

**BEFORE THE WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION**

In Re the Petition of: WHATCOM COUNTY, Petitioner v. BNSF Railway Company, Respondent.	DOCKET NO. TR-180466 PREFILED REBUTTAL TESTIMONY OF DUSTY ARRINGTON
---	---

Q: Please re-state your full name and job title.

A: My name is Dusty R. Arrington. I am primarily employed as an Accident Reconstruction Specialist at A&M Forensics and Engineering. I also carry an hourly position as an Associate Transportation Researcher at Texas A&M Transportation Institute (TTI).

Q: You previously submitted prefiled testimony in this case. Betty Young, Staff of the Washington Utilities and Transportation Commission, submitted testimony relating to Staff's previous work with Whatcom County on a proposed quiet zone and Staff's comments about the effectiveness of various medians. Have you reviewed the testimony that she filed in this case?

1 A: Yes.

2
3 **Q: Do you have any reaction to Ms. Young's testimony?**

4 A: Yes, I would like to respond to statements made by Ms. Young on pages 8, 9 and 10.

5
6 **Q: How would you like to respond to Ms. Young's testimony on page 8?**

7 A: Ms. Young states that median barriers and channelization devices provide a visual and
8 physical barrier. To the extent that she is referring to mountable median devices, this is incorrect.
9 A mountable median device with channelization doesn't constitute a physical barrier as it doesn't
10 prevent the movement of a vehicle across it. It is merely a deterrent. The system is designed to
11 allow a vehicle to cross at high speed without destabilizing the vehicle as indicated in road side
12 safety compliance testing (NCHRP Report 350 and MASH), and it is easily traversed at slow
13 speed. Moreover, the deterrent factor is reduced when individual channelization devices become
14 damaged or are missing entirely.

15
16 **Q: How would you like to respond to Ms. Young's testimony on page 9 and 10?**

17 A: Ms. Young references the FRA effectiveness ratings for mountable medians with
18 channelization devices (0.75) and non-traversable curbs (0.80). I believe these values to be based
19 on incomplete and unscientific evaluation methods. It is my opinion that the long-term
20 effectiveness of channelization devices is likely overstated, and the effectiveness of the
21 non-traversable curb is understated, as evident in FRA's referenced "studies."

1 **Q: Why do you believe the effectiveness of the non-traversable median is understated in**
2 **the FRA regulations?**

3 A: Ms. Young did not explain or acknowledge how the FRA generated its effectiveness
4 ratings that Staff relied on. Ms. Young states that non-traversable curbs “provide a *slightly* higher
5 disincentive for motorists to drive over them” (75% for channelization devices; 80% for
6 non-mountable medians) (emphasis added). It is apparent from FRA publications available online
7 at <https://www.fra.dot.gov/Elib/Document/1324>, see Exh. DA-13 (49 CFR Parts 222 and 229 Use
8 of Locomotive Horns at Highway-Rail Grade Crossings; Interim Final Rule, at 70652-53) that
9 these values are based on *very* limited data—in the case of non-traversable medians, the 80%
10 figure is nothing more than an apparently arbitrary estimate loosely based on one crossing. The
11 one test case for the non-traversable curb, in Spokane County, WA, actually had a measured
12 effectiveness rate of 0.92. However, the FRA states that it arbitrarily reduced the rate to 0.80
13 because it felt the installation didn’t represent the national average physical characteristics for a
14 non-traversable curb installation. This is unscientific, to put it politely.

15 It is commonly understood in the research community that site-specific conditions affect
16 human behavior. For this reason, almost all scientific research is based on representative samples
17 as funding does not allow for the study of every instance. These representative samples are
18 selected to represent multiple and different site-specific conditions to provide a measure of the
19 average effect on a measure, in this case human behavior. It doesn’t follow standard scientific
20 method to base a measure of human behavior on a single case study, like the FRA did here
21 regarding channelization devices. This can—and I believe has here--lead to significant errors in
22 the findings. Additionally, it doesn’t follow standard scientific methodology to arbitrarily adjust
23 measures of human behavior without evidence to back the adjustment. For this reason, I find the
24

1 FRA's effectiveness rate for non-traversable curbs highly conservative based on my experience
2 and the data presented by FRA.

3
4 **Q: Do you have any other objections towards the study with respect to channelization
5 devices?**

6 A: The FRA publications available online at <https://www.fra.dot.gov/Elib/Document/1324>
7 (Exh. DA-13) reflect that the 75% effectiveness rate for channelization devices is based on such
8 limited data that it is not statistically significant. The FRA comments show that the 0.75
9 effectiveness rate was determined based on only a 20-week study that was conducted comparing
10 violation rates before and after installation of the channelization device at one crossing in North
11 Carolina.

12
13 **Q: Why do you feel it is important that FRA only based the channelization device
14 effective rate on only 20 weeks of data at one crossing?**

15 A: By only comparing the first 20 weeks of data after the system was installed, they are not
16 effectively accounting for weather and seasonal effects on driver behavior. Nor are they actually
17 gauging driver behavior at different kinds of crossings. More importantly they are not accounting
18 for the long-term degradation of the system due to impacts with vehicles. The channelization
19 system is a polymer-based product that is subject to ongoing maintenance and repair. The FRA
20 even recognizes that "Channelization devices must be frequently monitored to replace broken
21 elements." Exh. DA-13 at 70651.

22
23 **Q: Do you have any additional exhibits to support your testimony?**
24

1 A: Yes. As an example, Exhibit DA-14 shows the current state of the test system installation
2 in North Carolina in April of 2015, as documented by Google Street View. In other words, this
3 exhibit shows the very crossing used by the FRA to generate its 75% effectiveness rating of
4 channelization devices. As you can see several of the tubular markers, commonly referred to as
5 channelization devices or delineators, are damaged and/or missing. The channelization devices
6 are an integral part of this system's ability to deter motorist from traversing them. If they are
7 missing, the effectiveness of the system can be significantly reduced. Moreover, while I
8 understand that the County in this proceeding has pledged to repair damaged channelization
9 devices "immediately," this is the reality of what those polymer-based traversable curb systems-
10 generally end up looking like over time.

11
12 **Q: What is your response to the Staff's conclusion in this case, that Qwik Kurb is a**
13 **proper mitigation as compared to non-mountable medians?**

14 A: My opinion is: a non-traversable curb should be installed in all cases where an SSM is
15 undertaken. The only exception is when the SSM will be installed on a roadway regulated at
16 highway speeds (MASH TL-3 and higher applications). The non-traversable curb provides a
17 physical barrier, and significant deterrent, that prevents most drivers from physically crossing it
18 without sustaining significant damage to their vehicle. This helps to ensure compliance and has
19 an added benefit of significantly less potential maintenance (and thus, maintenance costs) when
20 compared to a channelization system.

21
22 **Q: Does this end your testimony in response to Ms. Young's prefiled testimony?**

23 A: Yes it does.
24

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

DECLARATION

I, Dusty Arrington, declare under penalty of perjury under the laws of the State of Washington that the foregoing PREFILED REBUTTAL TESTIMONY OF DUSTY ARRINGTON is true and correct to the best of my knowledge and belief.

DATED this 18th day of January, 2019, at 4:00 pm.



DUSTY ARRINGTON

1 DATED this 18th of January, 2019.
2

3 Montgomery Scarp & Chait PLLC
4

5 s/Kelsey Endres

6 Tom Montgomery, WSBA #19998

7 Kelsey Endres, WSBA #39409

8 Attorneys for BNSF Railway Company

9 1218 Third Ave., Suite 2500

10 Seattle, WA 98101

11 Tel. (206) 625-1801

12 Fax (206) 625-1807

13 tom@montgomeryscarp.com

14 kelsey@montgomeryscarp.com
15
16
17
18
19
20
21
22
23
24

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

CERTIFICATE OF SERVICE

I am over the age of 18; and not a party to this action. I am the assistant to an attorney with Montgomery Scarp PLLC, whose address is 1218 Third Avenue, Suite 2500, Seattle, Washington, 98101.

I hereby certify that the original and 1 copies of the PREFILED REBUTTAL TESTIMONY OF DUSTY ARRINGTON has been submitted to www.utc.wa.gov/e-filing for filing with the WUTC. I also certify that true and complete copies have been sent to the following interested parties via email:

Jeff Roberson
Office of the Attorney General, WUTC
1400 S. Evergreen Park Drive SW
P.O. Box 40128, Olympia, WA 98504-0128
jeff.roberson@utc.wa.gov

James P. Karcher
Whatcom County Public Works Department
5280 Northwest Drive, Suite C
Bellingham, W A 98226
jkarcher@co.whatcom.wa.us

Christopher Quinn
311 Grand Ave STE 201
Bellingham, WA 98225
cquinn@co.whatcom.wa.us

I declare under penalty under the laws of the State of Washington that the foregoing information is true and correct.

DATED this 19th day of January, 2019, at Seattle, Washington.

s/Laura Meier
Laura Meier, Paralegal