

Commercial Service Vehicle Alerts



OVERVIEW OF INNOVATION

NJDOT wants to get more information into the hands of drivers about changing roadway conditions – the earlier the better – to inform their decision making in an effort to reduce crashes. Commercial vehicle alerts inform truck drivers of hazards on the road, such as sudden slowdowns, disabled vehicles, debris, and adverse weather conditions, before the truck is affected by the incident. The driver can seek an alternate route or pull over until the slowdown is cleared.

NJDOT partnered with INRIX which collects and delivers real-time data that detects and describes sudden slowdowns, closures, and queues by location for specific events, and Drivewyze which provides communication with some 2.8 million trucks via its Drivewyze application which is embedded in the electronic logging device (ELD) of the truck. Drivewyze takes data from INRIX and communicates it to commercial truck drivers.

With this system, NJDOT can identify hazards and prevent crashes by issuing alerts of adverse road conditions before problems arise.



Source: Sblover99, Wikimedia

BENEFITS

Commercial vehicle drivers can avoid slowdowns, choose alternate routes, or pull over which can increase efficiency.

Awareness of adverse road conditions can help prevent crashes to improve overall safety for roadway users. In one example, a "major winter storm alert" was distributed to several states in the Northeast and reached some 4,811 trucks at a critical time over a 30-hour period.

FIND OUT MORE . . .

National Operations for Excellence Webinar
<https://www.njdottechtransfer.net/NOE-CVA-webinar>

NJ STIC Crowdsourcing for Advancing Operations
<https://www.njdottechtransfer.net/NJSTIC-COA>

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Safety, Technology, Freight/Goods Movement

EXAMPLE - Collaborative Hydraulics: Advancing to the Next Generation of Engineering (CHANGE)



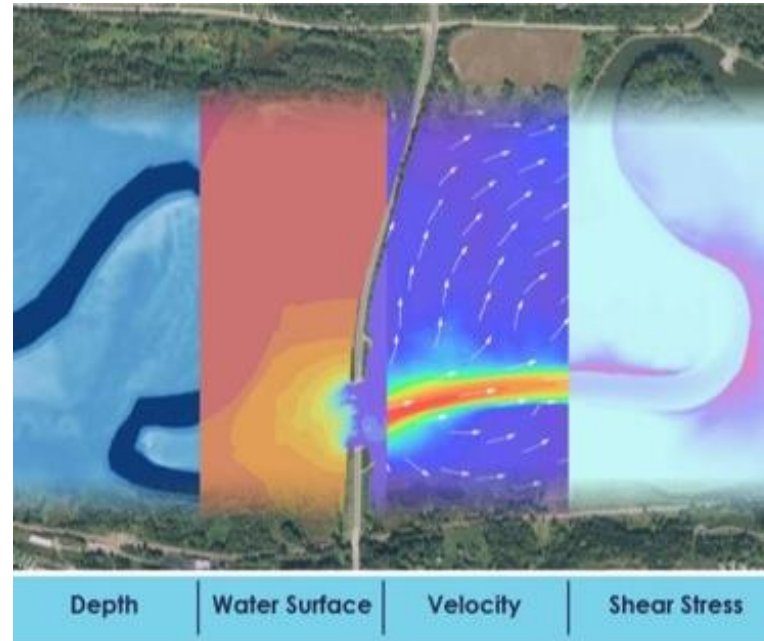
OVERVIEW OF INNOVATION

Next-generation hydraulic tools improve the understanding of complex interactions between river or coastal environments and transportation assets, enabling better design, enhanced communication, and more efficient project delivery.

Two-dimensional (2D) hydraulic modeling software, graphical interfaces, and supporting resources are now available that can be applied to infrastructure design to improve understanding of the complex interactions between river or coastal environments and transportation assets. Recent advances in computer hardware, modeling software, Geographic Information Systems, and survey practices have made 2D modeling very efficient, intuitive, and accessible to engineers and designers.

Because 2D models avoid many of the limiting assumptions required by 1D models, the results can significantly improve the ability of highway agencies to design safer, more cost-effective, and resilient structures on waterways.

In addition, the 3D visualization capabilities of these modeling tools aid in communicating design results and implications to a variety of stakeholders through intuitive and visually rich graphical output.



Source: FHWA

BENEFITS

The benefits of using CHANGE include Improved Quality and Resiliency, Enhanced Collaboration, and Streamlined Delivery.

In the past 3 years, the Colorado DOT saved more than \$14 million using 2D hydraulic modeling to develop more detailed analyses of bridges, culverts, and roadways than with 1D modeling.

FIND OUT MORE . . .

CHANGE Website
https://www.fhwa.dot.gov/innovation/everydaycounts/edc_5/change2.cfm

FHWA Hydraulics Website
<https://www.fhwa.dot.gov/engineering/hydraulics/>

Colorado DOT Video <https://youtu.be/C-c8UTpbSo>

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Process, Hydraulics