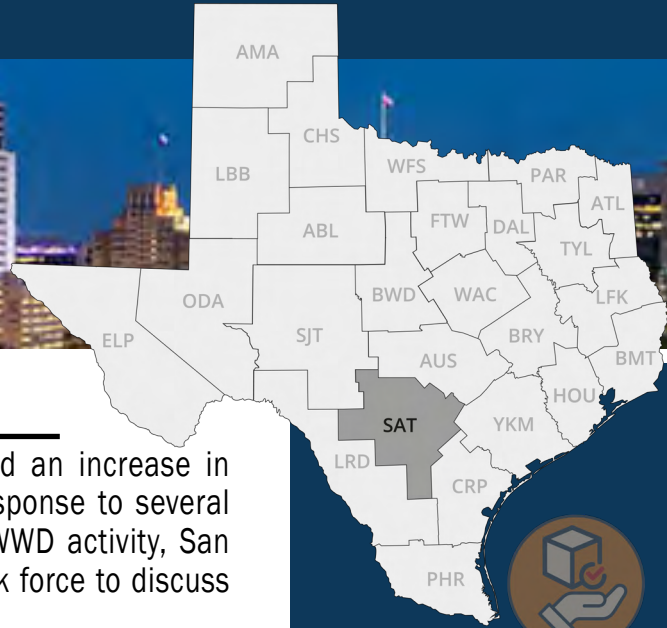


TxDOT Innovations and Technology Deployment Briefs

Wrong Way Driving Countermeasures



PROBLEM

In 2010, the San Antonio Police Department (SAPD) identified an increase in wrong-way driving (WWD) activity. In the spring of 2011, in response to several severe WWD crashes and a perceived increase in area wide WWD activity, San Antonio transportation and enforcement agencies formed a task force to discuss and identify means to address the problem.

SOLUTION

Create a multi-agency WWD Task Force to initiate and lead WWD countermeasure efforts in the region. The WWD Task Force included TxDOT, SAPD, Bexar County Sheriff, City of San Antonio (CoSA) Public Works, Federal Highway Administration, and Texas A&M Transportation Institute. Collectively, these agencies utilized past research to identify causes for and countermeasures to address WWD. Countermeasures consisted of installation of LED border illuminated WRONG WAY signs set to flash under low light conditions and radar detection of WWD on exit ramps. The radar units are powered by the same solar array and battery used by the LED Wrong Way signs. And radios communicate the detection back to the TransGuide Traffic Management Center (TMC).

BENEFITS

Implementation of the countermeasures showed a reduction in the number of WWD incidents along the US 281 test corridor over several years of monitoring and management. From 2011 through 2022, 100 wrong-way drivers were caught on camera and apprehended by SAPD.

KEY TASKS

- Identify stakeholders (TransGuide, TxDOT, San Antonio Police Department).
- Perform field studies and identify candidate locations.
- Identify candidate countermeasures.
- Examine and improve as necessary, agency and stakeholder response plans for WWD events.
- Enhance operator log for WWD events.



PROJECT DELIVERY



CUSTOMER FOCUS



FOSTER STEWARDSHIP



PRESERVE ASSETS



OPTIMIZE PERFORMANCE



PROMOTE SAFETY



VALUE EMPLOYEES



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- Create library of consistent DMS alert messages.
- Post messages when notification of WWD event is received.
- Enhance stakeholder Computer Aided Dispatch (CAD) process for WWD events.
- Enhance in-field situational awareness for drivers by methods such as red reflective tape, larger sizes, and illuminated borders on signs.
- Install countermeasures at candidate locations.
- Ensure alerts reach stakeholders to trigger priority actions.
 - Implement CAD code for identifying WWD events (Jan. 2011).
- Monitor effectiveness of counter measures.
- Include WWD countermeasures as part of future construction projects and systemic safety improvements.



WWD activity as captured on CCTV.



Video camera and detector with battery box and solar installed on OSB.



Typical install.

DATA SOURCES

Task Force agencies combined the following data to identify areas where WWD occurred most frequently:

- TxDOT TransGuide ITS Operator Logs.
- CoSA Police Department 911 Call Logs.
- TxDOT Crash Records Information System.

PROACTIVE APPROACH

The WWD countermeasures alert roadway users of potential hazards, thereby reducing the number of traffic crashes and other related incidents. Identification of high-risk locations for implementation of WWD countermeasures improves agency actions to speed response to WWD events.



WWD countermeasures in San Antonio.



POINT OF CONTACT

Gina E. Gallegos, P.E.
District Engineer
TxDOT, San Antonio District
210-615-1110

[Contact](#)