

# WELCOME!

## PROJECT INITIATION

Route EE (Woodson Road) is slated for repaving in the near future per MoDOT's routine paving schedule. This presents an opportunity to evaluate safety, operations, and overall functionality of the corridor.

## STUDY PURPOSE

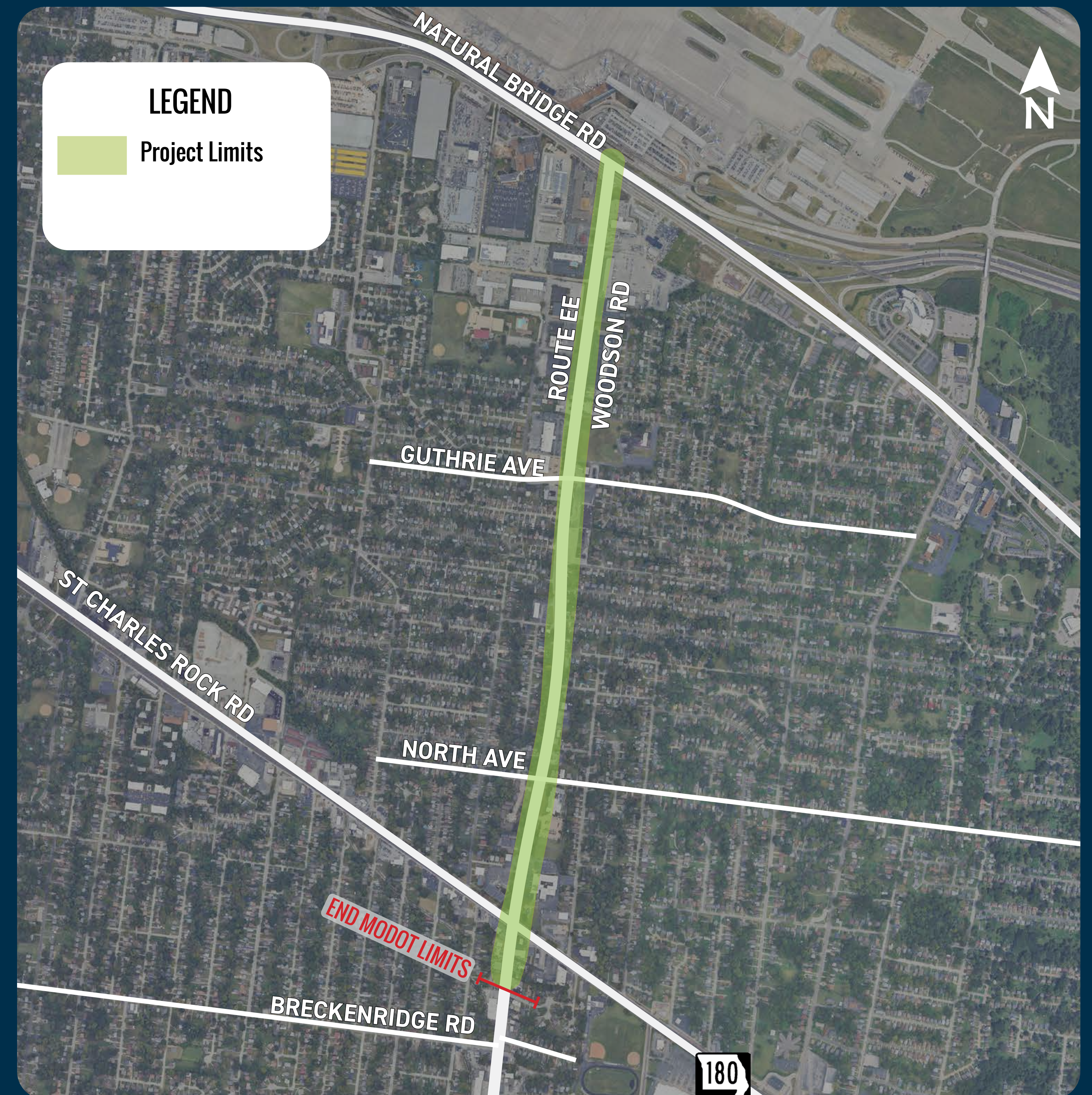
- 1 Evaluate the existing and future safety and traffic on the Route EE corridor
- 2 Identify possible solutions and the scale of funding needed
- 3 Initiate an internal process to seek funding for design and construction

## MEETING GOALS



# ROUTE EE CONCEPTUAL STUDY

## PROJECT LIMITS



ID: Map of Project Limits

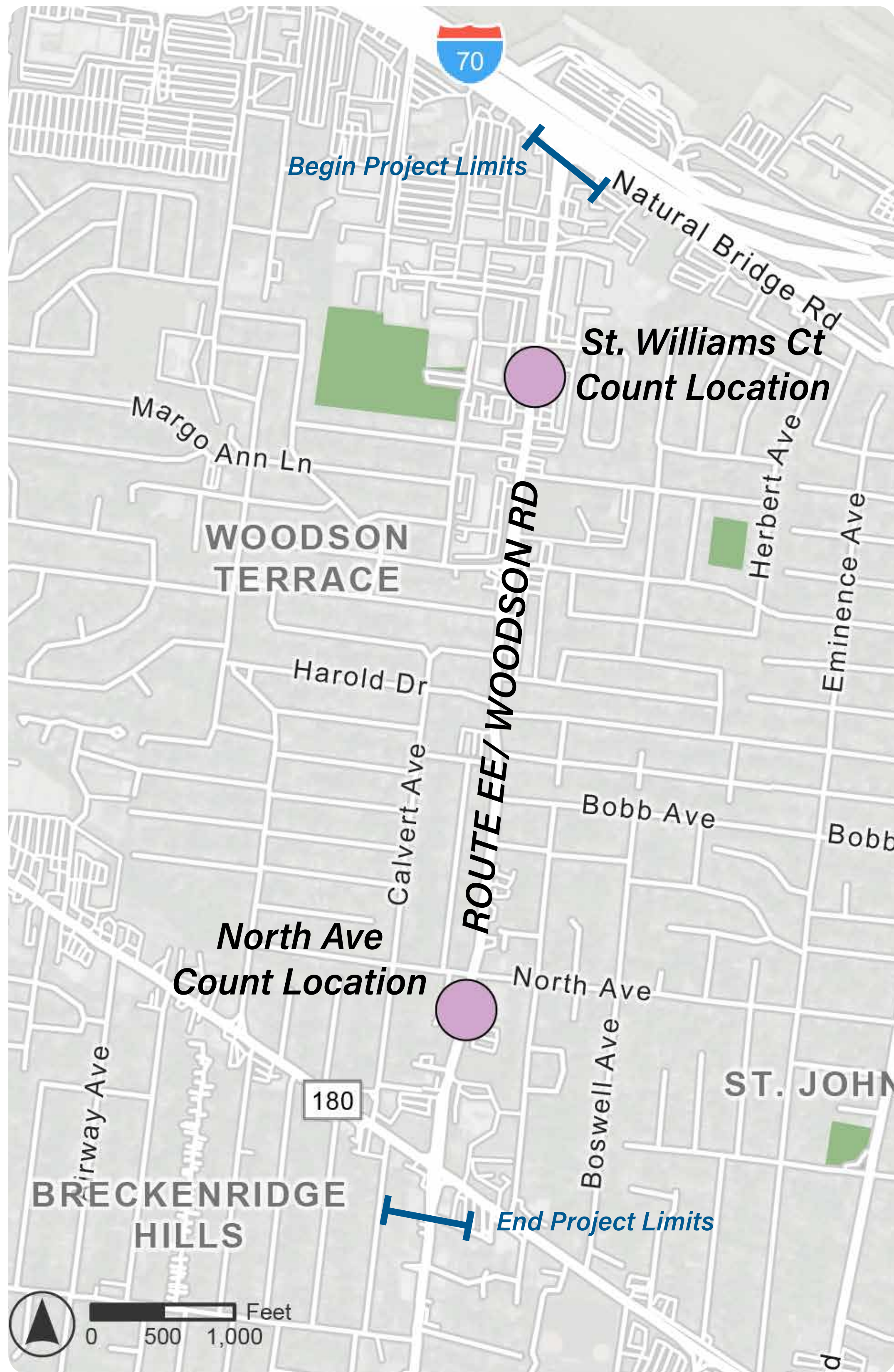
# STUDY TIMELINE & SCOPE

## TIMELINE



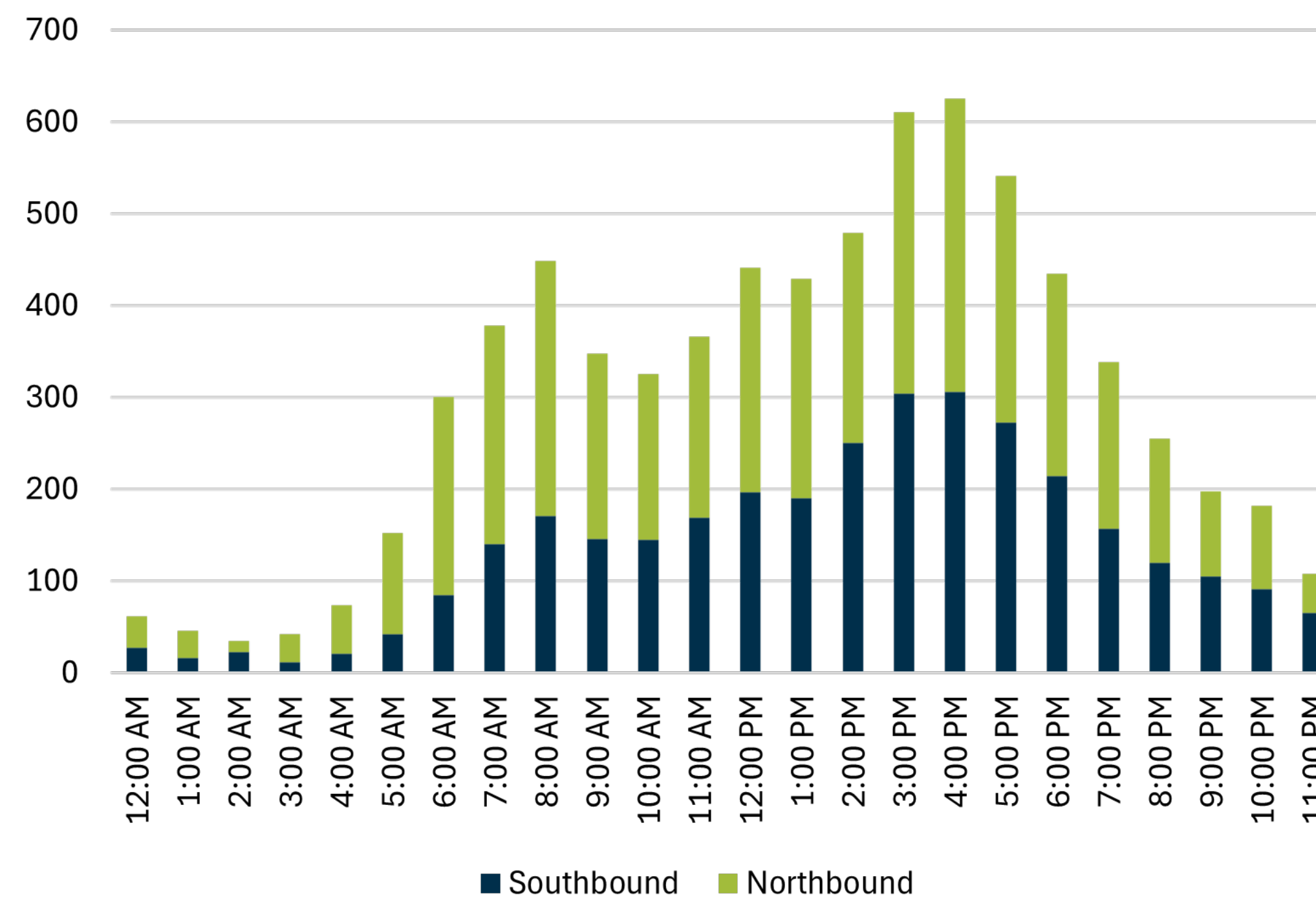
# EXISTING CONDITIONS

## COUNT LOCATIONS

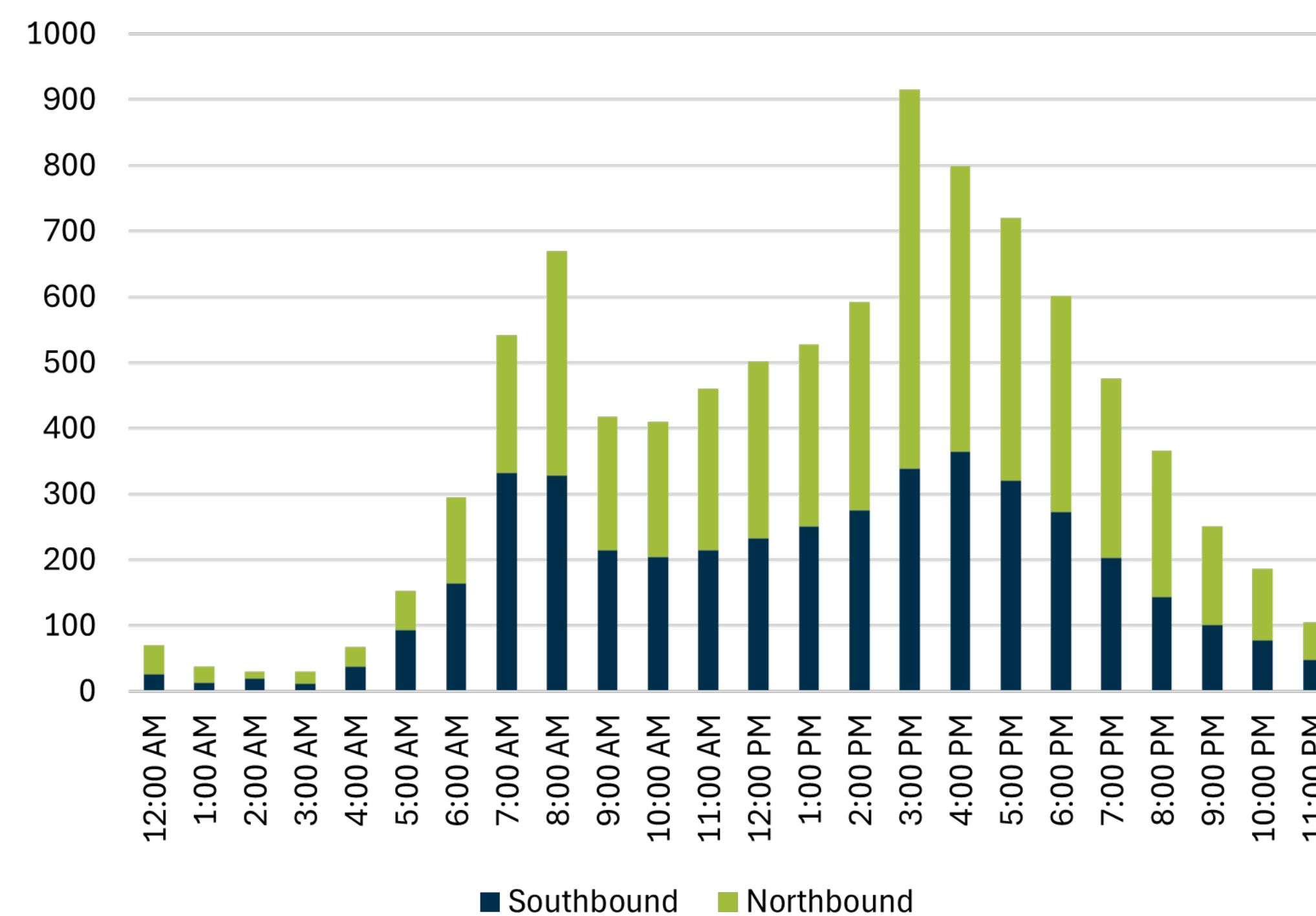


ID: Map of Count Locations for Traffic Volumes and Speed Data

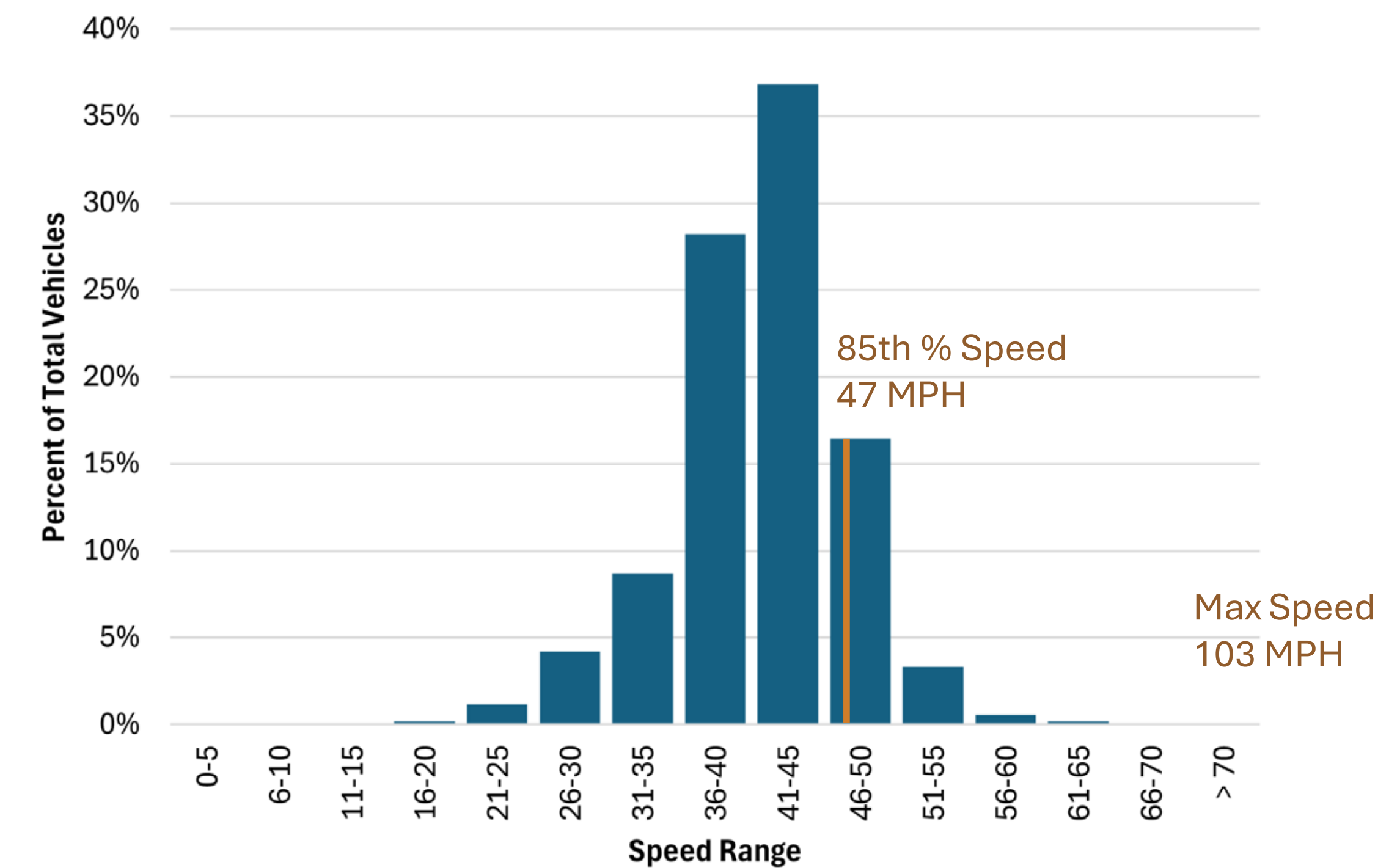
## TRAFFIC VOLUMES NEAR ST. WILLIAMS CT



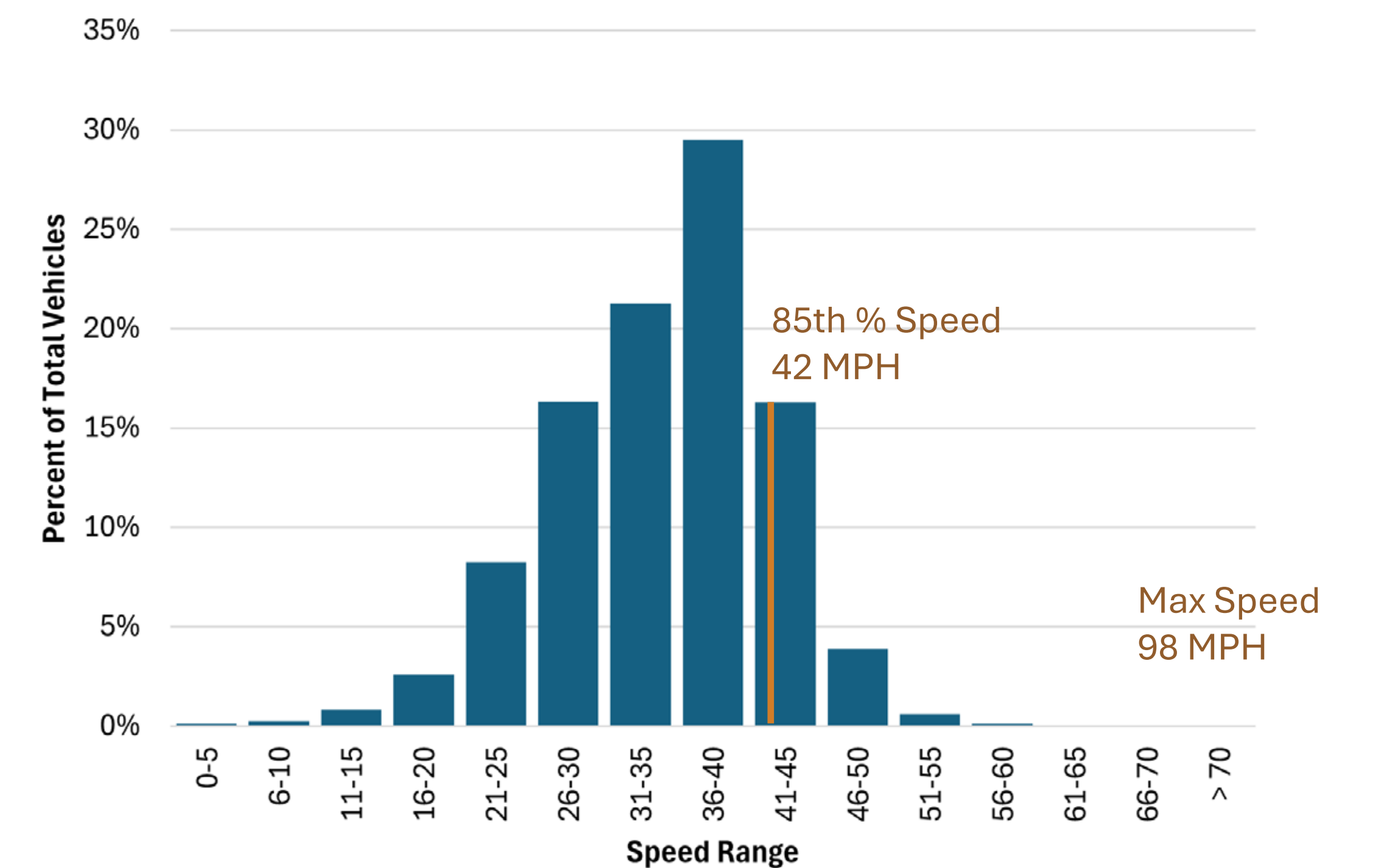
## TRAFFIC VOLUMES NEAR NORTH AVE



## SPEEDS NEAR ST. WILLIAMS CT



## SPEEDS NEAR NORTH AVE



# CRASH ANALYSIS

## 5-YEAR PERIOD FROM 2020-2024

**266 TOTAL CRASHES**



**1 FATAL CRASH**

**6 SERIOUS INJURY CRASHES**



**4 PEDESTRIAN CRASHES**

## CRASHES BY LOCATION AND SEVERITY

Facility Type	Description	FATAL	SUSPECTED SERIOUS INJURY	MINOR INJURY	SUSPECTED MINOR INJURY	PROPERTY DAMAGE ONLY	Total
Segments	Natural Bridge Rd to Guthrie Ave	0	0	4	0	23	27
	Guthrie Ave to North Ave	0	0	7	1	22	30
	North Ave to Marvin Elementary School	0	0	0	2	0	2
	Marvin Elementary School to Route 180	0	0	0	0	2	2
	Route 180 to Breckenridge Rd	1	0	2	0	18	21
	<b>All Segments</b>	<b>1</b>	<b>0</b>	<b>13</b>	<b>3</b>	<b>65</b>	<b>82</b>
Intersections	Route EE & Natural Bridge Rd	0	1	2	2	15	20
	Route EE & Guthrie Ave	0	0	1	1	9	11
	Route EE & North Ave	0	1	6	1	8	16
	Route EE & Marvin Elementary School	0	0	3	0	4	7
	Route 180 & Route EE	0	4	31	8	87	130
	<b>All Intersections</b>	<b>0</b>	<b>6</b>	<b>43</b>	<b>12</b>	<b>123</b>	<b>184</b>
<b>All Facility Types - Total</b>		<b>1</b>	<b>6</b>	<b>56</b>	<b>15</b>	<b>188</b>	<b>266</b>

A total of 266 crashes were recorded, the majority of which occurred at intersections. Most crashes resulted in property damage only (188), while 56 involved minor injuries and 15 involved suspected minor injuries. There were 6 suspected serious injury crashes and 1 fatal crash, which occurred along a roadway segment. The intersection of Route 180 & Route EE stands out, accounting for the highest number of crashes (130), primarily driven by property-damage-only and minor injury incidents.

## FATAL AND SERIOUS INJURY CRASHES

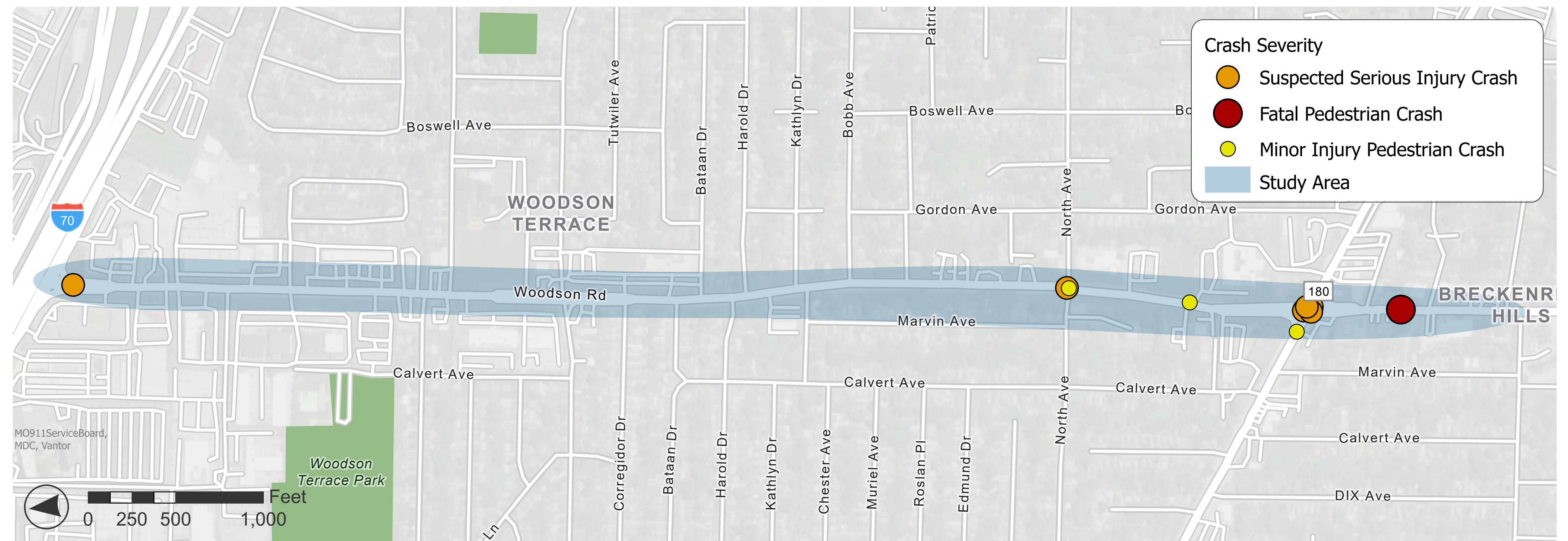
In traffic safety analysis, crashes are often grouped by severity to better understand risks and prioritize improvements. Killed and Serious Injury (KSI) refers to crashes where someone was either fatally injured (killed) or sustained a life-threatening or severe injury.

**Fatal (Killed):** A person who dies as a result of injuries from a crash.

**Serious Injury:** Injuries that require significant medical attention, such as hospitalization, and may have long-term impacts on a person's health and quality of life.

Focusing on KSI crashes helps identify the most dangerous locations and conditions on roadways. By analyzing where and how these severe crashes occur, transportation projects can prioritize design changes, safety improvements, and policies that aim to reduce the risk of death and severe injury for all road users.

## FATAL AND SERIOUS INJURY CRASHES (2020-2024)



ID: Map of Fatal and Serious Injury Crashes

# ROAD SAFETY ASSESSMENT

## WHAT IS A ROAD SAFETY ASSESSMENT?

A Road Safety Assessment (RSA) is a formal safety performance examination of a road or intersection by an independent, multidisciplinary team. The goal is to identify contributing factors (roadway, vehicle or driver) to safety and explore potential countermeasures to incorporate into the Route EE Study Report.

In late April, an RSA team, that included local stakeholders, conducted a field review to document existing conditions and operations along the study corridor. What they observed is shown below.

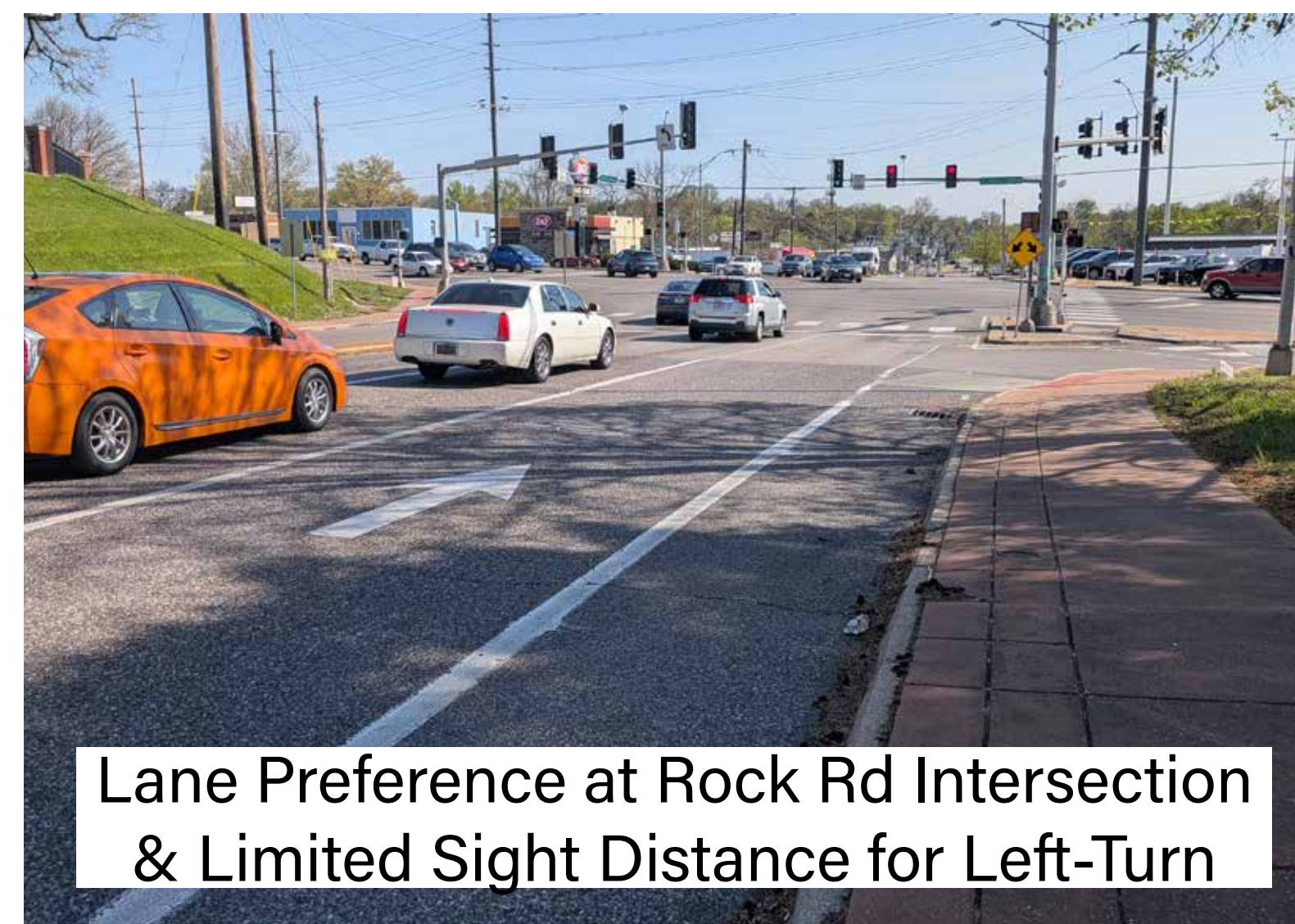
## ROUTE EE ROAD SAFETY ASSESSMENT OBSERVATIONS



Non-ADA Compliant Curb Ramps



Access Management Opportunities



Lane Preference at Rock Rd Intersection & Limited Sight Distance for Left-Turn



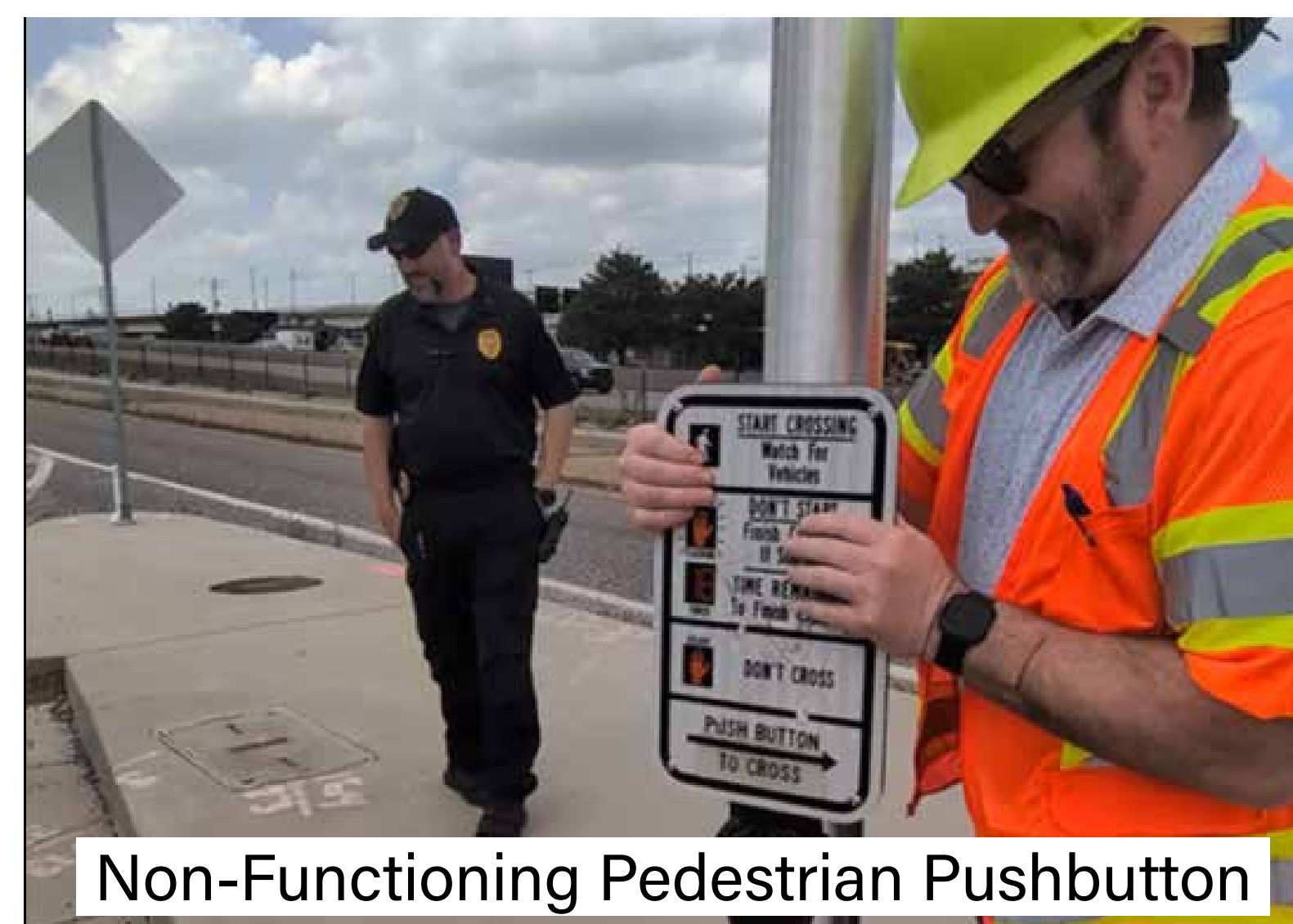
Visible Marks of Water Pooling



Visible Tire Marks on Sidewalk



Illegal Parking and Unloading Activity



Non-Functioning Pedestrian Pushbutton



Blocked Sidewalks

# WHAT WE'VE HEARD SO FAR



*Public engagement began with numerous stakeholder interviews. Key takeaways from these interviews are detailed below.*

## GENERAL OBSERVATIONS

- Visually unwelcoming/unattractive
- General maintenance and upkeep needed
- Sidewalks and curb cuts in disrepair
- Limited business visibility
- Economic development opportunity
- Concern about impacts of future Lambert Airport alterations

## OPERATIONS

- Flooding (Natural Bridge near Hyatt)
- Bus stops on Natural Bridge and St. Charles Rock Road:
  - Limited visibility at night
  - Shelters needed
- Commercial/strip shopping center infrastructure needs upgrading
- Rental car hauler illegal turning/parking on Route EE is an issue near Natural Bridge Road

## SAFETY

- Emergency access must be preserved
- Speeding is a concern
- Desire for additional street lighting
- At schools:
  - Students walking/biking & parents picking up/dropping off can be challenging
  - Difficulty turning left out of Early Childhood Center and Marvin Elementary parking lots
- Pedestrians crossing at unmarked locations are a cause for safety concerns

# DESIGN TOOLBOX

## ROADWAY IMPROVEMENTS INTRO

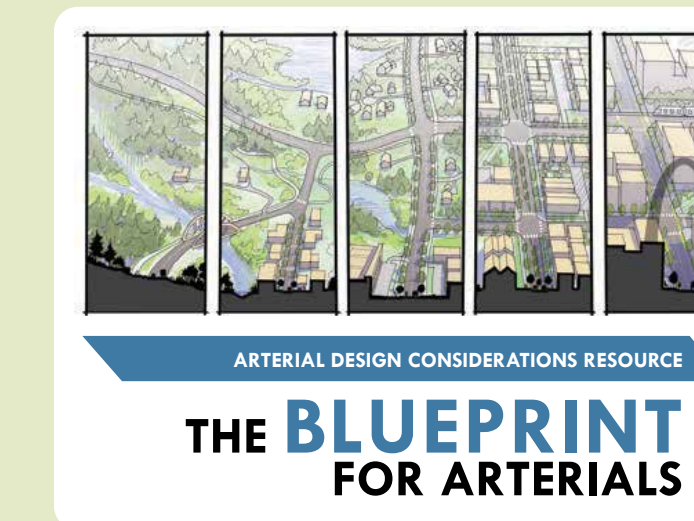
*The Design Toolbox Boards contain context-sensitive roadway improvements that have been identified as potential solutions to address challenges and to improve the traveling experience for all users.*

*Learn about possible improvements being explored for potential implementation on Route EE on the following boards.*

## GUIDING DOCUMENTS



MoDOT  
Engineering  
Policy Guide



East West  
Gateway Council  
of Governments &  
MoDOT Blueprint  
for Arterials



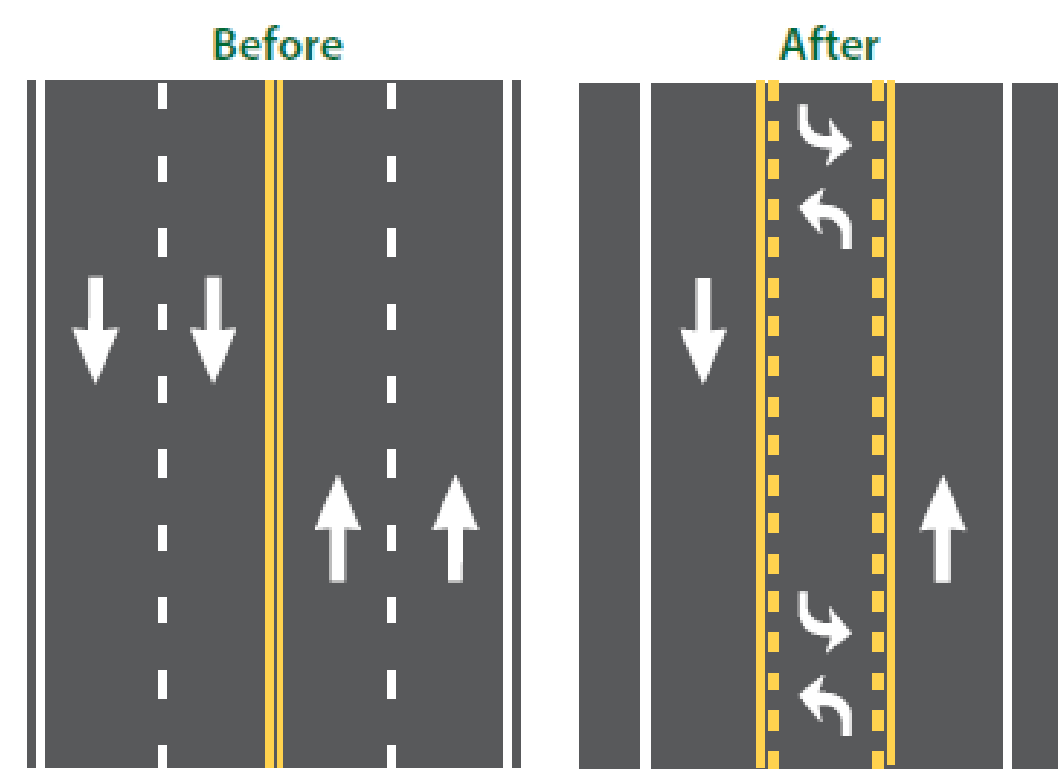
AASHTO Bike  
Design Guide



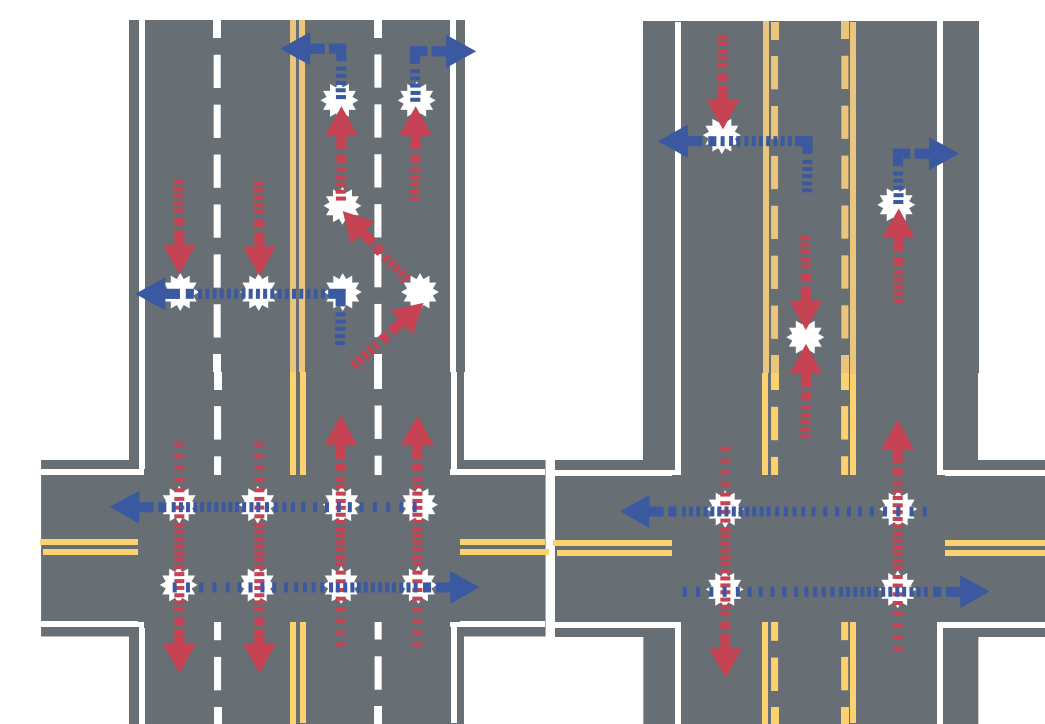
FHWA  
Proven Safety  
Countermeasures

## LANE RECONFIGURATION

A typical Lane Reconfiguration converts a roadway from a 4-lane to a 3-lane section



A typical Lane Reconfiguration improves safety and mitigates speeding vehicles by implementing a two-way left-turn lane



Midblock  
Conflict  
Points

6 --> 3

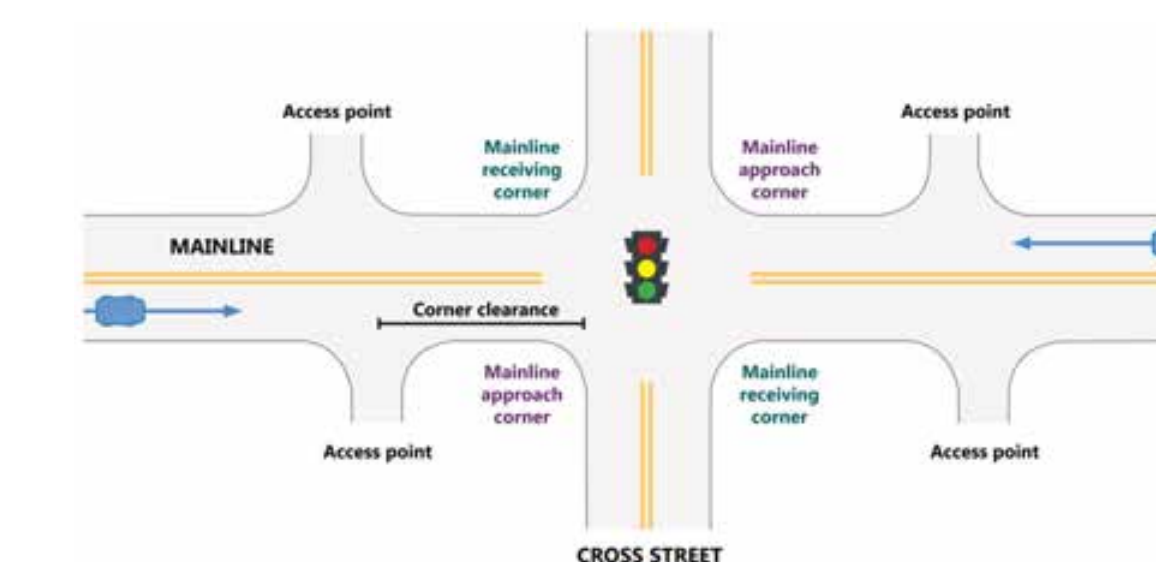
Intersection  
Conflict  
Points

8 --> 4

- A 3-lane section has half the number of potential conflict points as a 4-lane section
- 19-47% reduction in total crashes

## CORRIDOR ACCESS MANAGEMENT

The design, application, and control of entry and exit points along a roadway



Implementation Methods:

- Reduce driveway density
- Manage intersection spacing
- Implement raised medians
- Provide left turn lanes
- Restrict movements at driveways (right-in, right-out)

Safety Benefits:

- Lowering driveway density can reduce fatal and injury crashes between 25-31% along urban/suburban arterials

## DEDICATED TURN LANES AT INTERSECTIONS

Provide physical separation between turning traffic that is slowing or stopped and adjacent through traffic at approaches to intersections



**Implementation Methods:**

- Left-turn lane
- Right-turn lane
- Offset left-turn lane

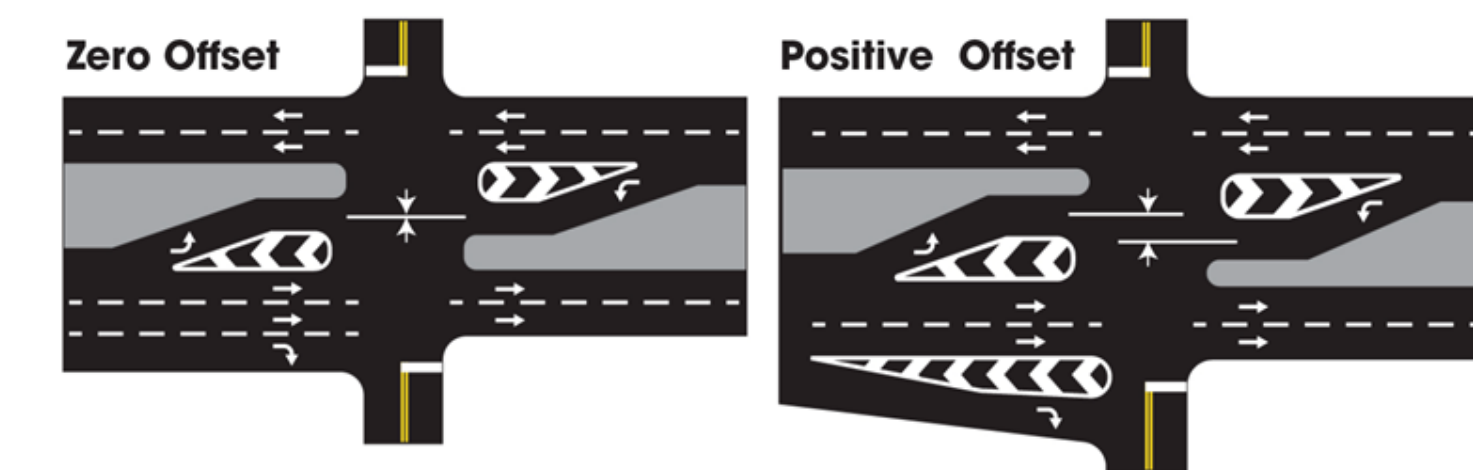
Turn lanes at intersections can reduce the potential for left-turn and rear-end crashes

**Safety Benefits:**

- Left-turn lane can reduce total crashes between 28-48%
- Offset left-turn lanes can reduce fatal and injury crashes by 36%
- Right-turn lanes can reduce total crashes between 14-26%

## OFFSET LEFT TURN LANES

Increase sightlines and visibility for turning drivers



**Implementation Methods:**

- Offset left-turn lane

Offset left-turn lanes may also provide opportunities for center medians or landscaping

**Safety Benefits:**

- Offset left-turn lanes can reduce fatal and injury crashes by 36%

## LIGHTING

The nighttime fatality rate is three times the daytime rate because only 25 percent of vehicle miles traveled (VMT) occur at night.



- Lighting can be applied along segments and at spot locations such as intersections and pedestrian crossings in order to reduce the chances of a crash.
- *MoDOT will fund pedestrian lighting at crosswalks. Funding for continuous pedestrian-scale lighting along Route EE would need to be funded by local partners.*

**Safety Benefits:**

- Lighting can reduce nighttime pedestrian injury crashes up to 42%
- Lighting can reduce nighttime crashes at intersections between 33-38%

## BIKE LANES

Most fatal and serious injury bicyclist crashes occur at non-intersection locations



Existing Route EE Bike Lanes



Types of Bike Lanes

**Implementation Methods:**

- Standard Bike Lane
- Buffered Bike Lane
- Bollard Protected Bike Lane

Separating users can enhance safety for all road users

**Safety Benefits:**

- Converting a standard bike lane to a separated bike lane can reduce bike-vehicle crashes up to 53%
- Adding bicycle lanes can reduce crashes up to 49% for all crashes on urban 4-lane undivided collectors or local roads

# DESIGN TOOLBOX



## CROSSWALK VISIBILITY ENHANCEMENTS

Includes high-visibility pavement markings, improved lighting and signing



Other Crosswalk Improvement Types:

- Pedestrian Hybrid Beacon (PHB) also known as a HAWK
- Rectangular Rapid Flashing Beacon (RRFB)
- Pedestrian refuge island

Safety Benefits:

- Can reduce pedestrian injury crashes up to 40%
- Intersection lighting can reduce pedestrian crashes up to 42%
- Advance yield or stop markings and signs can reduce pedestrian crashes up to 25%

## LEADING PEDESTRIAN INTERVALS

A Leading Pedestrian Interval (LPI) is a pedestrian signal indication that allows people walking to enter the crosswalk before people driving get the green light.



Implementation Methods:

LPIs reduce potential conflicts between pedestrians and turning vehicles at intersections

Safety Benefits:

- Implementing LPI can reduce pedestrian-vehicle crashes up to 13% at intersections

## ACCESSIBLE CURB RAMPS

ADA curb ramps are gently sloped connections between sidewalks and roadways that make crossings accessible for people of all abilities, including those using wheelchairs, strollers, or other mobility devices.



Implementation Features:

- ADA compliant slopes
- Detectable warning surfaces
- Crosswalk striping

Safety Benefits:

- Universal accessibility
- Wheelchair stability
- Visual impairment alerts

## SHARE YOUR IDEAS!

*Share any additional thoughts or ideas you have here.*

# SHARE YOUR INPUT!

Place a **green** dot sticker on up to **two** (2) roadway improvements that **interest you most**.

Place an **orange** dot sticker on up to **seven** (7) roadway improvements that **also interest you**.

## LANE RECONFIGURATION

## DEDICATED TURN LANES AT INTERSECTIONS

## OFFSET LEFT TURN LANES

## CROSSWALK VISIBILITY ENHANCEMENTS

## LEADING PEDESTRIAN INTERVALS

## LIGHTING

## BIKE LANES

## ACCESSIBLE CURB RAMPS

## CORRIDOR ACCESS MANAGEMENT

# NEXT STEPS



## PROJECT NEXT STEPS

- 1** Review and summarize Public Meeting input
- 2** Develop alternative screening criteria
- 3** Conduct alternative screening process

## VISIT THE PROJECT WEBSITE FOR:

- Project updates
- Upcoming public meetings



**WE NEED YOUR  
INPUT!**

Please fill out a comment form before  
you leave today