ADOT Dust Mitigation Project
Arizona Dust Workshop 2022

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What got us here?

Dust related crashes
• **Aug 2010 to Aug 2015**
  – 3 Fatal
  – 5 Incapacitating
  – 27 Non-Incapacitating
  – 6 Possible
  – 42 Property Damage Only

• **83 crashes in 5 years**
• **1 crash since Dust Detection System Deployment**
  – 6 vehicles in crash with possible injuries
ADOT’s solution using technology

- I-10 MP 209-219 (between Phoenix and Tucson)
- Data used for sensor locations
- X-Band radar
- SPOT DETECTOR (13) Spot Detectors
- Variable Speed Limits (VSL)(16)
- Closed Circuit TV (5)
- Dynamic Message Signs (4)
- Speed Feedback Signs (2)
System Activation Thresholds

• Visibility thresholds drive system activation
• Thresholds based on stopping sight distance criteria

- <1800’ = lower speed limit to 65
- <1500’ = lower speed limit to 55
- <1200’ = lower speed limit to 45
- <900’ = lower speed limit to 35
System Data

Duration of Dust Events in Minutes By Time Interval

# of Dust Storms Greater than 2 Minutes
System Data

TSMO Performance Measures | Driver’s Speeds During Dust Event(s)

The driver’s actual speeds captured from the RADS loop detector data during a dust event. The variable speed limit (VSL) adjusts based on the amount of dust in the air.

 Drivers’ Actual Speeds During Dust Events >= 2 Minutes

Date and Time of Dust Event
2022-01-10 15:47:00

Location
Z36 WB
Z35 WB

Variable Speed Limit (VSL) – Posted Speed Limit During Storm

Date and Time of Dust Event [January 10, 2022]
System Data

Map of Dust Detection and Traffic Management Equipment

Longest Dust Storm by Year

- **2020**: 2020-10-21 14:10:00, 21 minutes
- **2021**: 2021-06-21 06:48:00, 15 minutes
- **2022**: 2022-02-15 11:43:00, 24 minutes
Summary

- We continue to look at the data and make adjustments using our tableau program.
- We continue to work on a platform so we can display the information internally.
- Getting the system data, how it is working from a data perspective takes time.
- We are evaluating if speeds are reducing and system working during dust events.
THANK YOU

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