

A young girl with long dark hair, wearing a light blue shirt and a purple backpack, is holding hands with an adult wearing an orange shirt and blue jeans. They are walking on a city street with blurred buildings in the background.

HSIP Traffic Signal Safety Improvements

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HSIP. Invest in the future. Save lives today.

An aerial photograph of a multi-lane road intersection. A white bus with a blue stripe and the number '25' is in the left lane. A blue truck is in the middle lane. A green car is in the right lane. The road has yellow and white lane markings. There are trees and grass on the sides. A pedestrian is visible on the sidewalk on the right. The text 'Data + Systemic + Low Cost Countermeasures = Safer Roads.' is overlaid on the image in large, bold, black letters.

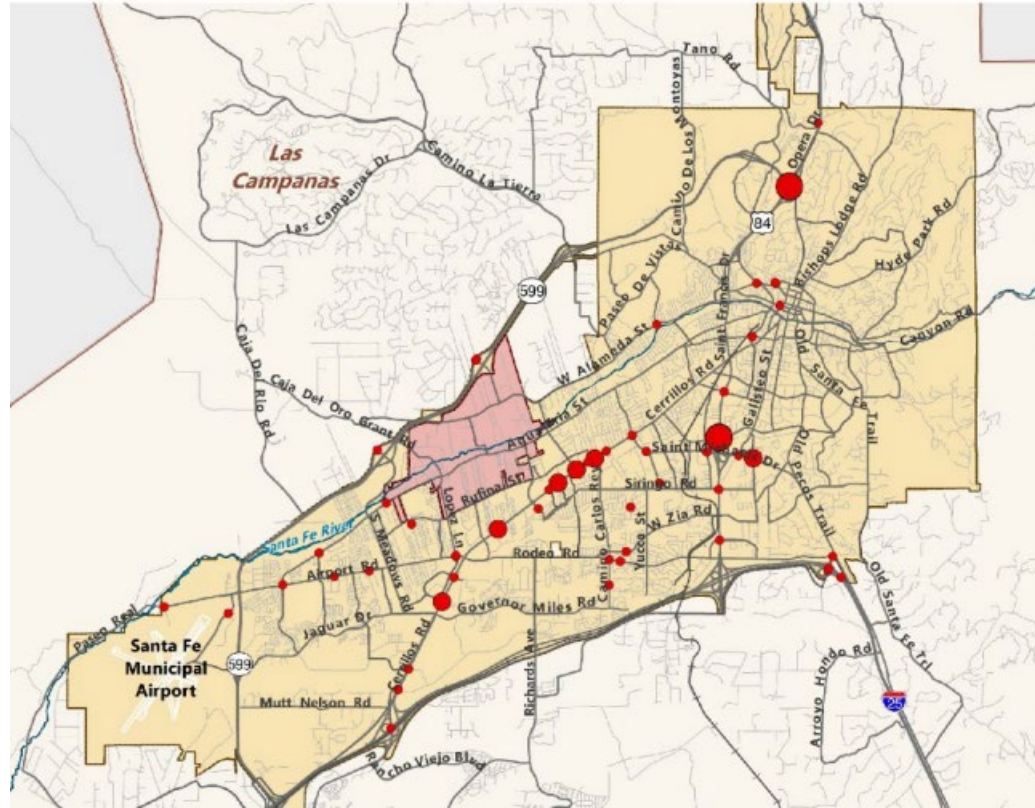
Data + Systemic + Low Cost Countermeasures = Safer Roads.

Data Sources: The Local Road Safety Plan (LSRP) completed by the Santa Fe Metropolitan Planning Organization (SFMPO) in August 2022, 2021 NMDOT Strategic Highway Safety Plan, NMDOT Pedestrian Safety Action Plan

Systemic Improvements: 1) Identify Focus Areas by Crash Type/Facility. 2) Look for locations with similar risk factors. 3) implement low-cost safety measures widely across the network.

Low-Cost Countermeasures: Proven, low-cost, systemic countermeasures.

HSIP. Today's data for tomorrow's roads.



Network Screening: Intersections

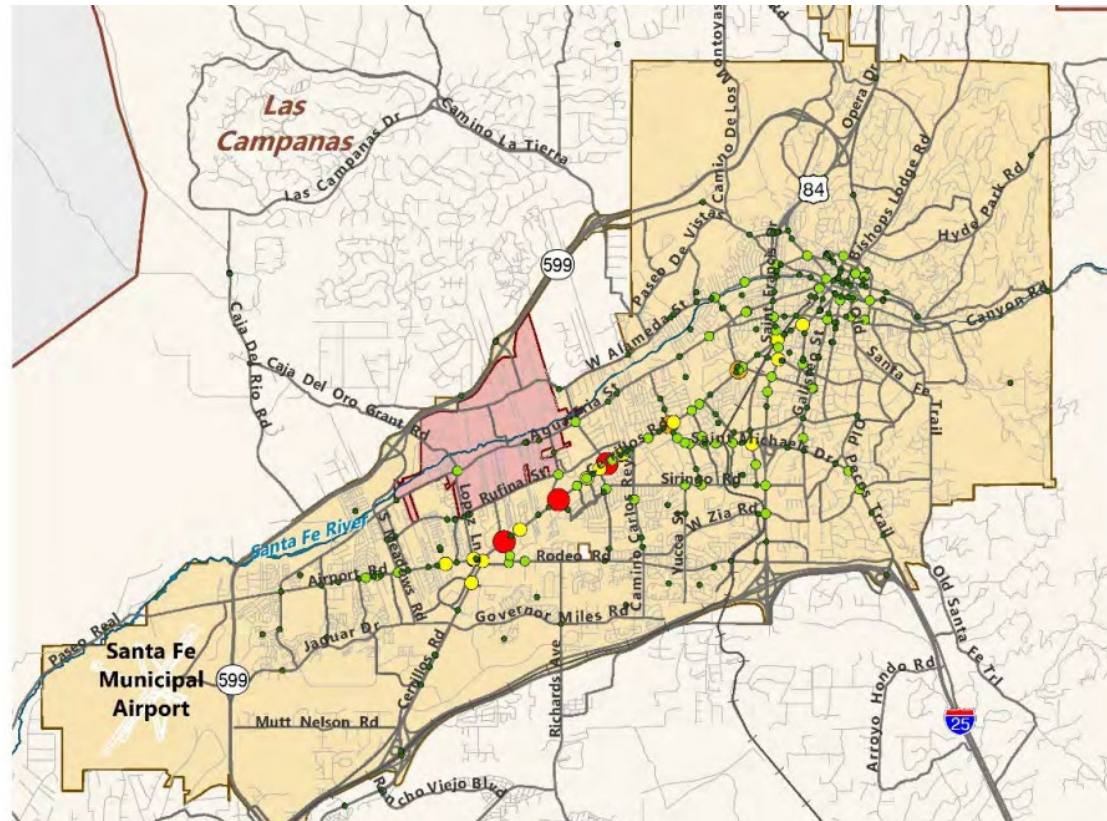
LSRP map showing location of all fatal crashes between 2010-2018. The focus of this project would be on the High Injury Network (HIN) where seventy percent of the fatal and serious injury (KA) crashes and 60 percent of the KAB crashes occurred on these priority HIN corridors, specifically on Cerrillos Road (21% KAB / 28% KA), Airport Road (10% KAB / 12% KA), St. Michaels (8% KAB / 7% KA).



Intersections: Risk Factors

SFMPO's Risk Factors identified in the LRSP:

- Multilane Facilities
- High traffic volumes
- Higher operating speeds



Network Screening: Pedestrians

Local Road Safety Plan showing locations of pedestrian involved fatal and serious injury crashes between 2015-2019. The focus of this project would be on pedestrian-involved high crash corridors identified by New Mexico's Pedestrian Safety Action Plan: Cerrillos Road, Airport Road, and Saint Michaels Drive.



Pedestrians: Risk Factors

SFMPO's Risk Factors identified in the LRSP:

- Intersections: most accidents on high crash corridors occur at intersections
- Wide, multi-lane highways:
- Commercial development:

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2021 NMDOT Strategic Safety Plan

Statewide High Priority Safety Emphasis: Intersection Related and Pedestrian Related High Injury Network (HIN) on Cerrillos Road, Airport Road, and St. Michaels.

The Strategy: Flashing Yellow Arrow Conversions

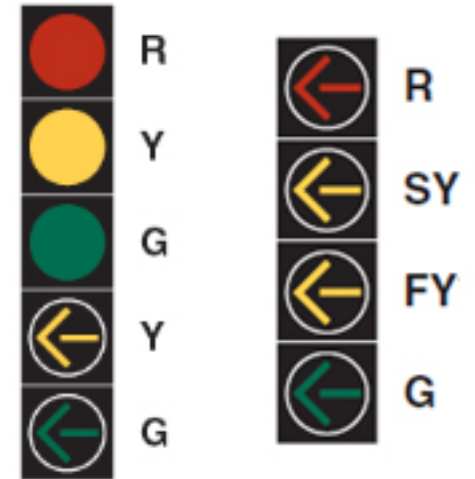
Target Intersections: Median with pedestal poles

Cerrillos Rd: Wagon Rd, Cristo's Rd, Jaguar Rd, Tierra Contenta Dr

St. Michael's Dr: 5th Street, Calle Lorca, Pacheco St

The Result.

- 7% Crash Reduction (Simpson and Troy, 2015)
- 15% Reduction in KAB injury crashes (Simpson and Troy, 2015)
- 56:1 to 144:1. Cost/Benefit Ratio (FHWA, 2021)



Find out which proven treatment could help you save lives.



FYA / Pedestrian Safety

FYA gives Pedestrian Safety Options

- **FYA Delay:** Onset of permissive “FYA” overlap can be delayed by the number of seconds entered, thus reducing conflict between motorists turning left and pedestrians/through traffic.
- **Ped Protect:** Permissive “FYA” overlap can be omitted with a pedestrian push button actuation.



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2021 NMDOT Strategic Safety Plan

Statewide High Priority Safety Emphasis: Intersection Related

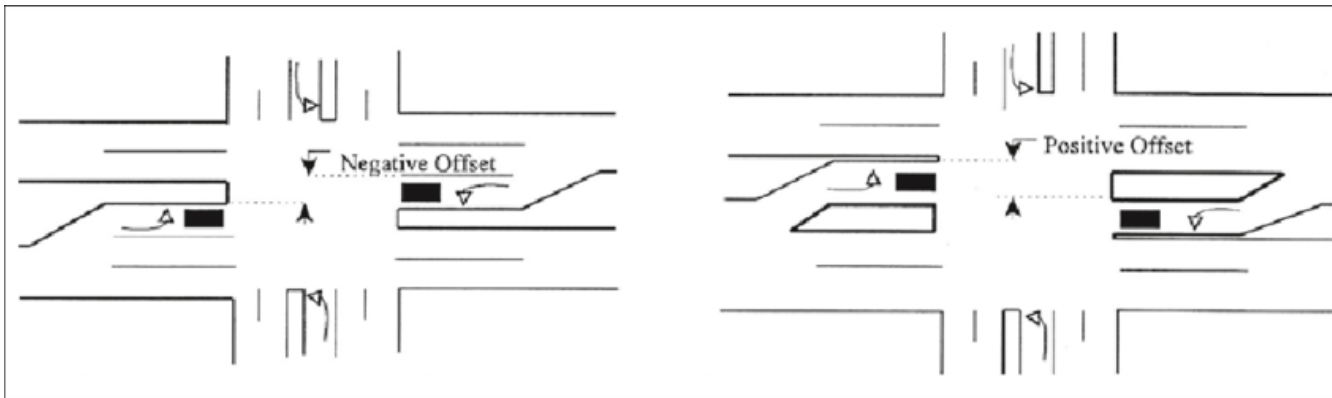
The Strategy: Provide longer, offset, left-turn lanes at intersections

Reduce the frequency and severity of intersection conflicts through geometric design improvements

LRSP 1,3,5: verify sight triangles and eliminate obstructions

The Result.

- 26% in angle crashes (Persaud et al., 2009)
- 35% reduction in fatal/injury crashes (Persaud et al., 2009)
- Cost/Benefit Ratio 1:2 (FHWA, 2009)



HSIP. Take action today to save lives tomorrow.

2022 Local Road Safety Plan

2021 New Mexico Pedestrian Safety Action Plan identifies Cerrillos Road, Airport Road, and Saint Michaels Drive as pedestrian-involved high crash corridors

The Strategy: Pedestrian Refuge Islands

1.5.6 Safe System Element: Install medians and pedestrian refuge islands.

The Result.

- 32% in vehicle/pedestrian crashes (Zegeer et al., 2017).
- FHWA: refuge islands can be as little as 4 feet.
- One of 28 FHWA Proven Countermeasures

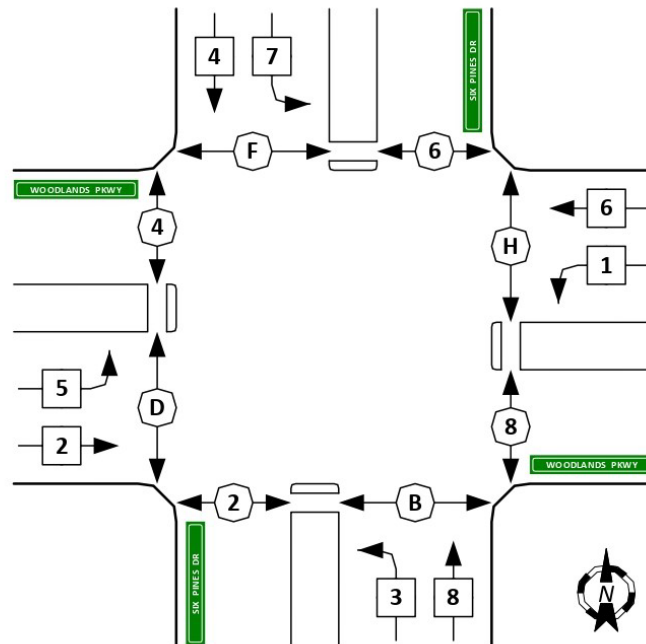


Innovative Countermeasure: 2-Stage Pedestrian Crossing

2021 NMDOT Strategic Safety Plan, Intersection Related Safety Strategies:
A1: Improve pedestrian and bicycle operations



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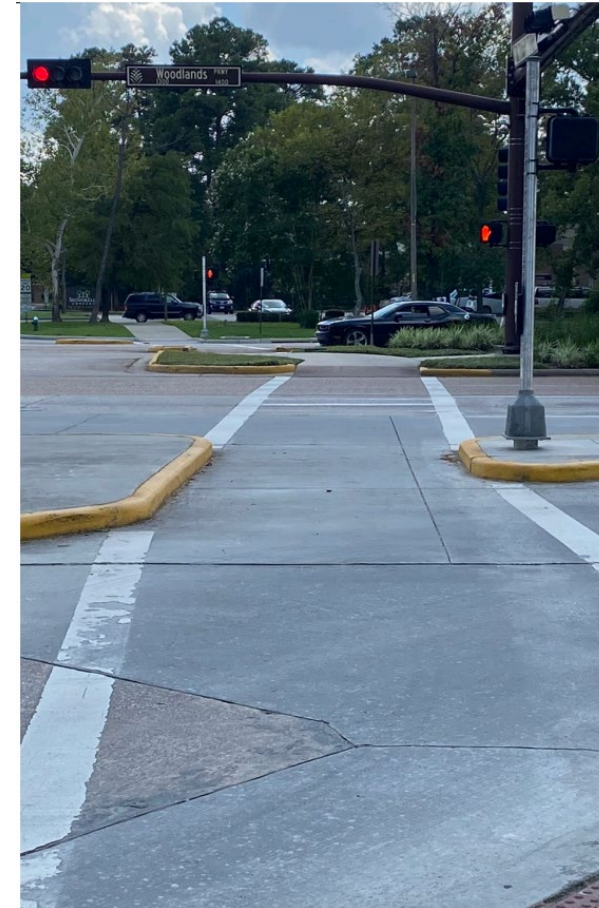
OL-B = 1+2+7
• NegVeh = 3

OL-D = 1+3+4
• NegVeh = 5

OL-F = 3+5+6
• NegVeh = 7

OL-H = 5+7+8
• NegVeh = 1

All Parent Phases are
also Walk Rest Phases



Use data to invest your HSIP funds effectively.

2022 Local Road Safety Plan

Systemic Safety Improvement #1: Systemic application of traffic signal backplates, high visibility crosswalks, stop bars.

The Strategy: High-Visibility Crosswalks

New Mexico Pedestrian Safety Action Plan identifies Cerrillos Road, Airport Road, and Saint Michaels Drive as pedestrian-involved high crash corridors – with most of these crashes occurring at intersections.



The Result.

- 40% reduction in pedestrian crashes (Chen et al 2012)
- One of FHWA's 28 proven countermeasures.
- High-visibility crosswalks typically cost five times more than transverse parallel lines (VDOT, 2021)



Find out which proven treatment could help you save lives.

2022 Local Road Safety Plan

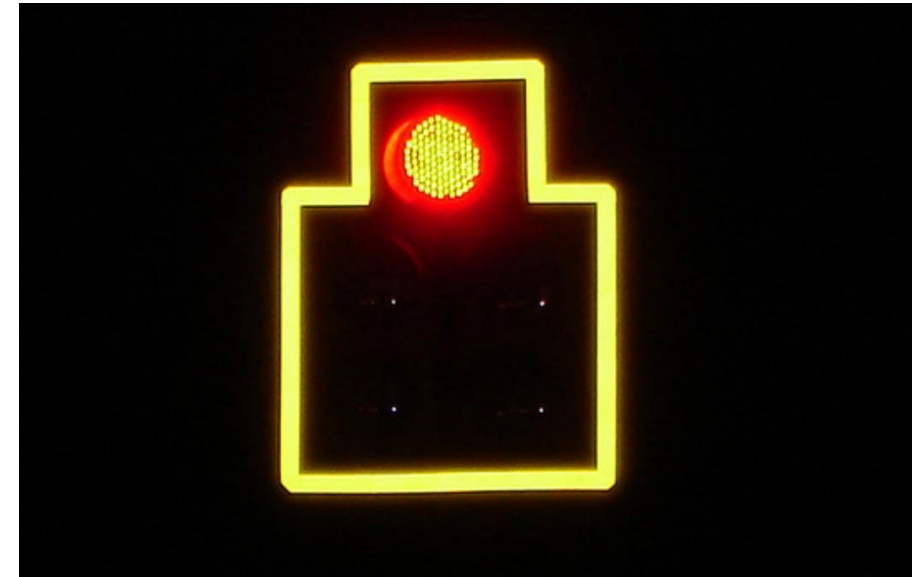
Emphasis Areas: Intersections, Pedestrians, Bicyclists, Older Drivers, Younger Drivers

The Strategy: High Visibility Backplates

Improve visibility of intersections and traffic control devices (signs and signals) using low-cost countermeasures

The Result.

- 15% reduction in crashes (Miska, E., P. de Leur, and T. Sayed)
- 29% reduction in fatal/injury crashes (El-Basyouny, K. and Sayed)
- FHWA: reduces red light violations, improves visibility)
- One of FHWA's 28 proven countermeasures.



2022 Local Road Safety Plan

2021 New Mexico Pedestrian Safety Action Plan identifies Cerrillos Road, Airport Road, and Saint Michaels Drive as pedestrian-involved high crash corridors

The Strategy: Leading Pedestrian Intervals

LRSP: Implement Leading Pedestrian Interval (LPI); consider adding NO RIGHT TURN blank out signs to balance safety and capacity

The Result.

- 13% reduction in pedestrian crashes (Goughnour et al. 2018)
- 18.1% - 20.9% reduction in extreme conflicts (Guo et al. 2020)
- Cost/Benefit Ratio: 1:801 (Fayish and Gross, 2010)
- One of FHWA's 28 proven countermeasures.
- MUTCD: Accessible Pedestrian Signals (APS) should be installed with LPI



An aerial photograph of a multi-lane road intersection. A white bus with a blue stripe and the number '25' is in the left lane. A blue truck is in the middle lane. A green car is in the right lane. The road has a central green median with a young tree. There are trees and grass on the sides. A pedestrian is visible on the right sidewalk. The text 'HSIP Traffic Signal Safety Improvements Proposal' is overlaid in large, bold, black letters with a white outline.

HSIP Traffic Signal Safety Improvements Proposal

FY2024: Planning and Design Phase. A few key questions:

- Cost: Cost of each countermeasure at an intersection. (Example: need new conduit/wire for FYAs?)
- Interrelation between countermeasures: (Example: refuge island, offset left-turn lane, sight distance, etc)
- Coordination: St. Francis is a NMDOT roadway and these countermeasures could be applicable there.

FY2025: Complete construction.

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