I-5 over 26th Ave Bridge Deck Replacement Project

Presenters: Jamie Miller, Josh Smith

Date: 2/7/25

I-5 over 26th Ave Bridge Project

Overview

- Project Length (0.3 miles)
- Classified as Urban Interstate
- Designated Reduction Review Route
- Federally Designated Truck Route
- AADT = 131,000
- Posted Speed: 55MPH
- Estimate cost of project $11 mil

Oregon Department of Transportation

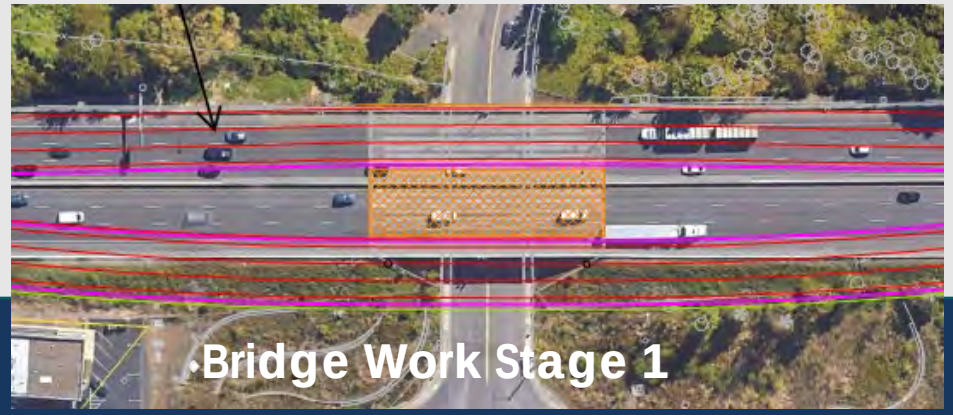
Initial Concept Risks

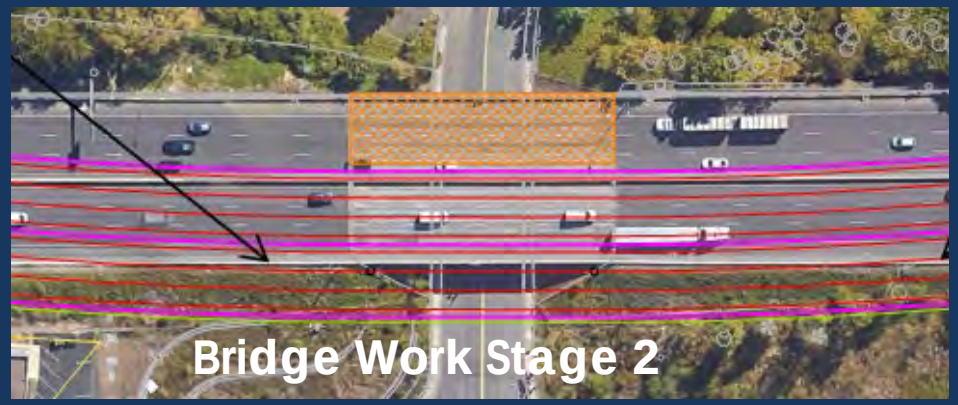
- Staging
- Water Quality Facility
- Right-of-Way Impacts
- PBOT project on SW 26th Way

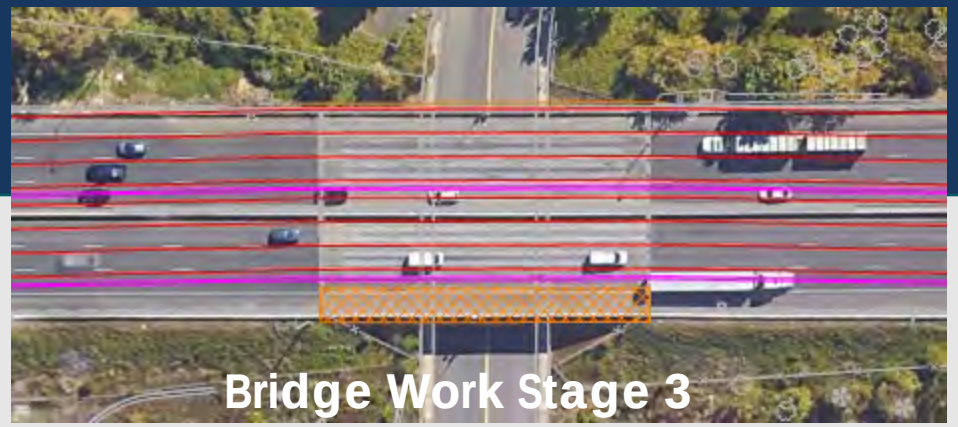
Initial Concept
Construction Staging

Bridge Work within the Project Limits:

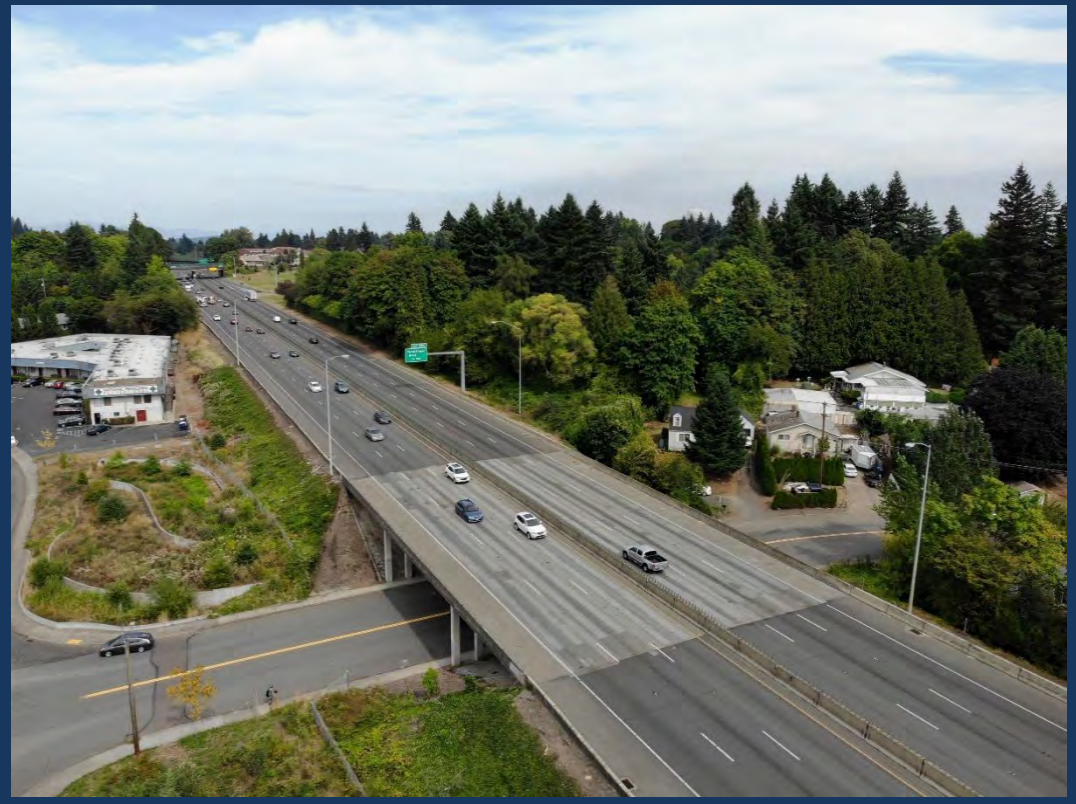
- Demolish existing three span bridge, construct single span bridge
- Completed in 3 stages







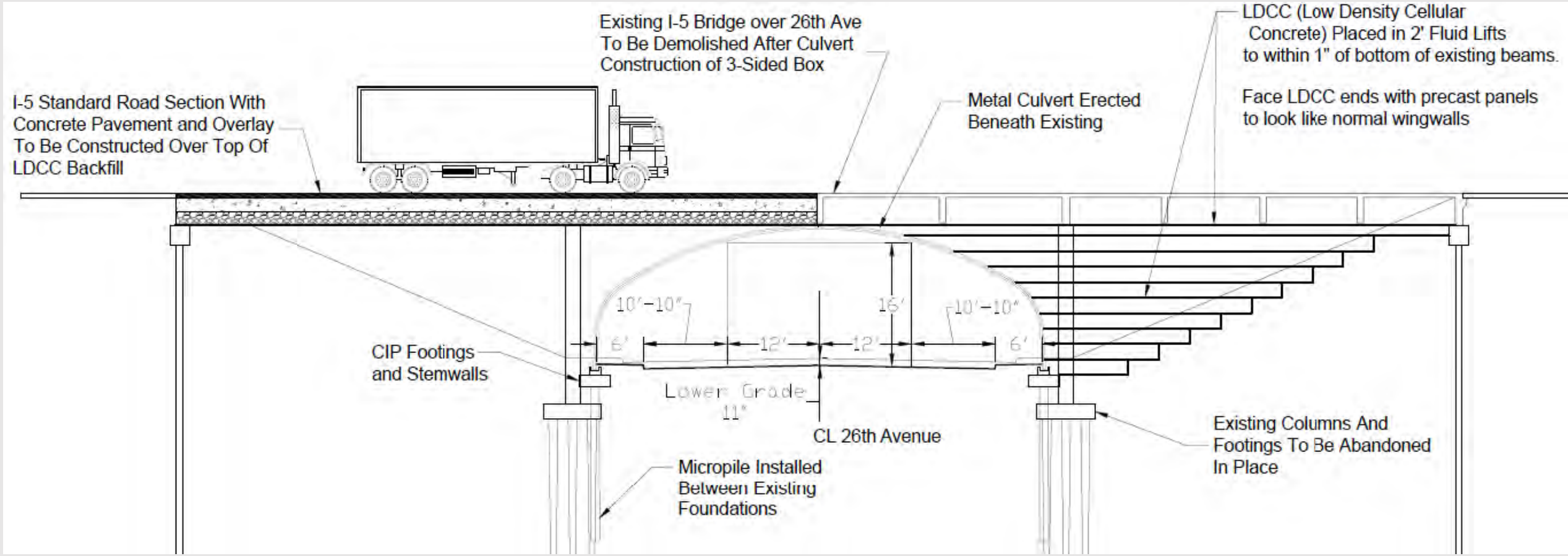
VE (Value Engineering) Study - Project Overview



- Existing bridge is cracking and does not meet seismic design standards.
- Replace existing I-5 bridge with minimal impact to the travelling public.
- Project to be completed before Rose Quarter and Southwest Corridor construction starts.
- $19,118,000 construction cost (biddables only – no inflation) Adding inflation and CE – $26.2 M.
- 36 months to construct.

VE Alternative 1.4

Cost Savings:	$9,320,000
Change in Schedule:	4-month reduction



Contractor Constructability Review

Oregon Department of Transportation

AGC Oregon Columbia Chapter
ASSOCIATED GENERAL CONTRACTORS

1:1 Sessions with Contractors

These 1:1 constructability focused sessions were conducted January 11th, 12th, & 24th, 2022 with 7 Contractors, select members of the design team, and members of the Statewide Project Delivery Branch.

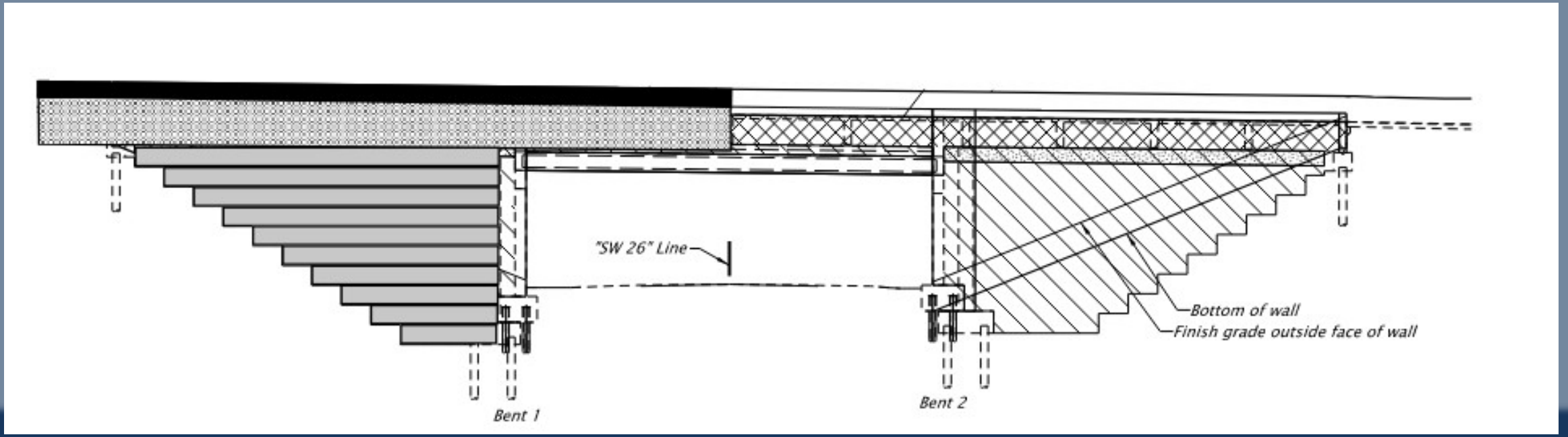
I-5 Over 26th Ave Constructability Review Summary

The Design team met with 7 different contractors with expertise in the following:

- Bridge demolition
- Micropile installation
- Bridge construction
- Pavement construction
- Retaining wall construction
- Low Density Cellular Concrete (LDCC)

I-5 Over 26th Ave Replacement - Project Concept after @CCR

- Construct buried precast slab structure underneath existing I-5 bridge
- Switch from Soldier pile wall to MSE walls
- Backfill with low-density cellular concrete (LDCC)
- Remove existing structure and pave full depth ACP w/ Temp Wearing Course and aggregate in
- 56-hour weekend closure of **I-5**



Summary of Discussions

Significant Risks Identified

- Threat – Coordinating closure with WSDOT, PBOT, Freight/ Mobility, Emergency Services, and numerous other stakeholders.
- Threat – If equipment failure during closure weekend occurs then the closure window may be missed.
- Threat – If aggregate and material import is restricted due to congestion, then closure window may be missed.
- Threat – Timber piling/falsework obstructing micropile installation. Recommended response is to modify pile layout and allow flexibility.
- Threat – MPCO overlay may crack under movement. Recommended response to specify a more flexible product to seal slabs
- Threat – Precast slabs cost have escalated substantially and could take 6 months longer than typical to procure.

Summary of Discussions

Significant Advantages Identified

- Opportunity – Allow 3” to 15” processed bridge debris as stone embankment/ sub-base.
- Opportunity – Provide staging/stockpile area and allow off-road haul trucks which can haul significantly more material minimizing trips.
- Opportunity – Change soldier pile wall to MSE wall
- Time – Completion of structure over one weekend rather than an additional 4 months of staged construction minimizing impact to the travelling public.
- Safety – Increased safety for construction crews, inspection staff, and the travelling public.


CROSSING
ROADWAY
Sep 15, 2023 at 1:27:28 PM
SW Barbur Ct


TL1055
DETOUR
Jan 31, 2024 at 11:06:02 AM
8920 SW 26th Ave


Jun 15, 2023 at 4:31:32 PM
8943 SW 26th Ave


Apr 1, 2024 at 10:29:37 AM
2701 SW Spring Garden St

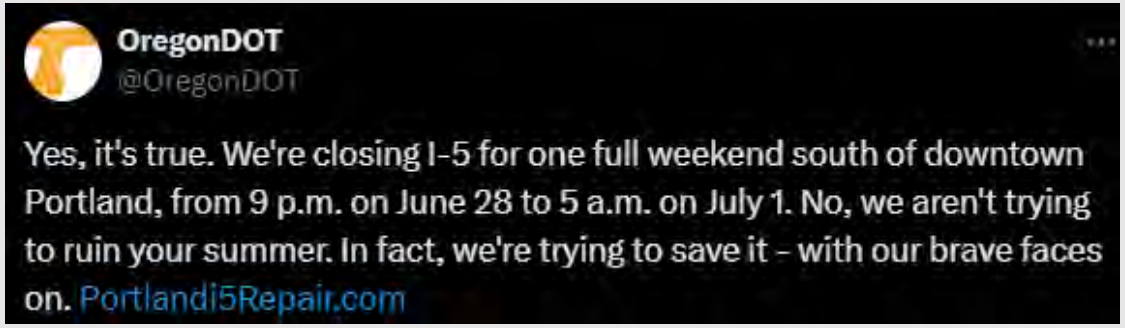

Apr 1, 2024 at 10:30:18 AM
I-5 S

Preparations leading up to Full Closure

- Outreach to the public for upcoming closure included
  - Email to ODOT subscribers
  - Social and Local news media
  - Mailers, and community engagement.
- Coordination efforts with:
  - WSDOT, PBOT, Freight Mobility,
  - 50+ PCMS', VMS

Construction and I-5 Closure Highlights

- Full 56 hour I-5 Closure implemented starting 9pm on June 28.
- Contractor was able to provide access to peds and bikes during construction, rather that providing a shuttle around the project at a cost savings of approximately $17K.
- Work completed and closure lifted in 54 hours, 2 hours early.
- Construction office did not observe any severe traffic conditions on main detour route of 99W (Barbur Blvd)
- Original Cost $11.1 Mill. vs Final Cost w/ CCOs.
- $11.1 Mill.
- DBE Goal Org. 6.31% vs Final 7.93%.




COMMUTING

Make travel plans now for disruptive full closure of I-5 freeway in SW Portland next weekend

Updated: Jun. 25, 2024, 5:07 a.m. | Published: Jun. 21, 2024, 8:00 a.m.

Benefits of the I-5 Closure

- Able to limit the overall impact to the travelling public. 56 hour closure vs. an additional 4 months of staged construction.
- Increased safety to contractor, inspection staff, and travelling public.
- Cost savings to the taxpayers – Approximately $9M utilizing a 56 hour full closure vs staged construction.
- ODOT able to perform secondary preventative maintenance on items not related to the project but within the closure limits.
- Reduced waste and emissions by not constructing a temporary detour structure and re-using demolished bridge waste as roadway fill.

Project Awards

- ACEC Oregon (American Council of Engineering Companies of Oregon) - Project of the Year.
- PCI (Precast/ Prestressed Concrete Institute) – 2025 PCI Design Award - Transportation Award: Bridge with a Main Span up to 75 Feet.
- ITE (Institute of Transportation Engineers) 2024 Oregon Transportation Project of the Year.


Questions?