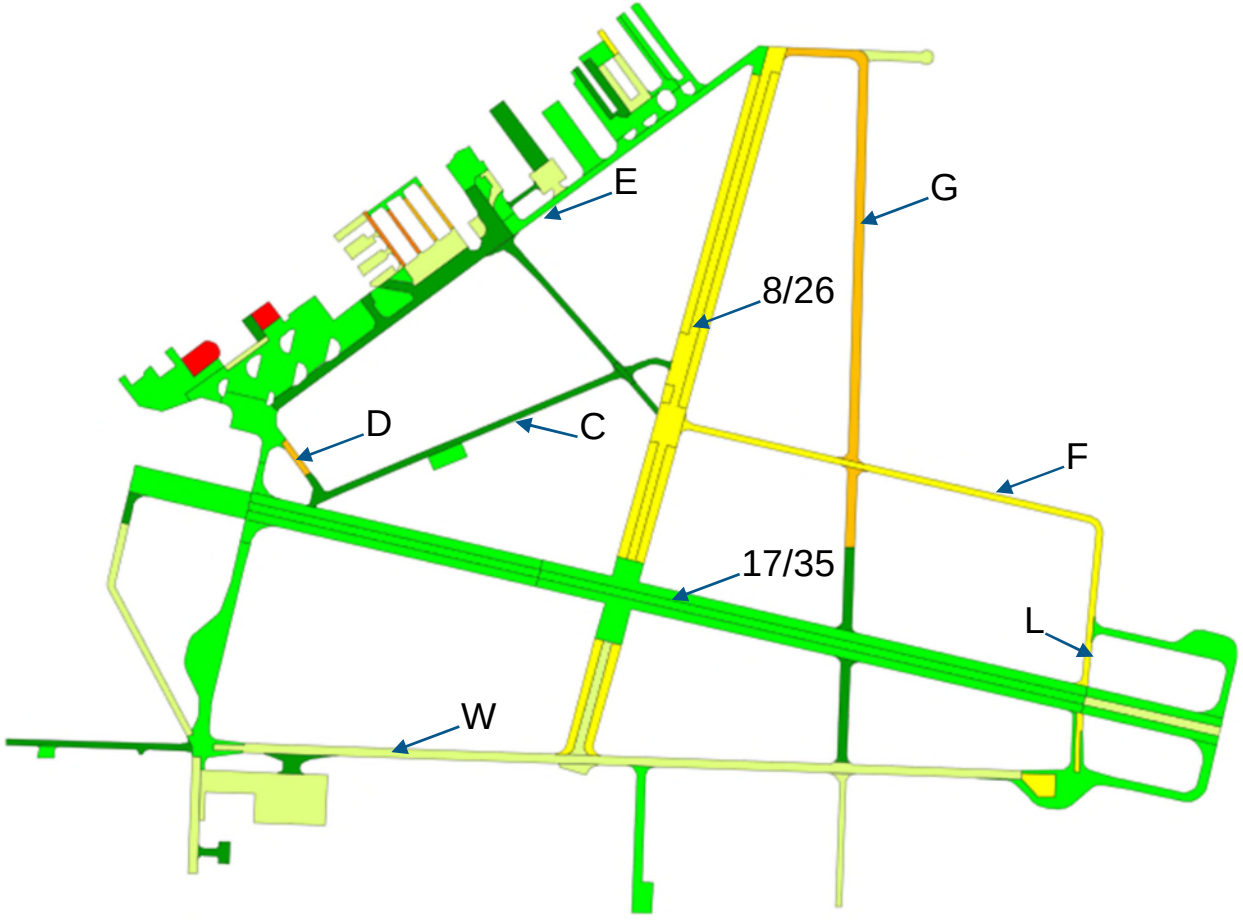
Summary of Preferred Alternative

- The Preferred Alternative proposes a reduction in taxiway and runway pavement by 550,000 square feet compared to the existing approved ALP - providing opportunity for habitat.

Summary of Preferred Alternatives

- Taxiway changes:
  - Relocation of Taxiway F to be parallel
  - Relocation of Taxiway W to be parallel
  - Removal of Taxiway D and Taxiway C
  - 90 degree intersections of taxiways to runways
  - Move taxiways outside of the middle third of the runway
- Rehabilitation of Runway 17/35
- Shortening Runway 8/26 by 647 feet to 3,510 feet in length
- Pavement Maintenance

2018 Pavement Condition Index (PCI) Data

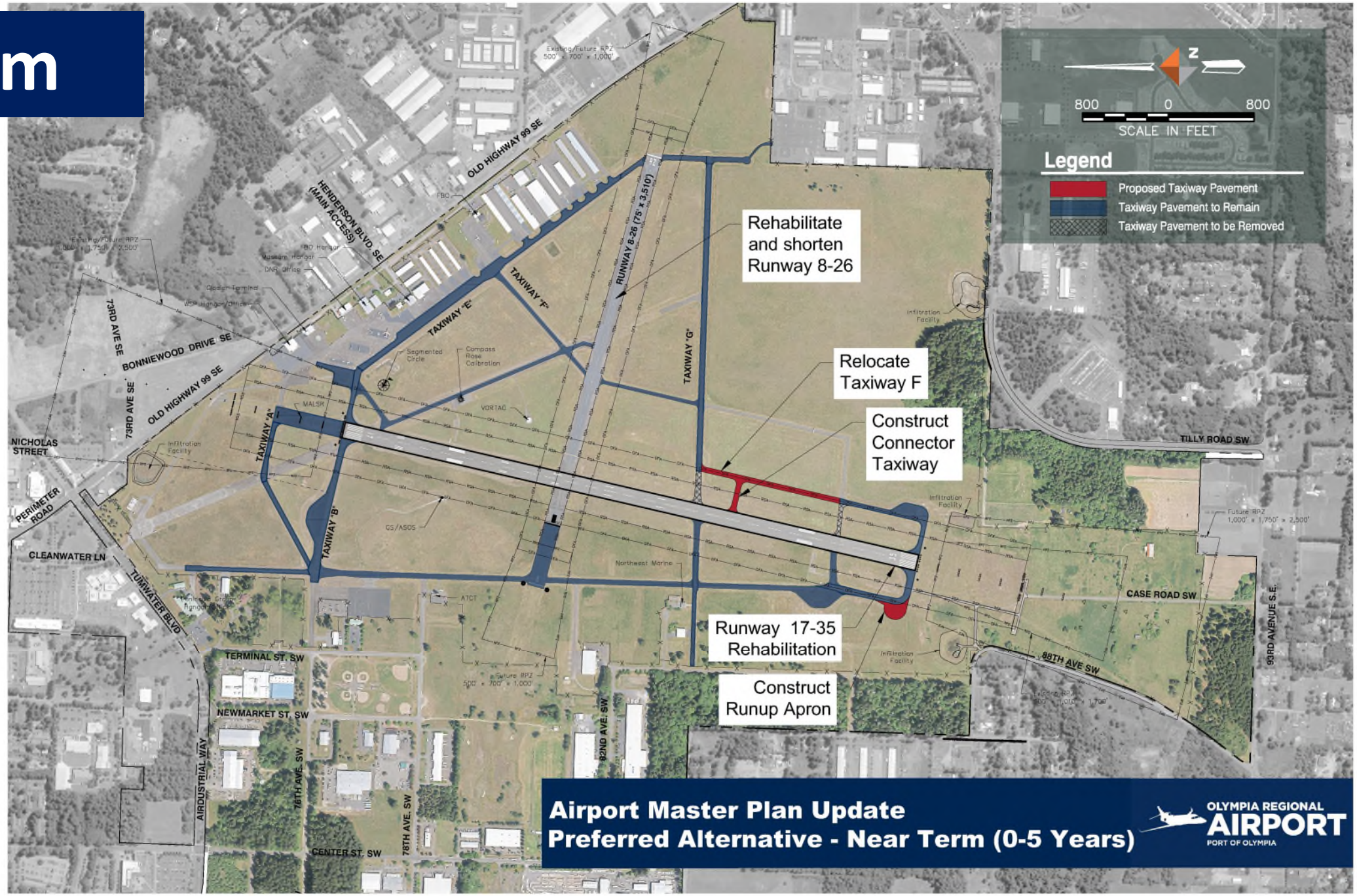


GOOD → **POOR**

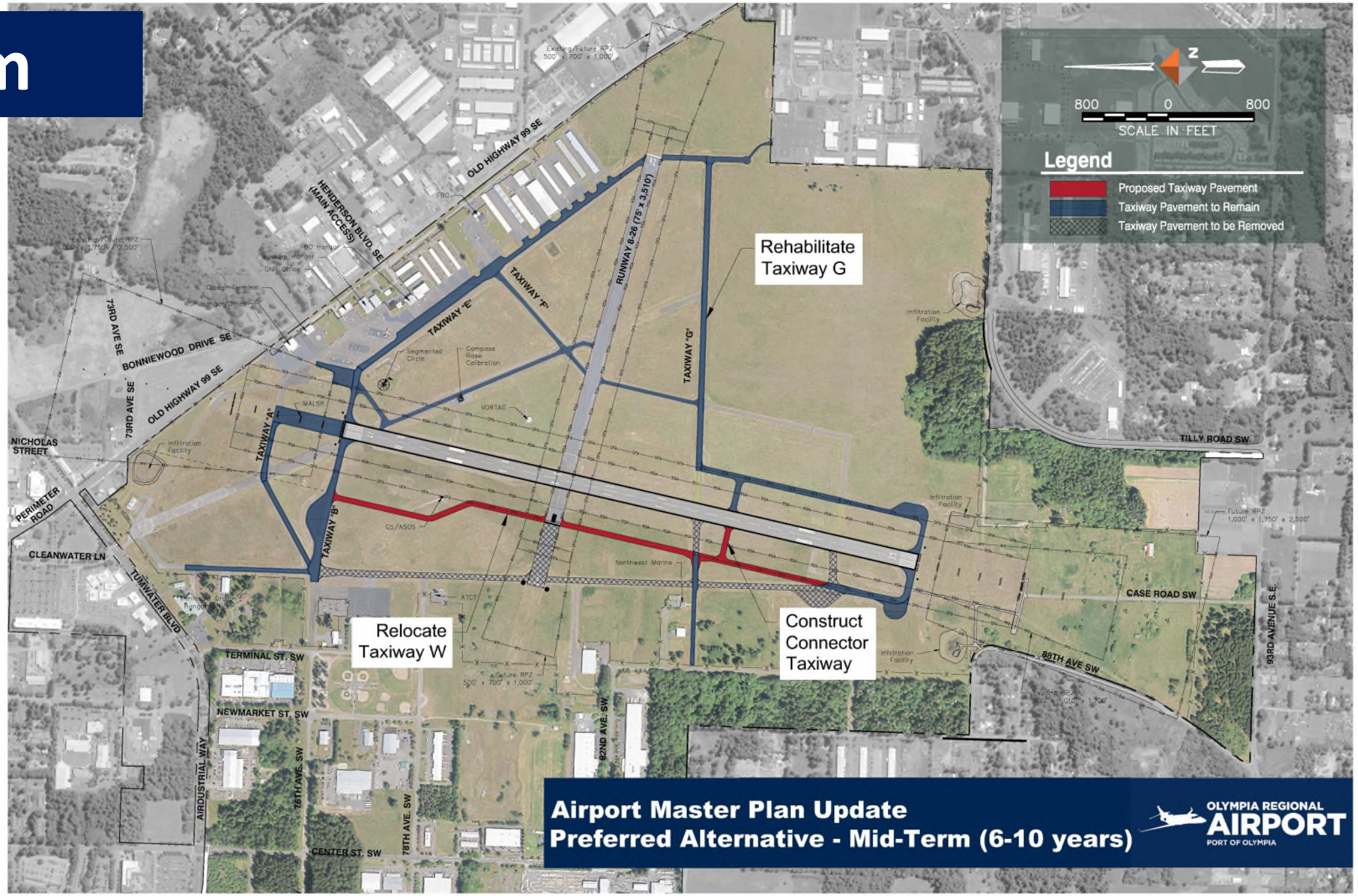
LEGEND:

100-86	85-71	70-56	55-41	40-26	25-11	10-0

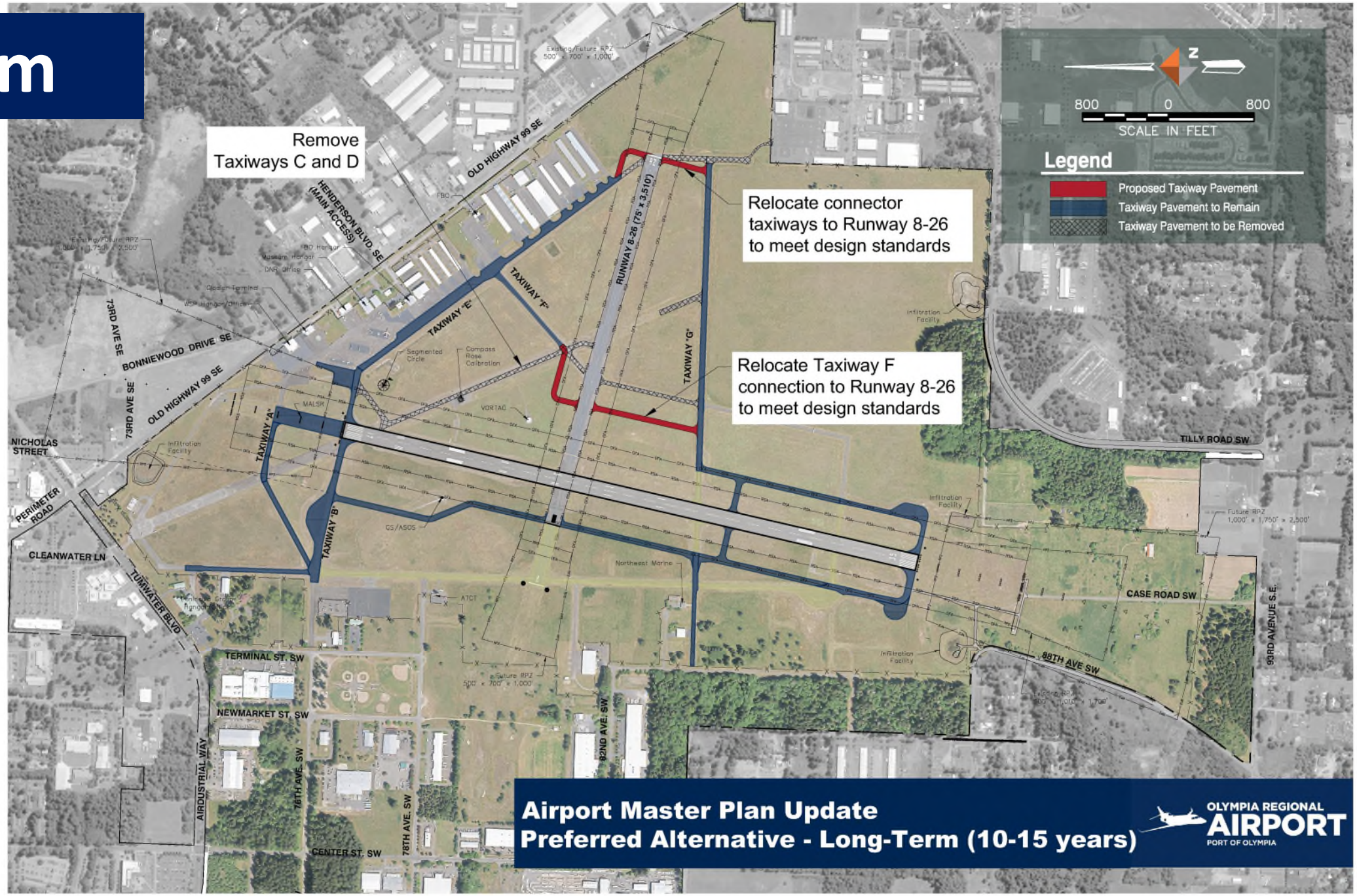
Near-Term


Rehabilitate and shorten Runway 8-26
Relocate Taxiway F
Construct Connector Taxiway
Runway 17-35 Rehabilitation
Construct Runup Apron
Legend
Proposed Taxiway Pavement
Taxiway Pavement to Remain
Taxiway Pavement to be Removed
800 0 800
SCALE IN FEET
RUNWAY 8-26 (75' x 3,510')
TAXIWAY 'E'
TAXIWAY 'F'
TAXIWAY 'G'
TAXIWAY 'A'
TAXIWAY 'B'
OLD HIGHWAY 99 SE
HENDERSON BLVD. SE (MAIN ACCESS)
BONNIEWOOD DRIVE SE
73RD AVE SE
NICHOLAS STREET
PERIMETER ROAD
CLEANWATER LN
TUMWATER BLVD
TERMINAL ST. SW
NEWMARKET ST. SW
CENTER ST. SW
AIRDUSTRIAL WAY
76TH AVE. SW
78TH AVE. SW
82ND AVE. SW
TILLY ROAD SW
CASE ROAD SW
88TH AVE SW
93RD AVENUE S.E.
Airport Master Plan Update
Preferred Alternative - Near Term (0-5 Years)
OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Mid-Term


Rehabilitate Taxiway G
Relocate Taxiway W
Construct Connector Taxiway
Legend
Proposed Taxiway Pavement
Taxiway Pavement to Remain
Taxiway Pavement to be Removed
800 0 800
SCALE IN FEET
RUNWAY 8-26 (75' x 3,510')
TAXIWAY 'A'
TAXIWAY 'B'
TAXIWAY 'E'
TAXIWAY 'F'
TAXIWAY 'G'
OLD HIGHWAY 99 SE
HENDERSON BLVD. SE (MAIN ACCESS)
BONNIEWOOD DRIVE SE
73RD AVE SE
NICHOLAS STREET
PERIMETER ROAD
CLEANWATER LN
TUMWATER BLVD
TERMINAL ST. SW
NEWMARKET ST. SW
CENTER ST. SW
AIRDUSTRIAL WAY
76TH AVE. SW
78TH AVE. SW
82ND AVE. SW
TILLY ROAD SW
CASE ROAD SW
88TH AVE SW
93RD AVENUE S.E.
Airport Master Plan Update
Preferred Alternative - Mid-Term (6-10 years)
OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Long-Term


Remove Taxiways C and D
Relocate connector taxiways to Runway 8-26 to meet design standards
Relocate Taxiway F connection to Runway 8-26 to meet design standards
N
800 0 800
SCALE IN FEET
Legend
Proposed Taxiway Pavement
Taxiway Pavement to Remain
Taxiway Pavement to be Removed
OLD HIGHWAY 99 SE
HENDERSON BLVD. SE (MAIN ACCESS)
RUNWAY 8-26 (75' x 3,510')
TAXIWAY 'E'
TAXIWAY 'F'
TAXIWAY 'G'
TAXIWAY 'A'
TAXIWAY 'B'
BONNIEWOOD DRIVE SE
73RD AVE SE
NICHOLAS STREET
PERIMETER ROAD
CLEANWATER LN
TUMWATER BLVD
TILLY ROAD SW
CASE ROAD SW
88TH AVE SW
93RD AVENUE S.E.
TERMINAL ST. SW
NEWMARKET ST. SW
AIRDUSTRIAL WAY
76TH AVE. SW
78TH AVE. SW
82ND AVE. SW
CENTER ST. SW
Airport Master Plan Update
Preferred Alternative - Long-Term (10-15 years)
OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Emerging Technologies

- Airport Cooperative Research Project on electric aircraft and hydrogen technologies takeaways
- Washington Electric Aircraft Feasibility Study takeaways
- Charging, Hybrid aircraft, and Hydrogen fuel

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Cooperative Research Project (ACRP) Report 236

The following figures and tables are sourced from ACRP 236

AIRPORT COOPERATIVE RESEARCH PROGRAM

ACRP RESEARCH REPORT 236

Preparing Your Airport for Electric Aircraft and Hydrogen Technologies

Gaël Le Bris
Loup-Giang Nguyen
Beathia Tagoe
Philip Jonat
WSP USA, Inc.
Raleigh, NC

Cedric Y. Justin
Georgia Institute of Technology
Atlanta, GA

Eugene Reindel
Katherine B. Preston
HMMH
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Phillip J. Ansell
Urbana, IL

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Research sponsored by the Federal Aviation Administration

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SCIENCES • ENGINEERING • MEDICINE
TRB
TRANSPORTATION RESEARCH BOARD
2022

Baseline Aircraft Concepts

						
Configuration	Small All-Electric Tube & Wing	Small All-Electric Tube & Wing	All-Electric Tube and Wing Commuter	Hybrid-Electric Tube and Wing Regional	All-Electric Multi Copter	All-Electric Tilt Rotor
Examples	Pipistrel Alpha Electro	Bye Aerospace SunFlyer 4 / eflyer 4	Eviation Alice	UTC Project 804	Beijing Yi-Hang Creation EHANG 184	Bell Nexus 4EX / Joby S4
Capacity	1 pilot + 1 passenger	1 pilot + 3 passenger	2 pilots + 9 passengers	2 pilots + 39 passengers	2 passengers	1 pilot + 4 passengers
Range / Endurance	1 hr. + reserve (Circuits) 45min + reserve (Cross country)	4 hours / 420 miles	650 miles	700 miles	25 miles	60 miles
Payload	400 lbs.	800 lbs.	2,750 lbs.	200 lbs.	570 lbs.	800 lbs.

Table 3: Baseline Aircraft Concepts

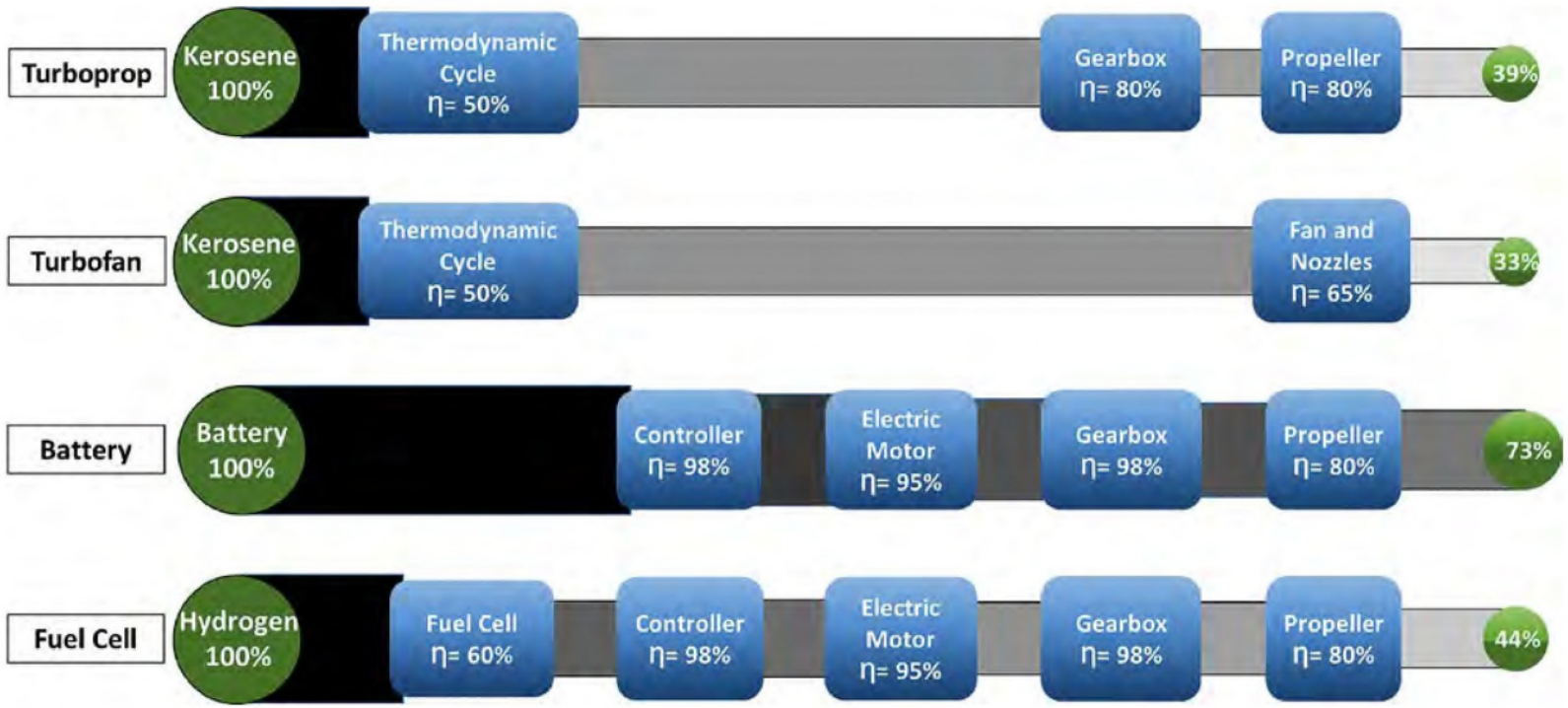


Figure 8. Efficiency of traditional and electrified powertrains.

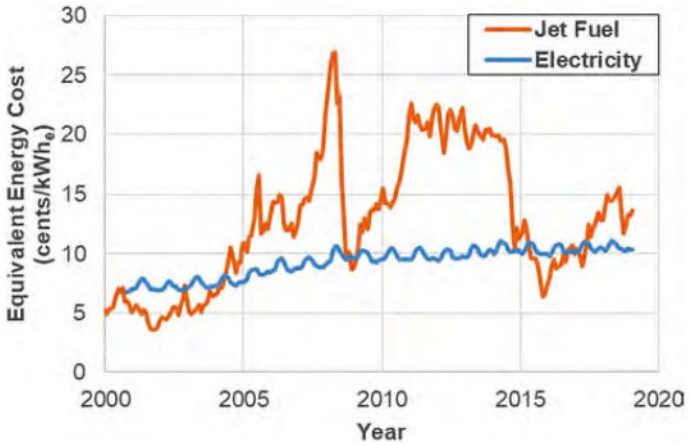


Figure 9. Propulsion equivalent energy costs for jet fuel and electricity.

ACRP Report 236 Airside Requirements

Electric Charging Infrastructure

Figure 38. Electric aircraft charging via fixed charging stations.

Figure 39. Electric aircraft charging via a mobile supercharger.

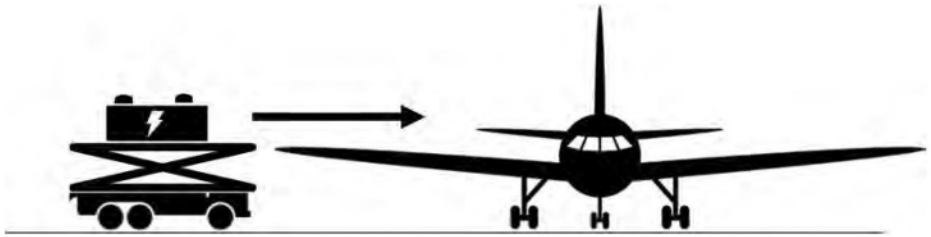


Figure 40. Electric aircraft battery swap.

Three key ways to charge aircraft, and there are pros/cons for all three.

Fast charge is on the horizon

- 20 minute charge offers 90 minutes of flight time
- Flight testing for eDA40 is set to begin in the second quarter of 2022, with certification forecasted for 2024

The First Electric Airplane That You Can Fast-Charge Like Your Tesla Is Coming Soon

Diamond Aircraft's eDA40 can be recharged in about 20 minutes. You just can't do it at your local Walmart.

By J. GEORGE GORANT

Courtesy Diamond Aircraft

Case Study: Washington Electric Aircraft Feasibility Study

- Study provided a framework for quantifying economic impacts
- Potential to support jobs and create business revenues
- Reduction in time and regional travel costs
- Connecting communities and employment centers along the I-5 corridor

Source: EBP US, 2020, Kimley-Horn AIES 2020.

Figure 18. Economic impact and measures.

Perspective on the Aviation Demand

- Short-Term (2025 Horizon)
- Medium-Term (2030 Horizon)
- Long-Term (2040 Horizon)

Figure 23. Potential timeline of electric aircraft implementation.

Electric Trainer Aircraft

- Electric training aircraft are making big advancements in the development of battery-powered electric aircraft.
- Textron (Cessna and Beechcraft) purchased Pipistrel for $235 million which says they view electric aircraft future as a strong market.

APRIL 27, 2018

First all-electric trainer plane gets airworthiness certification from the FAA in the US

Fred Lambert - Apr. 27th 2018 12:36 pm PT @FredericLambert

EMERGING TECHNOLOGIES

U.S. Aviation First: Private Pilot Certificate Earned Using an Electric Airplane

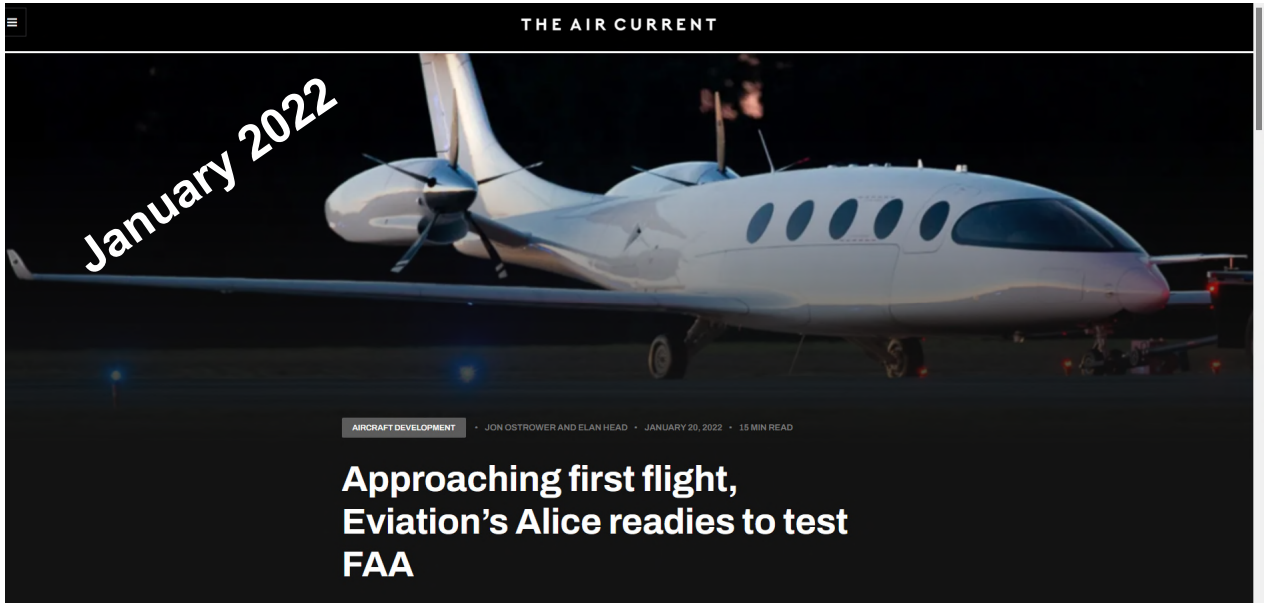
Pilot Shane Fisher performed his check ride in Pipistrel's battery-powered Velis Electro.

By Thom Patterson May 6, 2022

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Electric Aircraft in PNW



April 2022

Eviation makes a deal to sell Cape Air 75 electric airplanes; first flight test now set for summer

BY ALAN BOYLE on April 18, 2022 at 10:59 am

Hybrid Aircraft

VoltAero Cassio hybrid-electric aircraft to pass 10,000km milestone

0

BY BEN SAMPSON ON 26TH APRIL 2022 ELECTRIC & HYBRID

VoltAero's Cassio 1 testbed aircraft has been used to demonstrate the French company's hybrid-electric powertrain (Image: VoltAero)

This Agile Hybrid eVTOL Made in Italy Promises an Extensive Range at 186 MPH

Home > News > Aviation 6 May 2022, 04:54 UTC · by Otilia Drăgan

Helicopters carry most of the burden when it comes to medical air transportation, but things are starting to change. Small drones are already being used for delivering urgent medical supplies over short distances, but eVTOLs (electric vertical take-off and landing) capable of interregional flights have the potential to revolutionize medical transportation.

Hybrid Aircraft

ATR Eyes Hybrid-Electric Propulsion for New 'Evo' Turboprop

by Cathy Buyck - May 18, 2022, 3:00 AM

Surf Air Mobility Enters Into Exclusive Agreements With AeroTEC and MagniX to Accelerate Development of Electrified Commercial Aircraft

Sustainable Aviation 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 oils
- Plant and algae material
- Animal fats

- FAA approval for up to 50% SAF blend with Jet-A
- SAF is proven, drop-in technology
- Biofuel can be blended with conventional fuel.

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

Hydrogen Aircraft

Hydrogen Infrastructure: No adequate infrastructure today delivers large quantities of hydrogen from production to aircraft

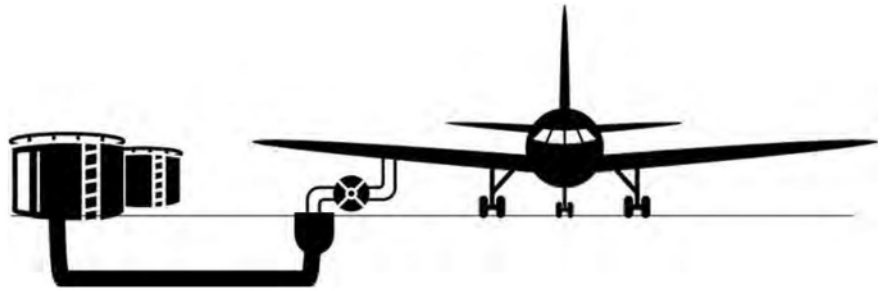


Figure 41. Aircraft refueling from a hydrant system.

Figure 42. Aircraft refueling by fueling truck.

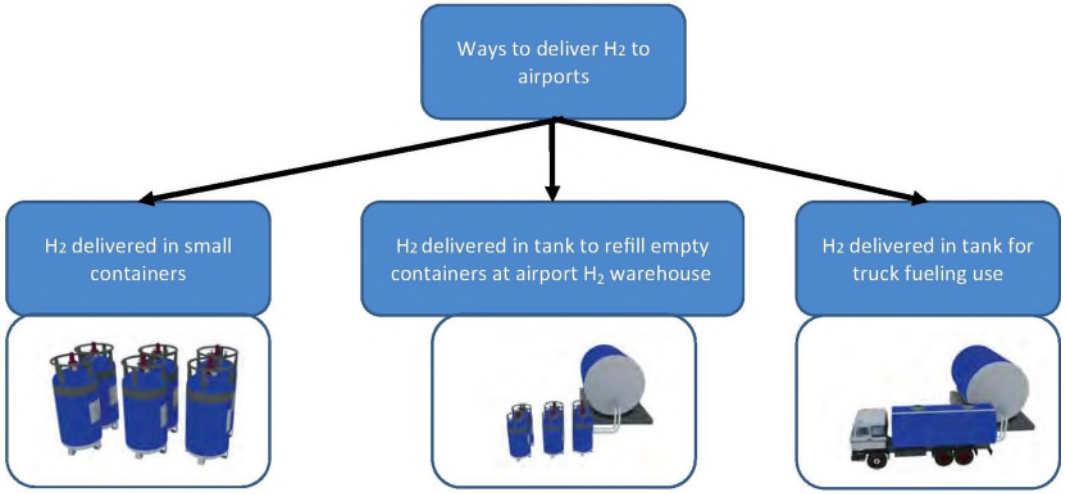


Figure 45. Hydrogen delivery.

Figure 43. Aircraft H_2 container swap.

Hydrogen Aircraft

May 17, 2022 0 By ALICIA MOORE

The German aerospace company's H2-powered electric airplane flew above 7,000 feet.

H2FLY, a German aerospace company, has just set a new hydrogen plane altitude record with its HY4 four-seater.

Second aircraft joins ZeroAvia fleet for hydrogen-electric flight testing

0

BY BEN SAMPSON ON 10TH MAY 2022 ELECTRIC & HYBRID

ZeroAvia is developing a 19-seat hydrogen electric aircraft (Image: ZeroAvia)

Emerging Technologies

- Potential for OLM to support alternative fueled aircraft through training and general aviation activities
- Industry is evolving quickly
- Environmentally friendly and sustainable
- OLM Master Plan Update Appendix: Emerging Technologies

Airport Master Plan Update

Next Steps

SOLUTIONS

- Environmental Review
- Recommended Alternatives

JUN 2022 — **JUL 2022**

IMPLEMENTATION

- Capital Improvement Program
- Funding
- Airport Layout Plan

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

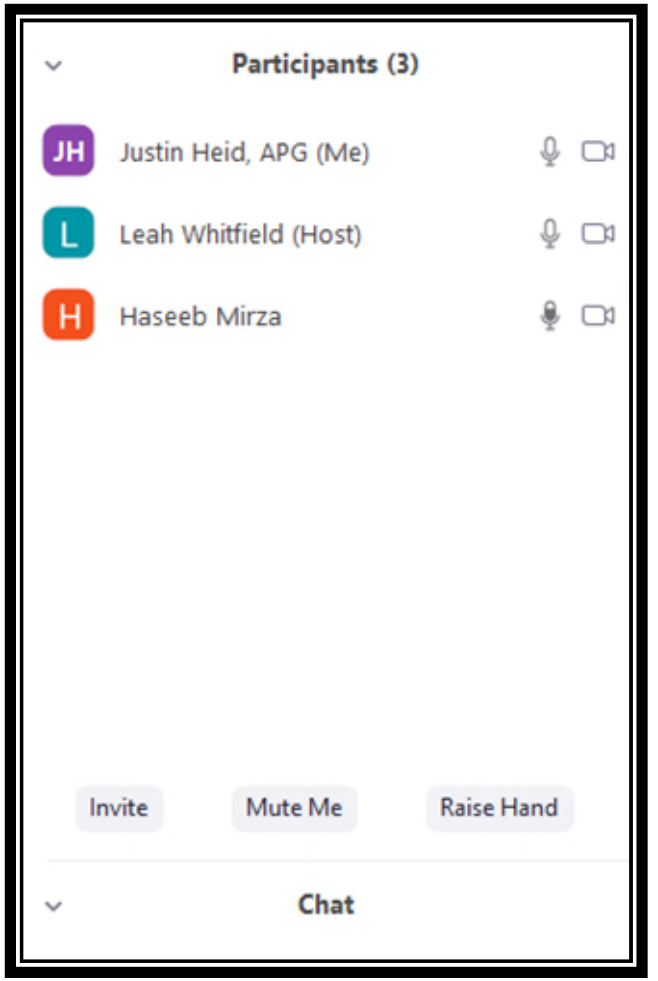
Comments

If you have a comment you can:

Use the “Raise Hand” button

- **Under “Participants” or**
- **Under “Reactions”**

Comments are limited to 3 minutes.
Type a comment in the chat box



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PORT OF OLYMPIA

Airport Master Plan Update

Thank you

Contact:

Leah Whitfield Leah@theaviationplanninggroup.com

OLM MPU Email address: AMPUpdate@PortOlympia.com

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Public Open House Meeting #4

October 12, 2022

The Aviation Planning Group

DOWL

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Introductions

Port Staff

Warren Hendrickson
Airport Senior Manager

Rudy Rudolph
Operations Director

Lisa Parks
Executive Services Director

Sam Gibboney
Executive Director

Project Team

Leah Whitfield
Project Manager

Zach Duvall
Airport Planner

Darren Murata, P.E.
Lead Engineer, DOWL

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Participation

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

We will mute all participants during the presentation.

Virtual Attendees – Please type in the chat box if you have a comment or question. Comments can also be emailed to AMPUpdate@portolympia.com.

Comments from the live audience will be heard at the end during the Comments portion of the presentation. Any questions asked will be answered in a Q/A will be

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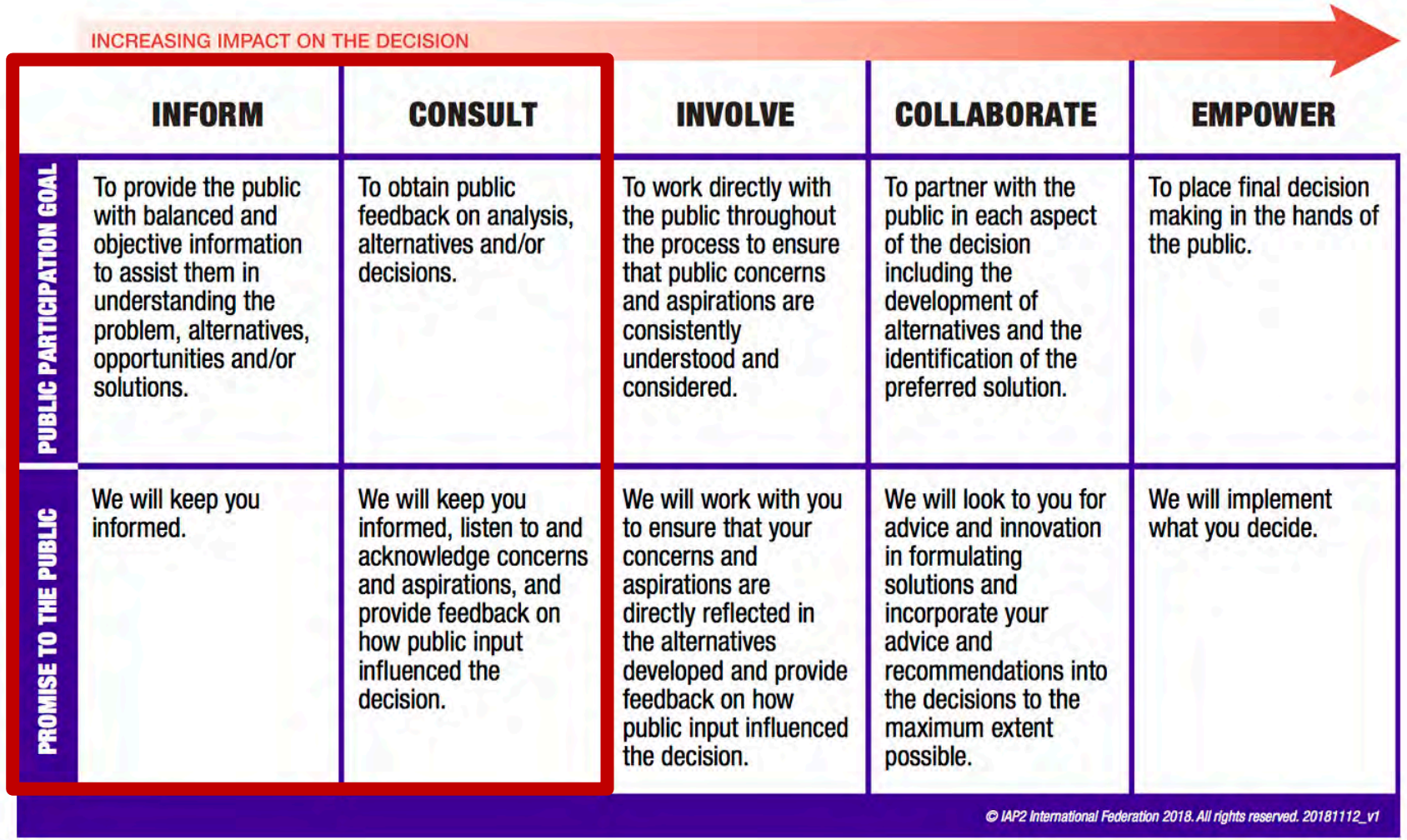
Airport Master Plan Update

IAP2 Spectrum



OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Agenda

1. Studies Underway
2. HCP Update
3. Review of Master Plan Update Process
4. Master Plan Update Goals
5. Revised Preferred Alternative
6. Emerging Technologies
7. Commercial Service Feasibility Study
8. Next Steps
9. Comments

Washington State Legislature Study

Commercial Aviation Coordination Commission (CACC)

The CACC is a group created by the Legislature to develop recommendations to meet Washington state critical aviation system capacity.

Any comments concerning the work of the CACC should be directed to the CACC team CACC@wsdot.wa.gov.

Ongoing Port Studies

There are two projects that the airport is involved in.

The **Bush Prairie Habitat Conservation Plan (HCP)** is focused on protecting and mitigating impacts to species protected by the Endangered Species Act in and around the airport.

The **Master Plan Update** is focused on meeting the aviation demand.

OLYMPIA REGIONAL AIRPORT
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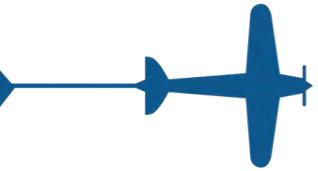
Airport Master Plan Update

HCP Update

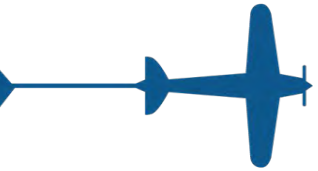


- Finalizing the conservation and development policy details
- Responding to comments from USFWS and WDFW on the overall HCP
- Revised HCP in November for review by the Port and City of Tumwater
- Draft to agencies and public following

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Master Plan Update Process



According to the Federal Aviation Administration (FAA), an airport master plan is…

A comprehensive study of an airport that usually describes the short-, medium-, and long-term development plans to meet future aviation demand.

Follows FAA Advisory Circular 150/5070-6B

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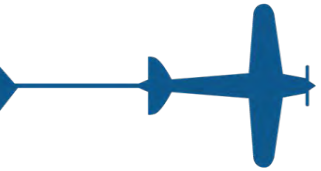
Airport Master Plan Update

Master Plan Update Goals



- Meet aviation demand
- Meet FAA design standards
- Prepare Olympia Regional Airport (OLM) for future development
- Prepare OLM for emerging aviation technologies
- Continued Airport self-sufficiency

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PORT OF OLYMPIA

Airport Master Plan Update

SCHEDULE (Draft)

- Issues
- Airport Inventory
- Aviation Forecasts
- Airport Facility Requirements

- Draft Alternatives
- Alternative Evaluation
- Environmental Review
- Recommended Alternatives

- Capital Improvement Program
- Funding
- Airport Layout Plan
- Draft/Final Report

Technical Advisory Committee Meeting

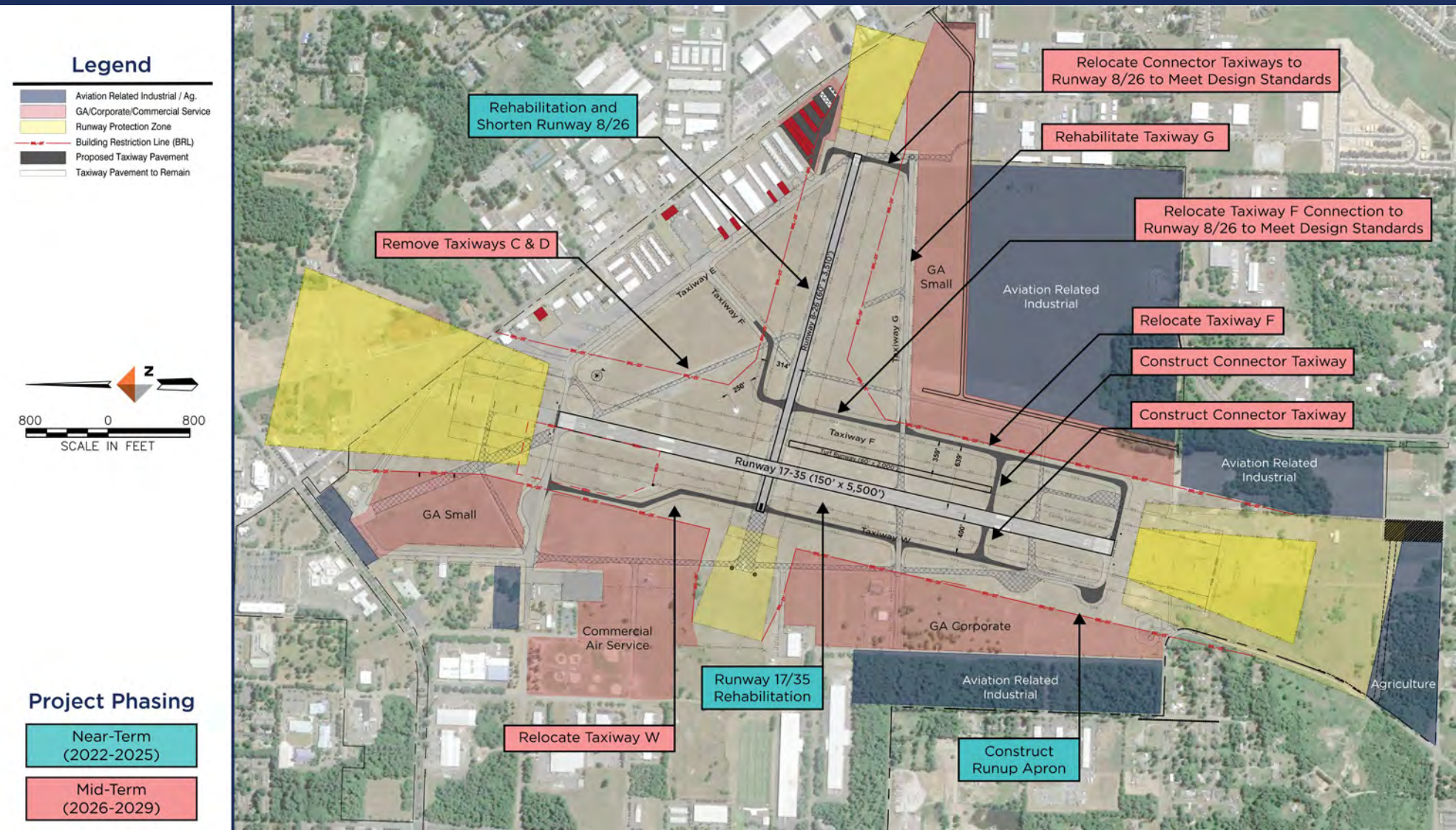
Public Open House

Feasibility Study Meeting

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Revised MPU Preferred Alternative



Emerging Technologies

Eviation's electric commuter plane Alice makes first test flight

29 September 2022

The first fully electric commuter plane Alice from Eviation Aircraft (earlier post) successfully completed its maiden flight at Moses Lake, Washington. Alice lifted off on 27 Sep at 7:10 a.m. from Grant County International Airport (MWH), flying for a total of eight minutes and reaching an altitude of 3,500 feet.

Source: "*Eviation's electric commuter plane Alice makes first test flight*" September 29, 2022

Emerging Technologies

Figure 23. Potential timeline of electric aircraft implementation.

Source: ACRP Research Report 236: *Preparing Your Airport for Electric Aircraft and Hydrogen Technologies*

Sustainable Aviation Fuels (SAF)

AKA: Biofuel/Plant Based Fuels:

Created from:

- Waste oils
- Plant and algae material
- Animal fats

- FAA approval for up to 50% SAF blend with Jet-A

- SAF is proven, drop-in technology

There is adequate space for fuel farm expansion when demand for biofuels occurs.

Approval of Alternative to 100LL

AOPA
your freedom to fly

JOIN NOW | AOPA CREDIT CARD | DONATE

MEMBERSHIP | TRAVEL | PILOT RESOURCES | NEWS & MEDIA | TRAINING & SAFE

News & Media › GA moves closer to unleaded future

FAA APPROVES UNLEADED FUEL FOR PISTON FLEET

GAMI STCS COVER ALL SPARK-IGNITION ENGINE, AIRFRAME COMBINATIONS

September 1, 2022 By Jill W. Tallman

The FAA signed on September 1 supplemental type certificates that allow General Aviation Modifications Inc.'s 100-octane unleaded fuel (G100UL) to be used in every general aviation spark-ignition engine and every airframe powered by those engines. The move was hailed by the industry as a major step in the transition to an unleaded GA future.

- EAGLE (Eliminate Aviation Gasoline Lead Emissions) – initiative of aviation organizations with goal to meet objective by 2030
- FAA has approved replacement for 100LL subject to:
  - Regulatory requirements
  - Production and distribution
- Alternative is coming, but roll out will be slow

US FAA sets out initial standards for eVTOL vertiport designs

By David Kaminski-Morrow | 28 September 2022

US aviation regulators have unveiled design guidance for vertiports, as the aerospace industry progresses with multiple proposed eVTOL aircraft.

It focuses on safety-critical geometry, with dimensions for take-off and landing zones, as well as approach and departure paths in the surrounding airspace.

The guidance also sets out initial criteria for lighting and markings – including a recommended vertiport identification symbol – plus standards for battery and electric charging infrastructure.

eVTOL (Electric Vertical Takeoff and Landing) Vertiport

Source: https://www.flightglobal.com/safety/us-faa-sets-out-initial-standards-for-evtol-vertiport-designs/150359.article

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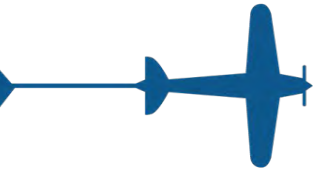
PORT OF OLYMPIA

Airport Master Plan Update

Commercial Service Feasibility Study

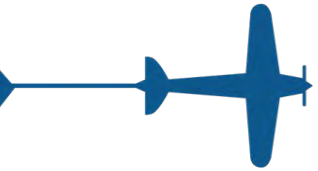


- Funded by FAA.
- Not related to the CACC or WSDOT Aviation System Plan.
- Preliminary evaluation of OLM's compatibility to meet FAA requirements for regional commercial service.
- Focused on the feasibility of what the existing airfield can accommodate with regard to emerging aircraft.

A component of the MPU consisting of:

- Passenger and Operations Forecast
- Facility Requirements
- Alternatives

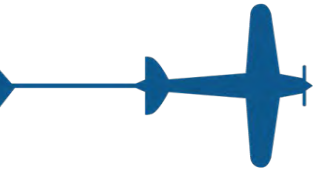
Commercial Service Feasibility Study



Commercial Service is often referred to as Part 139 and subject to additional regulations:

- Part 139 certification must be requested by the airport sponsor and approved by the FAA.
- Applies to scheduled flights of 9+ passengers and unscheduled of 30+ passengers.
- Airports are required to meet additional standards including providing Aircraft Rescue & Firefighting (ARFF) coverage of flights.

Commercial Service Feasibility Forecast



Part 139 Forecast Assumptions for OLM:

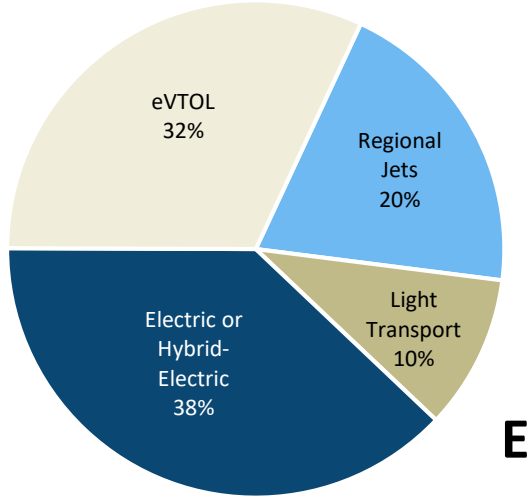
- Not forecasted to become a commercial hub
- Sustainable aviation will continue to grow
- Two primary elements: satellite service to a hub and point-to-point regional service
- Forecasts have an upper limit based on existing capacity
- Commercial activity not anticipated until

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

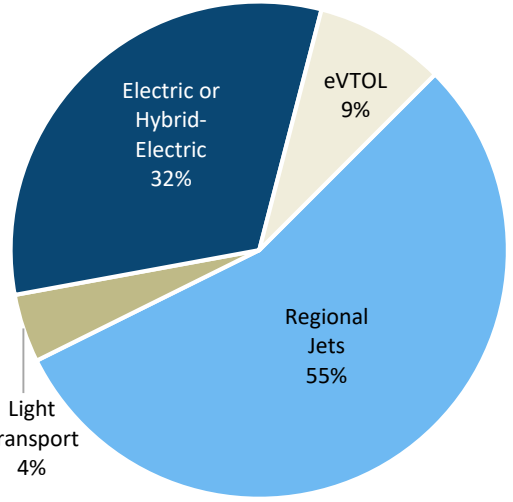
Airport Master Plan Update

Commercial Activity	2025	2030	2035	2040
Satellite Service	0	0	70,000	159,000
Regional Service	0	0	113,000	129,000
Total	**0**	**0**	**183,000**	**288,000**
Satellite Service	0	0	1,100	2,600
Regional Service	0	0	8,900	10,200
Total	**0**	**0**	**10,000**	**12,800**

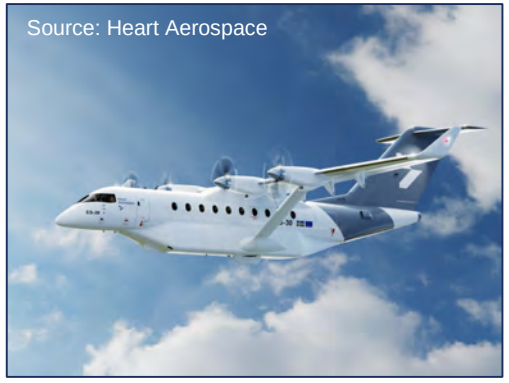
Operations



Enplanements




Source: Volocopter


Source: Heart Aerospace


Source: Lilium Jet

OLYMPIA REGIONAL AIRPORT
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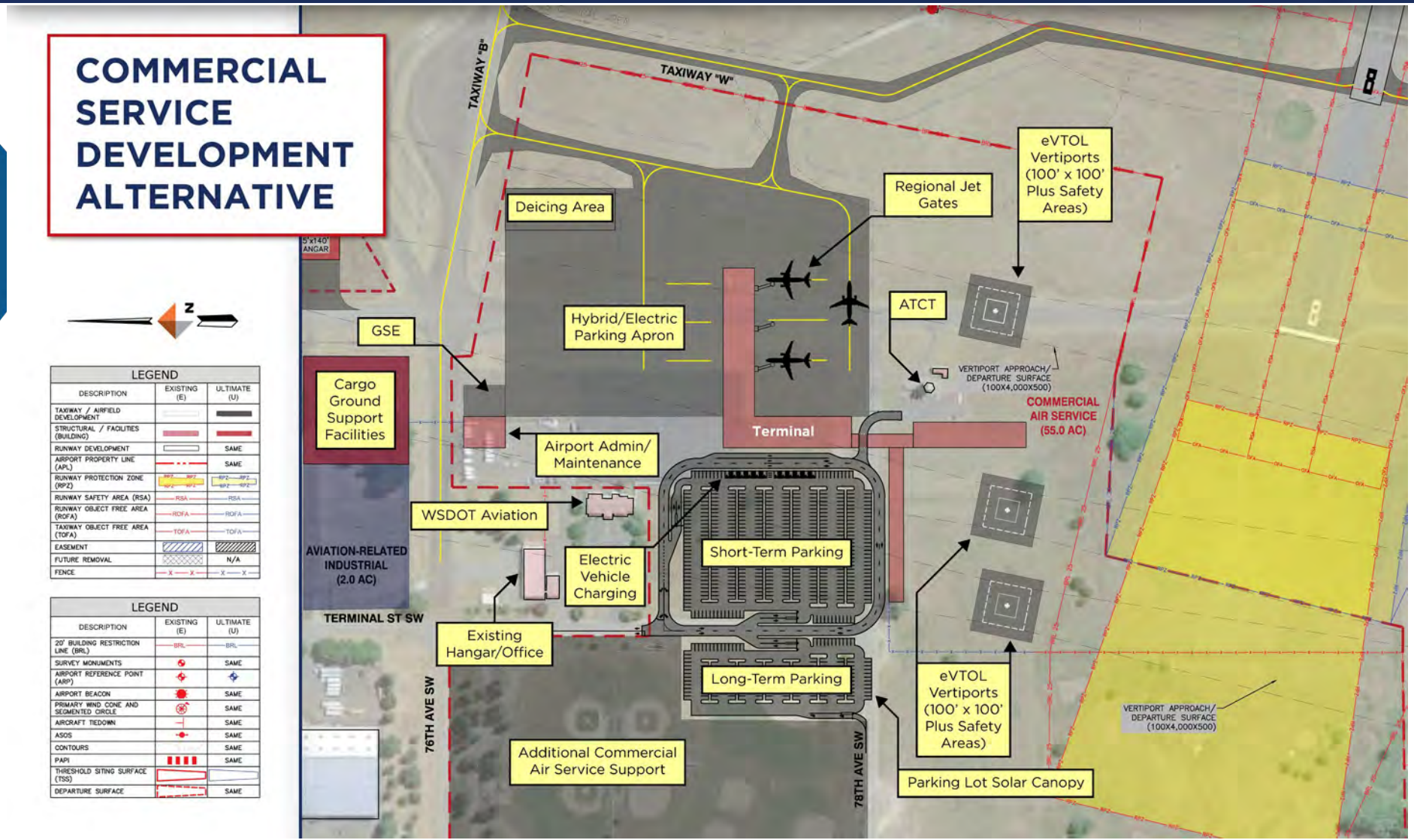
Airport Master Plan Update

Commercial Service Feasibility Alternative



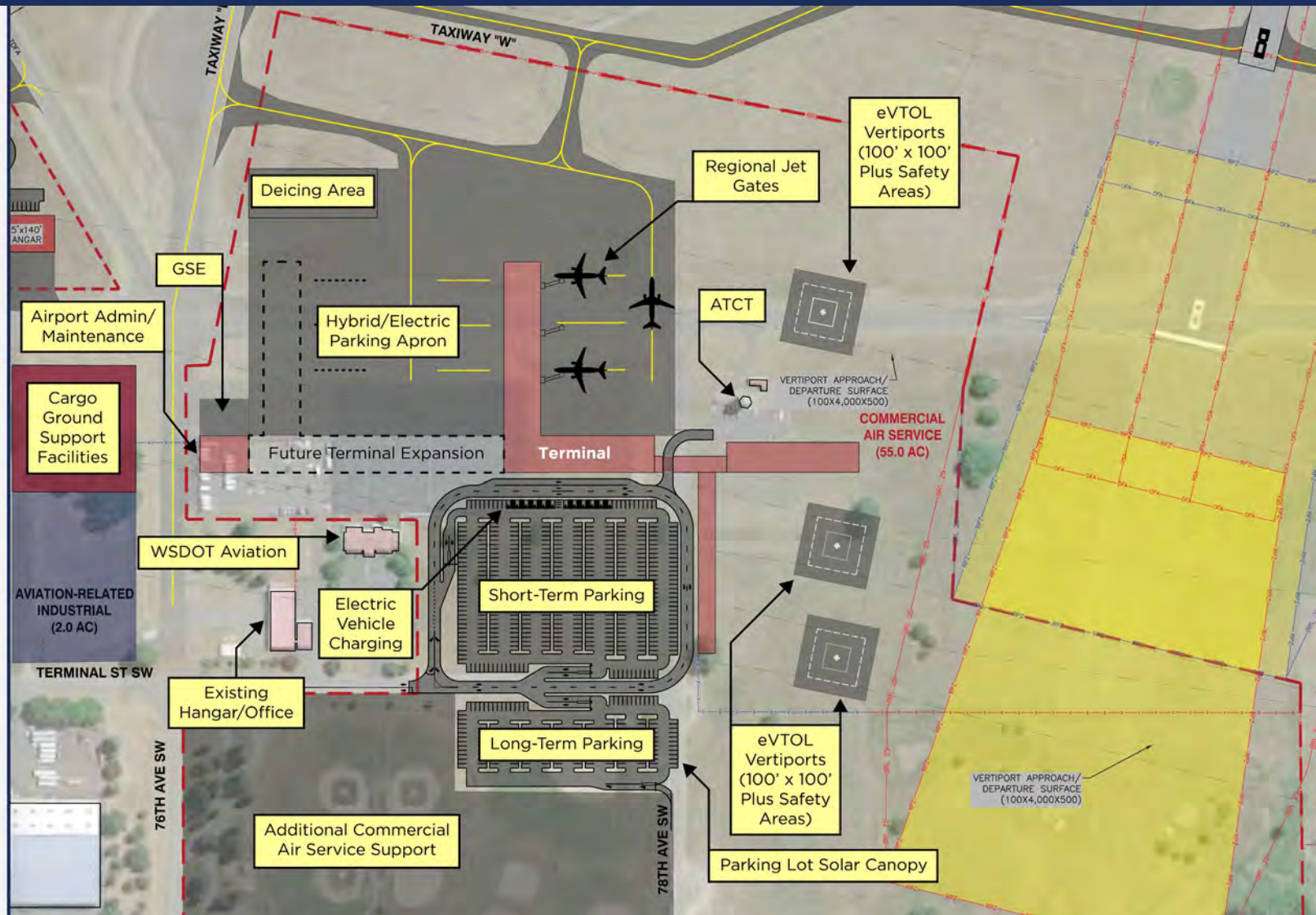
OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

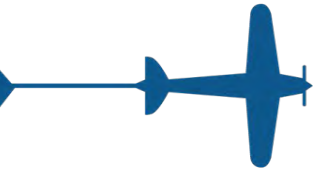
Commercial Service Feasibility Future Concept

LEGEND		
DESCRIPTION	EXISTING (E)	ULTIMATE (U)
TAXIWAY / AIRFIELD DEVELOPMENT		
STRUCTURAL / FACILITIES (BUILDING)		
RUNWAY DEVELOPMENT		SAME
AIRPORT PROPERTY LINE (APL)		SAME
RUNWAY PROTECTION ZONE (RPZ)	RPZ RPZ	RPZ RPZ
RUNWAY SAFETY AREA (RSA)	RSA	RSA
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	ROFA
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA	TOFA
EASEMENT		
FUTURE REMOVAL		N/A
FENCE	X X	X X

LEGEND		
DESCRIPTION	EXISTING (E)	ULTIMATE (U)
20' BUILDING RESTRICTION LINE (BRL)	BRL	BRL
SURVEY MONUMENTS		SAME
AIRPORT REFERENCE POINT (ARP)		
AIRPORT BEACON		SAME
PRIMARY WIND CONE AND SEGMENTED CIRCLE		SAME
AIRCRAFT TIEDOWN		SAME
ASOS		SAME
CONTOURS		SAME
PAPI		SAME
THRESHOLD SITING SURFACE (TSS)		
DEPARTURE SURFACE		SAME



Next Steps



- Finalize Commercial Service Feasibility Study
- Finalize Airport Layout Plan (ALP) and submit for FAA review and approval
- Publish Draft Master Plan Update Report

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Public Comments

- Limited to 3 minutes each, up to 30 minutes
- To be included in the Master Plan Update Report comments should be submitted in writing to Project Team via comment card or via email at **AMPUpdate@portolympia.com**.
- Reminder CACC comments should be submitted to **CACC@wsdot.wa.gov.**
- Q&A document will be updated following this open house.

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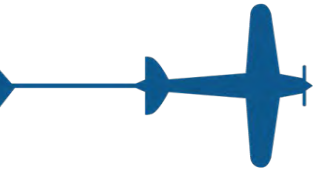
Airport Master Plan Update

Thank You!



- AMPUpdate@portolympia.com
- Q&A document will be updated following this open house.

OLYMPIA REGIONAL AIRPORT
PORT of OLYMPIA

Airport Master Plan Update

WELCOME

Public Open House Meeting #4

October 12, 2022

OLYMPIA REGIONAL AIRPORT
PORT of OLYMPIA

Airport Master Plan Update

GOALS

Meet Aviation Demand

Meet FAA Design Standards

Prepare OLM for Future Development

Prepare OLM for Emerging Aviation Technologies

Continued Airport Self-sufficiency

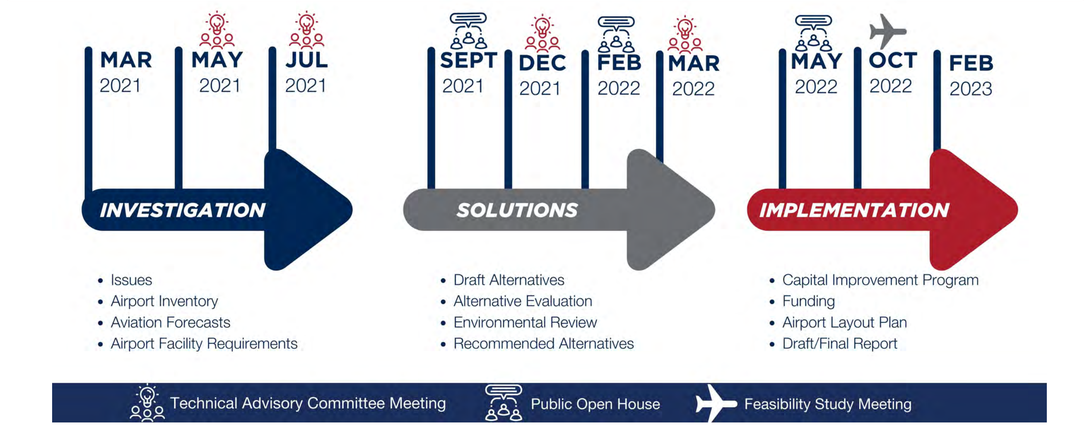
PURPOSE

As defined by the Federal Aviation Administration (FAA), an **Airport Master Plan** is a comprehensive study of an airport that usually describes the short-, medium-, and long-term development plans to meet future aviation demand.

MASTER PLAN TASKS

- Inventory
- Forecasts
- Facility Requirements
- Alternatives
- Airport Layout Plan
- Capital Improvement Plan

SCHEDULE



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Airport Master Plan Update

PREFERRED DEVELOPMENT ALTERNATIVE

Legend

- Aviation Related Industrial / Ag.
- GA/Corporate/Commercial Service
- Runway Protection Zone
- Building Restriction Line (BRL)
- Proposed Taxiway Pavement
- Taxiway Pavement to Remain

N

800 0 800

SCALE IN FEET

Project Phasing

Near-Term (2022-2025)

Mid-Term (2026-2029)

Rehabilitation and Shorten Runway 8/26

Remove Taxiways C & D

Relocate Connector Taxiways to Runway 8/26 to Meet Design Standards

Rehabilitate Taxiway G

Relocate Taxiway F Connection to Runway 8/26 to Meet Design Standards

Turf Runway

Relocate Taxiway F

Construct Connector Taxiway

Construct Connector Taxiway

Runway 17/35 Rehabilitation

Relocate Taxiway W

Construct Runup Apron

Aviation Related Industrial

GA Small

GA Small

Aviation Related Industrial

Commercial Air Service

GA Corporate

Aviation Related Industrial

Agriculture

Runway 17-35 (150' x 5,500')

Runway 8-26 (60' x 3,510')

Turf Runway (60' x 2,000')

Taxiway F

Taxiway G

Taxiway W

Taxiway H

OLYMPIA REGIONAL AIRPORT
PORT of OLYMPIA

Commercial Service Feasibility Study

PURPOSE

Preliminary evlauation of OLM's compatibility to meet FAA requirements for regional commercial service. Focused on what the airport can accommodate with regard to emerging aircraft. Funded by FAA outside of the CACC and WSDOT's aviation system plan. The Feasibility Study is a component of the master plan with forecasts, facility requirements, and alternatives evaluation.

FORECAST ASSUMPTIONS

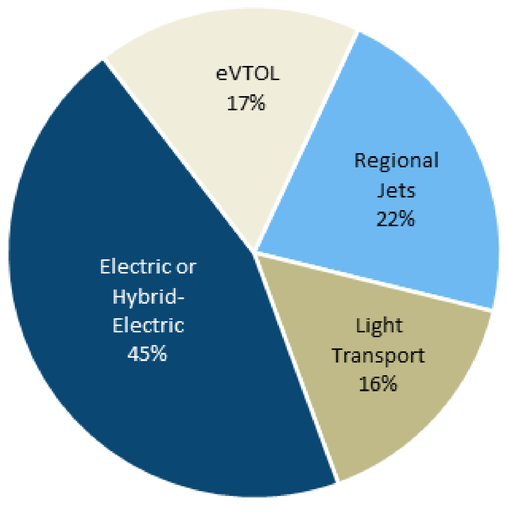
- Not forecasted to be a commercial hub
- Sustainable aviation will continue to grow
- Forecasts have an upper limit based on existing capacity
- Commercial activity not anticipated until after 2030 at the earliest
- Two primary elements: satellite service to a hub and point-to-point regional service

FORECASTS

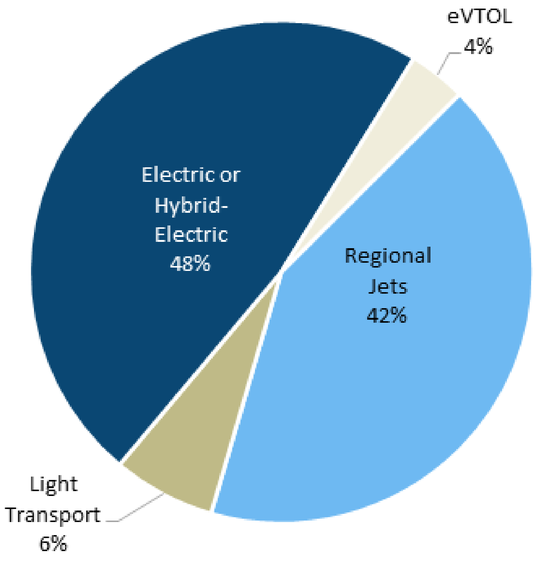
Commercial Activity	2020	2025	2030	2035	2040
Enplanements					
Satellite Service (LAX)	0	0	0	34,816	119,171
Regional Service	0	0	0	144,282	164,621
Total	**0**	**0**	**0**	**179,098**	**283,792**
Operations (Arrivals and Departures)					
Satellite Service (LAX)	0	0	0	1,500	4,400
Regional Service	0	0	0	13,700	15,600
Total	**0**	**0**	**0**	**15,200**	**20,000**

Source: The Aviation Planning Group 2021, FAA Terminal Area Forecasts 2021, FlightRadar24.com 2021, Google Earth 2021, Puget Sound Regional Council 2019.

Operations



Enplanements



OLYMPIA REGIONAL AIRPORT
PORT of OLYMPIA

Commercial Service Feasibility Study

COMMERCIAL SERVICE DEVELOPMENT ALTERNATIVE

LEGEND		
DESCRIPTION	EXISTING (E)	ULTIMATE (U)
TAXIWAY / AIRFIELD DEVELOPMENT		
STRUCTURAL / FACILITIES (BUILDING)		
RUNWAY DEVELOPMENT		SAME
AIRPORT PROPERTY LINE (APL)		SAME
RUNWAY PROTECTION ZONE (RPZ)	RPZ RPZ RPZ RPZ	RPZ RPZ RPZ RPZ
RUNWAY SAFETY AREA (RSA)	RSA	RSA
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	ROFA
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA	TOFA
EASEMENT		
FUTURE REMOVAL		N/A
FENCE	X X	X X

LEGEND		
DESCRIPTION	EXISTING (E)	ULTIMATE (U)
20' BUILDING RESTRICTION LINE (BRL)	BRL	BRL
SURVEY MONUMENTS		SAME
AIRPORT REFERENCE POINT (ARP)		
AIRPORT BEACON		SAME
PRIMARY WIND CONE AND SEGMENTED CIRCLE		SAME
AIRCRAFT TIEDOWN		SAME
ASOS		SAME
CONTOURS	4125	SAME
PAPI		SAME
THRESHOLD SITING SURFACE (TSS)		
DEPARTURE SURFACE		SAME

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Technical Advisory Committee Meeting #1

May 20, 2021

The Aviation Planning Group

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Introductions

Leah Whitfield
Project Manager

Justin Heid
Assistant Project Manager/Lead Planner

Darren Murata, P.E.
Engineer

Haseeb Mirza
Aviation Planner

Renee Dowlin
Environmental Planner

OLYMPIA REGIONAL AIRPORT
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Airport Master Plan Update

Participation

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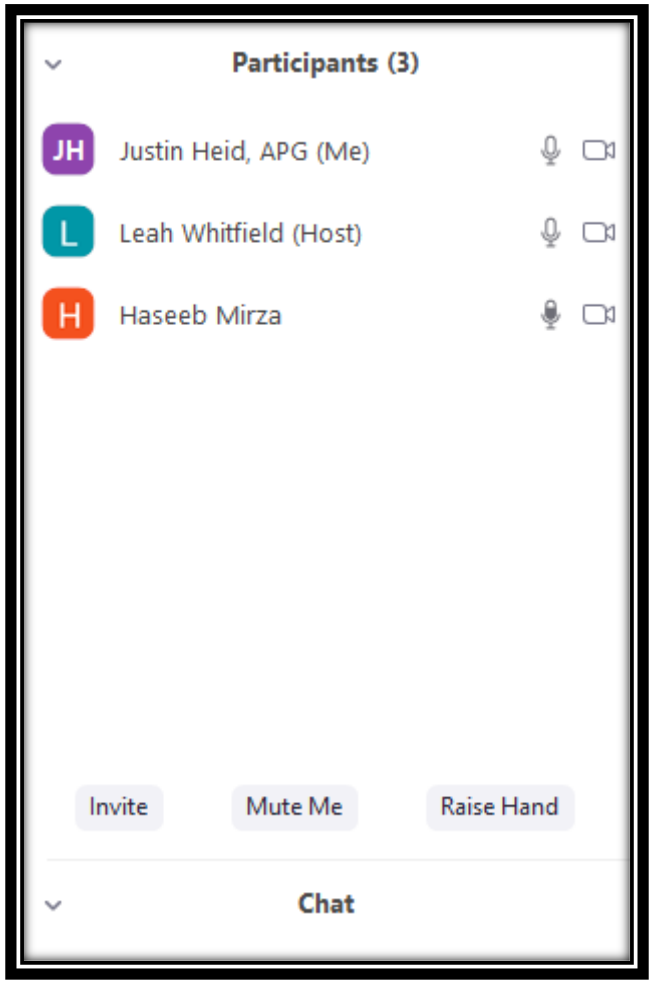

OLYMPIA REGIONAL AIRPORT
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Airport Master Plan Update

THE AGENDA

1. What is an Airport Master Plan
2. Your Role as the Technical Advisory Committee (TAC)
3. Master Plan Schedule
4. Public Involvement
5. Airport Existing Conditions
6. User Survey Results
7. Airport Issues Roundtable
8. Forecast

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

What is an Airport Master Plan?

A master plan's purpose is not to solve the airport's management, operations, or maintenance issues.

According to the Federal Aviation Administration (FAA), an airport master plan is…

A comprehensive study of an airport that usually describes the short-, medium-, and long-term development plans to meet future aviation demand.

Follows FAA Advisory Circular 150/5070-6B

- What's Included
  - Inventory
  - Forecast
  - Facility Requirements
  - Alternatives
  - Airport Layout Plan
  - Capital Improvement Plan

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Your Role on the Technical Advisory Committee (TAC)

- Responsible and representative input is very important to the success of the Master Plan Update
- Limited time commitment: 4 meetings
- Review Draft Report and provide feedback with an eye towards your respective constituents
- Provide suggestions AT ANY TIME

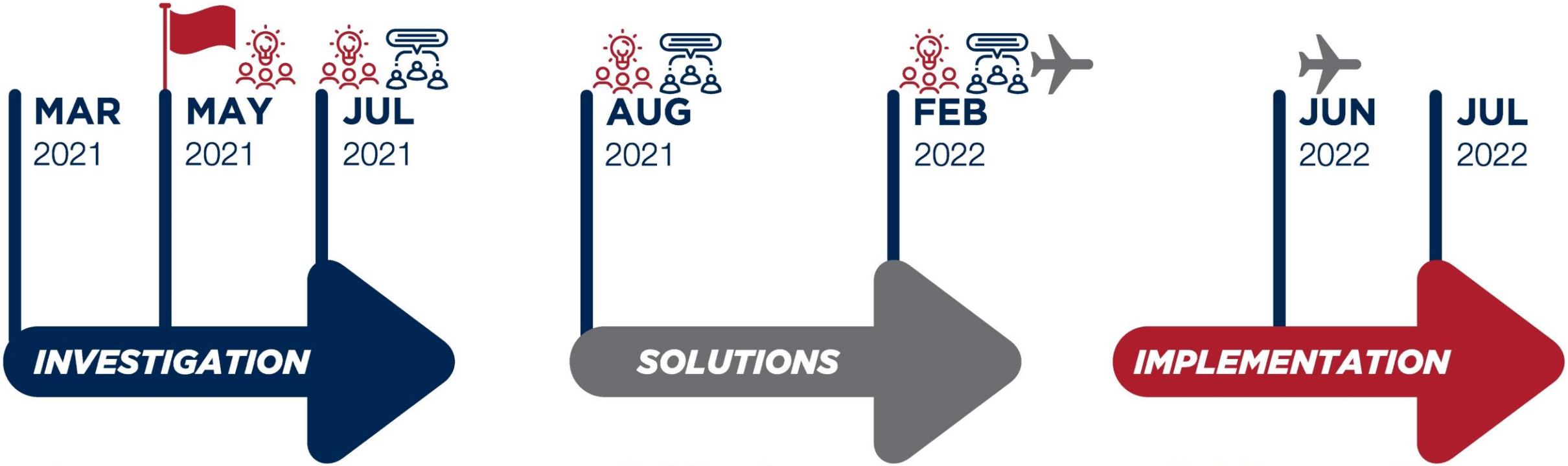
Public Involvement Plan

- ☑ Project information on OLM website
- ☑ User Survey
- ❑ 4 Technical Advisory Committee Meetings
- ❑ 4 Public Open Houses
- ❑ Comments accepted throughout
- ❑ Feedback from TAC ongoing

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

SCHEDULE (Draft)



- Issues
- Airport Inventory
- Aviation Forecasts
- Airport Facility Requirements

- Draft Alternatives
- Alternative Evaluation
- Environmental Review
- Recommended Alternatives

- Capital Improvement Program
- Funding
- Airport Layout Plan
- Draft/Final Report

We Are Here | Technical Advisory Committee Meeting | Public Open House | Feasibility Study Meeting

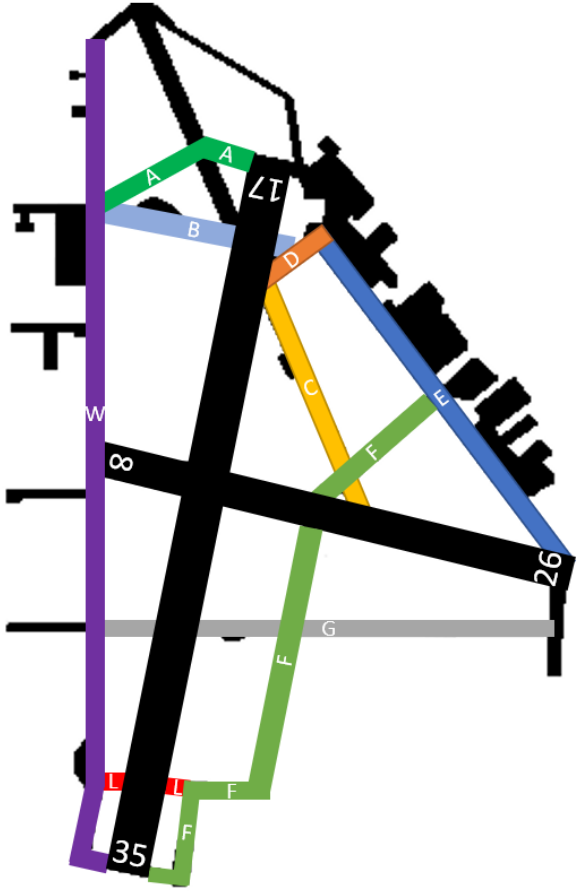
Airport Existing Conditions

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Airside Existing Conditions

- Runway: 17/35 & 8/26
- Taxiway:
  - A: 50’ wide - lighted
  - B: 50’ wide - lighted
  - C: 35’ wide - reflectors
  - D: 40’ wide - reflectors
  - E: 50’(NW)-35’(SW) wide – reflectors
  - F: 35’ wide - reflectors
  - G: 50’ wide - reflectors
  - L: 50’ wide - lighted
  - W: 50’ wide - lighted

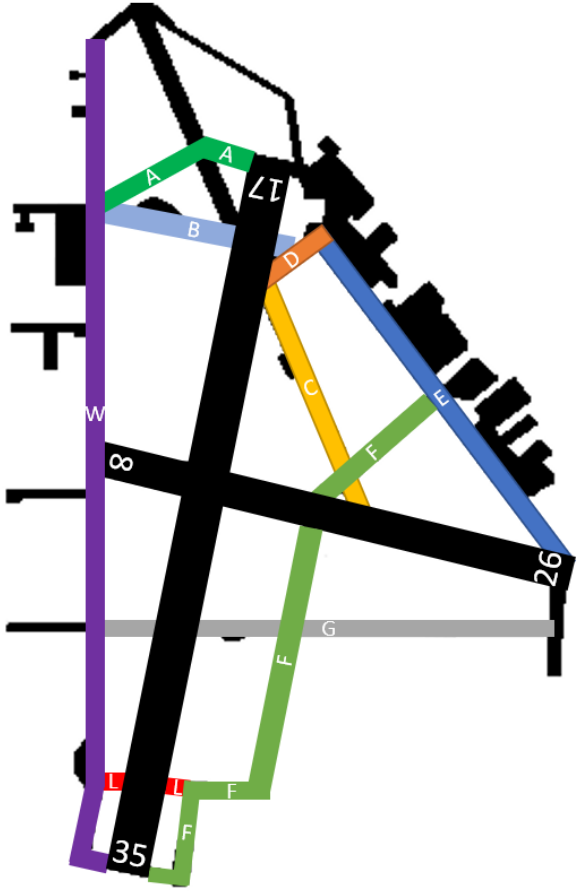


OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Airside Existing Conditions

- Airside Businesses
  - Washington State Patrol (WSP) Aviation
  - Department of Natural Resources
  - Olympic Flight Museum
  - Airlift Northwest Medevac
  - Glacier Aviation (FBO)
  - Olympia Avionics
  - Safety in Motion (FBO)
  - A&R Aviation Services
  - WSDOT Aviation Division



Item	Runway 17	Runway 35	Runway 8	Runway 26
Design Group: Aircraft Approach Category	Category C		Category B	
	Approach speed 121 knots but less than 141 knots.		Approach speed 91 knots but less than 121 knots.	
Airplane Design Group	Group II		Group II	
	Tail Height 20'- <30 , wingspan 49'-<79'		Tail Height 20'- <30 , wingspan 49'-<79'	
Orientation	S	N	E	W
Length	5,500 Feet		4,157 Feet	
Width	150 Feet		150 Feet	
Surface Type	Asphalt/Grooved		Asphalt	
Weight Capacity	Single Wheel: 75,000 Lbs.		Single Wheel: 30,000 Lbs.	
	Double Wheel 94,000 Lbs.			
	Double Tandem Wheel 142,000 Lbs.			
Lighting	High Intensity Runway Lighting (HIRL)		None	
Pavement Markings	Precision	Non-Precision	Basic Visual	Basic Visual
Traffic Pattern	Left	Right	Right	Left
Approach Lighting	MALSR (Medium Intensity Approach Lighting System With Runway Alignment Indicator Lights)	No	No	No
Runway End Identifier Lights (REIL)	Yes	Yes	No	No
Precision Approach Path Indicators (PAPI)	YES	Yes	No	No

Aircraft Design Classifications

AIRCRAFT DESIGN CLASSIFICATIONS

Aircraft Approach Category	
A	Approach speed less than 91 knots.
B	Approach speed 91 knots but less than 121 knots.
C	Approach speed 121 knots but less than 141 knots.
D	Approach speed 141 knots but less than 166 knots.
E	Approach speed 166 knots or more.

Airplane Design Group		
#	Tail Height [ft.(m)]	Wingspan [ft.(m)]
I	<20' (<6m)	<49' (<15m)
II	20' - <30' (6m - <9m)	49' - <79' (15m - <24m)
III	30' - <45' (9m - <13.5m)	79' - <118' (24m - <36m)
IV	45' - <60' (13.5m - <18.5m)	118' - <171' (36m - <52m)
V	60' - <66' (18.5m - <20m)	171' - <214' (52m - <65m)
VI	66' - <80' (20m - <24.5m)	214' - <262' (65m - <80m)

Example Aircraft

A-I Cessna 182*

A-II Cessna 208*

B-I Cessna 340*

B-II Beechcraft King Air 90*

B-II Cessna Citation Ultra

C-II Bombardier Challenger 600

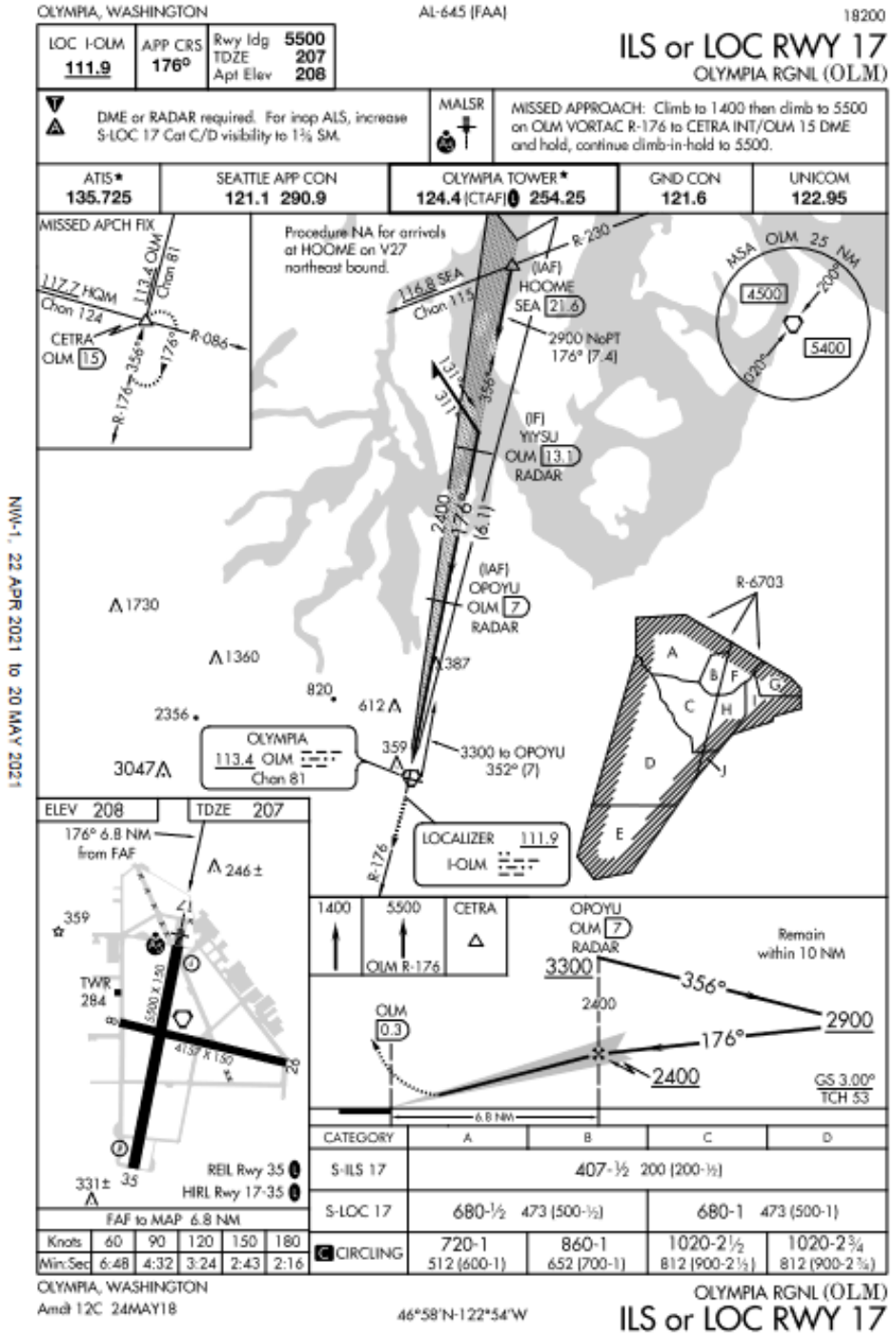
C-III Gulfstream V

D-III Gulfstream G650

*intended for aircraft weighing 12,500lbs or less

Approaches

- ILS OR LOC RWY 17
  - (ILS 200 – ½)
- RNAV (GPS) RWY 17
  - (LPV 200 – ½)
- RNAV (GPS) RWY 35
  - (LNAV 700 – 1)
- VOR RWY 35
  - (VOR 700 – 1)
- VOR-A
  - (VOR Circling 700 – 1)



OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Landside Existing Conditions

- Two Private FBO's – (Fuel, Hangars, Flight Instruction)
- Fuel
  - Jet-A: 34,000 gallon (3 tanks)/ 10,000 gallon (3 trucks)
  - 100LL: 34,000 gallon (3 tanks)/ 3,700 gallon truck (4 trucks)
  - Room for 2 more fuel tanks in the fuel farm (28,000 gallons)

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Landside Existing Conditions

- Landside Businesses (West Side)
  - Peninsula Group
  - Soloy Corporation
  - Northwest Marine
  - Craig Properties
- Landside Parking Spaces
  - 13 public use spaces near the Airport Administration Building
    - Each Business has private parking available
- Maintenance Storage Area - South Side of South Planeport Structure

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Environmental Existing Conditions

- Air Quality
- Compatible Land Uses
- Construction Impacts
- Department of Transportation Act 4(f)
- Fish, Wildlife and Plants
- Floodplains
- Hazardous Materials, Pollution Prevention, and Solid Waste
- Historical, Architectural, Archaeological, and Cultural Resources
- Light Emissions and Visual Impacts
- Noise
- Secondary (Induced) Impacts
- Socioeconomic Impacts
- Environmental Justice, and Children's Environmental Health and Safety Risks
- Wetlands

*Prior to the construction of any improvement, projects must undergo required local, state and/or federal environmental review and approval processes

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

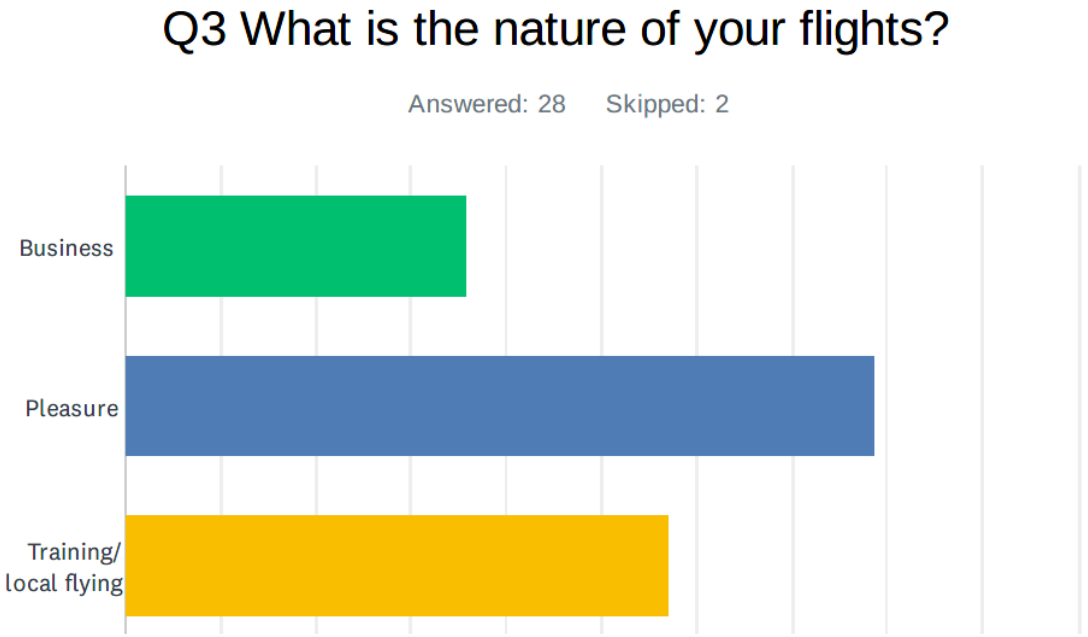
Airport Master Plan Update

Environmental Existing Conditions –Habitat Conservation Plan (HCP)

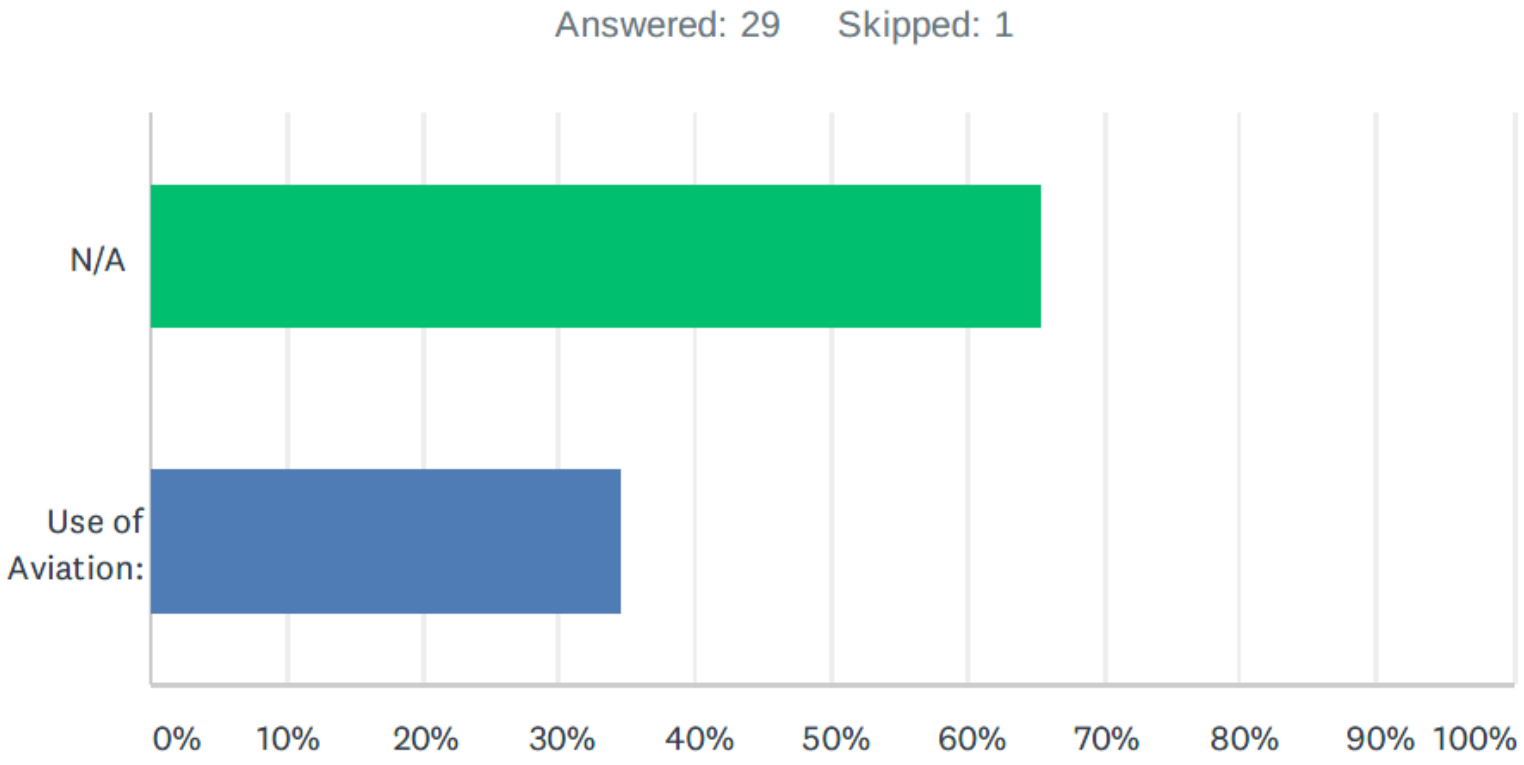
- The City of Tumwater and Port of Olympia are jointly developing Bush Prairie Habitat Conservation Plan (Bush Prairie HCP).
- Developed to balance growth and the preservation of primarily 3 species:
  - Olympia pocket gopher
  - Streaked horned lark
  - Oregon spotted frog
- HCP is required under Section 10 of the Endangered Species Act, which allows permits to be issued to *"take" an endangered species or harm the species or its habitat.
- Plan will include detailed description of the activities to be performed, both for development and species protection, and their effects upon the species.
- Brush Prairie HCP is still in development.

(* "take" is expected to result from new development, from maintenance of City and Port facilities, and from maintenance performed at the conservation reserve sites.)

User Survey Input



ANSWER CHOICES	RESPONSES	
Business	35.71%	10
Pleasure	78.57%	22
Training/ local flying	57.14%	16
Total Respondents: 28		



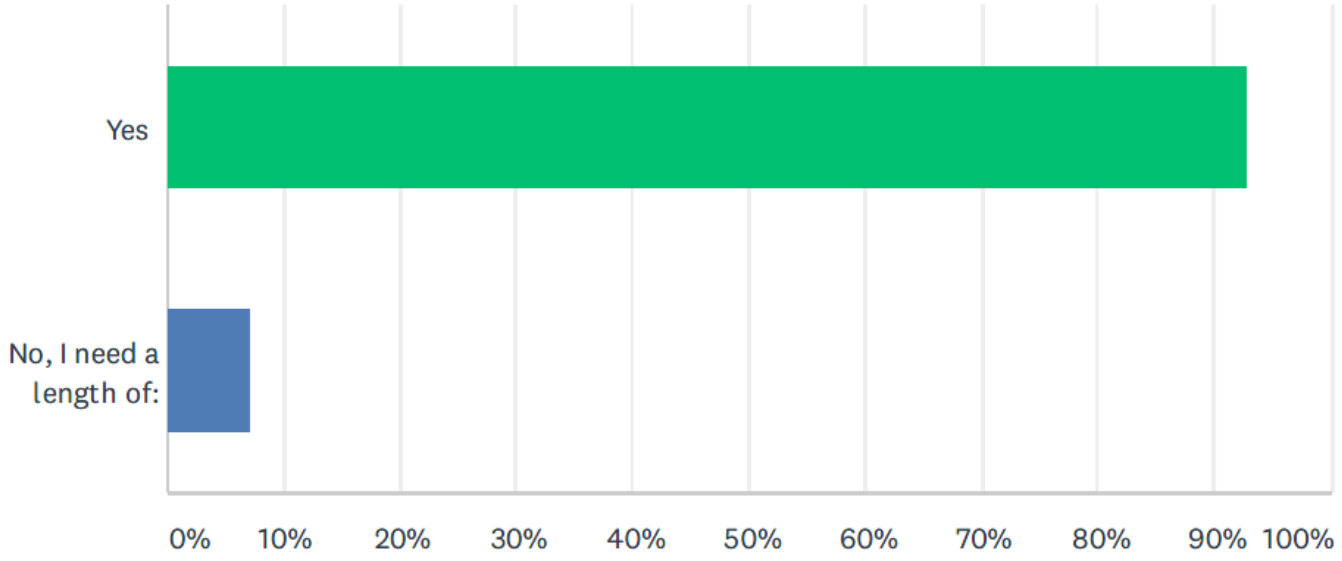
User Survey Input
Business Aviation Uses

#	USE OF AVIATION:
1	Law Enforcement
2	avionics sales, install, and repair, Aircraft maintenance
3	Training, Scenic, Charter, FBO
4	Commuting
5	Travel to other properties
6	Part 91/135 Ops awaiting FAA approval
7	Ferry aircraft - fly to keep current
8	Commercial Airline Repair and Overhaul of components and airframe.
9	I travel to California a few times a year to repair and remodel my rental
10	Fire Aviation/Emergency Response

User Survey Input

Q8 Are the runway lengths adequate for your needs?

Answered: 28 Skipped: 2

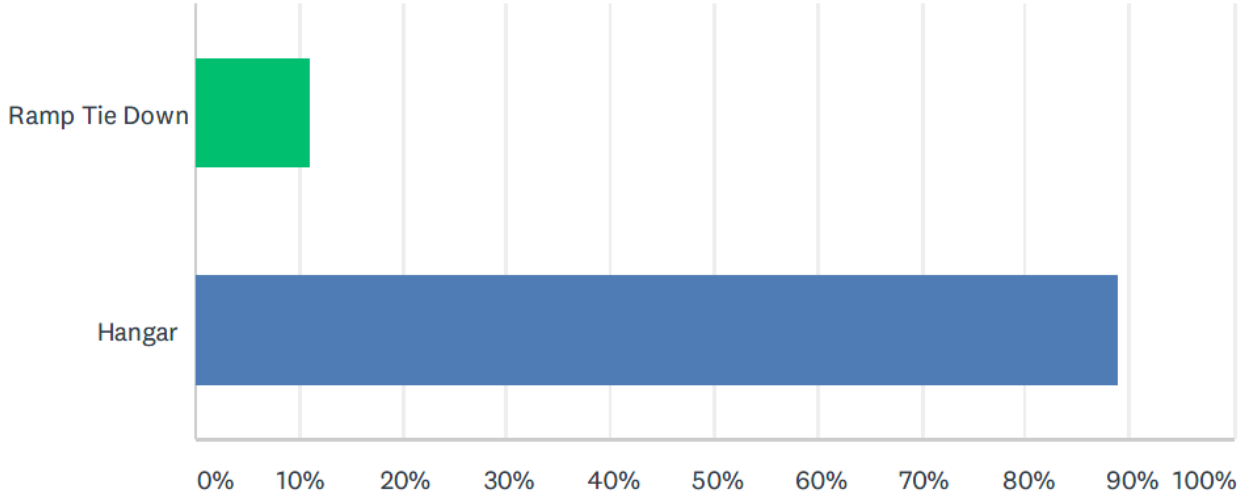


#	NO, I NEED A LENGTH OF:
1	I would like to use the grass
2	long enough to attract commercial Airlines.

User Survey Input

Q9 How do you store your aircraft when parked at OLM?

Answered: 27 Skipped: 3

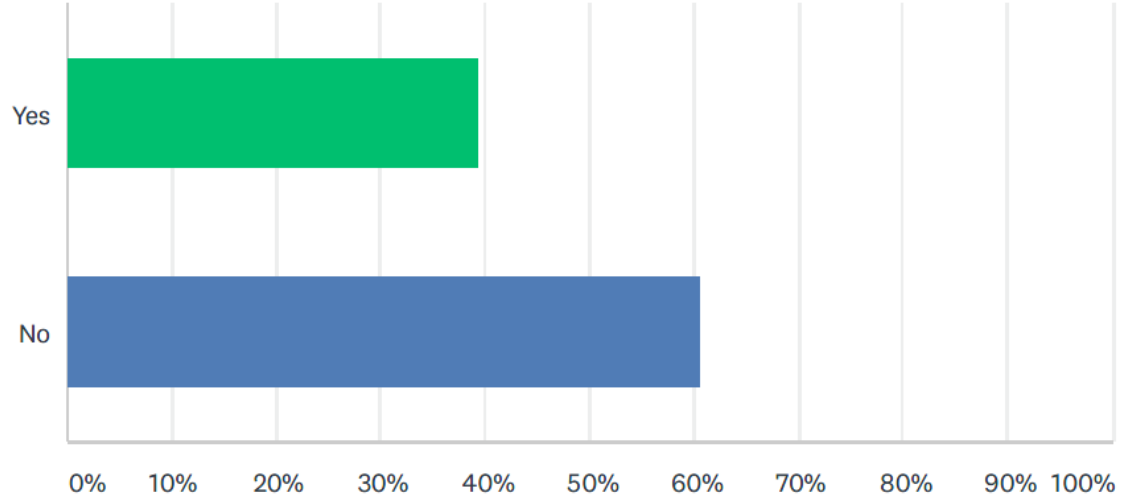


ANSWER CHOICES	RESPONSES	
Ramp Tie Down	11.11%	3
Hangar	88.89%	24
TOTAL		27

User Survey Input

Q11 Do you desire to build a hangar at OLM?

Answered: 28 Skipped: 2



#	SIZE:
1	60'x60'
2	100 x 300
3	60 X 60
4	60x60
5	3600 sq ft
6	50 x 25 ft
7	Big enough to hold my plane
8	40 x40
9	40 x 60
10	120x100
11	60x60

ANSWER CHOICES	RESPONSES	
Yes	39.29%	11
No	60.71%	17
TOTAL		28

Survey Results

- 36% of the respondents currently use the airport for their business
- 39% of the users expressed an interest to build a hangar
- 93% of users indicate the runway meets their needs

- Top needs by based users
  - Self-serve fuel: most for 100LL
  - Additional hangars to rent/own
  - Pavement Condition
  - Airfield Lighting
  - Improved instrument approaches

- Top desires by based users
  - Restaurant
  - Improved Security
  - Commercial/Cargo Service
  - More ramp/apron space for helicopters

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Issues Roundtable Discussion

- Strengths
- Weaknesses
- Opportunities
- Threats


Maintenance Hangar
Fuel Farm
WSP Aviation
DNR Offices
Olympic Flight Museum
WSDOT Aviation Division
Airlift Northwest
Airport Admin Building
Olympia Avionics
FBO: Glacier Aviation
ATC Tower
FBO: Safety In Motion


Beacon
MALSR
Segmented Circle & Windcone
ASOS
PAPI
Compass Rose
VORTAC
Windcone
Windcone
PAPI

Aviation Activity/Forecast
Data Resources for OLM

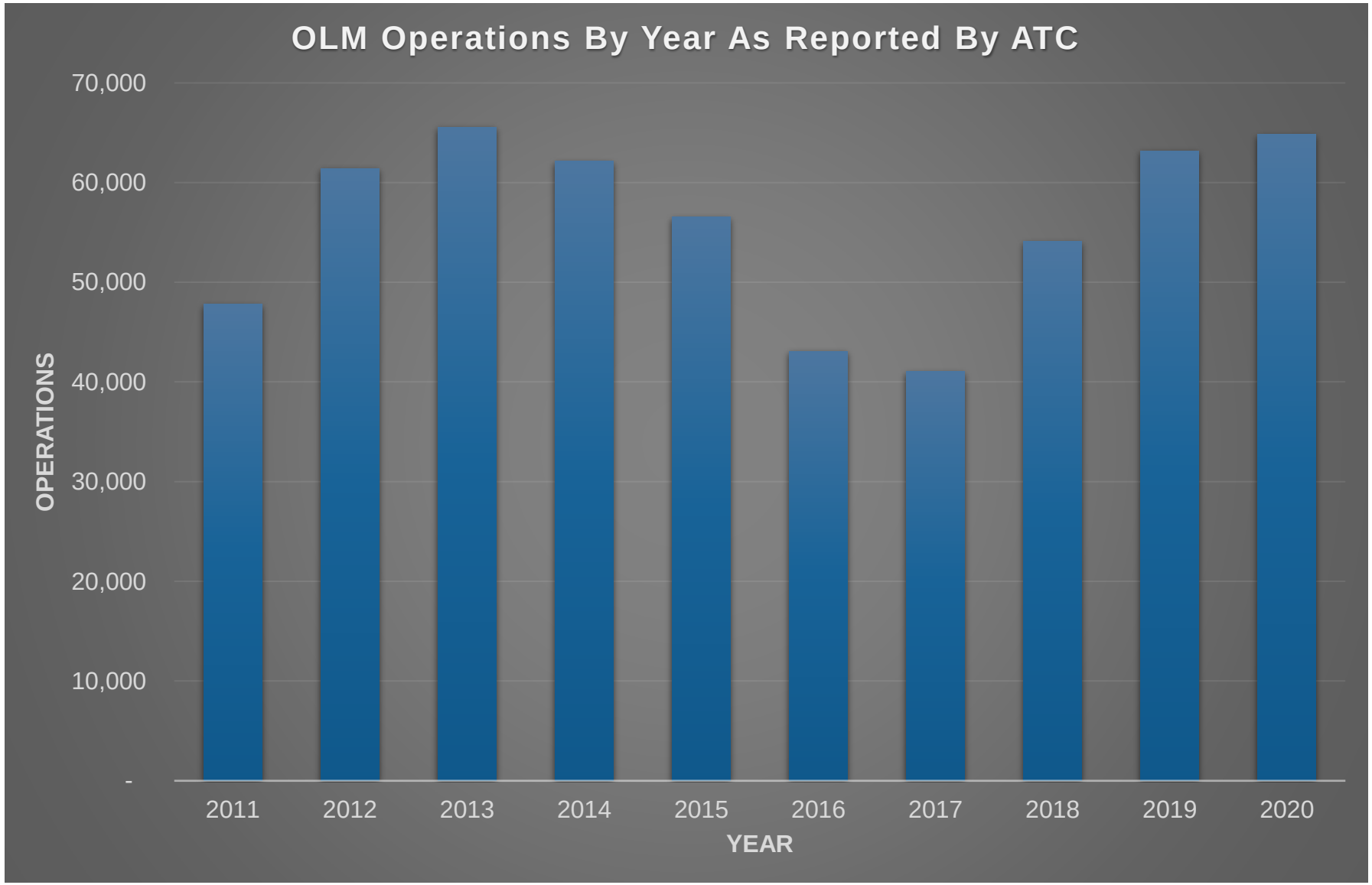
- Airport Master Record (FAA Form 5010)
- National Based Aircraft Inventory Program (www.basedaircraft.com)
- FAA Terminal Area Forecast (TAF)
- FAA Traffic Flow Management Counts (TFMSC) Data for IFR Operations (users, equipment)
- Fuel Sales & Landing Fee Data
- User Input (interviews)
- User Survey
- ATC Records

Aviation Activity/Forecast

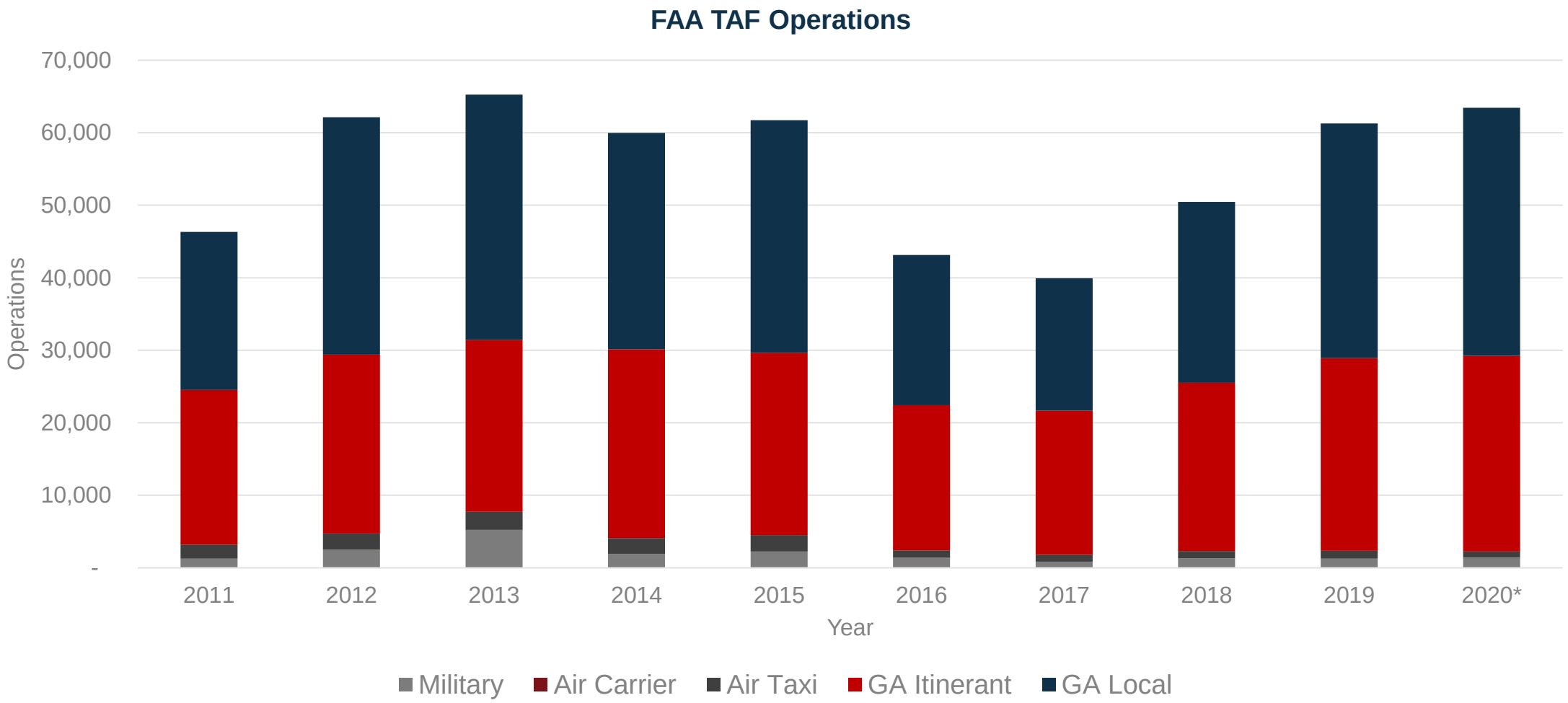
- **Based Aircraft**
  - Single-engine: 95
  - Multi-engine: 8
  - Jet: 3
  - Helicopter: 18
  - Other (Glider): 0
    - Total: 124 (not counting seasonal)

- **Operations**
  - Total Annual Estimated at 63,805 (1,227 weekly, 175 daily)
    - 1,100 Air Taxi
    - 33,993 GA Local
    - 27,451 GA Itinerant
    - 1,261 Military
  - An operation is one takeoff or one landing
  - User characteristics – flight training, recreational, business, corporate, air taxi, medical, firefighting, search and rescue, law enforcement
  - Operational aircraft fleet mix – pistons, turboprops, helicopters, jets, other

OLM Historical Operations



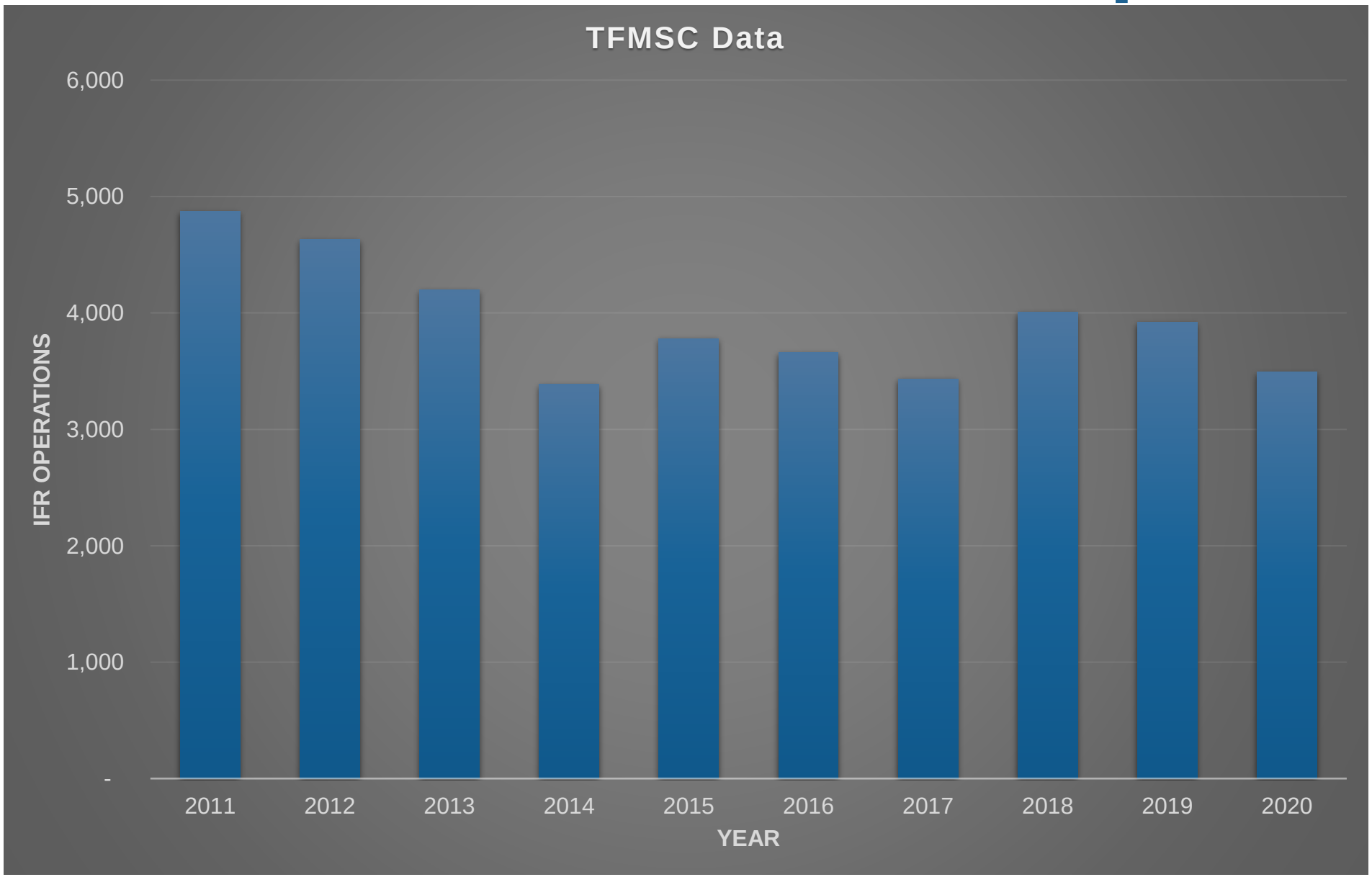
OLM Historical Operations by Type



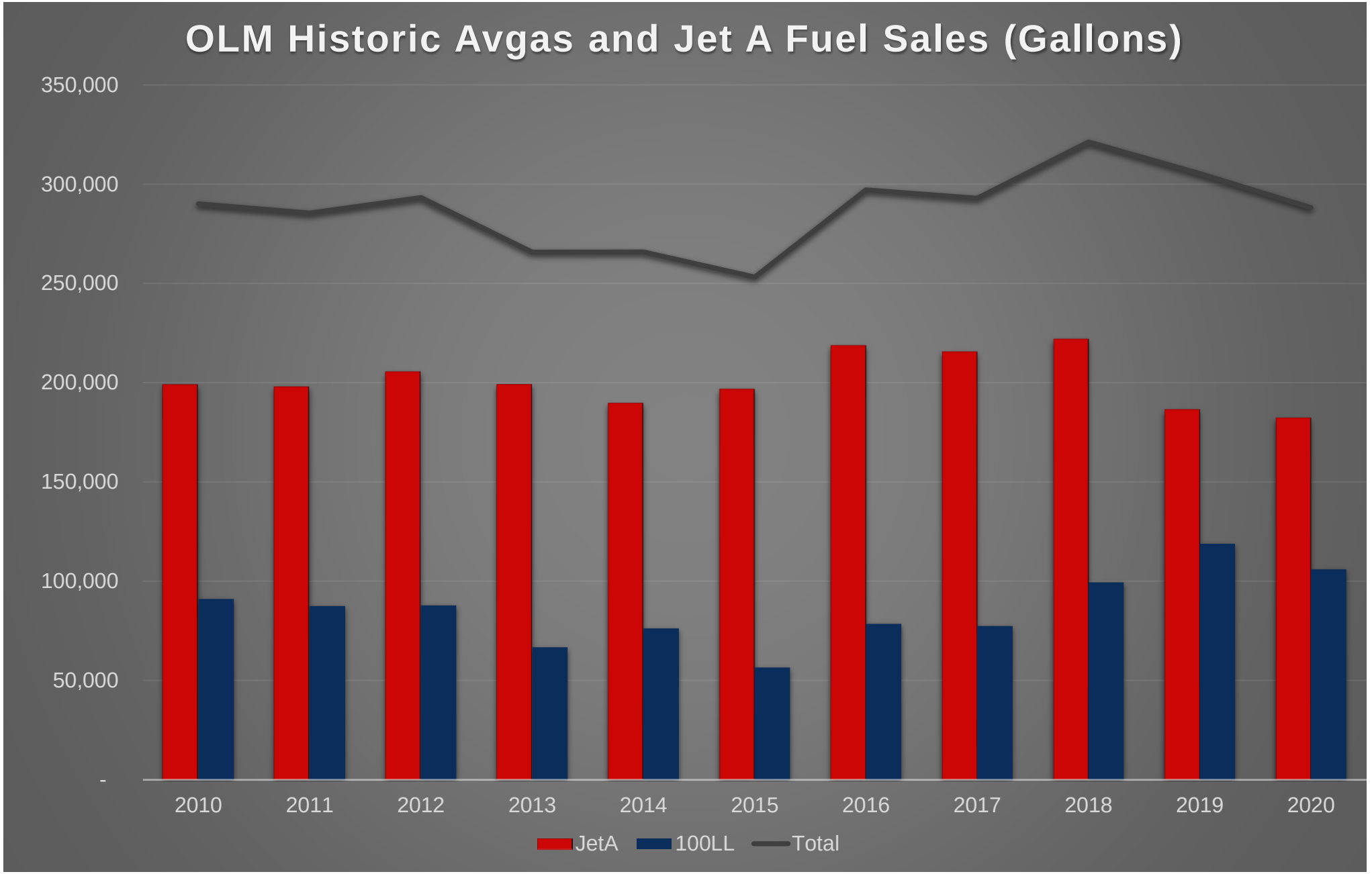
Year	Air Carrier Ops
2011	-
2012	6
2013	4
2014	-
2015	-
2016	2
2017	1
2018	-
2019	-
2020	-

*Note: 2020 TAF data are estimated.

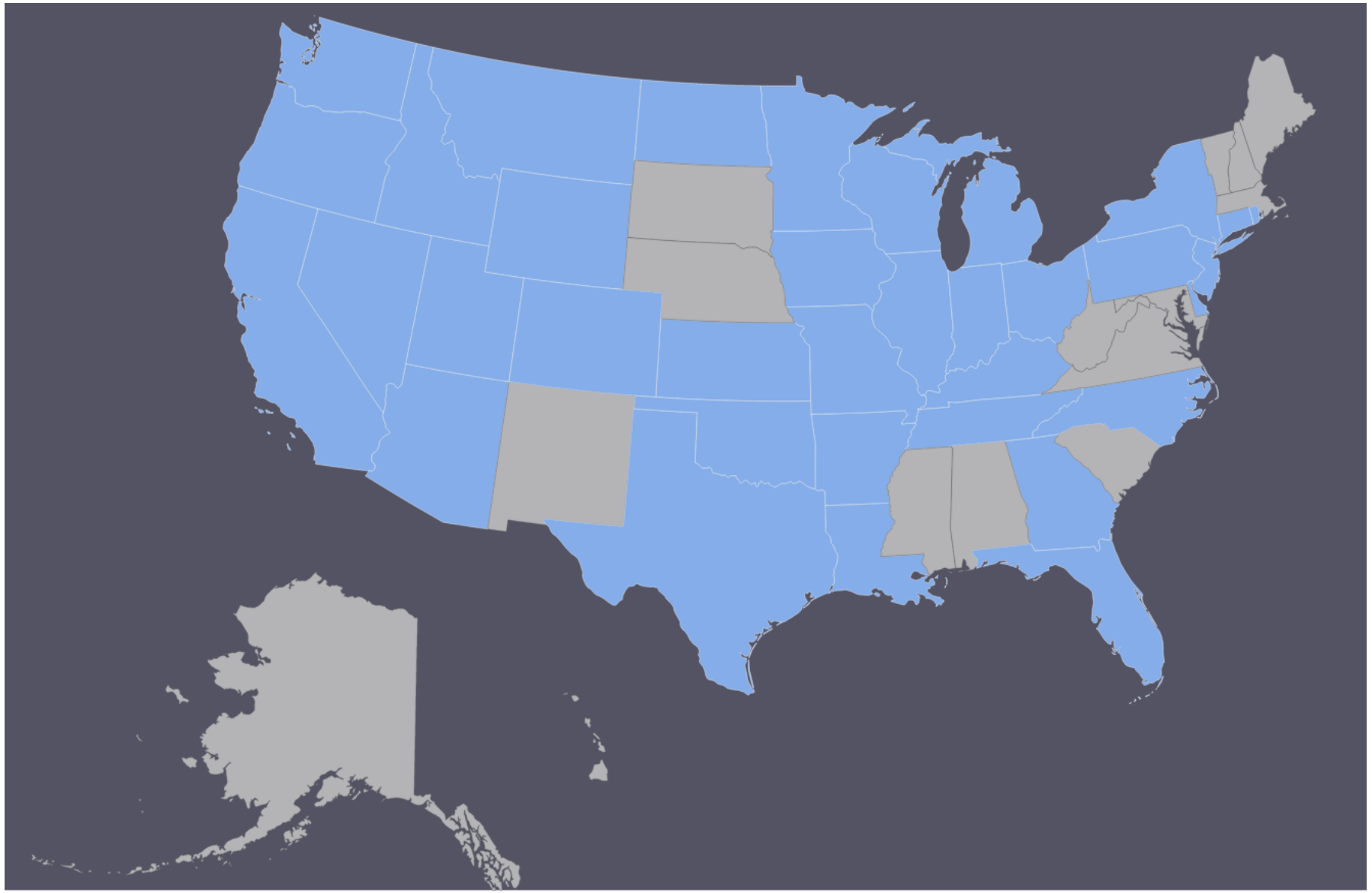
OLM Historical IFR Operations



Traffic Flow Management System Counts (TFMSC) is designed to provide information on traffic counts by airport or by city pair for various data groupings such as aircraft type or by hour of the day. It includes data for flights that fly under Instrument Flight Rules (IFR) and are captured by the FAA's enroute computers. Most VFR and some non-enroute IFR traffic is excluded.


OLM Historic Avgas and Jet A Fuel Sales (Gallons)
350,000
300,000
250,000
200,000
150,000
100,000
50,000
-
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
JetA
100LL
Total

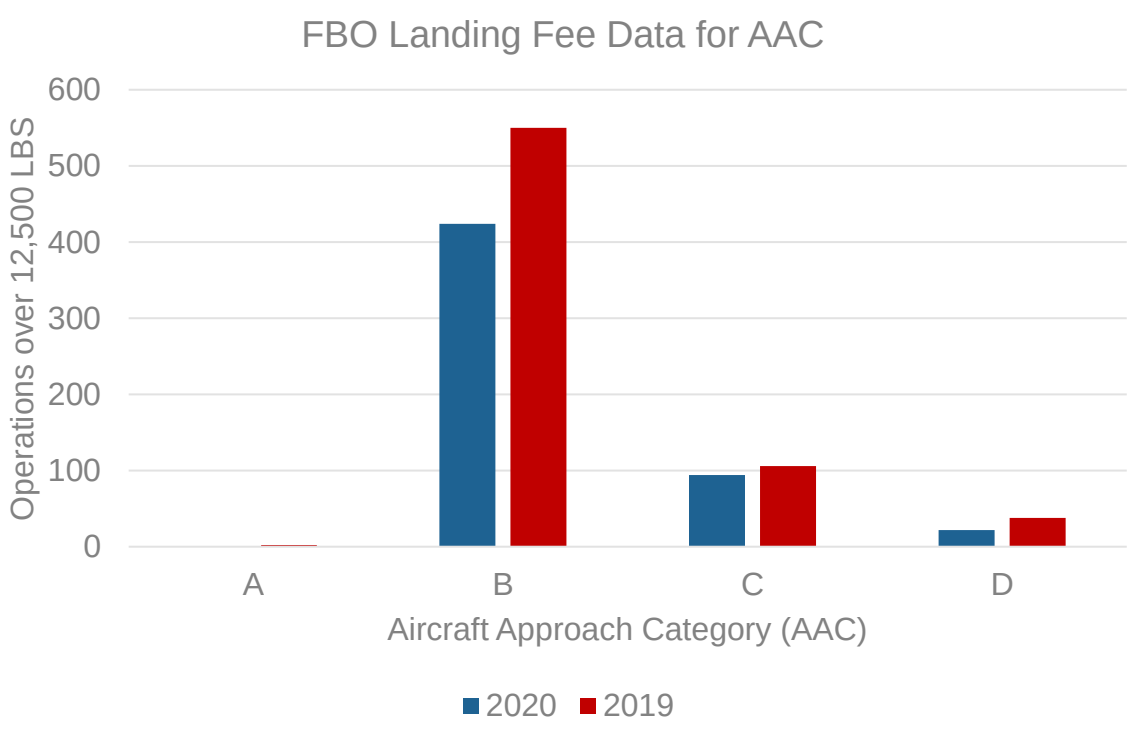
FBO Aviation Activity

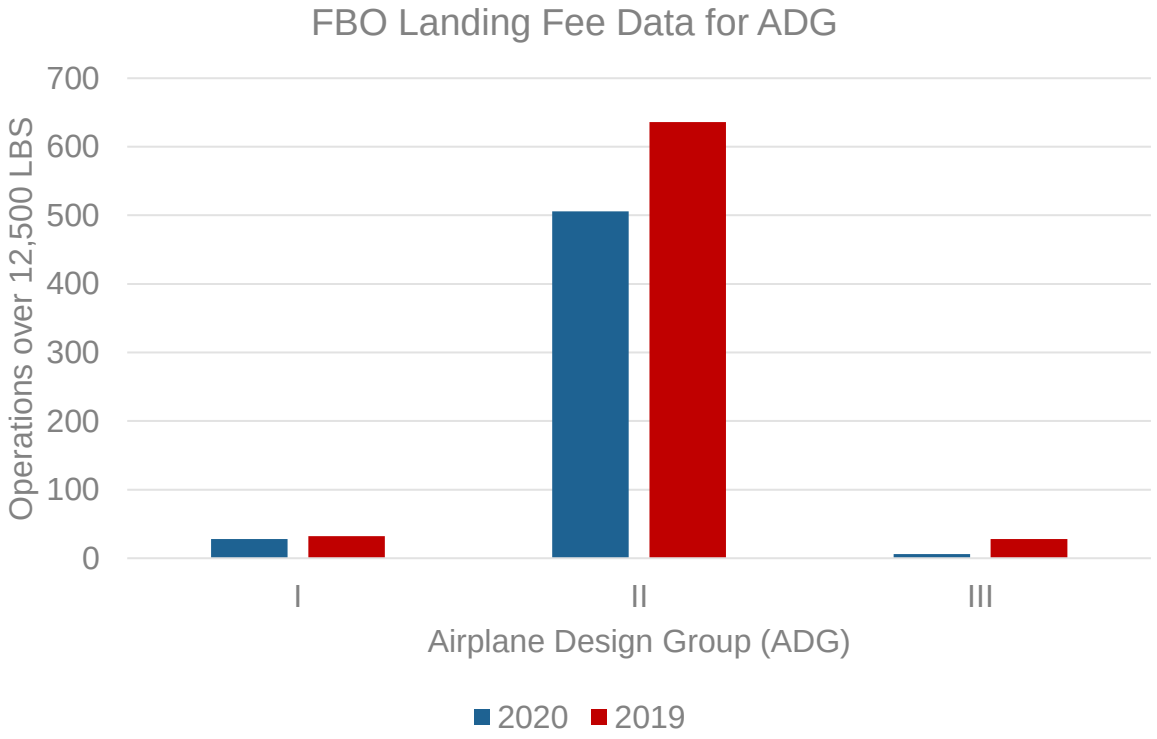


- 2020 and 2019 registration location of transient aircraft activity over 12,500 LBS that utilized the FBOs at OLM

- Registration facts
  - Oklahoma = 76 Net Jets
  - Ohio = 20 Flex Jets
  - China = 1
  - Canada = 4

FBO LANDING FEE DATA FOR LARGE AIRCRAFT





OLM Forecast

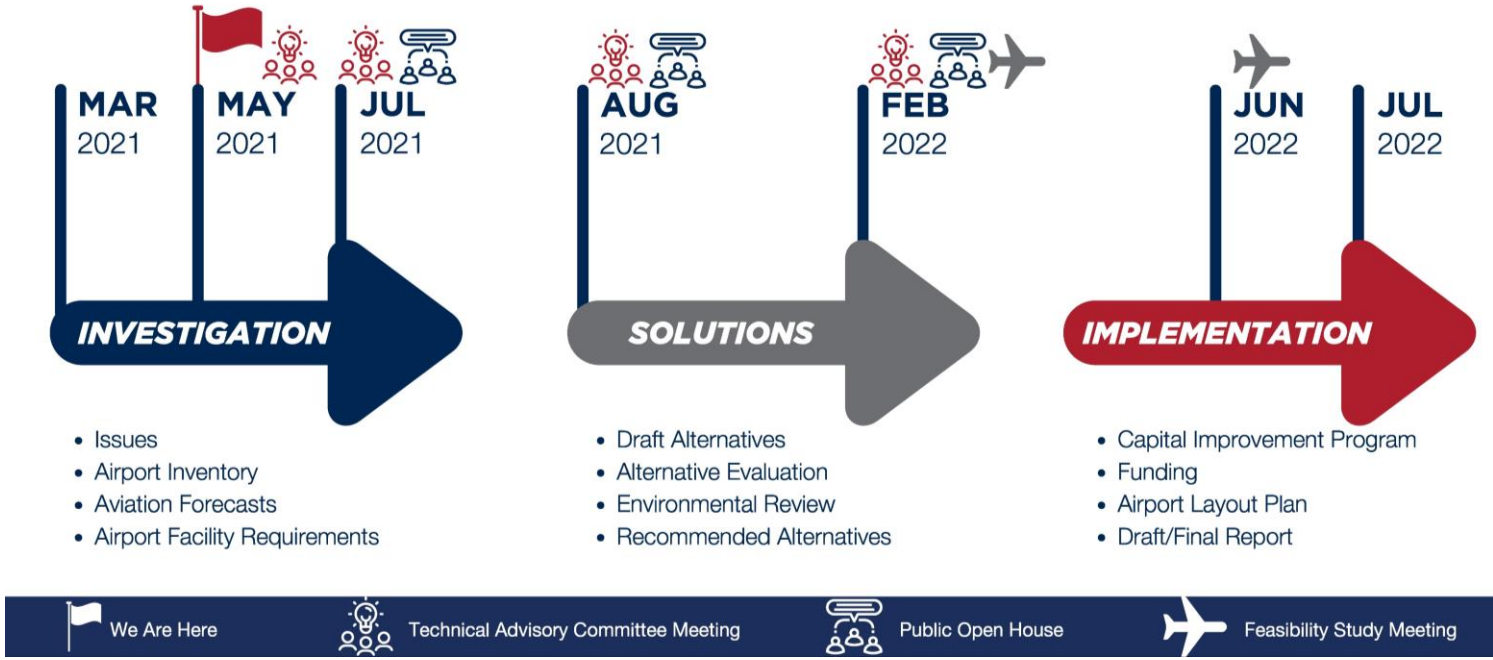
FAA's Stance:
"Any project that comes out (even ones considered being necessary within 1-3 years after the master plan) of the master plan will require justification.

Focus Areas:

- Planning activity levels
- Triggering events.

Airport Master Plan Update

Next Steps



THANK YOU!

Any Comments or Questions?

Contact:

Leah Whitfield Leah@theaviationplanninggroup.com
Justin Heid Justin@theaviationplanninggroup.com

OLM MPU Email address: AMPUpdate@PortOlympia.com

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Technical Advisory Committee Meeting #2

July 15, 2021

The Aviation Planning Group

Introductions

Leah Whitfield
Project Manager

Justin Heid
Assistant Project Manager/Lead Planner

Darren Murata, P.E.
Engineer

Haseeb Mirza
Aviation Planner

Zach Duvall
Aviation Planner

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

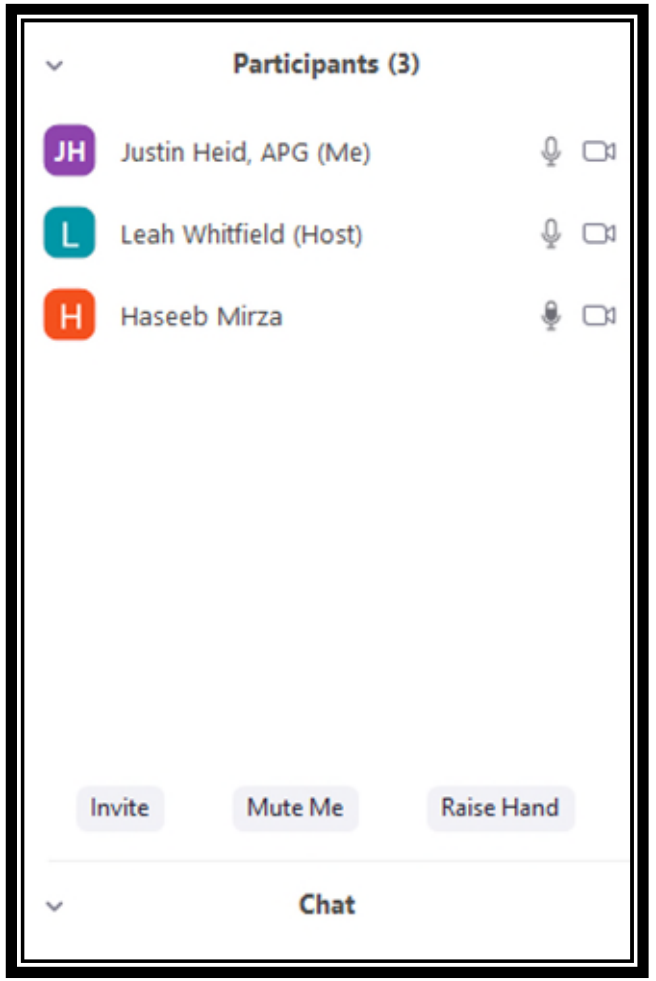
Participation

We will mute all participants during the presentation.

If you have a comment or question you can:

- **Use the “Raise Hand” button under “Participants”**
- **Or under “Reactions”**

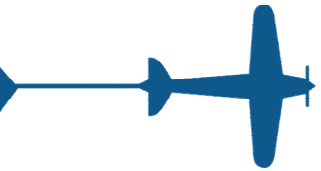
- **Type a comment in the chat box**



OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

THE AGENDA



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OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

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OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Your Role on the Technical Advisory Committee (TAC)

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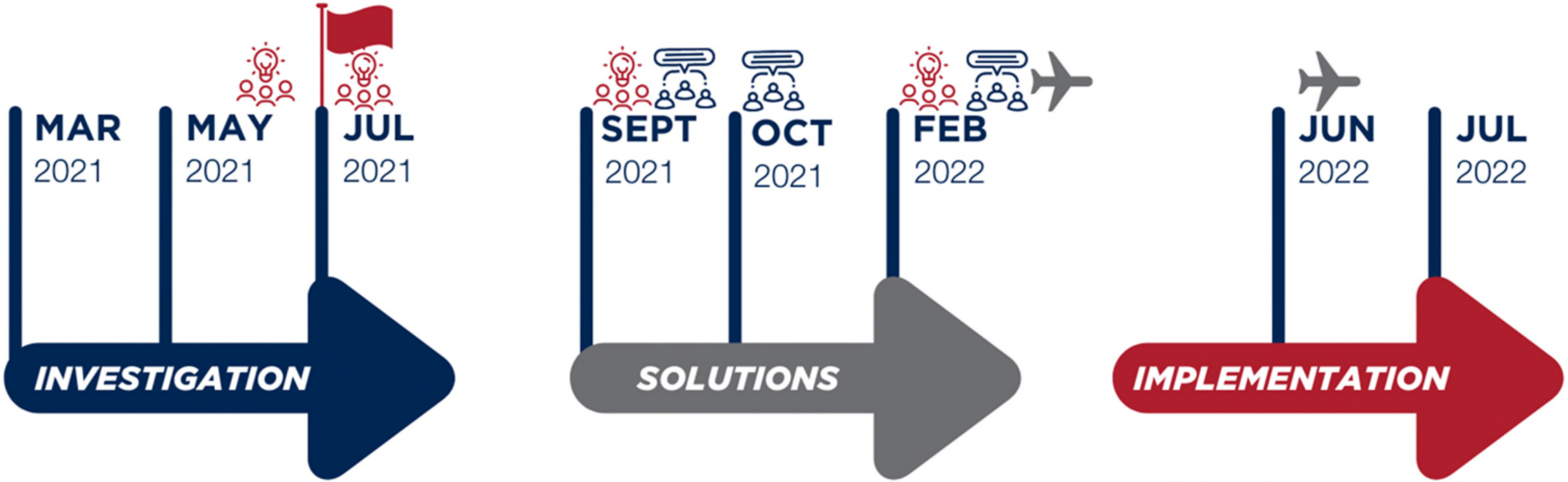
- Limited time commitment: 4 meetings
- Review Draft Report and provide feedback with an eye towards your respective constituents
- Provide suggestions AT ANY TIME

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

SCHEDULE (Draft)



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- Alternative Evaluation
- Environmental Review
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- Draft/Final Report

We Are Here | Technical Advisory Committee Meeting | Public Open House | Feasibility Study Meeting

Forecast Review

Aviation Demand Forecasts

Forecasts help determine an airport's facility needs—the type, size and timing of development to meet changing demand. The forecasts should be realistic and based on the best available information to enhance the accuracy and integrity of the planning process. Further, the FAA is required to review and approve the forecasts.

FAA's Stance:
"Any project that comes out (even ones considered being necessary within 1-3 years after the master plan) of the master plan will require justification.

Focus Areas:

- Planning activity levels
- Triggering events.

Forecasting Process

- Determine current aviation activity for:
  - **Based Aircraft** – an aircraft is based at an airport if it spends the majority of its time there
  - **Operations** – an operation is a takeoff or a landing, so total operations typically comprise 50% takeoffs and 50% landings
- Review and consider:
  - National, state and local aviation trends and projections
  - Area socioeconomic characteristics
- Prepare aviation activity projections using relevant forecast models
- Select preferred forecast, compare to FAA projections and submit for FAA review and approval

Current Aviation Activity

- Based Aircraft:
  - 95 Single-engine
  - 8 Multi-engine
  - 3 Jet
  - 18 Helicopter
  - 124 TOTAL

- Annual Operations
  - 70,466 Operations per year
    - 39,196 GA Local Operations
    - 31,270 GA Itinerant Operations
    - 193 Operations per day

*"**Local**" operations include aircraft activity that remains in the vicinity (e.g. traffic pattern) of an airport.*

*"**Itinerant**" operations include activity that is arriving from or destined for other locations.*

Aviation Trends and Projections

- National
  - FAA Aerospace Forecasts 2020-2040
  - General Aviation Manufacturers Association (GAMA)
  - FAA Terminal Area Forecasts (2019 TAF)
- Region
  - FAA TAF Northwest Mountain Region
- State
  - Washington Aviation System Plan (WASASP)
  - FAA TAF (Washington)
- Local
  - FAA TAF (Olympia)
  - User survey responses
  - FBO data (fuel, landing fees)
  - ATC logs
  - IFR Operations

Forecast: Based Aircraft Indicators

Level of Indicator	Specific Indicator	Source	Average Annual Rates
Local	FAA OLM Based Aircraft Stats (1990-2020)	FAA 5010 / TAF	-0.29%
Local	FAA OLM Based Aircraft Stats (2010-2020)	FAA 5010 / TAF	-1.22%
Local	2013 Master Plan Based Aircraft Forecast	OLM MP 2013	1.20%
Local	FAA OLM Based Aircraft Forecasts (2020-2040)	FAA TAF	0.82%
Regional	FAA NWMR Forecasts (2020-2040)	FAA TAF	0.91%
Regional	FAA Washington State Forecasts (2020-2040)	FAA TAF	1.10%
Regional	2016 WASASP Forecasts (all classes)	WASASP	1.10%
Regional	2016 WASASP Forecasts (Regional class)	WASASP	0.80%
National	FAA National Forecasts (2020-2040)	FAA TAF	0.80%

Source: FAA Airport Master Record 5010 2021, FAA TAF 2019, OLM Master Plan 2013, and WASASP 2017.

OLM Based Aircraft Forecast

Forecast and Year	Master Plan Preferred Forecast
Based Aircraft	
Base Year: 2020	124
Short-Term Forecast: 2025	128
Intermediate-Term Forecast: 2030	132
Long-Term Forecast: 2040	139

Source: The Aviation Planning Group 2021

Tower Operations & After Hours Ops (8pm-8am)

Month	Year									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total	**47,787**	**61,434**	**65,573**	**62,134**	**56,525**	**43,071**	**41,052**	**54,108**	**63,194**	**64,816**

Source: OLM ATC 2021.

Organization	Hours
Glacier Aviation Flight School	2,500
Safety in Motion Flight School	780
Department of Natural Resources	225
Northwest Aeromed	250
Washington State Patrol Aviation	800
All Other GA Users	1,095
Total	**5,650**

Source: Stakeholder interviews 2021.

Aircraft Design Classifications

AIRCRAFT DESIGN CLASSIFICATIONS

Aircraft Approach Category	
A	Approach speed less than 91 knots.
B	Approach speed 91 knots but less than 121 knots.
C	Approach speed 121 knots but less than 141 knots.
D	Approach speed 141 knots but less than 166 knots.
E	Approach speed 166 knots or more.

Airplane Design Group		
#	Tail Height [ft.(m)]	Wingspan [ft.(m)]
I	<20' (<6m)	<49' (<15m)
II	20' - <30' (6m - <9m)	49' - <79' (15m - <24m)
III	30' - <45' (9m - <13.5m)	79' - <118' (24m - <36m)
IV	45' - <60' (13.5m - <18.5m)	118' - <171' (36m - <52m)
V	60' - <66' (18.5m - <20m)	171' - <214' (52m - <65m)
VI	66' - <80' (20m - <24.5m)	214' - <262' (65m - <80m)

Example Aircraft

A-I Cessna 182*

A-II Cessna 208*

B-I Cessna 340*

B-II Beechcraft King Air 90*

B-II Cessna Citation Ultra

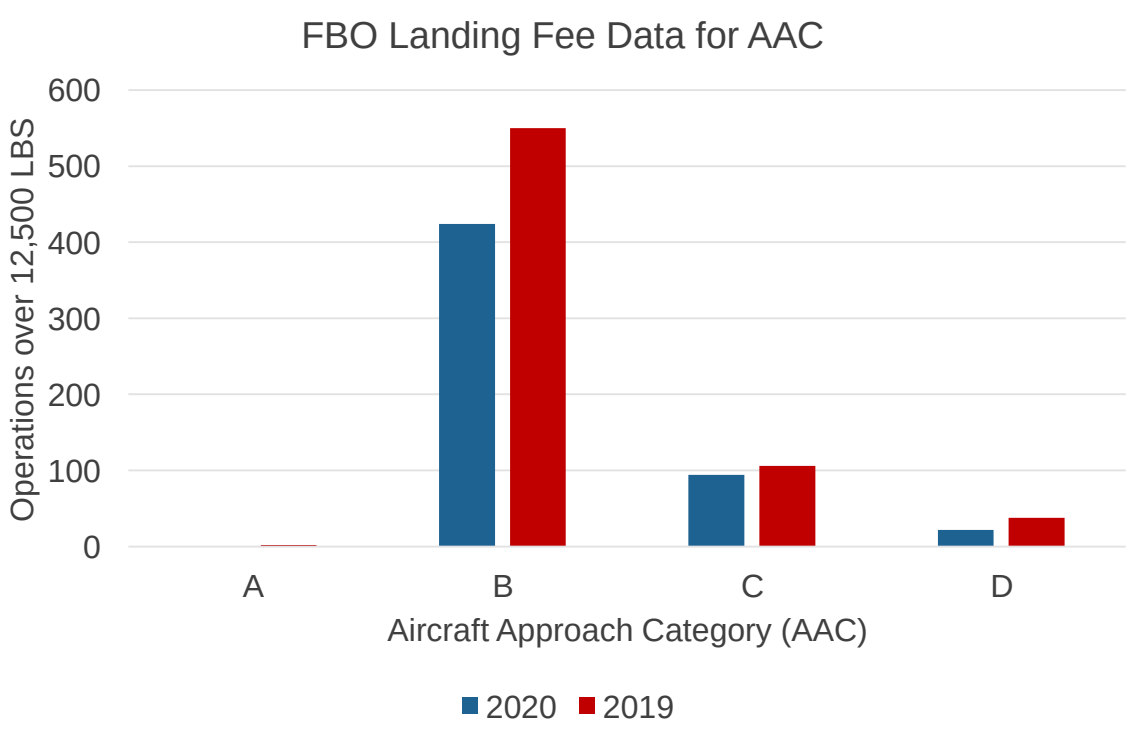
C-II Bombardier Challenger 600

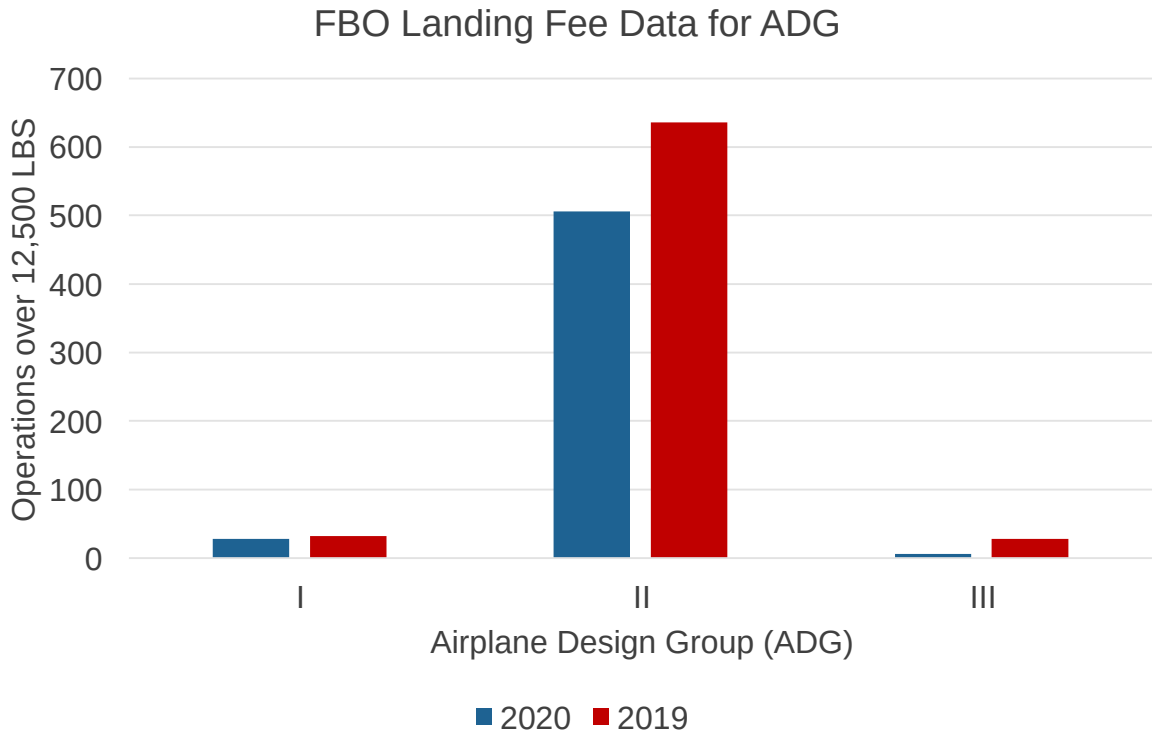
C-III Gulfstream V

D-III Gulfstream G650

*intended for aircraft weighing 12,500lbs or less

FBO LANDING FEE DATA FOR LARGE AIRCRAFT





Source: FBO Landing Fee Data 2021.

Forecast: Aircraft Operation Indicators

Level of Indicator	Specific Indicator	Source	Average Annual Rates	Growth Rate Applied To
Local	FAA OLM GA Local Operations Stats (1990-2020)	FAA 5010/TAF	3.13%	Local
Local	FAA OLM GA Itinerant Operations Stats (1990-2020)	FAA 5010/TAF	0.24%	Itinerant
Local	2013 Master Plan GA Operations Forecast	OLM MP 2013	1.30%	Both
Local	FAA OLM Local GA Operations Forecasts (2020-2045)	FAA TAF	0.01%	Local
Local	FAA OLM Itinerant GA Operations Forecasts (2020-2045)	FAA TAF	0.33%	Itinerant
Local	Population growth estimate 2020-2045	2017 GMA Projections	1.02%	Both
Regional	FAA NWMR Local Forecasts (2020-2040)	FAA TAF	0.77%	Local
Regional	FAA NWMR Itinerant Forecasts (2020-2040 all operations)	FAA TAF	1.16%	Itinerant
Regional	FAA Washington State Local Forecasts (2020-2040)	FAA TAF	0.83%	Local
Regional	FAA Washington State Itinerant Forecasts (2020-2040)	FAA TAF	1.30%	Itinerant
Regional	WASASP Forecasts (all classes)	WASASP	0.70%	Both
Regional	WASASP Forecasts (Regional class)	WASASP	1.10%	Both
National	FAA National Forecasts (near term local GA operations)	FAA TAF	0.36%	Local
National	FAA National Forecasts (near term itinerant operations)	FAA TAF	0.63%	Itinerant
National	FAA National Forecasts (long term local GA operations)	FAA TAF	0.40%	Local
National	FAA National Forecasts (long term itinerant operations)	FAA TAF	0.94%	Itinerant

Source: FAA Airport Master Records 5010 2021, FAA TAF 2019, GMA GMA 2017, OLM Master Plan 2013, and WASASP 2017.

OLM Operations Forecast

Type of Operation	Base Year	Short-Term Forecast	Intermediate-Term Forecast	Long-Term Forecast
	2020	2025	2030	2040
Itinerant Operations (+0.87% annually)				
Air Taxi / Commuter	980	1,024	1,069	1,166
GA	29,541	30,853	32,223	35,148
Military	749	782	817	891
Itinerant Operations Total	**31,270**	**32,659**	**34,109**	**37,205**
Local Operations (+0.92% annually)				
GA	38,381	40,261	42,234	46,473
Military	815	855	897	987
Local Operations Total	**39,196**	**41,116**	**43,131**	**47,460**
Total Aircraft Operations Forecast	**70,466**	**73,775**	**77,239**	**84,665**

Source: Mead & Hunt, Planning Group 2021, FAA Airport Master Record 5010, 2021, FAA TAF 2019, OLM GMA 2017, OLM Master Plan 2013, and WASASP 2017.

OLM Operations Forecast

Type of Operation	Base Year	Short-Term Forecast	Intermediate-Term Forecast	Long-Term Forecast
	2020	2025	2030	2040
Total Based Aircraft	124	126	129	139
Total Operations	70,466	73,775	77,239	84,665
Critical Aircraft				
Current (2020) Critical Aircraft	Cessna Citation 560		B-II	
Ultimate (2040) Critical Aircraft	Bombardier Challenger 700		C-II	

Source: The Aviation Planning Group 2021, FAA Airport Master Record 5010 2021, FAA TAF 2019, OFM GMA 2017, OLM Master Plan 2013, and WASASP 2017.

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B-II Cessna Citation Ultra


C-II Bombardier Challenger 600


C-III Gulfstream V


D-III Gulfstream G650

*intended for aircraft weighing 12,500lbs or less

Facility Requirements

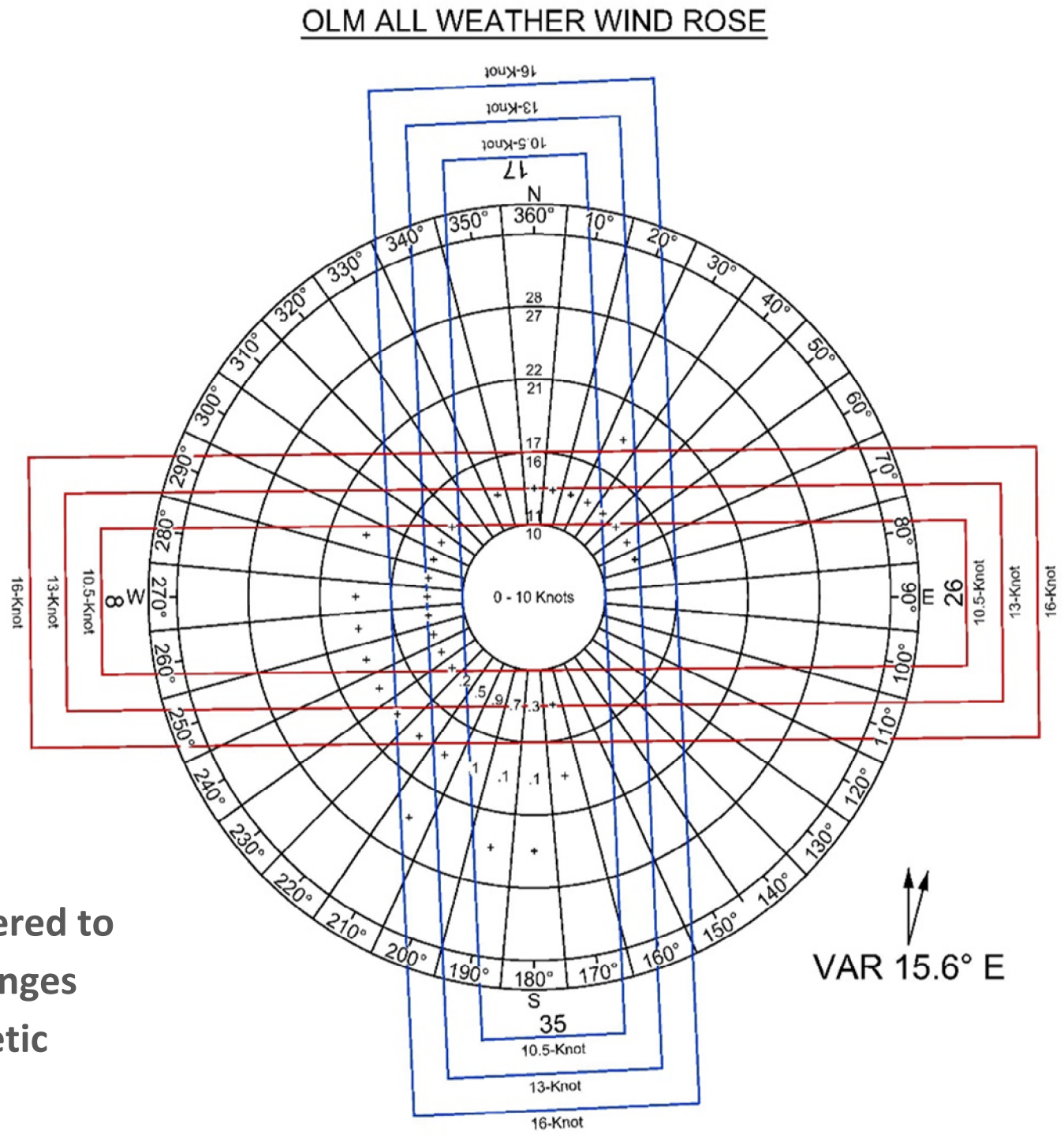
Item	Runway 17	Runway 35	Runway 8	Runway 26
Design Group: Aircraft Approach Category	Category C		Category B	
	Approach speed 121 knots but less than 141 knots.		Approach speed 91 knots but less than 121 knots.	
Airplane Design Group	Group II		Group II	
	Tail Height 20'- <30 , wingspan 49'-<79'		Tail Height 20'- <30 , wingspan 49'-<79'	
Orientation	S	N	E	W
Length	5,500'		4,157'	
Width	150'		150'	
Surface Type	Asphalt/Grooved		Asphalt	
Weight Capacity	Single Wheel 75,000 Lbs.		Single Wheel: 30,000 Lbs.	
	Double Wheel 94,000 Lbs.			
	Double Tandem Wheel 142,000 Lbs.			
Lighting	High Intensity Runway Lighting (HIRL)		None	
Pavement Markings	Precision	Non-Precision	Basic Visual	Basic Visual
Traffic Pattern	Left	Right	Right	Left
Approach Lighting	MALSR (Medium Intensity Approach Lighting System With Runway Alignment Indicator Lights)	No	No	No
Runway End Identifier Lights (REIL)	Yes	Yes	No	No
Precision Approach Path Indicators (PAPI)	Yes	Yes	No	No

Wind Analysis

Runway	10.5 Knots	13 Knots	16 Knots
17/35	98.62%	99.37%	99.93%
08/26	94.71%	96.94%	99.25%
Combined	99.84%	99.99%	99.99%

- Compasses point to “magnetic north”
- The difference from “true north” is called “variation” or “declination”
- Approximately a 1 degree shift every ten years.

It is recommended that the runways be re-numbered to their corrected magnetic headings due to the changes that have occurred over time from natural magnetic shift.



Airfield Facility Requirements

- Runway Requirements

Aircraft Category	Length (feet)	
Existing Conditions		
17/35	5,501	
08/26	4,157	
Small Aircraft (12,500 lbs or less MTOW)		
Approach Speeds < 30 knots	306	
Approach Speeds > 30 knots but < 50 knots	816	
Approach Speeds > 50 knots and < 10 Passengers		
95% of the fleet	2,980	
100% of the fleet	3,540	
Approach Speeds > 50 knots and > 10 Passengers	4,080	
Large Aircraft (more than 12,500 MTOW)	**Dry**	**Wet**
< 60,000 lbs 75% of the fleet at 60% useful load	4,690	5,270
< 60,000 lbs 100% of the fleet at 60% useful load	5,970	6,740
< 60,000 lbs 75% of the fleet at 90% useful load	5,090	5,500
< 60,000 lbs 100% of the fleet at 90% useful load	7,370	7,370
> 60,000 lbs or Regional Jets	5,090	5,090

Both runways have adequate length to accommodate the aircraft that regularly utilize the Airport.

Runway Width Existing vs. Required	Runway 17/35 Width (feet)	Runway 8/26 Width (feet)
Existing	150’	100’
Required	100’	75’

Runway 17/35 exceeds the operational width requirements associated with ARC C-II and Runway 8/26 exceeds the operational width requirements of ARC B-II. Continue to maintain Runway 8/26 only to 75’ width.

Airfield Facility Requirements

- Taxiway/Taxilane and Apron Requirements

Taxiway	Intersection Angle
Runway 17/35 Non-Standard Exit Taxiways	
Taxiway C	36°
Taxiway D	39°
Taxiway G	79°
West Taxiway L	76°
East Taxiway L	82°
Runway 08/26 Non-Standard Exit Taxiways	
Taxiway W	77°
South Taxiway F	88°
North Taxiway F	56°
North Taxiway C	52°
Taxiway E	38°
Taxiway G	77°

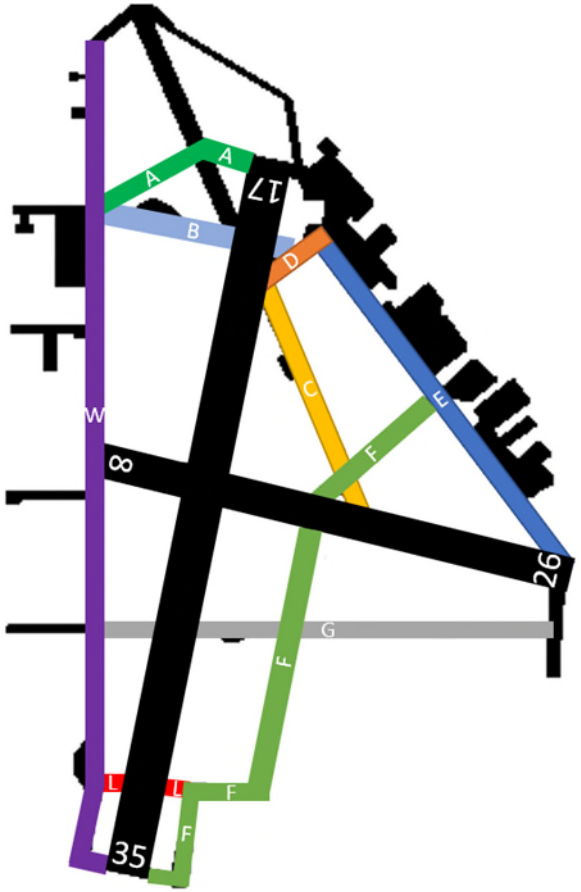
Taxiway geometry throughout the airport needs to be revised to meet FAA standards of right-angle intersections.

Taxiway W is recommended to be revised to serve as a full-length parallel taxiway along with the analysis of a new full-length parallel taxiway to serve Runway 08/26.

It is also recommended to add optimally located exit taxiways to both runways to increase airfield efficiency.

Electronic and Visual Aids to Navigation

- **Airfield Lighting System Wiring**
  - In-conduit wiring supplied from the electrical vault for the airfield.
- **Edge Lighting/ Reflectors/ Signage**
  - Recommend lighting Taxiway E for GA traffic to RWY 17.



- Runway:
  - 17/35 150’ wide – lighted
  - 8/26: 150’ wide –
- Taxiway:
  - A: 50’ wide - lighted
  - B: 50’ wide - lighted
  - C: 35’ wide - reflectors
  - D: 40’ wide - reflectors
  - E: 50’(NW) wide – reflectors
  - E: 35’(SW) wide – reflectors
  - F: 35’ wide - reflectors
  - G: 50’ wide - reflectors
  - L: 50’ wide - lighted
  - W: 50’ wide - lighted

Electronic and Visual Aids to Navigation

- **Wind Cones**
  - A primary wind cone is located within the segmented circle west of the north end of Taxiway E.
  - Secondary lighted wind cones are located at the south end of Runway 17/35 near Taxiway W and the runup area and on the west end of runway 8/26 near the south end of Taxiway E.

Electronic and Visual Aids to Navigation

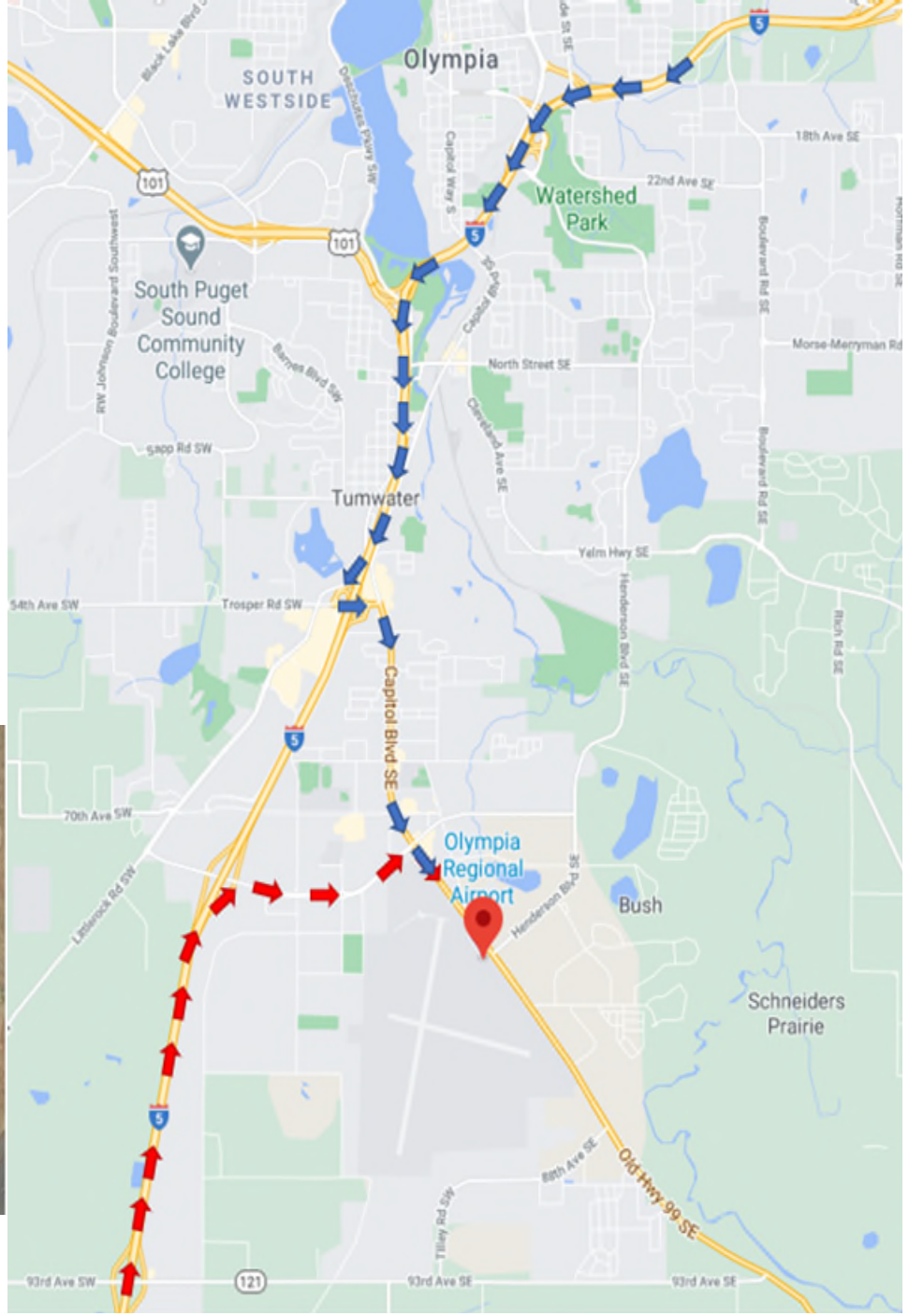
- **Navigational Aids**
  - An **ASOS** (Automated Surface Observing System) is located west of runway 17/35 and north of runway 8/26 to provide audible real time weather conditions and wind speed/direction on radio frequency 135.725 or by calling (360) 754-0781.
  - The airfield is equipped with a **VORTAC** (Very High Frequency Omnidirectional Range/Tactical Air Navigation) which has the ability to measure the distance an aircraft is from the VOR and reporting it to the pilot in nautical miles when capable of receiving that information.

Electronic and Visual Aids to Navigation

- **Navigational Aids**
  - OLM has a **rotating beacon** that shines a green light and a white light 180 degrees apart from one another is located on the water tower northwest of the airport. The beacon assists pilots in finding the airport and is operational at night and during Instrument Flight Rules (IFR) conditions.
  - A **compass rose** is located on Taxiway C and is available to operationally check and align the aircraft compass when needed.

Roadways and Parking Lots

- **Road Access to Airport**
  - I-5 to Capitol Blvd SE
- **Public Parking**
  - 13 public use spaces near the Airport Administration Building
  - Each Business has private parking available



Support Facilities

- **Aircraft Maintenance**
  - Avionics shop: Olympia Avionics
  - Airframe/Powerplant: Needed
- **Aircraft Fuel Storage**
  - Existing Fuel Storage Capacity: 8 Tanks/96,000 Gallons
  - Current Usage: 6 Tanks/68,000 Gallons (3 Jet A tanks = 34, 000 Gallons & 3 100LL Tanks = 34,000 Gallons)
  - Capacity has been leased and 2 tanks/28,000 gallons to be placed soon

Support Facilities

- **Deicing** – None Designated
- **Airport Wash Pads** – None Designated
- **Airport Maintenance and Equipment Storage**
  - Storage utilizes planeports that are unusable for aircraft due to taxilane safety areas and distances to other hangars.

- **Utilities**
  - Power is provided by Puget Sound Energy
  - Major trunk lines run on the east and west side of the Airport.

General Aviation

- **FBO**
  - Two FBO's – Glacier Aviation & Safety In Motion (Fuel/Over Night Hangars/ Flight Instruction)
- **Tie-down spaces**
  - 5 small aircraft and 6 large aircraft tiedowns available on the north end of Taxiway E.
  - 26 small aircraft tiedowns and 2 large aircraft tiedown parking spaces along the hangar rows on the south end of Taxiway E.

General Aviation

- **Hangars**
  - 2 Planeport Structures (12 spaces @ 15k sq ft)
  - 10 T-Hangars (90 spaces @ 169K sq ft)
  - 16 Traditional Hangar structures in total (175 sq ft)
- **Future Allocations for Growth**
  - After addressing current environmental concerns, it is strongly recommended that the Airport expand aircraft parking, prioritizing hangar space.

Biofuels

- The International Energy Agency forecasts biofuels reaching 20% of aviation fuel demand by 2040.
- Made from waste oils and animal fats.
- It is more expensive than jet fuel (2-3 times more) but that gap is expected to close as biofuel technology continues to develop and more biofuel refineries are established.
- Manufacturers are developing aircraft that are able to use biofuel blended with conventional fuel.
- Blending biofuel and jet fuel requires quality control. The National Renewable Energy Laboratory's *U.S. Airport Infrastructure and Sustainable Aviation Fuel* report recommends storing jet fuel and biofuel in separate tanks and then combining the two in a third tank at the airport.

United Airlines buys approximately 10M gallons per year at LAX.

Electric Aviation

- Washington State Department of Transportation's *Washington Electric Aircraft Feasibility Study* (November 2020)
  - Recommended OLM as an initial beta test site for electric aircraft
    - Runway length
    - Need for aviation service
    - Connectivity to airports within 500 nm
    - Presence of FBOs
    - Availability of jet fuel for hybrid electric aircraft

- In order to integrate electric aircraft into the existing transportation network, the Airport will need to incorporate electric aircraft into long-term transportation specific strategic planning.
  - Electrical infrastructure needs
  - Level of expected demand

- Electric aircraft operations will increase demand on the Airport's electrical grid and will require an upgraded power distribution system.
  - On-site generation (wind turbines, solar panels, etc.)
  - Team with local energy providers
  - Power usage management (cap on charging)

Electric Aviation

There are two methods being considered for providing energy to electric aircraft:

- **Battery swapping**
  - Replaces a spent battery out of an aircraft with fully charged battery.
  - Less peak demand on the electrical grid as opposed to direct aircraft charging.
  - Potential to reduce turn-around times for aircraft as well.
  - Testing: magniX's eCaravan currently flying out of Moses Lake, WA
- **On-site, direct aircraft charging**
  - Similar to current electric vehicle charging
  - An industry standard has not yet been established and any charging station infrastructure would require adaptors to accommodate the variety of standards.

SUMMARY TABLE: Runways

Airfield & Airspace Requirements	Existing Condition	Required or Recommend	Action Needed	Remarks
ARC to Meet Fleet Mix Demand	D-III	C-II	**Yes**	**Projects should be constructed in the future for the proposed usage design at or above a C-II design standard**
Runway 17/35 (C-II)				
Orientation/ Wind Coverage	RWY = 99.93% Combined= 99.99%	95%	No	
Length	5,501’	5,501’	No	< 60,000 lbs 75% of the fleet at 90% useful load
Width	150’	100'	**Yes**	**Existing Pavement exceeds the required width based on the existing critical aircraft**
Magnetic Heading	17/35	18/36	**Yes**	**Runway numbers must be corrected due to magnetic shift over time**
Runway Pavement Condition	Avg. PCI = 88	Avg. PCI = >70	**Yes**	**The southern section is reported as a 69, and requires near-term maintenance**
Pavement Design Strengths	75,000 lbs.	>12,500 lbs.	No	Single wheel weights shown as existing
Runway 8/26 (B-II)				
Orientation/ Wind Coverage	RWY = 96.94% Combined= 99.99%	95%	No	
Length	4,157’ (2/20)	4,157’	No	
Width	150’	75’	**Yes**	**Existing Pavement exceeds the required width based on the existing critical aircraft**
Magnetic Heading	8/26	9/27	**Yes**	**Runway numbers must be corrected due to magnetic shift over time**
Runway Pavement Condition	Avg. PCI = 58	Avg. PCI = >70	**Yes**	**Currently, not AIP eligible. Runway 8/26 should be rehabilitated to rejuvenate the existing pavement**
Pavement Design Strengths	30,000 lbs.	>12,500 lbs.	No	Single wheel weights shown as existing

SUMMARY TABLE: Taxiways

Airfield & Airspace Requirements	Existing Condition	Required or Recommend	Action Needed	Remarks
Taxiway				
Full or partial parallel	Yes	Yes	**Yes**	**Parallel Taxiway does not Parallel the Runway**
Width	35'-50’	35’	**Yes**	**Justification is needed for the extended width beyond the needs of the critical aircraft**
Runway Connector Angles	36-88 Degrees	90 Degrees	**Yes**	**FAA standards require turns connections to a runway to be at 90 degree angles**
Taxiway Pavement Condition (2018 Forecast for 2021 PCI Values)				Regular maintenance should occur to maintain the useful life of the pavement
TWY A	PCI = 80	Avg. PCI = >70	No	Future maintenance will be required
TWY B	PCI = 78	Avg. PCI = >70	No	Future maintenance will be required
TWY C	PCI = 91	Avg. PCI = >70	No	Future maintenance will be required
TWY D	PCI = 41	Avg. PCI = >70	**Yes**	**Near-term maintenance is required**
TWY E	PCI = 89	Avg. PCI = >70	No	Future maintenance will be required
TWY F	PCI = 73	Avg. PCI = >70	**Yes**	**Future maintenance will be required**
TWY G	PCI = 62	Avg. PCI = >70	**Yes**	**Near-term maintenance is required**
Lighting	Lighting/Reflectors	Lighting/Reflectors	**Yes**	**Lighting for the east side of the Airport would increase safety on the general aviation taxiways for access to Runway 17/35**

SUMMARY TABLE: Support Facilities

Facilities & Support Requirements	Existing Condition	Required or Recommend	Action Needed	Remarks
General Aviation Related Development				
Apron / Transient Parking	39 tiedowns	No specific minimums	No	
Apron Pavement Condition	Avg. PCI = 75	Avg. PCI = >70	**Yes**	**Some near-term and future maintenance will be required**
Terminal / Pilot Lounge	FBO's	Updated facility	**Yes**	**Potential for a standalone facility with a restaurant/offices and other amenities**
Support Facilities				
Equipment and Storage	Covered storage - Planeport	Equipment protection	**Yes**	**A standard maintenance building would be recommended for maintenance and storage of equipment**
Fuel Storage	68,000-gal available	No specific minimum	No	**Biofuels and Electric charging should be considered for the future**
Public Access and Parking	13 public + private parking	No specific minimum	No	Future growth will require parking additions respectively
Fencing	Fenced	100% protection	No	
Utilities	Existing	No specific minimums	No	Electric capacities may be increased with the introduction of future electric aircraft

Alternatives Discussion


Maintenance Hangar
Fuel Farm
WSP Aviation
DNR Offices
WSDOT Aviation Division
Olympic Flight Museum
Airlift Northwest
Airport Admin Building
Olympia Avionics
FBO: Glacier Aviation
ATC Tower
FBO: Safety In Motion


Beacon
MALSR
Segmented Circle & Windcone
ASOS
PAPI
Compass Rose
VORTAC
Windcone
Windcone
PAPI

Alternatives Discussion

Discussion Items

- Top desires by based users
  - Self-serve fuel: most for 100LL
  - Additional hangars to rent/own
  - Pavement Condition
  - Airfield Lighting
  - Improved instrument approaches
- Restaurant
- Enhance or Additional Security
- Commercial/Cargo Service
- More ramp/apron space for helicopters

Airport Master Plan Update

Next Steps

- Issues
- Airport Inventory
- Aviation Forecasts
- Airport Facility Requirements

- Draft Alternatives
- Alternative Evaluation
- Environmental Review
- Recommended Alternatives

- Capital Improvement Program
- Funding
- Airport Layout Plan
- Draft/Final Report

We Are Here | Technical Advisory Committee Meeting | Public Open House | Feasibility Study Meeting

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

THANK YOU!

Any Comments or Questions?

Contact:

Leah Whitfield Leah@theaviationplanninggroup.com

Justin Heid Justin@theaviationplanninggroup.com

OLM MPU Email address: AMPUpdate@PortOlympia.com

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Technical Advisory Committee Meeting #3

December 16, 2021

The Aviation Planning Group

Introductions

Leah Whitfield
Project Manager

Darren Murata, P.E.
Lead Engineer

Renee Dowlin
Environmental Planner

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

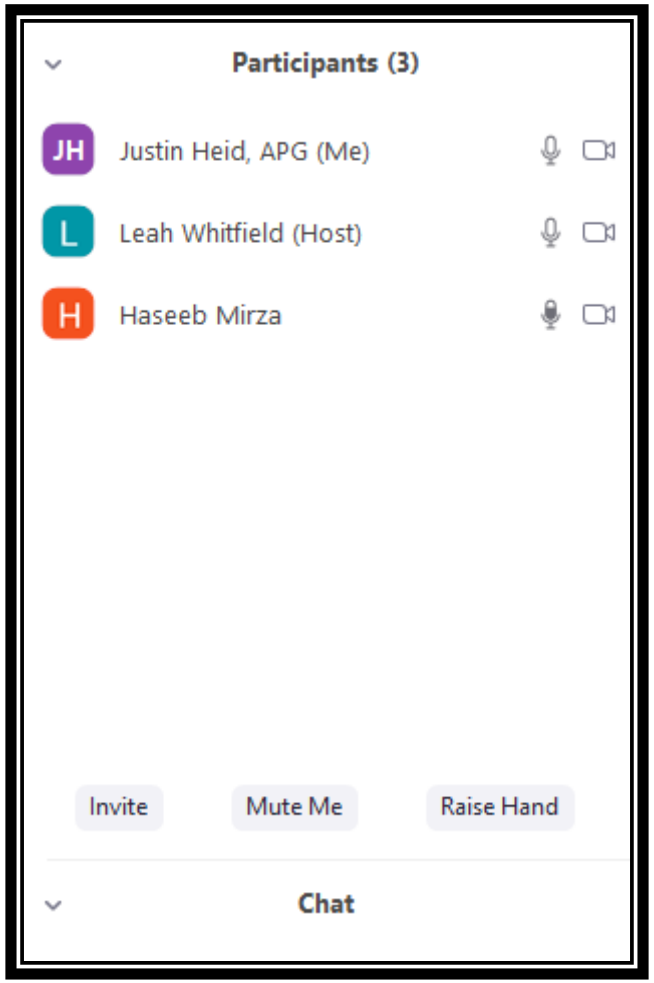
Participation

We will mute all participants during the presentation.

If you have a comment or question you can:

- Use the “Raise Hand” button under “Participants”
- Or under “Reactions”

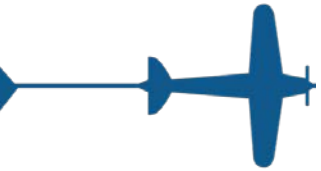
- Type a comment in the chat box



OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

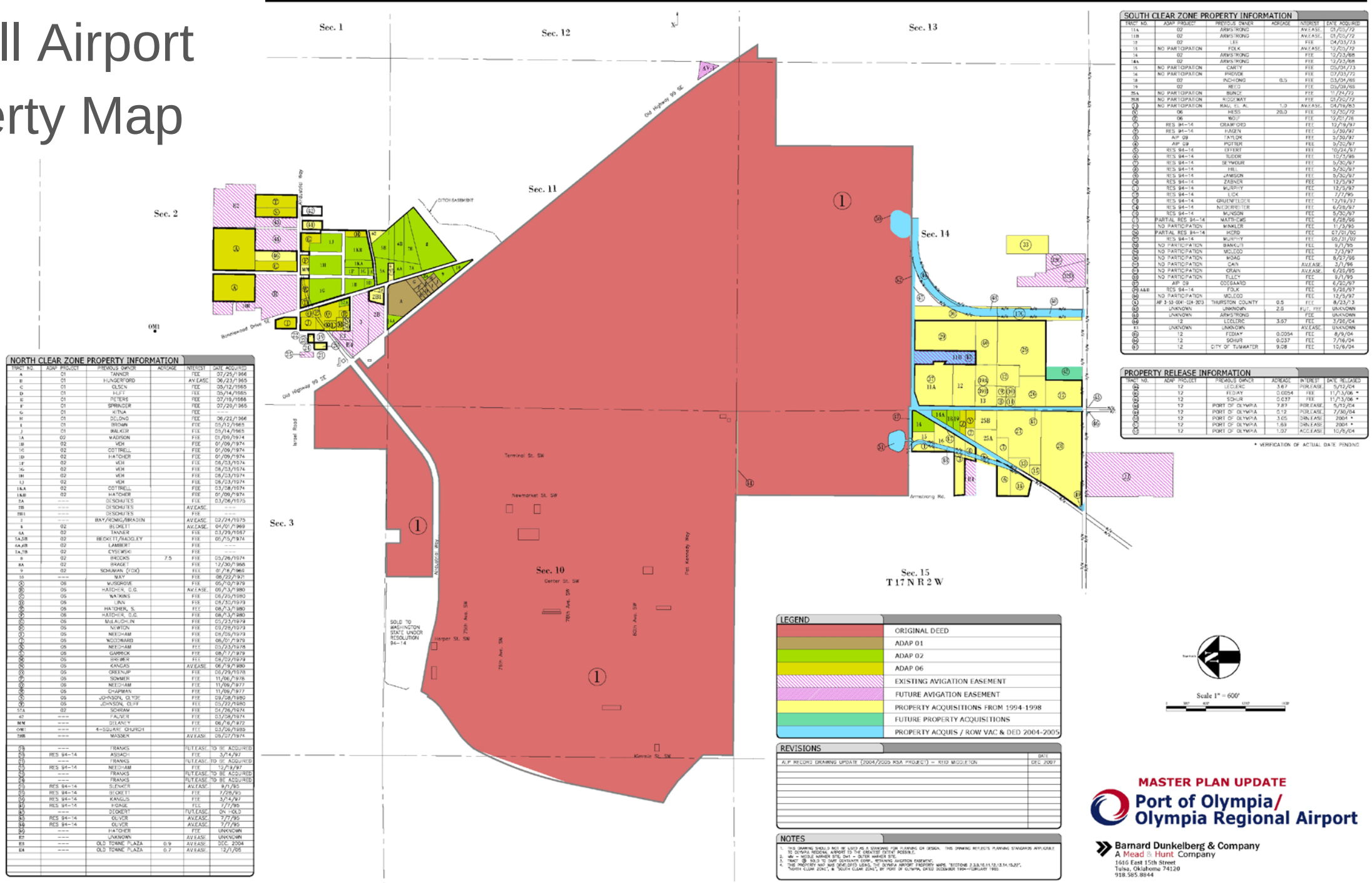
Airport Master Plan Update

THE AGENDA



1. Master Plan Focus Area & Goals
2. Master Plan Schedule
3. Project Progress
4. Facility Requirements
5. Alternatives Review & Discussion
5. Next Steps

Overall Airport Property Map



NORTH CLEAR ZONE PROPERTY INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE ACQUIRED
A	01	TANNER		FEE	07/25/1966
B	01	HUNGERFORD		AV.EASE.	06/23/1965
C	01	OLSEN		FEE	05/12/1965
D	01	HUFF		FEE	05/14/1965
E	01	PETERS		FEE	07/19/1966
F	01	SPRINGER		FEE	07/20/1965
G	01	KITNA		FEE	
H	01	DELONG		FEE	06/22/1966
I	01	BROWN		FEE	05/12/1965
J	01	WALKER		FEE	05/14/1965
1A	02	MADISON		FEE	01/09/1974
1B	02	VEH		FEE	01/09/1974
1C	02	COTTRELL		FEE	01/09/1974
1D	02	HATCHER		FEE	01/09/1974
1F	02	VEH		FEE	08/03/1974
1G	02	VEH		FEE	08/03/1974
1H	02	VEH		FEE	08/03/1974
1J	02	VEH		FEE	08/03/1974
1KA	02	COTTRELL		FEE	03/08/1974
1KB	02	HATCHER		FEE	01/09/1974
2A	---	DESCHUTES		FEE	03/06/1975
2B	---	DESCHUTES		AV.EASE.	---
2B1	---	DESCHUTES		FEE	---
3	---	BAY/ROMIG/BRADEN		AV.EASE.	02/24/1975
4	02	BECKETT		AV.EASE.	04/01/1969
4A	02	TANNER		FEE	03/29/1967
5A,5B	02	BECKETT/RADCLEY		FEE	05/15/1974
6A,6B	02	LAMBERT		FEE	---
7A,7B	02	CYSEWSKI		FEE	---
8	02	BROOKS	7.5	FEE	05/26/1974
8A	02	BRAGET		FEE	12/30/1965
9	02	SCHUMAN (FOX)		FEE	07/16/1965
10	---	MAY		FEE	08/22/1971
A	06	MUSGROVE		FEE	05/10/1979
B	06	HATCHER, O.C.		AV.EASE.	09/13/1980
C	06	WATKINS		FEE	08/25/1980
D	06	LINN		FEE	08/30/1979
E	06	HATCHER, S.		FEE	08/13/1980
F	06	HATCHER, O.C.		FEE	08/13/1980
G	06	McLAUGHLIN		FEE	05/23/1979
H	06	NEWTON		FEE	09/28/1979
I	06	NEEDHAM		FEE	08/06/1979
J	06	WOODWARD		FEE	08/07/1979
K	06	NEEDHAM		FEE	09/23/1978
L	06	GARROCK		FEE	08/17/1979
M	06	BRUBER		FEE	08/07/1979
N	06	KANGAS		AV.EASE.	08/19/1980
O	06	GREENUP		FEE	08/29/1978
P	06	SOMMER		FEE	11/06/1978
Q	06	NEEDHAM		FEE	11/06/1977
R	06	CHAPMAN		FEE	11/06/1977
S	06	JOHNSON, CLYDE		FEE	09/08/1980
T	06	JOHNSON, CLIFF		FEE	09/22/1980
STA	02	SCHRAM		FEE	04/26/1974
AT	---	FAUVER		FEE	03/08/1974
MM	---	DELANEY		FEE	06/16/1972
OM1	---	4-SQUARE CHURCH		FEE	03/09/1955
SBB	---	MASSER		AV.EASE.	05/07/1974
1S	---	FRANKS		FUT.EASE.	TO BE ACQUIRED
2S	RES 94-14	ASSACH		FEE	3/14/97
3S	---	FRANKS		FUT.EASE.	TO BE ACQUIRED
4S	RES 94-14	NEEDHAM		FEE	12/19/97
5S	---	FRANKS		FUT.EASE.	TO BE ACQUIRED
6S	---	FRANKS		FUT.EASE.	TO BE ACQUIRED
7S	RES 94-14	SUEWITH		AV.EASE.	9/1/95
8S	RES 94-14	BECKETT		FEE	7/25/95
9S	RES 94-14	KANGAS		FEE	3/14/97
10S	RES 94-14	HOAGE		FEE	7/7/95
11S	---	DECKERT		FUT.EASE.	ON HOLD
12S	RES 94-14	OLIVER		AV.EASE.	7/7/95
13S	RES 94-14	OLIVER		AV.EASE.	7/7/95
1U	---	HATCHER		FEE	UNKNOWN
E2	---	UNKNOWN		AV.EASE.	UNKNOWN
E3	---	OLD TOWNE PLAZA	0.9	AV.EASE.	DEC. 2004
E4	---	OLD TOWNE PLAZA	0.7	AV.EASE.	12/1/05

SOUTH CLEAR ZONE PROPERTY INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE ACQUIRED
11A	02	ARMSTRONG		AV.EASE.	01/05/72
11B	02	ARMSTRONG		AV.EASE.	01/05/72
13	02	LEE		FEE	04/03/73
13	NO PARTICIPATION	FOLK		AV.EASE.	12/05/72
14	02	ARMSTRONG		FEE	12/23/68
14A	02	ARMSTRONG		FEE	12/23/68
15	NO PARTICIPATION	CARTY		FEE	05/04/73
16	NO PARTICIPATION	PREVOE		FEE	07/03/72
18	02	PICHONG	0.5	FEE	03/04/69
19	02	REID		FEE	09/09/69
25A	NO PARTICIPATION	BUNCE		FEE	11/24/72
25B	NO PARTICIPATION	RIGGWAY		FEE	01/20/72
26	NO PARTICIPATION	RAU, ET. AL.	1.0	AV.EASE.	04/19/83
1	06	HESS	20.0	FEE	12/20/72
2	06	WOLF		FEE	12/01/76
3	RES 94-14	CRAWFORD		FEE	12/19/97
3	RES 94-14	HAGEN		FEE	3/30/97
3	AIP 09	TAYLOR		FEE	3/30/97
4	AIP 09	POTTER		FEE	3/30/97
5	RES 94-14	EFFERT		FEE	10/24/97
6	RES 94-14	TUDOR		FEE	10/1/95
7	RES 94-14	SEYMOUR		FEE	3/30/97
8	RES 94-14	HILL		FEE	3/30/97
9	RES 94-14	JAMISON		FEE	3/30/97
10	RES 94-14	ZASNER		FEE	12/19/97
11	RES 94-14	MURPHY		FEE	12/3/97
12	RES 94-14	LICK		FEE	7/7/95
13	RES 94-14	GRUENFELDER		FEE	12/19/97
14	RES 94-14	NIEDERMEIER		FEE	6/28/97
15	RES 94-14	MUNSON		FEE	3/30/97
16	PARTIAL RES 94-14	MATTHEWS		FEE	6/28/95
23	NO PARTICIPATION	MINKLER		FEE	11/3/95
24	PARTIAL RES 94-14	WEBB		FEE	07/01/00
27	RES 94-14	MURPHY		FEE	05/31/02
28	NO PARTICIPATION	BANKUTI		FEE	9/1/95
29	NO PARTICIPATION	MCLEOD		FEE	7/3/97
30	NO PARTICIPATION	MOAG		FEE	8/27/96
31	NO PARTICIPATION	CAIN		AV.EASE.	3/1/96
32	NO PARTICIPATION	CRAIN		AV.EASE.	6/28/95
33	NO PARTICIPATION	TILLEY		FEE	9/1/95
37	AIP 09	CODGAARD		FEE	6/25/97
39 A&B	RES 94-14	FOLK		FEE	6/28/97
40	NO PARTICIPATION	MCLEOD		FEE	12/5/97
41	AP 3-53-004-024-2013	THURSTON COUNTY	0.5	FEE	8/23/13
42	UNKNOWN	UNKNOWN	2.5	FUT. FEE	UNKNOWN
43	UNKNOWN	UNKNOWN		FEE	UNKNOWN
44	12	LECLERC	3.67	FEE	3/28/04
51	UNKNOWN	UNKNOWN		AV.EASE.	UNKNOWN
52	12	FEDIAY	0.0054	FEE	8/9/04
54	12	SCHUR	0.037	FEE	7/16/04
61	12	CITY OF TUMWATER	9.08	FEE	10/6/04

PROPERTY RELEASE INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE RELEASED
42	12	LECLERC	3.67	PARTIAL	5/12/04
52	12	FEDIAY	0.0054	FEE	11/13/06 *
54	12	SCHUR	0.037	FEE	11/13/06 *
58	12	PORT OF OLYMPIA	9.87	PARTIAL	5/12/04
58	12	PORT OF OLYMPIA	0.12	PARTIAL	7/30/04
58	12	PORT OF OLYMPIA	3.05	DAN.EASE	2004 *
58	12	PORT OF OLYMPIA	1.69	DAN.EASE	2004 *
58	12	PORT OF OLYMPIA	1.07	ACC.EASE	10/6/04

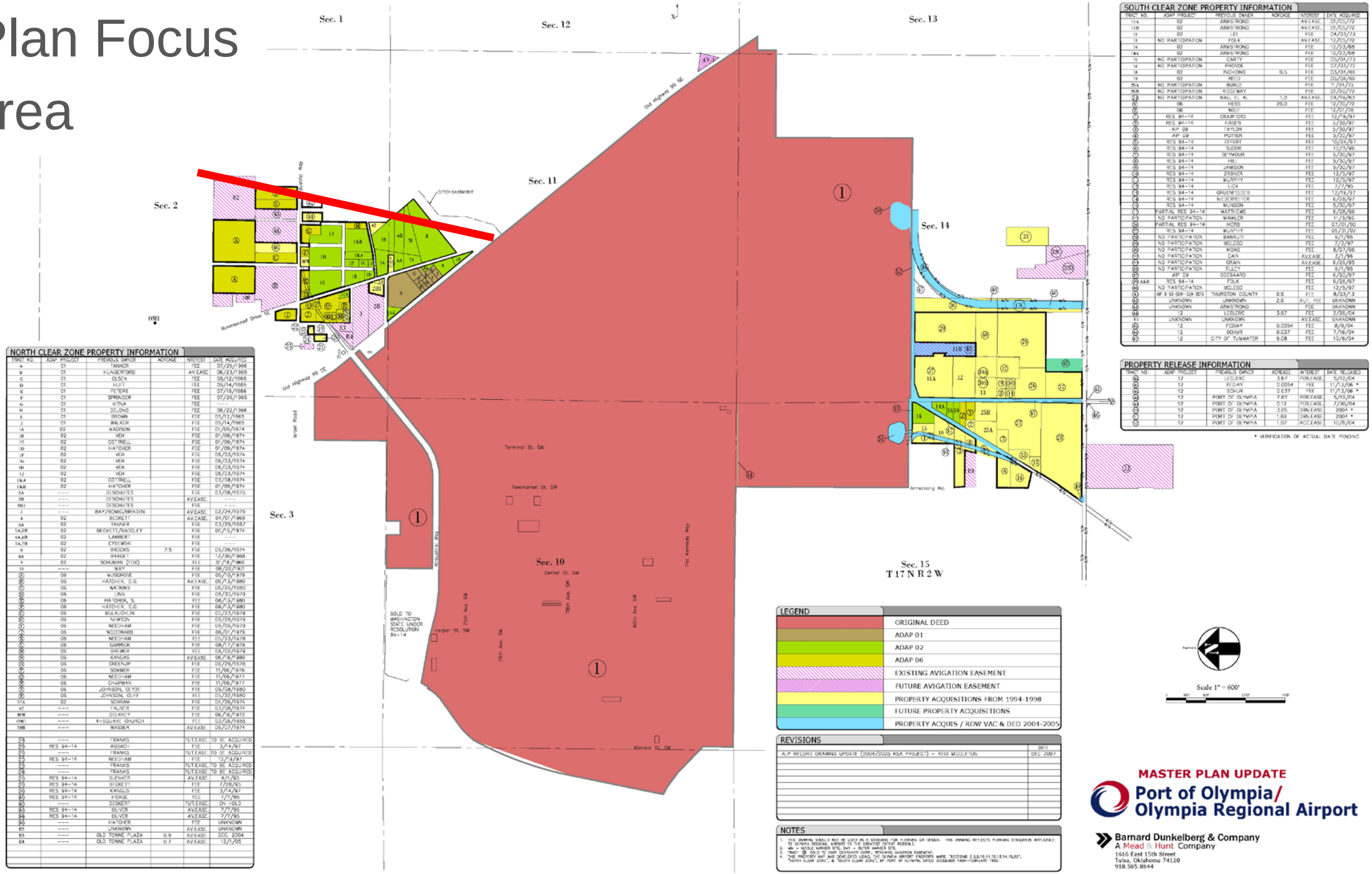
* VERIFICATION OF ACTUAL DATE PENDING

MASTER PLAN UPDATE
Port of Olympia/ Olympia Regional Airport

Barnard Dunkelberg & Company
A Mead & Hunt Company
1616 East 15th Street
Tulsa, Oklahoma 74120
918.585.8844

Figure E17 **Airport Property Map - Exhibit 'A'**

Master Plan Focus Area



NORTH CLEAR ZONE PROPERTY INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE ACQUIRED
A	01	TANNER		FEE	07/25/1966
B	01	HUNGERFORD		AV.EASE.	06/23/1965
C	01	OLSEN		FEE	05/12/1965
D	01	HUFF		FEE	05/14/1965
E	01	PETERS		FEE	07/19/1966
F	01	SPRINGER		FEE	07/29/1965
G	01	KITNA		FEE	---
H	01	DELONG		FEE	06/22/1966
I	01	BROWN		FEE	05/12/1965
J	01	WALKER		FEE	05/14/1965
1A	02	MADISON		FEE	01/09/1974
1B	02	VEH		FEE	01/09/1974
1C	02	COTTRELL		FEE	01/09/1974
1D	02	HATCHER		FEE	01/09/1974
1E	02	VEH		FEE	08/03/1974
1G	02	VEH		FEE	08/03/1974
1H	02	VEH		FEE	08/03/1974
1J	02	VEH		FEE	08/03/1974
1KA	02	COTTRELL		FEE	03/08/1974
1KB	02	HATCHER		FEE	01/09/1974
2A	---	DESCHUTES		FEE	03/08/1975
2B	---	DESCHUTES		AV.EASE.	---
2B1	---	DESCHUTES		FEE	---
3	---	BAY/ROMIG/BRADEN		AV.EASE.	02/24/1975
4	02	BECKETT		AV.EASE.	04/01/1969
5A	02	TANNER		FEE	03/29/1967
5A,5B	02	BECKETT/RADCLEY		FEE	05/15/1974
6A,6B	02	LAMBERT		FEE	---
7A,7B	02	CYSEWSKI		FEE	---
8	02	BROOKS	7.5	FEE	05/26/1974
8A	02	WAGET		FEE	12/30/1965
9	02	SCHUMAN, (TOD)		FEE	01/24/1966
10	---	MAY		FEE	08/22/1971
20	06	MUSGROVE		FEE	05/10/1979
21	06	HATCHER, D.C.		AV.EASE.	06/13/1980
22	06	WATKINS		FEE	06/25/1980
23	06	LINN		FEE	08/30/1979
24	06	HATCHER, S.		FEE	08/13/1980
25	06	HATCHER, D.C.		FEE	08/13/1980
26	06	McLAUGHLIN		FEE	05/23/1979
30	06	NEWTON		FEE	09/28/1979
31	06	NEIDHAM		FEE	08/08/1979
32	06	WOODWARD		FEE	08/07/1979
33	06	NEIDHAM		FEE	05/23/1979
34	06	GARBOCK		FEE	08/17/1979
35	06	SHERIER		FEE	08/02/1979
36	06	KANGAS		AV.EASE.	06/19/1980
37	06	GREENUP		FEE	08/29/1978
38	06	SOMMER		FEE	11/06/1978
39	06	NEIDHAM		FEE	11/06/1977
40	06	CHAPMAN		FEE	11/09/1977
50	06	JOHNSON, CLYDE		FEE	09/08/1980
51	06	JOHNSON, CLIFF		FEE	09/22/1980
57A	02	SCHRAM		FEE	04/26/1974
62	---	PALMER		FEE	03/08/1974
MH	---	DELANEY		FEE	06/16/1972
OM1	---	4-SQUARE CHURCH		FEE	03/06/1959
78B	---	MASSER		AV.EASE.	06/07/1974
19	---	FRANKS		FUT.EASE.	TO BE ACQUIRED
20	RES 94-14	ASBACH		FEE	3/14/97
21	---	FRANKS		FUT.EASE.	TO BE ACQUIRED
22	RES 94-14	NEIDHAM		FEE	12/9/97
23	---	FRANKS		FUT.EASE.	TO BE ACQUIRED
24	---	FRANKS		FUT.EASE.	TO BE ACQUIRED
25	RES 94-14	SLENKER		AV.EASE.	9/1/95
27	RES 94-14	BECKETT		FEE	7/28/95
29	RES 94-14	KANGAS		FEE	3/14/97
41	RES 94-14	HOAGE		FEE	7/7/95
45	---	DICKERT		FUT.EASE.	ON HOLD
45	RES 94-14	OLIVER		AV.EASE.	7/7/95
46	RES 94-14	OLIVER		AV.EASE.	7/7/95
46	---	HATCHER		FEE	UNKNOWN
E2	---	UNKNOWN		AV.EASE.	UNKNOWN
E3	---	OLD TOWNE PLAZA	0.9	AV.EASE.	DEC 2004
E4	---	OLD TOWNE PLAZA	0.7	AV.EASE.	12/1/05

SOUTH CLEAR ZONE PROPERTY INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE ACQUIRED
11A	02	ARMSTRONG		AV.EASE.	01/05/72
11B	02	ARMSTRONG		AV.EASE.	01/05/72
12	02	LEE		FEE	04/03/73
13	NO PARTICIPATION	FOLK		AV.EASE.	12/05/72
14	02	ARMSTRONG		FEE	12/23/68
14A	02	ARMSTRONG		FEE	12/23/68
15	NO PARTICIPATION	CARTY		FEE	05/04/73
16	NO PARTICIPATION	PREVOR		FEE	07/03/72
18	02	RICHIONS	0.5	FEE	03/04/66
19	02	REED		FEE	05/09/68
25A	NO PARTICIPATION	BUNCE		FEE	11/24/72
25B	NO PARTICIPATION	RIDGEWAY		FEE	01/20/72
X	NO PARTICIPATION	RAU, ET. AL.	1.0	AV.EASE.	04/19/83
Y	06	HESS	20.0	FEE	12/30/72
Z	06	WOLF		FEE	12/01/78
1	RES 94-14	CRAWFORD		FEE	12/19/97
2	RES 94-14	HAGEN		FEE	3/30/97
3	AIP 09	TAYLOR		FEE	3/30/97
4	AIP 09	POTTER		FEE	3/30/97
5	RES 94-14	EIFERT		FEE	10/24/97
6	RES 94-14	TUDOR		FEE	10/13/95
7	RES 94-14	SEYMOUR		FEE	3/30/97
8	RES 94-14	HILL		FEE	3/30/97
9	RES 94-14	JAMISON		FEE	3/30/97
10	RES 94-14	ZABNER		FEE	12/3/97
12	RES 94-14	MURPHY		FEE	12/3/97
13	RES 94-14	LICK		FEE	7/7/95
15	RES 94-14	GRUENFELDER		FEE	12/19/97
16	RES 94-14	NIEDERMEYER		FEE	6/28/97
17	RES 94-14	MUNSON		FEE	3/30/97
18	PARTIAL RES 94-14	MATTHEWS		FEE	6/28/96
20	NO PARTICIPATION	WINKLER		FEE	11/3/95
20A	PARTIAL RES 94-14	FORD		FEE	07/01/02
21	RES 94-14	MURPHY		FEE	05/31/02
22	NO PARTICIPATION	BANCUS		FEE	9/1/95
23	NO PARTICIPATION	MCLEOD		FEE	7/3/97
24	NO PARTICIPATION	MOAG		FEE	8/27/96
25	NO PARTICIPATION	CAIN		AV.EASE.	3/1/96
26	NO PARTICIPATION	CRAIN		AV.EASE.	6/25/95
28	NO PARTICIPATION	TILLEY		FEE	9/1/95
29	AIP 09	OSGAARD		FEE	6/30/97
29 A&B	RES 94-14	FOLK		FEE	9/28/97
30	NO PARTICIPATION	MCLEOD		FEE	12/3/97
31	AP 3-53-004-024-2013	THURSTON COUNTY	0.5	FEE	8/23/13
32	UNKNOWN	UNKNOWN	2.0	FLT. FEE	UNKNOWN
33	UNKNOWN	ARMSTRONG		FEE	UNKNOWN
34	12	LOCLERC	3.67	FEE	3/28/04
35	UNKNOWN	UNKNOWN		AV.EASE.	UNKNOWN
36	12	FRIDAY	0.0054	FEE	8/9/04
36	12	SCHUR	0.037	FEE	7/16/04
37	12	CITY OF TUMWATER	9.08	FEE	10/6/04

PROPERTY RELEASE INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE RELEASED
42	12	LOCLERC	3.67	PORELEASE	5/12/04
43	12	FRIDAY	0.0054	FEE	11/13/06 *
44	12	SCHUR	0.037	FEE	11/13/06 *
45	12	PORT OF OLYMPIA	7.89	PORELEASE	5/12/04
46	12	PORT OF OLYMPIA	0.12	PORELEASE	7/30/04
47	12	PORT OF OLYMPIA	3.65	DARELEASE	2004 *
48	12	PORT OF OLYMPIA	1.69	DARELEASE	2004 *
49	12	PORT OF OLYMPIA	1.07	ACCELEASE	10/6/04

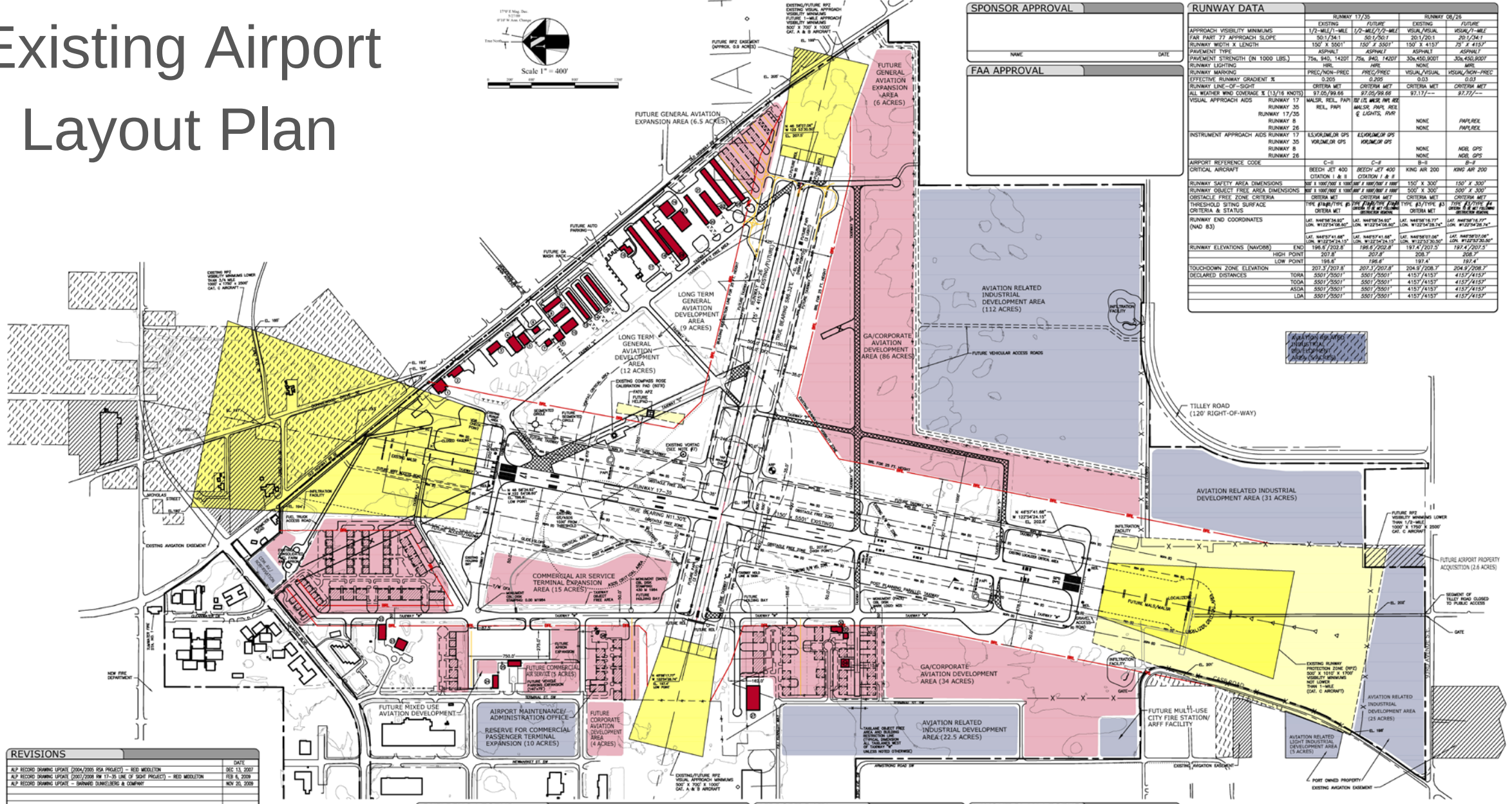
* VERIFICATION OF ACTUAL DATE PENDING

MASTER PLAN UPDATE
Port of Olympia/
Olympia Regional Airport

Barnard Dunkelberg & Company
A Mead & Hunt Company
1616 East 15th Street
Tulsa, Oklahoma 74120
918.585.8844

Figure E17 **Airport Property Map - Exhibit 'A'**

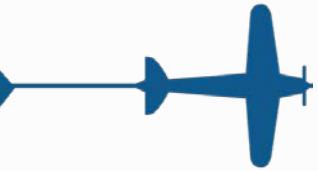
Existing Airport Layout Plan



OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Master Plan Goals



- Meet Aviation Demand
- Meet FAA design standards
- Prepare OLM for future development
- Prepare OLM for emerging aviation technologies
- Continued Airport self-sufficiency

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

SCHEDULE (Draft)

- Issues
- Airport Inventory
- Aviation Forecasts
- Airport Facility Requirements

- Draft Alternatives
- Alternative Evaluation
- Environmental Review
- Recommended Alternatives

- Capital Improvement Program
- Funding
- Airport Layout Plan
- Draft/Final Report

We Are Here | Technical Advisory Committee Meeting | Public Open House | Feasibility Study Meeting

Project Update

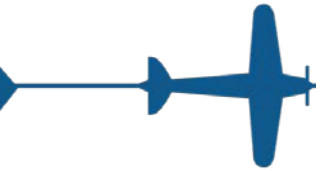
- Completed
  - Inventory
  - Forecast Approved by FAA
  - Facility Requirements
- Current focus areas
  - Coordination with the HCP Team
  - Alternatives
  - Airport Layout Plan
- Future Focus Areas
  - Implementation
  - Part 139 Commercial Service Feasibility Study

Facility Requirements

- Meet based and transient aircraft demand
- Correct taxiway design to meet standards
- Maintain crosswind runway for smaller aircraft
- Terminal building
- Airport maintenance building
- Fuel storage expansion
- Integration of emerging trends

Alternatives

Alternative Focus Areas



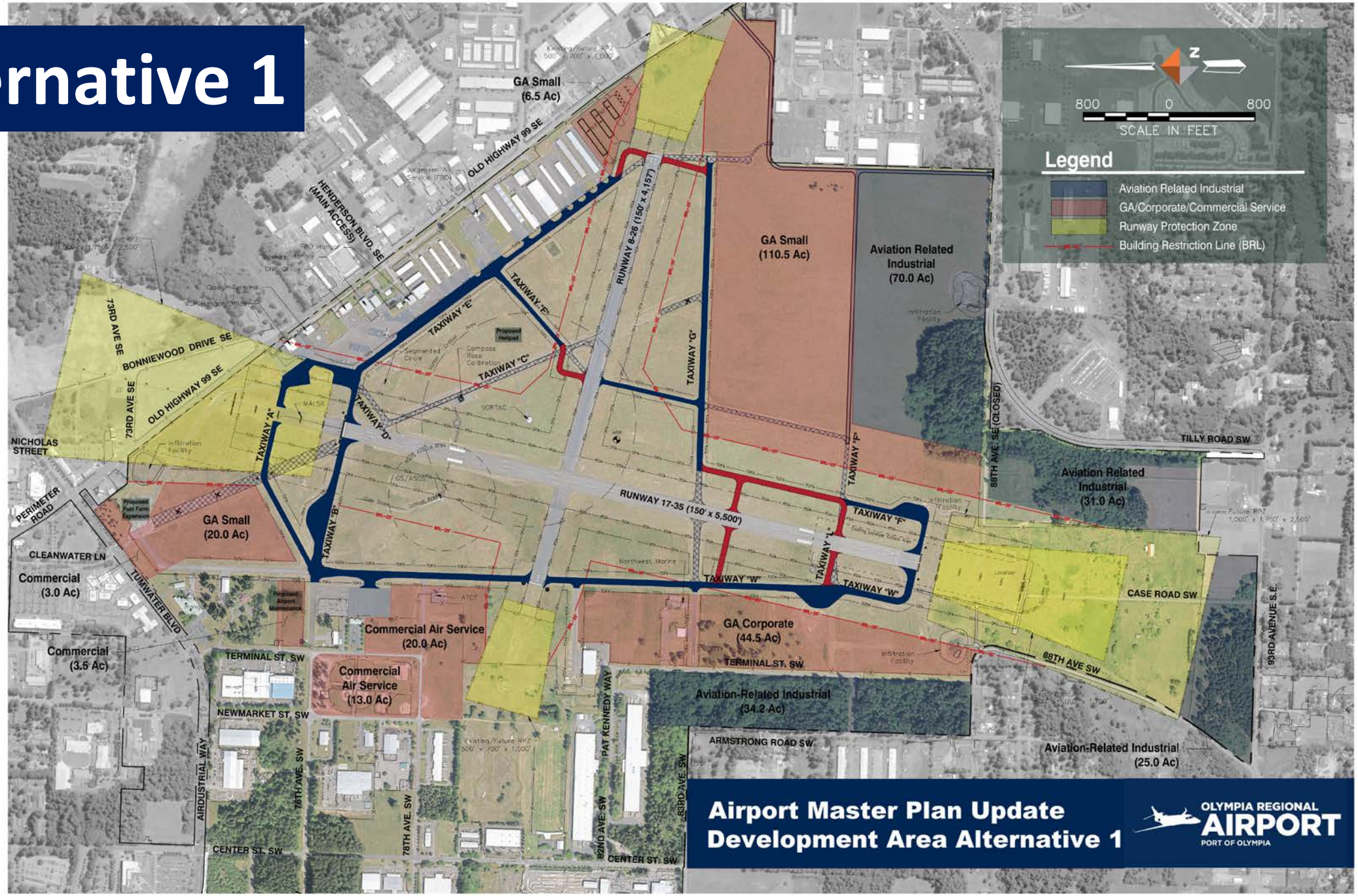
- Runways
- Taxiways
- Development Areas
- Bio Fuels
- Electric Aviation

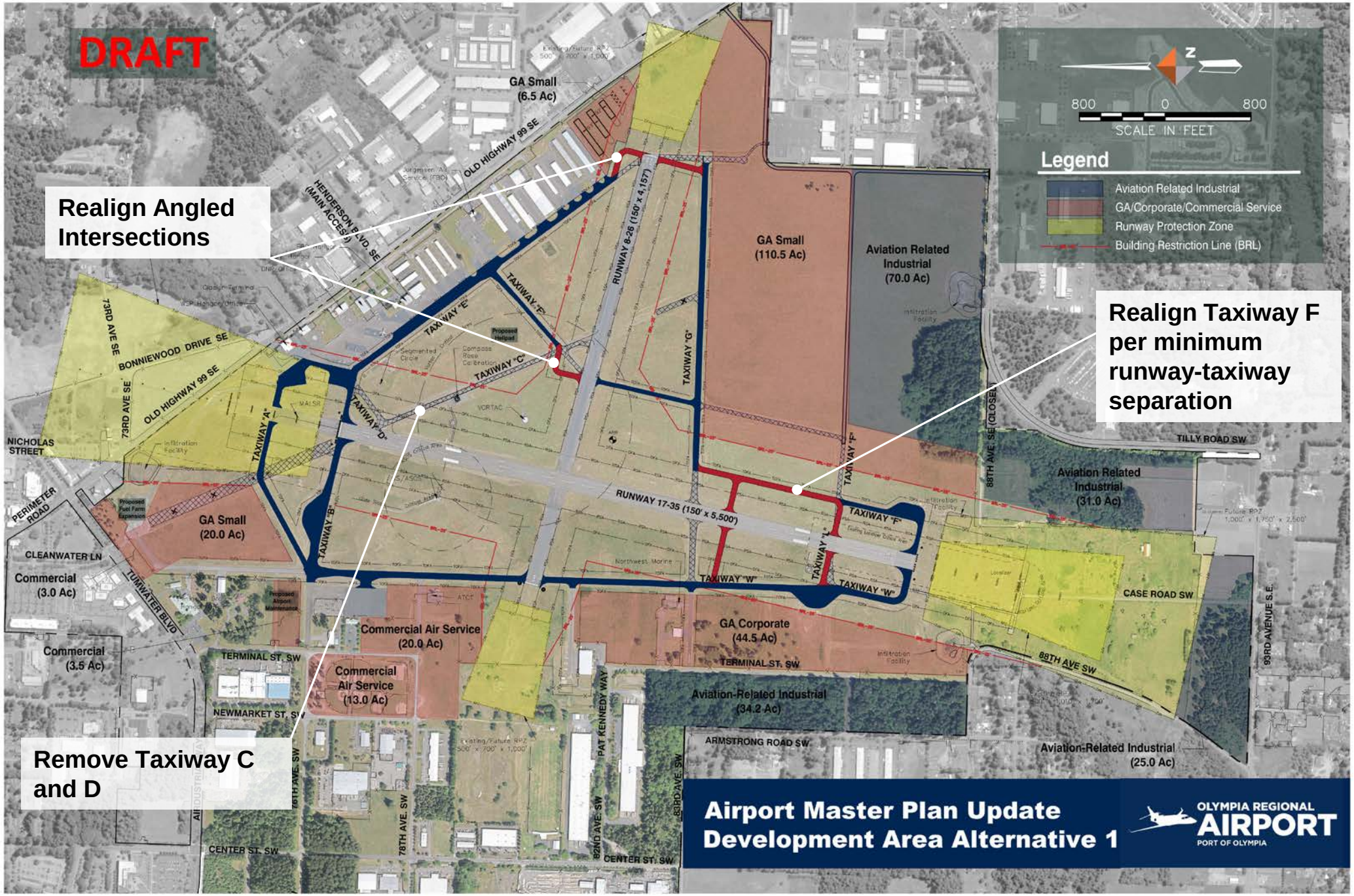
High Level Discussion Evaluation Criteria

	Rating
Strongly Meets/Less Impacts	+++
Mostly Meets/More Impacts	++
Greater Impacts	+

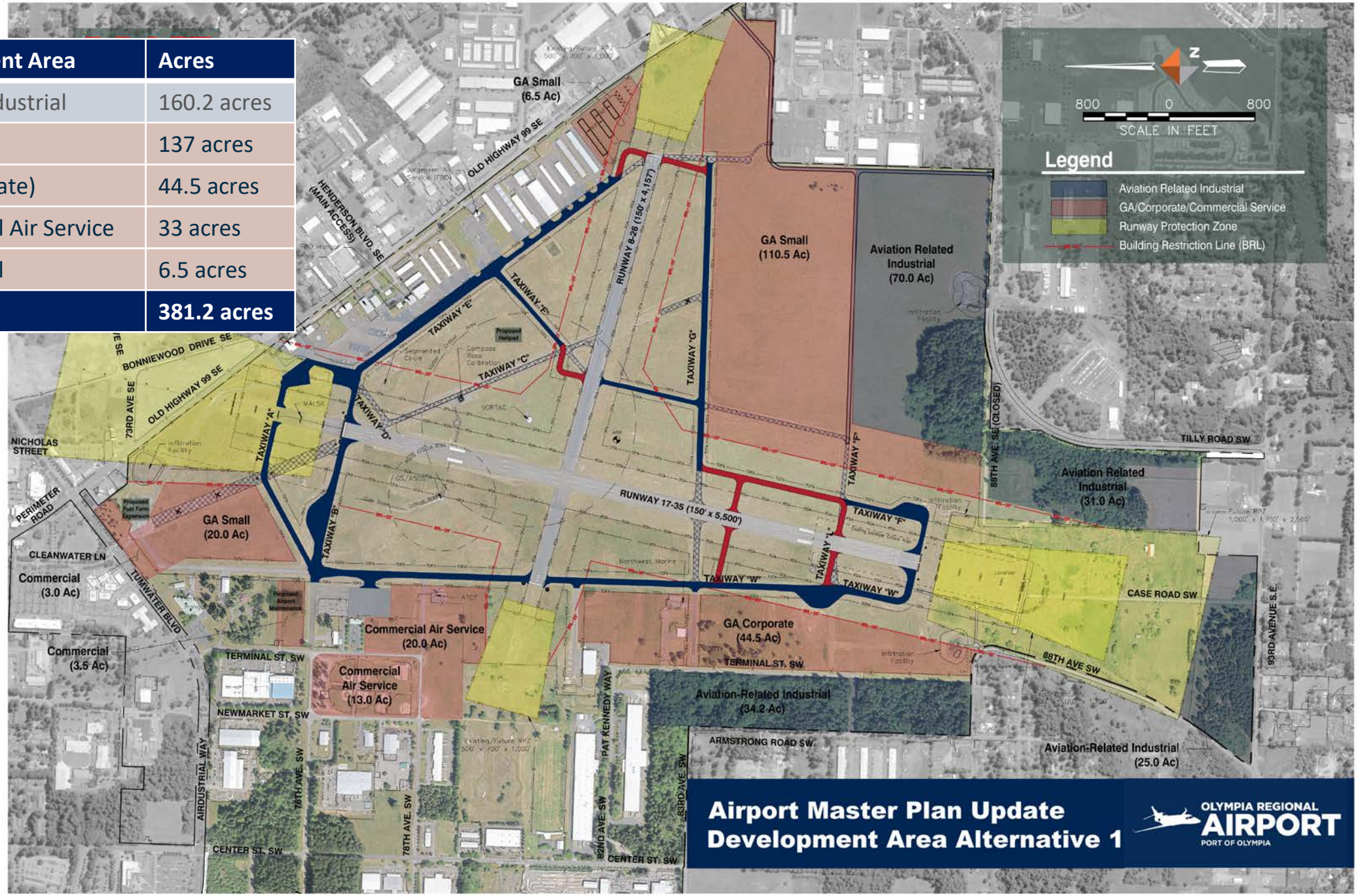
	Satisfies Facility Requirements	Available Developable Land	Operational and Airspace	Environmental	Roadways
Alternative 1					
Alternative 2					
Alternative 3					

Alternative 1

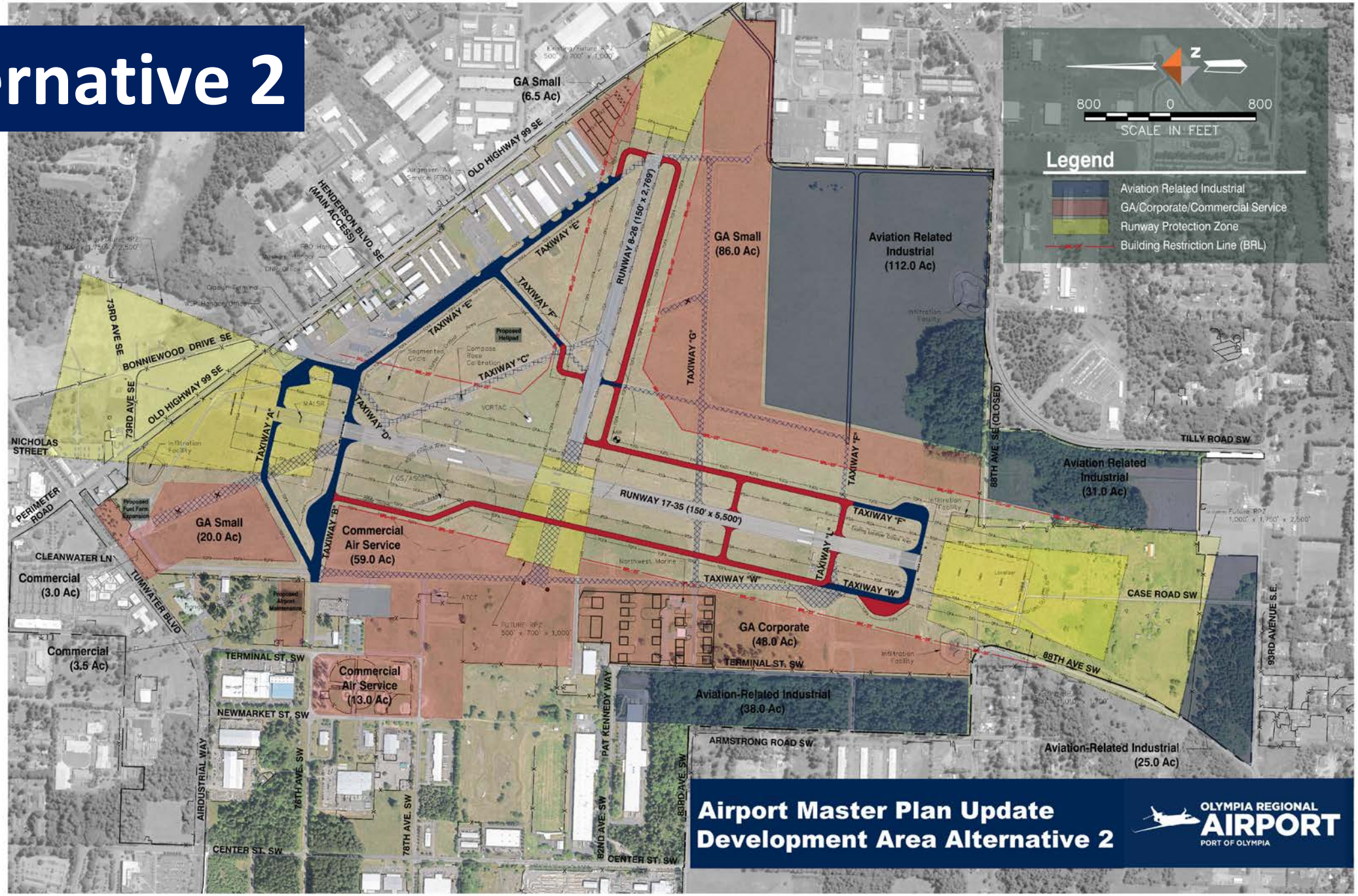


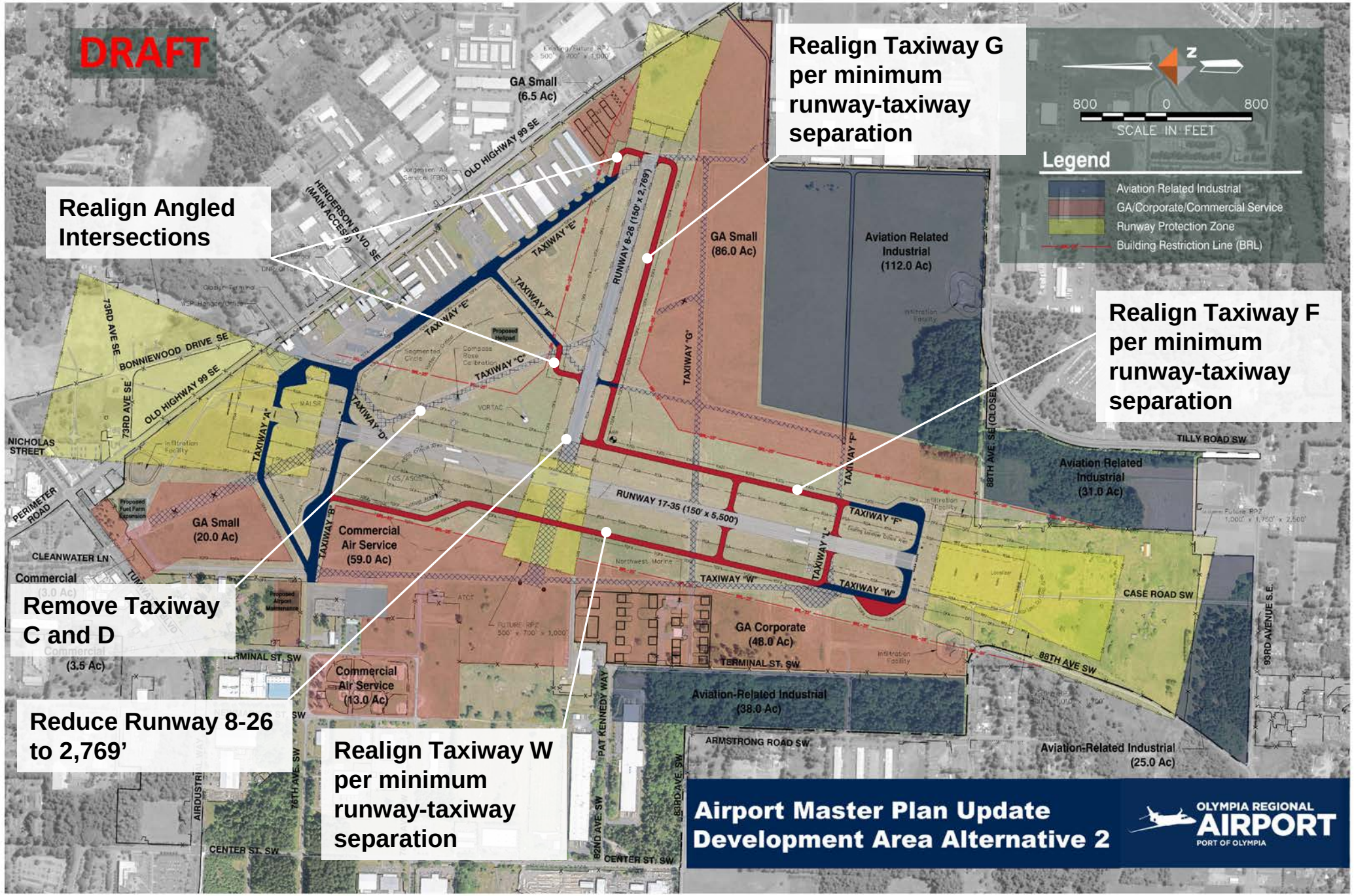

DRAFT
Realign Angled Intersections
Realign Taxiway F per minimum runway-taxiway separation
Remove Taxiway C and D
Airport Master Plan Update
Development Area Alternative 1
OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA
Legend
Aviation Related Industrial
GA/Corporate/Commercial Service
Runway Protection Zone
Building Restriction Line (BRL)
SCALE IN FEET
GA Small (6.5 Ac)
GA Small (110.5 Ac)
Aviation Related Industrial (70.0 Ac)
GA Small (20.0 Ac)
Commercial (3.0 Ac)
Commercial (3.5 Ac)
Commercial Air Service (20.0 Ac)
Commercial Air Service (13.0 Ac)
GA Corporate (44.5 Ac)
Aviation-Related Industrial (34.2 Ac)
Aviation Related Industrial (31.0 Ac)
Aviation-Related Industrial (25.0 Ac)
RUNWAY 17-35 (150' x 5,500')
RUNWAY 8-26 (150' x 4,157')
OLD HIGHWAY 99 SE
HENDERSON BLVD. SE (MAIN ACCESS)
BONNIEWOOD DRIVE SE
73RD AVE SE
NICHOLAS STREET
PERIMETER ROAD
CLEANWATER LN
TUMWATER BLVD
TERMINAL ST. SW
NEWMARKET ST. SW
CENTER ST. SW
PAT KENNEDY WAY
ARMSTRONG ROAD SW
TILLY ROAD SW
88TH AVE SE (CLOSED)
CASE ROAD SW
68TH AVE SW
93RD AVENUE S.E.
TAXIWAY "A"
TAXIWAY "B"
TAXIWAY "C"
TAXIWAY "D"
TAXIWAY "E"
TAXIWAY "F"
TAXIWAY "G"
TAXIWAY "W"

Development Area	Acres
Aviation Industrial	160.2 acres
GA (Small)	137 acres
GA (Corporate)	44.5 acres
Commercial Air Service	33 acres
Commercial	6.5 acres
TOTAL	**381.2 acres**

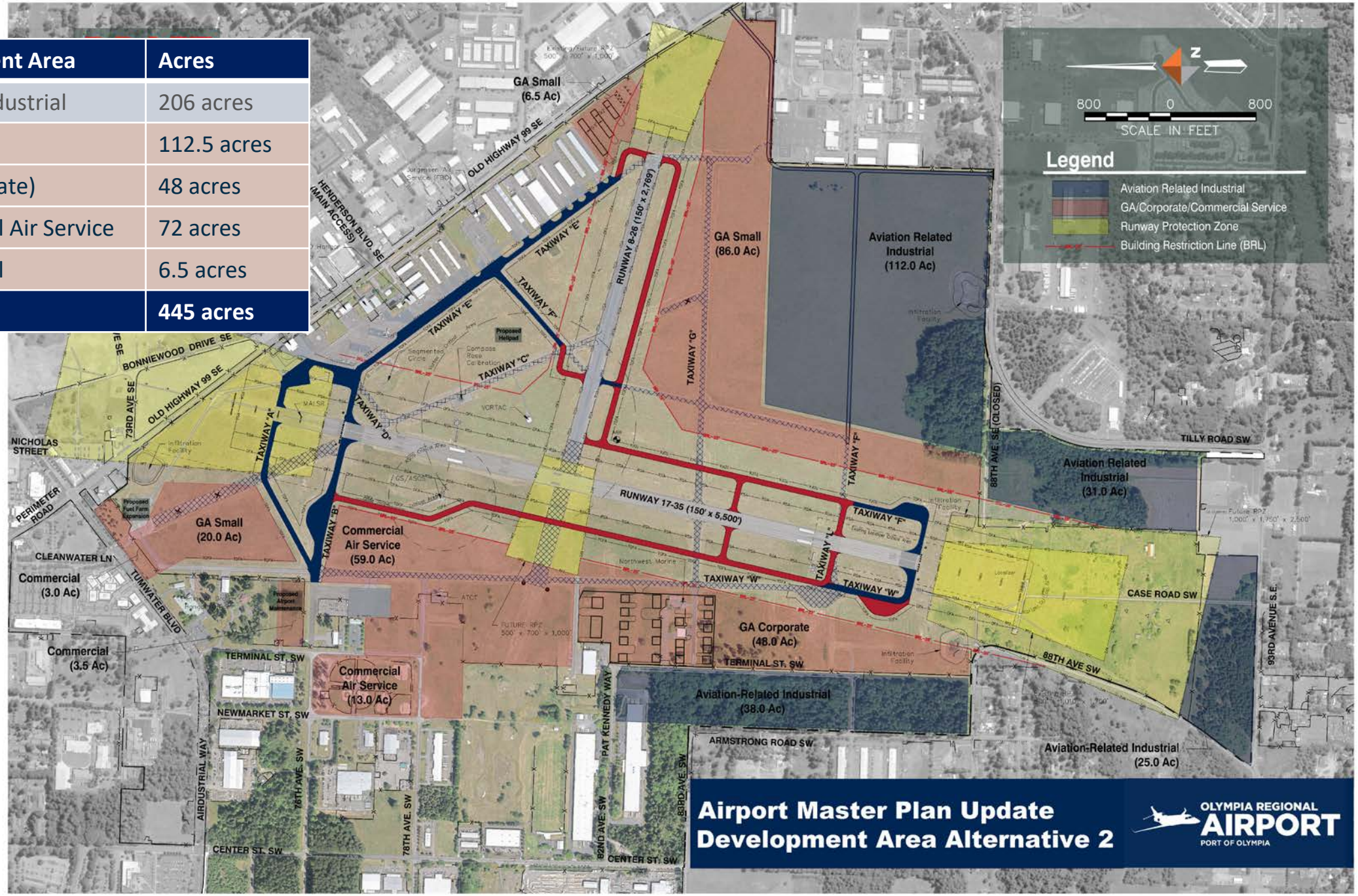


Alternative 2

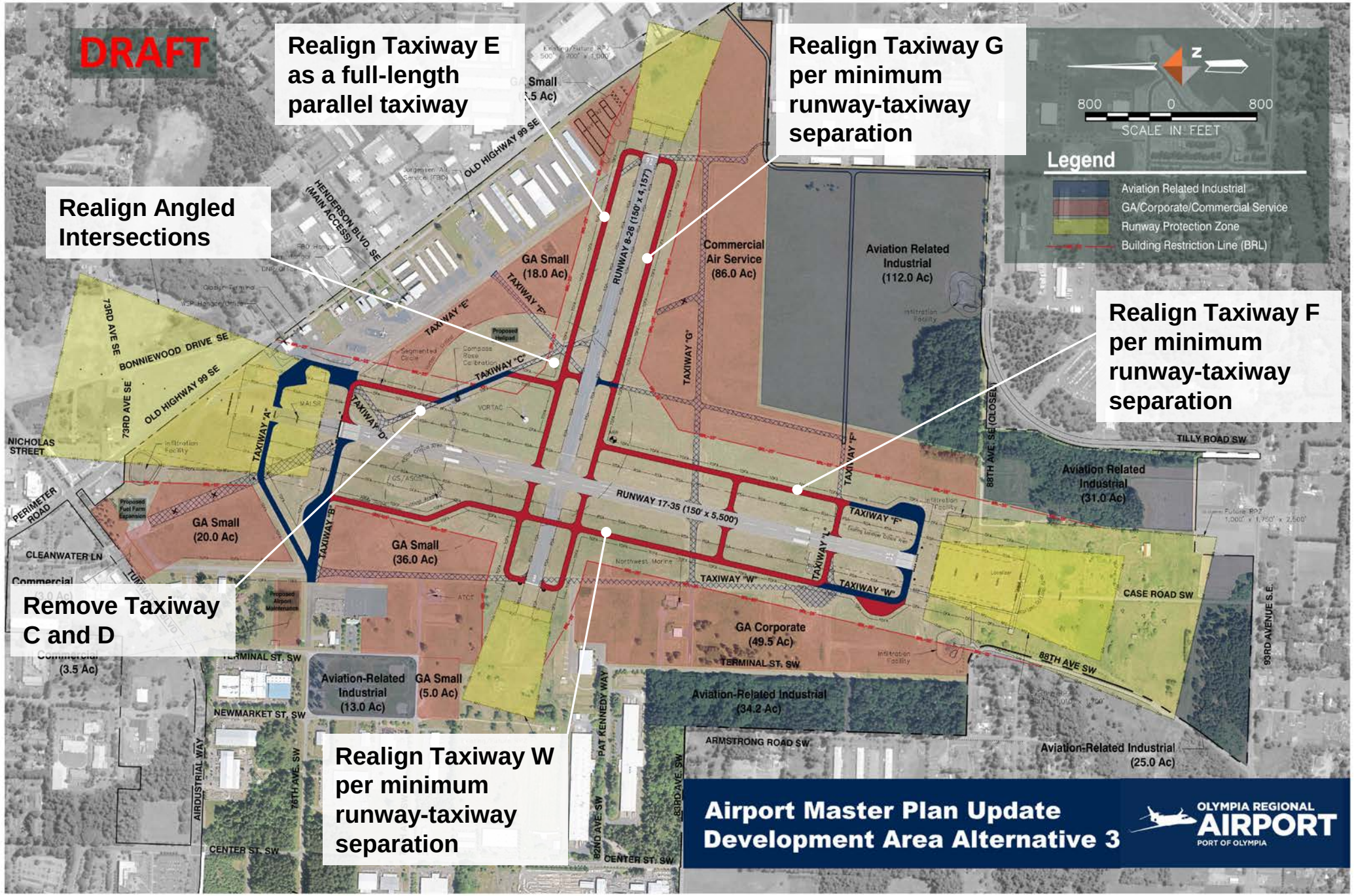



DRAFT
Realign Taxiway G per minimum runway-taxiway separation
Realign Angled Intersections
Realign Taxiway F per minimum runway-taxiway separation
Remove Taxiway C and D
Reduce Runway 8-26 to 2,769'
Realign Taxiway W per minimum runway-taxiway separation
N
800 0 800
SCALE IN FEET
Legend
Aviation Related Industrial
GA/Corporate/Commercial Service
Runway Protection Zone
Building Restriction Line (BRL)
GA Small (6.5 Ac)
GA Small (86.0 Ac)
Aviation Related Industrial (112.0 Ac)
Aviation Related Industrial (31.0 Ac)
GA Small (20.0 Ac)
Commercial Air Service (59.0 Ac)
Commercial (3.0 Ac)
Commercial (3.5 Ac)
Commercial Air Service (13.0 Ac)
GA Corporate (48.0 Ac)
Aviation-Related Industrial (38.0 Ac)
Aviation-Related Industrial (25.0 Ac)
RUNWAY 8-26 (150' x 2,769')
RUNWAY 17-35 (150' x 5,500')
TAXIWAY "A"
TAXIWAY "B"
TAXIWAY "C"
TAXIWAY "D"
TAXIWAY "E"
TAXIWAY "F"
TAXIWAY "G"
TAXIWAY "W"
OLD HIGHWAY 99 SE
HENDERSON BLVD. SE (MAIN ACCESS)
BONNIEWOOD DRIVE SE
73RD AVE SE
NICHOLAS STREET
PERIMETER ROAD
CLEANWATER LN
TERMINAL ST. SW
TILLY ROAD SW
CASE ROAD SW
88TH AVE SW
88TH AVE. SE (CLOSED)
93RD AVENUE S.E.
PAT KENNEDY WAY
ARMSTRONG ROAD SW
CENTER ST. SW
82ND AVE. SW
83RD AVE. SW
76TH AVE. SW
Airport Master Plan Update
Development Area Alternative 2
OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

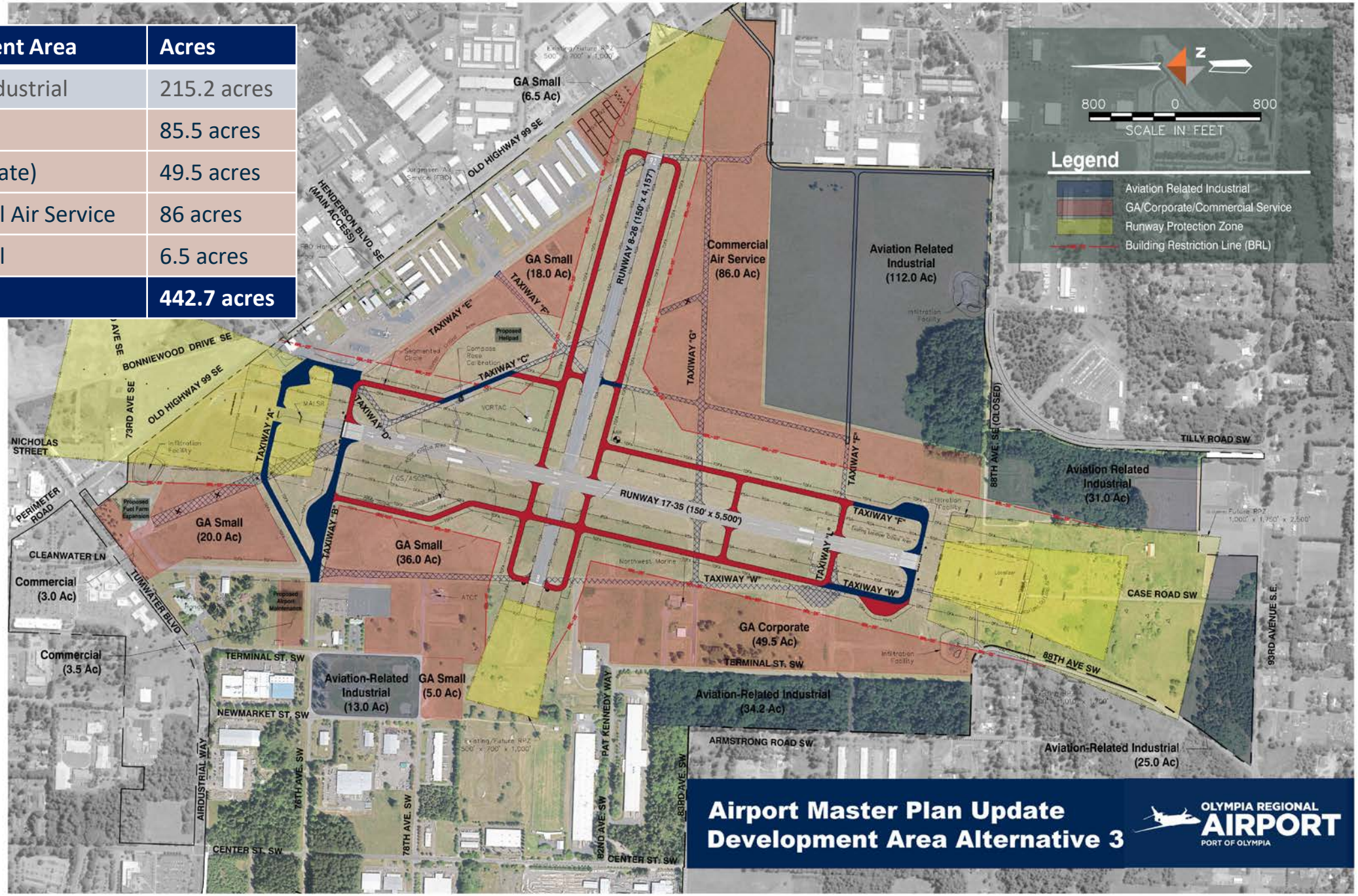
Development Area	Acres
Aviation Industrial	206 acres
GA (Small)	112.5 acres
GA (Corporate)	48 acres
Commercial Air Service	72 acres
Commercial	6.5 acres
TOTAL	**445 acres**



Alternative 3


DRAFT
Realign Taxiway E as a full-length parallel taxiway
Realign Taxiway G per minimum runway-taxiway separation
Realign Angled Intersections
Realign Taxiway F per minimum runway-taxiway separation
Remove Taxiway C and D
Realign Taxiway W per minimum runway-taxiway separation
N
800 0 800
SCALE IN FEET
Legend
Aviation Related Industrial
GA/Corporate/Commercial Service
Runway Protection Zone
Building Restriction Line (BRL)
Commercial Air Service (86.0 Ac)
Aviation Related Industrial (112.0 Ac)
GA Small (18.0 Ac)
GA Small (20.0 Ac)
GA Small (36.0 Ac)
GA Small (5.0 Ac)
Aviation-Related Industrial (13.0 Ac)
Aviation Related Industrial (31.0 Ac)
GA Corporate (49.5 Ac)
Aviation-Related Industrial (34.2 Ac)
Aviation-Related Industrial (25.0 Ac)
RUNWAY 8-26 (150' x 4,157')
RUNWAY 17-35 (150' x 5,500')
TAXIWAY "A"
TAXIWAY "B"
TAXIWAY "C"
TAXIWAY "D"
TAXIWAY "E"
TAXIWAY "F"
TAXIWAY "G"
TAXIWAY "W"
OLD HIGHWAY 99 SE
HENDERSON BLVD. SE (MAIN ACCESS)
BONNIEWOOD DRIVE SE
73RD AVE SE
NICHOLAS STREET
PERIMETER ROAD
CLEANWATER LN
TERMINAL ST. SW
NEWMARKET ST. SW
CENTER ST. SW
AIRDUSTRIAL WAY
76TH AVE. SW
82ND AVE. SW
83RD AVE. SW
PAT KENNEDY WAY
ARMSTRONG ROAD SW
TILLY ROAD SW
88TH AVE. SE (CLOSED)
88TH AVE SW
CASE ROAD SW
93RD AVENUE S.E.
Airport Master Plan Update
Development Area Alternative 3
OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Development Area	Acres
Aviation Industrial	215.2 acres
GA (Small)	85.5 acres
GA (Corporate)	49.5 acres
Commercial Air Service	86 acres
Commercial	6.5 acres
TOTAL	**442.7 acres**



Summary of Developable Land

Development Area	Alternative 1	Alternative 2	Alternative 3
Aviation Industrial	160.2 acres	206 acres	215.2 acres
GA (Small)	137 acres	112.5 acres	85.5 acres
GA (Corporate)	44.5 acres	48 acres	49.5 acres
Commercial Air Service	33 acres	72 acres	86 acres
Commercial	6.5 acres	6.5 acres	6.5 acres
TOTAL	**381.2 acres**	**445 acres**	**442.7 acres**

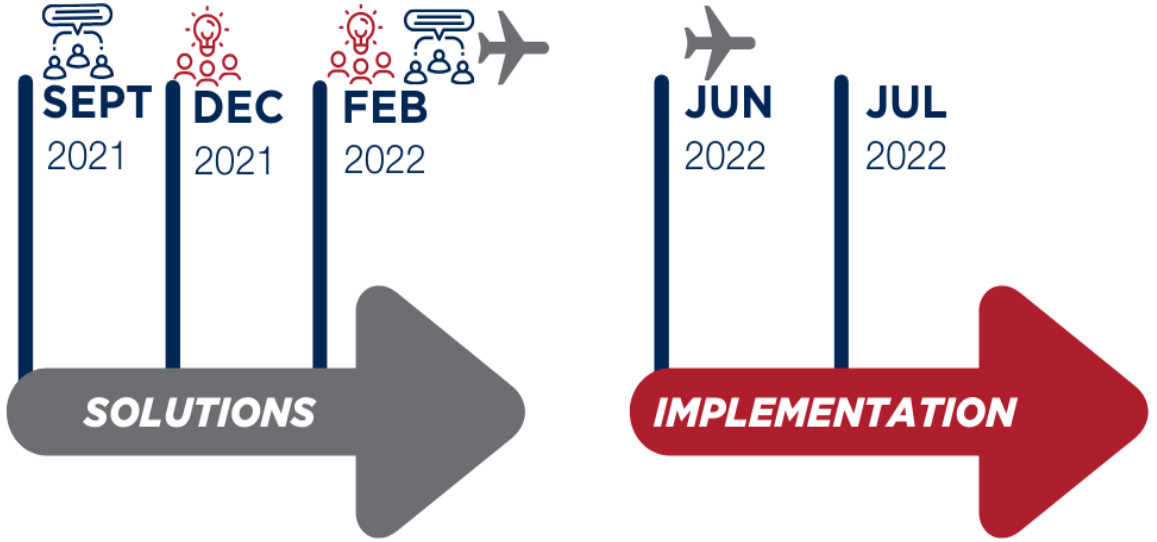
Group Discussion Evaluation

	Rating
Strongly Meets/Less Impacts	+++
Mostly Meets/More Impacts	++
Greater Impacts	+

	Satisfies Facility Requirements	Available Developable Land	Operational and Airspace	Environmental	Roadways
Alternative 1	++	++	++	++	+++
Alternative 2	+++	+++	+++	++	++
Alternative 3	+++	+++	+++	+	+

Airport Master Plan Update

Next Steps



- Draft Alternatives
- Alternative Evaluation
- Environmental Review
- Recommended Alternatives

- Capital Improvement Program
- Funding
- Airport Layout Plan
- Draft/Final Report

Thank you

Any Comments or Questions?

Contact:

Leah Whitfield Leah@theaviationplanninggroup.com

OLM MPU Email address: AMPUpdate@PortOlympia.com

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Aviation Forecast

- At least 15 additional based aircraft
- 15,000 additional operations per year

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Technical Advisory Committee Meeting #4

March 10, 2022

The Aviation Planning Group

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

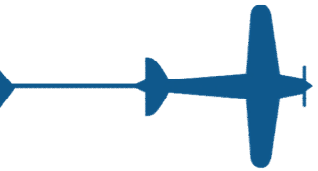
Leah Whitfield
Project Manager

Justin Heid
Lead Planner

Renee Dowlin
Environmental Planner

Darren Murata, P.E.
Lead Engineer, DOWL

Participation



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

We will mute all participants during the presentation.

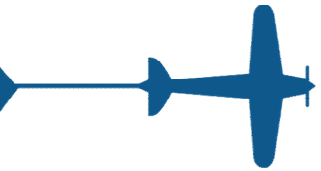
During the alternatives TAC members will have an opportunity to raise their hand to discuss.

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

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

THE AGENDA



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

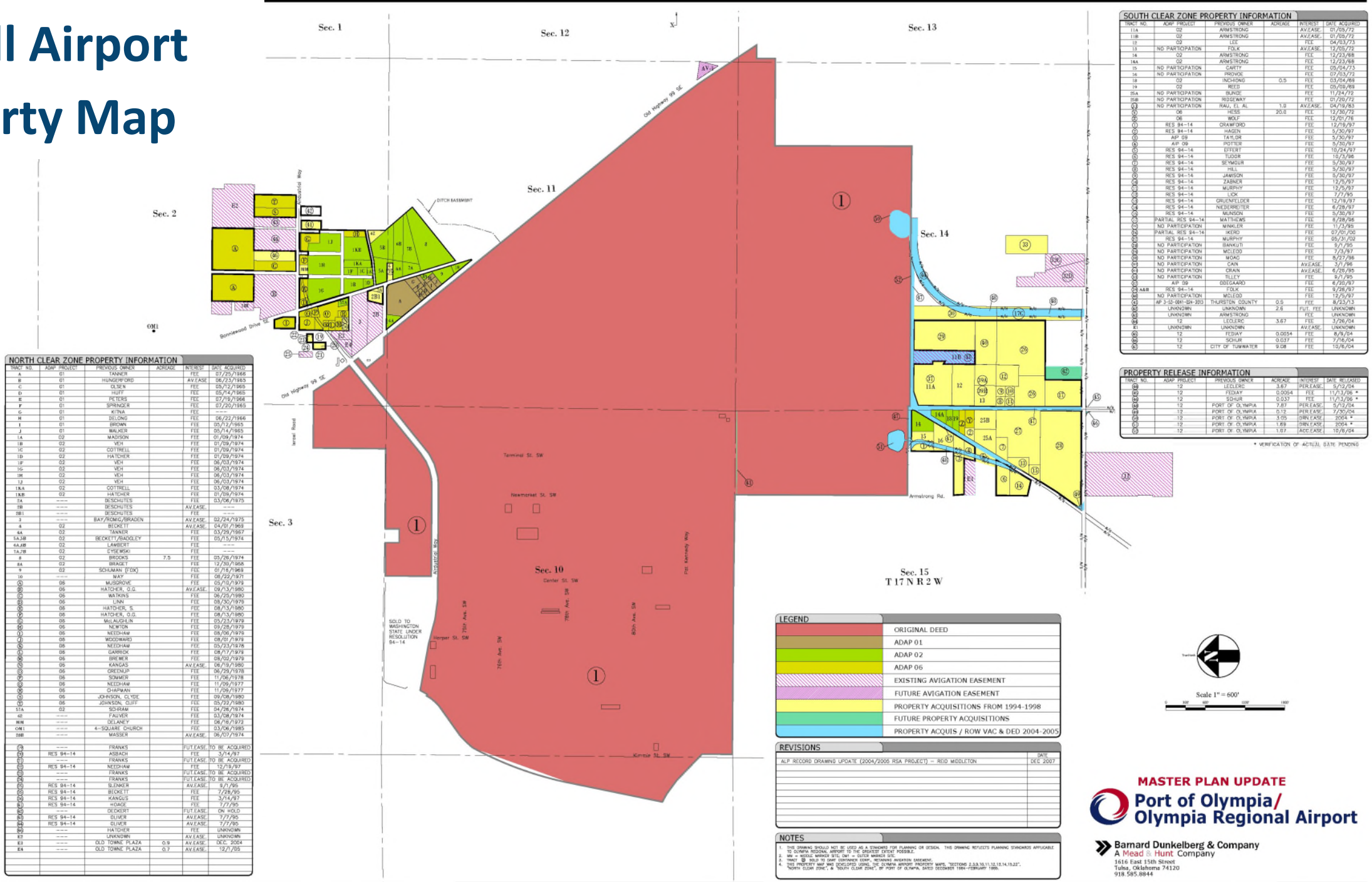
OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Project Progress

- 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

Overall Airport Property Map



NORTH CLEAR ZONE PROPERTY INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE ACQUIRED
A	01	TANNER		FEE	07/25/1966
B	01	HUNGERFORD		AV.EASE	06/23/1965
C	01	OLSEN		FEE	05/12/1965
D	01	HUFF		FEE	05/14/1965
E	01	PETERS		FEE	07/15/1966
F	01	SPRINGER		FEE	07/20/1965
G	01	KITNA		FEE	----
H	01	DELONG		FEE	06/22/1966
I	01	BROWN		FEE	05/12/1965
J	01	WALKER		FEE	05/14/1965
1A	02	MADISON		FEE	01/09/1974
1B	02	VEH		FEE	01/09/1974
1C	02	COTTRELL		FEE	01/09/1974
1D	02	HATCHER		FEE	01/09/1974
1F	02	VEH		FEE	06/03/1974
1G	02	VEH		FEE	06/03/1974
1H	02	VEH		FEE	06/03/1974
1J	02	VEH		FEE	06/03/1974
1KA	02	COTTRELL		FEE	03/08/1974
1KB	02	HATCHER		FEE	01/09/1974
2A	----	DESCHUTES		AV.EASE.	03/06/1975
2B	----	DESCHUTES		AV.EASE.	----
2B1	----	DESCHUTES		FEE	----
3	----	BAY/ROMIG/BRADEN		AV.EASE.	02/24/1975
4	02	BECKETT		AV.EASE.	04/01/1963
4A	02	TANNER		FEE	03/29/1967
5A,5B	02	BECKETT/BADGLEY		FEE	05/15/1974
6A,6B	02	LAMBERT		FEE	----
7A,7B	02	CYSEWSKI		FEE	----
8	02	BROOKS	7.5	FEE	05/26/1974
8A	02	BRAGET		FEE	12/30/1958
9	02	SCHUMAN (FOX)		FEE	01/18/1963
10	----	MAY		FEE	08/22/1971
A	06	MUSGROVE		FEE	05/10/1979
B	06	HATCHER, O.G.		AV.EASE.	09/13/1980
C	06	WATKINS		FEE	06/25/1980
D	06	LINN		FEE	08/30/1979
E	06	HATCHER, S.		FEE	08/13/1980
F	06	HATCHER, O.G.		FEE	08/13/1980
G	06	McLAUGHLIN		FEE	05/23/1979
H	06	NEWTON		FEE	09/28/1979
I	06	NEEDHAM		FEE	08/06/1979
J	06	WOODWARD		FEE	08/01/1979
K	06	NEEDHAM		FEE	05/23/1978
L	06	GARROCK		FEE	08/17/1979
M	06	BREMER		FEE	08/02/1979
N	06	KANGAS		AV.EASE.	06/19/1980
O	06	GREENUP		FEE	06/29/1978
P	06	SOMMER		FEE	11/06/1978
Q	06	NEEDHAM		FEE	11/09/1977
R	06	CHAPMAN		FEE	11/09/1977
S	06	JOHNSON, CLYDE		FEE	09/08/1980
T	06	JOHNSON, CLIFF		FEE	05/22/1980
57A	02	SCHRAM		FEE	04/26/1974
62	----	FAUVER		FEE	03/08/1974
HH	----	DELANEY		FEE	06/16/1972
OM1	----	4-SQUARE CHURCH		FEE	03/06/1985
SHE	----	MASSER		AV.EASE.	06/07/1974
19	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
20	RES 94-14	ASBACH		FEE	3/14/97
21	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
22	RES 94-14	NEEDHAM		FEE	12/19/97
23	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
24	----	FRANKS		FUT.EASE.	TO BE ACQUIRED
25	RES 94-14	SLENKER		AV.EASE.	9/1/95
26	RES 94-14	BECKETT		FEE	7/28/95
28	RES 94-14	KANGUS		FEE	3/14/97
43	RES 94-14	HOAGE		AV.EASE.	7/7/95
45	----	DECKERT		FUT.EASE.	ON HOLD
50	RES 94-14	OLIVER		AV.EASE.	7/7/95
52	RES 94-14	OLIVER		AV.EASE.	7/7/95
56	----	HATCHER		FEE	UNKNOWN
E2	----	UNKNOWN		AV.EASE.	UNKNOWN
E3	----	OLD TOWNE PLAZA	0.9	AV.EASE.	DEC. 2004
E4	----	OLD TOWNE PLAZA	0.7	AV.EASE.	12/1/95

SOUTH CLEAR ZONE PROPERTY INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE ACQUIRED
11A	02	ARMSTRONG		AV.EASE.	01/05/72
11B	02	ARMSTRONG		AV.EASE.	01/05/72
12	02	LEE		FEE	04/03/73
13	NO PARTICIPATION	FOLK		AV.EASE.	12/05/72
14	02	ARMSTRONG		FEE	12/23/68
14A	02	ARMSTRONG		FEE	12/23/68
15	NO PARTICIPATION	CARTY		FEE	05/04/73
16	NO PARTICIPATION	PROVOE		FEE	07/03/72
18	02	INCHONG	0.5	FEE	03/04/69
19	02	REED		FEE	05/09/69
25A	NO PARTICIPATION	BUNDE		FEE	11/24/72
25B	NO PARTICIPATION	RIDGEWAY		FEE	01/20/72
31	NO PARTICIPATION	RAU, ET AL	1.0	AV.EASE.	04/19/83
1	06	HESS	20.0	FEE	12/30/72
2	06	WOLF		FEE	12/01/76
1	RES 94-14	CRAWFORD		FEE	12/19/97
2	RES 94-14	HAGEN		FEE	5/30/97
3	AIP 09	TAYLOR		FEE	5/30/97
4	AIP 09	POTTER		FEE	5/30/97
5	RES 94-14	EFFERT		FEE	10/24/97
6	RES 94-14	TUDOR		FEE	10/3/96
7	RES 94-14	SEYMOUR		FEE	5/30/97
8	RES 94-14	HILL		FEE	5/30/97
9	RES 94-14	JAMISON		FEE	5/30/97
10	RES 94-14	ZABNER		FEE	12/5/97
11	RES 94-14	MURPHY		FEE	12/5/97
12	RES 94-14	LICK		FEE	7/7/95
13	RES 94-14	GRUENFELDER		FEE	12/19/97
14	RES 94-14	NIEDERREITER		FEE	6/28/97
15	RES 94-14	MUNSON		FEE	5/30/97
16	PARTIAL RES 94-14	MATTHEWS		FEE	8/28/96
17	NO PARTICIPATION	MINKLER		FEE	11/3/95
24	PARTIAL RES 94-14	IKERD		FEE	07/01/00
27	RES 94-14	MURPHY		FEE	05/31/02
28	NO PARTICIPATION	BANKUTI		FEE	9/1/95
29	NO PARTICIPATION	MCLEOD		FEE	7/3/97
30	NO PARTICIPATION	MOAG		FEE	8/27/96
32	NO PARTICIPATION	CAIN		AV.EASE.	7/1/96
33	NO PARTICIPATION	CRAIN		AV.EASE.	6/28/95
34	NO PARTICIPATION	TILLEY		FEE	9/1/95
37	AIP 09	ODEGAARD		FEE	6/30/97
39 A&B	RES 94-14	FOLK		FEE	9/28/97
40	NO PARTICIPATION	MCLEOD		FEE	12/19/97
41	AP 3-53-0041-024-2013	THURSTON COUNTY	0.5	FEE	8/23/13
42	UNKNOWN	UNKNOWN	2.6	FUT. FEE	UNKNOWN
43	UNKNOWN	ARMSTRONG		FEE	UNKNOWN
44	12	LECLERC	3.67	FEE	3/26/04
81	UNKNOWN	UNKNOWN		AV.EASE.	UNKNOWN
65	12	FEDIAY	0.0054	FEE	8/6/04
66	12	SCHUR	0.037	FEE	7/16/04
67	12	CITY OF TUMWATER	9.08	FEE	10/6/04

PROPERTY RELEASE INFORMATION

TRACT NO.	ADAP PROJECT	PREVIOUS OWNER	ACREAGE	INTEREST	DATE RELEASED
64	12	LECLERC	3.67	PER.EASE.	5/12/04
65	12	FEDIAY	0.0054	FEE	11/13/06 *
66	12	SCHUR	0.037	FEE	11/13/06 *
68	12	PORT OF OLYMPIA	7.87	PER.EASE.	5/12/04
69	12	PORT OF OLYMPIA	0.12	PER.EASE.	7/30/04
70	12	PORT OF OLYMPIA	3.05	DRN.EASE.	2064 *
71	12	PORT OF OLYMPIA	1.69	DRN.EASE.	2064 *
73	12	PORT OF OLYMPIA	1.07	ACC.EASE.	10/6/04

* VERIFICATION OF ACTUAL DATE PENDING

LEGEND

	ORIGINAL DEED
	ADAP 01
	ADAP 02
	ADAP 06
	EXISTING AVIGATION EASEMENT
	FUTURE AVIGATION EASEMENT
	PROPERTY ACQUISITIONS FROM 1994-1998
	FUTURE PROPERTY ACQUISITIONS
	PROPERTY ACQUIS / ROW VAC & DED 2004-2005

REVISIONS

	DATE
ALP RECORD DRAWING UPDATE (2004/2005 RSA PROJECT) – REID MIDDLETON	DEC 2007

NOTES

1. THIS DRAWING SHOULD NOT BE USED AS A STANDARD FOR PLANNING OR DESIGN. THIS DRAWING REFLECTS PLANNING STANDARDS APPLICABLE TO OLYMPIA REGIONAL AIRPORT TO THE GREATEST EXTENT POSSIBLE.
2. MM – MIDDLE MARKER SITE; OM1 – OUTER MARKER SITE.
3. TRACT 39 SOLD TO DART CONTAINER CORP., MCMANUS ANDERSON EASEMENT.
4. THIS PROPERTY MAP WAS DEVELOPED USING THE OLYMPIA AIRPORT PROPERTY MAPS, "SECTIONS 2,3,9,10,11,12,13,14,15,22", "NORTH CLEAR ZONE", & "SOUTH CLEAR ZONE", BY PORT OF OLYMPIA, DATED DECEMBER 1984-FEBRUARY 1986.

MASTER PLAN UPDATE

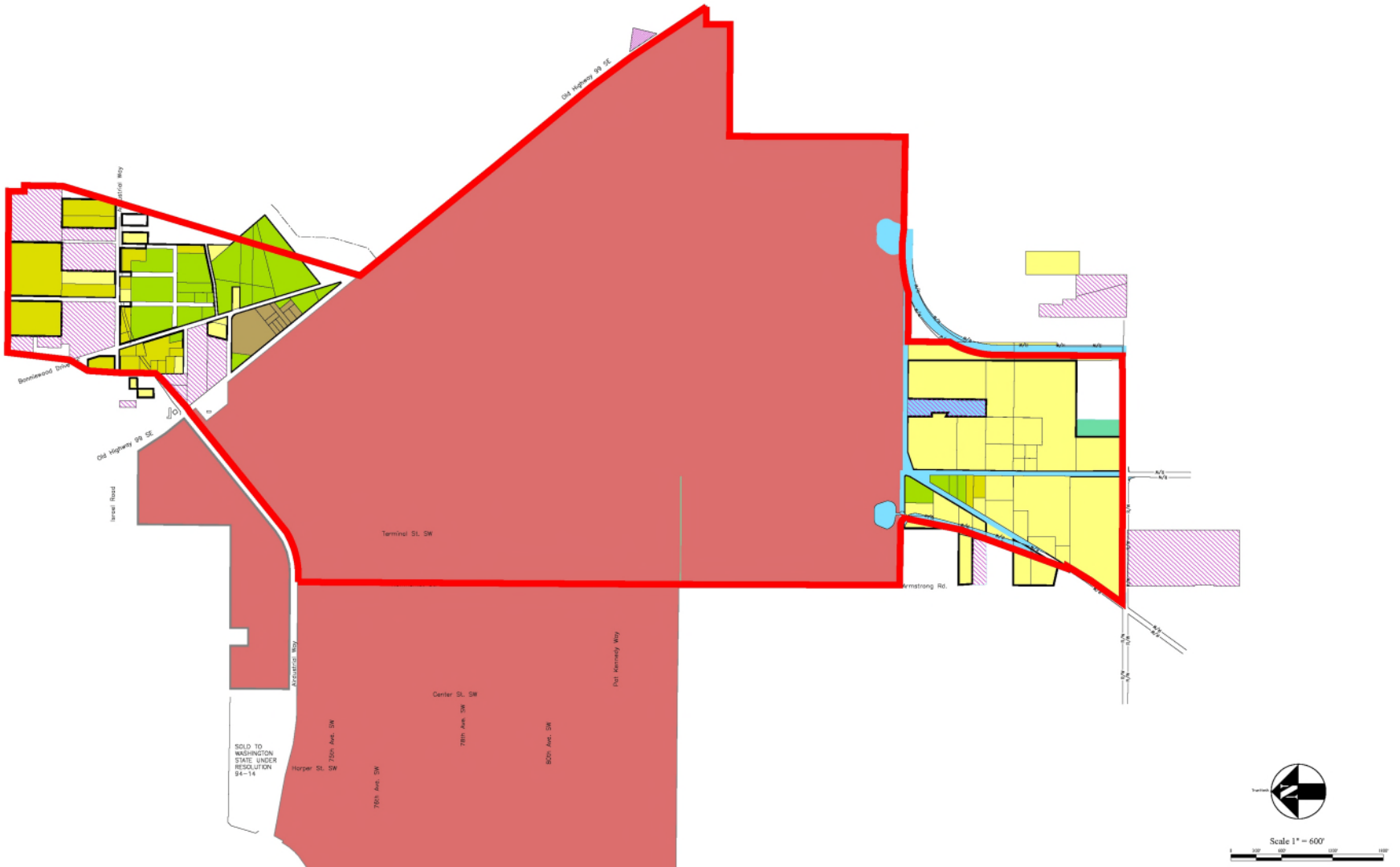
Port of Olympia/ Olympia Regional Airport

Barnard Dunkelberg & Company
A Mead & Hunt Company
1616 East 15th Street
Tulsa, Oklahoma 74120
918.585.8844

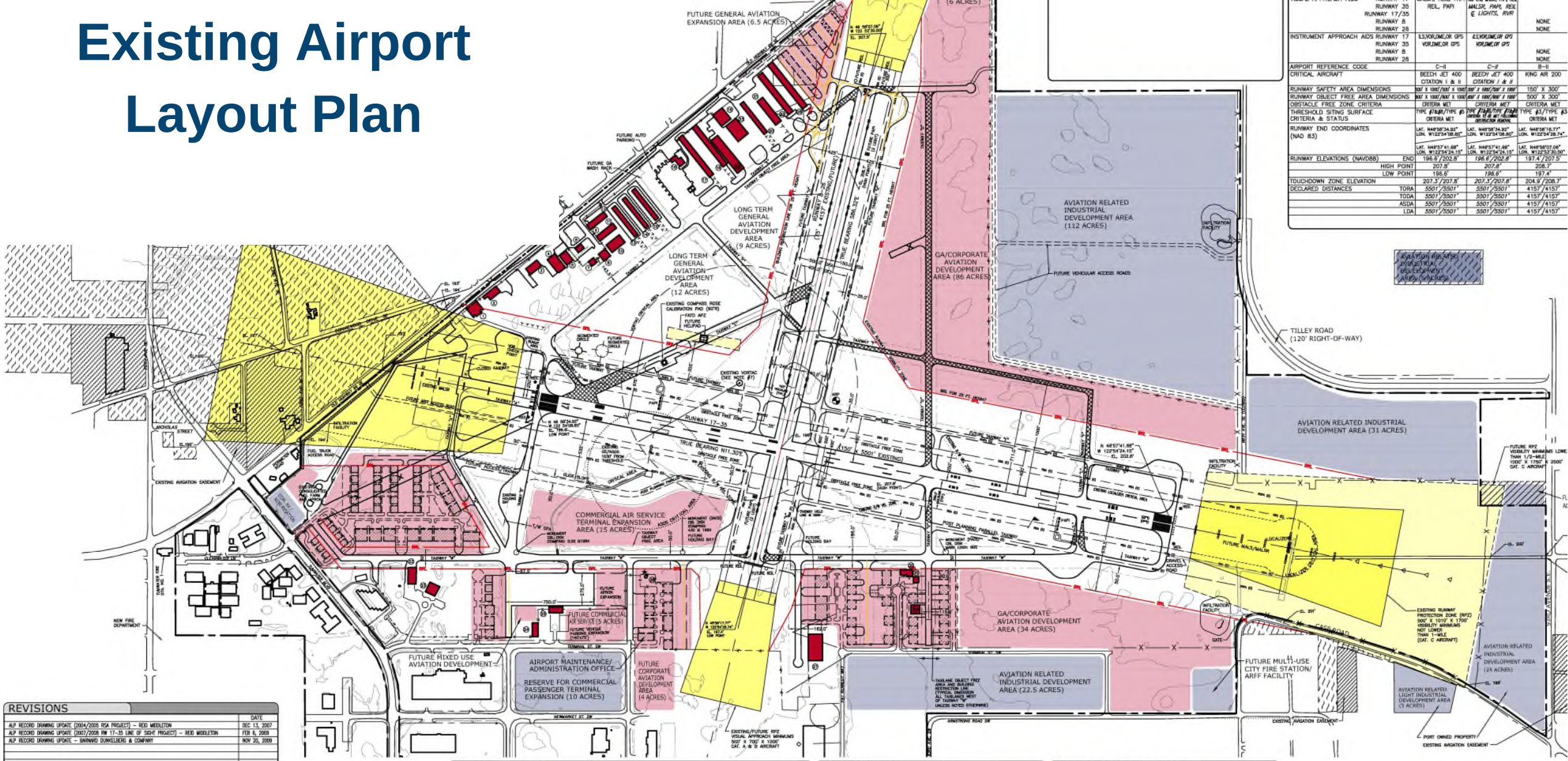
Figure E17 **Airport Property Map - Exhibit 'A'**

Master Plan Focus Area

Airport Master Plan Update



Existing Airport Layout Plan



APPROACH VISIBILITY MINIMUMS	RUNWAY 35	REIL, PAPI	MALSR, PAPI, REIL & LIGHTS, RVR
	RUNWAY 17/35		
	RUNWAY 8		NONE
	RUNWAY 26		NONE
INSTRUMENT APPROACH AIDS	RUNWAY 17	ILS,VOR,DME,OR GPS	ILS,VOR,DME,OR GPS
	RUNWAY 35	VOR,DME,OR GPS	VOR,DME,OR GPS
	RUNWAY 8		NONE
	RUNWAY 26		NONE
AIRPORT REFERENCE CODE		C-II	C-II / B-II
CRITICAL AIRCRAFT		BEECH JET 400 CITATION I & II	BEECH JET 400 CITATION I & II / KING AIR 200
RUNWAY SAFETY AREA DIMENSIONS		500' X 1000'/600' X 1000'/500' X 1000'/500' X 1000'	150' X 300'
RUNWAY OBJECT FREE AREA DIMENSIONS		800' X 1000'/800' X 1000'/800' X 1000'/800' X 1000'	500' X 300'
OBSTACLE FREE ZONE CRITERIA		CRITERIA MET	CRITERIA MET
THRESHOLD SITING SURFACE CRITERIA & STATUS		TYPE B/TYPE A/TYPE B/TYPE B CRITERIA MET	TYPE A/TYPE A/TYPE A/TYPE A CRITERIA MET
RUNWAY END COORDINATES (NAD 83)		LAT. N46°58'34.91" LON. W122°54'08.65" / LAT. N46°57'41.68" LON. W122°54'24.15"	LAT. N46°58'34.91" LON. W122°54'08.90" / LAT. N46°57'41.68" LON. W122°54'24.15"	LAT. N46°58'16.77" LON. W122°54'28.74" / LAT. N46°58'07.08" LON. W122°53'30.09"
RUNWAY ELEVATIONS (NAVD88)	END	196.8'/202.8'	196.8'/202.8'	197.4'/207.5'
	HIGH POINT	207.8'	207.8'	208.7'
	LOW POINT	196.8'	196.8'	197.4'
TOUCHDOWN ZONE ELEVATION		207.3'/207.8'	207.3'/207.8'	204.9'/208.7'
DECLARED DISTANCES	TORA	5501'/5501'	5501'/5501'	4157'/4157'
	TODA	5501'/5501'	5501'/5501'	4157'/4157'
	ASDA	5501'/5501'	5501'/5501'	4157'/4157'
	LDA	5501'/5501'	5501'/5501'	4157'/4157'

REVISIONS

	DATE
ALP RECORD DRAWING UPDATE (2004/2005 RSA PROJECT) – REID MIDDLETON	DEC 13, 2007
ALP RECORD DRAWING UPDATE (2007/2008 RW 17-35 LINE OF SIGHT PROJECT) – REID MIDDLETON	FEB 6, 2009
ALP RECORD DRAWING UPDATE – BARNARD DUNKELBERG & COMPANY	NOV 20, 2009

NON-STANDARD CONDITIONS

	ARC		STANDARD		NON-STANDARD		REMARKS
	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	

NOTES

1. THIS DRAWING SHOULD NOT BE USED AS A STANDARD FOR PLANNING OR DESIGN. THIS DRAWING REFLECTS PLANNING STANDARDS APPLICABLE TO OLYMPIA REGIONAL AIRPORT TO THE GREATEST EXTENT POSSIBLE.

BUILDING LEGEND

NO.	DESCRIPTION	NO.	DESCRIPTION
1	WASHINGTON STATE PATROL HANGAR AND OFFICE	18	EXECUTIVE HANGAR "E"
2	GLACIER TERMINAL/MAINTENANCE HANGAR	19	MAINTENANCE HANGAR
3	DEPARTMENT OF NATURAL RESOURCES OFFICES	20	T-HANGAR "K"
4	MUSEUM HANGAR	21	T-HANGAR "G"
5	MAINTENANCE HANGAR	22	PENINSULA GROUP, INC, HANGAR
6	AIRPORT ADMINISTRATION OFFICE	23	PENINSULA GROUP, INC, OFFICE
7	GLACIER AVIATION, FBO	24	PEARSON MAINTENANCE HANGAR/OFFICE
8	FBO HANGAR	25	AIRPORT TERMINAL BUILDING
9	OLYMPIA AVIONICS	26	FAA AIR TRAFFIC CONTROL TOWER/BEACON
10	AIRBORNE PROPERTIES HANGAR	27	SOLOY CORPORATION
11	OPEN HANGAR, PLANE PORT	28	T-HANGAR "I"
12	OPEN HANGAR, PLANE PORT	29	PRIME DEVELOPMENT HANGAR "M"

AIRPORT DATA

	EXISTING	FUTURE
AIRPORT ELEVATION (AMSL)	208.7'	208.7'
AIRPORT REFERENCE POINT (ARP)	LAT. N 46°58'07.08" LON. W 122°54'08.90"	LAT. N 46°58'07.08" LON. W 122°54'08.90"
NPIAS CATEGORY	GA	GA
MEAN MAX. TEMPERATURE (HOTTEST MONTH)	77.2°F	77.2°F
TAXIWAY LIGHTING	MITL	MITL
TAXIWAY MARKING	CENTERLINE	CENTERLINE
AIRPORT PROPERTY (APPROXIMATE ACRES)	1572	1581
UNICOM (MHz)	122.95	122.95
CONTROL TOWER (MHz)	124.4	124.4
MAGNETIC VARIATION (DATE)	17°0' E (5/2009)	
AIRPORT REFERENCE CODE	C-II	C-II
AIRPORT & TERMINAL NAVAIDS	VOR, DME	VOR,DME,GPS,NDB

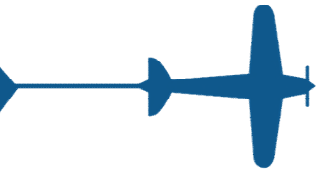
LAYOUT PLAN LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE		
AIRPORT SECURITY FENCE	X	X
AIRPORT BUILDINGS		
AIRFIELD PAVEMENT		
AIRFIELD PAVEMENT TO BE REMOVED		
PAVED ROADS		
RUNWAY PROTECTION ZONE (RPZ)		
BUILDING RESTRICTION LINE (BRL)	BRL	BRL (F)
RUNWAY SAFETY AREA (RSA)	RSA (E)	RSA (F)
RUNWAY OBJECT FREE AREA (ROFA)	ROFA (E)	ROFA (F)
FUEL STORAGE AREA	F	
AIRPORT BEACON	★	
LIGHTED WIND CONE & SEGMENTED CIRCLE		
PRECISION APPROACH PATH INDICATOR (PAPI)		

MASTER PLAN UPDATE

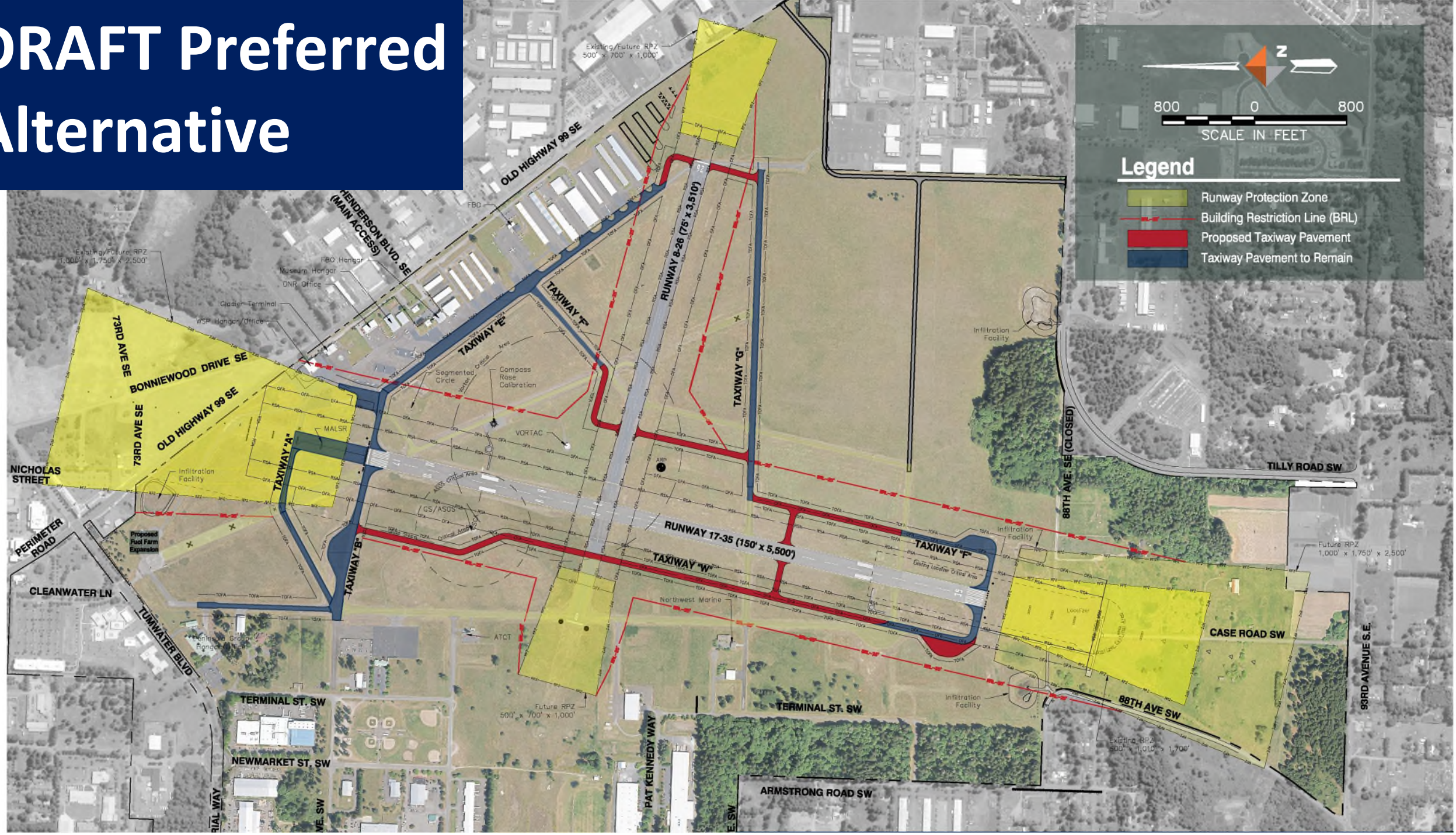
Port of Olympia/ Olympia Regional Ai

Preferred Alternative Goals

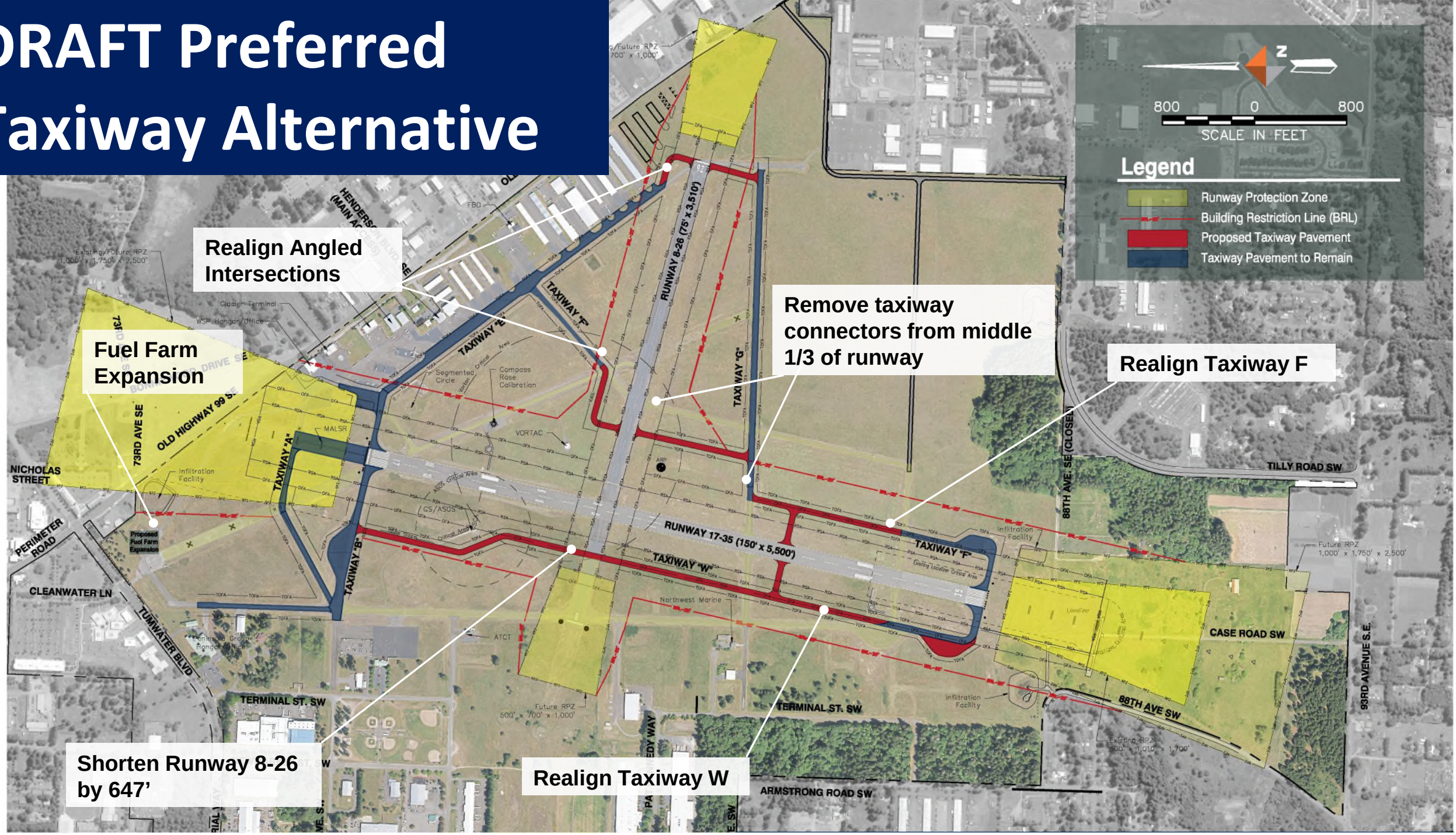


- Meet FAA design standards
- Meet based and transient aircraft demand
- Maintain crosswind runway for smaller aircraft, while reducing capital and maintenance cost to Port (Note: Crosswind runway in-eligible for FAA funding)
- Prepare OLM for future development
- Prepare OLM for emerging aviation technologies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

DRAFT Preferred Alternative

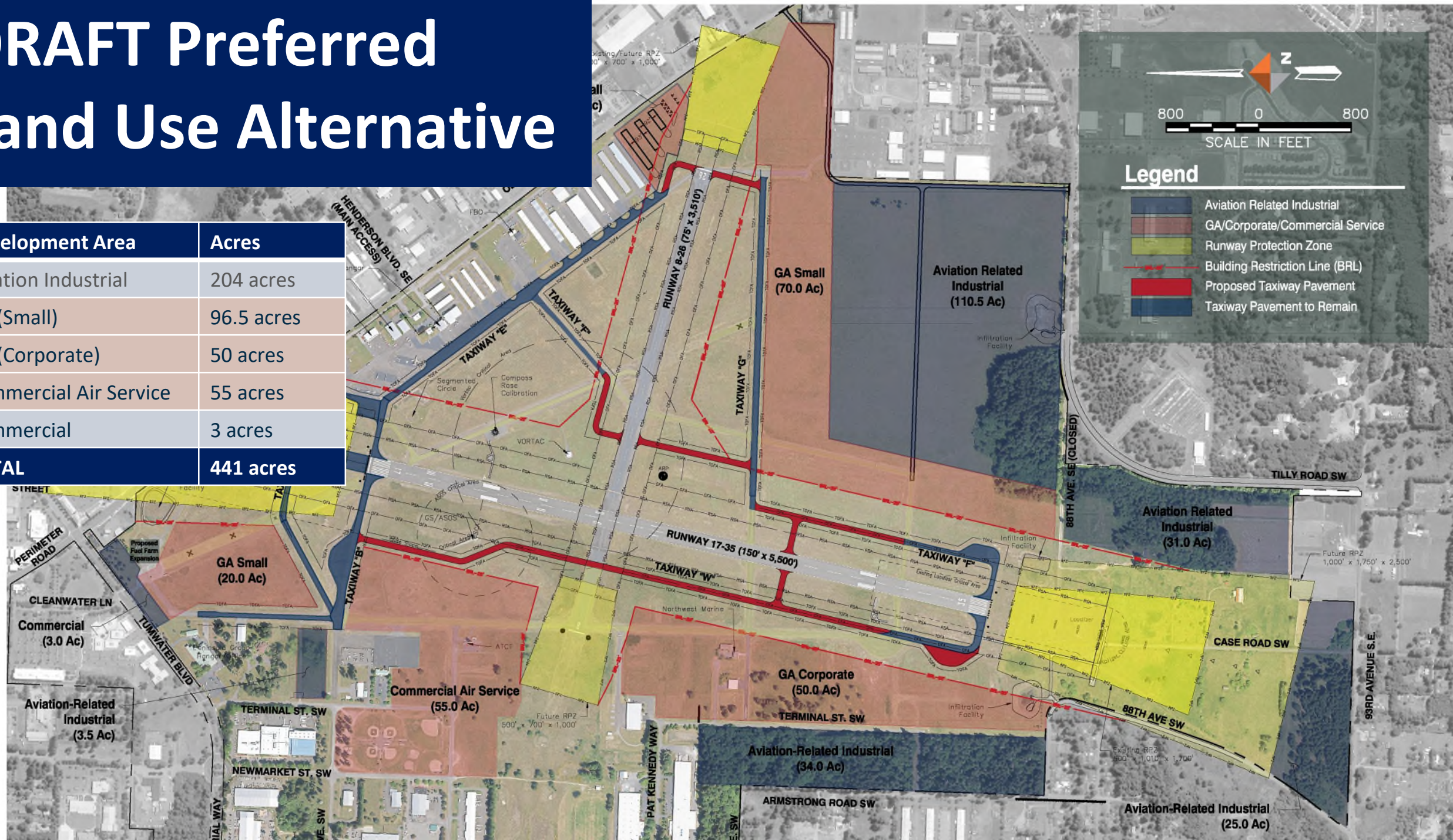


DRAFT Preferred Taxiway Alternative



DRAFT Preferred Land Use Alternative

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**



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

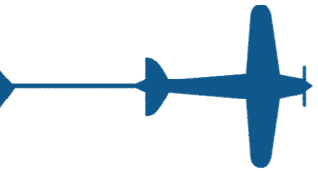
- Waste product
- Bio Mass
- Animal fats

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

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

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

Electric Aircraft



- 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

OLYMPIA REGIONAL AIRPORT
PORT OF OLYMPIA

Airport Master Plan Update

Electric Aircraft

- 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).

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

Image Credits: Aerospace Technology Institute

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 zero-carbon 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

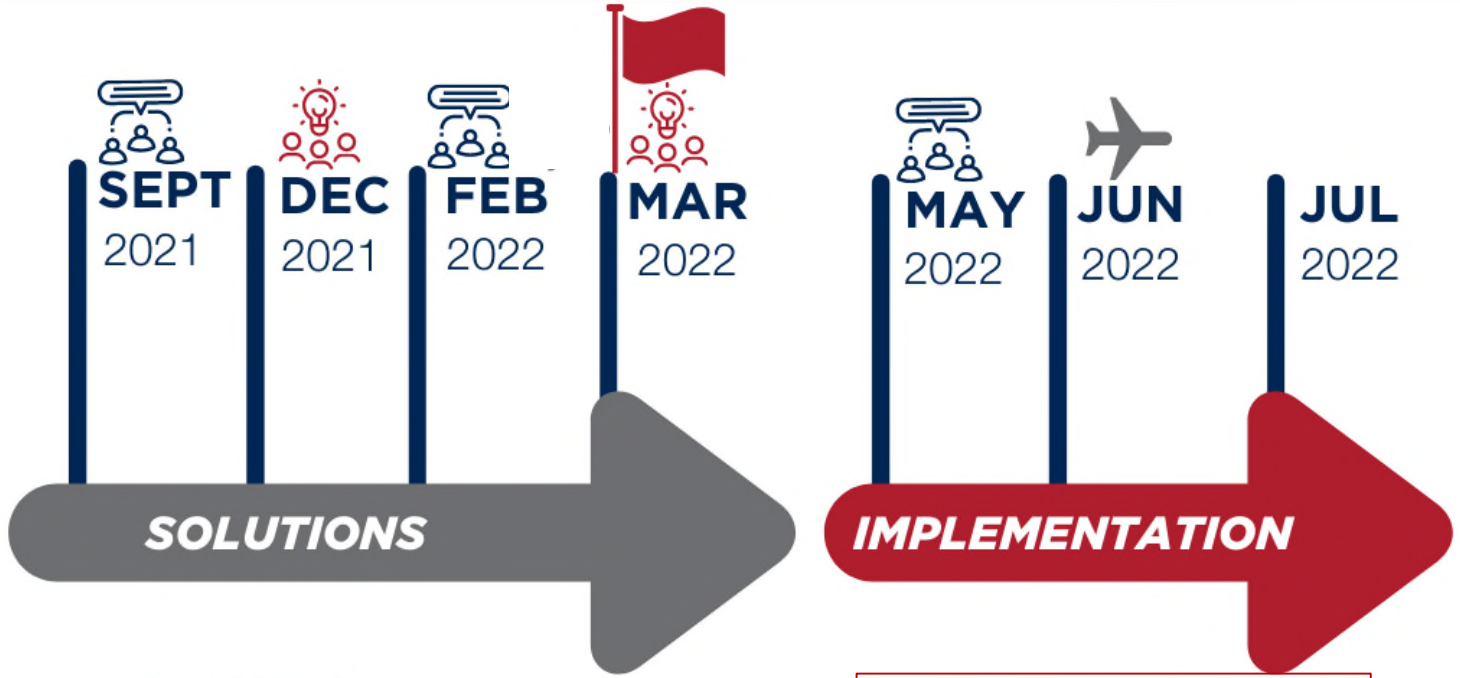
Hydrogen is significantly safer than jet fuel. It has a great safety record in hydrogen-powered vehicles.

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

Source: hydrogen.aero

Airport Master Plan Update

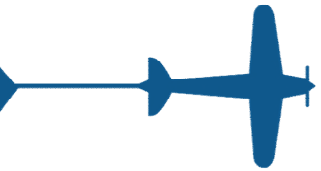
Next Steps



- Draft Alternatives
- Alternative Evaluation
- Environmental Review
- Recommended Alternatives

- Capital Improvement Program
- Funding
- Airport Layout Plan
- Draft/Final Report

Questions & Comments



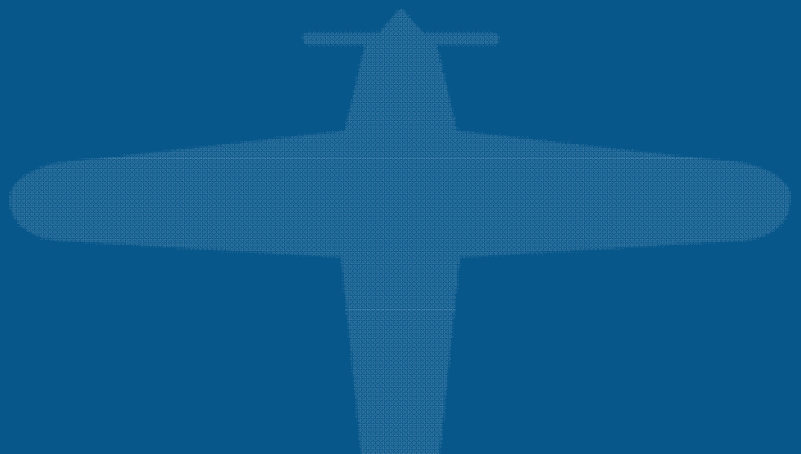
If you have a comment you can:

Use the “Raise Hand” button

- **Under “Participants” or**
- **Under “Reactions”**

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

Thank you



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