

**Exh. BY-1T**  
**Docket TR-180466**  
**Witness: Betty Young**

**BEFORE THE WASHINGTON  
UTILITIES AND TRANSPORTATION COMMISSION**

**WHATCOM COUNTY**

**Petitioner,**

**v.**

**BNSF RAILWAY COMPANY**

**Respondent.**

**DOCKET TR-180466**

**TESTIMONY OF**

**Betty Young**

**STAFF OF  
WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION**

**December 21, 2018**

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### **List of Exhibits**

- Exh. BY-2 RCW 81.53.030 Petition for crossing – Hearing – Order, RCW 81.53.060 Petition for alteration of crossing – Closure of grade crossing without hearing, and WAC 480-62-150 Grade crossing petitions
- Exh. BY-3 Title 49 CFR Part 222 – Use of Locomotive Horns at Public Highway-Rail Grade Crossings
- Exh. BY-4 FRA *Guide to the Quiet Zone Establishment Process* (Sept. 2013)
- Exh. BY-5 Commission Staff comments to Whatcom County in Docket TR-160319

1 I. INTRODUCTION

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**Q. Please state your name and business address.**

A. My name is Betty Young. My business address is 1300 S. Evergreen Park Drive S.W., P.O. Box 47250, Olympia, WA, 98504.

**Q. By whom are you employed and in what capacity?**

A. I work for the Washington Utilities and Transportation Commission (Commission), in the Rail Safety section, as a Transportation Planning Specialist. I have worked at the Commission since 1999, and have worked full time in Rail Safety since 2015.

**Q. What are your duties in this position as they apply to railroad safety?**

A. My primary duties involve reviewing, evaluating, and making recommendations to the Commission regarding petitions submitted to establish, close, or modify railroad crossings.<sup>1</sup> I participate in the U.S. Department of Transportation Federal Railroad Administration (FRA) quiet zone establishment process by attending diagnostic team meetings, evaluating safety issues, and drafting written comments on behalf of Commission Staff (Staff). I evaluate and recommend action on requests for Grade Crossing Protective Fund grants and manage grant awards to project completion. I represent Staff in evaluating projects for funding under the Federal Highway Administration’s Section 130 program. I also provide policy analysis and research for the Rail Safety section.

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<sup>1</sup> Exh. BY-2.



1 **Q. The County refers to a quiet zone throughout its testimony. What is a quiet**  
2 **zone?**

3 A. Title 49 Code of Federal Regulations (CFR) Part 222 deals with the use of  
4 locomotive horns at railroad crossings. The CFR requires the sounding of locomotive  
5 horns when a train approaches a railroad crossing.<sup>2</sup> A “quiet zone” is a section of rail  
6 line containing one or more consecutive public railroad crossings at which  
7 locomotive horns are not routinely sounded when trains are approaching.<sup>3</sup>

8

9 **Q. How is a quiet zone established?**

10 A. The FRA describes the process in its brochure titled, “*Guide to the Quiet Zone*  
11 *Establishment Process.*”<sup>4</sup> The public authority responsible for traffic control or law  
12 enforcement at a crossing is the only entity permitted to create a quiet zone. The  
13 public authority files notice of its intent to establish the quiet zone with the FRA and  
14 other stakeholders, including the Commission. The FRA may approve the  
15 establishment of a quiet zone when it determines that trains may approach the  
16 crossing without sounding the locomotive horn without significant risk with respect  
17 to loss of life or serious personal injury, or that the significant risk has been  
18 compensated for by other means, such as the addition of crossing safety features.<sup>5</sup>

19

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<sup>2</sup> 49 CFR § 222.21(b)(2), (3). A copy of 49 C.F.R. Part 222 is submitted as Exh. BY-3.

<sup>3</sup> 49 CFR § 222.9.

<sup>4</sup> Exh. BY-4.

<sup>5</sup> 49 CFR Part 222 App. C § 1.

1 **Q. How does the FRA evaluate the risk of silencing locomotive horns at a crossing?**

2 The FRA uses several measures to assign risk to a crossing, including the  
3 Nationwide Significant Risk Threshold (NSRT), the Crossing Corridor Risk Index  
4 (CCRI), and the Quiet Zone Risk Index (QZRI).<sup>6</sup>

5 The NSRT represents the average severity-weighted collision risk for all public  
6 highway-rail grade crossings equipped with lights and gates nationwide where train  
7 horns are routinely sounded.<sup>7</sup> The FRA developed this index to serve as a threshold  
8 of permissible risk for quiet zones. For purposes of the train horn rule, a risk level  
9 above the NSRT represents a significant risk with respect to loss of life or serious  
10 personal injury.<sup>8</sup>

11 The CCRI represents the average severity-weighted collision risk for all public  
12 crossings along a defined rail corridor.<sup>9</sup>

13 The QZRI represents the average severity-weighted collision risk for all public  
14 highway-rail grade crossings that are part of a quiet zone.<sup>10</sup> It takes into  
15 consideration the absence of the train horn and any safety measures that are present  
16 or planned to be installed.<sup>11</sup>

17 Public authorities use the FRA's Quiet Zone Calculator to determine the QZRI  
18 for the proposed quiet zone.<sup>12</sup> The County included its Quiet Zone Calculator  
19 information in its testimony at Exhibit CS-2. A public authority may establish a quiet  
20 zone without formal application to, or approval by, the FRA if the QZRI is less than

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<sup>6</sup> 49 CFR Part 222 App D.

<sup>7</sup> 49 CFR § 222.9.

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*

<sup>10</sup> *Id.*

<sup>11</sup> 49 CFR Part 222 App. D.

<sup>12</sup> FRA Quiet Zone Calculator, *available at* <http://safetydata.fra.dot.gov/quiet/>.

1 or equal to the NSRT, or the proposed quiet zone satisfies two other criteria, and the  
2 public authority complies with the information and notification provisions in the  
3 regulation.<sup>13</sup>

4

5 **Q. What happens if the QZRI is above the NSRT for a given crossing?**

6 A If the QZRI is above the NSRT, the public authority can implement additional safety  
7 features, referred to as Supplemental Safety Measures (SSMs) and Alternative Safety  
8 Measures (ASMs), to receive a “risk reduction credit.”<sup>14</sup> If the SSMs or ASMs reduce  
9 the QZRI below the NSRT, the FRA deems the crossing(s) as eligible to become a  
10 quiet zone.

11

12 **Q. Can you give us a more detailed explanation of an SSM?**

13 A. An SSM is defined as “a safety system or procedure...provided by the appropriate  
14 traffic control authority or law enforcement authority responsible for safety at the  
15 highway-rail grade crossing, that is determined...to be an effective substitute for the  
16 locomotive horn in the prevention of highway-rail casualties.”<sup>15</sup> Approved SSMs  
17 include temporary or permanent closure of a crossing, four-quadrant gate systems,  
18 and gates with medians or channelization devices. Median barriers and channelization  
19 devices are sometimes referred to interchangeably by parties in the quiet zone process.

20 As I noted above, approved SSMs provide a quiet zone applicant with a risk  
21 reduction credit, and each SSM has been assigned an effectiveness rating. The

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<sup>13</sup> See generally Exh. BY-4.

<sup>14</sup> 49 CFR § 222.9.

<sup>15</sup> *Id.*



1 effectiveness rating is the reduction in likelihood of a collision at the crossing as the  
2 result of the SSM installation. The approved SSMs are listed in 49 CFR Part 222 -  
3 Appendix A, along with the effectiveness rating for each SSM.<sup>16</sup>  
4

5 **Q. What is the Commission's role in quiet zone establishment?**

6 A. The Commission does not have authority to approve or deny establishment of the  
7 quiet zone, so its role is fairly limited. Staff generally participates in on-site  
8 diagnostic team meetings at the proposed quiet zone crossings and submit comments  
9 to the public authority, the FRA, and stakeholders regarding current safety measures  
10 at the crossing or proposed crossing modifications.  
11

12 **Q. Why is this matter before the Commission?**

13 A. In many cases, the public authority must make specific safety modifications at  
14 crossings by adding SSMs or ASMs before a quiet zone can be established. In  
15 Washington, a public authority must obtain approval from the Commission in order  
16 to make these safety modifications, by law.<sup>17</sup> Federal regulations related to  
17 establishing quiet zones do not preempt administrative procedures required under  
18 state law regarding the modification or installation of improvements at railroad  
19 crossings.<sup>18</sup> The County's petition resulted from that combination of state and  
20 federal law.  
21

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<sup>16</sup> 49 CFR Part 222 App. A.

<sup>17</sup> RCW 81.53.060; WAC 480-62-150.

<sup>18</sup> 49 CFR Part 222.7(e).

1 IV. CROSSING INFORMATION

2  
3 **Q. Are you familiar with the characteristics of the Cliffside Drive railroad**  
4 **crossing?**

5 A. Yes. Based on information in the Commission’s crossing inventory, the crossing has  
6 active warning devices consisting of shoulder-mounted lights and gates. According  
7 to the County’s petition and testimony, approximately 300 vehicles travel over the  
8 crossing daily, including one percent commercial vehicle traffic. The posted speed  
9 limit on Cliffside Drive is 25 miles per hour. No school or transit buses use the  
10 crossing.

11 The County’s petition indicates that an average of 17 freight trains and two  
12 passenger trains travel over the crossing daily at 45 miles per hour.

13  
14 **Q. Have you been to the Cliffside Drive railroad crossing?**

15 A. Yes. I attended the March 16, 2018, diagnostic team meeting at the crossing, with  
16 staff from the FRA, the County, and BNSF Railway Company (BNSF).

17  
18 **Q. What is a diagnostic team meeting?**

19 A. A diagnostic team involves experienced and knowledgeable individuals from  
20 interested organizations meeting at a crossing to evaluate its operational and physical  
21 characteristics and to determine whether measures can be taken to maintain or  
22 improve safety at the crossing. For quiet zones, the team generally consists of the  
23 public authority, the FRA, Staff, and the railroad, though other organizations may

1 also be involved. The team considers a number of factors, including the crossing  
2 configuration and physical characteristics, vehicle and train traffic patterns,  
3 operations at the crossing, the crossing approach zones, and traffic control devices  
4 such as pavement markings and signs or signals.

5  
6 **Q. Have there been any accidents reported at the Cliffside Drive crossing in the**  
7 **last 10 years?**

8 A. No.

9  
10 **V. DESCRIPTION OF PROPOSED CROSSING MODIFICATIONS**

11  
12 **Q. In its petition, what modifications does the County propose to make at the**  
13 **Cliffside Drive crossing?**

14 A. The County proposes to install 100 feet of traversable median barrier with reflective  
15 channelization devices on each approach to the crossing.

16  
17 **Q. What is the purpose of a median barrier or channelization device?**

18 A. Median barriers and channelization devices on the approaches to a crossing provide a  
19 visual and physical barrier to deter motorists from driving into the opposing traffic  
20 lane to circumvent the lowered gates to cross the tracks.

21

1 **Q. Does the FRA consider this modification to be an SSM?**

2 A. Yes. The FRA has approved median barriers and channelization devices as SSMs.

3

4 **Q. The County's testimony indicates that BNSF does not support the proposed**  
5 **modifications. Is that your understanding?**

6 A. Yes. It is my understanding that BNSF prefers non-traversable curbs to the  
7 traversable medians proposed by the County. The FRA also considers non-  
8 traversable curbs to be an SSM.

9

10 **Q. What effectiveness rating has the FRA assigned to each of these SSMs?**

11 A. The FRA has determined that channelization devices, like the median barriers the  
12 County proposes to install, have an effectiveness rating of 0.75. Non-traversable  
13 curbs, as BNSF is proposing, have an effectiveness rating of 0.80. As I explained  
14 earlier, the effectiveness rating is a reduction in the likelihood of a collision at the  
15 crossing as the result of the SSM installation.

16

17 **Q. Does this mean that the FRA considers non-traversable curbs more effective**  
18 **than the median barriers proposed by the County in its petition?**

19 A. Yes. The FRA indicates that non-traversable curbs reduce the likelihood of a  
20 collision at the crossing by five percent over the median barriers proposed by the  
21 County.

22

1 **Q. Has Staff previously worked with the County on a proposed quiet zone and**  
2 **provided comments about the effectiveness of median barriers?**

3 A. Yes. Bob Boston represented Staff related to the proposed quiet zone at Yacht Club  
4 Road. Staff submitted comments related to the quiet zone to the County and  
5 stakeholders in May 2016 in Commission Docket TR-160319.<sup>19</sup>

6

7 **Q. What was Staff's position related to traversable medians vs. non-traversable**  
8 **curbs at that time?**

9 A. Staff's stated opinion was that non-traversable medians (curbs) provide a higher  
10 disincentive for motorists to drive over them because of the potential damage to  
11 vehicles.

12

13 **Q. Do you agree with those comments?**

14 A. Yes. Based on the FRA's effectiveness rating, non-traversable curbs are five percent  
15 more effective than traversable medians; therefore, they do provide a slightly higher  
16 disincentive for motorists to drive over them.

17

18 **Q. Do you believe the County should be required to install non-traversable curbs**  
19 **at the Cliffside Drive crossing?**

20 A. No.

21

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<sup>19</sup> Exh. BY-5.

1 **Q. Why not?**

2 A. The County is not required to install any SSMs to qualify for FRA quiet zone  
3 designation, as the QZRI for the Cliffside Drive crossing is already below the NSRT.  
4 Staff's position is that any SSM the County installs increases the safety at a crossing  
5 where, according to the FRA, the crossing is already safe enough to approve  
6 silencing of the train horn.

7  
8 **Q. What does Staff recommend in this case?**

9 A. Staff recommends that the Commission approve the County's petition. Staff supports  
10 the County's efforts to provide a significantly greater degree of safety at the crossing  
11 than what exists today by adding the traversable median barriers.

12  
13 **Q. Does this conclude your testimony?**

14 A. Yes.