

SEA Part 150 Technical Review Committee

TRC meeting summary

Working Partners: Port of Seattle and ESA
Date: Tuesday, August 10, 2026
Location: Zoom/Virtual
Subject: Technical Review Committee Meeting #7
Facilitator: Ryan McMullan, Port of Seattle

Part 150 Noise Study Technical Review Committee (5:03pm – 6:23pm)

The members of the Part 150 Study Technical Review Committee (TRC) were welcomed by Ryan McMullan with the Port of Seattle. Roll call was taken by Ryan. Tom Fagerstrom with the Port of Seattle previewed the agenda for the meeting and highlighted that the meeting would be a continuation of the analysis and review of potential Noise Compatibility Program (NCP) measures. He highlighted that many of the noise abatement measures involved aircraft flight procedures, which would be subject to further FAA review if recommended for inclusion in the NCP. Tom also highlighted the TRC would look at potential land use and program management measures. Tom emphasized that a key part of the NCP phase of the Study is to seek input from stakeholders and the TRC.

Tom reminded the TRC that ideas, comments, and feedback on NCP measures or other elements of the Part 150 Study are always welcome and can be submitted through the [project website](#). Tom also highlighted that the [Noise Exposure Map \(NEM\) Report](#) has been published and is available for review. The report includes detailed information on the modeling inputs, noise exposure, land use, and NEMs.

TRC member	TRC Liaisons
Alaska Airlines – Lynae Craig – absent	FAA – Seattle CEO – Sky Laron – absent
Delta Airlines – Kalena Glover – absent	FAA – Seattle ATO – Rodney Lindbeck – absent
Burien – Liz Stead	FAA – Western Service Center ATO – Joe Bert – absent
Des Moines – Jason Woycke	FAA – SEA ATC – Jason Poole – absent
Federal Way – Josh Hoff – absent	FAA – Jennifer Redding
King County – Susan McLain – absent	Port of Seattle – Tom Fagerstrom
Normandy Park – Jeremy Hammar	Port of Seattle – Ryan McMullan
SeaTac – Zack Shields	Port of Seattle – Paris Edwards
Tukwila – Neil Tabor	Port of Seattle – Tom Hooper

Summary of TRC Meeting 6

Autumn Ward from ESA provided a high-level recap of the sixth TRC meeting that occurred on June 8th, 2026. That meeting focused on preliminary analysis of potential NCP noise abatement, land use, and program management measures and an update on the project schedule.

Potential Noise Abatement Measures

Chris Nottoli from ESA provided an update on the potential noise abatement measures that have been analyzed to date.

Population Density Maps

Chris presented a population density map that was created to aid in the development and review of NCP measures. He noted that the map provides additional perspective on whether alternative routes

may shift aircraft overflights toward more or less densely populated areas and supports a more comprehensive understanding of tradeoffs for evaluating potential flight path changes.

Increase Glideslopes for Arrivals

Chris revisited a potential measure that would implement a steeper glideslope and result in aircraft approaching the runway at a higher descent angle. He explained that this measure was previously analyzed, and presented, to consider steepening the glideslope up to 3.5-degrees relative to the current 3.0-degree glideslope in use on most runways at SEA utilizing the Sound Exposure Level (SEL) metric for the Boeing 737-800. The initial analysis showed potential noise reduction benefits with the measure. The analysis was subsequently expanded to determine the cumulative noise benefits of raising the glideslope for all aircraft operations at SEA.

Chris explained that two scenarios were analyzed using the cumulative Day-Night Average Sound Level (DNL) metric, one scenario where the glideslopes were increased on all runways to 3.5 degrees, and a second scenario where the glideslope was increased to 3.5 degrees only on Runway 16R/34L. Both scenarios were based on forecast operations and fleet mix from the 2032 NEM. Under each scenario, Chris highlighted reductions in both housing units and population exposed to noise levels of DNL 65+ dB. He also highlighted benefits beyond the DNL 65 contour, with reductions in the DNL 60 contour and expected further reductions at lower DNL noise levels.

Offset Approaches

Chris revisited another potential measure that evaluated two notional offset approach paths (Offset A and Offset B) for Runways 16R and 16L. He noted the measure could provide potential noise benefits by following flight paths over less noise-sensitive land uses (e.g., commercial and industrial areas) north of the airport rather than flying over residential land uses along the extended runway centerlines.

Chris explained that DNL was analyzed for two scenarios, one utilizing the Offset A approach, and one utilizing the Offset B approach. For both scenarios, operations and fleet mix were derived from the 2032 NEM forecast. Each assumed 20% of nighttime arrivals from the west side of the airport under south flow on the HAWKZ and MARNR Standard Terminal Arrival Routes (STARs) utilizing the offset procedures. Both procedures were analyzed considering connectivity to the existing HAWKZ and MARNR STARs, with the STARs being minimally modified to accommodate incorporating the offset procedures to existing traffic flows.

Under both scenarios, Chris noted slight reductions in both housing units and population exposed to noise levels of DNL 65. He also highlighted benefits outside the DNL 65 contours with larger reductions in the DNL 60 contour and expected further reductions at lower noise levels. Both scenarios showed similar changes in noise exposure with most reductions occurring in the DNL 60 along the runway centerline north of the airport.

Nighttime Arrival Preferential Runway Use

Chris discussed the expanded analysis of a potential measure that would shift 10% of nighttime arrival runway use and move operations from Runway 16R/34L to Runway 16L/34R between the hours of 10:00 p.m. and 7:00 a.m.

The results of the quantitative DNL analysis showed limited noise reduction benefits within the DNL 65 in terms of housing and population units. However, he noted that some new homes and population were newly exposed to DNL 65 and higher noise levels as a result of this shift in operations, specifically to the north and east of the airport under south flow and along the Runway 16L/34R centerlines. Chris

also noted there were some slight reductions in the size of the noise contours associated with the shift in runway usage primarily to the south of the airport under north flow operations. Overall, he noted this measure had a net reduction of population and housing units within the DNL 65. Although some new housing units and population could become newly exposed to DNL 65 due to the minor shift in the noise contour, the changes are small and likely would not be noticeable.

Other Noise Abatement Measures

Chris concluded the presentation of noise abatement measures by previewing measures that will be analyzed and presented in the future. He noted measures to move traffic over Elliott Bay and modify STARs were in progress, and analyzing increased use of Optimized Profile Descent (OPD) procedures were upcoming. He explained that the analyses would evaluate how the measures may affect noise exposure patterns around the airport, including determining whether there is a benefit within the DNL 65 contour.

Potential Land Use Measures

Scott Tatro from ESA discussed potential land use measures that are being considered for the NCP.

Expand Sound Insulation Program

Scott discussed the Port's current Sound Insulation Program (SIP) and the potential to expand the program to include long-term transient lodging. He explained that some hotel and motel lodging facilities are likely used as long-term permanent residential housing within the current Noise Remedy Boundary (NRB) and the Port is working to identify these properties and consider them for future inclusion in the program. Scott also discussed the potential to expand eligibility for participating in the SIP by changing the construction date requirements, so a portion of homes constructed after December 3, 1986 for Des Moines or after September 6, 1987 for all other areas, could be potentially eligible to participate in the program. Scott noted that expanding the program combined with revisions to the NRB based on the NEMs may result in more properties being eligible for sound insulation, provided they meet testing requirements.

Encourage King County to Refine Noise Nuisance Rating

Scott explained how King County Assessor records include an airport noise nuisance field that appears to be a binary data point (labeled 0 or 1) for airport noise. However, the data point is not clear on communicating noise exposure levels and appears to be applied inconsistently. Scott noted that revising this field could improve transparency on communicating noise exposure levels and could include using a noise-based rating system or using a low/medium/high scale for rating airport noise.

Encourage Zoning Amendments

Scott revisited how amendments to zoning could be implemented in conjunction with local jurisdictions and state enabling legislation to place controls on development of land uses around the airport incompatible with airport noise. He explained that zoning controls are typically linked to airport noise contours, and that the allowable uses and development of a property may be restricted based on its level of noise exposure. Controls also may include provisions on the exchange of development rights and disclosure requirements for new or redeveloped noise sensitive land uses.

Scott illustrated how development controls may be put in place based on an example from the Southwest Florida International Airport (RSW). At RSW, no residential land uses or development are permitted in the DNL 60 or greater contours, and disclosures requirements apply within the DNL 55 contour. He also noted RSW has a notification area associated with flight training traffic patterns and other small aircraft operations. Scott stated that, if similar controls were implemented by jurisdictions

around SEA, residential land uses and development would likely include zoning controls within the DNL 70 contour and disclosure requirements could be implemented for the DNL 65 or 60.

Scott noted that zoning amendments and development controls have many advantages and disadvantages. Some advantages include the prioritization of specific areas for notification zones and enhancing compatibility of land uses within noise contours. Disadvantages include, but are not limited to, potential impacts to new development projects, adding new requirements to existing codes, and political sensitivity to more stringent construction or renovation requirements.

Other Land Use Measures

Scott concluded the discussion of land use measures by noting two additional measures that were under evaluation as part of the NCP which includes (1) encouraging real estate disclosures for properties within the DNL 65 and (2) adopting airport-specific building codes in jurisdictions outside of SeaTac and Burien.

Potential Program Management Measures

Scott revisited potential program management measures to be considered for the NCP. He expanded on continuing to improve community education and outreach and noted that the Port already has a robust program of community outreach. Scott highlighted there is always more that can be done to improve communication from a programmatic standpoint, education could be improved through methods such as new tools or processes for investigating and reporting aircraft operations to improve transparency.

Scott also discussed the potential to upgrade the Port's Noise and Operations Monitoring System (NOMS). Although the current NOMS system is robust, there are potential upgrades to the system that could be considered including relocating existing noise monitors to new locations or adding new noise monitors to better align with recent trends in aircraft noise exposure. He also explained that a NOMS upgrade could provide an opportunity to enhance internal and public-facing tools for aircraft flight tracking, improve access to noise and operational data, and provide a modernized platform that will allow for greater flexibility to support future monitoring and reporting needs.

Scott concluded the discussion of program management measures by reviewing the potential to expand the Fly Quiet program and opportunities to support aviation noise research. He noted that although the Port's existing Fly Quiet program is extensive and encourages operators to reduce noise through positive re-enforcement, there may be opportunities to identify additional incentives or categories of operations for participation in the program and work toward reducing late night noise from operations. Scott also noted the potential for participating in future research efforts related to aviation noise such as through participation in the FAA's Center of Excellence (ASCENT), Continuous Lower Energy, Emissions, and Noise (CLEEN), Airport Cooperative Research program (ACRP), or other research efforts such as ongoing studies by the FAA into active noise control systems to mitigate aircraft ground noise.

Questions and Comments

Questions/Answers are identified with Q or A, and comments are identified with C. Questions and comments from SEA Stakeholder Advisory Round Table (StART) Aviation Noise Working Group members are identified as such.

Q: Jeff Harbaugh (StART) asked if the glideslope analysis used actual traffic and operations numbers at the airport or if just a single aircraft type was evaluated.

A: Chris (ESA) stated a full year of operations and traffic data was used based on the 2032 NEM forecast.

C: Bryan Tomich (StART) noted that using a 3.5-degree glideslope can be challenging for pilots and may be complicated to implement at SEA due to issues with sequencing and aircraft speed control. Bryan noted he thought implementing a 3.5-degree glideslope at SEA would only further complicate sequencing for controllers and potentially lead to more aircraft go-arounds.

C: Barton Delacy (StART) noted he has concerns with the use of averages for noise metrics and a focus on evaluating all aircraft versus evaluating aircraft during nighttime hours when communities are most sensitive to noise. He noted the analysis should look at individual noise events and also only increase the glideslope for nighttime operations, which could provide a balance between safety, efficiency, and addressing community concerns with nighttime operations.

C: Chris (ESA) noted the difficulty in having two separate sets of glideslopes, a 3.0-degree glideslope during the daytime, and 3.5-degree glideslope during the nighttime.

C: Bryan Tomich (StART) responded that you can't have two sets of glideslopes with a traditional ILS approach, but it would be possible to publish a separate set of approaches as Area Navigation (RNAV) procedures that could use the 3.5-degree glideslope and those could be used during the daytime or nighttime hours while still retaining the standard 3.0-degree glideslope of the ILS. He noted using the steeper glideslope at night when traffic volumes are lower would help mitigate the risks for pilots of maintaining speed control and aiding controllers in aircraft separation.

C: Mike Brugato (StART) expressed his support for Bryan's comments regarding the glideslope.

C: Autumn (ESA) noted that ESA analyzed a 3.25-degree glideslope and additional glideslopes could be analyzed for potential incorporating as an NCP measure. She noted 3.5-degrees was analyzed for all times of day to demonstrate the maximum benefit, but other variations on time of day and steepness of the glideslope could be analyzed. Autumn acknowledged nighttime noise is more sensitive to the community and there may be more flexibility to implement procedures during the nighttime hours due to lower traffic volumes.

Q: Roger Kadeg (StART) asked if a longer runway was needed if the glideslope was raised.

A: Chris (ESA) responded that the current runway lengths would be sufficient.

A: Mike Brugato (StART) responded that the runway lengths should be sufficient, as the aircraft speed on approach is not a function of the glideslope so long as the approach is stabilized.

Q: Jeff Harbaugh (StART) asked if data from noise measurements and monitors are being used to inform the noise study and noted that he believed the modeling data is inaccurate.

A: Chris (ESA) responded that under Part 150, noise monitors are not allowed to be used for determining the extent of the DNL 65 contour. Chris acknowledged that while noise monitors are valuable and help provide context on noise levels in the community, FAA requires noise modeling for the determination of noise levels under Part 150.

A: Autumn (ESA) added that, while noise monitor data cannot be used under Part 150 to forecast future noise conditions, noise modeling allows projected aircraft operations to be evaluated and future noise exposure to be estimated. Based on forecast 2032 operations, the projected NEM contours are larger than the existing contours. Autumn also emphasized that the Port recognizes aircraft noise affects areas beyond the DNL 65 contour and that, although Part 150 is centered on DNL 65, the NCP is evaluating measures intended to reduce noise at lower exposure levels as well.

Q: Jeff Harbaugh (StART) asked what magnitude of noise reduction will the potential noise abatement measures produce?

A: Chris (ESA) responded that the change in noise and level of noise reduction from each proposed NCP measure is what is being currently analyzed at this stage of the NCP process.

Q: Bryan Tomich (StART) asked if the measure for evaluating the OPDs included raising the altitude on the MARNR and HAWKZ STARs as the altitudes on those procedures are tied to Required Navigation Performance (RNP) approaches that are seldom used. If those RNP approaches were disconnected from the STARs, he noted aircraft could be higher, and that would potentially eliminate aircraft flying level for extended periods over Vashon Island.

A: Adam (ESA) responded that one of the NCP measures in process for analysis was looking at raising altitudes on the MARNR and HAWKZ STARs and disconnecting from the RNP.

C: Barton Delacy (StART) noted that many low-income and immigrant residents of Des Moines are residing in long-term transient lodging or are purchasing or renting older homes. These homes are normally not eligible for insulation or have been previously insulated. He asked if the Port is burdened by FAA regulations on what properties are considered eligible for insulation and if insulation could be done based on income.

A: Scott (ESA) responded that the Port is bound by FAA requirements due to grant funding and cannot do insulation based on income. However, some new properties would potentially be eligible for insulation due to revisions to the NRB based on the new NEMs and block rounding which may make some properties outside of the DNL 65 contour eligible for insulation.

Q: Jeff Harbaugh (StART) asked if homes outside the DNL 65 contour would be eligible for insulation or if previously insulated homes with failed packages would be eligible for additional insulation.

A: Scott (ESA) noted that there was the potential for some homes outside of the DNL 65 to be insulated due to revisions to the NRB based on the new NEMs and block rounding. However, the numbers of homes outside the DNL 65 would likely be limited. Scott also noted the Port has an ongoing Sound Insulation Repair and Replacement Pilot Program for homes with failing insulation packages, but that is being completed outside of Part 150.

A: Tom (Port of Seattle) confirmed that the Port's Sound Insulation Repair and Replacement Pilot Program is ongoing and is assessing existing packages for eligible homes.

Q: Bill Vadino (StART) asked if the Port or State decided to fund sound insulation, would the program be subject to the same restrictions as under Part 150 since there would not be federal grant funds.

A: Scott (ESA) responded that there may be some ability to fund insulation outside of Part 150 and without federal grant funds. However, the FAA places restrictions on how airport revenues may be used, which could limit an airport's ability to self-fund a sound insulation program outside of Part 150 or homes outside DNL 65. He noted that if federal grants are used, Part 150 is the only mechanism for obtaining FAA funding for sound insulation, and any such funding is subject to FAA grant requirements and assurances.

C: Autumn (ESA) noted that the Port has been working to identify long-term transient lodging that may be eligible for insulation as part of an expanded sound insulation program. However, the Port would welcome assistance in identifying these properties as it is sometimes difficult to determine if a particular hotel or motel is being used as someone's long-term primary residence and asked if the TRC was aware of any of these properties. She also clarified that funding ineligible properties may conflict with FAA requirements and be considered revenue diversion.

C: Neil Tabor (Tukwila) responded that Tukwila is outside of the 65 DNL but has three tiny home villages that are transitional or emergency housing with generally 6 months of residency or less. He suggested that, if feasible, it would be helpful to consider these homes for sound insulation.

C: Barton Delacy (StART) noted he believed there was some long-term transient lodging in Des Moines that may be eligible and asked how this could be relayed to the Port.

A: Autumn (ESA) noted that suggestions and property information could be submitted directly to her, Tom, or Ryan from the Port of Seattle via email.

C: Roger Kadeg (StART) noted revising the noise nuisance rating was an excellent suggestion and expressed support for the incorporation of noise levels or simplified accounting of noise into the King County Assessor's table.

Q: Barton Delacy (StART) asked if there has been communication between the King County Assessor's Office and the Port on the noise nuisance rating.

A: Scott (ESA) noted there has not yet been communication with the Assessor's office, but the Port planned to reach out to them about how the rating is entered, which could inform proposals for potential alternatives for implementation as part of the NCP.

Q: Jeff Harbaugh (StART) questioned how current homeowners would feel about potential buyers being warned about aircraft noise and pollution and how that may factor into home values.

C: Roger Kadeg (StART) commented that an honest real estate agent should disclose if the home is exposed to aircraft noise and doing so would avoid issues in the future. Roger also noted that disclosures could impact property values, but that would also impact taxes and aircraft noise disclosures could be a tradeoff.

Q: Joe Dusenbury (StART) noted the original home buyout area in the vicinity of the third runway was large and asked if the reasoning for the buyout area was safety, noise, or both.

A: Tom (Port of Seattle) responded the buyout was primarily for noise.

Q: Roger Kadeg (StART) asked if the Study was taking into account the Sustainable Airport Master Plan (SAMP) projects and considering where noise monitors would be located. He also asked if the Study was taking into account future aircraft operations associated with SAMP.

A: Tom (Port of Seattle) noted the Study is only taking into account aircraft noise and consideration of where noise monitors would be placed in the future would be based on locations with aircraft overflights. SAMP construction noise wouldn't be a factor. The study does consider future operations associated with SAMP as part of the 2032 forecast used to develop the NEMs.

Q: Joe Dusenbury (StART) noted that the Port would like to discourage late night flights. However, SEA continues to grow, and SAMP has the potential to add thousands more flights by 2032 and 2037 which would include many more flights during late night hours that would include noisier, larger, and older freighter aircraft. Joe posed the question of why the Port is working to discourage late night operations when they will only continue to grow in the future.

A: Tom (Port of Seattle) acknowledged that reducing late night flights is aspirational. However, that doesn't mean the Port won't continue to strive toward the goal and actively discourage late night flights, discourage operators from using noisy aircraft, encourage purchasing and operating newer and quieter aircraft, and let airlines and operators know about the late-night noise limitation program.

Q: Jeff Harbaugh (StART) asked how SEA having three parallel runways influences the ability to change flight paths. He noted that if the airport had perpendicular runways, it may be easier to affect flight procedure changes.

A: Adam (ESA) responded that flight path changes are possible even though SEA has multiple parallel runways. However, any changes associated with one runway would be dependent on the other runways and vice versa. He noted that although multiple parallel runways make changing flight procedures more difficult, it does not mean it is impossible to make changes. Adam also noted that having perpendicular runways does not necessarily make flight procedure changes easier to implement, as perpendicular runways introduce other airspace and operational complexities.

Q: Joe Dusenbury (StART) asked about simultaneous approaches on the outboard runways. He acknowledged they are rare today but noted that, as operations increase in the future, simultaneous approaches may become more common to accommodate growing demand.

A: Adam (ESA) noted that capacity can be increased without simultaneous approaches through infrastructure improvements such as high-speed taxiways that reduce runway occupancy times and system improvements such as automated spacing and sequencing tools. However, a runway can only accommodate so much capacity, and he acknowledged eventually the only way to meet demand would be to increase the use of simultaneous approaches.

C: Barton Delacy (StART) noted that the open house format for public meetings has been informative but there is limited opportunity for community interaction and the ability of community members to hear each other's questions and responses. He would prefer to have briefings with an open question-and-answer period rather than the current format of the public workshops.

A: Tom (Port of Seattle) highlighted that briefings are available on request outside of the workshops and the Port is available to brief cities and other community groups on the Study.

C: Karen Voloria (StART) emphasized the importance of ensuring the community clearly understands the Study and the information being presented. She also requested that public meetings be held in communities located beneath flight paths and affected by aircraft noise, noting that some previous Port meetings were held outside those areas.

A: Tom (Port of Seattle) acknowledged Karen's comments and would take them into consideration in preparing the meeting materials as well as determining the locations for the public meetings.

Schedule Update

Autumn concluded the TRC meeting by providing an update on the Part 150 schedule. Autumn noted that the NEM Report was submitted to the FAA for review and acceptance and that the Study was now in the NCP analyses phase which would continue through Spring 2027. She also noted that public workshops are scheduled for October 17 (morning), 19 (evening), and 20 (evening) at locations to be determined. Workshops will be an interactive forum to present potential NCP measures to stakeholders and seek feedback prior to completing final analysis and determination of which measures to move forward in the updated NCP. Autumn also noted tentative plans to have an in-person TRC meeting on October 19 or 20 to discuss the status of the NCP analysis, provide preliminary workshop feedback, and provide updates on the NCP schedule.

The meeting was closed by thanking attendees for joining and noting that TRC members are welcome to reach out and follow up with any questions or comments for the team at any point.

Seattle-Tacoma International Airport



Part 150 Study Technical Review Committee

Meeting #7 | August 10, 2026



TRC Welcome & Roll Call

TRC Members

- Alaska Airlines – Lynae Craig
- Delta Airlines – Kalena Glover
- King County – Susan McLain
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- SeaTac – Zack Shields
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TRC Liaisons

- FAA
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 - Western Service Center ATO – Jason Poole
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 - SEA ATO – Rodney Lindbeck
- Port of Seattle
 - Tom Fagerstrom
 - Ryan McMullan
 - Paris Edwards
 - Tom Hooper

Agenda

- Welcome & Roll Call
- Summary of TRC Meeting #6
- Potential NCP Measures
 - Noise Abatement
 - Land Use
 - Program Management
- Project Schedule
- Upcoming Meetings
- Questions

Summary of TRC Meeting #6

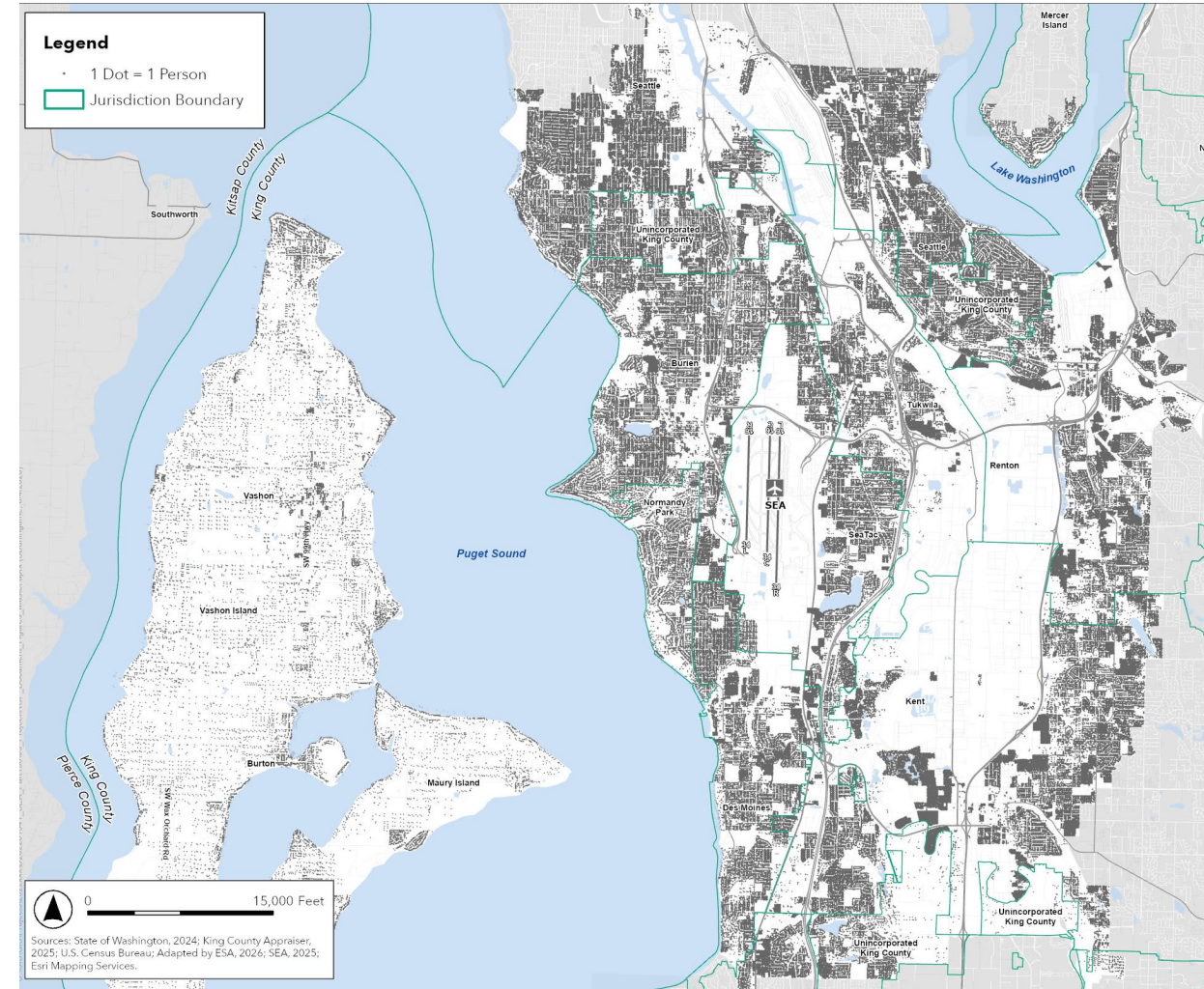
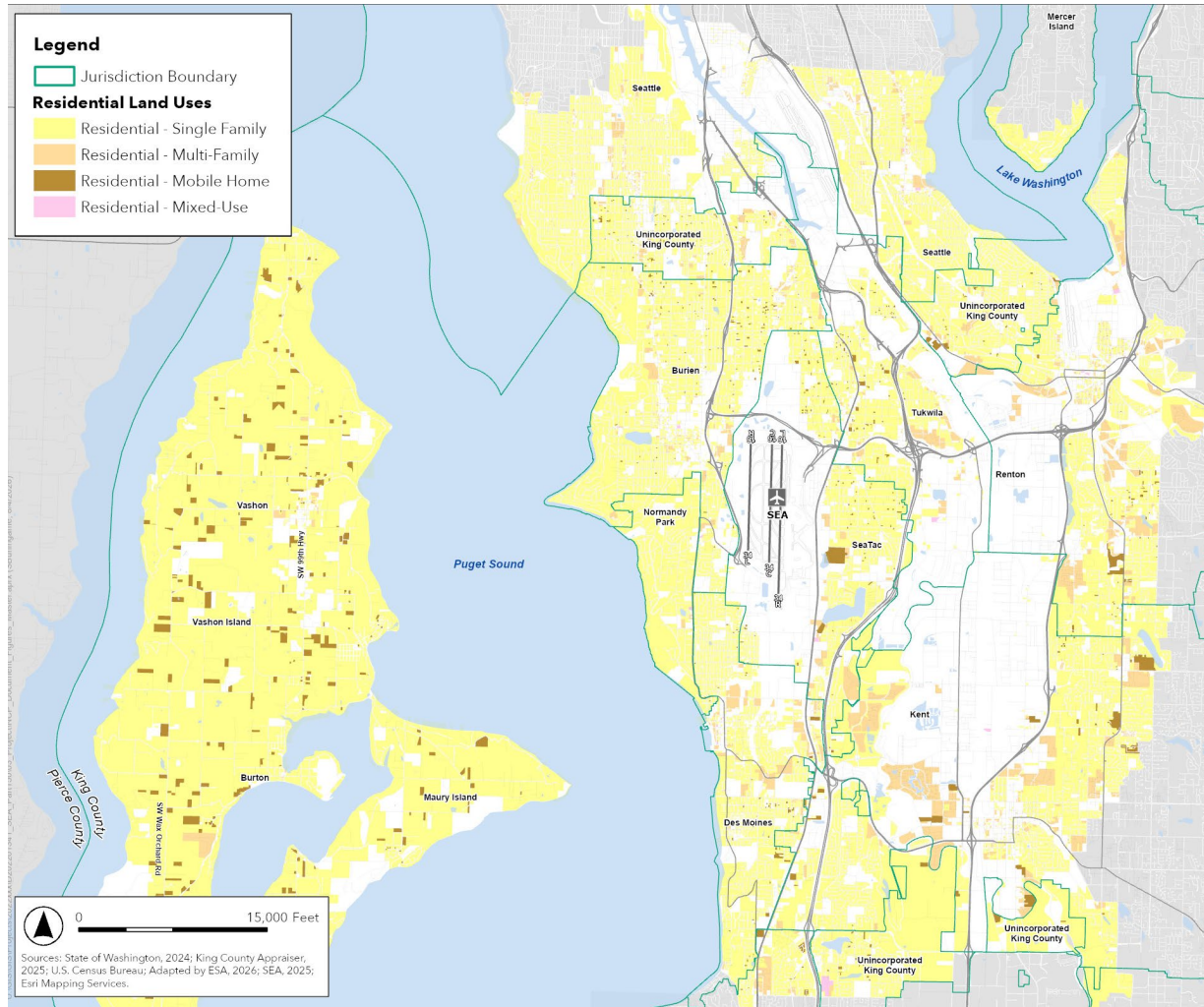
- Summary of Draft NEM Workshops and Stakeholder Outreach
- NCP Analyses
 - Potential Noise Abatement Measures
 - Intersection Departures
 - Increased Glideslope for Arrivals
 - Offset Approaches
 - Nighttime Arrival Preferential Runway Use
 - Review and Approval of NCP measures
 - Overview of Potential Land Use Measures
 - Overview of Potential Program Management Measures
- Update on Project Schedule

Noise Abatement Measures

Population Density

- Population density data provides an additional perspective for evaluating potential flight routing changes.
- Helps assess whether alternative routes shift aircraft overflights toward more or less densely populated areas.
- Supports a more comprehensive understanding of potential community exposure and tradeoffs associated with route modifications.

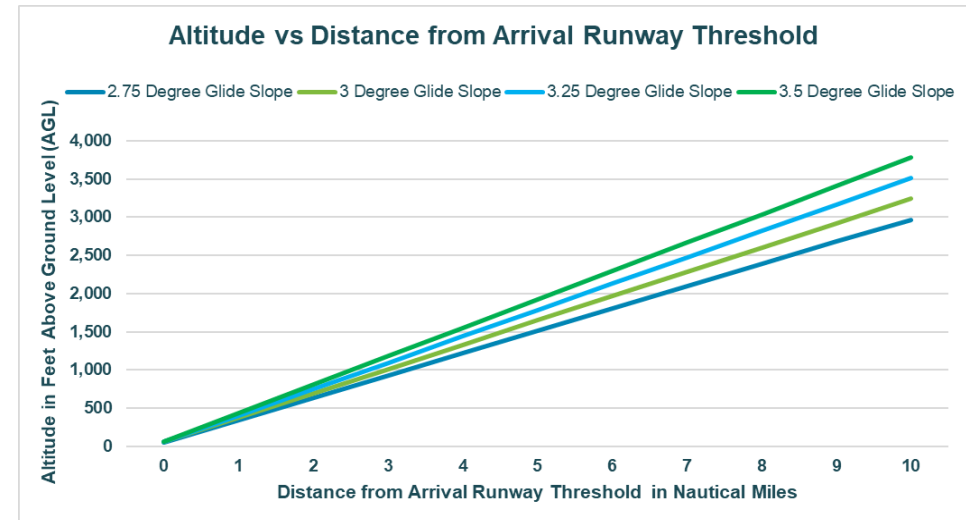
Population Density



Increase Glideslopes for Arrivals

- A steeper glide slope results in aircraft approaching at a higher altitude, which may lower noise exposure on the ground
- Generated custom profiles for each runway's glideslope for all aircraft types
- Modeled DNL contours for 3 and 3.5-degree glideslopes for:
 - All runways
 - Runway 16R/34L only*

Glideslope Altitudes				
Distance from Threshold (nm)	2.75-degree (ft AGL)	3.0-degree (ft AGL)	3.25-degree (ft AGL)	3.5-degree (ft AGL)
2	634	692	750	807
4	1,218	1,329	1,440	1,551
6	1,802	1,966	2,130	2,294
8	2,385	2,603	2,820	3,037
10	2,969	3,239	3,510	3,781



*Runway 34R currently has a 2.75-degree glideslope, but a 3-degree glideslope is planned to be implemented as part of the SAMP NTP Taxiway A/B Extension

Increased Glideslope - All Runways DNL Contours

All Runways – Housing Units within DNL 65		
Land Use	2032 NEM	3.5-degree
Residential - Single Family	5,490	5,005
Residential - Multi-Family	4,617	4,001
Residential - Mobile Home	582	572
Residential - Vacant	3	3
Residential - Mixed-Use	2	1
Total	10,694	9,582
	Difference	(1,112)

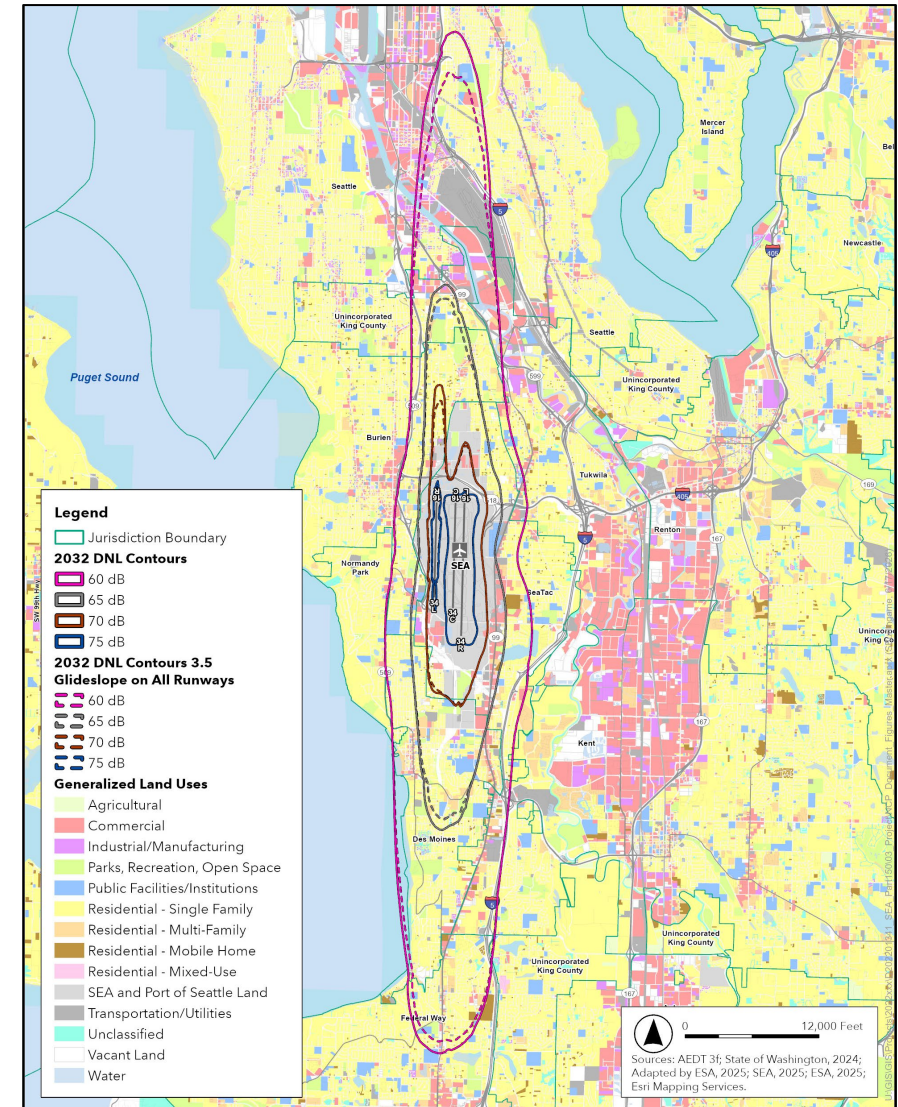
Notes:

1. Difference calculated from 3.0-degree glideslope.
2. Includes full parcels in housing and population counts.

All Runways – Population within DNL 65		
Land Use	2032 NEM	3.5-degree
Residential - Single Family	15,194	13,963
Residential - Multi-Family	12,802	11,233
Residential - Mobile Home	1,078	1,049
Residential - Vacant	5	5
Residential - Mixed-Use	4	2
Total	29,083	26,252
	Difference	(2,830)

Notes:

1. Difference calculated from 3.0-degree glideslope.
2. Includes full parcels in housing and population counts.



Increased Glideslope - Runway 16R/34L DNL Contours

Runway 16R/34L – Housing Units within DNL 65		
Land Use	2032 NEM	3.5-degree
Residential - Single Family	5,490	5,135
Residential - Multi-Family	4,617	4,148
Residential - Mobile Home	582	572
Residential - Vacant	3	3
Residential - Mixed-Use	2	2
Total	10,694	9,860
	Difference	(834)

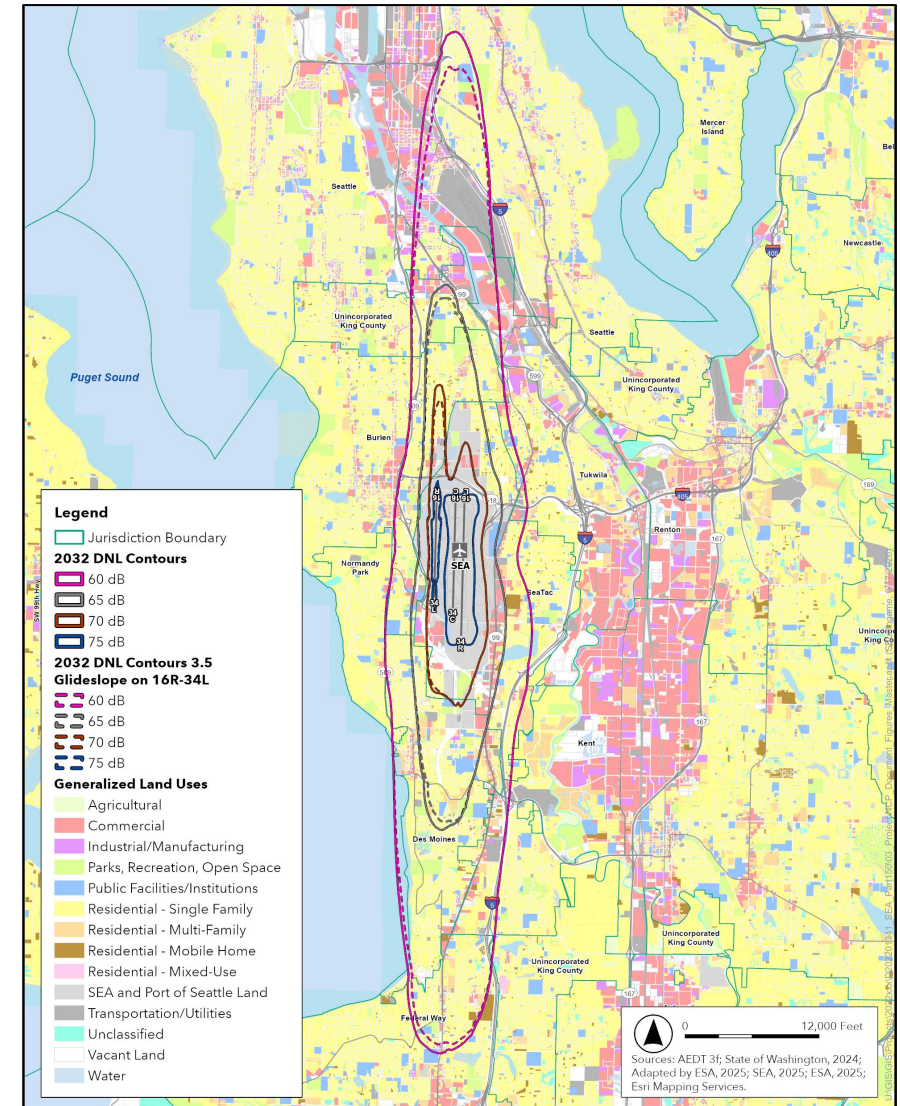
Notes:

1. Difference calculated from 3.0-degree glideslope.
2. Includes full parcels in housing and population counts.

Runway 16R/34L – Population within DNL 65		
Land Use	2032 NEM	3.5-degree
Residential - Single Family	15,194	14,303
Residential - Multi-Family	12,802	11,525
Residential - Mobile Home	1,078	1,049
Residential - Vacant	5	5
Residential - Mixed-Use	4	4
Total	29,083	26,886
	Difference	(2,197)

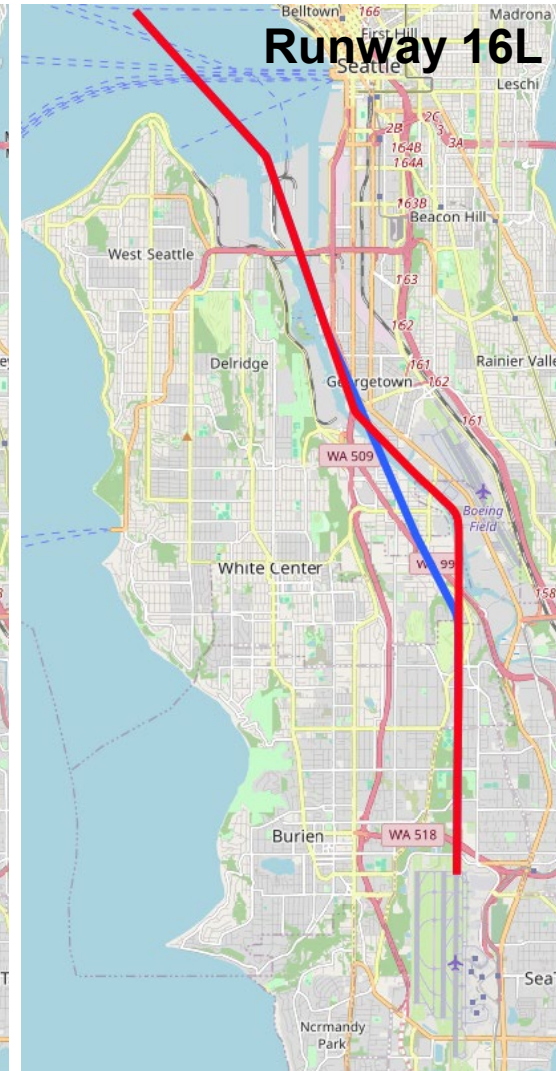
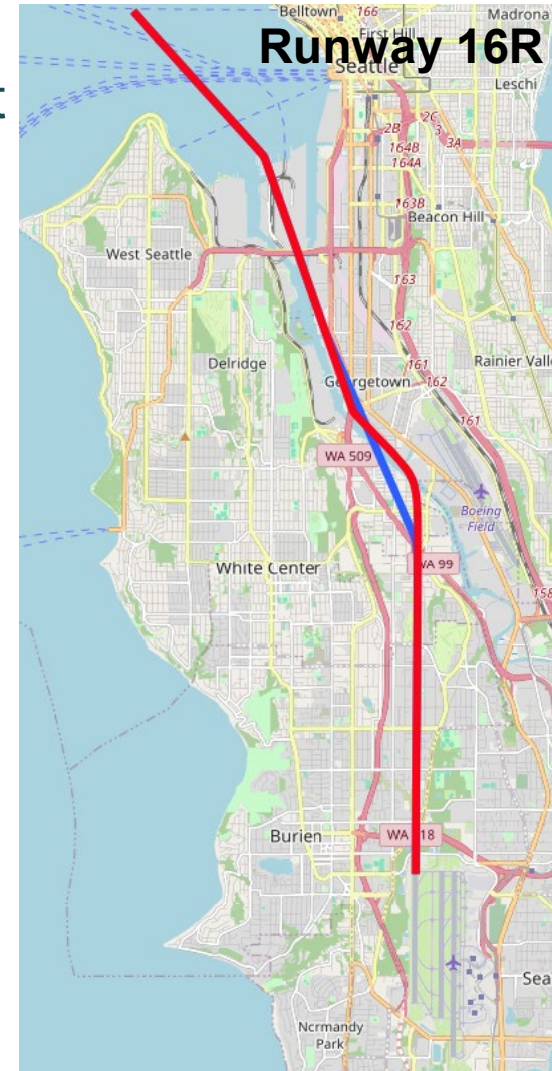
Notes:

1. Difference calculated from 3.0-degree glideslope.
2. Includes full parcels in housing and population counts.

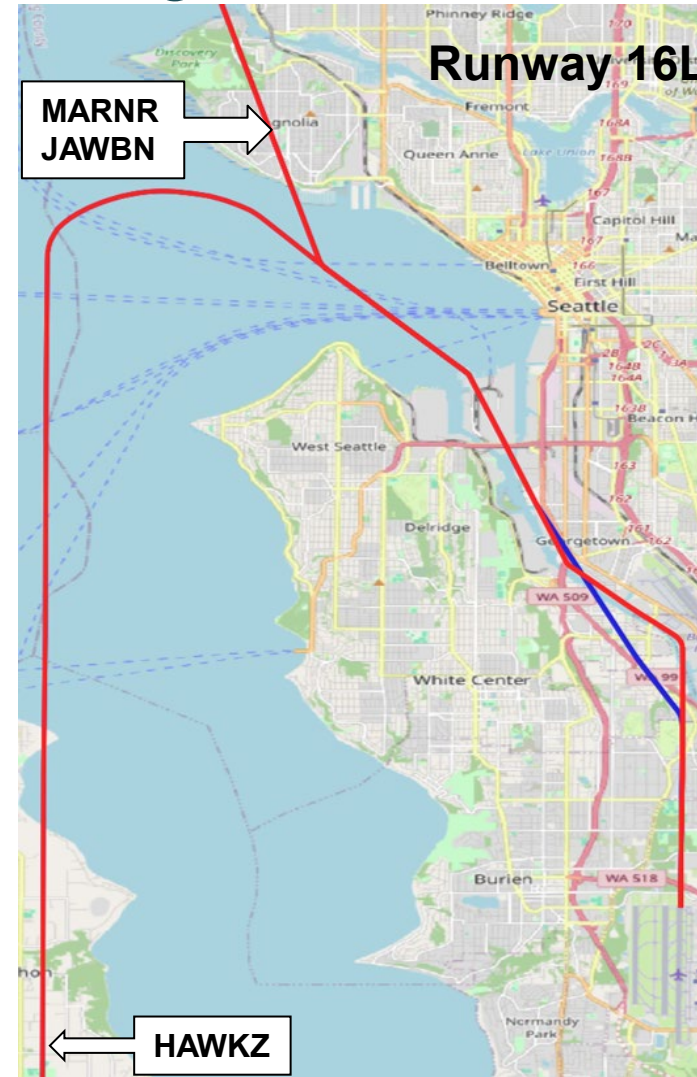
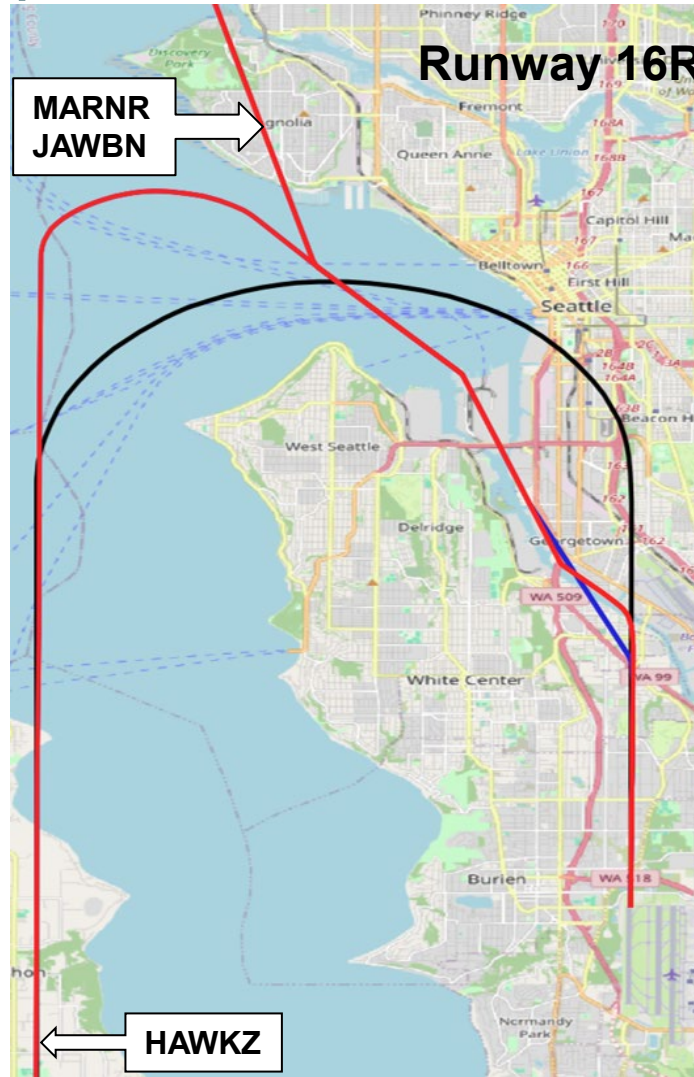


Offset Approaches

- Modeled DNL contours for two different offset approach options for Runways 16L and 16R
 - **Offset A** follows non-noise sensitive land uses more closely
 - **Offset B** is more direct (likely preferred), with some increase in flying over residential areas
- Offset approaches maximize flying over non-noise sensitive land uses north of the Airport
- Assumed 20% of nighttime arrivals from the west downwind and base legs to each runway would utilize offset approach tracks
 - HAWKZ, MARNR, and JAWBN STARS
 - Represents 8% of all nighttime arrivals
 - ~2,898 annual operations/7.94 AAD operations



Offset Approaches – Potential Linkages to Arrival Procedures



Offset A | Offset B | RNP Z 16R

Offset Approach A – Runway 16L/R DNL Contours

All Runways – Housing Units within DNL 65		
Land Use	2032 NEM	Offset A
Residential - Single Family	5,490	5,486
Residential - Multi-Family	4,617	4,617
Residential - Mobile Home	582	582
Residential - Vacant	3	3
Residential - Mixed-Use	2	2
Total	10,694	10,690
	Difference	(4)

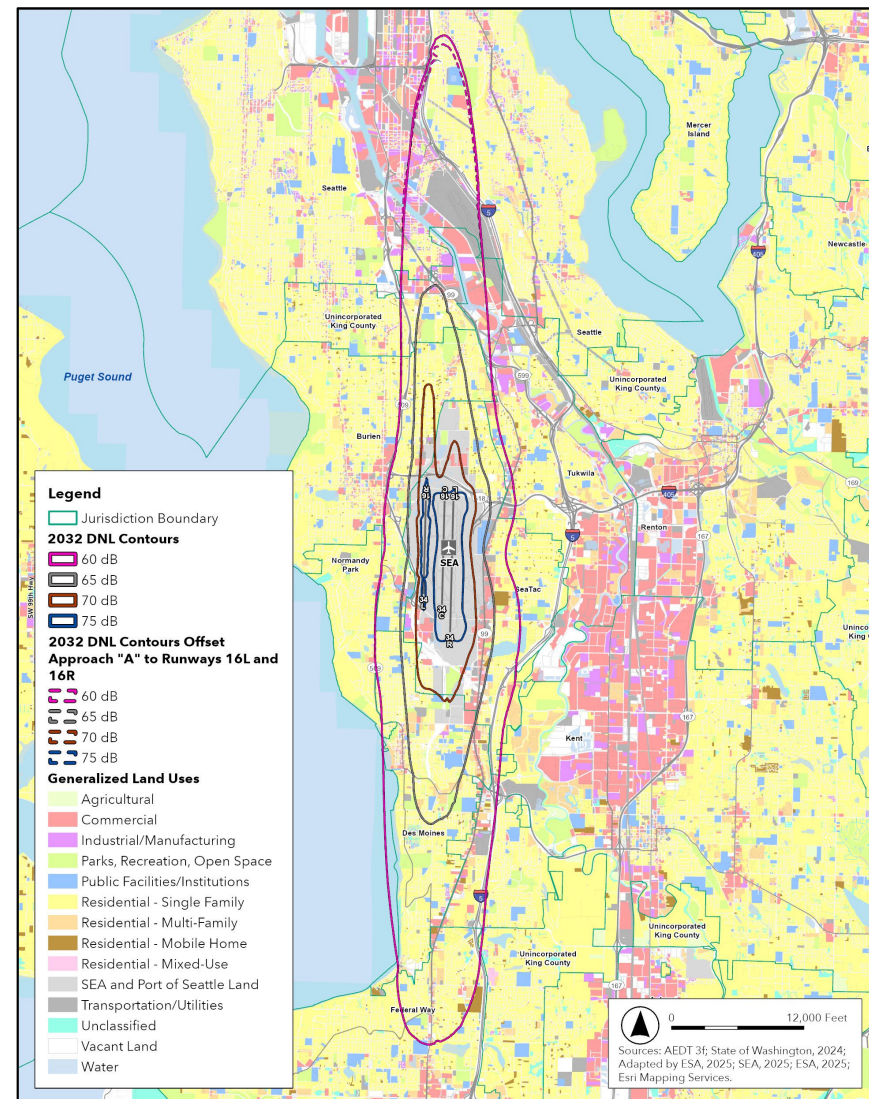
Notes:

1. Difference calculated from 3.0-degree glideslope.
2. Includes full parcels in housing and population counts.

All Runways – Population within DNL 65		
Land Use	2032 NEM	Offset A
Residential - Single Family	15,194	15,181
Residential - Multi-Family	12,802	12,802
Residential - Mobile Home	1,078	1,078
Residential - Vacant	5	5
Residential - Mixed-Use	4	4
Total	29,083	29,070
	Difference	(12)

Notes:

1. Difference calculated from 3.0-degree glideslope.
2. Includes full parcels in housing and population counts.



Offset Approach B – Runway 16L/R DNL Contours

All Runways – Housing Units within DNL 65		
Land Use	2032 NEM	Offset B
Residential - Single Family	5,490	5,486
Residential - Multi-Family	4,617	4,617
Residential - Mobile Home	582	582
Residential - Vacant	3	3
Residential - Mixed-Use	2	2
Total	10,694	10,690
	Difference	(4)

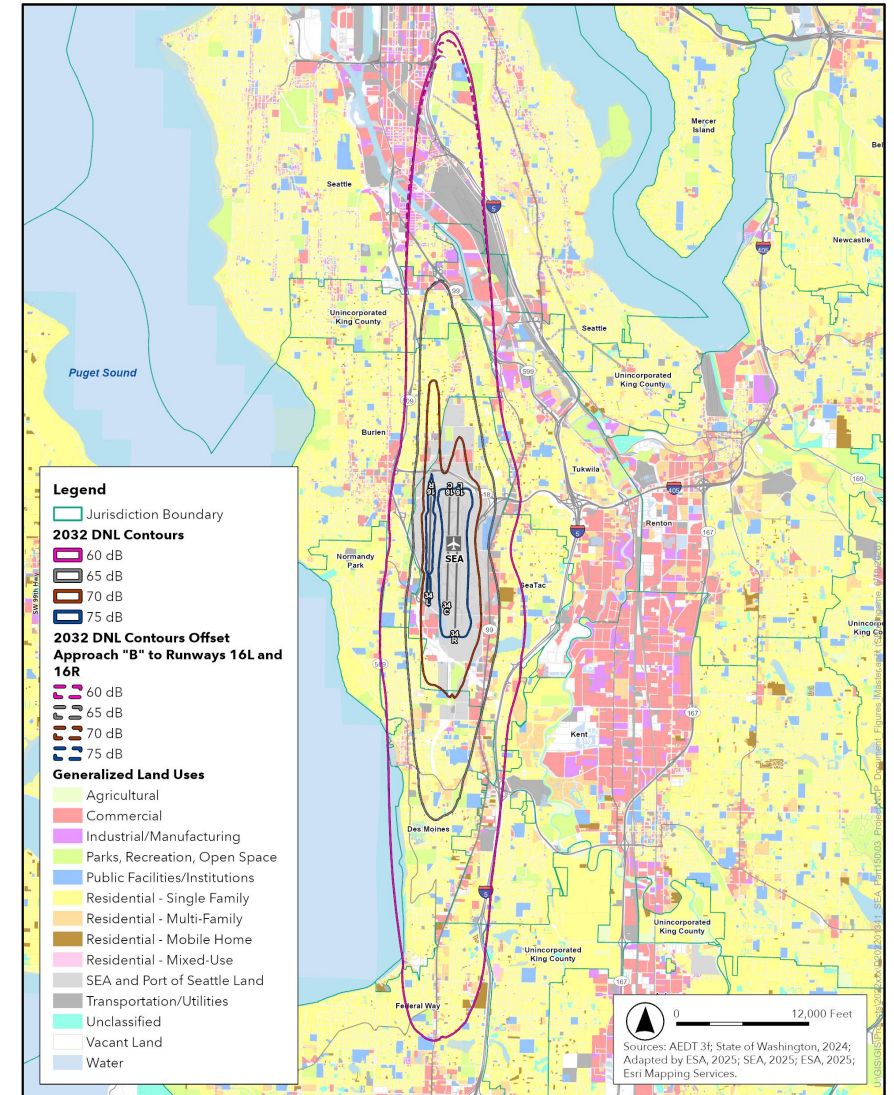
Notes:

1. Difference calculated from 3.0-degree glideslope.
2. Includes full parcels in housing and population counts.

All Runways – Population within DNL 65		
Land Use	2032 NEM	Offset B
Residential - Single Family	15,194	15,183
Residential - Multi-Family	12,802	12,802
Residential - Mobile Home	1,078	1,078
Residential - Vacant	5	5
Residential - Mixed-Use	4	4
Total	29,083	29,072
	Difference	(11)

Notes:

1. Difference calculated from 3.0-degree glideslope.
2. Includes full parcels in housing and population counts.



Nighttime Arrival Preferential Runway Use

- Evaluated shifting 10% of nighttime arrival operations from Runway 16R/34L to Runway 16L/34R during nighttime hours (10PM to 7AM)

September 2024-August 2025 Nighttime Arrivals (10PM - 7 AM)			5% Shift of Nighttime Arrivals from 16R/34L to 16L/34R			10% Shift of Nighttime Arrivals from 16R/34L to 16L/34R		
Arrival Runway	Operations	Percentage	Operations	Change in Operations	Revised Arrival Percentage	Operations	Change in Operations	Revised Arrival Percentage
16L	1,947	6%	2,870	923	9%	3,793	1,846	12%
16R	18,461	60%	17,538	-923	57%	16,615	-1,846	54%
South Flow Total	21,958	66%	21,958	-	66%	21,958	-	66%
34L	6,987	23%	6,638	-349	22%	6,288	-699	21%
34R	728	2%	1,077	349	4%	1,427	699	5%
North Flow Total	8,634	25%	8,634	-	26%	8,634	-	26%

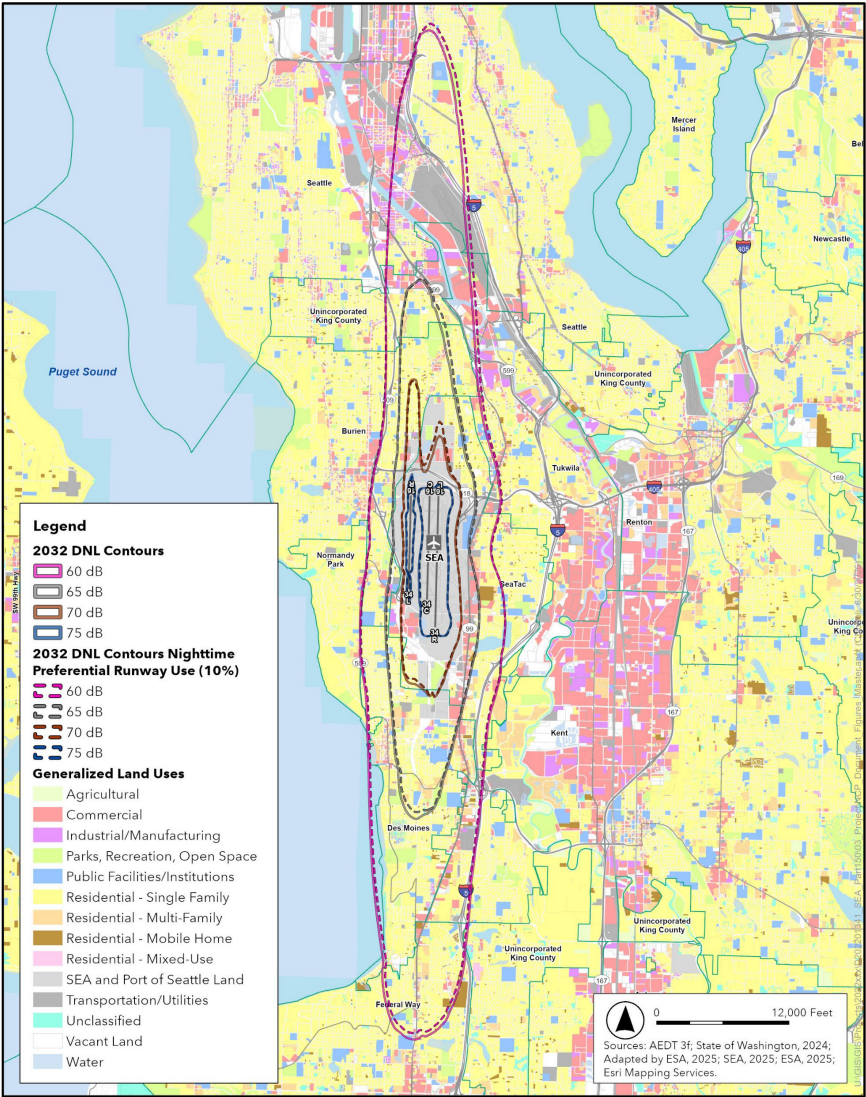
Nighttime Arrival Preferential Runway Use - DNL Contours

All Runways – Housing Units within DNL 65		
Land Use	2032 NEM	10% Shift
Residential - Single Family	5,490	5,501
Residential - Multi-Family	4,617	4,393
Residential - Mobile Home	582	582
Residential - Vacant	3	3
Residential - Mixed-Use	2	2
Total	10,694	10,481
	Difference	(213)

- Notes:
1. 10% operational shift from Runway 16R/34L to 16L/34R.
 2. Includes full parcels in housing and population counts.

All Runways – Population within DNL 65		
Land Use	2032 NEM	10% Shift
Residential - Single Family	15,194	15,300
Residential - Multi-Family	12,802	12,351
Residential - Mobile Home	1,078	1,080
Residential - Vacant	5	5
Residential - Mixed-Use	4	4
Total	29,083	29,741
	Difference	(342)

- Notes:
1. 10% operational shift from Runway 16R/34L to 16L/34R.
 2. Includes full parcels in housing and population counts.



Other Noise Abatement Measures

- Move air traffic over Elliott Bay (**In Progress**)
 - Consider options to reduce the frequency of South Flow arrivals and North Flow departures over residential areas north of Seattle
- Modify Performance Based Navigation (PBN) Standard Terminal Arrival Route (STAR) procedures (**In Progress**)
 - Aims to reduce noise for residential uses exposed to levels lower than DNL 65 dBA
- Optimized Profile Descent (OPD) approach procedures (**Upcoming**)
 - Encourage use of approaches implemented under Greener Skies and reduce noise for residential uses exposed to levels lower than DNL 65 dBA

Land Use Measures

Expand Sound Insulation Program

Long-Term Transient Lodging

- Identify hotel and motel lodging facilities that are used as residential housing within the current Noise Remedy Boundary
 - Length of Stay
 - Weekly or monthly occupancy is common/marketed
 - Residential Function
 - Property serves as a primary residence for many occupants
 - Unit Configuration
 - Units may support long-term living rather than short-term or extended stay lodging
 - Program Feasibility
 - Building characteristics are conducive to sound insulation improvements

Residential Homes

- Expand eligibility beyond existing construction date requirements.
 - Des Moines: December 3, 1986
 - All Other: September 6, 1987
- Increase access to sound insulation benefits for homeowners currently ineligible under existing program criteria.

Encourage King County to Refine Noise Nuisance Rating

- King County Assessor records include an Airport Noise Nuisance field
- Airport noise coded as a binary indicator
 - (e.g., "1" = airport noise present).
- Airport noise field does not currently communicate relative noise exposure levels
- Additional detail could improve transparency and consistency when evaluating airport-related noise. Some examples include:
 - Low, medium, and high airport nuisances
 - DNL-based rating system

LAND DATA	
Highest & Best Use As If Vacant	SINGLE FAMILY
Highest & Best Use As Improved	PRESENT USE
Present Use	Single Family(Res Use/Zone)
Land SqFt	6,387
Acres	0.15
Views	
Rainier	
Territorial	
Olympics	
Cascades	
Seattle Skyline	
Puget Sound	
Lake Washington	
Lake Sammamish	
Lake/River/Creek	
Other View	
Designations	
Historic Site	
Current Use	(none)
Nbr Bldg Sites	
Adjacent to Golf Fairway	NO
Adjacent to Greenbelt	NO
Other Designation	NO
Deed Restrictions	NO
Development Rights Purchased	NO
Easements	NO
Native Growth Protection Easement	NO
DNR Lease	NO
Percentage Unusable	
Unbuildable	NO
Restrictive Size Shape	NO
Zoning	RL
Water	WATER DISTRICT
Sewer/Septic	PUBLIC
Road Access	PUBLIC
Parking	ADEQUATE
Street Surface	PAVED
Waterfront	
Waterfront Location	
Waterfront Footage	0
Lot Depth Factor	0
Waterfront Bank	
Tide/Shore	
Waterfront Restricted Access	
Waterfront Access Rights	NO
Poor Quality	NO
Proximity Influence	NO
Nuisances	
Topography	
Traffic Noise	HIGH
Airport Noise	1
Power Lines	NO
Other Nuisances	YES
Problems	
Water Problems	NO
Transportation Concurrency	NO
Other Problems	NO
Environmental	
Environmental	NO

Encourage Zoning Amendments

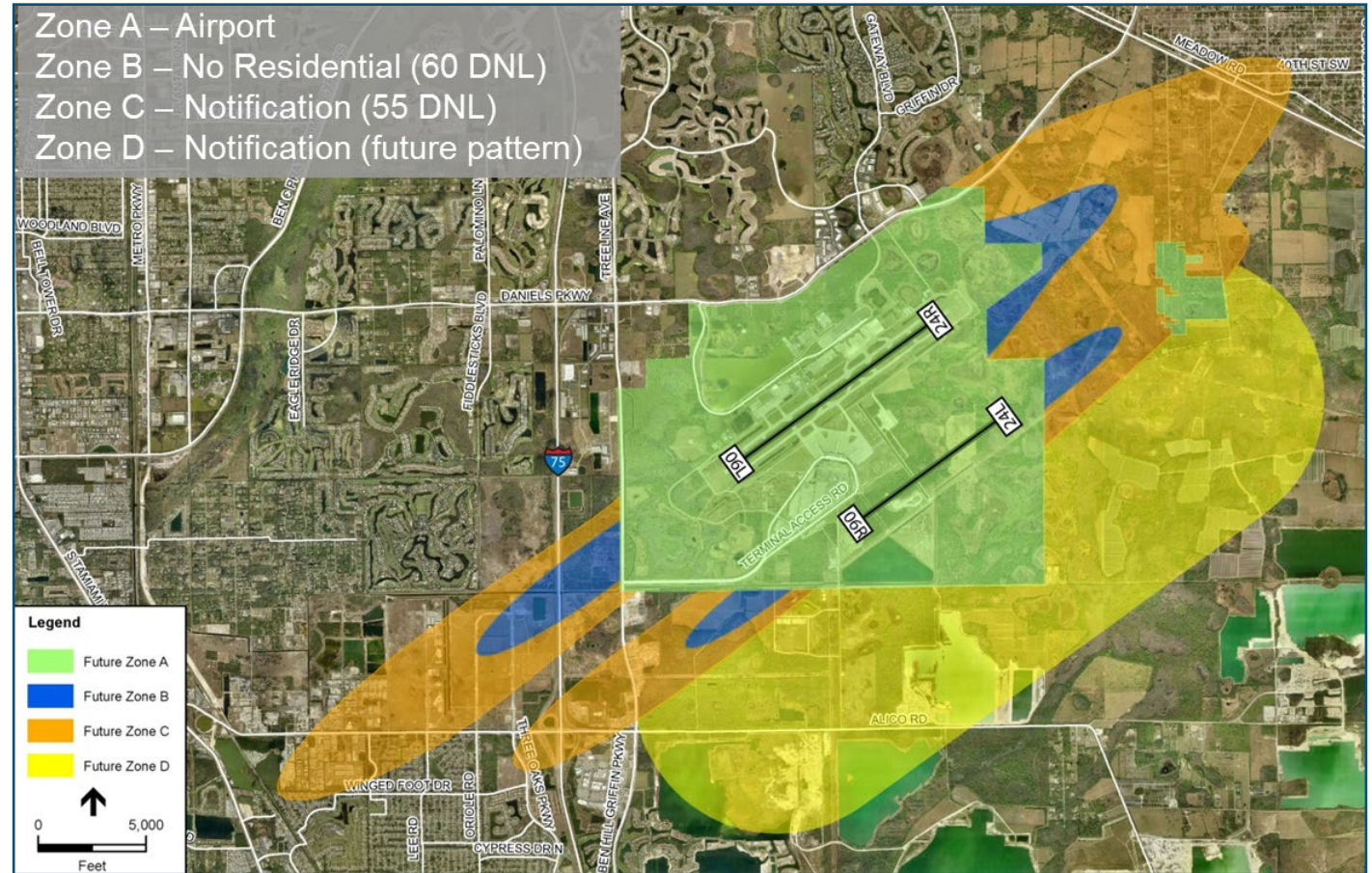
- Can be based on noise contours and/or overflight activity (beyond DNL 65)
- Implemented by local jurisdictions consistent with state enabling legislation
- Typically includes provisions establishing:
 - Specific requirements tied to noise contours
 - Modifications to permitted land uses in underlying zones
 - Exchange of development rights
 - Easement/disclosure requirements for new or redeveloped noise sensitive uses
 - Required exterior-to-interior noise level reductions

Encourage Zoning Amendments

Noise Overlay Zoning

Example:

Southwest Florida International Airport



Encourage Zoning Amendments

- Benefits
 - Establishes requirements within noise overlay zone
 - Enhances compatibility of land uses within noise contours
 - Focused on mitigating key noise related issues
 - Can be used to implement actions beyond DNL 65
 - Consistent with protecting public, health, safety, and general welfare
- Challenges
 - Areas experiencing new or large-scale redevelopment make changes difficult
 - Increased regulations can be controversial
 - Can create new non-conforming uses inside the noise zones
 - Adds additional requirements to existing codes and administrative requirements
 - More stringent construction/renovation requirements can be politically sensitive

Other Land Use Measures

- Encourage Real Estate Disclosures for Properties within DNL 65
 - WA State Law requires disclosure of “material facts or defects” but does not list aircraft noise in the standard disclosure form
 - Location within the NRB could be considered a material fact, but local jurisdictions would need to implement this measure
- Encourage Amending Building Codes
 - Airport noise-specific building codes have been adopted by SeaTac and Burien; would be implemented by local jurisdictions
 - Focus on interior noise level reduction and appropriately rated building materials

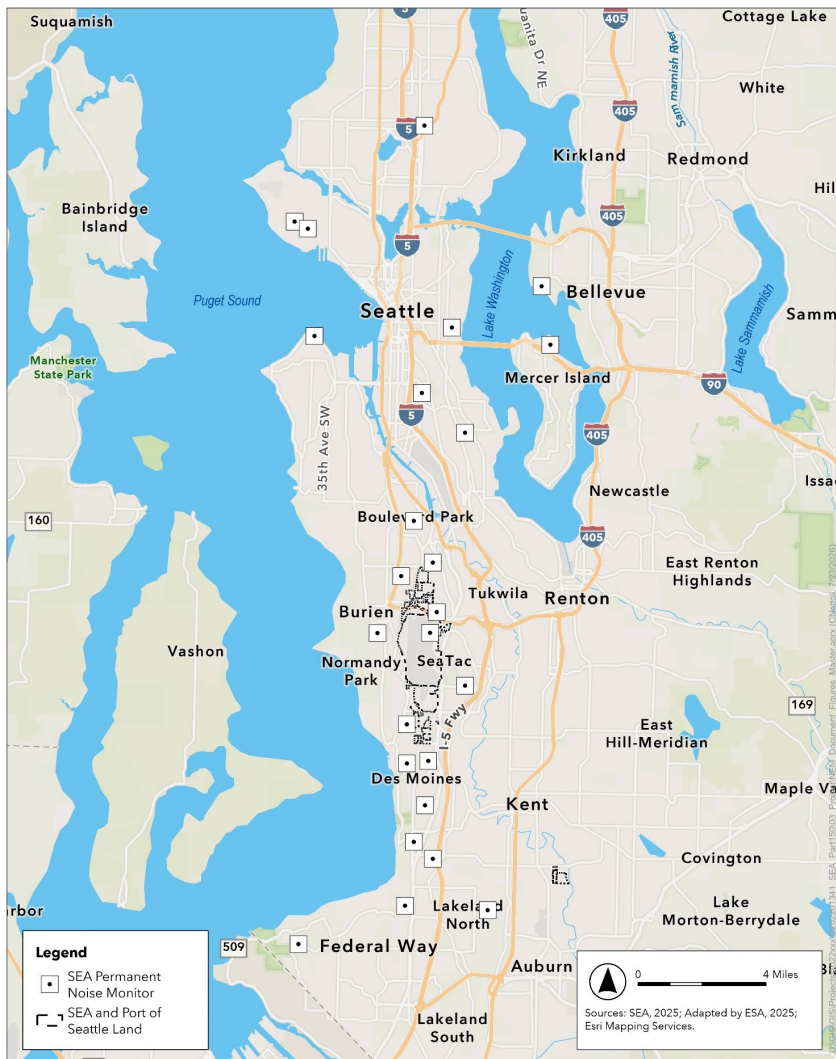
Program Management Measures

Continue Community Education and Outreach

- Continue current community education and engagement as well as expand upon existing programs
- Consider providing additional outreach to neighborhoods, community organizations, and other stakeholders.
- Improve pilot and community education at the Airport (e.g., increased handouts or informational materials)
- Consider enhancing the tools and process for investigating and reporting aircraft operations
- Improve transparency on aircraft operations at SEA



Upgrade Noise and Operations Monitoring System (NOMS)

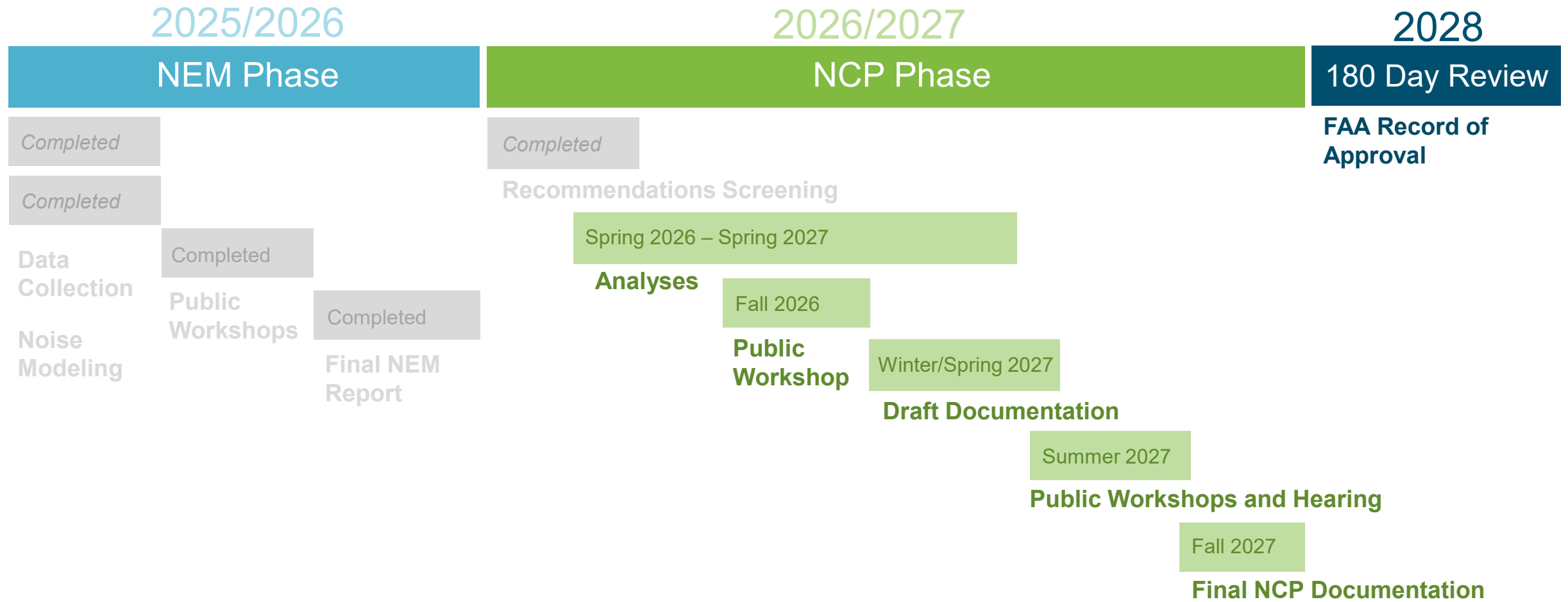


- The Port has 24 noise monitoring stations throughout the greater Seattle area
 - First installed in the late 1980s
 - Upgraded to L3 Harris (PASSUR) in 2015
- System upgrade will enable a comprehensive evaluation of existing monitor locations and identification of potential new monitoring sites
- Opportunity to enhance internal and public-facing tools for aircraft tracking, noise review, and reporting
- Improved access to noise and operational data can increase transparency and community understanding of aircraft activity
- Modernized platform will provide greater flexibility to support future monitoring and reporting needs

Other Program Management Measures

- Expand Fly Quiet Program
 - Identify additional incentives, potentially reduce late night noise operations
- Explore Opportunities to Support Research
 - FAA Center of Excellence (ASCENT) and Continuous Lower Energy, Emissions, and Noise (CLEEN)
 - Partner with academic institutions
 - Active noise control systems

Part 150 Study Schedule



Upcoming Meetings

- Public Workshops
 - October 17th (morning), October 19th (evening), and October 20th (evening)
 - Locations to be confirmed after schools back in session
 - Presenting the potential measures for community feedback and discussion
- Technical Review Committee
 - TRC Meeting #8
 - In Person October 19th or 20th?
 - Discuss status of NCP analysis and preliminary Workshop Feedback
 - Provide information about NCP schedule

Following this meeting, TRC materials will be posted on the Project Website at www.seapart150.com

Questions?