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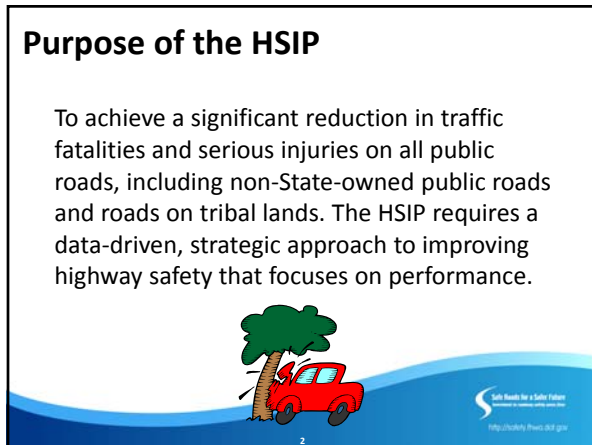
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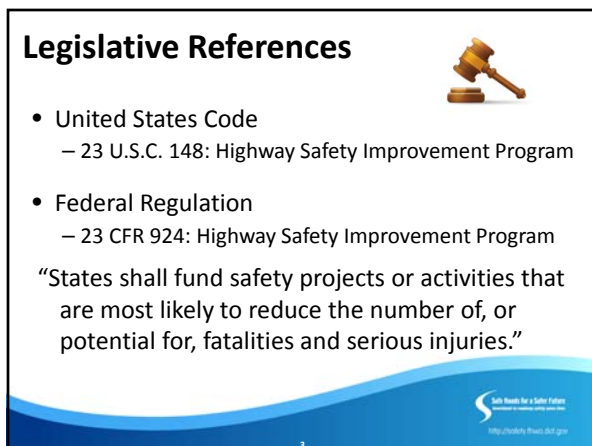
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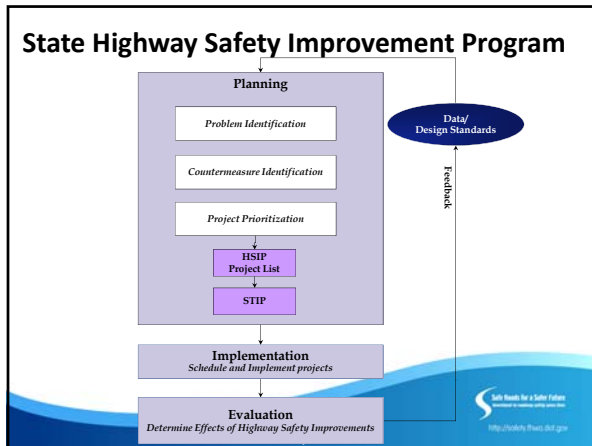
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### Planning Process Step 1: Project Identification

- Data Collection
  - Crash Data
  - Traffic Volumes
  - Roadway Inventory Data
  - RSAs
- Network Screening Process

The slide includes a pie chart with four segments in different colors (orange, purple, white, and grey) and four arrows pointing outwards from the chart. The logo 'Safe Roads for a Safer Future' and the website 'http://highwaysafety.doe.gov' are at the bottom right.

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### Network Screening

- Identify Sites for Potential Safety Improvement
  - Intersections
  - Segments
- Identify Systemic Safety Improvements
  - Based on SHSP Emphasis Areas & Strategies
  - Identify key crash types and patterns to address

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### Planning Process Step 2: Countermeasure Identification

Four essential steps:

1. Analyze the Data
2. Conduct Field Review
3. Identify Countermeasures
4. Assess Countermeasure Effectiveness



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### Countermeasure Resources

- Crash Modification Factor Clearinghouse  
[www.CMFClearinghouse.org/](http://www.CMFClearinghouse.org/)
- Highway Safety Manual – Part D  
[www.highwaysafetymanual.org/](http://www.highwaysafetymanual.org/)
- NCHRP Report 500 Series  
[www.trb.org/](http://www.trb.org/)
- NHI Training  
[www.nhi.fhwa.dot.gov/](http://www.nhi.fhwa.dot.gov/)



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### Planning Process Step 3: Project Prioritization

- Objective Approach (e.g. Benefit/Cost Ratio)
- Project Prioritization
- Balance of Projects
- Approaches Addressing Current & Future Safety Problems



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### Prioritization Considerations

- Potential reduction in # fatalities and serious injuries
- SHSP Priorities
- Cost effectiveness of projects and resources available
- Correction and prevention of hazardous locations
- Other safety data-driven criteria
- Integration with statewide/metropolitan transportation planning process and S/TIP



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### Implementation & Evaluation

#### Implementation

- Eligibility Approval
- Funding
- Project Administration

#### Evaluation

- Before and After data (crashes, speeding)
- Create new standards
- Feedback to Future Planning



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### Systemic Project Development

<http://safety.fhwa.dot.gov/systemic/>



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### Systemic Improvements

- Low-cost, efficient to implement
- Do not require lengthy environmental review
- Many qualify for Group 1 or Condensed Group 2 Categorical Exclusions (no or minor ground disturbance)
- Usually no additional right-of-way and no utility coordination or adjustments



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### Arizona HSIP Manual

ADOT HSIP Manual

<http://azdot.gov/Highways/Traffic/9620.asp>

FHWA HSIP Website

<http://safety.fhwa.dot.gov/hsip/>



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### Examples of Eligible Projects for HSIP

- Eliminate roadside obstacles or hazards
- Upgrade signage
- Upgrade pavement markings
- Rumble strips
- Upgrade guardrail end treatments
- Improvements on high risk rural roads
- Streetlighting



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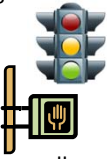
### Examples of Eligible Projects for HSIP

**At Intersections:**

- Converting from 8-inch to 12-inch signals
- Roundabouts
- Advance street name signing

**For Pedestrians:**

- Pedestrian countdown signals
- Install new or upgrade pedestrian crosswalk pavement markings



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### Arizona HSIP Funding

- Statewide HSIP (approx. \$32 million/year)
- Local Government HSIP (approx. \$6 million/year to MPOs & COGs)
- High Risk Rural Roads Program (HRRRP)
- Railway-Highway Grade Crossing Program (RHGCP)
- Road Safety Assessment (RSA) Program



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### Local Match Requirements

- 5.7% for most major projects
- No match required per 23 U.S.C. 120 (c) for:
  - Roundabouts
  - Traffic Signals
  - Pavement markings
  - Signs
  - Streetlighting
  - Guardrail
  - Rumble Strips



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### Important HSIP Requirements

- Based on SHSP Emphasis Areas & Strategies
- Focused on reducing fatalities and serious injury crashes
- Addresses an identified highway safety problem
- Identified through a data-driven process



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### HSIP Application Process

- Submit through local COG/MPO for Local Government HSIP
- Submit through ADOT Traffic Safety Section for State-managed HSIP
- Must be identified in TIP/STIP
- Must get eligibility approval from ADOT/FHWA
- Then get Funding Authorization. **Any work performed prior to Funding Authorization is not eligible for reimbursement**



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### New in MAP-21

MAP-21 Section 1112:

- Strategic Highway Safety Plans (SHSP) must have regular updates
- Retroreflectivity Projects for maintenance
- Non-infrastructure Projects
- Performance Measures and Reporting requirements

<http://www.fhwa.dot.gov/map21/>



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### New in MAP-21

- Special Rules for High Risk Rural Roads (HRRR) and Older Drivers & Pedestrians. HRRRP no longer a set-aside
- Safe Routes to School (SRTS) no longer a set-aside, combined into new Transportation Alternatives Program (TAP)
- Railway-highway crossing program still set-aside
- Tribal Safety Plans



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### Strategic Highway Safety Plans (SHSP)

- Data-driven, statewide plan of strategies that provide a framework for reducing highway fatalities and serious injuries
- Developed through a collaborative process with safety stakeholders
- Integrates the 4Es – Engineering, Education, Enforcement, and Emergency services
- Considers the safety needs of all public roads
- Guides investment decisions



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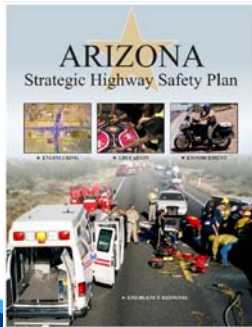
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### Strategic Highway Safety Plans (SHSP)



<http://azdot.gov/Highways/Traffic/9620.asp>

Adopted in August, 2007

Arizona SHSP Emphasis Areas:

1. Restraint Usage
2. Young Drivers
3. Speeding
4. Impaired Driving
5. Roadway/Roadside
6. Data Improvement



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**ADOT HSIP Contacts**

**ADOT Traffic Safety Section**  
Local Government HSIP Projects  
Larry Talley  
602-712-7709  
[Ltalley@azdot.gov](mailto:Ltalley@azdot.gov)

Statewide HSIP Program and Projects  
Mona Aglan-Swick  
602-712-7374  
[maglan@azdot.gov](mailto:maglan@azdot.gov)



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**Tribal Safety Plans**



U.S. Department of Transportation  
Federal Highway Administration



Safe Roads for a Safer Future  
Department of Transportation  
<http://safety.fhwa.dot.gov>

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**Tribal Safety Management System (SMS)**

- Federal Lands Highway Tribal Transportation Program
- Two Safety Management Plans:
  - Strategic Plan
  - Implementation Plan
- Partners included FHWA, BIA, NHTSA, IHS, and Tribal representatives

<http://flh.fhwa.dot.gov/programs/ttp/safety/>



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## SHSP for Indian Lands

### Strategic Plan Emphasis Areas:

1. Decision Making Process
2. Data Collection
3. Run off the Road Crashes
4. Occupant Protection/Child Restraint
5. Alcohol/Drug Impaired Driving
6. Other Driver Behavior and Awareness
7. Drivers Under 35
8. Pedestrian Safety



<http://flh.fhwa.dot.gov/programs/irr/safety/sms.htm>

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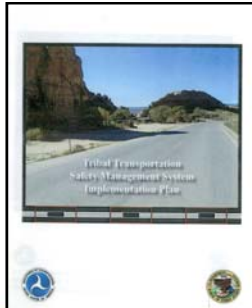
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## Tribal Safety Implementation Plan

- Guide for tribal safety
- Encourages 4 E's:
  - Engineering,
  - Education,
  - Enforcement,
  - Emergency Services
- Safety set aside



<http://flh.fhwa.dot.gov/programs/irr/safety/sms.htm>

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## MAP-21 Tribal Transportation Safety Program Funding



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### MAP-21 Section 1119

- Authorizes the establishment of the tribal safety program by setting aside 2% of the funds under the tribal transportation program for each fiscal year. Funds are allocated based on identification and analysis of highway safety issues on tribal lands.
- Approximately \$9,000,000 total for United States



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### Tribal Safety Program— Eligible Activities

- Managed by FHWA Federal Lands Highways
- Funding goals for each category:
  1. Tribal Safety Plans
  2. Enforcement and EMS
  3. Education Programs
  4. Engineering Improvements



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### 1. Tribal Safety Plans

- Funding goal of 40% in first year
- Allow for all tribes to develop a safety plan to identify and prioritize needs
- Intent is to meet all requests if tribe has no existing plan
- Maximum funding of \$10,000
- Can apply to update an existing plan at a reduced amount



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### 1. Tribal Safety Plans (con't)

Needed Safety Planning Activities

- Data Collection
- Data Analysis and Improvement
- Road Safety Assessment
- Ranked based upon:
  - Included in an existing safety plan
  - Funds leveraged with others
  - Part of a comprehensive safety approach



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### 2. Enforcement and EMS

- 20% goal in year one
- Emergency communications equipment
- Traffic enforcement activities
- Coordinated with BIA IHSP
- Ranked based upon:
  - Data
  - In a current safety plan
  - Leveraging of funds
  - Comprehensive approach



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### 3. Education

- 10% Goal in year one
- Public Service Announcements
- Programs to inform or address driver behavior
- Ranked based upon:
  - Data
  - In a current safety plan
  - Leveraging of funds
  - Comprehensive approach



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### 4. Engineering Improvements

- 30% Goal in year one
- Roadway Improvements
- Extensive list in Guidance
- Ranked based upon:
  - Data
  - In a RSA, Engineering Study, etc
  - Facility ownership (must be in inventory)
  - Leveraging of funds
  - Years since last safety construction project
  - Comprehensive approach



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### Application Process

- Can apply for multiple projects
- Projects Ranked by a review team consisting of BIA, FHWA and Tribes
- Notice of Funding Availability (NOFA) will be posted later this summer  
<http://www.flh.fhwa.dot.gov/>  
Click NOFA link in the "For the Public" box.



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### FHWA Contacts

Ron Hall, Four Corners TTAP Center  
[Ron.Hall@business.colostate.edu](mailto:Ron.Hall@business.colostate.edu)

Cindi Ptak, Tribal Transportation Program Team Leader  
202-366-1586 [Cindi.ptak@dot.gov](mailto:Cindi.ptak@dot.gov)

Romare Truely, Community Planner & Tribal Liaison  
602-382-8978 [Romare.Truely@dot.gov](mailto:Romare.Truely@dot.gov)

Kelly LaRosa, Arizona Division Safety Engineer  
602-382-8991 [Kelly.larosa@dot.gov](mailto:Kelly.larosa@dot.gov)



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The form is titled "ARIZONA ROAD SAFETY ASSESSMENT APPLICATION" and includes the "Road Safety Assessments" logo. It contains 12 numbered sections for data entry, such as "Name, Position/Title, Address of Contact Person", "Type of assessment requested", and "Reasons for requesting RSA". A blue hyperlink is provided: <http://azdot.gov/Highways/Traffic/9620.asp>. The form also features the "Safe Roads for a Safer Future" slogan and website at the bottom right.

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### HSIP Projects Resulting from RSAs

- Safford- US 70 between 8<sup>th</sup> Avenue and 14<sup>th</sup> Avenue due to pedestrian crashes took place April 2-4
- Colorado River Indian Tribes- several segments of BIA roads south of Parker. RSA took place Feb. 27-March 1
- Graham County- roundabout at 8<sup>th</sup> Ave/Airport Rd (\$2,500,000), intersection improvement at Reay Ln/Safford-Bryce Rd (\$556,000)
- Tohono-O'odham Nation- improve SR 86/IRR 15 intersection (\$2,000,000)
- Bullhead City- various roads: Pedestrian Hybrid Beacon (HAWK), street lighting, intersection improvements, roadway improvements (\$2,100,000)

The bottom right corner of the slide features the "Safe Roads for a Safer Future" logo and the website "http://safety.fhwa.dot.gov".

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**ADOT RSA Program Contact:**

<http://azdot.gov/Highways/Traffic/9620.asp>  
Mike Blankenship  
602-712-7601  
[mblankenship@azdot.gov](mailto:mblankenship@azdot.gov)

 U.S. Department of Transportation  
Federal Highway Administration

 Safe Roads for a Safer Future  
Department of Transportation  
<http://safety.fhwa.dot.gov>

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**FHWA  
Nine Proven Countermeasures  
& Safety Edge<sup>SM</sup>**

 U.S. Department of Transportation  
Federal Highway Administration

 Safe Roads for a Safer Future  
Department of Transportation  
<http://safety.fhwa.dot.gov>

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**Proven Safety Countermeasures**

 Roundabouts

 Corridor Access Management

 Backstreets with Retroreflective Borders

 Longitudinal Rumble Strips and Stripes on Two-Lane Roads

 Enhanced Delineation and Friction for Horizontal Curves

 Safety Edge<sup>SM</sup>

 Medians and Pedestrian Crossing Islands in Urban and Suburban Areas

 Pedestrian Hybrid Beacon

 Road Diet

<http://safety.fhwa.dot.gov/provencountermeasures/>

 Safe Roads for a Safer Future  
Department of Transportation  
<http://safety.fhwa.dot.gov>

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### Safety Edge<sub>SM</sub>



- 30 degree beveled pavement edge shaped during the paving process
- Located where the pavement edge meets with graded material
- Allows a vehicle to re-enter the roadway with better stability and better control resulting in reduced crashes on the roadways
- Also improves pavement edge durability



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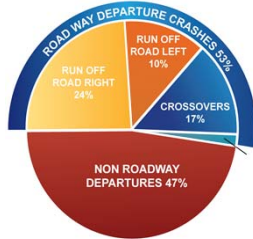
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### Safety Edge<sub>SM</sub>



<http://www.fhwa.dot.gov/everydaycounts>



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### Safety Edge<sub>SM</sub> Construction

- Similar to Conventional Paving
- No Effect on Production or Compaction
- Still Pull Shoulders Flush



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### Safety Edge<sup>SM</sup>



Safe Roads for a Safer Future  
Improve Training and Awareness  
http://safety.frees.dot.gov

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### Local Agency Grant Program

- FREE!
- Already procured
- Bypass Federal funding and contract process
- Loan out to Contractors
- 1-Page easy application
- SAVES LIVES!
- FREE!

**Local Agency Safety Edge<sup>SM</sup> Grant Program Streamlined Application Form**

Agency Name: \_\_\_\_\_ County: \_\_\_\_\_  
ADOT District: \_\_\_\_\_

**Applicant Information:**  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Address: \_\_\_\_\_  
Email: \_\_\_\_\_ Phone: \_\_\_\_\_

**Designated Safety Edge<sup>SM</sup> Coordinator (if different from Applicant above):**  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Address: \_\_\_\_\_  
Email: \_\_\_\_\_ Phone: \_\_\_\_\_

**Please Check Conformance:**

The Local Agency will implement Safety Edge<sup>SM</sup> on a Construction Project. Estimated Project Start Date (if known): \_\_\_\_\_

The Safety Edge<sup>SM</sup> Coordinator will attend Safety Edge<sup>SM</sup> Training and agree to train others on Safety Edge<sup>SM</sup> for Local Agency Projects as needed.

The Local Agency will consider adopting a Safety Edge<sup>SM</sup> policy/ standards/ specifications for guidance.

I, the undersigned, do hereby certify that I am an authorized applicant for the Local Agency who has received permission from local Agency management to apply for this grant. I, the undersigned, do hereby certify that our staff that read and understand the application requirements, and the conditions, terms and provisions that shall be complied with if grants is awarded. To the best of my knowledge and belief, the information contained in this application is true and complete.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Event Number: \_\_\_\_\_ Title: \_\_\_\_\_

http://safety.frees.dot.gov

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### Questions???

**FHWA Arizona Division**  
Kelly LaRosa, Safety Engineer  
602-382-8991  
[Kelly.larosa@dot.gov](mailto:Kelly.larosa@dot.gov)

**ADOT Traffic Safety Section**  
Local Government HSIP  
Larry Talley  
602-712-7709  
[Ltalley@azdot.gov](mailto:Ltalley@azdot.gov)

**ADOT RSA Program**  
Michael Blankenship  
602-712-7601  
[mblankenship@dot.gov](mailto:mblankenship@dot.gov)

**Statewide HSIP Program**  
Mona Aglan-Swick  
602-712-7374  
[maglan@azdot.gov](mailto:maglan@azdot.gov)



Safe Roads for a Safer Future  
Improve Training and Awareness  
http://safety.frees.dot.gov

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