



**Department of
Transportation**

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IR-275 SMARTLANE PROJECT

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AGENDA

- What is a Smartlane?
- Why IR-275?
- Project Overview
- **Standard Operating Procedure**



WHAT IS A SMARTLANE?



SMARTLANE BENEFITS

- Improved Safety
 - 5-10% Crash Reduction
- Reduced Travel Time
 - 7-9 MPH Speed Increase
- Dedicated Monitoring
 - TMC & FSP



TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS (TSMO)

CONCEPT:

**STRATEGIES TO COMBAT CONGESTION &
MAXIMIZE EFFICIENCY WITHOUT ADDING MORE
LANES**



TSMO METRICS

- **BOTTLENECKS**
- **TRAVEL TIME**
 - PERFORMANCE
 - INDEX
- **SAFETY**
 - % REAR END
 - CRASH SEVERITY IMPACT
- **INCIDENT MANAGEMENT**
 - INCIDENT CLEARANCE
 - SECONDARY CRASHES
- **TRAFFIC VOLUME DATA**
 - VOLUME PER LANE
 - FREIGHT CORRIDORS



HARD SHOULDER RUNNING/SMARTLANE PILOT PROJECTS

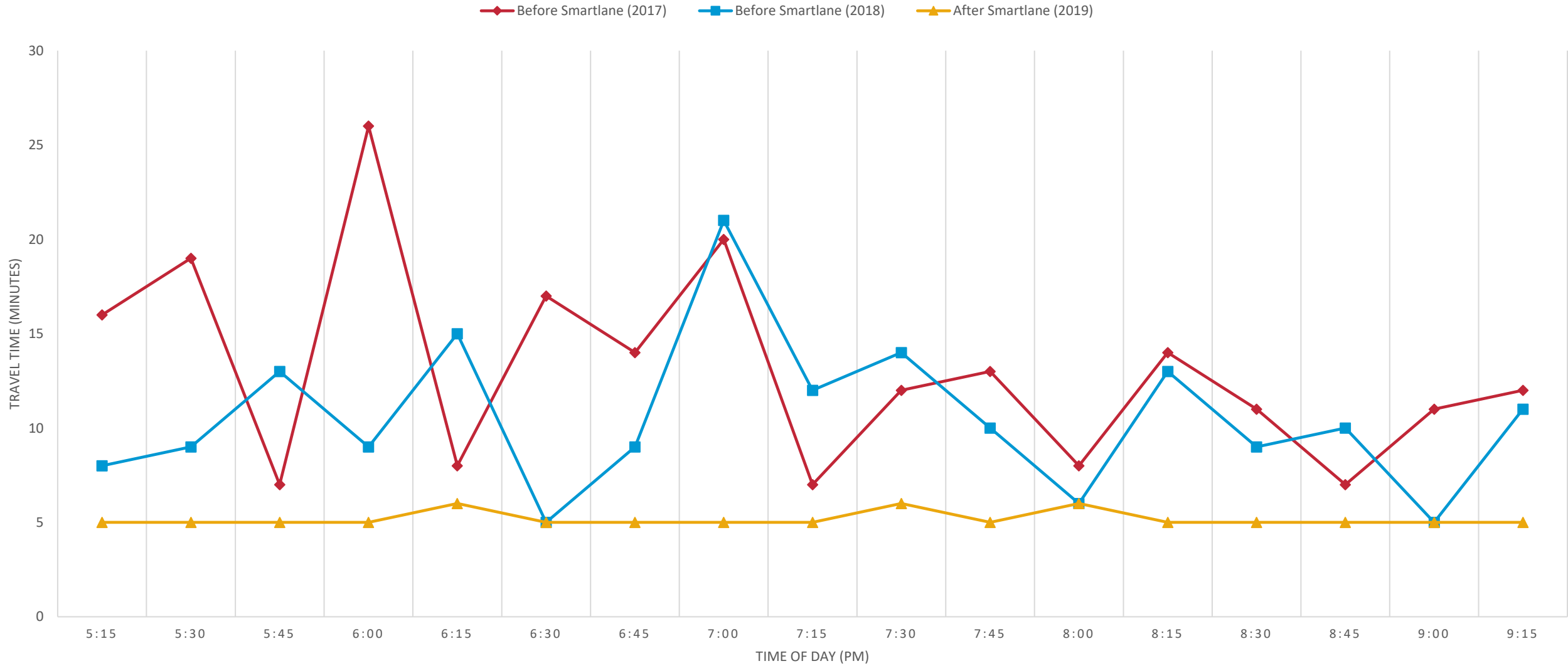


I-275 from I-71 to Loveland-Madeira Rd:
Hard Shoulder Running Mixed Use Traffic



I-670 from I-71 to I-71:
Hard Shoulder Running Mixed Use Traffic

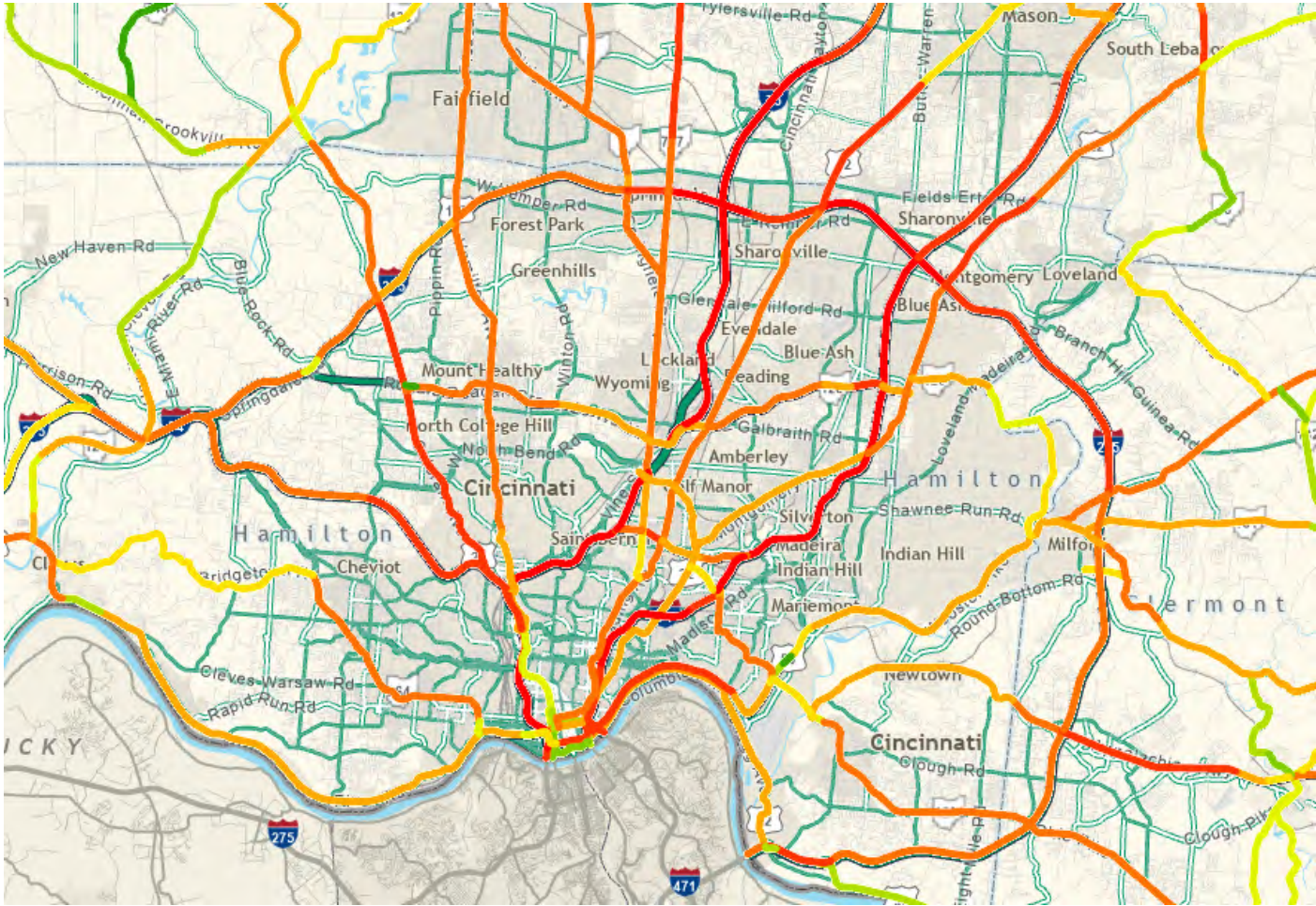
IR-670 TRAVEL TIME SAVINGS



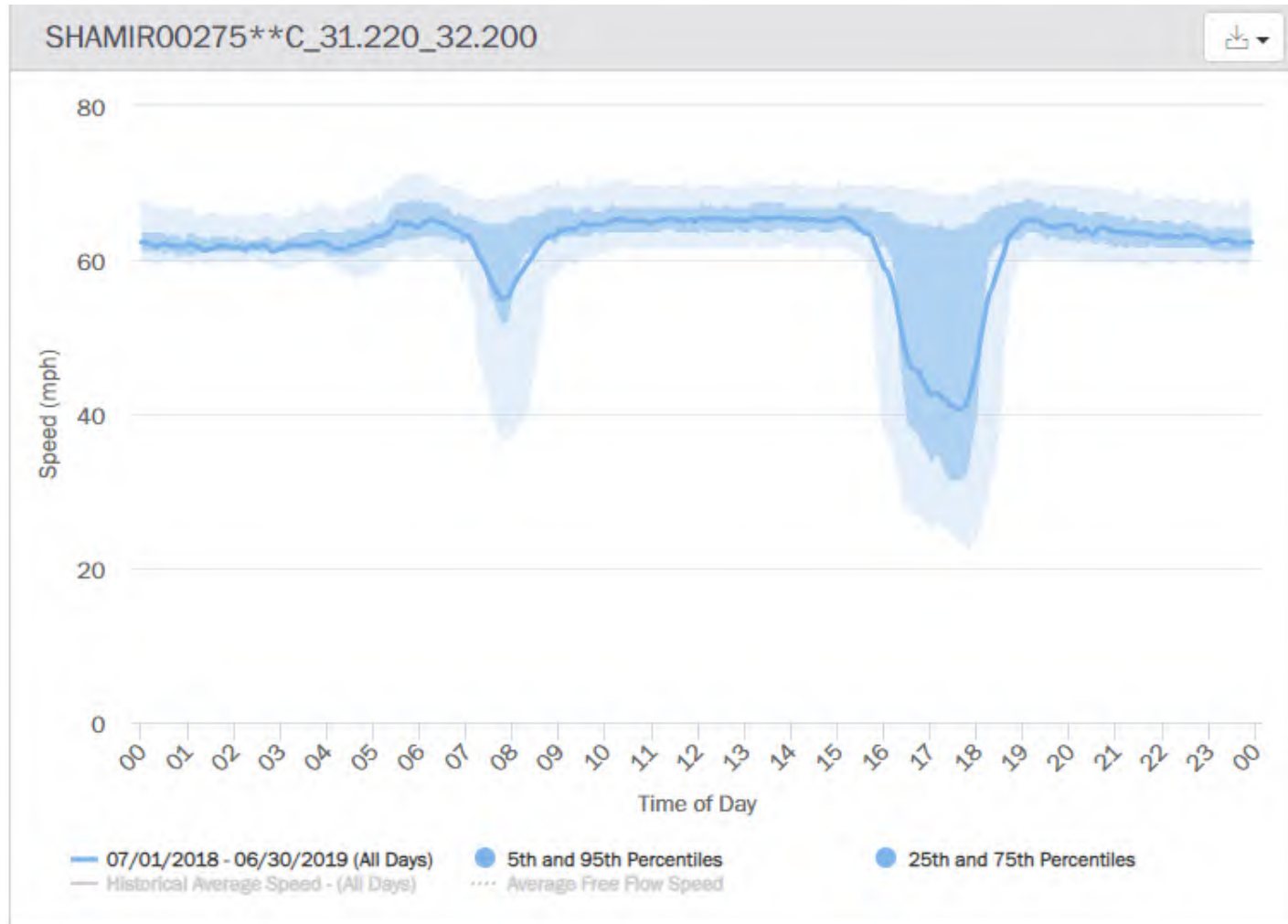
WHY IR-275?



TOAST MAP



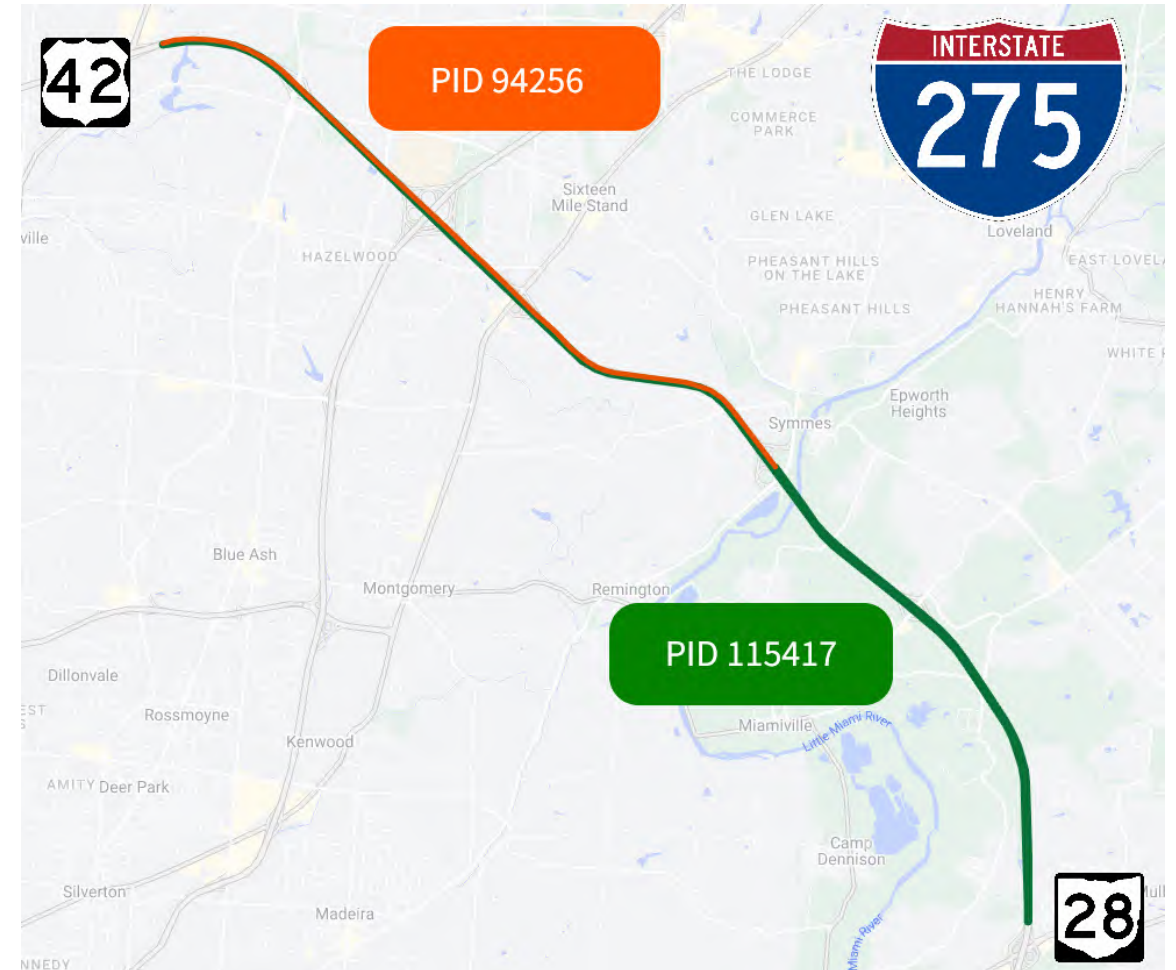
IR-275 HISTORIC TRAFFIC SPEEDS



PROJECT OVERVIEW

Westbound SmartLane: (PID-94256)

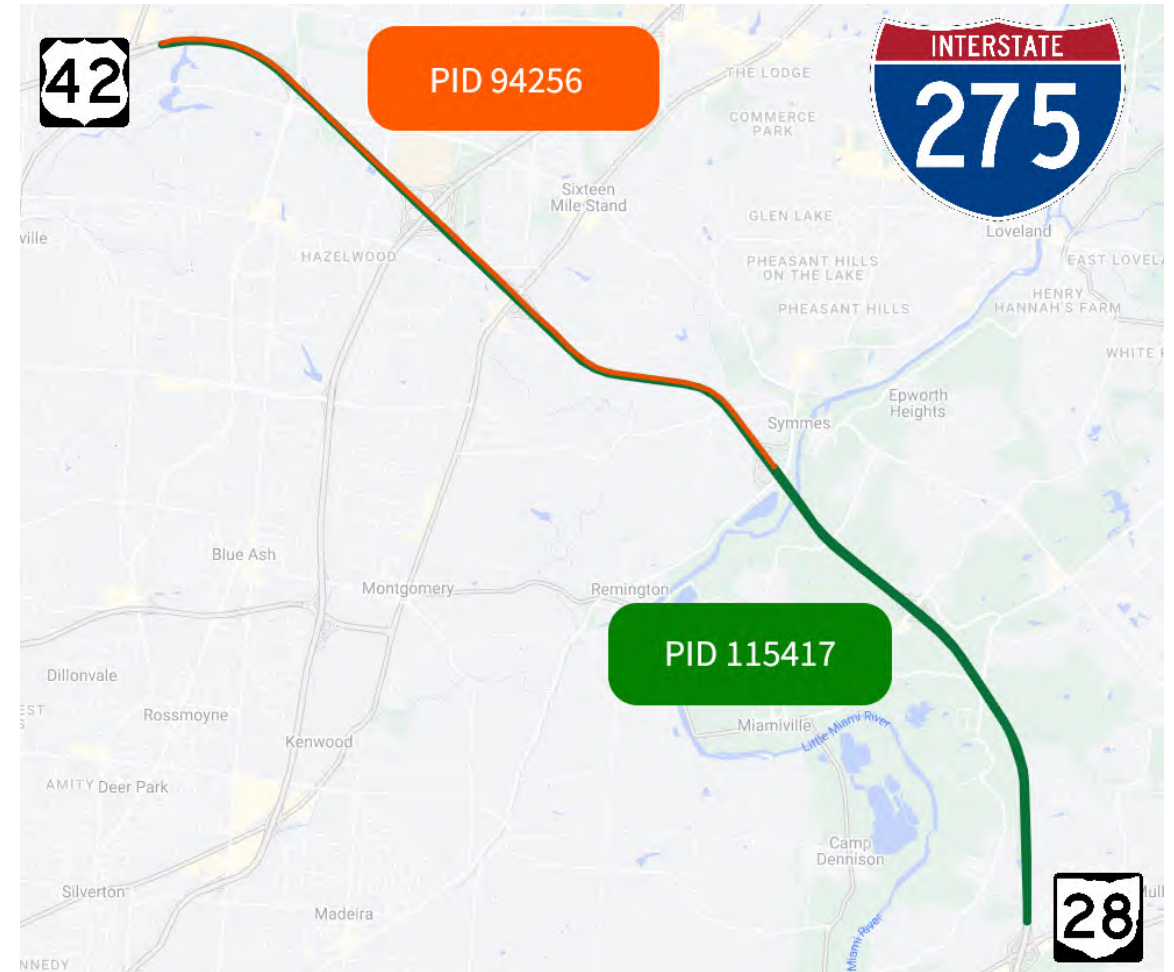
- Resurface & repair pavement between US 42 & SR 28.
- Widen the median shoulders between US 42 & Loveland-Madeira Road.
- Implement dynamic message signs, variable speed limit, CCTV cameras, and sensors.
- Schedule: April 2022 – June 2024
- Estimated Cost: \$22.3 million



PROJECT OVERVIEW

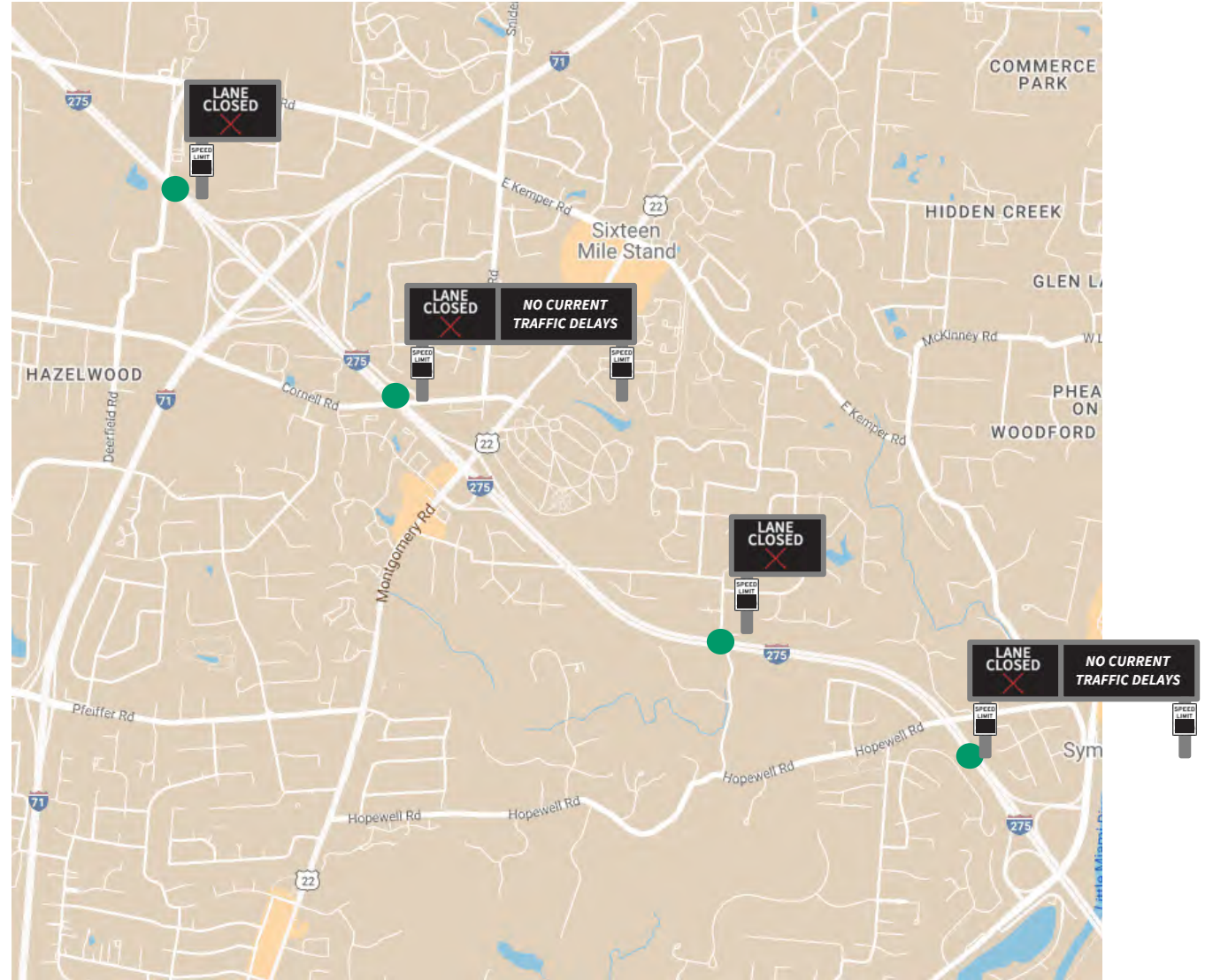
Eastbound SmartLane: (PID-115417)

- Construct the eastbound SmartLane between US 42 & SR 28.
- Complete the westbound SmartLane between Loveland-Madeira Road & SR 28.
- Address I-275/I-71 interchange improvements.
- Install dynamic message system, variable speed limit.
- Schedule: 2027 – 2028, pending funding for construction
- Estimated Cost: \$80 million



SIGN LOCATIONS

- Two Truss Signs
- Two Cantilever Signs
- One Mile Spacing



SMARTLANE SIGNAGE



IR-670

- Hard Shoulder Running
- Variable Speed Limits
- Dynamic Lane Control



IR-275

- Hard Shoulder Running
- Variable Speed Limits



STANDARD OPERATING PROCEDURE



VARIABLE SPEED LIMITS (VSL)

- House Bill 62 (Section 4511.21) Allows Variable Speed Limits
- VSL Signs Controlled By TMC In Columbus
 - TMC Contact Number: 614-387-2537
- VSL Sets To Match Speed Of Traffic
 - Traffic Speed Measured Along Route
- Restrictions
 - Speed Only Changed In 10 Mph Increments
 - Must Have Speed Displayed 60 Seconds Minimum Before Lowering Again
 - Lower Speed Must Be In Effect For 10 Minutes Before Raising The Limit



EXAMPLE SITUATIONS



- Traffic free flowing at or above 65 MPH
 - VSL set at 65 MPH
 - Smartlane Closed to traffic

EXAMPLE SITUATIONS



- Traffic free flowing at or below 55 MPH
 - Measured speed at 2 locations for more than 5 minutes
 - VSL changed to 55 MPH
 - Smartlane capable of opening

EXAMPLE SITUATIONS



- Traffic free flowing at or below 45 MPH
 - Measured speed at 2 locations
 - VSL changed to 45 MPH
 - Smartlane capable of opening

EXAMPLE SITUATIONS



- Traffic free flowing at or below 35 MPH
 - Measured speed at 2 locations
 - VSL changed to 35 MPH
 - Smartlane capable of opening

EXAMPLE SITUATIONS



- Traffic free flowing at or below 45 MPH
 - 10 minutes posted at 35 MPH before increase to 45 MPH

EXAMPLE SITUATIONS



- Traffic free flowing at or below 55 MPH
 - 10 minutes posted at 45 MPH before increase to 55 MPH
 - Yellow X displayed for 60 seconds.

OPENING PROCEDURE

- Sweep lane before opening
 - Mechanical
 - Vehicle
 - Camera
- VSL Requirements
 - Can be utilized when Smartlane is closed
 - 55 MPH max to open Smartlane
 - Time restrictions



EXAMPLE SCHEDULE

- **Weekday Morning Rush**
 - Vehicle Sweep: 5-6AM
 - Reduce VSL to 55 MPH & Open Smartlane: 6AM
 - Monitor Vehicle Speeds and Reduce VSL as Needed
 - Increase VSL to 65 MPH & Close Smartlane: 9AM
- **As needed for other incidents causing congestion**
 - 10 Minutes at 55 MPH before opening Smartlane



INCIDENT RESPONSE

- Alerting Motorists
 - VSL Lowered to Speed of Traffic
 - DMS Boards Display Alerts
- Smartlane
 - Can Open at TMC Specialist's Discretion After Speeds Fall Below 55MPH
 - Camera Sweep Required



COLLABORATION

- Preventing use when closed
- Towing
- Clear of debris
- Speed limit logging
- Distribution List for initial emails about daily opening & closing



CONTACTS

- Traffic Management Center (TMC)
 - 614-387-2537
 - StatewideTMC@dot.ohio.gov
- District 8
 - Marc Grake 513-933-6607





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THANK YOU