

ADOT's Wrong Way Vehicle Detection Program

ASHE Meeting

July 13, 2021

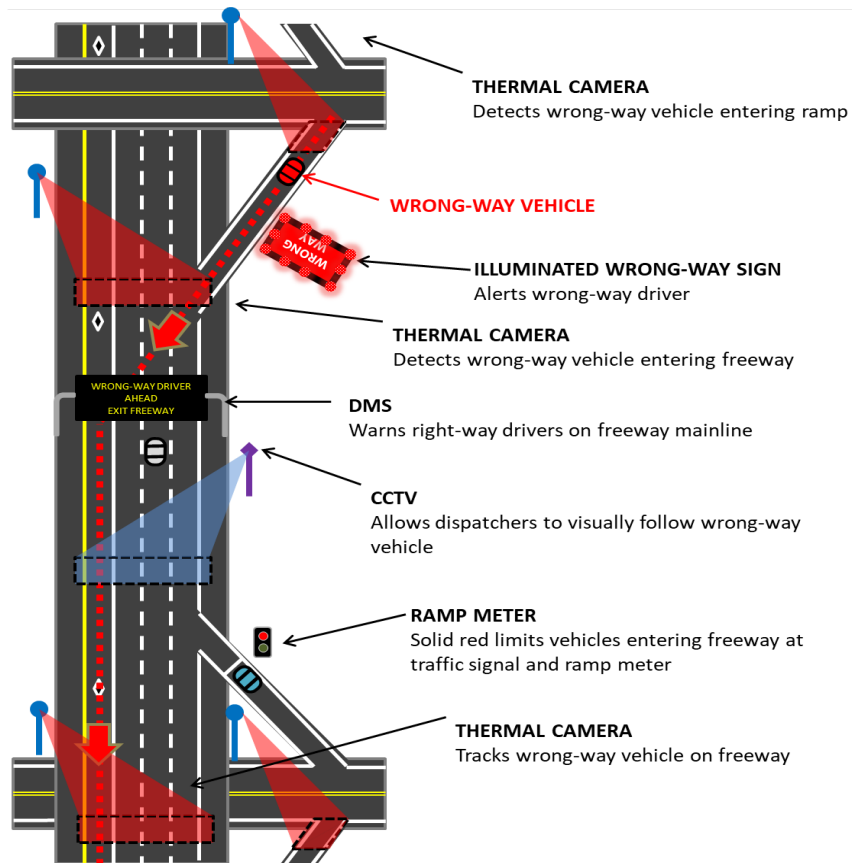
Background

- Data analysis in Arizona
- 25% of WW crashes are fatal
- Compared to 1% overall crashes
- 245 wrong-way crashes in 10 years
- 91 people died in these crashes
- Research strategies to combat wrong-way crashes



- Proof of concept
- First in the nation for tracking WW vehicles
- Operational since 2018
- \$4.2 million funded by MAG
- A 15-mile segment
- I-17 between I-10 & Loop 101
- High number of WW crashes





WWD Components

- Time-proven components
- Assembled in a new and innovative configuration
- Coordination between TOC Dispatchers and DPS troopers, based at TOC

Pilot Project Results

- Increased Detection - Threefold increase in detection compared to 911 calls.
- Improved Notification to Law Enforcement – Faster, average of 1 minute, 38 seconds before a 911 call was received.
- Driver self-correction. Of 109 wrong-way vehicle incursions, 88% self-corrected on exit ramp.

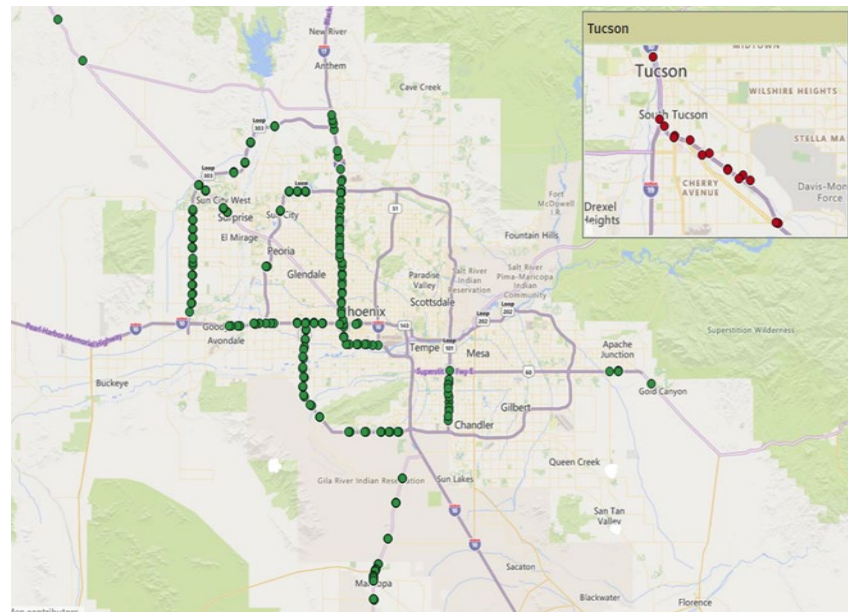


WWD Expansion Efforts

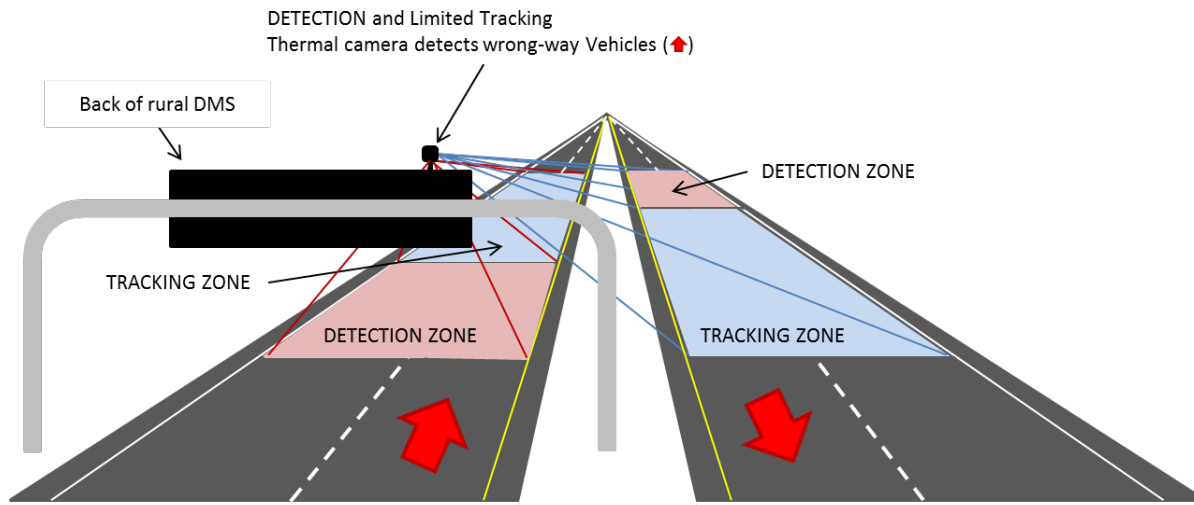
- Locations of highest WWD occurrence
- Funding availability for WWD
- Current and future ADOT projects

WWD Expansion Efforts

- I-17, (Original Pilot) 90 Detection Cameras
- I-10, 23 Detection Cameras
- I-17, 20 Detection Cameras (outside pilot Corridor)
- SR 101L, 22 Detection Cameras
- SR 202L Pastor, 30 Detection Cameras
- SR 303L, 32 Detection Cameras
- SR 347, 25 Detection Cameras
- US 60, 14 Detection Cameras
- Total 256 Detection sites



Mainline Detection



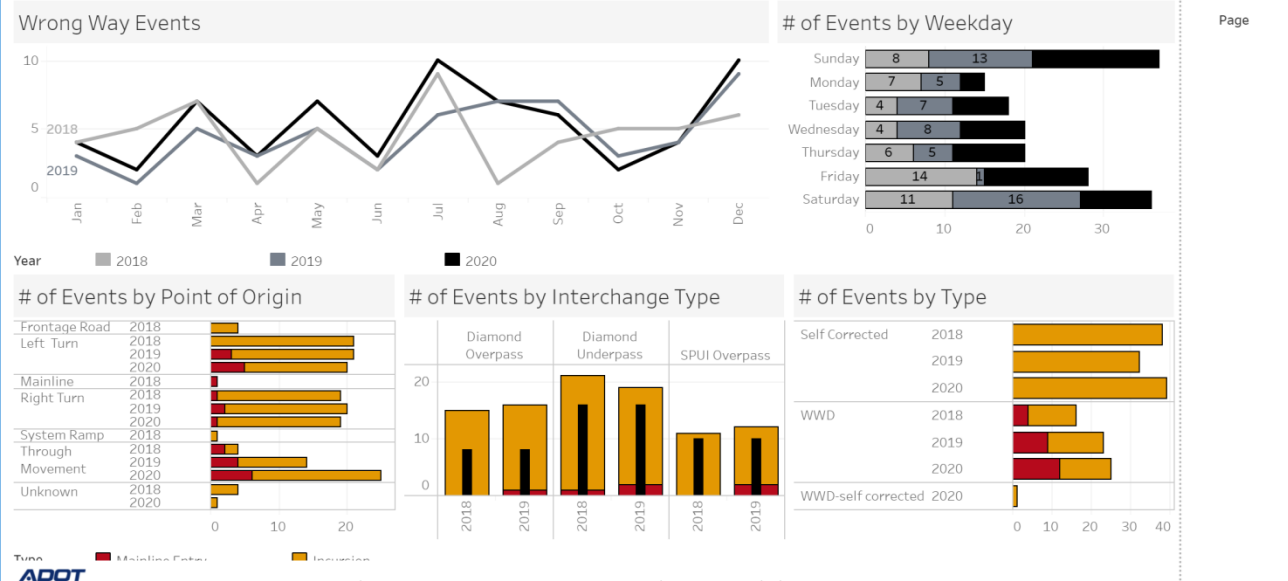
NOTE: Utilize available power and communication link to the DMS

Performance Metrics

- Dashboard to monitor
- Continued coordination with DPS

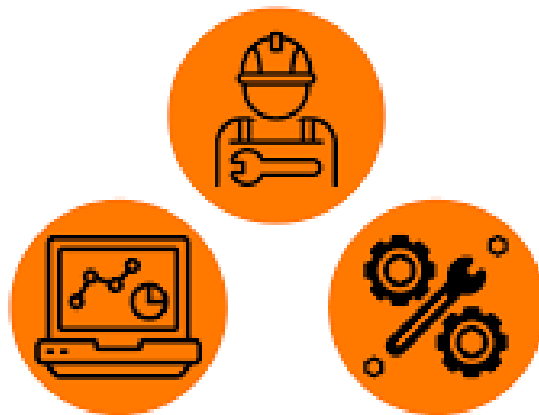
TSMO Performance Measures | Wrong-Way Driver Detection System Pilot Project Metrics

These metrics represent results of the wrong-way driver detection pilot program. The wrong-way driver thermal detection system is located along a 15-mile stretch of Interstate 17 in Phoenix (from Interstate 10 to Loop 101) and is designed to detect wrong-way vehicles, alert other (right-way) drivers, and alert law enforcement. Pilot program data reporting began in January 2018. Scorecard target for



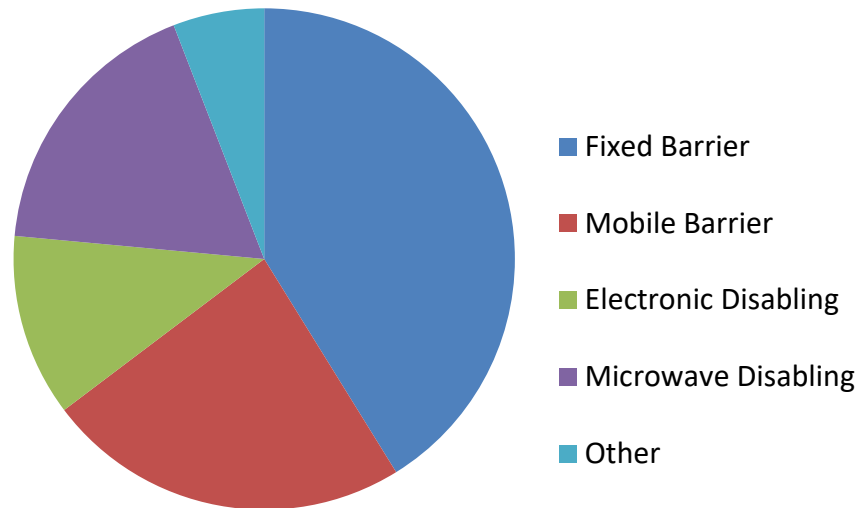
Operations & Maintenance Considerations

- As additional locations are brought onto the network
 - Increased monitoring and maintenance
 - Increased data collection, verification, scrubbing, and reporting
 - Continued development of DSS to incorporate additional locations, hardware/software limitation
- Operations Plan Developed
 - Standard work for monitoring, verification, reporting process
 - Training program for staff
- Plan to automate other locations: L202 (SMF) and L303
- Coordinate data with DPS and TOC Dispatchers



Ongoing Research

- ADOT's Research Center project
- Identifying methodologies for stopping WW vehicles



Conclusions

- I-17 pilot project was an effective test of a corridor-level system of wrong-way driving countermeasures
- Program additional wrong-way detection throughout state per funding availability
- Safety and operational benefits of increased detection and notification



Thank You!

ADOT Website

- www.azdot.gov

I-17 Wrong Way Vehicle Detection Pilot Project Final Report

- <https://azdot.gov/content/i-17-wrong-way-vehicle-detection-pilot-program-june-2020>

Arizona Department of Transportation

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