

3.22 Aviation

An important goal of the IBR Program is to avoid or minimize hazards to aircraft navigation at nearby airports and associated airspaces. This section discusses existing aircraft navigation conditions and evaluates the associated beneficial and reasonably foreseeable adverse effects of the proposed Modified LPA and the No-Build Alternative.

The assessment of reasonably foreseeable effects in this section is based upon the geographic and temporal proximity parameters detailed in the Chapter 3 introduction.

There are two airports near the primary study area: Pearson Field in Washington and Portland International Airport (PDX) in Oregon. Each of these airports has federally protected airspace regulated by the Federal Aviation Administration (FAA), as described in Section 3.22.2. Long-term reasonably foreseeable effects to aviation were evaluated using federal aviation regulations, which are the FAA rules that govern all U.S. aviation activities. Federal aviation regulations relevant to the proposed IBR Program include regulating air navigation systems, lights or glare that may affect visibility, and management of wildlife hazards that may increase the probability of aircraft strikes.

The information presented in this section is based on analyses found in the Aviation Technical Report (as listed in Appendix H).

3.22.1 Changes or New Information Since 2013

The Columbia River Crossing (CRC) Selected Alternative identified in the 2011 Record of Decision (ROD), as revised by the 2012 and 2013 re-evaluations, is referred to as the CRC Locally Preferred Alternative (LPA). Over the past 10+ years since the CRC LPA was identified, the physical environment near the Interstate Bridge, community priorities, and regulations have changed, which necessitated design revisions and resulted in the proposed IBR Program Modified LPA (see Section 2.5.2). Evaluation of reasonably foreseeable effects associated with aviation has been updated in this Final SEIS to include:

- Changes to aviation conditions and needs.
- Changes to federal, state, and local aviation regulations.
- New bridge configuration design options added for evaluation due to changed conditions that would each have varying heights with respect to proximity to protected airspace.

3.22.2 Existing Conditions

Protected airspace is regulated by FAA per 14 CFR Part 77, including several imaginary¹ surfaces, in space and on the ground, established in relation to an airport and its runways. Figure 3.22-1 illustrates the following protected surfaces for civil (commercial) airports, such as Pearson Field and PDX, as defined in 14 CFR § 77.19:

- **Horizontal surface.** A horizontal plane 150 feet above the established airport elevation.

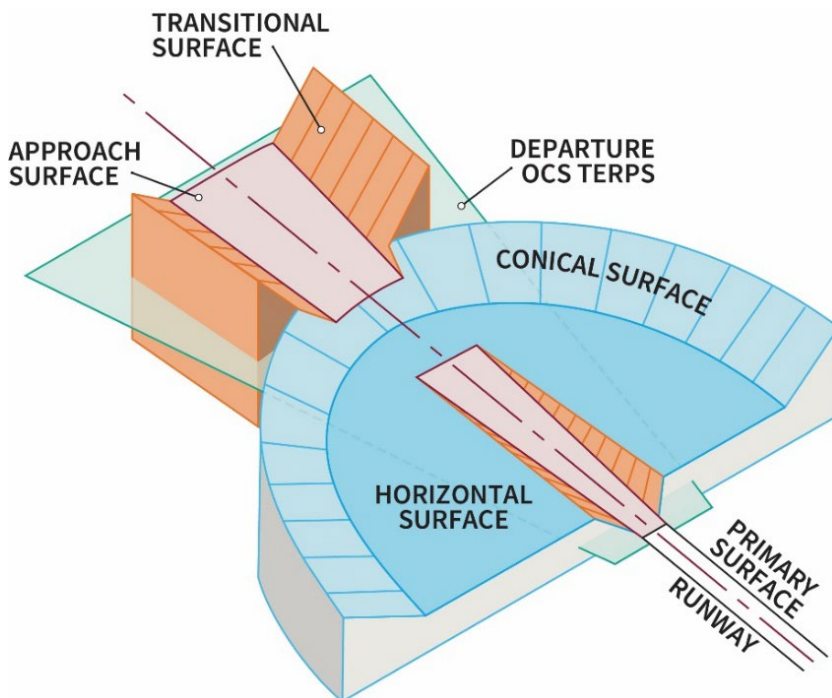
Approach, departure, and other protected air navigation surfaces represent imaginary lines extending upward and outward from the center of the runway that define the area for evaluation of potential obstructions to safe takeoffs and landings.

¹ Surfaces are called imaginary because a person cannot see them; however, they define dimensions and volumes of airspace where certain structures and activities are restricted to protect air navigation.

- **Conical surface.** A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 feet of run to 1 foot of rise for a horizontal distance of 4,000 feet.
- **Primary surface.** A surface longitudinally centered on a runway.
- **Approach surface.** A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. The approach surface protects the airspace for aircraft on approach to land, ensuring that there are no obstacles or structures that could pose a hazard to aircraft during their approach and landing phases.
- **Transitional surfaces.** These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces ensure obstacle clearance for aircraft during the initial phases of their approach and departure.

In addition, aircraft departures from airports are managed by procedures developed under FAA Order 8260.3E U.S. Standard for Terminal Instrument Procedures (TERPS) as established in 14 CFR Part 95 and Part 97. Departure procedures must evaluate obstacles that penetrate a 40:1 slope (40 feet of run-to-1 foot of rise) beginning at the end of a runway, which is called the “obstacle clearance surface” (OCS). If obstacles penetrate the OCS, then the airport is required to establish obstacle departure procedures for aircraft pilots.

Figure 3.22-1. Typical Civil Airport Protected Airspaces



There are two aviation facilities near the primary study area (shown in Figure 3-1 in the Chapter 3 introduction), that could be affected by the Modified LPA: Pearson Field in Vancouver and Portland International Airport (PDX) in Portland. The aviation analysis area for reasonably foreseeable effects to aviation was limited to a portion of the study area nearest to runway operations for both airports. For analysis of reasonably foreseeable effects at PDX, the aviation analysis area extends from the Marine Drive interchange to the SR 14 interchange. For analysis of reasonably foreseeable effects at Pearson Field, the aviation analysis area includes the northern portion of the Interstate Bridge and the SR 14 interchange. Figure 3.22-2 and Figure 3.22-3 show the overlap between Title 14 Code of Federal Regulations (CFR) protected Part 77 (Part 77) airspace and the primary study area.

Figure 3.22-2. Analysis Area for Reasonably Foreseeable Aviation Effects at Portland International Airport

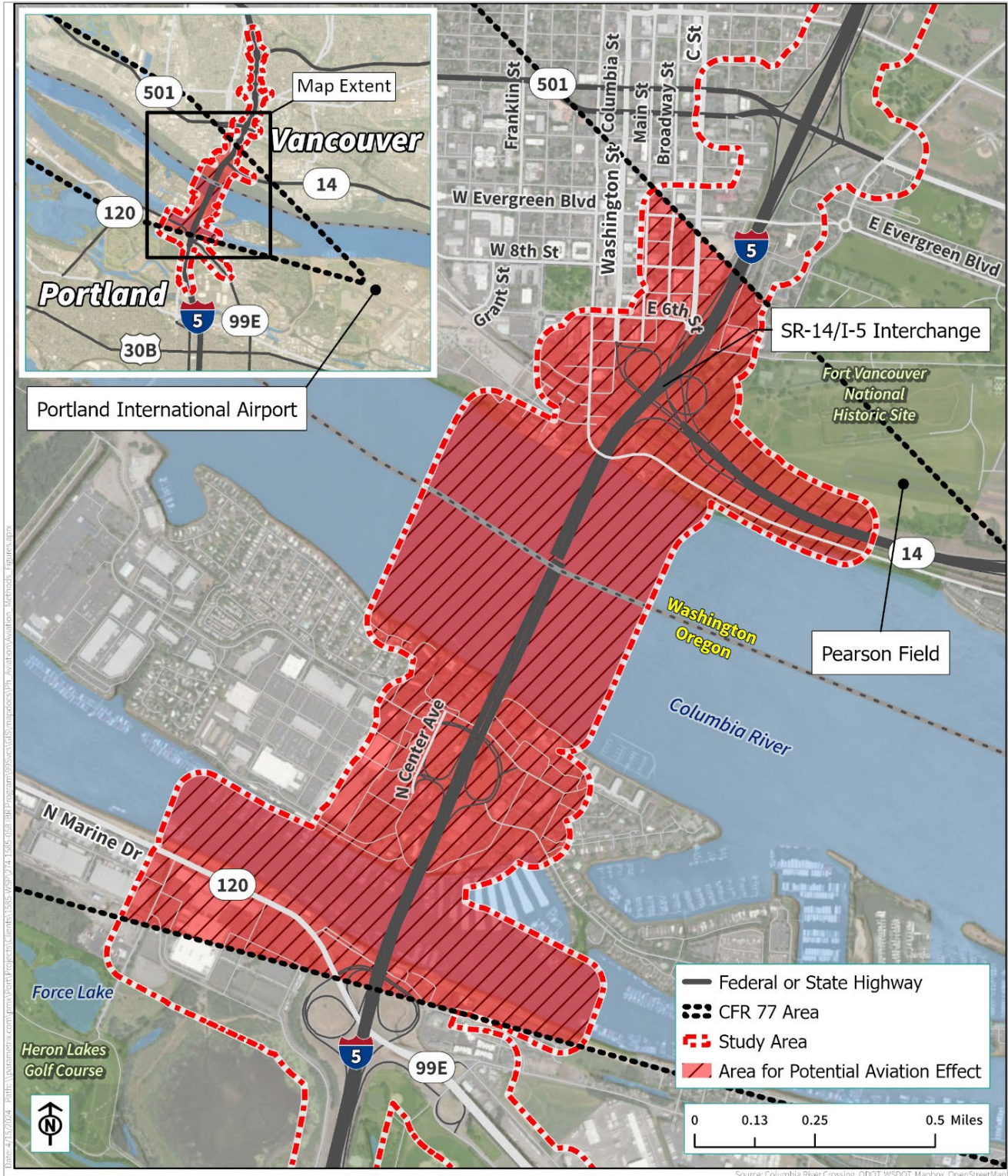
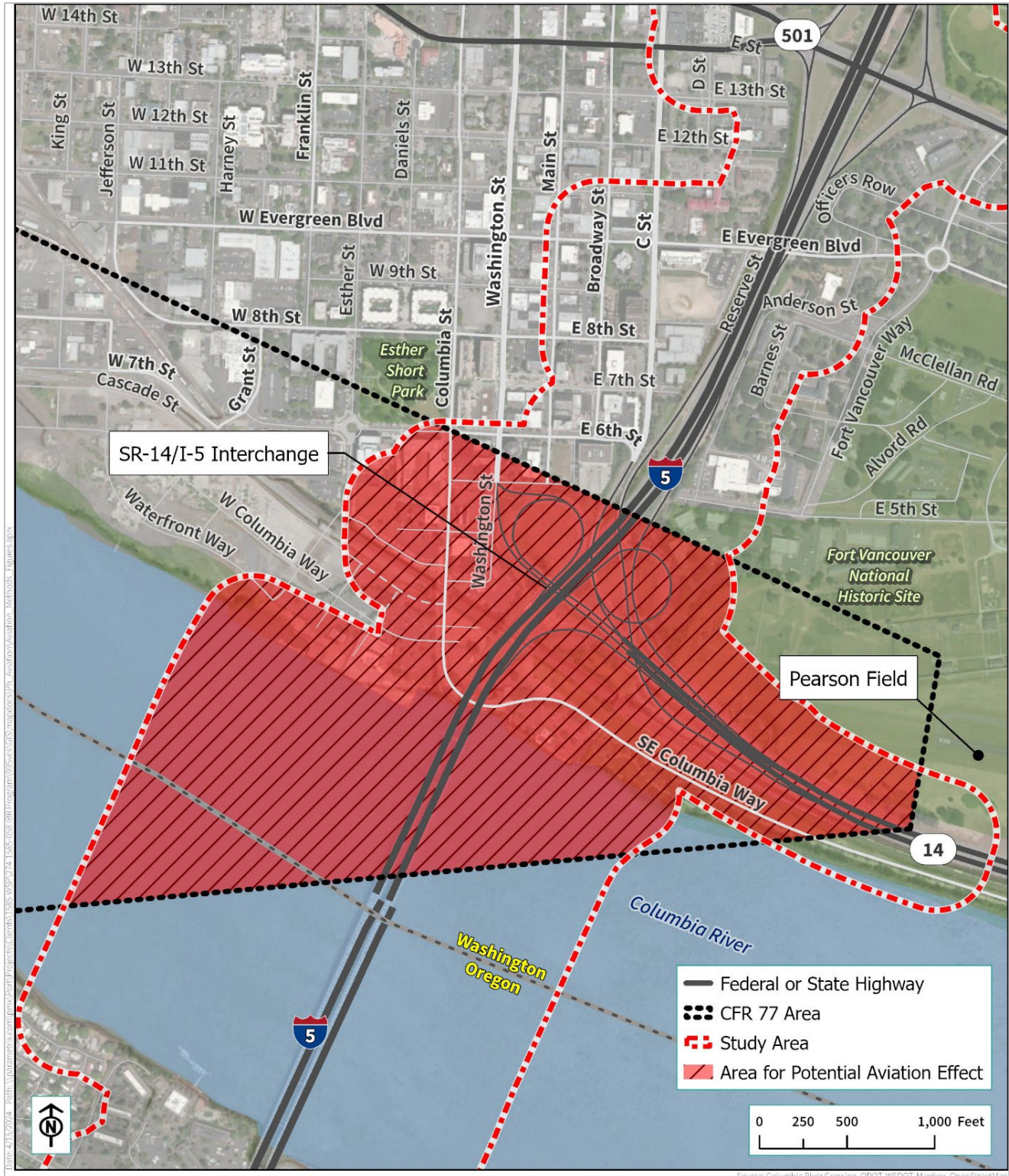


Figure 3.22-3. Analysis Area for Reasonably Forseeable Aviation Effects at Pearson Field



Portland International Airport

PDX is located about 3 miles southeast of the existing Interstate Bridge on the Oregon side of the Columbia River. It is the Portland area's major regional and international airport and serves large commercial passenger and freight service, private aircraft, and the Oregon Air National Guard. Potential future expansions include runway extensions and the addition of a new third runway; however, the most recent Airport Master Plan update determined that these facilities would not be required through the 2035 planning horizon (Portland Bureau of Planning and Port of Portland 2008). The Port of Portland has started updating the PDX Airport Master Plan to guide development and operations at the airport through 2045. The master plan update process is expected to conclude in 2026 (Port of Portland 2025).

Protected Part 77 airspace for PDX is approximately 130 feet above the top of the lift-span towers of the Interstate Bridge, and the Interstate Bridge is outside the OCS for PDX. As a result, the existing Interstate Bridge creates no intrusion or hazard for aircraft navigation at PDX.

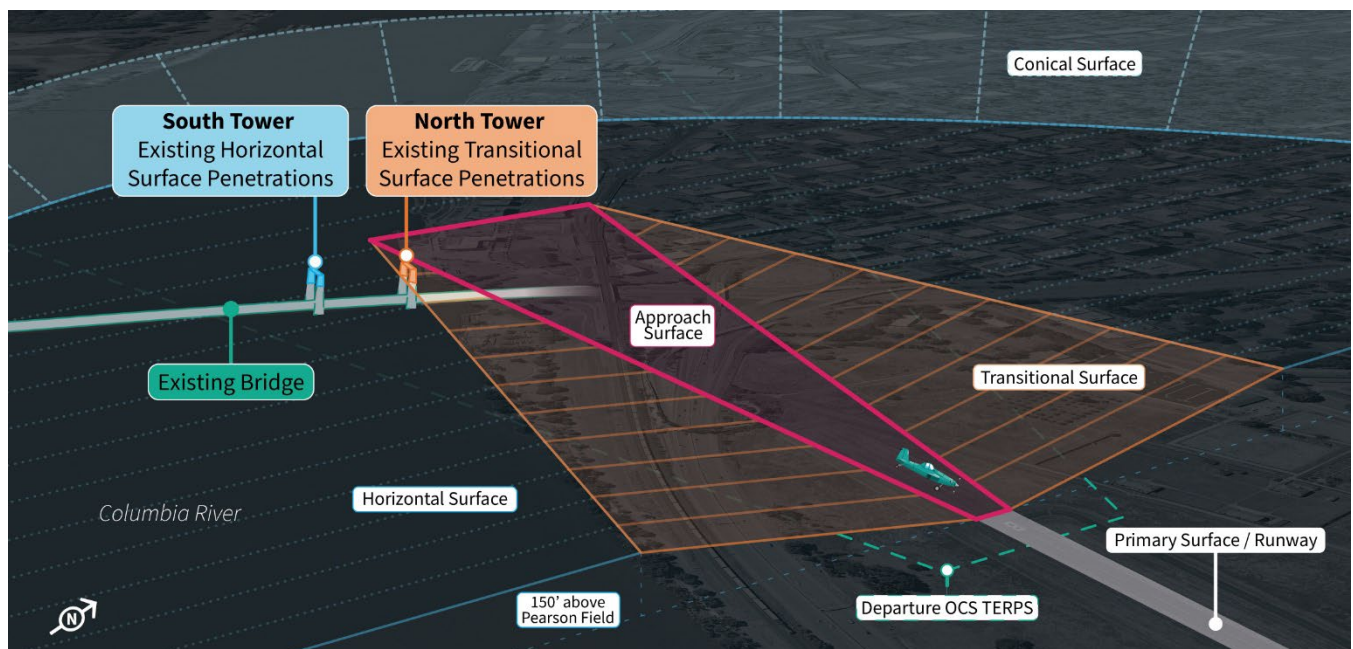
Pearson Field

Pearson Field, on the Washington side of the Columbia River, serves primarily small, piston-engine aircraft weighing 10,000 pounds or less. Because it is surrounded by developed urban uses and the Vancouver National Historic Reserve, there are no plans to expand facilities or operations at this airfield.

The existing Interstate Bridge and Pearson Field both predate current 14 CFR Part 77, Part 95, and Part 97 regulations. Currently, the Interstate Bridge lift-span towers intrude into Part 77-protected airspace (70 feet into the horizontal surface and 98 feet into the transitional surface) and the OCS for Pearson Field (see Figure 3.22-4). To mitigate these conditions, the existing lift-span towers are marked with lights, and the FAA issues obstacle departure procedures to avoid the Interstate Bridge lift towers.

Furthermore, the existing Interstate Bridge's open-truss framing unintentionally provides bird roosting and nesting areas, which in turn can contribute to potential wildlife strike hazards for aircraft. Wildlife strikes can cause damage to aircraft and potential loss of life; thus, birds and their habitat are an important concern at Pearson Field. To date, ODOT has used deterrents such as sound cannons to discourage birds from roosting or nesting on the existing bridges.

Figure 3.22-4. Pearson Field Protected Airspace – Existing Bridge Penetrations



Scappoose Airport

The Scappoose Airport (SPB) is located approximately 23 miles northwest of the Interstate Bridge in Columbia County, Oregon, west of the Columbia River and east of US Highway 30 (Lower Columbia River Highway). The airport's runway is located approximately 2 miles from the Columbia Bottomlands mitigation site (see Chapter 2, Description of Alternatives).

3.22.3 Long-Term Benefits and Reasonably Foreseeable Effects

The geographic proximity and temporal scope described in the Chapter 3 introduction were used to assess long-term benefits and reasonably foreseeable effects to aviation.

No-Build Alternative

Under the No-Build Alternative, the Interstate Bridge lift-span towers would continue to intrude on Pearson Field's protected airspace. Existing obstacle departure procedures would remain in place for pilots. The open-truss structure of the existing bridge would continue to provide bird roosting and nesting habitat, functioning as a potential source of aircraft wildlife strike hazards. Hazards to aviation would remain because the Interstate Bridge lift-span towers have historically been an aviation hazard, and aircraft wildlife strike hazards from birds using the structure are documented and subject to mitigation measures.

The existing Interstate Bridge does not affect aviation at PDX or SPB. Therefore, the No-Build Alternative would not affect aviation at PDX or SPB.

Modified LPA

The analysis of the Modified LPA includes all design options (including the Recommended Design Options) described in Chapter 2, Description of Alternatives. If there is a difference in the reasonably foreseeable effects among design options, those differences are identified and described specifically. The Modified LPA, including all design options, would benefit aviation safety and efficiency. Effects on Portland International Airport, Pearson Field, and Scappoose Airport are discussed below. The IBR Program will continue to monitor potential effects to PDX through close coordination with the Port of Portland and their ongoing master planning efforts at PDX.

Portland International Airport

No reasonably foreseeable long-term effects on aviation activities at PDX would result from the Modified LPA, including all design options, because the new Columbia River bridges would remain outside its protected airspace. Protected airspace for PDX in the vicinity of the Interstate Bridge is approximately 130 feet above the top of the existing lift-span towers. Because the current preliminary movable-span bridge configuration design option proposes new lift towers at an elevation similar to the existing lift towers, the single-level movable-span bridge configuration design option would not penetrate or create a hazard for aircraft navigation at PDX.

Pearson Field

The new Columbia River bridges would be located slightly farther downstream and thus slightly farther from Pearson Field compared to the existing Interstate Bridge. The IBR Program has assumed a 17-foot vertical clearance envelope above the roadway surface to account for the height of vehicles operating on the highway. Above this envelope, the IBR Program assumes an additional 13-foot envelope to accommodate signs and lighting. The FAA provided feedback on potential penetrations, noting penetrations in the horizontal and transitional surfaces could be mitigated with low-profile signs and lighting, but penetrations in the approach surface could not be mitigated. Therefore, as bridge design progresses, the IBR Program will pursue designs

that avoid penetrating the approach surface at Pearson Field. Effects to protected airspaces by bridge configuration design option include the following, summarized in Table 3.22-1:

- The single-level fixed-span bridge configuration (Recommended Design Option) would avoid intrusions to protected airspace.
- The roadway deck for the Modified LPA with a double-deck fixed-span bridge configuration design option would have an approximate maximum height of 160 feet and would be outside protected airspace for Pearson Field. The 17-foot envelope above the deck for vehicle traffic would also avoid penetration of all protected airspace. The current design assumes a 13-foot envelope for signs and lighting above the vehicle envelope. If designed to the extent of this envelope, some signs and lighting would penetrate the horizontal surface to a maximum depth of 12.5 feet. Where needed, low-profile signs and lighting would be used to avoid intrusions into the approach and transitional surfaces (Figure 3.22-5 and Figure 3.22-6).
- The lift-span towers for the Modified LPA with the single-level movable span bridge configuration design option would penetrate the Pearson Field protected airspace, specifically the horizontal surface. The penetration would be located south of the existing tower locations, such that the new obstructions would not penetrate the Pearson Field transitional or approach surfaces (Figure 3.22-7). Therefore, although the single-level movable-span bridge configuration design option would penetrate Pearson Field horizontal surface, it would not likely be deemed a hazard to aviation by the FAA’s 7460 findings following their aeronautical review, since their preliminary feedback noted that the proposed lift span towers would not be taller or penetrate farther above the horizontal surface than that of the existing lift span towers.

Figure 3.22-5. Locations for Low-Profile Signs and Lights on Modified LPA with Double-Deck Fixed-Span Bridge Configuration Design Option (Profile View)

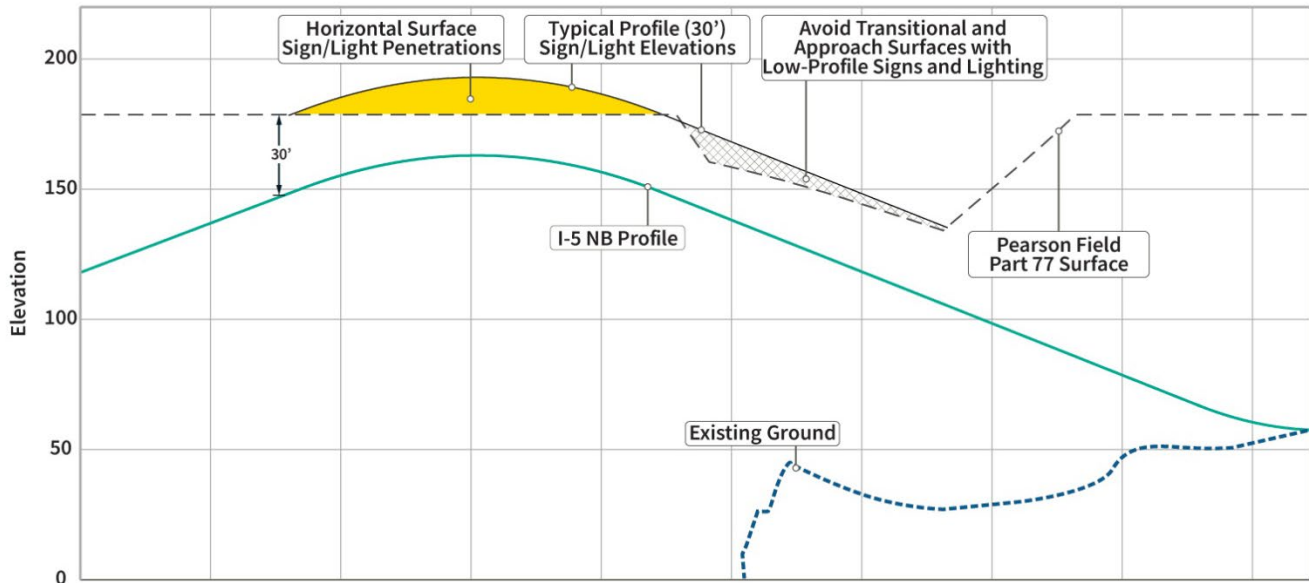


Figure 3.22-6. Locations for Low-Profile Signs and Lights on Modified LPA with Double-Deck Fixed-Span Bridge Configuration Design Option (Plan View)

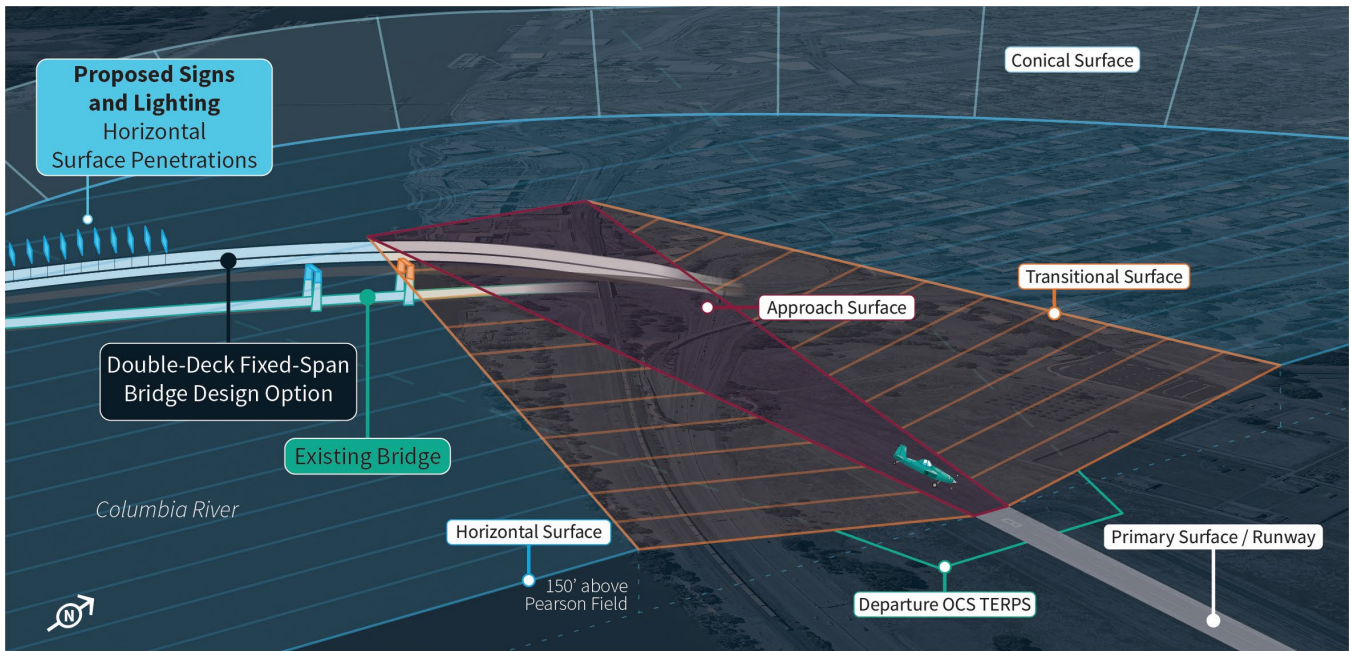
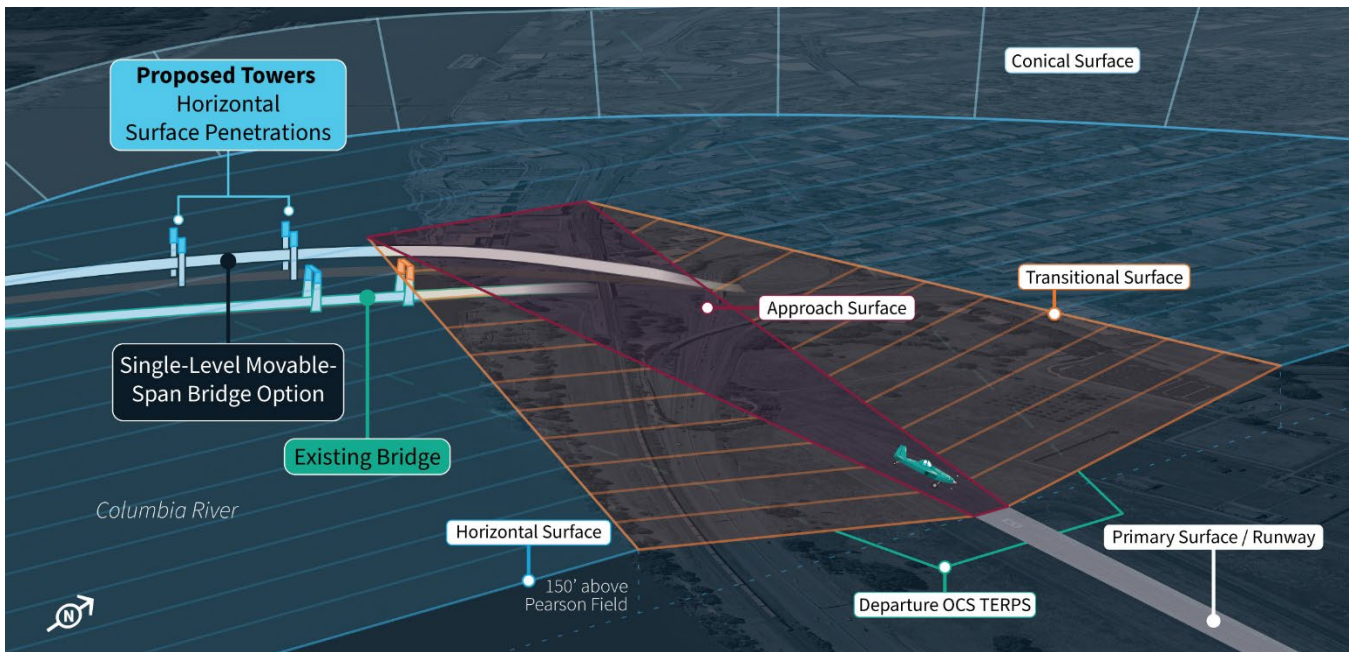


Figure 3.22-7. Pearson Field Protected Airspace – Modified LPA with Single-Level Movable-Span Bridge Configuration Design Option Intrusion



The goal of the new Columbia River bridges configuration design options and alignment is to minimize the reasonably foreseeable effects on both Columbia River marine navigation and Pearson Field air navigation. However, the vertical navigation clearance for marine vessels/cargo and the westbound departure OCS for Pearson Field overlap. Therefore, obstruction of the westbound departure OCS is unavoidable by any bridge configuration design option or alignment. Under all design options of the Modified LPA, required westbound departure climb gradients would be less steep than under the No-Build Alternative, as follows:

- Compared to the No-Build Alternative, the Modified LPA with either the double-deck fixed-span bridge configuration design option or the single-level fixed-span bridge configuration design option, including the C Street ramps design option, would decrease the westbound departure procedures climb gradient from 650 feet per nautical mile (ft/NM) to approximately 427 ft/NM and 474 ft/NM, respectively, as the existing lift towers would no longer be an obstacle.
- The fixed-span bridge configuration design options without the C Street ramps at the SR 14 interchange would further reduce the westbound departure procedures climb gradient to approximately 401 ft/NM (double-deck) and 357 ft/NM (single-level).
- The Modified LPA with the single-level movable-span bridge configuration design option would decrease the westbound departure procedures climb gradient from 650 ft/NM to approximately 544 ft/NM.

Wildlife in and around airports is a hazard to aviation. Wildlife hazards may be the most important long-term concern for aviation at Pearson Field. Aircraft striking wildlife can cause damage to an airplane and even loss of life. The open-truss framing of the existing Interstate Bridge has historically fostered bird roosting and nesting; similarly, the new Columbia River bridges could also attract birds near Pearson Field. The Modified LPA would be designed with consolidated structural elements that reduce the areas on which birds can land, roost, and potentially nest. Fewer birds would be attracted to the new Columbia River bridges as a result, and continued incorporation of bird deterrent measures into the bridge maintenance program would further reduce the potential for wildlife strike hazards at Pearson Field. Stormwater ponds constructed as part of the Modified LPA would include deterrent features commonly used at other airports, such as nets, to discourage birds from using the ponds. Any stormwater ponds less than 5,000 feet from Pearson Field's runway would be designed and operated in accordance with FAA Advisory Circular (AC) 150/5200-33C (FAA 2020a).

Scappoose Airport

Wetland and habitat restoration at the Columbia Bottomlands mitigation site would be included as part of the Modified LPA. Due to the nearly 2-mile distance between the airport and the mitigation site, no change in the risk of wildlife hazards to aviation is expected to occur as a result of the Modified LPA. The wetland mitigation site will meet the guidance provided in the FAA AC 150/5200-33C (FAA 2020a) and Scappoose Municipal Code 17.88.090.

Table 3.22-1. Long-Term Aviation Benefits and Effects on Pearson Field

0 Effect	1 No-Build Alternative	2: IBR Program Recommended Design Options Modified LPA with Single-Level Fixed-Span Bridge Configuration, One Auxiliary Lane, with C Street ramp, Centered I-5, and All Five Park and Rides	3 Single-Level Fixed-Span Bridge Configuration, <u>Two Auxiliary Lanes,</u> <u>without C Street Ramp,</u> <u>I-5 Westward Shift,</u> and All Five Park and Rides	4 Modified LPA with <u>Double-Deck Fixed-</u> <u>Span Bridge</u> Configuration, One Auxiliary Lane, with C Street ramp, Centered I-5, and All Five Park and Rides	5 Modified LPA with <u>Single-Level Movable-</u> <u>Span Bridge</u> Configuration, One Auxiliary Lane, with C Street ramp, Centered I-5, and All Five Park and Rides
Horizontal Surface	98 vertical feet penetration by south lift tower, illuminated to increase visibility	No penetration	No penetration	Up to 12.5 vertical feet penetration by signs and lighting, illuminated to increase visibility	64 vertical feet penetration by lift towers, illuminated to increase visibility
Approach Surface	No penetration	No penetration	No penetration	Use low-profile signs and lighting on north ends of upper decks to avoid penetration	No penetration
Transitional Surfaces	Penetration by existing Interstate Bridge north lift tower; illuminated	No penetration	No penetration	Use low-profile signs and lighting on north ends of upper decks to avoid penetration	No penetration

0	1	2: IBR Program Recommended Design Options	3	4	5
Effect	No-Build Alternative	Modified LPA with Single-Level Fixed-Span Bridge Configuration, One Auxiliary Lane, with C Street ramp, Centered I-5, and All Five Park and Rides	Single-Level Fixed-Span Bridge Configuration, Two Auxiliary Lanes, <u>without C Street Ramp, I-5 Westward Shift, and All Five Park and Rides</u>	Modified LPA with <u>Double-Deck Fixed-Span Bridge Configuration</u> , One Auxiliary Lane, with C Street ramp, Centered I-5, and All Five Park and Rides	Modified LPA with <u>Single-Level Movable-Span Bridge Configuration</u> , One Auxiliary Lane, with C Street ramp, Centered I-5, and All Five Park and Rides
Westbound Departure OCS	Obstacle departure procedures required to avoid existing Interstate Bridge lift towers; climb gradient is 650 ft/NM	Obstacle departure procedures required to avoid new bridges; climb gradient reduced to 474 ft/NM ^a	The single-level fixed-span bridge Configuration bridge configuration, two auxiliary lanes, without C Street ramps, and I-5 westward shift design options would each be similar to the effects for the single-level fixed-span bridge configuration, one auxiliary lane, with C Street ramps, and centered I-5, as listed in Column 2, except: <ul style="list-style-type: none"> Without C Street ramps, climb gradient further reduced to 357 ft/NM 	Obstacle departure procedures required to avoid new bridges; The double-deck fixed-span bridge configuration design option would reduce climb gradient to 427 ft/NM <ul style="list-style-type: none"> The double-deck fixed-span bridge configuration design option, without C Street ramps, climb gradient further reduced to 401 ft/NM 	Obstacle departure procedures required to avoid new bridges; climb gradient reduced to 544ft/NM for vertical lift span, with and without C Street ramps

Interstate Bridge Replacement Program

0	1	2: IBR Program Recommended Design Options	3	4	5
Effect	No-Build Alternative	Modified LPA with Single-Level Fixed-Span Bridge Configuration, One Auxiliary Lane, with C Street ramp, Centered I-5, and All Five Park and Rides	Single-Level Fixed-Span Bridge Configuration, <u>Two Auxiliary Lanes</u> , <u>without C Street Ramp</u> , <u>I-5 Westward Shift</u> , and All Five Park and Rides	Modified LPA with <u>Double-Deck Fixed-Span Bridge</u> Configuration, One Auxiliary Lane, with C Street ramp, Centered I-5, and All Five Park and Rides	Modified LPA with <u>Single-Level Movable-Span Bridge</u> Configuration, One Auxiliary Lane, with C Street ramp, Centered I-5, and All Five Park and Rides
Wildlife Strike Risk	Existing open-truss framing continues to provide bird roosting and nesting areas, existing ODOT deterrence measures continue; aircraft wildlife strike risk continues at existing level	Design bridge features to reduce potential for bird nesting and roosting combined with continued deterrence measures would reduce potential for aircraft wildlife strikes from existing level	Design bridge features to reduce potential for bird nesting and roosting combined with continued deterrence measures would reduce potential for aircraft wildlife strikes from existing level	Design bridge features to reduce potential for bird nesting and roosting combined with continued deterrence measures would reduce potential for aircraft wildlife strikes from existing level	Design bridge features to reduce potential for bird nesting and roosting combined with continued deterrence measures would reduce potential for aircraft wildlife strikes from existing level

Note: The underlined design options shown in columns 3 through 4 identify the specific effects on aviation for that particular design option compared to the Modified LPA with Recommended Design Options (column 2). For example, the effects of the double-deck fixed-span bridge configuration design option would occur with any other combination of the C Street ramps, I-5 alignment, bridge configuration, and park and ride design options.

a The climb gradient is steeper for the single-level fixed-span bridge configuration design option with C Street ramps compared to the double-deck fixed-span bridge configuration design option due to the single-level fixed-span bridge configuration design option’s increased width and the reduced distance between the C Street off-ramp and the Pearson Field runway.

ft/NM = feet per nautical mile; I-5 = Interstate 5; LPA = Locally Preferred Alternative; OCS = obstacle clearance surface; ODOT = Oregon Department of Transportation

3.22.4 Temporary Reasonably Foreseeable Effects

The geographic proximity and temporal scope described in the Chapter 3 introduction are used to assess temporary reasonably foreseeable effects to aviation.

No-Build Alternative

No Program-related construction activities would take place under the No-Build Alternative that would have temporary benefits or effects to aviation.

Modified LPA

Reasonably foreseeable temporary effects on aviation would not differ among the Modified LPA design options, unless otherwise noted below. Construction activities are not anticipated to affect aircraft navigation to and from PDX because construction equipment is not anticipated to exceed a height of 375 feet, the point at which it would begin to penetrate the PDX-protected airspace.

Tall cranes used during construction of the new Columbia River bridges and the SR 14 interchange and demolition of the Interstate Bridge would create temporary potential hazards to aviation at Pearson Field. Equipment used to remove the existing lift-span towers would likely be the tallest construction equipment on site and therefore the most likely to present a hazard to aviation. The degree to which aviation would be affected depends on the construction methods employed. FAA would review construction plans to determine potential effects and associated mitigation before construction could begin.

Construction of the SR 14 interchange would penetrate the restricted airspace for Pearson Field. Temporary storage of fill, cranes, or other construction-related materials and equipment could also temporarily penetrate the Part 77 imaginary surfaces. As with the construction of the Columbia River bridges, the actual intensity of effects would depend on the equipment and construction methods proposed by the contractor. Following FAA's review of the equipment locations and heights proposed by the contractor, the FAA may issue temporary modifications to flight procedures during construction for aircraft operating at Pearson Field.

Construction dust or air pollutant releases from construction equipment in the SR 14 area could pose a short-term hazard to aircraft operations at Pearson Field by reducing visibility. Wind could cause dust by disturbing uncovered fill or open excavations. Trucks and equipment traveling on unimproved construction roads could also stir up dust, impairing visibility.

Activities at the staging and casting yards would not be expected to have temporary effects on aviation.

Reasonably foreseeable temporary aviation effects under the single-level movable-span bridge configuration design option would be similar in character to those described above but would be longer in duration than for fixed-span bridge configuration design options—potentially up to an additional two years. Effects would be prolonged because tall cranes would be required to construct the new lift towers associated with the movable-span bridge configuration design option.

3.22.5 Intentionally Left Blank

3.22.6 Avoidance, Minimization, and Mitigation Measures

Table 3.22-2 lists temporary and long-term avoidance and minimization measures. Table 3.22-3 lists temporary and long-term mitigation measures.

Avoidance, minimization, and mitigation measures for air and water quality and hydrology impacts that could potentially affect aviation are described in Section 3.10 and Section 3.14 and are not included in the tables below.

Table 3.22-2. Avoidance and Minimization Measures

Temporary or Long-Term	Impact Type	Avoidance and Minimization Measure
Temporary	Aviation obstruction during construction	In the area of demolition of the Interstate Bridge and construction activities for the Columbia River bridges and the SR 14 interchange, ODOT and WSDOT will coordinate with the contractor to prepare the FAA AC 70/7460-1M for FAA approval. Means and methods proposed by the contractor will be modified to mitigate and address FAA comments, such as the locations of tall cranes near Pearson Field.
Temporary	Electronic device interference with aviation during construction	ODOT and WSDOT will coordinate with the contractor to implement construction specifications to confirm that contractors working near Pearson Field will not use any electronic devices that interfere with equipment required for air navigation and communication as specified in FAA Order 6050.32B “Spectrum Management Regulations and Procedures Manual.”
Temporary	Stormwater facilities becoming a Hazardous Wildlife Attractant during construction	ODOT and WSDOT will coordinate with the contractor to identify Modified LPA stormwater facilities within 5,000 feet of Pearson Field’s Runway 8 that are likely to need modifications/treatments to avoid becoming a Hazardous Wildlife Attractant. WSDOT’s Aviation Stormwater Design Manual (2008) and FAA AC 150/5200-33C “Hazardous Wildlife Attractants on or Near Airports” will be followed in this area to eliminate hazards to airports.
Temporary	Dust, glare, and smoke obstructions for aviation during construction	ODOT and WSDOT will coordinate with the contractor to apply dust control measures such as watering exposed soil and using gravel surfacing on temporary construction roads. The Air Quality Technical Report lists dust control requirements in both Oregon and Washington. Construction materials and activities will be managed to minimize glare and smoke.
Long-Term	Obstruction hazard to aviation	During final design, ODOT and WSDOT will comply with the FAA’s findings in response to the IBR Program’s Form 7460-1. The FAA will issue a finding of “hazard to aviation” or “no hazard to aviation” upon completion of the aeronautical review.
		ODOT and WSDOT will provide design plans to FAA to develop revised flight procedures to address changes in departure gradient requirements.
		ODOT and WSDOT will follow FAA requirements for marking obstacles; this will likely include design, marking, and maintenance according to FAA AC 70/7460-1M “Obstruction Marking and Lighting” using equipment specified in FAA AC 150/5345-43J “Specification for Obstruction Lighting Equipment.”

Temporary or Long-Term	Impact Type	Avoidance and Minimization Measure
Long-Term	Stormwater facilities and offsite mitigation sites becoming a Hazardous Wildlife Attractant	ODOT and WSDOT will coordinate with the contractor to identify Modified LPA stormwater facilities within 5,000 feet of Pearson Field’s Runway 8 that are likely to need modifications/treatments to avoid becoming a Hazardous Wildlife Attractant. WSDOT’s Aviation Stormwater Design Manual (2008) and FAA AC 150/5200-33C “Hazardous Wildlife Attractants on or Near Airports” will be followed in this area to eliminate hazards to airports. Offsite wetland mitigation sites will also conform with FAA guidance in AC 150/5200-33C.
Long-Term	Birds roosting in proposed structures during construction	ODOT and WSDOT will incorporate modern construction materials and designs of proposed structures and features that minimize locations for birds to roost or nest, as feasible.

AC = Advisory Circular; FAA = Federal Aviation Administration; IBR = Interstate Bridge Replacement; LPA = Locally Preferred Alternative; ODOT = Oregon Department of Transportation; SR = State Route; WSDOT = Washington State Department of Transportation

Table 3.22-3. Mitigation Measures

Temporary or Long-Term	Impact Type	Mitigation Measure
Temporary	Obstruction hazard to aviation	ODOT and WSDOT will coordinate with the contractor to conduct outreach before and during construction to provide information to pilots on findings or recommendations following the FAA’s review of the FAA AC 70/7460-1M, including any temporary obstruction proposed by the contractors.
Long-Term	Glare affecting aviation activities	ODOT and WSDOT will design roadway or accent lighting on the bridges and surrounding interchanges to limit light or glare that could affect aviation at Pearson Field or Portland International Airport, as feasible.

AC = Advisory Circular; FAA = Federal Aviation Administration; ODOT = Oregon Department of Transportation; SR = State Route; WSDOT = Washington State Department of Transportation