

TRANSPORTATION MANAGEMENT PLAN

I-5

NB S 260th St to Duwamish River Br
Concrete Pavement Rehab & ADA
MP 147.64 to MP 156.51

XL4758

WIN# A00506G

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Purpose

This Transportation Management Plan (TMP) outlines the strategies to minimize impacts to the traveling public during construction of this project. Motorist delays associated with project construction will be minimized without compromising public or worker safety, or the quality of the work. This will be achieved through effective application of traditional traffic mitigation strategies and public outreach.

Roles and Responsibilities

Construction Project Engineer

The CN Project Engineer for construction will ensure that the Traffic Management Plan requirements are implemented and adhered to. The Project Engineer will coordinate with the Contractor to ensure traffic impacts are mitigated during construction. The Project Engineer will advocate communication with the Public Information Officer (PIO) for timely notification to the traveling public of impending changes. The Project Engineer will be the point of contact for the general public or complaints.

Region Traffic Engineer (RTE)

The Region Traffic Engineer is responsible, along with the Construction Project Engineer and Public Information Officer, to ensure implementation of the Transportation Management Plan during the construction of the project. The RTE is responsible for region wide traffic decisions pertaining to traffic impacts from planned construction activities.

Public Information Officer (PIO)

The region Public Information Officer will develop a Communication Plan for this project. The plan will state how the PIO will coordinate with media outlets about closures and various alternative routes. The Communication Plan will be made a part of this Transportation Management Plan. The region Public Information Officer is responsible for managing expectations and keeping the media and the public informed.

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Project Description and Location

This project will rehabilitate the pavement along northbound I-5 through the combination of several strategies such as select concrete panel replacement, crack and seat overlay, diamond grinding cement concrete panels, milling and inlaying of HMA, and replacing traffic loops.

The bridge decks of Br 5/525.5E and Br 5/526E will also be rehabilitated. Minor safety work includes replacing damaged signs and sign posts.

This project is located in the cities of Des Moines, Kent, SeaTac, and Tukwila beginning at milepost 147.64, and ending at milepost 156.51 along northbound I-5. See Vicinity Map in Appendix A.

Proposed Construction Closures

There will be up to 4 lanes closed on NB I-5 at any time for panel replacement and other work throughout this project. When the lane closures start from right to left, the HOV lane will be signed open to all traffic. When it is necessary to close an On-Ramp or Off-Ramp, a detour plan will be in place for each closure.
See Detour Plan in Appendix B.

Nighttime lane and shoulder closures will be needed before and after panel replacement work to perform preparation work, removing pavement marking, etc.

Advance notice with class B signs and PCMS will be used to give drivers sufficient warning of lane and ramp closures.

Schedule and Timeline

- AD Date – November 14, 2016
- Estimated Construction Start Date – March 2017
- Operationally Complete – November 2018

Adjacent Projects

The following projects will be in construction at the same time as this project. Coordination with the Work Zone Traffic Engineer and the Construction Office will be essential to minimize impacts to the traveling public:

I-5 / SB S 320th St to Duwamish River Br – Concrete Pavement Rehab – WSDOT
I-5 / I-405 Overcrossing Vic Southcenter – Bridge Deck Overlay - WSDOT
I-5 / NB MLK Jr. Way to NE Ravenna Bridge – Concrete Rehab & More – WSDOT
SR 167 / 8th St E Vic to S 277th St Vic – Southbound HOT Lane – WSDOT
I-405 / SR 167 Interchange – Direct Connector – WSDOT
SR 509 / SeaTac to I-5 – Freeway Extension – WSDOT
S 200th St – Light Rail Extension – Sound Transit
S 200th St / Military Road S – I-5 Ramp Intersection Improvements – Sound Transit
224th St Bridge at SR 167 – City of Kent

Transportation Management Plan Summary

The following strategies and elements will comprise the TMP for this project:

- Traffic Control Strategies
- Work Zone Safety Management Strategies
- Motorists Information Strategies
- Incident Management and Enforcement Strategies
- Construction TMP Strategies
- Public Information Strategies
- Bus rider Transit Strategies

Traffic Control Strategies

The following are traffic control strategies for this project:

Section 1: MP 147.64 to MP 149.71

Activities:

- Selective concrete panel replacement
- Skim diamond grind for friction all lanes
- Mill and inlay HMA pavement in lane 5
- Provide longitudinal joint seals along concrete pavement of I-5 mainline and the HMA of lane 5, the outside shoulders, and the HMA of on and off ramps
- Mill and inlay SR 516 on/off ramps.
- Remove plastic pavement markings and RPM's
- Traffic Loop replacement
- Restore permanent traffic recorder
- Remove pavement markings and RPM's
- Update pedestrian ramps
- Provide durable and contrast striping

- ✓ *Will need nightly closures of up to 3 outside lanes or 4 inside lanes, and closing the SR 516 on and off ramps for 5 - 9 nights each. During ramp closure, traffic will detour to the Military Rd exit. HOV lane will be signed opened to all traffic.*
- ✓ *Will need extended nightly closures of up to 4 left lanes to perform concrete panel replacement work in lane 3.*
- ✓ *Pierce Transit and Metro will be notified prior to the closure of any sidewalk, lane, ramp, or bridge. On-going coordination with Pierce Transit and King County Metro will be maintained throughout construction.*

Total No. of night closures: 70

Total No. of extended night closures: 37

Total No. of night ramp closures: 32

Section 2: MP 149.71 to MP 153.74

Activities:

- Remove all panels in the first and last 360' sections and both sides of the S 188th St. Bridge and overlay both transition areas
 - Crack, seat, and overlay (CSOL) with 0.70' HMA - all lanes
 - Transition overlay HMA pavement for the on/off ramps at Military Rd S and the on/off ramps from S. 188th St I/C
 - Removing and replacing beam guardrail
 - Traffic Loop replacement
 - Replace signs and sign posts
 - Remove pavement markings and RPM's
 - Adjust drainage features
 - Adjust traffic features
 - Provide durable and contrast striping
-
- ✓ *Will need up to 4 lanes closed for 1 night to install temporary conc. barrier and place temporary lane stripe. With temporary concrete barrier and temporary striping in place, 2 right lanes will be maintained open for each transition section of concrete panel replacement.*
 - ✓ *Transition section work will be performed during 4 weekend closures. Will need 3 right lanes closed or 4 left lanes closed (with 2 lane striping transition) to perform work. HOV lane will be signed opened to all traffic.*
 - ✓ *Will need 1 weekend closure to perform lifts 2 and 3 of the CSOL work for MP 149.71 to MP 152.26.*
 - ✓ *Will need 1 weekend closure to perform lifts 2 and 3 of the CSOL work for MP 152.30 to MP 153.65.*
 - ✓ *Will need nightly closures to transition overlay HMA pavement of on/off ramps at S 188th St and Military Rd. S. Detours will be in place.*

Total No. of night closures: 65

Total No. of extended night closures: 4

Total No. of weekend closures: 6
Total No. of night ramp closures: 49
Total No. of weekend ramp closures: 6

Section 3: MP 153.74 to MP 156.30

Activities:

- Selective concrete panel replacement
- Skim diamond grind for friction all lanes
- Provide longitudinal joint seals along concrete pavement of I-5 mainline and the outside shoulders and the HMA of on and off ramps
- Remove plastic pavement markings and RPM's
- Traffic Loop replacement
- Rehabilitate the bridge deck and replace 4 expansion joints at Interurban Ave S Bridge 5/525.5E
- Mill and inlay the following ramps: I-405 SB to I-5 NB on ramp, I-405 to Southcenter Blvd off ramp, Southcenter Blvd to I-5 NB on ramp, I-5 to SR 599 NB off ramp, and Interurban Ave S to I-5 NB on ramp.
- Remove pavement markings and RPM's
- Update pedestrian ramps
- Provide durable and contrast striping

✓ *Will need up to 4 left lane or 3 right lane nightly closures for pavement grinding and panel replacement.*

✓ *2 weekend closures, maintaining 2 open lanes, are required for expansion joint work on Br. 5/525.5E.*

✓ *During closures of I-405 SB to I-5 NB on-ramp, traffic will be detoured WB on SR 518 to the SR 99 off-ramp and then EB on SR 518 to the I-5 NB on-ramp.*

✓ *During closures of I-405 SB to Southcenter Blvd, traffic will be detoured to the I-405 SB to Interurban Ave S off ramp.*

✓ *During closures of Southcenter Blvd to I-5 NB on ramp, traffic will be detoured to the Interurban Ave S to I-5 NB on ramp.*

✓ *During closures of I-5 NB to SR 599 off ramp, traffic will be detoured to the I-5 NB to S Boeing Access Rd off ramp.*

Total No. of night closures: 117
Total No. of extended night closures: 39
Total No. of weekend closures: 2
Total No. of night ramp closures: 62
Total No. of weekend ramp closures: 2

Section 4: MP 156.30 to MP 156.51

Activities:

- Selective concrete panel replacement
- Rehabilitate the deck and replace 4 expansion joints at Duwamish River Bridge 5/526E
- Mill and inlay HMA pavement vicinity of Duwamish River Bridge 5/526E
- Remove pavement markings and RPM's

- Traffic Loop replacement
- Provide durable and contrast striping

✓ *2 weekend closures required for expansion joint replacement. Up to 4 lanes anticipated will close for 1 night to set up temporary conc. barrier along bridge 5/526E. With temp. conc. barrier in place, two lanes will remain open. HOV lane will be signed open to all traffic.*

Total No. of night closures: 8

Total No. of weekend closures: 2

Total No. of night ramp closures: 6

Total No. of weekend ramp closures: 2

Detours

A detour plan will be in place for each Off-ramp and On-ramp to and from NB I-5. Detours will occur during night and weekend ramp closures. Street Use Permits have been obtained from the Cities of Kent, SeaTac, Des Moines, and Tukwila. No height or weight restrictions were identified by the cities during their review of the detour routes. See Detour Plans in Appendix B.

Work Zone Safety Management Strategies

Traffic and Work Zone Separation

Traffic and the work zone will be separated with traffic safety drums along NB I-5 and along SR 516 during lane/ramp closures. Temporary traffic barrier will be used at the work zone for the section 2 transition areas, and the expansion joint replacement at Interurban Ave S and Duwamish River Bridge.

Construction TMP Strategies

Construction TMP strategies are measures that are included in the specifications, and performed by the Contractor during construction. The objectives of construction TMP strategies are to reduce construction time, minimize traffic disruptions, and avoid potential safety problems during construction. The following construction TMP strategy shall apply:

Lane, Shoulder, Ramp, and Roadway Closures Restrictions

Lane, shoulder, ramp, and roadway closures restrictions will be included in the Special Provisions to provide allowable time periods for construction activities. The restrictions are provided by the Work Zone Traffic Engineer and shall be enforced to minimize traffic impacts.

Safety

During closures where work is occurring, a lane buffer or temporary concrete barrier will be used to provide a safe area for the construction workers and the traveling public. In order to minimize the queue length, a minimum of 2 open lanes will be maintained at all times except during specific instances discussed in the contract. Advanced notice will be used to notify drivers of upcoming construction and will give them the opportunity to find alternate routes if they are so inclined.

Liquidated Damages

The Special Provisions will include liquidated damages for lanes, ramps, and roadway closures that exceed allowed closure times.

Project Coordination

The Contractor shall notify the Project Engineer 15 days in advance of schedule closures. The Project Engineer shall coordinate with other highway projects within the state highways system, as well as non-highway projects critical in minimizing traffic disruptions. Coordination involves scheduling projects within a corridor to ensure that adequate capacity remains available to accommodate the anticipated travel demand within the corridor by not implementing work zones on parallel roadways, or on detours concurrently. At a minimum, care should be taken in the timing of roadway closures to ensure that all projects are coordinated during construction to minimize interference among the various projects. Prominent projects with known significant impacts will be listed in the Special Provisions.

Washington State Patrol

Washington State Patrol to provide random enforcement of Speed limits and citations for aggressive, reckless, distracted driving, and intrusion in to closed lanes or ramps.

Contingency Plans

Once the contract has been awarded, the Contractor and the Construction Office will work with CTCO to develop a contingency plan for any traffic problems that come up during any closure.

Public Information & Bus Rider Transit Strategies

Critical to the success of this TMP is the Motorist Information System that will be implemented during construction. The main component of this system is the Portable Changeable Message Sign, Highway Advisory Radio (HAR), and 511 Traveler Information System that will provide real time traffic information to motorists approaching the construction zone. This information will guide and assist the motorists in making alternate route selections to avoid the impacted area. A signing scheme is designed to guide motorists through the various alternate routes. The various motorist information system elements are discussed below:

Portable Changeable Message Signs (PCMS)

Portable Changeable Message Signs (PCMS) are truck or trailer mounted and may be controlled locally or remotely. These signs will be utilized to provide motorists real time information about expected closures and detours. The PCMS's will be part of the TMP for traffic control purposes.

Highway Advisory Radio (HAR)

Where available, highway advisory radio may be used in conjunction with the PCMS's along I-5. HAR allows motorists to receive highway broadcasts through their AM radio.

Construction Signs Class B

Construction Signs Class B will augment changeable message signs by guiding motorists through various alternate routes. A signing scheme was developed by the Design Office and reviewed by the Region Construction Traffic Coordination Office (CTCO) for this project to guide motorists through the various alternate routes during construction. The Contractor and the Construction office are responsible to make sure that adequate signing is to be installed to guide motorists through the workzone.

Project Website

The project website will be updated to provide travelers and truckers with the latest information on the upcoming project closures. The website features the project status and background information about the project. This webpage will be linked to the main WSDOT traveler information webpage.

511 Traveler Information Systems

This element of the TMP provides motorists with system-wide and work zone-related information, both static and real time using wireless technologies such as cell phones and in-vehicle systems. This effort will be coordinated with the Region Traffic Systems Management Center (TSMC).

Transportation Operations

Prior to all lane closures, the Transportation Management Center (TMC) will work with the Construction Office and Contractor to help mitigate any queuing that is a result of the closure.

Freight Travel Information

Coordination with the WSDOT Commercial Vehicles Department, the Port of Seattle and permitting offices will be required in an effort to minimize impacts to freight travel during closures. This effort will be coordinated through the Public Information Officer (PIO).

Public Information Office

Efforts will be coordinated through the Public Information Officer and the Construction Coordination Traffic Office (CTCO).

Bus Transit Information

In addition to the above methods of notification, the Metro & Sound/Pierce Transit Buses will be notified prior to construction and nightly closures.

Appendix A: Vicinity Map

Appendix B: Traffic Control Plan and Detour Plan

Appendix C: Contract Special Provisions