

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

WHATCOM COUNTY,

Petitioner,

v.

BNSF RAILWAY COMPANY,

Respondent.

DOCKET TR-180466

POST-HEARING BRIEF ON BEHALF OF COMMISSION STAFF

April 5, 2019

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I. INTRODUCTION

1 Whatcom County (the County) petitioned this Commission for authorization to install mountable medians with channelization devices at the Cliffside Drive highway-rail grade crossing to reduce the risk of collision associated with the creation of a quiet zone there. BNSF Railway Company (BNSF) asks the Commission to order the County to install non-traversable curbs instead. The Commission should agree that public safety requires modification of the approaches to the crossing and approve the County's petition without the condition sought by BNSF.

II. BACKGROUND

2 Cliffside Drive runs near the shores of Puget Sound in Whatcom County, serving a small group of approximately 44 residences.¹ Cliffside Drive has no outlet, meaning that those traveling to or from those residences must cross railroad tracks used by BNSF Railway Company (BNSF) and Amtrak.² Seventeen freight trains and two passenger trains travel through the crossing on a daily basis.³

3 The proximity of the crossing to the residences using it lies at the root of the controversy currently before the Commission. Federal law requires trains to sound their locomotive horns as they approach highway-rail grade crossings to prevent collisions with vehicles.⁴ The residents living on the west side of Cliffside Drive, having grown weary of the sound of train horns, asked their local government representatives to silence them.⁵

¹ Swan, Exh. CS-1T at 2:21-23; Swan, TR. at 38:23-39:3, 61:9-13.

² Swan, Exh. CS-1T at 2:21-23; Swan, TR. at 25:8-10, 52:15-22.

³ Young, Exh. BY-1T at 7:11-12.

⁴ 49 C.F.R. § 222.21(a); Young, Exh. BY-4 at 3 (describing the purposes of the train horn rule).

⁵ Swan, Exh. CS-1T at 2:9-13; Swan, TR. at 61:14-18.

Acting upon that request, the County initiated the process of rendering the train horn rule inoperative at the crossing by creating a quiet zone under 49 C.F.R. Part 222.⁶

4 A public authority may designate a crossing⁷ as a quiet zone if certain criteria are met.⁸ Under one of these criteria, the public authority may designate a crossing as a quiet zone where the risk of collision, measured by a metric referred to as the Quiet Zone Risk Index (QZRI), is less than the Nationwide Significant Risk Threshold (NSRT).⁹ The QZRI “represents the average severity-weighted collision risk for all public highway-rail grade crossings that are part of a quiet zone.”¹⁰ The NSRT measures the “average severity-weighted collision risk for all public highway rail crossings equipped with lights and gates nationwide where train horns are routinely sounded.”¹¹ It serves as a “threshold of permissible risk for quiet zones.”¹²

5 If the crossing’s QZRI exceeds the NSRT, the public authority may implement Supplementary Safety Measures (SSMs) to reduce the risk of train-vehicle collisions.¹³ The FRA defines an SSM as “a safety system or procedure . . . provided by the appropriate traffic control authority or law enforcement authority responsible for safety at the highway-rail grade crossing . . . that is determined to be an effective substitute for the locomotive horn in the prevention of highway-rail casualties.”¹⁴ Each approved SSM carries an FRA-

⁶ Swan, Exh. CS-1T at 3:4-19; Swan, Exh. CS-4; *see* Young, Exh. BY-1T at 3:5-7 (defining quiet zone). The quiet zone proposed at Cliffside Drive would be effective 24 hours per day, seven days per week. Swan, Exh. CS-4.

⁷ A quiet zone may span multiple consecutive public highway-rail crossings. Young, Exh. BY-1T at 3:5-7 (citing 49 C.F.R. § 222.9 (defining “quiet zone”). As the County intends to create a quiet zone consisting solely of the Cliffside Drive crossing, Staff generally speaks of a singular crossing when discussing the law governing quiet zones.

⁸ 49 C.F.R. § 222.39(a).

⁹ 49 C.F.R. § 222.39(a)(2).

¹⁰ Young, Exh. BY-1T at 4:13-14 (citing 49 C.F.R. § 222.9).

¹¹ Young, Exh. BY-1T at 4:5-7 (citing 49 C.F.R. 222.9).

¹² Young, Exh. BY-1T at 4:7-8.

¹³ 49 C.F.R. § 222.53(a); 49 C.F.R. Part 222 Appx. A.

¹⁴ Young, Exh. BY-1T at 5:13-16 (quoting 49 C.F.R. § 222.9) (alterations in original).

determined effectiveness rating, which acts as a “risk-reduction credit.”¹⁵ If implementation of an SSM reduces the QZRI below the NSRT, the public authority may then designate the crossing as a quiet zone.¹⁶

6 The County used the FRA’s QZRI calculator¹⁷ and determined that the Cliffside Drive crossing was eligible to become a quiet zone without the installation of an SSM.¹⁸ It is, however, a close thing: Cliffside Drive’s current QZRI is nearly 99 percent of the NSRT.¹⁹ Accordingly, the County decided to install an SSM to ensure public safety at the crossing when the quiet zone is in place and the train horns go silent.²⁰

7 County personnel selected mountable medians with channelization devices for installation at the crossing.²¹ Those devices are an FRA-approved SSM²² with an assigned effectiveness rating of 0.75, meaning that the risk of a collision decreases by 75 percent once a public authority installs them.²³ Two factors largely drove the County’s selection.²⁴

8 First, the County determined that mountable medians with channelization devices “provide[d] ease of maintenance.”²⁵ The County can stock the necessary parts and perform all of the necessary installation and maintenance itself, allowing it to be “proactive about deficiencies.”²⁶ To that end, the County initially plans on at least monthly inspections to

¹⁵ Young, Exh. BY-1T at 5:6-8; 49 C.F.R. Part 222 Appx. A.

¹⁶ 49 C.F.R. § 222.39(a)(2)(ii). The installation of SSMs at every crossing within a proposed quiet zone also allows the public authority to designate the crossing or crossings as a quiet zone. 49 C.F.R. § 222.39(a)(1).

¹⁷ Swan, Exh. CS-1T at 4:4-15.

¹⁸ Swan, Exh. CS-1T at 4:17-22; *see* Swan, Exh. CS-6T at 6:21-23; Young, Exh. BY-1T at 7:5-6.

¹⁹ Swan, TR. at 50:10-22. Depending on the traffic study used, the County calculated the QZRI for Cliffside Drive as 13,847.78 or 14,562.45. Swan, Exh. CS-1T at 4:10; Swan, Exh. CS-9. Using FRA preset values, BNSF calculated the QZRI as 15,707. Semenick, Exh. SS-1T at 6:16-17. The Commission need not decide which, if any, traffic study is valid or which QZRI value is correct because the Commission does not approve the creation of quiet zones. Young, Exh. BY-1T at 6:6-7.

²⁰ Swan, CS-1T at 5:1-9.

²¹ Swan, Exh. CS-1T at 5:11-17.

²² Swan, TR. at 64:4-11; Young, TR. at 92:20-21; Semenick, TR. at 116:3-5.

²³ Swan, Exh. CS-6T at 3:20-22; 49 C.F.R. Part 222 Appx. A.

²⁴ Swan, Exh. CS-1T at 5:19-6:9.

²⁵ Swan, Exh. CS-1T at 5:24-6:2.

²⁶ Swan, Exh. CS-1T at 5:24-6:2.

make sure that the mountable medians and channelization devices remain in good repair.²⁷ The alternative SSM requested by BNSF, non-traversable curbs, requires pouring concrete to install and perhaps to maintain.²⁸ The County does not perform concrete work, meaning it would need to secure the services of a contractor when installing the SSM or, in the event it needs to perform maintenance, a process that could take a month or more.²⁹

9 Second, the County determined that installation of mountable medians with channelization devices fit best with its public safety obligations. After the County issued notice of its intent to create a quiet zone at Cliffside Drive, the Whatcom County Fire Marshal's Office contacted the County and asked it to install mountable medians based on experience with non-traversable curbs at another nearby crossing.³⁰ Fire personnel explained that the concrete curb at the center line at that crossing caused emergency personnel to navigate the crossing very carefully to avoid colliding with the barrier, reducing response times.³¹ Fire personnel also explained that they "frequently" responded to brush fires across the Cliffside Drive crossing in the summer.³²

10 Having selected an SSM, the County utilized the FRA's calculator to determine Cliffside Drive's QZRI after installation of the mountable medians and channelization devices.³³ It determined that installation of the devices reduced the QZRI significantly below the NSRT and also below another risk metric called the Risk Index With Horns (RIWH).³⁴

²⁷ Swan, Exh. CS-6T at 4:21-5:3; Swan, TR. at 41:3-19.

²⁸ Swan, Exh. CS-1T at 6:2-4; Swan, TR. at 28:21-29:4.

²⁹ Swan, Exh. CS-1T at 6:2-4; Swan, TR. at 28:21-29:1, 30:18.

³⁰ Swan, Exh. CS-1T at 6:4-9; Swan, TR. at 76:5-10.

³¹ See Swan, TR. at 58:14-59:16, 76:5-10.

³² Swan, TR. at 59:9-16.

³³ Swan, Exh. CS-1T at 4:12-15.

³⁴ Swan, Exh. CS-1T at 4:12-15; Swan, TR. at 72:23-73:8. The RIWH measures the "risk to the motoring public when locomotive horns are routinely sounded at every public highway-rail grade crossing within a quiet zone. 49 C.F.R. § 222.9. The NSRT is 14,723.00. Swan, TR. at 19:21-20:8. Cliffside Drive's RIWH is 8,730.49. Swan, Exh. CS-9. Depending on the County traffic study used, the QZRI at Cliffside Drive after

11 While federal law governs the establishment of quiet zones, Washington law governs the procedures for modifying highway-rail grade crossings.³⁵ Public authorities must obtain from the Commission authorization to modify a highway-rail grade crossing.³⁶ Accordingly, the County petitioned the Commission for permission to install the mountable medians and channelization devices at Cliffside Drive.³⁷

12 BNSF opposes the County's petition. While BNSF does not contest that alteration to the crossing would improve public safety, it claims that there is a more effective³⁸ and economical SSM: non-traversable curbs.³⁹ BNSF asks the Commission to order the County to install those curbs at Cliffside Drive instead of the mountable medians with channelization devices.⁴⁰

III. DISCUSSION

13 The Commission should determine that public safety requires installation of the mountable medians with channelization devices. Installing mountable medians and channelization devices would significantly decrease the risk of collision at Cliffside Drive, not only compensating for the creation of the quiet zone, but actually making the crossing safer than if trains continued to routinely sound their horns. The Commission, accordingly, should approve the County's petition.

14 The Legislature generally charged the Commission with regulating highway-rail crossings within Washington State.⁴¹ RCW 81.53.060 permits the "legislative authority of

installation of the mountable medians and channelization devices is 3,459.45 or 3,640.61. Swan, Exh. CS-1T at 4:12-14; *cf.* Swan, Exh. CS-9.

³⁵ 49 C.F.R. § 222.7(e); Young, Exh. BY-1T at 6:12-20.

³⁶ RCW 81.53.060.

³⁷ Swan, Exh. CS-2.

³⁸ *E.g.*, Arrington, Exh. DA-1T at 6:12-10:8; Semenick, Exh. SS-1T at 3:21-5:19.

³⁹ *E.g.*, Arrington, Exh. DA-1T at 10:10-13:13.

⁴⁰ Semenick, Exh. SS-1T at 9:1-4.

⁴¹ *See generally* chapter 81.53 RCW; *but see* RCW 81.53.240 (exempting crossings within first-class cities from Commission jurisdiction unless the city opts into that jurisdiction).

any county within which there exists any . . . grade crossing” to petition the Commission to make various changes to the crossing, including “alteration in the method and manner of an existing crossing and its approaches.”⁴² The Commission may grant such a petition where public safety requires that it do so.⁴³

15 Cliffside Drive’s current QZRI is effectively at the threshold for quiet zone eligibility. While that leaves the County free to establish a quiet zone without further action,⁴⁴ the County resolved to install an SSM to reduce the risk to the motoring public.⁴⁵ Once the County installs mountable medians and channelization devices to supplement the gates already present at the crossing,⁴⁶ Cliffside Drive’s QZRI will be approximately one fourth of the NSRT and less than half of its RIWH.⁴⁷ Public safety is thus greatly enhanced by the installation of the mountable medians and channelization devices.⁴⁸ The Commission should grant the County’s petition on that basis.

16 BNSF, however, asks the Commission to override the County’s selection of the appropriate SSM and instead order it to install non-traversable curbs based on safety and maintenance concerns. The Commission should reject those arguments.

17 BNSF contends that public safety requires the installation of non-traversable curbs.⁴⁹ BNSF worries that drivers may traverse mountable medians with channelization devices in order to circumvent the gates in place by driving through the crossing in the oncoming

⁴² RCW 81.53.060; WAC 480-62-150(1)(c).

⁴³ RCW 81.53.060.

⁴⁴ Swan, Exh.CS-1T at 4:14-22; Swan, Exh. CS-6T at 2:7-9; Swan, TR. at 71:10-17; Young, Exh. BY-1T at 11:2-3; Young, Exh. BY-6T at 3:17-18.

⁴⁵ Swan, CS-1T at 4:3-4; Swan, Exh. CS-6T at 2:10-11; Swan, TR. at 71:18-21; *see* Young, Exh. BY-1T at 11:9-11; BY-1T at 3:16-19.

⁴⁶ Swan, TR. at 66:3-8.

⁴⁷ As noted above in footnote 35, the QZRI at Cliffside Drive after installation of the mountable medians and channelization devices is either 3,459.45 or 3,640.61, depending on which County traffic study data populates the FRA calculator. The NSRT is set at 14,723.00, and Cliffside Drive’s RIWH is 8,730.45.

⁴⁸ *E.g.*, Young, TR. at 93:24-94:2.

⁴⁹ *E.g.*, Semenick, Exh. SS-1T at 3:21-23.

traffic lane, whereas drivers cannot easily do so with non-traversable curbs.⁵⁰ The Commission should reject that argument, for three reasons.

18 First, BNSF fails to show that its proposal would result in a material public safety improvement over the County's, either generally or in light of the specific conditions at Cliffside Drive.

19 In general terms, the use of SSMs to reduce the risk of collision at a crossing in conjunction with the creation of a quiet zone is governed by federal law.⁵¹ The FRA, after study, determined that gates with channelization devices are nearly as effective as gates with non-traversable curbs, assigning effectiveness ratings of 0.75 and 0.8 to each respectively.⁵² While BNSF's witness takes issue with those ratings, they are controlling in this context.⁵³ BNSF fails to provide any reasoned argument why a difference in effectiveness rating of 0.05 is so significant as to require the installation of its chosen SSM over the County's. If BNSF is arguing that the Commission must always choose a more effective option, then it effectively asks the Commission to close every highway-rail grade crossing in the state,⁵⁴ something the Commission should reject for any number of reasons.⁵⁵

20 In specific terms, BNSF fails to show that the increased effectiveness of non-traversable curbs matters at this crossing. As BNSF's witness put it, "[i]t is commonly understood in the research community that site-specific conditions affect human behavior."⁵⁶ Cliffside Drive is a "no-outlet' local access road serving" only a small number of

⁵⁰ *E.g.*, Arrington, Exh. DA-1T at 6:17-19; Semenick, TR. at 118:14-18.

⁵¹ *See generally* 49 C.F.R. §§ 222.1-59.

⁵² 49 C.F.R. Part 222 Appx. A.

⁵³ Arrington, TR. at 128:8-11.

⁵⁴ 49 C.F.R. Part 222 Appx. A (closing a crossing has an effectiveness rating of 1.0).

⁵⁵ Closure of the Cliffside Drive crossing, for example, would strand the residents on the far side of the crossing from their employment and the necessities of life.

⁵⁶ Arrington, Exh. DA-12T at 3:15-16.

residences.⁵⁷ The crossing has no history of aggressive driving or attempts at circumventing the gates.⁵⁸ And, as the County's witness testified multiple times (testimony validated by strong community involvement at the public comment hearing),⁵⁹ the residents living on the west side of Cliffside Drive have actively sought the creation of a quiet zone.⁶⁰ Those residents have every incentive to refrain from conduct that will jeopardize the quiet zone.⁶¹ There is no need to install non-traversable curbs at the crossing given its history and usage.

21 Second, BNSF can claim its proposed SSM results in greater improvement to public safety as compared to the County's only by taking a narrow view of public safety. First responders asked the County to install mountable medians as opposed to non-traversable curbs at Cliffside Drive based on experience with a nearby crossing.⁶² There, the presence of a large concrete curb at the center line has caused emergency personnel to slow down and drive extremely carefully through the crossing to avoid striking the curb.⁶³ This resulted in increased response times.⁶⁴ This is not an academic concern: fire department personnel frequently respond to summertime brush fires on Cliffside Drive.⁶⁵ When considering whether public safety requires the installation of non-traversable curbs, the Commission should heed those actually charged with public safety and conclude that, at this crossing, mountable medians serve public safety better than non-traversable curbs.

⁵⁷ *E.g.*, Swan, Exh. CS-1T at 2:21-23.

⁵⁸ Swan, TR. at 62:10-19 (noting that no evidences suggests motorists have attempted to run the gates and that no residents have mentioned problems with aggressive driving or running gates at the crossing).

⁵⁹ *See generally*, TR. (March 5, 2019) at 135:1-150:11).

⁶⁰ *E.g.*, Swan, Exh. CS-1T at 2:11-13.

⁶¹ *See* Swan, Exh. CS-6T at 5:15-21; *cf.* Semenick, TR. at 117:11-15 (testifying that residents have an incentive to report broken channelization devices to ensure the crossing remains a quiet zone).

⁶² Swan, Exh. CS-1T at 6:4-9.

⁶³ Swan, Exh. CS-1T at 6:4-9; *see* Swan, TR. at 58:10-24, 75:25-76:10.

⁶⁴ Swan, TR. at 58:10-24.

⁶⁵ Swan, TR. at 59:9-16.

22 Finally, with all due respect to BNSF, it asks the Commission to apply a standard to the County that it does not apply to itself. BNSF installed gates at the Cliffside Drive crossing at some point.⁶⁶ When it did so, it installed only two-quadrant gates, one for each oncoming lane of traffic,⁶⁷ rather than four-quadrant gates, which would block traffic from attempting to cross the tracks in the oncoming lanes when the gates deploy.⁶⁸ It is inequitable to force the County to install BNSF's preferred SSM against the County's wishes to address the potential of drivers circumventing the existing gates when BNSF could have addressed, and could even now address, that problem by installing four-quadrant gates. The petition process was not intended to give BNSF a veto over the County's reasoned choice as to the appropriate SSM under these facts.

23 BNSF also contends that the Commission should reject the County's petition based on two different maintenance concerns. First, BNSF claims that the County will not properly maintain the mountable medians. Second, BNSF alleges that mountable medians would be too expensive. Again, the Commission should reject BNSF's arguments.

24 BNSF's concerns about improper maintenance lack merit. The County plans on inspecting the crossing, initially once a month, and more frequently if necessary, in order to properly maintain the medians and channelization devices.⁶⁹ It has the capacity to perform all of the necessary maintenance itself, meaning that it can fix any defects it finds.⁷⁰ BNSF does not explain why the County's plans are insufficient and instead falls back on generalizations.⁷¹ The problem with relying on generalizations here is that BNSF's

⁶⁶ Semenick, TR. at 111:3-7.

⁶⁷ Swan, CS-2 at 4.

⁶⁸ 49 C.F.R. Part 222 Appx. A (Describing four-quadrant gates).

⁶⁹ Swan, TR. at 41:3-19; *see* Swan, Exh. CS-6T at 4:21-5:3.

⁷⁰ Swan, Exh. CS-1T at 5:24-6:2.

⁷¹ *E.g.*, Arrington, TR. at 128:12-25; Semenick, Exh. SS-1T at 5:13-15.

witnesses testify about the difficulty of maintaining channelization devices at crossings that differ significantly from Cliffside Drive.⁷² There is no reason to believe that the devices at Cliffside Drive will take the kind of beating that led to SSM failures at the high-speed, high-traffic crossings BNSF's witnesses cite.⁷³

25 Relatedly, BNSF worries that the County will not discover broken channelization devices in a timely manner. Again, BNSF does not explain why the County's monthly inspection process would not identify damaged channelization devices. Regardless, as BNSF acknowledged at hearing, residents living near the crossing support creation of the quiet zone and have a strong incentive to report any broken channelization devices.⁷⁴ BNSF's fears about inadequate maintenance are simply unfounded.

26 BNSF's concerns about the expense involved with channelization devices are puzzling. BNSF acknowledges that the County, and only the County, would be responsible for the costs of maintenance.⁷⁵ BNSF also acknowledges that the County is better situated to understand and address its roadway needs and its responsibilities to the motoring public.⁷⁶ The County, which bears responsibility for installation and maintenance of any SSM at the crossing, has chosen mountable medians with channelization devices.⁷⁷ Again, BNSF should not have a veto over the County's deliberate choice based on cost considerations that do not affect BNSF.

⁷² Swan, Exh. CS-6T at 5:4-21; Swan, TR. at 33:13-35:2.

⁷³ Swan, Exh. CS-6T at 5:4-21; Swan, TR. at 33:13-35:2.

⁷⁴ Semenick, TR. at 116:21-117:18.

⁷⁵ Semenick, Exh. SS-4 at 1 ("the County is responsible for the cost and maintenance of these devices"); Semenick, TR. at 116:13-16.

⁷⁶ Semenick, TR. at 114:15-115:20.

⁷⁷ Semenick, TR. at 116:17-20.

IV. CONCLUSION

27 Under RCW 81.53.060 and .070, the Commission may authorize the modification of the approaches to a highway-rail grade crossing by a public authority if required by public safety. No party to this matter disputes that the County would make the Cliffside Drive crossing safer by installing mountable medians with channelization devices. The Commission should find that public safety requires the mountable medians with channelization devices and grant the County's petition.

DATED this 5th day of April 2019.

Respectfully submitted,

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