



STATE OF WASHINGTON

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

1300 S. Evergreen Park Dr. S.W., P.O. Box 47250 • Olympia, Washington 98504-7250

(360) 664-1160 • TTY (360) 586-8203

April 7, 2009

Todd Boulanger, Senior Transportation Planner  
City of Vancouver  
P.O. Box 1995  
Vancouver, WA 98668-1995

**Re: TR-090252, Proposed Quiet Zone, Beach Drive**

Dear Mr. Boulanger:

Thank you for the opportunity to comment on the Beach Drive proposed quiet zone, as described in Docket TR-090252.

On February 5, 2009, the City of Vancouver (city) notified the Washington Utilities and Transportation Commission (UTC) of its intent to establish a railroad quiet zone at the Beach Drive highway rail grade crossing, DOT #090072Y. The city is proposing a quiet zone extending one-quarter mile east and west of the crossing in effect 24 hours, seven day per week.

UTC staff participated in several on-site diagnostic reviews with the city, BNSF Railway Company (BNSF) and the Federal Railroad Administration (FRA). The most recent was on August 18, 2008.

UTC staff entered information about this crossing into the FRA Quiet Zone Calculator and received an "unofficial" Quiet Zone Risk Index (QZRI) of 37,610.57. This risk assumes the inclusion of Supplemental Safety Measure No. 12, mountable medians with reflective traffic channelization devices at the crossing and an updated average daily traffic count of 500 vehicles. The QZRI is less than the 90,193.22 Risk Index with Horns, thus the Beach Drive crossing qualifies for a quiet zone. Attached is a copy of the unofficial Quiet Zone calculation.

Staff recommends that the city review the Federal Railroad Administration's (FRA) publication, "Guidance on the use of Traffic Channelization Devices at Highway-Rail Grade Crossings," prior to installing the channelization devices. The devices selected should meet all FRA requirements in order to receive the full 0.75 effectiveness rate



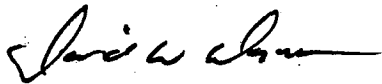
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based on the devices' ability to reduce the probability of a collision at a grade crossing. A copy of this publication is attached.

As you know, the UTC may comment on the quiet zone proposal, but does not approve or disapprove it because states have been preempted in this area by federal rule. The UTC acknowledges that the Beach Drive railroad crossing qualifies for designation as a quiet zone under the Quiet Zone Risk Index.

Thank you for the opportunity to provide comments. Please feel free to contact Kathy Hunter at (360) 664-1257 or by e-mail at [khunter@utc.wa.gov](mailto:khunter@utc.wa.gov) if you would like additional information.

Sincerely,



David W. Danner  
Executive Director and Secretary

Cc: Todd Kuhn, BNSF Railway  
Christine Adams, FRA  
Kurt Laird, AMTRAK  
Ahmer Nizam, WSDOT

Home | Help | Contact | logoff khunter@utc.wa.gov

Cancel

Change Scenario: BEACH DRIV\_28577

Continue

**Create New Zone**

**Manage Existing Zones**

Log Off

Crossing	Street	Traffic	Warning Device	Pre-SSM	SSM	Risk	
090072Y	SE COLUMBIA WAY	500	Gates	0	12	37,610.57	<input type="button" value="MODIFY"/>

\* Only Public At Grade Crossings are listed.

**Step by Step Instructions:**

**Step 1:** To specify New Warning Device (For Pre-Rule Quiet Zone Only) and/or SSM, click the MODIFY Button

**Step 2:** Select proposed warning device or SSM. Then click the UPDATE button. To generate a spreadsheet of the values on this page, click on ASM button—This spreadsheet can then be used for ASM calculations.

**Step 3:** Repeat Step (2) until the SELECT button is shown at the bottom right side of this page. Note that the SELECT button is shown ONLY when the Quiet Zone Risk Index falls below the NSRT or the Risk Index with Horn.

**Step 4:** To save the scenario and continue, click the SELECT button

**ALERT:** Quiet Zone qualifies because SSM has been applied in each crossing.

Click for Supplementary Safety Measures [SSM]

Click for ASM spreadsheet: [ASM]

\* Note: The use of ASMs requires an application to and approval from the FRA.

Summary	
<b>Proposed Quiet Zone:</b>	BEACH DRIVE WITH REVISED ADT
<b>Type:</b>	New 24-hour QZ
<b>Scenario:</b>	BEACH DRIV_28577
<b>Estimated Total Cost:</b>	\$13,000.00
<b>Nationwide Significant Risk Threshold:</b>	17610.00
<b>Risk Index with Horns:</b>	90193.22
<b>Quiet Zone Risk Index:</b>	37610.57
	Select

these devices. With proprietary systems, be careful to ensure that all anchorages to the pavement are completed according to the manufacturer's instructions or State or local standards; in addition, be sure that the attachment of each vertical panel is secure. Any deflectable hinges must function properly.

In the case of proprietary systems utilizing modular plastic curbs with vertical panels or road tubes, these devices should be known to have been crash tested. This will ensure that they do not have the potential to send an errant vehicle out of control when struck. In addition, the vertical elements should not separate upon impact, nor should impacted curbs separate from the pavement and become airborne.

The Office of Highway Safety of the Federal Highway Administration can supply the relevant test criteria and procedures; see their website at:

<http://safety.fhwa.dot.gov/>

#### **APPLICABILITY FOR QUIET ZONE ESTABLISHMENT** - see FRA website at:

<http://www.fra.dot.gov>

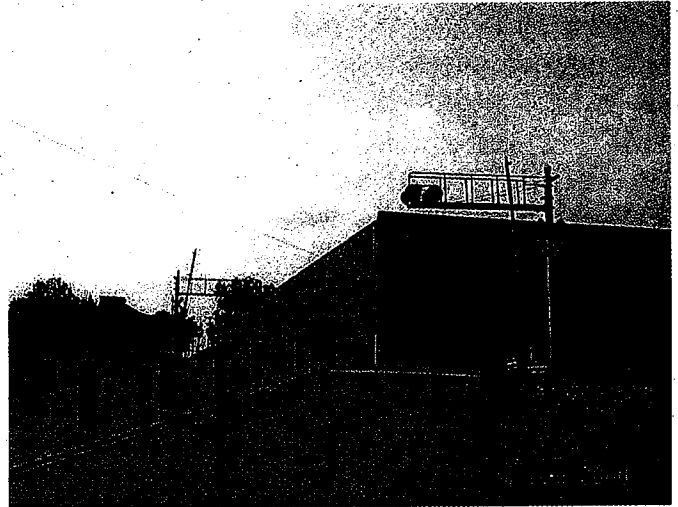
The Federal Railroad Administration has recognized these channelizing devices as qualified Supplemental Safety Measures when used according to its regulations for the use of locomotive horns at grade crossings, found at 49 CFR Part 222. For purposes of establishing a Quiet Zone under Part 222, these devices have been assigned an effectiveness rate that represents their ability to reduce the probability of a collision at a grade crossing. For traversable channelizing devices with vertical panels, the effectiveness rate is 0.75. For non-traversable channelizing devices, with or without vertical panels, the effectiveness rate is 0.80.

These values are used by the Quiet Zone Calculator in determining the risk of a collision at a crossing to be included in a (new or existing) quiet zone.



**U.S. Department  
of Transportation  
Federal Railroad  
Administration**

## **Guidance on the use of Traffic Channelizing Devices at Highway-Rail Grade Crossings**



Several types of traffic channelizing devices are finding new application at highway-rail grade crossings that are equipped with flashing light signals and crossing gates. These channelizing devices, when used appropriately, can reduce the risk of a collision between a vehicle and a train by 75%! This high level of risk reduction makes traffic channelizing devices a good choice to enhance safety and greatly reduce gate violations at highway-rail grade crossings.

Each device has its own special properties and installation requirements. This guidance is offered to facilitate the effective use of these traffic control devices.

The Federal Highway Administration issued the report "Guidance on Traffic Control Devices at Highway-Rail Grade Crossings." Channelizing devices may be grouped in a few general categories.

#### **BARRIER WALL SYSTEMS**

Concrete barriers and similar proprietary systems are substantial, and may require a wide space between opposing lanes of traffic on approach to the grade crossing. While these are the most effective at deterring "drive-around" gate violations, their large

size may preclude their use in many applications.

In addition, the upstream end of a barrier must be equipped with a site-appropriate energy absorbing end treatment. For this reason, this class of device can be more cost effective where continuous runs of 150 feet or more may be achieved.



### **WIDE RAISED MEDIANS**

In special situations where median width is available, a raised median of between four and 100 feet in width may be employed. Such a wide median may prove effective in deterring gate violations, even though it does not actually constitute a true barrier as commonly defined.

In addition, a well-landscaped wide median will also provide aesthetic benefits to the surrounding neighborhood. A wide median, if attractively landscaped, is often the most aesthetically pleasing separation method.

### **NON-TRAVERSABLE CURB ISLANDS**

This class of device has the advantage of a narrower footprint, but its use should be restricted to approach roadways with posted speeds of 40 MPH or below. These devices are substantial enough that each installation should be carefully designed, as an inappropriately placed device can constitute a hazard if struck by an errant vehicle. These devices are generally from six to nine inches in height, and usually about 2 feet wide. They should be equipped with reboundable, reflectorized vertical panels, to

enhance device visibility, and to increase "drive-around" deterrence. Road users would encounter significant difficulty attempting to cross over such a non-traversable island, because the six to nine inch heights cannot be readily mounted by most vehicles.

Retroreflective materials (in the color appropriate for the direction of travel in adjacent lanes) should be applied to the curbs to enhance their low-light visibility.

### **TRAVERSABLE RAISED CURB SYSTEMS**

This class of channelizing device is the narrowest, and therefore the easiest to fit in a wide range of roadway cross-section widths.

Traversable raised curb systems should always be used with reboundable, reflectorized vertical panels. This combination of devices will present road users with a visual deterrent to crossing over into the opposing traffic lane in order to violate lowered gates.

The curb portion is not more than six inches in height, and generally less than twelve inches in width. Curbs are formed with a rounded shape that will create minimal vehicle deflection upon impact. In most cases, these systems can be installed on existing roadway centerlines, without the need for widening the roadway approaches to the crossing

Retroreflective materials (in the color appropriate for the direction of travel in adjacent lanes) should be applied to the curbs to enhance their low-light visibility.

These traversable curbs may present less of a physical barrier to crossovers than the more-substantial devices discussed previously, but they still provide a considerable deterrent to gate violations. These devices can be used where appropriate to enhance safety at a wide variety of gated crossings.

Special care should be taken during installation of