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BEFORE THE WASHINGTON STATE UTILITIES  
AND TRANSPORTATION COMMISSION

In Re the Petition of Whatcom County,	)	Docket No: TR -180466
	)	
Petitioner,	)	
	)	REBUTTAL TESTIMONY OF CODY
vs.	)	SWAN, PROJECT ENGINEER
	)	
BNSF,	)	
	)	
Respondent.	)	

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**Why did Whatcom County petition the UTC to approve installation of mountable median barriers with channelization at the Cliffside highway-grade crossing?**

Whatcom County seeks to establish a quiet zone (QZ) at this location pursuant to 49 CFR 222.39. (Exhibit CS-7). The installation of the proposed mountable channelization devices, coupled with the existing gates and lights at the crossing, expressly qualifies this location for QZ designation under 49 CFR 222.39. However, even without installing the mountable medians with reflective channelization devices, this location still qualifies for QZ designation based upon the crossing's Quiet Zone Risk Index (QZRI) being below the Nationwide Significant Risk Threshold (NSRT).

**Explain how the Cliffside Drive crossing qualifies for the QZ designation.**

There are three different bases under the federal rule that allow Whatcom County to establish a QZ without the need to formally apply with the Federal Railroad Administration

1 (FRA). First, the County can establish a QZ if it implements one or more of the FRA approved  
2 supplemental safety measures (SSMs) at all crossings within the proposed QZ. Second, the  
3 County can establish a QZ if the Quiet Zone Risk Index (QZRI) for the proposed crossing is  
4 below the Nationwide Significant Risk Threshold (NSRT), with or without additional SSMs.  
5 And third, the County can establish a QZ if it implements SSMs that reduce the QZRI to a level  
6 at or below the Risk Index with Horns.

7 It's important to point out that Cliffside Drive already qualifies for QZ designation even  
8 without the addition of any SSMs. Again, this is because the current QZRI for the Cliffside  
9 crossing is below the required NSRT safety threshold.

10 Even though there is no requirement to do so, the County wants to install additional FRA-  
11 approved SSMs to further reduce risk. As a result, this voluntary decision to install the  
12 mountable median with channelization actually establishes an independent basis that qualifies  
13 Cliffside Drive for QZ designation under the rule.

14 Finally, it's worth noting that installation of the mountable median at Cliffside Drive will  
15 also end up reducing the QZRI to a level below the Risk Index with Horns. In other words, this  
16 crossing will be statistically safer as a QZ under the County's proposal than it currently is with  
17 the trains sounding their horns. This fact also would allow Whatcom County to establish the QZ  
18 without formal application to the FRA. Based on the rule's definition for establishing a quiet  
19 zone the County's proposed plan satisfies all three of the criteria previously described.

20 **Do the FRA rules require use of a specific SSM detailed in Appendix A of the code to**  
21 **qualify for QZ dedication?**

22 No. The County can choose to implement any of the approved SSM options listed in 49  
23 CFR 222, Appendix A (Exhibit CS-7).

24 **Have you reviewed the pre-filed testimony of Dusty Arrington?**

1 Yes.

2 **Does Mr. Arrington's testimony make any reference to the FRA or the federal rules related**  
3 **to quiet zone establishment under 49 CFR 222?**

4 Not that I saw.

5 **Does 49 CFR 222 expressly address the use of non-traversable curbs and channelization**  
6 **devices that may be mountable or traversable?**

7 Yes. Both are expressly approved by the FRA as SSMs that provide proven and  
8 significant safety benefits at highway-rail grade crossings when coupled with active warning  
9 devices such as gates. In fact, the FRA has calculated a risk index for both types of medians  
10 lower than that if trains continued to sound horns. The presence of either type of median at a  
11 crossing -in conjunction with the crossing gates- qualifies the location for QZ designation under  
12 49 CFR 222.

13 **Mr. Arrington suggests a mountable median with channelization devices would not be an**  
14 **effective means for reducing accident risks at the Cliffside Drive. Is this consistent with**  
15 **FRA analysis and the federal rule governing QZ?**

16 No.

17 **Please explain your above answer.**

18 The FRA examined each of the SSMs detailed in Appendix A of 49 CFR 222 and  
19 assigned an effectiveness rating to each. This rating represents the reduction in the risk of an  
20 automobile and train collision when any particular SSM is installed. The effectiveness rating of  
21 mountable medians with reflective traffic channelization devices is 0.75, meaning that when  
22 implemented at a crossing this safety measure will reduce accident risks by 75%.

23 **Has the FRA evaluated the comparative effectiveness rate between non-traversable and**  
24 **mountable medians?**

1 As previously mentioned, the effectiveness rating for mountable medians with reflective  
2 channelization devices is 0.75. The effectiveness rating for non-traversable medians is 0.80. This  
3 is effectively a 5% difference in the reduction risk between the two (2) safety measures being  
4 discussed. Both provide a much safer crossing than in the current conventional active warning  
5 system configuration and being that nowhere in the code is the public authority required to  
6 choose a specific safety measure the County chose one that appropriately suits our needs at this  
7 crossing.

8 **Does it appear Mr. Arrington considered this data?**

9 No.

10 **What has Whatcom County considered in reaching its decision to utilize mountable**  
11 **medians with channelization devices?**

12 As detailed in the code, our first consideration was to involve all entities operating or  
13 having authority over the crossing to be involved in a diagnostics meeting to discuss the options  
14 for safety measures to mitigate for the absence of the train horn. The County extended the  
15 invitation to attend this meeting to Amtrak, BNSF, UTC, and FRA and all but Amtrak were  
16 present.

17 Next, as detailed in the code, we submitted a Notice of Intent to all affected parties  
18 describing what proposed safety measures the County would install to make the crossing safer.  
19 The County chose an approved, vetted safety measure from the code to install at the crossing to  
20 mitigate for the loss of the train horn.

21 The County also considered the following when choosing the mountable median with  
22 reflective channelization devices: sought input from the fire department on access, the  
23 community having an engaged involvement in this process and approaching County Council to  
24 initiate this process, the low ADT not requiring us to install a more imposing SSM, maintenance

1 crews can be more responsive to items in disrepair by having a stocked inventory of replacement  
2 parts, ability to include inspection of these facilities in our maintenance crews' monthly sign  
3 inspection rounds, and ultimately just following the process detailed in the code.

4 **Does Mr. Arrington's opinion consider details related to road conditions at the Cliffside**  
5 **Drive location such as neighborhood characteristics?**

6 No, none of the testing results came from test sites in Washington State. I assume UV  
7 degradation, heat, and other environmental impacts that may have played a factor in the  
8 durability of the delineators may not directly translate from Texas and Florida to Washington.

9 However, assuming the delineator testing cited by Mr. Arrington does translate from  
10 Texas and Florida to Washington, the scenarios that he seems to have cited address  
11 implementation on high volume, high speed roads with repetitive impact, none of this accurately  
12 describes the scenario at the Cliffside Drive crossing. Furthermore, the delineators that he  
13 references and provides supporting data for are not the delineators being proposed at Cliffside  
14 Drive.

15 **Why is it important to consider specific road conditions and neighborhood characteristics?**

16 The Cliffside Drive crossing is slightly unique, and worlds away from Mr. Arrington's  
17 examples. Cliffside Drive is a "No Outlet" road that provides access to less than 40 residences  
18 with an ADT of approximately 300 and all of the 40 residences are aware of and  
19 encourage/support the proposed improvements. Cliffside Drive is clearly not comparable to the  
20 high-speed, high-volume roadways of Florida and Texas cited by Mr. Arrington or the Willis  
21 Avenue in Kent citing by Mr Seminick.

22 **Have you reviewed the prefiled testimony of Stephen Semenick on behalf of BNSF?**

23 Yes.

1 **What is your response to Mr. Semenick's concerns about the County's UTC petition for**  
2 **installation of median barriers at the Cliffside Drive crossing?**

3 Mr. Semenick's concerns are a matter of preference and are not founded in the application of the  
4 code. The code is in place as guidelines for Public Authorities, in this case Whatcom County, to  
5 follow while establishing a quiet zone. Whatcom County used this code and the process detailed  
6 within to determine what FRA approved safety measure would be appropriate to mitigate for the  
7 loss of the train horn at the Cliffside Drive crossing. The SSM chosen greatly reduces the risk of  
8 automobile/train collisions base on the calculations for risk provided by myself, using the FRA  
9 calculator, and the calculations provided by Jeffery Stewart with FRA.

10  
11 **Has the County recently conducted a traffic count? If so, please explain why and discuss**  
12 **the results.**

13 Yes, Whatcom County performed a 9 day study on January 5<sup>th</sup> through January 13<sup>th</sup>. (Exhibit  
14 CS-8). The reason for this study was to ensure that the 2014 mid-week study accurately  
15 represented the traffic volumes using this crossing. This study showed that on every day except  
16 Friday January 11<sup>th</sup> through Sunday January 13<sup>th</sup> were near or below the 300 ADT, consistent  
17 with the 2014 traffic study. Volume increases on the dates mentioned above is attributed to a  
18 weekend estate sale in the neighborhood. To get an accurate representation of typical traffic  
19 volumes these outliers would not be used in the ADT calculation. On the first page of the 2019  
20 study the 7 day average is 324, which includes the Friday January 11<sup>th</sup> inflated traffic volume.  
21 When using the 324 ADT in the FRA Calculator the QZRI is still below the NSRT which makes  
22 the crossing eligible to be established as a quiet zone without implantation of any SSM's, per the  
23 code. (Exhibit CS-9, FRA calculator screen shot using new, 2019 7 day ADT).

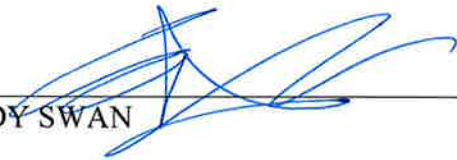
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**Did Mr. Arrington’s or Mr. Semenick’s testimony raise any concerns regarding Whatcom County’s decision to utilize mountable channelization devices at Cliffside Drive? Why not?**

No. The County used the federal code as guidance to walk through the process of establishing a quiet zone. At no point did the County deviate from the code and once the SSMs are installed the crossing will be safer. Additionally, the County remains confident that its use of mountable medians with channelization devices at Cliffside Drive will protect our motoring public by significantly reducing those risks inherent at railroad crossings. In fact, this crossing will be safer as a QZ under the County’s plan than it currently is with trains sounding their horns.

I, Cody Swan, am over the age of eighteen and competent to testify to the matters herein, and hereby declare under penalty of perjury under the laws of the State of Washington that the foregoing testimony is true and correct to the best of my knowledge and belief.

Signed this 18 day of January, 2019 at Bellingham, Washington.

  
\_\_\_\_\_  
CODY SWAN

1 DATED this 18 day of January, 2019.

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3 CHRISTOPHER QUINN, WSBA #34695  
4 Sr. Civil Deputy, Whatcom County  
5 Counsel for Petitioner

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