

# RPCGB Safety Coalition

## *Regional Safety Action Plan Development Meeting #2*



*presented to*

**Alabama Department  
of Transportation**

*presented by*

**Cambridge Systematics, Inc.  
The University of Alabama**



November 17, 2015

# Agenda

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- Welcome and Introductions
- Project Purpose and Need
- RPCGB Regional Context
- Emphasis Area - Survey
- Emphasis Area - Crash Data
- Selecting RPCGB Emphasis Areas
- Countermeasure Selection
- Next Steps

# Introductions

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- ▶ Name
- ▶ Agency/Organization

# PROJECT PURPOSE AND NEED

# SHSP Update Process

## SHSP Update Process

### Phase I Regional Pilots

- Pilot regional safety action plan development in two regions
- Establish regional safety goals, action steps, and evaluation plan

### Phase II Regional Plans

- Develop regional safety action plans in remaining regions
- Build support for SHSP update

### Phase III Statewide SHSP Update

- Overall strategy and implementation plan for state
- Encompasses various elements of regional plans

# Regional Safety Plan Development Process

## Pre-Meeting Planning

- Data analysis
- Logistics
- Recruitment
- Recruitment

## Regional Coalition Meetings

### Meeting #1

High-Level  
Data  
Overview

### Meeting #2

Detailed  
Data  
Overview  
and EA  
Selection

### Regional Emphasis Area Team Action Plan Development

EA Team  
Meeting #1

EA Team  
Meeting #2

EA Team  
Meeting #3

### Meeting #3

Prioritize  
initiatives/  
actions

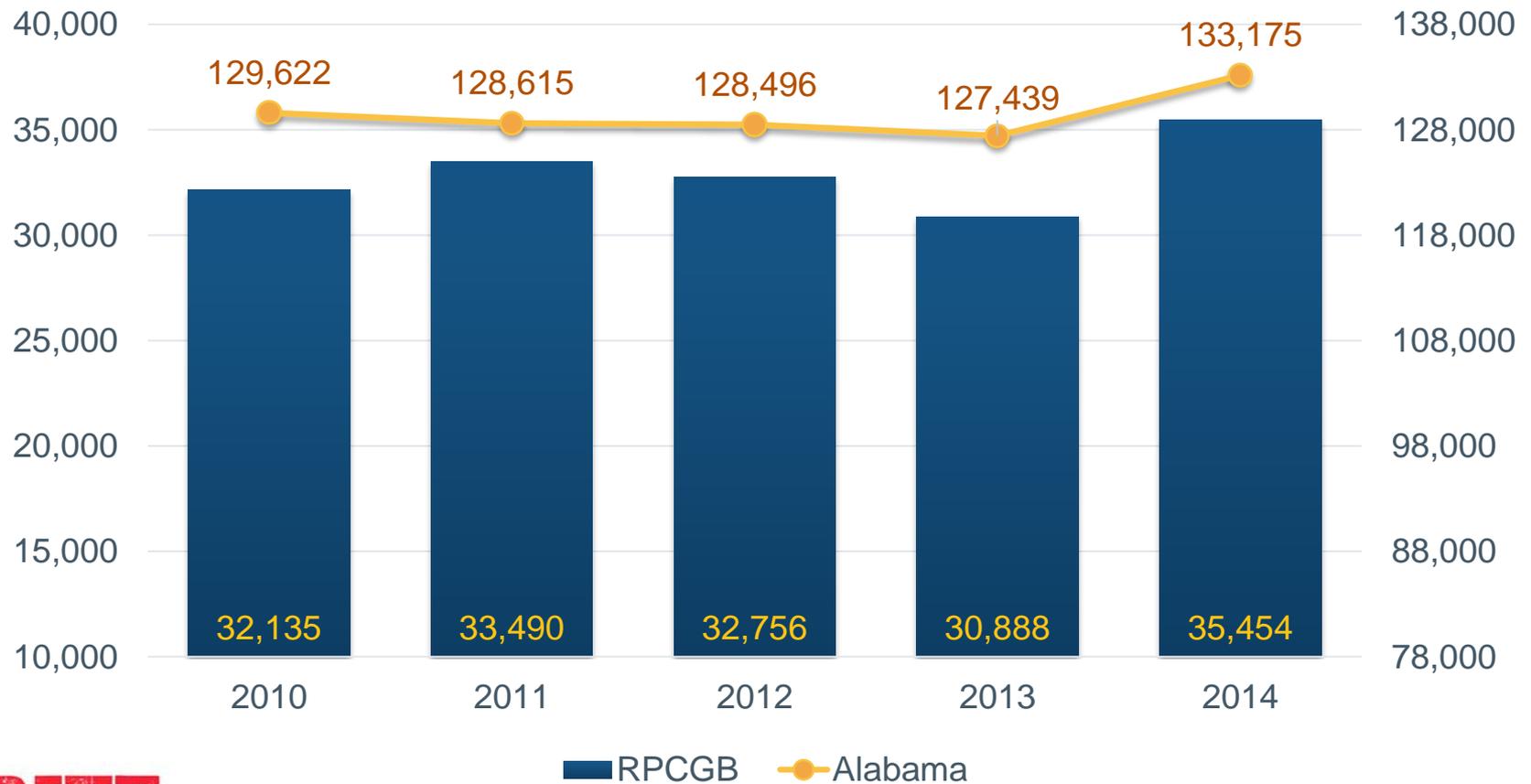
## Statewide Steering Committee Meeting

- Plan adoption
- Identify resource needs
- Statewide SHSP development
- Discuss policy changes

# RPCGB REGIONAL CONTEXT

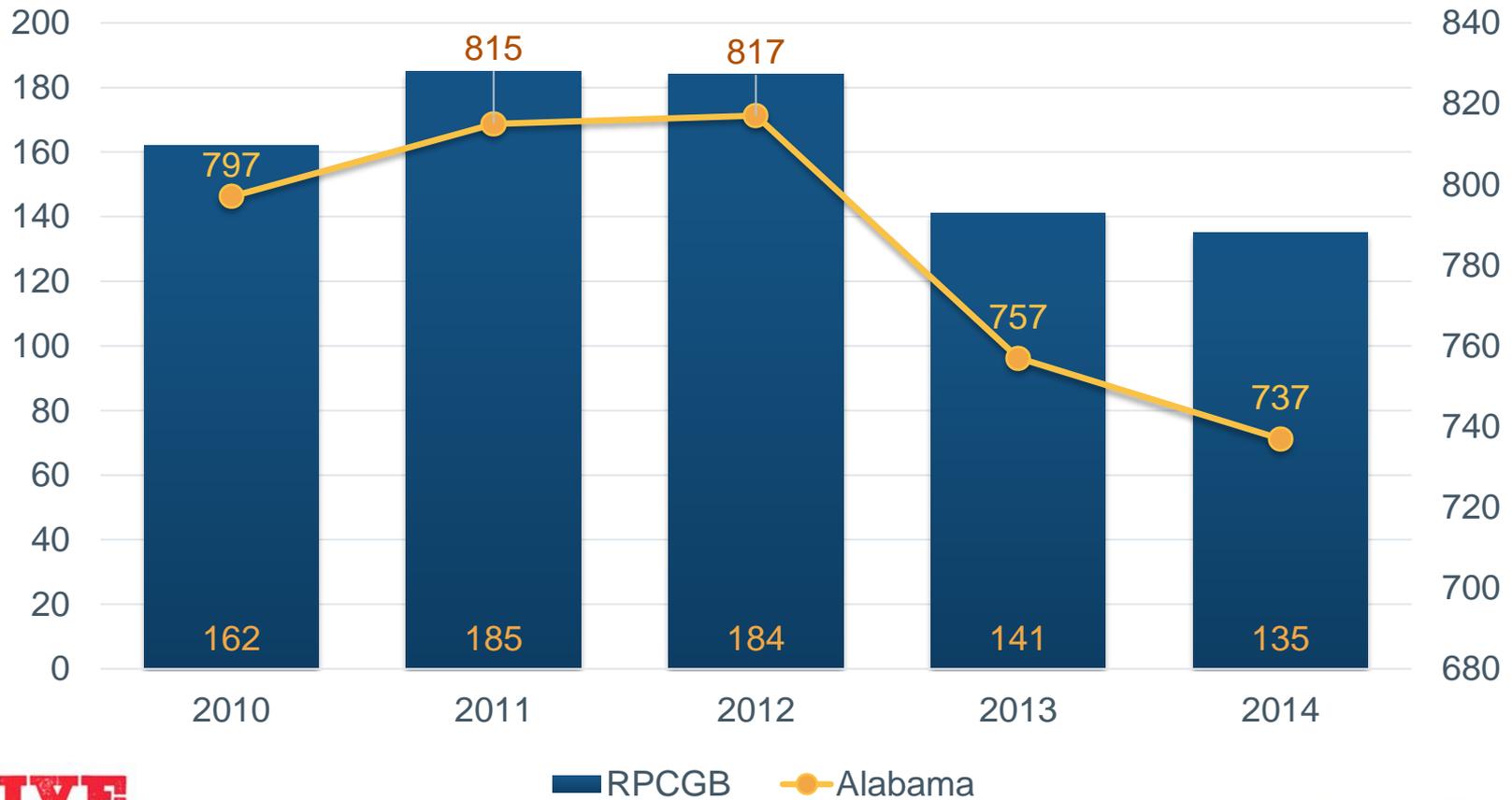
# Statewide and RPCGB Crashes

## 2010 to 2014

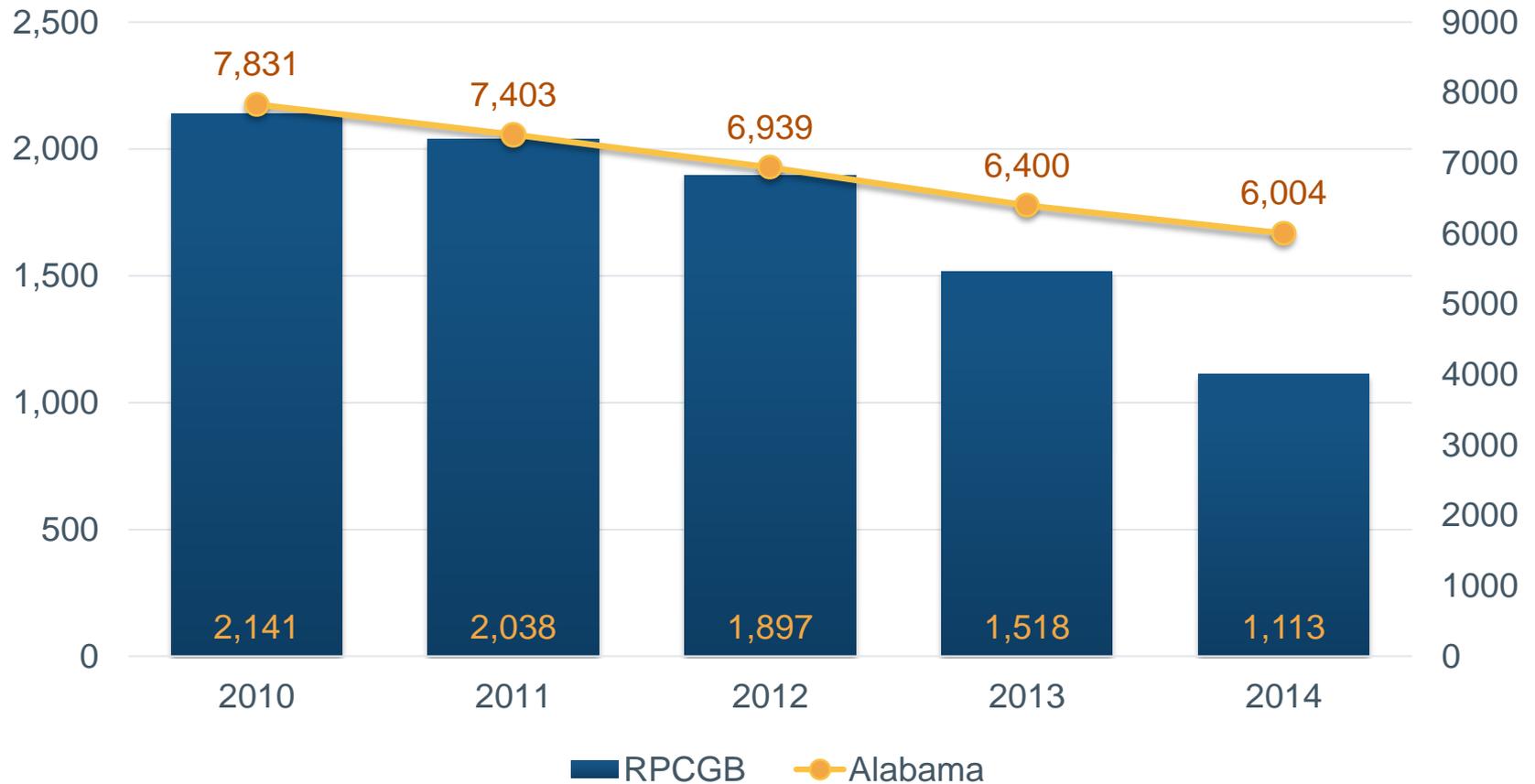


# Statewide and RPCGB Fatal Crashes

## 2010 to 2014



# Statewide and RPCGB Serious Injury Crashes 2010 to 2014



# Percent of All Crashes and Serious Crashes By Type, 2010 to 2014

Crash Characteristic	Percent of Total Crashes	Percent of Fatal Crashes	Percent of Serious Injury Crashes
Single Vehicle Crash (RD)	33%	46%	33%
Head-On (front to front only)	3%	10%	4%
Side Impact (90 degrees)	11%	6%	5%
Rear End (front to rear)	57%	5%	9%
Side Impact (angled)	10%	3%	3%
Other	3%	3%	1%
Angle Oncoming (frontal)	3%	2%	2%
Angle (front to side) Opposite Direction	4%	2%	1%
Sideswipe - Same Direction	10%	1%	1%
Angle (front to side) Same Direction	4%	1%	1%
Unknown	1%	0%	0%
Sideswipe - Opposite Direction	2%	0%	0%
Backing	3%	0%	0%

# EMPHASIS AREA – SURVEY

# Safe Home Alabama Website

The screenshot shows the website [www.safehomealabama.gov](http://www.safehomealabama.gov). The header features the "SAFE HOME ALABAMA" logo with a red arrow pointing to it, a circular map of Alabama, and the tagline "Unifying Alabama's Traffic Safety Efforts Working Together to Save Lives". A "Login" button is in the top right. A search bar is located below the tagline. The navigation menu includes: SHA HOME, SERVICE GROUPS, GOVERNMENT AGENCIES, UNIVERSITIES, SAFETY TOPICS, and PLANS & ANALYSIS. The "PLANS & ANALYSIS" menu is open, listing: Strategic Highway Safety Plan (SHSP), CARE/eCrash, eCite, Crash Facts, Demographics, FARS, Holidays, IHSDM/HSM, Road Improvements, TRCC, and Work Zones. A red arrow points to the "Strategic Highway Safety Plan (SHSP)" item. The main content area features a banner for "Don't Wreck The Holidays" with the text "Pre-Holiday Season Drunk Driving Prevention November 28 - December 15, 2015" and a link to "Click here and get your campaign materials now!". A snowman illustration is on the right. Below the banner are three icons: Alabama, USA, and a gavel.



# Safe Home Alabama Website

www.safehomealabama.gov/DataAnalysis/StrategicHighwaySafetyPlan(SHSP).aspx

**SAFE  
HOME  
ALABAMA**



Unifying Alabama's Traffic Safety Efforts  
Working Together to Save Lives

Login

Search...



SHA HOME

SERVICE GROUPS

GOVERNMENT AGENCIES

UNIVERSITIES

SAFETY TOPICS

PLANS & ANALYSIS

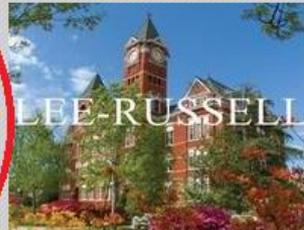
## SHSP REGIONS



TARCOG



BIRMINGHAM



LEE-RUSSELL



ALABAMA-  
TOMBIGBEE

### SHSP

#### Strategic Highway Safety Plan

The 4E's of Transportation  
Safety

### SHSP Information

The State of Alabama has an initiative to develop the most recent Strategic Highway Safety Plan.

This task is being conducted by the University of Alabama (UA) for the Alabama Department of Transportation (ALDOT).





## Birmingham

### Birmingham

Courties Served:  
Blount, Chilton, Jefferson, St. Clair,  
Shelby, and Walker

### Previous Meetings

April 15, 2015 Pre-Planning Meeting

[Agenda](#)  
[Presentation](#)

July 18, 2015 Meeting #1

[Agenda](#)  
[Presentation](#)

Birmingham Next Meeting  
Tuesday, November 17, 2015  
9:30 AM – 11:30 AM  
RPCGB Conference Room  
220th Street N  
Birmingham, AL 35203

BIRMINGHAM STAKEHOLDER  
FEEDBACK SURVEY

[TAKE SURVEY NOW! >>](#)

[RETURN HOME](#)

## Coalition Invitation

# BIRMINGHAM REGIONAL COALITION

## Regional Safety Action Plan

*Between 2010 and 2014, the number of traffic crashes in the Birmingham Region has increased by 28%.*

Efforts are underway to develop an action plan to improve transportation safety in the Birmingham Region. We are asking you to help us understand the public's transportation safety concerns, as well as your ideas about safety solutions.

Common characteristics of severe crashes include:

- Single vehicles departing the roadway,
- Drivers and other road users under the influence of alcohol,
- Non-intersection locations, and
- Young-adult drivers.



### Who Should Participate?

- Engineers
- Planners
- Safety Practitioners
- State and Local Police
- Emergency Responders
- Health Care Workers
- Educators
- Behavioral Scientists

### Benefits of Participation

- Safer roads and streets
- Increased public support for safety
- Access to data and expertise
- Potential funding eligibility
- Building community safety capacity
- Networking with other concerned individuals and organizations

# Survey Responses – 25 Total

4E Concept Related to Field of Work	Percent of Responses
Engineering	56%
Education	36%
Enforcement	4%
Emergency Services	4%

Other 4Es Also Related to Field of Work	Percent of Responses
Engineering	32%
Education	32%
Enforcement	12%
Emergency Services	32%

# Priority Emphasis Areas - Survey Results

Ranking	Emphasis Areas
1	Distracted Drivers
2	Speeding
3	Aggressive Drivers
4	Impaired Driver
5	Intersection
6	Roadway Departure
7	Younger Driver (15-25)
8	Unrestrained
9	Pedestrians
10	Bicycles

# Top 3 Emphasis Areas – 4Es

Ranking	Emphasis Areas
1	Distracted Drivers
2	Speeding
3	Aggressive Drivers

Ranking	Engineering	Education	Enforcement	Emergency Services
1	Distracted Drivers	Distracted Drivers	Emergency Response/Incident Management	Younger Driver (15-25)
2	Roadway Departure	Speeding	Pedestrians	Distracted Drivers
3	Intersection	Younger Driver (15-25)	Bicycles	Unrestrained

# Survey Results

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## » Other:

- » Public Transportation
- » Sleepy Drivers
- » ALDOT's indifference to implementation of roadway improvements on existing roadways that have been identified as subpar and in immediate need of corrective actions.
- » Child passengers
- » Potholes
- » Defensive Driving
- » Congestion spillback onto Interstates
- » Intoxicated drivers
- » Performance Reporting

# EMPHASIS AREA – CRASH DATA

# Priority Emphasis Areas – Crash Data

## Fatalities and Serious Injuries, 2010 to 2014

Emphasis Areas	Total Fatalities	Percentage of Total Fatalities	Total Serious Injuries	Percentage of Total Serious Injuries
Roadway Departure	464	52%	3,894	34%
Aggressive Drivers	343	39%	5,344	47%
Younger Driver (15-25)	303	34%	4,710	41%
Unrestrained	301	34%	1,446	13%
Intersection	212	24%	3,671	32%
Speeding	188	21%	1,280	11%
Impaired Driver	172	19%	1,147	10%
Older Driver (65+)	156	18%	2,173	19%
Motorcycles	106	12%	638	6%
CMV	90	10%	523	5%

# Priority Emphasis Areas

## Survey Results

Ranking	Emphasis Areas
1	Distracted Drivers
2	Speeding
3	Aggressive Drivers
4	Impaired Driver
5	Intersection

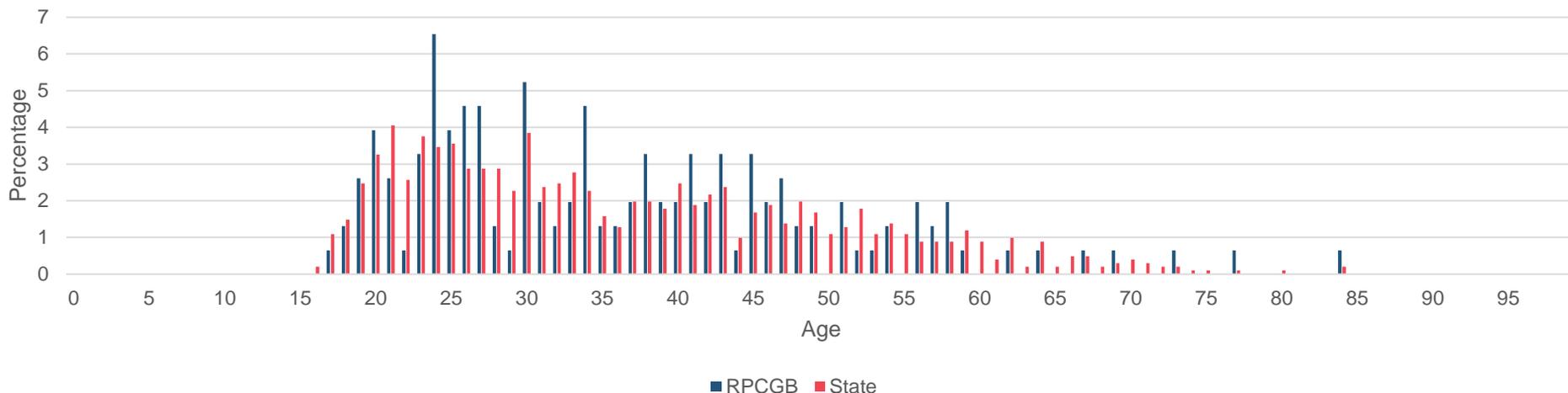
## Crash Data

Ranking	Emphasis Areas
1	Roadway Departure
2	Aggressive Drivers
3	Younger Driver (15-25)
4	Unrestrained
5	Intersection

# Percent of DUI Crashes Caused By Young Drivers (15-25)

Severity	RPCGB	State
Fatal	26	26
Injury	26	25
Total	25	25

Distribution of Fatal DUI Crashes by Age



# Priority Emphasis Areas

## Survey Results

Ranking	Emphasis Areas
1	Distracted Drivers
2	Speeding
3	Aggressive Drivers
4	Impaired Driver
5	Intersection

## Crash Data

Ranking	Emphasis Areas
1	Roadway Departure
2	Aggressive Drivers
3	Younger Driver (15-25)
4	Unrestrained
5	Intersection

## Huntsville Region

Ranking	Emphasis Areas
1	Distracted Drivers
2	Aggressive Drivers
3	Roadway Departure
4	Impaired Driver
5	Speeding

Ranking	Emphasis Areas
1	Aggressive Drivers
2	Roadway Departure
3	Unrestrained
4	Younger Driver(15-25)
5	Intersection

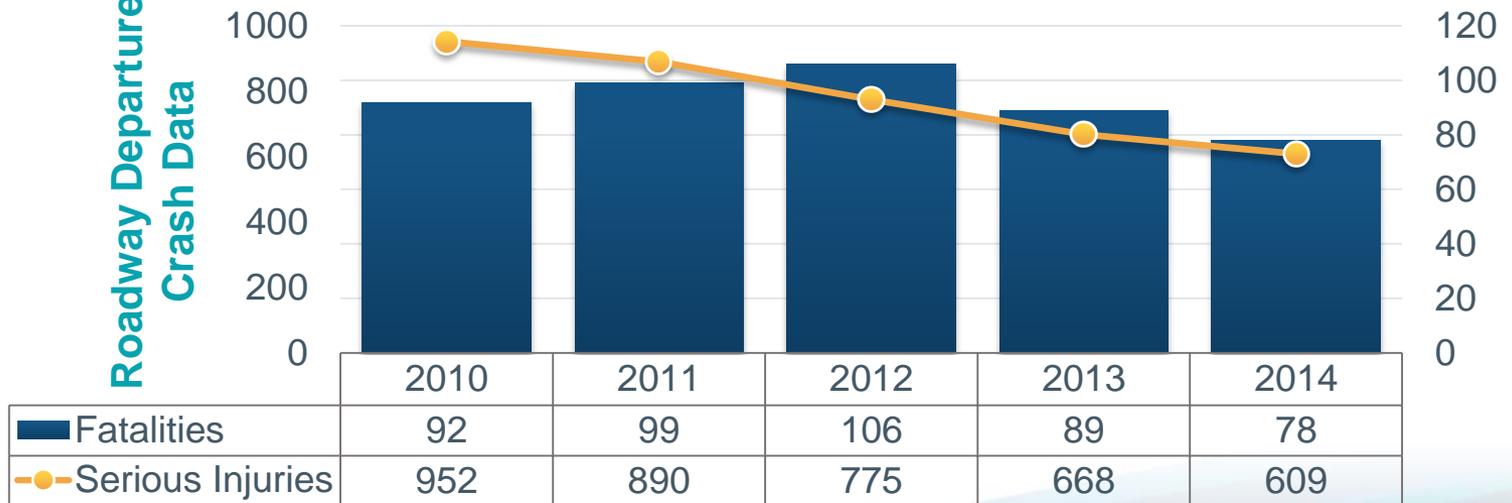
# SELECTING RPCGB EMPHASIS AREAS

# #1 Ranked Emphasis Areas

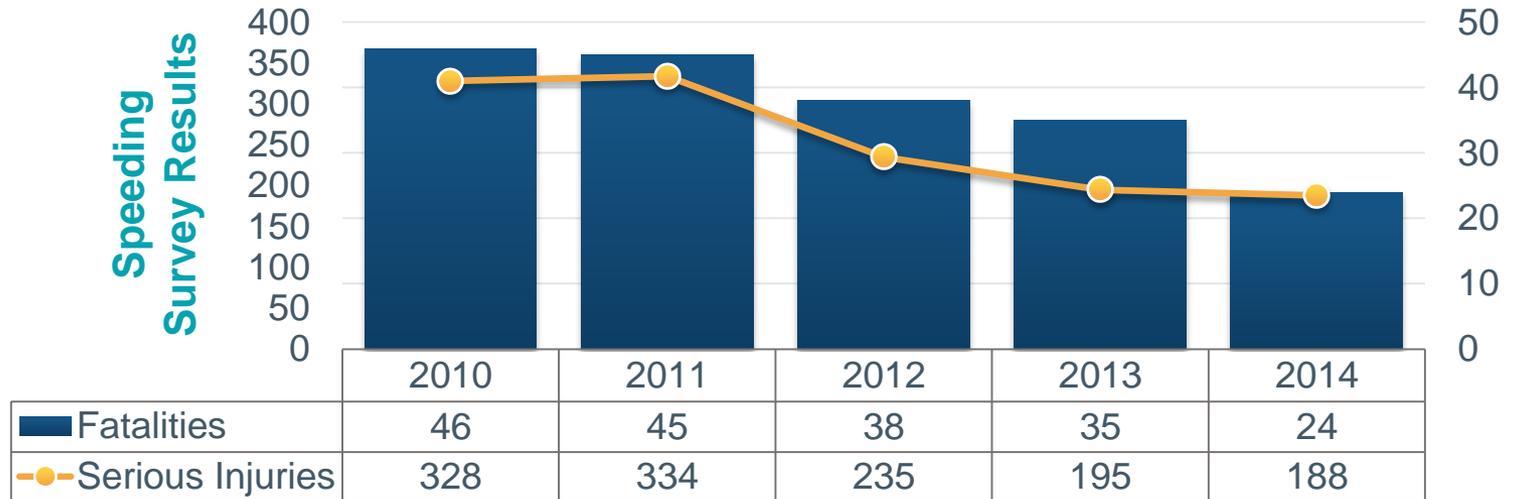
Distracted Driving  
Survey Results



Roadway Departure  
Crash Data



# #2 Ranked Emphasis Areas



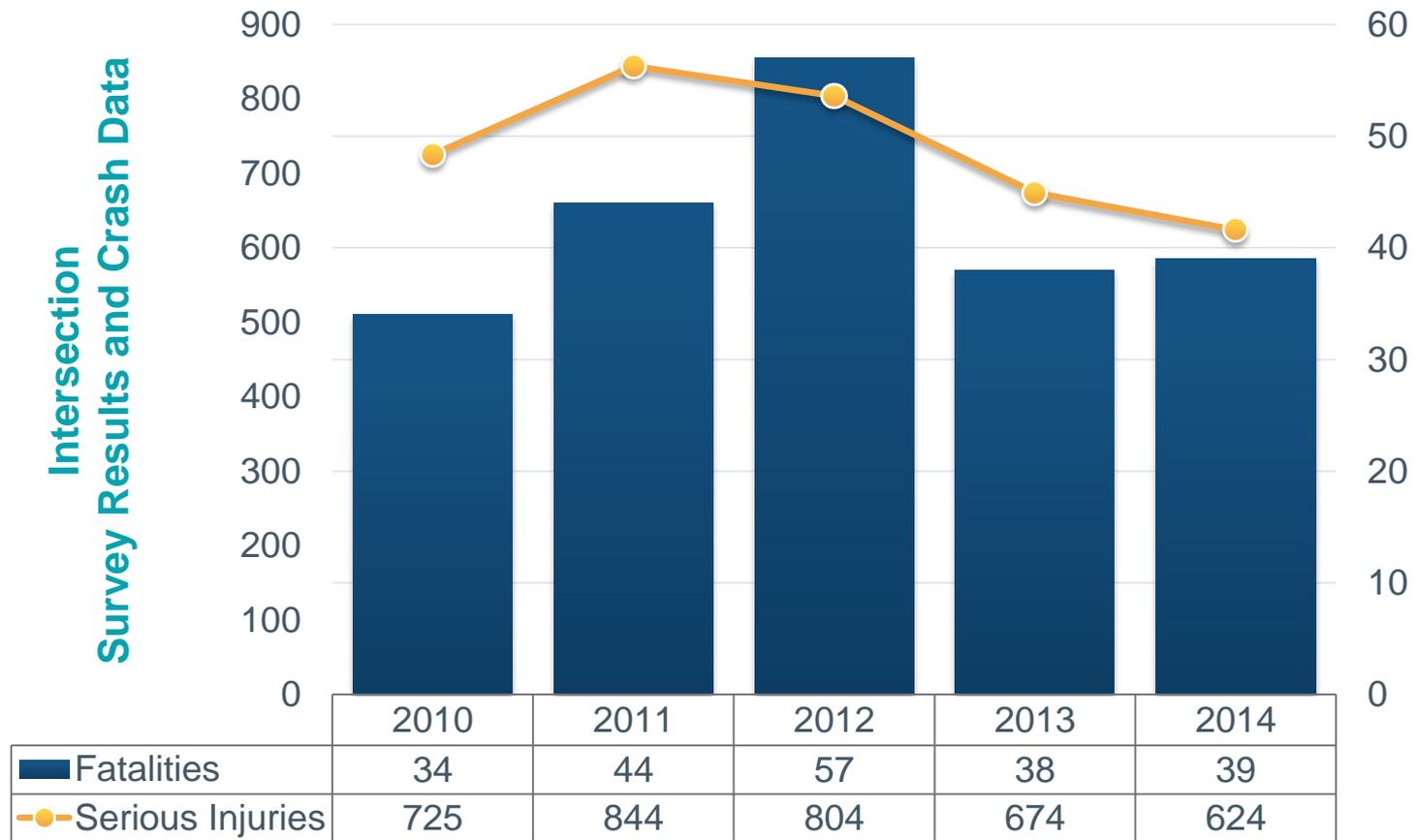
# #3 Ranked Emphasis Areas



# #4 Ranked Emphasis Areas



# #5 Ranked Emphasis Areas



# COUNTERMEASURE SELECTION

# Countermeasure Selection Considerations

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- ▶ History
- ▶ Feasibility
  - » Policies
  - » Resources
  - » Knowledge
- ▶ Effectiveness
- ▶ Sponsorship

# Current Practice

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- Enforcement
- Engineering
- Education
- Emergency Services

# Resources

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- ▶ **NCHRP 500 Series**
- ▶ **Countermeasures that Work**
- ▶ **CMF Clearinghouse**
- ▶ **Research Literature**

# ROUNDTABLE DISCUSSION

# Roadway Departure - #1 from Crash Data

## EXHIBIT I-1 Emphasis Area Objectives and Strategies

Objectives	Strategies
15.1 A—Keep vehicles from encroaching on the roadside	<p data-bbox="1004 385 1541 445">15.1 A1—Install shoulder rumble strips</p> <p data-bbox="1004 448 1916 539">15.1 A2—Install edgeline “profile marking,” edgeline rumble strips or modified shoulder rumble strips on section with narrow or no paved shoulders</p> <p data-bbox="1004 542 1472 592">15.1 A3—Install midlane rumble strips</p> <p data-bbox="1004 595 1916 672">15.1 A4—Provide enhanced shoulder or in-lane delineation and marking for sharp curves</p> <p data-bbox="1004 675 1812 725">15.1 A5—Provide improved highway geometry for horizontal curves</p> <p data-bbox="1004 728 1591 778">15.1 A6—Provide enhanced pavement markings</p> <p data-bbox="1004 781 1624 831">15.1 A7—Provide skid-resistant pavement surfaces</p> <p data-bbox="1004 833 1452 883">15.1 A8—Apply shoulder treatments</p> <ul data-bbox="1089 886 1514 978" style="list-style-type: none"> <li>• Eliminate shoulder drop-offs (E)*</li> <li>• Widen and/or pave shoulders (P)*</li> </ul>
15.1 B—Minimize the likelihood of crashing into an object or overturning if the vehicle travels off the shoulder	<p data-bbox="1004 995 1916 1058">15.1 B1—Design safer slopes and ditches to prevent rollovers (see “Improving Roadsides,” page V-36)</p> <p data-bbox="1004 1061 1916 1138">15.1 B2—Remove/relocate objects in hazardous locations (see “Improving Roadsides,” page V-36)</p> <p data-bbox="1004 1140 1765 1190">15.1 B3—Delineate trees or utility poles with retroreflective tape</p>
15.1.C—Reduce the severity of the crash	<p data-bbox="1004 1202 1916 1279">15.1 C1—Improve design of roadside hardware (e.g., light poles, signs, bridge rails) (see “Improving Roadsides,” page V-36)</p> <p data-bbox="1004 1282 1916 1359">15.1 C2—Improve design and application of barrier and attenuation systems (see “Improving Roadsides,” page V-36)</p>

\* An explanation of (E) and (P) appears on page V-3.



# Aggressive Drivers - #2 from Crash Data and #5 from Survey

## EXHIBIT V-1

### Objectives and Strategies for Addressing Aggressive Driving

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#### Objectives

#### Strategies

4.1 A—Deter aggressive driving in specific populations, including those with a history of such behavior, and at specific locations

4.1 A1—Target enforcement

4.1 A2—Conduct educational and public information campaigns

4.1 A3—Educate and impose sanctions against repeat offenders

4.1 B—Improve the driving environment to eliminate or minimize the external "triggers" of aggressive driving

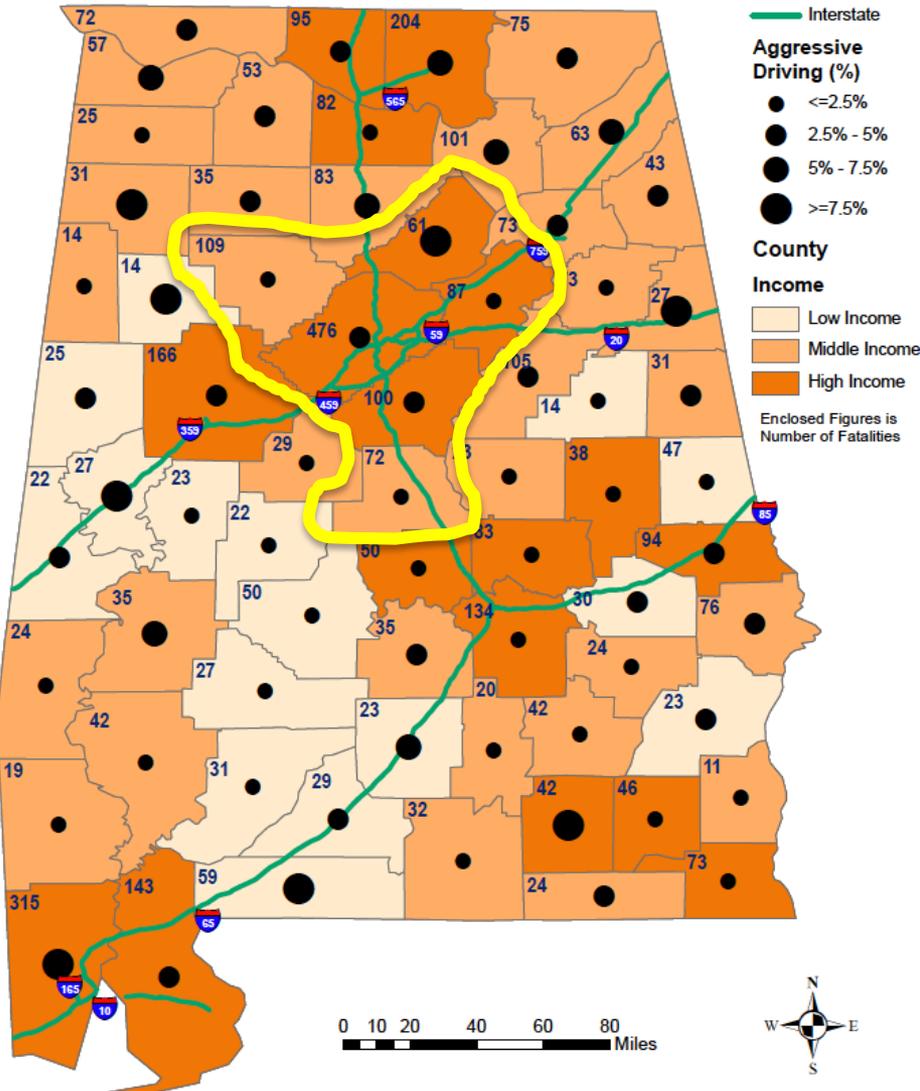
4.1 B1—Change or mitigate the effects of identified elements in the environment

4.1 B2—Reduce nonrecurring delays and provide better information about these delays

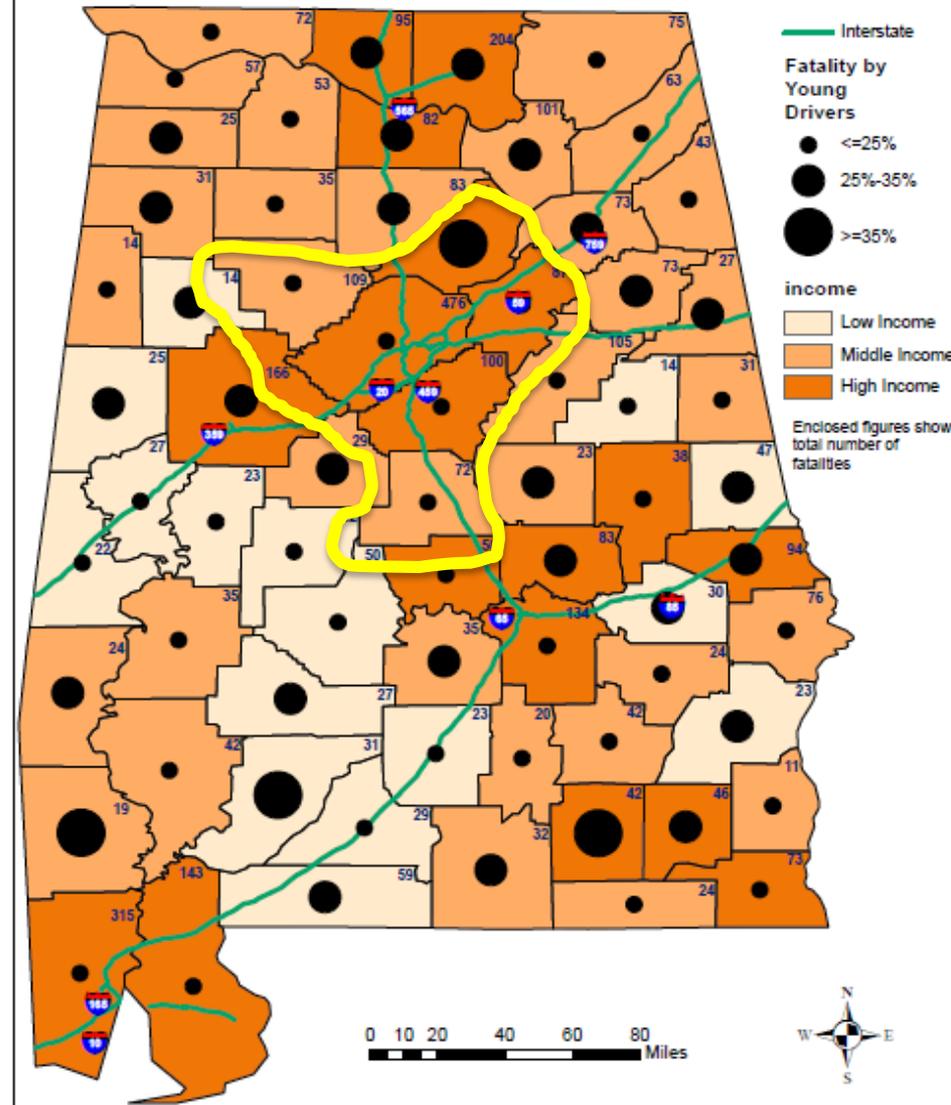
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# Socio-Economic Aspects of Aggressive Driving Crashes

**Fatal Crashes Caused by Aggressive Drivers in Alabama (2009-2013)**



**Fatal Crashes Caused by Young (15-25yrs old) in Alabama Counties (2009 - 2013)**



# NEXT STEPS

# Next Steps

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- Identify date/location for Coalition Meeting #3
- Convene task force for each emphasis area
  - » Web Conferences
  - » Draft Countermeasure Plans
- Conduct meeting #3 to finalize emphasis area action plans
- Finalize Regional Safety Action Plan



## Birmingham Regional Safety Coalition Impaired Driving Emphasis Area Action Plan

**Goal:** The goal of the Birmingham Regional Safety Action Plan is to reduce fatal and serious injury crash by at least 50% by 2035.

**Objective 1:** Reduce vehicle operation under the influence of alcohol or other drugs.

**Strategy 1.1:** Develop regional impaired driving coalition.

Action Step #	Action Step Leader	Description	Output Measure	Timeline	Status
1.1.1	Jane Doe (UAB Hospital), Deputy John Smith (Jefferson County Sheriff's Office),	Select a coalition executive committee	Select 5 individuals to serve as the coalitions executive committee.	6 months	
1.1.2	Deputy John Smith (Jefferson County Sheriff's Office), Lt. Sam Johnson (ALEA, Region G)	Recruit local police agencies and regional sheriff offices to join the coalition as law enforcement representatives.	Contact all 6 regional sheriff offices and all local law enforcement agencies in the region.	12 months	

# Contacts

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## Investigation of a supplementary tool to assist in the prioritization of emphasis areas in North American strategic highway safety plans<sup>☆</sup>

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Beta-binomial model

Emphasis areas

Collision diagnosis, Traffic safety policy

### ABSTRACT

An important potential benefit of a jurisdiction developing an upper-level traffic safety policy statement, such as a strategic highway safety plan (SHSP) or a traffic safety action plan, is the creation of a manageable number of focus areas, known as emphasis areas. The responsible agencies in the jurisdiction can then direct their finite resources in a systematic and strategic way designed to maximize the effort to reduce the number and severity of roadway collisions. In the United States, the federal government through AASHTO has suggested 22 potential emphasis areas. In Canada, CCMTA's 10 potential emphasis areas have been listed for consideration. This study reviewed the SHSP and traffic safety action plan of 53 jurisdictions in North America, and conducted descriptive data analyses to clarify the issues that currently affect the selection and prioritization process of jurisdiction-specific emphasis areas. We found that the current process relies heavily on high-level collision data analysis and communication among the SHSP stakeholders, but may not be the most efficient and effective way of selecting and prioritizing the emphasis areas and allocating safety improvement resources. This study then formulated a formal collision diagnosis test, known as the beta-binomial test, to clarify and illuminate the selection and the prioritization of jurisdiction-specific emphasis areas. We developed numerical examples to demonstrate how engineers can apply the proposed diagnosis test to improve the selection and prioritization of individual jurisdictions' emphasis areas.