



Oregon

Kate Brown, Governor

Oregon Transportation Commission

Office of the Director, MS 11

355 Capitol St NE
Salem, OR 97301-3871

DATE: January 8, 2019

TO: Oregon Transportation Commission

FROM: Matthew L. Garrett
Director

SUBJECT: **Consent** – Amend the 2018-2021 Statewide Transportation Improvement Program (STIP) to increase funding and combine the *Interstate 5: Barbur Boulevard northbound connection bridge; the Southwest Multnomah Boulevard over Interstate 5, and the Oregon 99 West southbound ramp to Interstate 5 southbound (Capital Highway Interchange) projects.*

Requested Action:

Approve to amend the 2018-2021 Statewide Transportation Improvement Program (STIP) to increase funding and combine the *Interstate 5: Barbur Boulevard northbound connection bridge; the Southwest Multnomah Boulevard over Interstate 5, and the Oregon 99W southbound ramp to Interstate 5 southbound (Capital Highway Interchange) projects* located in Region 1. Funding will come from the removal of a bridge from the Interstate 84: Fairview to Marine Drive and Tooth Rock Tunnel project in Region 1 and the cancellation of the Interstate 84 eastbound over U.S. 395 (Emigrant Avenue Interchange) project located in Region 5.

The removal of the bridge and associated funding from the cancellation of the Interstate 84: Fairview to Marine Drive and Tooth Rock Tunnel project and the cancellation of the Interstate 84 eastbound over U.S. 395 (Emigrant Avenue Interchange) project frees \$2,492,178 to be redistributed. The Oregon Department of Transportation (ODOT) requests the following:

- Transfer \$828,692 to the Interstate 5: Barbur Boulevard northbound connection bridge project.
- Transfer \$567,800 to the Southwest Multnomah Boulevard over Interstate 5 project.
- Transfer \$171,308 of the remaining funds from the Interstate 84: Fairview to Marine Drive and Tooth Rock Tunnel project and \$756,186 from the remainder of the cancelled project in region 5 to the Oregon 99 West southbound ramp to Interstate 5 southbound (Capital Highway Interchange).
- Transfer the remaining \$168,192 to the state bridge program federal fiscal year 2019.
- In addition to the above project redistributions an additional \$400,000 from the bridge overpass protective screening funds, federal fiscal years 2019 and 2020 is transferred to the Southwest Multnomah Boulevard over Interstate 5 project.

The Interstate 5: Barbur Boulevard northbound connection bridge, the Southwest Multnomah Boulevard over Interstate 5, and the Interstate 5 southbound ramp to Interstate 5 southbound (Capital Highway Interchange) projects are to be combined for delivery as one consultant contract for design.

Combining for design will allow ODOT to develop one bid package for similar work in close geographic proximity and will save on administrative costs. In addition, one contract will ensure the design considers possible negative impacts to the travelling public and provides a schedule for construction that is most convenient for delivery of all planned work activities and minimizes traveler impacts.

Project Funding Summary:

Project	Current	Proposed
I-5: Barbur Blvd NB connection bridge	\$1,669,975	\$2,498,667
SW Multnomah Blvd over I-5	\$1,571,000	\$2,538,800
OR-99W SB Ramp to I-5 SB (Capital Highway Interchange)	\$408,000	\$1,335,494
I-84: Fairview – Marine Drive & Tooth Rock Tunnel	\$5,792,148	\$4,792,148
I-84 eastbound over US395 (Emigrant Avenue Interchange)	\$1,512,500	\$20,322
Bridge overpass protective screening FFY 2019 and 2020	\$814,916	\$414,916
State bridge program FFY 2019	\$4,813,386	\$4,981,578
TOTAL	\$16,581,925	\$16,581,925

Projects to be increased and combined:

I-5: Barbur Blvd NB connection bridge (KN 20465)			
		COST	
PHASE	YEAR	Current	Proposed
Preliminary Engineering	2019	\$136,000	\$343,720
Right of Way	N/A	\$0	\$0
Utility Relocation	N/A	\$0	\$0
Construction	2020	\$1,533,975	\$2,154,947
TOTAL		\$1,669,975	\$2,498,667

SW Multnomah Blvd over I-5 (KN 20484)			
		COST	
PHASE	YEAR	Current	Proposed
Preliminary Engineering	2017	\$213,000	\$523,900
Right of Way	N/A	\$0	\$0
Utility Relocation	N/A	\$0	\$0
Construction	2020	\$1,358,000	\$2,014,900
TOTAL		\$1,571,000	\$2,538,800

OR-99W SB Ramp to I-5 SB (Capital Highway Interchange) (KN 20702)			
		COST	
PHASE	YEAR	Current	Proposed

Preliminary Engineering	2019	\$40,000	\$347,500
Right of Way	N/A	\$0	\$0
Utility Relocation	N/A	\$0	\$0
Construction	2020	\$368,000	\$987,994
TOTAL		\$408,000	\$1,335,494

Project to be decreased:

I-84: Fairview – Marine Drive & Tooth Rock Tunnel (KN20298)			
		COST	
PHASE	YEAR	Current	Proposed
Preliminary Engineering	2019	\$751,930	\$401,930
Right of Way	2020	\$2,488	\$2,488
Utility Relocation	N/A	\$0	\$0
Construction	2021	\$5,037,730	\$4,387,730
TOTAL		\$5,792,148	\$4,792,148

Project to be cancelled:

I-84 eastbound over US395 (Emigrant Avenue Interchange) (KN20540)			
		COST	
PHASE	YEAR	Current	Proposed
Preliminary Engineering	2018	\$300,000	\$20,322
Right of Way	2019	\$50,000	\$0
Utility Relocation	2019	\$25,000	\$0
Construction	2020	\$1,137,500	\$0
TOTAL		\$1,512,500	\$20,322

Background – projects to be increased:

Interstate 5: Barbur Boulevard northbound connection bridge

The Oregon 99 West (Barbur Boulevard) northbound connection bridge over Interstate 5 was built in 1985 and is in satisfactory condition. The portions of the bridge directly over Interstate 5 have painted girders to protect the steel from corrosion. The original paint system is at the end of its service life, with moderate surface corrosion on the lower portions of the girders, and isolated areas where the corrosion has begun to reduce the thickness of the steel. The Interstate 5 Barbur Boulevard northbound connection bridge project will replace corroded fasteners, remove the current paint and corrosion, and then apply new paint.

The estimate for preliminary engineering was based on the entire design being done internally. The design of the paint portion of the project will be done by ODOT's Bridge Preservation Unit. The remainder of the project will be designed by a consultant due to ODOT resources being committed to the delivery of other projects. The construction costs have increased due to bid prices that are higher than were accounted for when the project was initially programmed, and in addition the costs of the

containment for paint removal and paint application, and the disposal of hazardous waste was not included in the original project estimate.

If this request is not approved, there will not be enough funding to complete the programmed work, and the project will be cancelled. The steel girders will continue to corrode requiring costly maintenance and may require strengthening if the project is delayed for a considerable time and could lead to significant mobility impacts.

Southwest Multnomah Boulevard over Interstate 5

The Southwest Multnomah Boulevard Bridge over Interstate 5 is a 404 foot long bridge built in 1959 that is in fair condition. The Southwest Multnomah Boulevard over Interstate 5 project will address the extensive deck cracking with a structural concrete overlay, replace or repair leaking joints, and upgrade the bridge rails so that they meet modern safety standards. Overpass protective screening will also be added to deter objects from being thrown from the overpass onto Interstate 5.

The estimate for preliminary engineering was based on the design being done internally. Due to ODOT resources being committed to the delivery of other projects this project will be designed by a consultant. As a result, the engineering costs have increased. Construction costs have increased by \$400,000 to account for the late addition of overpass protective screening and moving the delivery date to 2020.

If this request is not approved, there will not be enough funding to complete the programmed work, and the project will be cancelled. The deck will continue to deteriorate and will require more extensive preparation when the structural overlay is eventually placed. The bridge rails will not meet modern safety standards and this bridge will continue to lack protective screening.

Oregon 99 West southbound ramp to Interstate 5 southbound (Capital Highway Interchange)

The Oregon 99 West southbound ramp to Interstate 5 southbound (Capital Highway Interchange) is a 270 foot long bridge built in 1959 that is in fair condition. The project will address the top layer of the concrete deck that has required patches where pieces have separated, with a structural concrete overlay. The project will also replace or repair leaking joints, clean and paint steel bearings that are corroded, replace the asphalt near the bridge approaches that is failing, and replace deficient Americans with Disabilities Act (ADA) ramps that are within the project limits.

The estimate for preliminary engineering was based on the design being done internally, and did not fully account for roadway, traffic control, and project management costs. Since this project will be designed by a consultant, the engineering costs have increased. The construction costs have also increased to account for the addition of the cleaning and painting of the steel bearings, replacement of deficient ADA ramps, and for inflation.

If this request is not approved, there will not be enough funding to complete the programmed work, and the project will be cancelled. The deck will continue to deteriorate and will require more extensive preparation when the structural overlay is eventually placed. The steel bearings will continue to

corrode, and may require repairs prior to painting. The deficient ADA ramps will remain in service until they are addressed by another project.

Background – projects to be canceled:

Interstate 84: Fairview to Marine Drive and Tooth Rock Tunnel

The Interstate 84 eastbound McCord Creek Bridge was built in 1962. The deck is in poor condition due to cracking, rutting, exposed reinforcement, and pieces of concrete up to three feet in diameter that have separated from the deck. The deck is only 6 ½ inches thick, and the top 1 ½ inches is contaminated with chlorides due to the use of deicing products. Also, the transition from the bridge approach pavement to the bridge itself is not smooth, causing a noticeable impact for drivers. This bridge has required extensive maintenance work to repair the deck and to minimize the impact. A deck overlay for this bridge was added with funding from House Bill 2017.

While the McCord Creek Bridge is within the limits of this Interstate Maintenance Preservation Project, the extensive work needed to address the poor condition of the deck is not really compatible with the other project work. Grinding the approach pavement to address the impact loading will leave a layer of pavement that is too thin to be structurally sound, and rebuilding the approach pavement is also beyond the scope of the other work in the project. Based on the nature of the work required being much more extensive than the other project work, the McCord Creek Bridge should be removed from this project.

The McCord Creek Bridge is being considered for the 2022-2024 STIP and is the top priority bridge project for Region 1. It is within the limits of the Interstate 84: Multnomah Falls – Cascade Locks Interstate Maintenance Preservation Project. The scoping effort will determine the best solution for this bridge, ranging from extensive deck rehabilitation, deck replacement, or perhaps bridge replacement. This bridge will eventually need a seismic retrofit, and it may be most economical to simply replace the bridge instead of doing extensive deck work now, and extensive seismic related work later.

If this request is not approved, the deck will receive an overlay. The preparation required to remove the concrete that is contaminated with chlorides could go beyond the top 1 ½ inches. This will increase project costs as change orders are processed. Also, the issue of the impact that drivers experience will not be addressed, since a rebuilding of the approaches is beyond the scope of other project work.

Interstate 84 eastbound over U.S. 395 (Emigrant Avenue Interchange)

The Interstate 84 eastbound over U.S. 395 (Emigrant Avenue Interchange) bridge was built in 1967 and is in satisfactory condition. This is the only structure over the Pendleton-John Day Highway, and the clearance in the southbound direction limits load height to 15 feet, 9 inches. This project was programed to lower the roadway under this bridge to improve vertical clearance. Construction funding was added through HB 2017.

As the design began to lower the roadway, several concerns were identified. First, the slope of U.S. 395 is already at 6.24%. The maximum allowable slope is 7%. During icy conditions, there are times when trucks have great difficulty with the current slope. Lowering the road would increase the slope.

Second, there is another project in the STIP, Interstate 84/U.S. 395B Interchange Improvements to Pendleton that will consider the entire interchange. Lowering the roadway at this interchange and making associated changes to retaining walls and drainage would complicate the design of the interchange improvements and may conflict with the desired outcome. Finally, there is a viable detour available so that oversized loads can use U.S. 395 and not have to pass under this interchange. Based on these factors, ODOT's Region 5 and Bridge agree that this project should be cancelled.

If this request is not approved, the projects will continue as programmed. However, the resulting vertical clearance gains will be offset by the inability of trucks to use U.S. 395 at this location during icy conditions due to an even steeper grade. Also, changes made to the interchange by this project may complicate the design effort of the interchange improvement project, with the potential of having to alter or remove portions of the vertical clearance project.

Options:

With approval, the projects can continue to move forward as planned and the Interstate 84 eastbound over U.S. 395 project will be cancelled.

Without approval, the projects will not have sufficient funds to move forward and each project will be cancelled.

Attachments:

- Attachment 1 - Location and Vicinity Maps

Copies to:

Jerri Bohard	Travis Brouwer	Tom Fuller	Bob Gebhardt
McGregor Lynde	Jeff Flowers	Rian Windsheimer	Craig Sipp
Amanda Sandvig	Arlene Santana	Gabi Garcia	Talena Adams
Kris Strickler	Jane Goode	Bert Hartman	Rachelle Nelson
Cooper Brown			



DATE: January 8, 2019

TO: Oregon Transportation Commission

FROM: Matthew L. Garrett
Director

SUBJECT: **Consent** – Amend the 2018-2021 Statewide Transportation Improvement Program (STIP) to add funds to the *Major Bridge Maintenance, 2019 program*.

Requested Action:

Approve to amend the 2018-2021 Statewide Transportation Improvement Program (STIP) to add funds to the *Major Bridge Maintenance, 2019 program*. The primary purpose of the additional funding is to strengthen major bridges in Region 1. The total estimated cost for these additional projects is \$10,000,000.

Funding for this project will come from the state bridge program funds in the 2018-2021 STIP by reducing the portion of the Fremont Bridge that will be painted in the Interstate 405: Fremont (Willamette River) Bridge project.

STIP Amendment Funding Summary

Project	Current Funding	Proposed Funding
Major bridge maintenance FFY19 (KN 20077)	\$10,000,0000	\$20,000,000
I-405: Fremont (Willamette River) Bridge (KN 20481)	\$27,794,616	\$17,794,616
TOTAL	\$37,794,616	\$37,794,616

Project to increase funding:

Major bridge maintenance FFY19 (KN 20077)			
Phase	Year	Cost	
		Current	Proposed
Preliminary Engineering	N/A	\$0	\$0
Right of Way	N/A	\$0	\$0
Utility Relocation	N/A	\$0	\$0
Construction	2019	\$10,000,000	\$20,000,000
TOTAL		\$10,000,000	\$20,000,000

Project to decrease funding:

I-405: Fremont (Willamette River) Bridge (KN 20481)			
Phase	Year	Cost	
		Current	Proposed
Preliminary Engineering	2019	\$940,358	\$940,358
Right of Way	N/A	\$0	\$0
Utility Relocation	N/A	\$0	\$0
Construction	2021	\$26,854,258	\$16,854,258
TOTAL		\$27,794,616	\$17,794,616

Background:

In 1990, the State of Oregon established a major bridge maintenance (MBM) program, to specifically address major and emergency bridge repairs that were not selected in the STIP or other funding sources. This type of work is generally determined to be of high enough priority that waiting for the STIP or other funding source is not an acceptable solution. This is also identified as work the district maintenance program normally wouldn't be able to accomplish due to maintenance crew budget or staff limits, and to address needs that were not anticipated. One use of MBM funding is to strengthen bridges to address concerns identified through the inspection and load rating processes.

The Bridge Engineering Section is in the final phase of completing initial load ratings for every highway bridge. The analysis is being accomplished with a combination of ODOT engineers and consultants. While a basic load rating analysis is sufficient for most bridges, advanced analysis is used for larger, more complicated structures. Advanced analysis can also be used for bridges that show the need for strengthening based on the basic analysis, but do not show signs of distress.

There are three major bridges in Portland that are currently having advanced analysis. While the advanced analysis may reduce the amount of strengthening that is required for these bridges to remain in unrestricted service, some strengthening will be required when the analysis is completed. This is primarily due to the differences in specifications that were used to design these bridges when compared to current specifications that are used in load rating. Loading has also changed since these bridges were designed, and there is deterioration after decades of service. The strengthening of these bridges will be done so that there is adequate load capacity for the vehicles that are using the bridges. If there were an immediate safety concern, the loads would be restricted or the bridges closed until repairs could be completed.

Below is the list of major bridges in Portland, with a brief description of the load rating issue:

Willamette River, Interstate 5 (Marquam) – The steel girders that support the upper deck needs to have bracing added to satisfy the modern specifications.

Willamette River, U.S. 30 Bypass (St. Johns) – There are portions of the truss that require bracing to satisfy the modern specifications, and also some connection plates that may require strengthening.

Willamette River, Oregon 99 West (Steel) - This bridge is owned by the Union Pacific Railroad. There is a lease agreement with ODOT and TriMet for highway traffic and light rail. This is a unique bridge and the primary issue is the need to coordinate with the railroad to determine the actual loading due to freight trains.

In addition to these major bridges in Region 1 that are very important from a statewide perspective, there are ten bridges throughout the state that are also in the final stages of advanced analysis. These bridges may also require strengthening. Coordination has taken place with regions so resources can be made available to design the strengthening and to have the strengthening completed through contract or with district bridge maintenance crews.

Options:

With approval, the \$10 million that is currently programmed for MBM can be used to address safety, preservation, and strengthening needs for bridges statewide.

Without approval, the funding for strengthening these bridges will come from the existing MBM program for 2019. This will significantly reduce the ability of that program to address other safety, preservation, and strengthening needs. The MBM program was increased from \$8.2 million to \$10 million starting in 2019, in recognition of the need for bridge maintenance, and the effectiveness of the program.

Attachments:

- Attachment 1 – Location and Vicinity Maps

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