IDAHO'S CRASH PROBLEM & PROGRAMS

Toward Zero Deaths, Every Life Counts

Goals

✓Mission - Zero traffic deaths on Idaho roads

✓Fewer than 200 annual traffic deaths by 2012

Toward Zero Deaths, Every Life Counts

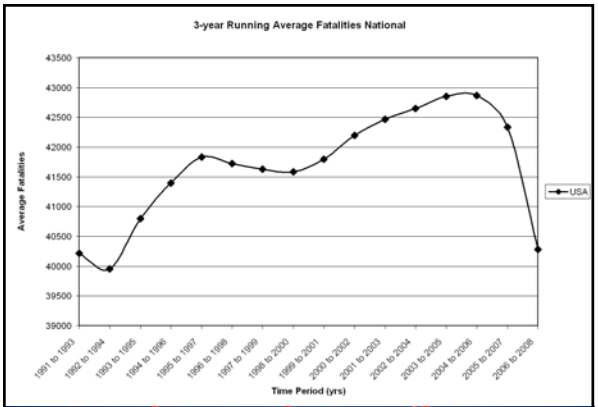
Idaho's Problem

✓ 232 people killed in 2008

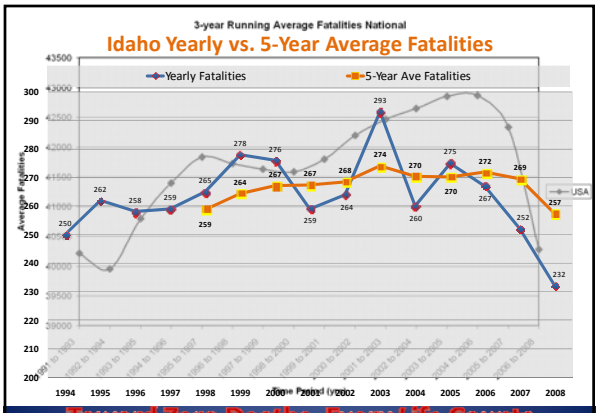
✓Fathers, mothers, children, brothers and sisters

✓Leading cause of death in Idaho for 1 to 34

Toward Zero Deaths, Every Life Counts



Toward Zero Deaths, Every Life Counts



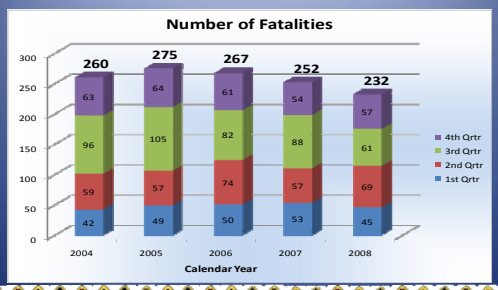
Toward Zero Deaths, Every Life Counts

Fatality Location

	Total	Rural	Urban
State System	63%	64%	60%
Non State	37%	36%	40%
Total	100%	78%	22%

Toward Zero Deaths, Every Life Counts

Fatalities by Quarter



Toward Zero Deaths, Every Life Counts

Serious Injuries

Toward Zero Deaths, Every Life Counts

Economic Costs of Crashes

- ✓ $2.6 billion, $1700 per Idahoan in 2008
- ✓ Society pays 75% of total crash costs
- ✓ Society pays 85% of medical costs
- ✓ 87% of public know they are paying these costs

Toward Zero Deaths, Every Life Counts

Behavior

- ✓ Aggressive Driving - 45%
- ✓ Inattentive Driving - 30%
- ✓ Safety Restraints - 29%
- ✓ Impaired Driving - 24%
- ✓ Youthful Driver - 18%
- ✓ Vulnerable Users -17%
- ✓ Commercial Vehicles – 9%
- ✓ Motorcycle - 8%

Toward Zero Deaths, Every Life Counts

Current Programs

- ✓ Idaho Highway Safety Coalition
- ✓ Statewide Mobilizations including paid media and enforcement
- ✓ Law Enforcement Liaison Program
- ✓ Alive at 25 Program

Toward Zero Deaths, Every Life Counts

Infrastructure

- ✓ Lane departure – 45%
  - – Single Vehicle Run-Off-Road – 35%
  - – Head On/Side Swipe – 10%
- ✓ Intersections - 27%

Toward Zero Deaths, Every Life Counts

Proven Roadway Countermeasures

- ✓ Rumble Strips and Stripes
- ✓ Safety Edge
- ✓ Roundabouts
- ✓ Turn Lanes at Stop Controlled Intersections
- ✓ Yellow Clearance Intervals
- ✓ Road Safety Audits and Follow-up

Idaho's Safety Philosophy

- ✓ Continued focus on severe crashes
- ✓ Focus on system-wide improvements
- ✓ Continue to focus on point locations

Crash Response

- ✓ Quick and effective response
- ✓ Safety of emergency responders
- ✓ Appropriate training and equipment
- ✓ Re-opening of roadway
- ✓ Provide for accurate crash data

Summary

- ✓ Partnerships
- ✓ Data
- ✓ Culture
- ✓ Commitment
- ✓ Evaluation

Contact Information

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FHWA Safety Program

Highway Safety Improvement Program/ Strategic Highway Safety Plan

Idaho Strategic Highway Safety Plan Workshop

November 4, 2009

HSIP Highway Safety Improvement Program
Data Driven Decisions

FHWA Safety Program

What is Road Safety?

The number of crashes, by kind and severity, expected to occur on the entity during a specific period.

2

FHWA Safety Program

3

FHWA Safety Program

Collaborative Plans & Programs

- Highway Safety Improvement Program (HSIP)
- Strategic Highway Safety Plans (SHSP)
- SHSP Update - Based on input from 49 Division Offices.
- The Essential Eight – A Strategic Highway Safety Plan Implementation Process Model (SHSP IPM
- Highway Safety Improvement Program – 10% Flex Funds

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FHWA Safety Program

Highway Safety Improvement Program (HSIP)

The HSIP is a core Federal-aid funding program that emphasizes a data-driven, strategic approach to improving highway safety that focuses on results.

5

FHWA Safety Program

Purpose of the HSIP

To achieve a significant reduction in fatalities and serious injuries on all public roads through the implementation of infrastructure-related highway safety improvements .

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FHWA Safety Program

Legislative References

- SAFETEA-LU
  - 23 U.S.C. 148: Highway Safety Improvement Program
  - 23 U.S.C.130: Railway-Highway Crossing Program
- Federal Regulation
  - 23 CFR 924: Highway Safety Improvement Program

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FHWA Safety Program

HSIP Programs

- Strategic Highway Safety Plans (SHSP)
- State Highway Safety Improvement Program
  - Highway safety improvement projects
- High Risk Rural Roads Program
- Railway-Highway Crossing Program

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FHWA Safety Program

What is SHSP?

An SHSP is a statewide-coordinated safety plan that provides a comprehensive framework, and specific goals and objectives, for reducing highway fatalities and serious injuries on all public roads.

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FHWA Safety Program

Purpose of a SHSP

- To identify the State's key safety needs and guide investment decisions to achieve significant reductions in highway fatalities and serious injuries on all public roads.
- The SHSP was established in SAFETEA-LU U.S.C. Section 148 as part of the Highway Safety Improvement Program (HSIP), which is a core Federal-aid program.

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FHWA Safety Program

Strategic Highway Safety Plans (SHSP)

- Data-driven, statewide plan of strategies that provide a framework for reducing highway fatalities and serious injuries.
- Developed by State DOTs through a collaborative process with safety stakeholders
- Integrates the 4Es – engineering, education, enforcement, and emergency medical services
- Considers the safety needs of all public roads
- Guides investment decisions

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FHWA Safety Program

Strategic Highway Safety Plans (SHSP)

- Benefits of the SHSP
  - Common statewide safety goals and priorities
  - Strengthens existing partnerships
  - Builds new safety coalitions
  - Shared data, knowledge, and resources
  - Leverages resources

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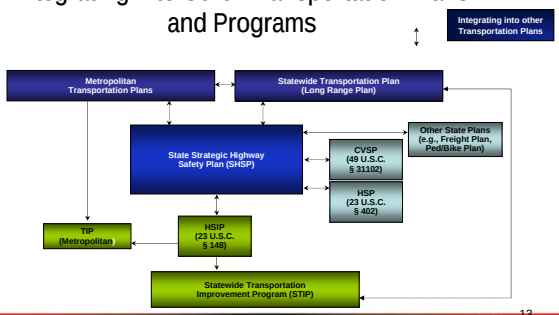
FHWA Safety Program

Integrating into Other Transportation Plans and Programs



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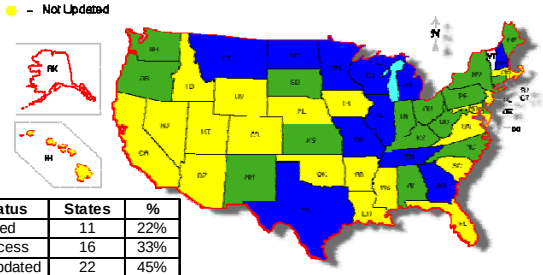
FHWA Safety Program

– Updated
– In Process
– Not Updated



Status	States	%
Updated	11	22%
In process	16	33%
Not updated	22	45%
Total:	49	100%

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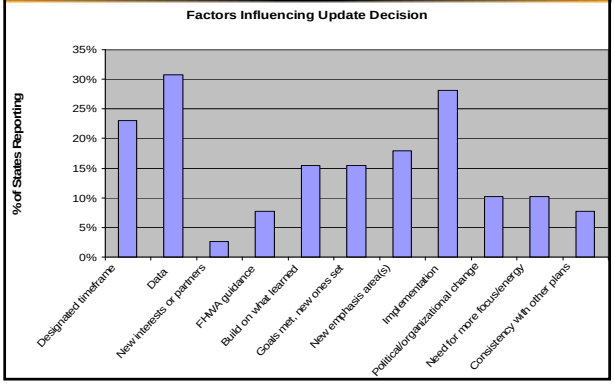
FHWA Safety Program

SHSP Updates



FHWA Safety Program

SHSP Update

- Challenges
  - Change
  - States waiting to see reauthorization
  - ARRA and other priorities
  - Staff changes – State and Federal
- Opportunities
  - Increased effectiveness
  - More comprehensive and inclusive
  - Engage more stakeholders

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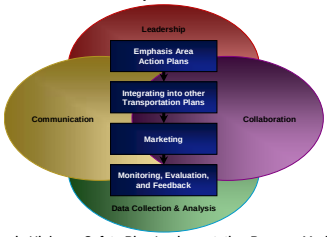
FHWA Safety Program

"The Essential Eight Fundamental Elements and Effective Steps for SHSP Implementation"



A Strategic Highway Safety Plan Implementation Process Model

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FHWA Safety Program

Using the IPM

- Chapters
- Key Strategies
- Narrative
- Checklists
- Case Studies

#

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FHWA Safety Program

SHSP Implementation Process Model

- Ch.1 – The SHSP IPM
- Ch. 2 – Leadership, Collaboration, and Communication
- Ch. 3 – Collecting, Analyzing, and Sharing Data
- Ch. 4 – Emphasis Area Action Plans
- Ch. 5 – Integration into Other Transportation Plans and Programs
  - *5.1 Long-Range Transportation Plans & Transportation Improvement Programs*
  - *5.2 Highway Safety Improvement Programs*
  - *5.3 Highway Safety Plans*
  - *5.4 Commercial Vehicle Safety Plans*
  - *5.5 Plan and Program Integration Checklist and Timeline*
- Ch. 6 – Marketing
- Ch. 7 – Monitoring, Evaluation, and Feedback

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FHWA Safety Program

(HSIP) – 10% Flex Funds

- Amount of Flex Funds Approved for Spending - 20 million
- Number of States using flex funds - 10
  - Alabama Colorado
  - Hawaii Idaho
  - Michigan Minnesota
  - Nebraska Nevada
  - Utah Wisconsin

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FHWA Safety Program

(HSIP) – 10% Flex Fund Activities

- Traffic records
- Occupant protection programs
- Impaired driving programs
- Young drivers programs
- Drowsy driving programs
- Attorney General's Office to support the Traffic Safety Resource Prosecutor

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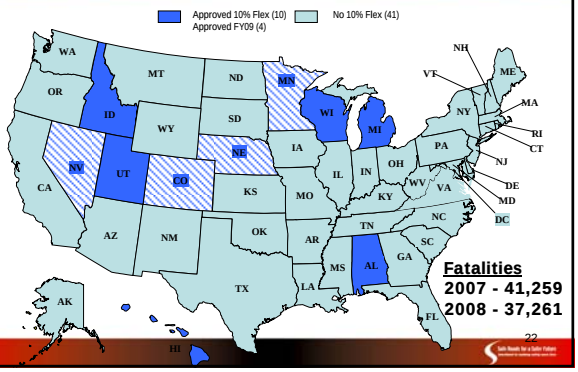
FHWA Safety Program



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FHWA Safety Program

Federal-Aid Funding Sources

- Safety Programs
  - Highway Safety Improvement Program
  - High Risk Rural Roads Program
  - Highway-Railway Crossing Program
  - Safe Routes to School
- Other Federal-Aid Programs
  - Interstate Maintenance
  - Surface Transportation Program
  - National Highway System
  - Equity Bonus
  - Congestion, Mitigation and Air Quality
  - Federal Lands

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FHWA Safety Program

Other Federal Safety Resources

- National Highway Traffic Safety Administration
  - State and Community Highway Safety Grants (402)
  - Occupant Protection Incentive Grants (405)
  - Safety Belt Performance Grants (406)
  - State Traffic Safety Information System Improvement Grants (408)
  - Alcohol-Impaired Driving Countermeasures Incentives Grants (410)
  - Motorcyclist Safety Grants (SAFETEA-LU Section 2010)
- Federal Motor Carrier Safety Administration
  - Motor Carrier Safety Assistance Program (49 CFR 350)

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FHWA Safety Program

Program Resources

- HSIP Program Fact Sheet
- SHSP Program Fact Sheet
- HSIP & SHSP Guidance
- State Safety Fact Sheets
- Safety Briefing Book – Making the Case for Transportation Safety – Ideas for Decision Makers
- Draft Strategic Highway Safety Plans Implementation Process Model (SHSP IPM)
- The Champion's Guide for Developing Strategic Highway Safety Plans
- Web-site: http://safety.fhwa.dot.gov/

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FHWA Safety Program

Questions???

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System-wide Safety Solutions

Missouri's Approach to Saving Lives

Jon Nelson, P.E.
Missouri Department of Transportation

Missouri Roadways

- State highway system
  - 32,000 + miles
  - 7th largest in the U.S.
- Local Roads
  - 100,000 + miles
- 166,000 crashes per year since 2005
- 68 billion vehicle miles traveled (VMT)

Traffic Safety in Missouri

The Mission

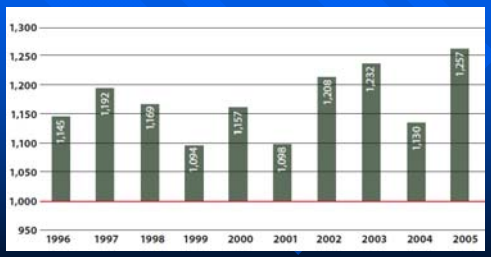
- Reducing fatalities and serious injuries on all Missouri roadways

Missouri's Safety Philosophy

- Previous efforts: Specific crash locations
  - Total crashes
  - High accident locations – "Black Spots"
  - Minimal overall effect
- High severity lists
  - Focus on severe crashes
  - Still location based

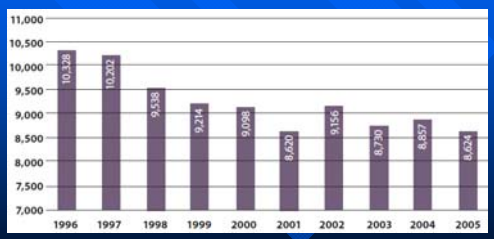
Missouri - Fatalities

- 1996 - 2005



Missouri - Serious Injuries

- 1996 - 2005



Crash Locations are Random

Crash Types are Predictable

2006	2007	2008
No Seat Belt	No Seat Belt	No Seat Belt
Run Off Road	Run Off Road	Run Off Road
Aggressive	Aggressive	Aggressive
Curves	Curves	Curves
Impaired	Impaired	Impaired

Crash Types are Predictable

Fatalities				
Description	2005	2006	2007	Total
Unrestrained Occupants	621	576	478	1,675
Killed in Run-Off-Road Crashes	594	494	447	1,535
Aggressive Driving Involved				
Following too close	23	23	18	64
Too fast for conditions	316	290	254	860
Speed exceeded limit	226	195	174	595
TOTAL for 3 conditions	565	508	446	1,519
Horizontal Curves Involved	427	375	350	1,152
Alcohol and/or Other Drugs Involved	289	288	257	834
Inattentive Drivers Involved	313	262	247	822
Young Drivers - 15-20 Involved	262	245	180	687
Killed in Head-On Crashes	253	154	164	571

Crash Types are Predictable

- A common characteristic: Lane Departure

Fatalities				
Description	2005	2006	2007	Total
Unrestrained Occupants	621	576	478	1,675
Killed in Run-Off-Road Crashes	**594**	**494**	**447**	**1,535**
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Speed exceeded limit	**226**	**195**	**174**	**595**
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Young Drivers - 15-20 Involved	262	245	180	687
Killed in Head-On Crashes	**253**	**154**	**164**	**571**

Missouri's Safety Philosophy

- Continue to focus on severe crashes
  - Fatalities and serious injuries
- **Focus on system-wide improvements**
  - **Identify crash types**
  - **Tier the system**
- Continue to use crash data
- Address "Black Spots" where appropriate
  - Balance between system-wide and spot locations

The Mission

- Reducing fatalities and serious injuries on all Missouri roadways

The Goal

- Previous SHSP (2004): Missouri's Blueprint for Safer Roadways
- 1,000 or fewer fatalities by 2008

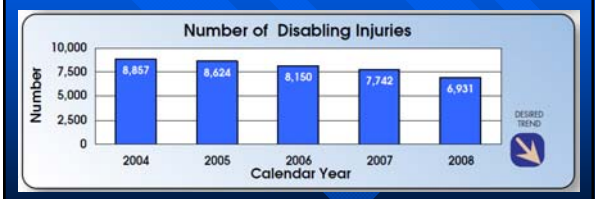
Missouri - Fatalities

- 2005 - Present

- Goal met!
  - Last time fatalities below 1,000: 1993

Missouri - Serious Injuries

- 2004 - Present



Current SHSP (2008)

- Blueprint to Arrive Alive
- 4 E's
- New goal: 850 or fewer fatalities by 2012

www.savemolives.com

Emphasis Areas

- Serious Crash Types
- High-Risk Drivers and Occupants
- Special Vehicles
- Vulnerable Roadway Users
- Special Roadway Environments

Key Strategies

🎯 The Targeted 10

1. **Primary Seat Belt Law**
2. **Public Education**
3. **Targeted Enforcement**
4. **Punish Drunk Drivers**
5. **Improve Curve Recognition**
6. **Install Rumble Stripes**
7. **Improve Signs & Stripes**
8. **Install Shoulders**
9. **Improve Intersection Safety**
10. **Remove/Shield Fixed Objects**

System-wide Improvements

System-wide Improvements

- With over 32,000 miles, where do we start?
- Nearly half of Missouri's fatalities were occurring on just 5,500 miles of the system
  - Started by focusing on major roads

	Major	Minor
Roadway Miles	5,500	27,000
Miles Traveled	80%	20%
Fatalities	45%	55%

Smooth Roads Initiative (SRI)

- 2,200 miles of most heavily traveled roads
  - 2005-2006
  - 7% of the state system
  - 60% of the VMT
- $360 million

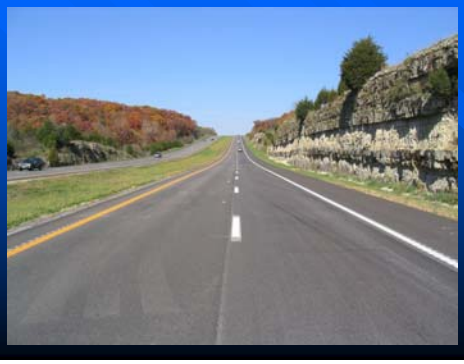
Smoother, Safer, Sooner

Smooth Roads Initiative (SRI)

Smooth Roads Initiative (SRI)

- Improved roadway surface
  - Asphalt overlays
  - Concrete diamond grinding
- 6" edgelines; Rumble stripes
  - Epoxy
- 6" lane lines
  - » 3M waffle tape
  - » Wet reflective

Smooth Roads Initiative (SRI)



Smooth Roads Initiative (SRI)

- Sign upgrades
- Delineation
  - Guardrail
  - Guard cable
  - Jersey barrier
- Emergency reference markers

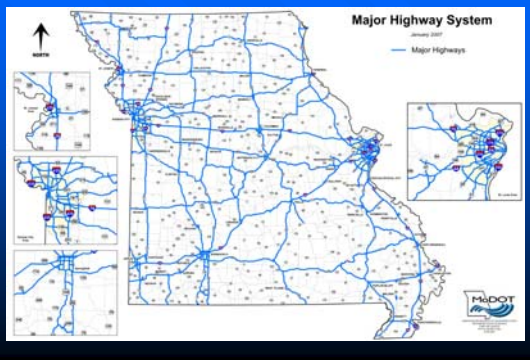
Smooth Roads Initiative (SRI)

Better Roads, Brighter Future

- Next 3,300 miles of major roads
  - 2007-2011
  - Mostly 2-lane roadways
- 85% of major roads in "good" condition by the end of 2011
- $124 Million
  - HSIP funds for safety components

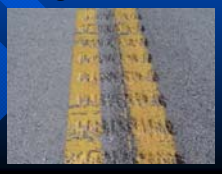
BETTER ROADS BRIGHTER FUTURE

Better Roads, Brighter Future



Better Roads, Brighter Future

- Minimum expectations (all major roads):
  - Smooth driving surface
  - Minimum 4' paved shoulder
  - Improved signing
- Over 1,000 miles will receive edgeline + centerline rumble stripes



Better Roads, Brighter Future

Median Guard Cable

- 1999: Spot locations in St. Louis
- 2004: System-wide installation
- Criteria
  - Interstates
  - Severe crash history
- $100,000 per mile
- Current installations
  - 600 miles to date
  - Low and high tension
  - Expressways added

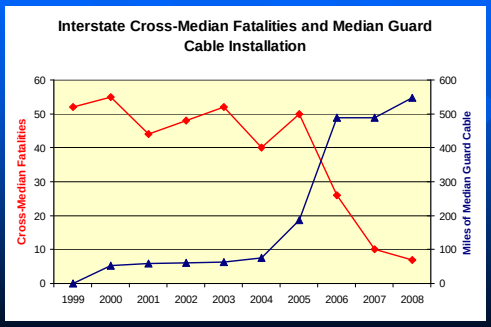
Median Guard Cable

- Studied all reported cross-median crashes
  - 1999-2005
  - 1,400 crashes
- 95% success rate
  - Vehicle did not enter opposing lanes

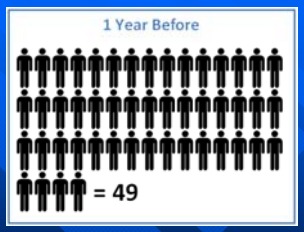
Median Guard Cable

- Recently completed more updated study
  - I-70 and I-44
  - 2005-2008
  - 4,622 crashes
  - 103 “failures”
- 98% success rate
  - 97.3% on I-70
  - 98.3% on I-44

Median Guard Cable



Median Guard Cable



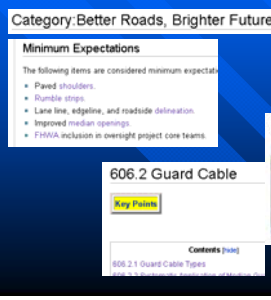
Making Safety Policy

- Rumble stripes
  - All major roads
  - All minor roads with crash history
- 6-inch stripes
  - All edgelines, multi-lane skips
- Curve speed plaques
  - All curve/turn signs

Making Safety Policy

➢**MoDOT’s Engineering Policy Guide**

epg.modot.org



Additional System-Wide Improvements

- Edgeline striping
  - AADT greater than 400
  - Road width 20’ or greater
    - » 7,600 miles between 400 and 1,000 AADT
    - » 6,800 of these miles (90%) are on HRRR Routes
- Improved curve visibility
  - Chevrons on all curves with advisory speeds 15 mph or more below the posted speed limit

Edgeline Striping

Edgeline Striping

Edgeline Stripes are Low Cost Solutions

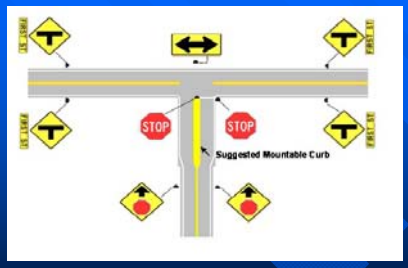
18 lives per year?

Chevrons

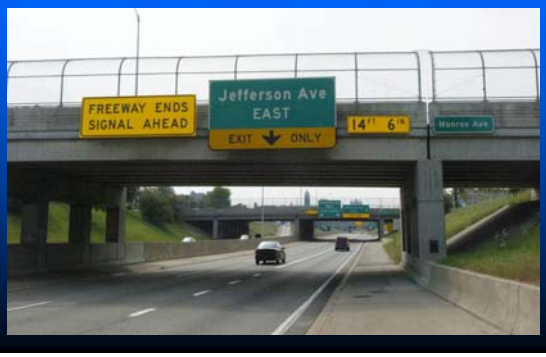
Additional System-Wide Improvements

- Intersection safety plan
  - Signing packages
  - Uniform signal clearance interval timing
  - Reflectorized back plates
  - Lighting
- Fluorescent yellow sheeting
- Remove/shield fixed objects
- Eliminate edge drop-off

Intersection Visibility



Fluorescent Yellow Sheeting



Remove Isolated Trees

Eliminate Edge Drop-Off

System-wide Improvements

- Are they working?
  - Since 2005, fatalities on major roads down 48%
    - » VMT steady during that same period
  - Lane departure fatalities down 25%
  - Over a 90 percent reduction in fatalities on routes we have installed median guard cable
    - » In-house MoDOT study

System-wide Improvements

- Are they working?
  - 24% decrease in fatalities from 2005 to 2008.
    - » 1,257 fatalities in 2005.
    - » 960 fatalities in 2008.
    - » **850 fatalities or less in 2012???**
  - On pace to be below 900 in 2009.
    - » Last time fatalities below 900: 1950

Remember…

- Fatal crash locations are random.

- Fatal crash types are predictable.
  - » No seat belt
  - » Run off road
  - » Aggressive Driving
  - » Curves
  - » Impaired Driving

Contact Information

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  - » John.P.Miller@modot.mo.gov
- Jon Nelson, P.E.
  - » Senior Traffic Studies Specialist
  - » 573-751-1157
  - » Jonathan.Nelson@modot.mo.gov

Washington State's Strategic Highway Safety Plan

Featuring: The Traffic Safety Corridor Program – Our Integrated Systems Approach in Action

Presented by:
Angie Ward
Washington Traffic Safety Commission
Matthew Enders
Washington State Department of Transportation

Date: November 2009

Location: Boise, Idaho

Purpose

- To present Washington's process for developing our Strategic Highway Safety Plan – Target Zero
- To share details of just one Washington program guided by the integrated systems approach.

The Crash Problem

- The CDC reports the number one cause of death for people between the ages of 4 and 34 in the U.S is motor vehicle crashes!
- The bottom line is that crashes impact every aspect of our lives to include mobility, congestion, and the preservation of our infrastructure.

The Crash Problem

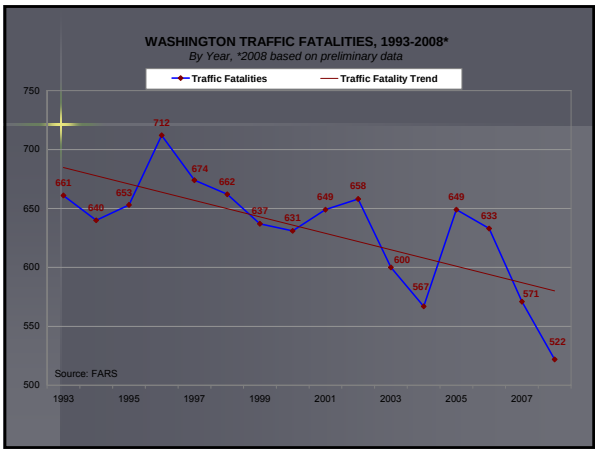
- The FHWA recently updated its crash cost estimates (2007):
  - Fatality - $5,800,000
  - Serious Injury - $ 288,845
  - Visible injury - $ 80,904
  - Possible Injury - $ 53,626
  - Property Damage - $ 6,209

Washington Crash Profile

- Since 1995, an average of over 600 people have died each year in traffic crashes;
- Each year more than 3,500 serious injury crashes occur in Washington;
- Each year more than 140,000 collisions occur on Washington's roadways; and
- In 2007 the total economic cost of motor vehicle collisions in Washington was more than $5.8 billion.

Most Frequent Causes of Fatal Crashes in Washington?

- Over 80% of traffic deaths result from behavioral errors.
- In Washington, 4 out of every 5 traffic deaths involve impairment, speed, or non-belt use or some combination of these three factors.



Acceptable Progress?

- No!
- Over 500 people dying each year on WA roadways is not success.
- In order to change this trend the state needed a radical new approach to traffic safety planning.

Solution - an Integrated Systems Approach to traffic safety planning.

Washington State's Strategic Highway Safety Plan (SHSP)

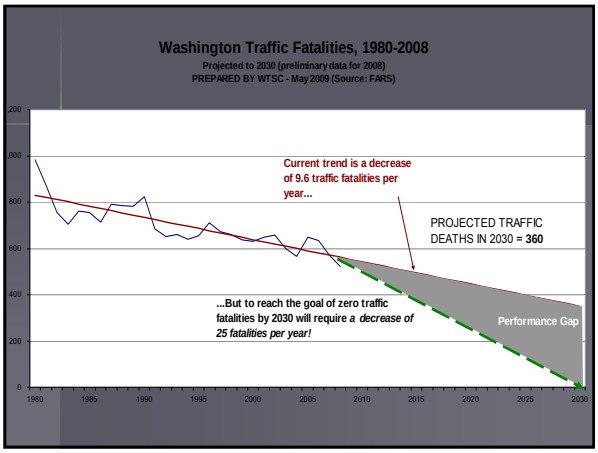
TARGET ZERO

A collaborative effort to improve transportation safety on all public roads

Target Zero Vision

- To eliminate fatal and serious injury crashes by 2030
- Question:

Is this a viable traffic safety planning strategy, or is it just wishful thinking?



Implementing a Data Driven Collaborative Approach to Transportation Safety

- The state must develop and implement a Strategic Highway Safety Plan.
- Which outlines specific elements including:
  - Statewide goals
  - Emphasis areas
  - Specific strategies
  - Performance Measures

Benefits of an Integrated Systems Approach to Traffic Safety

- **Collaboration** among organizations to address transportation safety issues
- Assists policy makers when **prioritizing investments**.
- Outlines **specific elements** of the state's approach to transportation safety including:
  - Goals
  - Emphasis Areas
  - Performance Measures
  - Broad range of proven strategies

The Result: Fewer Fatal & Disabling Injuries

Key Elements of Target Zero

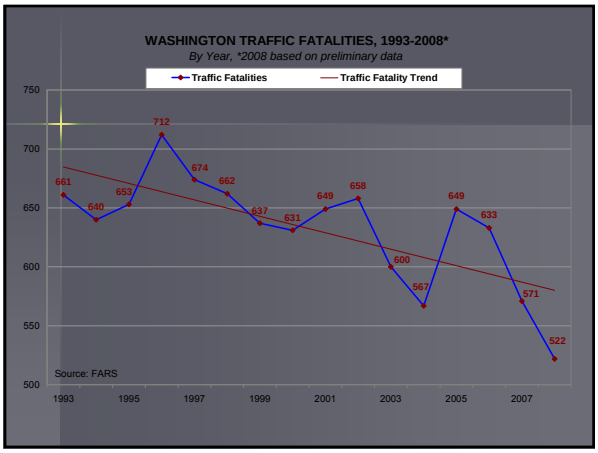
- Many partners
- Data driven
- Establishes priorities and goals
- Implemented via proven strategies and best practices
- Aggressively evaluates results
- Makes course corrections as warranted

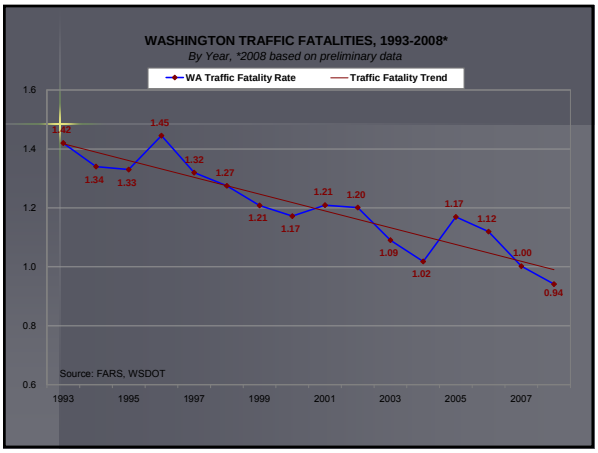
Determining Target Zero Priorities

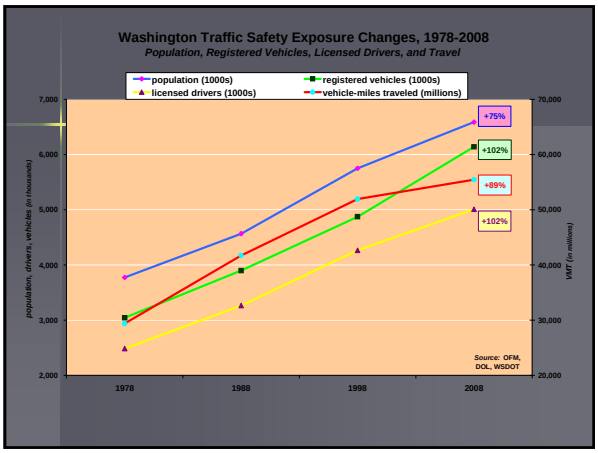
- Analyze all available data;
- Identify the target areas where investment of resources will generate the greatest safety benefits; and
- Group priority areas into four levels, with Priority 1 being the most critical.

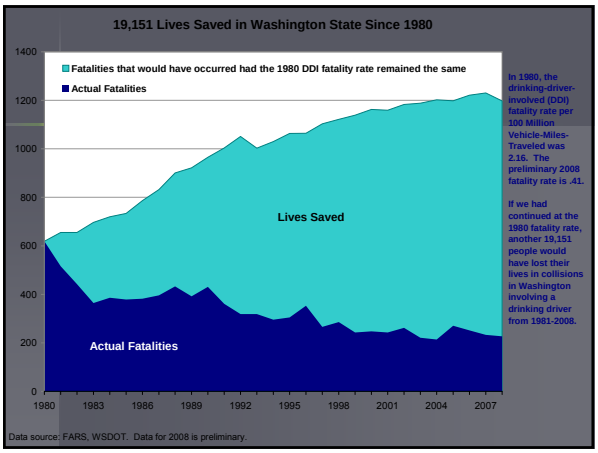
Desired Outcomes

- Has the development, implementation, and refinement of Target Zero begun to generate desired outcomes?
- Let's review some of the performance data.







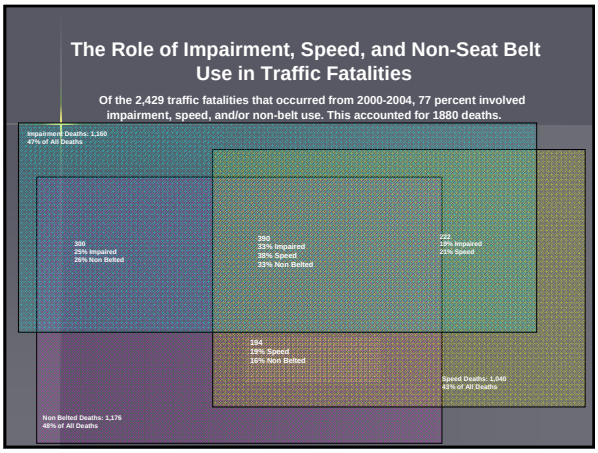


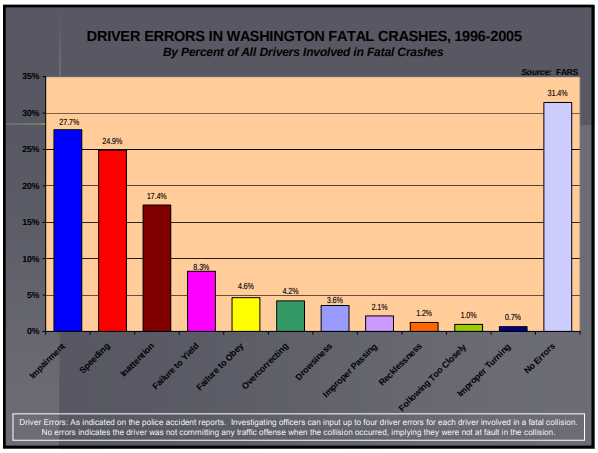
Analysis Shows

- WA has exceeded Target Zero annual goals since 2006;
- Researchers believe the transition to an integrated systems approach is a significant factor;
- However, 518 lives lost in 2008 is not the level of success desired; and
- There is much work yet to be done.

Causal Factor Analysis

- The aggregate data shows improvement, but clearly not enough;
- Crash analysis needs to specifically determine where the most reductions in fatal crashes can be realized; and
- What did Washington's analysis show?



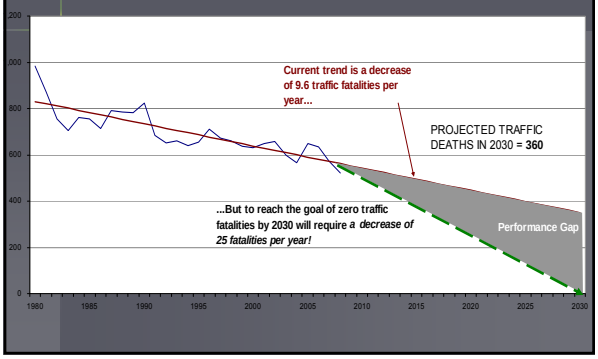


Priority One

- Impaired Driving
- Speeding

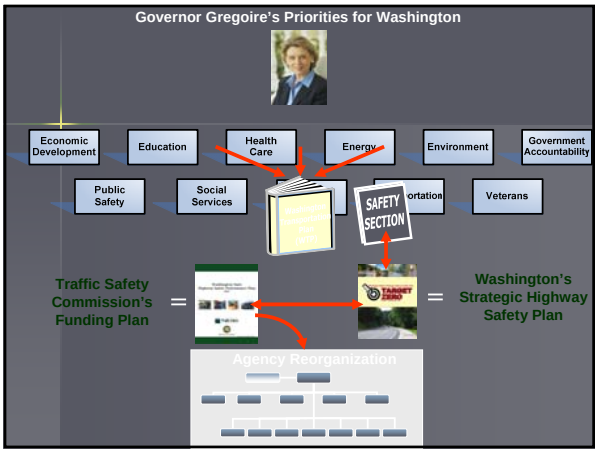
Priority Two

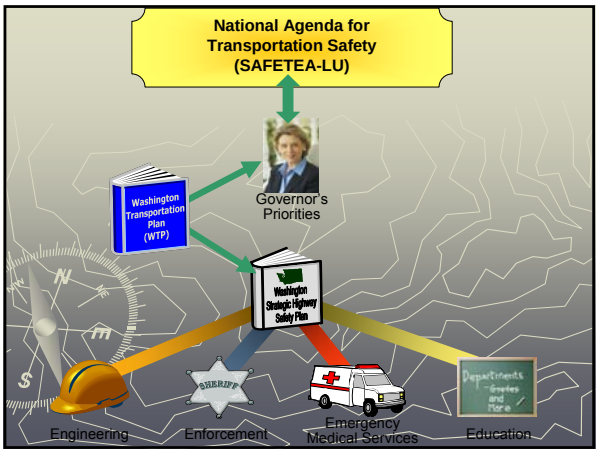
- Seat Belts
- Intersection Crashes
- Run off the Road Crashes
- Improved Traffic Records Data

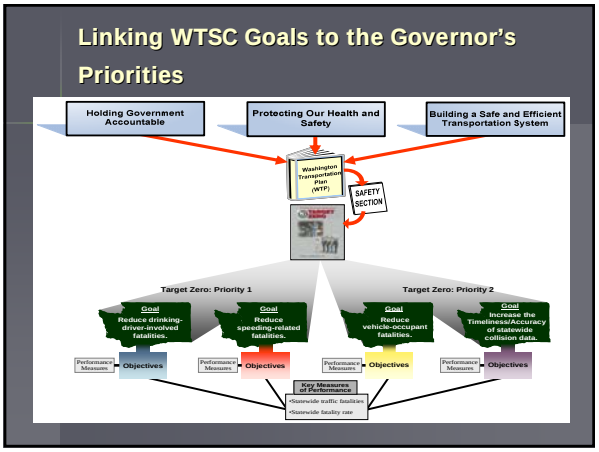


States Traffic Safety Structure

- Was WA structured and organized properly to effectively implement Target Zero?
- Answer - NO!
- The diverse traffic safety infrastructure and organizations operated independently in their respective silos.
- If Target Zero were to be implemented effectively, this had to radically change!

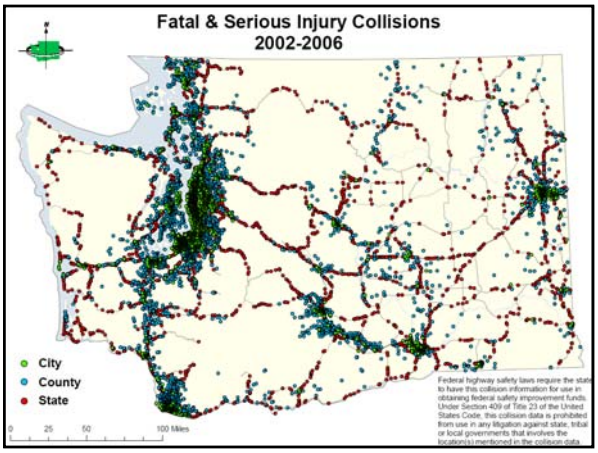


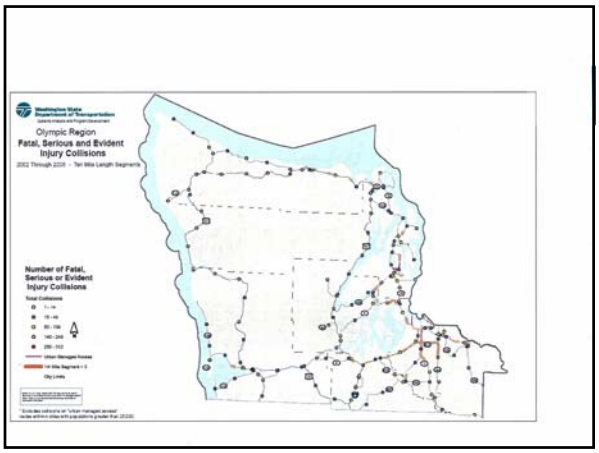


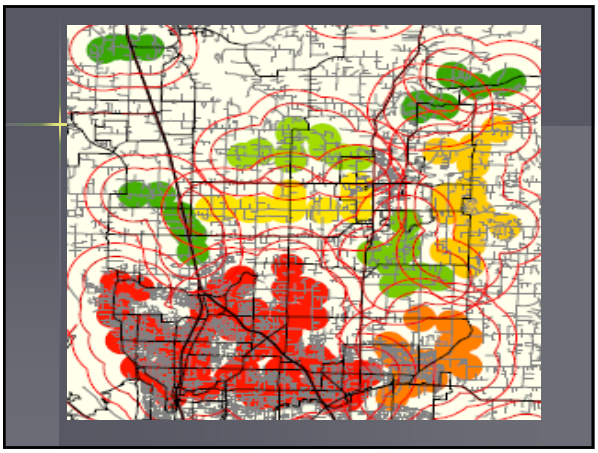


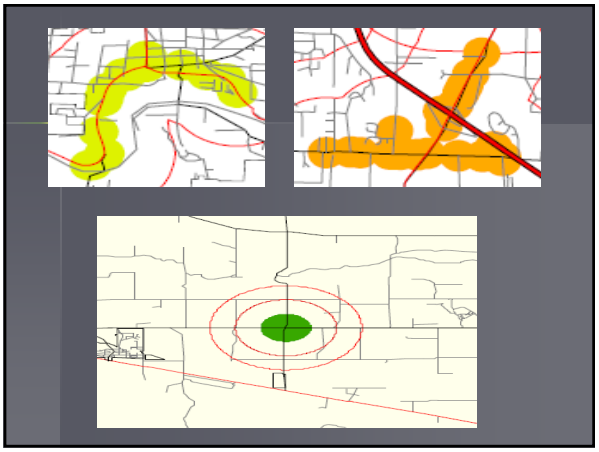
Outcome of this Change

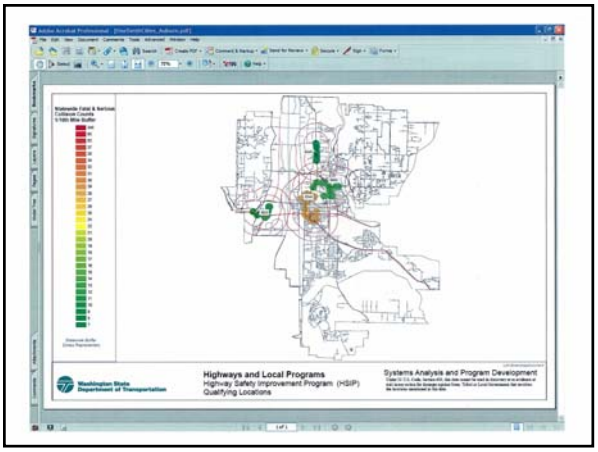
- Would then drive:
  - The application of targeted countermeasures - proven strategies and best practices;
  - The allocation of all traffic safety resources - people, time and money; and
  - And the ongoing and aggressive evaluation of these initiatives.
- **Question – How was this accomplished?**

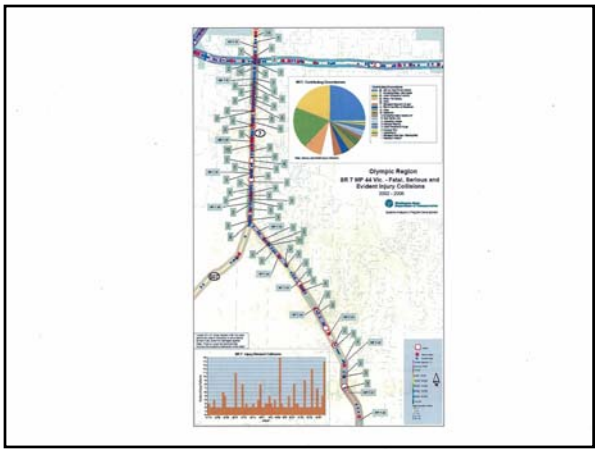












2008* PIERCE COUNTY MC FATALITIES

*This information is preliminary and subject to change; it is for internal use only.

	FRS #	CR DATE	ROADWAY RD TYPE	ROADWAY TR ID #1	VEHICLE VEH#	VEHICLE BODY TYPE	DRIVER INFORMATION PER TYPE	REG OWNER	DRF1	DRF2	DRF3	DRF4	MC ENDORS ?	HELMET ?	DRIVING HISTORY PRV CR	PRV DUI	PRV OTH*	PRV SPD	PREV SUSP EV	TOX SCREEN BAC	DRUG1	DRUG2
1	18	1/18/2008	CO	178th St E	1 of 2	MC	DR	Y	fail to yield ROW	fail to obey trfc contr	suspended	other non-mov	SUS, MC EXP	Y	0	0	7	2	7	0	oxy-codone	canna-binoid, typeunk
2	60	2/16/2008	SR	SR-410	2 of 2	MC	DR	Y	spd over limit	0	0	0	YES	N	2	0	0	0	1	0.24	0	0
3	180	6/20/2008	SR	N Meridian St	1 of 2	MC	PASS	Y	passing wrg side	0	0	0	NO**	Y	3**	0	2**	0**	0**	0	0	0
4	230	6/27/2008	SR	SR-512	1 of 1	MC	DR	Y	too fast for cond	passing wrg side	passing where prohib	under inf of alc/drf/med	NO UC	Y	0	0	0	0	0	0.18	0	0
5	257	8/2/2008	CI	E 56TH ST	1 of 2	MC	DR	Y	inattention	too fast for cond	racing	0	YES	Y	0	0	0	0	0	0	0	0
6	257	8/2/2008	CI	E 56TH ST	2 of 2	MC	DR	Y	inattention	too fast for cond	racing	0	YES	Y	0	0	1	0	2	0	0	0
7	270	8/16/2008	SR	SR-7	1 of 2	MC	DR	Y	passing where prohib	fail to yield ROW	0	0	YES	Y	0	0	0	0	0	0	0	0
8	330	9/28/2008	CO	C St S	1 of 1	MC	DR	N	inattention	0	0	0	YES	Y	1	0	0	0	0	0	0	0
9	309	9/22/2008	CO	Houston Rd E	1 of 1	MC	DR	N	over ctrline	spd over limit	other non-mov	0	NO	Y	0	0	4	0	2	0	THC	canna-binoid, typeunk
10	375	9/26/2008	CO	200th St E	2 of 2	MC	DR	Y	0	0	0	0	YES	Y	1	0	0	2	0	0	0	0
11	376	10/1/2008	CO	148th Av E	1 of 1	MC	DR	Y	spd over limit	0	0	0	NO	Y	0	0	1	0	0	0.08	0	0

**"Previous other" includes seat belt violations, illegal equipment, failure to stop, reckless or negligent driving, disobeying traffic control devices, no valid license, no proof of insurance, or DWLS
**This is the MC operator's driver history

SUMMARY

10 fatal crashes with a total of 11 motorcyclist fatalities

- Target Zero priorities
- 5 (50%) of the MC operators were impaired
- 6 (60%) of the operators were speeding
- 1 (9%) of the drivers/riders were not wearing a helmet

Other

- 5 (50%) of operators did not have valid MC endorsement
- 5 (40%) fatal crashes occurred on county roads
- 4 (40%) of the crashes were single vehicle
- 10 (90.9%) of fatalities were MC operators

An Example of a Target Zero Delivery System: The Corridor Safety Program

- **The goal:** Reduce fatal and serious injury collisions on a defined section of roadway;

using

- Low cost, near term solutions;

and building

- Partnerships with community groups, business, engineering, enforcement, education and emergency services.

The Process

- WA State DOT works with Highway Safety Office to identify high collision roadways—then approach local leadership;

OR

- Community comes to us with concern about a particular stretch of roadway.

The Process – Part 2

- Determine presence of local leadership for a two year project;
- During the first six months, meet monthly with local steering committee to build an action plan for education, enforcement, and engineering; and
- Once Action Plan is built:
  - Public kick off
  - Quarterly meetings to coordinate work
  - Track results

SUITABLE CORRIDORS

- Arterial or related set of roadways
- Clearly definable (State Route, City Street)
- Workable size
- Within governmental jurisdictions that can and will work together
- Collision problems that can be countered by low-cost, near-term actions

Steering Committee

- WTSC
- WSDOT
- WSP
- Local Regional Traffic Engineer
- County Sheriff
- Local Community Traffic Safety Task Force
- Liquor Control Board
- Local EMS
- City/County Public Works
- School District
- Media
- Transit
- Local elected officials
- MADD
- Anyone who has an interest in traffic safety

HOW THE PROJECT WORKS

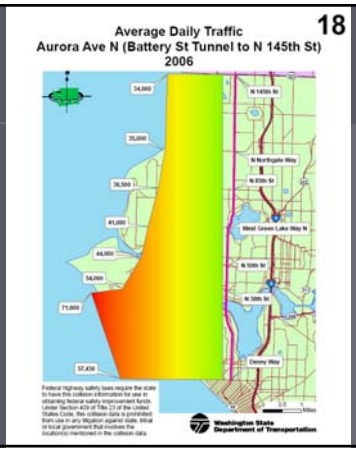
1. Identify Project
2. Recruit Steering Committee
3. Analyze Problems
4. Draft Action Plan, Problems and Solutions
5. Publicize
6. Plan into Action

(Projects last 18 months to two years from kick-off)

Analyze Problem Subjectively

Analyze the Problem

- Objectively
  - Data



Action Plan

- Within the resources available through members of the steering committee
- Measurable Impact
- Supported by a majority of the committee

Logo Creation

SR 27 Spokane Billboard

US 2

- Second Counting Days unveiled, August 4
- Educational materials being distributed at various summer fairs and events
- 235 hours of police overtime worked in May/June
- WSDOT - US 2 Traffic Safety Corridor

Aurora Avenue Project
City of Seattle

- Aurora Website

Corridor Safety Program: Strategies and Program Results

Identifying Corridors:
Selection is based on data and community support:
▪Fatal and serious injury crashes per mile and per million vehicle miles traveled must rank high compared to similar roadways statewide.
▪Local community support for a project must be present.

Corridor Safety Program Strategies and Partner Organizations Work Collaboratively to Improve Safety
Education: WTSC and local partners seek to inform the public of projects and not surprise them with extra enforcement. Generated awareness with target audiences by participating in and organizing events and distributing educational/promotional materials.
Engineering: WSDOT and local partners use small, low cost projects that improve safety and/or reduce congestion on state highways. Typical projects include:
- ✓Traffic control signing improvements;
- ✓Roadway striping or other road marking improvements;
- ✓Installation or improvement of traffic signals or other electronic devices;
- ✓Roadway access control through channelization or lane reconfiguration.

Enforcement: WSP and local law enforcement agencies utilize Problem Oriented Policing– an approach that promotes public, government, and police partnerships and coactive problem solving to address safety issues.

Results of the Program Show Substantial Safety Benefits
▪The Corridor Safety Program has increased road safety and enhanced community relationships.
▪Costs to society (based on collisions) have dropped from $16.0 Million per year to $11.8 Million per year, a savings of over $4 Million per year per project. Benefit/Cost ratio is estimated at $35/$1.
▪In 28 completed corridors around the state (measuring the average of 3 years before a project versus 2 years after a project) the collision reductions are shown compared to statewide crash information for 2001 to 2006 (shown in parentheses)
- ✓Fatal and serious injury collisions are down 34% (statewide down 10%).
- ✓Total collisions are down 5% (statewide up 4%).
- ✓Total injuries are down 11% (statewide down 11%).
- ✓Alcohol-related collisions are down 15% (statewide up 8%).

Before and After Results for Corridor Safety Projects to Date (Per Year)

	Before	After
Total Collisions	199	188
Total Injuries	145	129
Alcohol-Related Collisions	20	17
Fatal/Serious Collisions	10	7

Corridor Safety Program: Case Study
SR 14/ Cape Horn Corridor Safety Project

Problem Identification
15.3 mile stretch of SR 14 in southwest Washington, designated a traffic safety corridor because of high crash rates and types.

Crash History
▪17 fatal / serious injury collisions in 3 years
▪Daily volumes of 4,000 – 4,500 vehicles
▪Top collision types: hit fixed object (75), overturn (20), opposite direction sideswipe (14)

Causes
▪Top contributing causes: exceeding safe speed (88), over centerline (33), under influence of alcohol (11)
- ✓Exceeding Safe Speed: crashes occur 86% higher than on similar highways in the region and 104% higher than on state highways
  - ▪Single leading contributing cause of fatal and serious crashes on the corridor.
- ✓Over the Centerline: crashes occur 375% higher than region and 740 percent higher state.
- ✓DUI: crashes occur 13% higher than region and 40% higher than state.

Strategies and Activities
▪Financial, environmental and/or social impacts prevent a construction-only approach from addressing most problem corridors
▪Cape Horn Project's strategy is a multi-disciplinary effort that used the following strategies:
- ✓Designated a stretch of SR14 as a traffic safety corridor.
- ✓Created a partnership between WTSC, WSDOT, WSP, the County Sheriff, and a local Steering Committee.
- ✓Designated three subcommittees to focus on Enforcement, Engineering, and Education.

SR 14 Education: Inform Public of the Project and Don't Surprise with Extra Enforcement

Education
Generated community member awareness by building project support through local resident and business outreach by:
•Installing corridor information signs
•Distributing educational materials
•Launching a corridor website
•Developing media stories

▪The education sub-group, in coordination with Education Service District 112, increased public awareness by reinforcing safe driving habits.
▪Other strategies included:
- ✓ Town-hall style kick-off event
- ✓ Signage, billboards, promotional items, brochure, website
- ✓ Media, business, and citizen outreach
- ✓ Commercial Vehicle Program
- ✓ Designated Driver Program
- ✓ Distributed safe driving materials, that included a safe driving brochure at local public events
- ✓ Implemented a public awareness campaign that included press releases resulting in numerous articles about the project being published in local papers, a billboard containing a traffic safety message and brochure throughout the local area and asked businesses to display materials in their establishments
- ✓ Launched a speaker's bureau that targeted young drivers and community groups

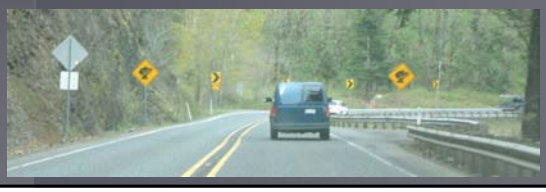
After two years and upon the completion of the corridor, the task force reported the following results:

• Over 18,000 educational and promotional items given out to community members – Brochures, pens, vehicle garbage bags and air fresheners.
•1000 utility bill inserts sent to customers within the project area.
•4,000-4,500 vehicles a day are exposed to traffic safety messages on signs

SR 14 Engineering Improvements:
Improving signage and roadway realignment

Engineering
WSDOT initiated a number of low cost engineering fixes, including:
•Installed Corridor Safety Project signage and installed warning signs to highlight areas of concern;
•Installed centerline rumble strips throughout the corridor;
•Installed Highway Advisory Radio Systems (HARs) to warn of dangerous road conditions;
•Improved pedestrian crossings and warning information at the Beacon Rock State Park.

▪At the request of the enforcement subcommittee, WSDOT changed the WSDOT Motor Carrier Rule for commercial vehicles traveling on SR 14 to require that such vehicles be accompanied by three escort vehicles.
▪The drivers must be professionals familiar with the route to alert other motorists to the presence of an over-dimensional load.



SR 14 Enforcement:
Utilizing Problem Oriented Policing

Partnered Solutions:

WSP and Skamania County Sheriff's Office partnered enforcement efforts targeting the excessive speed, following too closely and improper passing.

- Utilize lasers and in-car video cameras
- Emphasis patrols on drinking and driving on peak evenings
- Encourage drivers to use "slow moving vehicle turnouts"
- WSP motorcycle, Commercial Motor Vehicle Enforcement, and Aggressive Driving Apprehension Team officers were utilized
- Citations issued in conjunction with the task force were stamped "Traffic Safety Corridor so that the district court judge was aware of the effort

After two years and upon the completion of the corridor, the task force reported the following results:

- Total contacts increased 158%
- 30% of contacts resulted in a ticket
- Total number of tickets increased 110% (from 851 to1,785 tickets written)
- DUI arrests increased 55% (from 20 to 31 arrests)
- Speed contacts increased 103% (from 1,522 to 3,093 contacts)
- 52% of all stops were for speed violations (3,093 contacts)
- Seatbelt contacts increased 73.2% (from 205 to 355 contacts)

2006 Problem Oriented Public Safety (POPS) Exemplary Project

SR-14 Project Results:
Fatal/Serious Injuries down 65%

Results:

The Cape Horn Corridor Traffic Safety Project established community relationships and inter-agency collaboration, and also made SR- 14 safer for motorists and passengers:

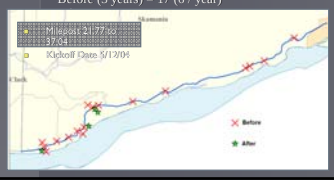
Total Number of Collisions
Before (3 years) = 174 (58 / year)
After (2 years) = 98 (49 / year)

Total Number of Alcohol-Related Collisions
Before (3 years) = 21 (7 / year)
After (2 years) = 6 (3 / year)

Total Number of Fatal / Serious Injury Collisions
Before (3 years) = 17 (6 / year)

SR 14 Safety Improvement Highlights

- Total Collisions **Down 16%**
- Total Injuries **Down 51%**
- Alcohol-Related Collisions **Down 57%**
- Fatal / Serious Injury Collisions **Down 65%**
- Hit Fixed Object Collisions (#1 Type) – **Down 17%**
- # Speeding Drivers in Collisions (#1 Cause) – **Down 37%**



Washington Corridors past and present

Statewide Corridor Safety Program

1. East Trent
2. Snohomish County
3. US 97
4. Guide Meridian
5. SR 14
6. Mountain Highway
7. G-Zone
8. Island/Skagit Counties
9. Yakima River Canyon
10. Y-Zone
11. Lower Yakima Valley
12. Burlington/Sedro Woolley
13. 97A
14. Columbia Gateway
15. Lake Stevens
16. Airway Heights
17. SR 4
18. Moses Lake
19. Cross-Kitsap
20. Memorial Highway
21. Cape Horn
22. Kittitas/Vantage Highways
23. Fourth Plain
24. Othello
25. Driving 101
26. Francis to Nine Mile
27. Mountain Highway 2
28. Upper Skagit Valley
29. Rainier Ave. S.
30. Mill Plain
31. US 2 Drive Safe
32. Spokane Valley

Above: The Corridor Safety Program began in 1991 on state routes in Washington. In 2003 the program expanded to include projects on city streets and county roads. Above is a map showing project locations around the state since the program began, from fire earliest (1) to the most recent (32).

Results from 29 Completed Corridor Projects

- **34% Reduction** in Fatal & Serious Injury Collisions;
- **15% Reduction** in Alcohol-Related Collisions;
- **11% Reduction** in Total Injuries;
- **5% Reduction** in Total Collisions;

Results from 29 Completed Corridors

- Carryover of working relationships within the community, which can be used on other traffic safety issues in the future;
- Roadways identified for long term future development;

Results from 29 Completed Corridors

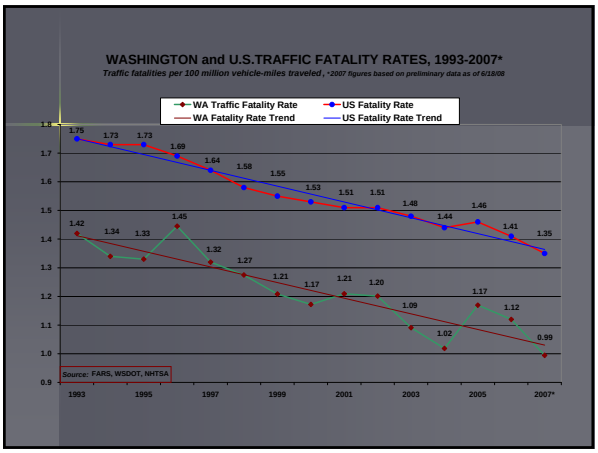
- **$25:$1 Benefit/Cost Ratio –** benefit realized by the local community; and
- Has become an integral element of WA data driven, evidence based, integrated systems approach to traffic safety – **"Target Zero"**

Have We Answered The Original Question?

- Question:

  Is Target Zero a viable traffic safety strategy, or just wishful thinking?

- Let's follow one of the core elements of an integrated systems approach to traffic safety planning – aggressively **evaluating the data!**



Conclusion

- Traffic fatalities are a leading cause of death globally;
- There are distinct similarities for the behaviors causing these deaths;
- A growing body of research identifies the proven strategies and best practices that can most effectively reduce these deaths;

Conclusion

- To significantly reduce traffic fatalities globally, law enforcement, road safety professionals, engineers, medical, health, education professionals, public policy setters must work together to:
  - Create an integrated systems approach to transportation and strategic highway safety planning (SHSP);

Conclusion

  - Ensure that resources (people, time and money) are allocated to traffic safety programs directly aligned with SHSP priorities;
  - Ensure that traffic safety programs and countermeasures used to implement the SHSP are research and evidence based;

Conclusion

- Aggressively apply proven strategies and best practices based on valid and precise problem identification;
- Accurately measure and evaluate program performance and make course corrections as warranted;
- Continually evolve, refine and improve this integrated systems approach to transportation and traffic safety planning; and

Conclusion

- The total value of the individual parts of an integrated systems approach to traffic safety are more than the sum of their individual parts!

Conclusion

- **Remember** - What you do in traffic safety each and every day makes a difference in the communities and lives of those we serve!
- **Traffic safety is personal, one life at a time!**

Questions

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