**Exhibit No. ___ (KH-15)**
**Docket TR-100572**
**Witness: Kathy Hunter**

**BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

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| **BENTON COUNTY,**<br><br>**Petitioner,**<br><br>**v.**<br><br>**BNSF RAILWAY COMPANY,**<br><br>**Respondent.** | **DOCKET TR-100572** |

**EXHIBIT TO TESTIMONY OF**

**Kathy Hunter**

**STAFF OF**
**WASHINGTON UTILITIES AND**
**TRANSPORTATION COMMISSION**

***WSDOT Local Agency Guidelines, April 2007***
***Chapter 32 – Railroad/Highway Crossing Program (excerpt)***

**November 29, 2010**

# Chapter 32 Railroad/Highway Crossing Program

## 32.1 General Discussion

The purpose of this program is to reduce the number of fatalities and injuries at public highway-rail grade crossings through the elimination of hazards and/or the installation/upgrade of protective devices at crossings.

The program focus is on adding protection to projects that demonstrate a need for safety and efficiency.

Funding for this program is discussed in Chapter 12 of the *LAG Manual.*

The first alternative to be investigated for improving a grade crossing is closure and/or consolidation with nearby grade crossing. Consolidation will reduce train-vehicle accident potential and maintenance costs. It is also possible that important accessibility may be reduced and unacceptable rerouting of vehicular traffic will result. Nevertheless, when improvement alternatives are considered, these factors should not preclude the consideration of crossing consolidation and the resulting benefits. Removal of crossing surfaces, erection of barriers, and other costs associated with closing a crossing are eligible under this program.

It is the position of the Federal Highway Administration that funding on railroad-highway grade separation projects will only be approved where closure of associated at-grade crossing(s) is imminent. When the grade separation project is opened, the at grade crossing must be closed.

The standards contained in this chapter are to be considered minimum standards for railroad/highway crossing projects. They may be inadequate if extraordinarily hazardous conditions exist. In these cases, higher levels of protection should be provided.

## 32.2 Selection of Appropriate Warning Devices

References:

*Manual on Uniform Traffic Control Devices*

*WSDOT Design Manual*

FHWA Railroad-Highway Grade

Crossing Handbook

**.21 Passive Protection.** These devices include signing and pavement markings. The crossbuck sign is the responsibility of the railroad. All other signs and pavement markings are the responsibility of the local agency and are eligible for reimbursement.

**.22 Design Standards for Active Protection.** Active grade crossing traffic control devices include all signals, bells, and gates or other devices or

methods that inform motorists and pedestrians of the approach or presence of trains, locomotives, or railroad cars on grade intersections. The majority of the devices are automatically activated by the train. Active protection may be appropriate for those locations which have an exposure factor (trains per day times vehicle ADT) greater than 1,500 or are located on railroad main lines. However, a site specific evaluation of train and vehicle traffic volumes and speeds, rural or urban location, potential danger to a large number of people, sight distance and accident history should be completed before making a decision. The basic active protection device consists of post-mounted flashing lights. Gates should be added when any one of the conditions listed in

Appendix 32.53 exist. Additional cantilevered flashing lights should be provided if any one of the conditions listed in Appendix 32.53 apply. Unless special circumstances exist, all cantilevered installations should include gates. Signal lenses shall be 12 inches in diameter. The design standards are illustrated in Appendixes 32.51 and 32.52 and are in addition to those found in the *Manual on Uniform Traffic Control Devices* (MUTCD). MUTCD design standards also apply.

a. Post-Mounted Signals. These flashing light signals are normally placed to the right of approaching highway traffic on all roadway approaches to a crossing. The design standards included as appendices to this division show the minimum dimensions for the following cases:

   Appendix 32.51 — Shoulder Section

   Appendix 32.52 — Curb Section

b. Automatic Gates. Automatic gates should be added to post-mounted signals when any one of the following conditions is present:

   - Multiple main line railroad tracks.
   - Multiple tracks at or in the vicinity of the crossing which may be occupied by a train or locomotive so as to obscure the visability of another train approaching the crossing.
   - High-speed train operation combined with limited sight distance at either single or multiple track crossings (see Appendix 32.53).
   - A combination of high speeds and moderately high volumes of highway and railroad traffic.
   - Either a high volume of vehicular traffic, high number of train movements, school buses, or trucks carrying hazardous materials, unusually restricted sight distance, continuing accident occurrences, or any combination of these conditions.

When utilizing gates, the departure side of the crossing is always left open to allow highway traffic to escape from the crossing.

c. Cantilevered Signals. Cantilevered flashing light signals should be added to post-mounted signals and gates when any one of the following conditions is present:

- There are considerable distractions near or beyond the crossing which would compete for the driver's attention.
- Traffic or parking conditions are such that the view of a post-mounted flashing light signal could be blocked.
- The angle of approach to the crossing is acute and post-mounted signals could go undetected.
- The highway has two or more lanes in each direction.
- The highway carries high-speed and high-volume traffic.

Unless special circumstances exist, all cantilevered installations should include gates. The design standards included as appendices to this division show the minimum dimensions for the following cases:

Appendix 32.51 — Shoulder Section

Appendix 32.52 — Curb Section

All crossing sites will be reviewed and recommendations made by a diagnostic team consisting of representatives of the Federal Highway Administration (FHWA), railroad, WUTC, local agency, and the Washington State Department of Transportation (WSDOT)

d. Traffic Signals at or Near Grade Crossings. When highway intersection traffic control signals are within 200 feet of a grade crossing, control of the traffic flow should be designed to provide the vehicle operators using the crossing a measure of safety at least equal to that which existed prior to the installation of such signal. Accordingly, design, installation, and operation should be based upon a total systems approach in order that all relevant features may be considered (see MUTCD Section 8C-6).

**.23 Traffic Barriers.** A railroad signal may be a point hazard warranting the use of a traffic barrier or crash cushion. Traffic barrier and crash cushion guidelines are shown in Section 710 of the *WSDOT Design Manual.* A guardrail should be installed if the speed limit is greater than 35 mph.

**.24 Approaches.** Funding to improve road approaches for safety purposes may be considered as a part of signalization projects on a case-by-case basis. Approach work for safety improvement includes profile corrections to reduce approach grades at main line locations.

**.25 Crossing Surfaces.** Funding to improve crossing surfaces may be considered as a part of signalization projects on a case-by-case basis. The street or highway must have an ADT of at least 7,500 in order to be considered.