

Evaluating Highway Safety

in Louisiana

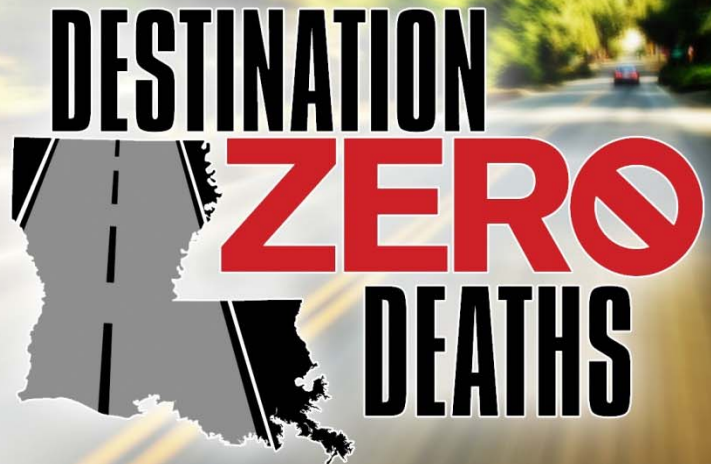
presented to

**Annual Statewide Traffic Engineers
Meeting**

presented by


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DOTD - Highway Safety



July 2016

HOW IS HIGHWAY SAFETY EVALUATED IN LOUISIANA?

A blurred photograph of a highway with yellow double lines, viewed from a driver's perspective, suggesting motion and speed.

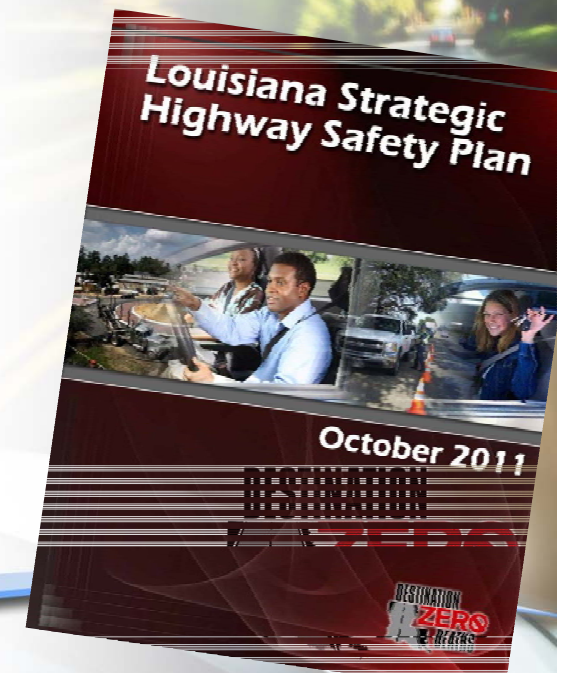
**DESTINATION
ZERO
DEATHS**

Evaluations & Reporting Tools

- Louisiana Strategic Highway Safety Plan
- Louisiana Highway Safety Plan
- Fatality Analysis Reporting System (FARS)
- Louisiana Traffic Records Data Report
- Louisiana Highway Safety Improvement Program (HSIP) Annual Report
- Louisiana Performance Accountability System

Louisiana Strategic Highway Safety Plan

- Required by SAFETEA-LU (2005)
- Prepared by DOTD in coordination with various stakeholders
 - » Louisiana Highway Safety Commission
 - » Louisiana State Police
 - » Regional Safety Coalitions
 - » Highway Safety Research Group/LSU
- Updated every 5 years



Louisiana Strategic Highway Safety Plan

● 2011 Emphasis Areas

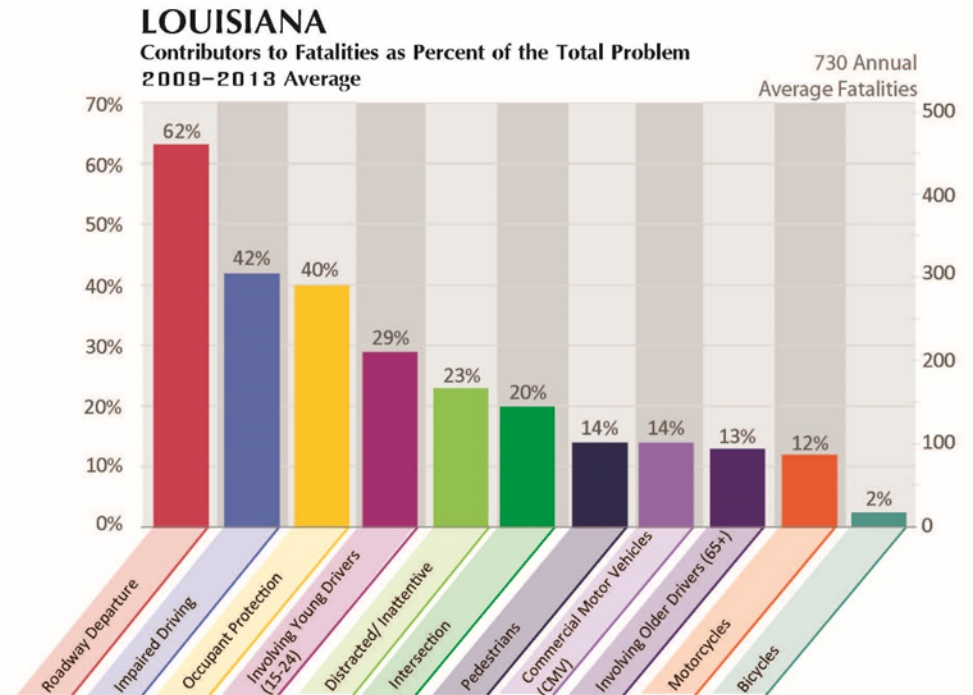
- » Impaired Driving
- » Occupant Protection
- » Young Drivers (15-24)
- » **Infrastructure & Operations**
 - Roadway Departure
 - Intersection

● 2016 NEW Emphasis Area

- » Distracted Driving

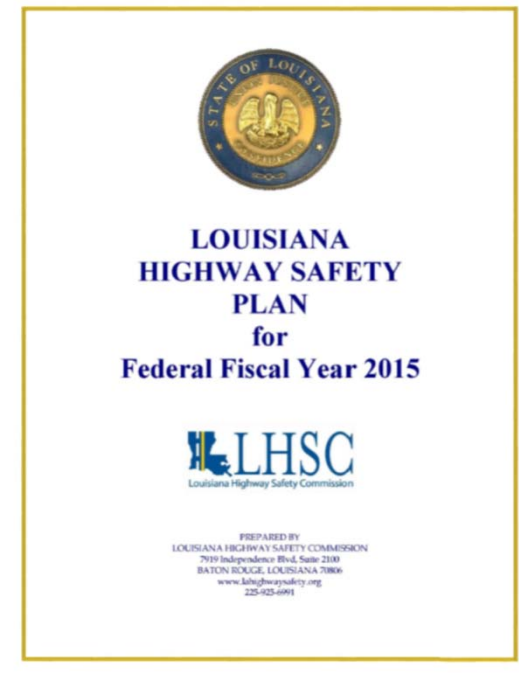
● Pedestrian & Bicycle Focus Cities

- » New Orleans
- » Baton Rouge



Louisiana Highway Safety Plan

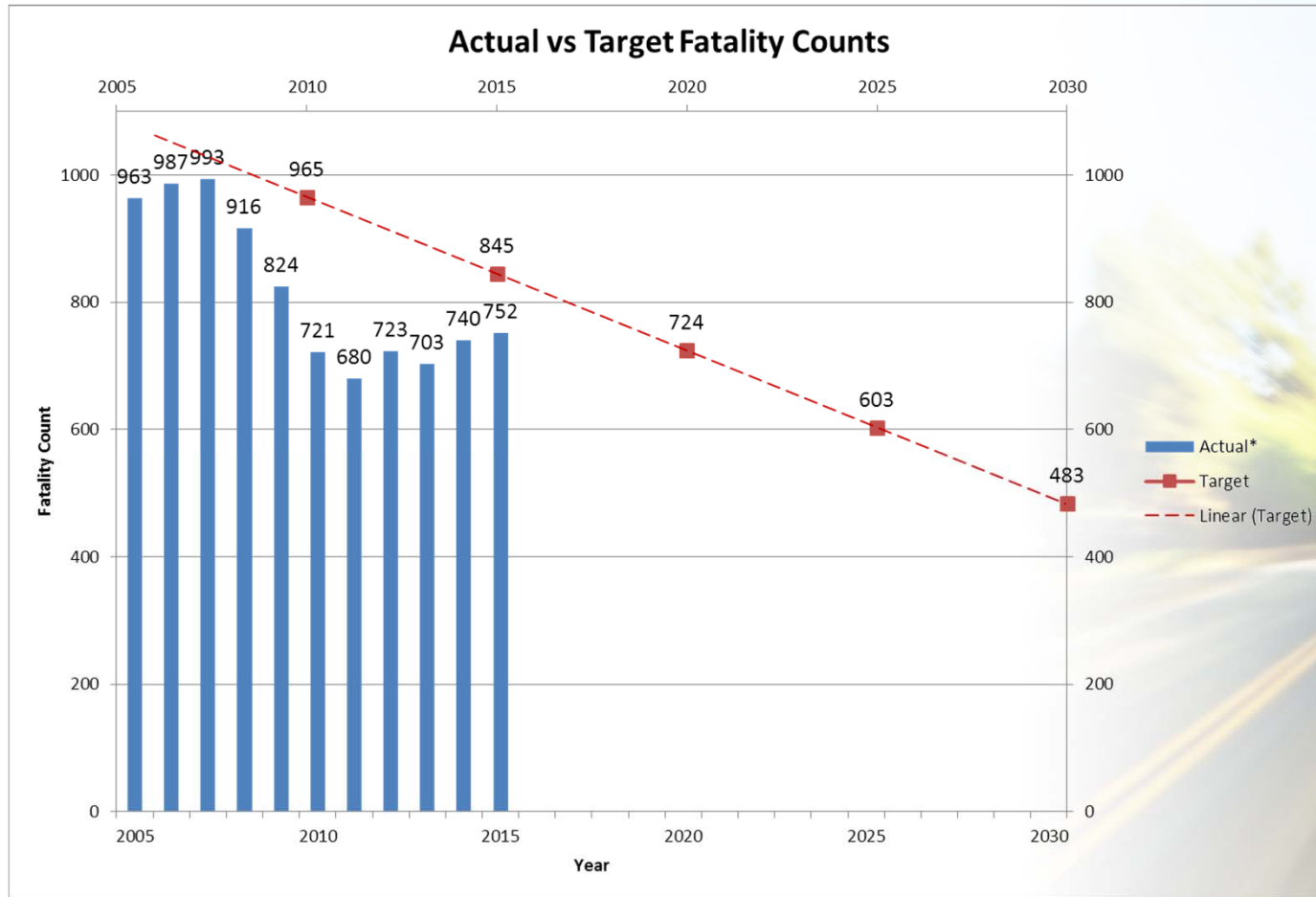
- Required by National Highway Traffic Safety Administration (NHTSA)
- Prepared by
 - » Louisiana Highway Safety Commission
- Annually
- More behavioral focused
- Coordinated effort with SHSP
- Must have same targets as SHSP



Fatality Analysis Reporting System (FARS)

- In coordination with National Highway Traffic Safety Administration (NHTSA)
- Prepared by
 - » DOTD & Highway Safety Research Group / LSU
- Annually
- More detailed analysis of fatal crashes
- All public roads
- Last harmful event must be roadway related & fatality occurs within 30 days of event
 - » (i.e. Heart attack or stroke while driving not considered in FARS)

Louisiana Statistics



Fatalities per 100 MVMT (2014)*

Louisiana = 1.5

US = 1.08

Best State = 0.57

Fatalities per 100,000 Pop (2014)*

Louisiana = 15.85

US = 10.25

Best State = 3.49



*Per National Highway Traffic Safety Admin. (NHTSA)

Louisiana Traffic Records Data Report

- Required by Title 32:398(J)
- Prepared by
 - » HSRG / LSU
- Annually

<http://datareports.lsu.edu/Default.aspx>



Louisiana HSIP Annual Report

- **Required by FHWA**
- **Prepared**
 - » **DOTD**
- **Annually**
- **CONTENTS:**
 - » **Program Structure**
 - » **Progress in Implementing Projects**
 - **Funding breakout**
 - **General list of projects w/ improvement category**
 - » **Progress in Achieving Safety Performance Targets**
 - » **Project Evaluation (optional)**



Prepared by: LA

Upcoming Changes to HSIP & HSP Reports

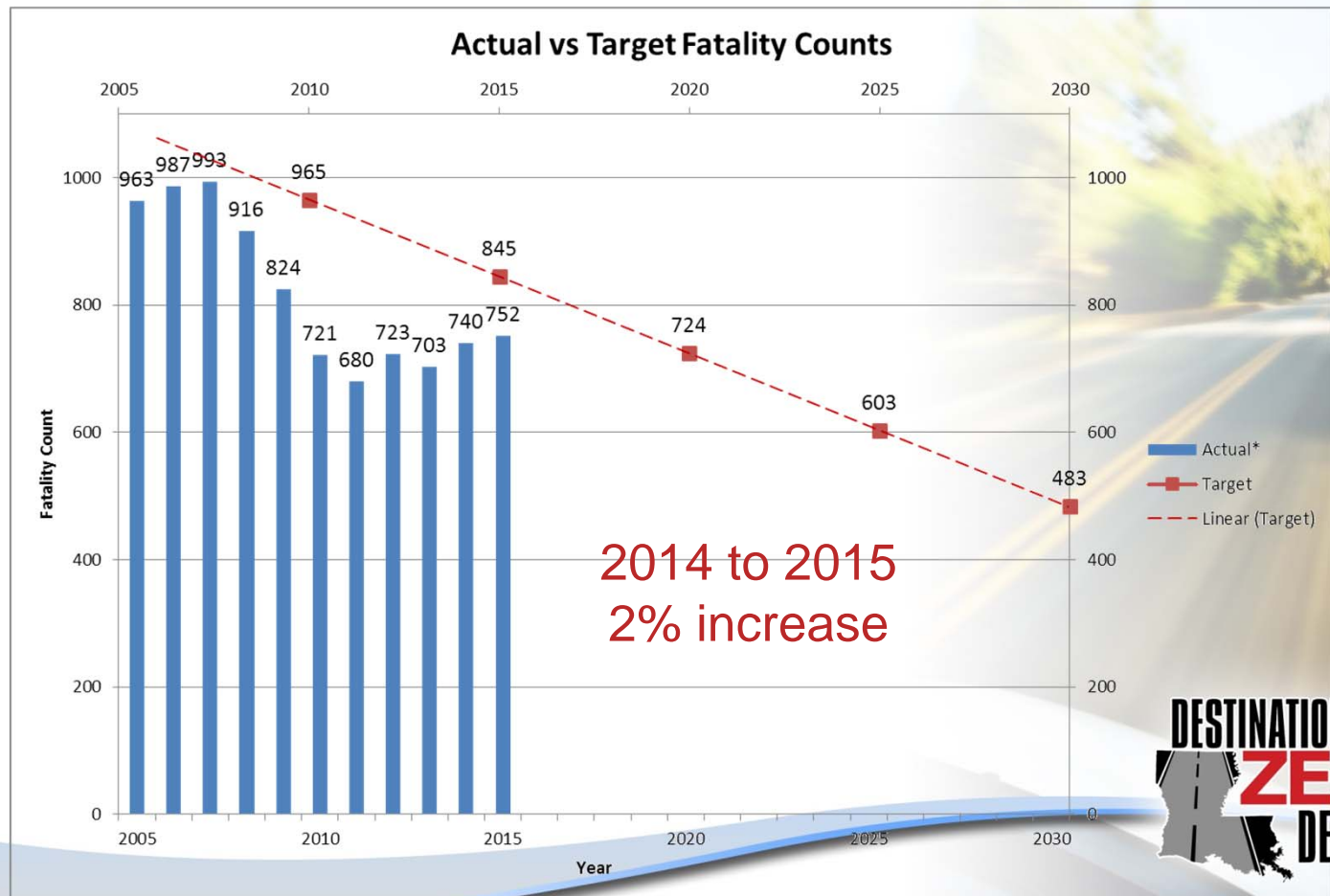
- **Safety Performance Measures final rule (March 2016)**
- **Annual safety targets will be required for the following:**
 1. **Number of Fatalities**
 2. **Rate of Fatalities**
 - Fatalities per 100 million vehicle miles traveled (100MVMT)
 3. **Number of Serious Injuries**
 4. **Rate of Serious Injuries**
 - Serious injuries per 100MVMT
 5. **Number of non-motorized fatalities and non-motorized serious injuries**
- **5 year Average**
- **Required for States & MPOS**
- **“Significant progress” = 4 of 5 targets are met**

Louisiana Performance Accountability System (LaPAS)

- **Act 1465 of 1997** (the Louisiana Government Performance and Accountability Act) required that each agency (budget unit) receiving an appropriation in the general appropriation act or the ancillary appropriation act produce a series of performance progress reports. The purpose of these reports is to track the agency's progress toward achievement of annual performance standards.
- The **Office of Planning and Budget (OPB)** in the Division of Administration, as the official record keeper and repository of performance data, maintains an electronic performance database, the Louisiana Performance Accountability System (LaPAS) to track performance standards and actual performance.

Louisiana Performance Accountability System (LaPAS)

- Object 2: To Reduce the total number of fatalities on Louisiana public roads by 6% each calendar year through 2030.



Louisiana Performance Accountability System (LaPAS)

- Object 3: To achieve at least a 25% reduction in fatal and non-fatal crash rates at selected crash locations through the implementation of safety improvements each year.
 - » Observed before/after analysis
 - » 3 years of crash data & ADTs
 - » FY15-16 Report uses HSIP funded infrastructure projects completed (final inspection) in 2012
 - » Due to data issues, the following types of projects are not currently included in the evaluation:
 - Ramps
 - Frontage Roads
 - Local Road Safety Program
 - Safe Routes to School

Louisiana Performance Accountability System (LaPAS)

- Intersection Projects

- » Ave crash rate before = 1.47 crashes/Million Vehicle Entering
- » Ave crash rate after = 0.89 crashes/MVE

39.4 % Reduction ↓

- Segment Projects

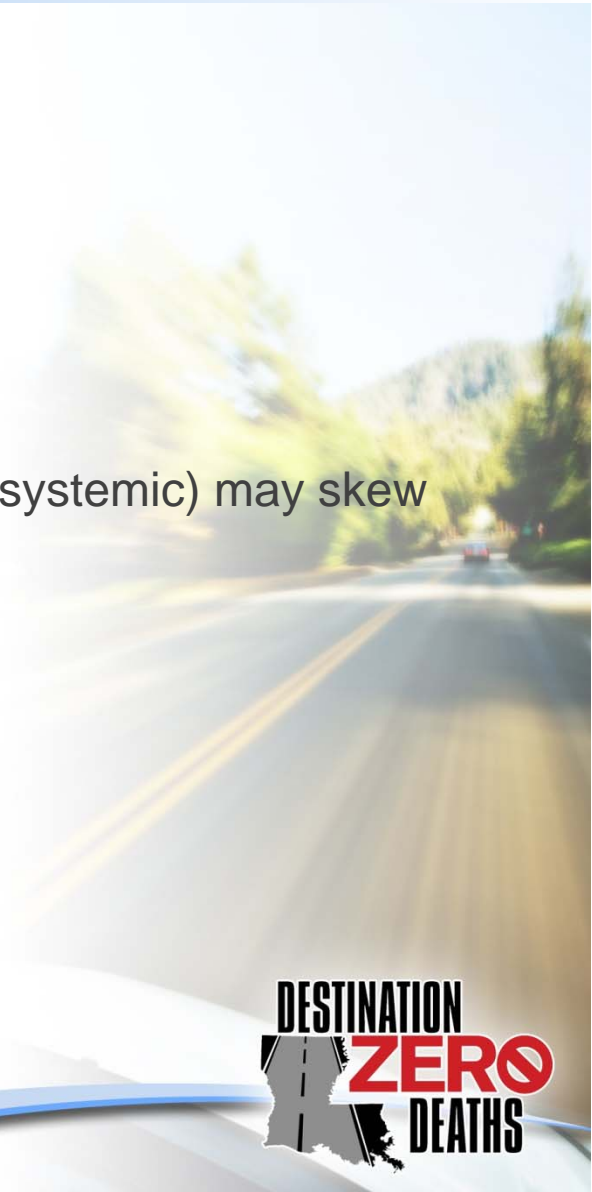
- » Ave crash rate before = 3.05 crashes/MVMT
- » Ave crash rate after = 2.55 crashes/MVMT

16.3 % Reduction ↓

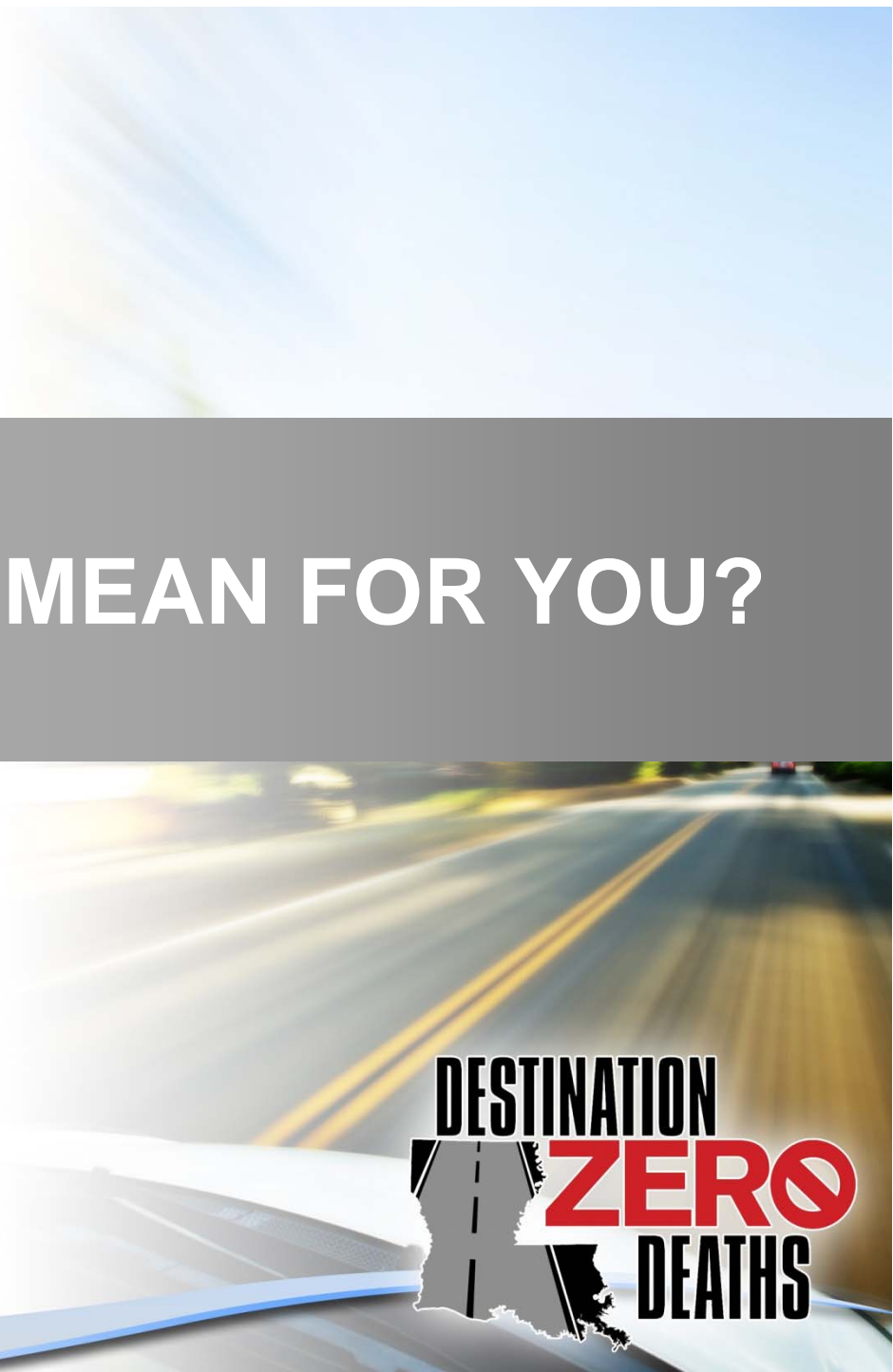
Louisiana Performance Accountability System (LaPAS)

- Challenges

- » Crash rates affected heavily by ADT
- » Crash rate can go down even if crashes go up
- » Does not account for severity
- » Projects with low number of before crashes (i.e. systemic) may skew results



WHAT DOES THIS MEAN FOR YOU?

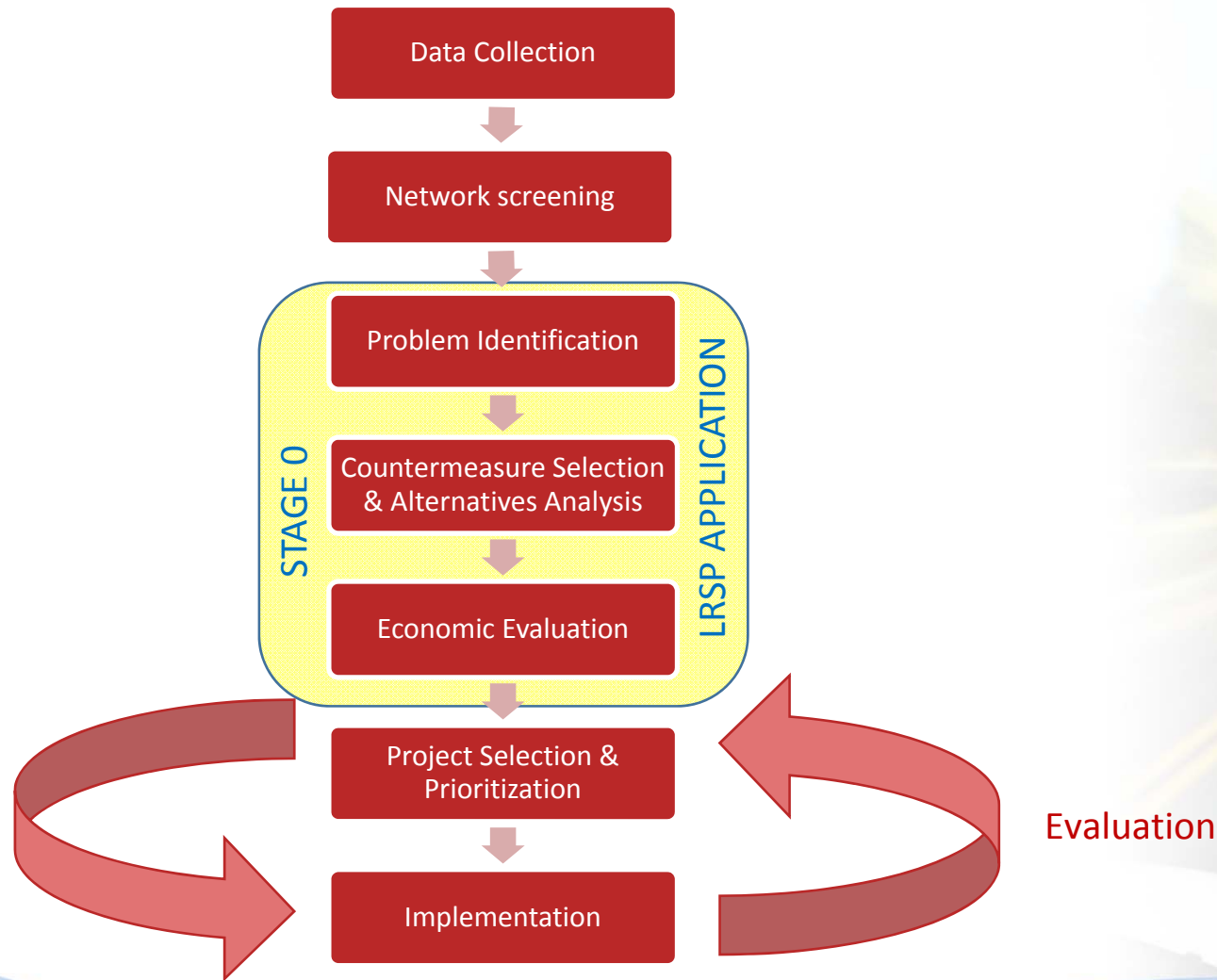


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What does this mean for you?

- 700+ fatalities in Louisiana is too many!
- We need all hands on deck
- HSIP is data driven
- Planning is critical, safety projects are not after thoughts
- Documentation for HSIP funds required
 - » Stage 0 or LRSP project application
 - » Safety analysis
- Timing of safety projects is critical
- Become more strategic

Data Driven Safety Management Process



Project Selection & Prioritization

- Revising Highway Safety Stage 0 evaluation form
- Data driven
- Identify projects with higher potential for crash reduction
- More objective, consistent, & transparent
- Categorize projects
- Pre-requisites
- Ratings & weights to evaluation factors
- Evaluation score
 - » Assist with scheduling and prioritizing projects
 - » Safety & Feasibility Factors

Highway Safety Stage 0 Evaluation

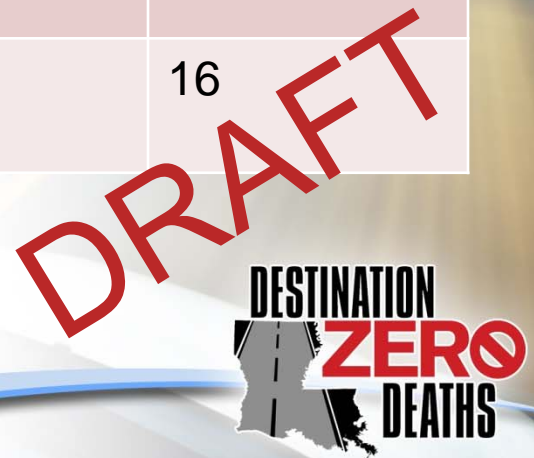
- Pre-Requisites

1. Purpose & Need focused on safety
2. Aligned with SHSP Emphasis Areas
 - **Infrastructure & Operations**
 - Roadway Departure
 - Intersections
3. High Potential for Safety Improvement (PSI) Location **OR**
Systemic Approach **AND/OR**
Benefit Cost Ratio is greater than 1.0
4. Safety Effectiveness
 - **Does the recommended alternatives address crash history or potential for reducing crashes?**

Highway Safety Stage 0 Evaluation

- Ratings & Weights for Evaluation Factors

Evaluation Factor	Weight	Rating	Max. Potential Points
High Relative Severity (LOSS 4 for Fatales, Serious & Moderate Injuries)	5	0-4	20
Safety Benefit > Costs	5	0-4	20
Stakeholder Support (District, MPO, LPA, Regional Safety Coalition)	4	0-4	16
Sponsor's Commitment to delivering previous HSIP projects	4	0-4	16



Highway Safety Stage 0 Evaluation

- Ratings & Weights for Evaluation Factors

Evaluation Factor	Weight	Rating	Max. Potential Points
High Probability or Over-represented crash types	3	0-4	12
Implementing Project Appropriate FHWA Proven Safety Countermeasures	3	0-4	12
Potential crashes due to geometric issues	3	0-4	12
Potential crashes due to access management challenges	3	0-4	12
Potential crashes due to ped/bike considerations	3	0-4	12

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Highway Safety Stage 0 Evaluation

- Ratings & Weights for Evaluation Factors

Evaluation Factor	Weight	Rating	Max. Potential Points
Construction Costs	2	0-4	8
Other Constraints (Environmental Impacts, Permitting, RR, etc.)	2	0-4	8
Consistent with plans for other nearby projects	2	0-4	8
BONUS:		-	10
RSA	5		
HSM Predictive Method	5		
TOTAL			198


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Next Steps

- Safety Project Selection Team Meeting & SHSP Infrastructure & Operations EA Team Meeting
 - » Present LaPas crash rates (before & after) by project
 - » Present Draft Stage 0 evaluation form with weighted scores
- Finalize Stage 0 Evaluation Form
- Categorize projects by type of improvement as they come into the program
- Develop *Pilot* District Investment Plan
 - » High PSI List
 - » Diagnostics
 - » Proposed Projects with B/C calculations
- Produce safety benefit / cost tools and provide training
 - » Develop planning level CMFs
 - » Update cost / crash in Louisiana (HSRG/LSU)
 - » Establish service life & planning costs for Countermeasures
 - » Considerations for maintenance costs

QUESTIONS?

A blurred photograph of a road with yellow double lines, suggesting motion. The background is a clear blue sky. The image is partially obscured by a grey bar and a blue wave at the bottom.

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