

Target Setting Framework

Danielle Betkey
FHWA Office of Safety



U.S. Department of Transportation
Federal Highway Administration

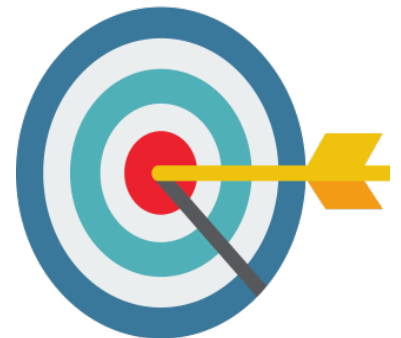
 **Safe Roads for a Safer Future**
Investment in roadway safety saves lives
<http://safety.fhwa.dot.gov>

Types of Target Setting

- Evidence-Based Target Setting
 - Estimate of achievements for a specific set of investments, policies, and strategies
 - Achievable
 - Relatively short timeframe (5 to 10 years)
- Aspirational or Vision-Based Target Setting
 - Long-term vision for future performance
 - Vision for zero fatalities (Vision Zero, TZD, Target Zero)

Benefits of Evidence-Based Targets

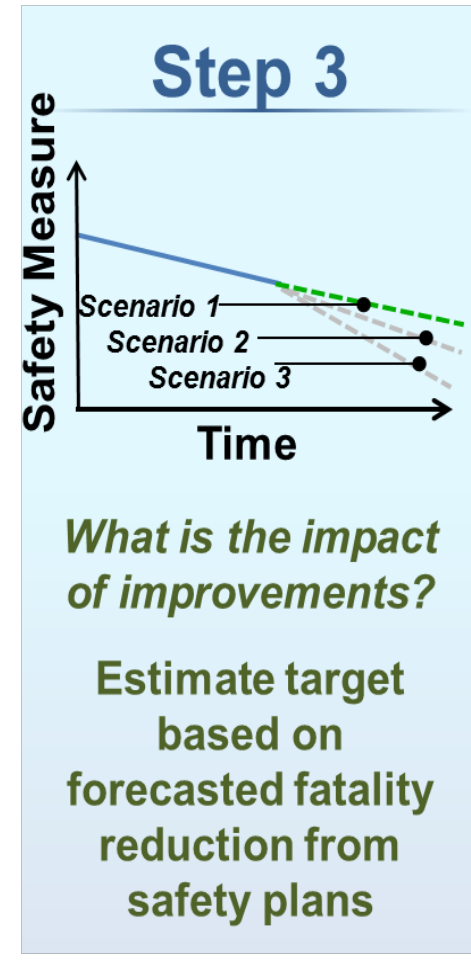
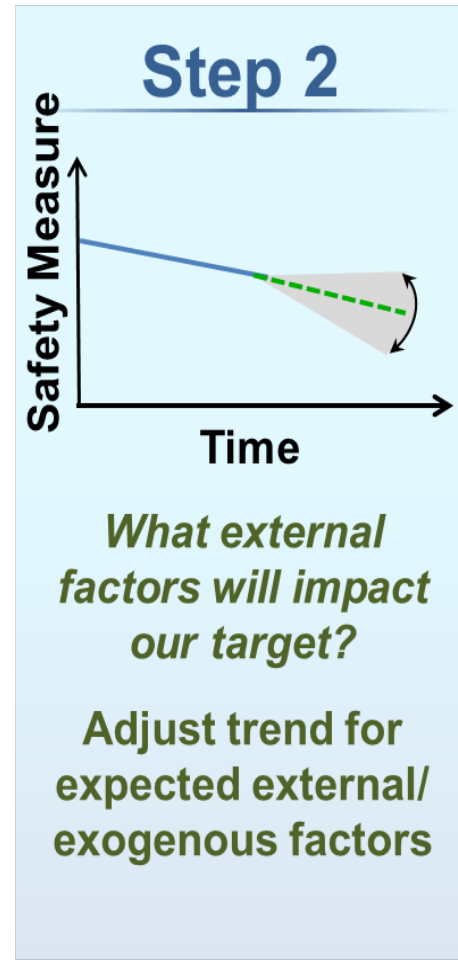
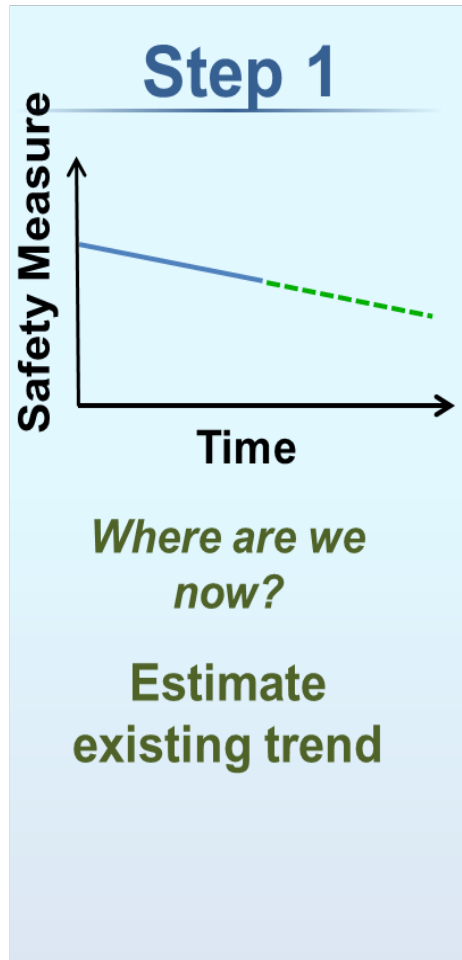
- Promote accountability for specific planning efforts
- Support considerations of investment tradeoffs across different program areas
- Based on data and research



Factors Affecting Target Setting Process

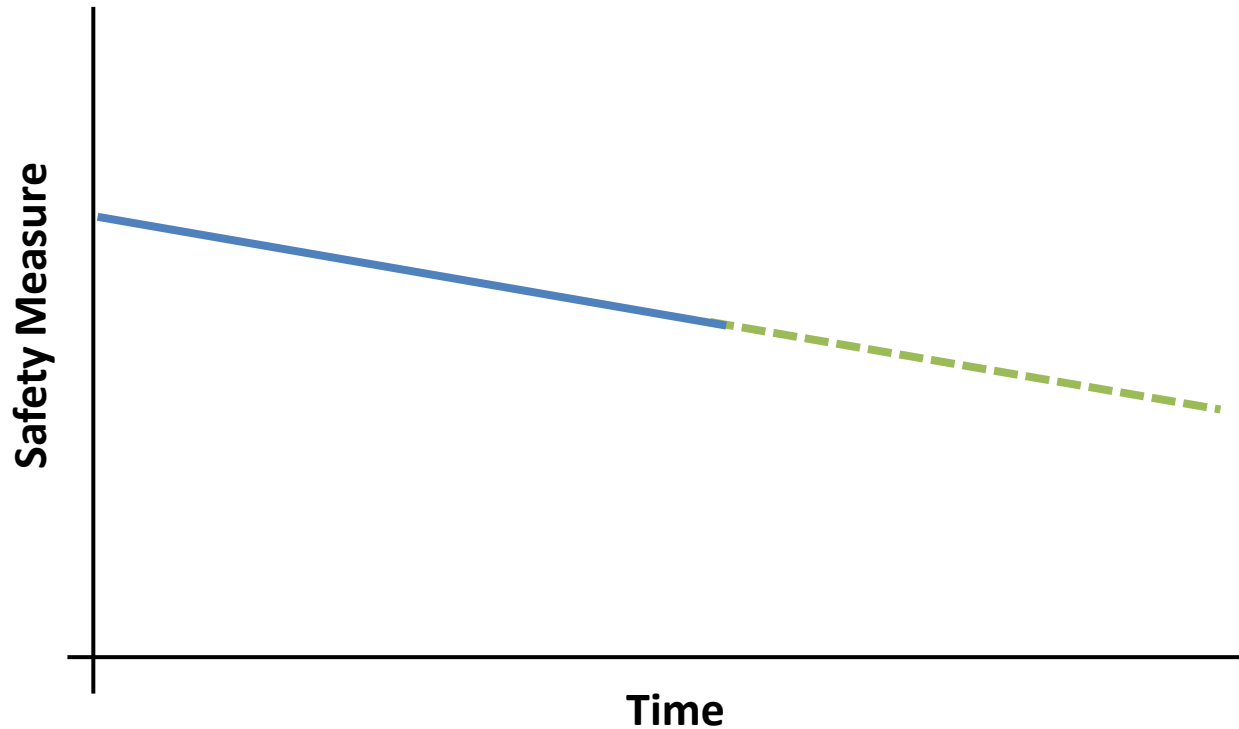
- Span of control/agency jurisdiction
- Performance-based resource allocation history/evolution of state-of-the-practice
- Financial resources
- Technical resources/planning and forecasting capability
- Timeframe
- Political influence
- Legislative influence
- Organizational structure
- Internal support/culture

Safety Target Setting Framework



Evidence-Based Target Setting

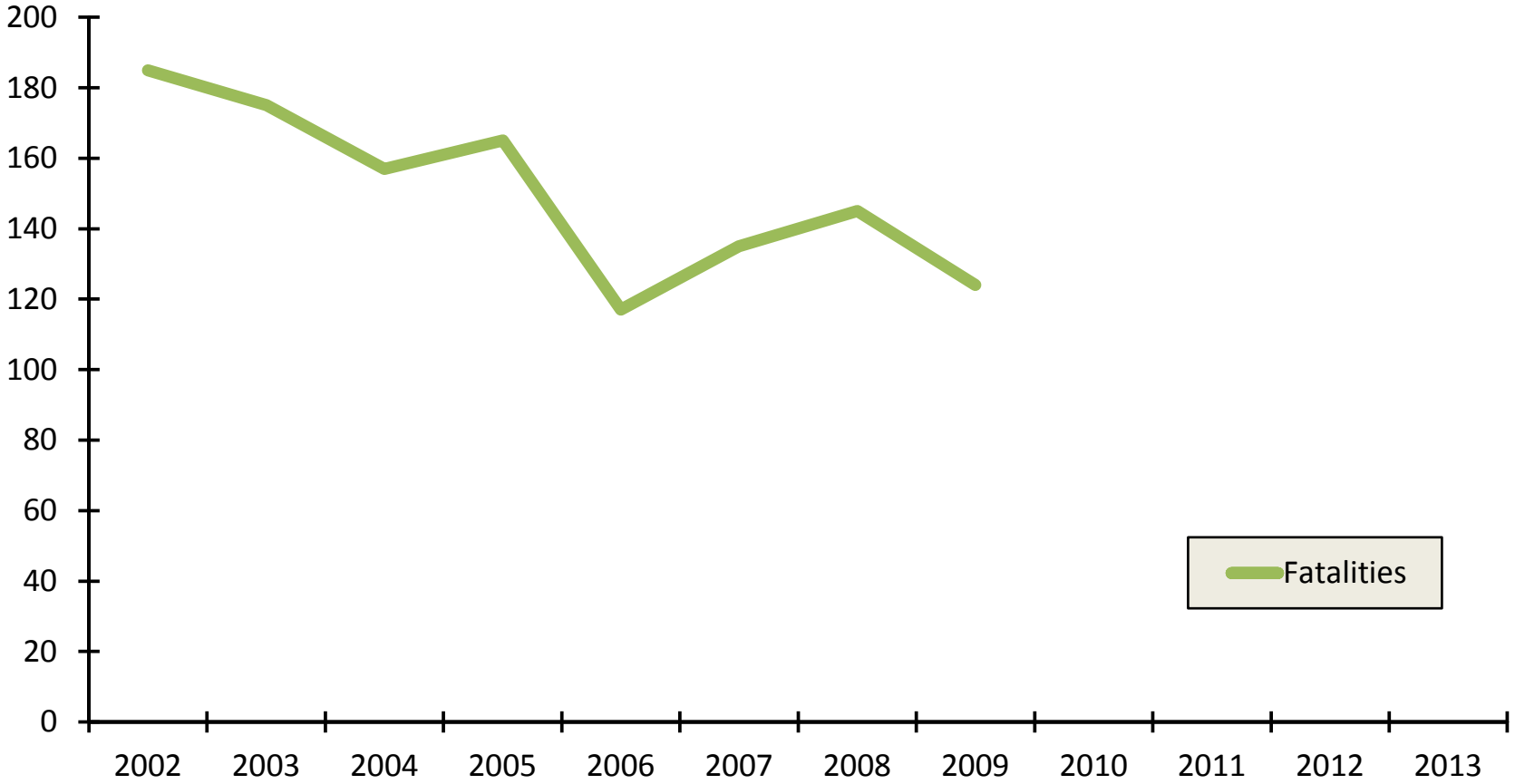
Step 1



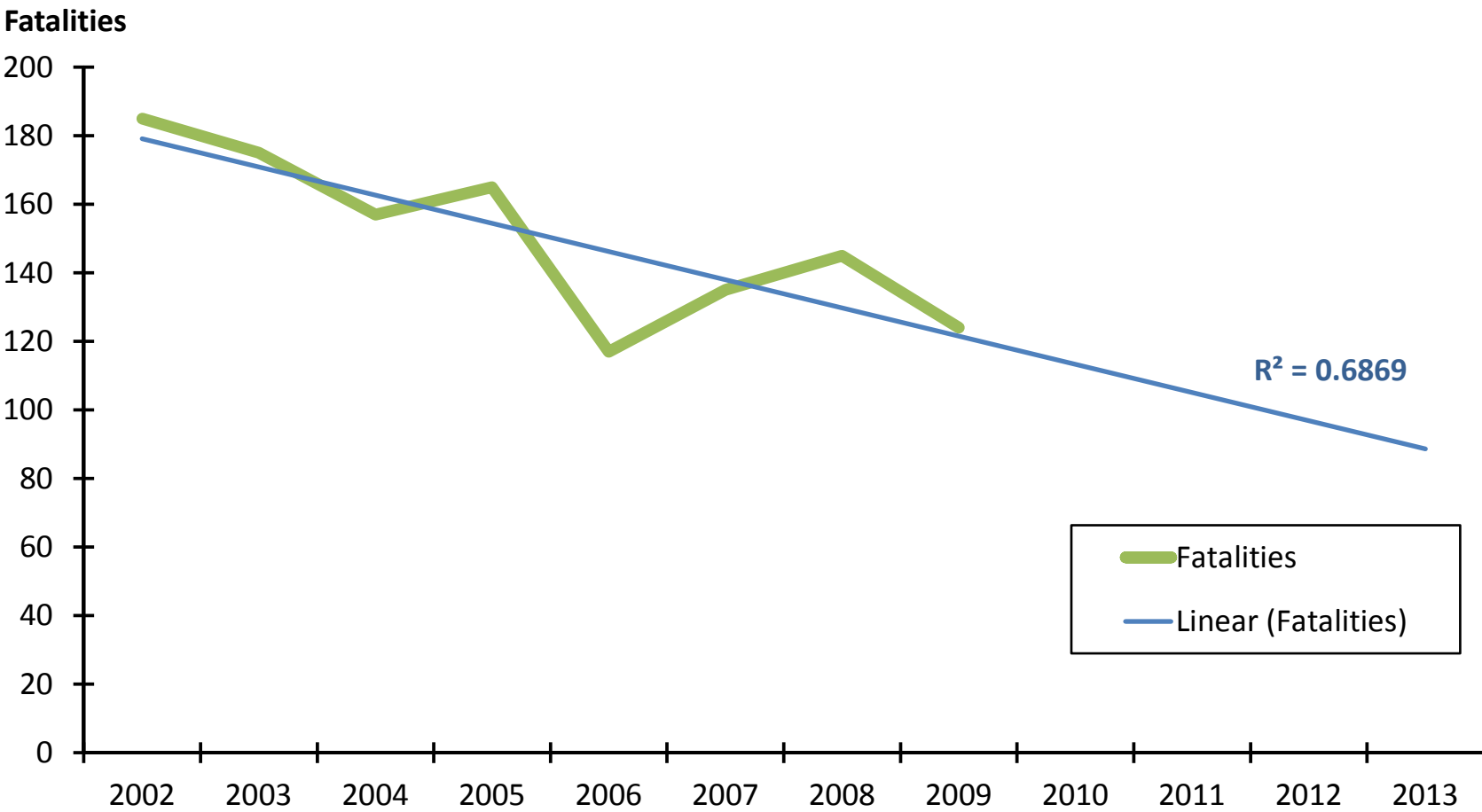
Where are we now?
Estimate existing trend

Trend Analysis Methods

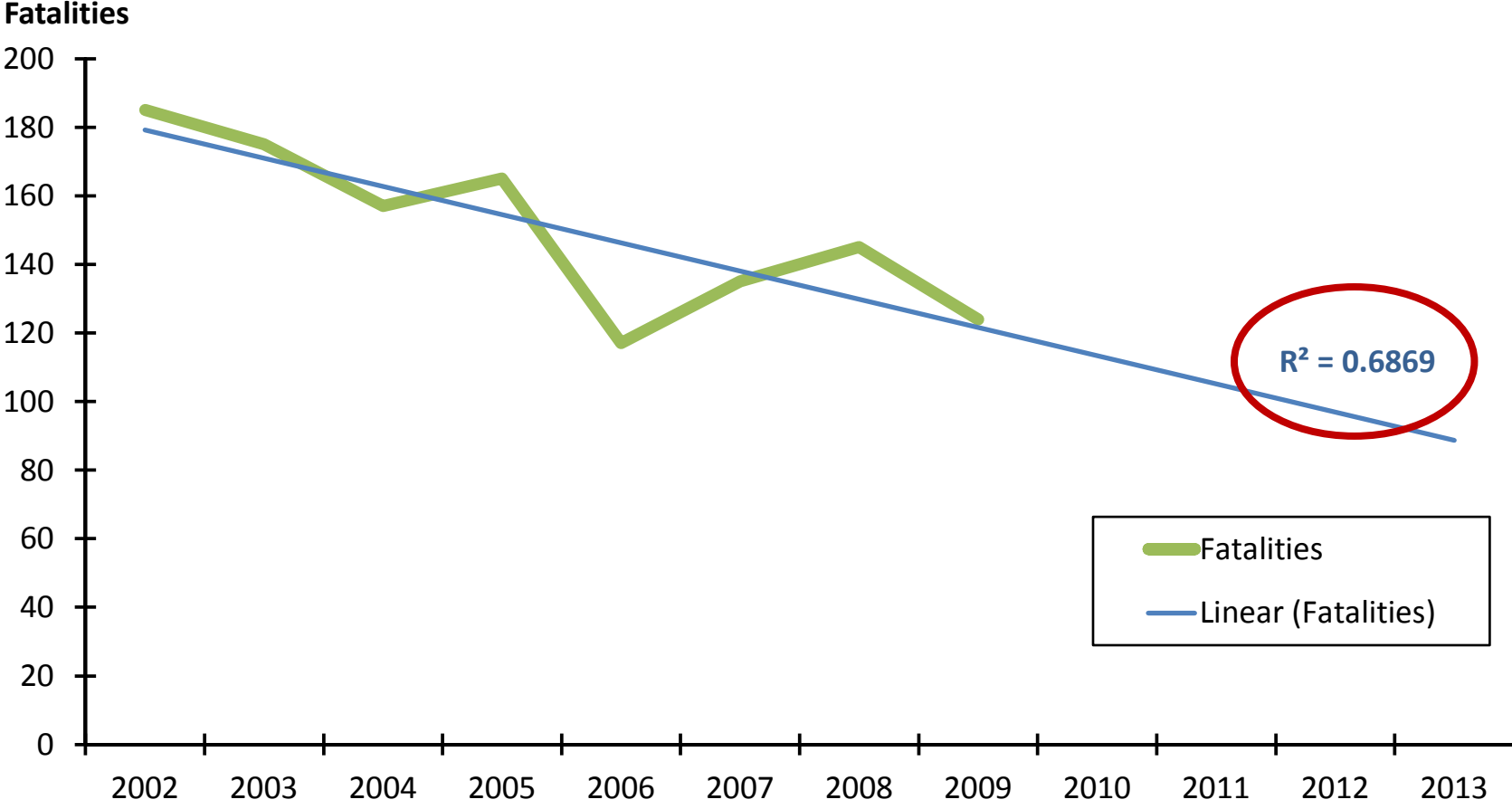
Fatalities



Trend Analysis Methods

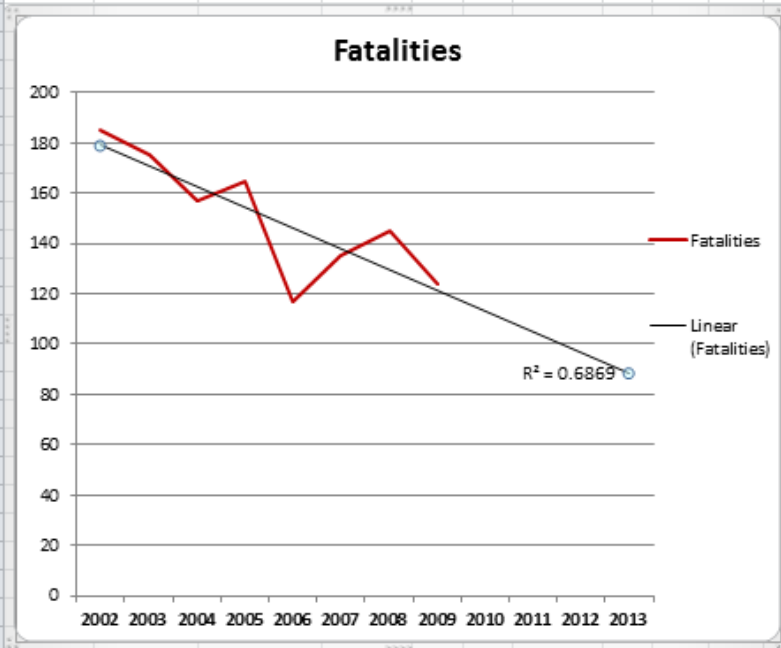


Trend Analysis Methods



Trend Analysis Methods

Time	Fatalities
2001	177
2002	185
2003	175
2004	157
2005	165
2006	117
2007	135
2008	145
2009	124



Format Trendline

Trendline Options

Line Color
Line Style
Shadow
Glow and Soft Edges

Trendline Options

Trend/Regression Type

- Exponential
- Linear
- Logarithmic
- Polynomial Order: 2
- Power
- Moving Average Period: 2

Trendline Name

- Automatic: Linear (Fatalities)
- Custom:

Forecast

Forward: 0.0 periods
Backward: 0.0 periods

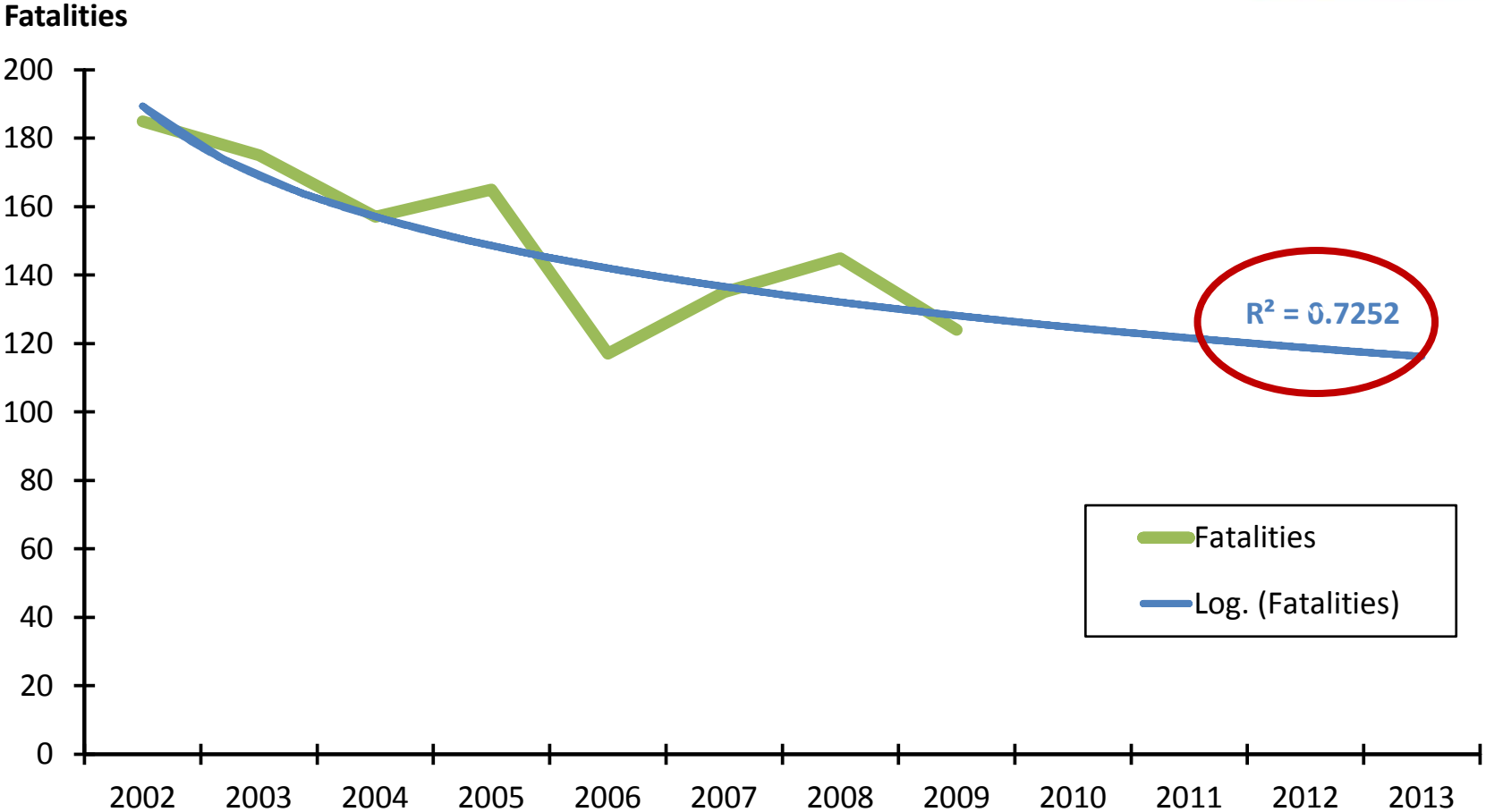
Set Intercept = 0.0

Display Equation on chart

Display R-squared value on chart

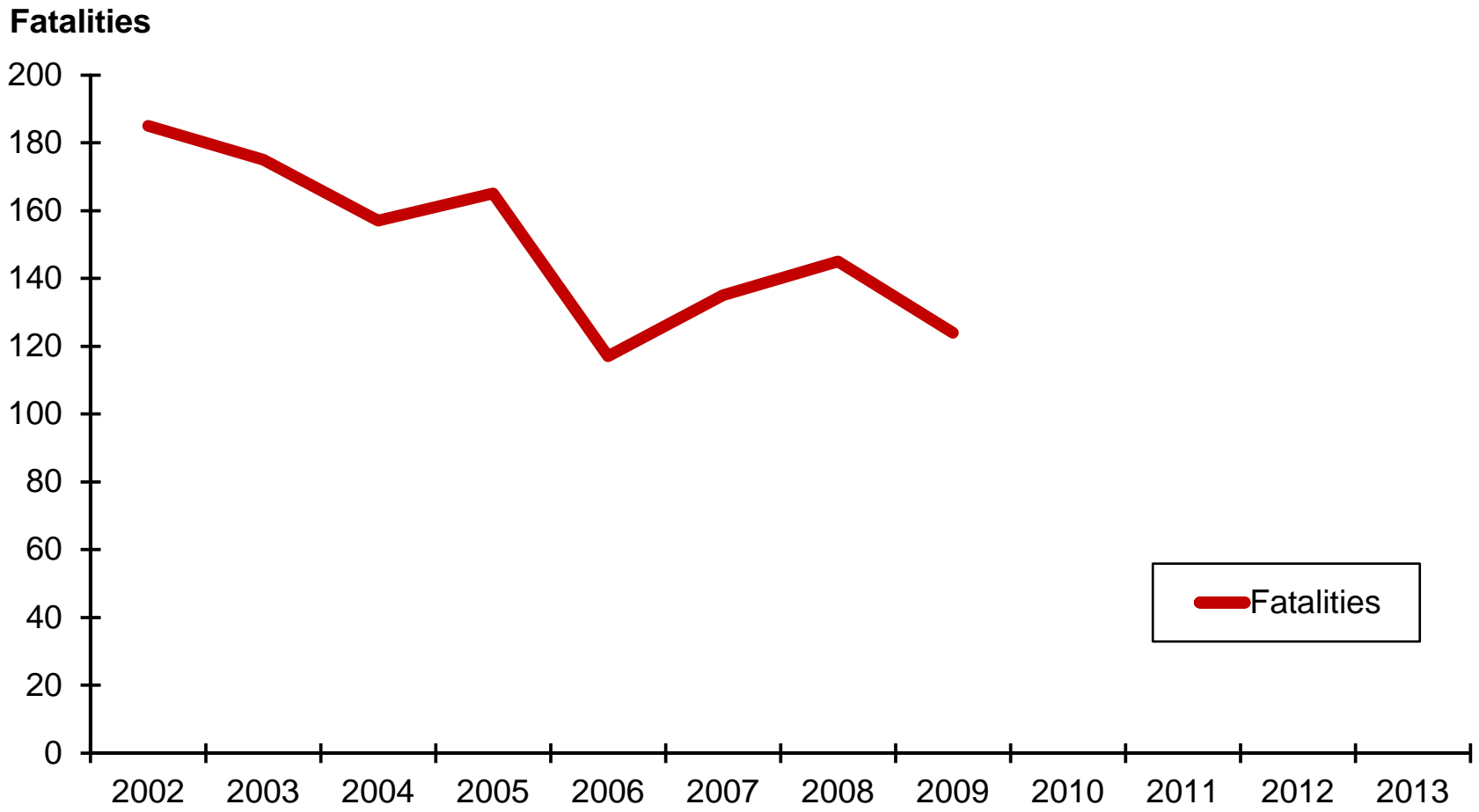
Close

Trend Analysis Methods



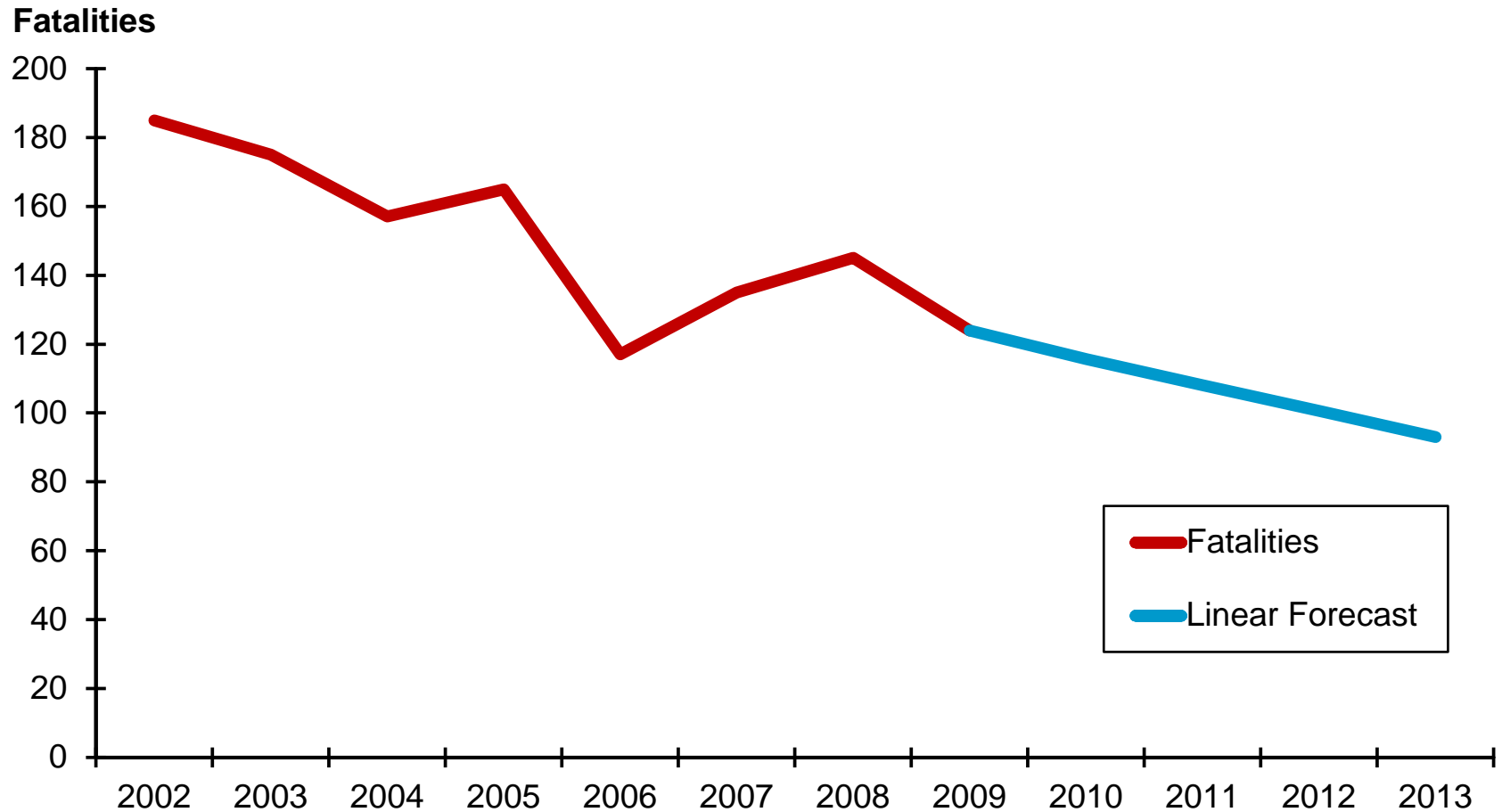
Trend Analysis Methods

Exponential Smoothing



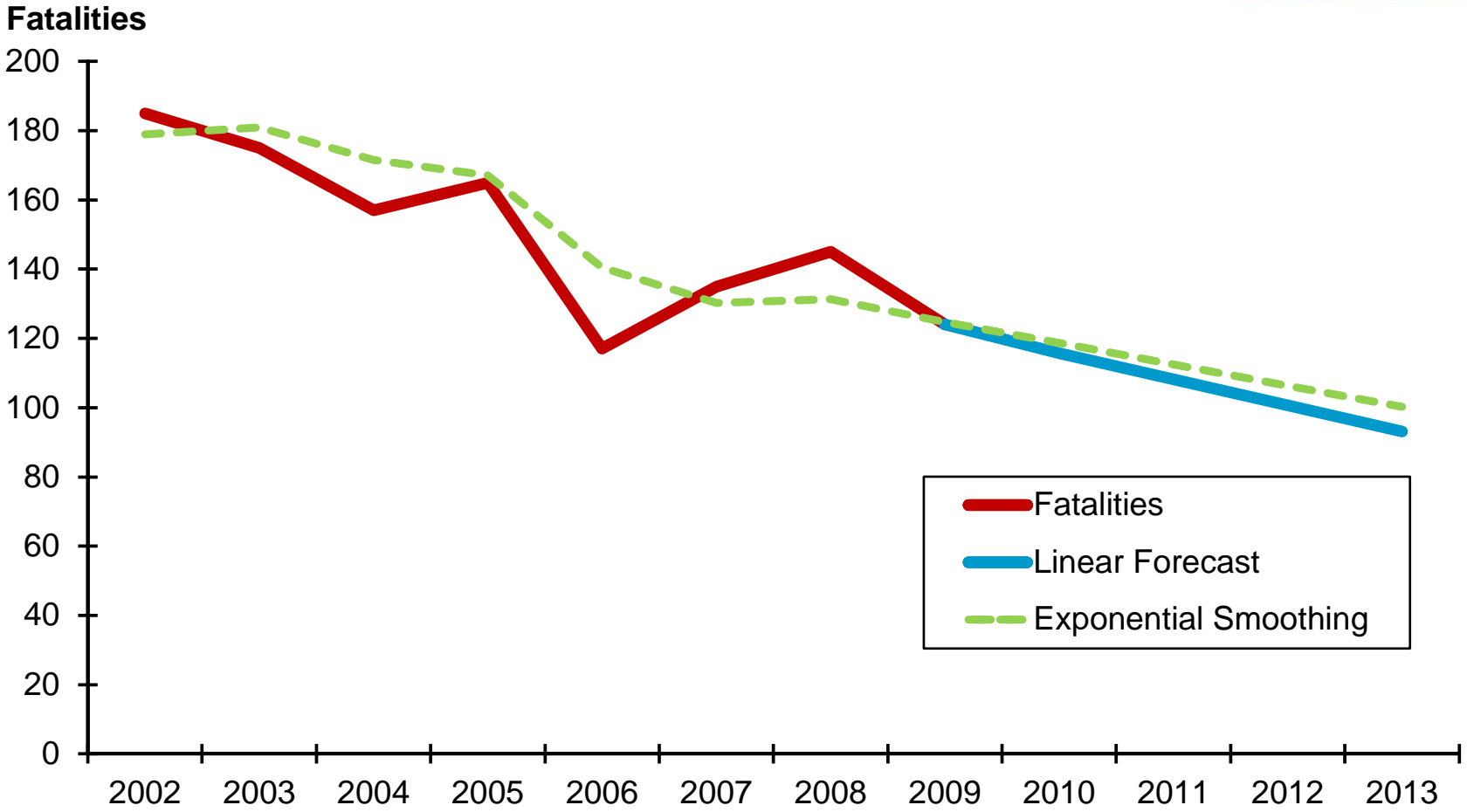
Trend Analysis Methods

Exponential Smoothing



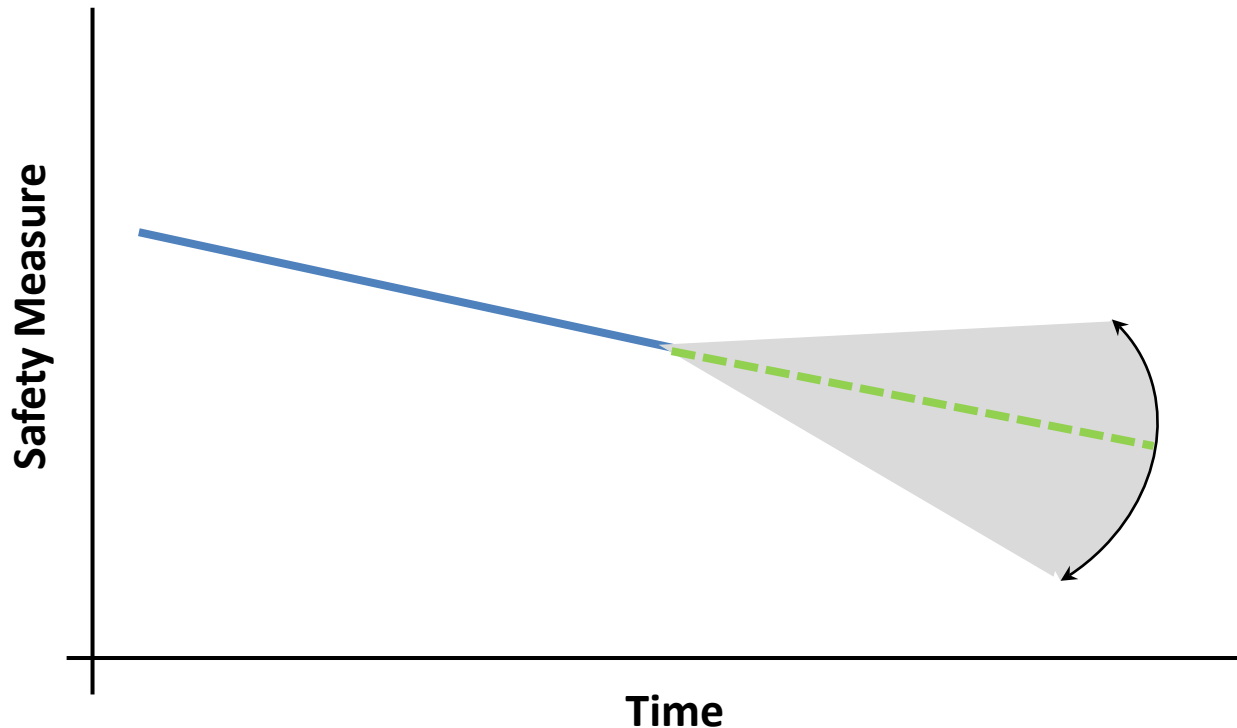
Trend Analysis Methods

Exponential Smoothing



Evidence-Based Target Setting

Step 2

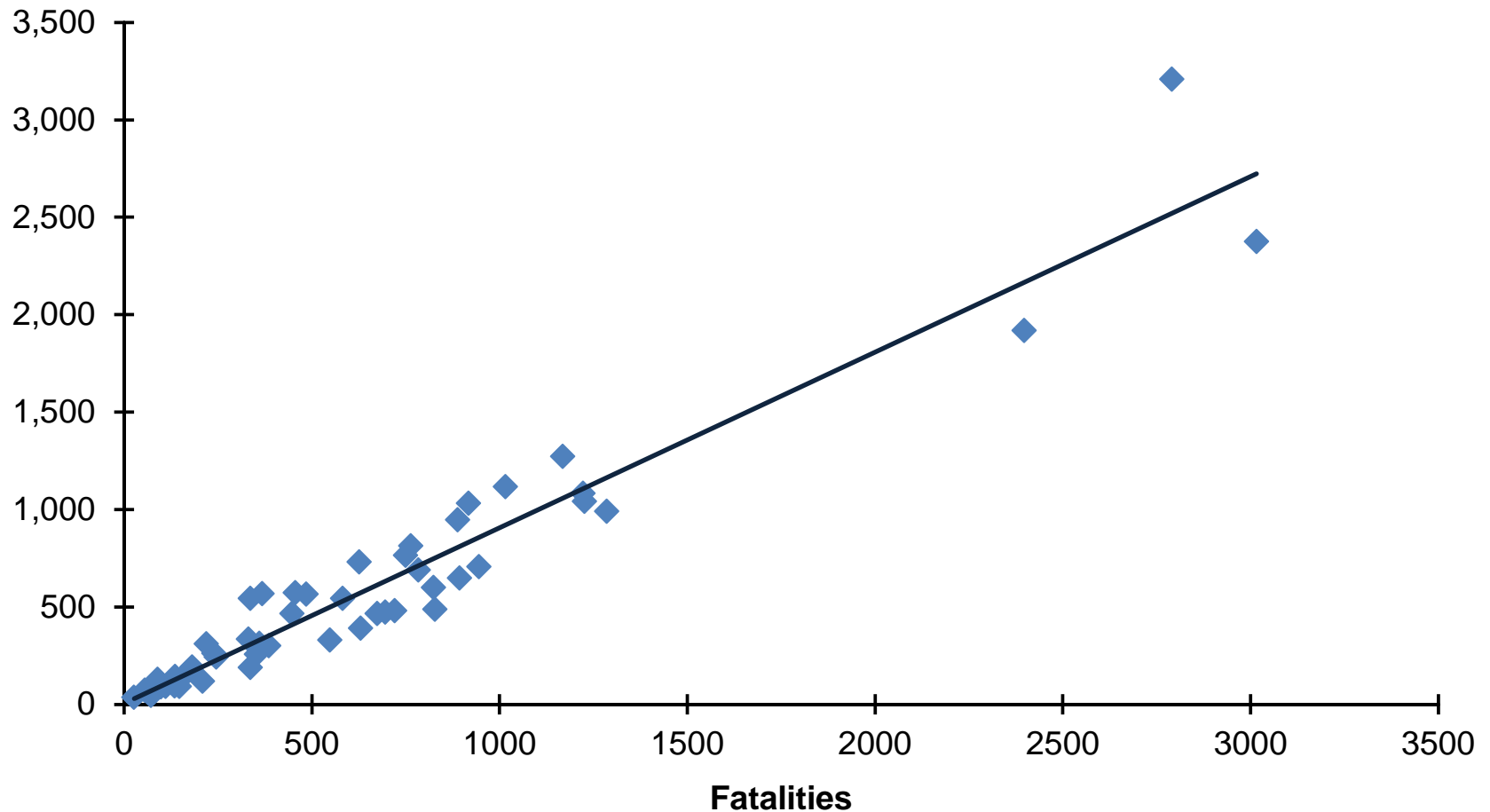


What external factors will impact our target?

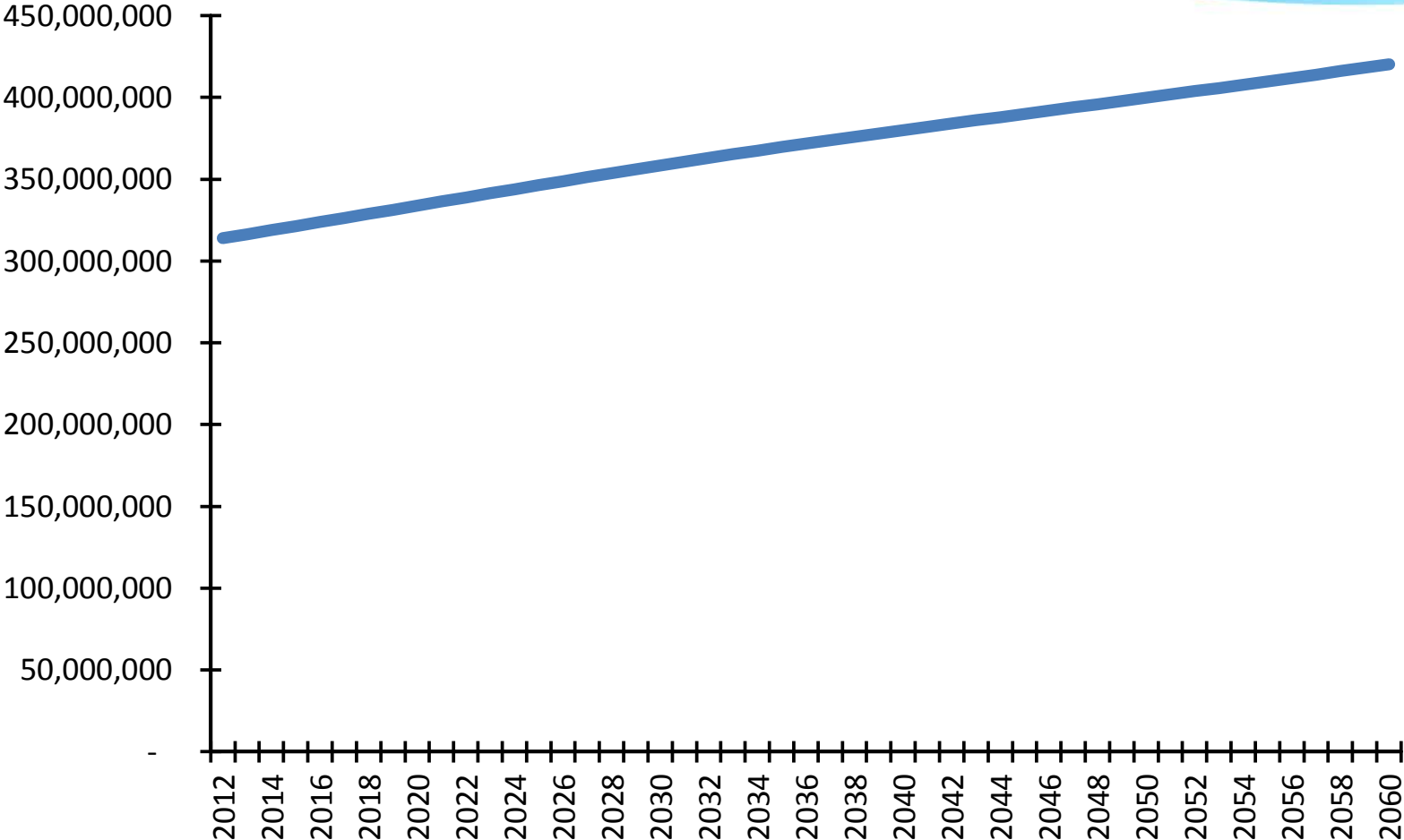
Adjust trend for expected demographic and socioeconomic changes

Adjust Target Using Exogenous Factors

Millions of Vehicle Miles of Travel



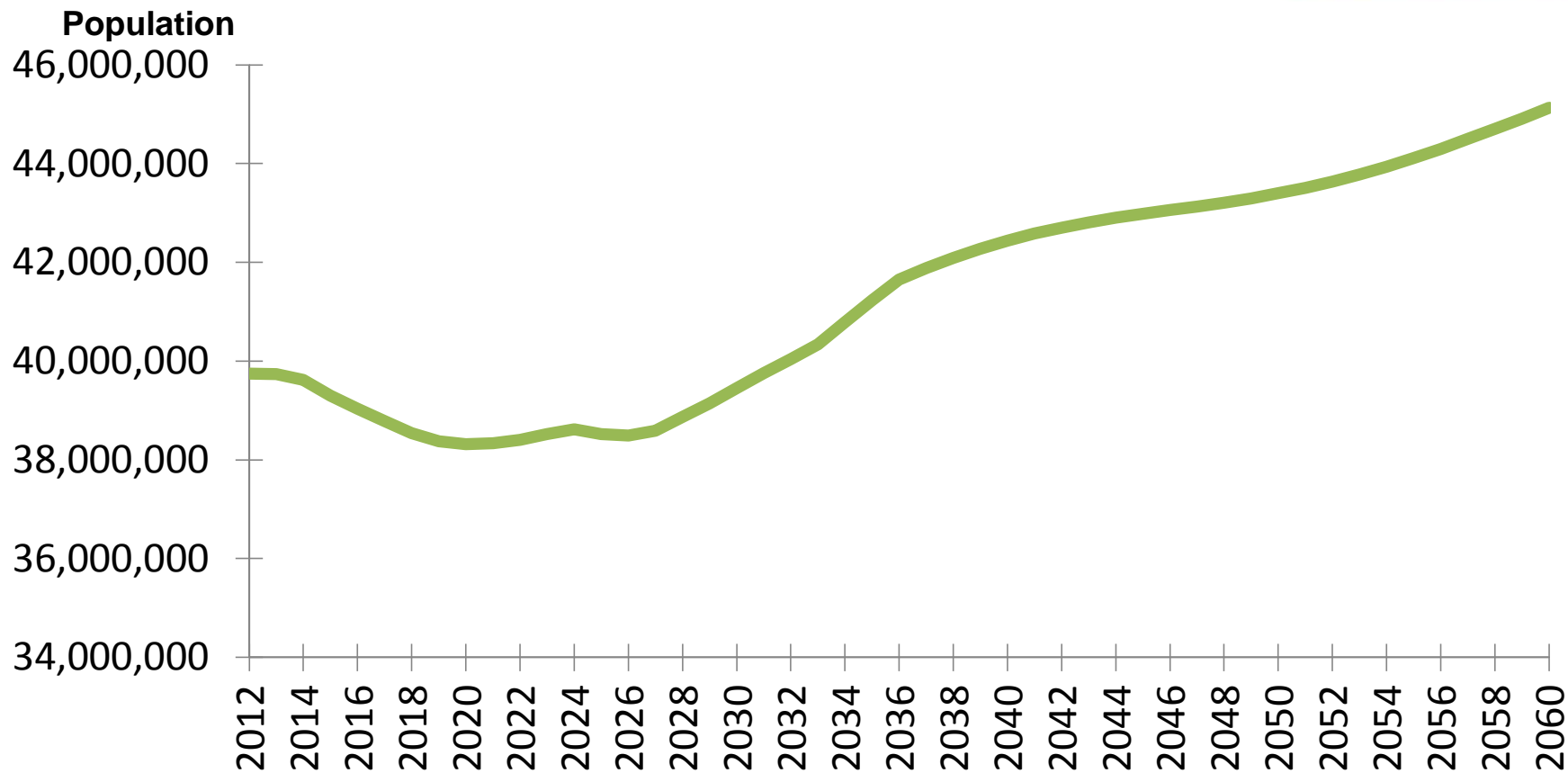
Total U.S. Population Projection



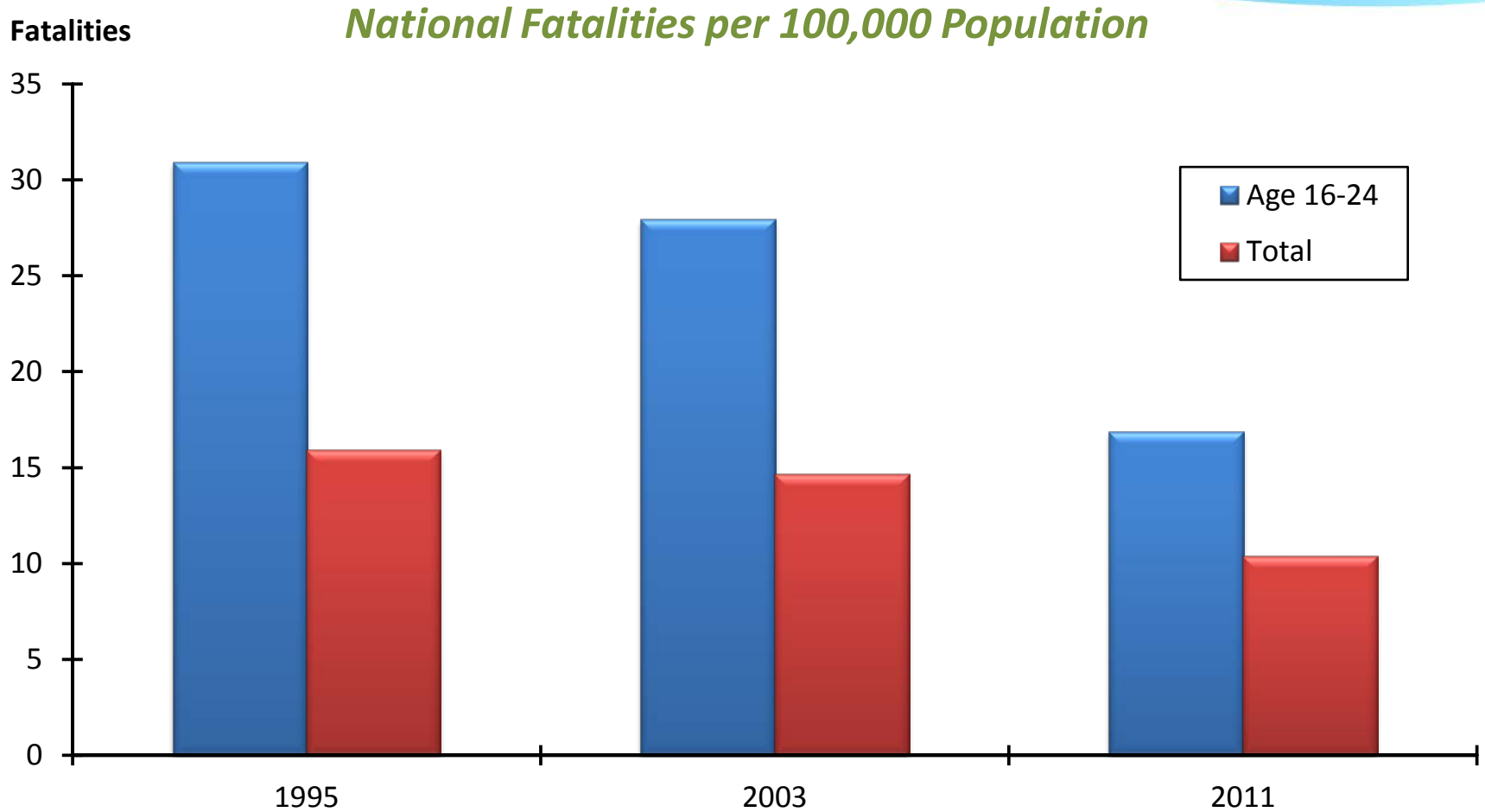
Source: U.S. Census.

National Projection of Population

Age 16-24



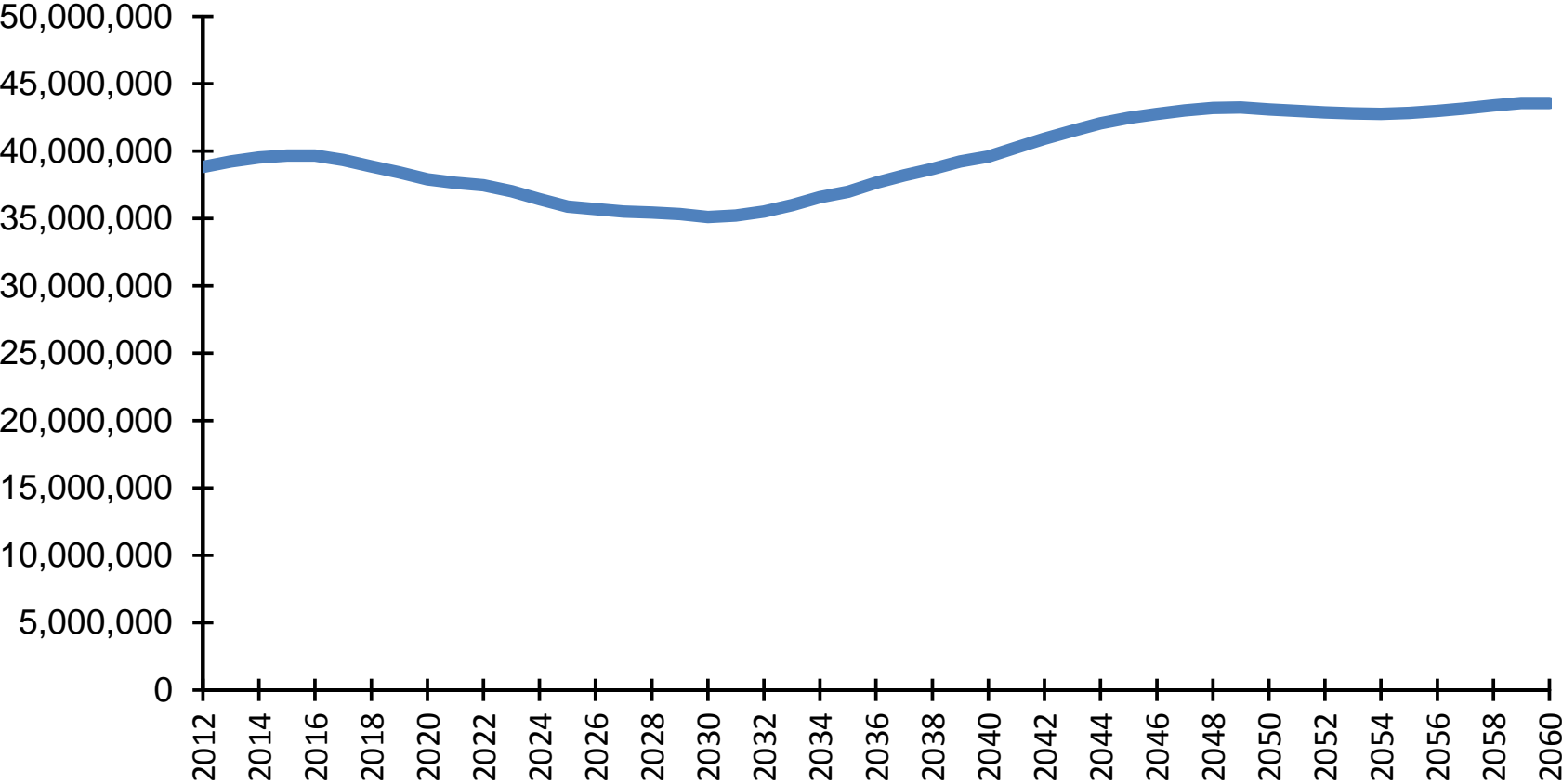
Adjust Target Based on Exogenous Factors



National Projection of Population

Age 50-59

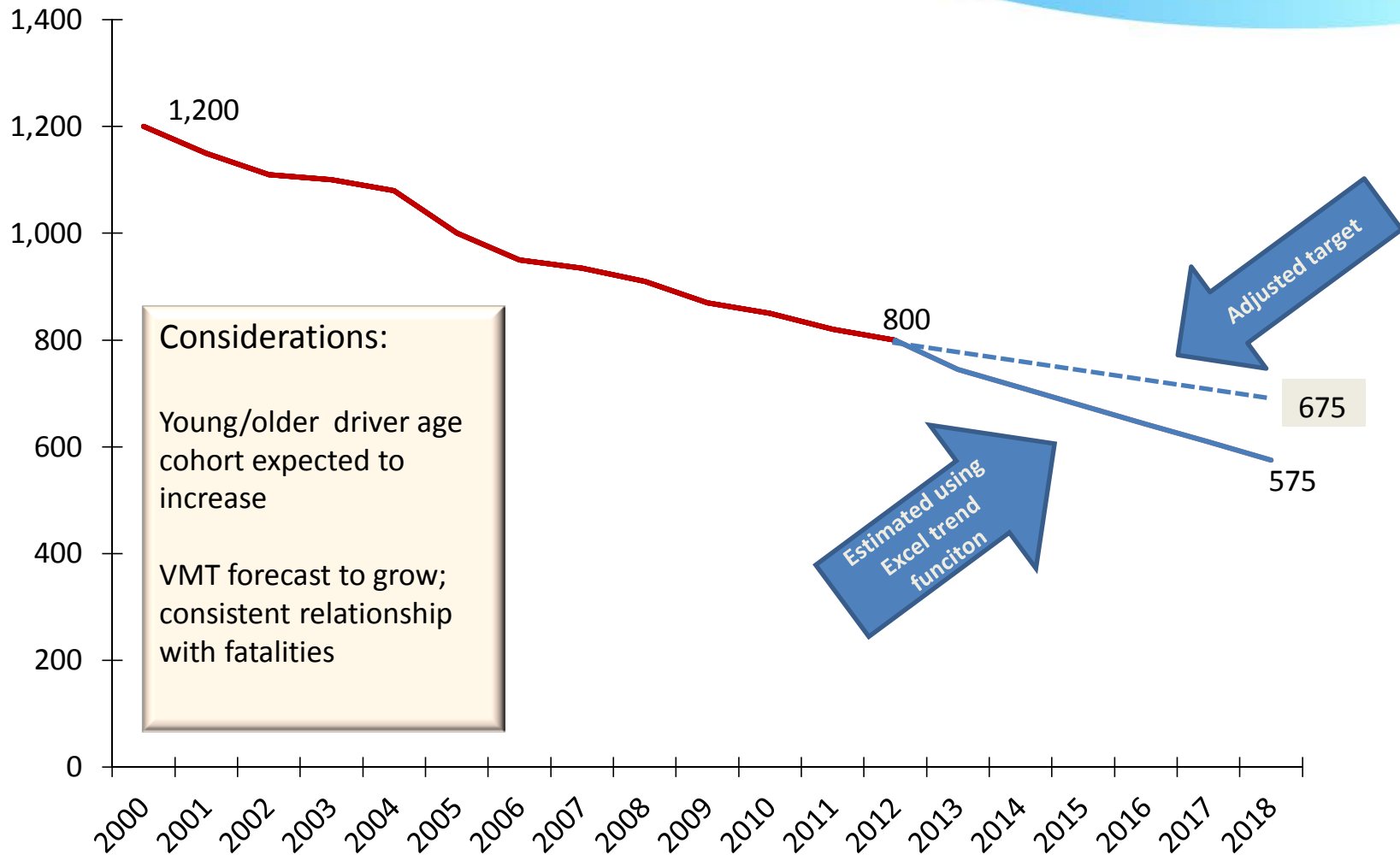
Population



Source: U.S. Census

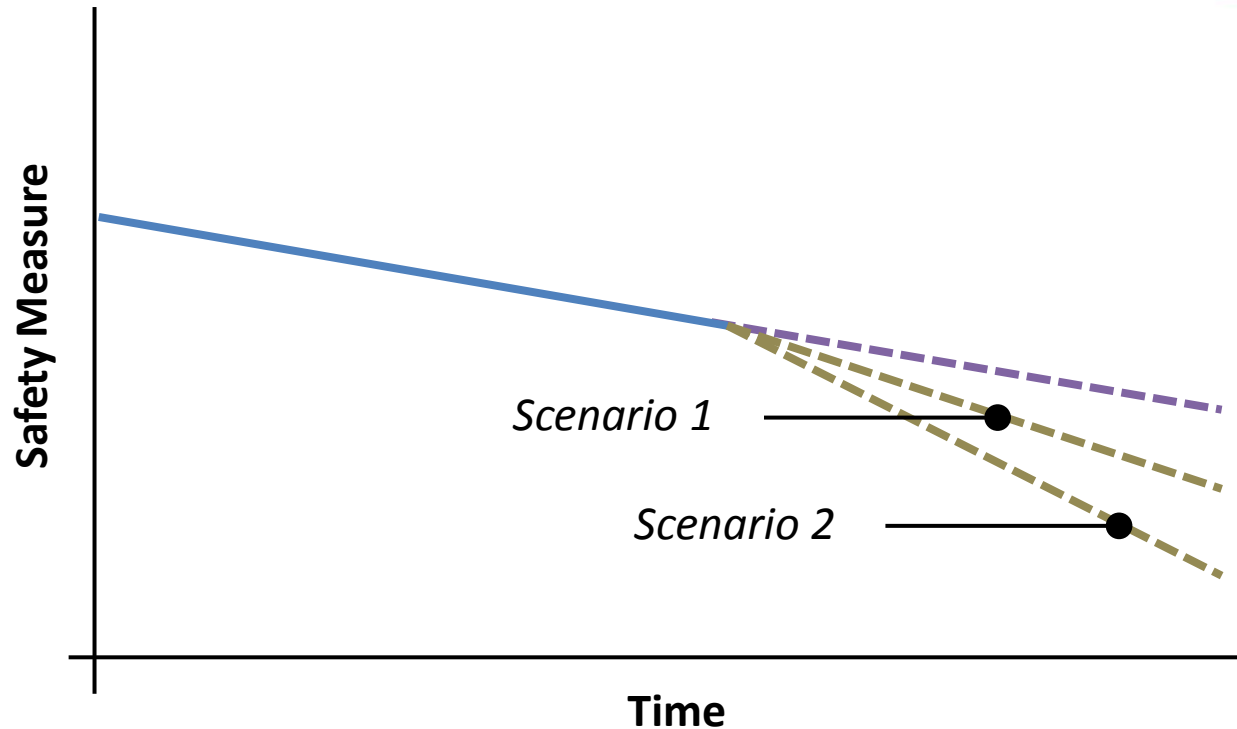
Adjust Target Based on Exogenous Factors

Example



Evidence-Based Target Setting

Step 3

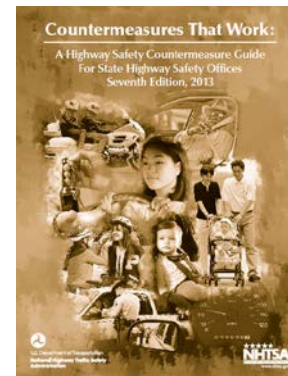
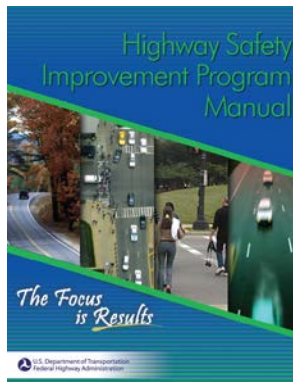


What is the impact of improvements?
Estimate target based on forecasted fatality
reduction from safety plans

Adjust Target Using Countermeasure Impact Data

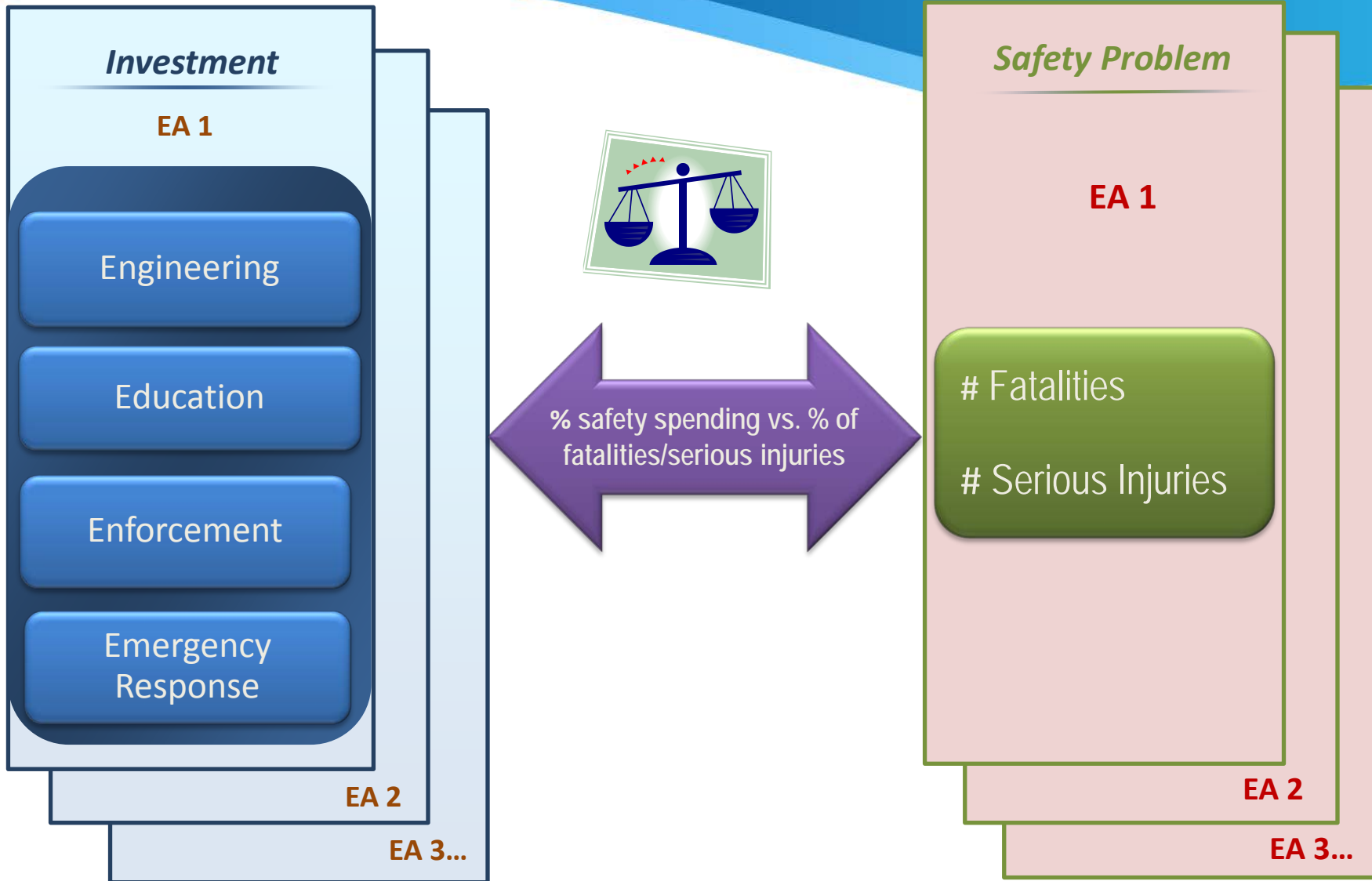
- Safety Analysis Tools

- Interactive Highway Safety Design Model (IHSDM)
- SafetyAnalyst
- Highway Safety Improvement Program Manual (HSIP Manual)
- Highway Safety Manual (HSM)
- Crash Modification Factors Clearinghouse (CMF Clearinghouse)
- Countermeasures That Work



IHSDM

Adjust Target Using Resource Allocation Data



Target Achievement

- Best Practices
 - Integrate Target into Communications
 - Institutionalize Safety Targets
 - Practice Substantive Safety

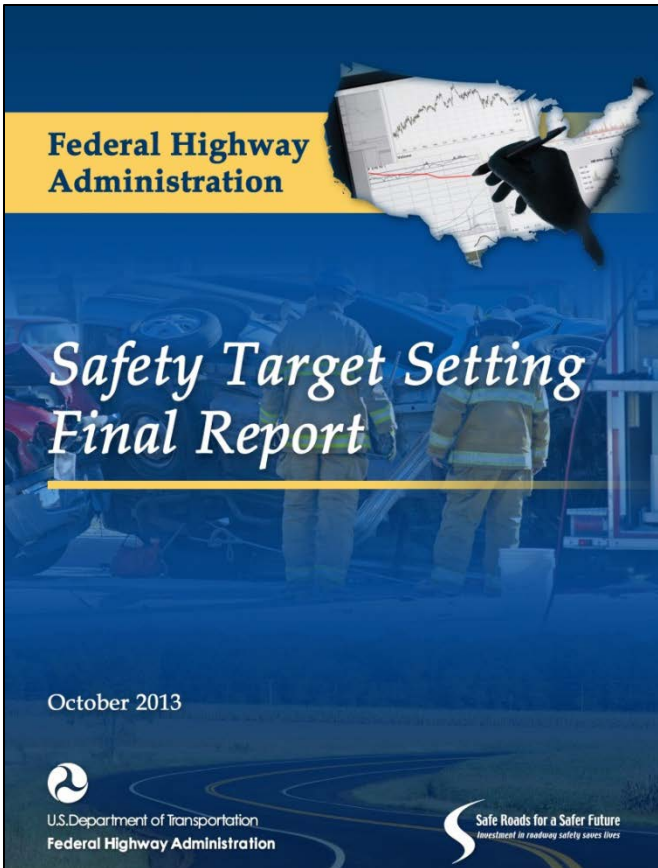


Safety Target Coordination Process



Safety Target Setting Resources

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



Questions??

