Case Study 2: US-20 Santiam Highway Mp 78.41-78.59

The following information is entered in the *COVER SHEET* for a site description. This is a SPIS Investigation of a newly listed SPIS site.

PLEASE COMPLETE THIS SELF CASE STUDY USING THE TOOLS AND TECHNIQUES SHOWN. FEEL FREE TO WORK IN GROUPS

OREGON DEPARTMENT OF TRANSPORTATION
SAFETY INVESTIGATIONS MANUAL
COVER SHEET

Office Data By:	**KM**	Title:	**OFFICE INVESTIGATOR**
Field Investigation By:	**KM**	Title:	**FIELD INVESTIGATOR**
Investigation Name:	**SANTIAM HWY MP 78.41 SPIS**		
Route Number:	**US-20**	Hwy Name:	SANTIAM
County:	LINN	City:	Region: **2** District: **3**
Location Type:	SEGMENT	*Needed to autofill other forms correctly*	
Road Character:	RURAL	*Only descriptive (choices for functional class and intersection type do not include suburban options)*	
This Investigation in Response to	SPIS INVESTIGATION		

SEGMENT and CRASH DATA MPs		**INTERSECTION**	
MP From:	**78.41** to **78.59**	MP at	
Functional Class:	RURAL PRINCIPAL ARTERIAL	Intersection Type:	R 3-LEGGED UNSIGNALIZED
		Intersecting Street Name	

1. **Collect in-Office Data**

   a. Crash Data –   Get PRC XLS crash data:

   a. Hwy 016, MP 78.41-2003 to 2007

   b. Facility Functional Class – It is determined that US20 is a rural principal arterial. This is entered on the *COVER SHEET*.

   c. Traffic Volumes – Mainline (US20) volumes obtained from the ODOT volume tables of 5,600 ADT. This is entered in the *DATA ENTRY* tab of the SIM workbook. For now, assume all years have the same volume.

d. Browse the Digital Video Log for the mileposted section. Alternatively, try to use Google Streetview since not all highways you investigate will have DVL.

e. Google Maps – Aerial photography of the location shows that the alignment. It can be tricky to determine the exact curve or MP on the aerial photography. One tip is to identify an easy point on the map to find (Hoodoo Ski area), then use the measurement tool (measured using Google Maps, My Maps, Distance Measurement Tool – Note that a Google account is needed to use the measurement tool).
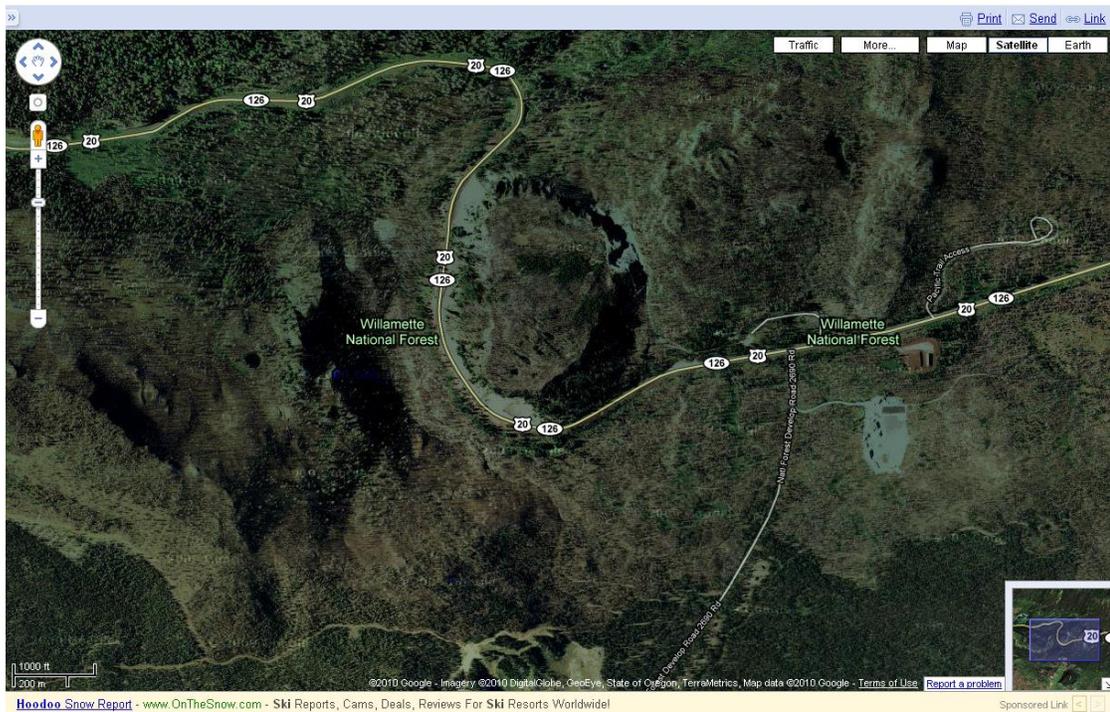
f. Make some general notes about the alignment

2. Diagnosing Crash Patterns

    a. Paste the PRC raw data in the worksheet. Be sure to select "Segment".

       Make a note of any crash trends are highlighted in grey (PNorm is less than 5%) as being potentially unusual (list them):

       Look for other patters that are close, but are not less that 5% threshold. List them:

    b. With the small number of collisions it may not be necessary to create a collision diagram. But you can sketch these out if needed.

3. Site Investigations

a. After reviewing the crash data in-office, the investigator should have a good idea what the potential problems.

Using Table 3 and the crash type(s) that seem to "jump" out at you, what types of items should the investigator document and investigate? List them below

SUMMARY OF DATA ANALYSIS AND FIELD INVESTIGATION:

4. **Identify Candidate Countermeasures**

   a. Considering the field investigation and the crash patterns a number of potential solutions can be considered what types of countermeasures are suggested by Table 3?

   b. Now, browse the FHWA CMF Clearinghouse "Curve" in rural areas and review the suggest countermeasures. Do any of the suggested countermeasures appear feasible?

5. **Expected Effectiveness of Countermeasures**

   a. What does the FHWA CMF Clearinghouse suggest is the expected effectiveness?

6. **Benefit Cost Worksheet**

   a. If your recommended treatment is costly, complete and report a B/C form.

7. Writing the Recommendation - Highway Safety Investigations Report (HSIR)

    a. The last step is to summarize the final recommendations. Write the summary of the problem and the reason for your recommendation.

    b. Write your recommendation.