

SFST

DWI Detection and Standardized Field Sobriety Testing

PARTICIPANT MANUAL



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Pam McCaskill, U.S. Department of Transportation, Transportation Safety Institute

Lance McWhorter, U.S. Department of Transportation, Transportation Safety Institute

Rocky Wehling, U.S. Department of Transportation, Transportation Safety Institute

Amy Ziegler, U.S. Department of Transportation, Transportation Safety Institute

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SFST

Introduction and Overview

LEARNING OBJECTIVES

- State the goals and objectives of the training
- Overview the training schedule and activities
- Describe the Participant Manual contents
- Demonstrate pre-training knowledge of training topics

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LEARNING ACTIVITIES

- Instructor-Led Presentation
- Written Examination

A. Welcoming Remarks and Objectives

Session 1 – Introduction and Overview

Learning Objectives

- State goals and objectives
- Overview schedule and activities
- Describe participant manual contents
- Demonstrate pre-training knowledge of training topics



DWI DETECTION & SFST 1-2

Slide 2.

Welcome to the DWI Detection and Standardized Field Sobriety Testing (SFST) Training. The SFST training focuses on a set of examination procedures that provide officers knowledge and tools for DWI detection. The SFST training provides detailed explanations of the evaluation procedures, careful demonstrations of these procedures (both "live" and via video), and ample opportunities for the participants to practice administering the evaluations.

Upon successfully completing this session, the participant will be able to:


- State the goals and objectives of the training
- Overview the training schedule and activities
- Describe the Participant Manual contents
- Demonstrate their pre-training knowledge of training topics

B. Housekeeping

Session 1 – Introduction and Overview

Housekeeping

- Paperwork
- Mandatory attendance
- Breaks
- Facility
- Interruptions
- ✓ **Electronic devices off**



DWI DETECTION & SFST 1-3


Slide 3.

C. Participant Introductions

Session 1 – Introduction and Overview

Participant Introductions

- Name
- Agency affiliation
- Experience



DWI DETECTION & SFST 1-4

Slide 4.

Session 1 – Introduction and Overview



DWI DETECTION & SFST 1-5


Slide 5.

D. Training Goals

Session 1 – Introduction and Overview

Training Goal

Increase deterrence of DWI violations; thereby reducing the number of crashes, deaths, and injuries caused by impaired drivers.



DWI DETECTION & SFST 1-6


Slide 6.

The goal of this training is to ultimately increase deterrence of DWI violations; thereby reducing the number of crashes, deaths, and injuries caused by impaired drivers.

Session 1 – Introduction and Overview

Enforcement Goals

- General DWI deterrence
- DWI detection phases, clues, and techniques
- DWI case requirements



DWI DETECTION & SFST 1-7

Slide 7.

Enforcement goals are to identify:

- Enforcement's role in general DWI deterrence
- DWI detection phases, clues, and techniques
- Requirements for organizing and presenting testimonial and documentary evidence in DWI cases

E. Statistics and Data

Session 1 – Introduction and Overview

Alcohol-impaired drivers kill one person every 45 minutes

Alcohol-impaired crashes kill 1 person every **45** minutes

An average of **32** people die every day from alcohol-impaired crashes

DWI DETECTION & SFST 1-8

Slide 8.

In 2020 there were 11,654 fatalities in motor vehicle traffic crashes in which at least one driver was alcohol-impaired. This represented 30 percent of all traffic fatalities in the United States for the year. Spread across the year, this amounted to 32 people dying each day in alcohol-impaired crashes, or one person every 45 minutes.

Source:

National Center for Statistics and Analysis. (2022, April). Alcohol-impaired driving: 2020 data (Traffic Safety Facts. Report No. DOT HS 813 294).

Session 1 – Introduction and Overview

State and Local Data

- Approximately _____ people now live in _____
- About _____ of these people will die in vehicle crashes
- About _____ will die in DWI crashes

DWI DETECTION & SFST 1-9

Slide 9.


Approximately _____ people now live in _____. About _____ of these people will die in vehicle crashes. About _____ will die in DWI crashes.

F. Training Objectives

Session 1 – Introduction and Overview

Job Performance Objectives

- Recognize evidence
- Administer SFSTs
- Describe evidence
- Video/audio evidence



DWI DETECTION & SFST 1-10


Slide 10.

At the conclusion of this training, participants will demonstrate the ability to:

- Recognize and interpret evidence of DWI violations
- Administer and interpret SFSTs
- Describe DWI evidence clearly and convincingly in written reports and verbal testimony
- Ensure video and/or audio evidence, if available, is consistent with other evidence

Session 1 – Introduction and Overview

Job Performance Enabling Objectives



Refer to your participant manual

DWI DETECTION & SFST 1-11

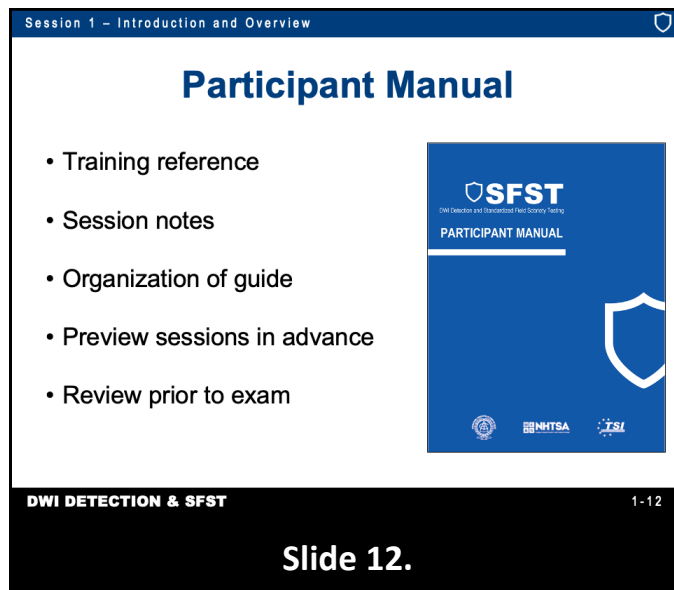
Slide 11.

Job Performance Enabling Objectives

- Understand the tasks and decisions of DWI detection
- Recognize the magnitude and scope of DWI-related crashes, deaths, injuries, property loss, and other social aspects of the DWI problem
- Understand the deterrent effects of DWI enforcement
- Understand the DWI enforcement legal environment
- Know and recognize typical vehicle maneuvers and human indicators symptomatic of DWI that are associated with initial observation of vehicles in operation
- Know and recognize typical reinforcing maneuvers and indicators that come to light during the stopping sequence
- Know and recognize typical sensory and other clues of alcohol and/or other drug impairment that may be seen during face to face contact with DWI subjects
- Know and recognize typical behavioral clues of alcohol and/or other drug impairment that may be seen during the subject's exit from the vehicle.
- Understand the role and relevance of psychophysical testing in pre-arrest screening of DWI subjects
- Understand the role and relevance of preliminary breath testing in pre-arrest screening of DWI subjects
- Know and carry out appropriate administrative procedures for the Horizontal Gaze Nystagmus (HGN) test
- Know and carry out appropriate administrative procedures for validated divided attention psychophysical tests
- Know and recognize typical clues of alcohol and/or other drug impairment that may be seen during administration of the SFSTs

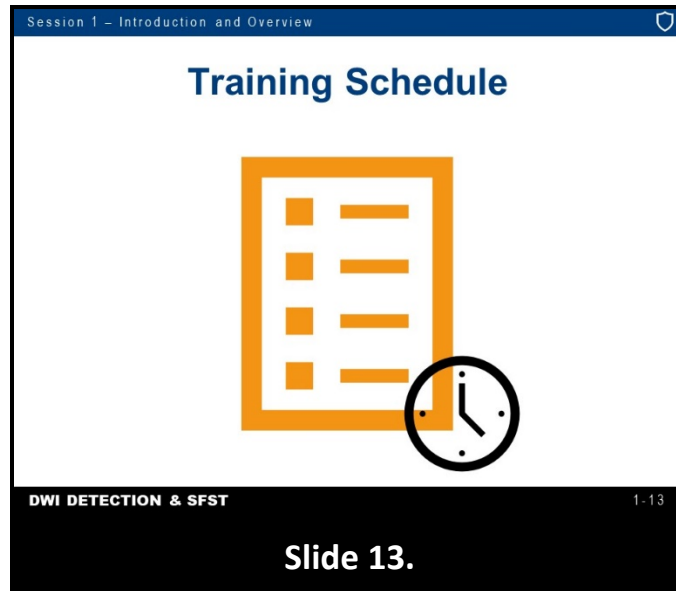
- Understand the factors that may affect the accuracy of preliminary breath testing (PBT) devices
 - Understand the elements of DWI prosecution and their relevance to DWI arrest reporting
 - Choose appropriate descriptive terms to convey relevant observations of DWI evidence
 - Write clear, descriptive narrative DWI arrest reports
-

G. Overview of Participant Manual



The Participant Manual is a reference document for this training. The guide contains slide images for each session. Additional information is included below each slide. To get the most out of the training, read each session prior to class and use the guide to review the material prior to taking the final exam.

H. Training Schedule

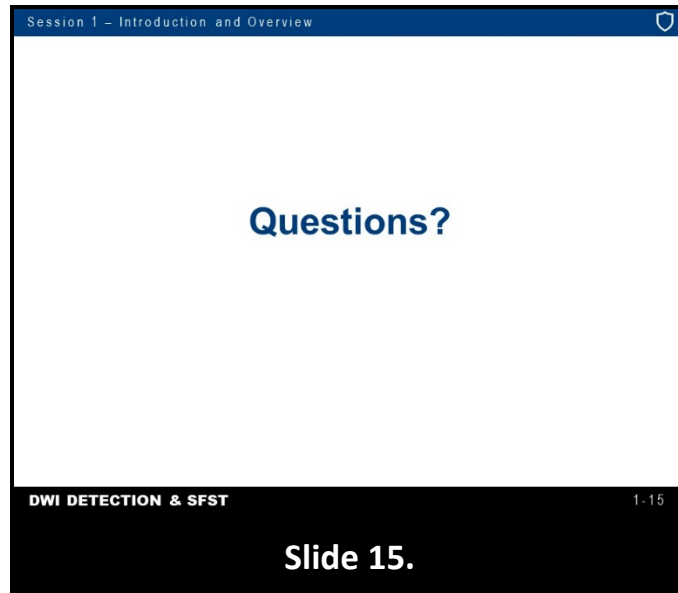


I. Glossary of Terms



The Glossary of Terms used in the training is at the end of this session.

J. Course Pre-Test Administration



DWI DETECTION AND STANDARDIZED FIELD SOBRIETY TESTING (SFST)

GLOSSARY OF TERMS

ADDICTION: Habitual, psychological, and physiological dependence on a substance beyond one's voluntary control.

ALVEOLAR BREATH: Breath from the deepest part of the lung.

BLOOD ALCOHOL CONCENTRATION (BAC): The percentage of alcohol in a person's blood.

BREATH ALCOHOL CONCENTRATION (BrAC): The percentage of alcohol in a person's breath, as measured by a breath testing device.

CLUE: Something that leads to the solution of a problem.

CUE: A reminder or prompting as a signal to do something. A suggestion or a hint.

DIVIDED ATTENTION: Concentrating on more than one thing at a time.

DIVIDED ATTENTION TEST: A test which requires the subject to concentrate on both mental and physical tasks at the same time. The two psychophysical tests Walk and Turn (WAT) and One Leg Stand (OLS) require the subject to divide their attention.

DRUG RECOGNITION EXPERT (DRE): An individual who successfully completed all phases of the DRE training requirements for certification established by the IACP and NHTSA. The word "evaluator," "technician," or similar words may be used as a substitute for "expert," depending upon locale or jurisdiction.

DWI/DUI: The acronym "DWI" means driving while impaired and is synonymous with the acronym "DUI", driving under the influence or other acronyms used to denote impaired driving. These terms refer to any and all offenses involving the operation of vehicles by persons under the influence of alcohol and/or other drugs.

DWI DETECTION PROCESS: The entire process of identifying and gathering evidence to determine whether or not a suspect should be arrested for a DWI violation. The DWI detection process has three phases:

- Phase One – Vehicle in Motion
- Phase Two – Personal Contact
- Phase Three – Pre-Arrest Screening

EVIDENCE: Any means by which some alleged fact that has been submitted to investigation may either be established or disproved. Evidence of a DWI violation may be of various types:

- a. Physical (or real) evidence: something tangible, visible, or audible
- b. Well established facts (judicial notice)
- c. Demonstrative evidence: demonstrations performed in the courtroom
- d. Written matter or documentation
- e. Testimony

EXPERT WITNESS: A person skilled in some art, trade, science or profession, having knowledge of matters not within the knowledge of persons of average education, learning and experience, who may assist a jury in arriving at a verdict by expressing an opinion on a state of facts shown by the evidence and based upon his or her special knowledge. (NOTE: Only the court can determine whether a witness is qualified to testify as an expert.)

FIELD SOBRIETY TEST: Any one of several roadside tests that can be used to determine whether a subject is impaired.

GAIT ATAXIA: An unsteady, staggering gait (walk) in which walking is uncoordinated and appears to be “not ordered.”

GENERAL INDICATOR: Behavior or observations of the subject that are observed and not specifically tested for. (Observational and Behavioral Indicators)

HORIZONTAL GAZE NYSTAGMUS (HGN): Involuntary jerking of the eyes occurring as the eyes gaze to the side. The first test administered in the SFSTs.

IMPAIRMENT: One of the several items used to describe the degradation of mental and/or physical abilities necessary for safely operating a vehicle.

IMPLIED CONSENT LAW: Suspected DWI drivers are deemed to have given their consent to submit to chemical testing. If the driver fails to provide a chemical test, they can be subject to license sanctions.

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: An Administration within the United States Department of Transportation that exercises primary responsibility for coordinating federal efforts to ensure the safe design and operation of motor vehicles.

NYSTAGMUS: An involuntary jerking of the eyes.

ONE LEG STAND (OLS): A divided attention field sobriety test. One of the tests administered in the SFSTs.

PER SE: Used to describe a law which makes it illegal to drive while having a certain percentage of alcohol in the blood or breath.

PERSONAL CONTACT: The second phase in the DWI detection process. In this phase the officer observes and interviews the driver face to face; determines whether to ask the driver to step from the vehicle; and observes the driver's exit and walk from the vehicle.

PRE-ARREST SCREENING: The third phase in the DWI detection process. In this phase the officer administers field sobriety tests to determine whether there is probable cause to arrest the driver for DWI. Depending on agency policy, the officer may administer or could arrange to have a preliminary breath test conducted.

PRELIMINARY BREATH TEST (PBT): A pre-arrest breath test administered during investigation of a possible DWI violator to obtain an indication of the person's blood alcohol concentration.

PROBABLE CAUSE: It is more than mere suspicion; facts and circumstances within the officer's knowledge, and of which he or she has reasonably trustworthy information, are sufficient to warrant a person of reasonable caution to believe that an offense has been or is being committed.

PSYCHOPHYSICAL: "Mind/Body." Used to describe field sobriety tests that measure a person's ability to perform both mental and physical tasks.

PSYCHOPHYSICAL TESTS: Methods of investigating the mental (psycho-) and physical characteristics of a person suspected of alcohol or drug impairment. Most psychophysical tests employ the concept of divided attention to assess a suspect's impairment.

REASONABLE SUSPICION: Less than probable cause but more than mere suspicion; exists when an officer, in light of his or her training and experience, reasonably believes and can articulate that criminal activity is taking, has taken or is about to take place.

RESTING NYSTAGMUS: Jerking of the eyes as they look straight ahead.

STANDARDIZED FIELD SOBRIETY TESTS: There are three NHTSA/IACP-approved SFSTs, namely Horizontal Gaze Nystagmus (HGN), Walk and Turn (WAT), and One Leg Stand (OLS). Based on a series of controlled laboratory and field studies, scientifically validated clues of impairment have been identified for each of these three tests. They are the only NHTSA/IACP-approved Standardized Field Sobriety Tests for which validated clues have been identified for DWI investigations.

TRAFFIC SAFETY RESOURCE PROSECUTOR (TSRP): Usually a current or former prosecutor who provides training, education and technical support to traffic crimes prosecutors and law enforcement agencies throughout their State. (For the contact information of your TSRP, contact your Highway Safety Office).

VALID: Conforming to accepted principles. Producing accurate and reliable results; effective.

VALIDATED: A documented act of demonstrating that a procedure, process, and/or activity will consistently lead to accurate and reliable results.

VEHICLE IN MOTION: The first phase in the DWI detection process. In this phase the officer observes the vehicle in operation, determines whether to stop the vehicle, and observes the stopping sequence.

VERTICAL GAZE NYSTAGMUS: An involuntary jerking of the eyes (up and down) which occurs when the eyes gaze upward at maximum elevation. The jerking should be distinct and sustained.

WALK AND TURN (WAT): A divided attention field sobriety test. One of the tests administered in SFSTs.

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SFST

Detection and General Deterrence

LEARNING OBJECTIVES

- Describe the frequency of DWI violations and crashes
- Define general deterrence
- Describe the relationship between detection and general deterrence
- Describe a brief overview of alcohol
- Identify common types of alcohol
- Describe the physiological processes of absorption, distribution, and elimination of alcohol in the body

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LEARNING ACTIVITIES

- Instructor-Led Presentation
- Reading Assignments



Learning Objectives

- Describe frequency of DWI violations and crashes
- Define general deterrence
- Describe relationship between detection and general deterrence
- Describe a brief overview of alcohol
- Identify common types of alcohol
- Describe physiological processes of absorption, distribution, and elimination of alcohol in the body




A. The DWI Problem (Local, State, and National)

Session 2 – Detection and General Deterrence

The DWI Problem

- Prior to 1994, nearly **50%** of total traffic crashes were alcohol-related
- **10,598** alcohol-related fatalities represented **30%** of all traffic fatalities (2020)



DWI DETECTION & SFST 2-3

Slide 3.

How widespread is DWI? While not all of those who drive after drinking have a Blood Alcohol Concentration (BAC) of 0.08 or higher (the presumptive or illegal per se limit for DWI in all States) some drivers do have BACs in excess of these limits. Prior to 1994, nearly half of the drivers who died in crashes had been drinking. Each year, tens of thousands of people die in traffic crashes. Throughout the nation, alcohol is the major contributor to traffic fatalities. In 2020, there were 10,598 alcohol-related fatalities representing 30% of all traffic fatalities.

Source:

National Center for Statistics and Analysis. (2022, October). *Traffic Safety Facts 2020: A Compilation of Motor Vehicle Crash Data*. (Report No. DOT HS 813 375). National Highway Traffic Safety Administration.



The Local DWI Problem



DWI DETECTION & SFST

2-4

Slide 4.

Impaired drivers are more likely than other drivers to take excessive risks such as speeding or turning abruptly. Impaired drivers also are more likely than other drivers to have slowed reaction times. They may not be able to react quickly enough to slow down before crashing and are less likely to wear seatbelts. On the average, two percent of drivers on the road at any given time are DWI. DWI violations and crashes are not simply the work of a relatively few "problem drinkers" or "problem drug users." Many people commit DWI, at least occasionally.

Session 2 – Detection and General Deterrence

Binge and Heavy Drinking

- An estimated 61.6 million people self-reported binge drinking in the past 12 months
- 17.7 million people classify themselves as heavy drinkers



DWI DETECTION & SFST 2-5

Slide 5.

Estimates indicate Nationwide about 61.6 million people the age of 12 and over, self-reported binge drinking in the past 12 months. Additionally, 17.7 million classify themselves as heavy drinkers.

Sources:

Centers for Disease Control and Prevention. (2015). Alcohol-Impaired Driving Among Adults — United States, 2012. *Morbidity and Mortality Weekly Report*. August 7, 2015 / 64(30);814-817. Retrieved from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6430a2.htm>

Substance Abuse and Mental Health Services Administration. (2021). *Key Substance Use and Mental Health Indicators in the United States: Results from the 2020 National Survey on Drug Use and Health*. (HHS Publication No. PEP21-07-01-003, NSDUH Series H-56). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/>

It is estimated each day in the United States people drive while intoxicated 300,000 times but fewer than 3,000 are arrested.

Source:

U.S. Department of Justice—Federal Bureau of Investigation. (2020). Crime in the United States, 2019. Retrieved April 5, 2022, from FBI: UCR: <https://ucr.fbi.gov/crime-in-the-u.s/2019/crime-in-the-u.s.-2019/topic-pages/persons-arrested#:~:text=The%20highest%20number%20of%20arrests,3%2C011.0%20arrests%20per%20100%2C000%20inhabitants>



The DWI Problem

What number of drivers commit this violation?



Weekend Nights – 10% or More

Slide 6.

A frequently quoted, and often misinterpreted, statistic places the average incidence of DWI at 1 driver in 50. Averaged across all hours of the day and all days of the week, two percent of the drivers on the road are DWI. The 1 in 50 figure is offered as evidence that a relatively small segment of America's drivers, the so called "problem" group, account for the majority of traffic deaths. There's nothing wrong with that figure as a statistical average, but police officers know at certain times and places many more than two percent of drivers are impaired. The National Highway Traffic Safety Administration (NHTSA) research suggests during the late night, weekend hours as many as 10% of drivers on the roads may be DWI. On certain holiday weekends, and other critical times, the figure may go even higher.

How Many? How Often? The issue of how many DWIs are on the road at any given time is an important factor in measuring the magnitude of the problem. However, from an overall traffic safety perspective, the more important issue may be the number of drivers who ever commit DWI. Just how widespread is this violation?



Average DWI Violator

- Drives intoxicated 80 times before arrest
- Once every four or five nights
- Some every day

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13 	14 	15 	16 	17 
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Slide 7.

Although it may be true, on the average, two percent of drivers are DWI at any given time, it certainly is not the same two percent every time. Not everyone who commits DWI is out on the road impaired every Friday and Saturday night. Some of them, at least, must skip an occasional weekend. Thus, the 10% who show up, weekend after weekend, in the Friday and Saturday statistics must come from a larger pool of violators, each of whom "contributes" to the statistics on some nights, but not necessarily on all nights.

There are some who drive impaired virtually every day; others commit the violation less often. It is likely at least one quarter of all American motorists drive while impaired at least once in their lives. That figure falls approximately midway between the 55% of drivers who at least occasionally drive after drinking and the 10% of weekend, nighttime drivers who have BACs above the legal limit.

Sources:

Borkenstein, R. F. (1964, March). *The Role of the Drinking Driver in Traffic Accidents*.
Bloomington, IN: Indiana University, Department of Police Administration.

(1980). *Alcohol Highway Safety Workshop: Participant's Workbook Problem Status*. National Highway Traffic Safety Administration.

(1974, August). *DWI Law Enforcement Training: Instructor Guide*. (P. 139). National Highway Traffic Safety Administration.



The DWI Problem

- Far more than 2% of drivers contribute
- Crime committed by a substantial segment of Americans
- Can be fought through a societal approach



DWI DETECTION & SFST

2-8

Slide 8.

These estimates include everyone who drives impaired every day, as well as everyone who commits the violation just once and never offends again; and it includes everyone in between. In short, it includes everyone who ever runs the risk of being involved in a crash while impaired.

Society's Problem and the Solution: The fact is far more than two percent of American drivers actively contribute to the DWI problem. DWI is a crime committed by a substantial segment of Americans. It has been and remains a popular crime; one many people from all walks and areas of life commit. DWI is a crime that can be fought successfully only through a societal approach of comprehensive community-based programs.

Source:

National Center for Statistics and Analysis. (2021). Alcohol-impaired driving: 2019 data. (Traffic Safety Facts. Report No. DOT HS 813 120). National Highway Traffic Safety Administration.

Session 2 – Detection and General Deterrence

Alcohol-Related Crash Fatalities

- 26% on weekends were alcohol-impaired
- 3 times higher at night
- 1.02 million DWI arrests in 2019
- Average one fatality every 52 minutes
- Cost society approximately \$44 billion

DWI DETECTION & SFST 2.9

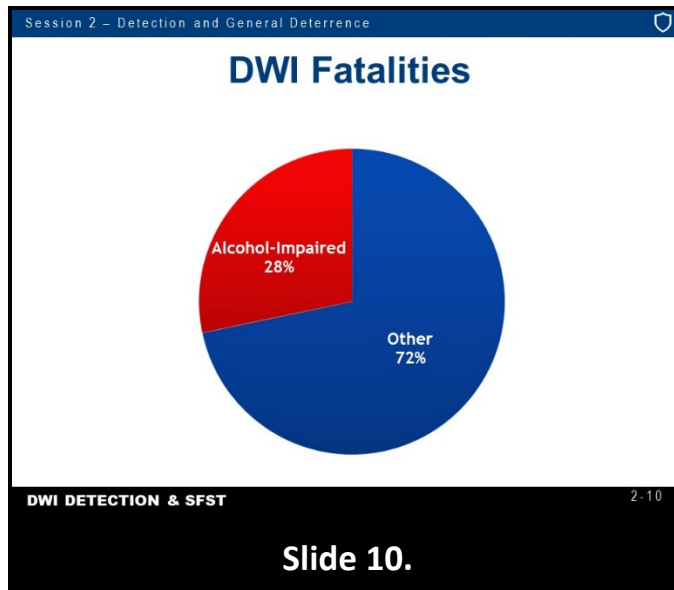
Slide 9.

Twenty-six percent of all fatal crashes on weekends were alcohol impaired. Alcohol-impaired drivers involved in fatal crashes were 3 times higher at night. 1.02 million drivers were arrested for DWI in 2019. These alcohol-related fatalities represent an average of one alcohol-related fatality every 52 minutes. Based on the most current cost data available, these alcohol-related fatalities cost society approximately \$44 billion in lost productivity, medical expenses, property damages, and other related expenditures.

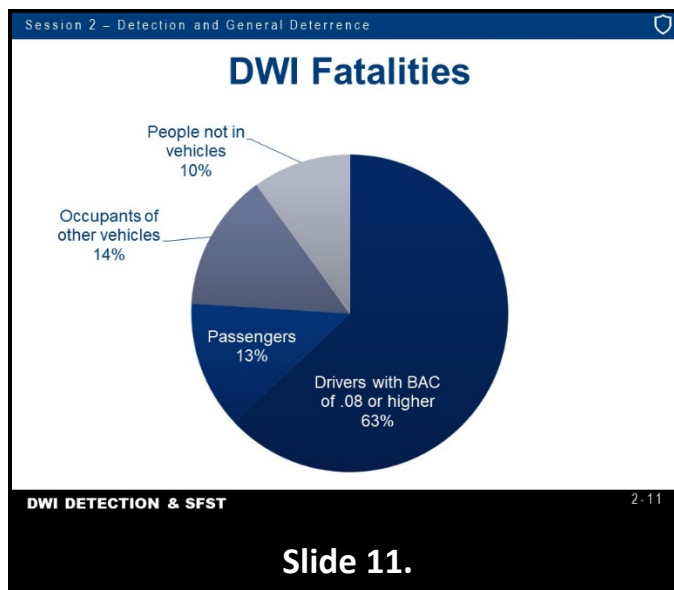
Sources:

National Center for Statistics and Analysis. (2021). Alcohol-impaired driving: 2019 data. (Traffic Safety Facts. Report No. DOT HS 813 120). National Highway Traffic Safety Administration.

U.S. Department of Justice—Federal Bureau of Investigation. (2020). *Crime in the United States, 2019*. Retrieved April 5, 2022, from FBI: UCR: <https://ucr.fbi.gov/crime-in-the-u.s/2019/crime-in-the-u.s.-2019/topic-pages/persons-arrested#:~:text=The%20highest%20number%20of%20arrests,3%2C011.0%20arrests%20per%20100%2C000%20inhabitants>



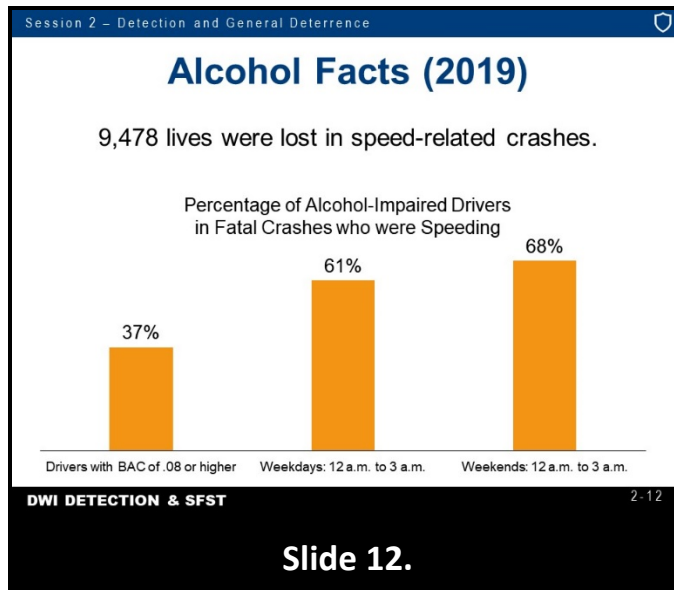
In 2019, 10,142 lives were lost in alcohol-impaired crashes representing 28% of the total motor vehicle fatalities in the U.S.



Of the 10,142 people who died in alcohol-impaired-driving crashes in 2019, drivers with a BAC of .08 or higher accounted for 63% of the fatalities. Thirteen percent were passengers riding with a driver with a BAC of .08 or higher. Fourteen percent of these fatalities were occupants of other vehicles. Ten percent were persons not in vehicles.

Source:

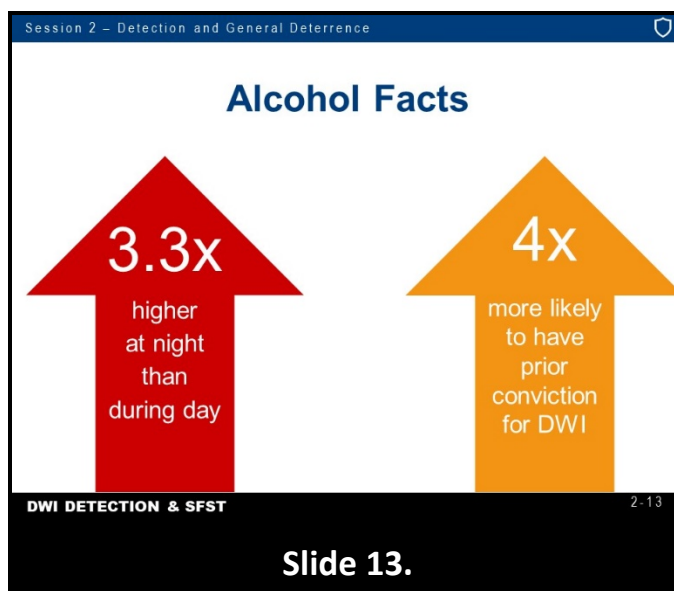
National Center for Statistics and Analysis. (2021). Alcohol-impaired driving: 2019 data. (Traffic Safety Facts. Report No. DOT HS 813 120). National Highway Traffic Safety Administration.



In 2019, 9,478 lives were lost in speed-related crashes. Thirty-seven percent of all drivers with a BAC of .08 or higher involved in fatal crashes were speeding. Between midnight and 3:00 a.m., 61% of speeding drivers involved in fatal crashes on weekdays had a BAC of .08 or higher. On weekends, it was even higher – 68% of speeding drivers involved in fatal crashes had a BAC of .08 or higher.

Source:

National Center for Statistics and Analysis. (2021). Alcohol-impaired driving: 2019 data. (Traffic Safety Facts. Report No. DOT HS 813 120). National Highway Traffic Safety Administration.



The rate of alcohol impairment for drivers involved in fatal crashes was 3.3 times higher at night than during the day. Drivers with a BAC of .15 or higher who were involved in fatal crashes were

four times more likely to have a prior conviction for driving while impaired as compared to drivers involved in fatal crashes with no alcohol involvement.

Source:

National Center for Statistics and Analysis. (2021). Alcohol-impaired driving: 2019 data. (Traffic Safety Facts. Report No. DOT HS 813 120). National Highway Traffic Safety Administration.



In 2020, 11,654 alcohol-impaired drivers (67%) involved in fatal crashes had a BAC of .15 or higher. Males account for 80% of all alcohol-impaired traffic fatalities. This means the fatal alcohol-impaired crash involvement rate was four times higher for male drivers than for females.

Source:


National Center for Statistics and Analysis. (2020). *Alcohol-Impaired Driving: 2020 Data*. (Traffic Safety Facts. Report No. DOT HS 813 294). Washington, D.C.: National Highway Traffic Safety Administration.

B. Concept of General Deterrence

Session 2 – Detection and General Deterrence

General Deterrence

The fear of arrest



DWI DETECTION & SFST 2-15

Slide 15.

The fear of arrest is the leading deterrent. One approach to reducing the number of drinking drivers is general deterrence of DWI. General deterrence of DWI is based in the driving public's fear of being arrested. If enough violators come to believe there is a good chance they will get caught, at least some of them will stop committing DWI at least some of the time. However, unless there is a real risk of arrest, there will not be much fear of arrest.

Law enforcement officers must arrest enough violators enough of the time to convince the general public they will get caught, sooner or later, if they continue to drive while impaired.

How many DWI violators must be arrested in order to convince the public there is a real risk of arrest for DWI?

Several programs have demonstrated significant deterrence can be achieved by arresting 1 DWI violator for every 100 DWI violations committed. Currently, however, for every DWI violator arrested, there are between 500 and 2,000 DWI violations committed.



General Deterrence

There is no reason to fear arrest



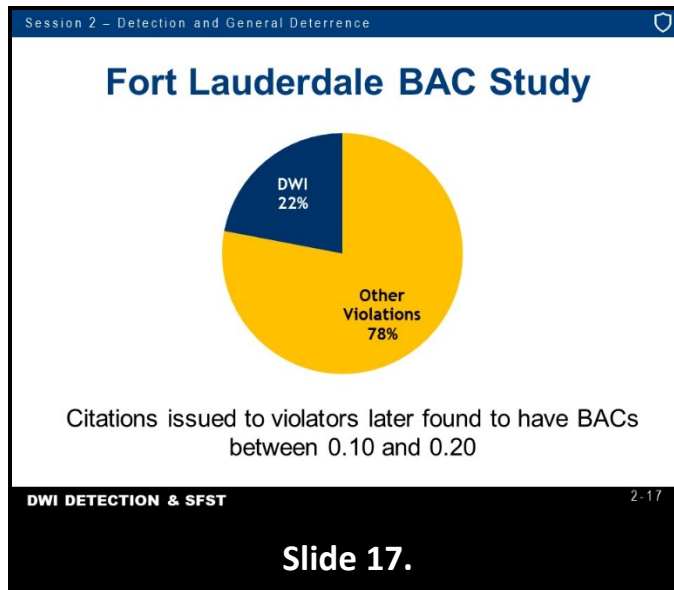
DWI DETECTION & SFST

2-16

Slide 16.

When the chances of being arrested are 1 in 100, the average DWI violator really has little to fear.

There are three noteworthy reasons: (1) DWI violators vastly outnumber police officers - It is not possible to arrest every drinking driver each time they commit DWI; (2) Some officers are not highly skilled at DWI detection - They fail to recognize and arrest many DWI violators; and, (3) Some officers are not motivated to detect and arrest DWI violators.



Significant Findings: In a 1975 study conducted in Fort Lauderdale, Florida, only 22% of traffic violators who were stopped with BACs between 0.10 and 0.20 were arrested for DWI. The remainder were cited for other violations, even though they were legally impaired. In this study, breath tests were administered to the violators by researchers after the police officers had completed their investigations. The officers failed to detect 78% of the DWI violators they investigated.


Source:

(1976, December). *Selective Traffic Enforcement Program – STEP-BAC (Blood Alcohol Content) in Fort Lauderdale, Florida*. (Report No. DOT HS 801 956), Fort Lauderdale, FL.

Session 2 – Detection and General Deterrence

Fort Lauderdale BAC Study

For every DWI violator arrested...



Three others were contacted and released

DWI DETECTION & SFST 2-18

Slide 18.

Implication: For every DWI violator actually arrested, three others are contacted by police officers, face to face, but are released without arrest. Significant improvement in arrest rate could be achieved if officers were more skilled at DWI detection.

Source:

Hause, J., Matheson, D., Hannon, R., & Chavez, E. (1977, January). *Increased D.U.I. Enforcement Program: Stockton, California Project Evaluation*. (Contract No. DOT-HS-5-01194). U.S. Department of Transportation/National Highway Traffic Safety Administration.

Session 2 – Detection and General Deterrence

The Ultimate Goal: Changing Behavior

- Avoid committing DWI
- Control drinking prior to driving
- Select alternative transportation
- Avoid riding with impaired drivers
- Recognize impaired driving is unacceptable

DWI DETECTION & SFST 2-19

Slide 19.

What must the comprehensive community based DWI programs seek to accomplish? Ultimately, nothing less than fundamental behavioral change on a widespread basis. This goal is achieved by encouraging more Americans to avoid committing DWI either by avoiding or controlling drinking prior to driving or by selecting alternative transportation. Ride sharing services (for example, Uber and Lyft) are becoming increasingly popular as an alternative transportation. The goal is also achieved by intervene actively to prevent others from committing DWI (for example, putting into practice the theme "friends don't let friends drive drunk") and avoiding riding with drivers who are impaired.

The final test of the value of DWI countermeasures on the National, State, and local levels is whether they succeed in getting significantly more people to modify their behavior. The programs also pursue other more immediate objectives that support or reinforce the ultimate goal. However, the ultimate goal is to change driving while impaired to an unacceptable form of behavior at all levels.

Session 2 – Detection and General Deterrence

Two Approaches

Prevention

Deterrence

DWI DETECTION & SFST 2-20

Slide 20.

How can we bring about these changes in behavior? How can we discourage impaired driving, prevent others from drinking and driving, and avoid becoming passive "statistics" by refusing to ride with drinking drivers? Basically, there are two general approaches that must be taken to achieve this goal. One: prevention -- gives promise of the ultimate, lasting solution to the DWI problem; but it will require a substantial amount of time to mature fully. Two: deterrence -- only offers a partial or limited solution, but it is available right now.

Session 2 – Detection and General Deterrence

Prevention

- Promote positive attitudes
- DWI is wrong
- No one has the right to endanger others
- DWI cannot be tolerated or condoned

DWI DETECTION & SFST 2-21

Slide 21.

Prevention is the ultimate solution. DWI countermeasures that strive for the ultimate achievement of drinking and driving behavioral changes have been grouped under the label "prevention." There are many kinds of DWI preventive activities. Some are carried out by and in our schools, some through the mass media, some through concerned civic groups, and so forth. The various preventive efforts focus on different specific behaviors and address different target groups. However, they seek to change drinking and driving behavior by promoting more


positive attitudes and by fostering a set of values that reflects individual responsibilities toward drinking and driving.

Preventive countermeasures seek society's acceptance of the fact that DWI is wrong. Some people believe drinking and driving is strictly an individual's personal business; it is up to each person to decide whether or not to accept the risk of driving after drinking. Preventive activities try to dispel that outmoded and irresponsible belief. Instead, they promote the idea no one has the right to endanger others by drinking and driving, or to risk becoming a burden (economically and otherwise) to others as a result of injuries suffered while drinking and driving. Realistically, everyone has an obligation not only to control their own drinking and driving, but also to speak up when others are about to commit the violation. Only when all of society views DWI as a negative behavior that cannot be tolerated or condoned, will the public's behavior begin to change. That is the long-term solution.

Session 2 - Detection and General Deterrence

Deterrence

- Driving public's fear of being arrested
- Enough violators must be arrested to convince public they will get caught



DWI DETECTION & SFST 2-22

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General deterrence of DWI is based on the driving public's fear of being arrested. If enough violators come to believe there is a good chance they will get caught, some of them (at least) will stop committing DWI at least some of the time.


Unless there is a real risk of being arrested, there will not be much fear of arrest. Law enforcement must arrest enough violators to convince the public they will get caught if they continue to drive while impaired.

C. Relating Detection to Deterrence Potential

Session 2 – Detection and General Deterrence

Deterrence

- Deterrence is negative reinforcement
- Strives to change DWI behavior



DWI DETECTION & SFST 2-23

Slide 23.

DWI countermeasures that seek a shortcut to the ultimate goal of behavioral change usually are labeled “deterrence.” Deterrence can be described as negative reinforcement. Some deterrence countermeasures focus primarily on changing individual drinking and driving behavior while others seek to influence people to intervene into others' drinking and driving decisions.

The key feature of deterrence is it strives to change DWI behavior without dealing directly with the prevailing attitudes about the rightness or wrongness of DWI. Deterrence uses a mechanism quite distinct from attitudinal change: fear of apprehension and application of sanctions.



The Fear of Being Caught and Punished

Long term costs and inconvenience



DWI DETECTION & SFST

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Slide 24.

Large scale DWI deterrence programs try to control the DWI behavior of the driving public by appealing to the public's presumed fear of being caught. Most actual or potential DWI violators view the prospect of being arrested with extreme distaste. For some, the arrest, with its attendant handcuffing, booking, publicity, and other stigmatizing and traumatizing features, is the thing most to be feared.

For others, it is the prospective punishment (jail, stiff fine, etc.) that causes most of the concern. Still others fear most the long-term costs and inconvenience of a DWI arrest: the license suspension and increased premiums for automobile insurance. For many violators, the fear probably is a combination of all of these. Regardless, if enough violators are sufficiently fearful of a DWI arrest, some of them will avoid committing the violation at least some of the time. Fear by itself will not change their attitudes; if they do not see anything inherently wrong with drinking and driving in the first place, the prospect of arrest and punishment will not help them come to this realization. However, fear sometimes can be enough to keep them from putting their anti-social attitudes into practice. This type of DWI deterrence, based on the fear of being caught, is commonly called general deterrence. It applies to the driving public generally and presumably affects the behavior of those who have never been caught. There is an element of fear of the unknown at work here.



Specific Deterrence



- Caught and arrested
- Public must perceive appreciable risk of being caught and convicted
- Enforcement creates and sustains fear of being caught

DWI DETECTION & SFST

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Slide 25.

Another type of DWI deterrence, called specific deterrence, applies to those who have been caught and arrested. The typical specific deterrent involves some type of punishment, perhaps a fine, involuntary community service, a jail term, or action against the driver's license. The punishment is imposed in the hope it will convince the specific violator there is indeed something to fear as a result of being caught and to emphasize if there is a next time, the punishment will be even more severe. It is the fear of the known that comes into play in this case. The concept of DWI deterrence through fear of apprehension or punishment seems sound. But will it work in actual practice? The crux of the problem is this: If the motoring public is to fear arrest and punishment for DWI, they must perceive there is an appreciable risk of being caught and convicted if they commit the crime. If actual and potential DWI violators come to believe the chance of being arrested is minimal, they will quickly lose whatever fear of arrest they may have felt.

Enforcement is the mechanism for creating and sustaining a fear of being caught for DWI. No specific deterrence program can amount to much unless police officers arrest large numbers of violators; no punishment or rehabilitation program can affect behavior on a large scale unless it is applied to many people. General deterrence depends on enforcement -- the fear of being caught is a direct function of the number of people who are caught.

Session 2 – Detection and General Deterrence

Specific Deterrence

Supportive roles:
Legislators, Prosecutors, Judiciary, Media



DWI DETECTION & SFST 2-26


Slide 26.

Obviously, the police alone cannot do the job. Legislators must supply laws the police can enforce. Prosecutors must vigorously prosecute DWI violators and the judiciary must adjudicate fairly and deliver the punishments prescribed by law. The media must publicize the enforcement effort and communicate the fact the risk is not worth the probable outcome. Each of these elements plays a supportive role in DWI deterrence.

Session 2 – Detection and General Deterrence

How Much Deterrence is Enough?

For every DWI violator arrested, there are approximately 100 undetected DWI violations.



DWI DETECTION & SFST 2-27

Slide 27.

Estimates from around the country vary. For every DWI violator arrested, there are approximately 100 undetected DWI violations. According to the CDC (2014), there were 111 million incidents of DWI per year. According to the FBI UCR, 1.08 million DWI arrests were made in 2015, which means law enforcement arrested approximately one out of every 100 DWI episodes.



How Great is the Risk?

- Does the average DWI violator fear arrest?
- Should they be afraid?
- Intense publicity may enhance the perceived risk



Slide 28.

The question now is, are violators afraid of being caught? More importantly, should they be afraid? Is there really an appreciable risk of being arrested if one commits DWI? The answer to all of these questions unfortunately is probably not. In most jurisdictions, the number of DWI arrests appears to fall short of what would be required to sustain a public perception there is a significant risk of being caught. Sometimes, it is possible to enhance the perceived risk, at least for a while, through intensive publicity. However, media "hype" without intensified enforcement has never been enough to maintain the fear of arrest for very long.



Changing the Odds

- Arrest enough violators to convince many of them it can happen to them
- As arrest rate increases, odds are it will happen to them eventually



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Slide 29.

If an arrest/violation ratio of 1 in 100 is not enough to make deterrence work, is it then reasonable to think we can ever make deterrence work? After all, if we doubled DWI arrests to 1 in 50, we would still be missing 49 violators for every one we managed to catch. If we increased arrests tenfold, to 1 in 10, 9 would escape for everyone arrested. How much deterrence would that produce? Surprisingly, it would probably produce quite a bit. We don't have to arrest every DWI offender every time in order to convince them they have something to fear. We only have to arrest enough of them, enough of the time. As the arrest rate increases, the odds are it will happen to them eventually. The law of averages (or cumulative probability) will catch up with them and sooner than we might at first expect.

D. Evidence of Effective Detection and Effective Deterrence

Session 2 – Detection and General Deterrence

Can it be Done? Will it Work?



Realistic increase in DWI enforcement activity will induce a significant degree of general deterrence and a corresponding change in DWI behavior.

DWI DETECTION & SFST 2-30

Slide 30.

Is there any evidence a practical and realistic increase in DWI enforcement activity will induce a significant degree of general deterrence and a corresponding change in DWI behavior? Yes, there is.

Session 2 – Detection and General Deterrence

Stockton, California

- Before:
 - Arrest/violation ratio – 1 in 2000 or less
 - Weekend drivers BAC of 0.10 or higher – 9%
- During: Intensive DWI enforcement weekend nights
- Officers intensively trained, enforcement publicized, justice community coordinated

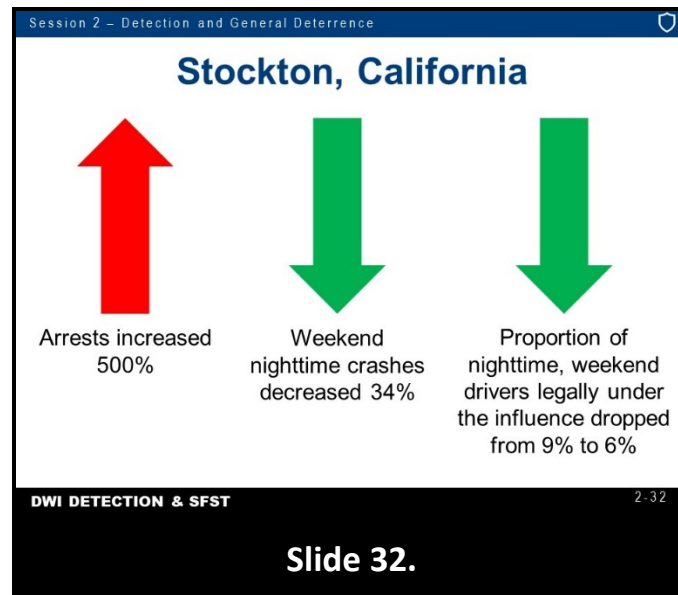
DWI DETECTION & SFST 2-31

Slide 31.

Several enforcement programs have succeeded in achieving significant DWI deterrence. Consider, for example, the three-year intensive weekend DWI enforcement program in Stockton, California. As early as 1975, a study showed the city's total number of DWI arrests (700) were considerably less than one percent of the areas licensed number of drivers (130,000). The implication here was Stockton police were only maintaining the arrest/violation ration of 1:2,000, or less. In addition, roadside surveys on Friday and Saturday nights disclosed nine percent of the drivers were operating with BAC's of 0.10 or higher. Then things changed.

Beginning in 1976, and continuing at planned intervals through the first half of 1979, Stockton police conducted intensive DWI enforcement on weekend nights.

The officers involved were extensively trained. The enforcement effort was heavily publicized and additional equipment (PBTs and cassette recorders) was made available. The police effort was closely coordinated with the District Attorney's office, the County Probation office, and other allied criminal justice and safety organizations.



All this paid off. By the time the project came to a close (in 1979), DWI arrests had increased by over 500%, weekend nighttime collisions had decreased by 34%, and the number of operators committing DWI dropped one third.

The implication of the Fort Lauderdale study, and of other similar studies, was for every DWI violator actually arrested for DWI, three others were contacted by police officers but were not arrested for DWI. From the Stockton study, it is clear significant improvement in the arrest rate could be achieved if officers were more skilled at DWI detection.

Session 2 – Detection and General Deterrence

Improve DWI Detection

Keys to success:

- Officers skilled at DWI detection
- Willing to arrest all violators detected
- Policies and application supported by agency

DWI DETECTION & SFST 2-33

Slide 33.

Improved DWI detection can be achieved in virtually every jurisdiction in the country. The keys to success are police officers who are: Skilled at DWI detection; Willing to arrest every DWI violator who is detected; and, Supported by their agencies in all aspects of this program from policy through practical application.

Since the historical Stockton study, numerous States have conducted similar studies to determine the degree of effect DWI arrests would have on alcohol-related fatalities in general and total fatalities in particular. Most of these studies were conducted between 1978 and 1986.

The results of these studies graphically illustrated in each State when the number of arrests for DWI increased the percentage of alcohol-related fatalities decreased. Further, the results of a study conducted in Florida from 1981-1983 showed when DWI arrests per licensed driver increased total fatalities decreased (12-month moving average).



Detection: Key to Deterrence

- Deterrence can vastly exceed level of enforcement officers achieve
- Weekend DWI arrests can increase by as much as 500%, as in the Stockton study

Slide 34.

It is important to understand how increased DWI enforcement can affect deterrence. Deterrence can vastly exceed the level of enforcement officers achieve on any given night. Weekend DWI arrests can increase by as much as 500%, as in the Stockton study.

Session 2 – Detection and General Deterrence

Example of General Deterrence

When arrest/violation ratio is 1 in 100:

- Many violators WILL be caught
- General perception level of being caught increases
- Behavior changes

DWI DETECTION & SFST 2-35

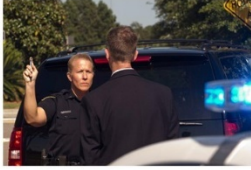
Slide 35.

The law of averages quickly starts to catch up with DWI drivers. Unless violators change their behavior, many of them will be caught or at least will have known someone who has been arrested. Coupled with the heavy publicity given to the enforcement effort, those experiences were enough to raise the perception level of apprehension among DWI operators that sooner or later they would be caught. As a result, many of them changed their behavior. This is the best example of general deterrence. In addition, during the same time DWI arrests went up over 500% in Stockton, citations for other traffic violations increased by a comparatively modest 99%. The implication is Stockton's officers were stopping and contacting only twice as many possible violators as they had before, but they were coming up with more than five times as many arrests.

Session 2 – Detection and General Deterrence

Increased DWI Detection Skills

- Community benefits
- Officers recognize cues and clues
- Gained confidence in field sobriety tests
- Fewer violators stopped avoided arrest



DWI DETECTION & SFST 2-36

Slide 36.

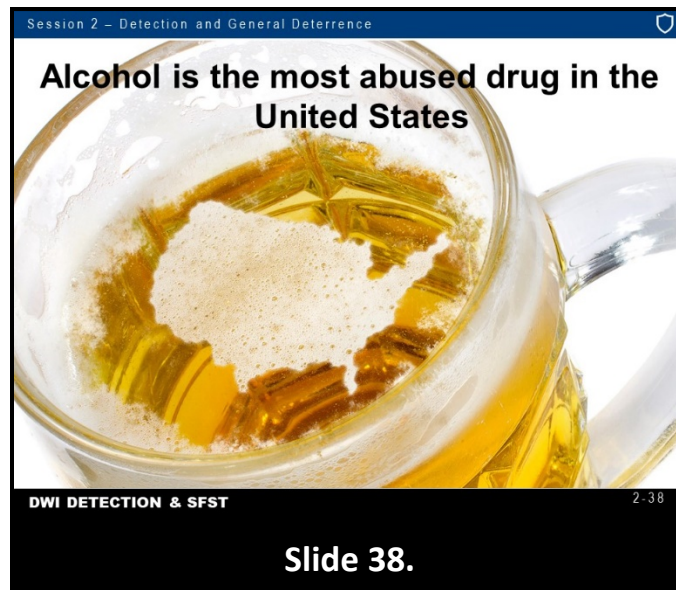
What have the results of these studies shown? Basically, they have shown a community will benefit from their officers' increased skills at DWI detection. Principally, because of their special training, the officers were better able to recognize "cues" of impairment when they observed

vehicles in motion, and they were more familiar with the "clues" or human indicators of impairment exhibited by violators during personal contact. The officers also had more confidence in the field sobriety tests they used to investigate their suspects. The most important factor was far fewer of the violators being stopped now avoided detection and arrest. The difficulty in detecting DWI among operators personally contacted by untrained officers has been well documented. Analysis of roadside survey and arrest data suggest for every DWI violator arrested, three others actually have face-to-face contact with police officers but are allowed to go without arrest. Direct support of that inference was found in the Fort Lauderdale BAC study where researchers demonstrated police officers arrested only 22% of the DWI operators they contacted whose BAC levels were subsequently shown to be between 0.10 and 0.20.

The slide features a blue header with the text "Session 2 - Detection and General Deterrence" and a shield icon. The main text is in blue and reads: "The ability to detect DWI violators is the key to general deterrence and possibly the greatest impediment to it." Below the text is a photograph of a police officer in a dark uniform standing next to a black SUV, talking to the driver. The slide has a black footer with the text "DWI DETECTION & SFST" on the left and "2-37" on the right. The slide number "Slide 37." is centered at the bottom in white.

The ability to detect DWI violators is the key to general deterrence and possibly the greatest impediment to it. If we accept the three to one ratio of failed detections as being reasonably accurate, the implications are rather alarming. Consider the impact on a DWI violator's subsequent behavior when, after being stopped by the police, the operator is allowed to continue driving. Very likely, these DWI violators and their friends will become even more convinced of their ability to handle drinking and driving. Further, they will come to believe they will never be arrested because police officers can't determine when they are "over the limit." Instead of creating general DWI deterrence, this attitude breeds specific reinforcement. This helps to develop a feeling among DWI violators they have nothing more to fear from police than an occasional ticket for a minor traffic offense. On the positive side, the ratio of undetected to detected violations suggests much can be accomplished with existing resources if we use those resources as efficiently as possible. By just being able to improve detection skills of law enforcement officers, we could experience an increase in the arrest/violation ratio without any increase in contacts. This same, or better, degree of effectiveness can happen here.

E. Physiology of Alcohol



Alcohol is the most abused drug in the United States. "Alcohol" is the name given to a family of closely related and naturally occurring chemicals. Each of the chemicals called an "alcohol" contain a molecule chemists refer to as a "hydroxy radical." This radical contains one oxygen atom and one hydrogen atom bonded together. The simplest alcohol has only one carbon atom, three hydrogen atoms, and one hydroxy radical.

The next alcohol has two carbon atoms, five hydrogen atoms, and one hydroxy radical. The third alcohol has three carbon atoms, seven hydrogen atoms, and one hydroxy radical. That is how the alcohols differ from one another.

Alcohols are molecularly very similar and produce similar effects. They produce intoxicating effects when ingested into the human body. Only one of them is meant for human consumption. However, when ingested in substantial quantities it can cause death.

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Types of Alcohol

Methyl Alcohol (Methanol) 

Isopropyl Alcohol (Isopropanol) 

Ethyl Alcohol (Ethanol) 

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Three of the more commonly known alcohols are Methyl, Isopropyl, and Ethyl. Methyl alcohol is also known as Methanol or wood alcohol. Isopropyl Alcohol (Isopropanol) is also known as rubbing alcohol. Ethyl alcohol is also known as Ethanol or beverage alcohol.

Session 2 – Detection and General Deterrence

Ethyl Alcohol (Ethanol) Intended for Human Consumption

Chemical Symbols

- ETOH
- C₂H₅OH

$$\begin{array}{c}
 \text{H} \quad \text{H} \\
 | \quad | \\
 \text{H}-\text{C}-\text{C}-\text{OH} \\
 | \quad | \\
 \text{H} \quad \text{H}
 \end{array}$$

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Slide 40.

The ingestible alcohol is known as ethyl alcohol, or ethanol. Its chemical abbreviation is ETOH. The "ET" stands for "ethyl" and the "OH" represents the single oxygen atom bonded to one of the hydrogen atoms ("hydroxy radical"). Ethanol is the variety of alcohol that has two carbon atoms. Two of ethanol's best-known analogs are methyl alcohol (or methanol), commonly called "wood alcohol", and isopropyl alcohol (or isopropanol), also known as "rubbing alcohol".

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Fermentation

Yeast combines with sugars from fruit or grains in a chemical reaction resulting in ETOH.

Sugar + Yeast - Oxygen = Carbon dioxide + Alcohol

DWI DETECTION & SFST 2-41

Slide 41.

Ethanol is what interests us because it is the kind of alcohol that features prominently in impaired driving. Ethanol is beverage alcohol, the active ingredient in beer, wine, whiskey, liquors, etc. Ethanol production starts with fermentation. That is a kind of decomposition in which the sugars in fruit, grains, and other organic materials combine with yeast to produce the chemical we call ethanol. This can occur naturally, as yeast spores in the air come into contact with decomposing fruit and grains. However, most of the ethanol in the world didn't ferment naturally but was produced under human supervision. When an alcoholic beverage is produced by fermentation, the maximum ethanol content that can typically be reached is about 14%. There have been reports that some enhanced components and processes yield higher ETOH concentrations.

Source:

Watanabe, D., Wu, H., Noguchi, C., Zhou, Y., Akao, T., & Shimoi, H. (2011, February). Enhancement of the Initial Rate of Ethanol Fermentation Due to Dysfunction of Yeast Stress Response Components Msn2p and/or Msn4p. *American Society of Microbiology (ASM): Applied and Environmental Microbiology*, 77(3).
doi:<https://doi.org/10.1128/AEM.01869-10>

At some point, the yeast dies, so the fermentation stops. Obtaining a higher ethanol content requires a process called distillation.



Distillation

Fermented beverage is boiled at a controlled temperature to extract and concentrate the ethanol fumes.



Slide 42.

“Distilled spirits” is the name we give to high ethanol concentration beverages produced by distillation. This involves heating the beverage until the ethanol “boils off,” then collecting the ethanol vapor. It is possible to do this because ethanol boils at a lower temperature than does water. These distilled spirits include rum, whiskey, gin, vodka, etc. The ethanol concentration of distilled spirits usually is expressed in terms of proof, which is a number corresponding to twice the ethanol percentage. For example, an 80-proof beverage has an ethanol concentration of 40%.

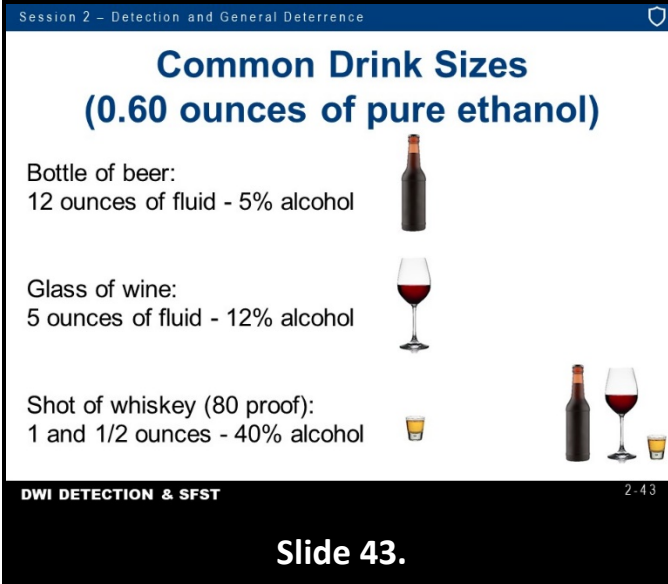
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Common Drink Sizes (0.60 ounces of pure ethanol)

Bottle of beer:
12 ounces of fluid - 5% alcohol

Glass of wine:
5 ounces of fluid - 12% alcohol

Shot of whiskey (80 proof):
1 and 1/2 ounces - 40% alcohol



DWI DETECTION & SFST 2-43

Slide 43.

Over the millennia, during which people have used and abused ethanol, some common-sized servings of the different beverages have evolved.

Beer is normally dispensed in 12-ounce servings. Since beer has an ethanol concentration of about five percent, the typical bottle or can of beer contains a little less than one half ounce of pure ethanol (craft, microbrewery, and imported beverages may contain a higher ethanol concentration).

A standard glass of wine has about five ounces of liquid. Wine is about 12% alcohol, so the glass of wine also has a bit less than one half ounce of ethanol in it.

Whiskey and other distilled spirits are dispensed by the "shot glass," usually containing about one- and one-half ounces of fluid. At a typical concentration of 40% ethanol (80 proof), the standard shot of whiskey has approximately one-half ounce of ethanol.

Therefore, as far as their alcoholic contents are concerned, a can of beer, a glass of wine and a shot of whiskey are all the same.

Source:

National Institute on Alcohol Abuse and Alcoholism. (2017, April 19). *What Is A Standard Drink?* Retrieved from National Institute of Health: <https://www.niaaa.nih.gov/alcohols-effects-health/overview-alcohol-consumption/what-standard-drink>



Alcohol is a CNS Depressant



DWI DETECTION & SFST

2-44

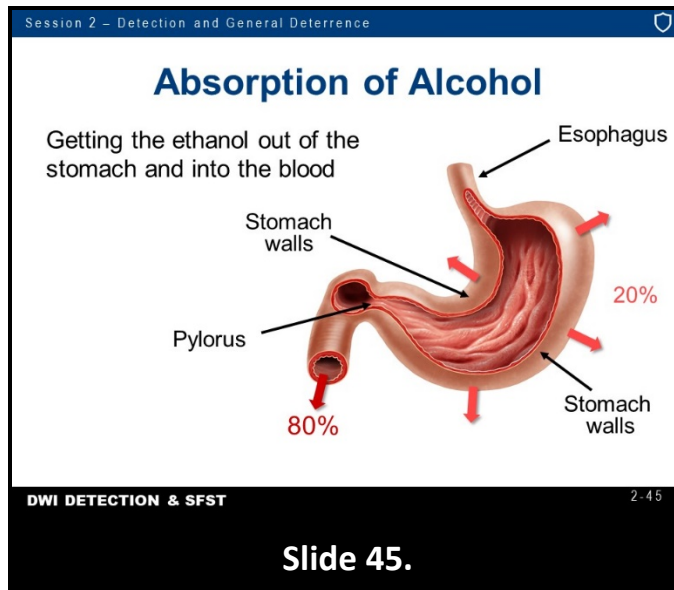
Slide 44.

Ethanol is a Central Nervous System Depressant. It doesn't affect a person until it gets into their Central Nervous System, i.e., the brain, brain stem and spinal cord. Ethanol gets to the brain by getting into the blood. In order to get into the blood, it has to get into the body. There are actually a number of different ways in which ethanol can get into the body.

It can be inhaled: Ethanol fumes, when taken into the lungs, will pass into the bloodstream and a positive BAC will develop. However, prolonged breathing of fairly concentrated fumes would be required to produce a significantly high BAC.

Ethanol could also be injected, directly into a vein; it would then flow with the blood back to the heart, where it would be pumped first to the lungs and then to the brain.

And, it could be inserted as an enema and pass quickly from the large intestine into the blood. Alcohol is almost always introduced into the body orally, i.e., by drinking. Regardless of the method of administration, chemical tests will still reveal the presence of alcohol in blood, breath, or urine.



Once the ethanol gets into the stomach it has to move into the blood. The process by which this happens is known as absorption. One very important fact pertaining to alcohol absorption is it doesn't have to be digested in order to move from the stomach to the blood. Another very important fact is alcohol can pass directly through the walls of the stomach. These two facts, taken together, mean under the right circumstances absorption of alcohol can be accomplished fairly quickly. The ideal circumstance for rapid absorption is to drink on an empty stomach. When the alcohol enters the empty stomach, about 20% of it will make its way directly through the stomach walls. The remaining 80% will pass through the stomach and enter the small intestine, from which it is readily absorbed into the blood. Because the body doesn't need to digest the alcohol before admitting it into the bloodstream, the small intestine will be open to the alcohol as soon as it hits the stomach. But what if there is food in the stomach? Suppose the person has had something to eat shortly before drinking or eats food while drinking; will that affect the absorption of alcohol? Yes, it will. Food has to be at least partially digested in the stomach before it can pass to the small intestine. When the brain senses food is in the stomach, it commands a muscle at the base of the stomach to constrict and cut off the passage to the small intestine. The muscle is called the pylorus, or pyloric valve. As long as it remains constricted, little or nothing will move out of the stomach and into the small intestine. If alcohol is in the stomach along with the food, the alcohol will also remain trapped behind the pylorus. Some of the alcohol trapped in the stomach will begin to break down chemically before it ever gets into the blood.

In time, as the digestive process continues, the pylorus will begin to relax and some of the alcohol and food will pass through. But the overall effect will be to slow the absorption significantly. Because the alcohol only slowly gets into the blood, and because the body will continue to process and eliminate the alcohol that does manage to get in there, the drinker's BAC will not climb as high as it would have if he or she had drunk on an empty stomach.

Session 2 – Detection and General Deterrence

Distribution of Alcohol

Getting the ethanol into the body's tissues and organs

Basic Principle
Ethanol goes wherever it finds water

DWI DETECTION & SFST 2-46

Slide 46.

Once the alcohol moves into the blood, it will be distributed throughout the body. Alcohol has an affinity for water. The blood will carry the alcohol to the various tissues and organs of the body and will deposit the alcohol in them in proportion to their water contents. Brain tissue has a fairly high-water content, so the brain receives a substantial share of the distributed alcohol. Muscle tissue also has a reasonably high-water content, but fat tissue contains very little water. Thus, very little alcohol will be deposited in the drinker's body fat. This is one factor that differentiates alcohol from certain other drugs, notably PCP and THC, which are very soluble in fat.

Session 2 – Detection and General Deterrence

Distribution of Alcohol

- Which parts of the body have lots of water?
- Which parts do not?
- The average male is 68% water
- The average female is 55% water

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Slide 47.

The affinity of alcohol for water, and its lack of affinity for fat, helps explain an important difference in the way alcohol affects women and men. Pound for pound, the typical female's body contains a good deal less water than does the typical man's. This is because women have additional adipose (fatty) tissue designed in part to protect a child in the womb.

A Swedish pioneer in alcohol research, E.M.P. Widmark, determined the typical male body is about 68% water, the typical female only about 55%. Thus, when a woman drinks, she has less fluid -- pound for pound -- in which to distribute the alcohol.

Session 2 - Detection and General Deterrence

Dose Response Relationships

- Time
- Sex
- Weight
- Drinking on empty stomach

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People sometimes ask, "how 'high' is 'drunk'?" What is the "legal limit" for "drunk driving"? How much can a person drink before becoming "impaired"? Depends... Time? Sex? Weight? Drinking on an empty stomach? A couple of beers can do it. There is no simple answer to these or similar questions except to say any amount of alcohol may affect a person's ability to drive to some degree. States establish a BAC limit at which it is explicitly unlawful to operate a vehicle. In most cases, that "limit" is 0.08 BAC. But every State also makes it unlawful to drive when "under the influence" of alcohol and the law admits the possibility a particular person may be under the influence at much lower BACs.

How much alcohol does someone have to drink to reach these kinds of BACs? Obviously, as we've already seen, it depends on how much time the person spends drinking, on whether the person is a man or a woman, on how large the person is, on whether the drinking takes place on an empty stomach, and on certain other factors. But let's take as an example a 175-pound man. If he drinks two beers, or two shots of whiskey, in quick succession on an empty stomach, his BAC will climb to slightly above 0.04. Two more beers will boost him above 0.08. One more will push him over 0.10. In one respect, then, it doesn't take much alcohol to impair someone.

Session 2 – Detection and General Deterrence

Elimination of Alcohol

- Direct excretion
 - Breath
 - Urine
 - Sweat
 - Tears
 - Etc.
- Metabolism

DWI DETECTION & SFST 2-49

Slide 49.

As soon as the alcohol enters the blood stream, the body starts trying to get rid of it. Some of the alcohol will be directly expelled from the body chemically unchanged. For example, some alcohol will leave the body in the breath, urine, sweat, tears, etc. However, only a small portion (about 2-10%) of the ingested alcohol will be directly eliminated. Most of the alcohol a person drinks is eliminated by metabolism. Metabolism is a process of chemical change. In this case, alcohol reacts with oxygen in the body and changes through a series of intermediate steps into carbon dioxide and water, both of which are directly expelled from the body.

Session 2 – Detection and General Deterrence

Metabolism in the Liver

- Burns ethanol
- Aided by alcohol dehydrogenase enzyme
- Ultimate products of chemical reaction are carbon dioxide and water
- Average person's BAC drops by about 0.015 per hour

DWI DETECTION & SFST 2-50

Slide 50.

Most of the metabolism of alcohol in the body takes place in the liver. An enzyme known as alcohol dehydrogenase acts to speed up the reaction of alcohol with oxygen.

The speed of the reaction varies somewhat from person to person and even from time to time for any given person. On the average, however, a person's blood alcohol concentration -- after

reaching peak value -- will drop by about 0.015 per hour. For example, if the person reaches a maximum BAC of 0.15, it will take about ten hours for the person to eliminate all of the alcohol.

For the average-sized male, a BAC of 0.015 is equivalent to about two thirds of the alcohol content of a standard drink (i.e., about two thirds of a can of beer, or glass of wine, or shot of whiskey). For the average-sized female, that same BAC would be reached on just one half of a standard drink. So, the typical male will eliminate about two thirds of a drink per hour while the typical female will burn up about one half of a drink in that hour.

The slide is titled "Metabolism" and asks "How can we speed up the metabolism of alcohol?". The answer is "We can't - The liver takes its time burning up the alcohol". The slide features a background image of a speedometer with a needle pointing to approximately 100 km/h. The text "km/h" is visible on the speedometer. The slide is part of a presentation titled "Session 2 - Detection and General Deterrence" and is labeled "DWI DETECTION & SFST" and "2-51".

Slide 51.

We can control the rate at which alcohol enters our bloodstream. For example, we can gulp down our drinks or slowly sip them. We can drink on an empty stomach or we can take the precaution of eating before drinking. We can choose to drink a lot or a little. But once the alcohol gets into the blood, there is nothing we can do to affect how quickly it leaves. Coffee won't accelerate the rate at which our livers burn alcohol. Neither will exercise, or deep breathing, or a cold shower. We simply have to wait for the process of metabolism to move along at its own speed.



Mellanby Effect



DWI DETECTION & SFST

2-52

Slide 52.

A person feels more impaired while his/her BAC is still rising, than at the same level while his/her BAC is declining. The person is not less impaired, but they “feel better;” (the “Mellanby Effect”) which makes them more likely to drive while impaired. Even though a person may feel better on the declining curve, their impairment may be worse. Sample analogy: Imagine driving on a feeder road to the freeway. The speed limit on that feeder road is 45 mph. 45 mph feels like a good speed. You then merge onto the freeway and drive at speeds of 65-70mph. You reach your exit, exit back onto a feeder road. You decrease your speed to 45 mph; however, now 45 mph feels painstakingly slow. This is the Mellanby Effect in a nutshell; you felt the 45 mph was faster before you went faster. You felt you were more impaired before you were more intoxicated.

Sources:

Mellanby, E. (1919). *Alcohol: Its Absorption Into and Disappearance from Blood Under Different Conditions*. London, HMSO: British Medical Research Committee: Special Report Series No. 31.

Holland, M., & Ferner, R. (2017, July). A Systematic Review of the Evidence for Acute Tolerance to Alcohol - the "Mellanby Effect". *Clinical Toxicology (Philadelphia)*, 55(6), 545-556. doi:10.1080/15563650.2017.1296576

Alcohol and the Driver. Council on Scientific Affairs. (1986, January 24-31). *JAMA*, 255(4), 522-527. doi:10.1001/jama.1986.03370040096031

Session 2 – Detection and General Deterrence

Blood Alcohol Concentration

- BAC is the number of grams of alcohol found in 100 milliliters of the person's blood
 - Example: If a person has a BAC of .08, then there is eight one-hundredths of a gram of alcohol in every 100 milliliters of the person's blood

DWI DETECTION & SFST 2-53

Slide 53.

But in another respect, when we contrast alcohol with virtually any other drug, we find impairment by alcohol requires a vastly larger dose than does impairment by the others. Consider exactly what a BAC of 0.08 means. BAC is expressed in terms of the "number of grams of ethanol in every 100 milliliters of blood". Therefore, 0.08 means there is 0.08g of ethanol in every 100 milliliters (mL) of blood. You will find BAC results are reported in a variety of units. Two common variations are milligrams/milliliters and percent. There are 1000 milligrams (mg) in one gram; therefore, 0.08g equals 80mg and a BAC of 0.08 would be reported as 80mg of ethanol/100mL of blood. Percent means parts per one hundred. In this example 0.08g/100mL of blood is equivalent to 0.08% BAC. Note: The term BAC is used in the manual. However, it should be understood to refer to either Blood Alcohol Concentration (BAC) or Breath Alcohol Concentration (BrAC) depending on the legal requirements of the jurisdiction.

Session 2 – Detection and General Deterrence

Questions?

DWI DETECTION & SFST 2-54

Slide 54.

Session 2 – Detection and General Deterrence

Test Your Knowledge

1. In typical DWI enforcement, one violator in _____ results in arrest.
2. In the Fort Lauderdale study, police officers arrested _____ % of the drivers they contacted whose BACs were .10 to .20.
3. Name three different chemicals that are alcohols.

DWI DETECTION & SFST 2-55

Slide 55.

Test Your Knowledge

1. In typical DWI enforcement, one DWI violation in _____ results in arrest.
2. In the Fort Lauderdale study, police officers arrested _____ % of the drivers they contacted whose BACs were .10 to .20.
3. Name three different chemicals that are alcohols.

Session 2 – Detection and General Deterrence

Test Your Knowledge

4. Which of these is beverage alcohol, intended for human consumption?
5. What is the chemical symbol for beverage alcohol?
6. What is the name of the chemical process by which beverage alcohol is produced naturally?

DWI DETECTION & SFST 2-56

Slide 56.

4. Which of these is beverage alcohol, intended for human consumption?
5. What is the chemical symbol for beverage alcohol?
6. What is the name of the chemical process by which beverage alcohol is produced naturally?

Session 2 – Detection and General Deterrence

Test Your Knowledge

7. What is the name of the process used to produce high concentration beverage alcohol?
8. True or false: Pound for pound, the average woman contains more water than does the average man
9. What do we mean by the “proof” of an alcoholic beverage?

DWI DETECTION & SFST 2-57

Slide 57.

7. What is the name of the process used to produce high concentration beverage alcohol?
 8. True or false: Pound for pound, the average woman contains more water than does the average man.
 9. What do we mean by the "proof" of an alcoholic beverage?
-

Session 2 – Detection and General Deterrence

Test Your Knowledge

10. True or false: Most of the alcohol a person drinks is absorbed into the blood via the small intestine
11. What is the name of the muscle that controls the passage from the stomach to the lower gastrointestinal tract?
12. True or false: Alcohol can pass directly through the stomach walls and enter the bloodstream.

DWI DETECTION & SFST 2-58

Slide 58.

10. True or false: Most of the alcohol a person drinks is absorbed into the blood via the small intestine.
11. What is the name of the muscle that controls the passage from the stomach to the lower gastrointestinal tract?
12. True or false: Alcohol can pass directly through the stomach walls and enter the bloodstream.



Test Your Knowledge

13. In which organ of the body does most of the metabolism of the alcohol take place?
14. Once a person reaches his or her peak BAC, it will drop at a rate of about _____ per hour.
 - a) 0.025
 - b) 0.015
 - c) 0.010
15. True or false: It takes about 30 minutes for the average 175-pound man to "burn off" the alcohol in one 12 ounce can of beer.

Slide 59.

13. In which organ of the body does most of the metabolism of the alcohol take place?
 14. Multiple choice: Once a person reaches their peak BAC, it will drop at a rate of about per hour.
 - a) 0.025
 - b) 0.015
 - c) 0.010
 15. True or False: It takes about thirty minutes for the average 175-pound man to "burn off" the alcohol in one 12 ounce can of beer.
-

3

SFST

The Legal Environment

LEARNING OBJECTIVES

Be familiar with:

- Elements of DWI offenses
- Provisions of implied consent
- The relevance of chemical test evidence
- Precedents established through case law

In this session, impaired driving laws are discussed in detail. The illustrations provided are drawn from the Uniform Vehicle Code. You are responsible for learning whether and how each law applies in your jurisdiction.

CONTENTS

A. DWI Statute: Driving While Under the Influence	3
B. Per Se Statute: Driving with a Prohibited Blood Alcohol Concentration (BAC)	6
C. Implied Consent.....	8
D. Preliminary Breath Testing (PBT)	12
E. Case Law Reviews	13

LEARNING ACTIVITIES

- Instructor-Led Presentation
- Reading Assignments

An understanding of impaired driving laws that apply in your jurisdiction is critical to successful DWI enforcement. All States (and many local jurisdictions) have their own impaired driving laws. While the specific language of these laws may vary significantly, most include the following provisions:


- DWI Law
 - Per Se Law
 - Implied Consent
 - Preliminary Breath Test (if applicable)
-

Session 3 – The Legal Environment

Learning Objectives

Be familiar with:

- Elements of DWI offenses
- Provisions of implied consent
- Relevance of chemical test evidence
- Precedents established through case law




DWI DETECTION & SFST 3-2

Slide 2.

A. DWI Statute: Driving While Under the Influence

Session 3 – The Legal Environment

DWI Statute



DWI DETECTION & SFST 3-3


Slide 3.

A State's DWI statute may be subtitled Driving While Under the Influence or something similar. Typically, the statute describes the who, what, where and how of the offense in language.

Session 3 – The Legal Environment

Legal Definitions

- Driving
- Actual Physical Control
- Vehicle
- Location
- Impaired/Under the Influence



DWI DETECTION & SFST 3-4

Slide 4.

Session 3 – The Legal Environment

Probable Cause for DWI Arrest

Opinion based on totality of circumstances there is probable cause to believe defendant committed crime of DWI

* All elements of crime need to be present

DWI DETECTION & SFST 3-5

Slide 5.

In order to arrest someone for DWI, a law enforcement officer must have probable cause to believe all elements of the offense are present.

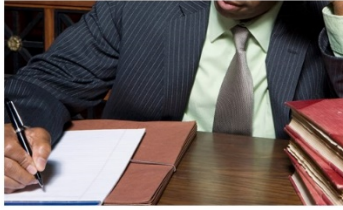
That is, the officer must believe:

The person in question was operating or in actual physical control of a vehicle (truck, van, automobile, motorcycle, even bicycle, according to specific provisions in various States) while under the influence of alcohol, another drug, or both.



Conviction

Criminal offense – establish facts
“beyond a reasonable doubt”



Slide 6.

In order to convict a person of DWI, it is necessary to establish all elements were present: Operation, Control, Vehicle, and Impairment. If DWI is a criminal offense, the facts must be established "beyond a reasonable doubt." If DWI is a violation, the standard of proof may be less. In either case, it is the officer's responsibility to collect and thoroughly document all evidence for use at trial.


In some States, an operator may be charged with a non-criminal alcohol-related violation and the standard of proof may be less.

B. Per Se Statute: Driving with a Prohibited Blood Alcohol Concentration (BAC)

Session 3 – The Legal Environment

Per Se Statute

Refer to local State information



DWI DETECTION & SFST 3-7

Slide 7.

All States include in their DWI statutes a provision making it illegal to drive with a statutorily prohibited BAC. This provision, often called a Per Se law, creates another mechanism by which a suspect can be prosecuted for a DWI offense. Following is a typical Per Se provision. It is unlawful for any person to: *Operate or be in physical control; Of any vehicle; Within this State; While having a BAC at or above State's level.* These elements may vary from State to State.

Session 3 – The Legal Environment

DWI and DWI Per Se

- DWI – driving while under influence
- Chemical test is additional evidence
- DWI Per Se – driving while having more than a statutorily prohibited BAC
- Chemical test is presumptive evidence

DWI DETECTION & SFST 3-8

Slide 8.

The DWI and DWI Per Se can work simultaneously to prosecute a suspect for DWI. The DWI law makes it an offense to drive while under the influence of alcohol and/or any drug and the DWI Per Se law makes it an offense to drive while having more than a statutorily prohibited BAC.

The Per Se law is an additional method of prosecuting DWI. For the DWI, the chemical test result is additional evidence. For the DWI Per Se, the chemical test result is presumptive evidence.

The principal purpose of the Per Se law is to aid in prosecution of DWI offenders. It is not necessary for the prosecutor to show the driver was "under the influence." It is sufficient for the State to show the driver's BAC was at or above the State's level. Important to remember, an officer must still have probable cause to believe the driver is impaired before making an arrest. Implied consent usually requires the driver be arrested before the request of a chemical test.

The law also requires the arrest be made for "acts alleged to have been committed while operating a vehicle while under the influence." Therefore, the officer usually must establish probable cause the offense has been committed and make a valid arrest before the chemical test can be requested.

Session 3 - The Legal Environment

Per Se Summary

- Continue to rely on your detection training and experience
- Assume chemical tests will not be available
- Thorough documentation is critical

DWI DETECTION & SFST 3-9

Slide 9.

Police officers dealing with impaired drivers must continue to rely primarily on their own training and experience in detection to determine whether an arrest should be made. It is impossible to obtain a legally admissible chemical test result until after the arrest has been made. Sometimes drivers will refuse the chemical test after they have been arrested. The case will depend primarily upon the officer's observations and ability to articulate their testimony. When making a DWI arrest, always assume the chemical test evidence will not be available. It is critical you organize, document, and present your observations and testimony in a clear and convincing manner.

C. Implied Consent

Session 3 – The Legal Environment

Implied Consent Law

Refer to local State information



DWI DETECTION & SFST 3-10

Slide 10.

Implied consent law states suspected DWI drivers are deemed to have given their consent to submit to chemical testing. If the driver fails to provide a chemical test, they can be subject to license sanctions.

Session 3 – The Legal Environment

Elements of Implied Consent

- Operates or controls motor vehicle
- Operator deemed to have given consent to chemical testing
- Arrested for DWI
- Drivers who refuse are subject to license sanctions

DWI DETECTION & SFST 3-11

Slide 11.

The law provides penalties for refusal to submit to the testing. These penalties may include the suspension or revocation of the individual's driver's license.

The purpose of implied consent is to encourage those arrested for DWI to submit to a chemical test so valuable evidence may be obtained.



Legal Presumptions

- BAC _____ or more
 - Presumed under the influence
- Less than _____
 - Presumed not under the influence
- At least _____ but below _____
 - No presumption

Slide 12.

Legal presumptions define impairment and emphasize the significance of the scientific chemical test evidence. For example, if the chemical test shows the person's BAC is .08 or more it shall be presumed the person is under the influence. In this State, if the test shows the BAC is _____ or less, it shall be presumed the person is not under the influence.

If the test shows the BAC is more than _____ but less than _____, there is no presumption as to whether the person is or is not under the influence. The weight of the chemical test evidence is presumptive of alcohol influence, not conclusive.

The fact finder (court or jury) may accept the legal presumption and conclude the driver was or was not impaired on the basis of the chemical test alone. However, other evidence such as testimony about the defendant's driving, odor of alcohol, appearance, behavior, movements, speech, etc. may be sufficient to overcome the presumptive weight of the chemical test.



Example Number 1

- Driver arrested for DWI
- BAC of 0.13
- Chemical test evidence introduced at trial
 - Arresting officer's testimony was confusing and unclear
 - State unable to prove all elements beyond a reasonable doubt

Slide 13.

It is possible for a person whose BAC at the time of arrest is above the per se or presumptive level legal limit to be acquitted of DWI. It is also possible for a person whose BAC at the time is below the per se or presumptive level to be convicted of DWI. Consider the following examples:

Example 1: A driver is arrested for DWI. A chemical test administered to the driver shows a BAC of 0.13. At the subsequent trial, the chemical test evidence is introduced. However, the arresting officer's testimony about the defendant's driving, appearance, and behavior was confusing and unclear. Therefore, the State was unable to prove all of the elements of the crime beyond a reasonable doubt.



Example Number 2

- Driver arrested for DWI
- BAC of 0.05
- Chemical test evidence introduced at trial
 - Arresting officer's testimony is clear and descriptive
 - Court finds defendant guilty of DWI

Slide 14.


Example 2: A driver is arrested for DWI. A chemical test administered to the driver shows a BAC of 0.05. At the subsequent trial, the chemical test evidence is introduced. In addition, the arresting officer testifies about the defendant's driving, odor of alcohol, appearance, slurred speech, and inability to perform divided attention field sobriety tests. The testimony is clear and descriptive. The court finds the defendant guilty of DWI. The difference in outcomes in the two examples cited is directly attributable to how well the arresting officer articulates the evidence other than the chemical test. Remember the chemical test provides presumptive evidence of alcohol influence; it does not provide conclusive evidence. While the "legal limit" in a given jurisdiction may be 0.08 BAC, many people will demonstrate impaired driving long before that "legal limit" is reached.

D. Preliminary Breath Testing (PBT)

Session 3 – The Legal Environment

Preliminary Breath Testing (PBT)

Refer to local State information



DWI DETECTION & SFST 3-15

Slide 15.

Many States have enacted PBT laws. These laws permit a law enforcement officer to request a driver suspected of DWI to submit to a roadside breath test prior to arrest. PBT laws vary significantly from one State to another.

PBT results may be used to assist in determining whether an arrest should be made. The results may not be admissible as substantive evidence against the defendant in court. Discuss State laws regarding admissibility of PBT results. However, PBT laws may provide statutory or administrative penalties if the driver refuses to submit to the test. These penalties may include license suspension, fines, or other sanctions.

E. Case Law Reviews

Session 3 – The Legal Environment

Case Law Reviews

- Landmark court decisions relevant to admissibility of SFSTs
- Challenges may be based on:
 - Scientific validity and reliability
 - Relationship of HGN to specific BAC level
 - Officer training, experience, and application

DWI DETECTION & SFST 3-16

Slide 16.

The following cases are landmark court decisions relevant to the admissibility of Standardized Field Sobriety Tests (SFSTs) and Horizontal Gaze Nystagmus (HGN). Challenges to the admissibility have been based on (1) scientific validity and reliability; (2) relationship of HGN to specific BAC level; and, (3) officer training, experience, and application.

Session 3 – The Legal Environment

SFST Case Law

Refer to local State information



DWI DETECTION & SFST 3-17

Slide 17.



Horizontal Gaze Nystagmus Case Law

Refer to local State information



Slide 18.



Search and Seizure Case Law

Refer to local State information



Slide 19.

Session 3 – The Legal Environment

Other Relevant Case Law

Refer to local State information

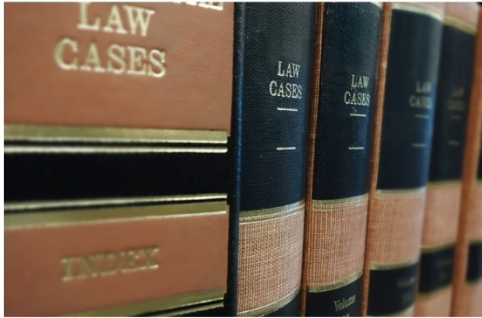


DWI DETECTION & SFST 3-20

Slide 20.

Session 3 – The Legal Environment

Case Law Summary



DWI DETECTION & SFST 3-21

Slide 21.

To summarize, the prevailing trend in court is to accept HGN as evidence of impairment, provided the proper scientific foundation is laid. However, most courts consistently reject any attempt to derive a quantitative estimate of BAC from HGN. Additionally, officers should recognize the relevance of administering the SFSTs in accordance with the NHTSA/IACP guidelines.



Test Your Knowledge

1. If DWI is a criminal offense, the standard of proof is _____.
2. The purpose of implied consent is _____.
3. For the Per Se offense, chemical test result is _____ evidence.
4. The Per Se law makes it unlawful to _____.

Slide 22.

Test Your Knowledge

1. If DWI is a criminal offense, the standard of proof is _____.
2. The purpose of implied consent is _____.
3. For the Per Se offense, chemical test result is _____ evidence.
4. The Per Se law makes it unlawful to _____.

4

SFST

Overview of Detection, Note Taking, and Testimony

LEARNING OBJECTIVES

- Describe the three phases of detection and the tasks and key decision of each phase
- Discuss uses of a standard note taking guide
- Discuss guidelines for effective testimony

CONTENTS

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B. DWI Investigation Field Notes	15
C. Courtroom Testimony	19

LEARNING ACTIVITIES

- Instructor-Led Presentation
- Reading Assignments

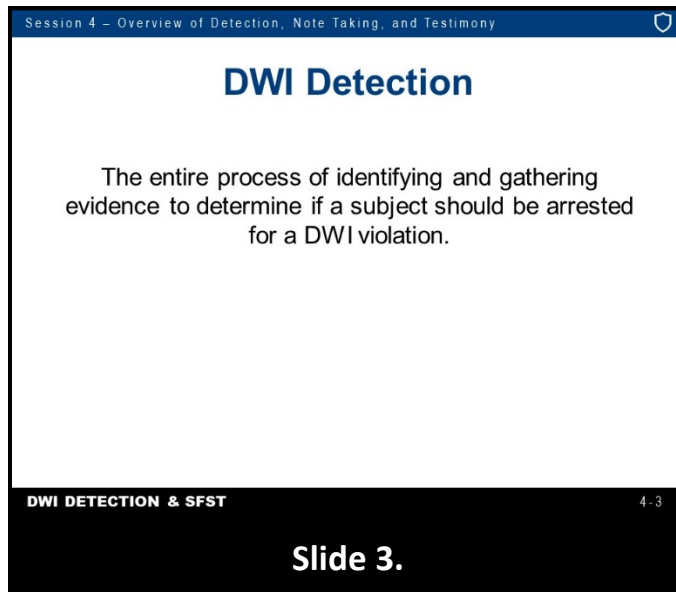
Learning Objectives

- Describe the three phases of detection and the tasks and key decision of each phase
- Discuss uses of a standard note taking guide
- Discuss guidelines for effective testimony



Slide 2.

Detection is both the most important and difficult task in the DWI enforcement effort. If officers fail to detect DWI offenders, the DWI countermeasures program will ultimately fail. If officers do not detect and arrest DWI offenders, then prosecutors cannot prosecute them, the courts and driver licensing officials cannot impose sanctions on them, and treatment and rehabilitation programs will go unused.



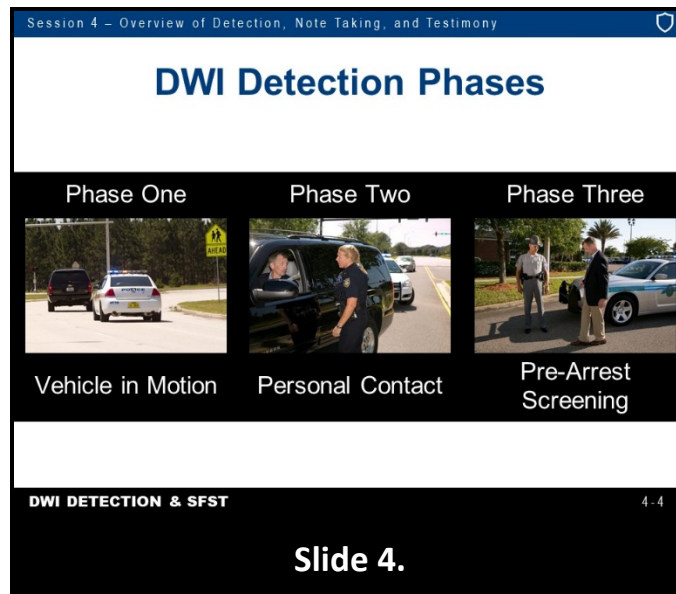
The term DWI detection has been used in many different ways. Consequently, it does not mean the same thing to all law enforcement officers. For the purposes of this training, DWI detection is defined as: The entire process of identifying and gathering evidence to determine if a subject should be arrested for a DWI violation.

Detection begins when the officer develops the first suspicion of a DWI violation.

Detection ends when the officer decides whether or not there is sufficient probable cause to arrest the driver for DWI. Your attention may be called to a particular vehicle or individual for a variety of reasons. The precipitating event may be a loud noise, an obvious equipment or moving violation, unusual but not necessarily illegal behavior, or almost anything else. Initial detection may carry with it an immediate suspicion the driver is impaired, or a slight suspicion, or even no suspicion at all. In any case, it sets in motion a process wherein you focus on a particular vehicle or individual and have the opportunity to observe that vehicle or individual and to gather additional evidence.

The detection process ends when you decide either to arrest or not to arrest the individual for DWI. That decision is based on all of the evidence that has come to light since your attention was first drawn to the vehicle or individual. Effective DWI enforcers do not leap to the arrest/no arrest decision. Rather, they proceed carefully through a series of intermediate steps, each of which helps to identify the collective evidence.

A. Three Phases of Detection



The typical DWI contact involves three separate and distinct phases: Phase One: Vehicle in motion; Phase Two: Personal contact; and, Phase Three: Pre-arrest screening.

In Phase One, you usually observe the driver operating the vehicle. In Phase Two, after you have stopped the vehicle, there usually is an opportunity to observe and speak with the driver face to face. In Phase Three, you usually have an opportunity to administer Standardized Field Sobriety Tests (SFSTs) to the driver to determine impairment.

In addition to SFSTs, some jurisdictions may allow you to administer other field sobriety tests and/or a preliminary breath test (PBT) to demonstrate the association of alcohol with the observable evidence of the subject's impairment. PBTs can be used to assist in making an arrest decision and should rarely be the only factor in deciding to arrest. PBTs should be used after administering SFSTs.

The DWI detection process does not always include all three phases. Sometimes there are DWI detection contacts in which Phase One is absent. These are cases in which you have no opportunity to observe the vehicle in motion. This may occur at the crash scene, at a roadblock or checkpoint, or when you have responded to a request for motorist assistance. Sometimes there are DWI contacts in which Phase Three is absent. There are cases in which you would not administer formal tests to the driver. This may occur when the driver is grossly impaired, badly injured, or refuses to submit to tests.

Session 4 – Overview of Detection, Note Taking, and Testimony


Decisions/Possible Outcomes

Decisions

- Phase One - Stop?
- Phase Two - Exit?
- Phase Three - Arrest?

Possible Outcomes

- Yes - Do it now
- Wait - Look for more evidence
- No - Don't do it



DWI DETECTION & SFST 4-5


Slide 5.

In each of the three phases, there will be decisions and possible outcomes. Each detection phase usually involves two major tasks and one major decision.

Session 4 – Overview of Detection, Note Taking, and Testimony

Decisions

- **Phase One: Vehicle in Motion**
 - Should I stop the vehicle?
- **Phase Two: Personal Contact**
 - Should the driver exit?
- **Phase Three: Pre-arrest Screening**
 - Is there probable cause to arrest the suspect for DWI?



DWI DETECTION & SFST 4-6

Slide 6.

In Phase One: Your first task is to observe the vehicle in operation. Based on this observation, you must decide whether there is sufficient cause to command the driver to stop. Your second task is to observe the stopping sequence. You may want to take a picture of the vehicle or scene especially if the vehicle was involved in a crash.


In Phase Two: Your first task is to observe and interview the driver face to face. Based on this observation, you must decide whether there is sufficient cause to instruct the driver to step from the vehicle for further investigation. Your second task is to observe the driver's exit and walk from the vehicle. You may want to take a photo of the defendant.

In Phase Three: Your first task is to administer structured, formal psychophysical tests. Based on these tests, you must decide whether there is sufficient probable cause to arrest the driver for DWI. Your second task is then to arrange for (or administer) a PBT.

Session 4 – Overview of Detection, Note Taking, and Testimony

Possible Outcomes – Yes

- **Phase One:**
Yes, there are reasonable grounds to stop the vehicle
- **Phase Two:**
Yes, there is enough reason to suspect impairment to justify getting the driver out of the vehicle for further investigation
- **Phase Three:**
Yes, there is probable cause to arrest driver for DWI right now



DWI DETECTION & SFST 4-7

Slide 7.


Each of the major decisions can have any one of three different outcomes: Yes - Do it Now; Wait - Look for Additional Evidence; and, No - Don't Do It. Consider the following examples.

Phase One: Yes, there are reasonable grounds to stop the vehicle. Phase Two: Yes, there is enough reason to suspect impairment to justify getting the driver out of the vehicle for further investigation. Phase Three: Yes, there is probable cause to arrest the driver for DWI right now.

Session 4 – Overview of Detection, Note Taking, and Testimony

Possible Outcomes - Wait

- **Phase One:**
Don't stop the vehicle yet
- **Phase Two:**
Don't get the driver out of the car yet
- **Phase Three:**
Don't arrest the driver yet



DWI DETECTION & SFST 4-8


Slide 8.

Phase One: Don't stop the vehicle yet; keep following and observing it a bit longer. Phase Two: Don't get the driver out of the car yet; keep talking to and observing the driver a bit longer. (This option may be limited if the officer's personal safety is at risk.) Phase Three: Don't arrest the driver yet; administer another field sobriety test before deciding.

Session 4 – Overview of Detection, Note Taking, and Testimony

Possible Outcomes - No

- **Phase One:**
No, there are no grounds for stopping that vehicle
- **Phase Two:**
No, there isn't enough evidence of DWI to justify administering field sobriety tests
- **Phase Three:**
No, there is not sufficient probable cause to believe this driver has committed DWI



DWI DETECTION & SFST 4-9

Slide 9.

Phase One: No, there are no grounds for stopping that vehicle. Phase Two: No, there isn't enough evidence of DWI to justify administering field sobriety tests. Phase Three: No, there is not sufficient probable cause to believe this driver has committed DWI.

Session 4 – Overview of Detection, Note Taking, and Testimony

Arrest Decision

- 1 Initial observation of vehicle operation
- 2 Observation of the stop
- 3 Face to face observation and interview
- 4 Observation of the exit
- 5 SFSTs
- 6 Preliminary breath test

DWI DETECTION & SFST 4-10


Slide 10.

In each phase of detection, you must determine whether there is sufficient evidence to establish the "reasonable suspicion" necessary to proceed to the next step in the detection process. It is always your duty to carry out whatever tasks are appropriate and to make sure ALL relevant evidence of DWI is gathered.

Session 4 – Overview of Detection, Note Taking, and Testimony

DWI Detection – Phase One

- What is the vehicle doing?
- Do I have grounds to stop the vehicle?
- How does the driver respond to my signal to stop?
- How does the driver handle the vehicle during the stopping sequence?



DWI DETECTION & SFST 4-11

Slide 11.

Answers to questions like these can aid you in DWI detection.

Phase One:

- What is the vehicle doing?
 - Do I have grounds to stop the vehicle?
 - How does the driver respond to my signal to stop?
 - How does the driver handle the vehicle during the stopping sequence?
-



DWI Detection – Phase Two

- Vehicle approach: What do I see?
- Talking with driver: What do I hear, see, smell?
- How does the driver respond to questions?
- Should I instruct the driver to exit vehicle?
- How does the driver exit?
- When the driver walks toward the side of the road, what do I see?



DWI DETECTION & SFST

4-12

Slide 12.

Phase Two:

- When I approach the vehicle, what do I see?
- When I talk with the driver, what do I hear, see, and smell?
- How does the driver respond to my questions?
- Should I instruct the driver to exit the vehicle?
- How does the driver exit?
- When the driver walks toward the side of the road, what do I see?



DWI Detection – Phase Three

- Should I administer SFSTs to the driver?
- How does the driver perform those tests?
- What indicators of impairment did I observe while the driver performed these tests?
- Do I have probable cause to arrest for DWI?
- Should I administer a preliminary breath test?
- What are the results of the preliminary breath test?



DWI DETECTION & SFST

4-13

Slide 13.

Phase Three:

- Should I administer SFSTs to the driver?
 - How does the driver perform those tests?
 - What indicators of impairment did I observe while the driver performed these tests?
 - Do I have probable cause to arrest for DWI?
 - Should I administer a preliminary breath test?
 - What are the results of the preliminary breath test?
-



Successful DWI Detection

- Know what to observe
- Ask the right kinds of questions
- Use the right kinds of tests
- Interpret, document, and articulate all observations thoroughly
- Be motivated and apply your knowledge and skills

Slide 14.

The most successful DWI detectors are those officers who:

- Know what to observe
 - Ask the right kinds of questions
 - Use the right kinds of tests
 - Interpret, document, and articulate all observations thoroughly
 - Be motivated and apply your knowledge and skills
-



Note Taking and Testimony

- Graphically describe your observations
- Convey evidence clearly and convincingly
- Importance of field notes

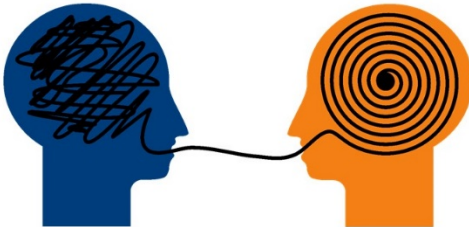


Slide 15.

A basic skill needed for DWI enforcement is the ability to graphically describe your observations. Just as detection is the process of collecting evidence, description largely is the process of conveying or articulating evidence. Successful description demands the ability to convey evidence clearly and convincingly. Your challenge is to communicate evidence to people who weren't there to see, hear, and smell the evidence themselves. Your tools are the words that make up your written report and verbal testimony. You must communicate with the supervisor, the prosecutor, the judge, the jury, and even with the defense attorney. You are trying to "paint a word picture" for those people to develop a sharp mental image that allows them to "see" what you saw, "hear" what you heard, and "smell" what you smelled. Officers who select the most appropriate terminology for both written reports and courtroom testimony will be better able to communicate clearly and convincingly, making DWI prosecution more successful.

Session 4 – Overview of Detection, Note Taking, and Testimony

Use Clear Convincing Language



DWI DETECTION & SFST 4-16

Slide 16.

Field notes are only as good as the information they contain. Reports must be clearly written, and events accurately described if the reports are to have evidentiary value. One persistent problem with DWI incident reports is the use of vague language to describe conditions, events, and statements. When vague language is used, reports provide an inaccurate picture of what happened. Clear and complete field notes help in preparation for your testimony.

Session 4 – Overview of Detection, Note Taking, and Testimony

Vague	Clear
<ul style="list-style-type: none">• Made an illegal left turn on Jefferson• Drove erratically• Driver appeared drunk, shaking	<ul style="list-style-type: none">• From Main, turned left (north bound) on Jefferson, which is one way south bound• Weaving from side to side. Crossed center line twice and drove on shoulder three times• Driver's eyes bloodshot; gaze fixed; Strong odor of alcoholic beverage on driver's breath

DWI DETECTION & SFST 4-17

Slide 17.

Session 4 – Overview of Detection, Note Taking, and Testimony

Vague	Clear
<ul style="list-style-type: none">• Vehicle stopped in unusual fashion• Vehicle crossed the center line	<ul style="list-style-type: none">• Vehicle struck, climbed curb; stopped on sidewalk• Vehicle drifted completely into the opposing traffic lane

DWI DETECTION & SFST 4-18

Slide 18.


Consider these examples.

B. DWI Investigation Field Notes

Session 4 – Overview of Detection, Note Taking, and Testimony

Officer Must Be Able To

- Recognize and interpret DWI evidence
- Describe the evidence clearly and convincingly



DWI DETECTION & SFST 4-19

Slide 19.

One of the most critical tasks in the DWI enforcement process is the recognition and documentation of facts and clues that establish legal grounds to stop, investigate, and subsequently arrest persons suspected of DWI. The evidence gathered during the detection process must establish the elements of the violation and must be completely documented to support successful prosecution of the defendant. This evidence is largely sensory (sight, smell, hearing) in nature, and therefore, is extremely short-lived. You must be able to recognize and act on the facts and circumstances with which you are confronted. But you also must completely document your observations and describe them clearly and convincingly to secure a conviction. You may be inundated with evidence of DWI, i.e., sights, sounds, smells. You recognize this evidence, sometimes subconsciously, and on this evidence base your decisions to stop, to investigate, and ultimately to arrest.

Since evidence of a DWI violation is short-lived, you need a system and tools for recording field notes at scenes of DWI investigations.

Session 4 – Overview of Detection, Note Taking, and Testimony

Observations - Short-Lived Evidence

FIELD NOTE-TAKING GUIDE

I. NAME _____ **SEX** _____ **RACE** _____
ADDRESS _____ **CITY/STATE** _____ **OP. LIC. NO.** _____
D.O.B. ____/____/____ **SOC. SEC. #** _____
VEHICLE MAKE _____ **YEAR** _____ **LIC.** _____ **STATE** _____
DISPOSITION _____ **NO. PASSENGERS** _____
INCIDENT LOCATION _____
DATE ____/____/____ **TIME** _____ **CRASH** YES NO

II. VEHICLE IN MOTION

INITIAL OBSERVATIONS _____
OBSERVATION OF STOP _____

III. PERSONAL CONTACT

OBSERVATION OF DRIVER _____
STATEMENTS _____
PRE-EXIT SOBRIETY TESTS _____
OBSERVATION OF THE EXIT _____
GOODS _____

GENERAL OBSERVATIONS

SPEECH _____
ATTITUDE _____
CLOTHING _____
PHYSICAL EFFECTS/DRUGS OR MEDICATIONS USED _____

IV. DWI-RELATED SCREENING

<p>Equal Pupils <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> LACK OF SMOOTH PURSUIT</p> <p>Equal Tracking <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DISTINCT AND SUSTAINED NYSTAGMUS AT MAX DEV</p> <p>Horizontal Nystagmus <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> ONSET OF NYSTAGMUS PRIOR TO 45 DEGREES</p> <p>Other <input type="checkbox"/> VERTICAL NYSTAGMUS <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p style="text-align: center;">HORIZONTAL GAZE NYSTAGMUS</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 2px;">Left</td> <td style="padding: 2px;">Right</td> </tr> <tr> <td style="padding: 2px;"> </td> <td style="padding: 2px;"> </td> </tr> </table>	Left	Right		
Left	Right				

DWI DETECTION & SFST 4-20

Slide 20.

One way to improve the effectiveness of your handwritten field notes is to use a structured note taking guide. The guide makes it easy to record brief "notes" on each step of the detection process and ensures vital evidence is documented. The field notes provide the information necessary to complete required DWI report forms and assist you in preparing a written account of the incident. The field notes will also be useful if you are required to provide oral testimony since they can be used to refresh your memory. A model note taking guide is provided for your use. A brief description follows. Details are provided in subsequent units.

Remember you must document those actions which gave you reasonable suspicion or probable cause to justify further investigation of a suspected DWI incident.

Session 4 – Overview of Detection, Note Taking, and Testimony

Field Note-Taking Guide

I. NAME _____ **SEX** _____ **RACE** _____
ADDRESS _____ **CITY/STATE** _____ **OP. LIC. NO.** _____
D.O.B. ____/____/____ **SOC. SEC. #** _____
VEHICLE MAKE _____ **YEAR** _____ **LIC.** _____ **STATE** _____
DISPOSITION _____ **NO. PASSENGERS** _____
INCIDENT LOCATION _____
DATE ____/____/____ **TIME** _____ **CRASH** YES NO

II. VEHICLE IN MOTION

INITIAL OBSERVATIONS _____
OBSERVATION OF STOP _____

DWI DETECTION & SFST 4-21

Slide 21.

Section I provides space to record basic information describing the subject, vehicle, location, and date and time the incident occurred.

Section II provides space to record brief descriptions of the vehicle in motion (Detection Phase One), including initial observation of the vehicle in operation and observation of the stopping sequence.

Session 4 – Overview of Detection, Note Taking, and Testimony

Field Note-Taking Guide

III. PERSONAL CONTACT

OBSERVATION OF DRIVER _____

STATEMENTS _____

PRE-EXIT SOBRIETY TESTS _____

OBSERVATION OF THE EXIT _____

ODORS _____

GENERAL OBSERVATIONS

SPEECH _____

ATTITUDE _____

CLOTHING _____

PHYSICAL DEFECTS/DRUGS OR MEDICATIONS USED _____

DWI DETECTION & SFST 4-22

Slide 22.

Section III provides space to record brief descriptions of the personal contact with the subject (Detection Phase Two) including observations of the driver. General Observations provides space to record the subject's manner of speech, attitude, clothing, etc. Any physical evidence collected should also be noted in this section.

Session 4 – Overview of Detection, Note Taking, and Testimony

Field Note-Taking Guide

IV. PRE-ARREST SCREENING

HORIZONTAL GAZE NYSTAGMUS

	LEFT	RIGHT
Equal Pupils	<input type="checkbox"/>	<input type="checkbox"/>
Equal Tracking	<input type="checkbox"/>	<input type="checkbox"/>
Resting Nystagmus	<input type="checkbox"/>	<input type="checkbox"/>
Other _____		

LACK OF SMOOTH PURSUIT
 DISTINCT AND SUSTAINED NYSTAGMUS AT MAX DEV
 ONSET OF NYSTAGMUS PRIOR TO 45 DEGREES
 VERTICAL NYSTAGMUS Yes No

WALK AND TURN

INSTRUCTION STAGE

CANNOT KEEP BALANCE

STARTS TOO SOON

WALKING STAGE

	FIRST NINE STEPS	SECOND NINE STEPS
STOPS WALKING		
MISSSES HEEL-TO-TOE		
STEPS OFF LINE		
USES ARMS TO BALANCE		
ACTUAL STEPS TAKEN		

IMPROPER TURN (Describe) _____

CANNOT COMPLETE TEST (Explain) _____

OTHER: _____

DWI DETECTION & SFST 4-23

Slide 23.

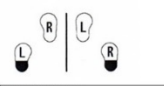
Session 4 – Overview of Detection, Note Taking, and Testimony

Field Note-Taking Guide

ONE LEG STAND

L	R

Sways while balancing
Uses arm(s) to balance
Hopping
Puts foot down



Type of Footwear

OTHER: _____

OTHER FIELD SOBRIETY TESTS

NAME OF TEST _____
DESCRIBE PERFORMANCE _____

NAME OF TEST _____
DESCRIBE PERFORMANCE _____

NAME OF TEST _____
DESCRIBE PERFORMANCE _____

PBT (1) (optional) Time: _____ Results: _____ PBT (2) (optional) Time: _____ Results: _____

DWI DETECTION & SFST 4-24

Slide 24.

Section IV provides space to record the results of all field sobriety tests administered and the results of the preliminary breath test (PBT) if such a test was given.

Section V provides space to record the officer's general observations, such as the subject's manner of speech, attitude, clothing, etc. Any physical evidence collected should also be noted in this section.

Since this is a note-taking guide and space is limited, you will have to develop your own "shorthand" system. Your notes should be detailed and descriptive of the facts, circumstances, or events being described. These notes may be used to refresh your memory and to write the narrative report documenting your observations to testify in court.

NOTE: Field notes may be subpoenaed as evidence in court. It is important any "shorthand" system you use be describable, usable, complete, and consistent.


C. Courtroom Testimony

Session 4 – Overview of Detection, Note Taking, and Testimony

Preparing Testimony

At time of incident:

- Recognize evidence
- Compile notes
- Prepare report



DWI DETECTION & SFST 4-25

Slide 25.

Testimonial evidence in DWI cases establishes the defendant was, in fact, the driver and was under the influence. Your testimony should be clear, detailed, and concise. Preparation for trial is done both at the scene and prior to trial. To be effective, testimonial evidence must be clear and convincing. The first requirement for effective testimony is preparation. Testimony preparation begins at the time of the DWI incident. From the very beginning of the DWI contact, it is your responsibility to recognize significant evidence, compile complete, accurate field notes, and prepare a complete, accurate, detailed report.



Preparing Testimony

Prior to trial:

- Review paperwork
- Review other evidence
- Mentally organize elements, evidence, and testimony
- Identify potential issues
- Discuss with prosecutor



Slide 26.


Testimony preparation continues prior to trial. Just before the trial, you should:

- Review field notes, incident report, narrative, and other paperwork
- Review other evidence, i.e., video, photographs, etc.
- Mentally organize elements of offense and the evidence available to prove each element
- Mentally organize testimony to convey observations clearly and convincingly
- Identify weak spots and/or potential issues with the case and decide how to address those issues
- Discuss the case with the prosecutor

The foundation for preparation and successful testimony is the relationship between the law enforcement officer(s) involved with the arrest and the prosecuting attorney(s) associated with the case. Effective communication and a clear understanding of each groups' objectives and expectations is essential for successful prosecution.

Session 4 – Overview of Detection, Note Taking, and Testimony

Chronology of Testimony



DWI DETECTION & SFST 4-27

Slide 27.

In court, your testimony should be organized chronologically and should cover each phase of the DWI incident.

Phase One: Vehicle in Motion – initial observation of vehicle, the driver, or both including what first attracted your attention to the vehicle/driver and details about the driving before you initiated the traffic stop. Reinforcing cues, maneuvers, or actions observed after signaling the driver to stop but before driver's vehicle came to a complete stop.

A “cue” is defined as a reminder or prompting as a signal to do something.

Phase Two: Personal Contact – face to face observations including personal appearance, statements, and other evidence obtained during your initial contact with driver.

A “clue” is defined as something that leads to the solution of a problem.

Phase Three: Pre-arrest Screening – sobriety tests administered to the driver and the results of any preliminary breath tests (if applicable).

Chronology of Testimony

Arrest and post arrest observations:

- Arrest procedures and admonitions
- Defendant's actions and statements
- Post arrest observations
- Request for chemical test(s)
- Administration and results of chemical test(s)
- Interview

Slide 28.

Arrest and Post Arrest Observations

- The arrest itself including procedures used to inform driver of arrest, admonish subject of rights, and so on
 - Defendant's actions, statements, and/or admissions subsequent to the arrest
 - Observation of defendant subsequent to the arrest including not just what the defendant said but actions and reactions
 - The request for the chemical test including the procedures used, admonition of rights and requirements, and so on
 - The conduct, actions, reactions, and results of the chemical test if you were also the testing officer
 - The interview of the defendant, including any new observations, statements, and/or admissions.
-



Questions?

Slide 29.

Session 4 – Overview of Detection, Note Taking, and Testimony

Test Your Knowledge

1. DWI detection is defined as _____
2. The three phases in a typical DWI contact are:
 - Phase One _____
 - Phase Two _____
 - Phase Three _____
3. In Phase One, the officer usually has an opportunity to _____

Slide 30.

Test Your Knowledge

1. DWI detection is defined as _____
2. The three phases in a typical DWI contact are:
 - A. Phase One _____
 - B. Phase Two _____
 - C. Phase Three _____
3. In Phase One, the officer usually has an opportunity to _____

Session 4 – Overview of Detection, Note Taking, and Testimony

Test Your Knowledge

4. Phase Three may not occur if _____
5. In Phase Two, the officer must decide _____
6. Each major decision can have any one of _____ different outcomes.
 - These are _____.

Slide 31.

4. Phase Three may not occur if _____
5. In Phase Two, the officer must decide _____
6. Each major decision can have any one of _____ different outcomes. These are: _____



Test Your Knowledge

7. At each phase of detection, the officer must determine _____
8. Evidence of DWI is largely _____ in nature
9. Law enforcement officers need a system and tools for recording field notes at scenes of DWI investigations because DWI evidence is _____.

Slide 32.

7. At each phase of detection, the officer must determine _____
 8. Evidence of DWI is largely _____ in nature.
 9. Law enforcement officers need a system and tools for recording field notes at scenes of DWI investigations because DWI evidence is _____.
-



Test Your Knowledge

10. Testimony preparations begins _____
11. List two things the officer should do to prepare testimony just before the trial.
12. In court, the officer's testimony should be organized _____.

Slide 33.

10. Testimony preparations begins _____
 11. List two things the officer should do to prepare testimony just before the trial.
 - A. _____
 - B. _____
 - C. _____
 - D. _____
 - E. _____
 12. In court, the officer's testimony should be organized _____
-

FIELD NOTE-TAKING GUIDE

I. NAME _____ SEX _____ RACE _____
 ADDRESS _____ CITY/STATE _____ OP.LIC.NO. _____
 D.O.B. ____/____/____ SOC. SEC. # _____
 VEHICLE MAKE _____ YEAR _____ LIC. _____ STATE _____
 DISPOSITION _____ NO. PASSENGERS _____
 INCIDENT LOCATION _____
 DATE ____/____/____ TIME _____ CRASH YES NO

II. VEHICLE IN MOTION

INITIAL OBSERVATIONS _____

OBSERVATION OF STOP _____

III. PERSONAL CONTACT

OBSERVATION OF DRIVER _____

STATEMENTS _____

PRE-EXIT SOBRIETY TESTS _____

OBSERVATION OF THE EXIT _____

ODORS _____

GENERAL OBSERVATIONS

SPEECH _____

ATTITUDE _____

CLOTHING _____

PHYSICAL DEFECTS/DRUGS OR MEDICATIONS USED _____

IV. PRE-ARREST SCREENING

HORIZONTAL GAZE NYSTAGMUS

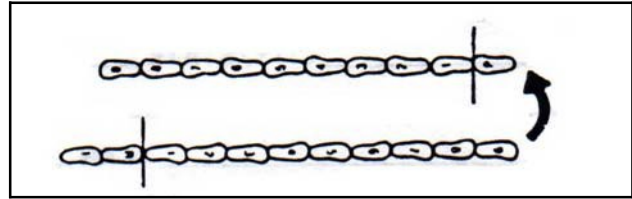
Equal Pupils Yes No LACK OF SMOOTH PURSUIT
 Equal Tracking Yes No DISTINCT AND SUSTAINED NYSTAGMUS AT MAX DEV
 Resting Nystagmus Yes No ONSET OF NYSTAGMUS PRIOR TO 45 DEGREES
 Other _____ VERTICAL NYSTAGMUS Yes No

LEFT	RIGHT

WALK AND TURN

INSTRUCTION STAGE

CANNOT KEEP BALANCE
STARTS TOO SOON



WALKING STAGE

STOPS WALKING
MISSES HEEL-TO-TOE
STEPS OFF LINE
USES ARM(S) TO BALANCE
ACTUAL STEPS TAKEN

FIRST NINE STEPS

SECOND NINE STEPS

IMPROPER TURN (Describe) _____

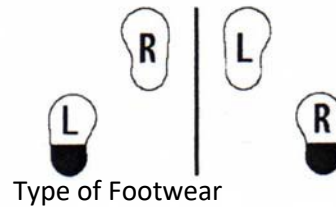
CANNOT COMPLETE TEST (EXPLAIN) _____

OTHER: _____

ONE LEG STAND

L	R

Sways while balancing
Uses arm(s) to balance
Hopping
Puts foot down



OTHER: _____

OTHER FIELD SOBRIETY TESTS

NAME OF TEST _____

DESCRIBE PERFORMANCE _____

NAME OF TEST _____

DESCRIBE PERFORMANCE _____

NAME OF TEST _____

DESCRIBE PERFORMANCE _____

PBT (1) (optional) Time: _____ Results: _____ PBT (2) (optional) Time: _____ Results: _____

5

SFST

Phase One: Vehicle in Motion

LEARNING OBJECTIVES

- Identify typical cues of Detection Phase One
- Describe the observed cues clearly and convincingly
- Understand the significance of the problem of impaired motorcycle riders
- Obtain the skills necessary to detect, arrest, and prosecute alcohol- and drug-impaired motorcyclists

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F. Recognition and Description of Initial and Reinforcing Cues.....	21

LEARNING ACTIVITIES

- Instructor-Led Presentations
- Video Presentation
- Instructor-Led Demonstrations
- Participants Presentations



Learning Objectives

- Identify typical cues of Detection Phase One
- Describe observed cues clearly and convincingly
- Understand significance of the impaired motorcycle rider's problem
- Obtain skills necessary to detect, arrest, and prosecute alcohol- and drug-impaired motorcyclists



A. Overview: Tasks and Decision

Session 5 – Phase One: Vehicle in Motion

Phase One: Vehicle In Motion

Initial Observation of the Vehicle in Operation

?

DWI DETECTION & SFST 5-3

Slide 3.

Your first task in Phase One: Vehicle in Motion is to observe the vehicle in operation and to note any initial cues of a possible DWI violation. At this point you must decide whether there is reasonable suspicion to stop the vehicle; either to conduct further investigation to determine if the driver may be impaired or for another traffic violation. You are not committed to arresting the driver for DWI based on this initial observation, but rather should concentrate on gathering all relevant evidence that may suggest impairment. Your second task during phase one is to observe the manner in which the driver responds to your signal to stop and to note any additional evidence of a DWI violation.

The first task, observing the vehicle in motion, begins when you first notice the vehicle, driver, or both. Your attention may be drawn to the vehicle by such things as:

- A moving traffic violation
- An equipment violation
- An expired registration or inspection sticker
- Unusual driving actions such as weaving within a lane or moving at a slower than normal speed
- Evidence of drinking or drugs in vehicle

If this initial observation discloses vehicle maneuvers or human behaviors that may be associated with impairment, you may develop an initial suspicion of DWI. Based upon this initial observation of the vehicle in motion, you must decide whether there is reasonable suspicion to stop the vehicle. At this point, you have three choices: (1) Stop the vehicle; (2) Continue to observe the vehicle; (3) Disregard the vehicle.

Session 5 – Phase One: Vehicle in Motion

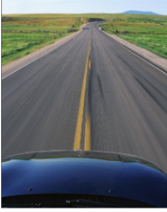
Phase One: Vehicle In Motion

Initial Observation of the Vehicle in Operation

Should I Stop the Vehicle?

?

Observation of the Stop



DWI DETECTION & SFST 5-4

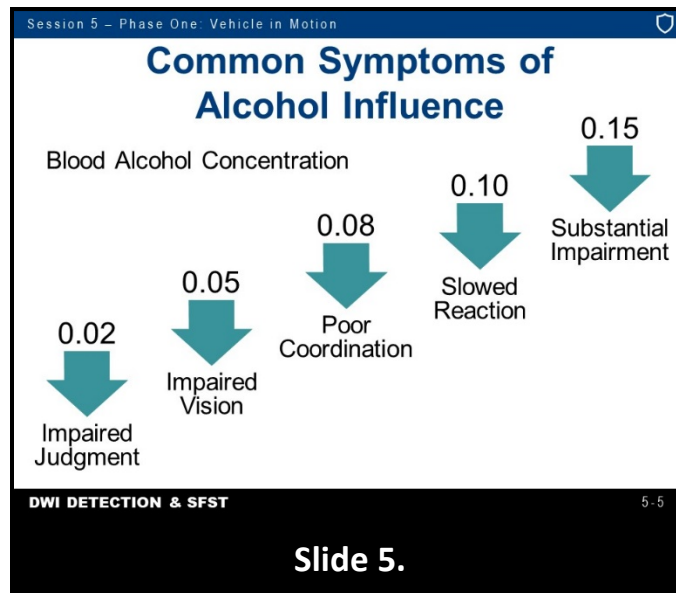
Slide 4.

Alternatives to stopping the vehicle include delaying the stop/no stop decision in order to continue observing the vehicle and/or disregarding the vehicle.

Whenever there is a valid reason to stop a vehicle, the officer should be alert to the possibility the driver may be impaired by alcohol and/or other drugs. Once the stop command has been communicated to the suspect driver, the officer must closely observe the driver's actions and vehicle maneuvers during the stopping sequence.

Sometimes significant evidence of alcohol influence comes to light during the stopping sequence. In some cases, the stopping sequence might produce the first suspicion of DWI. Drivers impaired by alcohol and/or other drugs may respond in unexpected and dangerous ways to the stop command.

B. Initial Observations: Visual Cues of Impaired Operations (Automobiles)

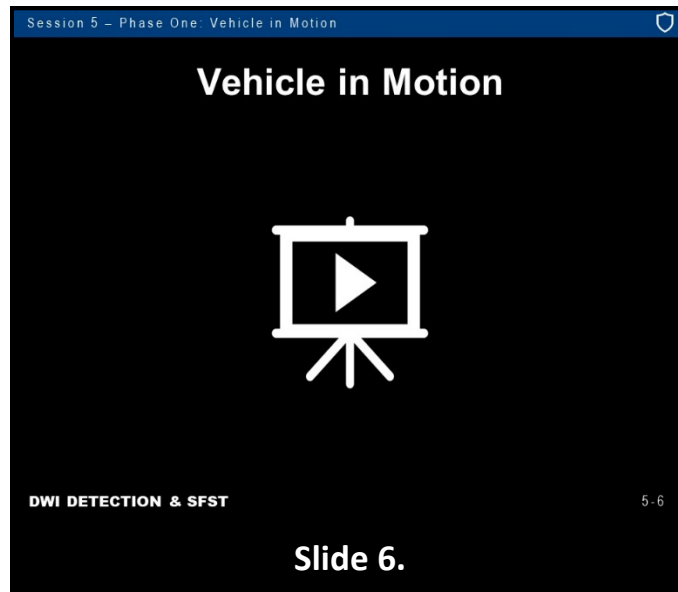


Blood Alcohol Concentration (BAC) ¹	Typical Effects	Predictable Effects on Driving
.02	<ul style="list-style-type: none"> Some loss of judgment Relaxation Slight body warmth Altered mood 	<ul style="list-style-type: none"> Decline in visual functions (rapid tracking of a moving target) Decline in ability to perform two tasks at the same time (divided attention)
.05	<ul style="list-style-type: none"> Exaggerated behavior May have loss of small- muscle control (e.g., focusing your eyes) Impaired judgment Usually good feeling Lowered alertness Release of inhibition 	<ul style="list-style-type: none"> Reduced coordination Reduced ability to track moving objects Difficulty steering Reduced response to emergency driving situation
.08	<ul style="list-style-type: none"> Muscle coordination becomes poor (e.g., balance, speech, vision, reaction time, and hearing) Harder to detect danger Impaired judgment, self-control, reasoning, and memory 	<ul style="list-style-type: none"> Concentration Short term memory loss Speed control Reduced information processing capability (e.g., signal detection, visual search) Impaired perception
.10	<ul style="list-style-type: none"> Clear deterioration of reaction time and control Slurred speech, poor coordination, and slowed thinking 	<ul style="list-style-type: none"> Reduced ability to maintain lane position and brake appropriately
.15	<ul style="list-style-type: none"> Far less muscle control than normal Vomiting may occur (unless this level is reached slowly or a person has developed a high tolerance for alcohol) Significant loss of balance 	<ul style="list-style-type: none"> Substantial impairment in vehicle control, attention to driving task, and in necessary visual and auditory information processing

¹Information in this table shows the BAC level at which the effect usually is first observed, and has been gathered from a variety of sources including the National Highway Traffic Safety Administration, the National Institute on Alcohol Abuse and Alcoholism, the American Medical Association, and www.webMD.com.

Drivers who are impaired frequently exhibit certain effects or symptoms of impairment. These include slowed reactions, impaired judgment as evidenced by a willingness to take risks, impaired vision, and poor coordination.

Below presents common symptoms of alcohol influence. This unit focuses on alcohol impairment because research currently provides more information about the effects of alcohol on driving than it does about the effects of other drugs on driving. Remember whether the driver is impaired by alcohol and/or drugs, the law enforcement detection process is the same and the offense is still DWI.



The common effects of alcohol on the driver's mental and physical faculties lead to predictable driving violations and vehicle operating characteristics. The National Highway Traffic Safety Administration (NHTSA) sponsored research to identify the most common and reliable initial indicators of DWI. This research identified 24 cues, each with an associated high probability the driver exhibiting the cue is *impaired*. These cues and their associated probabilities are described in the NHTSA publication, [The Visual Detection of DWI Motorists](#). They also are discussed in [Vehicle in Motion](#), a video sponsored by NHTSA to assist law enforcement officers to recognize DWI detection cues.

The Visual Detection of DWI Motorists is located in the Participant Manual.

Source:

Stuster, J. (1997). *The Detection of DWI at BACs Below 0.10*. (Final Rep. DOT-HS-808-654). Santa Barbara, CA: Anacapa Sciences, Inc.


NHTSA sponsored research to identify the most common and reliable initial indicators of DWI. Research identified 100 cues, each providing a high probability indication the driver is *under the influence*.

The list was reduced to 24 cues during three field studies involving hundreds of officers and more than 12,000 enforcement stops.

Session 5 – Phase One: Vehicle in Motion

Most Common and Reliable Initial Indicators of DWI

- Problems in maintaining proper lane position
- Speed and braking problems
- Vigilance problems
- Judgment problems



DWI DETECTION & SFST 5-7


Slide 7.

The driving behaviors are presented in four categories: (1) Problems in maintaining proper lane position; (2) Speed and braking problems; (3) Vigilance problems; and, (4) Judgment problems.

Session 5 – Phase One: Vehicle in Motion

Problems Maintaining Proper Lane Position

- Weaving
- Weaving across lane line
- Drifting
- Straddling a lane line
- Swerving
- Almost striking object or vehicle
- Turning with a wide radius



DWI DETECTION & SFST 5-8

Slide 8.

There is a brochure published by NHTSA that contains these cues. The title is “The Visual Detection of DWI Motorists” DOT HS 808 677. See Attachment at the end of this session. The first category is Problems in maintaining proper lane position. [p=.50-.75]


- Weaving
- Weaving across lane lines (lane departure)
- Drifting

- Straddling a lane line
- Swerving
- Almost striking object or vehicle
- Turning with a wide radius

Session 5 – Phase One: Vehicle in Motion

Speed and Braking Problems

- Stopping problems
- Unnecessary acceleration or deceleration
- Varying speed
- 10 mph or more under the speed limit



DWI DETECTION & SFST 5-9

Slide 9.


Speed and braking problems. [p=.45-.70]

- Stopping problems (too far, too short, or too jerky)
- Unnecessary acceleration or deceleration
- Varying speed
- 10 mph or more under the speed limit

Session 5 – Phase One: Vehicle in Motion

Vigilance Problems

- Driving without headlights at night
- Failure to signal
- Driving wrong way
- Slow response to traffic/officer's signals
- Stopping in lane for no apparent reason



DWI DETECTION & SFST 5-10

Slide 10.

The third problem is vigilance problems. [P=.55-.65]. This category includes, but is not limited to:

- Driving without headlights at night
 - Failure to signal or signal inconsistent with action
 - Driving in opposing lanes or wrong way on one way
 - Slow response to traffic signals
 - Slow or failure to respond to officer's signals
 - Stopping in lane for no apparent reason
-



Judgment Problems

- Following too closely
- Improper lane change/turn
- Driving on other than designated roadway
- Stopping inappropriately in response to officer
- Inappropriate or unusual behavior
- Appearing to be impaired

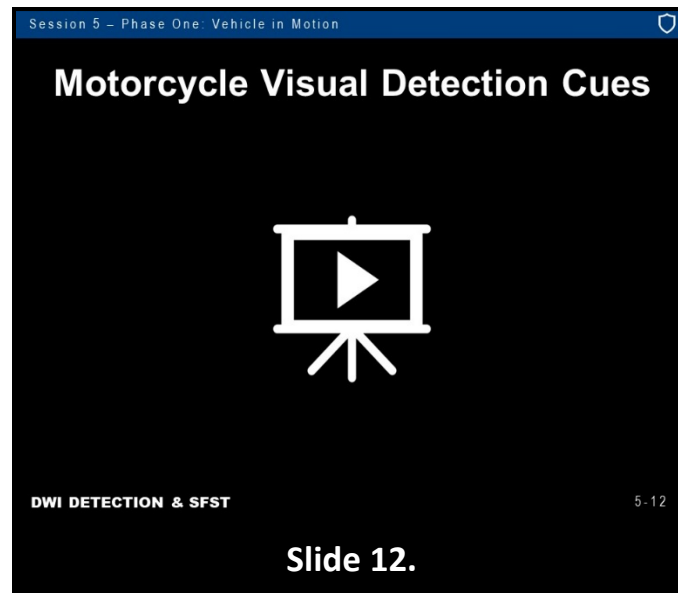


Slide 11.

Judgment problems. [P=.35-.90]

- Following too closely (tailgating)
- Improper or unsafe lane change
- Illegal or improper turn
- Driving on other than designated roadway
- Stopping inappropriately in response to officer
- Inappropriate or unusual behavior (throwing objects, arguing, etc.)
- Appearing to be impaired

C. Initial Observations: Visual Cues of Impaired Operation (Motorcycles)



NHTSA estimated in 2020, 27 percent of all motorcycle riders killed were involved in alcohol-impaired crashes.

Sources:

National Center for Statistics and Analysis. (2020). *Motorcycles: 2020 Data*. (Traffic Safety Facts. Report No. DOT HS 813 294). Washington D.C.: National Highway Traffic Safety Administration.


Stuster, J. (1993). *The Detection of DWI Motorcyclists*. (Final Rep. DOT-HS-807-839). Santa Barbara, CA: Anacapa Sciences, Inc.

NHTSA sponsored research to develop a set of behavioral cues to be used by law enforcement personnel to detect motorcyclists who are operating their vehicles while impaired. These cues can be used both day and night. These cues have been labeled as Excellent Predictors and Good Predictors.

Session 5 – Phase One: Vehicle in Motion

Motorcycle DUI Detection Guide Excellent Cues (50% or Greater Probability)

- Drifting during turn or curve
- Trouble with dismount/balance at a stop
- Turning problems
- Inattentive to surroundings
- Inappropriate or unusual behavior
- Weaving



DWI DETECTION & SFST 5-13

Slide 13.

Research has identified driving impairment cues for motorcyclists.

The Detection of DWI Motorcyclists is located in the Participant Manual.

Source:

(2013, March). *The Detection of DWI Motorcyclists*. (Publication: DOT HS 807 856). Washington, D.C.: National Highway Traffic Safety Administration.

Excellent cues (50% or greater probability).

- Drifting during turn or curve
- Trouble with dismount
- Trouble with balance at a stop
- Turning problems (e.g., unsteady, sudden corrections, late braking, improper lean angle)
- Inattentive to surroundings
- Inappropriate or unusual behavior (e.g., carrying or dropping object, urinating at roadside, disorderly conduct, etc.)
- Weaving



Motorcycle DUI Detection Guide

Good cues (30 to 50% probability)

- Erratic movements while going straight
- Operating without lights at night
- Recklessness
- Following too closely
- Running stop light or sign
- Evasion
- Traveling wrong way



Slide 14.

Good Cues (30 to 50% probability)

- Erratic movements while going straight
- Operating without lights at night
- Recklessness
- Following too closely
- Running stop light or sign
- Evasion
- Traveling wrong way



Elements of the Driving Task



DWI DETECTION & SFST

5-15


Slide 15.

Driving is a complex task, composed of many parts.

- Steering
- Controlling accelerator
- Signaling
- Controlling brake pedal
- Operating clutch (if applicable)
- Operating gearshift (if applicable)
- Observing other traffic
- Observing signal lights, stop signs, other traffic control devices
- Making decisions (whether to stop, turn, speed up, slow down, etc.)
- Many other things

Session 5 – Phase One: Vehicle in Motion

Safe Driving Demands



Safe driving demands the ability to divide attention among numerous simultaneous tasks.

DWI DETECTION & SFST 5-16

Slide 16.

In order to drive safely, a driver must be able to divide attention among all of these various activities. Under the influence of alcohol or many drugs, a person's ability to divide attention becomes impaired. The impaired driver tends to concentrate on certain parts of driving and to disregard other parts.

- Alcohol has impaired ability to divide attention
- Driver is concentrating on steering and controlling the accelerator and brake
- Does not respond to the particular color of the traffic light

Some of the most significant evidence from all three phases of DWI detection can be related directly to the effects of alcohol and/or other drugs on divided attention ability.

D. Recognition and Description of Initial Cues

Session 5 – Phase One: Vehicle in Motion

Vehicle In Motion Initial Cues

What do you see?

- Moving violation
- Equipment violation
- Other violation
- Unusual operation
- Anything else

DWI DETECTION & SFST 5-17

Slide 17.

What do you see?

Moving violation

- Equipment violation
 - Other violation
 - Unusual operation
 - Anything else (suspicious location, motorists assist)
-

Session 5 – Phase One: Vehicle in Motion

Phase One: Task One Initial Observation of Vehicle Operation

Requires the ability to:

- Recognize evidence of alcohol and/or other drug influence
- Describe that evidence clearly and convincingly

DWI DETECTION & SFST 5-18

Slide 18.

The task of making initial observations of vehicle operation is the first step in the job of DWI detection. Proper performance of that task demands two distinct but related abilities: Ability to recognize evidence of alcohol and/or other drug influence and Ability to describe that evidence clearly and convincingly.

It is not enough a police officer observe and recognize symptoms of impaired driving. The officer must be able to articulate what was observed so a judge or jury will have a clear mental image of exactly what took place.

Improving the ability to recognize and clearly describe observational evidence requires practice. It isn't practical to have impaired drivers actually drive through the classroom. The next best thing is to use video to portray typical DWI detection contacts.

Session 5 – Phase One: Vehicle in Motion

Procedures for Practicing Cue Recognition and Description

- View DWI violation videos
- Take notes
- Testify
 - Choose words carefully
 - Provide as much detail as possible
 - Construct accurate image of observations
- Critique testimony

DWI DETECTION & SFST 5-19

Slide 19.

Session 5 – Phase One: Vehicle in Motion

Leaving the Shopping Center




DWI DETECTION & SFST 5-20

Slide 20.

Session 5 – Phase One: Vehicle in Motion

The Charcoal SUV



DWI DETECTION & SFST 5-21

Slide 21.


E. Typical Reinforcing Cues of the Stopping Sequence

Session 5 – Phase One: Vehicle in Motion

Vehicle in Motion: Stopping Sequence

What do you see?

- Tries to flee
- No/slow response
- Abrupt weave
- Sudden stop
- Strikes curb
- New violations
- Anything else



DWI DETECTION & SFST 5-22

Slide 22.

After the command to stop is given, the alcohol-impaired driver may exhibit additional important evidence of DWI.

Some of these cues are exhibited because the stop command places additional demands on the driver's ability to divide attention.

The signal to stop creates a new situation to which the driver must devote some attention, i.e., emergency flashing lights, siren, etc., that demand and divert the subject's attention.

Signal to stop requires the driver to turn the steering wheel, operate the brake pedal, activate the signal light, etc. As soon as an officer gives the stop command, the subject's driving task becomes more complex. If subject is under the influence, the subject may not be able to handle this more complex driving very well.

Session 5 – Phase One: Vehicle in Motion

Phase One: Task Two Observation of the Stop

Requires the ability to:

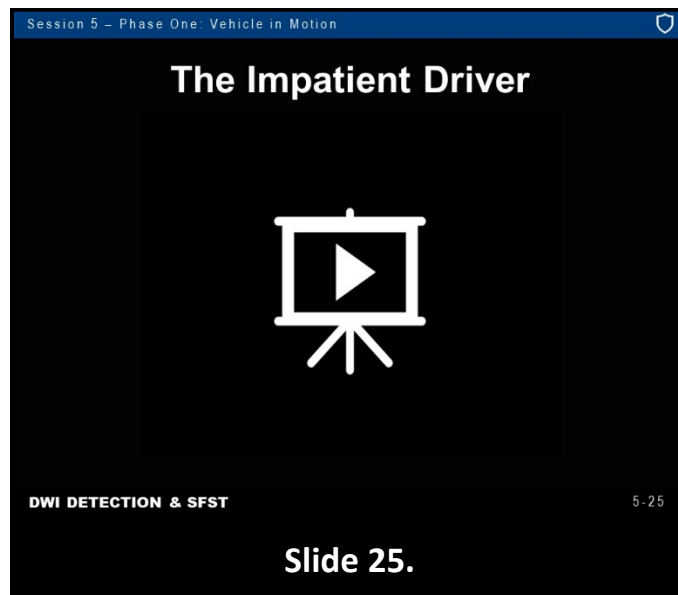
- Recognize evidence of alcohol and/or other drug influence
- Describe that evidence clearly and convincingly

DWI DETECTION & SFST 5-23

Slide 23.

It is the officer's responsibility to capture and convey the additional evidence of impairment that may be exhibited during the stopping sequence. This requires ability to recognize evidence of alcohol and/or other drug influence and requires ability to describe that evidence clearly and convincingly.

F. Recognition and Description of Initial and Reinforcing Cues



Session 5 – Phase One: Vehicle in Motion

Half in the Bag



DWI DETECTION & SFST 5-26

Slide 26.

Session 5 – Phase One: Vehicle in Motion

Questions?

DWI DETECTION & SFST 5-27

Slide 27.

Session 5 – Phase One: Vehicle in Motion

Test Your Knowledge

1. The Phase One tasks are _____
2. Two common symptoms of impairment are:
 - A. _____
 - B. _____

DWI DETECTION & SFST 5-28

Slide 28.

Test Your Knowledge

1. The Phase One tasks are _____
 2. Two common symptoms of impairment are: _____
-

Session 5 – Phase One: Vehicle in Motion

Test Your Knowledge

3. Alcohol impairs the ability to _____ among tasks
4. Three clues reinforcing the suspicion of DWI which may be observed during the stopping sequence are:
 - A. _____
 - B. _____
 - C. _____

DWI DETECTION & SFST 5-29

Slide 29.

3. Alcohol impairs the ability to _____ among tasks.
 4. Three clues reinforcing the suspicion of DWI which may be observed during the stopping sequence are: _____
-

The Visual Detection of DWI Motorists



The Visual Detection of DWI Motorists



U.S. Department of Transportation
**National Highway Traffic Safety
Administration**



DOT HS 808 677

INTRODUCTION

More than a million people have died in traffic crashes in the United States since 1966, the year of the National Traffic and Motor Vehicle Safety Act, which led to the creation of the National Highway Traffic Safety Administration (NHTSA).

During the late 1960's and early 1970's more than 50,000 people lost their lives each year on our nation's streets, roads and highways. Traffic safety has improved considerably since that time: the annual death toll has declined substantially, even though the numbers of drivers, vehicles, and miles driven all have increased. When miles traveled are considered, the likelihood of being killed in traffic during the 1960's was three to four times what it is today.

The proportion of all crashes in which alcohol is involved also has declined. The declines in crash risk and the numbers of alcohol-involved crashes are attributable to several factors, including the effectiveness of public information and education programs, traffic safety legislation, a general aging of the population, and law enforcement efforts.

NHTSA research contributed to the improved condition, in part, by providing law enforcement officers with useful and scientifically valid information concerning the behaviors that are most predictive of impairment. Continued enforcement of Driving While Intoxicated (DWI) laws will be a key to saving lives in the future. For this reason, NHTSA sponsored research leading to the development of a new DWI detection guide and training materials, including a new training video. Many things have changed since 1979, but like the original training materials, the new detection guide describes a set of behaviors that can be used by officers to detect motorists who are likely to be driving while impaired.

Building upon the previous NHTSA study, researchers interviewed officers from across the United States and developed a list of more than 100 driving cues that have been found to predict blood alcohol concentrations (BAC) of 0.08 percent or greater. The list was reduced to 24 cues during 3 field studies involving hundreds of officers and more than 12,000 enforcement stops. The driving behaviors identified by the officers are presented in the following four categories:

- 1) Problems in maintaining proper lane position**
- 2) Speed and braking problems**
- 3) Vigilance problems**
- 4) Judgment problems**

The cues presented in these categories predict that a driver is DWI at least 35 percent of the time. For example, if you observe a driver to be weaving or weaving across lane lines, the probability of DWI is more than .50 or 50 percent. However, if you observe either of the weaving cues and any other cue listed in this booklet, the probability of DWI jumps to at least .65 or 65 percent. Observing any two cues other than weaving indicates a probability of DWI of at least 50 percent. Some cues, such as swerving, accelerating for no reason, and driving on other than the designated roadway, have single-cue probabilities greater than 70 percent. Generally, the probability of DWI increases substantially when a driver exhibits more than one of the cues.

This booklet contains:

- **The DWI Detection Guide**
- **A summary of the research that led to the guide**
- **Explanations of the 24 driving cues**
- **A description of post-stop cues that are predictive of DWI**

The research suggests that these training materials will be helpful to officers in:

- **Detecting impaired motorists**
- **Articulating observed behaviors on arrest reports**
- **Supporting officers' expert testimony**

DWI DETECTION GUIDE

Weaving plus any other cue: $p =$ at least .65

Any two cues: $p =$ at least .50

Problems Maintaining Proper Lane Position $p = .50-.75$

- Weaving
- Weaving across lane lines
- Straddling a lane line
- Swerving
- Turning with a wide radius
- Drifting
- Almost striking a vehicle or other object

Speed and Braking Problems $p = .45-.70$

- Stopping problems (too far, too short, or too jerky)
- Accelerating or decelerating for no apparent reason
- Varying speed
- Slow speed (10+ mph under limit)

Vigilance Problems $p = .55-.65$

- Driving in opposing lanes or wrong way on one-way
- Slow response to traffic signals
- Slow or failure to respond to officer's signals
- Stopping in lane for no apparent reason
- Driving without headlights at night
- Failure to signal or signal inconsistent with action

Judgment Problems $p = .35-.90$

- Following too closely
- Improper or unsafe lane change
- Illegal or improper turn (too fast, jerky, sharp, etc.)
- Driving on other than the designated roadway
- Stopping inappropriately in response to officer
- Inappropriate or unusual behavior (throwing, arguing, etc.)
- Appearing to be impaired

Post Stop Cues $p \geq .85$

- Difficulty with motor vehicle controls
- Difficulty exiting the vehicle
- Fumbling with driver's license or registration
- Repeating questions or comments
- Swaying, unsteady, or balance problems
- Leaning on the vehicle or other object
- Slurred speech
- Slow to respond to officer or officer must repeat
- Providing incorrect information, changes answers
- Odor of alcoholic beverage from the driver

$p \geq .50$ when combined with any other cue:

- Driving without headlights at night
- Failure to signal or signal inconsistent with action

The probability of detecting DWI by random traffic enforcement stops at night has been found to be about 3 percent (.03).

PROBLEMS IN MAINTAINING PROPER LANE POSITION

Maintaining proper lane position can be a difficult task for an impaired driver. For example, we have all, at one time, seen vehicles **weaving**. Weaving is when the vehicle alternately moves toward one side of the lane and then the other. The pattern of lateral movement can be fairly regular, as one steering correction is closely followed by another. In extreme cases, the vehicle's wheels even **cross the lane lines** before a correction is made. You might even observe a vehicle **straddling a center or lane line**. That is, the vehicle is moving straight ahead with either the right or left tires on the wrong side of the lane line or markers.



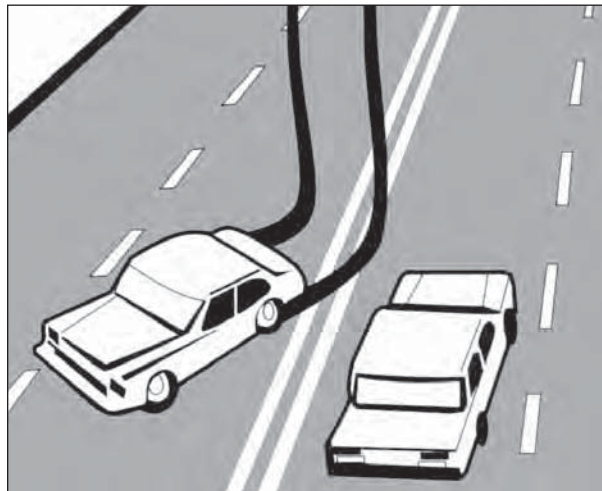
Weaving

Drifting is when a vehicle is moving in a generally straight line, but at a slight angle to the lane. The driver might correct his or her course as the vehicle approaches a lane line or other boundary or fail to correct until after a boundary has been crossed. In extreme cases, the driver fails to correct in time to avoid a collision.



Drifting

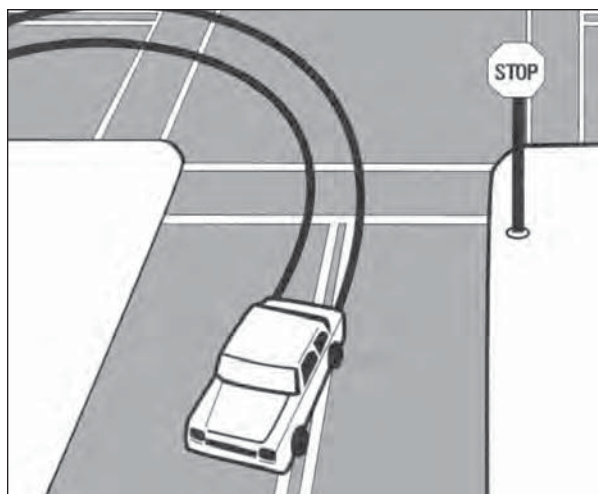
Course corrections can be gradual or abrupt. For example, you might observe a vehicle to **swerve**, making an abrupt turn away from a generally straight course, when a driver realizes that he or she has drifted out of proper lane position or to avoid a previously unnoticed hazard.



Swerving

A related DWI cue is **almost striking a vehicle or other object**. You might observe a vehicle, either at slow speeds or moving with traffic, to pass unusually close to a sign, barrier, building, or other object. This cue also includes almost striking another vehicle, either moving or parked, and causing another vehicle to maneuver to avoid a collision.

Turning with a wide radius or drifting during a curve is the final cue in this category of driver behaviors. A vehicle appears to drift to the outside of the lane or into another lane through the curve or while turning a corner. Watch for this cue, and stop the driver when you see it. Many alcohol-involved crashes are caused by an expanding turn radius or drifting out of lane position during a curve.

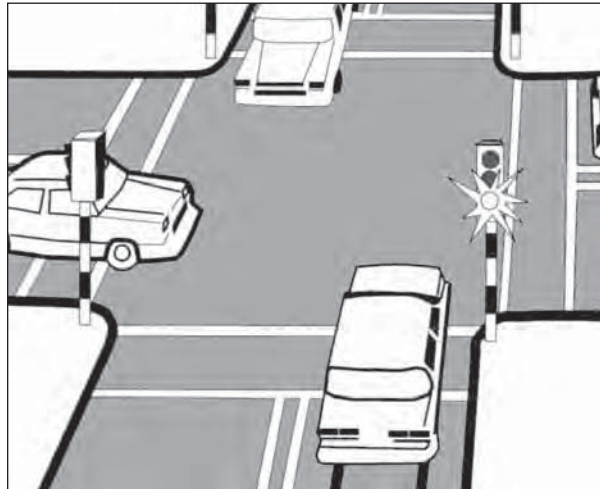


Turning With a Wide Radius

SPEED AND BRAKING PROBLEMS

The research showed that braking properly can be a difficult task for an impaired driver. For example, there is a good chance the driver is DWI if you observe any type of **stopping problem**. Stopping problems include:

- **Stopping too far from a curb or at an inappropriate angle**
- **Stopping too short or beyond a limit line**
- **Jerky or abrupt stops**



Stopping Beyond a Limit Line

Impaired drivers also can experience difficulty maintaining an appropriate speed. There is a good chance the driver is DWI if you observe a vehicle to:

- **Accelerate or decelerate rapidly for no apparent reason**
- **Vary its speed, alternating between speeding up and slowing down**
- **Be driven at a speed that is 10 miles per hour (mph) or more under the limit**

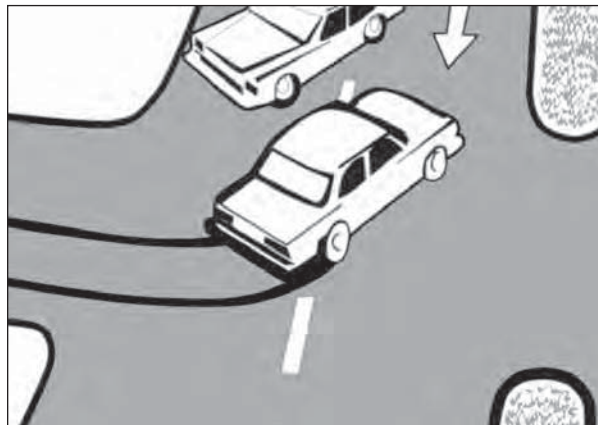
VIGILANCE PROBLEMS

Vigilance concerns a person's ability to pay attention to a task or notice changes in surroundings. A driver whose vigilance has been impaired by alcohol might forget to turn on his or her headlights when required. Similarly, impaired drivers often forget to signal a turn or lane change, or their signal is inconsistent with their maneuver, for example, signaling left but turning right.



Signaling Inconsistent With Driving Actions

Alcohol-impaired vigilance also results in motorists driving into opposing or crossing traffic and turning in front of oncoming vehicles with insufficient headway.



Driving Into Opposing or Crossing Traffic

Driving is a complex task that requires accurate information about surrounding traffic conditions. Failing to yield the right of way and driving the wrong way on a one way street are dangerous examples of vigilance problems.

A driver whose vigilance has been impaired by alcohol also might respond more slowly than normal to a change in a traffic signal. For example, the vehicle might remain stopped for an unusually long period of time after the signal has turned green. Similarly, an impaired driver might be unusually slow to respond to an officer's lights, siren, or hand signals.

The most extreme DWI cue in the category of vigilance problems is to find a vehicle stopped in a lane for no apparent reason. Sometimes when you observe this behavior the driver will be just lost or confused, but more than half of the time the driver will be DWI—maybe even asleep at the wheel.

JUDGMENT PROBLEMS

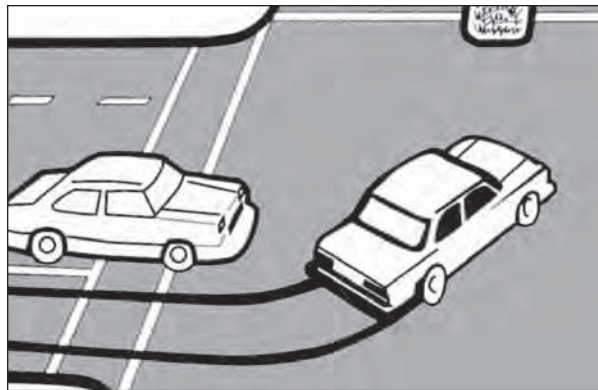
Operating a motor vehicle requires continuous decision making by the driver. Unfortunately, judgment abilities can be affected by even small amounts of alcohol. For example, alcohol-impaired judgment can cause a driver to follow another vehicle too closely, providing an unsafe stopping distance.

Alcohol-impaired judgment also can result in a driver taking risks or endangering others. If you observe a vehicle to make improper or unsafe lane changes, either frequently or abruptly or with apparent disregard for other vehicles, there is a good chance the driver's judgment has been impaired by alcohol.

Similarly, impaired judgment can cause a driver to turn improperly. For example, misjudgments about speed and the roadway can cause a driver

to take a turn too fast or to make sudden corrections during the maneuver. These corrections can appear to the observer as jerky or sharp vehicle movements during the turn.

Alcohol-impaired judgment can affect the full range of driver behaviors. For example, the research found that impaired drivers are less inhibited about making illegal turns than unimpaired drivers.

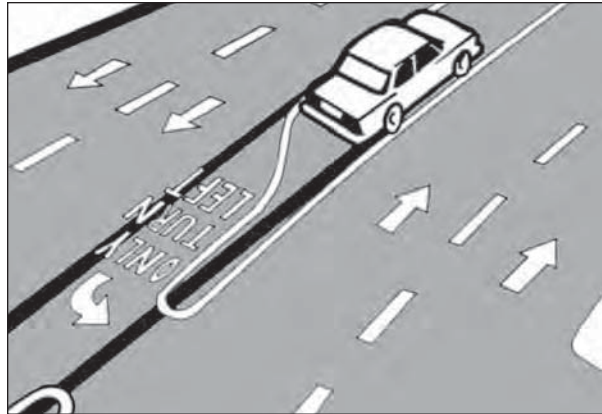


Turning Illegally

Driving on other than the designated roadway is another cue exhibited by alcohol-impaired drivers. Examples include driving at the edge of the roadway, on the shoulder, off the roadway entirely, and straight through turn-only lanes.

In some cases, impaired drivers stop inappropriately in response to an officer, either abruptly as if they had been startled or in an illegal or dangerous manner.

In fact, the research has shown that there is a good chance a driver is DWI if you observe the person exhibit *any inappropriate or unusual behavior*. Unusual behavior includes throwing something from the vehicle, drinking in the vehicle, urinating at the roadside, arguing with another motorist, or otherwise being disorderly. If you observe inappropriate or unusual behavior, there is a good probability that the driver is DWI.



Driving on Other Than the Designated Roadway

The final cue is actually one or more of a set of indicators related to the personal behavior or appearance of a driver. These indicators include, gripping the steering wheel tightly, driving with one's face close to the windshield, slouching in the seat, and staring straight ahead with eyes fixed. Some officers routinely scrutinize the faces of drivers in oncoming traffic, looking for the indicators of impairment. If you observe a driver who **appears to be impaired**, the research showed that there is an excellent probability that you are correct in your judgment.



Appearing To Be Impaired

SUMMARY

To summarize, the DWI cues related to **problems in maintaining proper lane position** include:

- **Weaving**
- **Weaving across lane lines**
- **Straddling a lane line**
- **Drifting**
- **Swerving**
- **Almost striking a vehicle or other object**
- **Turning with a wide radius or drifting during a curve**

The DWI cues related to **speed and braking problems** include:

- **Stopping problems (too far, too short, too jerky)**
- **Accelerating for no reason**
- **Varying speed**
- **Slow speed**

The DWI cues related to **vigilance problems** include:

- **Driving without headlights at night**
- **Failure to signal a turn or lane change or signaling inconsistently with actions**
- **Driving in opposing lanes or the wrong way on a one-way street**
- **Slow response to traffic signals**
- **Slow or failure to respond to officer's signals**
- **Stopping in the lane for no apparent reason**

The DWI cues related to **judgment problems** include:

- **Following too closely**
- **Improper or unsafe lane change**
- **Illegal or improper turn (too fast, jerky, sharp, etc.)**
- **Driving on other than the designated roadway**
- **Stopping inappropriately in response to an officer**
- **Inappropriate or unusual behavior**
- **Appearing to be impaired**

POST-STOP CUES

In addition to the driving cues, the following post-stop cues have been found to be excellent predictors of DWI.

- **Difficulty with motor vehicle controls**
- **Difficulty exiting the vehicle**
- **Fumbling with driver's license or registration**
- **Repeating questions or comments**
- **Swaying, unsteady, or balance problems**
- **Leaning on the vehicle or other object**
- **Slurred speech**
- **Slow to respond to officer or officer must repeat questions**
- **Providing incorrect information or changes answers**
- **Odor of alcoholic beverage from the driver**

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March 2010

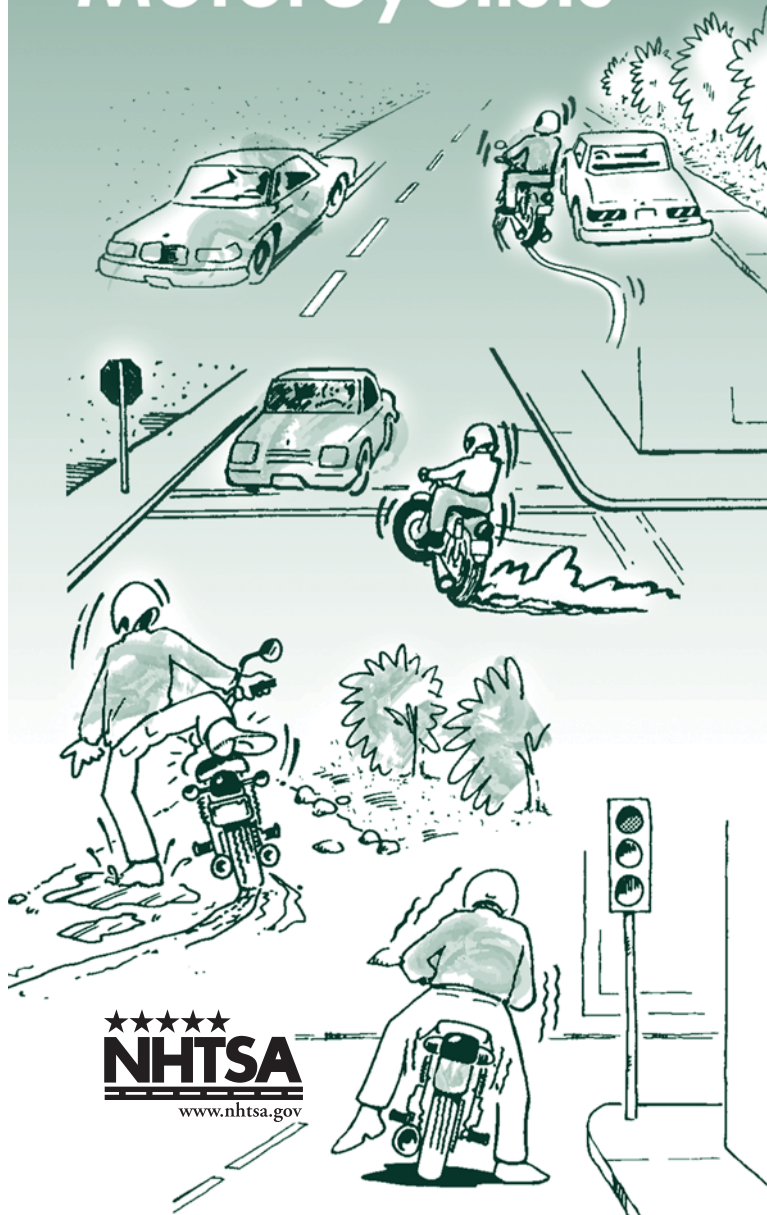


U.S. Department of Transportation
**National Highway Traffic Safety
Administration**



National Highway Traffic Safety Administration

The Detection of DWI Motorcyclists



★★★★★
NHTSA
www.nhtsa.gov

Motorcycle DWI Detection Guide

NHTSA has found that the following cues predicted impaired motorcycle operation.

Excellent Cues (50% or greater probability)

- Drifting during turn or curve
- Trouble with dismount
- Trouble with balance at a stop
- Turning problems (e.g., unsteady, sudden corrections, late braking, improper lean angle)
- Inattentive to surroundings
- Inappropriate or unusual behavior (e.g., carrying or dropping object, urinating at roadside, disorderly conduct, etc.)
- Weaving

Good Cues (30 to 50% probability)

- Erratic movements while going straight
- Operating without lights at night
- Recklessness
- Following too closely
- Running stop light or sign
- Evasion
- Wrong way

The Detection of DWI Motorcyclists

Introduction

The National Highway Traffic Safety Administration (NHTSA) estimated that in 2011, about 29 percent of motorcycle operators involved in fatal crashes had a blood alcohol concentration (BAC) of .08 grams per deciliter (g/dL) or higher.

Clearly, enforcing impaired driving laws is a key to reducing the number of alcohol-related motorcyclist fatalities. *But which cues should be used to detect impaired motorcyclists?*

NHTSA sponsored research to develop a set of behavioral cues to be used by law enforcement personnel to detect motorcyclists who are operating their vehicles while intoxicated. The researchers began by interviewing experienced patrol officers from across the country to determine what behavioral cues have been used to detect impaired motorcyclists. A few, primarily motorcycle officers, suggested cues that reflected considerable understanding of the mental and physical requirements of riding a motorcycle. Others believed the cues to be identical to those used to detect impaired drivers. But some officers, even those with many years of experience, reported they believe there are no cues that can be used to distinguish DWI from unimpaired motorcycle operation.

In addition to interviewing law enforcement personnel, the research team developed a database of 1,000 motorcycle DWI arrest reports. The research team focused on officers' narratives and motorcyclists' behaviors that motivated the stops, and correlated those behaviors with BAC. Analysis of the interviews and arrest report data resulted in an inventory of about 100 cues that have been observed by officers in relation to impaired operation of motorcycles.

The researchers, working closely with law enforcement personnel, conducted two major field studies involving more than 50 sites throughout the United