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Testimony of Paul C. Worley
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before the
Committee on Transportation & Infrastructure
Railroads Subcommittee
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Chairman LaTourette, Ranking Member Brown, and members of the Committee, I am pleased to have the opportunity today to come before you and discuss highway/railroad at-grade crossing safety issues.

My name is Paul Worley, and I am Assistant Director for Engineering & Safety with the North Carolina Department of Transportation's Rail Division. I serve as a co-chair of the American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on Rail Transportation Safety Task Force and am representing AASHTO at this hearing today. I also serve as a state representative on the Railroad Safety Advisory Committee, the National Committee on Uniform Traffic Control Devices Railroad and Light Rail Transit Highway Grade Crossings Technical Committee and have also served on numerous task forces, committees and working groups involving Federal Highway Administration (FHWA), Federal Railroad Administration (FRA) and the development of policy pertaining to highway-railroad at-grade crossing safety.

AASHTO, through its Standing Committee on Rail Transportation, and its member state departments of transportation remains committed to improving highway-railroad at-grade crossing safety as part of an overall mission to promote the utilization of the rail mode as an important and efficient part of the nation's freight transportation system and investment in a national intercity rail passenger system. It is understood by both the public and private sectors that crossing safety is a critical component of any plans to improve our national rail system, and it remains one area where the rail mode is most vulnerable.

In AASHTO's Intercity Passenger Rail Transportation report, it is noted that rail corridor improvements to create higher-speed and more efficient rail passenger corridors will require separation of highway and railroad traffic through crossing consolidation and elimination, the construction of grade separations and the use of new technology and enhanced devices to raise the level of safety protection at crossings that cannot be closed or grade separated.

At NCDOT, we believe that highway/railroad at-grade crossing safety is a critical component of our

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comprehensive proactive rail effort underway in the areas of freight and passenger operations. Under agreement with Amtrak, we operate 2 daily passenger trains. One train is operated with equipment owned by the State. To date, our Department has completed approximately \$30 million in speed and capacity improvements on our core passenger corridor between Raleigh and Charlotte. We also play a lead role in coordinating high-speed rail activities among the southeastern states along the Federally designated Southeast Corridor.

On our Sealed Corridor project, which was the first of its kind in the United States, we took a corridor approach to the testing of new technologies. The Sealed Corridor is a joint effort of the North Carolina Department of Transportation and Norfolk Southern Corporation. This corridor approach is in the spirit of USDOT's Rail-Highway Crossing Action Plan, and was funded through a partnership with the FRA and the FHWA. Federal dollars for safety research and development were supplemented with State matching funds and in-kind services from Norfolk Southern. While providing the majority of the funding, USDOT empowered states and the railroad industry to think "outside the box" and develop solutions that enhance the existing warning devices at crossings and follow through with innovative, clear-minded approaches.

Norfolk Southern's main line between Greensboro and Charlotte over the North Carolina Railroad, is host to high levels of freight traffic, with daily intermodal, unit and mixed merchandise trains connecting the industrial northeast to the heart of the south. In addition, six passenger trains use this route daily. Before the Sealed Corridor was implemented, this route had a high rate of crossing incidents due to the ever-growing highway traffic in the urban areas along the corridor that crosses the tracks at numerous at-grade crossings. From 1987-1999, 125 incidents, involving 56 injuries and 31 fatalities occurred on this corridor.

In 1992, USDOT identified the Raleigh-Greensboro-Charlotte route as one of five nationally designated corridors for State high-speed rail development efforts. Programs authorized under ISTEA and the Next Generation High-Speed Rail contained in TEA-21 provided over \$12 million for safety improvements at 267 public and private crossings along the 173-mile corridor.

This funding was initially used by the North Carolina Department of Transportation and Norfolk Southern to conduct a series of tests that were video monitored.

For twenty weeks, baseline data was collected at the test crossing. Median separators were then installed, followed by 4 quadrant gates, and then finally, 4 quadrant gates with median separators. Using each of these barrier enhancements, the number of gate running incidents was significantly reduced. For example, median separators reduced violations by 77%, 4 quadrant gates reduced violations by 86% and 4 quadrant gates with median separators reduced violations by 98%.

A test second location was chosen to test the effectiveness of a longer gate arm, which resulted in an 84% reduction in violations over the baseline which was also gathered at this location for 20 weeks.

During the test phase of this project, we recorded and viewed over 4,600 actual video events at three different crossings (57 hours), including over 1,831 violations by motorists - commercial, public, and private. What is most shocking about the overall data gathered is that 42 % of motorists **waited zero seconds** before violating gates – with no intention of stopping at all!

Considering the success of the tests, it was then decided to expand the project to demonstrate these various barrier devices at crossings on a corridor basis between Raleigh and Charlotte, thus “Sealing the Corridor” from violations. Implementation of this comprehensive corridor approach included evaluation of each public crossing to determine the appropriate treatments, which include:

- Closure and Consolidation of redundant and/or unsafe crossings
- Median Separators
- Longer Gate Arms
- 4 Quadrant Gates
- 4 Quadrant Gates with Medians
- Grade Separations
- Special Signage
- Intelligent Signal Monitoring

In 2001, we initiated the Private Crossing Safety Initiative phase of Sealed Corridor with a study of the 46 remaining private vehicular access crossings on the corridor between Raleigh and Charlotte. Those crossings that are not provided alternate access and closed will be treated with flashers and longer gate arms, STOP and private crossing signs, and manually locking gates. This project is currently underway.

To date, we have closed 64 public and private crossings on this corridor, and Federal safety funding and program flexibility has been essential to this effort.

In May 2002, in response to a request accompanying the 2001 USDOT Appropriations Act (Senate Report 107-38), a study was conducted by USDOT to document the benefits of the Sealed Corridor initiative and the improvements completed at highway-rail grade crossings from March 1995 through September 2000 in terms of “Lives Saved.” The analysis concluded that five lives were saved during the study period and that this positive benefit of the Sealed Corridor improvements will grow as vehicle volume, train frequency and train speeds increase. USDOT has begun the process to update this study to validate the benefits of the additional crossings treated since 2000. Using a video system that has been installed on the locomotive that pulls our daily passenger train over the corridor, we can monitor conditions daily and are currently reviewing that data as part of a consortium with Norfolk Southern and FRA.

Research and development opportunities, such as FRA’s Next Generation High Speed Rail program provided the funding for these initiatives, and was thus critical to the success of these innovative rail safety initiatives. Considering the benefits received through the investment from this program, we believe that the Next Generation High Speed Rail program should be funded and continued.

Other states, including Illinois, Florida, and California have made great strides towards improving at-grade crossing safety by using enhanced devices, such as four-quadrant gates and median separators.

These enhanced devices, have enabled us to improve safety by preventing violators or gate runners. We now have the tools to “raise the bar” for safety and decrease the number of crashes, injuries, and fatalities. We understand the issues surrounding the desires of local governments for quiet zones, and realize this is now a Federal law and regulation as governed by FRA’s Locomotive Horn Rule. However, we must respectfully express our concerns with these proven safety enhancements now

being used to mitigate train horns as a quality of life issue rather than increasing the safety protection at crossings where horns also sound. Once you've figured out how to "raise the bar," for safety we should keep it there and strive for the next step to make crossings even safer.

As a state level manager, I know that as positive as our Sealed Corridor experience has been, there still are issues to be addressed. Our ability to treat at-grade crossings has been limited solely to public crossings except those covered under the Next Generation High Speed Rail grant located on the Federally-designated corridor. Generally, the North Carolina Department of Transportation is not authorized to make improvements at private crossings. There are also limitations to our State's authority at municipal-system crossings. The North Carolina Department of Transportation has closed over 100 crossings statewide since 1992 when FRA suggested a 25% closure goal. While we have more on the way, crossing closure is never easy. Public and political opposition can create difficulties in meeting safety goals.

We know that crossing consolidation and elimination is one of the most cost-effective treatments when it comes to highway-rail at-grade crossing safety and have enjoyed success in collaborating with railroads and local governments in this endeavor. The safest crossing is one that is not there. Elimination of crossings can save capital investment by the local road authority and perpetual maintenance investments by the railroad while rerouting traffic efficiently and safely over an alternate at-grade crossing that is safer or a grade separation of the railroad.

With this in mind, AASHTO has a standing policy resolution supporting the continued dedicated funding of the Section 130 Federal Highway-Rail Grade Crossing Safety Improvement Program. This resolution also supports updating the incentive payment for closing crossings contained in subsection (b) of the Section 130 program from \$7,500 to up to 25% of the estimated cost of proposed signalization. Some signalization projects routinely cost in the area of \$150,000. Our Class I railroads are a willing partner in participating closure incentive payments in lieu of signalization.

We would also like to see our Federal partners at FHWA and FRA take a position to strongly support at-grade crossing consolidation and elimination as a safety alternative where planning and engineering evaluations have shown this to be an effective safety alternative without placing due hardship – not inconvenience – on a community. Also, fewer at-grade crossings means less access to the tracks and thus, a more secure railroad for the transport of people and goods. As we well know, the security of our homeland's infrastructure is paramount, and the Metrolink crash earlier this year in Glendale, California demonstrated what impact a vehicle entering the corridor could have on our rail transportation system.

Speaking of the Federal Highway-Rail Grade Crossing Improvement Program, or Section 130, this has been a most effective transportation safety investment across our country. Since the Highway Safety Act of 1973 created and funded the program, USDOT estimates that the annual grade crossing accident rate has been reduced by over 48 percent since 1994, and has prevented over 10,500 fatalities and 51,000 nonfatal injuries since 1974. It is estimated that the benefit-cost ratio of the Section 130 program is approximately 2:1, or \$2 of net benefits for every \$1 expended. Also consider that a 1991 FHWA study places the total cost to society of an at-grade crossing fatality at \$2.78 million.

All those numbers being said, this program just makes good business sense. The elimination of highway/railroad crashes, not only saves lives, bodily injury, and property damage, it keeps our railroads and highways moving.

In the AASHTO Freight-Rail Bottom Line Report, grade crossings are recognized as both a safety and capacity issue. While we are aware of the safety issues that are involved with highway-rail at-grade crossings, it should also be noted that multiple at-grade crossings in one area can limit a railroad to minimal speeds. This can cause trains to be delayed or stacked behind one another. The impacts of delays in train schedules can felt up and down key rail freight corridors in our country. Train delay and velocity issues are not just isolated to the rail industry; they impact all businesses and industries that rely on rail to ship their materials and products. This considers the growth of rail and highway traffic across the country, especially in urban areas.

North Carolina, Ohio and other states have taken advantage of the flexibility of Federal optional safety funds over the designated amounts contained in Section 130. In addition to the more traditional approach of using funds for new signal devices at crossings, we are directing these funding sources to corridor projects, including closures as identified in comprehensive engineering studies, the rehabilitation and replacement of obsolete warning devices, and the signalization of crossings on passenger and high-density freight routes.

Through our Board of Transportation, North Carolina has also taken steps to change policies and guidelines regarding highway/railroad intersections. This includes prohibiting new at-grade crossings on designated high speed routes, strongly discouraging crossings on other high-density and passenger rail corridors, encouraging the closure and consolidation of crossings on railroads statewide, and adopting guidelines for when grade separated crossings should be built.

Also, if we are to develop rail passenger and high-density freight corridors, we must build more grade-separated crossings. There is no dedicated funding to undertake such projects, so they must compete with other statewide highway and transportation priorities. The State of Ohio's 10-year Railroad Grade Separation Program, which will provide funding for 30 grade separation projects in that state, includes matching funds in partnership with railroads and local governments. This is a good model that could be applied nationally on the Federal level and should be given consideration.

All this being said, we know that there is still much to do. We must continue our efforts to find more efficient and effective ways to improve crossings for all drivers, including our growing older population. Also, AASHTO continues to support education and enforcement efforts like Operation Lifesaver in all their work to promote crossing safety. While we can enhance the existing warning devices at crossings, it is still the responsibility of the motorist to adhere to laws and good driving practices and always expect a train.

Mr. Chairman, I appreciate the opportunity to provide testimony on these issues. I ask for the continued support of the Subcommittee as we pursue this work, and I again offer our assistance as the Subcommittee considers important railroad safety issues. Thank you.

For more information on NCDOT rail safety initiatives, visit our web site at:

<http://www.bytrain.org>

or contact:

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