

SR 20
N of Eaglemount Half Bridge – Culvert Replacement
XL5169

Transportation Management Plan

This project is a Major Drainage project in Jefferson County, on SR 20 between mileposts 2.98 and 3.16. The project will cut a large trench across the road to replace an existing culvert and rebuild the road with flatter side slopes.

Temporary Traffic Control

This project is to be constructed in 17 working days; 4 days for Class A install/removal and Mob/Demob (Alternative One-Way Traffic Flagger Controlled, Shoulder Closure); 3 days for site prep (Alt Flagging); 7 day Road closure for excavating the roadway, installing the culvert and restoring the roadway (SR19 & Center Rd/Chimacum Rd Intersection Flagger Controlled, SR 20 Full Closure and Detour, Shoulder Closure for installing and removing detour Class A signs); 4 days for guardrail installation and delineation / Clean-up, Planting - restore site.

Majority of the work will be done using a 7 working day complete roadway closure to excavate the roadway, install the new culvert, restore the roadway and install guardrail. The detour route diverts traffic to use US 101, SR 104 and SR 19 and is approximately 25 miles (estimated 20 minute delay). The detour route encounters a 4-way stop controlled intersection at SR 19 and Center Rd/Chimacum Rd which will require flagging the intersection during peak travel hours as described in the traffic delay analysis below.

In addition to the detour signing, including PCMS messages, there is a HAR (Highway Advisory Radio) transmitter on US 101 near MP 281. This HAR system can be used as a support for additional messaging when there isn't another conflicting need for the radio transmission. Contact Olympic Region TMC for further information.

The project impacts Route #8 for Jefferson County Transit which will require them to plan for a detour route during the roadway closure and potential delays during all other work. If school is in session, the closure and additional work will disrupt transit routes for Port Townsend School District. Additionally, some residential accesses are beyond the road closure signing and devices. Coordination with these residents will be needed to maintain their access. Communication is also required with local agencies, police, fire and emergency medical services as shown on the stakeholders list below.

Emergency Management During Full Roadway Closure and Detour

Hospital destination guide signing on US 101 routes motorists to use SR 20 for the nearest hospital (Jefferson Healthcare). During the full roadway closure motorists from Discovery Bay will use the signed detour to SR 104 and an additional hospital guide sign will be added as part of the detour signing for motorists travelling from Leland to use SR 104. Follow through existing guide signs on SR 104 direct motorists to go north onto Center Rd. From Discovery Bay the hospital route is an additional 10.8 miles (estimated 13 minute delay) and from Leland the route is an additional 6.6 miles (estimate 7 minute delay).

The roadway closure is within Jefferson County Fire District 5, Discovery Bay Fire & Rescue, and the adjacent Fire District 1, East Jefferson Fire & Rescue, shares the boundary at Anderson Lake Road on SR 20. Notifications and coordination with these districts will need to occur so they can assess whether temporary changes to boundary coverage is necessary.

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Informational guide signing along US 101 for tsunami evacuation route directs traffic to turn onto SR 20, but there is no additional permanent signing along SR 20. Jefferson County Emergency Management director Bob Hamlin indicated that the intent for directing motorist to SR 20 is to route them inland and to higher ground. During the full roadway closure, the road closure devices will occur after the intersection of Eaglemount Road; Mr. Hamlin approved Eaglemount Road as a viable route in the event of a disaster or tsunami warning.

Traffic Delay Analysis

The traffic delays during flagging operations and the full roadway closure will impact recreational motorists who are heading to sailings on the Port Townsend / Coupeville Ferry. Peak travel for this ferry route occurs between the months of June and September. Early coordination with WSDOT Ferries division will allow them to broadcast notices on their website and through their reservation notifications to alert motorists of the delays, roadway closure and detour route.

Alternating One-Way Traffic Flagger Controlled (SR 20)

Allowed Work hours for lane restrictions were evaluated based on available tube counts from April 2015. Copies of the counts are in the file. Work hours provided in Special Provision 1-07.23(1) were determined per the Design Manual Chapter 1010.07(2) Exhibit 1010-1 general lane closures work zone capacity. The roadway type of SR 20 is Two-Lane Rural Highway and therefore the work zone capacity was determined to be 400 VPHPL (Vehicles Per Hour Per Lane); for alternating one-way traffic control the capacity is determined to be 800 VPH (Vehicles Per Hour) Total. Using this criterion will result in little to no additional delays to the traveling public during alternating one-way traffic.

Full Roadway Closure and Detour

The full roadway closure will result in traffic impacts including an estimated 20 minute delay to the traveling public, increase fuel consumption and vehicle operating costs, pollution and other inconveniences. Delayed opening of SR 20 following the full roadway closure will result in traffic impacts; there will be liquidated damages to penalize the contractor if the roadway is not opened by the specified time.

Traffic counts for SR 20 (March 2015), SR 19 (April 2015) and Jefferson County's counts for Center Rd and Chimacum Rd (May 2016) with seasonal correction factors were evaluated at the 4-way stop controlled intersection and delays are expected for all directions for the hours of 7:00AM to 6:00PM daily according to signal warrant calculations. Copies of these traffic counts and signal warrants calculations are in the file. It's likely some of the local motorists will use West Valley Rd or SR 116 as alternative routes, potentially reducing the need for flaggers during periods of the day. A queue of less than 7 vehicles in any direction for a minimum 15 minutes can be used to determine if flagging can be omitted during non-peak periods of the day. Flagging the intersection during peak travel hours will reduce additional impacts to the travelling public during the complete roadway closure and detour. An alternative plan considered a portable temporary traffic signal system with a four phase option. Upon further investigation this option was ruled out due to the complexity of the system to accommodate pedestrian and vehicular movements, we concluded flagging the intersection during peak travel hours is more economical and straightforward.

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TC Plan Sheet Summary

<u>Plan Type</u>	<u>Sheet</u>	<u>Description</u>
Advance Sign Plan	VM1	Combined Vicinity Map and Advance Sign Plan
Typical	TC1	Alternating One-Way Traffic Flagger Controlled
Typical	TC2	Shoulder Closure
Site Specific	TC3	SR 19 and Center Rd/Chimacum Rd Intersection Flagger Controlled
Detour Plan	TC4-TC5	SR 20 Full Roadway Closure and Detour

Stakeholders

Washington State Patrol

Contacts:

District 8 PIO Trooper Russ Winger (360) 265-1332

Jefferson County

Contacts:

Sheriff Headquarters Office (360) 385-3831
Dept. of Emergency Management (360) 385-9368
Director Bob Hamlin (360) 344-9729

East Jefferson Fire & Rescue (Jefferson County Fire District 1)
(360) 385-2626

Discovery Bay Volunteer Fire & Rescue (Jefferson County Fire District 5)
(360) 379-6839

Port Townsend School District
Transportation Department (360) 302-5811