



Tribal SS4A

Action Plan Development

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Comprehensive Safety Action Plan Components

- › Leadership Commitment & Goal Setting
- › Planning Structure
- › Safety Analysis
- › Engagement & Collaboration
- › Policy & Process Change
- › Strategy & Project Selections
- › Progress & Transparency



Graphic source: [1. The Safe System Approach and Your Action Plan Workshop - Action Plans and the Safe System Approach.pdf](#)

Data-Driven Action Plans

Data Sources and Types

1. Crash Data—events, locations, contributing factors, outcomes
2. Roadway Data—segments, intersections, attributes, locations
3. Traffic Data—traffic volume, vehicle classification
4. Enforcement Data—citations, incidents, calls for service
5. Injury Data—EMS, trauma, ED, hospital discharge
6. Community—Indigenous Informed Knowledge

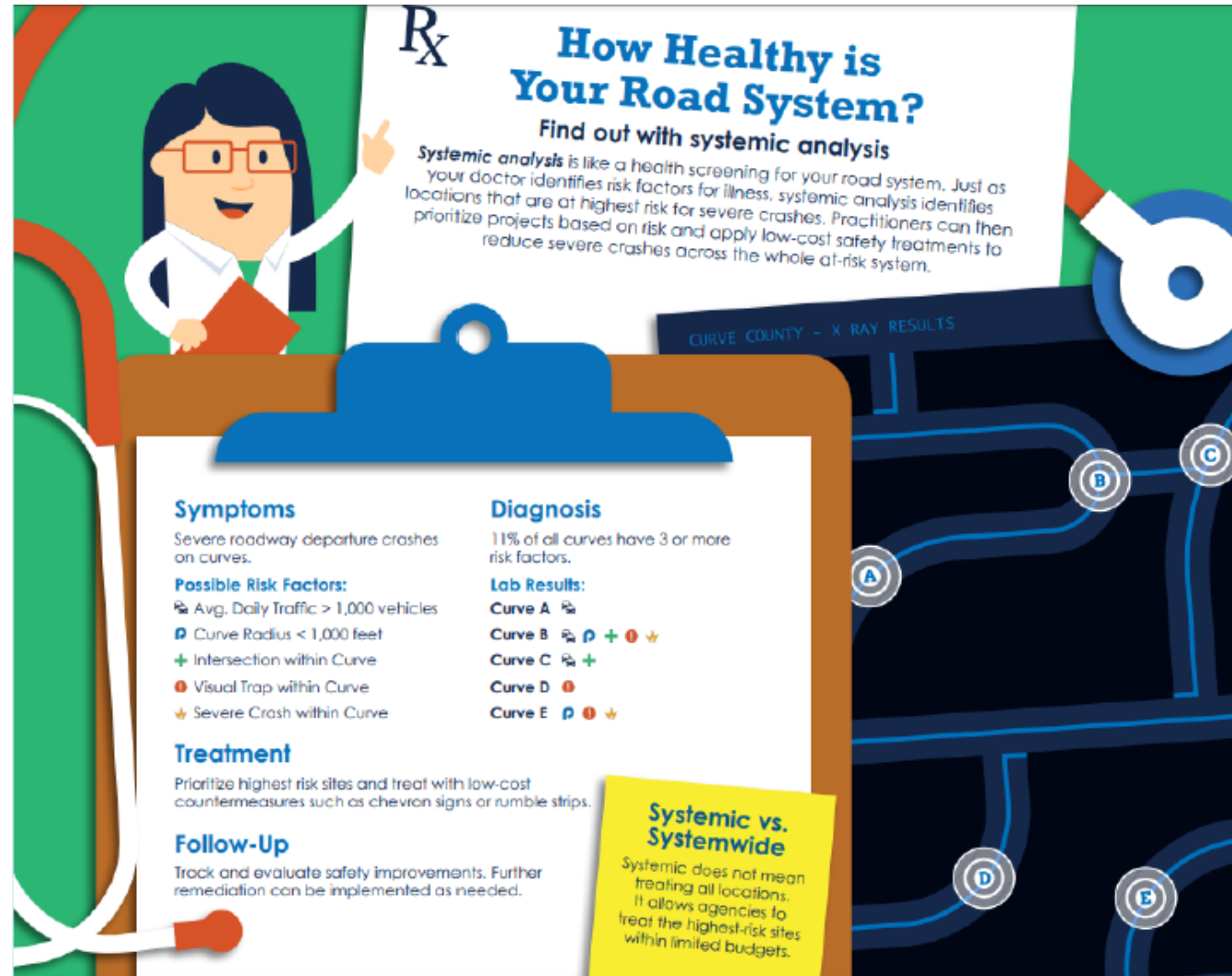
Crash Typology → Focus Areas

- › What are the most frequent / most severe crash types?
 - › Crash circumstances (roadway departure, intersection, etc.)
 - › Contributing factors (speeding, impaired driving, etc.)
 - › Trends over time
- › Who is overrepresented in severe crashes? (pedestrians, bicyclists, motorists, etc.)
- › What is the impact on the Tribe and Tribal members?

Three Approaches to Safety Management

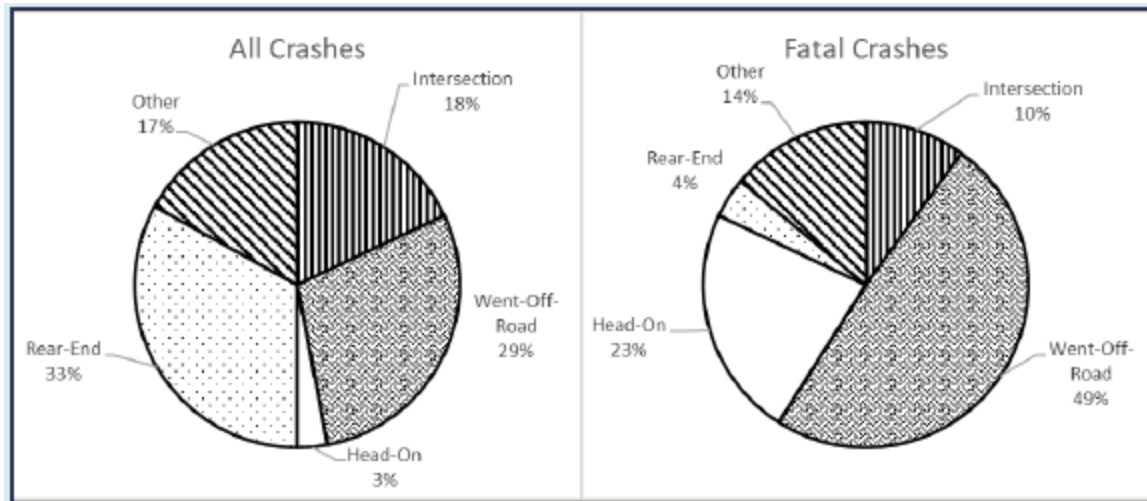
		Site-Specific	Systemic	Systematic
	Goals	Address a severe crash issue at a specific location.	Reduce severe crash probability across the system based on risk.	Implement safety improvements at all sites that meet specific criteria.
	Benefits	Addressing a specific safety issue through improvements tailored to the location.	Proactively reducing severe crash likelihood through safety improvements at higher-risk locations.	Proactively addressing safety through widespread implementation of safety improvements.
	Drawbacks	Tends to be higher cost, allowing for fewer improvements elsewhere. May miss locations with the highest overall risk. Subject to regression-to-the-mean bias depending on the network screening methodology.	There may be concern around installing safety features at locations with no severe crash history.	May not be the most efficient distribution of safety improvements because there is no prioritization process. May need to wait for capital projects to implement safety improvements.

Systemic Approach

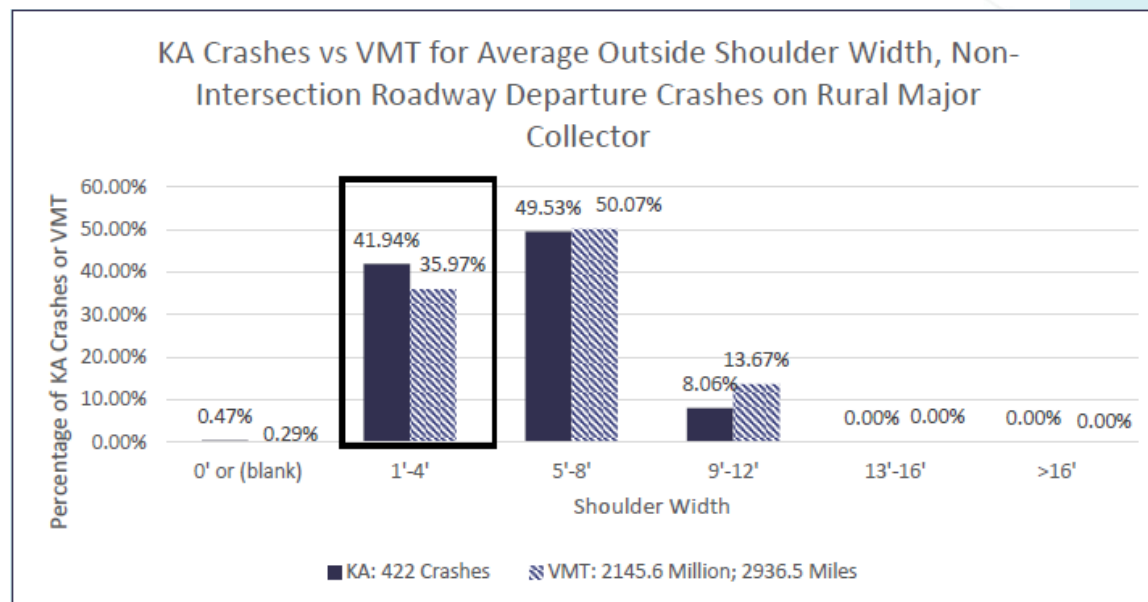


Source: [How Healthy is Your Road System?](#)

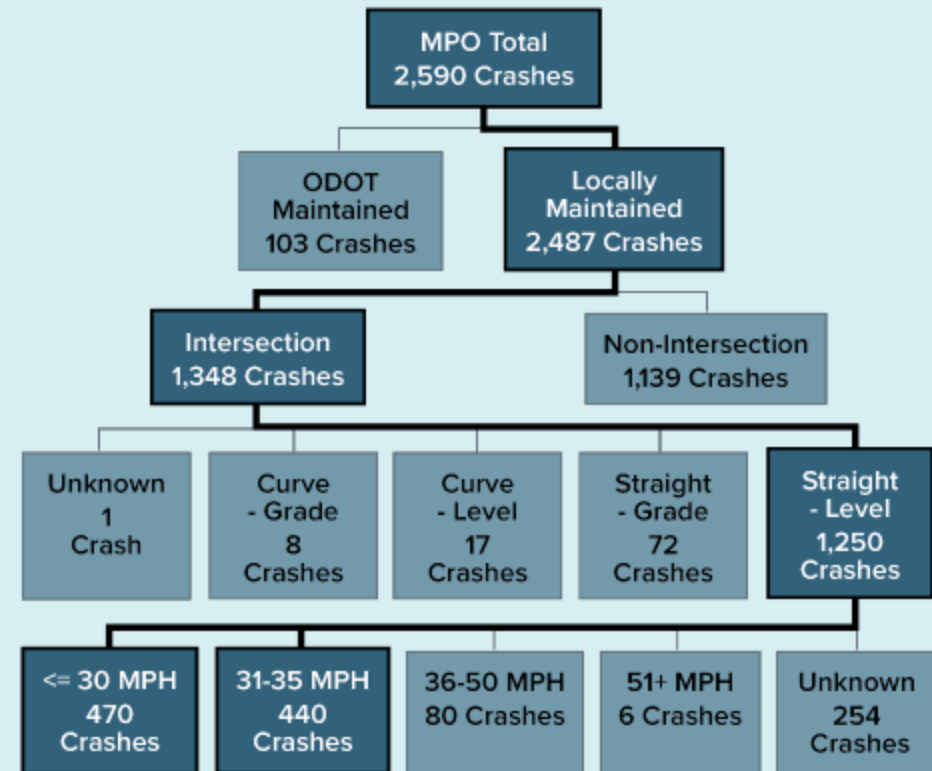
Data Analysis Methods



Source: Hanscom (2018)



PEDESTRIAN CRASHES

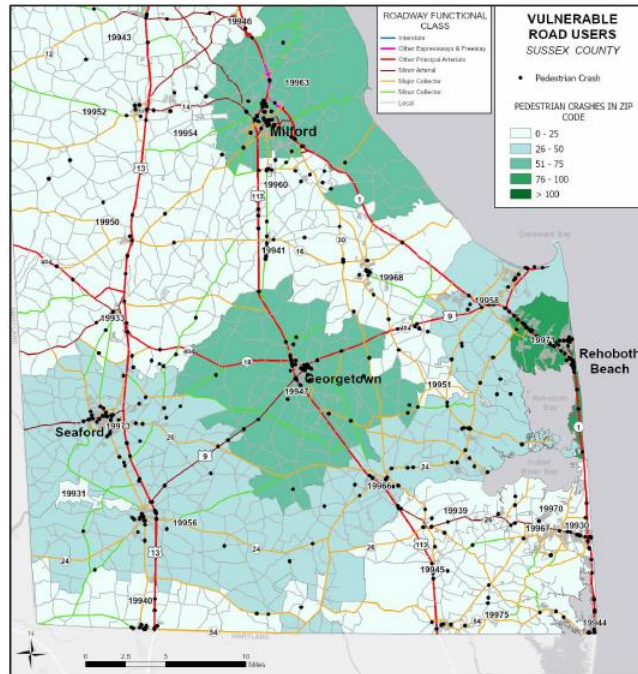


Source: MORPC (2019)

Source: NYSDOT (2024)

Crash Data Element	Attribute	Proportion of KA Crashes (or Vehicles in KA Crashes)	Proportion of KABC Crashes (or Vehicles in KABC Crashes)
Crash Type	Head-On	28%	16%
Object Collided With	Pedestrian	6%	2%
Vehicle Type Involved with Crashes	Motorcycle or Scooter	16%	9%
Crash Day of Week	Sunday	23%	14%
Crash Month	April	9%	5%
Crash Month	June	13%	7%
Crash Month	November	15%	12%
Crash Time of Day	9PM – 6AM	34%	28%
Age of Driver	25-29	18%	14%
Drug Use	Under Drug Influence	9%	2%
Alcohol Use	Alcohol Impaired	20%	11%
Traffic Violation	Driving or Cycling Under the Influence	42%	19%
Vehicle Safety Feature Use	Lap Shoulder Harness Not Used	7%	3%
Roadway Type	State highway	75%	60%
Primary Crash Roadway	SR-76	75%	60%
Lighting Condition	Dark – No Street Lights	45%	35%
Roadway Surface Condition	Dry	87%	79%

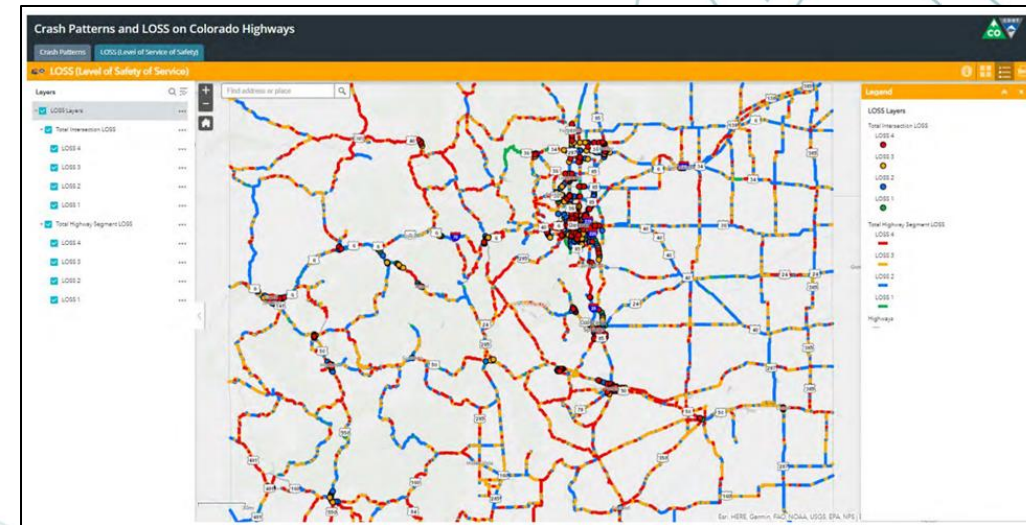
Crash Location Analysis



Source: [Delaware \(2023\)](#)



Source: [City of Eugene \(2022\)](#)



Source: Colorado DOT

Countermeasures: Roadway Departure Example

Strategy	Countermeasure	Safe System Roadway Design Hierarchy Tier	Crash Types				Locations		Option on Narrow Roads**	Option on Unpaved Roads	Typical Service Life	Cost H-M-L
			Head-On	Roll Over	Fixed Object	Night-time	Curves	Tangent				
Reduce Potential for a Crash	Object markers	Tier 4			✓	●	●	●	✓	✓	15	L
	Widen shoulders*	Tier 1		✓	✓		✓	●	✓	✓	20	M-H
	<u>SafetyEdgeSM*</u>	Tier 1		●	●		●	●	✓		10	L
	Remove fixed objects*	Tier 1		●	✓		●		✓	✓	20	L-H
	Flatten side slopes*	Tier 1		✓	●		✓	✓	✓	✓	20	M-H
	Center line buffer area	Tier 1	●			●	●	●			1-5	L
Minimize Severity	Barriers*	Tier 1	●	●	●		●	●	✓	✓	25	M-H
	Breakaway supports	Tier 1			●		●	●	✓	✓	15	L

Note: ✓ Primary countermeasure for this crash type; ● Countermeasure that should be considered; * Indicates countermeasure is a Proven Safety Countermeasure **Narrow roads are defined as two-way roads with less than 20 ft of total traveled way.

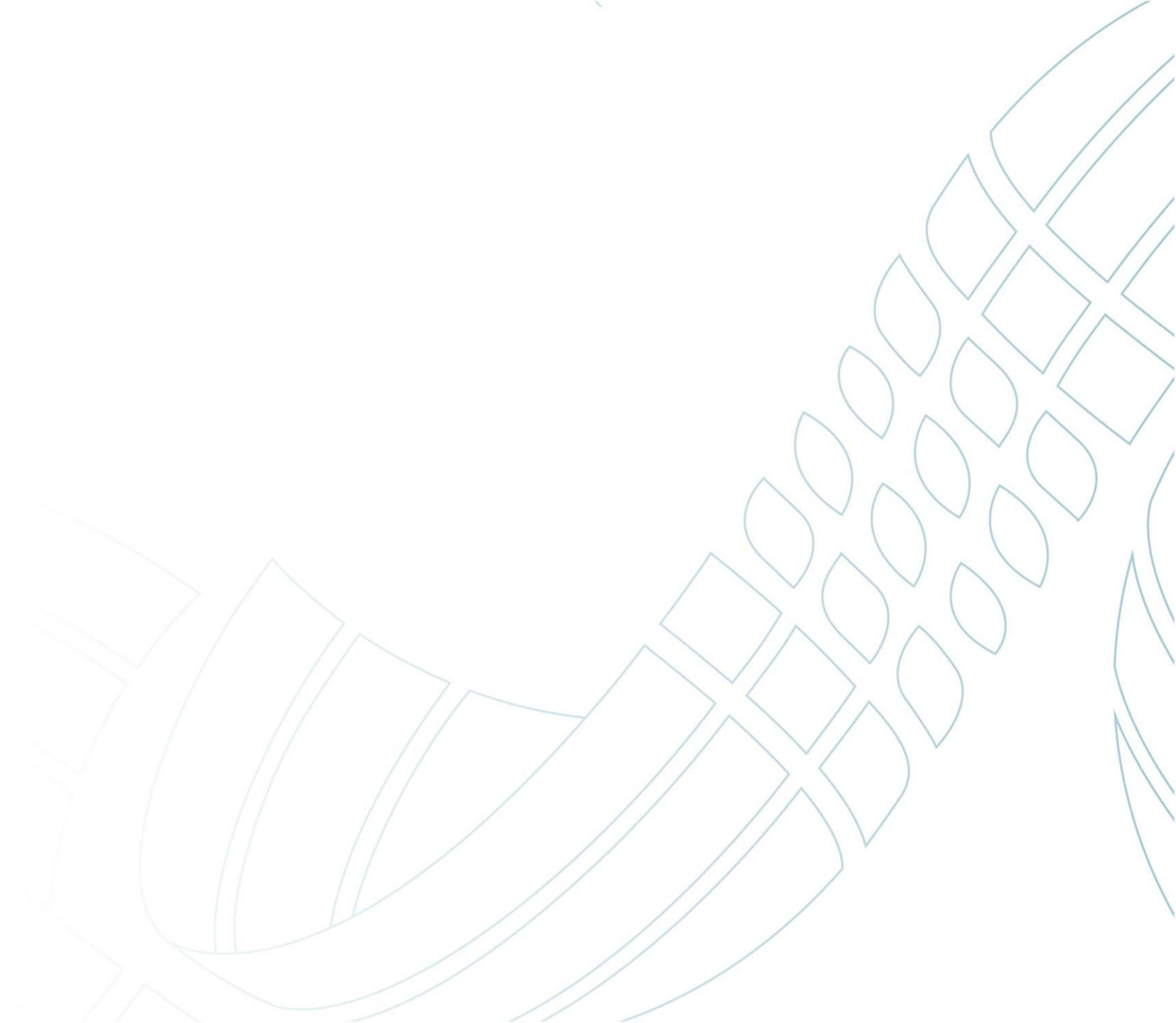
Monitoring and Reporting

- › Program/project level:
 - › Program management indicators (spending, resource allocations, etc.)
 - › Productivity measures (number of citations, people reached with education, etc.)
 - › Outcome measures (crashes, incidents, calls for service, etc.)
- › Safety impact:
 - › Overall change in safety
 - › Specific change in safety (focus area measures)
- › Plan update:
 - › Adjust the Action Plan as needed
 - › Add new focus areas and change/add projects



Discussion

Wrap up





Thank you!

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