

# CAPE HORN TRAFFIC SAFETY CORRIDOR



**GOLDENDALE DETACHMENT**





# Scanning – CAPE HORN TRAFFIC SAFETY CORRIDOR



We are here

You are here







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**Focus Area**





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## *Problem Oriented Public Safety (POPS)*

*SARA model supported this process*

- (SCANNING)- Identified and defined the problem.
- (ANALYSIS)- Output data was conducted to establish baseline.
- (RESPONSE)- Action plan was developed with a specific goal.
- (ASSESSMENT)- Outcome of our effort was measured.





# Scanning – CAPE HORN TRAFFIC SAFETY CORRIDOR







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## Problem Definition

A 15.3 mile stretch of State Route 14 in Skamania County had unusually high crash rates and particular crash types. Compared to other state highways, and similar highways in the same region of the state, this section SR14 reported a higher rate of contributing causes of collisions including: Exceeding Safe Speeds, Over the Centerline, DUI, and Operating Defective Equipment.







## Awareness of Problem

- Local Law Enforcement
- Known past problems
- On-going collisions





## Awareness of Problem

- Calls for Service
- Citizen complaints
- Local Government Concerns







**Scanning** – CAPE HORN TRAFFIC SAFETY CORRIDOR



# SR 14 CAPE HORN TRAFFIC SAFETY CORRIDOR







## Statistical Baseline 2000-2002 (3 years)

- Total # Collisions Before 174 Collisions (58 / year)
- Total # Fatal/Disabling Collisions 18 (6 / year)
- Total # Alcohol-Related Collisions 21 (7 / year)
- **19% of collisions involved locals**







## Three Areas of Focus

- Law Enforcement
- Engineering
- Education





## Methods-Data-Information

- Collision Data (3 years)  
*Locations, Types, Weather, Time, Age, Special Events, Commercial Vehicles, M/C's, Violations, Driving History, etc.*
- Traffic Stops (2 years)







## Methods-Data-Information

- Signage!  
(A lot of signs)
- Public Information





## Methods-Data-Information

### Exceeding Safe Speed Crashes

Similar Hwy's	86% higher
Washington Hwy's	375% higher

### Over the Centerline Crashes

Similar Hwy's	375% higher
Washington Hwy's	740% higher





## Methods-Data-Information

### DUI Crashes

Similar Hwy's	13% higher
Washington Hwy's	40% higher

### Defective Equipment Crashes

Similar Hwy's	40% higher
Washington Hwy's	108% higher

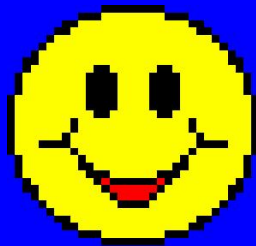




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**FATAL ERROR:???.1234SARA1234SARA1234SARA1234**







## Underlying Causes

### Leading Collision Types

- Hit Fixed Object
- Overturn
- Sideswipe  
(Opposite Direction)







## Underlying Causes

### Leading Collision Types

- Wildlife
- Rear-end
- Angle
- Head On





## Underlying Causes

### Leading Collision Causes

- Exceeding Safe Speed
- Over Center Line
- Under Influence of Alcohol
- Operating Defective Equip.





## Underlying Causes

### Leading Collision Causes

- Inattention
- Improper Passing
- Apparently Asleep







## Underlying Causes

### Law Enforcement

- Speeds too fast for conditions
- Drivers are passing illegally
- Aggressive driving
- DUI







## Underlying Causes

### Law Enforcement

- Impeding Traffic
- Enforcement and Patrol difficulties
- Oversize commercial loads are a hazard





## Underlying Causes

### Engineering

- Awareness
- Roadway alignment
- Sign layout







## Underlying Causes

### Engineering

- Weather conditions
- Unique characteristics in roadway





## Underlying Causes

### Engineering

- Pedestrians traffic on narrow bridges
- Roadside vegetation impacting sight distance





## Underlying Causes

### Engineering

- Skamania Store has uncontrolled access
- Truck route - When SR-14 & I-84 closes, no alternative







## Underlying Causes

### Education

- An unawareness of roadway characteristics
- A diverse audience uses roadway
- Advisory speed signs





## Underlying Causes

### Education

- Scenic drivers unaware of pullout limitations
- Other drivers unaware of scenic drivers







## Underlying Causes

### Education

- Roadway is shared by cyclists
- Drivers are unaware of WA Laws for:

*Speed too fast for conditions*  
*Passing*  
*Delay of 5 vehicles illegal*





**Who might be the specific stakeholders for this type of project that we could partner with to fix these problems?**





# Analysis – CAPE HORN TRAFFIC SAFETY CORRIDOR



## Cape Horn Steering Committee

- Beacon Rock State Park
- Columbia River Gorge National Scenic Area
- Educational Service District 112
- Gorge Commission
- Port of Skamania
- Skamania County
- Skamania County Chamber of Commerce
- Skamania County Public Works
- Skamania County Sheriff's Office
- Skamania School District #2
- WKO (Lumber Mill)
- Washington Department of Transportation
- Washington State Patrol
- Washington Traffic Safety Commission







CAPE HORN TRAFFIC SAFETY CORRIDOR

- *Response*







CAPE HORN TRAFFIC SAFETY CORRIDOR

- *Response*







## GOAL

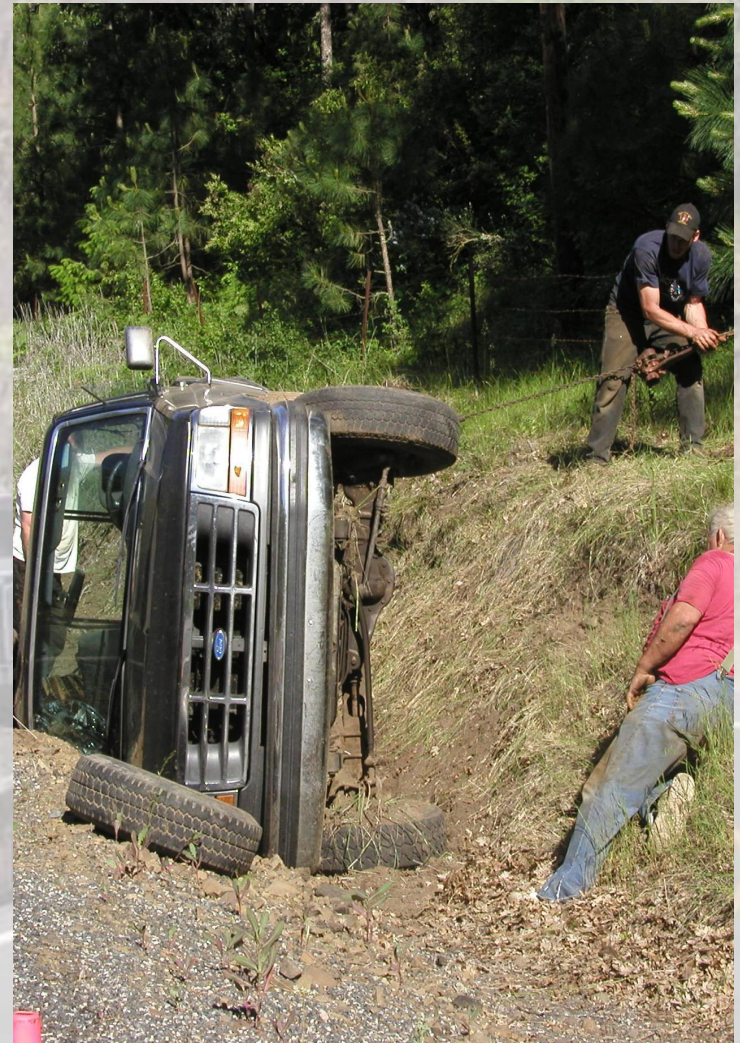
The goal of the Cape Horn Traffic Safety Corridor Project was to increase traffic safety along SR14 and reduce the number of deaths, injuries and property damage resulting from traffic collisions by using low-cost, near-term solutions that focused on enforcement, engineering, and educational efforts.



## Objectives-Performance measures to resolve the problem.

- Comprehensive response plan...
- Took the problem one by one...
- Stating the problems clearly...
- Providing solutions...
- Recognizing obstacles...

*Target = local residents, tourists, commercial vehicles, bicyclists, pedestrians...*







## Solutions

- Extra Traffic Enforcement
- Minor Engineering Improvements
- Public Education

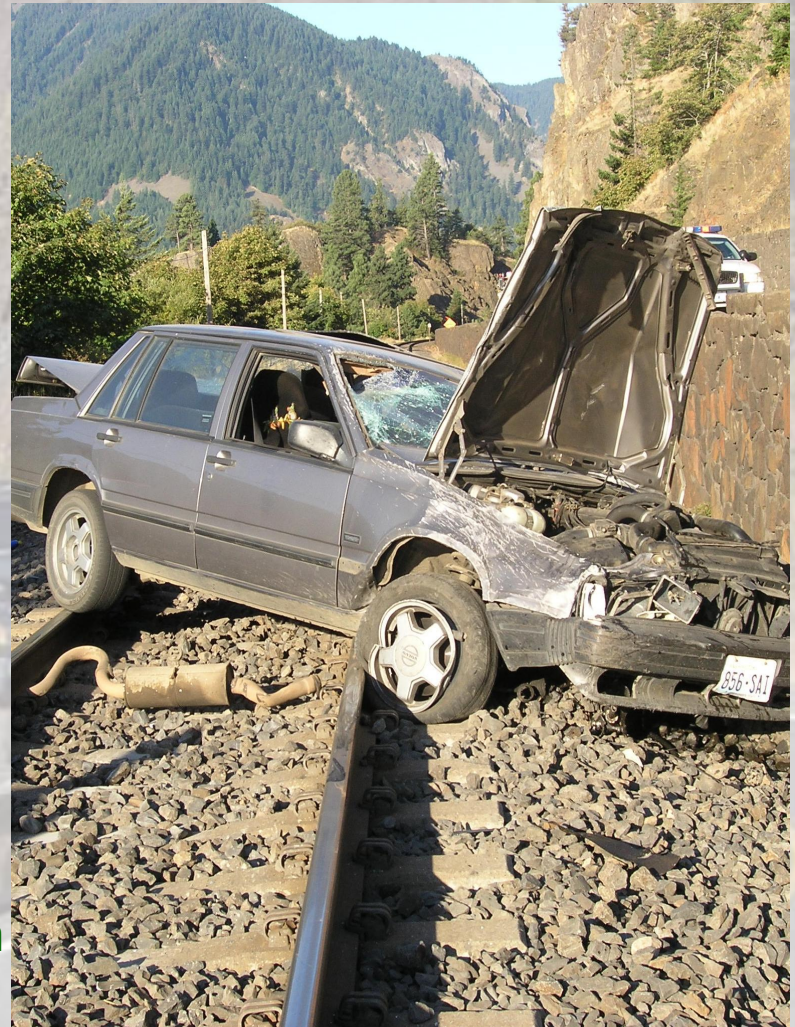


## Budget

- Equipment Requests  
(Lasers/Radar/Camera's)
- Enforcement = \$36,000
- Equipment = \$27,000
- Education = \$32,000
- Engineering = \$100,000

**TOTAL = \$195,00**

**\$\$ From Traffic Safety Commission**





# Accountability and Target Dates

- Education  
Monthly- Press Events
- Engineering  
Seasonal –Yearly
- Law Enforcement  
Monthly







## Accountability and Target Dates

- Monthly/Quarterly Meetings
- Flexibility
- #'s sources and solutions looked at
- Meetings dissected each collision (Cause-possible prevention)





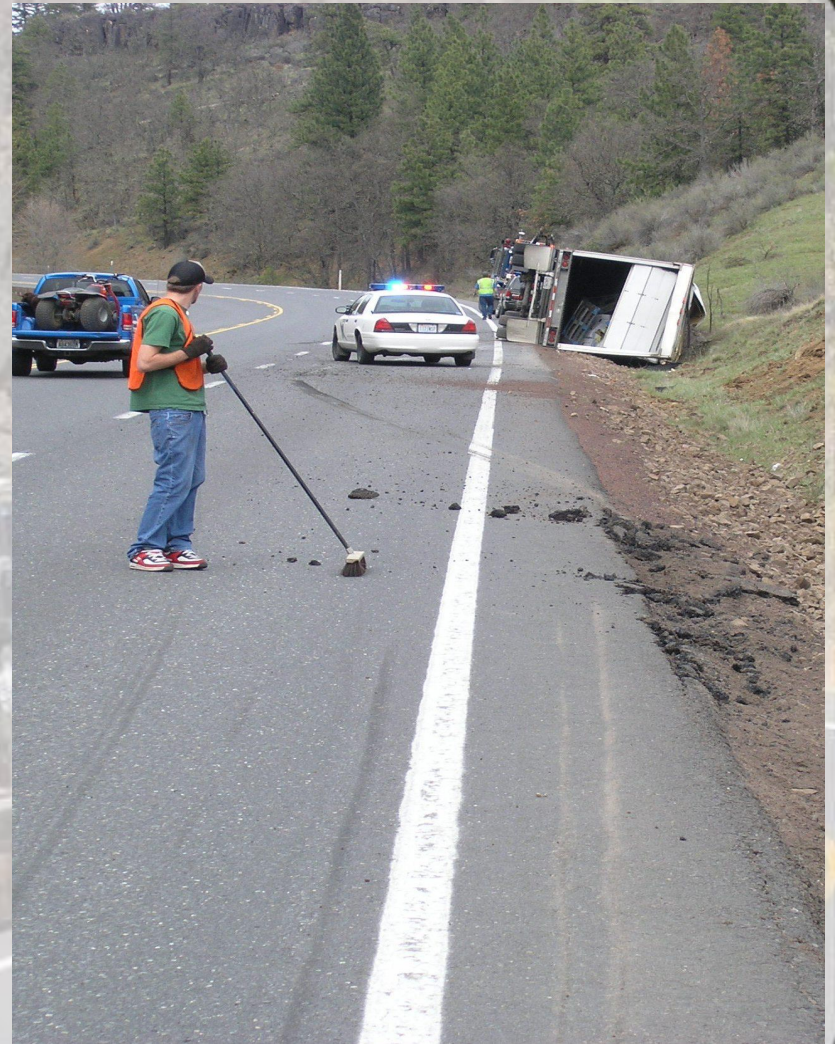
## Difficulties

- Wildlife (Deer collisions)  
*22% of all collisions*
- Engineering updates—Slow
- Too much law enforcement hampered contacts...  
but was also a good thing
- Weather (RAIN!)



## L. E. Objectives

- Multi-agency effort between Washington State Patrol and Skamania County Sheriff's Office
- New Lasers Speed Measuring Devices used to enforce speed limits (New to area)





## L. E. Objectives

- Speed/DUI Emphasis Patrols
- Enforcement of following to closely
- Commercial Vehicle Patrols







## Engineering Objectives

- Plan to add centerline rumble strips throughout the corridor
- Shoulder rumble strips added in specific areas



## Engineering Objectives

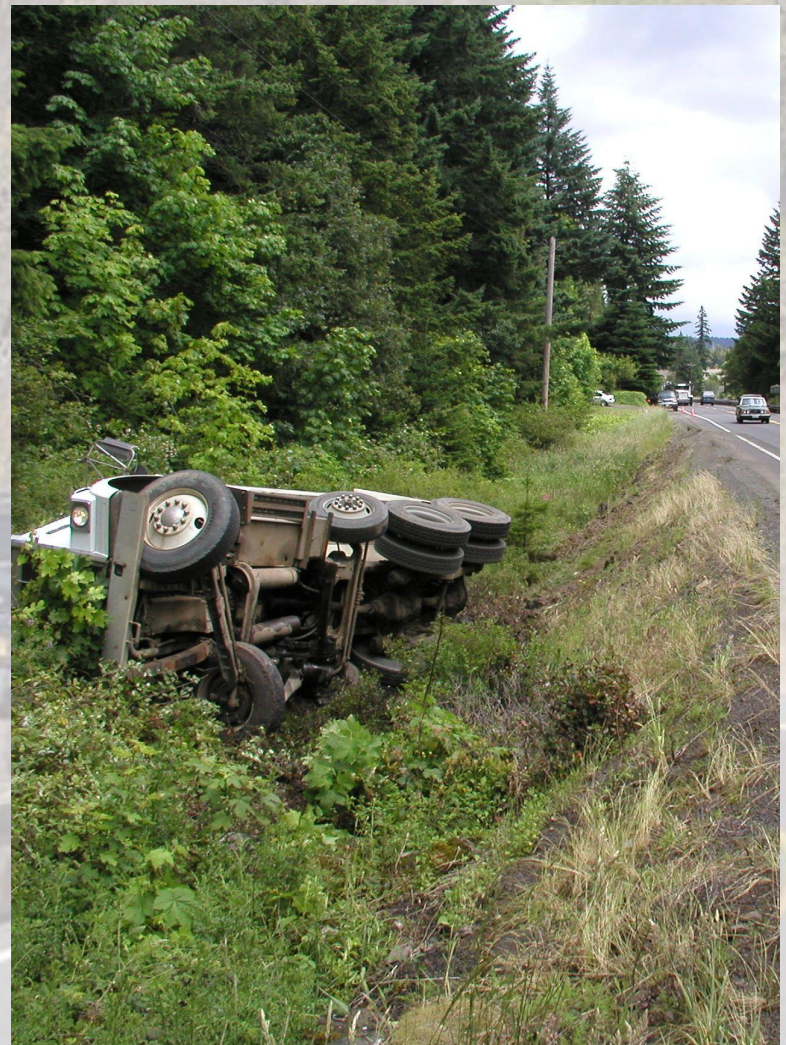
- Update location of traffic signs throughout the corridor
- Conduct a speed study





## Education Objectives

- Build awareness of project and safe driving habits along the corridor
- Develop and distribute education materials
- Increase understanding of those living in the area and also from outside the area





## Law Enforcement Response

- Emphasis patrols on drinking and driving on peak evenings
- Encourage drivers to use “slow moving vehicle turnouts”
- Emphasis patrols utilizing extra troopers (Motorcycle’s & Commercial Vehicle Division)

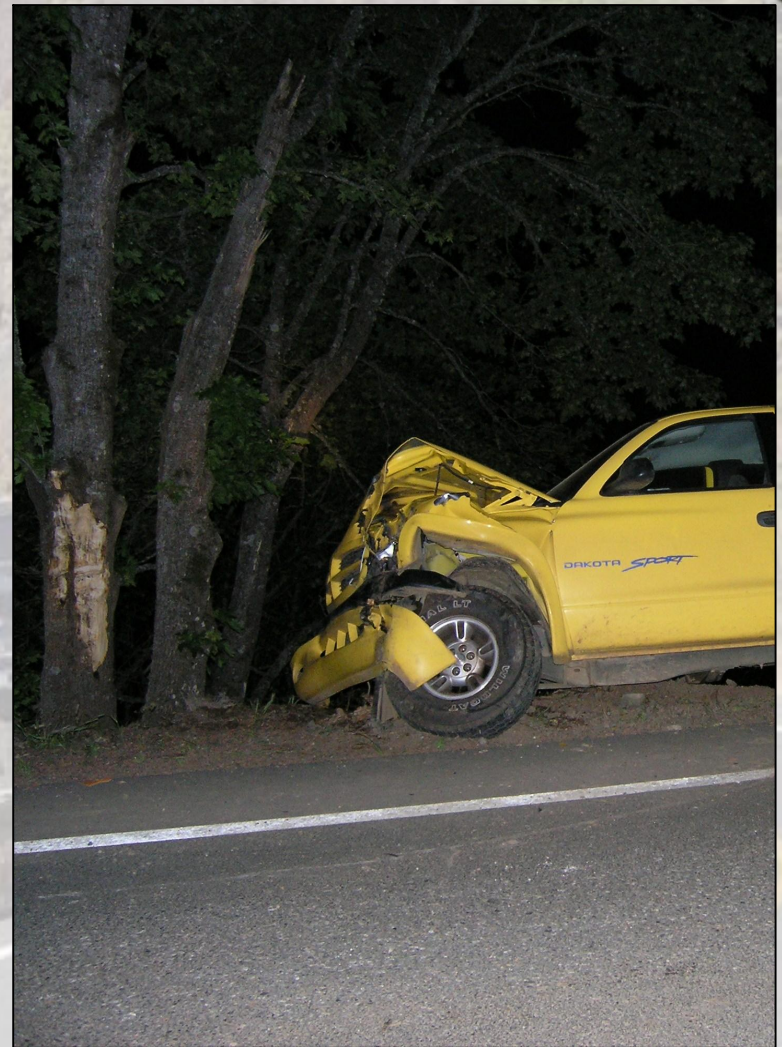




## Law Enforcement Response

- Letter drafted to WA Department Of Transportation recommending oversize restrictions

*The pilot car request was approved for vehicles over 10' in width rather than the 9' as was stated in the letter..*





## Law Enforcement Response

- Lasers used to enforce speed limits
- Commercial vehicle patrols
- M/C's





# Law Enforcement Response

- Emphasis patrols
- Court Stamp

4-14-2011

CRIMINAL  TRAFFIC  NON-TRAFFIC C 0306883

IN THE DISTRICT MUNICIPAL COURT OF  
STATE OF WASHINGTON  
COUNTY OF Skamania  
PLAINTIFF WASHP 422 (D) COUNTY WASHP

THE UNDERSIGNED CERTIFIES AND SAYS THAT IN THE STATE OF WASHINGTON  
ON 09/16/05 AT 14200 I, [REDACTED]  
[REDACTED]  
[REDACTED]

SKAMIA WA 0306 REGION  
PLATE 57 MAKE 1990  
CLASS 09 YEAR 16 MAKE 1950  
SR-14 34

DID OPERATE THE FOLLOWING VEHICLE/MOTOR VEHICLE ON A PUBLIC HIGHWAY AND  
[REDACTED] WA 06 2 Four Over 1st 2005

VEHICLE TYPE TRUCK MAKE Scio MAKE Scio MAKE Scio MAKE Scio  
VEHICLE TYPE TRUCK MAKE Scio MAKE Scio MAKE Scio MAKE Scio

DID THEY AND THERE COMMIT EACH OF THE FOLLOWING OFFENSES  
NEW 461502  NO

was in or within actual physical control  
of a motor vehicle while under the  
influence of intoxicating liquors and/or  
drugs

**TRAFFIC SAFETY CORRIDOR**

DATE 01/19/07 MANDATORY NO U.S. FINES \$ 100  
COUNTY Skamania COUNTY Skamania

I HEREBY CERTIFY THAT I AM AN OFFICER OF THE WASHINGTON STATE PATROL AND AM NOT A MEMBER OF ANY OTHER LAW ENFORCEMENT AGENCY.  
I AM NOT A MEMBER OF ANY OTHER LAW ENFORCEMENT AGENCY.  
I AM NOT A MEMBER OF ANY OTHER LAW ENFORCEMENT AGENCY.

Reber



## Engineering Response

- Update location of traffic signs
- Installed corridor project signage
- Improved alignment of two of the most difficult curves





## Engineering Response

- The Brake Check signs changed to "Emergency Parking Only"
- Installed centerline rumble strips





## Engineering Response

- Updated signage layout plan
- Installed road condition warnings using a Highway Advisory Radio (HAR) system







## Engineering Response

- Took out cross walk at Beacon Rock State Park






VEHICLES  
OVER  
10,000 GVWR  
CARRY  
CHAINS

NOV 1 TO  
APR 1

## Engineering Response

- Chain Up Signs (Locked)
- *The construction project (now slated for the '10-'12 biennium) will add a lane and allow passing*





HWY. 14  
TRAFFIC SAFETY  
CORRIDOR AHEAD

CAPE HORN TRAFFIC SAFETY CORRIDOR

- *Response*







## Education Response

- Build awareness of project and safe driving habits along the corridor
- Billboard
- Fairs
- Distributed safe driving materials and brochures



## Cape Horn Traffic Safety Corridor



Working together for a safe scene on highway 14

### THANK YOU! PARTNERS!



### Did you know...



CAPE HORN TRAFFIC SAFETY CORRIDOR along Highway 14 is one of the most dangerous roadways in Washington.

#### HOW YOU CAN HELP!

- ✓ Slow down
- ✓ Stay alert and avoid your eyes on the road
- ✓ Be patient behind slow-moving vehicles
- ✓ Pass safely
- ✓ Use caution when passing pedestrians
- ✓ Be aware of vehicles around the vehicle line
- ✓ Report drunk drivers - Call 8-1-1
- ✓ Check the weather before you go at [www.safetyonsr14.com](http://www.safetyonsr14.com) or 206-324-6111 (TOLL FREE)

Working together for a safe Highway 14.

CAPE HORN TRAFFIC SAFETY CORRIDOR  
[www.safetyonsr14.com](http://www.safetyonsr14.com)

## Heed the speed on Highway 14

Sponsored by  
Cape Horn Traffic Safety Corridor Steering Committee

[www.safetyonsr14.com](http://www.safetyonsr14.com)

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### CAPE HORN TRAFFIC SAFETY CORRIDOR CONDITIONS:

- 15 miles of sharp winding curves with decreased speed limits
- Increased Commercial Vehicle Enforcement Patrols
- Limited Commercial Vehicle Turnouts
- Slow moving cars in scenic viewing area
- Extreme Weather Conditions
- Deer Crossing Road

## CAPE HORN TRAFFIC SAFETY CORRIDOR

### Heed the speed on Highway 14

### Cape Horn Traffic Safety Corridor





## Education Response

- Increase awareness of those living in the area and also from outside the area
- Drivers Ed Program
- Large Corridor Slogan on Semi Trailers



The success of the Corridor program was measured by changes in collision levels. Fatal and disabling injury collisions are of the greatest concern.



## Method for Evaluation of Results

- What did we address and why?
- Evaluating questions.
- Specified information/data needed.
- Criteria of standards.





## Method for Evaluation of Results

- Clear what we're trying to find out.
- Negative consequences.
- Reviewed our evaluation overall.







## L. E. Results (2 Year period)

- DUI arrests increased 55%  
*(From 20 to 31)*
- Speed contacts increased 103%  
*(From 1,522 to 3,093)*
- Seat belt contacts increased 73.2%  
*(From 205 to 355)*



## L. E. Results (2 Year period)

- Aggressive Driver contacts increased 70.8%  
*(From 65 to 111)*

*(2 or more moving violations  
and/or 20+ mph)*

- Total contacts increased 158%  
*(From 2,290 to 5,910)*







## L. E. Results (2 Year period)

- Speed—52% of total contacts
- Total Tickets: 1,785
- NOI's increased 110%
- Enforcement Rate of 30%



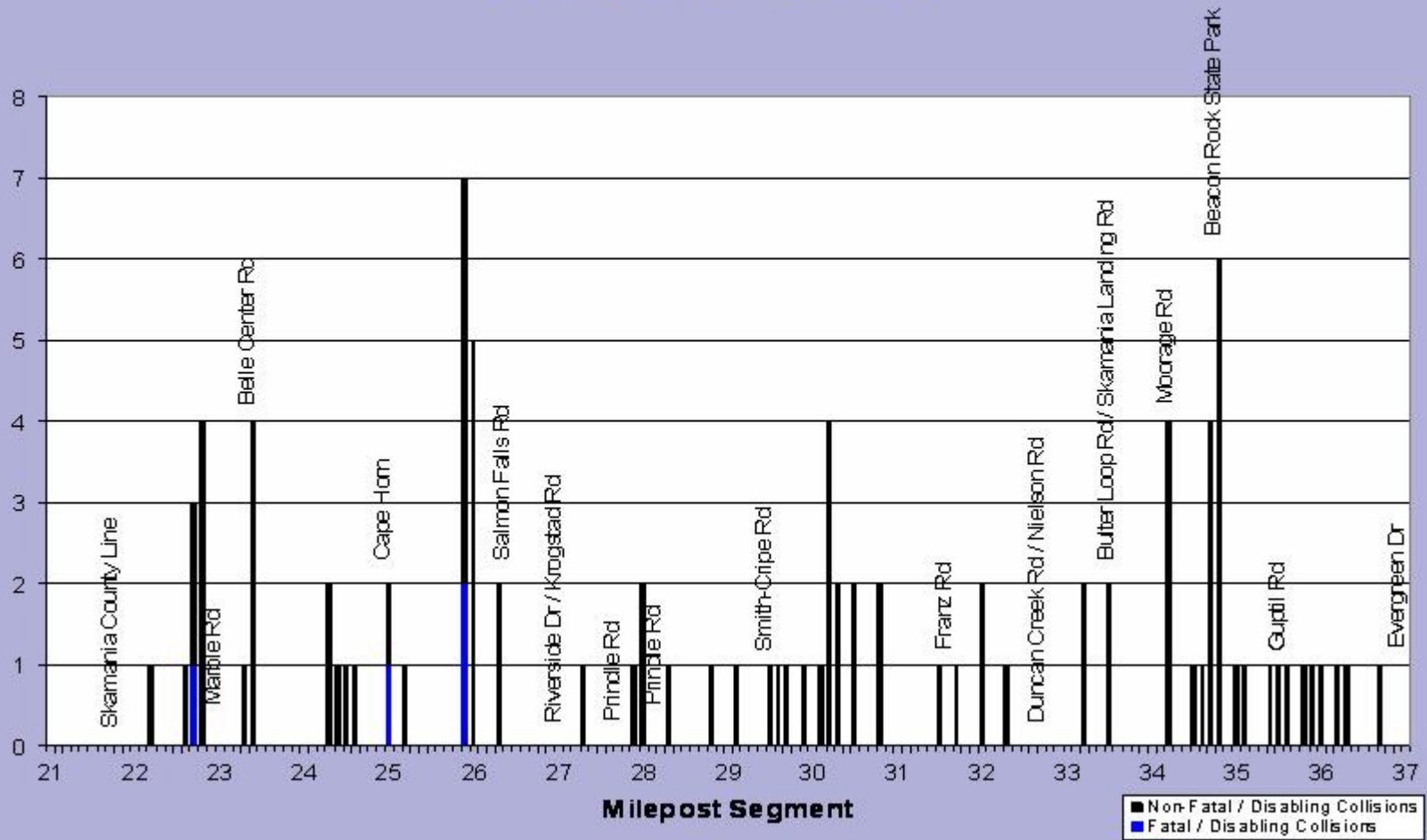
SCALE  
RIF Pass sect  
under

# Drug Arrests – 23

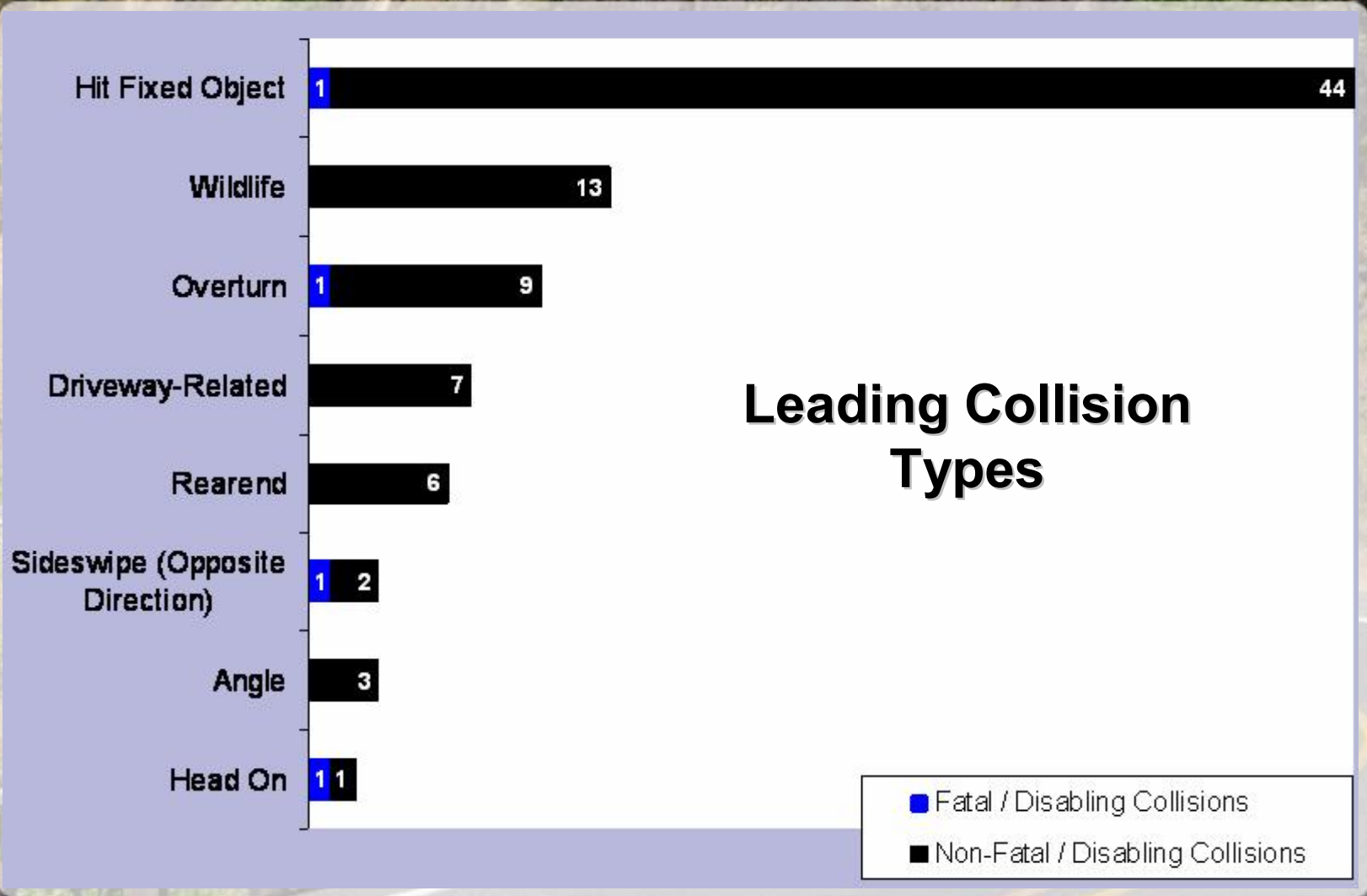
Case 06 - 000680



# Collisions by Mile



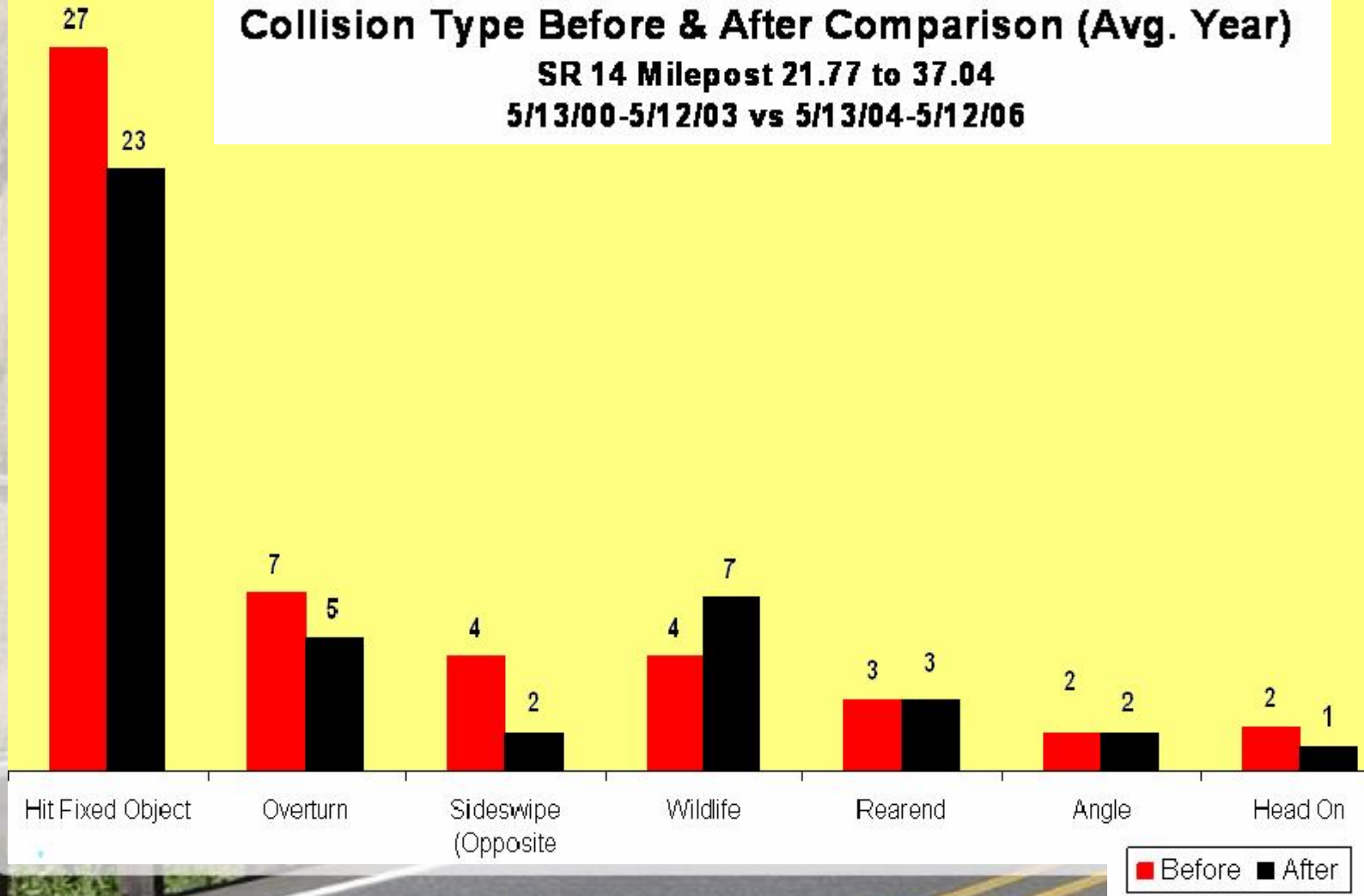






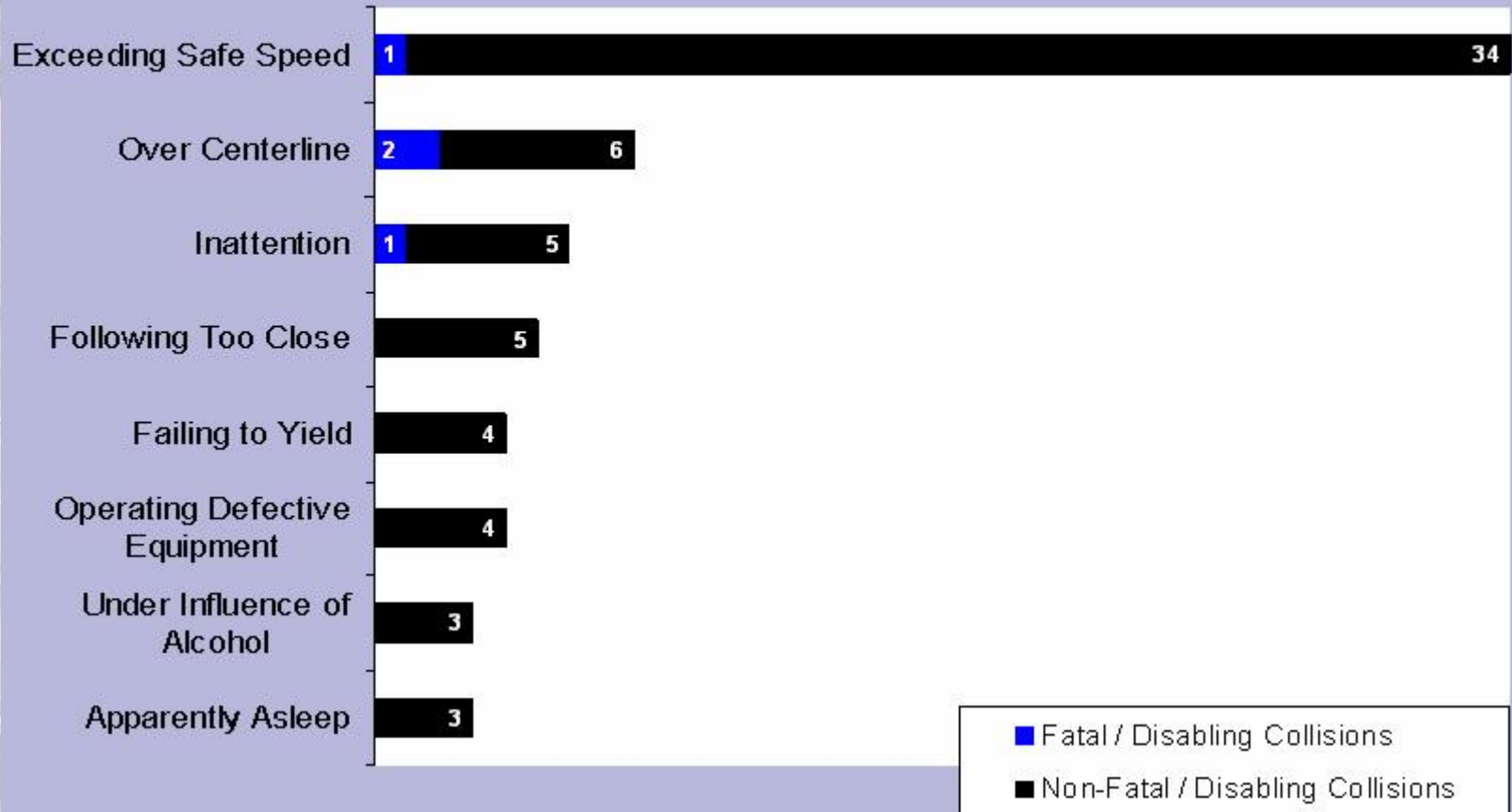
## Collision Type Before & After Comparison (Avg. Year)

SR 14 Milepost 21.77 to 37.04  
5/13/00-5/12/03 vs 5/13/04-5/12/06





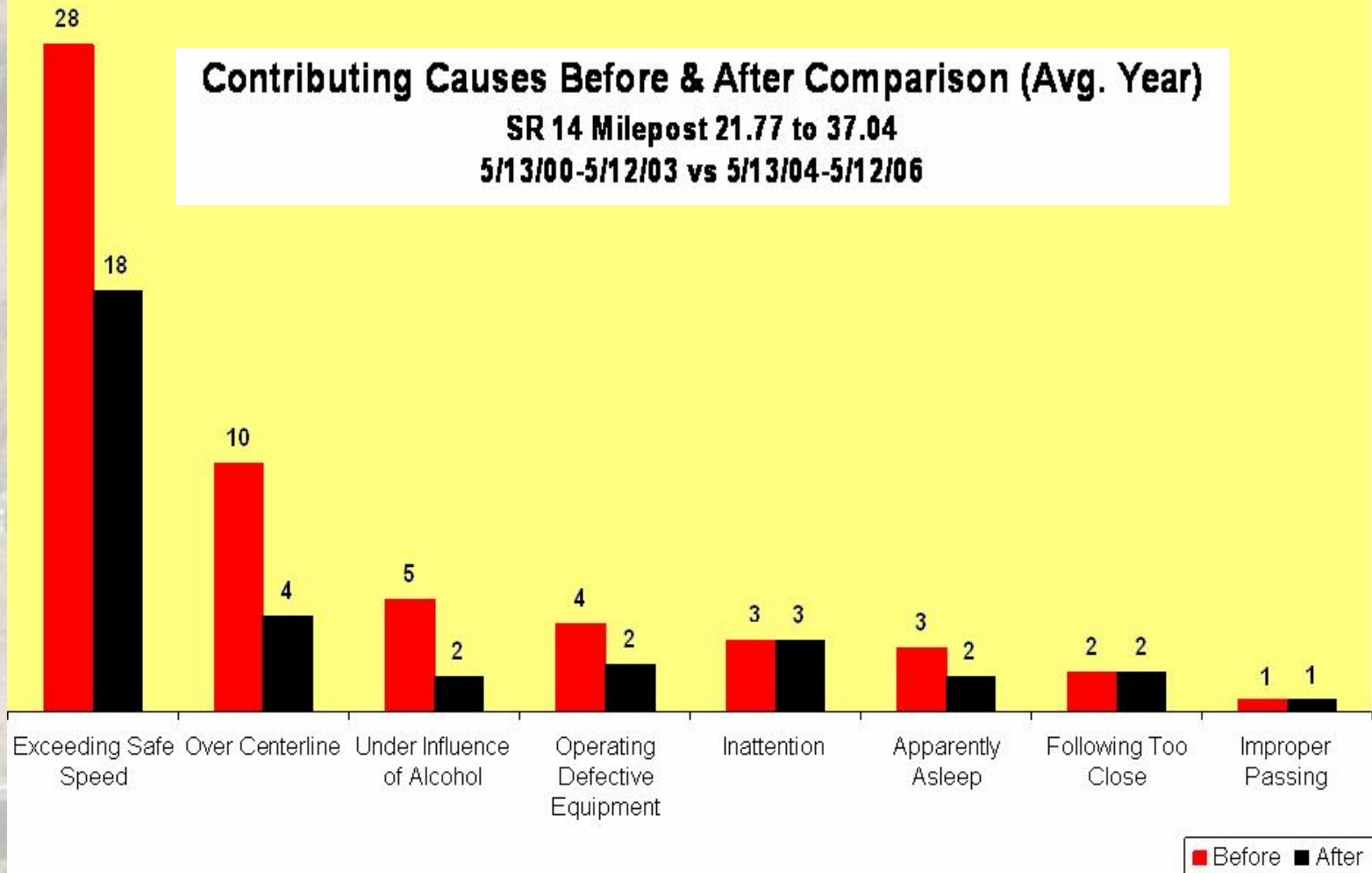
# Leading Driver Contributing Causes





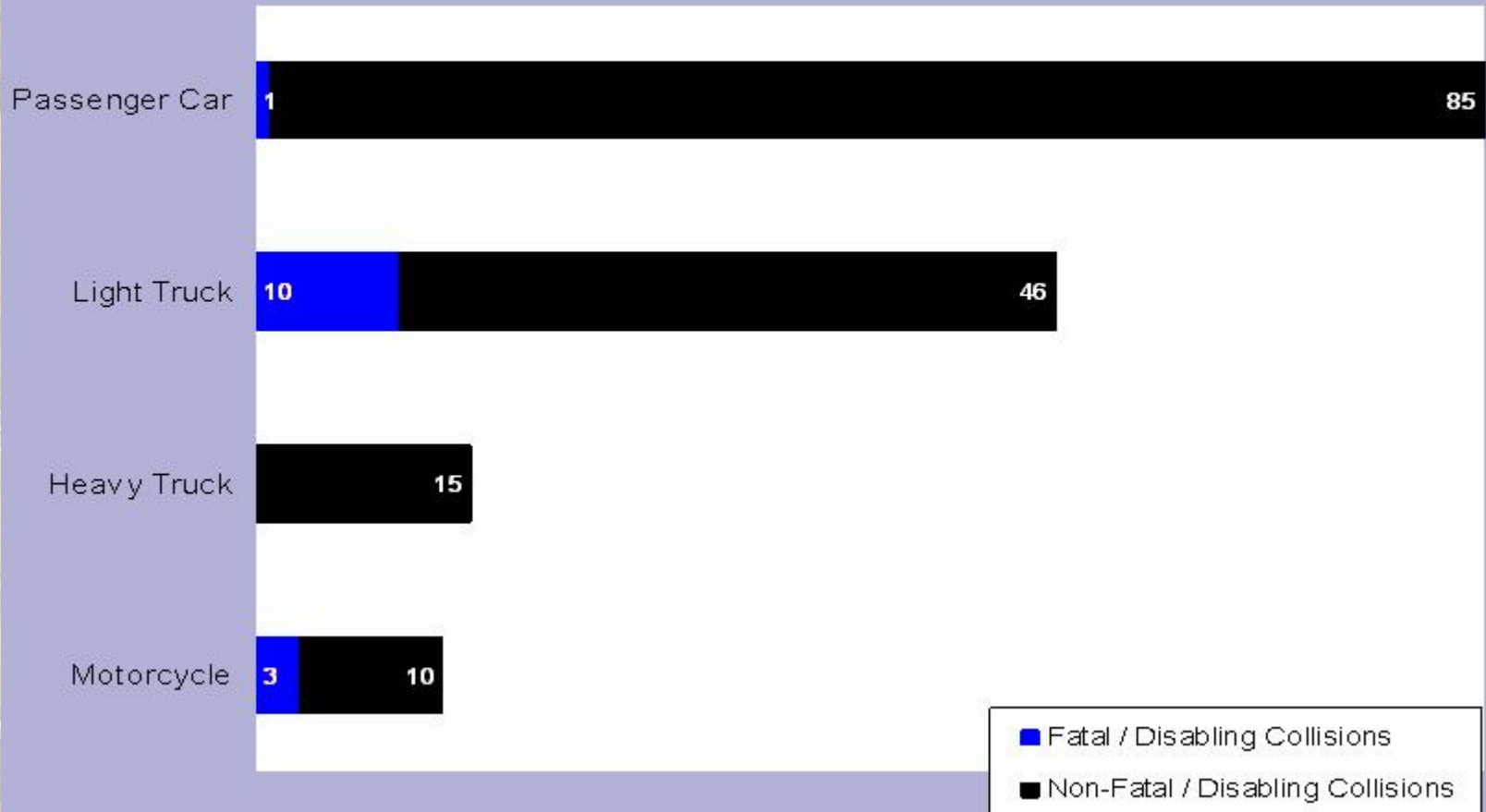
## Contributing Causes Before & After Comparison (Avg. Year)

SR 14 Milepost 21.77 to 37.04  
5/13/00-5/12/03 vs 5/13/04-5/12/06





## Type Of Vehicles



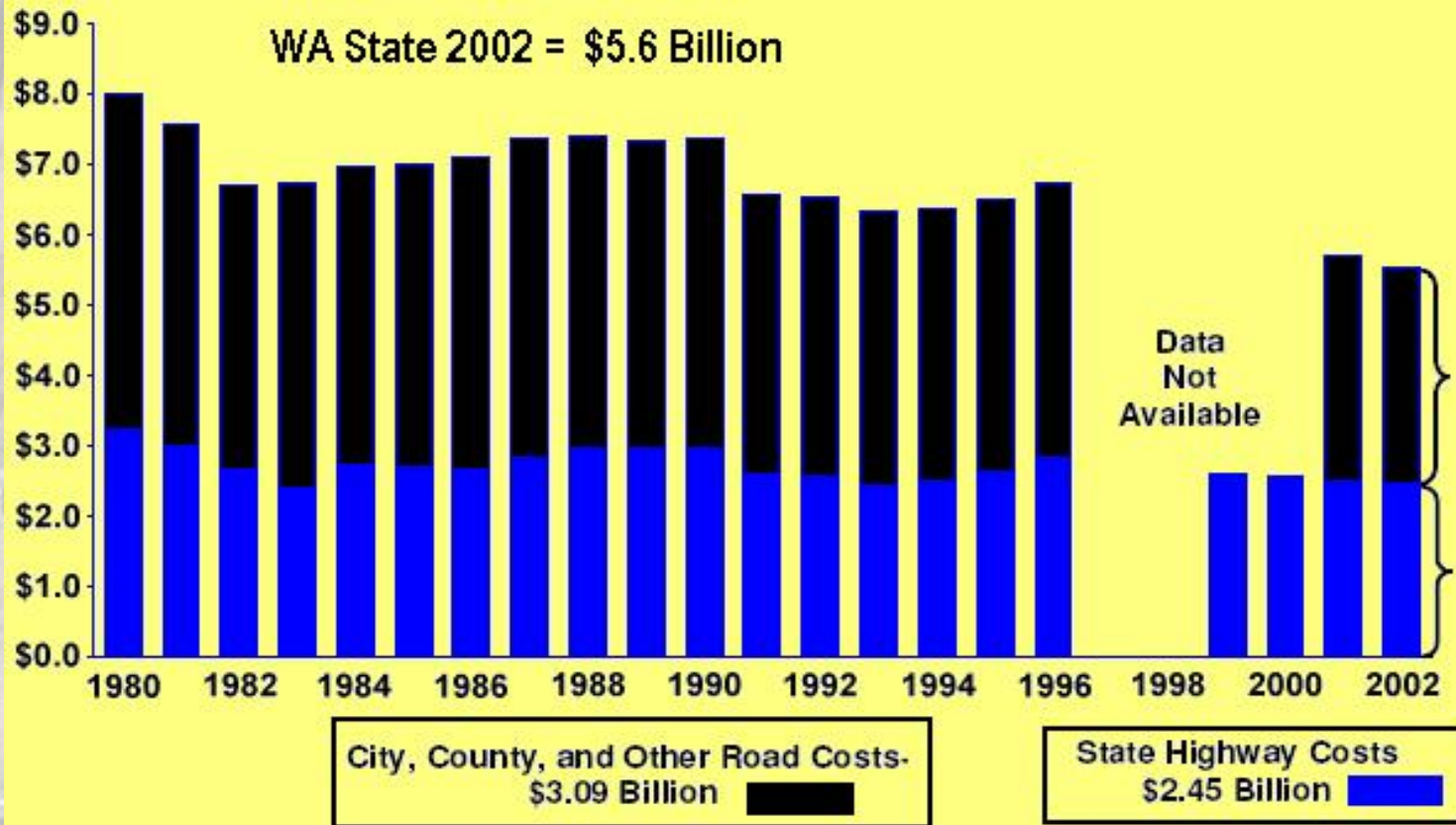




**How much \$\$\$ do  
Collisions Cost Society?**



# Cost of Collisions to Society



Source: WSDOT Transportation Data Office



## Collision Results

- **Total Collisions**

Before = 174 (58 / year)

After = 94 (47 / year)

- **Total Alcohol-Related**

Before = 21 (7 / year)

After = 6 (3 / year)

- **Total Fatal/Disabling Injury**

Before = 17 (5.7 / year)

After = 4 (2 / year)







## Collision Results

- # Hit Fixed Object Collisions-- (#1 Type) – **Down 17%**
- # Speeding Drivers in Collisions-- (#1 Cause) – **Down 37%**
- # Total Collisions – **Down 19%**
- # Alcohol-Related Collisions – **Down 57%**
- # Fatal / Disabling Collisions – **Down 65%**





**Estimated \$5.7**



# Compared Results

Compared to all other past Corridor Projects in Washington State:

All Others

Cape Horn

*Reduction in total collisions.*

6%

vs.

**19%**

*Reduction in alcohol-related collisions.*

19%

vs.

**57%**

*Reduction in total injuries.*

11%

vs.

**45%**

*Reduction of fatal/disabling collisions.*

33%

vs.

**65%**





## Impact

The Cape Horn Corridor Traffic Safety Project has not only been successful in building community relationships and inter-agency collaboration, but also in making SR14 safer for motorists and passengers.



# Why it worked ...

**1. Leadership!**

**2. Focus on all 4 phases of SARA!**

**3. Media-Education!**

**4. Fun-Making a Difference!**



# Thank You

Trooper Matt Calderone

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&

Sergeant Dale Retzlaff

[Dale.Retzlaff@wsp.wa.gov](mailto:Dale.Retzlaff@wsp.wa.gov)

509-773-3775



**WASHINGTON STATE PATROL**

