Local Road Safety Plans

Development of LRSPs in Alabama

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Data-Driven Safety Analysis

More Informed Decision Making
Better Targeted Investments
Fewer Fatalities & Serious Injuries

Who’s in the room?

• Cities/MPOs?
• Counties?
  • AL LRSP Pilot Counties?
• AL DOT?
• Academia/LTAP?
• FHWA?
• Industry?

Local Road Safety Plan Overview

Minnesota

• 60% of Severe Crashes occurring on local roads, with the majority on County roads
• Historically, the majority of roadway safety investments were made on the state system
• Decided to spend HSIP at commensurate levels
• However, no locations on the 22,000 miles of rural secondary roads experienced more than one severe crash per year

Development of Local Road Safety Plans in Alabama
Local Road Safety Plans – 2017

“Do-It-Yourself” LRSP Pilot

- Accelerate development and implementation of LRSPs
- Progress towards NACE and FHWA goals of reducing fatal and injury crashes
- Advances Risk Based, Data Driven and Systemic Approach to Improving Safety of Local Roadways
- Empower locals to incorporate safety into routine business (maintenance, capital improvements)
- Leverage funding opportunities

Video: Local Road Safety Plans

https://youtu.be/Wzdm798MoI8

Why would a Local Agency Create a Local Road Safety Plan?

- Reduction in fatal and severe crashes
- Develop lasting partnerships (4 E’s)
- Greater awareness of road safety and risks
- Leverage funding opportunities
- Transparency in prioritization and funding of projects
- Advance risk based, data driven and systemic approach to improving safety of local roadways
- Incorporate safety into routine business (maintenance, capital improvements)
Local Road Safety Plan Effort in Alabama

Alabama Statistics

- In Alabama, 88% of roads are maintained by local agencies (89,465 mi).
- Alabama counties maintain 62,519 miles (12th in the nation).
- In Alabama, 45% of fatal and 49% of serious injury crashes occur on locally maintained roads.
- Alabama ranks 6th in the country for fatal crashes on county-maintained roads.
- Alabama ranks 2nd in the country for fatal Rural Roadway Departure crashes on county-owned roads.

Alabama Statistics

- An average of 350 fatal crashes occur each year on local roads, with 244 occurring on the County system.
- An average of 244 fatal crashes and 1470 serious injuries occur each year on County maintained roads (approximately 5 per day).

Participating Counties

| John Mark Davis | Autauga County |
| John Thomas     | Limestone County |
| Josh Harrell    | Chambers County |
| Daniel Lundy    | Crenshaw County |
| Benjie Sanders  | Crenshaw County |
| Tress DuBose    | Henry County |
| Chris Champion  | Henry County |
| Burkley Kirkland| Lowndes County |
| Josh Jackson    | Lowndes County |
| Kelly Crowell   | Lowndes County |
| Brittnee Clotet| Lowndes County |
| Veronica Goins  | Lauderdale County |
| Eric Hill       | Lauderdale County |
| Justin Hardee   | Lee County |
| Jake Lashley    | Lee County |
| Patrick Harvill | Lee County |
| DeAndre Kimbrough| Lee County |
| Dave Heard      | Lee County |
| Anthony Clay    | Sumter County |
| Fredrick Powell | Wilcox County |

Elmore County LRSP, 2019

Video: Towards Zero - New South Wales

https://www.youtube.com/watch?v=ra5LK8x86zU

Development of Local Road Safety Plans in Alabama
Participating Counties

- In 2019, 31 fatal and 113 serious injury crashes occurred in the 11 Pilot counties (approx. 14%)

LRSP Pilot Components

- Training (virtual)
- In-Person Workshop
- Technical Support
- Providing Crash Data
- Data Analysis Support
- Resources Website
- An LRSP!
- In-State Peer Exchanges

County Lead Role

- Be a champion
- Engage necessary stakeholders
- Lead or co-Lead the development (there will be “homework”!)
- Provide input and feedback to their state partners
- Participate in the webinars
- Participate in the in-person workshop
- Think about opportunities to reduce severe crashes in their county

DOT/LTAP/FHWA Division Office Roles

- Provide safety data and analysis support as needed
- Participate in the webinars
- Participate in the in-person workshop
- Serve as eyes and ears
  - Sharing information between counties and respective stakeholders
  - Provide information and feedback to the delivery team throughout the process
- Think about opportunity programs, policies or procedures that could be developed or modified to effectively reduce severe crashes on local roads

“Do what you can, with what you have, where you are.”
- Theodore Roosevelt

Systemic Approach
**Safety Data & Risks**

- Crash
- Roadway
- Traffic Volume
- Enforcement
- Maintenance Logs

**Systemic Safety Analysis**

Assessing the potential for a specific type of severe crash to occur at a specific location because of the location’s characteristics or features (risk factors).

**Systemic Safety**

- Systemic – Deploying countermeasures at locations with the greatest potential for safety improvement
- Systematic – Deploying countermeasures at all locations

**Systemic Example:** providing enhanced delineation on curves with radii between 500-700 feet which were over-represented in severe crashes

**Definitions**

- Systemic – Deploying countermeasures at locations with the greatest potential for safety improvement
- Systematic – Deploying countermeasures at all locations

**Systemic Safety Planning Process**

1. Identify Focus Crash Types and Risk Factors
2. Screen and Prioritize Candidate Locations
3. Select Countermeasures
4. Prioritize Projects

https://safety.fhwa.dot.gov/systemic/fhwasa13019/

**Video: FoRRRwD**

https://www.youtube.com/watch?v=W6I6hv1IIWw
Development of Local Road Safety Plans in Alabama
**What we mean by “risk factor”**

A representation of risk in terms of the observed characteristics associated with the locations where the targeted crash types occurred.

- Shoulder Width
- Alignment
- Intersection Control
- Volume
- ...

**Potential Risk Factors – Roadway Departure**

- Number of lanes
- Lane width
- Shoulder width / type
- Median width / type
- Horizontal curvature
  - Super-elevation
  - Delineation
  - Advance warning
  - Speed differential
  - Visual trap
- Pavement condition / friction
- Roadside features
  - Sideslope design
  - Clear zone
- Driveway density
- Other features
  - Rumble strips
  - Lighting
  - On-street parking

**Potential Risk Factors – Roadway Features**

- Traffic control device
- Left-turn or right-turn lanes
- Skew angle
- Advance warning signs
- Located in or near horizontal curve
- Type of development (e.g., commercial)
- Signals
  - Left-turn phasing
  - Number of signal heads vs. number of lanes
  - Backplates
  - Right-turn-on-red
  - Overhead versus pedestal mounted

**Potential Risk Factors – Intersections**

- Type of intersection control
- Crosswalk presence
- Lanes to cross/crossing distance
- Pedestrian signal/type
- Sidewalk presence
- Adjacent land uses
- Transit stops
- Lighting

**Potential Risk Factors – Pedestrians**

- Type of intersection control
- Crosswalk presence
- Lanes to cross/crossing distance
- Pedestrian signal/type
- Sidewalk presence
- Adjacent land uses
- Transit stops
- Lighting

**Examples of Potential Risk Factors, Roadway Features and Crashes**

**Examples of Potential Risk Factors, Roadway Features and Crashes**
Typical Approach to Risk Factors
- Use qualitative ratings when needed:
  - Good, Fair, Not-So-Good (curve radius, roadside, etc.)
  - High, Medium, Low (traffic volumes, crash frequency, etc.)
  - It is important to include the risk factors that are key to your roadway network

“There’s a lack of quantitative data, but there’s a wealth of qualitative data.”

Linda, National Park Service

Enhanced Delineation and Friction for Horizontal Curves

Enhanced Delineation
- Pavement Markings
- Post-mounted delineators
- Brighter/larger signs
- Dynamic curve warning signs

Increased Pavement Friction
- Sharp Curves
- Wet Conditions
- Polished Surfaces
- Excessive Speeds

https://safety.fhwa.dot.gov/proven_countermeasures/enhanced_delineation/
Who’s Got Next?

- AL DOT is looking for volunteers for Phase II
- If interested, come talk to us!!!

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- Theodore Roosevelt

Questions?
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