

TR-121 774



Washington State  
Department of Transportation

Memorandum

October 29, 2010

TO: Chad Simonson, P.E.  
FROM: Harold White, P.E. *HW*  
SUBJECT: Pines Railroad Signal Preemption

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PROJECT MANAGEMENT  
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STATE OF WASH  
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In spring of 2007 the Eastern Region Traffic Office received a task order from your Project office for work which required working with the Railroad to design the railroad preemption at SR 27 (Pines) and Indiana which would be impacted by the Pines-Mansfield Corridor Congestion Relief Project. The City of Spokane Valley (City) was the lead agency for the project and requested the Washington State Department of Transportation (WSDOT) develop the design documentation, PS&E package and provides construction administration. WSDOT and Spokane County also participated in a minor amount of the project funding.

During the project design phase, the WSDOT HQ Traffic Office requested that a Railroad Crossing Evaluation Team be established to determine the preemption needs and to analyze alternate preemption detection systems. The HQ Traffic Office had just begun evaluating advance preemption methods and had plans to place requirements in the revision of the WSDOT Design Manual to require such evaluation teams be set up for all projects within a certain distance of railroads. Though simultaneous preemption was operating with no known concerns, the ER Traffic Office agreed to follow the HQ Traffic Office proposed approach, which included MnDOT's "Guide for Determining Time Requirements for Traffic Signal Preemption at Highway-Rail Grade Crossings".

On July 12, 2007, members of the Railroad Crossing Evaluation Team, consisting of representatives of HQ Traffic, ER Traffic, ER Signals, City of Spokane Valley, and Union Pacific Railroad Company (UPRR), held a conference call to discuss the preemption review process and the "draft" results of the preemption analysis using the MnDOT guide. The meeting ended with several questions to be answered by the Railroad, including: design vs. actual train speeds, equipment placement, number of trains, and costs to upgrade the crossing.

A memo dated July 25, 2007 was sent to UPRR representative John Trumbull asking for the requested information to update the crossing from the current simultaneous preemption to advanced preemption and the use of gate-down logic circuitry on the Contract. The Railroad Crossing Evaluation Team was to reconvene to finalize the preemption design for the Contract upon receiving information from UPRR. UPRR conducted their field survey in October of 2007 and intended to send WSDOT their findings within 6 months. The delivery of the survey was delayed as UPRR made changes to project staff and Ken Knutson of the City of Spokane Valley took over correspondence with UPRR including communications regarding preemption. The need to complete this evaluation was communicated with the City during design, advertisement and construction, but ER Traffic was told that the City was still awaiting information from UPRR.

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The City advertised the Contract before agreements were developed between the City and UPPR. The Contract however did show the new location of the signal arm and the specifications stated that all work on the signal system for the railroad would be done by the Railroad at no expense to the Contractor.

The agreement between the City of Spokane Valley and UPPR was still not in place when the Contract was completed in 2009; therefore, the railroad portion of the work was not completed. Because the railroad work was not done with the other construction work on the Contract, geometric changes had to be made on the north side of the railroad tracks to keep the lanes behind the original RR signal gate. These geometric changes included shortening the left turn pocket and misaligning the southbound through lanes on either side of the tracks which creates operational inefficiencies for the intersection. These geometric revisions were completed on a temporary basis until the railroad signal work could come to fruition.

ER Traffic was contacted by WSDOT Railroad Liaison Ahmer Nizam in July of 2010 inquiring as to the status of the preemption at the project location. Since WSDOT had not received the requested information from UPPR for the preemption work, a second memo dated September 9, 2010, was sent to Terrel Anderson of UPPR. Terrel Anderson responded to the WSDOT memo by phone on September 20, 2010, stating that UPPR never received an executed agreement from the City to perform any railroad work on the Contract. He stated that changing from simultaneous preemption to advance preemption in this location would create logistical problems affecting other crossings to the east and west, and would have an estimated additional cost of \$500,000. An email from Ahmer on September 15, 2010 indicated that UPPR also wants up to \$25,000 for more design/project coordination costs.

At that time, the ER Traffic Office re-examined the project and preemption design requirements. The railroad preemption work was not included in the project definition; and therefore would be a project scope change. At the time the design for the project was approved, the WSDOT Design Manual did not require that advance preemption be installed or that the evaluation team be established. Though HQ Traffic requested the Railroad Crossing Evaluation Team to evaluate advanced preemption in 2007, the requirement was not actually placed into the WSDOT Design Manual until December of 2009. The Contract went to advertisement in August of 2008.

There are no operational issues, design requirements, or funds to support moving forward with an evaluation team to analyze advance preemption at this time. Therefore, the Eastern Region has determined to continue using simultaneous preemption at this crossing.

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cc: Ted Bailey  
Steve Worley  
Ken Olson  
Traffic file