Dust Detection and Driver Warning
SYSTEM OVERVIEW

- X-BAND RADAR (RANGE–X5)
- CLOSED CIRCUIT TV (5)
- SPOT DETECTOR (13)
- DYNAMIC MESSAGE SIGN (4)
- VARIABLE SPEED LIMIT SIGN (16)
- SPEED FEEDBACK SIGNS (2)
What is Ranger?

- Solid-State, Dual-Polarization Doppler Weather Radar
- Operates in the X-Band frequency range
- Compact, affordable, short-to-medium range view
RANGER-X5 WEATHER RADAR SYSTEM

X-BAND COVERAGE AREA

BLOCKAGE DIAGRAM
How Ranger Helps

- Data from Ranger will be provided to ADOT decision-makers and NWS forecasters to help better detect, monitor and alert on dust storm events
  - Data from the Ranger can be outputted in standard formats accepted by ADOT and NWS systems
  - Dual-polarization data allows for better interpretation of hydrometeors (aka “what’s falling from the sky”)
    - Dust vs. rain vs. hail, etc.
  - Ranger will produce higher resolution (both temporally and spatially) data for use in dust storm alerting
Summary

Dust Storm Detection and Alerting System

- EEC’s Ranger weather radar, combined with additional new ground sensors, aims to improve detection and alerting of dust storm events in the I-10 Phoenix-to-Tucson corridor.

- System will produce high-resolution, in-situ data to provide a more accurate picture of the surrounding weather situation.

- EEC is thrilled to be part of this first-of-its-kind, advanced project.

- Working with ADOT and the NWS, this new system aims to provided decision-makers and forecasters with more tools to better protect people and assets during dust storms.

- This system could be the basis for other similar systems in the future, both in Arizona and other states impacted by dust storms.
PULL ASIDE - STAY ALIVE

MARTY LAUBER – ADOT SYSTEMS TECHNOLOGY GROUP
MLauber@azdot.gov