

MAG Strategic Transportation Safety Plan

Transportation Safety Stakeholders Group

December 9, 2014

Work Plan Tasks

1. Crash Analysis – Current State & Resources
2. Establish Regional Vision and Goals
3. Develop Action Areas, Strategies, and Performance Measures
4. Network Screening Methodologies for Prioritization of Road Safety Needs
5. Incorporating Safety in the Regional Transportation Plan
6. Develop a Strategy to Incorporate Safety Enhancements in Road Infrastructure Projects
7. Improving Safety via Traffic Operations and Technology Solutions
- 8. Monitoring and Reporting on System Performance and Program Effectiveness**
9. Implementation Plan 2015 – 2025
10. Draft Final Report, Executive Summary and Presentations

Purpose

- Summary of Federal and State Performance Measures
- Identify enhancements to current reporting on road safety performance via the MAG website
 - <http://www.azmag.gov/CrashData>
- Recommend approaches for monitoring the effectiveness of regional road safety programs

Federal Influence of Safety Performance Measures

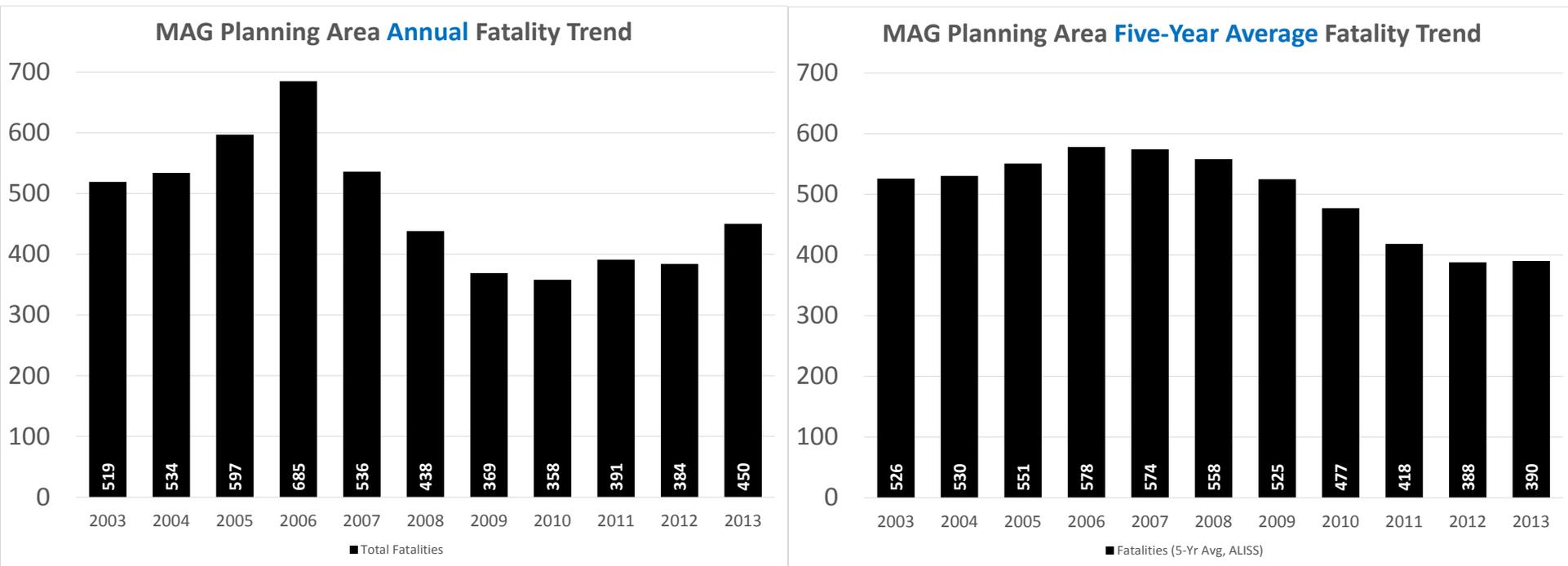
- **MAP-21 & GROW AMERICA Act**
 - Requires the adoption of performance-based decision-making for developing and implementing transportation improvement projects
 - Coordination with SHSP
- **NPRM National Performance Management Measures of HSIP**
 - State DOTs and MPOs report safety targets
 - Annual Reporting

Federal Influence of Safety Performance Measures Continued

- FHWA Safety Performance Measures
 - Serious injuries per one hundred million VMT
 - Fatalities per one hundred million VMT
 - Number of serious injuries
 - Number of fatalities
 - Reported as a 5-year rolling average
 - Fatality Analysis Reporting System (FARS)
 - Highway Performance Monitoring System (HPMS)

5-year Rolling Average

- Shows long term trends more clearly

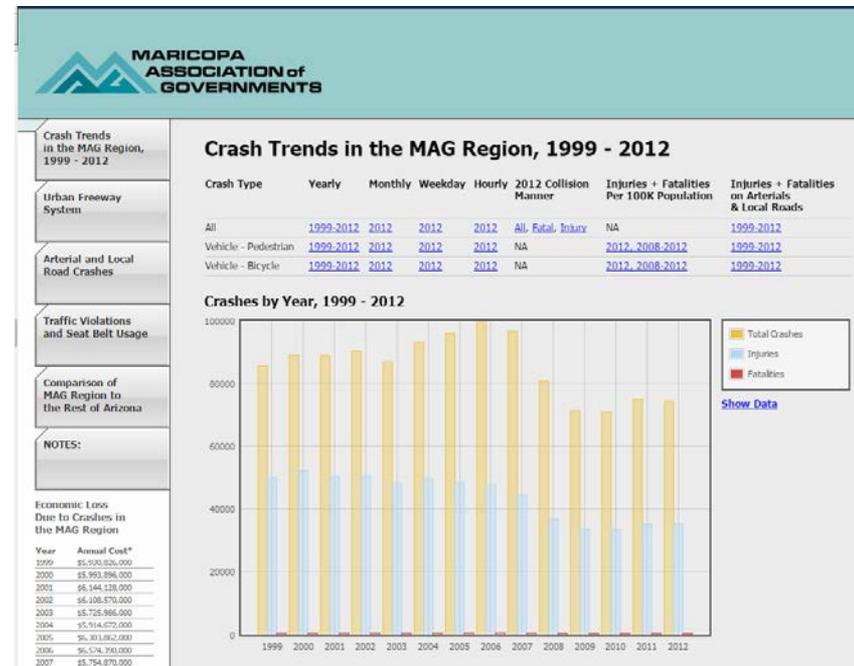


State Influence of Safety Performance Measures

- 2014 Arizona SHSP (Oct 2014)
- Objective to reduce the total number of fatalities and serious injuries in AZ by **3 to 7%** during next five years from the 2013 base year
- 12 Emphasis Areas, **5 Top Focus Areas**
- Arizona will annually report the four required safety performance measures.

Current MAG Documenting and Reporting

- <http://www.azmag.gov/CrashData/>
- Arterial and Freeway Data
- Comparison to the rest of Arizona
- Crash trends
- Economic loss



Recommended Enhancements

- Update to be consistent with Arizona SHSP and federal performance measures
 - Serious injuries vs. all injuries
 - Report as a 5-year rolling average
 - Report crash rates for arterial and local roads
 - 2013 baseline year for comparison with Arizona
 - Consider reporting goal-oriented measurements of the twelve 2014 Arizona SHSP Emphasis Areas
 - Ex. Older Driver Involved Fatalities & Serious Injuries

Recommended Enhancements Continued

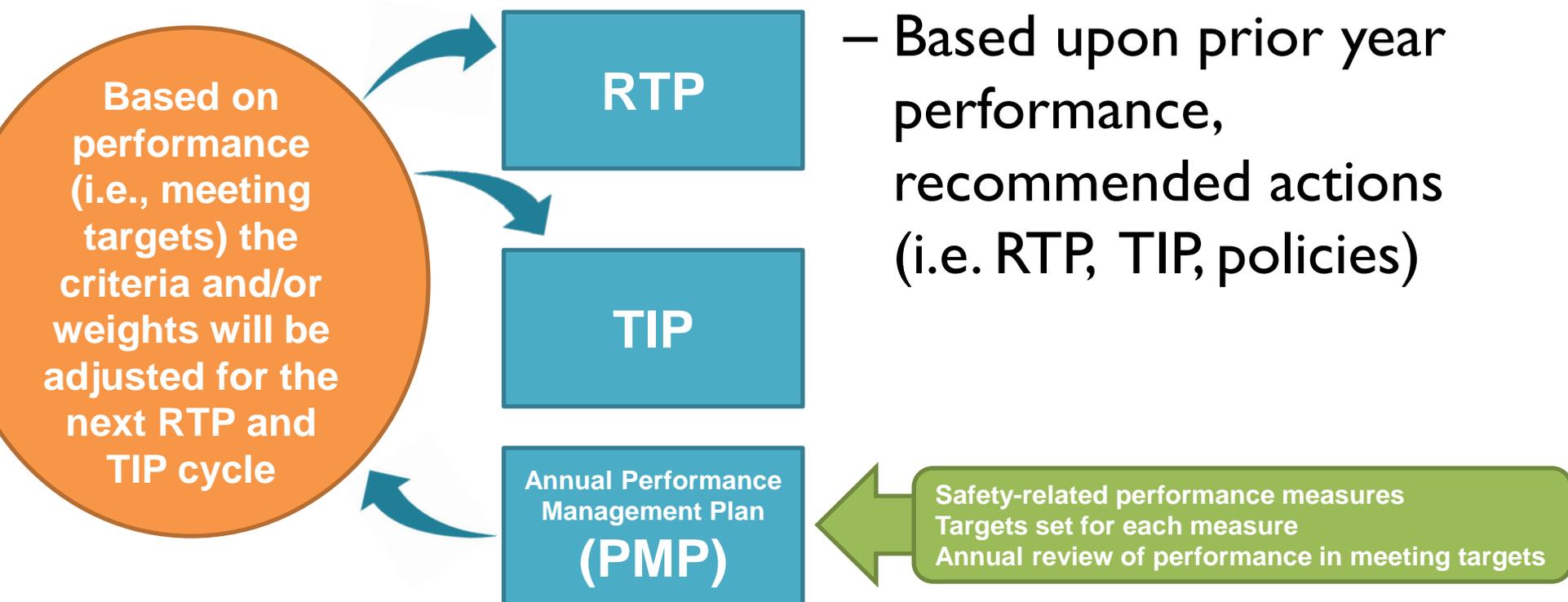
- Update to be consistent with 2015 MAG STSP
 - Report the goal-oriented measurements of the five Action Areas for the MAG Planning Area and each MAG member agency
 - Reduction in K & A crashes involving driving **impairment**, involving **speeding**, at **intersections**, involving **pedestrians**, involving **bicyclists**, involving drivers **younger** than 25

Recommended Enhancements Continued

- Enhance Information Dissemination
 - Visual representation of data (i.e. pie charts)
 - Coordinate with ADOT to provide data for freeway system by segment
 - Explore presentation of crash data on maps
 - Ability to download crash data in tabular format
 - Provide ‘Safety’ link on MAG home page
 - Link crash data website on the MAG transportation performance website

Monitoring the Effectiveness of Initiatives

- Annual Performance Management Plan
 - Safety-related measures covering all modes
 - Corresponding safety targets for each mode

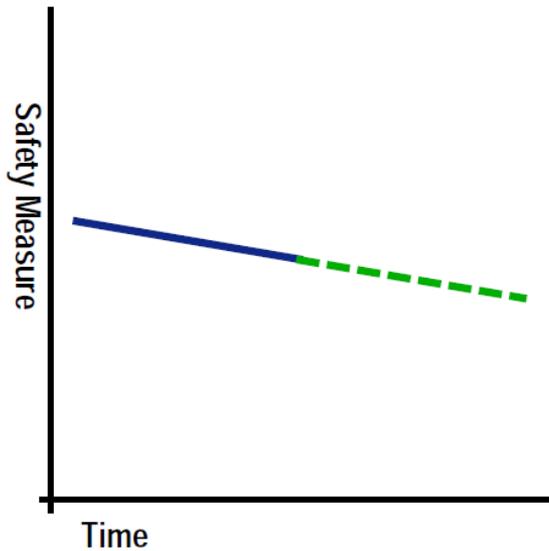


Example of Tracking Safety Performance

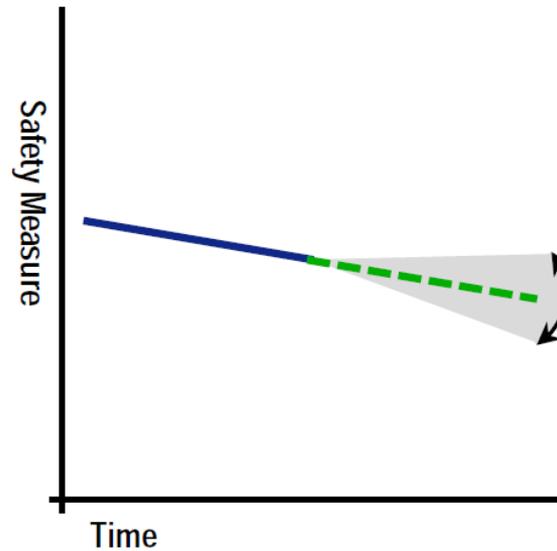
National Performance Measure	RTP Goal	Annual Transit Performance Measures	Performance Target	2013 Performance Measure Status	2013 Performance Target Status
Safety Performance Measures	Improve Safety	Preventable transit accidents per 100,000 miles of service	• 0 (ongoing)	RTC RIDE 1.67 (Average of July 2013-December 2013)	Working toward goal
				RTC ACCESS 1.01	Working toward goal
		Number of crashes and number of crashes per vehicle miles traveled (VMT)	• Reduce by 50% by 2020	951	Working toward goal
		Number of serious injuries per VMT —	• Reduce by 50% by 2020	551	Working toward goal
		Number of fatalities and fatalities per VMT	• 0; reduce by 50% by 2020	9	Working toward goal
		Miles of bicycle lanes added and percent of the Bicycle Pedestrian Master Plan	• 3-7% of plan implemented per year	The master plan identified 148 miles of existing bicycle lanes and proposed adding 89.3 miles of bike lanes in the Bicycle and Pedestrian Master Plan RTC added: 2012- 2.9 miles of bike lanes - 2% 2013 - 8.4 miles of bikes lanes added-9%	Exceed goal

Reno RTC

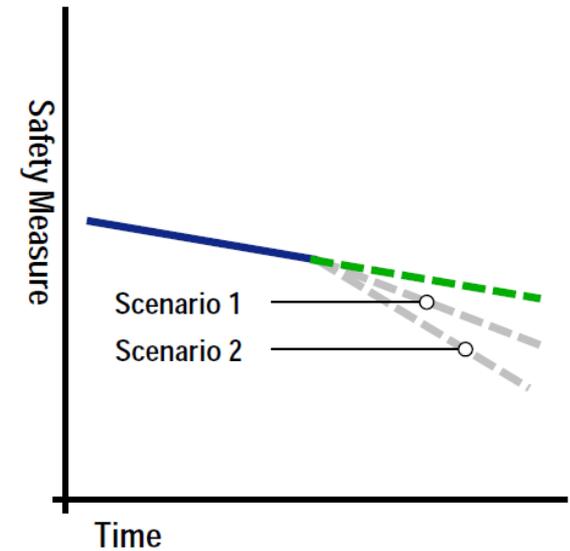
Setting Targets



Time
Where are we now?
Estimate existing trend



Time
What external factors will impact our target?
Adjust trend for expected demographic and socioeconomic changes



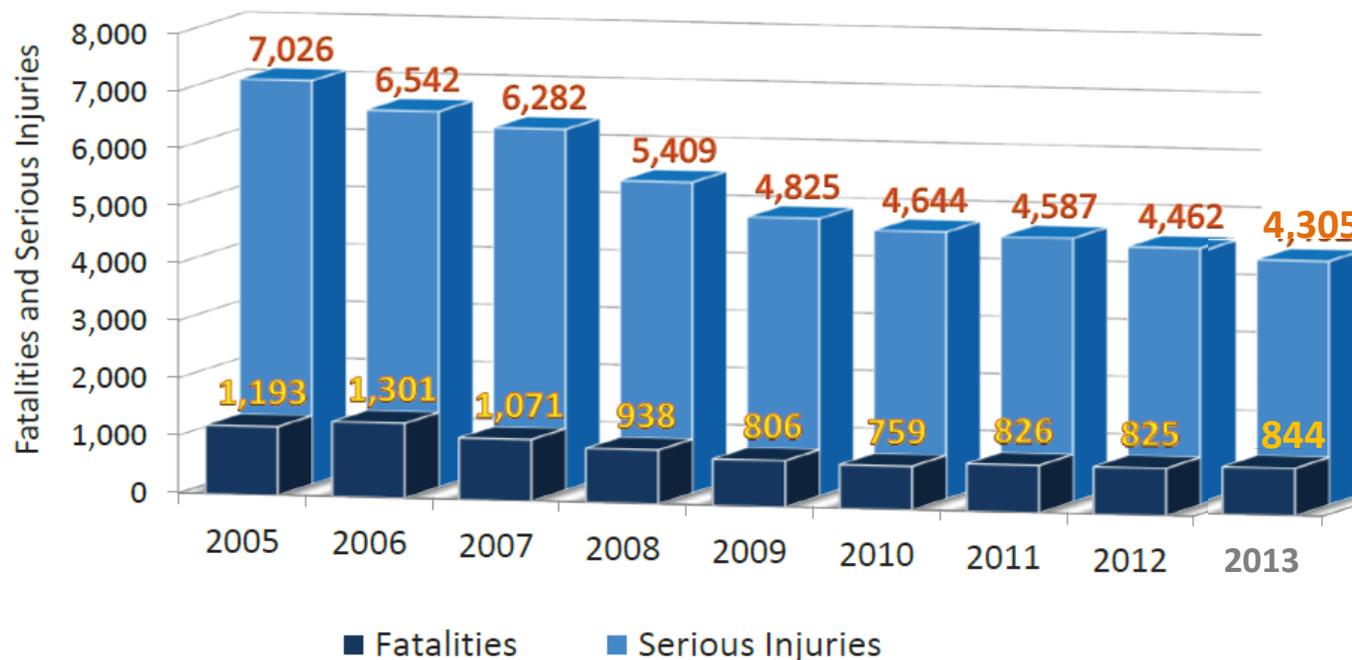
Time
What can we do to make improvements?
Estimate target based on forecasted fatality reduction from safety plans

Source: Cambridge Systematics, Inc.

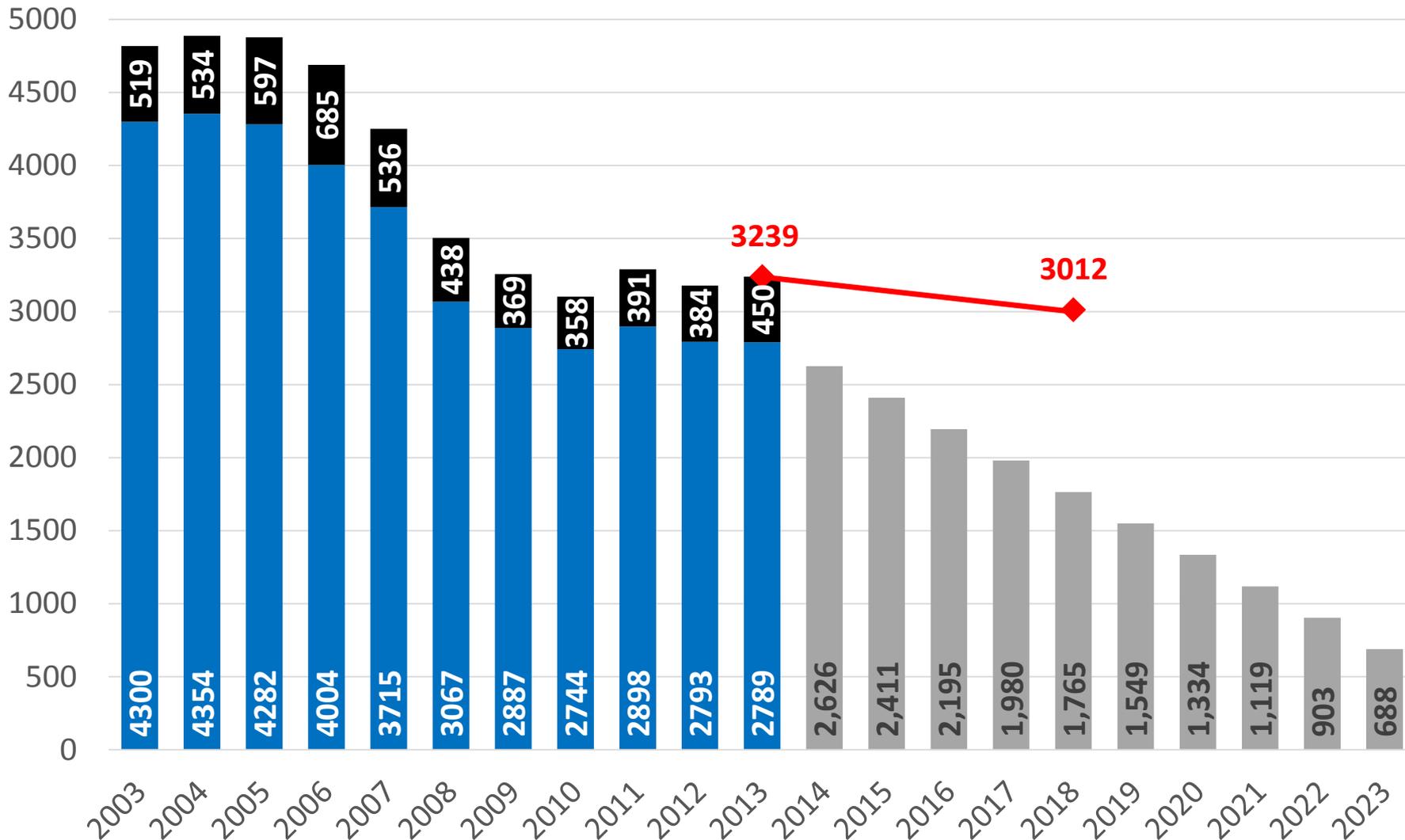
Arizona SHSP Trends and Objective

- Objective to reduce the total number of fatalities and serious injuries in AZ by **3 to 7%** during next five years from the 2013 base year

ANNUAL TREND IN STATEWIDE FATALITY AND SERIOUS-INJURY COUNTS



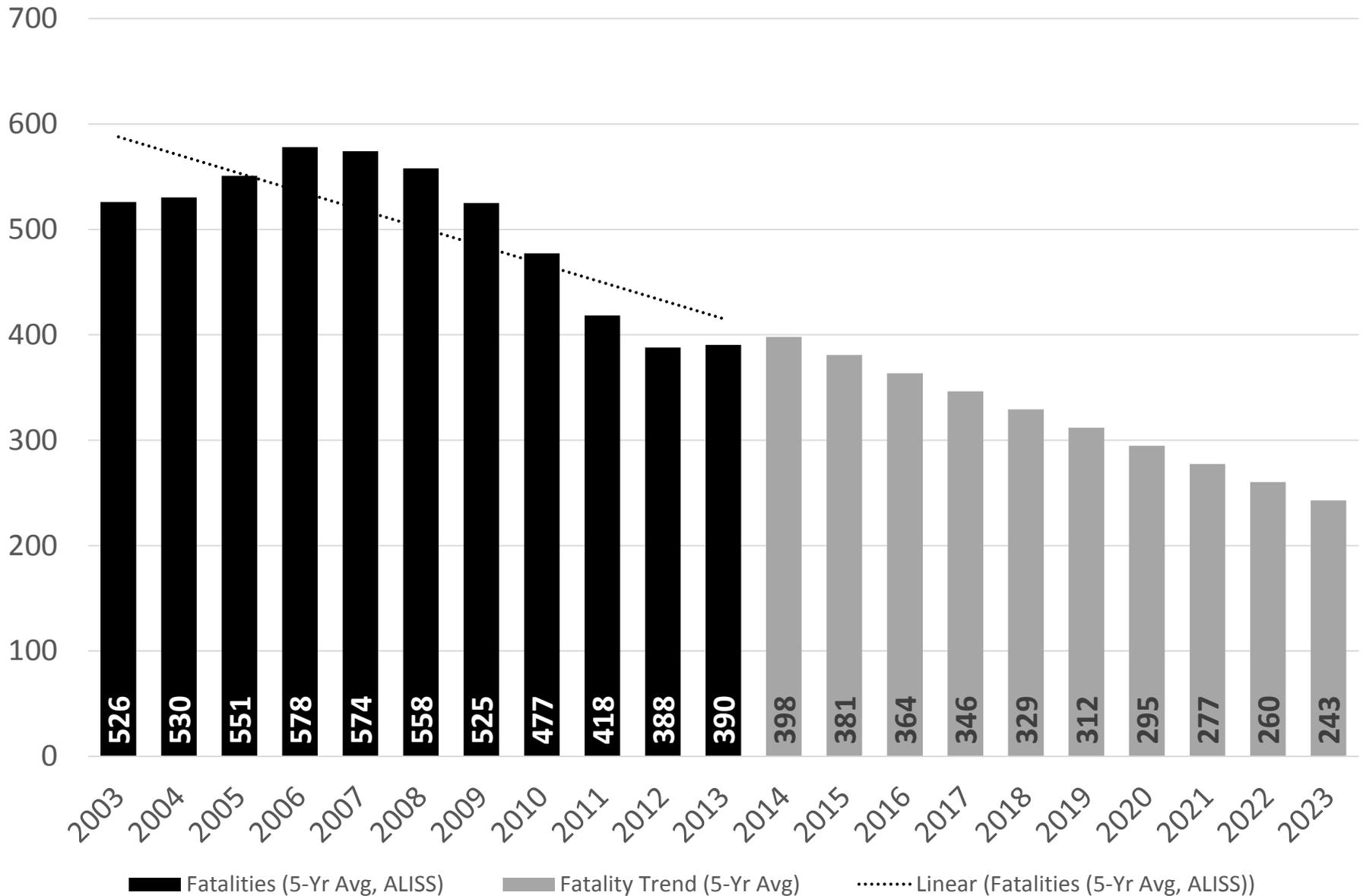
MAG Planning Area Fatalities & Serious Injuries Trend



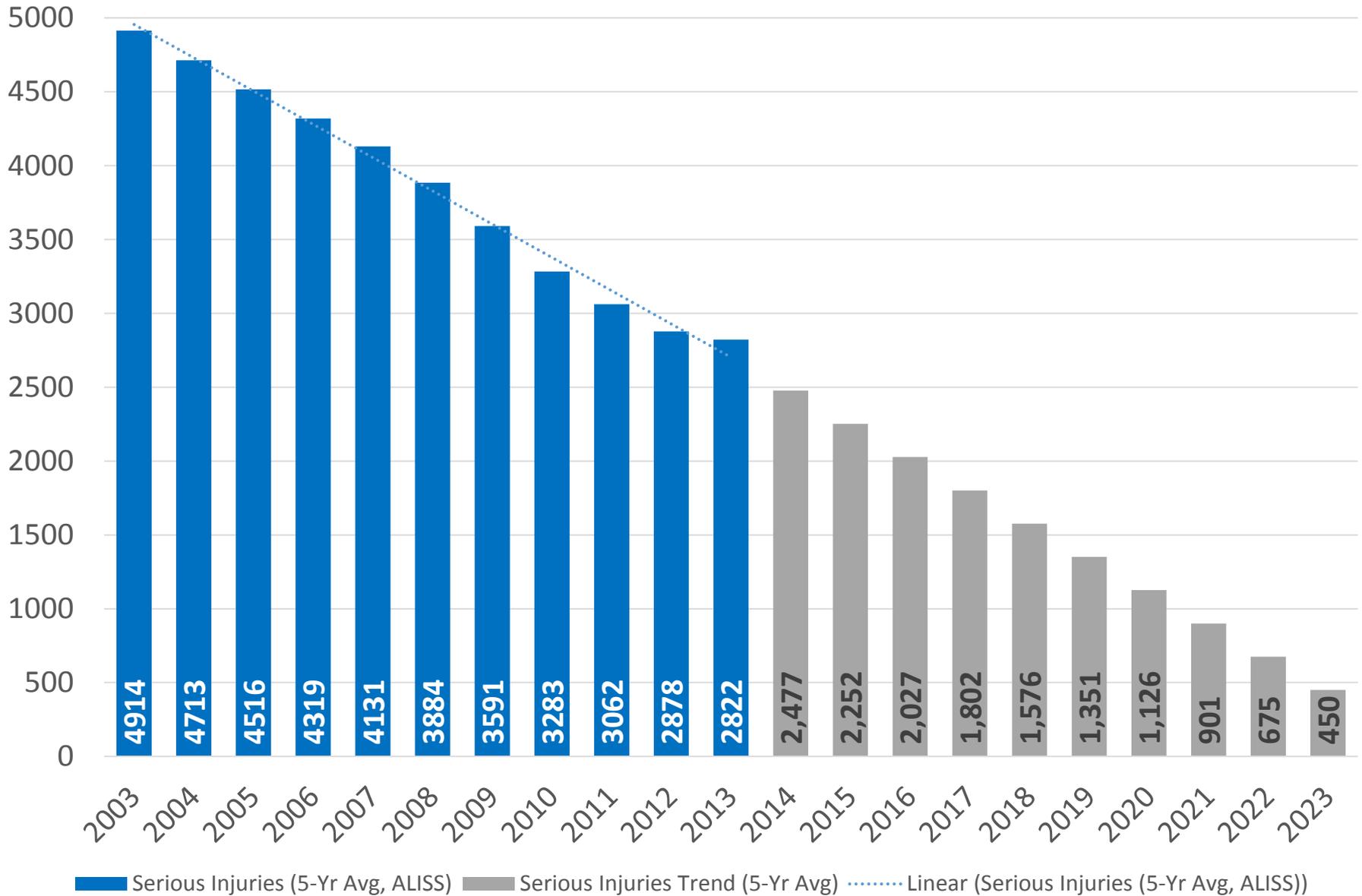
■ Total Serious Injuries
 ■ Total Fatalities

■ Fatalities & Serious Injuries Trend
 ◆ AZ Objective - 7% reduction over five years from 2013

MAG Planning Area Five-Year Average Fatality Trend



MAG Planning Area Five-Year Average Serious Injuries Trend



External Factors

- Expected demographic and socioeconomic changes

- Increase in older drivers 
- Decrease in younger drivers 
- Increase in number of bicyclists and pedestrians 
- Increase in driver distraction 
- Increase in vehicle crash avoidance systems 

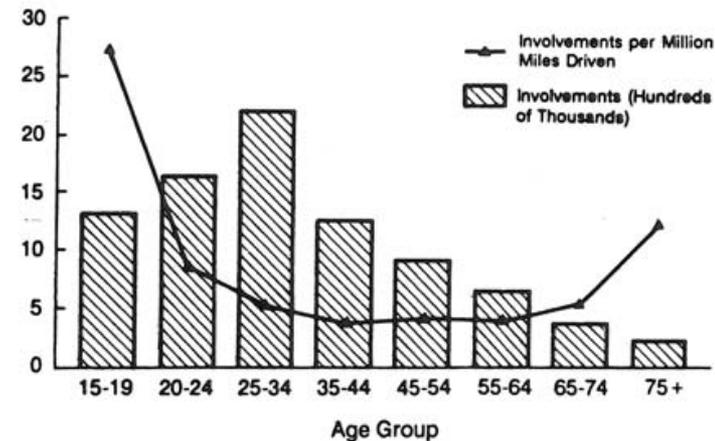


Figure 1-1. Driver involvements in accidents and involvement rates by age, 1983.
SOURCE: *Transportation in an Aging Society: Improving Mobility and Safety for Older Persons*, Special Report 218, (Washington, DC: Transportation Research Board, 1988), p. 40.

Example Targets

- 20% reduction by 2020
- 5% reduction each year
- 8 fatalities per year
- 47 serious injuries per year
- 50 fatalities and serious injuries per year

Action Area

Eliminate Impaired Driving

Measurement:

Reduction (5-Yr moving Avg) in Fatalities and Serious Injuries involving driver impairment

Action Area

Eliminate Death and Injury from Speeding and Aggressive Driving Behavior

Measurement:

Reduction (5-Yr moving Avg) in Fatalities and Serious Injuries involving speeding or aggressive driving behavior*

*data not available for aggressive driving

Action Area

Eliminate Death and Injury related to Intersections

Measurement:

Reduction (5-Yr moving Avg) in Fatalities and Serious Injuries including all intersections; signalized intersections; STOP controlled intersections; and at intersections per 100,000 population

Action Area

*Eliminate Death and Injury for
Vulnerable Road Users – Pedestrians,
Bicyclists and Persons with Disabilities*

Measurement:

Reduction (5-Yr moving Avg) in Fatalities and Serious Injuries involving a pedestrian; and involving a bicyclist

Action Area

Eliminate Death and Injury involving Young Road Users

Measurement:

Reduction (5-Yr moving Avg) in Fatalities and Serious Injuries involving drivers younger than 25

stsp.azmag.gov

Questions?



Tech Memo No. 8

Monitoring and Reporting on System Performance and Program Effectiveness

Next Steps...

**Tech Memo No. 9 - Implementation Plan
& Final Report**