

Environmental and Community Effects of 8, 10 and 12 Lane Scenarios

The following table highlights how changing the number of add-drop lanes on the river crossing, and between subsequent interchanges, could result in different environmental impacts. This table does not describe environmental impacts that would be the same regardless of the number of lanes.

SUMMARY

None of the differences in impacts are significant. However, the primary differences include:

- The 10 lane option would have lower property impacts on the Vancouver National Historic Reserve (VNHR) than the 12 lane, but would have no meaningful difference in impacts to other properties. The 8 lane option would have only slightly lower impacts than the 10 lane.
- Regional air emissions would be essentially the same among all of the add/drop lane options. However, the 8 lane and 10 lane options, with fewer vehicle trips on I-5, would have slightly lower emissions in the immediate project area. However, this could be offset by higher congestion, and by added emissions in the I-205 corridor.
- With fewer add/drop lanes and much higher I-5 congestion, the 8 lane option would have more cut-through traffic on local streets and thus greater neighborhood impacts.

Environmental Discipline	12 Lanes* vs. No Build	10 Lanes vs. 12 Lanes	8 Lanes vs. 12 Lanes
Air Quality	Slight reduction in regional emissions, and in 3 of 4 subareas due to decreased congestion from 15 hrs/day to 3.5–5.5 hrs/day, and fewer vehicles crossing the river (391,000/day vs. 394,000/day under No Build).	Same regional emissions, and perhaps very slight reduction in emissions for project subareas due to slightly fewer vehicle trips.	Same regional emissions, and perhaps very slight reduction in emissions for subareas due to slightly fewer vehicle trips.
Archaeological and Historic Resources	High probability of finding archaeological remains in earth disturbance on the VNHR property. Impact on 6–8 historic resources.	High probability of finding archaeological remains in earth disturbance on the VNHR property, but reduced impact on VNHR property, approximately: <ul style="list-style-type: none"> • 2–30 feet less encroachment around the SR 14 loop. • 15–20 feet further from FHWA building. • 5–10 feet further from Post Hospital. Impact on 6–8 historic resources.	High probability of finding archaeological remains in earth disturbance on the VNHR property, but reduced impact on VNHR property, approximately: <ul style="list-style-type: none"> • Approximately 2-30 feet less encroachment around the SR 14 loop. • 20–25 feet further from FHWA building. • 5–10 feet further from Post Hospital. Impact on 5–7 historic resources.
Neighborhood Quality/Cohesion	Reduction in congestion would reduce cut-through traffic on local streets.	Increased congestion (+35%) on I-5 could lead to more traffic diversion onto local streets.	Increased congestion (+75%) on I-5 could lead to more traffic diversion onto local streets.
Economics	Substantial improvement to truck-hauled freight due to reduced congestion and improved highway design. Improved mobility would increase economic attractiveness for businesses to locate and/or grow in this region.	Increased congestion (+35%) and fewer auxiliary lanes would provide less benefit to truck-hauled freight mobility.	Increased congestion (+75%) and fewer auxiliary lanes would provide less benefit to truck-hauled freight mobility.
Ecosystems and Stormwater	Fewer, though larger, piers in the water could improve conditions for listed fish. Greater highway impervious surface would increase runoff volume, but this runoff would now be treated whereas most I-5 runoff currently flows untreated into receiving waterbodies.	Very slight reduction in size of bridge pier foundations in the Columbia River. Slightly reduced impervious surface could allow comparable reduction in capacity of treatment facilities, but would not result in changes in treatment or discharge quality.	Very slight reduction in size of bridge pier foundations in the Columbia River. Slightly reduced impervious surface could allow comparable reduction in capacity of treatment facilities, but would not result in changes in treatment or discharge quality.

* The 12 lane information is based on Draft EIS findings, not the refined design of the Locally Preferred Alternative that will be evaluated in the Final EIS.

Environmental Discipline	12 Lanes* vs. No Build	10 Lanes vs. 12 Lanes	8 Lanes vs. 12 Lanes
Greenhouse Gases	River crossing highway emissions would be about 9.5% lower than No Build.	Similar GHG emissions to 12 lane. Fewer vehicle crossings (-2,000) would reduce emissions, but higher congestion (+35%), more accidents (+20%) and more diversion to I-205 (+1,500 trips) would increase emissions.	Similar GHG emissions to 12 lane. Fewer vehicle crossings (-6,500) would reduce emissions, but higher congestion (+75%), more accidents (+80%) and more diversion to I-205 (+4,500) would increase emissions.
Induced Growth	Unlikely to induce sprawl, but likely to encourage transit oriented development and some increased concentration of employment and housing demand in I-5 corridor. Approximately 1% regional redistribution of jobs to north Portland and Clark County. Up to 3% (over 20 year period) greater increase in north Portland and Clark County home values near I-5.	Less highway travel time improvement between Clark County and Portland would likely mean slightly less redistribution of jobs from broader region to I-5 corridor, and slightly less upward pressure on home prices near I-5 in north Portland and Clark County. A slight increase in transit ridership could provide a slight increase in pressure for transit oriented development to occur around LRT stations.	Less highway travel time improvement between Clark County and Portland would likely mean slightly less redistribution of jobs from broader region to I-5 corridor, and slightly less upward pressure on home prices near I-5 in north Portland and Clark County. A slight increase in transit ridership could provide a slight increase in pressure for transit oriented development to occur around LRT stations.
Noise	With rebuilt or new sound walls along I-5, impacts to residents would be dramatically reduced (~70% fewer residences impacted than No Build or existing conditions).	Same or very similar impacts as the 12 lane design (project mitigation would reduce the number of impacts below No Build).	Same or very similar impacts as the 12 lane design (project mitigation would reduce the number of impacts below No Build).
Parks & Recreation	Approximately 2.7 acre acquisition of VNHR along SR 14 loop, and at I-5 widening between Hospital and Cinemas.	Decrease in area required from VNHR.	Decrease in area required from VNHR.
Property Acquisitions	Approximately 20 acres of acquisition on Hayden Island, and displacement of up to 29 businesses. About 2.7 acres acquisition of VNHR.	Very minor decrease in property required on Hayden Island; no change in number of business or residential displacements. Very minor decrease in property required at touch down of bridges in Vancouver; no change in number of displacements. Decrease in property required from VNHR; approximately 2–30 feet less encroachment around the SR 14 loop, 15–20 feet further from FHWA building, and 5–10 further feet from Post Hospital. Minor decrease in area acquired from Cinema, no property acquisition required from Academy. Minor decrease in area acquired north of Mill Plain Blvd.	Minor decrease in property required on Hayden Island; no change in number of business or residential displacements. Minor decrease in property required at touch down of bridges in Vancouver; no change in number of displacements. Decrease in property required from VNHR; approximately 2–30 feet less encroachment around the SR 14 loop, approximately 20–25 feet further from FHWA building, and 5–10 feet further from Post Hospital. Decrease in area required from Cinema, no property acquisition required from Academy. Minor decrease in area acquired north of Mill Plain Blvd.
Visual	The new river crossing would be wider and higher than the current bridges, increasing their prominence from many viewpoints in downtown Vancouver and North Portland; aesthetic affect could be adverse or beneficial.	Slightly smaller facility would slightly lessen visual mass and prominence from viewpoints in downtown Vancouver and North Portland.	Smaller facility would lessen visual mass and prominence from viewpoints in downtown Vancouver and North Portland.

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