



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

INNOVATION
BRIEF

Tackling Wrong Way Driving

FAST FACTS

- Approximately 30 people are killed each year in Texas due to WWD crashes.³
- WWD crashes tend to be more severe than other types of crashes because they typically involve high speeds and head-on collisions.⁴
- Drivers over 70 and drivers under 25 are more likely to be involved in a WWD crash.⁴
- Most WWD crashes occur at night and on the weekends.⁴
- 70% of wrong way driving crashes in Texas involve alcohol.⁵

The Mobility Authority established the Innovation Team in Fall 2018 to stay informed on emerging mobility and transportation technology and introduce opportunities for these emergent technologies and ideas through projects, programs, partnerships and policies. These innovation briefs give high-level updates about what the Mobility Authority is up to.

What are we doing?

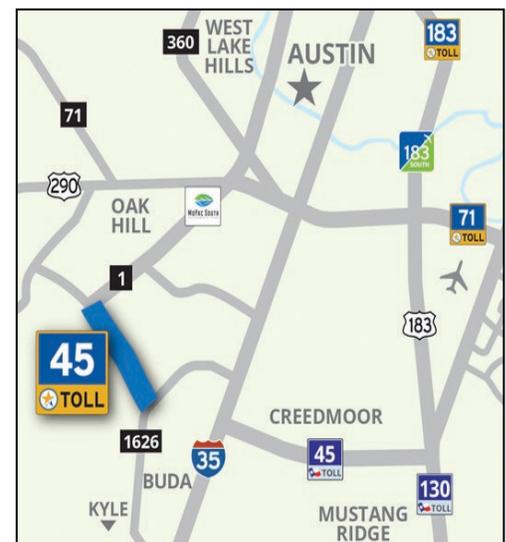
The Federal Highway Administration defines a wrong way driving (WWD) crash as “one in which a vehicle traveling in a direction opposing the legal flow of traffic on a high-speed divided highway or access ramp collides with a vehicle traveling on the same roadway in the proper direction.”¹ Each year, 30 Texans lose their lives due to wrong way driving crashes. In response, the Central Texas Regional Mobility Authority (Mobility Authority) is implementing WWD detection technologies on its roadways, beginning with the new 45SW toll road.

What is the goal of our efforts? The Mobility Authority seeks to use transportation technology to help prevent and mitigate WWD incidents.

What have we done so far?

The Mobility Authority has deployed WWD detection and prevention technologies at four locations on the 45SW Toll road connecting State Loop 1 (MoPac) and FM 1626 in southern Travis and northern Hays County, which opened on June 1, 2019. 33 wrong way driving drivers have been detected on SH 45SW from May – September 2019. So far, every driver that was detected self-corrected rather than continuing down the road in the wrong direction.²

The Mobility Authority continues to monitor the effectiveness of WWD strategies and stay informed about other WWD efforts in Texas.



How are we moving forward?

The Mobility Authority is applying lessons learned and experience from the 45SW Toll WWD program to other roadways. Mobility Authority roadways are being examined by Texas A&M Transportation Institute researchers in order to identify locations where WWD mitigation measures, such as detection technologies, should be installed.

Location Considerations

- Population density
- Land use data (e.g., proximity to establishments serving alcohol).
- Complicated roadway geometry (e.g., interchange/exit ramp designs (existing and/or under construction).
- Historical wrong-way driving crashes and 911 call data
- Visual inspections.

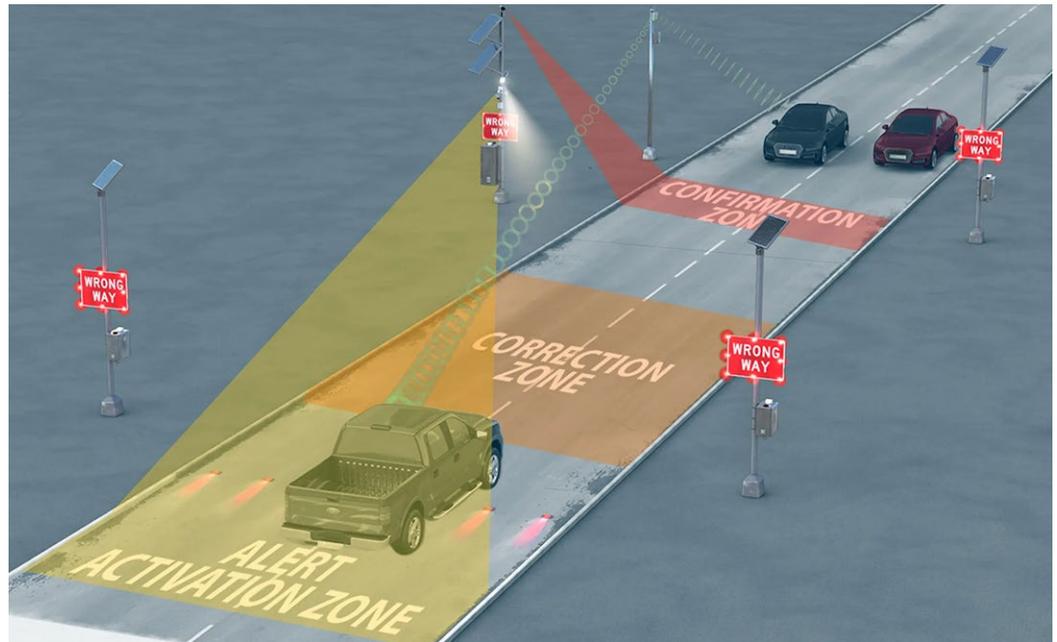
HOW IT WORKS

Step 1 Driver enters roadway heading in the wrong direction.

Step 2 Signs with flashing lights alert the driver that they are driving the wrong way. Most wrong way drivers self-correct in response to the warning lights by making a U-turn.

Step 3 If the driver fails to self-correct, software immediately notifies operators at the Mobility Authority's Traffic & Incident Management Center and the Region's Combined Transportation, Emergency, and Communications Center.

Step 4 As connected vehicle technology becomes more prevalent, the system will communicate directly to right-way and wrong-way vehicles in the event of a wrong way driver.²



SEE HOW IT WORKS

<https://www.youtube.com/watch?v=OinurhuZAWQ>

Other Statewide Efforts

The Mobility Authority is not alone in our efforts – we join the ranks of agencies across Texas in the battle to prevent and mitigate wrong way driving incidents.

San Antonio

Flashing wrong-way signs along the US 281 corridor in San Antonio resulted in a nearly 40% decrease in wrong-way driving. The Texas A&M Transportation Institute (TTI) and the Southwest Research Institute have also partnered to implement WWD detection along ramps using short-range radios.

Fort Worth

TxDOT has attached flashing lights to “Wrong Way” signs, lowered signs to be more easily seen by impaired drivers, and used reflective tape to attract wrong way drivers’ attention.



Houston

Connected-vehicle research combined with crowd-sourced app-based traffic data is working to alert drivers to nearby wrong way drivers through their smartphones.⁵

Enabling Technology

- TAPCO (<https://www.tapconet.com/product/wrong-way-alert-system>)
- Siemens (<https://new.siemens.com/global/en/products/mobility/road-solutions/connected-mobility-solutions.html>)

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¹ FHWA, https://safety.fhwa.dot.gov/intersection/other_topics/wwd/

² TTI, <https://static.tti.tamu.edu/tti.tamu.edu/documents/0-6769-1.pdf>

³ FHWA, https://safety.fhwa.dot.gov/intersection/other_topics/wwd/wwdrsa/fhwasa13032.pdf

⁴ CTRMA, <http://ctxmobilitymatters.com/texas-tackling-wrong-way-driving/>

⁵ CTRMA, https://www.mobilityauthority.com/upload/images/publications_images/RMA_Strategic_Plan_2018_single%20page.pdf

⁶ CTRMA, <http://ctxmobilitymatters.com/texas-tackling-wrong-way-driving/>