



Whipple Consulting Engineers, Inc.

WCE No. 2013-1166

January 12, 2017

Washington State Department of Transportation
714 N Mayfair
Spokane WA 99207

Attn: Greg Figg

Re: Painted Hills TIA – Response Letter

Dear Greg;

This letter is intended to provide a response to the comments included in the email dated December 9, 2016. For clarity, the comments are listed below with our response in Bold.

- Figure 13A of the analysis indicates that the SB queue at the intersection of Pines and 16th will extend back into the thru lane of SR 27 as a result of the proposed project. Will the mitigation address this? This should also be identified in Table 20 in which the queue length exceeds the available length.

Figure 13A and Table 20 of the TIA are intended to report the existing and future conditions of the scoped intersections without any improvements. Therefore, in the Addendum Letter Figure 13A1 and Tables A and B show that the 95th Percentile as calculated by SimTraffic. As shown in the Figure the southbound queue is not anticipated to spillback into SR 27.

- Given the two closely spaced intersections of SR 27/16th and Pines/16th and the queues that will extend through the intersections the analysis tool needs to be able to model this interaction. The use of Sim Traffic or an equivalent tool needs to be used to determine what the impacts to these intersections will be.

Sim Traffic was used to model the intersections.

- The comments below focus on 2030 Synchro files (most of these comments would also be applicable to the 2015 Synchro files).

So Noted

SR 27 & 16th Ave.

- A Peak Hour factor of 0.85 was used, please explain how it was arrived at.

This is the reported Peak hour factor from the raw traffic counts.

- Signal timing plan.
 - Under the timing portion for minimum split(s), EBL, EBT & EBR should all be 42.0 seconds, WCE analysis is using 10.0 seconds. There is a pedestrian phase associated with this Eastbound movement, the analysis did not take into account the W+FDW+Y+AR.
 - Detector placement is incorrect, which affects how the signal runs, (see attached).

The syncro files from WSDOT were utilized within the LOS analysis of the addendum letter with its timing and placement of detectors.

- Link distance need to accommodate SimTraffic queues. (See node #11 and #12 in pm Synchro file, see attached).
 - Volumes not balanced, therefore, when SimTraffic is ran it does not show realistic queue lengths.

The volumes between the nodes and intersections were balanced for the SimTraffic analysis.

- EB 16th on the west side of Pines is one lane, between Pines and SR 27, EB 16th is 2 lanes and there is one lane for the SB slip ramp from SR 27 to Pines Road. Did not see any language that would indicate restriping or widening roadway.

Language and Figure 13A0 “Concept Intersection Improvements” have been included in the addendum letter. As shown on the figure the cemetery property is not proposed to be encroached upon.

SR 27 & 32nd Ave.

- Need to use the most current timing plan.
 - Timing portion for minimum split(s) EBT, WBT, NBT & SBT need to be adjusted to reflect the pedestrian phase associated with these movements. Total split and Maximum green times are also slightly off.
 - Detector placement is incorrect, see attached.
- Add volumes at adjacent nodes to better reflect queuing results in SimTraffic.

The syncro files from WSDOT were utilized within the LOS analysis of the addendum letter with its timing and placement of detectors.

If you have any questions or comments in regard to this letter, please feel free to contact us at (509) 893-2617

Thank you

A handwritten signature in blue ink, appearing to read "Ben Goodmansen". The signature is fluid and cursive, with a long horizontal stroke at the end.

Ben Goodmansen, E.I.T.

BNG/bng