

# PENNDOT ROUTE 220 BRIDGE PROJECT

BRIDGE IMPROVEMENT PROJECT IN LYCOMING COUNTY  
USING THE ROAD ZIPPER SYSTEM



## PROJECT OVERVIEW

The PennDOT Route 220 bridge improvement project in Woodward Township and the City of Williamsport, Lycoming County, included the replacement of two structures over the Fourth Street off-ramp, rehabilitation of two structures over Antlers Lane, and two structures over the Lycoming Valley Railroad.

## MOBILITY & SAFETY CHALLENGES

Route 220 serves as a vital connector between the City of Williamsport, Jersey Shore, and Lock Haven, with an average daily traffic count of approximately 20,000 vehicles. Strategic construction planning helped minimize the impacts of construction activities on traffic safety and mobility. The construction activities were planned and executed by completely closing one side of the roadway and two-way traffic shared the other side of the roadway. While the speed limit was lowered from 55 mph to 45 mph during construction, a crashworthy median between opposing traffic was prioritized. However, the challenge was that the crashworthy median solution must also maintain efficient traffic flow during peak travel periods.

## MOBILITY & SAFETY SOLUTION

The project used the Road Zipper moveable barrier system to address traffic mobility and safety concerns. Crashworthy 18" wide Concrete Reactive Tension System (CRTS) barrier was used to separate northbound and southbound traffic. The CRTS barrier is fully tested and complies to the AASHTO Manual for Assessing Safety Hardware (MASH) for Test Level (TL) 3. The Road Zipper quickly and efficiently shifted the barrier to maximize roadway capacity and maintain efficient traffic flow during peak travel periods.

## ROAD ZIPPER IMPLEMENTATION

The decision to use the Road Zipper moveable barrier system proved instrumental in addressing the safety and mobility challenges faced by the project. The Road Zipper system allowed daily adjustments of the travel lane configuration, ensuring two travel lanes northbound and one lane southbound during the morning commute and two lanes southbound and one lane northbound in the afternoon. This flexible lane configuration strategy helped resolve the peak travel period mobility concerns while using a crash-tested moveable median to allow 55 mph speed limit. Complete closure of one side of the freeway and efficient use of the travel lanes on the other side helped create a separated work zone, clear of motorists and allowing the contractor to work without impediments.



## PROJECT BENEFITS

The PennDOT Route 220 bridge improvement project helps showcase the value of using the Road Zipper Technology in a complex roadway project. The Road Zipper technology helped reduce construction time, enhance traffic and worker safety, and address traffic management and mobility challenges. Here are the key areas where this innovative technology solution helped the project:

- **Time Savings:** The Road Zipper moveable barrier system significantly reduced the project duration by over one construction season as compared to the estimated project duration using conventional traffic control strategies for bridge rehabilitation projects.
- **Traffic Flow Improvement and Traffic Phases Reduction:** The Road Zipper system facilitated smoother traffic flow in and out of the City of Williamsport through

the project area. Also, six traffic phases were eliminated, streamlining traffic management and reducing disruptions for travellers.

- **Uninterrupted Contractor Work:** The Road Zipper moveable barrier system ensured an efficient and expanded work zone for the contractor. The contractor was able to facilitate continuous construction work, enhancing efficiency and project progress.
- **Improved Traffic and Work Zone Safety:** Complete closure of one side of the freeway for reconstruction ensured a separated work zone improving worker safety against vehicle intrusions. In addition, using a crash-tested moveable median between opposing traffic enhances traffic safety by eliminating crossover crashes without compromising the peak period mobility needs.



See the Road Zipper System in action in [this video](#) created by the Pennsylvania Department of Transportation.



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