



This edition of the STIC *Innovation in Motion* e-Newsletter highlights National Work Zone Awareness Week (NWZAW), which was held April 17-21, 2023. NWZAW is a spring campaign held each year at the start of the construction season to encourage safe driving through work zones. This year's theme was "You play a role in work zone safety. Work with us."

Safety is a top priority for all who work in the transportation industry. It's through the collaborative efforts and commitment of PennDOT and its partners that many work zone safety measures have been implemented, including proper training and routine safety inspections for workers, enhanced signing and information for motorists, and the use of positive protective equipment like crash trucks, barriers, and rumble strips.

This month's e-newsletter focuses on just a few of those work zone safety measures that have been implemented or are being developed for implementation in Pennsylvania.



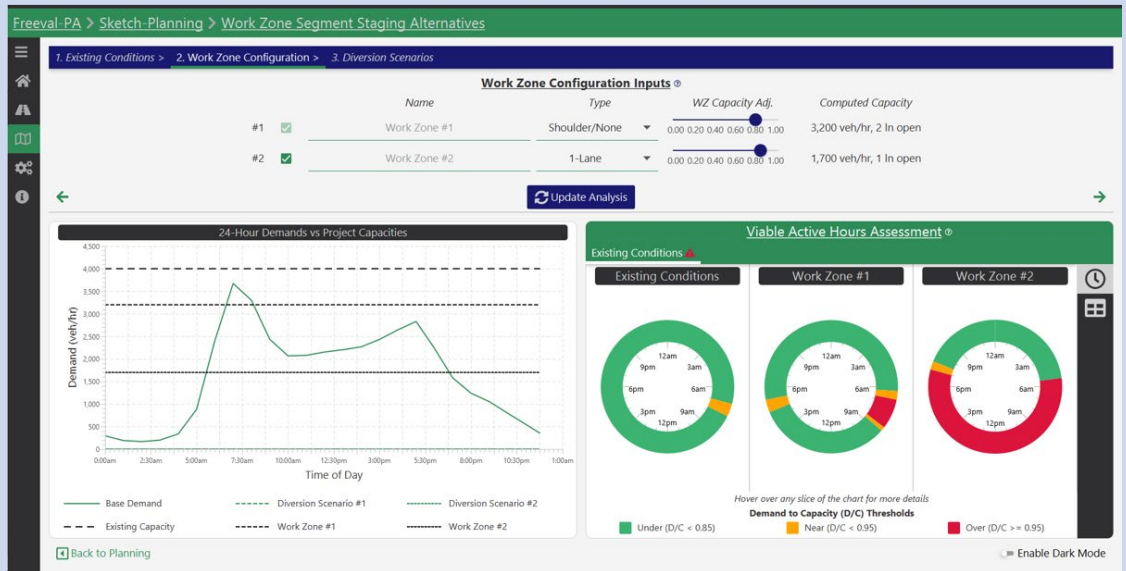
Predictive Work Zone Analysis Tool (FREEVAL-PA)

Planning for efficient and effective work zones on Pennsylvania's roadways helps to minimize congestion and delays. FREeway EVALuation-Pennsylvania, or [FREEVAL-PA](#), is a predictive work zone analysis tool for use by PennDOT and its business partners.

First developed by North Carolina State University following a groundbreaking report by the National Cooperative Highway Research Program in 2016, the FREEVAL-PA tool is the Pennsylvania-specific version of the FREEVAL analysis software, created to analyze work zones' effect on traffic flow. Developed through the STIC's Safety and Traffic Operations Technical Advisory Group (TAG), this tool helps to guide the decision-making process for implementing lane closures, crossovers, or other traffic control methods and helps to minimize congestion and delays during construction or maintenance projects.

FREEVAL-PA supports the planning, prioritization, operations, and analysis of work zones on all roadways, including roadways with limited access. PennDOT and its partners can use the software for work zone staging changes, work zone delay and user cost analysis, lane reservation analysis, diversion sensitivity analysis, freeway alternatives analysis, and scenario planning. FREEVAL-PA can also be used to evaluate incident management and response strategies.

For more information, visit the [FREEVAL-PA](#) website.



Lane Reservation System

The Lane Reservation System, which is currently being developed for implementation by the STIC's Safety and Traffic Operations TAG, will use data sources, like FREEVAL-PA, to determine the most appropriate times to allow work zone reservations with an aim at reducing work zone conflicts and vehicle congestion, improving safety for road user and work crews, and improving traveler information.

Once deployed, the system will be similar to making an online reservation for a favorite restaurant. For example, when trying to make a 7 p.m. Saturday night reservation at a popular restaurant on OpenTable, individuals typically find there isn't one available. Instead, other time options are provided like a reservation at 4:30 p.m. or 9 p.m.

The Lane Reservation System will perform in a similar fashion for making work zone reservations. If a work crew wants to reserve a lane on Interstate 76 near King of Prussia at 5 p.m. on a Thursday night, they are going to find that reservations are not available. However, they will be able to make a reservation to perform needed road work during off-peak hours as defined in the system.

For more information, visit the [Lane Reservation System](#) page on the STIC website.



Smarter Work Zones

Working in collaboration with its partners, PennDOT has integrated smarter work zone (SMZ) strategies and new technology to dynamically manage traffic in work zones, minimize travel delays, and help maintain motorist and worker safety. SMZs also help minimize work zone impacts by coordinating construction activities within a corridor, network or region.

Originally championed in Pennsylvania as part of a Federal Highway Administration (FHWA) Every Day Counts (EDC) initiative, SWZ applications use intelligent transportation systems to manage work zone traffic dynamically and to minimize work zone impacts to the traveling public. Some of these applications include queue warning systems, dynamic lane merge, variable speed limits, automated enforcement, and performance measurement.

Among other examples, PennDOT and the Pennsylvania Turnpike Commission partnered with the Pennsylvania State Police (PSP) to implement a statewide Automated Work Zone Speed Enforcement (AWZSE) program in March 2020. The AWZSE program uses vehicle-mounted systems to detect and record motorists exceeding posted work zone speed limits by 11 miles per hour or more using electronic speed timing devices in active work zones where workers are present.

For more information on work zone safety, visit www.PennDOT.pa.gov/Safety.

For more information on these and other STIC innovations, email penndotstic@pa.gov.