



Wrong Way Driving Systems

Wrong Way Driving (WWD) is when a vehicle enters a highway or roadway in the direction opposing the traffic flow. Although less frequent than other crash types, WWD is much more likely to result in fatalities or severe injuries.¹

WWD Detection Technologies

						
Connected Vehicle Technology	Vision-based Detection	Thermal Cameras	Radar Sensors	Pan-tilt-zoom (PTZ) Cameras	Microwave Sensors	Magnetic Sensors

Self-Correct/Turn Around Rate

Based on studies from Arizona and Florida, with the use of WWD prevention systems, 88 to 100% of WWD drivers self-correct.^{2,3}

Example WWD Warning Technologies

- LED-Enhanced Blinking Wrong Way signs
- In-Pavement Warning Light
- Connected and Automated Vehicle Messages

Benefits

Click on each example at right to learn more.



Phoenix, AZ

WWD thermal detection system addressed 33 near-incidents in the first six months of operation.



Tampa, FL

WWD CV application correctly warned 14 drivers entering the wrong way of the reversible express lanes and identified 74% of the potentially true conflicts over 19 months.



San Antonio, TX

WWD radar detection system and LED warning lights reduced WWD incidents up to 30% according to analysis after a 14-month pilot.

Costs

Click on each example at right to learn more.

\$3.7M

- Phoenix, AZ
- I-17, 15 miles
- 90 thermal cameras with flashing LED warning signs

\$18,000 to \$45,000/ramp

- Nashville, TN
- Initial deployment cost per ramp
- Radar- and LiDAR-based detection

\$377,605

- San Antonio, TX
- US-281, 15 miles
- 28 exit ramps and 4 mainline locations
- Radar detectors with illuminated warning signs

1. National Transportation Safety Board, [Highway Special Investigation Report Wrong-Way Driving](#), 2012.
 2. Arizona DOT, [Interstate 17 Wrong Way Vehicle Detection Pilot Program](#), 2020.
 3. Florida DOT, [Wrong-way driving pilot prevents crashes](#), 2015.