WASHINGTON UTC UTILITIES AND TRANSPORTATION COMMISSION

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Grade Crossing Protection Fund
APPLICATION FOR FUNDING

The Commission's objectives in distributing monies from its Grade Crossing Protective Fund (GCPF) are as follows: To reduce accident/incident frequency and severity at both public and private railroad crossings; and to reduce pedestrian trespassing and the frequency of trespass-related deaths and injuries along railroad rights-of-way. Any public, private, or nonprofit entity may submit an application to the Commission for GCPF monies.

The focus of the GCPF program is to fund projects that demonstrate a need for improved public safety related to one of the following four categories:

- **Grade crossing safety projects** (the Commission's original GCPF program).
- **Trespass prevention projects**. Examples of projects in this category include fencing or other physical barriers that prevent trespassing on railroad rights-of-way; pedestrian warning devices; establishing new public grade crossings; installing channeling devices; media/public relations campaigns; and enforcement-related activities.
- **Private crossing safety improvements**. Examples of projects in this category include private crossing closures; installation of private crossing-specific warning devices; installation of nighttime/off-hours locked gates; and improvements to reflectorization/conspicuousness of existing warning devices.
- **Miscellaneous safety projects**. Examples of projects in this category include improvements to motorists' ability to see approaching trains, including the removal of physical obstructions; participation in roadway improvements at or approaching grade crossings; and mitigation of crossing closures.

All projects that fall within any of these four general categories are eligible for funding consideration.

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Type of Application: Application seeking funding for preliminary engineering and design costs

☐ Private crossing safety improvement

☐ Trespass prevention

☒ Miscellaneous

Please list all of the other companies (e.g., railroad companies) organizations, or state or local agencies that may be involved in implementing this proposal and the name, address and phone number of each.

Although the project addresses a potentially unsafe situation at a public railroad grade crossing, the proposed system is essentially independent of the existing railroad active warning system and therefore would not require the railroad's (BNSF's) approval; however, WSDOT would eventually seek interconnection between the pre-signal component of the system and the railroad warning signals. At that time, a formal petition would be filed with WUTC.

Project Information – Please attach additional information if needed.

1) Provide a detailed summary of the hazard being addressed, including any accident/incident

A highway traffic signal is being constructed on SR 538 (College Way) at the Urban Avenue intersection in the City of Mount Vernon. The College Way railroad grade crossing (USDOT 084759D) is located approximately 375 feet west of this intersection. The City's consultant has analyzed the traffic queues and assessed that the 95% queues back up to the railroad tracks. There are 30 freight trains and 4 AMTRAK trains (79 mph) crossing the tracks at this location daily. Two more AMTRAK trains are scheduled to start running in January 2007. No railroad pre-emption is included in the signal contract nor are funds for this feature secured.

2) Provide a detailed description of your proposed project and explain how its implementation will eliminate or mitigate the hazard. If available, please attach any drawings or construction plans for your proposed project (see section 1 if filing electronically):

Based on the distance between the highway traffic signal and the railroad grade crossing (375 feet), it is estimated that 54 seconds of preemption time are needed to clear vehicles from the tracks. To accomplish this, BNSF would need to make significant changes to the grade crossing circuitry that would consequently require circuitry to overlap circuitry for other grade crossings on either side of the College Avenue grade crossing. The excessive cost associated with this solution has prompted WSDOT to seek alternative solutions.

The preferred alternative is the design of a "**queue-cutter signal**" at the grade crossing. This would consist of a highway traffic signal placed in advance of the west-bound approach to the grade crossing (similar to a pre-signal). The queue-cutter would be connected to an in-road detection system (loop detectors) placed on the opposite side of the tracks at a point determined by WSDOT traffic engineers. When a vehicle queue originating from the College/Urban intersection extends to the loop detectors, the queue-cutter would cycle to red until the queue diminished past the detection point. In this way, a constant gap would be maintained between the queue cutter signal and the detection point of the opposite side of the tracks. Additionally, the system would be interconnected to the railroad signals using simultaneous interconnection which would not require alteration of the signal circuitry.

WSDOT NW Region is seeking funds to design the queue cutter system at the College Avenue location. Once designed, the project would be submitted internally in 2007 for traffic safety funds. Since this type system has not been used in Washington State, a completed design would greatly support a proposal for ultimate funding of the system (estimated at $100,000). This request is to assist WSDOT NW Region with the initial phase of implementing an innovative project that will improve safety at the College Avenue grade crossing.

3) Provide cost estimates, including those related to long-term maintenance:

It is estimated that Preliminary Engineering and Design will cost $25,000. WSDOT is seeking a grant of $20,000 with the balance to be covered by WSDOT.

4) *Estimated timeline of project, if approved:* Design to be completed prior to June 2007.

5) *If known, provide a description of how the project's success would be measured:*

The completed design would set a precedent in Washington for this type of approach to clearing vehicle queues off of tracks, and would establish an alternative to advance preemption when implementation of advance preemption is not practicable.

6) *Other comments:*

This proposal is strongly supported by the WSDOT NW Region traffic operations staff – particularly with respect to it's value as a innovative and effective strategy.