

July 13, 2022

# Regional Safety Strategy



Atlanta Regional Commission



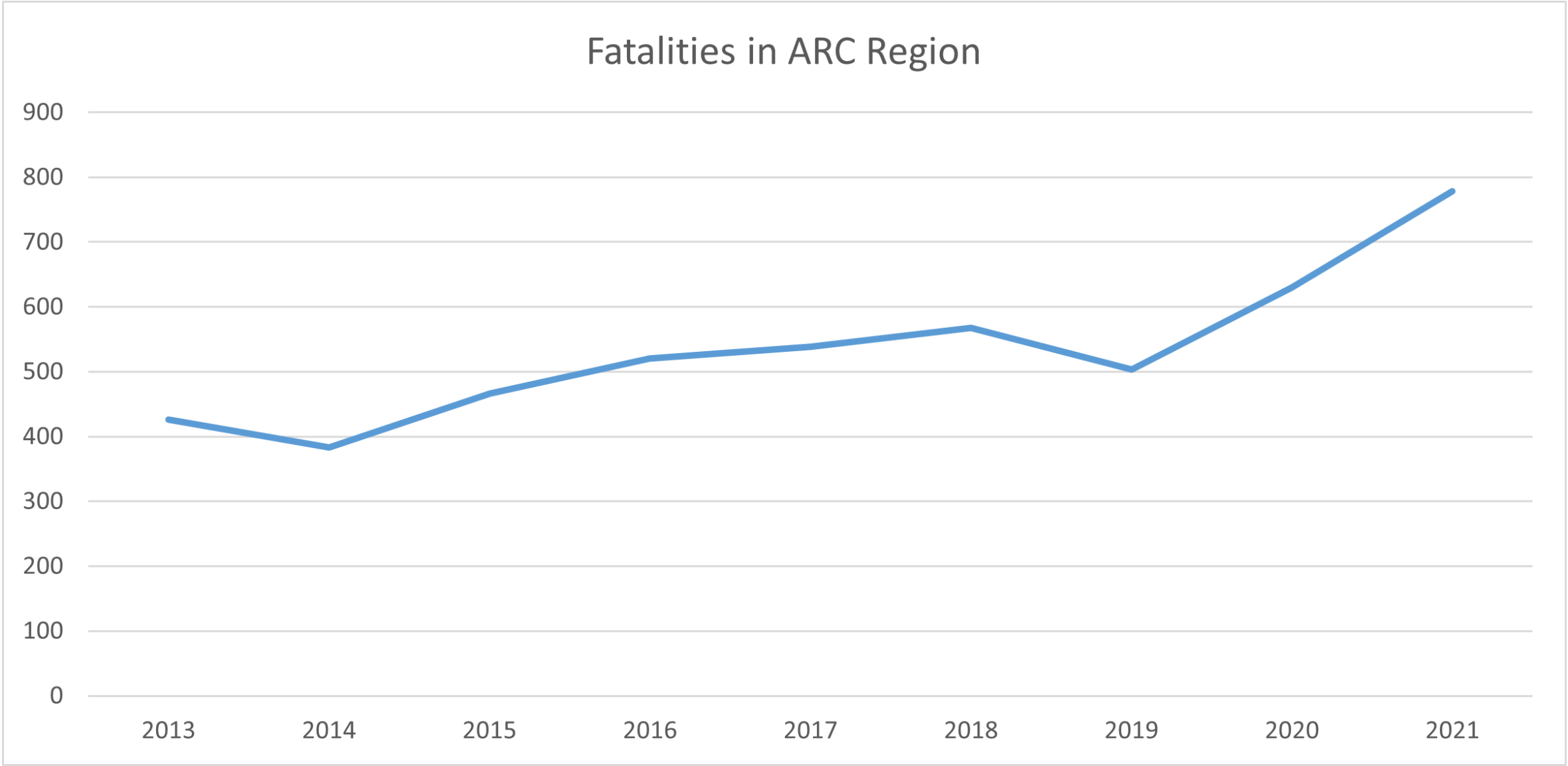
ISSUES

# Regional Safety Strategy

- **Understand** the trends for safety in the region
- **Identify** the risks associated with travel in the region
- **Locate** the distribution of risks in the region
- **Determine** effective regional and local strategies for mitigating travel risks

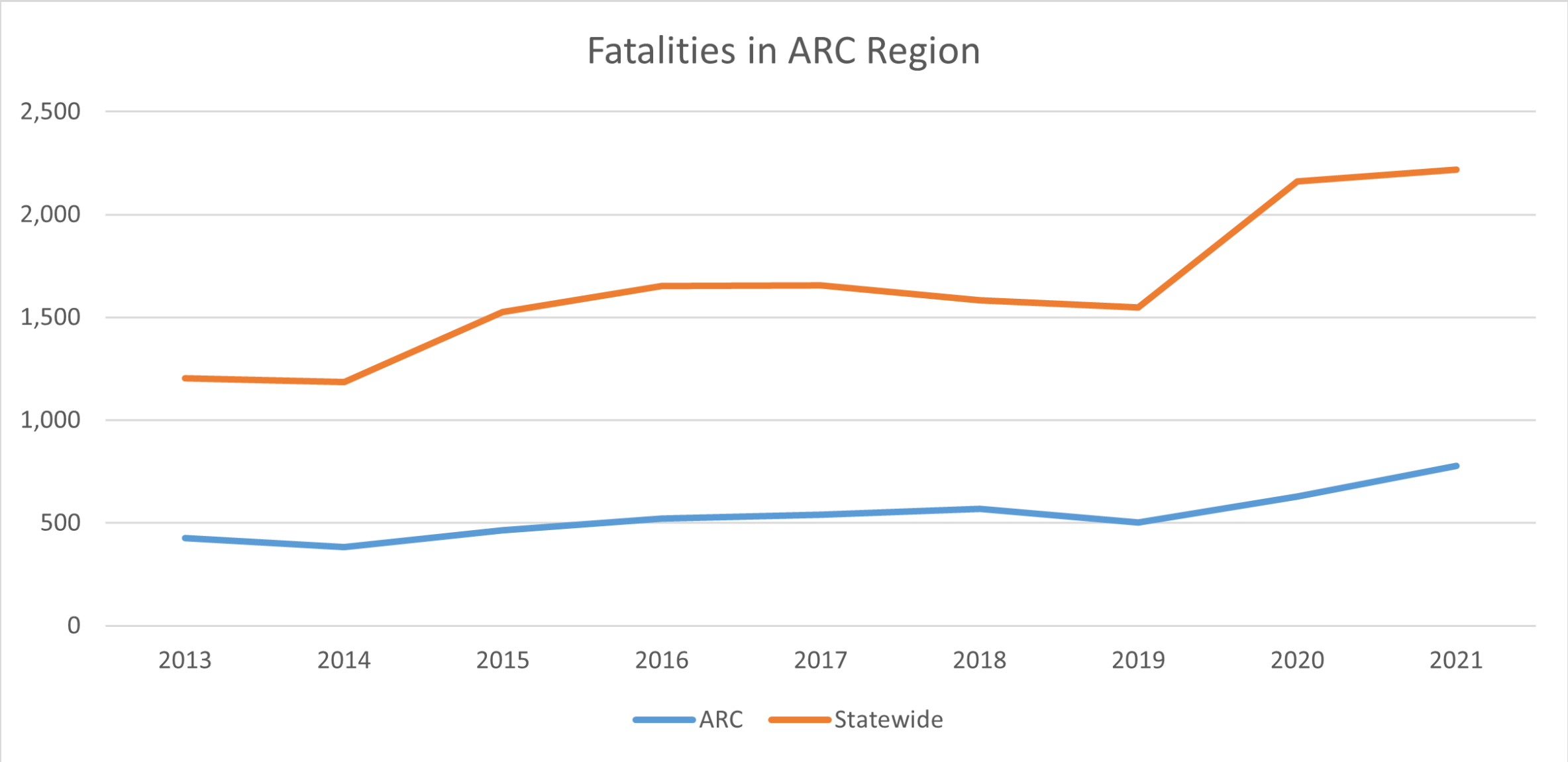
# Trends

Fatalities in ARC Region

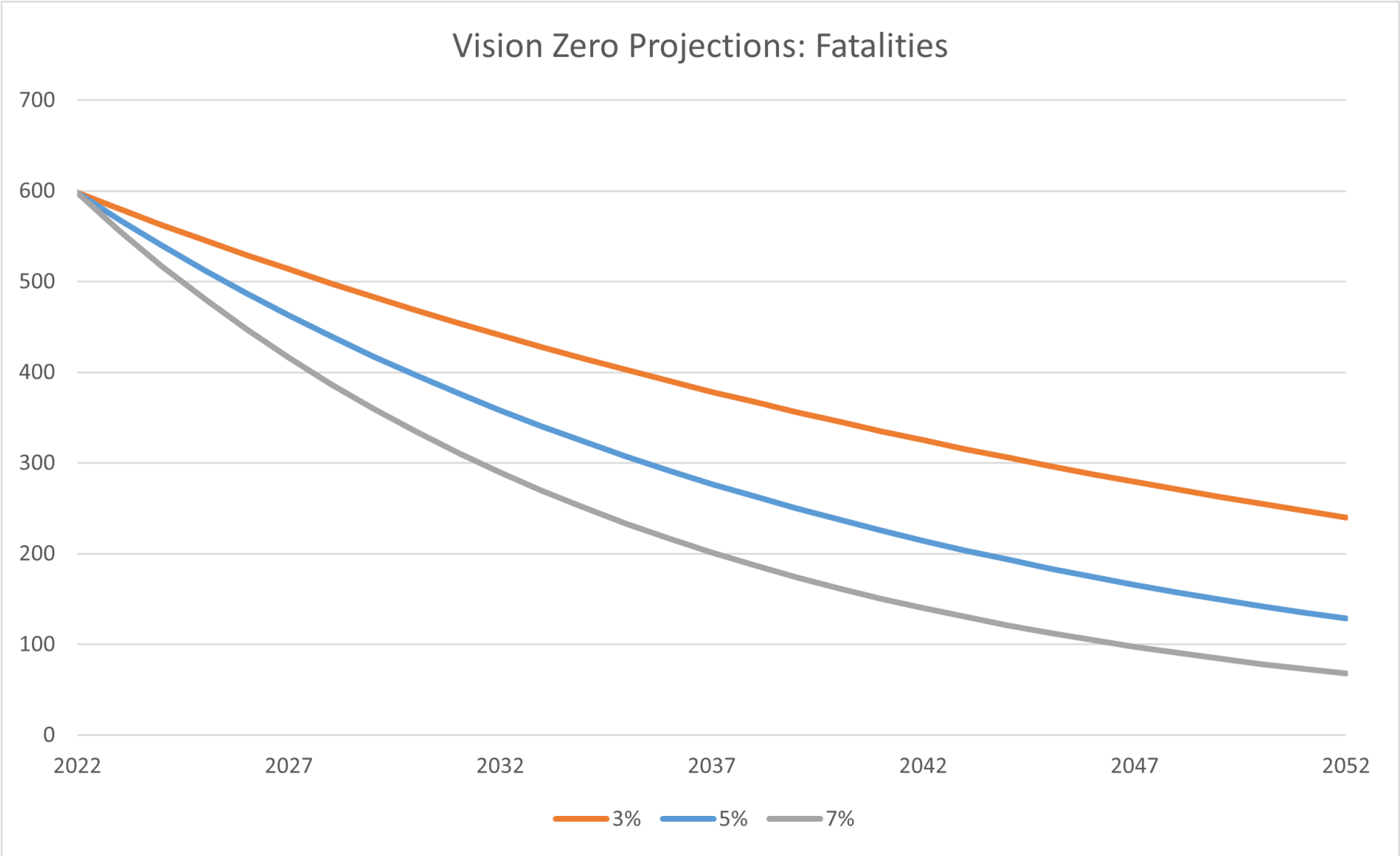


# Trends

Fatalities in ARC Region



# Projections



# Performance-Based Planning

Statewide	2016	2017	2018	2019	2020	2021
Number of fatalities	1,654	1,656	1,583	1,547	2,160	2,220
Number of serious injuries	5,132	5,280	6,302	7,309	7,577	8,658
Fatality rate (per HMMVT)	1.35	1.31	1.20	1.17	1.87	--
Serious injury rate (per HMMVT)	4.18	4.18	4.78	5.52	6.55	--
Non-Motorized Fatalities & Serious Injuries	694	781	754	792	771	1,058

ARC	2016	2017	2018	2019	2020	2021
Number of fatalities	520	539	568	503	630	778
Number of serious injuries	1,775	1,959	2,297	2,747	2,869	3,462
Fatality rate (per HMMVT)	0.89	0.91	0.95	0.79	1.12	--
Serious injury rate (per HMMVT)	3.03	3.31	3.84	4.33	5.11	--
Non-Motorized Fatalities & Serious Injuries	356	415	352	356	354	553



# Regional Safety Strategy

“The Regional Safety Strategy is a regional safety action plan to help ARC and its partners be **proactive in achieving safety goals** and build a **safe transportation system for all users** of all modes in metropolitan Atlanta.

Based on a **data-informed analysis**, the Regional Safety Strategy identifies **safety issues** and **specific actions** that can be implemented to proactively improve safety for **people traveling by any mode** throughout the region.”



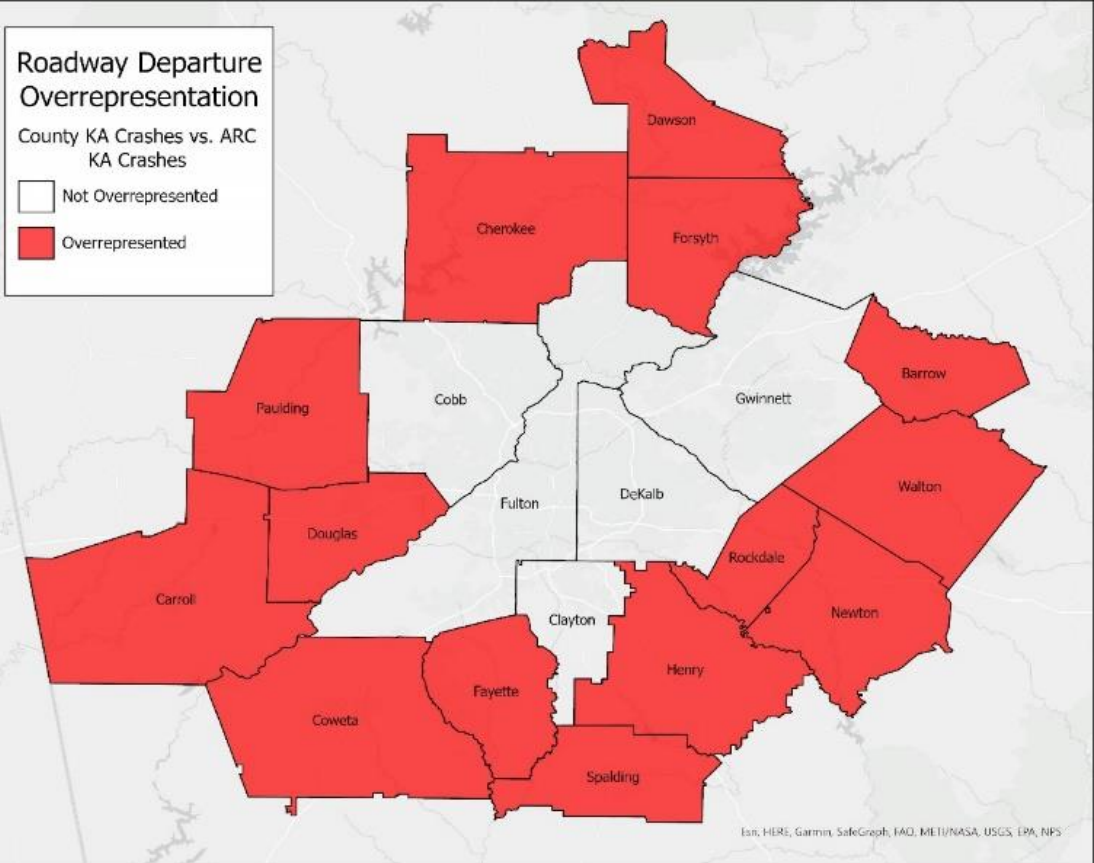
# DATA ANALYSIS

# Recap of Data Analysis

- **Focus** on fatal and serious injury crashes
- **Focus** on crash types:
  - Intersection
  - Roadway Departure
  - Pedestrian
  - Bicycle
- **Focus** on facility types
- **Focus** on risk factors

Potential Focus Crash Types [Georgia SHSP Emphasis Areas]	Average Fatalities (per year)	Average Serious Injuries (per year)
Intersection Related	325	1744
Roadway Departure Related	175	645
Pedestrian and Bicycle Related	138	250
Older Driver Related	98	406
Motorcycle Related	74	325
Impaired Driving	57	226
Young Driver Related	51	378
Aggressive Driving	34	106
Distracted Driving	11	30

# Roadway Departure Focus Facilities



Facility ID	Area Type	Owner	Functional Class	Lanes
1	Urban	GDOT	Interstate	6+
2	Urban	GDOT	Minor arterial	2
3	Urban	County	Minor arterial	2
4	Urban	County	Major collector	2

# Roadway Departure Risk Factors

\* Very low sample size

Input	All Key Facilities	Arterials Only
Segment length (mi)	+++	+++
Segment is an interstate	+++	n/a
AADT over 30,000	+++	n/a
AADT between 5,000 and 15,000	n/a	++
4 or more thru lanes	++	n/a
GDOT Owned	+++	n/a
Posted speed limit 45 mph or above	+++	+++

**Risk of severe roadway departure crash increases as:**

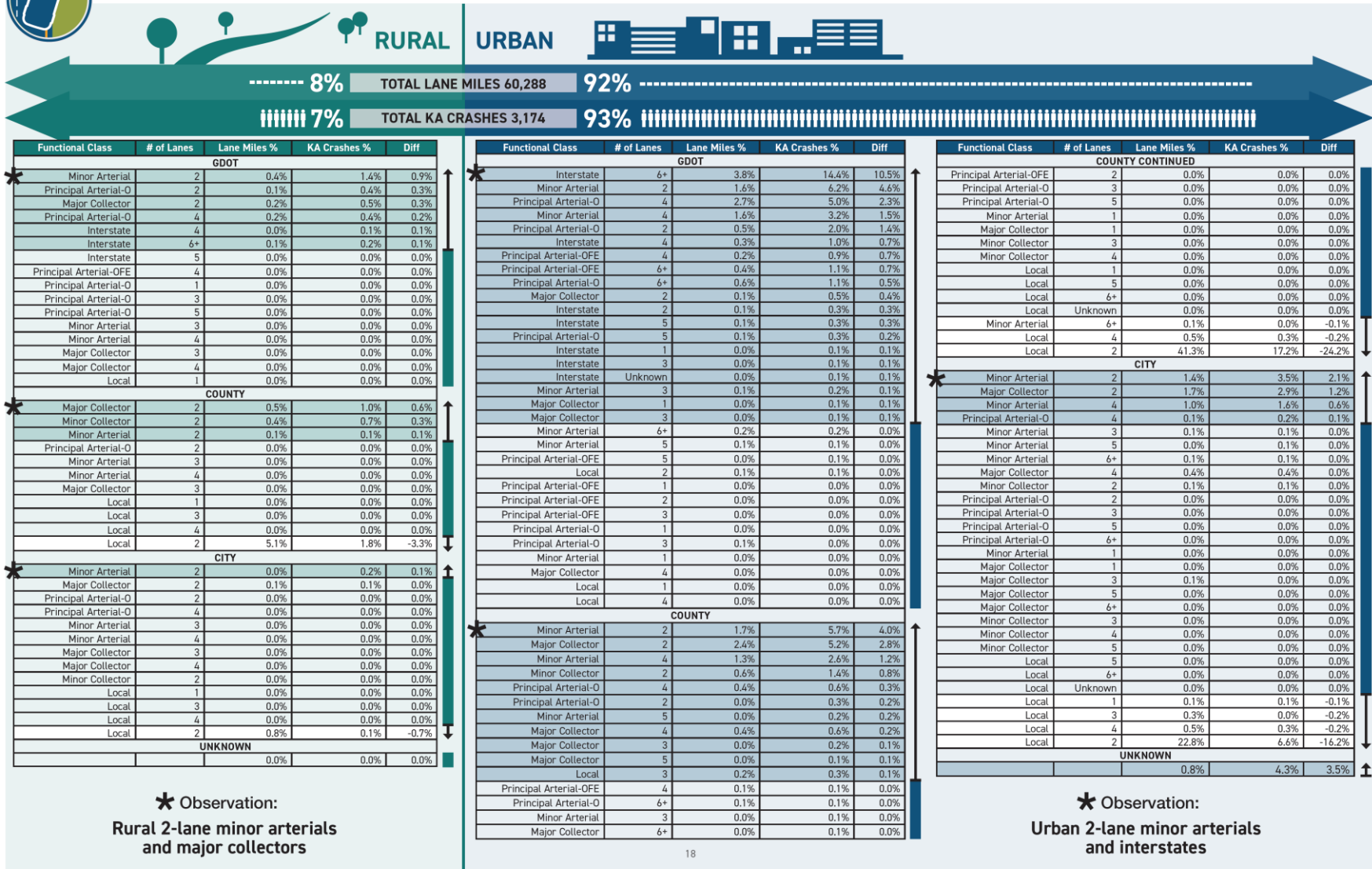
- Traffic volume increases
- Number of lanes increases
- Posted speed increases
- Shoulder width decreases
- Median width decreases

# Roadway Departure Risk Factors



## ROADWAY DEPARTURES

ARC REGIONAL SAFETY STRATEGY





# Roadway Departure Countermeasures



## Proven Safety Countermeasures

### Focus Crash Type: Roadway Departure

There are a range of flexible and cost-effective countermeasures that have been proven effective in reducing roadway departure crashes in a variety of settings and contexts. They can be used individually or in combination depending on budget and setting, among other things. The Federal Highway Administration (FHWA) has identified three primary objectives to reducing roadway departures: 1) Keep vehicles in their lanes; 2) Reduce the potential for crashes; and 3) Minimize crash severity. Each of the proven countermeasures below works toward one or more of these objectives.

For details and more information, visit: <https://safety.fhwa.dot.gov/provencountermeasures/>

Source: FHWA



#### Wider Edge Lines

Wider edge lines increase drivers' perception of the edge of the travel lane and can provide a safety benefit to all facility types (e.g., freeways, multilane divided and undivided highways, two-lane highways) in both urban and rural areas. "Wider" edge lines are when the marking width is increased from the normal 4 inches to six inches. They are most effective in reducing two-lane single vehicle crashes on rural highways.

Wider edge lines can reduce crashes up to  
**37%**  
for non-intersection, fatal and injury crashes on rural, two-lane roads



#### Enhanced Delineation for Horizontal Curves

Enhanced delineation treatments can alert drivers to upcoming curves, the direction and sharpness of the curve, and appropriate operating speed. Potential strategies include advance pavement markings, in-lane curve warning pavement markings, retroreflective strips on sign posts, curve delineators, chevron signs, larger fluorescent or retroreflective signs, dynamic curve warning signs or speed radar feedback signs.

Chevron signs can reduce nighttime crashes by up to  
**25%**  
and have been shown to reduce non-intersection fatal and injury crashes by up to  
**16%**



#### Longitudinal Rumble Strips and Stripes on Two-Lane Roads

Longitudinal rumble strips are milled or raised elements on the pavement intended to alert drivers through vibration and sound that their vehicle has left the travel lane. They can be installed on the shoulder, edge line, or at or near the center line of an undivided roadway.

Shoulder Rumble Strips can provide  
**13-51%**  
reduction in single vehicle, run-off-road fatal and injury crashes on two-lane rural roads



#### SafetyEdge<sup>SM</sup>

The SafetyEdge<sup>SM</sup> technology shapes the edge of the pavement at approximately 30 degrees from the pavement cross slope during the paving process. Over time, regardless of edge type, it may become exposed due to settling, erosion and tire wear. The gentle slope of the SafetyEdge<sup>SM</sup> is preferable to the traditional vertical edge because it gives drivers the opportunity to maintain control and return their vehicle to the travel lane.

SafetyEdge<sup>SM</sup> can reduce run-off-road crashes by up to  
**21%**  
and has been shown to reduce fatal and injury crashes by up to  
**11%**



#### Roadside Design Improvements at Curves

In cases where a vehicle leaves the roadway, having strategic roadside design elements, including an added or widened shoulder, flattened sideslopes, or a widened clear zone can provide drivers with an opportunity to regain control and re-enter the roadway in their lane or come to a safe stop before rolling over or encountering a fixed object. Since not all roadside hazards can be removed, several countermeasures can help reduce crash severity. Common types include: cable barriers, metal-beam guardrails, and concrete barriers.

Flattening sideslopes can reduce single-vehicle crashes by  
**8-12%**  
and increasing the distance to roadside features can reduce all crashes by up to  
**22-44%**



#### Median Barriers

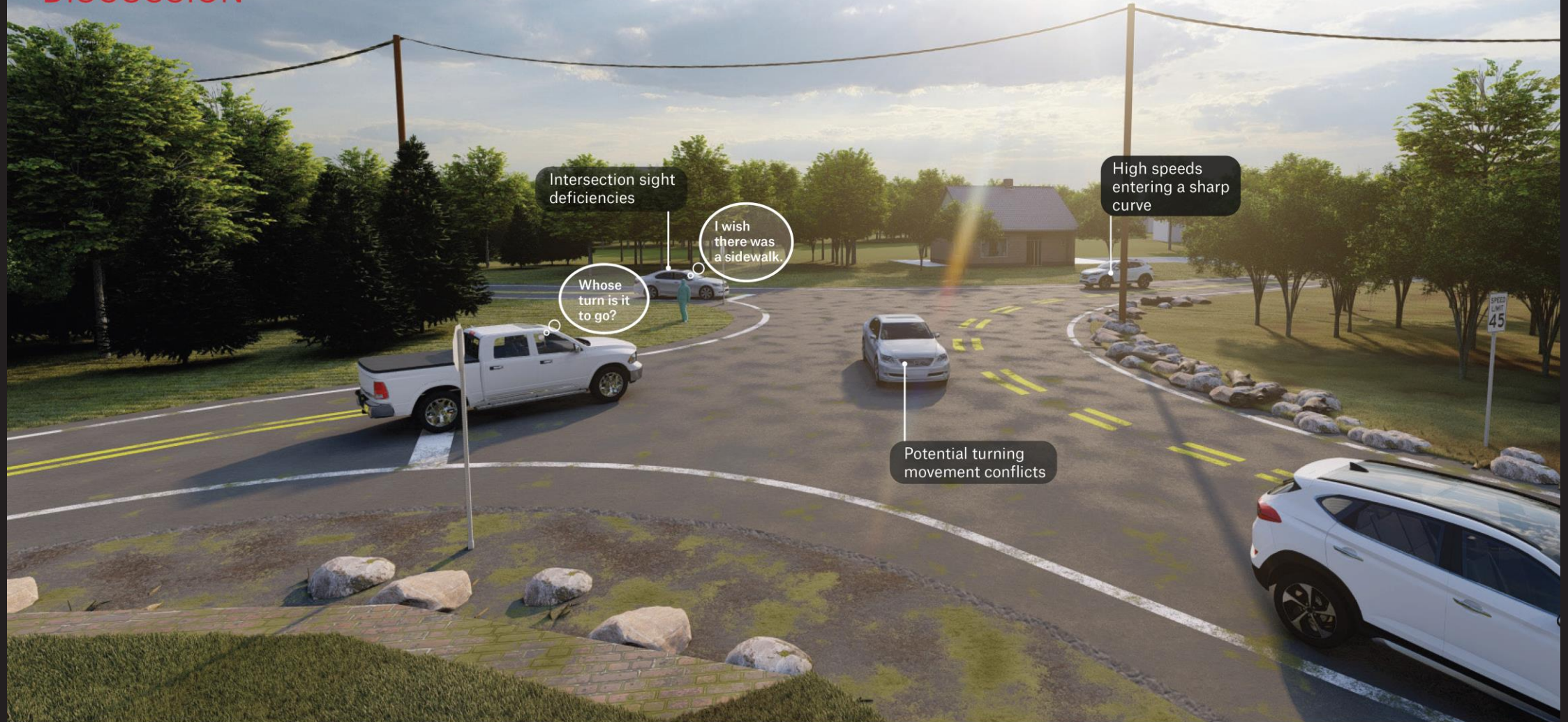
Median barriers are longitudinal barriers (can be cable, metal, or concrete) that separate opposing traffic on a divided highway and are designed to redirect vehicles striking either side of the barrier. Median barriers significantly reduce the number of cross-median crashes, which are attributed to the relatively high speeds that are typical on divided highways. AASHTO's *Roadside Design Guide* recommends guidelines for use of median barriers depending on the width of the median and average daily traffic volumes.

Median Barriers Installed on Rural Four-Lane Freeways have proven to result in a  
**97%**  
reduction in cross-median crashes

# VISUALIZATIONS



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DISCUSSION

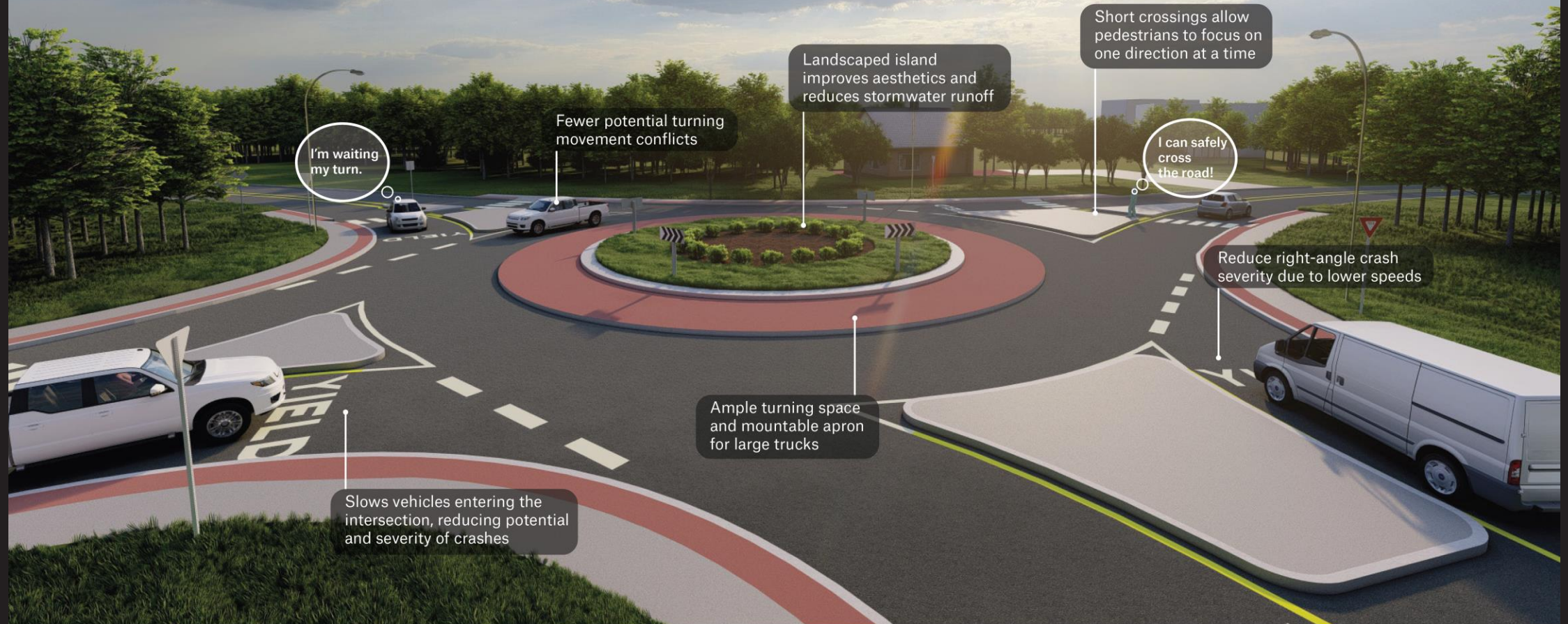


## 2-lane at 2-lane Intersection with Minor Road Stop Control

One-Before



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DISCUSSION



## Single-lane Roundabout

One-After



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DISCUSSION



## 5-lane Segment with Center Two-way Left Turn Lane

Two-Before





## Raised Median with Pedestrian Hybrid Beacon and Designated Turn Lanes

Two-After



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DISCUSSION



## 2-lane Segment with Horizontal Curvature

Four-Before



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DISCUSSION

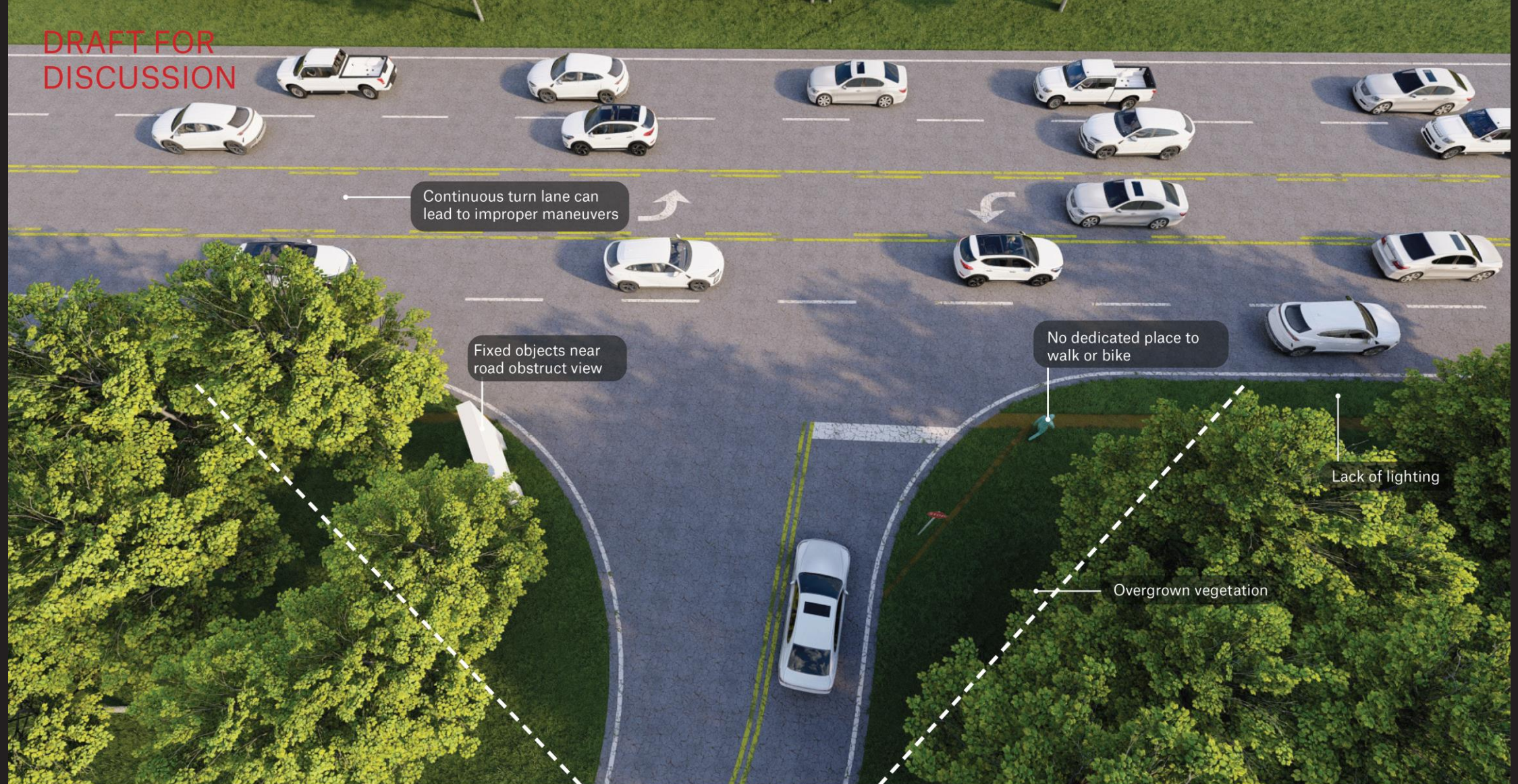


## Signing and Pavement Marking with Minor Roadside Improvements

Four-After



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## 4-lane at 2-lane Intersection with Minor Road Stop Control

Six-Before



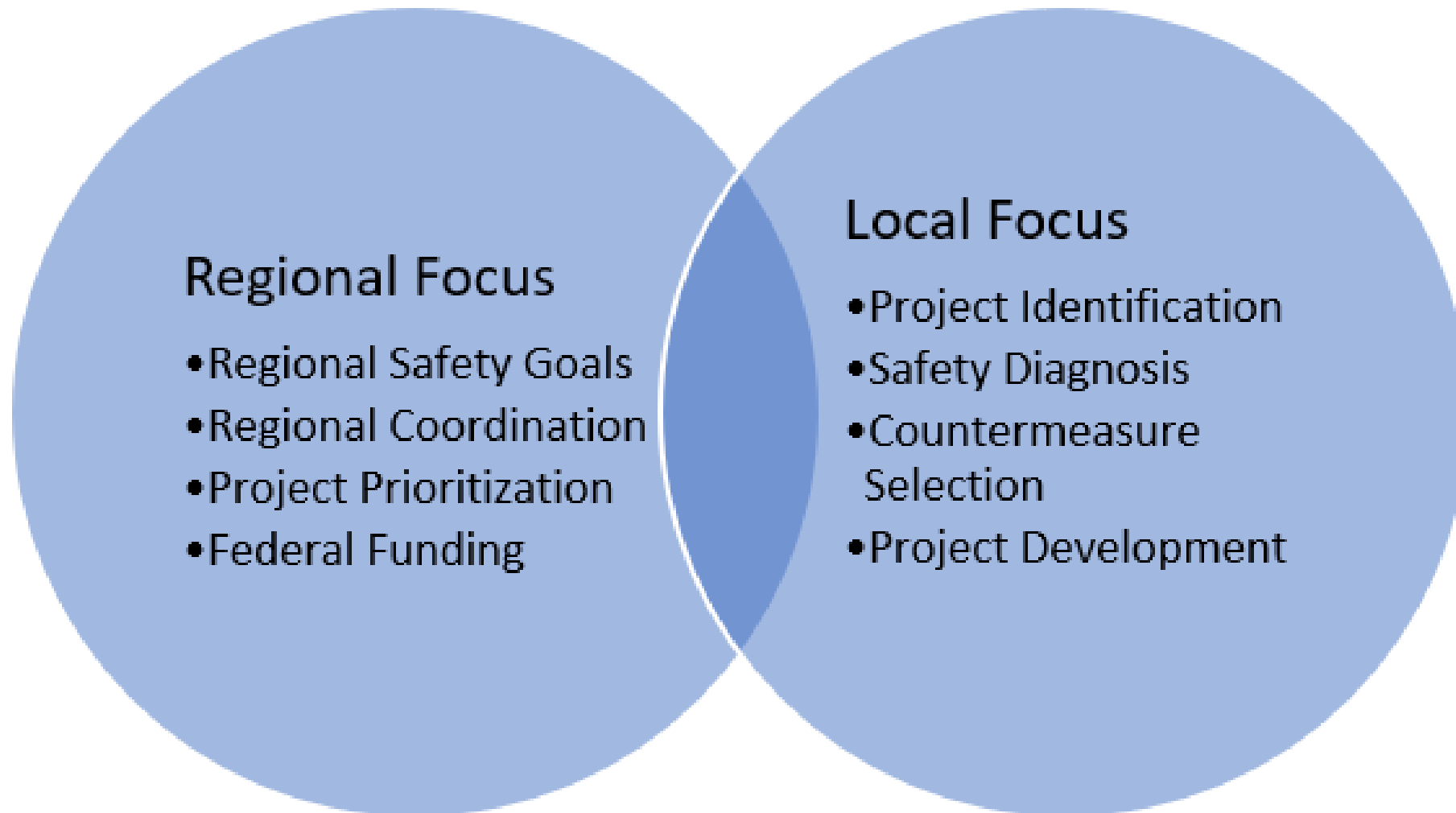


## 4-lane at 2-lane Intersection with Intersection and Bicycle/Pedestrian Improvements

Six-After

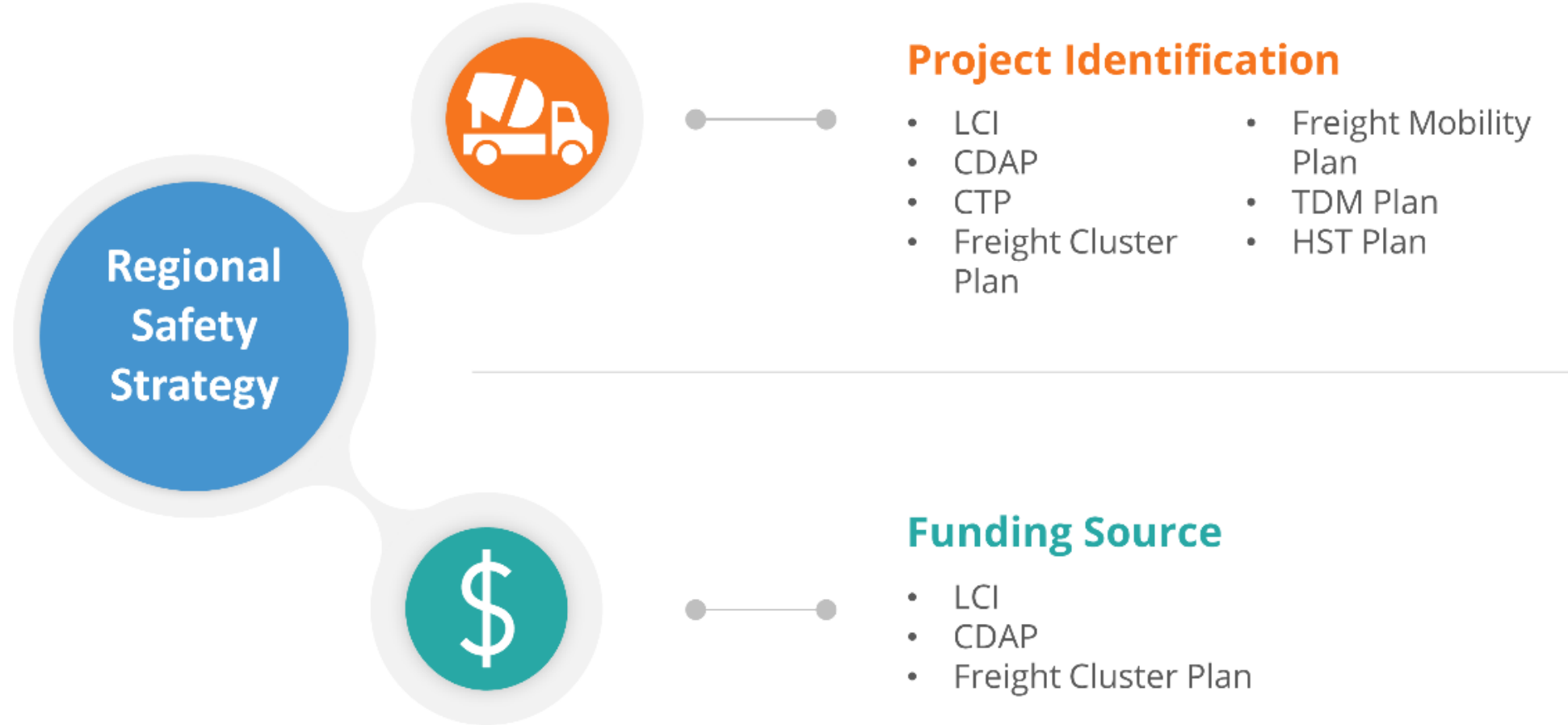
LOCAL – REGIONAL – NATIONAL  
FRAMEWORKS

# Regional + Local Collaboration





# Connecting Issues to Funding



# Federal – Infrastructure Investment & Jobs Act

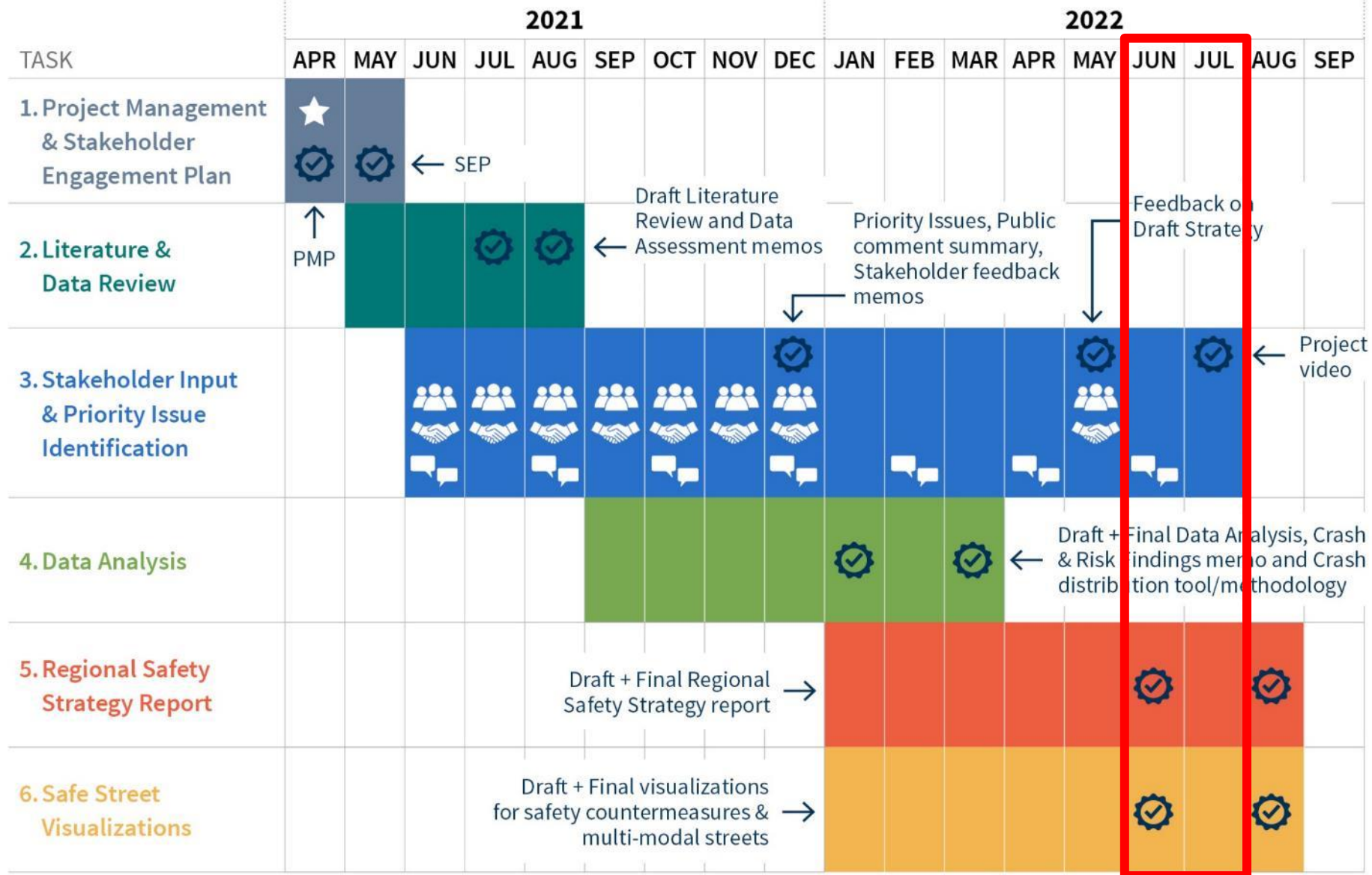
## Positioning regional efforts to compete for Federal funding (while not allowing programs to dictate efforts):

- [Safe Streets and Roads for All \(SS4A\)](#): Focuses on safety improvements that support Safety Action Plans and Vision Zero Plans.
- [Rebuilding American Infrastructure Sustainably and Equitably \(RAISE\)](#): Projects must demonstrate safety, environmental sustainability, quality of life, economic competitiveness and opportunity, state of good repair, partnerships, and/or innovation.
- [Infrastructure for Rebuilding America \(INFRA\)](#): Projects of national or regional significance and demonstrate safety, efficiency, and/or reliability of freight and people.
- [Bridge Investment Program](#): Focuses on projects that plan, replace, rehabilitate, protect, and preserve bridges.

## Appendix C: SS4A Self-Certification Eligibility Worksheet

Question	Response, Document, Page #
1. Are both of the following true: <ul style="list-style-type: none"><li>• Did a high-ranking official and/or governing body in the jurisdiction publicly commit to an eventual goal of zero roadway fatalities or serious injury?</li><li>• Did the commitment include either setting a target date to reach zero, OR setting one or more targets to achieve significant declines in roadway fatalities and series injuries by a specific date?</li></ul>	
2. To develop the Action Plan, was a committee, task force, implementation group, or similar body established and charged with the plan's development, implementation, and monitoring?	
3. Does the Action Plan include all of the following? <ul style="list-style-type: none"><li>• Analysis of existing conditions and historical trends to baseline the level of crashes involving fatalities and serious injuries across a jurisdiction, locality, Tribe, or region;</li><li>• Analysis of the location(s) where there are crashes, the severity, as well as contributing factors and crash types;</li><li>• Analysis of systemic and specific safety needs is also performed, as needed (e.g., high risk road features, specific safety needs of relevant road users; and</li><li>• A geospatial identification (geographic or locational data using maps) of higher risk locations.</li></ul>	
4. Did the Action Plan development include all of the following activities? <ul style="list-style-type: none"><li>• Engagement with the public and relevant stakeholders, including the private sector and community groups;</li><li>• Incorporation of information received from the engagement and collaboration into the plan; and</li><li>• Coordination that included inter- and intra-governmental cooperation and collaboration, as appropriate.</li></ul>	
5. Did the Action Plan development include all of the following? <ul style="list-style-type: none"><li>• Consideration of equity using inclusive and representative processes;</li><li>• The identification of underserved communities through data; and</li><li>• Equity analysis, in collaboration with appropriate partners, focused on initial equity impact assessments of the proposed projects and strategies, and population characteristics.</li></ul>	
6. Are both of the following true? <ul style="list-style-type: none"><li>• The plan development included an assessment of current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize safety; and</li><li>• The plan discusses implementation through the adoption of revised or new policies, guidelines, and/or standards.</li></ul>	
7. Does the plan identify a comprehensive set of projects and strategies to address the safety problems identified in the Action Plan, time ranges when the strategies and projects will be deployed, and explain project prioritization criteria?	

# PROJECT MANAGEMENT



★  
Kickoff Meeting

💬  
TAC Meetings

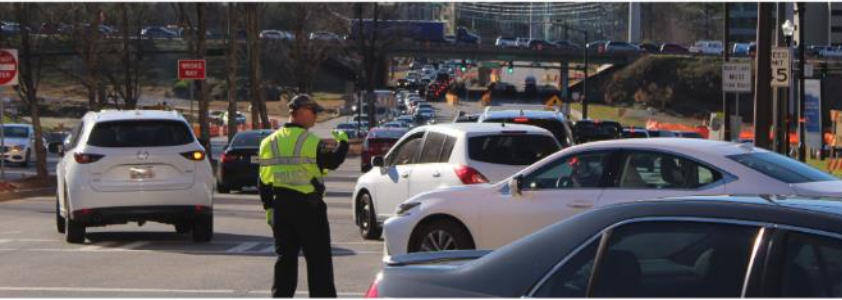
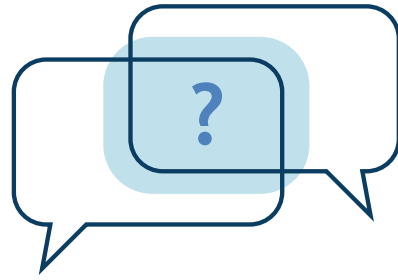
🤝  
Stakeholder  
Interviews/Focus  
Groups

👥  
Public Engagement

⚙️  
Deliverable



# Questions



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