STATE OF 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

November 3, 2014

Mayor Blackwell, City of Connell
P.O. Box 1200
104 E. Adams Street
Connell, WA 99326

Re: TR-143289 – City of Connell Notice of Intent to Establish a Quiet Zone

Dear Mayor Blackwell:

Thank you for the opportunity to comment on the city of Connell's proposed quiet zone, as described in Docket TR-143289.

On September 4, 2014, the city of Connell notified the Washington Utilities and Transportation Commission (commission) of its intent to establish a railroad quiet zone at the following highway rail grade crossings in Connell:

Street Name	USDOT Number
Adams Street	089687U
Clark Street	089686M

On October 21, 2014, Bob Boston, UTC railroad safety staff and Christine Adams, Federal Railroad Administration (FRA) staff, participated in an on-site quiet zone review of these crossings in Connell. The review team also included representatives from the city of Connell. The city is proposing a 24-hour, seven day per week quiet zone at these crossings.

Each crossing has active warning lights, gates and pedestrian bells currently installed. There is one main line track and two spur tracks at each crossing. The supplemental safety measure (SSM) proposed by the city for treatment on each crossing approach consists of 6-inch wide by 6-inch tall non-mountable concrete barriers 100 feet long. These devices would have reflective delineators on both ends and reflective tabs the entire length. The FRA supplemental safety Measure (SSM) 13. Two three-inch standard pipe gates, 16 feet wide, will be installed at the southwest and southeast corners of the Clark Street crossing to prevent unauthorized vehicle passage between the two crossings. NO TRAIN HORN signs will be added to the advance warning signs on each approach.

The review team agreed that additional NO TRAIN HORN signs should be installed next to the sidewalks near the crossing gates on each approach for appropriate pedestrian warning.

Commission staff contacted the Pasco BNSF Railway Co. (BNSF) Signal Department and verified that the main line has constant warning. The spur tracks are equipped with island circuit train detection. Train crews operating on the spur tracks travel at very slow speeds and are required, by posted signs, to stop and wait 23 seconds before proceeding across each crossing. It is commission staff's opinion that the stop and wait 23 seconds requirement is a practical alternative to having constant warning for the spur tracks given the speed and operational requirements at this location.

Commission staff reviewed the inventory data on file in the FRA crossing database for each crossing and is concerned that several of the data elements are inaccurate. For example, the following fields appear out-of-date: type of train detection; annual average daily traffic; average number of school buses per day; estimated percent trucks; and posted highway speed. As part of Commission staff's analysis of the City's quiet zone proposal staff ran the quiet zone calculator for the Adams Street and Clark Street crossings adding SSM 13 and updated annual average daily traffic for each crossing. The calculation indicates that this corridor qualifies for a quiet zone using the SSM 13 treatment because the Quiet Zone Risk Index (QZRI) is 5394.39, which is less than the risk index with horns. The risk index with horns is 16,170.23. Attached is a copy of this Quiet Zone calculation.

Inaccurate FRA data impacts the accuracy of the QZRI. Commission staff recommends that the City work with commission staff and the FRA to update all aspects of the inventory and rerun the calculator to ensure an accurate risk index prior to implementing the quiet zone.

As you know, the commission may comment on the quiet zone proposal, but may not approve or disapprove the proposal because states have been preempted in this area by federal rule. Based on our participation and observations at the crossing review, commission staff offers these comments.

Thank you for the opportunity to provide comments. Please feel free to contact Bob Boston at 360-701-1615 or by e-mail at bboston@utc.wa.gov if you would like additional information.

Sincerely,

Steven W. King
Executive Director and Secretary

cc: John Shurson and Richard Wagner, BNSF Railway
Robert Lauby, FRA Associate Administrator for Safety
Christine Adams, FRA Crossing and Trespass Manager
Kurt Laird, Amtrak
Tim Kelly, Columbia Basin Railroad
Ahmer Nizam, Washington State Department of Transportation

Attachment

Print This Page

Cancel | Change Scenario: CONNELL QZ_43777 | Continue

Create New Zone
Manage Existing Zones
Log Off

Crossing	Street	Traffic	Warning Device	Pre-SSM	SSM	Risk	
089686M	**CLARK ST.**	**852**	**Gates**	0	13	5,701.66	MODIFY
089687U	**E. ADAMS ST.**	**530**	**Gates**	0	13	5,087.12	MODIFY

* Only Public At Grade Crossings are listed.

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	
Proposed Quiet Zone:	Connell QZ
Type:	New 24-hour QZ
Scenario:	CONNELL QZ_43777
Estimated Total Cost:	$30,000.00
Nationwide Significant Risk Threshold:	14347 .00
Risk Index with Horns:	16170.23
Quiet Zone Risk Index:	**5394.39**

Select

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

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