

Washington State Patrol

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2007 Herman Goldstein Award for Excellence in Problem Oriented Policing



Cape Horn Traffic Safety Corridor Project

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Summary

★ Project Title ★

Cape Horn Traffic Safety Corridor

Scanning

A 15-mile section of State Route 14 (SR 14) in southwest Washington had unusually high collision rates and a pattern of similar collision types. Compared to similar state highways in the same region of the state, this section of SR 14 reported a higher rate of collisions involving excessive speed, crossing the centerline, driving under the influence, and operating defective equipment. This 15-mile section of SR 14 represents only 6% of the route miles in the Goldendale Autonomous Patrol Area (APA), yet this area has 24% of the collisions. This situation was begging for further investigation.

Analysis

A multi-disciplinary group of stakeholders came together and instituted a Traffic Safety Corridor project. Collision reports and traffic stop data for 2000-2002 were analyzed. During this three-year period, there were 174 collisions, including 18 fatal or disabling injury collisions and 21 alcohol-related collisions. Fifty-three percent of the collisions involved local residents. Principle collision types included striking fixed objects, overturns, sideswipes, colliding with wildlife, and rear-end, angle, and head-on collisions. The leading causes of these collisions were exceeding safe speed, crossing the centerline, under the influence of alcohol, operating defective equipment, inattention, improper passing, and falling asleep.

Response

The Corridor task force developed a comprehensive response plan with specific recommendations falling in three familiar areas: education, engineering, and enforcement.

The task force conducted an extensive public safety campaign that included press releases, a billboard with a traffic safety message, and brochures distributed throughout the local area.

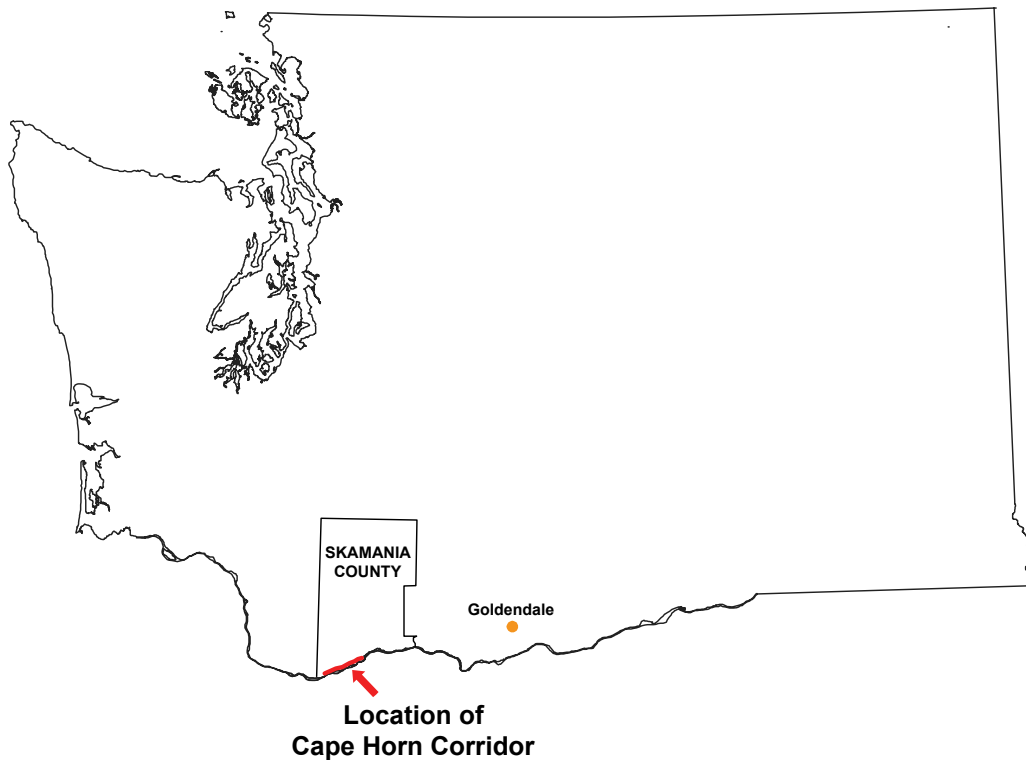
State Route 14 received physical improvements, including a completely updated signage plan, realignment of two curves, centerline rumble strips, installation of a Highway Advisory Radio system, etc.

Emphasis patrols targeted collision-causing behaviors: speeding, following too closely, unsafe passing, impeding traffic, and impaired driving. Officers made 5,910 contacts and issued 1,785 tickets for speeding, no seat belt use, aggressive driving, and DUI.

Summary (Continued)

Assessment

The true measure of success was the number of collisions occurring in the area once the project was completed. Total collisions were down 19%. Alcohol-related collisions were down 57%. Fatal and disabling injury collisions were down 65%. Not only was the Cape Horn Traffic Safety Corridor project successful in its own right, but it also set the standard for Corridor projects statewide as one of the most successful of all time. In addition, the community benefited from the lasting partnerships that developed through the Corridor project.



Scanning

The Washington State Patrol (WSP) is a progressive, problem-solving agency that is constantly looking for ways to improve. The WSP Field Operations Bureau (FOB) is primarily responsible for traffic law enforcement, collision investigation, and motorist assists on 17,524 miles of state and interstate highways. In keeping with the WSP Problem Oriented Public Safety (POPS) philosophy, administered by FOB, the question was asked, “Would the motoring public benefit from the development of a Traffic Safety Corridor on State Route 14 in Skamania County?”

State Route 14 (SR 14) runs east and west through Skamania County, parallel to the Columbia River and the Washington-Oregon state line. Compared to other state highways and similar highways in the same region of the state, a 15-mile stretch of SR 14 (from milepost 22 to 37) was experiencing a higher percentage of collisions than other sections of the highway in the surrounding area and similar highways across the state.

Problem Definition

A 15-mile stretch of SR 14 in Skamania County had an unusually high crash rate involving particular types of crashes. Compared to other state highways and similar highways in the same region of the state, this section of SR 14 reported a higher rate of contributing causes of collisions including:

- Exceeding Safe Speed
- Over the Centerline
- Driving Under the Influence of Alcohol or Drugs
- Operating Defective Equipment

Problem Awareness



Local law enforcement had attempted to address these issues for many years. Several methods of pro-active traffic enforcement had been utilized in the past with some success; however, the collision rate had remained constant since 2002. In order to make a difference, the WSP recognized it needed to involve stakeholders in the community to come up with a new approach to the problem. A meeting was held with the Skamania County

Sheriff's Office and the Skamania County Commissioners. One of the commissioners who lived in this area asked about the feasibility of establishing a Traffic Safety Corridor and volunteered to chair the committee. After initial consultation with the Washington

Scanning (Continued)

Traffic Safety Commission (WTSC), the process to develop a Traffic Safety Corridor began. With the help of some charismatic local leaders, stakeholders were assembled in order to work together toward a common solution. A Traffic Safety Corridor had never been attempted in the area before and the process was new to all the stakeholders. The inspiration of being involved in a Traffic Safety Corridor energized the community to become involved in the problem-solving process and provided a fresh perspective toward this problem.

Principal Stakeholders

The principal stakeholders of the Cape Horn Traffic Safety Corridor included:

- Washington State Patrol
- Washington Traffic Safety Commission
- Washington State Department of Transportation
- Skamania County Sheriff's Office
- Washington State Parks
- Columbia River Gorge National Scenic Area
- Educational Service District 112
- Gorge Commission
- Port of Skamania
- Skamania County Chamber of Commerce
- Skamania County Public Works
- Skamania School District #2
- WKO Lumber Mill
- Most importantly, Skamania County residents

Initial Significance Diagnosis

Fifteen months were spent brainstorming, receiving and reviewing input, identifying problems, solutions, forming action plans, etc. Any cost associated with data collection and analysis was absorbed by the agency doing the work. The project kicked off in May 2004 at a local school event.

Stakeholders addressed:

1. Whether or not a Traffic Safety Corridor would result in a decrease in various types of collisions.
2. What multi-agency collaboration of strategies was needed to target enforcement of collision-causing violations.
3. What potential engineering fixes were needed?

Scanning (Continued)

4. Would an education sub-group, in coordination with the committee, increase public awareness by reinforcing safe driving habits?
5. What role would enforcement, education, and emergency services organizations play?
6. Would working together allow the group to predict a certain level of success with enforcement, education, and engineering?
7. Would the result of increased traffic safety ensure that the goal (which was to reduce collisions in the designated section of highway) of the corridor be achieved?

The stakeholders believed that a successful Traffic Safety Corridor on SR 14 would improve highway safety by reducing crashes, property damage, injuries, and deaths. By identifying and using low-cost, near-term solutions that focused on engineering, education, and enforcement efforts, the Corridor was expected to have a significant financial impact on the community overall in reduction of medical costs, emergency services, road blockages, etc.

The Traffic Safety Corridor included members from a broad base of both public and private sector entities, all of which had an interest in improving traffic safety along SR 14. The ultimate recommendation of the initial research was to implement a variety of interventions offered by the task force, resulting in solutions tailored to a specific, community-based safety problem. The interventions implemented by the task force would be based on the available collision, traffic stop, and roadway data. In addition to driving behaviors, engineering and educational characteristics were studied to determine what, if any, impact they had on the safety of the Corridor.

The committee put their personal feelings aside and conducted a fair and accurate review of the collision history, traffic stop data, and surveys. The Corridor committee felt from the start that Traffic Safety Corridor programs and Problem Oriented Policing employing a collaborative approach could positively influence the motoring public and reduce collisions. In addition, experience has demonstrated those areas that have enjoyed community support of such projects have experienced the life-saving results of such a collaborative traffic safety effort.

Analysis

Between 2000-2002, there were 174 collisions in this area, averaging 58 a year or over one a week. There were 18 fatal or disabling collisions, averaging six a year or one every two months. There were 21 alcohol-related collisions averaging seven a year. Although the numbers seemed small, this area represents only 6% of the highway miles patrolled by the WSP Goldendale Detachment, yet accounts for nearly 24% of the collisions. This small section of the Autonomous Patrol Area (APA) required proportionally more resources than other areas in the APA. In addition, 53.6% of collisions involved local residents. The most current WSDOT traffic counts indicated that approximately 4,000 vehicles travel through the corridor area daily.

The task force analyzed collision data and looked for patterns in location, type of collision, weather, time of day, age of driver, special events, commercial vehicle involvement, violations, driving history, etc.

WSP traffic stop data for the 15 miles of the corridor was reviewed for trends. A WSDOT signage inventory made recommendations for signage changes. There were 2,100 signs on state routes in the Goldendale Detachment APA on 230 miles of highway. The corridor area represents only 6% of the highway miles in the APA, yet has 28% of the highway signs. This is more than 600 signs in 15 miles of highway. The task force also considered additional information about the area, including news stories and WSDOT traffic counts.

Methods – Data – Information

The analysis exposed the underlying problems and confirmed the big issues we had to challenge.

- Exceeding Safe Speed crashes occurred at a rate 86% higher than on similar highways in the region and 104% higher than on other Washington highways, making it the leading contributing cause of fatal and disabling crashes on the corridor.
- Over the Centerline crashes occur at a rate 375% higher than on similar highways in the region and 740% higher than on other Washington highways.
- DUI crashes occur at a rate 13% higher than on similar highways in the region and 40% higher than on other Washington highways.
- Operating Defective Equipment crashes occur at a rate 40% higher than on similar highways in the region and 108% higher than on other Washington highways.

The analysis also revealed a variety of collision types: hitting fixed object, overturn, sideswipe (opposite direction), wildlife, and rear-end, angle, and head-on collisions.

Analysis (Continued)

The leading contributing causes of these collisions were exceeding safe speed, over centerline, under influence of alcohol, operating defective equipment, inattention, improper passing, and apparently asleep.

As the Traffic Safety Corridor examined the data, members identified three areas of focus – Law Enforcement, Engineering and Education – and created committees for each focus area.

Each of the collision-causing factors identified in the data analysis was referred to one of the committees.

Factors for Law Enforcement consideration:

1. Collisions from speed too fast for conditions
2. Illegally passing vehicles making left turns
3. Aggressive driving by impatient drivers
4. DUI as the third highest leading cause of crashes
5. Impeding traffic by recreational and commercial vehicles
6. Narrow highway shoulders impeding traffic enforcement efforts
7. Oversize commercial loads crossing the centerline

Engineering factors:

1. Road design
2. Horizontal and vertical roadway alignment
3. Poor signage distribution
4. Effect of weather
5. Inconsistent lane and shoulder width
6. Pedestrian crossings
7. Roadside vegetation causing view obstructions
8. Vehicle access to and from the Skamania Store
9. Weight restrictions on the Bridge of the Gods (no detour for commercial traffic)



Educational factors:

1. Lack of awareness of roadway characteristics
2. Diversity of highway users
3. Disregard for advisory signs
4. Tourists are unaware of pullouts
5. Drivers are unaware of laws regarding speed too fast for conditions, passing, and impeding traffic

Response

The goal of the Cape Horn Traffic Safety Corridor Project was to increase traffic safety along SR 14 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

A wide range of alternatives were considered to deal with the problems identified during the analysis phase.

The following criteria were established for responses:

- A comprehensive response plan was established
- Problems were addressed individually
- A clear problem statement was required
- Solutions were provided
- Obstacles were recognized
- Target audiences were local residents, tourists, commercial drivers, bicyclists, and pedestrians

Resources available included:

- Enforcement - \$36,000
- Equipment - \$27,000
- Education - \$32,000
- Engineering - \$100,000
- Total funding - \$195,000

Accountability Links/Target Dates

This project was originally planned to run for one year, but was extended a second year due to initial successes.

Throughout the project, the task force met monthly to monitor its progress. Alternatives were considered continually and changes made when necessary. These meetings provided an opportunity to review recent collisions and causal factors. Task force members also received regular enforcement, engineering, and educational updates. These monthly meetings were opportunities to plan for upcoming enforcement emphasis patrols, community events, and public education activities.

Response (Continued)

Law Enforcement Objectives/Response/Focus

The WSP and Skamania County Sheriff's Office personnel joined forces to increase their enforcement efforts. Officers conducted special emphasis patrols on holidays and other periods of increased traffic and increased their overall visibility and enforcement during non-peak times as well. Officers concentrated on collision-causing violations such as speeding, DUI, and following too closely. Laser (LIDAR) speed-measuring devices were purchased with Traffic Safety Corridor funds and put to use. Officers increased traction chain enforcement during winter weather, adjusted shifts for maximum effectiveness, and brought in WSP motorcycle, Commercial Vehicle Enforcement, and Aggressive Driving Apprehension Team officers from the Vancouver area. Citations issued in conjunction with the task force were stamped "Traffic Safety Corridor" so that the district court judge was aware the ticket was issued as part of the project. At the request of the Corridor task force, the WSDOT changed its policies to require pilot cars on all oversize loads over ten feet wide.

Engineering Objectives/Response/Focus

The WSDOT completed a significant number of engineering changes throughout the corridor:

- Installed corridor project signs
- Updated signage layout plan
- Upgraded roadway striping, particularly in passing areas
- Larger, more reflective traffic signs
- More prominent posting of speed limits
- Wider chain-up areas were created
- Improved alignment of two curves
- Brake Check signs changed to "Emergency Parking Only"
- Installed centerline rumble strips throughout corridor
- Installed a Highway Advisory Radio system
- Removed crosswalk at Beacon Rock State Park
- Obtained funding for new passing lane to be completed in 2009-11 biennium

Education Objectives/Response/Focus

The task force made good use of educational opportunities to gain community support for the project. Community meetings were held to increase local residents' awareness of corridor safety issues. These meetings were followed by TV and radio safety

Response (Continued)

messages, billboard signs with safety messages, and driver education in local schools. The task force also distributed literature and paraphernalia such as brochures, litter bags, air fresheners, drink coasters, and bumper stickers, all carrying a safety message. Local print media ran articles on the project. Commercial trucking companies placed corridor safety slogans on truck-trailers.

Assessment

Challenges

Task force members faced a variety of difficulties during the two-year corridor project, including:

1. Collisions with wildlife – Car vs. deer collisions almost doubled. This is a constant problem, comprising 22% of all collisions. The best approach appeared to be education and strict enforcement to slow down drivers.
2. Engineering improvements – Because the area is a National Scenic Area, improvements needed approval from a number of sources and came slowly.
3. Law enforcement saturation (3-4 patrol cars within a 15-mile area) hampered contact statistics but was a good thing.
4. Weather (RAIN!) hampered emphasis patrols throughout the period.
5. Collision displacement occurred sporadically throughout the corridor.

Outputs and Outcomes

Success of the Cape Horn Traffic Safety Corridor program was measured in the number of collisions, with the most concern being fatal and disabling injury collisions. After two years and upon the completion of the corridor, the task force reported the following results:



Outputs:

- DUI arrests increased 55%
- Speed contacts increased 103%
 - 52% of all contacts were for speed violations
- Seat belt contacts increased 73.2%
- Aggressive Driver contacts increased 70.8%
- Total contacts increased 158%
 - 30% of contacts resulted in a citation
- Total citations increased 110%
 - Total number of citations: 1,785

Assessment (Continued)

Collisions/Results

	Total Collisions	Alcohol-Related	Fatal/Disabling
Before Corridor Project	174 (58/year)	21 (7/year)	17 (5.7/year)
After Corridor Project	94 (47/year)	6 (3/year)	4 (2/year)

The following collision statistics resulted from the Corridor project:

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

Comparison With Other Corridor Projects

There have been at least 24 other corridor projects in Washington State. What is special about the Cape Horn Traffic Safety Corridor Project? Compared to all other past corridor project results in Washington State:

	Other Projects	Cape Horn Project
Reduction in total collisions	6%	9%
Reduction in alcohol-related collisions	19%	43%
Reduction in total injury collisions	11%	45%
Reduction of fatal/disabling collisions	33%	65%

The Cape Horn Corridor Project exceeded all the other combined Washington State corridors in reduction of collisions. The reduction in alcohol-related fatal and disabling collisions was *double* that of other corridor projects. In addition, the reduction of total injury collisions was *four times* that of other corridor projects.

Impact

The Cape Horn Corridor Traffic Safety Project was not only successful in building community relationships and inter-agency collaboration, but also in making SR 14 safer for travelers.

Agency and Officer Information

This problem-solving initiative was adopted by Sergeant Dale Retzlaff and the troopers assigned to the Goldendale Detachment, and is one of approximately 50 such POPS projects in progress within the WSP.

All WSP officers receive basic POPS training. Seventy-two carefully selected POPS troopers received advanced training in the late 1990s and became the agents of change as POPS became a norm within the agency. For many years, these troopers represented the face of POPS in the WSP. Now as the final 18 positions are being phased out, the philosophy is fully integrated and has become the way we do business.

The concepts of problem-solving and partnerships have been integrated into virtually every system internal to the WSP, including cadet basic training, supervisor and mid-level manager training, the promotional process, and the job performance appraisal process. Project coordinators receive no monetary or promotional incentive to initiate a POPS project. Officers are invited to attend the annual WSP POPS Forum to observe presentations on past years' exemplary projects. In addition, the WSP POPS Training Guide is available online as a problem-solving resource to every WSP employee. This project was completed using existing personnel and financial resources.

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