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Think Forward

# Local and Regional Safety Plans

## *State of the Practice*

***presented to***

*NYSAMPO*

***presented by***

*Cambridge Systematics, Inc.*

*CS Safety Team*

3/23/2022

# Agenda

- Safety Planning Approach
- Safety Data and Analysis
- Targeted and Prioritized Countermeasures
- Virtual Outreach and Engagement
  - Dashboards and Decision-Making Tools
- Implementation and Action Plans

# Safety Planning

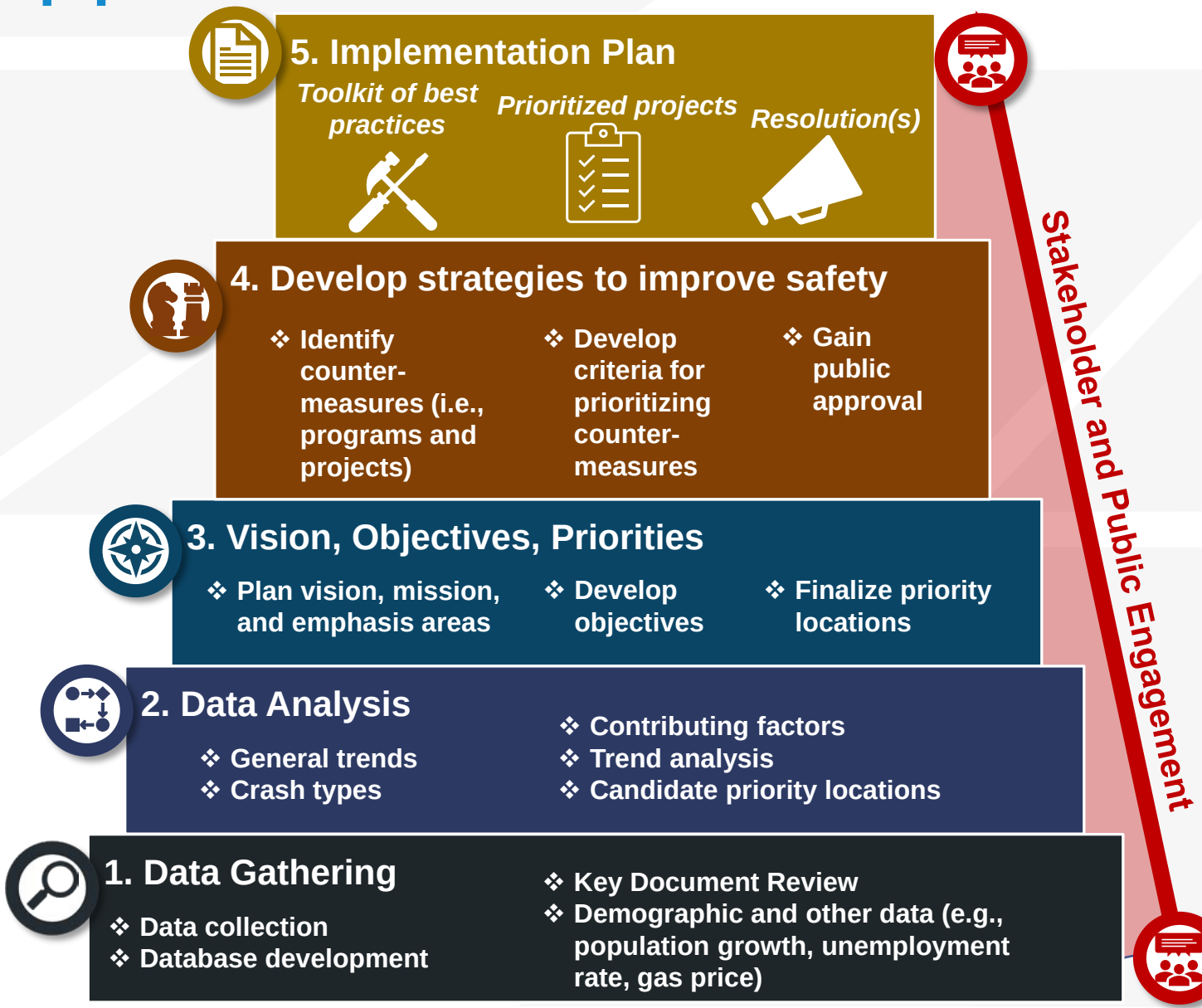
- Comprehensive
- Data-driven
- Network-wide
- Multidisciplinary
- Proactive

**Analysis to understand existing safety challenges**

**Framework to address the current condition of the transportation network**

**Blueprint for a safe transportation system for all users**

# Plan Approach



# Safety Data and Analysis

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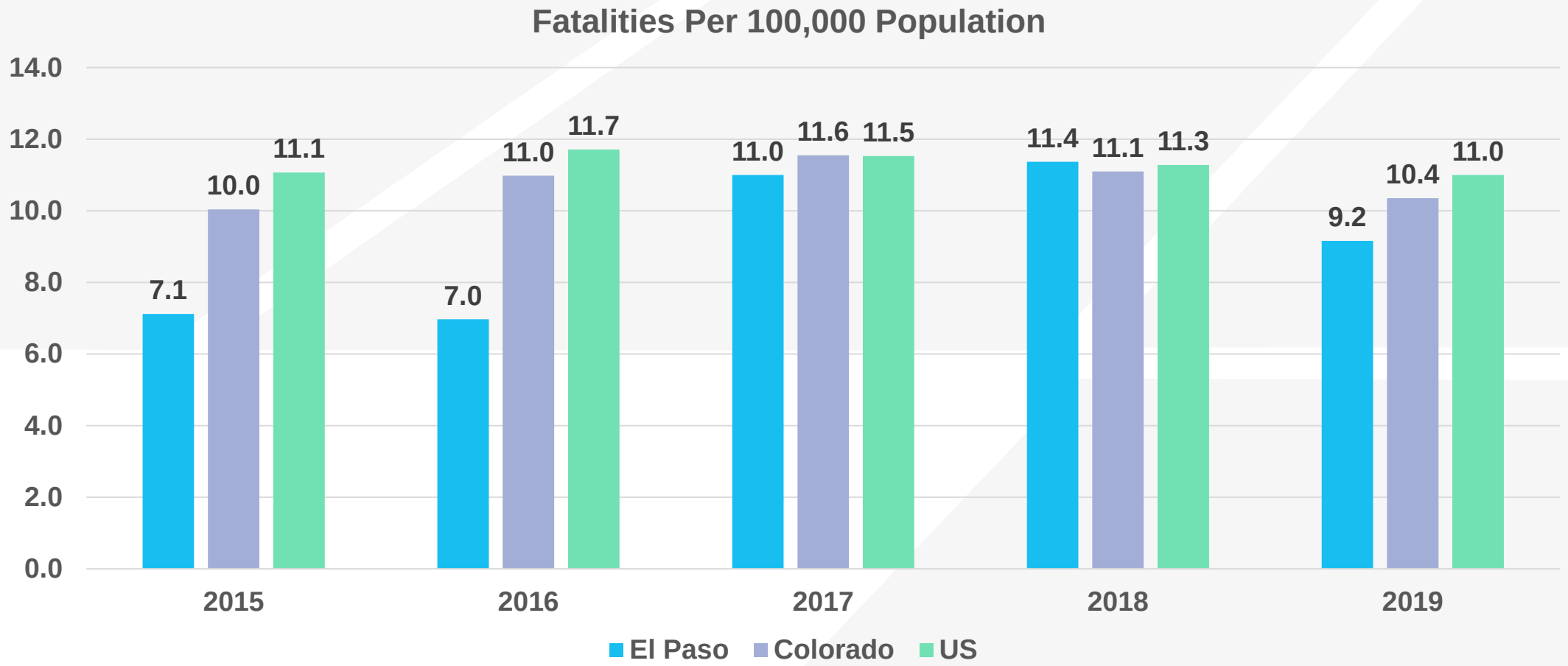
# Trends Analysis and Mapping



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# Crash Data Analysis

- What collision types are overrepresented in severe crashes?
- What factors or behaviors are contributing to severe crashes?
- Who is involved in those severe crashes?
- What contexts and road types are overrepresented?
- When and where are severe crashes predominantly occurring?

# Data Collection

## Crash Data

- Best crash data sources and access
- Up to 10 years
- Severity
- Collision type
- Contributing circumstance
- Location
- Driver Age/Gender
- Date/Time
- Vehicle type

## Roadway Data

- No. of lanes
- Speed
- Maintaining authority, jurisdiction, and functional class
- Urban/rural
- Lane and roadway width
- Intersection and signal type

## Traffic Data

- AADT
- Vehicle Miles Traveled by Roadway Type and Jurisdiction

## Other

- Project Data
- Demographics
- Environmental Justice Data

# Network Screening Analysis

- Identifies network (intersections, segments) that would benefit from safety improvements
  - Identify Network
    - Most common performance measures used are crash frequency, crash severity & crash rate
    - Crash severity weighting (i.e. EPDO) is also common
    - Predictive methods being implemented more & more
- Prioritize Sites within Network
- Field Investigations & Recommended Countermeasures
  - Road Safety Audits

# Systemic Analysis

- Supplements the traditional site analysis (i.e. “hot-spot”) approach
- Identifies high risk roadway features, correlated with severe crash types (cross-median, pedestrian, curve)
  - Low Cost Safety Improvements
- Particularly applicable when a significant number of severe crashes happen over a wide area
  - Rural roadways
  - Local roadways

# Targeted and Prioritized Countermeasures

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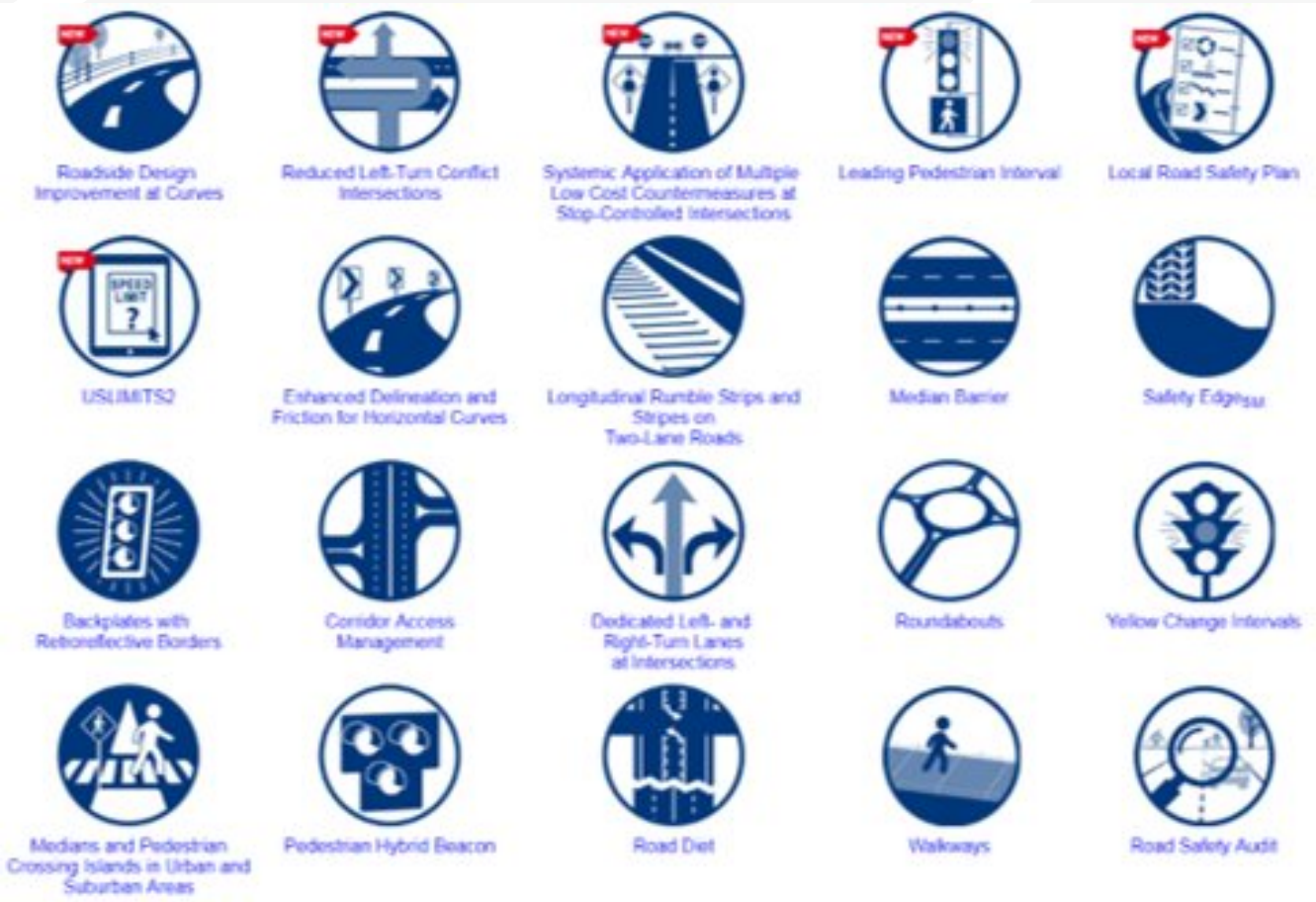
# Countermeasure-Driven Approach

- Draws upon body of known effective countermeasures
- Encourages sponsors of all types of transportation projects to integrate effective safety countermeasures as appropriate



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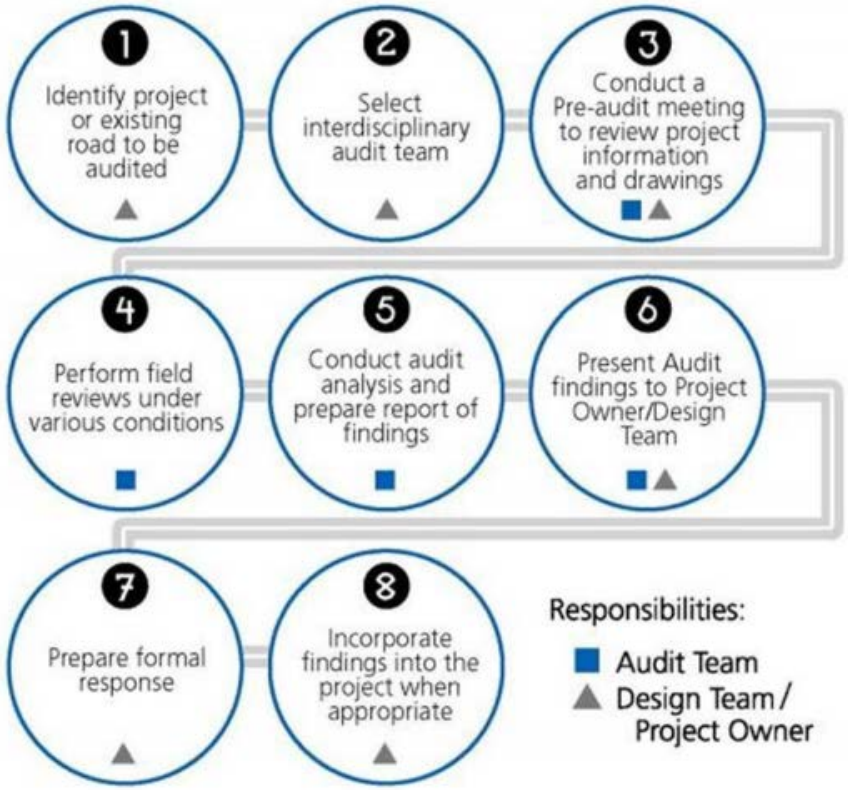
# Road Safety Audits

- Utilizes multi-disciplinary team
- Considers all potential road users
- Accounts for road user capabilities and limitations
- Generates a formal RSA report



# Virtual Outreach and Engagement

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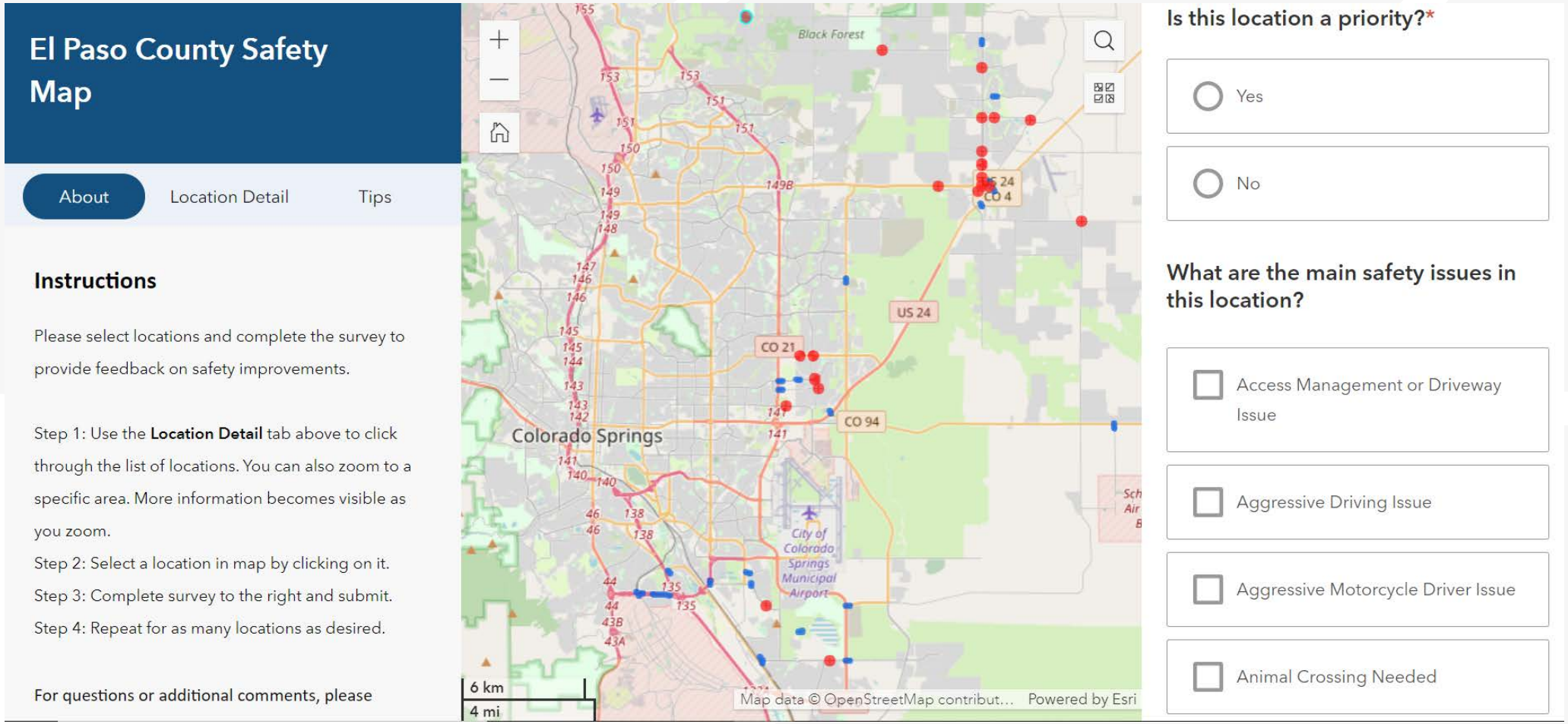
# Role of Project Stakeholders

- **Shape Planning**
  Help set a course for the next 5+ years of safety planning
- **Leverage Resources**
  Build plan from existing safety initiatives, projects, data and programs
- **Look Forward**
  A forum to address challenges and seize opportunities
- **Share the Story**
  With partners to build awareness and facilitate input

# Public Participation

- Website: EPCSaferroads.com

# Location Prioritization



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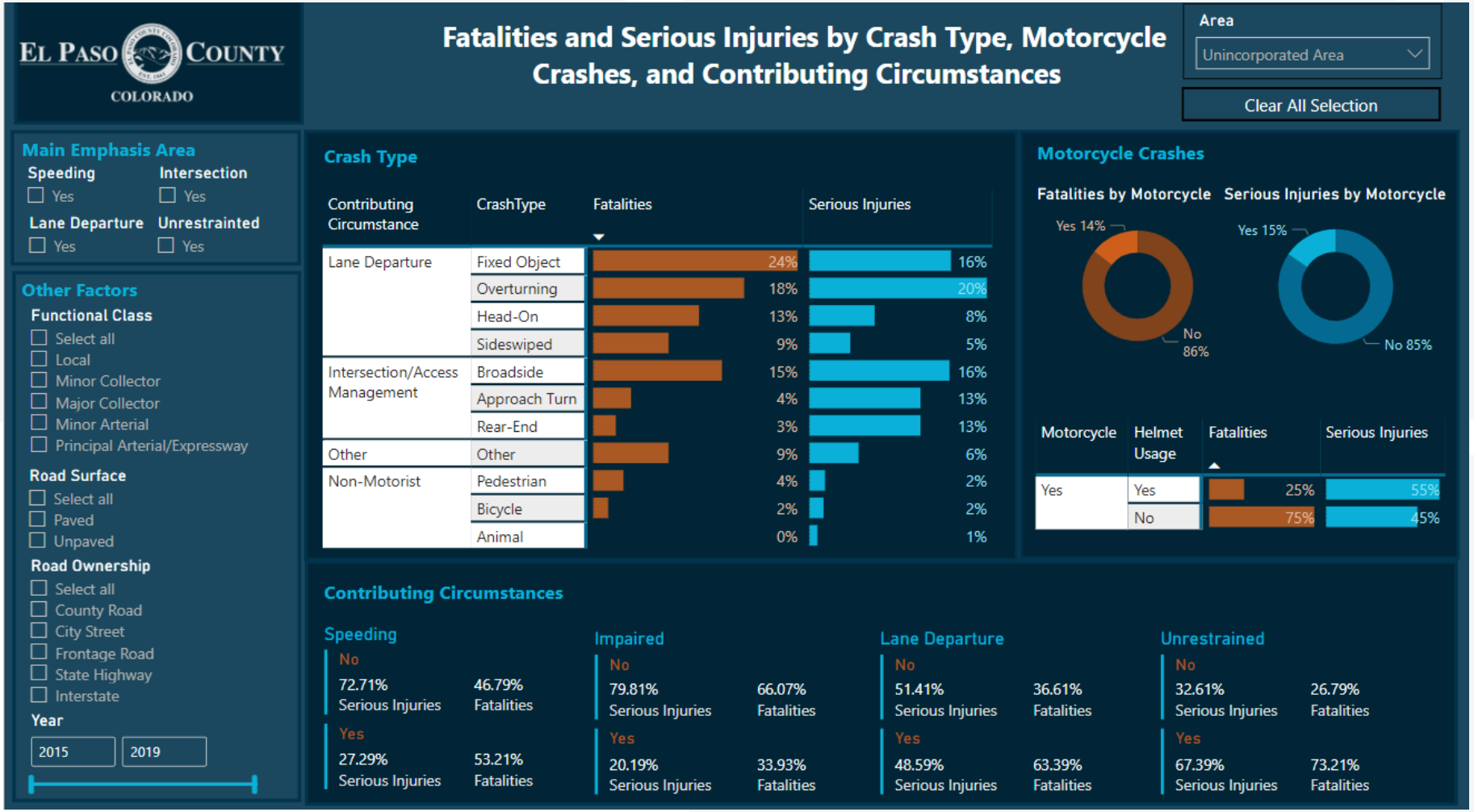
# Safety Data Dashboards



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# Implementation and Action Plans

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# Implementation and Action Plans

- Encouraging Implementation to Reach Project Goals
- Identifying Performance Metrics to Track Progress
- Providing Specific Recommendations and Action Steps

# Action Plans and Prioritized Projects

| DESIGN AND OPERATE SAFER INFRASTRUCTURE | TIME FRAME | COST |
|---|---|---|
| Install pedestrian hybrid beacon and advanced yield signs, stop markings and signs, high visibility crosswalk markings. | Mid-term | $ |
| Conduct pedestrian road safety audits in areas with a higher than average pedestrian crashes. | Ongoing | $ |
| Reduce motor vehicle speeds by using data driven, effective, and equitable enforcement methods that utilize available technology, such as automated speed cameras. | Long-Term | $$ |
| Reduce motor vehicle speeds by utilizing other traffic calming strategies such as narrower lanes, adding roundabouts, reducing the number of traffic lanes, planting trees, and implementing road diets. | Ongoing and Long-Term | $$$ |
| Install pedestrian countdown signals and evaluate and include where prudent different options for pedestrian signal countdown technology (touchless, audible, etc.). | Ongoing and Long-Term | $ |
| Improve geometry of pedestrian and bicycle facilities at signalized intersections with high frequencies of pedestrian and/or bicycle crashes and on routes serving schools or other generators of pedestrian and bicycle traffic, this can include installing pedestrian refuges. | Ongoing and Mid-Term | $$ |
| Replace intersections that have high numbers of fatalities and serious injuries with roundabouts, a circular intersection configuration with channelized approaches and a center island that results in lower speeds and fewer conflict points, wherever feasible. | Ongoing Long-Term | $ |
| Utilize a protected left, improving the sight distance, positive off-sets, or multiphase signal operation at signalized intersections with a high frequency of angle crashes involving left turning and opposing through vehicles as well as rear-end and sideswipe crashes. | Mid-Term | $$$ |
| Evaluate uncontrolled intersections and recommend improvements based on evaluation results. | Short-Term/Ongoing | $ |

- Prioritized Countermeasures
- Timeline
- Costs
- 5 E's

LEGEND

Engineering | Education | Encouragement | Evaluation | Enforcement



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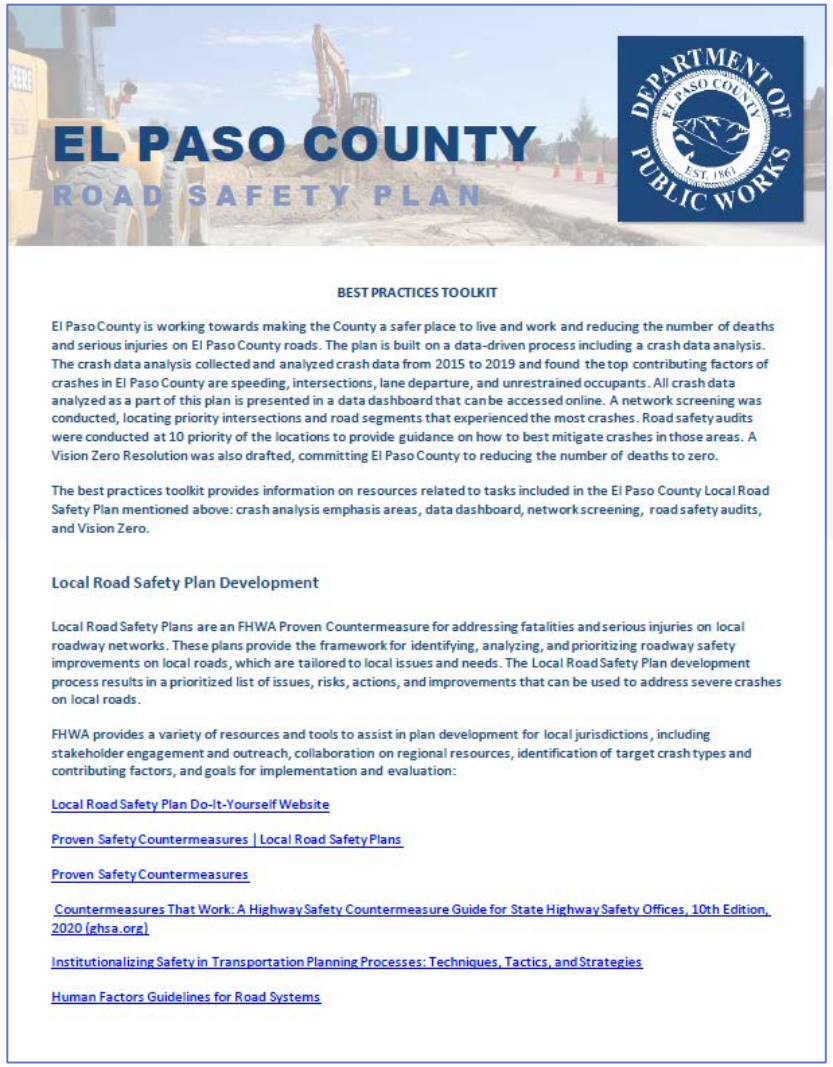
# Best Practice and Resource Toolkit


EL PASO COUNTY
ROAD SAFETY PLAN

BEST PRACTICES TOOLKIT

El Paso County is working towards making the County a safer place to live and work and reducing the number of deaths and serious injuries on El Paso County roads. The plan is built on a data-driven process including a crash data analysis. The crash data analysis collected and analyzed crash data from 2015 to 2019 and found the top contributing factors of crashes in El Paso County are speeding, intersections, lane departure, and unrestrained occupants. All crash data analyzed as a part of this plan is presented in a data dashboard that can be accessed online. A network screening was conducted, locating priority intersections and road segments that experienced the most crashes. Road safety audits were conducted at 10 priority of the locations to provide guidance on how to best mitigate crashes in those areas. A Vision Zero Resolution was also drafted, committing El Paso County to reducing the number of deaths to zero.

The best practices toolkit provides information on resources related to tasks included in the El Paso County Local Road Safety Plan mentioned above: crash analysis emphasis areas, data dashboard, network screening, road safety audits, and Vision Zero.

Local Road Safety Plan Development

Local Road Safety Plans are an FHWA Proven Countermeasure for addressing fatalities and serious injuries on local roadway networks. These plans provide the framework for identifying, analyzing, and prioritizing roadway safety improvements on local roads, which are tailored to local issues and needs. The Local Road Safety Plan development process results in a prioritized list of issues, risks, actions, and improvements that can be used to address severe crashes on local roads.

FHWA provides a variety of resources and tools to assist in plan development for local jurisdictions, including stakeholder engagement and outreach, collaboration on regional resources, identification of target crash types and contributing factors, and goals for implementation and evaluation:

Local Road Safety Plan Do-It-Yourself Website

Proven Safety Countermeasures | Local Road Safety Plans

Proven Safety Countermeasures

Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, 10th Edition, 2020 (ghsa.org)

Institutionalizing Safety in Transportation Planning Processes: Techniques, Tactics, and Strategies

Human Factors Guidelines for Road Systems

- Proven Resources and Countermeasures
- Tailored Guidance by Emphasis Area
- Related Tools and Methods for Analysis

# Questions?

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# Contacts

Cory Hopwood

Cambridge Systematics

CHopwood@camsys.com

Laura Richards

Cambridge Systematics

LRichards@camsys.com