

US 2 Westbound Trestle Funding & Finance Study

Washington State Transportation Commission

John H. White, NWR Assistant Regional Administrator
January 18, 2018

Presentation Overview

- 2017 budget proviso
- Study approach
- Scope overview
- US 2 WB Trestle scope and cost estimate update
- Traffic and revenue approach and results
- P3 findings
- Next Steps

2017 Legislative Direction

(2) \$100,000 of the motor vehicle account—state appropriation and \$250,000 of the motor vehicle account—federal appropriation are provided solely for a study that details a cost estimate for replacing the westbound U.S. 2 trestle and recommends a series of financing options to address that cost and to satisfy debt service requirements.

In conducting the study, the department shall work in close collaboration with a stakeholder group that includes, but is not limited to, Snohomish county, the port of Everett, economic alliance Snohomish county, the cities of Everett, Lake Stevens, Marysville, Snohomish, and Monroe, and affected transit agencies.

The department shall quantify both the cost of replacing the westbound trestle structure and making mobility and capacity improvements to maximize the use of the structure in the years leading up to full replacement. Financing options that should be examined and quantified include public-private partnerships, public-public partnerships, a transportation benefit district tailored to the specific incorporated and unincorporated area, loans and grants, and other alternative financing measures available at the state or federal level.

The department shall also evaluate ways in which the costs of alternative financing can be debt financed.

The department shall complete the study and submit a final report and recommendations to the transportation committees of the legislature, including recommendations on statutory changes needed to implement available financing options, by January 8, 2018.

Program T Proviso highlights:

- Update cost estimate to replace WB trestle while studying finance options
- Includes state and P3 tolling scenarios, transportation benefit district, loans, grants, etc
- Evaluate and compare debt financing approaches
- Report to JTC with recommendations due Jan. 8, 2018

Study Approach

- WSDOT NWR lead, in cooperation with the Toll Division, Innovative Partnerships Office, and Budget Office
- Consultant team lead by WSP, supported by Parsons and Fehr and Peers (Traffic and Revenue interface with the SR 204, 20th St SE, US 2 IJR)
- Technical Working Group (TWG):
 - 3 meetings held
 - Snohomish County; Cities of Everett, Lake Stevens, Marysville, Snohomish, Monroe; Port of Everett; Community Transit; Snohomish County Committee for Improved Transportation (SCCIT)
- Executive Advisory Group (EAG):
 - 2 meetings held
 - Legislators from the 44th District (Sen. Hobbs, Rep. Harmsworth, Rep. Lovick), 38th District (Sen. McCoy, Rep. Sells, Rep. Robinson), 39th District (Rep. Eslick); Cities of Lake Stevens and Everett; Snohomish County Execs Office; Port of Everett CEO, Community Transit; Economic Alliance of Snohomish County; Tulalip Tribes

Funding and Finance Study Scope

Develop Cost Opinion and Construction Schedule Scenarios

- Review 2010-2011 studies and cost estimates
- Document baseline construction staging/schedule and update cost estimates

Utilize US 2 IJR Team for Transportation Forecasts

- Conduct travel demand model runs for toll scenarios

Toll Revenue Forecasts

- Prepare gross and net revenue forecasts for 3 toll scenarios

Finance and Delivery Approaches

- Identify applicable delivery methods, including assessing P3 viability
- Document short and long-term implications of different delivery methods
- Evaluate revenue streams (pay as you go, or accelerated), funding sources, financing mechanisms and implications to project delivery
- Identify funding scenarios to illustrate the range of funding and finance possibilities

Project Location and Construction Scope



Construction Cost Update

Cost Estimate Range

Case	2017 \$ millions	Year of Expenditure \$ millions
Cost estimate for 3-lane Alternative		
Low Cost (-30%)	620	850
Base Cost	880	1,220
High Cost (+50%)	1,320	1,830
Cost estimate for 4-lane Alternative		
Low Cost (-30%)	700	970
Base Cost	1,000	1,380
High Cost (+50%)	1,500	2,080

Notes:

- Base costs at this scoping level include allocations for smaller cost elements ('known unknowns') and project uncertainties and risks
- Costs in 2017 dollars escalated to year of expenditure dollars for the midpoint of construction using a cost index forecast that ranges from 4% to 5% per year

US-2 Toll Funding Assumptions

For Preliminary Estimates using Net Present Value (NPV) Analysis

Category	Public: State-Backed Bonds	Public Private Partnership (P3): Private Financing	Comments
First Year Toll Funding Required	FY 2024	FY 2024	Year for NPV, serves as a proxy for delivering funds overs construction period
Final Year of Traffic Growth	FY 2051	FY 2051	Model forecasted traffic growth rate is halved in FY 2041 and fully suspended by FY 2051
Forecast Horizon Year	FY 2060	FY 2060	Last year of traffic and revenue forecast
Debt Term (years)	25	35	Recent State motor fuel tax and SR 520 issues have been 25 years, P3 case includes a 35 year TIFIA loan
Overall Average Cost of Capital*	4.50%	6.10%	NPV discount rate with cushion for higher future interest rates, P3 case reflects a mix of bank loan and TIFIA rates
Minimum Debt Service Coverage	1.30x	1.50x	Assumption for overall coverage in the case of multiple liens, may vary with risk comfort level
Level Debt Service?	Yes	No	Recent State issues and planning assume level debt service to limit reliance on toll escalation

* For the P3 case, reflects a weighted average of expected private bank loan and USDOT TIFIA loan rates

Note: The Washington State Legislature must authorize tolling and the Washington State Transportation Commission holds the authority to set toll rates and policies

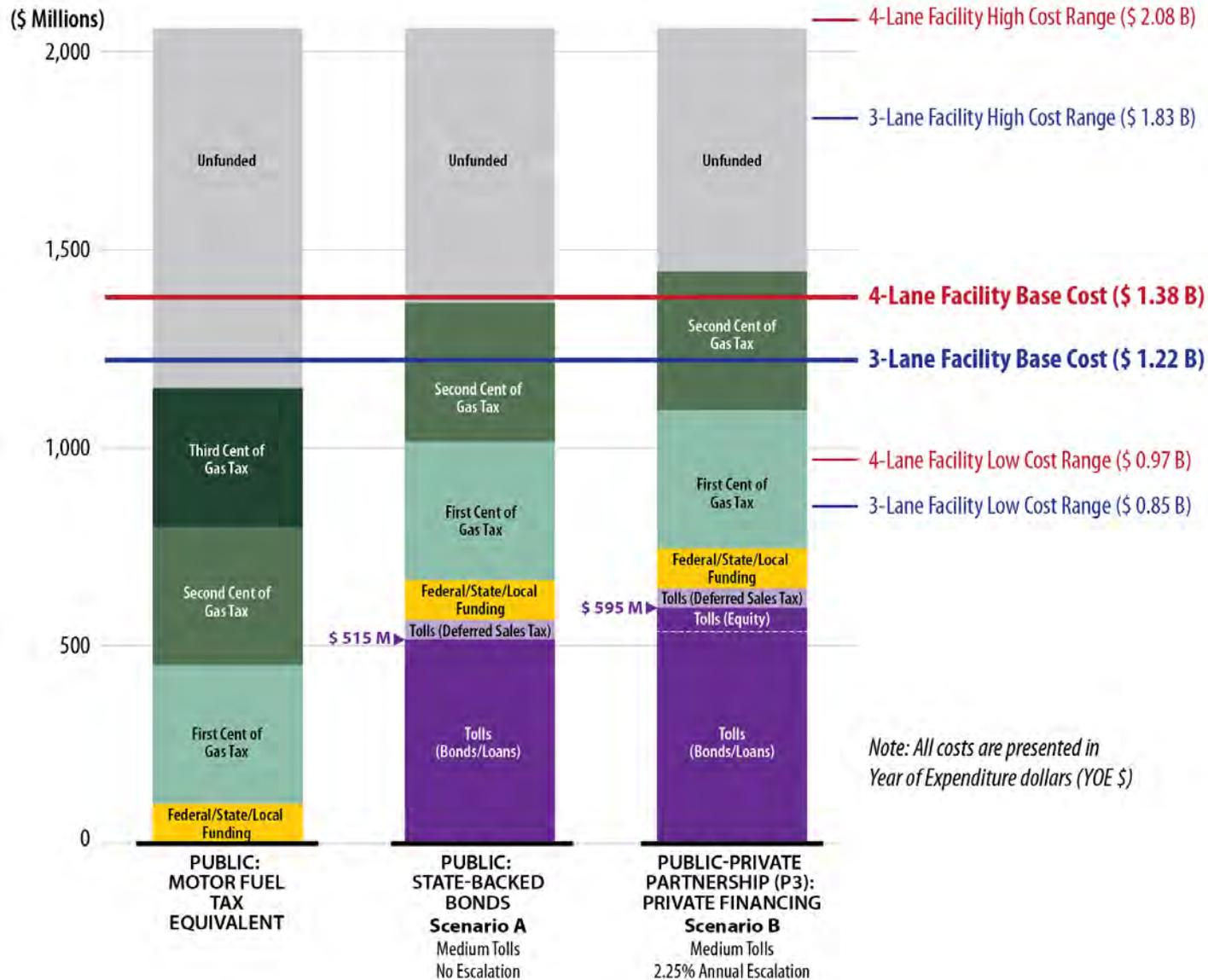
US-2 Trestle Potential Toll Funding Ranges

Preliminary Estimates based on Net Present Value (NPV) Analysis

Type of Financing	Toll Scenario and Description	Range of Funding — Available 7/1/2024 (FY 2024)					Comments	
		Tolling Starts FY 2024 (during construction)			Tolling Starts FY 2029			
Public: State-Backed Bonds	A Medium Tolls No Escalation	\$440 M	To	\$590 M	To Be Determined		No need for toll escalation with level debt service	
	C Medium-High Tolls No Escalation	\$500 M	To	\$660 M	To Be Determined		Tolling starting in FY 2029 may require a construction loan from other sources	
Public-Private Partnership (P3): Private Financing	A Medium Tolls No Escalation	\$410 M	To	\$540 M	\$320 M	to	\$420 M	10% of the funding amount is private equity Longer debt term and TIFIA loan in P3 case help to offset its higher bank loan interest costs
	B Medium Tolls 2.25% Annual Escalation	\$510 M	To	\$680 M	\$410 M	to	\$550 M	
	D Medium-High Tolls 1% Annual Escalation	\$520 M	To	\$690 M	\$410 M	to	\$540 M	

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Sample Funding Scenarios for US 2 Trestle



Key Findings — Cost Estimate

- Likely full project cost at the current scoping level of development is between \$880 M and \$1 B (2017\$)
- Potential cost reduction opportunities exist via:
 - Project development and scope refinement
 - Risk identification and management
 - Innovative delivery techniques

Key Findings — Funding and Finance

- Fully funding the project will likely require a combination of state, federal and local funding sources
- Currently available federal and state grant programs, combined with a local funding source such as a county-wide Transportation Benefit District, could cumulatively yield up to a \$100M funding contribution
- Based on limited analysis, tolling revenue could be financed to provide a capital funding contribution of between \$320M and \$690M

Key Findings — P3 Applicability

- With the proper statutory authority, a Public-Private Partnership (P3) delivery and finance approach could be a viable alternative to state-backed toll financing
- While P3 delivery may be able to provide a greater early capital funding contribution over public financing, it comes with a longer finance duration and higher interest rates, equating to a higher overall cost
- Once additional scope and cost certainty is achieved, additional analysis would be required to validate the delivery method and finance strategies in order to determine if a P3 approach provided the best overall value to the state

Additional Steps in Considering P3 Delivery for the US 2 Trestle

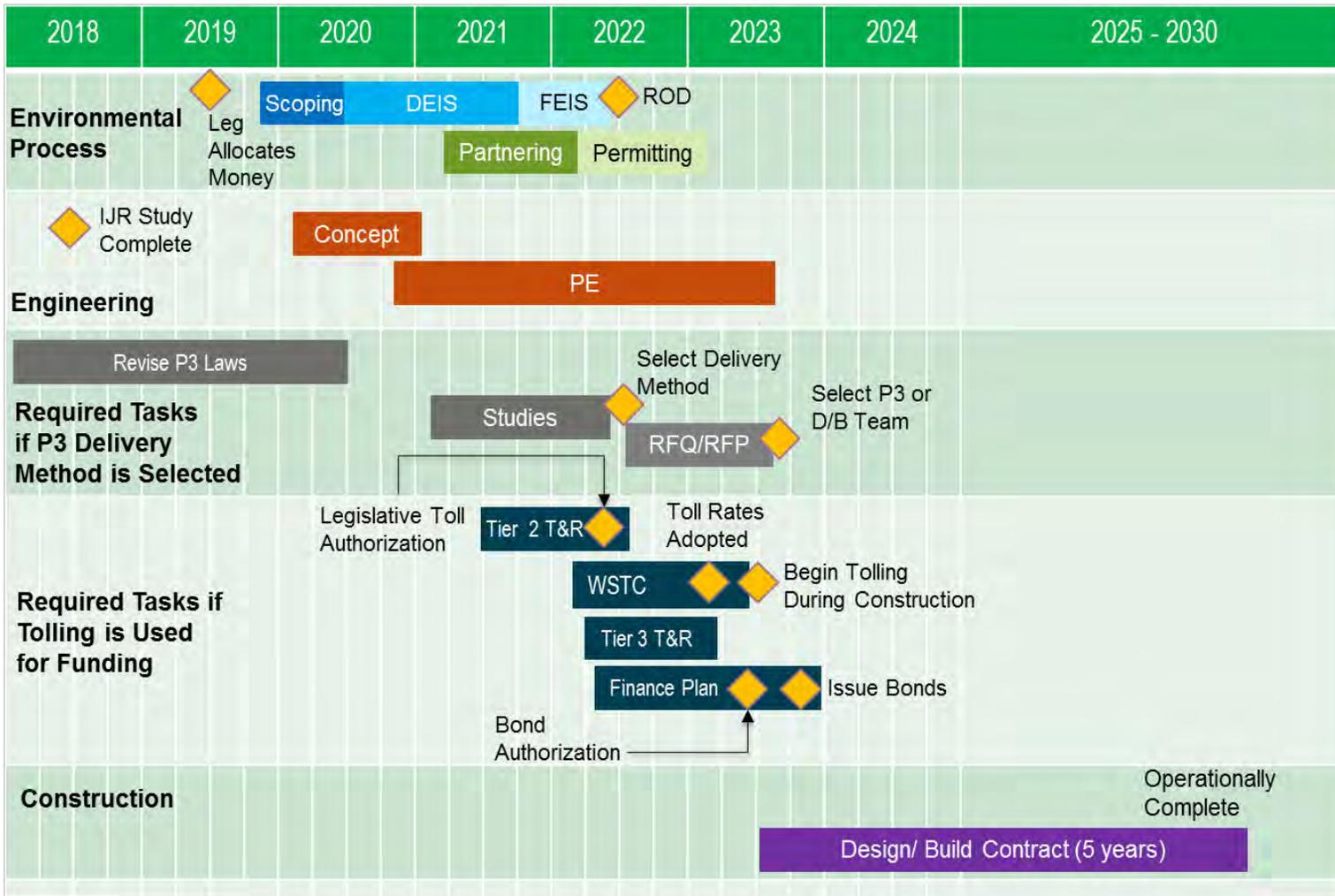
- Revise P3 legislation and build internal capacity
- Obtain stakeholder and public acceptance
- Financial feasibility (understanding of costs and funding / revenue to pay for capital and O&M)
- Complete environmental studies, obtain approvals, and control required ROW
- Conduct initial analysis to understand value and timing of major risk elements

Next Steps and Recommendations

- To advance the project development, the next logical step after completion of this study and the SR 204/20th/US 2 Interchange IJR would be to commence an environmental study process that would culminate in designation of a Preferred Alternative with a clear scope and higher confidence level cost estimate
- Key components of the environmental study process include:
 - A public project scoping process
 - Alternatives development and screening
 - Additional traffic analysis, site investigation, and preliminary engineering
 - Identify and minimize impacts, and determine required mitigation
 - Stakeholder and community engagement and input
- With a completed environmental process and decision, and the supporting preliminary engineering, the project delivery method and associated funding and finance strategies can be finalized

US 2 Conceptual Project Schedule

Assumes Funding Available When Needed



Questions?

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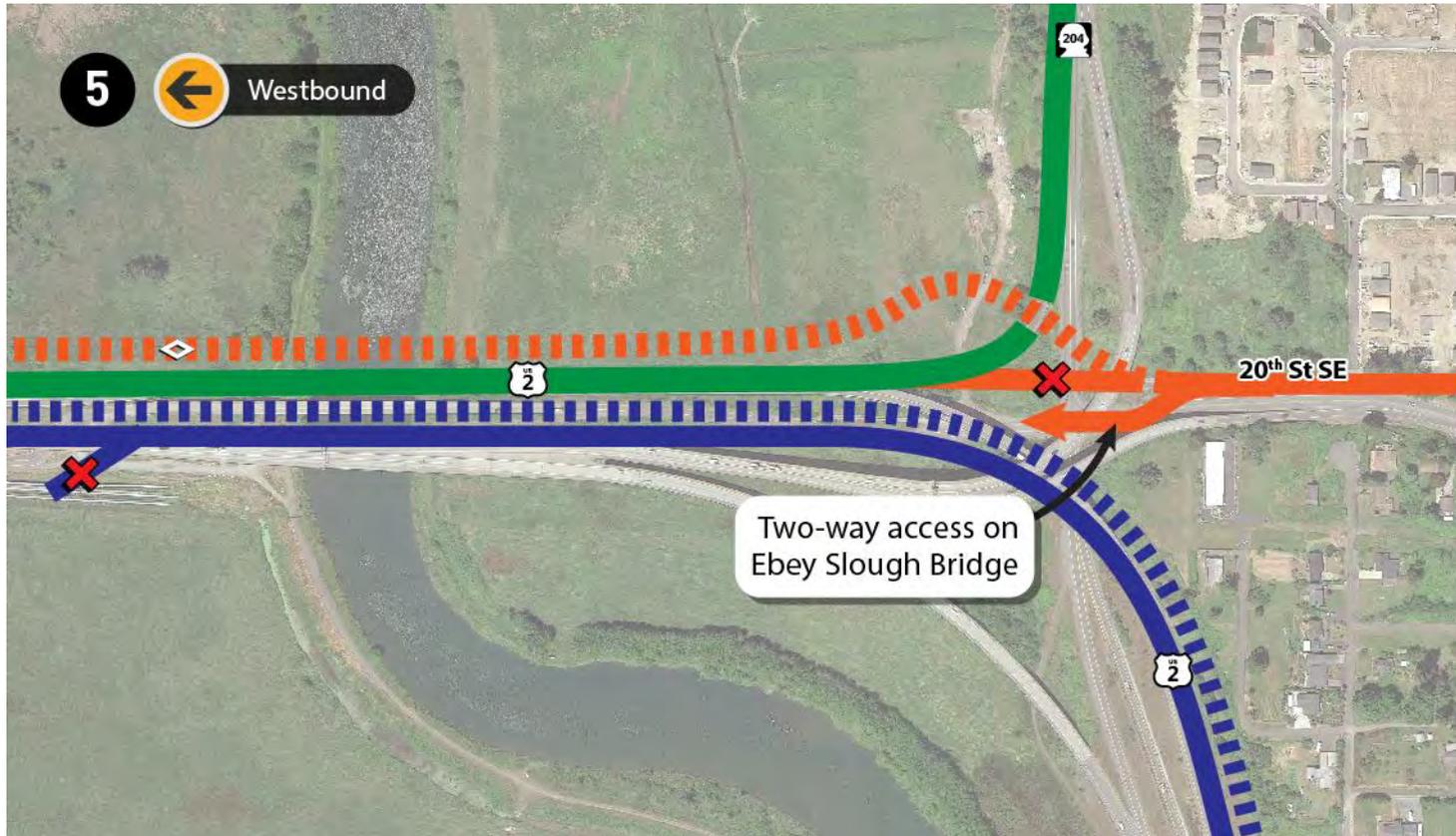
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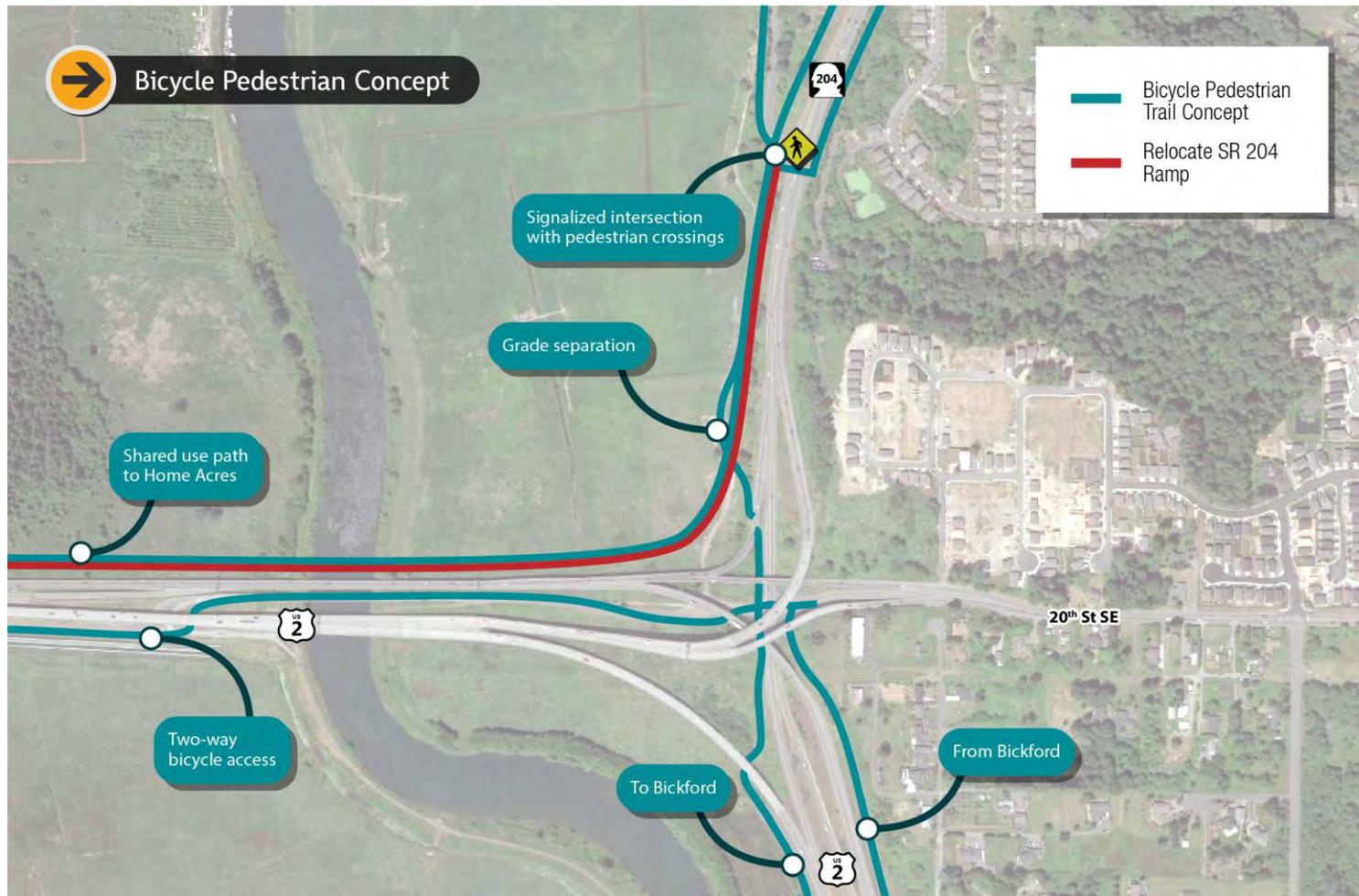
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Concept 5 – IJR Preliminary Preferred Alternative



IJR Bicycle/Pedestrian Access Concept



Construction Cost Update

Background and Assumptions

- Used the \$600M 2011 cost estimate from US 2 Corridor Study as a starting point
- Key update areas included:
 - Scope alignment with IJR US 204/20th/US 2 configuration assumptions
 - Estimated multiple trestle configurations that cover 3-lane, 4-lane, or 3-lane with a peak use shoulder scenarios
 - Allows for widening of ramp to SB I-5 for queue storage
 - Provides base allowances for improved bike/ped connections
 - Foundation and superstructure design concepts updated per current criteria
 - Adjustment to unit prices and escalation to capture current market conditions

Construction Cost Update Background and Assumptions

- Includes risk allocation to account for:
 - Construction market inflation above general inflation
 - Construction conditions and environmental requirements:
 - Poor soils
 - Multiple rivers and streams (prone to flooding, fish window restrictions)
 - Environmental mitigation
 - Scope uncertainties:
 - Bridge over Snohomish River and connection into downtown Everett
 - Multiple conceptual approaches to providing bike and pedestrian connectivity
 - Ultimate permitting and environmental mitigation requirements

Range of Auto Toll Rates Being Tested

Time Period	Direction	2023 (FY 2024) Toll Rates in 2023 \$	
		Scenarios A & B Medium Tolls	Scenarios C & D Medium-High Tolls
AM Peak (6 AM-9 AM)	Eastbound	\$2.50	\$3.00
	Westbound	\$4.25	\$5.00
Midday (9 AM-3 PM)	Eastbound	\$2.00	\$2.50
	Westbound	\$2.00	\$2.50
PM Peak (3 PM-6PM)	Eastbound	\$4.50	\$5.25
	Westbound	\$3.00	\$3.50
Evening (6 PM-10PM)	Eastbound	\$2.50	\$3.00
	Westbound	\$2.00	\$2.50
Night (10 PM-6AM)	Eastbound	\$1.50	\$1.75
	Westbound	\$1.50	\$1.75

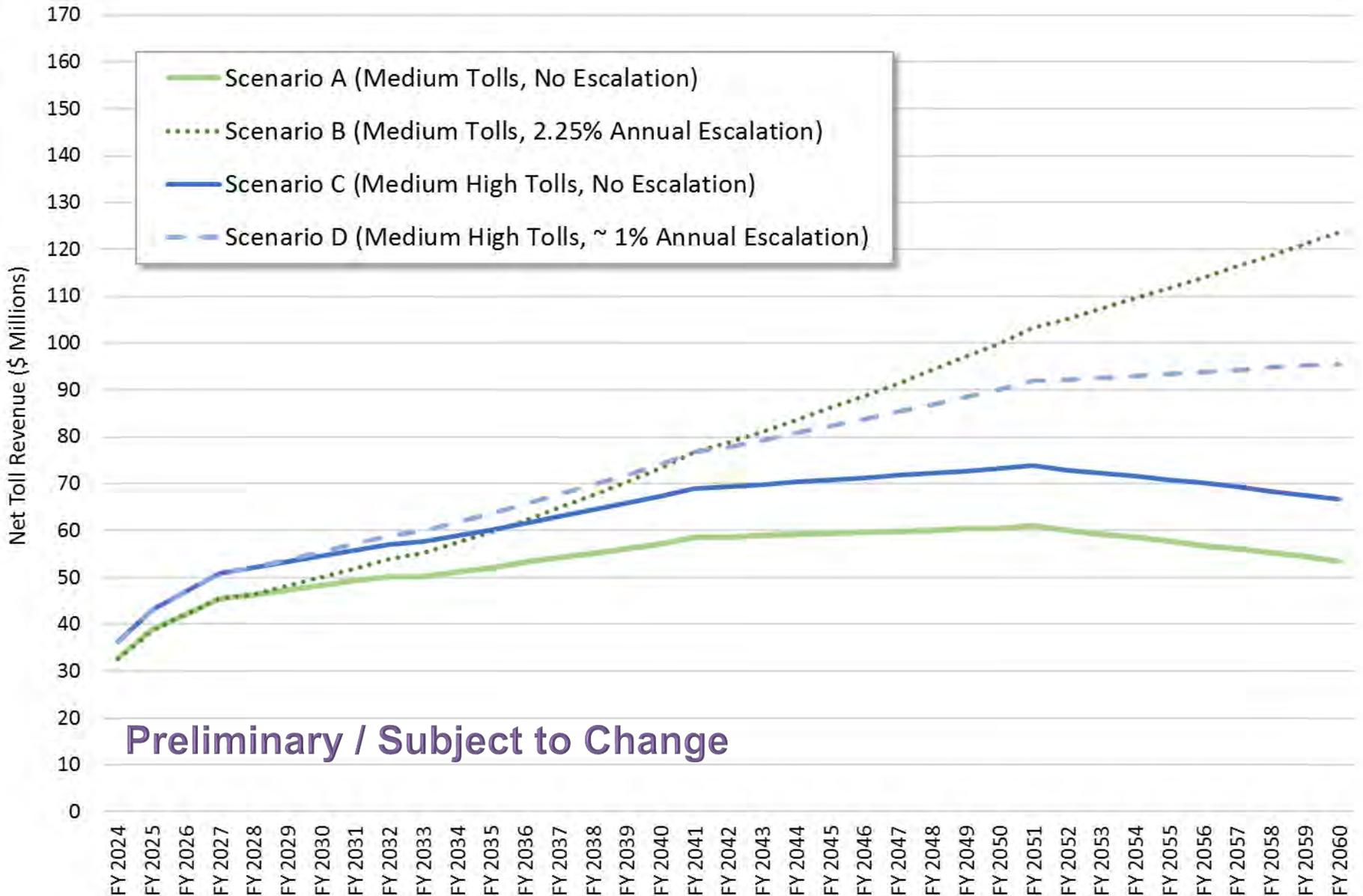
- WA State Legislature must authorize tolling
- WA State Transportation Commission has authority to set toll rates
- Toll rates assumed fixed within 5 time periods but vary between periods
- Rates are in future, year of collection dollars
- \$1.00 in 2023 (FY 2024) = \$0.88 today
- Medium and large trucks assumed to pay 1.5x and 2x the auto toll, respectively
- Scenario B has 2.25% and Scenario D has 1% annual toll escalation after 2028 (FY 2029)

Range of Auto Toll Rates *in Today's \$s*

Time Period	Direction	2023 (FY 2024) Toll Rates in 2017 \$	
		Scenarios A & B Medium Tolls	Scenarios C & D Medium High Tolls
AM Peak (6 AM-9 AM)	Eastbound	\$2.20	\$2.65
	Westbound	\$3.70	\$4.40
Midday (9 AM-3 PM)	Eastbound	\$1.75	\$2.20
	Westbound	\$1.75	\$2.20
PM Peak (3 PM-6PM)	Eastbound	\$3.95	\$4.60
	Westbound	\$2.65	\$3.05
Evening (6 PM-10PM)	Eastbound	\$2.20	\$2.65
	Westbound	\$1.75	\$2.20
Night (10 PM-6AM)	Eastbound	\$1.30	\$1.55
	Westbound	\$1.30	\$1.55

- WA State Legislature must authorize tolling
- WA State Transportation Commission has authority to set toll rates
- Toll rates assumed fixed within 5 time periods but vary between periods
- Rates are in future, year of collection dollars
- \$1.00 today = \$1.14 in 2023 (FY 2024)
- Medium and large trucks assumed to pay 1.5x and 2x the auto toll, respectively
- Scenario B has 2.25% and Scenario D has 1% annual toll escalation after 2028 (FY 2029)

US-2 Trestle | Net Toll Revenue by Scenario



Other Local, State and Federal Funds

- Placeholder amount established at \$100 million
- Combination of various taxes, fees, and/or federal grants
- Federal grant programs are highly competitive
 - 6.8% of 2016 TIGER grant applicants received funding
 - 8.5% of 2016 FASTLANE (INFRA) grant applicants received funding
- Local option tax and fee sources of funding may require a broad package of improvements to obtain necessary support