



Roadway Departure: Effective Countermeasures





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DISCUSSION POINTS

Problem Identification

Effective Countermeasures

Partnerships and Collaboration



Problem Identification

High Collision Areas

Types of Collisions

Causes- Don't just look for one reason



94%





Issues

Alcohol or Drug Impaired Driving

Speed

Distracted Driving

Drowsy Driving

Motorcycle Safety

Occupant Protection

Emergency Medical Services





4E's- The solutions

- ❖ **Engineering**
- ❖ **Education**
- ❖ **Enforcement**
- ❖ **Emergency Medical Services**

Countermeasures/Strategies

High Visibility Enforcement

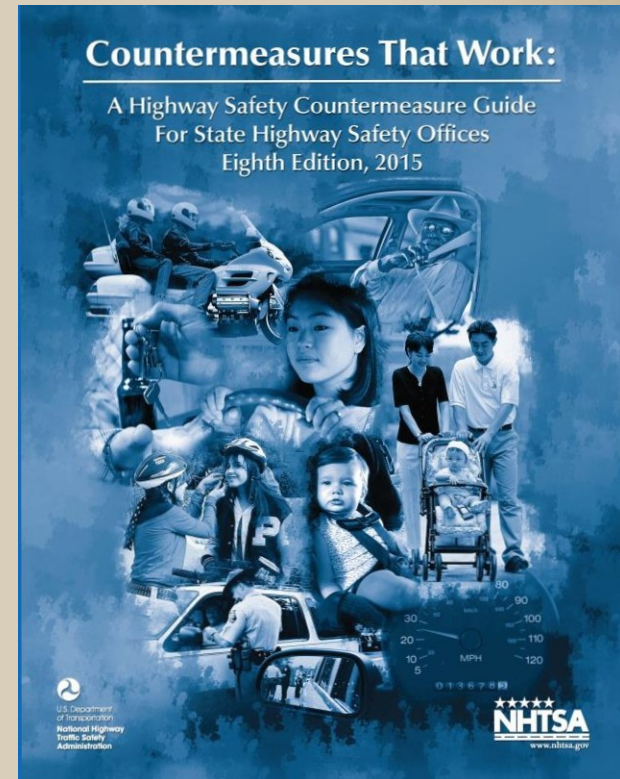
DUI/Driver's License checkpoints

Saturation patrols

Court stings

Minor Decoy

Shoulder Tap



Countermeasures/Strategies

1. Alcohol- and Drug-Impaired Driving

Overview

In 2013, 10,076 people were killed in crashes involving alcohol-impaired drivers (defined as drivers or motorcycle riders with blood alcohol concentrations (BACs) of ≥ 0.08 g/dL), a decrease of 2.5% from the 10,336 fatalities in 2012 (NHTSA, 2014a). Fatalities in crashes involving alcohol-impaired drivers continue to represent almost one-third (31%) of the total motor vehicle fatalities in the United States (NHTSA, 2014a). See NHTSA's most recent *Traffic Safety Facts* (NHTSA, 2014a) for the latest national and State data.

Trends. Alcohol-impaired driving dropped steadily from 1982 to the mid-1990s. A study showed that much of this decrease could be attributed to alcohol-related legislation (e.g., .08 BAC, administrative license revocation, and minimum drinking age laws) and to demographic trends (e.g., the aging of the population and the increased proportion of female drivers) (Dang, 2008). However, during this period there also was substantial public attention to the issue of alcohol-impaired driving, a growth of grassroots organizations such as Mothers Against Drunk Driving and Remove Intoxicated Drivers, increased Federal programs and funding, State task forces, increased enforcement and intensive publicity, all of which combined to help address this critical traffic safety problem.

As the chart shows, alcohol-impaired driving fatalities changed very little between 1992 and 2007, but then began declining again in 2008. This decrease likely reflects, in part, the recent economic recession.



Source: NHTSA (2014a, 2014b)

Countermeasures That Work

Countermeasures to reduce alcohol-impaired driving are listed below and discussed individually in the remainder of this chapter. The table is intended to give a rough estimate of each countermeasure's effectiveness, use, cost, and time required for implementation. The symbols and terms used are described below. Effectiveness, cost, and time to implement can vary substantially from State to State and community to community. Costs for many countermeasures are difficult to measure, so the summary terms are very approximate. See each countermeasure discussion for more information.

1. Deterrence: Laws

Countermeasure	Effectiveness	Cost	Use	Time
1.1 ALR/ALS	★★★★★	\$\$\$	High	Medium
1.2 Open containers	★★★	\$	High	Short
1.3 High-BAC sanctions	★★★	\$	Medium	Short
1.4 BAC test refusal penalties	★★★	\$	Unknown	Short
1.5 Alcohol-impaired driving law review	★★★	\$\$	Unknown	Medium

2. Deterrence: Enforcement

Countermeasure	Effectiveness	Cost	Use	Time
2.1 Publicized sobriety checkpoints	★★★★★	\$\$\$	Medium	Short
2.2 High visibility saturation patrols	★★★★★	\$\$	High	Short
2.3 Preliminary Breath Test devices (PBTs) [†]	★★★★★	\$\$	High	Short
2.4 Passive alcohol sensors ^{††}	★★★★★	\$\$	Unknown	Short
2.5 Integrated enforcement	★★★	\$	Unknown	Short

[†] Proven for increasing arrests

^{††} Proven for detecting impaired drivers

3. Deterrence: Prosecution and Adjudication

Countermeasure	Effectiveness	Cost	Use	Time
3.1 DWI courts [†]	★★★★★	\$\$\$	Low	Medium
3.2 Limits on diversion and plea agreements ^{††}	★★★★★	\$	Medium	Short
3.3 Court monitoring ^{††}	★★★	\$	Low	Short
3.4 Sanctions	★★	Varies	Varies	Varies

[†] Proven for reducing recidivism

^{††} Proven for increasing convictions

Countermeasures/Strategies

Chapter 1. Alcohol- and Drug-Impaired Driving

2. Deterrence: Enforcement

2.1 Publicized Sobriety Checkpoints

Effectiveness: ★ ★ ★ ★ ★	Cost: \$\$\$	Use: Medium	Time: Short
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At a sobriety checkpoint, law enforcement officers stop vehicles at a predetermined location to check whether the driver is impaired. They either stop every vehicle or stop vehicles at some regular interval, such as every third or tenth vehicle. The purpose of checkpoints is to deter driving after drinking by increasing the perceived risk of arrest. To do this, checkpoints should be highly visible, publicized extensively, and conducted regularly, as part of an ongoing sobriety checkpoint program. Fell, Lacey, and Voas (2004) provide an overview of checkpoint operations, use, effectiveness, and issues. See Fell, McKnight, and Auld-Owens (2013) for a detailed description of six high visibility enforcement programs in the United States, including enforcement strategies, visibility elements, use of media, funding, and many other issues.

Use: Sobriety checkpoints are authorized in 38 States and the District of Columbia (NHTSA, 2015), but few States conduct them regularly. According to GHSA (2015a), only 16 States conduct checkpoints on a weekly basis. The main reasons checkpoints are not used more frequently are lack of law enforcement personnel and lack of funding (Fell, Ferguson, Williams, & Fields, 2003).

Effectiveness: CDC's systematic review of 15 high-quality studies found that checkpoints reduce alcohol-related fatal crashes by 9% (Guide to Community Preventive Services, 2012). Similarly, a meta-analysis found that checkpoints reduce alcohol-related crashes by 17%, and all crashes by 10 to 15% (Erke, Goldenbeld, & Vaa, 2009). Publicized sobriety checkpoint programs are proven effective in reducing alcohol-related crashes among high risk populations including males and drivers 21 to 34 (Bergen et al., 2014).

In recent years, NHTSA has supported a number of efforts to reduce alcohol-impaired driving using publicized sobriety checkpoint programs. Evaluations of statewide campaigns in Connecticut and West Virginia involving sobriety checkpoints and extensive paid media found decreases in alcohol-related fatalities following the program, as well as fewer drivers with positive BACs at roadside surveys (Zwicker, Chaudhary, Maloney, & Squeglia, 2007; Zwicker, Chaudhary, Solomon, Siegler, & Meadows, 2007). In addition, a study examining demonstration programs in 7 States found reductions in alcohol-related fatalities between 11% and 20% in States that employed numerous checkpoints or other highly visible impaired driving enforcement operations and intensive publicity of the enforcement activities, including paid advertising (Fell, Langston, Lacey, & Tippetts, 2008). States with lower levels of enforcement and publicity did not demonstrate a decrease in fatalities relative to neighboring States. See also NHTSA's Strategic Evaluation States initiative (NHTSA, 2007a; Syner et al., 2008), the *Checkpoint Strikeforce* program (Lacey et al., 2008), and the national Labor Day holiday campaign: *Drunk Driving. Over the Limit. Under Arrest* (Solomon et al., 2008).

Chapter 1. Alcohol- and Drug-Impaired Driving

Costs: The main costs are for law enforcement time and for publicity. A typical checkpoint using 15 or more officers can cost \$5,000 to \$7,000 (Robertson & Holmes, 2011). However, law enforcement costs can be reduced by operating checkpoints with smaller teams of 3 to 5 officers (NHTSA, 2002; NHTSA, 2006b; Stuster & Blowers, 1995). Law enforcement agencies in two rural West Virginia counties were able to sustain a year-long program of weekly low-staff checkpoints. The proportion of nighttime drivers with BACs of .05 g/dL and higher was 70% lower in these counties compared to drivers in comparison counties that did not operate additional checkpoints (Lacey, Ferguson, Kelley-Baker, & Rider, 2006). These smaller checkpoints can be conducted for as little as \$500 to \$1,500 (Maistros, Schneider, & Beverly, 2014). NHTSA has a guidebook available to assist law enforcement agencies in planning, operating and evaluating low-staff sobriety checkpoints (NHTSA, 2006b).

Checkpoint publicity can be costly if paid media are used. For the *Checkpoint Strikeforce* program, paid media budgets ranged from \$25,000 in West Virginia to \$433,000 in Maryland (Fell et al., 2013). Publicity for checkpoints can also include earned media.

Time to implement: Sobriety checkpoints can be implemented very quickly if officers are trained in detecting impaired drivers, SFST, and checkpoint operational procedures. See NHTSA (2002) for implementation information.

Other issues:

- **Legality:** Checkpoints currently are permitted in 38 States and the District of Columbia (NHTSA, 2015). Twelve States do not allow checkpoints, either because there is no statutory provision (Alaska, Mississippi, and South Carolina) or because checkpoints violate the State's constitution or are prohibited under State law (Idaho, Iowa, Michigan, Minnesota, Montana, Oregon, Rhode Island, Texas, Washington, Wisconsin, and Wyoming). States where checkpoints are not permitted may use other enforcement strategies such as saturation patrols (see Chapter 1, Section 2.2).
- **Visibility:** Checkpoints must be highly visible and publicized extensively to be effective. Communication and enforcement plans should be coordinated. Messages should clearly and unambiguously support enforcement. Paid media may be necessary to complement news stories and other earned media, especially in a continuing checkpoint program. See Fell et al. (2013) for additional recommendations concerning checkpoint visibility.
- **Arrests:** The primary purpose of publicized sobriety checkpoint programs is to deter impaired driving, not to increase arrests. However, impaired drivers detected at checkpoints should be arrested and arrests should be publicized, but arrests at checkpoints should not be used as a measure of effectiveness. The number of contacts would be a more appropriate measure. A secondary value of publicized sobriety checkpoint programs is checkpoints may also be used to check for valid driver licenses, seat belt use, outstanding warrants, stolen vehicles, and other traffic and criminal infractions.
- **Combining checkpoints with other activities:** To enhance the visibility of their law enforcement operations, some jurisdictions combine checkpoints with other activities, such as saturation patrols. For example, some law enforcement agencies conduct both checkpoints and saturation patrols during the same weekend. Others alternate checkpoints and saturation patrols on different weekends as part of a larger publicized impaired

HVE: High Visibility Media Outreach

Educate the public about the traffic safety problem and warn them well in advance that law enforcement will enforce the law to save lives

Use a combination of social media, earned, and targeted paid media

Maintain media outreach for Pre-event, During the Event, and Post-Event



NHTSA Key Countermeasure Program: High Visibility Enforcement (HVE)

High Visibility Enforcement (HVE) is a universal traffic safety approach designed to create deterrence and change unlawful traffic behaviors.

HVE combines highly visible and proactive law enforcement targeting a specific traffic safety issue.

Law enforcement efforts are combined with visibility elements and a publicity strategy to educate the public and promote voluntary compliance with the law.



Education and Awareness

Drivers Education in your
local schools

Every 15 Minutes, Start
Smart, Impact Teen Driver

Mother's Against Drunk
Driving



OTS Public Education and Outreach Efforts



NHTSA- Traffic Safety Marketing

Bicycle Safety

Child Safety

Distracted Driving

Drowsy Driving

Drug-Impaired Driving

Drunk Driving

First Responder Safety

Motorcycle Safety

Older Drivers

Pedestrian Safety

Rail Grade Crossing

School Bus Safety

Seat Belts

Speed Prevention

Teen Safety

Vehicle Safety

Traffic Safety Marketing



powering off

Stop using your phone when you drive.
Click to learn more...


ONE TEXT OR CALL COULD
WRECK
IT ALL



SPEEDING
Stop speeding before it stops you



**DRIVE SOBER OR
GET PULLED OVER**



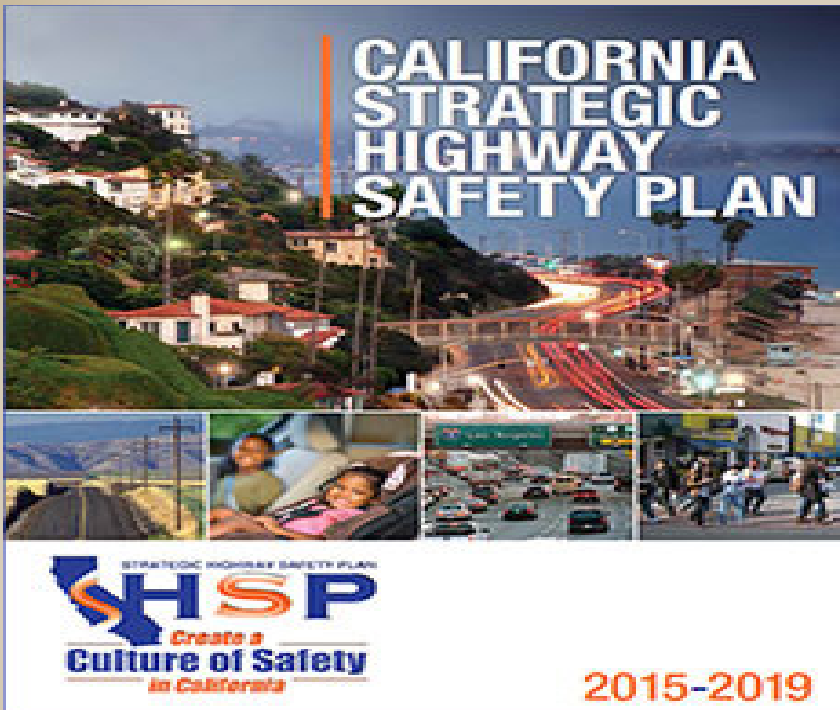
buzzed
driving is
drunk
driving
designate a sober driver

Resources

- **NHTSA Website**
www.nhtsa.gov
- **Vehicle Safety Hotline (toll-free)**
1-888-327-4236
- **Traffic Safety Marketing (TSM)**
www.trafficsafetymarketing.gov
- **California Office of Traffic Safety**
www.ots.ca.gov

STRATEGIC HIGHWAY SAFETY PLAN

“GET INVOLVED AND MAKE A DIFFERENCE”



Alcohol/Drug Impaired Driving

Bicycling

Driver Licensing and Competency

Occupant Protection

Young Drivers

Aging Road Users

Pedestrians

Speeding and Aggressive Driving

Motorcycles

Distracted Driving

Commercial Vehicles

Emergency Medical Services

Intersections, Interchanges and Other
Roadway Access

Roadway Departures and Head-on Collisions

Work Zones