

Transportation Safety Planning Boot Camp

- Sponsored by FHWA and SHA
- Held on April 28th
- Workshop format
- Participants from SHA, MHSO, FHWA, and MPOs

Jon Schermann
Department of Transportation Planning

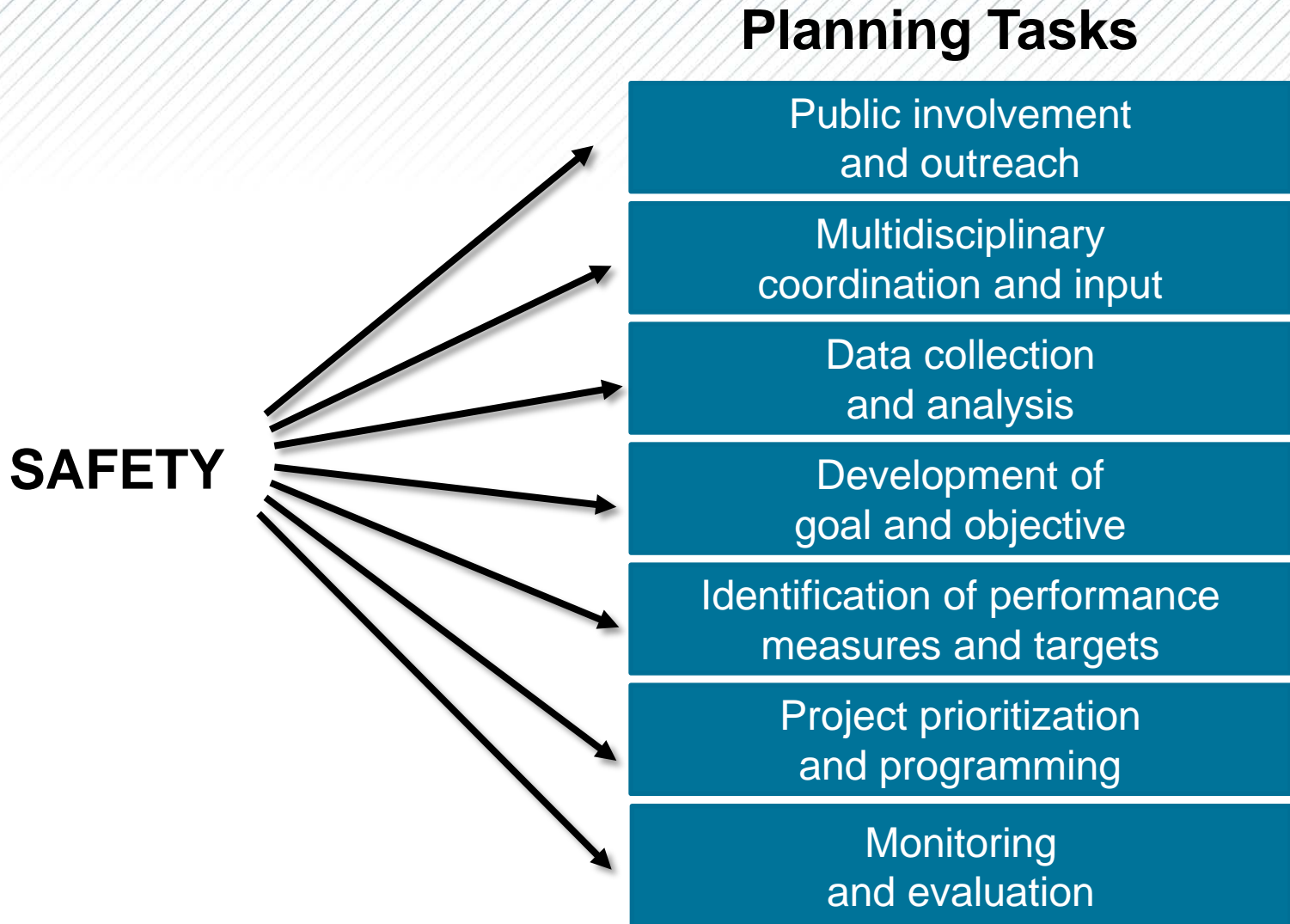
Workshop Purpose

- Discuss transportation safety for all modes, current and future
- Learn strategies for better incorporating safety into the planning process, also known as transportation safety planning (TSP)



- Brainstorm and identify methods for better integrating safety into YOUR transportation planning and programming documents
- Coordinate transportation safety planning activities
- Learn from each other!

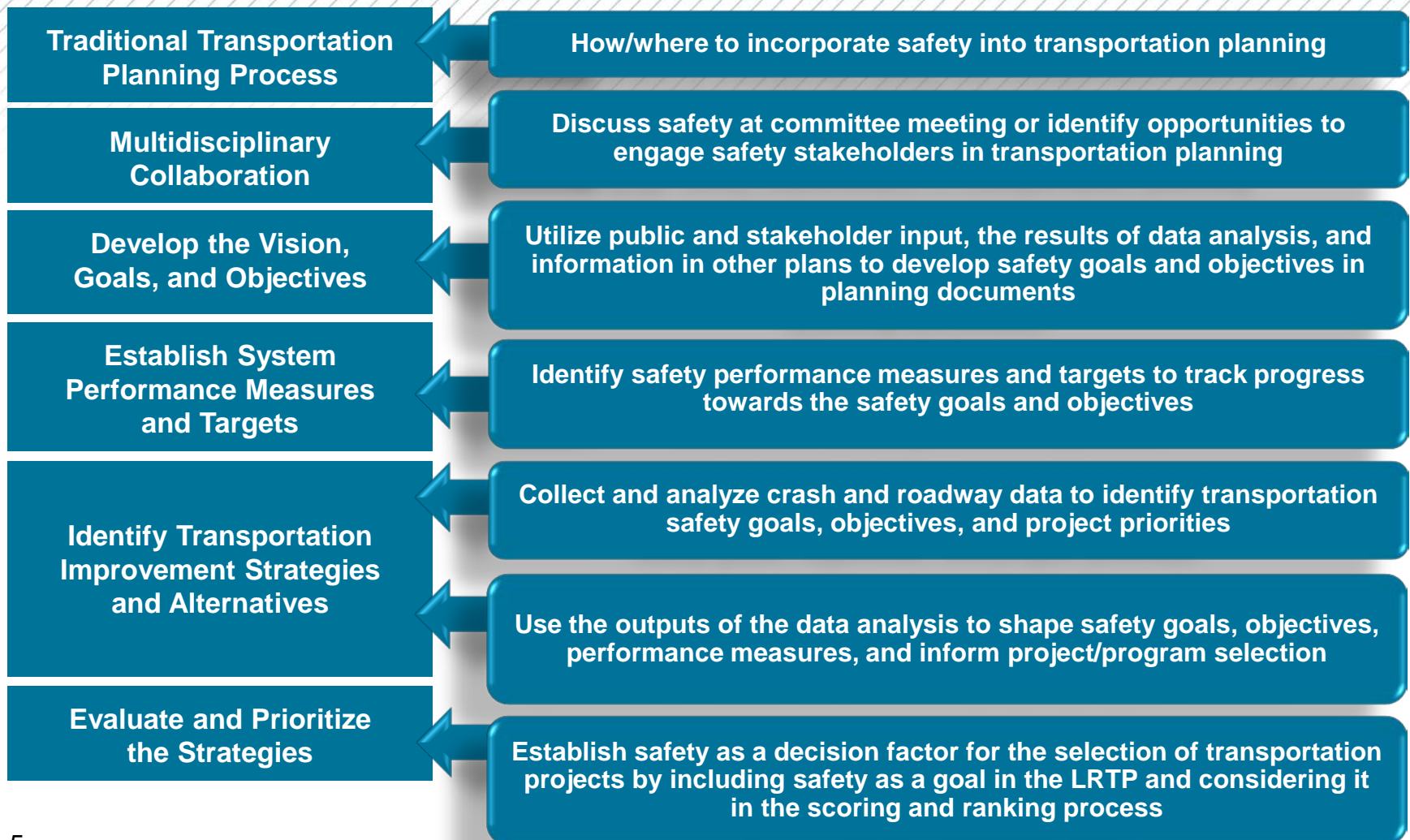
Transportation Safety Integration



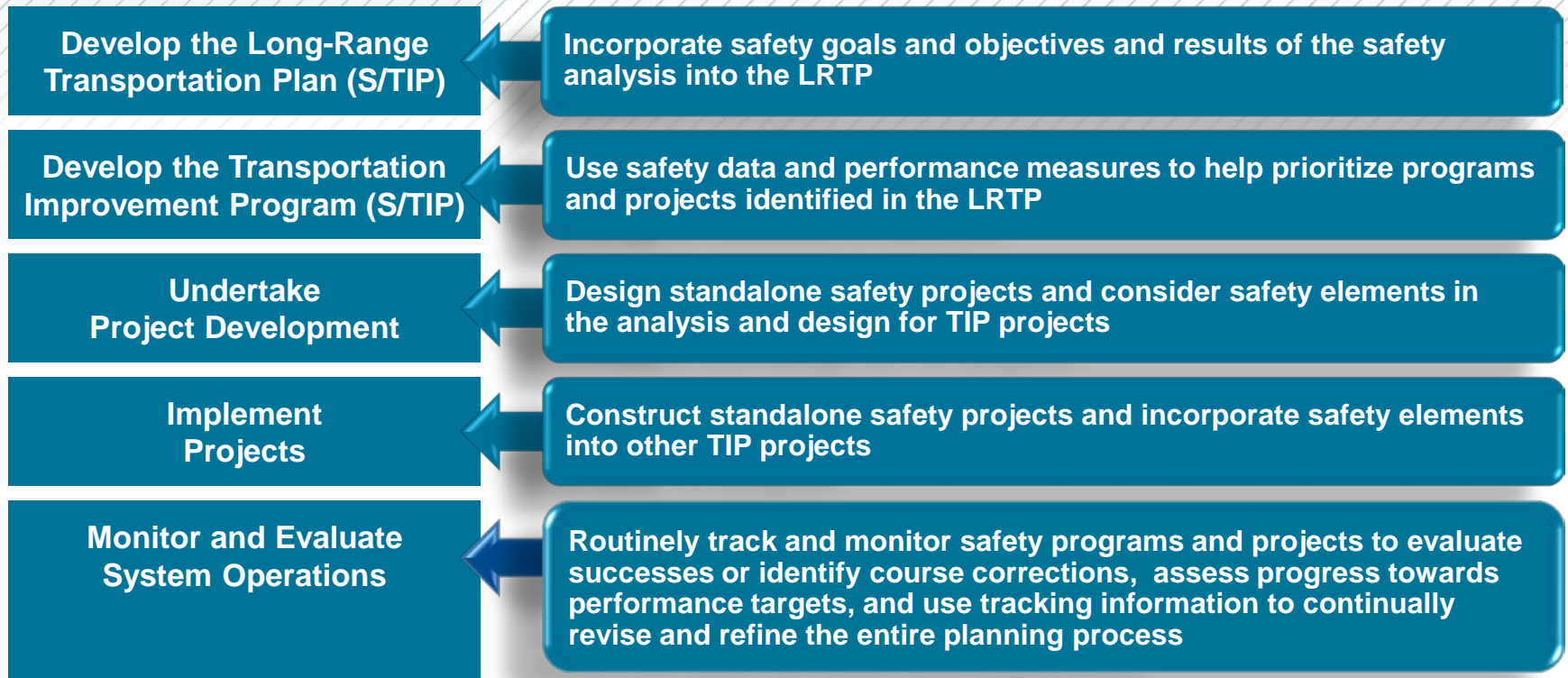
Seven Transportation Safety Principles

- 1 Include safety data and/or discussions in public and stakeholder engagement activities
- 2 Discuss safety at committee meeting or identify opportunities to engage safety stakeholders in transportation plans
- 3 Collect and analyze crash and roadway data to identify transportation safety goals, objectives, and project priorities
- 4 Utilize public and stakeholder input, the results of data analysis, and information in other plans to develop safety goals and objectives in planning documents
- 5 Identify safety performance measures and targets to track progress towards the safety goals and objectives
- 6 Establish safety as a decision factor for the selection of transportation projects
- 7 Routinely track and monitor safety performance and evaluate safety programs and policies

How and Where to Incorporate Safety Principles

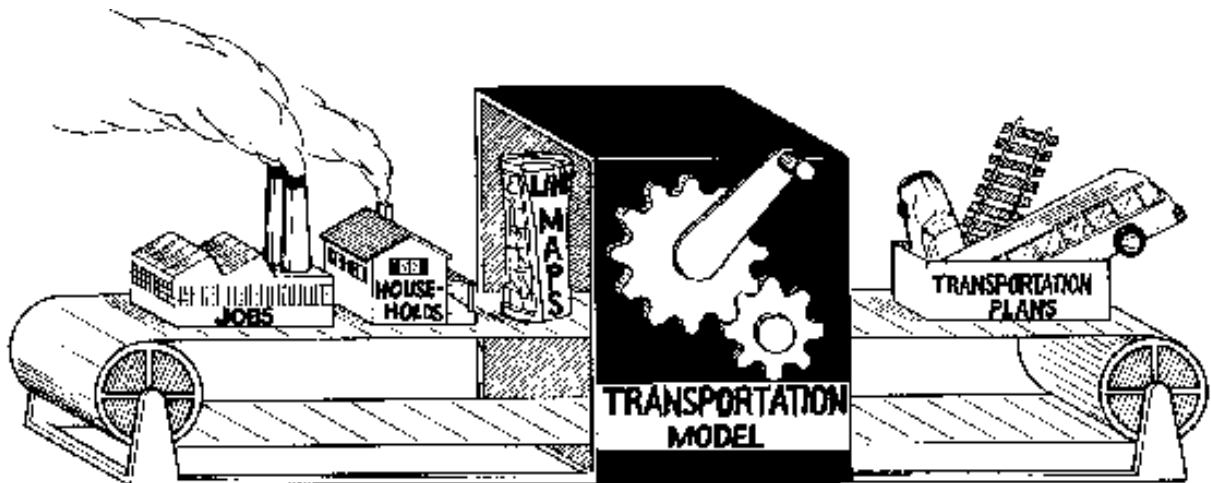


How and Where to Incorporate Safety Principles (continued)



A Planner's Role in TSP

- Connection to decision-makers
- Service to member agencies
- Analytic skills and tools
- Commitment to the public good
- Holistic perspective of the transportation network – Plan integration
- Ability to prioritize and program regional transportation investments



How to Incorporate Safety Decisions Into Transportation Plans

- Bring safety into the conversation
- Crash locations (intersections, spot, corridors, pedestrian)
 - » Where are crashes occurring and why (past data)
 - » Where are potential areas for improvements (predictive tools)
 - » Identify solutions (countermeasures/policies/project prioritization) to reduce crashes
- Customize and adopt relevant SHSP strategies
- Risk Factors and Systemic Safety
 - » What predominant roadway types or characteristics are unsafe
 - » Identify solutions

How to Incorporate Safety Decisions Into Transportation Plans

- Transportation Safety Policies
 - » Complete Streets
 - » Bicycle/Ped Design
 - » Access Management
- Transportation Safety Programs
 - » Safe Routes to School
 - » Behavioral Campaigns
- Project Prioritization
 - » Safety checklists
 - » Safety evaluation criteria



Action Planning



Data Collection and Analysis Action Plan Worksheet

Agency: _____

Please indicate, using the scoring below, the extent to which you do the following activities now or plan to in the future:

Score	0	1	2	3	4
	Not interested in strategy	Interested in strategy, but do not have staff or financial resources to implement	Interested in strategy and may be able to identify staff or financial resources to implement	Plan to implement this strategy	Already implement this strategy and plan to continue

Strategies	Score (see table above)	Resources, Tools, Coordination, and/or Funding Needed to Implement (or continue implementing) Strategy
Obtain crash data for state roads		
Obtain crash data for non-state roads		
Obtain roadway data for state roads		

Data Collection and Analysis

Planning Task →

Safety Integration

Data Collection
and Analysis

*Identify regional
trends and issues*

- Collect and analyze safety data (crash, volume, roadway) to identify goals, objectives, and project/program priorities.

Understanding Safety in a State or Region

1. Develop Benchmarks

- Evaluate MAP-21 Performance Measures: Number and rate of fatalities & serious injuries
- Evaluate Additional MPO Performance Measures (e.g., pedestrian and bicycle fatalities)

2. Evaluate Crash Trends and Characteristics

- Who: Driver Age, Gender
- What: Number and Type of Vehicles Involved
- Where: Crash Distribution by TAZ, Urban/Rural Geography, Route type, or Intersections
- When: Year, Month, Day, Hour
- Why: Behavioral and Environmental Factors

3. Identify and Evaluate Focus Crash Types

- Manner of Collision: Rear-End, Run off Road, Angle, Sideswipe, Head-On, Pedestrian, Bicycle, etc.
- Selection of Focus Crash Types
- Geographic Distribution of Focus Crash Type
- Evaluation of Risk Factors

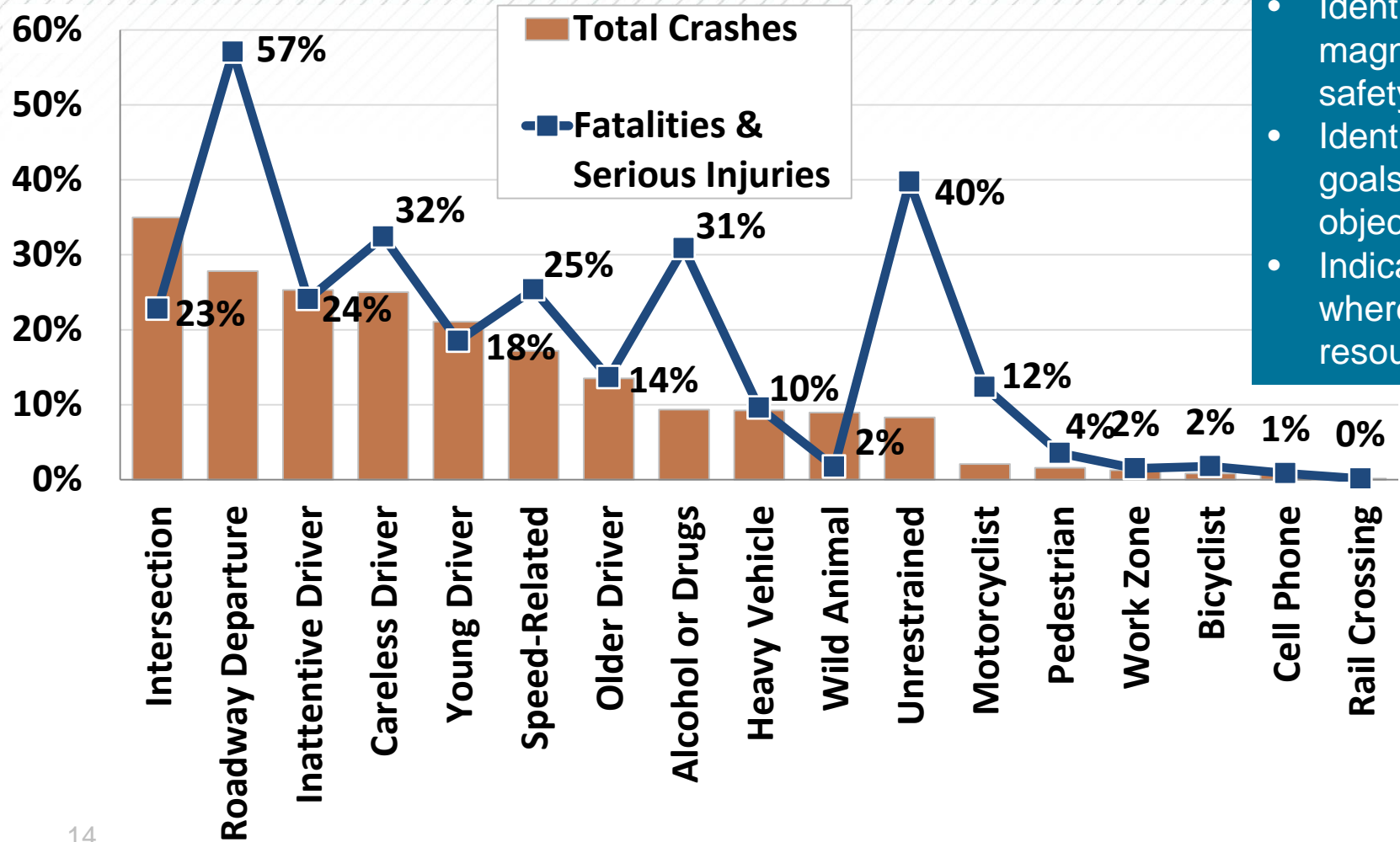
4. Identify and Implement Countermeasures

- Identify appropriate countermeasures for focus crash types
- Identify potential locations for implementation of countermeasures
- Work with engineering staff to implement countermeasures

Data Analysis – What Methods to Use?

Questions	Category of Analysis	Data Needs
What are the crash trends?	Descriptive statistics: counting of crash frequency severity and type.	Crash data, person data, incident data, roadway functional classification
What are the risk factors?	Systemic analysis to identify roadway or system characteristics that are over-represented in crash trends	Crash data, roadway characteristics, traffic volume
Where are the locations with potential for safety improvement?	Network screening to identify specific sites	Crash data, roadway characteristics, traffic volume
What happens if we change a feature of the roadway cross section?	Apply crash modification factor Apply HSM predictive method (using spreadsheet or IHSDM, or hand calcs); fundamental element of the HSM is SPF	Observed crashes, roadway characteristics, traffic volume
How many crashes are expected on this type of facility?	Apply HSM predictive method	Observed crashes, roadway characteristics, traffic volume
What is the change in crash frequency or severity associated with a specific treatment?	Before-after study (aka safety effectiveness evaluation, or estimating a crash modification factor)	Crashes before, crashes after, roadway characteristics
What treatment should be built at this location?	Descriptive statistics, identify potential contributing factors, collision diagrams,	Observed crashes, roadway characteristics, traffic volume, field evaluation
What are the benefits of a change in the network?	Change in crash frequency with CMF or HSM Predictive method	Observed and estimated crash frequency and severity, crash costs, 20-year economic b/c analysis or Cost effectiveness analysis – change in crashes per dollar spent
Macro –level Questions: What happens at a regional level if we change land use, add a lane on a freeway section, how do we prioritize spending?	Macro-level safety prediction – calculate SPFs on planning level variables	Socio economic data, regional network data, crash data, traffic volume data

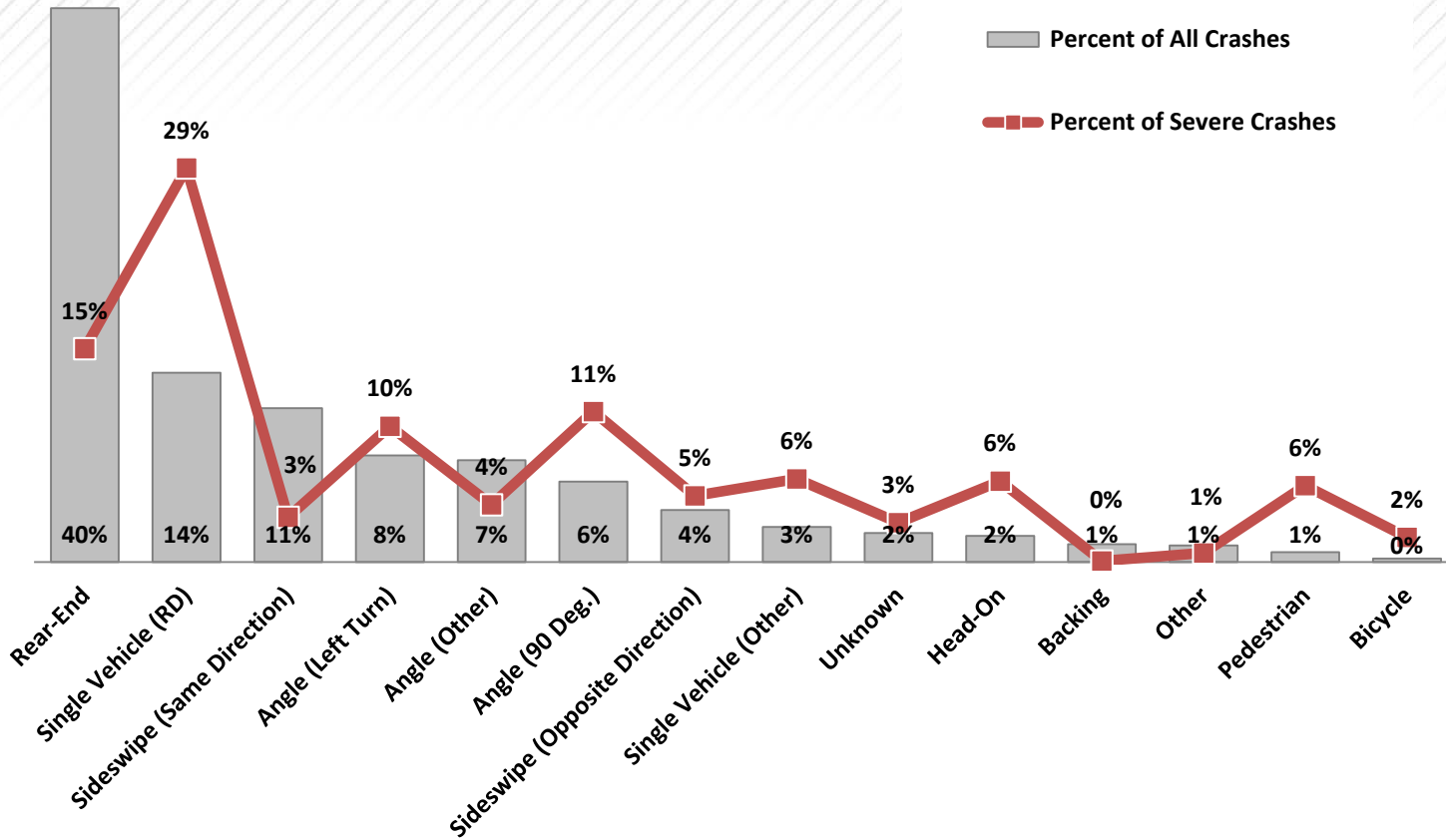
Contributing Factors



Application:

- Identify the magnitude of safety issues
- Identification of goals or objectives
- Indication of where to focus resources

Crash Types

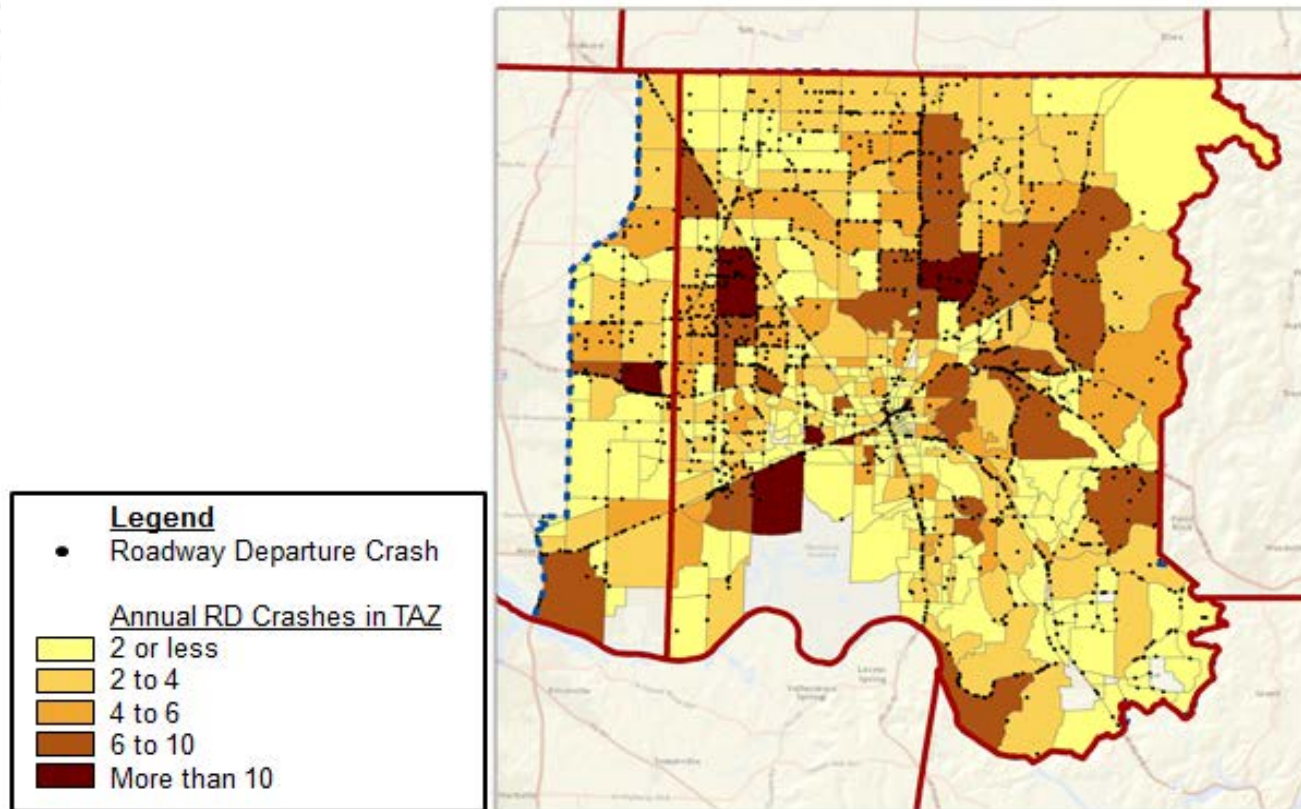


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Crash Types

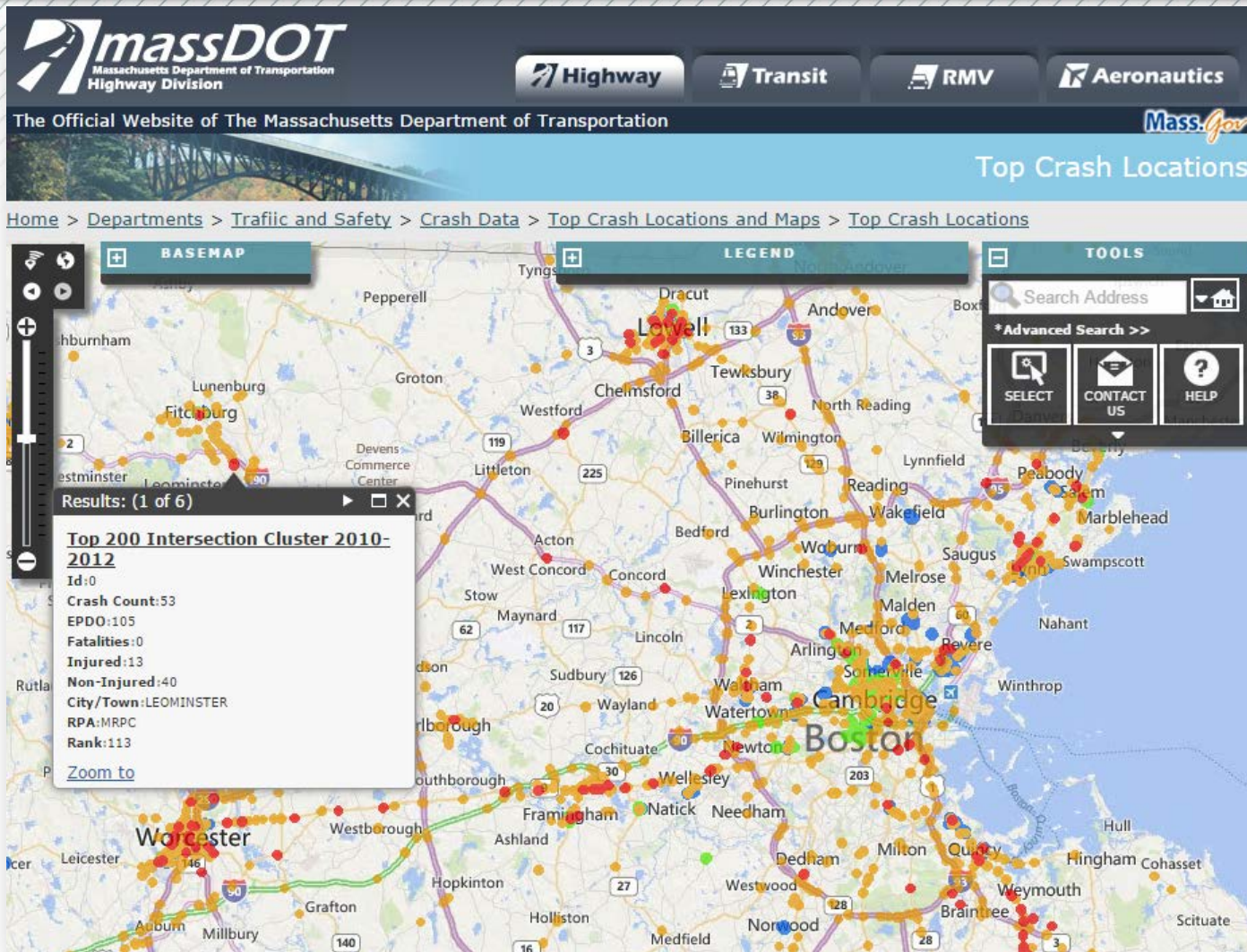
Single Vehicle RD Crashes by TAZ



Application:

- Visual to share with stakeholders
- Indication of where to focus safety programs/projects

High Crash Locations



Application:

- Visual to share with stakeholders
- Indication of priority segments, locations, or intersections
- Tool to assist with safety project identification
- Tool to assist with the inclusion of safety in all transportation projects

Project Prioritization and Programming Behavioral Projects



**STREET
SMART**
BeStreetSmart.net

**Pedestrians don't
come with airbags.**

Yield to pedestrians when turning.

A public safety program of Metro, the District of Columbia, Maryland and Virginia.

BeStreetSmart.net

Takeaways

- Safety reference materials
- Detailed information on methods MPOs can use to address safety throughout the planning process
 - » We are doing some of them
 - » We will need to identify which of the rest we could/should do given the staff resources available
- Expanded contacts with SHA and MHSO personnel