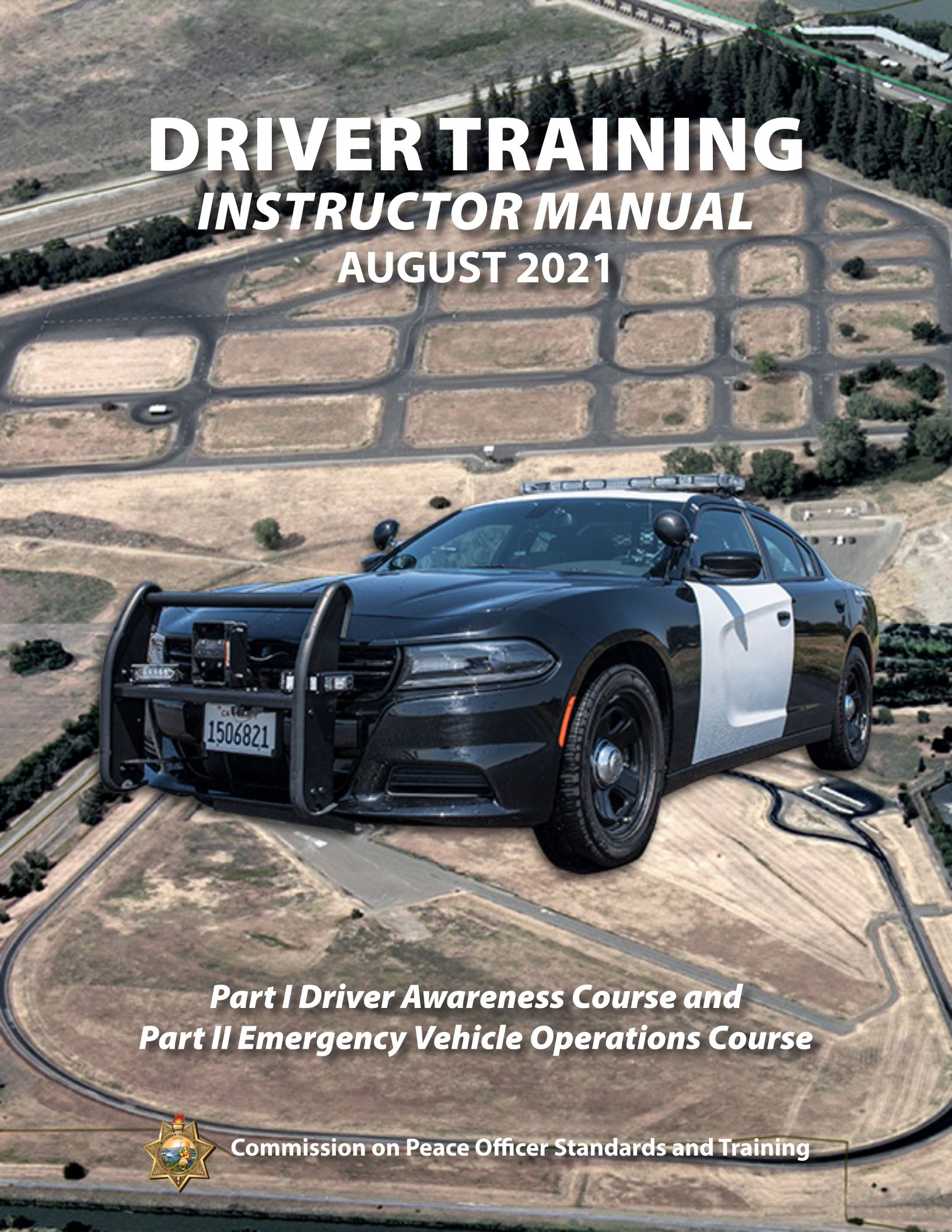

DRIVER TRAINING
INSTRUCTOR MANUAL
AUGUST 2021

Part I Driver Awareness Course and
Part II Emergency Vehicle Operations Course

Commission on Peace Officer Standards and Training

Driver Training Instructor Manual
Part I Driver Awareness Course and Part II Emergency Vehicle Operations Course

Published May 2021

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DRIVER AWARENESS PART I

Peace Officer Standards and Training (POST)

The Commission on Peace Officer Standards and Training (POST) was established in 1959. The POST mission is to continually enhance the professionalism of California law enforcement in serving its communities and includes raising the level of competence of local law enforcement and improving the administration, management, and operation of local enforcement agencies. POST training programs include general law enforcement, specialized law enforcement, and reserve categories. The Commission adopts regulations that establish minimum selection standards for physical and mental fitness and training standards for peace officers, certifies training courses for the improvement of peace officer performance, provides management assistance and research services to aid local agencies, and apportions funds (reimbursement) to eligible law enforcement agencies to help defray training costs.

Certificates are presented by POST to law enforcement officers in recognition of their achievement of training, education, and experience. The purpose of certification is to raise peace officer competence and to foster cooperation among the Commission, agencies, groups, organizations, jurisdictions, and individuals. There are six types of certificates awarded by POST to regular peace officers: Basic, Intermediate, Advanced, Supervisory, Management, and Executive.

The POST reimbursement program brings training and trainees together in an ideal arrangement for law enforcement agencies. POST certifies courses for presentation at locations throughout the State and reimburses agencies for combinations of expenses incurred when their employees attend these courses.

Course presenters should refer to this document for comprehensive details regarding the certification of such a course. Presenters should consult with their POST Area Consultant prior to making a request to certify a course.

Curriculum

POST provides curriculum standards and performance objectives for meeting the minimum training standards established by the Commission. Curriculum standards and performance objectives for driver training in the Regular Basic Course are listed in Learning Domain #19.

COURSE OVERVIEW
DRIVER AWARENESS INSTRUCTOR

Introduction

Learning Goal

The student will explain the purpose, philosophy, and overview of the Driver Awareness Instructor Course.

1. Registration and Orientation
   - Forms completion
     - ► Roster(s) and other agency or POST forms
     - ► Evaluation forms
   - Facility rules
     - ► Safety and communication concerns
     - ► Facility orientation
2. Instructor Course Purpose
   - Train a cadre of trainers
   - Perishable skills vehicle placement exercises
   - Traffic collision reduction
   - Reduce departmental liability
   - Satisfy prerequisite for Driver Training Instructor Course
   - Comply with POST standards
3. Course Philosophy
   - Making safe and defensive driving a priority
   - Proper use of basic driving principles
4. Overview of Teaching Assignments for Students

Manual Familiarization

Learning Goal

The student will demonstrate knowledge of the Driver Awareness Course Instructor Manual and how to find specific information.

1. Emphasize Importance of Knowing Material Prior to Training
   - Designed to prepare the instructor to teach the course
   - Reference guides

2. Review Key Elements of Manual
    - Chapter-by-chapter summary
    - Review driving exercises

Course Management

Learning Goal

The student will understand the requirements of Driver Awareness Course Management including:

1. Site Preparation
    - Convenient location
    - Adequate classroom facilities
    - Flat surface
    - Minimal obstructions (e.g., poles, curbs)
    - Restrooms available
    - Permits/approvals, if necessary
2. Course Design
    - Adequate spacing between exercises
    - Minimum of five exercise courses (chose from exercises in this manual)
    - Pre-marking of cone placements to reduce set-up time
    - Design course for size of vehicles
3. Equipment/Resource Materials
    - Vehicles: similar to patrol vehicle and mechanically safe and with law enforcement equipment
    - Communications available
    - Cones, delineators, and/or barricades
    - Additional equipment (e.g., spray paint, clipboards, visual aids, etc.)
4. Safety and Control
    - Available first aid kit, pry tool, fire extinguisher
    - Know emergency contact information, hospital location, and route
    - Keep area clear and free of obstructions
    - Provide proper supervision
    - Use seatbelts
    - Do not allow unsafe speeds or unsafe activities
    - Area should be kept clear of other traffic during training
    - Know facility specific safety policy
    - Student-to-instructor ratio shall follow POST safety guidelines

5. Evaluation of Performance
    - Each student should be objectively evaluated
    - Improvement needed evaluations require instructor comments
6. Remediating Below-standard Performance
    - Additional training should be conducted by a different instructor when possible
    - Remedial training should be conducted as soon as possible
7. Format and Hours
    - Driver Awareness Course (8 hours minimum)
        - Recommended four-hour lecture
    - Perishable Skills Course (four hours minimum)
8. Documentation
    - Student
        - ► Names on evaluation sheets
        - ► Dates and time of training
    - Instructor
        - ► Names
        - ► Training
        - ► Experience
        - ► Lesson plans
9. Contingency Planning
    - Alternate site
    - Practice set-up
    - Alternate classroom
    - Back-up instructors

Instructor Training

Learning Goal

The student will identify the components of being an effective instructor.

1. Attributes of an effective instructor
2. Suggestions for successful instruction
3. Elements of good instruction
4. Adult learning concepts
    - Blooms Taxonomy of Learning
        - ► Cognitive

- Affective
- Psychomotor

5. Types of Learners
   - Visual
   - Auditory
   - Kinesthetic

Basic Driving Principles

Learning Goal

The student will understand the elements of the Basic Driving Principles and their effects on vehicle control. Proper application and coordination of the following principles result in safety and control of the vehicle:

1. Basic Driving Principles
   - Weight transfer
   - Steering control
   - Throttle control
   - Speed judgment
   - Brake application
   - Roadway position
   - Situational awareness
2. Seatbelt usage (refer to defensive driving addendum)

Driving Exercises Review

Learning Goal

The student will demonstrate the fundamentals of how to drive and present each of the exercises.

1. Students will observe an instructor-driven demonstration of each exercise from outside the vehicle
2. Walk through each exercise with an in-depth explanation and discussion

Legal Aspects

Learning Goal

The student will understand specific California statutes.

Application of Driving Exercises

Learning Goal

The student will demonstrate the driving principles of each exercise.

1. Properly perform driving exercises
2. Demonstrate the driving techniques of each exercise

Evaluation of Student Driving Exercise

Learning Goal

The student will demonstrate the ability to evaluate the driving performance of other students.

1. Identify problems and provide feedback to student
2. Record driving performance
3. Remediation, if necessary

Demonstration Techniques for Driving Exercises

Learning Goal

The student will demonstrate the driving exercises and use visual aids to assist in the instruction.

1. Driving speeds during demonstrations and training
2. Driving reference points
3. Driver/instructor communication and coordination

Student Lecture Presentations - Teacher Training

Learning Goal

The student will demonstrate the ability to prepare and teach a topic relative to driver awareness. This can be accomplished through either of two formats:

1. Have the student demonstrate the ability to prepare a lesson plan on an assigned topic and give a minimum ten-minute presentation.
2. Have the student develop a driver awareness exercise. The student will demonstrate the ability to teach their exercise to the group (minimum 10 minute presentation). The student will prepare written documentation regarding the exercise development to include measurements, materials required, and purpose of the exercise.
3. EVOC instructor and audience critique.

Driving Exercises - Groups of Two

Learning Goal

The student will demonstrate the ability to present and evaluate each driving exercise.

1. Students will rotate from driver to instructor

Review and Critique of Course

1. Review and critique of course
2. POST course/instructor evaluation forms

CHAPTER ONE
INTRODUCTION - ORIENTATION - REGISTRATION

Introduction and Orientation

Registration

Registration will consist of:

- A roster of participants and related materials
- POST course control number and forms
- Course evaluation forms
- Explanation of safety and facility rules

Course Purpose and Philosophy

- Implementation of this course will allow the maximum number of field personnel to be exposed to driver training on a more frequent basis.
- The intent of the course is to enhance the efficiency and safety of law enforcement vehicle operations.
- A desired result is a reduction of accidents and subsequent reduction in civil/criminal liability.
- The philosophy of this course is that emphasis will be placed on smooth application of the basic driving principles (Vehicle Control Techniques), which are discussed later in this text.
  - ► All principles are interrelated.
  - ► Proper coordination of these principles will result in maximum vehicle control and safety.
  - ► These basic techniques have a direct relationship on vehicle operations when driven at higher speeds.
- The goal is to raise the individual instructor's level of knowledge and expertise.

CHAPTER TWO
INSTRUCTOR TRAINING AND PRESENTATION

Introduction

The following pages will cover key elements while preparing for and actually conducting the instruction of the Driver Awareness Course.

Teaching, or instructing, has been described as both an art and a science. There is an element of truth in both viewpoints. Instruction must be preplanned, organized in a logical sequence, diversified in its approach to stimulate learning, far-sighted in its purpose yet specific where necessary, and flexible enough to address unique issues as they occur. However, even with the proper combination of these elements, a training program cannot be ensured of reaching its students without certain instructor talents coming across in the teaching/learning process. Patience, dedication, and enthusiasm as well as a relaxed, confident application of public speaking skills are integral to successful instruction. Students are more receptive when they see that the teacher is knowledgeable, believes in what is being taught, and attempts to make the learning process both informative and satisfying.

Due to the limited time available with this instructor course, it is obvious that the student cannot become a seasoned teacher. With the basic elements highlighted and discussed, along with some practical application, the student can continue the process of self-evaluation and self-improvement.

Defensive Driving

Peace officers should continually strive to improve their driving skills. This includes not only practicing proper driving techniques, but also becoming familiar with departmental policies relating to the operation of emergency vehicles, appropriate Vehicle Code sections, and developing an understanding of the patrol unit's limitations and capabilities.

By continuing to develop proper driving skills, officers reduce the risk of becoming involved in traffic collisions. Remember that no matter what the circumstances, officers must always drive with due regard for the safety of other individuals using the highway. Defensive driving is driving in a manner that avoids collisions at all times regardless of who has the right-of-way, whether in normal conditions, Code 3, or pursuit operations.

Some people assume that more experienced drivers are naturally better drivers; unfortunately, this is not always true. Over a period of time, some officers develop poor driving habits. Speeding, failing to completely stop at stop signs, constantly accelerating through yellow lights, making unsafe turns or lane changes, impatience and discourtesy toward others who are using the highway are but a few characteristics that may increase the possibility of becoming involved in a traffic collision. Experience alone will not make you a better driver. Take the time to practice good driving techniques. With practice, good driving techniques will become a natural part of your driving pattern and experience will make you a better driver.

The Law Enforcement Instructor/Trainer as a Role Model

To effectively teach and develop your students requires a basic quality in the teacher that cannot be created by simply providing skills or by emphasizing the importance of the task: it requires "Integrity of Character."

The teacher is always an example. What a teacher does is important, but equally important is who the teacher is. It is, indeed, a twofold dimension:

1. The dimension of skill and performance
2. The dimension of personality, example, and integrity

For more information on instructor training and development, consult a POST Instructor Development Program.

Adult Learning Concepts

Instructors should have a basic understanding of how adults learn. Anyone teaching adults can utilize their time in a more efficient manner by delivering information in a way that matches how adults like to learn. When teaching to groups, instructors must appeal to all types of learners; at the same time, they must work with individual students to deliver instruction in a manner that best matches the student's learning style. EVOC instructors are well-served by attending the Basic Instructor Certification Course. This is a requirement for anyone teaching at a California academy. Intermediate, advanced, and master-level courses are also available and encouraged.

The information contained within this section is a general overview of adult learning concepts and is not intended as a substitute for an instructor development course.

Blooms Taxonomy of Learning

California POST-certified academies, as well as many other POST courses, are based on Blooms Taxonomy of Learning. The three categories addressed by Bloom are:

1. **Cognitive:** Knowledge and conscious intellectual activity. Students need to learn and understand factual information, and then apply that information to various situations presented to them.
2. **Affective:** Creating an emotional connection and an incentive to learn through feelings and beliefs. Students will internalize concepts and ideas, making them part of their value system when instructors successfully appeal to emotions. Students are also greatly incentivized to succeed when an instructor encourages and inspires students.
3. **Psychomotor:** Physical and manipulative skills such as driving. By instructing in a way that a student best learns, instructors can get students to perform complex manipulative skills at a level that meets or exceeds standards.

Learning Styles

Although there is some debate about learning styles, many instructors achieve great success by appealing to these three styles:

1. **Visual:** Students who prefer to see demonstrations, charts, graphs, and video presentations exemplify this type of learner. They need an instructor to show them how to do something rather than to just tell them.

2. **Auditory:** Students who prefer to listen to lectures, radio shows, audio books, and who often enjoy background music when studying exemplify this type of learner. An instructor will need to give clear and concise verbal instructions to these types of learners.
3. **Kinesthetic:** Students who prefer working hands-on with things they are learning exemplify this type of learner. These students are best-served by an instructor who can get them into an activity quickly and who coaches them through it, allowing them to learn by trial and error (safety limitations permitting). Also known as "physical learners."

Instructors doing classroom presentations are most effective when appealing to all three learning styles—visual, auditory, and kinesthetic. Simply lecturing from projected slides will leave many students behind. Learning activities, group assignments, case studies, research projects, and student presentations are just some of the things classroom instructors can do to ensure that students are internalizing the material for later application on the job. Instructors should not separate students into groups based on their preferred learning style because each person has a blend of all three learning modalities.

When teaching behind-the-wheel activities ranging from parallel parking to pursuit driving, instructors need to make sure they appeal to all types of learners. With this in mind, each exercise or activity should be discussed and demonstrated by the instructor before allowing students to drive. Once in the driver's seat, students will need active coaching. If a student is particularly weak, then the instructor should work on one issue at a time rather than overloading them with negative feedback. Identifying the root cause of a student's problems is much more effective than working on the symptoms caused by other underlying issues. For example, with a student who continually understeers corners an instructor might work with the student on speed judgement to mitigate the effects of understeer. The root cause of the understeering problem, however, is focal point, i.e., where the student is looking. If the instructor gets the student looking at the correct focal points prior to and through a turn, then the understeer problem gets resolved. The understeering issue is a symptom of bad focal point.

Many instructors make the mistake of only giving negative feedback to students. The coaching these instructors give focuses solely on what the student is doing wrong. A good instructor will also praise the students who perform well. Even students who may be struggling have to be doing something right—it's just a matter of identifying the "something." Pointing this "something" out and building on the student's positive feelings of success can help them improve their overall performance.

EVOC instructors are in the unique position of frequently providing one-on-one instruction. In this case, it can be very beneficial to identify a student's preferred learning style. For example, an instructor trying to tell a visual learner how to parallel park is not as effective as an instructor showing a visual leaner how to parallel park. The challenge for the instructor is being able to quickly identify what learning style their student prefers, particularly if the student is having trouble performing to standard. One way is by being a good listener because students tend to use words that correlate to their learning style.

Visual Learners will typically say:
I *see* now.
That looks right to me.
I need to put it into *perspective.*
I am in the *dark* about that.
I get the *picture.*
That is an *enlightening* answer.
I can *picture* that.
Show me how to….

Auditory Learners will typically say:
That *sounds* right.
It suddenly *clicked.*
Just *listen* to me.
Get *tuned* in.
I *hear* you.
Something *tells* me that's right.
That's *music* to my ears.
I can *hear* you.

Kinesthetic Learners will typically say:
That *feels* right.
That's *intense.*
I need a *concrete* example.
I am *searching* for an answer.
I have a firm *grip* on the subject.
I can *handle* it.

An instructor can also ask the student a few questions. Listening carefully to the answers may give the instructor an indication as to what type of learner the student is. Many academies are giving students a learning style survey that the student can use to simply identify their preferred learning style. Find out if this is the case, and then just ask the student how they like to learn.

Stress and Student Performance

When presenting driver training courses that involve high-stakes testing, such as at an academy, instructors need to be aware that stress tolerance can have a significant effect on student performance. Stress can cause an increase in breathing rate, or conversely, some students will hold their breath. Students may also experience an increased pulse rate, tunnel vision, sweating, and impaired decision-making. They may freeze or, conversely, overreact to a situation. Stress also impairs a student's ability to handle complex motor skills, such as driving a car. Instructors can assist students during training by coaching them in a calm manner and reminding them to keep their breathing steady and by making a conscious decision to remain calm. People often mirror the demeanor or actions of those around them. An instructor can be most effective for a student struggling with stress tolerance issues by teaching in a calm and deliberate manner.

Problem Students

Instructors may encounter a student who does not take the training seriously or who disrupts the class. Each situation is different so there is no single solution that can be offered here, but some options might include:

- Setting expectations at the outset of the class.
- Standing next to talkative students, making it uncomfortable for them to continue talking.
- Taking disruptive students aside during a break to discuss their behavior.

- Immediately dealing with safety violations, and in extreme cases, withdrawing the student from the course.
- Immediately deal with racial or sexually explicit comments—these are always unacceptable.

Time Management

The biggest mistake many instructors make is in trying to squeeze too much information and too many learning objectives into too short a time, especially for the first presentation of a course. Instead, choose one or two learning objectives and work on the timing of each exercise or activity. For courses with mandated learning objectives that must be met and tested, such as an academy course, time management can be a challenge. Establish the time in writing for each instructor, with one lead instructor chosen to keep things on time. The following is one example of how timing can be established.

Group 1

- **0745-0800:** Pursuit demonstration.
- **0800-1000:** Pursuit practice. 1 student on the track at a time with a practice time of 5 minutes per student.
- **1000-1100:** Pursuit testing. 1 student on the track at a time for testing. Each student will be presented with 3 intersection conflicts to include an interference car and 2 "passing on the right" situations. The students WILL NOT be told the number of situations they will encounter. The test is 3 minutes in duration.
- **1100-1130:** Remedial time - if remedial time is not needed, then use "Mini Pursuit" activity.

Group 2

- **0815-0945:** Collision avoidance
- **0945-1045:** Tactical backing
- **1045-1130:** Barrel races
- **1130-1230:** Lunch

Managing downtime can be as critical as managing the timing of exercises. Consider using small group activities rather than having students stand around waiting for their turn to drive. Having students participate in optional activities can also be of great benefit. Consider having students ride in a vehicle as other students are receiving instruction or having students ride with instructors on the track. Keeping things moving is also critical. If you have eight students who must drive an activity, then keep the transition time to a minimum. To illustrate how just a few minutes can add up to serious time-wasting, consider the following example:

- Eight students must drive two cycles on the track. The instructors must have a new student get into the car after each cycle. The first group of instructors kept their transition time between students to 2 minutes, so total downtime during the transition period for each of the 8 students is 16 minutes. Each student drives 2 cycles, so the total downtime during transition is 32 minutes. If the instructors take their time and use 4 minutes to transition, which does not initially sound unreasonable, we will have over 1 hour of downtime in just transitioning students between cars. Keeping instructors disciplined and on-time can result in increased driving time for students and it will keep your class on time.

Sample Down-time During Student Transitions

TRANSITION TIME	TOTAL DOWN TIME
2 minutes	2 min x 8 students x 2 cycles = 32 min
4 minutes	4 min x 8 students x 2 cycles = 64 min
6 minutes	6 min x 8 students x 2 cycles = 96 min

The same concept holds true if the instructors run an exercise too long. The same table can be used to illustrate what happens should an exercise run 2 minutes over, 4 minutes over, or 6 minutes over.

Instructor Responsibilities

In a behind-the-wheel driving course, safety is paramount. Instructors must make certain that students know, understand, and follow the safety policies. Instructors must also follow safety policies. In any type of course, instructors who are aware of or tolerate safety violations can become responsible for accidents or injuries. As with safety violations, instructors who are aware of and tolerate inappropriate behavior (sexual comments, sexist comments, or racial comments by students or other instructors) become complicit in this type of conduct.

Instructors are role models. Instructor driving behavior must be consistent. For example, if braking concepts are taught in the classroom and left-foot braking is prohibited, then all track instructors must drive without using left-foot braking. An instructor who uses left-foot braking completely undermines the learning objective because students will dismiss what they were taught in the classroom as irrelevant. Students will also assume that much of the other classroom material must be irrelevant as well.

Driving is something we do every day and for law enforcement personnel it can be under very dangerous circumstances. Driving instructors can have a significant influence on their agency in keeping personnel safe when driving at work and in their personal vehicles.

CHAPTER THREE
BASIC DRIVER AWARENESS PRINCIPLES

Vehicle Dynamics/Control Techniques

A "vehicle dynamic" is any condition that affects the path of a vehicle in motion. A driver that understands the effects of vehicle inputs (brakes, throttle, steering) and employs proper techniques, maintains more accurate control of the vehicle. A significant number of collisions involving on-duty personnel occur while operating vehicles at slow speeds, particularly in parking lots or while backing up. Many of these collisions involve fixed or stationary objects. Understanding the vehicle's position and size as it maneuvers around obstacles will minimize the potential of low speed and/or vehicle placement collisions.

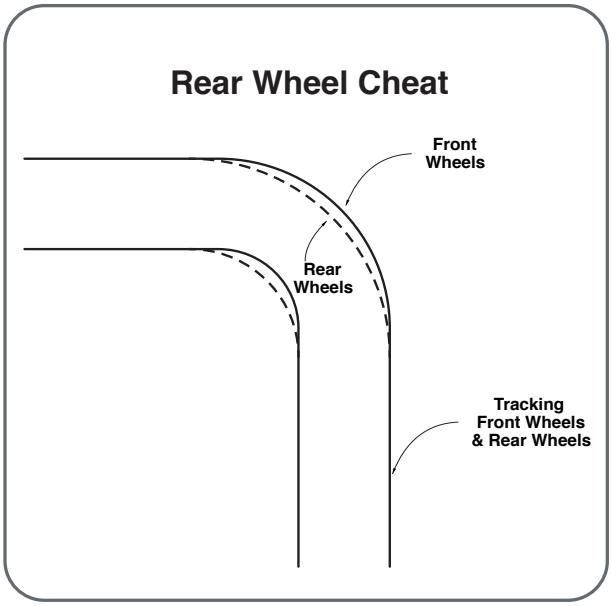
Vehicle Placement

Placing the vehicle in the most advantageous position in anticipation of the next turning maneuver.

Vision/Focal Point/Acute Vision/Central Vision

The body naturally reacts in the direction the eyes are looking. In order to successfully navigate slow-speed exercises, the driver needs to focus their attention on the direction they want their vehicle to go. This is most commonly referred to as focal point, but can also be referred to as acute vision or central vision. Once a driver reaches their focal point requiring a vehicle input, they should shift their eyes to the next focal point and plan their next maneuver.

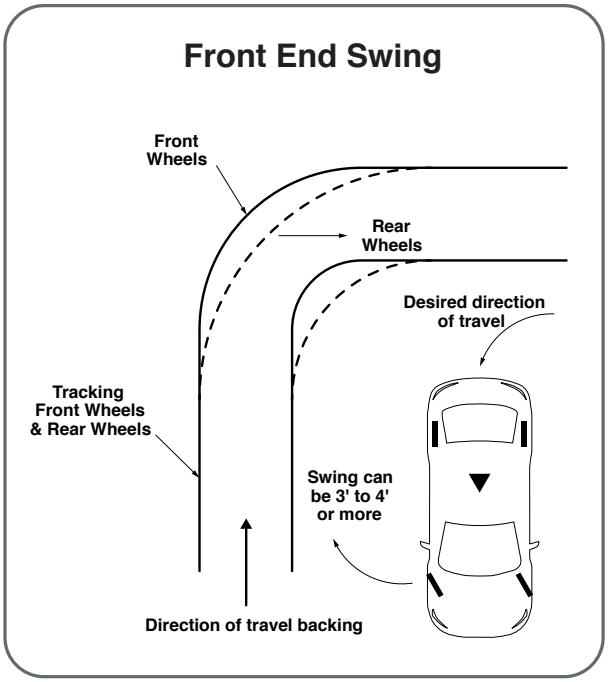
Note: Many students have difficulty completing the slow-speed exercise as a result of an improper focal point (i.e., looking at the wrong place at the wrong time). Beware that new instructors often try to correct vehicle input/placement when in reality it is a focal point issue.



Rear Wheel Cheat

When driving forward, the rear wheels will take a path inside that of the front wheels when the vehicle is turning. "Rear wheel cheat" occurs any time a vehicle is turned from a straight path. The severity of rear wheel cheat is in direct proportion to the degree of the turn attempted and the vehicle's wheel base. The longer the wheel base the more severe the rear wheel cheat. For example, most drivers have observed operators of a long truck or bus compensate for rear wheel cheat by turning wide around a corner to avoid having the rear wheel jump the curb.

- To avoid rear wheel cheat collision, turn wide and/or late enough to allow space for the rear wheels to clear the obstacle.
- Adjust lane position to the outside portion of the roadway prior to turn to allow room for the rear wheels to cheat without striking an obstacle.
- The rear axle is the pivot point of the car's turning movement. In a confined area, the driver should proceed in a straight line until the rear axle is aligned with the obstacle or curve prior to turning.



Front-end Swing

"Front-end swing" occurs when the driver turns the steering wheel while backing. When the steering wheel is turned, the front end of the vehicle will swing to the outside of the turn. This is commonly referred to as front end swing. The more the steering wheel is turned, the farther out the front end will swing. Remember, the rear axle is the pivot point of the turning movement. This front-end swing can cause a collision if the driver fails to allow sufficient clearance. When backing and turning in confined areas, it is important to position the vehicle closer to the inside of the available roadway in the direction the vehicle is to be turned. A driver should turn the vehicle no more than necessary to accomplish the maneuver. This will minimize front-end swing and reduce the potential for a collision.

Backing

Numerous traffic collisions involving law enforcement vehicles occur while moving in reverse at slow speeds.

Many backing collisions occur because drivers fail to look where they are going and do not keep visual

contact with obstacles behind their vehicle. Even under ideal conditions, most backing maneuvers are potentially very hazardous. The possibility of having a collision increases if backing is done hurriedly or while failing to pay proper attention to the surroundings.

If time permits, then drivers should consider backing their vehicles into an appropriate parking position upon arrival.

Technical advances (e.g., backup cameras, sensors) may help identify hazards to the rear, thus minimizing the potential for backing collisions. This equipment should not be used as the primary indicator of hazards to the rear.

When returning to a parked vehicle, make a visual check for potential hazards around the vehicle.

Occupant Safety

- ***Seatbelts***
  - Utilizing seatbelts reduces injury caused by the force of a collision. Seatbelts reduce the force of impact on the body.
  - Seatbelt usage helps vehicle occupants in multiple ways:
    - The ride-down effect is created when the seatbelt webbing stretches to allow the body to decelerate at a slower rate. The seatbelt keeps the head and face of the wearer from striking objects such as the steering wheel, windshield, dashboard, other law enforcement equipment, or other occupants.
    - The seatbelt spreads the stopping force widely across the strong parts of the body.
    - Seatbelts prevent vehicle occupants from being ejected from the vehicle during a crash.
    - Seatbelts help the driver maintain vehicle control, thus decreasing the possibility of an additional collision.
    - Seatbelts should:
      - Be worn across the hips and pelvic area, not across the stomach.
      - Be adjusted to be snug across the body to prevent internal injury and provide safety and comfort.
  - Benefits of Wearing Seatbelts
    - Seatbelts have been proven to be the single most effective way of protecting occupants from serious injuries or death.
    - POST studies regarding on-duty traffic collisions reveal that seatbelts are effective in reducing serious injuries and fatalities.
  - Compliance
    - Law enforcement officers should have a pre-driving routine that includes fastening the seatbelt.
    - During a response to an emergency call or during a pursuit, it is difficult to put the seatbelt on.

- Tactical Seatbelt Removal (TSR) refers to how and when the seatbelt is removed. For officer safety, the seatbelt should be disengaged and retracted as the vehicle is coming to a stop at a location that may require law enforcement activity.
- California law exempts officers from wearing seatbelts so long as their Department has a written policy on seatbelt usage. (27315.5 CVC)
- Law enforcement officers who fail to use seatbelts and are injured in a collision may be subject to a reduction in workers' compensation benefits, especially if they ignore a department regulation requiring their use.

- ***Supplemental Restraint Systems (Air Bags)***
  - Air bags protect the driver/passenger by absorbing a significantly greater amount of the crash forces than the driver could withstand.
  - Air bags act as a pillow when activated in a front-end collision.
  - Air bags are not designed to:
    - protect you against a secondary collision because they deflate rapidly;
    - prevent ejection from the vehicle; or
    - open at side impacts (unless equipped with side air bags), rear-end impacts, slow speeds, bumps, dips, or minor collisions.
  - Air bags are designed to supplement and not replace seatbelts.
  - Air bag information:
    - Air bags inflate at a rate of up to 200 mph. They will begin to deflate as soon as they are fully deployed, meaning you may still control the vehicle.
    - The powder contained in the air bags will fill the car with a fine dust that will dissipate quickly. Any residue should be washed off as soon as practical.
    - The driver should be at least 12" from the airbag. The US Department of Transportation states that persons of small stature should not be seated behind an airbag.
    - An 8-4 balanced hand position on the steering wheel and shuffle steering will help protect you if the bag deploys. Your hands may hit you in the face if they are in front of the bag when it deploys, forcing your hands off the wheel and causing a momentary loss of steering control.
    - Air bags are designed to deploy at 12–14 mph on a fixed object or at 28 mph on a moving object. A 35 degree or less frontal impact is necessary to cause deployment.
    - Some vehicles are equipped with side impact airbags.

Vehicle Abuse

Law enforcement vehicles are expected to remain in service for a number of years. With proper care and maintenance, the vehicle can be expected to meet the demands placed on it during the course of each shift. Unfortunately, the abuse of patrol vehicles by officers causes undue wear and subsequent breakdowns. Driving practices such as overworking the brakes, downshifting at high speeds, causing

the tires to break traction when accelerating, and driving over speed bumps, curbs, or railroad tracks at inappropriate speeds will tend to contribute to mechanical failure. Actions such as these are referred to as vehicle abuse.

The law enforcement driver must help maintain the patrol vehicle's performance capabilities. An officer's life may one day depend on its performance capabilities.

Vehicle Maintenance

The officer who drives the unit is in the best position to provide complete information that can assist a mechanic in properly maintaining the fleet of vehicles. This may include reporting anything from unusual engine noise and vibration to checking air pressure in the tires. Unfortunately, some officers fail to report these things, or ignore them completely. This practice leads to increased vehicle maintenance costs, could lead to disciplinary action and, more importantly, it ultimately jeopardizes the safety of personnel using the vehicle.

Pre-shift Vehicle Inspection

The driving officer should be responsible for inspecting the law enforcement vehicle before placing it into service. This will ensure that the vehicle is in a safe operating condition. The inspection need not be a time-consuming project. Officers should develop a system that allows for a thorough check of the law enforcement vehicle.

It is the responsibility of each officer to ensure that the vehicle is in a safe operating condition at the beginning and conclusion of each shift. Any irregularities in vehicle performance should be reported immediately in writing and, if necessary, the vehicle removed from service. A pre-operational check should include, but not be limited to the following:

- ***General Vehicle Appearance***
  - A visual inspection of the vehicle can reveal broken springs, torsion bars, sway bars, or even insufficient tire pressure.
  - If the car appears to lean toward one side, then this might indicate that something in the suspension system is broken or unsafe.
- ***Tires***
  - From a safety standpoint, tires are one of the most important parts of the vehicle and the easiest for officers to check. Good tire tread enhances puncture resistance and is vital for law enforcement driving.
  - Always check for sidewall cuts. Radial tires have a thin sidewall for flexibility. If the sidewall is cut, then a blowout may result causing loss of vehicle control.
  - A properly inflated radial tire gives the appearance of being under-inflated because of the bulging sidewall. Under-inflation of radial tires is a significant problem. Because it is difficult to judge tire pressure by visual inspection, a tire pressure gauge should be used.
  - It is recommended that the maximum "cold" tire pressure in all manufacturers' vehicle tires be maintained according to specifications. The "Max PSI Cold" pressure can be located on

the sidewall. Tire pressures lower than the maximum cold tire pressure may be insufficient for the rigors of emergency response driving, causing the tire to role on the side wall during high-speed cornering maneuvers.

- ► When a vehicle is driven, the temperature of the tire increases due to the rolling friction created between the tire and the road surface. A rise in tire temperature will result in an increase of pressure in the tire.
- ► A tire that is below the recommended inflation pressure may sustain belt separation, which could result in a blowout. Improperly inflated tires will also cause premature tread wear and poor steering response. Additionally, in a high-speed turn, an under-inflated tire may roll off the rim.
- ► Ensuring proper tire pressure will increase the tread life of the tire. More importantly, proper tire pressure will usually help ensure maximum vehicle maneuverability.

- ***Wheels***
  - ► Inspect each wheel for hairline cracks or other damage that may indicate potential wheel failure. When in doubt, replace the wheel.
- ***Lights***
  - ► Walk around the car or have another officer assist while checking high and low beams, turn signals, stop lamps, emergency lights, and spotlights.
- ***Trunk***
  - ► Always inspect the contents of the trunk. The spare tire should be in good condition and properly inflated. Other items in the trunk should include, but not be limited to a fire extinguisher, jack, lug wrench, flares, hazardous materials guidebook, blanket, and first-aid kit. Secure all gear within the trunk. Unsecured objects can damage the radio and other equipment during quick turning maneuvers.

Instructor's Note: Always ensure that the fire extinguisher is properly charged by checking the pressure gauge.

Identify the emergency fuel shutoff switch (if applicable) and keep it accessible.

Body Damage

- Immediately report any vehicle damage.
- Entering the Vehicle
  - ► Check the back seat for contraband and weapons.
  - ► Check for dirt and trash on the floor. At high speeds, if any of the windows are rolled down, then debris inside the vehicle could blow into the face and eyes.
  - ► Prior to starting the engine, check all warning lights.
  - ► Adjust the seat and mirrors. Start the engine and while it is idling, check the oil pressure, charging system, and fuel level. Check the instrument panel, interior lights, horn, siren, and radio. Check brake pedal height by applying pressure to the brake pedal. Pedal travel varies

with each model of vehicle. As a general rule, if the pedal feels "spongy," then the vehicle should be taken out of service and the brake system inspected by a mechanic. Check the parking brake to ensure that it works.

- Check for excessive play in the steering wheel. Excessive play in the steering wheel should be considered unsafe and the steering unit should be inspected by a mechanic. Listen for unusual sounds in the power steering system while turning the wheel.
- Examine the windshield and windows for cleanliness. A film on the windows can cause eyestrain and reduced visibility, especially at night. Inspect wipers for damage and proper operation.
- Place citation books, notebooks, clipboards, and other personal items where they will not interfere with driving. Collisions can occur when loose articles slide across the dashboard and/or become lodged between the steering wheel and the dashboard.
- Make sure all seatbelts in the car are accessible. It is frustrating and dangerous to wrestle a combative arrestee into the vehicle only to find that the seatbelts needed to restrain the suspect have slipped under the seat.
- Always remember to sit up straight when adjusting and fastening the seatbelt. The lap belt should ride below the bony ridge of the hip bone. If the belt is worn too high, then an abrupt stop may squeeze the abdomen against the spine. Be sure the seatbelt is not twisted as this could bind the retractor mechanism and interfere with proper release of the belt.

Leaving the Station

- Listen for unusual sounds in the car. A worn disc brake pad can make a metallic scraping sound as the wheel turns. A rhythmic clicking sound can signal loose lug nuts or a cracked wheel. Select a safe area at the first opportunity and gently weave the car smoothly back and forth a few times at 25–30 miles per hour. The lateral weight transfer may allow a worn out wheel bearing or noise from broken suspension components to be heard. Check the steering for excessive play, vehicle wandering, or pulling to one side. Make a threshold stop from 30 miles per hour to check brake effectiveness and that the brakes do not pull excessively to one side. Remember that cold brakes may operate differently than after they are warmed up.
- The pre-operational check can be accomplished in a short period of time. Establishing a set pattern is beneficial to ensure that all critical items are properly inspected at the beginning of each shift.
- Awareness of the mechanical condition of the vehicle should not end with the pre-operational check. Do not ignore sounds that appear strange or unusual. A bumping sound or vibration in the steering system could indicate that a tire or wheel bearing is about to fail. A shimmy or vibration could indicate a loose wheel or drive shaft. A strange odor might also warn of developing problems. For example, antifreeze burning on a hot manifold creates its own unique odor.
- Taking the time to properly inspect the vehicle could ultimately save a life!

CHAPTER FOUR
PRACTICAL APPLICATION OF DRIVING PROBLEMS (EXERCISES)

Practical Application of Driving Exercises

The goal of this training program is to expose the student to specific driving situations. This will require utilization of the basic driving principles to properly and safely operate a motor vehicle. The instructor will provide training in at least five of the exercises, many of which are listed below. As an alternative to using the exercises listed below, student instructors can be assigned the task of developing new exercises that incorporate the driver awareness concepts and principles contained in this manual. After development, the student instructors will be required to demonstrate and teach their new exercise to other student instructors.

Required Exercises for Driver Awareness Instructor Training:

- Offset Lane Exercise
- Turn-Around Maneuver Exercise
- Parallel Parking – Right Side (Left side parallel parking is an optional addition)

Additional Exercises:

- Bootleg Turn Exercise
- Steering Exercise
- Focal Point Steering Exercise
- Vehicle Control Techniques Exercise
- "T" Driveway Exercise
- Angled Driveway Exercise
- "Y" Driveway Exercise
- Box Focal Point Turning Exercise

Exercise Dimensions:

The dimensions in this manual are based on the Ford Crown Victoria (1992–2011 year models). These are intended to be the maximum approved dimensions but presenters can make these measurements more restrictive. As future patrol vehicle models change, exercise dimensions may need to be adjusted in order to maintain a similar level of difficulty. All measurements listed herein for cone placement are measured from the inside edge of their base to the inside edge of the opposing cones base. All measurements listed herein for delineator placement are measured from the inside edge of the shaft. The rubber base is considered to be part of the roadway.

Introduction First Phase

EVOC Staff Demonstration

Exercises – Students observe the staff driving and engage in in-depth discussion of driving exercises. Students walk through each of the five selected driving exercises.

Second Phase

Students participate as drivers and rotate through each of the driving exercises.

- Instruction is presented by the EVOC Staff.
- Students must demonstrate proficiency before continuing to the next phase. The EVOC Staff will grade and discuss performance with the students.

Third Phase

Students will participate as drivers and instructors in each exercise.

- Rotate roles as student and instructor with feedback provided by EVOC Staff for both driving and evaluating.
- Student will learn to identify common errors of drivers and provide corrective feedback.
- Students are given an opportunity to observe others and practice presenting and evaluating through the use of a rating sheet.

Fourth Phase

- Students will present driving problems to fellow students. Rotate roles as oral presenter and driving demonstrator.
- Feedback and grading will be provided by the EVOC Staff for both driving and oral presentation.
- Students are given an opportunity to observe others and evaluate their performance.

Demonstration Phase

Instructors will be required to demonstrate proper driving techniques in all of the following exercises and demonstrate proper seating and accepted hand positioning for both forward and reverse driving.

When Driving Forward:

- Sitting straight in the seat with hips against the seat back rest.
- Hands comfortably placed on each side of the steering wheel in the 8 and 4 positions. (Optional hand positions of 9 and 3.)
- The left leg and foot will brace the body in this position.
- Ball of the right foot is on the accelerator pedal with the heel on the floor.

When Driving in Reverse:

- Use one of the approved reverse steering methods.
- Turn in the seat placing right hand on seat or over the passenger's seat with the left hand at the 12 o'clock position on the steering wheel.
- Twist in the seat while keeping two hands on the steering wheel
- The left leg and foot will brace the body in this position.
- Proper utilization of the seatbelt will be demonstrated.
- Visual awareness to rear while backing will be emphasized until vehicle comes to a full stop.
- The first demonstration is done at slow speed so that each maneuver and technique can be discussed.
- A second demonstration consists of driving the course at normal training speeds.

Practical Application Phase

- The techniques and objectives presented will be demonstrated by the student.
- The student should practice proper utilization of vehicle control techniques.
- The student should perform the exercise as many times as necessary to accomplish proficiency.

Evaluation Phase

Presenters must use the POST-developed Vehicle Operations Competency Exercise Test Forms or presenter-developed forms, which minimally include such performance dimensions as:

- Safety
- Situational awareness
- Braking techniques
- Steering techniques
- Throttle control
- Speed judgment
- Vehicle placement
- Backing
- Tactical Safety Belt Removal
- Rate of performance
- Fluency of performance
- Level of response

OFFSET LANE EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, INSTRUCTIONAL STAFF SHOULD REVIEW THE *POST SAFETY GUIDELINES* FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle
- Approximately sixty 18" traffic cones and ten delineators

Goal

- The student will gain the necessary skill and knowledge to control a vehicle while negotiating turning movements when driving forward or backward under restricted road conditions.

Objectives

- The student will drive a vehicle forward and backward through an offset lane utilizing proper roadway positioning.
- While driving through an offset lane exercise in either direction, the student will demonstrate proper seating position and steering techniques.

Introduction

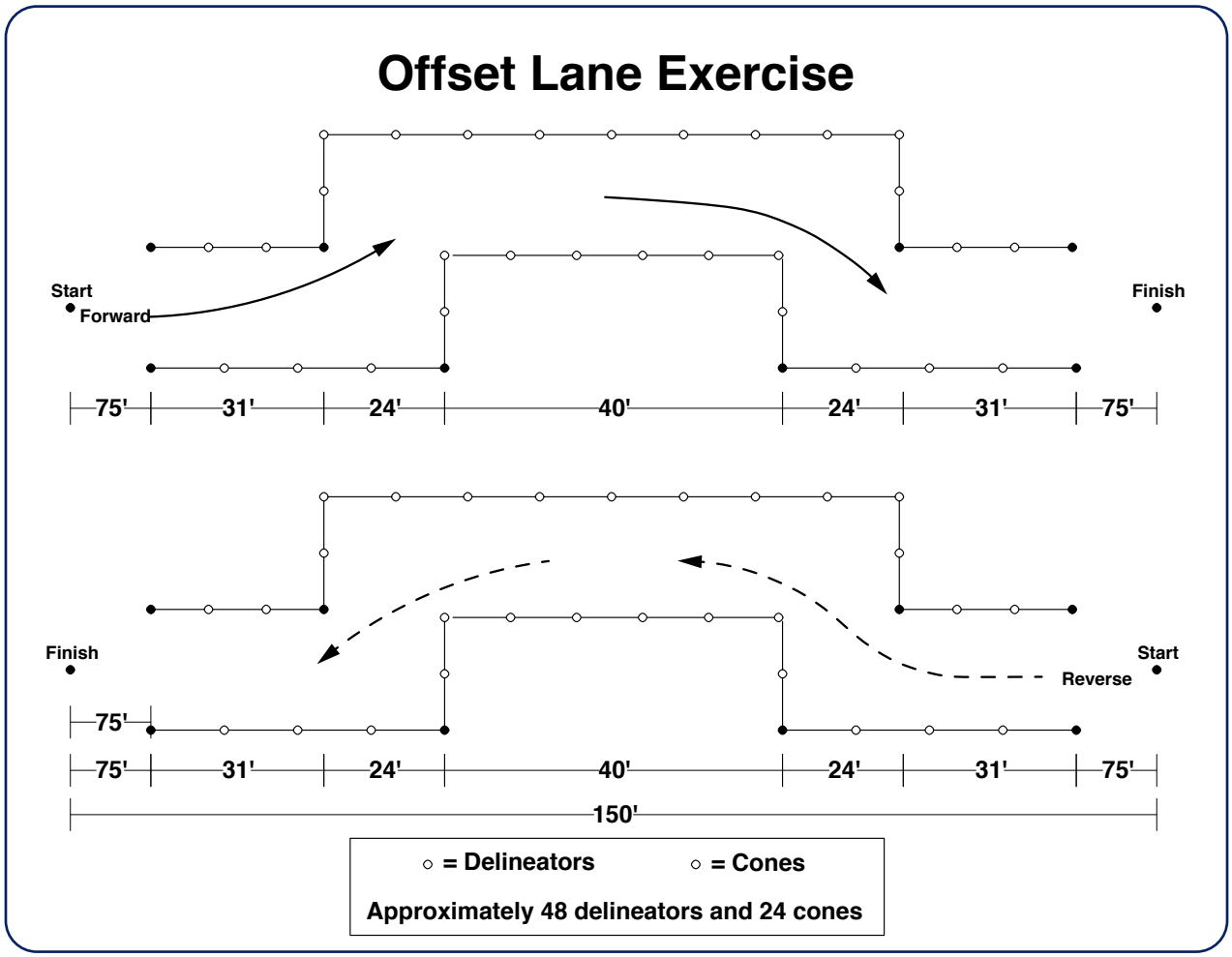
Emergency vehicle drivers are often required to execute precise turning movements while driving forward or backward. These turning movements may be necessary under restricted conditions.

- The offset lane is designed to simulate some of the following:
  - Lane changes in heavy traffic
  - Emergency lane changes
  - Backing in parking lots or between buildings.
  - Maneuvering through congested areas, e.g., alleys, driveways, dead end streets, etc.
  - The driver must be aware of the vehicle's dimensions in order to determine the proper relationship of the vehicle within the roadway and surrounding environment. Distances between the front and rear bumpers and obstacles must be known when moving with restricted clearance.
  - Distances between the sides of the vehicle and any other obstacles must be of constant concern.
- It is imperative to know the location of the wheels and the direction in which the front wheels are pointed.
  - The wheels are not on the four corners of the vehicle. There is a definite front and rear chassis "overhang" that must be accounted for when turning.

- When driving forward and approaching a restricted clearance area, a driver must estimate the width of the area to be traversed in relation to the width of the patrol vehicle.
  - ► The driver must determine that the vehicle can safely pass through this area.
  - ► If not absolutely sure – stop the vehicle!
  - ► Depth perception and visual awareness are important.

Course Description

- The course is on a level paved area approximately 200' in length and 20' in width.
- The lane is 150' long with a starting and stopping area of 25–75'.
- The lane is 9'6" measured from the inside edges of the cones on either side of the lane.
- Delineators and cones are used to outline the course.
- As an option, a delineator may be located behind the vehicle at the starting position 25–75' from the entrance to the cone pattern.



Procedure to Drive Course

This exercise is divided into two phases

- Driving forward
- Driving backward

Start with the driver's seat and seatbelt properly adjusted. Emphasis should be placed on students using the least amount of steering input, which will minimize rear wheel cheat, weight transfer, and front-end swing.

Driving Forward (for a left turn off-set lane)

- Move forward, smoothly and quickly accelerating to approximately 15 mph and maintain speed.
- Enter the lane on the extreme right-hand side of the roadway in anticipation of making the left turn.
- A left turning movement is then made, directing the vehicle into the first opening and toward the offset portion of the roadway.
- As the vehicle enters the offset portion, the steering wheel is gradually turned to the right, making a transition from the initial left turning movement to a right turning movement.
- As the vehicle exits the first opening, steer to the left side of the offset lane in order to be in the proper road position for the upcoming right-hand turn.
- A right turning movement is then made, directing the vehicle into the second opening toward the end of the exercise.
- As the vehicle re-enters the original lane of travel, the steering wheel is smoothly turned to the left.
- The vehicle will exit the second opening and continue moving to the left side of the course in anticipation of the front-end swing to the right when backing out.
- The vehicle continues to the end of the course and is stopped by utilizing proper braking technique.

Instructor's Note: Emphasize road position, i.e., utilizing the entire available roadway.

Driving Backward

- The gear selector is placed into reverse.
- Visual awareness to the rear will be obtained by properly turning to the right in the seat and directing vision through the rear window, utilizing sideview mirrors, or utilizing the backup camera. The type of vehicle, and the driving conditions will dictate the method used.
- The vehicle will move back in the lane with a road position that will compensate for front-end swing.
- The vehicle will back at just above idle speed.
- As the vehicle backs in the lane, a slight left turning movement is initiated, pointing the vehicle toward the first opening.

- As the vehicle enters the opening, the right delineator (passenger side) at the opening is used as a focal point.
- The vehicle passes as close as possible to the delineator during this transition from the left turning movement into a right turning movement.
- As the vehicle exits the first opening, steer to the right side (passenger's side) of the offset lane in anticipation of front-end swing to the left at the next opening.
- As the vehicle enters the second opening, the left (driver's side) delineator at the opening is used as a focal point and the steering wheel is smoothly turned to the right.
- The vehicle will pass as close as possible to this delineator during the transition from right to left turning movement.
- As the vehicle exits the second opening, steer to the left until the vehicle is straight and centered in the lane to exit the exercise.
- Deceleration does not occur until the vehicle is completely out of the exercise.
- The vehicle continues to the end of the course coming to a stop.
- Visual awareness to the rear will be maintained until the vehicle comes to a complete stop.

Instructor's Note: Emphasize a delay in steering response occurs when traveling in reverse. The wheels that are doing the turning are behind the driver rather than in front of the driver. This requires steering input earlier than when traveling forward.

Demonstration Phase

Refer to the introductory pages of this chapter for the demonstration phase.

Practical Application Phase

Refer to the introductory pages of this chapter for the practical application phase.

Evaluation Phase

Refer to the introductory pages of this chapter for the evaluation phase.

TURN-AROUND MANEUVER EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle
- Approximately thirty 18" traffic cones and 14 delineators

Goal

The student will gain the necessary skills for maintaining maximum safe vehicle control while performing quick turn-around maneuvers.

Objectives

- The student will demonstrate a three-point turn-around to turn a vehicle so as to proceed in the opposite direction quickly and safely.
- The student will demonstrate proper vehicle positioning/placement and steering input during maneuvers. Students should use their own judgment in determining when and how much steering input is required.
- While backing, the student will maintain constant visual awareness of objects to the rear and sides until the vehicle comes to a complete stop.
- The student will demonstrate proper steering techniques.

Instructor's Note: Instructors should not give specific turning references that cannot be recreated outside the training environment.

Introduction

- Drivers of emergency vehicles are often required to execute quick turn-around maneuvers to change their direction of travel. Examples of when a turn-around maneuver may be necessary include:
  - A suspect vehicle is observed traveling in the opposite direction.
  - An emergency call is received that is in the opposite direction.
  - The driver observes an incident requiring investigation and must turn around to return to the location.
- Turning movements should never be made until a driver has a complete view of the surrounding environment.
  - Oncoming traffic and speed
  - Use mirrors to check for following vehicles

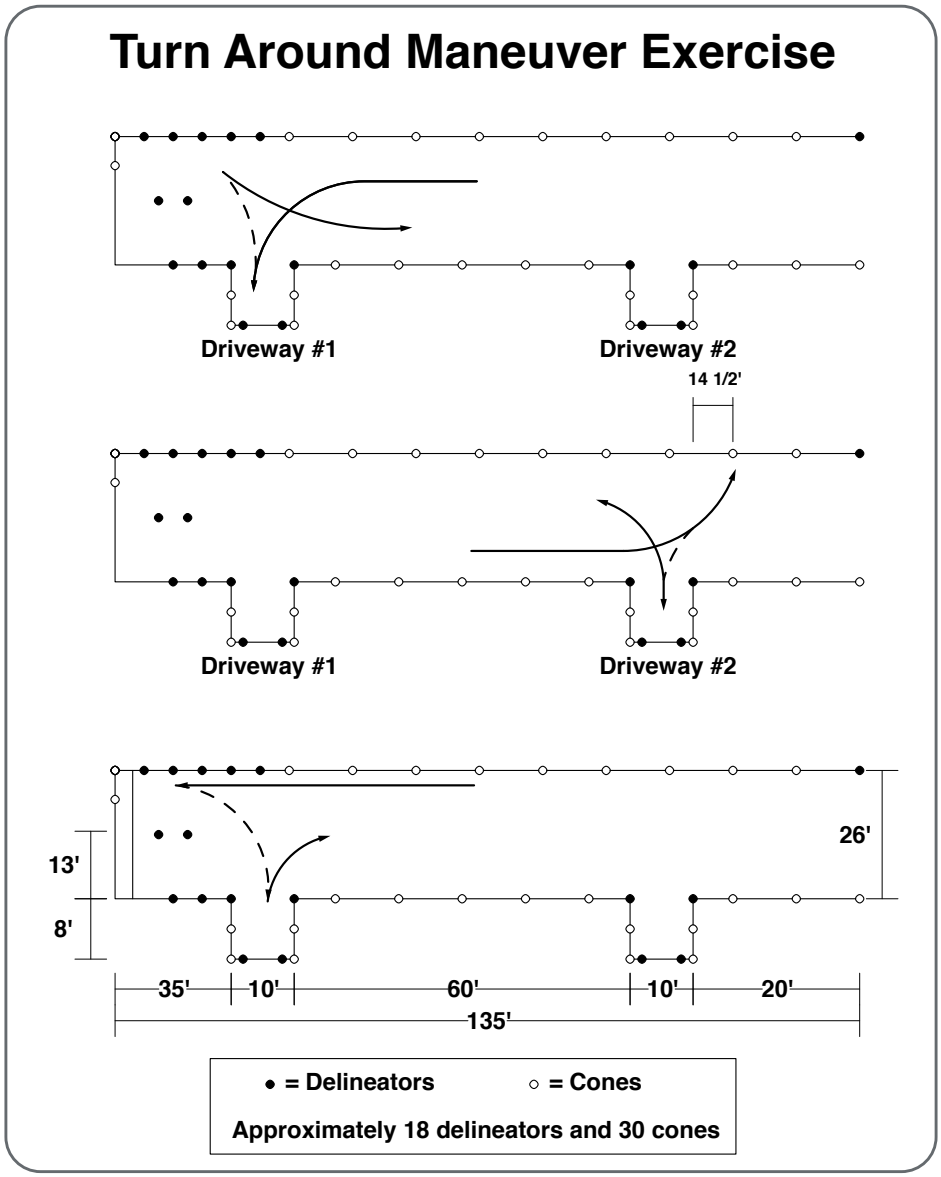
- ► Look over shoulder(s) to check blind spots
- ► Sidewalk - pedestrians and bicycles
- ► Parked cars, etc.

Instructor's Note: Emphasize that a large number of preventable traffic collisions occur when vehicles are backing up at under 10 mph.

Course Description

The course consists of three turn-a-round movements using three-point turning methods.

- The course is on a level paved area 125' in length and 34' in width.
  - ► Traffic cones lay out a road 125' in length with two driveway aprons.
  - ► The two driveway aprons are on the same side of the road, 10' wide, 8' deep, and 60' apart.
  - ► This simulates a normal residential street with narrow driveways.



Procedure to Drive Course

- In preparation for the exercise, the driver will
  - have the seat and seatbelt properly adjusted and
  - from outside the course, enter along the right edge of the lane opposite the two driveways.
- The vehicle will move forward, staying as close to the right edge of the lane as possible and reducing speed by braking prior to any turning.
- When the front wheel is opposite the leading edge of the second driveway, a sharp left turning movement into that driveway will be made.
- The vehicle will enter the driveway, stopping perpendicular to the lane and as far to the right as possible in anticipation of front-end swing to the left while backing out.
- The vehicle is stopped prior to hitting the delineator at the end of the driveway and the front wheels should be straight.
- Before backing, look to the rear and down the lane in each direction to ensure it is free of any hazards.
- The gear selector will be placed in reverse and backed out of the driveway.
  - While backing, the steering wheel will be turned slightly to the right so that the front end of the vehicle moves to the left.
- Maintain awareness of front-end swing while backing out of the driveway apron.
- Upon exiting the driveway, maximum steering is input to the right.
  - Maintain visual awareness over the right shoulder and through the rear window until the vehicle is completely stopped.
  - The vehicle proceeds toward the far edge of the lane and is stopped prior to hitting the cones.
- The vehicle then moves forward as the steering wheel is turned to the left to avoid striking the cones along the edge of the course. This completes the first three-point turn-around.
- The vehicle will continue toward the second driveway, keeping close to the right edge of the lane.
  - This places the vehicle in a position to execute the next turn-around.
  - When the vehicle's front bumper is at least halfway past the leading edge of the driveway opening, the steering wheel will be turned sharply to the left.
  - The vehicle is stopped on the opposite side of the lane and at approximately a 45 degree angle to the opening of the driveway.
  - The vehicle is backed into the driveway, stopping perpendicular to the lane and as far to the right (passenger's side) of the space in anticipation of rear wheel cheat while exiting. Vision is to remain to the rear until the vehicle is fully stopped (utilizing the most appropriate technique).
  - The vehicle will then move forward as the steering wheel is turned to the left to avoid striking cones along the outside edge (passenger's side) of the lane.

- The vehicle continues on the lane past the second driveway and stops at the end of the course.
  - The vehicle should be positioned to the left in anticipation of front-end swing to the right while backing.
  - The vehicle is moved in reverse and the steering wheel is turned to the left.
- As the vehicle backs into the driveway, vision remains to the rear until the vehicle is completely stopped.
  - The vehicle should be positioned in the driveway perpendicular to the lane close to the left (driver's side) in anticipation of rear wheel cheat to the right while exiting.
  - The vehicle will move forward, steering to the right to avoid striking cones along the edge of the course.

Instructor's Note: Explain the driver will look over the left shoulder when making this final left-hand backing movement for best visibility to the rear.

Demonstration Phase

Refer to introductory pages of this chapter for the demonstration phase.

Practical Application Phase

Refer to introductory pages of this chapter for the practical application phase.

Evaluation Phase

Refer to introductory pages of this chapter for the evaluation phase.

PARALLEL PARKING EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle
- Approximately 9 delineators
- Approximately nine 18" cones
- If available, use an actual curb instead of cones and delineators
- Goal

The student will demonstrate the five basic steps that are used to park a vehicle safely and efficiently within legal limits.

Introduction

The following briefly explains why it is important to have the ability to properly parallel park a vehicle in a limited space:

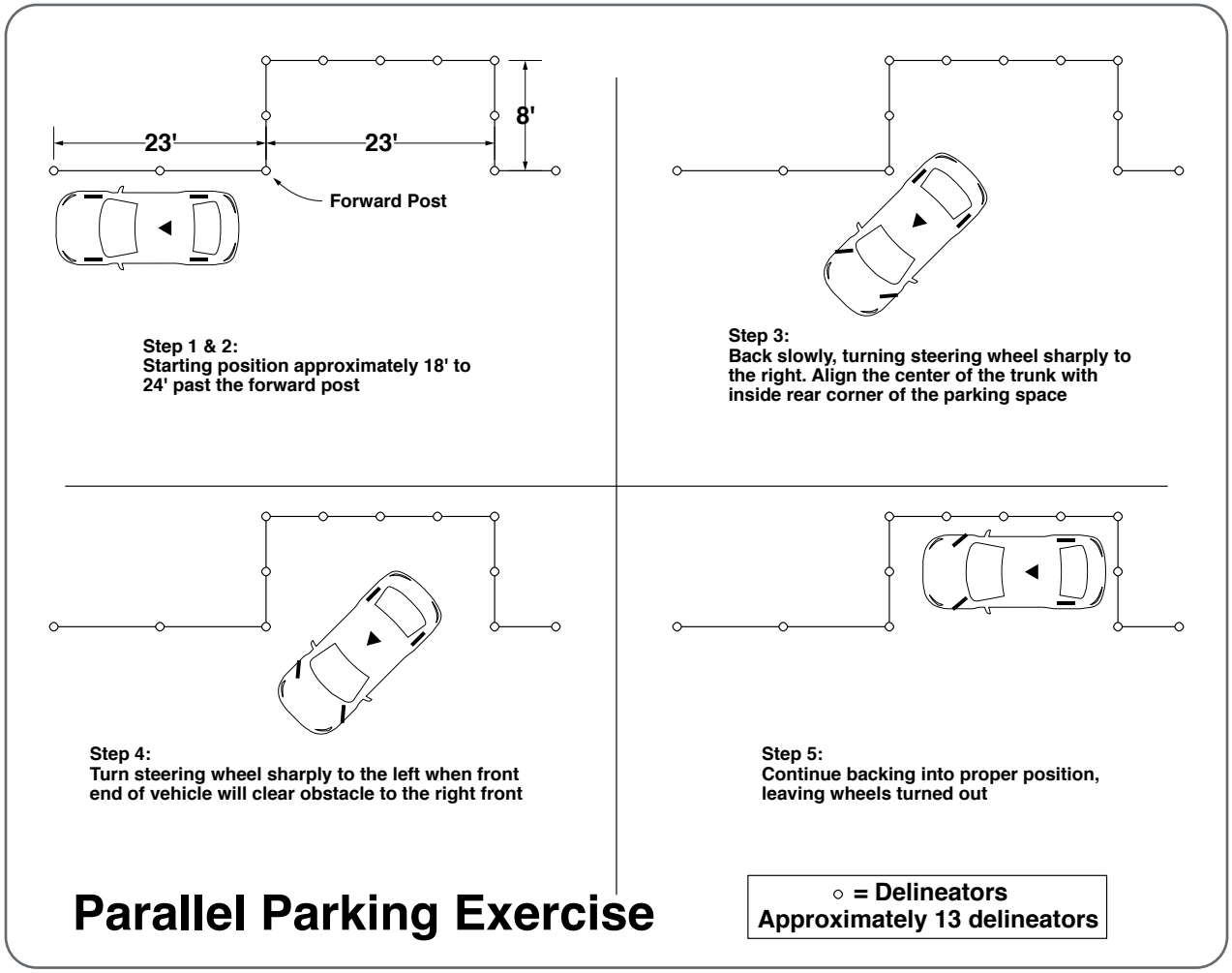
- It instills confidence in the student and portrays a professional image when arriving at the scene of a law enforcement incident.
- Unless responding to an emergency call, the officer is required to conform to the regulations of the California Vehicle Code.
  - ► This does not mean double-parking with the warning lights flashing.
  - ► Flashing red or amber emergency lights on an illegally parked law enforcement vehicle does not make that manner of parking legal unless an emergency is present.
- This parking exercise teaches the driver the basic techniques of reverse driving.
- Demands that a driver have an excellent knowledge of the physical dimensions of the vehicle and its turning radius.
- Section 22502(a) CVC: "Except as otherwise provided in this chapter, every vehicle stopped or parked upon a roadway where there are adjacent curbs shall be stopped or parked with the right-hand wheels of such vehicle parallel with and within 18 inches of the right-hand curb…where no curbs or barriers bound any roadway, right-hand parallel parking is required unless otherwise indicated."

Course Description

The parking area is approximately 25' long and 8' wide.

Delineators are used at each end to simulate legally parked vehicles. If no curb is available, delineators and cones are used along the right side to simulate a curb.

Although there are many methods for getting a vehicle into a parallel parking space, consistency is a common problem. Turning the steering wheel while moving contributes to inconsistencies in vehicle positioning. Using the four-step method, the steering wheel is at maximum input or straight throughout the exercise, i.e., no turning while moving. Teaching the four-step method leads to a more consistent result because the turning radius is the same every time.



The following describes the four-step method for parallel parking a passenger vehicle in a limited space:

Step 1:

- Position the vehicle parallel and approximately 12–18" to the left side and slightly ahead of the delineators that represent a vehicle parked in front of the available space.
- Maintain vision to the rear utilizing the most appropriate technique.
- Start backing up slowly until the rear bumper of the vehicle is approximately even with the delineator representing the rear bumper of the parked vehicle. Momentarily stop the vehicle and move the steering wheel right to full lock.

Step 2:

- Back the vehicle slowly to angle the car into the space. The focal point is the delineator representing the point at which the curb and the extension of the line representing the front of the vehicle being parked in front of intersect. This focal point may be different for various drivers depending on how they sit in the seat while looking out the rear window. As a general rule, the center line of the patrol car should be pointed approximately 2–3' forward of this focal point.
- For vehicles with limited rear window visibility, use the driver's side mirror or backup camera for acquiring the focal point, which will be approximately 2–3' from the curb.
- Once the appropriate angle is reached, momentarily stop the vehicle and turn the wheel back to the left until the wheels are straight.

Step 3:

- Back the vehicle straight until the right front corner of the patrol car will clear the delineator representing the left rear fender of the car parked in front of the space.
- Momentarily stop the vehicle and move the steering wheel left to full lock.

Step 4:

- Slowly back the vehicle until it is parallel to the curb, in the parking stall, legally parked, ensuring the front and rear wheels are within 18" of the curb. Maintain vision to the rear ensuring not to strike the vehicle (delineator) behind them.

Instructor's Note: Instructors will emphasize looking to the rear while backing until stopped.

Parked vehicles must have the wheels locked by turning them against the curb when parked on a steep hill (22509 CVC).

- When parked facing downhill, wheels should be turned hard to the right, rolling slightly forward until the front tire makes contact with the curb.
- When parked facing uphill, wheels should be turned hard to the left, rolling slightly backward until the front tire makes contact with the curb.
- When parking on the off-side of the street (e.g., one-way streets) the direction of the tires when parking against the curb is reversed.

Demonstration Phase

Refer to introductory pages of this chapter for the demonstration phase.

Practical Application Phase

Refer to introductory pages of this chapter for the practical application phase.

Evaluation Phase

Refer to introductory pages of this chapter for the evaluation phase.

BOOTLEG TURN EXERCISE

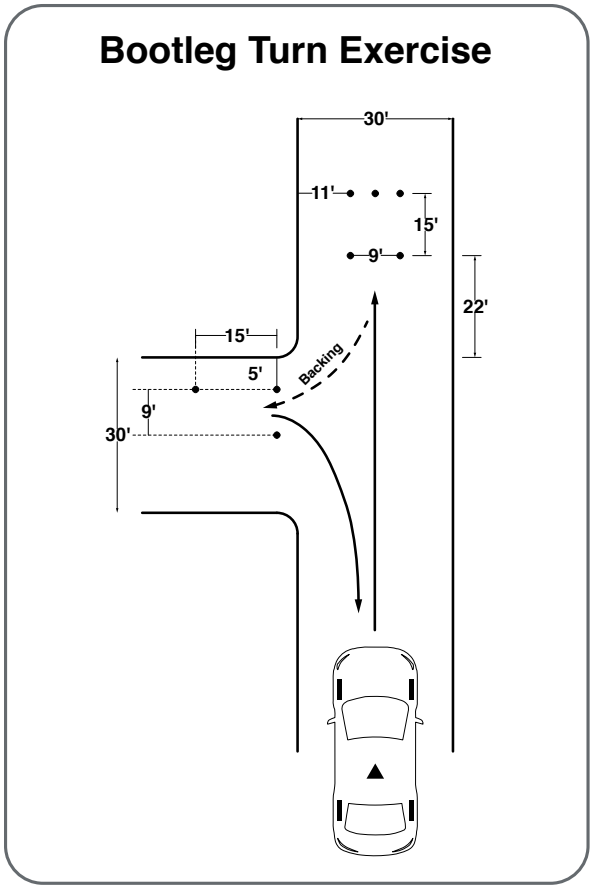
PRIOR TO OPERATION OF THIS TRAINING EXERCISE, INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle
- Approximately twenty-three 18" cones and 6 delineators

Goal

To acquaint the student with the proper techniques and inherent hazards of a backing turn (bootleg) maneuver.



Objectives

- To strongly emphasize vehicle control when driving in reverse.
- To stress the importance of visual awareness of obstacles around and behind the moving vehicle.
- To acquaint the student with the mechanics of front-end swing.
- To exercise skill and judgment while maneuvering a vehicle in a limited area.

Introduction

- Drivers of emergency vehicles are frequently required to make turn-around maneuvers.
- Students are informed that a large percentage of traffic collisions occur under 10 mph while backing.

Course Description

The course consists of a roadway intersected by a driveway set at a right angle.

Procedure to Drive the Course

- The vehicle is driven forward into the roadway past the driveway and is placed to the right edge of the roadway (passenger's side), coming to a stop at the end of the exercise.
- The vehicle is then placed in reverse while the driver looks to the rear to ensure the pathway is clear.

- As the vehicle is backed out of the roadway, steering input is applied to begin the turning movement into the driveway.
- The driver's attention at this time is directed to the vehicle's left front to ensure clearance of obstacles and monitoring front-end swing.
- The driver directs their attention rearward looking over the right shoulder, utilizing sideview mirrors, or utilizing the backup camera, placing the vehicle as far to the right (passenger's side) as possible to allow for rear wheel cheat while exiting.
- The vehicle is backed into the driveway as far as space allows.
- Turn the wheel to the left and exit the exercise being mindful of rear wheel cheat to the left while exiting the driveway.

Demonstration Phase

Refer to introductory pages of this chapter for the demonstration phase.

Practical Application Phase

Refer to introductory pages of this chapter for the practical application phase.

Evaluation Phase

Refer to introductory pages of this chapter for the evaluation phase.

STEERING EXERCISE (FORWARD AND REVERSE)

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle
- Approximately 14 Delineators

Goal

The student will gain the necessary skill and knowledge to operate an emergency vehicle in both forward and reverse directions while using the proper steering methods for maximum vehicle control.

Objectives

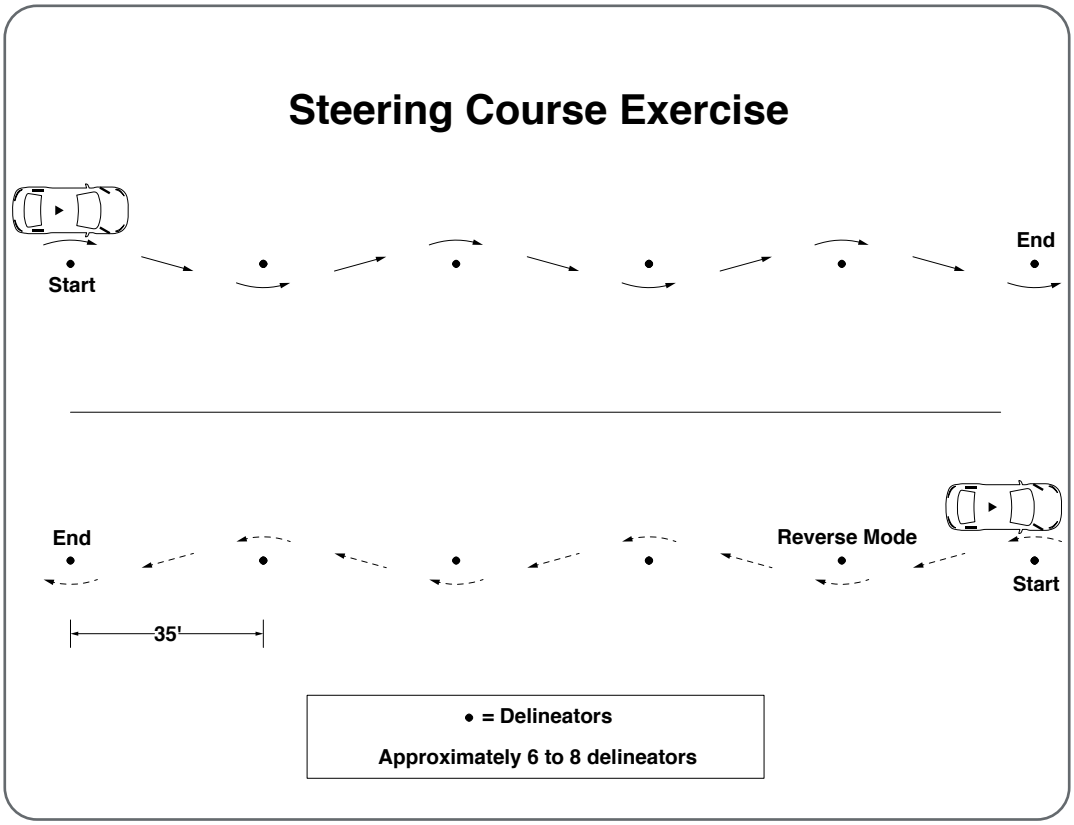
- The student will demonstrate the proper application of the forward and reverse methods of steering.
- The student will demonstrate proper coordination of steering and throttle control to minimize weight transfer during turning movements.
- The student will safely maneuver around obstacles without striking them while using proper focal points

Introduction

- The steering course is designed to emphasize the importance of smoothness and coordination of steering and throttle control.
- Look ahead to prepare for any turning movement. The driver's field of vision should always be at least one delineator ahead of the car. Once the driver has set the turning radius for the current delineator, their eyes should shift to the next delineator on the course.

Course Description

The course is 175' in length and 24' in width on a straight level, paved surface.
The course consists of a series of six delineators placed 35' apart in a straight line.
At each end of the course, there is a parking stall that is 10' wide and 20' deep.



Procedure to Drive the Course

- Start with the vehicle backed into one of the parking stalls at the end of the exercise.
- Emphasis should be placed on students using the least amount of steering input, which will minimize rear wheel cheat, weight transfer, and front-end swing.
- Steering transition from one direction to the next occurs approximately mid-way between delineators in both forward and reverse. This allows for completing the course with minimum steering input.

Driving Forward:

- The vehicle is driven with a steady throttle application at a speed of 5–10 mph and weaves in and out of the delineators, making a continuous series of "S" turns while utilizing the proper shuffle steering method.
- The vehicle's placement as it passes from one delineator to another should provide sufficient clearance to compensate for rear wheel cheat to avoid striking the delineators.
- Judgment of distances can be more difficult while apexing on the right side of the vehicle due to the fact the delineators are farther away from the driver.
- At the opposite end of the course, the vehicle should be driven as far forward into the parking stall as possible and as close to the appropriate side in preparation for front-end swing when backing out.

Driving Backward

- Visual awareness to the rear will be obtained by properly turning to the right in the seat and directing vision through the rear window, utilizing sideview mirrors, or utilizing the backup camera. The type of vehicle, and the driving conditions will dictate the method used.
- Student must be aware of front-end swing as they exit the parking stall.
- The vehicle is driven at idle speed, approximately 3–5 mph while weaving in and out of the delineators.
- The inside rear wheel should be closest to each apex while backing (i.e., the same wheel as when traveling forward).
- At the opposite end of the course, the vehicle should be driven as far back into the parking stall and as close to the appropriate side as possible in preparation for rear wheel cheat when pulling out.
- Continue looking back until the vehicle comes to a complete stop.

Instructor's Note: Emphasize a delay in steering occurs when traveling in reverse. The wheels that are doing the turning are behind the driver rather than in front of the driver. This requires steering input earlier than when traveling forward.

Demonstration Phase

Refer to introductory pages of this chapter for the demonstration phase.

Practical Application Phase

Refer to introductory pages of this chapter for the practical application phase.

Evaluation Phase

Refer to introductory pages of this chapter for the evaluation phase.

FOCAL POINT STEERING EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle
- 10 delineators

Goal

The student will gain the necessary skill and knowledge to operate an emergency vehicle in forward direction, using the proper steering and focal point methods for accurate vehicle positioning.

Objectives

- The student will demonstrate the proper application of steering while driving forward.
- The student will demonstrate proper coordination of steering and throttle control to minimize weight transfer during turning movements.
- The student will safely maneuver around delineators, compensating for rear wheel cheat without striking obstacles.
- Use of proper focal point results in smooth constant radius turn at each end of the exercise.

Introduction

- The steering course is designed to emphasize proper shuffle steering, smoothness and coordination of steering, proper focal point, and throttle control.
- Look ahead to prepare for any turning movement. The driver's field of vision should always be at least one delineator ahead of the car. Once the driver has set the turning radius for the current delineator, their eyes should shift to the next delineator on the course. As the vehicle passes the last delineator in the line, the driver's focal point should immediately shift to the first delineator in the opposite line, resulting in a smooth constant radius turn.
- This course can be driven clockwise or counter-clockwise to change the direction of the focal points.

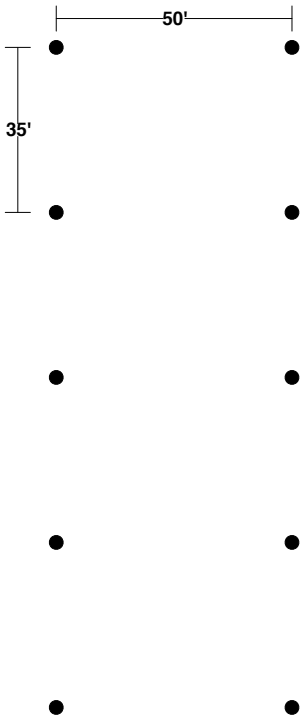
Course Description

The course is 140' in length and 60' in width on a straight level, paved surface. The course consists of two series of five delineators placed 35' apart in straight lines, with the two lines placed parallel and 60' apart.

Procedure to Drive the Course

- Start vehicle from the end of one of the parallel lines, always to the outside of the first delineator. Multiple vehicles can be driven at the same time provided care is taken to maintain safe spacing.

Focal Point Steering Exercise



- Emphasis should be placed on students using the least amount of steering input, which will minimize rear wheel cheat and weight transfer.
- Steering transition from one direction to the next occurs approximately mid-way between delineators. This allows for completing the course with minimum steering input.
- The vehicle is driven with a steady throttle application at a speed of 10–20 mph while weaving in and out of the delineators, making a continuous series of "S" turns while utilizing the proper shuffle steering method.
- When transitioning from one side of the course to the opposite side, the driver should look to the delineator on the opposite side as soon as they are passing the last delineator. Getting their proper focal point early (the delineator on the opposite side) will result in a smooth and continuous radius turn during the transition.
- Judgment of distances can be more difficult while apexing on the right side of the vehicle due to the fact the delineators are farther away from the driver.

Demonstration Phase

Refer to introductory pages of this chapter for the demonstration phase.

Practical Application Phase

Refer to introductory pages of this chapter for the practical application phase.

Evaluation Phase

Refer to introductory pages of this chapter for the evaluation phase.

VEHICLE CONTROL TECHNIQUES EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

Law enforcement training vehicle

Ten 18" cones recommended (other cone sizes can be substituted)

Goal

The student will become familiar with all aspects of vehicle control techniques.

Objectives

The student will successfully demonstrate the following fundamental vehicle control techniques while negotiating the exercise:

- Steering
- Throttle application
- Braking
- Roadway position
- Weight transfer
- Speed judgment (situational awareness)

Introduction

- Law enforcement drivers must be able to properly control their vehicles under emergency as well as routine conditions.
- The course is designed to familiarize the student with the basic fundamentals of vehicle control under varied conditions.
- An understanding of vehicle dynamics combined with accurate manipulation of the vehicle's controls is essential to operate the vehicle safely.

Course Description

- The course requires a level, paved, driving area 600' long and 70' wide.
- The course consists of five sets of cones, two per set, 12' apart.
- The first set of cones is placed 100' from the start of the exercise, with the remaining four sets at 100' intervals.
- The second and fourth sets of cones are offset 25' from the other sets of cones to constitute an "S"-configured driving line.
- The remaining 100' of driving area is utilized for braking and run-off.

Procedure to Drive the Course

- The exercise is divided into a two-phase operation. In Phase One, the vehicle is driven forward through the course. In Phase Two, the vehicle is driven in reverse, backing through the course.
- Drive the vehicle at a constant speed (minimum of 15 mph) while providing minimal and consistent steering input/recovery that allows for smooth vehicle operation.
- The vehicle is driven forward through the course using the proper control techniques. Rear wheel cheat and the effects of caster while driving forward are explained to the student driver.
- Vehicle control techniques stressed are:
  - Steering
  - Throttle application
  - Braking
  - Roadway position
  - Weight transfer
  - Speed judgment (situational awareness)
- At the end of the driving area, the vehicle will be brought to a complete stop while stressing firm to light brake application for controlled weight transfer.
- Utilizing the proper seating position, the student will back the vehicle through the course using proper control techniques. Front-end swing and the negative effects of caster while backing are explained to the student driver.

Demonstration Phase

Refer to introductory pages of this chapter for the demonstration phase.

Practical Application Phase

Refer to introductory pages of this chapter for the practical application phase.

Evaluation Phase

Refer to introductory pages of this chapter for the evaluation phase.

"T" DRIVEWAY EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle
- Approximately eight delineators and thirty 18" cones

Goal

The student will learn the basic movements of a vehicle while maneuvering back and forth and turning in and out of tight environmental situations.

Objectives

The student will successfully demonstrate how to properly and safely maneuver a vehicle in and out of a "T"-shaped driveway or blocked "T" alleyway where there is a minimum of space.

Introduction

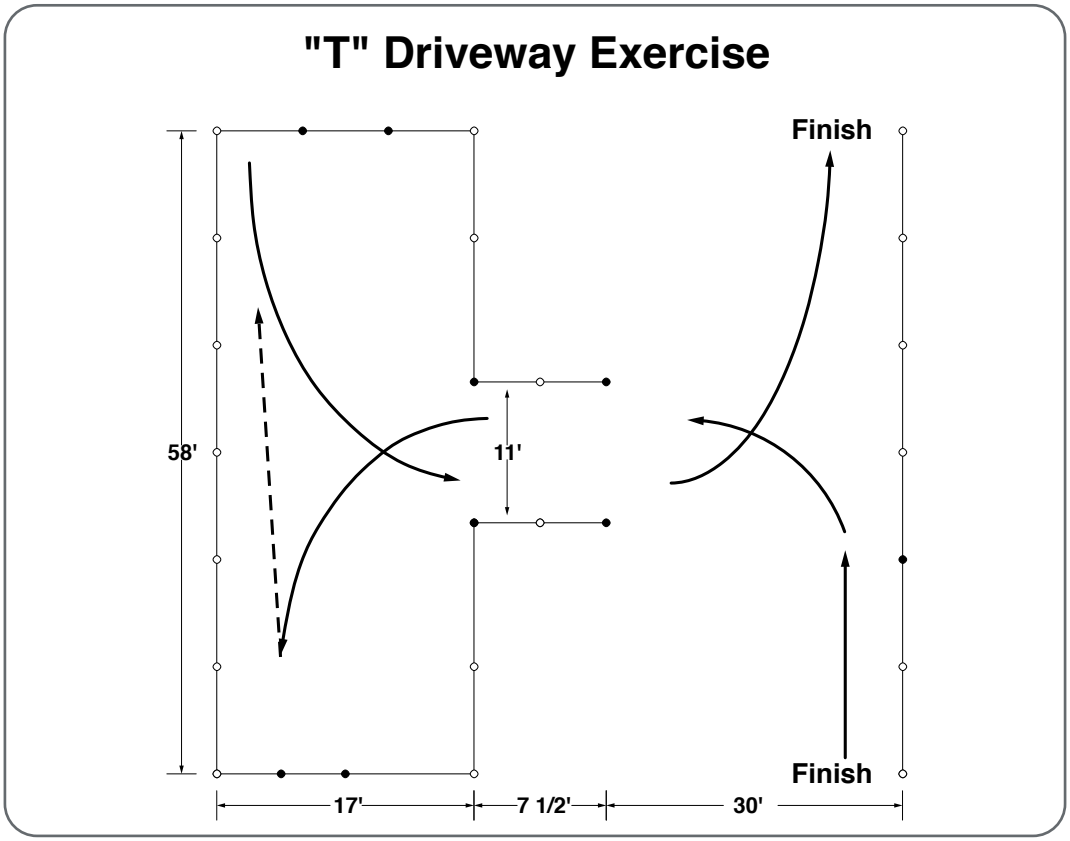
- A vehicle will often be placed in restricted area situations and it is important to safely maneuver both in and out of such circumstances.
- Road position is critical in the exercise due to restricted maneuvering area available.
- An understanding of rear wheel cheat and front-end swing along with accurate manipulation of the vehicle's controls is essential to complete this exercise.
- It is important to maintain vision to the rear while backing until the vehicle completely stops.
- Use of Mirrors: Normal vehicle mirrors are not of sufficient size or design to solely rely on them for safe backing due to:
  - Blind spots due to vehicle design
  - Curved mirrors on the passenger side distort objects.
- Road Position: Use the available roadway to the fullest advantage.
- The driver should learn to judge physical dimensions of different law enforcement vehicles to include:
  - Front bumper (to include push bumpers if equipped)
  - Rear bumper
  - Right and left sides of the cars

Instructor's Note: Due to restricted visibility out of the rear window in some law enforcement vehicles, it may be necessary to use only the mirrors for backing. Care should be taken when using only mirrors due to limited visibility to the rear.

Some vehicles are equipped with audible warning devices and/or rear cameras, which may assist the driver in backing more safely. Even when vehicles are equipped with these features, the driver should not rely solely on these devices.

Course Description

- The driving area should be on level pavement at least 58’ wide and 55’ long (including width of approach road).
- The vehicle will enter the driveway area from a left turn maneuver from a roadway approximately 30’ wide.
- The dimensions of the driveway are:
  - 58’ across the top of the “T.”
  - 17’ deep from the top of the “T” to the entrance.
  - The “mouth” or entrance of the “T” base will be 10’ wide and 8’ deep.



Procedure to Drive the Course

The Approach

- Road position on the approach road is critical before the left turning movement into the entrance of the driveway.
- Look and plan ahead.

- For a left turn, enter from the right side of the roadway.
- Keep speed down to ensure safety and control.
- Tight areas to maneuver require slower speeds.
- Increased speed will increase the radius of the turn.
- Road position while in the entrance of the driveway is also important.
- Set up by positioning the vehicle to the right in order to allow for rear wheel cheat during the left turn into the top of the driveway.

Driving within the "T" driveway

- Steering accuracy into the top of the "T" from the entrance is important.
  - ► May require briefly straightening wheels in the mouth of the "T".
- Judgment of front-end distance.
  - ► Leave sufficient room for the front bumper to make the left turn without striking cones.
  - ► Straighten the vehicle's front wheels in the top of the "T" just prior to coming to a complete stop.
- Backing within the top of the "T."
  - ► Look to rear at all times while backing.
  - ► Smoothly steer the vehicle and back into the far right corner and parallel to the "T" at the opposite end, allowing for proper road position to exit the exercise.
- Exiting the "T."
  - ► Road position while exiting the driveway is also important.
  - ► Set up by keeping the vehicle positioned as far to the right as possible during the exit maneuver in order to allow for rear wheel cheat.
  - ► May require slight straightening of wheels just as the vehicle exits the mouth of the "T" and then further left steering to enter the roadway.

Demonstration Phase

Refer to introductory pages of this chapter for the demonstration phase.

Practical Application Phase

Refer to introductory pages of this chapter for the practical application phase.

Evaluation Phase

Refer to introductory pages of this chapter for the evaluation phase.

ANGLED DRIVEWAY EXERCISE

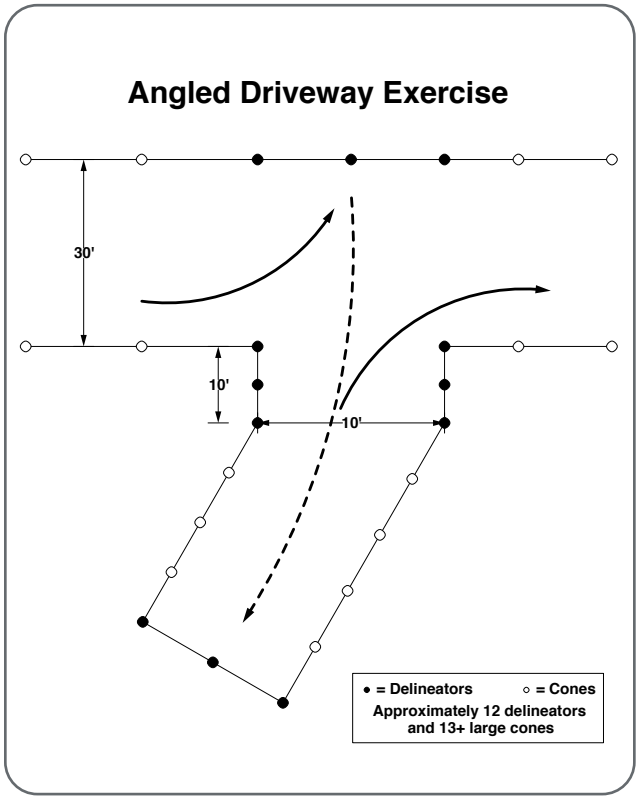
PRIOR TO OPERATION OF THIS TRAINING EXERCISE, INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle
- Approximately sixteen delineators and ten 18" cones

Goal

The student will properly back a vehicle into a limited area while effecting directional change.



Objectives

- The student will safely drive a vehicle in reverse in a limited-maneuvering area.
- The student will be exposed to and compensate for front-end swing and rear wheel cheat situations.
- The student will recognize the importance of visual awareness of obstacles for purposes of collision avoidance.

Introduction

- During routine patrol situations, the driver is often required to maneuver a vehicle within limited areas, both forward and in reverse. A large percentage of traffic collisions and body damage to emergency vehicles occurs under these situations.
- This course provides a situation in which the student driver can gain knowledge and expertise to contend with these circumstances.

Course Description

- The course represents a driveway perpendicular to a simulated city street, 30' wide.
- The driveway is 10' wide and 28' long as outlined by cones and delineators.
- The first 10' of the driveway are straight, with the remaining 18' at an approximate 35 degree angle to the driver's side.

Procedure to Drive the Course

- The vehicle is driven down the simulated city street approaching the driveway, which is located on the passenger's side.
- As the vehicle's front end nears the immediate corner of the driveway, the vehicle is driven into a hard left-hand turn and placed perpendicular to the roadway; ideally, the vehicle's trunk is lined up with the entrance to the driveway.
- The driver will now back the vehicle into the driveway, looking over the right shoulder the entire way.
- The driver's side cones are utilized as a reference for proper vehicle placement.
- The vehicle is backed in a straight line conforming to the driveway boundaries for the initial 10'.
- As the vehicle's rear bumper is adjacent to the point of angle, steering is input to continue the vehicle's rearward progress in conforming to the configuration of the driveway.
- As the vehicle is directed into the angled portion of the driveway, the steering is returned to neutral to prevent front-end swing from causing contact with the passenger side boundary cones.
- The vehicle is backed down the driveway as far as possible and brought to a complete stop.
- The vehicle is then driven forward out of the exercise.

Demonstration Phase

Refer to introductory pages of this chapter for the demonstration phase.

Practical Application Phase

Refer to introductory pages of this chapter for the practical application phase.

Evaluation Phase

Refer to introductory pages of this chapter for the evaluation phase.

"Y" DRIVEWAY EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle
- Approximately nine delineators and thirty 18" cones

Goal

The student will learn through practical application the basic movements of a vehicle, both forward and reverse, in a tight environmental situation.

Objectives

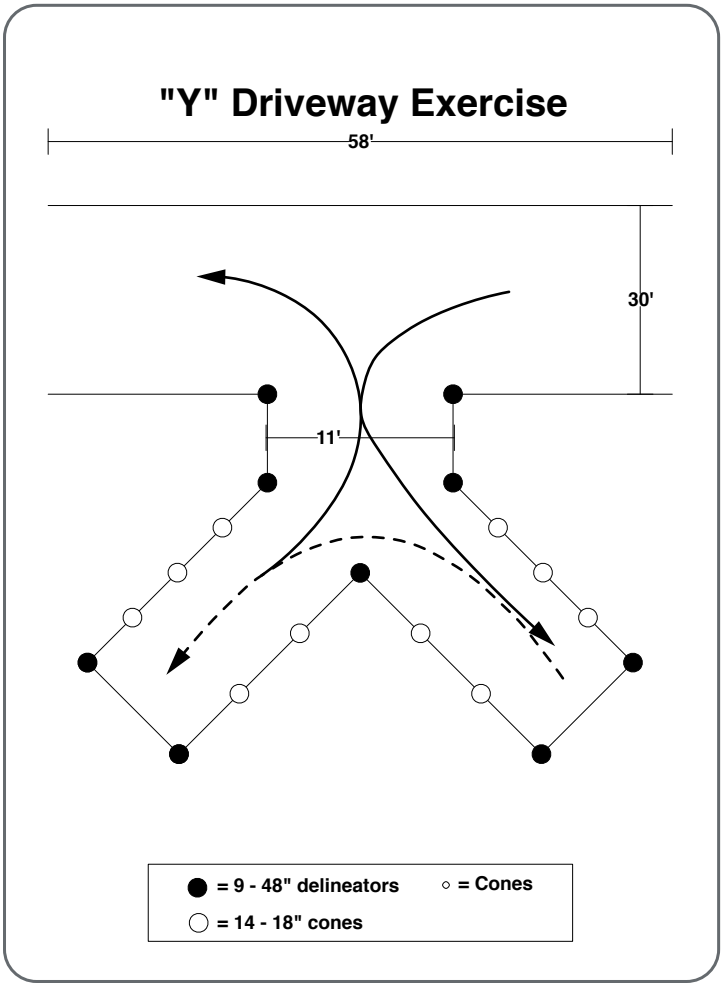
- The student will successfully demonstrate how to properly maneuver a vehicle in and out of a "Y"-shaped driveway or blocked "Y" alleyway where there is a minimum of space.

Introduction

- In law enforcement, a vehicle will often be driven in confined areas, thus it is important to safely maneuver during such circumstances.
- The student should learn to judge physical dimensions of different law enforcement vehicles to include:
  - Front bumper (to include push bumpers if equipped)
  - Rear bumper
  - Right and left sides of the car

Course Description

- The driving area should be on level pavement, at least 58' wide and 58' long, including the approach road.
- The vehicle will enter the driveway area from a left turn maneuver from a roadway approximately 30' wide.
- The dimensions of the driveway are:
- 58' across the top of the "Y."
- 17' depth from the top of the "Y" to the entrance.
- The mouth of the entrance of the "Y" base will be 11' wide and 7 ½' deep.
- The top portion of the "Y" or driveway portion will be 12' wide.
- The course will be outlined with 18" cones, utilizing delineators in the most critical areas as show on the diagram.



Procedure to Drive the Course

The approach

- Road position on the approach road is critical before the left turning movement into the entrance of the driveway.
- Look and plan ahead.
- For a left turn, set up wide to the right side of the roadway.

Keep speed down to maintain control of the vehicle.

- The limited maneuvering area requires slower speed.
- Higher speeds will increase the radius of the turn.

Road position while in the entrance of the driveway is important.

- Set up wide to the right and close to the delineator for a left turn into the top portion of the driveway.
- This will compensate for the rear wheel cheat during the left turn.

Driving within the "Y" driveway

- Stay close to the right side in anticipation of front-end swing while backing.
- Pull all the way forward, remaining close to the right side and then stop.

Backing within the top of the "Y."

- Smoothly steer the vehicle straight back, pivoting around the delineator with the passenger's side rear wheel.
- Continue backing vehicle into the top of the "Y" on the opposite side while allowing for proper road position to set up for exiting the mouth of the "Y."
- The vehicle should come to a complete stop, parallel with the top edge of the "Y" and with a sufficient margin between the rear bumper and the end of the "Y."

Exiting the "Y"

- Avoid being too close to the cones on the driver's side of the car.
- Avoid excessive throttle, which will increase the turning radius and may cause the vehicle to strike cones on the passenger's side of the vehicle.

- Upon exiting the mouth of the "Y," attempt to stay close to the cones on the right side to maintain proper roadway position.

Demonstration Phase

Refer to introductory pages of this chapter for the demonstration phase.

Practical Application Phase

Refer to introductory pages of this chapter for the practical application phase.

Evaluation Phase

Refer to introductory pages of this chapter for the evaluation phase.

"BOX" FOCAL POINT EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle
- Approximately eight delineators and fifty-four 24" cones

Goal

The student will learn to plan ahead for a tight turning maneuver requiring proper focal point while compensating for rear wheel cheat.

Objectives

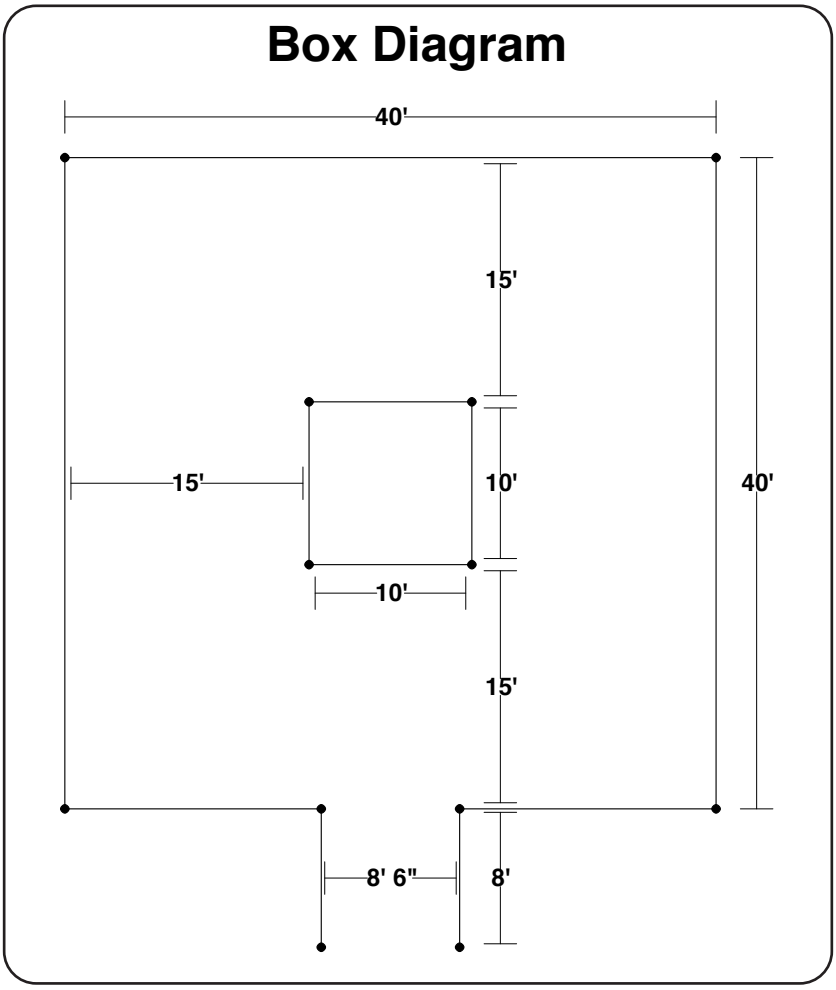
- The student will successfully demonstrate how to properly maneuver a vehicle in a limited area while being required to maintain a high visual horizon throughout the exercise in anticipation of the required vehicle positioning.

Introduction

- In law enforcement, a vehicle will often be driven in confined areas, thus it is important to safely maneuver during such circumstances.
- The student should learn to judge physical dimensions of different law enforcement vehicles to include:
  - Front bumper (to include push bumpers if equipped)
  - Rear bumper
  - Right and left sides of the car
- The course must be completed with only one backing maneuver.

Course Description

- The driving area should be on level pavement at least 40' wide and 50' long.
- The driver must look through the first turn to anticipate the proper turning radius required to make it past the first two corners.
- The driver will be required to back up one time and reposition in order to complete the exercise.
- After repositioning one time, the student is required to exit the exercise without any further backing corrections.



Procedure to Drive the Course

- The approach
  - Enter the exercise as close to the driver's side of the entrance as possible to compensate for rear wheel cheat when making the initial right turn.
- Driving within the exercise
  - In order to maintain proper road position, steering input, and turning radius, the driver must look at the second delineator in the box.
  - The driver must continue to look beyond their closest delineator and focus on the next delineator from their current position.
  - The student will be unable to complete the third left turn and will be required to back up and reposition the vehicle.
  - While backing up to reposition, the student must maintain a focal point that will allow the completion of the exercise without any further corrections.
  - In order to maintain proper road position, steering input, and turning radius, the driver must look through the fourth corner to the exit.

Instructor's Note: This exercise requires the driver to look beyond the turn they are approaching and to maintain a focal point on the second turn from their current position.
This is a very tight exercise and requires maximum steering input at the appropriate time.
Failure to look ahead results in the driver having to back up and correct more than once to complete the exercise.

Demonstration Phase

Refer to introductory pages of this chapter for the demonstration phase.

Practical Application Phase

Refer to introductory pages of this chapter for the practical application phase.

Evaluation Phase

Refer to introductory pages of this chapter for the evaluation phase.

CHAPTER FIVE
EVALUATING BASIC DRIVING PRINCIPLES

Evaluating Basic Driving Principles

The following should be used for observing and evaluating slow-speed driving exercises. The format of this chapter follows the POST Learning Domain 19 – Vehicle Operations Competency Test Form.

Safety

Follows the facility rules and regulations. Follows instructor's direction. Properly uses safety equipment in the vehicle.

Situational Awareness

Drives at a speed that is safe for existing conditions. Demonstrates proper roadway positioning without striking any cone(s) or delineators.

Braking Technique(s)

Demonstrates appropriate braking technique(s) while maintaining smoothness and coordination with the other vehicle controls (e.g., weight transfer).

Steering Technique(s)

Demonstrates appropriate steering technique to include proper hand position on the steering wheel. Demonstrates appropriate steering input and recovery while maintaining smoothness and coordination with the other vehicle controls.

Throttle Control

Uses appropriate throttle input for the conditions while demonstrating smoothness and coordination with the other vehicle controls.

Speed Judgment

Demonstrates appropriate speed for the exercise.

Vehicle Placement

Demonstrates the ability to compensate for front-end swing and rear wheel cheat. Demonstrates proper vehicle positioning. Demonstrates proper visual horizon/focal point.

Backing

Demonstrates proper seating position while backing. Demonstrates visual awareness of obstacles to the rear of the vehicle while backing.

Tactical Seatbelt Removal

Demonstrates the ability to quickly and effectively remove the seatbelt while exiting the vehicle.

Rate of Performance

Performs the exercise at an appropriate pace. This includes the pace at which the student changes gears between forward and reverse, provides steering input, and keeps the flow of the exercise moving.

Fluency of Performance

Actions are well coordinated and performed in a timely manner with no more than one adjustment (e.g., change of direction) allowed.

Level of Response

Adjusts driving speed to the exercise.

CHAPTER SIX
DESIGN AND MANAGEMENT OF COURSE

Site Preparation

- The training site should be able to accommodate students, vehicles, and exercises.
- The training may have separate sites for lecture and driving and these should be located conveniently to each other.
- The classroom should be an adequate size.
- Ideally, the driving area should be free from outside distractions and away from residential areas.
- A flat surface is desirable for driving exercises.
- Restrooms shall be available.
- Consideration should be given to providing a site convenient to student travel.
- A written agreement between the property owner and/or lessee and the law enforcement agency conducting the training absolving each other of liability prior to use of any outside training site.
- Examples of potential training sites could include:
- Closed freeway corridor
- Airfields
- Unused parking lots (e.g., schools, businesses)
- Recreational areas during off-season
- Closing a public street where convenient detours are available to the public
- Unused, paved, private property of large business

Course Design

- The training site will be large enough to accommodate the training exercises and provide for a student safety zone.
  - ► It is recommended that a larger area be utilized when possible.
  - ► A larger area would allow each driving problem to be spaced farther apart and increase the margin of safety.
  - ► If a smaller area is used, then training may need to be conducted in segments to avoid conflicts between exercises.
- Consider the flow of training traffic at each driving exercise so that concurrent training does not cause cross-traffic and potential collisions.
- Avoid altering the basic design of driver awareness exercises. Training is limited to the specific exercises in the Driver Awareness Course.
  - ► An individual agency will potentially have to justify its actions and sustain increased liabilities when straying from the POST-approved format.

- It is recommended that once each exercise is properly set up, the position of each cone be marked as a reference point for future use, which will reduce setup time. Care should be taken to ensure that each cone is positioned according to the appropriate course diagram. If traffic cone configuration is not properly maintained, then driver performance may be diminished.
- Slight modification of dimensions of exercises may be necessary due to size and capabilities of vehicles utilized. One model of training vehicle should be used to avoid adjusting exercise dimensions during training.
- Exercise modifications can be made for larger vehicles. Justifications for adjustments should be explained in a class outline.
- The training site may include an area other than a square or rectangular design.

Equipment/Resources/Materials

- Vehicles utilized for training must be pre-checked to minimize the potential for delays due to breakdown.
- Clean windows to aid in performance and safety.
- Fluid levels and tire pressure should be checked prior to driving.
- Vehicles should be similarly equipped to what is used on duty to make training realistic.
- Obtain sufficient delineators and cones to set up the driving exercises you have selected.
- Cones and delineators can be obtained from the following:
  - The law enforcement agency's own supply
  - City and/or county government departments
  - Private vendors
- Refer to equipment checklist addendum
- Safety and Control
- Review facility safety policy with staff and students
- The following are considerations for the actual driving site:
  - Seat belts will be utilized by all occupants whenever a vehicle is in motion
- Tactical Seatbelt Removal (TSR) shall be practiced
  - First aid kit, pry tool, and fire extinguishers
  - Location of and the route to nearby medical facilities should be known
- Minimize obstructions on or near the course
  - Area should be kept clear of other traffic during training
  - A designated supervisor or lead instructor should be present
  - Emergency communication is necessary in case of injury or illness

Perishable Skills Training

- Refresher driver training is required every two years.
  - ► Statistics indicate that accident involvement increases beyond two years as the retention of training skills and knowledge weakens with time.

Format and Hours

- The actual Driver Awareness Course given by instructors to their law enforcement students will be at least four hours in length to meet the POST perishable skills requirements. (For your agency to be in compliance with required perishable skills training, the course must be POST-certified.) Classroom presentation is flexible as to content to allow for modifications to meet the needs of individual agencies; however, each agency will prepare a lecture consisting primarily of information from this manual and the agency's policy:
  - ► Classroom instruction may include:
- Registration/introduction
- Basic driving principles
- Civil and criminal liabilities
- Discussion of agency's driving policy
- Vehicle care and maintenance
- Defensive driving
  - ► A suggested course outline included later in this manual may be used as a guide in preparation of the classroom lecture.
- The driving exercises are flexible only as to the number of exercises trained at one time and slight modifications of dimensions depending on size and capabilities of vehicles used.
  - ► A minimum of three selected driving exercises should be used.
- Student-to-instructor ratio shall follow a POST-approved safety policy.
  - ► Class size depends on the number of instructors, available equipment, and site size.

Evaluation of Performance

- Students will be evaluated as to their driving performance based on the techniques demonstrated by instructors and in conformance with the basic principles of driving emphasized in the classroom lecture.
- The evaluation shall be as objective as possible.
- The evaluation form validated by POST shall be used by presenters and is available on the POST website at www.post.ca.gov.
- A comment section should be provided on the evaluation form for each driving exercise for specific instructor comments.
- The main consideration for evaluation is to identify drivers who need additional training.
- If remediation during any specific course fails to raise performance to an acceptable level, then consideration should be given to notify the appropriate agency representative.

Documentation

- Each presenter should document the following elements of the Driver Awareness Course for their own reference and POST certification:
  - POST roster
  - Names of instructors that conducted the training
- Expanded Course Outline:
  - To the third level of detail
  - The Course Safety Policy
  - A lesson plan may be maintained by the presenter
- Driver Awareness Instructor Course Manual

Contingency Planning

- An alternate training site should be secured in the event of a last-minute cancellation of the primary site.
  - The alternate site should be given the same consideration as the primary site.
  - A practice setup should be carried out in advance of the training.
  - An alternate classroom site should be considered.
  - Consider having back-up instructors available.
- Training programs can experience certain problems that if not previously considered during pre-planning can cause cancellation.
  - Consider problems in the classroom.
  - Ensure there is no scheduling conflict. Make sure necessary equipment will be available and in working order; identify back-up equipment.
  - Take the time before the start of each course to consider potential problems; a few minutes of pre-planning is worthwhile when the alternative may be a loss of all or a major portion of the training site.

CHAPTER SEVEN
LEGAL ASPECTS

Driver Awareness Instructors should review departmental policies, laws, and case law regarding driving. Because policies differ from agency to agency, peace officers must know and follow their specific agency policy. Reference to the California Vehicle Code, Penal Code, and Case Law can be found in Chapter 14.

It is imperative that Driver Awareness Instructors be familiar with *Vehicle Code Sections 17004* and *17004.7* in order to comply with the legal requirements granting immunity from liability. This requirement includes an annual policy review covering the components of *Penal Code Section 13519.8*.

CHAPTER EIGHT
COURSE SUMMARY AND CRITIQUE

Summary

- Planning should include time to summarize the course content.
- This will allow the students a final forum to raise unanswered questions or eliminate confusion.
- Instructors will ensure that the original goals and objectives have been met.
- The students should have been given the opportunity to acquire the necessary skills to properly implement their own agency's training program.
- There must be common goals among all participants for an effective program.
  - Open communication between all is critical.
  - There must be a continuity of training as the course will be implemented by different agencies.
  - Instruction should comply with methods emphasized in the Driver Awareness Course.

Critique

This course will provide a critique so that students can provide feedback to EVOC Staff.

APPENDIX A
SAMPLE DRIVE AWARENESS INSTRUCTOR COURSE OUTLINE

Driver Awareness Instructor Course Outline

I. Peace officers need to know the importance of defensive driving principles and techniques in order to develop safe driving habits.

- A. Determine a safe distance when following another vehicle
  1. Speed and distance traveled
  2. Space cushion
- B. Identify the effect of speed on a driver's peripheral vision
  1. Other causes of tunnel vision
- C. Discuss how reaction time lapse affects vehicle stopping distance
  1. Perception time
  2. Decision/Reaction time
- D. Recognize potential hazards when entering intersections and appropriate actions to prevent collisions when driving a law enforcement vehicle
  1. Clear lane-by-lane
  2. Left, right, left again
- E. Recognize potential hazards of freeway driving and appropriate actions to prevent collisions
  1. Positioning
  2. Merging after stops
- F. Identify potential hazards of operating a vehicle in reverse and appropriate actions to prevent collisions
  1. Moving backwards, looking backwards
  2. Proper use of mirrors
  3. Tactical backing
- G. Identify the importance and proper use of seatbelts and other occupant restraint devices in a law enforcement vehicle
  1. The "3 Collisions"
  2. Ejection
  3. Injuries
  4. Airbags
  5. Crumple zones

H. Identify physiological and psychological factors that may have an effect on an officer's driving
    1. Attitudes and emotions
    2. Stress and human performance
I. Identify hazards of varied road conditions
    1. Weather
    2. Road surfaces
    3. Friction coefficients
J. Discuss the requirements for a vehicle inspection
    1. Vehicle damage reporting requirements
    2. Fluids
    3. Tire pressure
        a. Effect on performance
K. Occupant safety devices
    1. Seatbelts
    2. Airbags
L. Vehicle dynamics
    1. Rear wheel cheat
    2. Front-end swing
    3. Oversteer
    4. Understeer

II. Peace officers must recognize that emergency response (Code 3) driving demands a high level of concentration and instant reactions.
A. Identify the objectives of emergency response driving
    1. Arrive quickly
    2. Arrive safely
B. Recognize the statute governing peace officers when operating law enforcement vehicles in the line of duty
    1. Rules of the road
    2. Liability
    3. Explain the importance of agency-specific policies and guidelines regarding emergency response driving
        a. Policy based on California Vehicle Code
        b. Use of emergency equipment policy requirements
C. Identify the statutory responsibilities of non-law enforcement vehicle drivers when driving in the presence of emergency vehicles operated under emergency response conditions
    1. Hazards of passing on the right

D. Demonstrate the use of emergency warning devices available on law enforcement vehicles

E. Identify factors that can limit the effectiveness of a vehicle's emergency warning devices

1. Open road
2. Driving downtown

F. Demonstrate the use of communication equipment

1. Communicate when on a straight road
2. Do not stop looking for hazards when talking

G. Identify the effects of siren syndrome

1. Stress and human performance

H. Recognize guidelines for entering a controlled intersection when driving under emergency response conditions.

1. Slow
2. Fluctuate siren
3. Clear lane-by-lane

III. All officers who operate law enforcement emergency vehicles must recognize that even though the purpose of pursuit driving is the apprehension of a suspect who is using a vehicle to flee, the vehicle pursuit is never more important than the safety of officers and the public.

A. Identify the requirements of Penal Code Section 13519.8

1. CVC and policy requirements

B. Recognize the risk to officer/public safety versus the need to apprehend

1. The "Balance Test"

C. Discuss common offensive intervention tactics

1. PIT
2. Ramming
3. Spikes
4. Road blocks
5. Traffic breaks

a. Recognize conditions that could lead to the decision to terminate a vehicle pursuit

i. Policy requirements

IV. Prospective Instructors need to know the basics of adult learning concepts. Knowing how to identify what type of learner a person is will better facilitate instructional delivery.

A. Types of learners

1. Visual
2. Auditory
3. Kinesthetic

B. Incorporating all learning styles into the instructional delivery
    1. Visual
        a. Demonstration of techniques
    2. Auditory
        a. Clear and complete verbal descriptions of exercises and required student actions
    3. Kinesthetic
        a. Assisting students as they work through various learning activities while behind the wheel

V. Instructors must know the required learning activities described and validated in the POST Driver Awareness Instructor Manual. Instructors must also understand the how to create their own learning activities for varied instruction to in-service personnel.

A. POST learning activities
    1. Measuring and constructing the POST learning activities
    2. Instructional delivery with each exercise
        a. Describe
        b. Demonstrate
        c. Assist students behind the wheel

B. Creating learning activities
    1. Identify learning needs and educational objectives
    2. Create learning activity that meets the learning objectives
    3. Decide level of knowledge
        a. How difficult to make the exercise

C. Testing knowledge
    1. POST Competency Verification Checklist (academy)
    2. Creating your own checklist for custom exercises

APPENDIX B
SAMPLE DRIVER AWARENESS INSTRUCTOR HOURLY DISTRIBUTION

Driver Awareness Instructor Course Hourly Distribution (24 hours)

Day 1

0800-0815	Registration/Orientation
0815-1000	Classroom: Defensive Driving
1000-1200	Classroom: Code 3 Driving
1200-1300	Lunch
1300-1500	Classroom: Pursuit Driving
1500-1700	Classroom: Vehicle Dynamics

Day 2

0800-1200	Low-Speed Exercises – Proficiency
1200-1300	Lunch
1300-1700	Low-Speed Exercises – Teaching

Day 3

0800-0930	Low-Speed Exercises – Practice and Testing
0930-1200	Creating Low-Speed Exercises – Custom Designs
1200-1300	Lunch
1300-1700	Teach Back – Low-Speed Exercises and Designs

A course evaluation should be utilized at the conclusion of training to elicit feedback in order to improve future presentations.

EMERGENCY VEHICLE OPERATIONS INSTRUCTOR COURSE PART II

Introduction

Resource Manual

This manual is one of the primary sources of information for the EVOC Instructor Training Course and a resource for those who develop and present driver training courses. The manual was developed by the EVOC Instructor Training Advisory Committee, comprising driver training experts within the State and POST staff.

Course Introduction

1. Purpose and Philosophy

POST Staff and the subject matter experts of the advisory committee designed this manual and the EVOC Instructor Training Course to accomplish the following objectives:

- Standardize law enforcement driver training throughout the state.
- Reduce law enforcement-related collisions and the resultant civil and criminal liabilities.
- Provide techniques for improving operating efficiency, reducing operation costs, and conserving fleet resources.
- Recognize and emphasize the importance of judgment and decision-making as important driving skills

The EVOC training instructor's philosophy of vehicle operation should ensure that emphasis is placed on (1) the smooth application of vehicle control techniques, (2) that all of these control techniques are demonstrated as interrelated, and (3) that proper coordination of these principles will result in maximum vehicle control and safety. The driver training course will be as effective as the agency and instructor allows it to be. Through the development and understanding of the driver training objectives, the student will better accept the knowledge, skills, and behavior promoted during the training.

2. Course Goals

The goals of the EVOC Instructor Training Course are to raise the level of knowledge and abilities of instructors presenting driver training courses and standardize this training throughout the State. Additionally, successful completion of this course will provide expertise and instructor qualification. Student performance objectives required for demonstrating mastery for this EVOC Instructor Training Course are:

- Each student will demonstrate satisfactory proficiency on all required skill exercises.
- Each student will demonstrate the ability to properly instruct driving exercises and complete student performance evaluations.

INTRODUCTION TO CURRENT EVOC COURSES

Each of the following EVOC courses provides a specific curriculum related to law enforcement driving and sample copies of each detailed course outline may be obtained from the presenter.

Basic Recruit EVOC Training Course

This 40-hour-minimum driver training course is a POST-mandated requirement for all recruit officers. The content requirements for this course are listed in the POST Basic Course Performance Objectives Section 6.0 "Vehicle Operations" (LD19).

Modular III EVOC Training

These courses are designed to provide the POST-required content for Level II or Level III Reserve Officers.

In-Service (or Advanced Officer) EVOC Training Course

There are several certified in-service driver training courses throughout the State. Most of these parallel the contents of the Basic Recruit EVOC Training Course. These courses are intended to serve either as a periodic refresher driving course for veteran officers or as a remediation for officers with driving problems.

Driver Awareness Course

This eight-hour course was developed and certified by POST to serve as a refresher on driving techniques and responsibilities for veteran officers. It was designed to be taught at sites near local agency facilities. Efforts to involve supervisors in driver training have proven to be effective in reducing collisions by instructing supervisors to assume more responsibility for their subordinates' driving habits.

Driver Awareness Instructor Course

The 24-hour Driver Awareness Instructor Course was certified by POST and is intended for local agency presenters who will be conducting Driver Awareness Programs at their local facilities. It is also a prerequisite for instructors who wish to attend the EVOC Instructor Training Course.

Emergency Vehicle Operations Course Instructor Training Course

The 40-hour EVOC Instructor Training Course was developed in 1988 in order to elevate driver instructors' knowledge and skills throughout the State in the areas of Code 3 response and pursuit driving. The goal is to standardize instruction and expose new instructors to accepted and effective training techniques.

This course is designed for persons who will be participating as instructors in driver training courses for police academies, local agencies or for developing new courses.

Law Enforcement Driving Simulator (LEDS) training programs are available to law enforcement personnel who engage in emergency driving. Programs are available and intended to enhance behind-the-wheel training. The emphasis in these courses is proper judgment and driving tactics as well as incident coordination and communication issues.

LEDS instructors are required to complete the 24-hour LEDS Instructor Course.

Legal intervention course may include roadblocks, tire deflation devices, pursuit intervention techniques (PIT) and alternative pursuit termination techniques is available and should be completed prior to presenting any training in legal intervention techniques.

Executive Protection Driving

There are courses available for Executive Protection Driver training that usually form part of an overall course in Executive Protection tactics. Requirements for these courses vary with presenters.

CHAPTER ONE
COMMON CAUSES FOR EMERGENCY VEHICLE COLLISIONS

Agency statistics should be collected and monitored regularly to evaluate the effectiveness of the driver training program. Any program should address the most common issues within the agency.

Contributory Causes

Psychological Factors

Many psychological factors contribute to law enforcement officers becoming involved in collisions. Some of these are discussed below.

Attitudes

Attitudes are perhaps the most significant contributors to involvement in collisions. If law enforcement officers have the "right" attitude, then their driving will be safer. Some attitudes include:

WRONG ATTITUDE	RIGHT ATTITUDE
Being preoccupied with idle thoughts or chatter.	Being attentive to possible traffic hazards.
"I'm in a cop car. I don't have to obey the laws."	"I'm a professional. I must drive like one."
"This guy broke the law, and he's not going to get away from me."	"This is getting too dangerous; I'm going to call it off."
"Good driving means going fast and getting there quick."	"Good driving means caution and control."
"I'm in a hurry. I'll take that chance!"	"Only fools take chances."
"A fellow officer may need my help so I'll drive like crazy."	"A fellow officer may need my help, so I better make sure I get there to help."
"I'll catch that jerk by going faster and there is no way he's going to get away from me."	"This guy's driving is becoming unsafe and I may need to terminate the pursuit."
"So the signal is red, I've got my siren and lights on, so they will get out of my way!"	"I'll clear this intersection lane-by-lane because someone may not hear or see me."
"I've been to driving school so I know how to cut those corners fast. Go for it!"	"Brake before turning, drive to the apex, and be ready for the unknown."

EVOC Training Instructors must instill in all aspects of their instruction that the "bottom line" to good driving is to use caution and be in control of the vehicle and the situation at all times. In other words, "drive defensively." All instruction must be directed to having the student adopt a proper defensive attitude for driving.

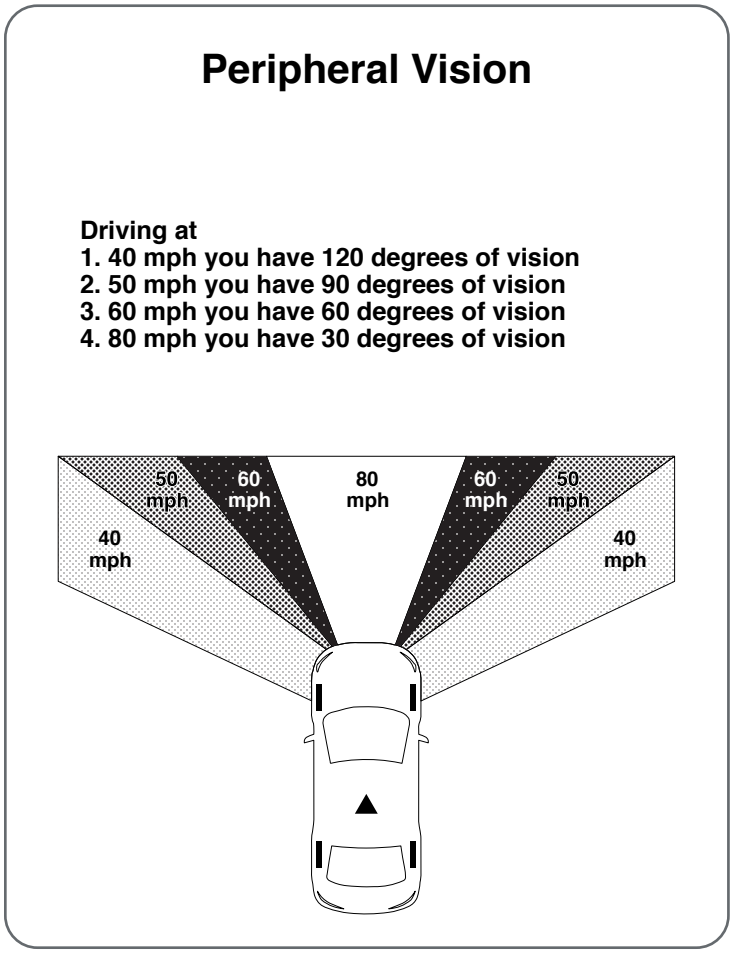
Emotional Factors

There are other psychological factors that impact driving such as peer pressure, depression, anger, anxiety and fear, lack of confidence, overconfidence, preoccupation and self-righteousness. These are part of the emotional roller-coaster that occurs in most law enforcement duties. However, instructors must emphasize that when a person drives a vehicle, these emotions must take a "back seat" to caution and regard for the safety of everyone, including the officers.

Sometimes, these emotions can help a person drive more safely. Fear is an example. If driving too fast through an intersection, around a corner, past a school, or on a freeway causes the feeling of fear in the driver or the partner officer, then it is a strong indicator that the driver should slow down. Students should be instructed to pay attention to these warning signs.

Physiological Factors

Physiological factors may also contribute to law enforcement collisions. Some common factors are:



Vision

Good vision is crucial to safe driving. Nearly every action taken by a driver is determined by how the driver interprets what is seen. Many factors can adversely affect visual acuity and depth perception, such as tired or weak eyes, old glasses, dirty windshields, dark sunglasses, convex mirrors, reflections, alcohol, medication, fatigue, and others. Carbon monoxide produced while smoking cigarettes affects the retina of the eye. This is termed "anoxia" and is most pronounced under poor lighting conditions and at higher altitudes.

Even though all of the senses are used to some degree while driving, vision accounts for most of the information used to safely control the vehicle. This is true at any speed, but becomes proportionately more critical with increases in speed. Limitations on visibility, such as darkness, fog, rain, smoke, oncoming headlights, etc. will reduce clarity of vision and should always be used as indicators to reduce speeds.

Some drivers find it desirable to wear sunglasses during daylight hours to prevent eye fatigue. Good-quality sunglasses do not damage eyesight. However, proper selection of lenses must be made to ensure that protection is adequate and that the officer's vision is not impaired. Sunglasses should not be worn at night while driving.

Safe driving is enhanced by looking farther ahead toward the line of travel, called the "high visual horizon." This will bring earlier awareness of potential hazards. Looking at the rear bumper of the car ahead can limit the driver's awareness of hazards ahead. Not looking far enough ahead is known as "low visual horizon," which reduces the time available to react to upcoming hazards and accounts for many collisions.

Eyesight can also play tricks on drivers, especially during stressful situations such as pursuits or emergency responses. The brain responds to this stress by narrowing the field of vision to concentrate on details within direct aim of the eyes. This helps concentrate attention to details straight ahead but reduces peripheral vision. Reduced peripheral vision creates blind spots to either side of the line of sight. Many serious collisions result from the driver's inattention to this reduced peripheral vision. The driver "just didn't see the car (or pedestrian) coming from the side." This natural human response of narrowing the peripheral vision (tunnel vision) during stressful situations can be overcome by turning the head or eyes from side to side, forcing attention to those areas.

Fatigue

Physical fatigue is a great detriment to safe driving. Some symptoms of fatigue are blurred vision, inattention to details, heavy eyelids, lapses of memory, and lack of initiative and energy.

Law enforcement officers might be more susceptible to fatigue than those in most other occupations. The varied shifts, long hours, job excitement, job boredom, and other factors create a lifestyle that tends to reduce the amount of quality sleep an officer gets. Lack of sleep is the most common cause of fatigue. Individuals on night shifts are the most prone to fatigue.

Mental fatigue, such as that created from personal or job-related stressful encounters, causes the same symptoms and hazards as physical fatigue. Both deprive the body of the state of alertness necessary for safe driving.

Driving occupies a significant portion of an officer's shift, so they must remain alert. Fatigue deteriorates that alertness. If a driver is fatigued, then they should either request a non-driving assignment or continually take steps to reduce the fatigue, such as cold water on the face, or periodically getting out of the vehicle for fresh air and stimulating the muscles. This is especially true for night shifts.

Stress

The nature of law enforcement frequently subjects an officer to highly stressful situations. These situations usually occur without warning and may be preceded by a period of relative inactivity.

Stress can cause an increase in blood pressure, release of adrenaline into the blood stream, and increase the breathing rate. In extreme cases it can cause hyperventilation. The nervous system may be affected to the extent that an individual's rational thought process may be impaired. Stress thresholds vary for each individual. A stress threshold can be described as that point where physiological reactions impair the functioning of senses to such a degree that the driver becomes unaware of their surroundings.

Due to fatigue and stress, drivers may be unable to recall any of the circumstances immediately preceding a collision.

The physiological symptoms of stress are best dealt with by recognizing their existence and forcing greater attention on safe driving practices.

Inattention

Most people have experienced lapses of attention at one time or another. Unfortunately, the results can sometimes be fatal. As a driver's mind begins to wander, that person may suddenly miss a freeway exit, lose track of a conversation, or control of a car. Operating a vehicle requires both attention and concentration.

Distracted driving has become a significant contributor to traffic collisions. Drivers have increasingly allowed themselves to be distracted by their mobile devices while driving which increases a driver's perception time. Despite laws forbidding the use of such devices while driving the practice and the dangers of such, these behaviors continue to be common place.

Police Officers have a computer in the vehicle, which is another distraction from driving.

Attention failure may have a profound effect on driving performance, causing otherwise competent drivers to place themselves or others in jeopardy.

Chemically Induced Impairment

Coffee, nicotine, alcohol, medication, and/or other drugs may impair physical reactions, often affecting a driver's attention span and reaction time.

Environmental Factors

Environmental factors contributing to the causes of collisions are many and varied.

Traffic

Conditions around heavy pedestrian or vehicular traffic or near large gatherings may create hazardous situations for drivers. Attention to these hazardous traffic situations can make the driver more defensive and prepared for evasive actions. EVOC Instructors should be familiar with the various conditions that lead to collisions and instruct law enforcement drivers to always be alert and defensive to potential traffic hazards.

Vehicular Factors

Vehicle mechanical failure is rarely a contributing factor to the cause of collisions. When vehicle failure is a contributing factor, it is often brought on by driver abuse, overheating the brakes, or inappropriately driving over obstacles.

Some typical vehicle problems contributing to collisions include the following.

Tire Blowout

Modern tires are very durable. However, under certain circumstances, tires can and do blow out. This is an emergency that cannot necessarily be anticipated because it happens quickly and without advance

warning. Defensive driving actions will obviously depend upon the circumstances at the moment. The following are some general rules to help drivers maintain control of their vehicles should a blowout occur.

Expect the car to pull toward the side on which the blowout has occurred.

Do not jerk the wheel; rather, attempt to guide the car gradually in the safest direction by gently turning the wheel in the direction you want the car to go. Vehicles with stability control assistance equipment may compensate for a tire blowout to a degree, but it is still incumbent upon the driver to react appropriately.

DO NOT INSTINCTIVELY BRAKE! Braking will pull the car toward the side on which the blowout occurred, particularly if it involves a front tire.

Electronic Stability Control

Electronic Stability Control (ESC) is a computerized technology that improves the safety of a vehicle's stability by detecting and reducing the loss of traction. If the ESC fails, then the vehicle will react like a non-ESC-equipped vehicle.

Anti-lock Braking System (ABS)

Anti-lock braking systems are designed to prevent the tires of the vehicle from locking up during hard braking applications. The system rapidly pulsates the brakes, allowing the vehicle to maintain rolling friction and, thus, steering control. In the event of ABS failure, the normal braking system continues to operate. Because ABS is not available, threshold braking techniques should be used. Threshold braking is accomplished through maximum application of the brakes just prior to locking the wheels.

Engine Failure

Law enforcement vehicles are generally equipped with large engines and heavy-duty suspension, transmissions and brakes, plus additional emergency equipment. The power brake and power steering systems are dependent upon engine operation to function properly. If the car is in motion when the engine fails, then power steering will continue to function down to a relatively low speed if the transmission is left in gear. Vehicles with overdrive transmissions will lose power steering as a result of an engine failure in as little as two seconds. Shifting to a lower gear within two seconds of engine failure will maintain power steering until about 25 mph.

The power brake system is actuated by the engine vacuum. When the engine fails, the vacuum is no longer produced. If the brake system is functioning properly, then a limited amount of vacuum may be stored within the system. Should the engine fail, this reserve vacuum will ordinarily allow for two power-assisted brake applications to bring the car to a safe stop. As long as the vehicle is in gear and the engine is turning over, the power-assisted brakes should continue to operate.

Collision Classifications

General Classifications

Although agencies may use different terminology to describe these general classifications, they imply the same categorical meanings. The three general types are listed below.

Preventable

A preventable collision is one in which the driver was responsible, did not use proper defensive driving techniques, and/or did not follow department policy or Vehicle Code laws.

Non-Preventable

A non-preventable collision is one in which the driver was not at fault and could not have reasonably prevented it.

Work Damage

Incidents classified as "Work Damage," "Operational Damage," or other similar wording generally include those factors related to vehicle or roadway surface conditions as the primary causes of the collisions. These may include factors such as a tire blowout that results in loss of vehicle control or damage to the underside of a vehicle from objects on the ground. Some agencies use this category for collisions that occur during driver training activities or legal intervention tactics.

Agency Policy

Statistical reporting of collisions and their categorization may differ by agency. Some agencies do not categorize their collisions at all, but merely indicate the primary cause. Students should be referred to their agency policies and guidelines concerning collision reporting and classifications.

CHAPTER TWO
DRIVING CONDITIONS

The law enforcement driver has little control over environmental conditions. Adverse driving conditions demand the absolute in motor skills, experience, mental ability, and vehicle performance. When an officer is placed in an adverse driving situation, the body's natural reaction to release adrenaline can have an adverse effect on the driver's abilities. These adverse effects can include deterioration of fine motor skills, auditory impairment, or tunnel vision.

- An officer is more likely to have a collision when on routine patrol. One can become hypnotized by the boredom of long stretches of driving or working early morning shifts.
- A defensive driver will drive at a speed that is reasonable and proper for existing conditions. It is not enough to obey all traffic regulations and to drive courteously and carefully. The law enforcement driver must also avoid other driver's errors. The law enforcement driver has to drive with the perspective of expecting the worst from every driver and pedestrian. When reactions are necessary while driving, the smoother the driver makes the driving movements the better they will be able to control the vehicle.
- The law enforcement driver must:
  - Maintain a high visual horizon
  - Be aware of the surroundings including both sides and behind the vehicle
  - Anticipate but don't accept as inevitable the actions of other drivers
  - Always have an escape route to avoid a collision
  - Maintain a proper following distance
- Common causes of law enforcement collisions are:
  - Inattention
  - Unsafe speed for conditions
  - Right of way violations
  - Unsafe backing
  - Unsafe turns
  - Following too close
- Officers should be instructed to:
  - If possible, park in a space one can drive forward from. This removes the hazard of backing and has officer safety/survival advantages.
  - When parking on a slope, turn the vehicle wheels to block the car's movement downhill.
  - In left turns, do not turn the vehicle wheels until actually making the turn. This will prevent the vehicle being pushed into oncoming traffic should it be rear-ended while waiting.
  - When attempting a left turn, do not take for granted that oncoming drivers who signal for

turns will actually make them or that vehicles turning right will remain in the right-hand lane as they complete their turns.

- Be aware that pedestrians often run into the street, unaware of approaching or turning vehicles.
- While one can readily recognize the hazardous potential of high-speed driving, it should also be understood that most collisions occur at relatively slow speeds.

Vehicle Capability and Condition

The driver must be aware of the vehicle capability and the mechanical condition of the vehicle. This starts with the pre-shift vehicle inspection. Although support personnel provide repair work and maintenance on the vehicle, it is up to the law enforcement driver to recognize and identify potential vehicle problems early. Proper notification by the driver to support personnel is critical to ensure vehicle deficiencies are identified and fixed immediately.

The Defensive Driver

A DEFENSIVE DRIVER IS ONE WHO DRIVES IN A MANNER TO AVOID COLLISIONS, AVOIDS MISTAKES MADE BY OTHER DRIVERS, AND DRIVES CAREFULLY UNDER ALL CONDITIONS.

Defensive Driving Tactics

Space Cushion

The term "space cushion" refers to the clear area or maneuvering room that should be maintained around the vehicle. To maintain a space cushion is to have an escape route to take evasive action. When driving in traffic, it is often difficult to have adequate room to the front, rear, and sides. The point is that when one cannot maintain a space cushion in one direction, the driver should be aware of it and leave an escape route in another direction.

The space cushion to the front is the area in which the driver has the most control. A rule that can be applied uniformly by all drivers is the minimum "three second rule" for following a vehicle, which provides enough distance and, therefore, time to react if the car ahead suddenly brakes. Remember, the average driver's perception time is ¾ of a second and the average decision/reaction time is another ¾ of a second. Thus, it takes the average driver 1.5 seconds to react to any hazard. When traveling at higher speeds or under adverse conditions, a longer time span will provide a safer space cushion.

- The space cushion to the front should not be forgotten when stopping in traffic. This will leave sufficient space in which to turn right or left. This can be particularly advantageous to a law enforcement officer observing a violation or receiving a radio call as it leaves room to more easily pull out of a line of traffic and respond.
- Suspects have been known to intentionally brake suddenly, back into, or ram the front of a law enforcement vehicle in an attempt to cause the airbag to deploy and disorient the driver, or to disable the patrol vehicle by activating the fuel cutoff switch.
- Employing the space cushion concept to the right and left involves many variables. On a narrow, two-lane highway, there is little one can do about a deep drainage ditch to the right other than to

be aware of it as a not-so-desirable escape route. Taking to the ditch might become a good choice, however, if faced with an imminent head-on collision. On multi-laned roadways, the choice of lane can play a great part in collision avoidance. For example, on freeways there is usually more traffic and, hence, more conflict from entering and exiting vehicles in the right-hand lanes than there is to the left.

Intersections

- Intersections pose the greatest potential for collisions.
- Most busy intersections have some type of traffic control, either signal lights or stop signs. Law enforcement drivers must establish and maintain a habit of visually clearing intersections of cross-traffic before entering. Normally, one should scan from left to right and then to the left again. Look to the left first because traffic coming from that direction is the first hazard as one enters the intersection.
- After stopping for a red light and the light turns green, you should visually clear the intersection before proceeding.
- If a larger vehicle obscures the view of the green light as you're waiting, then allow the other driver to start moving before proceeding yourself. This creates some protection even if the other vehicle gets hit by a car running the red light.
- During Code 3 operation, when entering against a red light or stop sign, consideration should be given to stopping and proceeding cautiously, clearing the intersection lane-by-lane. A driver should never enter an intersection against controls faster than is safe for the conditions present.
- When approaching a green traffic signal, give some thought to the duration of the green phase. A "stale" green light can change, forcing one to stop more abruptly. Check the rearview mirror for traffic behind that could present a possible hazard.
- When stopping in an intersection to execute a left turn, signal and make sure other traffic is aware of your intentions. Don't tum the vehicle wheels to the left, as a rear-end collision may push the vehicle into opposing traffic. When opposing traffic appears to be yielding to the desired left turning movement, look for eye contact from the drivers or pedestrians involved.
- Right turns at intersections can also result in a traffic collision. Under California law, a driver may make a right turn against a red light after stopping and if it is safe to do so and there are no prohibitive signs. After clearing the intersection to the left, look to the right before proceeding to ensure the path of intended travel is still clear.

Freeway Driving

- Freeway driving requires different skills and poses different hazards than those encountered on surface streets.
- When merging onto a high-speed freeway, attempt to match the vehicle's speed to the speed of traffic in the lane being entered. If possible, leave space between the law enforcement vehicle and traffic ahead on the on ramp, which will provide room to stop if a driver hesitates to enter traffic at the last moment. When reentering traffic after an enforcement contact or disabled vehicle stop, utilize the shoulder as an acceleration lane to gain speed before merging to the left.
- When leaving a freeway, reduce vehicle speed in the deceleration lane that is usually provided at the start of each off-ramp. Pay attention to ramp speed advisory signs.

- When driving at relatively high speeds, a driver can lose the sensation of the actual speed of the vehicle. One probably won't even be aware of it until leaving the freeway and beginning to slow on the off-ramp. Suddenly, there is recognition that the curve or stop sign at the end of the ramp is coming up much faster than anticipated. To avoid this sensation, a driver should check their speedometer regularly when driving at high speeds.
- When driving on a freeway or divided highway at night, consider wrong-way drivers, most of whom are either intoxicated or confused. In either case, they will usually be found in the left lane, which they perceive as their right lane. The only real defense against the wrong-way driver is to watch well ahead. When a person's vision is reduced, it may be safer to drive in the right lane.

CHAPTER THREE
ADVERSE OPERATING SITUATIONS

Vehicle operating situations may vary considerably depending on the time of year, geographical area, weather conditions, or other circumstances. This chapter discusses a number of factors affecting driving conditions.

Skids

An automobile is supported on a cushion of air that exists within the tires. Control of the vehicle is transmitted through each tire's contact patch (the portion of the tire that is physically contacting the roadway surface). Each contact patch is about the size of a person's hand. Changes of direction are made by changing the direction of these contact patches. The cohesive quality between the rubber and the roadway is called the coefficient of friction. This coefficient of friction will vary depending on the roadway surface or foreign substances on the roadway such as sand, oil, water, or ice. Basically, when one or more of the tires exceeds the coefficient of friction, a loss of adhesion to the roadway and subsequent skidding occurs.

1. Acceleration skids

Acceleration skids involve only the drive wheels. To maintain control of the vehicle, wheel slippage may be reduced or stopped by easing up on the throttle, which will reduce torque to the drive wheels. Accelerating to the point of breaking wheel traction serves no useful purpose, placing tremendous strain on the drive train components, wearing out tires, and resulting in a slower start than is obtained with controlled acceleration.

2. Locked-wheel skids

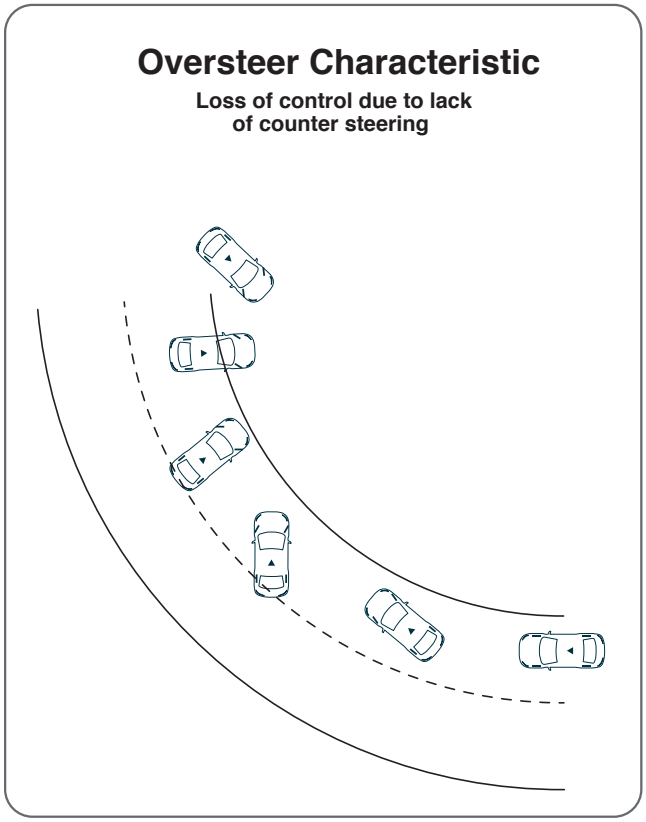
Locked-wheel skids sacrifice all directional control of the vehicle and should be avoided. The front wheels steer only by rolling friction. With the brakes locked, all efforts to steer the car are futile. Anti-lock brakes were designed to prevent this condition from occurring while driving.

3. Four-wheel drift

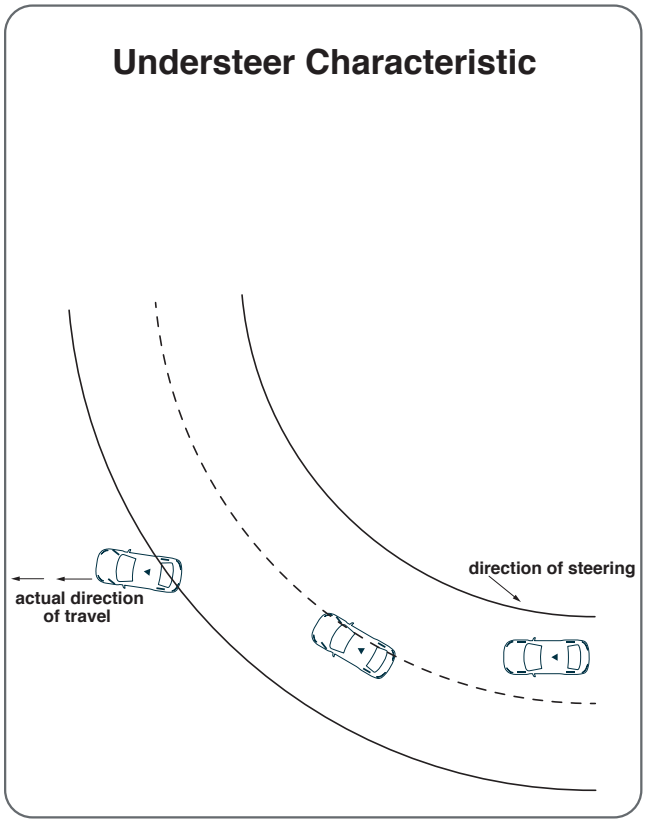
Four-wheel drift, also known as a centrifugal skid, describes a condition when a cornering vehicle is above the limits of adhesion on all four tires and is in a balanced understeer/oversteer attitude. When in a four-wheel drift, the car slides toward the outside of the turn.

4. Oversteer (rear-wheel skid)

Oversteer, also known as rear-wheel skid, can be caused by several vehicle conditions including over–acceleration, excessive steering, improper brake usage, or from road conditions that provide little traction (e.g., wet, bumpy, or covered with debris). Modern patrol cars have electronic stability control systems designed to minimize the possibility of oversteer. If a car does oversteer, then the proper reaction to correct this condition would include:



- **Counter-steer** using either the caster affect (letting the wheel slide naturally through your hands) or by manually inputting steering using a rapid and smooth steering input in the direction of the skid. This allows the front end of the car to stay ahead of the back end until recovery is complete.
- If a rear-wheel skid (oversteer) occurs in a front-wheel drive vehicle, then it may be necessary to apply appropriate throttle in addition to counter-steering in order to "pull out" of the skid and recover vehicle control.
- You must smoothly take out the steering you have put in as the vehicle is recovering. Failure to do so may cause a secondary skid (caused by lateral weight transfer and spring loading).
- Do not hit the brakes during an oversteer as this will shift weight toward the front of the car and result in less control on the rear wheels, which makes the oversteer condition worse.



5. Understeer (front-wheel skid)

Understeer, also known as front-wheel skid, results from approaching the turn at excessive speed, excessive steering, improper brake usage, or from road conditions that provide little traction (e.g., wet, bumpy, or covered with debris). If a car understeers, the proper reaction to correct this condition would include:

- Avoid adding additional steering input as this will only make the situation worse by causing the tire to be more sideways to the direction of the vehicle. The front tires will only change the direction of the vehicle if rolling traction is maintained. More turning input only causes the tire to slide more and rotate less, thus producing less directional control. By releasing some steering during understeer, the front tires come more in line with the direction of the force pushing the car and rolling traction can be regained resulting in more turning ability. As the vehicle slows, rolling friction is also regained and the understeer condition will diminish.

- Avoid any acceleration during understeer as this will only enhance the understeer problem by lifting weight off the front tires and reducing their control potential.

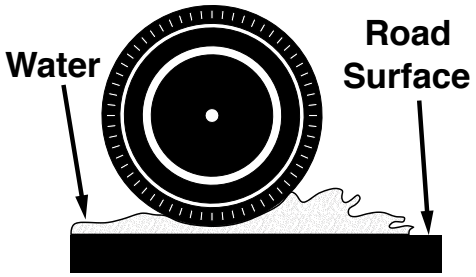
6. Hydroplaning

"Hydroplaning" is the term used when a vehicle is skimming along the surface of the water on a wet road. When a vehicle is hydroplaning, the normal contact patch of the tire tread and the road begins to separate. The tires of the vehicle cannot expel the water on the roadway through the tread fast enough, causing the portions of the tire in contact with the roadway to lift off the roadway surface and onto a layer of water. Hydroplaning is a serious condition because the driver cannot control the vehicle.

Three factors that contribute to the hydroplaning effect are:

- Water depth: Normally a quarter inch of water is enough to cause hydroplaning.
- Tire condition: Tread depth, air pressure, design, and width can affect hydroplaning.
- Vehicle speed: The faster the tires are rotating, the more likely that the vehicle will skim the surface of the water.
- Tire pressure: Under-inflated tires can increase the likelihood of hydroplaning.

The proper tire pressure for a police vehicle is the maximum allowed pressure stamped on the sidewall of the tire. This pressure results in better performance, decreased tire wear, and it lessens your chance of hydroplaning at a given speed. The lower pressure listed on the door or in the owner's manual is great for a nice comfortable ride, but you are not looking for a soft and cushy ride; you want performance. For some police vehicles, the owner's manual is the same one used for the civilian version of the car. Your police vehicle is not a civilian car; it is a working police vehicle loaded with communications equipment and other police gear.



Tire manufacturers and the Association of Law Enforcement Emergency Response Trainers International (ALERT) have shown that tires have more of a tendency to hydroplane when pressure is low. This happens because the tire footprint (the portion of the tire actually in contact with the road) is larger. For those of you who water ski (and even those who don't), think of which is easier to get up on: a fat ski or a skinny ski. More tire surface in contact with the water makes it easier to hydroplane, just as it is easier to water ski on a fat ski. Also, a soft tire can be pushed in more by the pressure of the water on the center portion of the tread. This results in less rubber in contact with the road.

NASA and the NTSB have done extensive scientific studies on this matter, and they arrived at the following formula for calculating hydroplaning.

V (Maximum Dynamic Hydroplaning Speed in MPH)= 7.95 √P(W/L)

P = Tire inflation pressure in pounds per square inch (psi)

W = Tire footprint width in inches

L = Tire footprint length in inches

(The expression W/L is the aspect ratio)

Brakes

1. Wet Brakes

Wet brakes can result in poor response to brake pedal pressure, lengthened stopping distances, and brake pull. Brake pull is most likely to occur when only one of the brakes becomes wet. Anti-lock braking systems may compensate for this by releasing the other brakes to a degree that equals braking application of all four tires. To the driver, this may feel like the brakes are not being applied enough.

- Brakes may be dried by lightly riding the brake pedal with the left foot while driving at moderate speed for a short distance. Excessive or lengthy pedal riding of the brakes may cause them to overheat, which can result in brake fade.

2. Brake Failure

Brake failure can be a result of a mechanical malfunction or overheating the braking system. Each particular situation will dictate what the best course of action is.

- Downshifting to the lowest gear available may reduce vehicle speed enough to steer around a hazard.
- Should total brake failure occur, the parking brake should still operate. The parking brake should not be applied to the point of locking the rear wheels except under extreme conditions. If the rear wheels are allowed to skid for more than a short distance, then the driver could lose control of the vehicle. When using the parking brake, application should be controlled with the left foot on the parking brake pedal while the brake release is simultaneously disengaged with the left hand.
- A driver experiencing total brake failure still retains steering and throttle control of the vehicle.
- Panic and indecision can result in losing complete control of the vehicle when resolute action is most needed.

Environmental Conditions

1. Snow and Ice

It is important that each driver understand the problems inherent in driving on snow and ice, and what defensive driving techniques may be employed to reduce the risk of becoming involved in a traffic collision.

- Snow and ice can combine to create some of the most dangerous driving conditions. A snowstorm can reduce visibility to only a few feet.
- The single most hazardous factor created by snow and ice is the greatly reduced coefficient of friction. Of particular concern is a condition called “black ice.” Black ice is frequently unseen because it is non-reflective and may appear the same as the surrounding roadway. Vehicle speed should be kept low and control of the vehicle must be preplanned, smooth, and deliberate.
- On an icy road, never stop at the bottom of a hill, low side of a banked curve, or any place where another driver may not have sufficient distance to stop.
- Ice and snow tend to accumulate more in some places along roadways than others. Obviously, a shaded portion of roadway would retain ice longer than a sunny portion. Bridges and overpasses

freeze up sooner than the adjacent roadway surfaces because the cold air under them reduces the temperature of the pavement surface. While the warmth of day might melt the ice that had accumulated along the surface of a highway, ice could remain on bridge surfaces longer.

- Remember that as temperatures drop during the evening, ice may again form on highway surfaces, even though it may not have snowed or rained. When driving under these conditions, drivers must anticipate lengthened stopping distances and sharply reduced traction around curves.

2. Reduced Visibility

- **Fog, dust, and smoke** can occur in sufficient concentrations to significantly reduce visibility. When this happens, speed must be appropriately reduced.
  - ► When driving through smoke, dust, or fog during darkness, headlights should be operated on low beam. In thick fog, dust, or smoke, high-beam light will reflect back into the eyes, increasing glare and further reducing vision. When driving for a prolonged period under these conditions, the combined eye strain and intense concentration may have an adverse effect on the driver's judgment. If the driver becomes sleepy, then consider pulling off the roadway or, if possible, have a partner drive.
  - ► Fog can accumulate in relatively small, dense patches. This is frequently called "tule fog" because it is normally associated with lowlands, standing water, or depressions on the highway. When driving through fog, remember that visibility can change rapidly within a very short distance. It is important to be seen by other drivers on the highway. Turn on headlights while traveling through fog at night or during the day.
- **Night Driving**
  - ► At night and without any type of street lighting, a driver may find it impossible to see beyond the area illuminated by the vehicle's headlights. In the absence of fog or thick amounts of dust in the air, drivers may utilize high-beam headlights to illuminate a greater area in front of them, thus increasing the limits of visibility. However, when driving at night, drivers should always adjust vehicle speed to allow for sufficient stopping distance.
  - ► During darkness, a driver's depth perception and perceived rate of closure by oncoming vehicles may be adversely affected. Before crossing or entering another roadway, it is advisable to double-check and ensure that cross-traffic is not traveling faster than it first appeared. Keep in mind that other drivers might not accurately judge vehicle speeds. Severe right-of-way collisions can occur at night because drivers misjudge the speed of an approaching vehicle.
  - ► It is not uncommon to crest a hill or round a curve at night and find oneself blinded by the high–beam lights of an on-coming vehicle. Do not stare directly into the other car's headlights; rather, attempt to focus the eyes toward the right shoulder of the road, away from the lights. This will allow better vision to see possible hazards and will minimize constriction of the eyes' pupils. This, in turn, will assist in recovering and maintaining night vision.
- **Rain**
  - ► Every driver should be particularly careful while driving in the rain. The first rains of the season can create extremely dangerous driving conditions by mixing dust, dirt, motor oil

drippings, and oil released through the asphalt pavement. Drivers should always anticipate a reduced coefficient of friction with the first rains following a dry period.

- Rain also reduces vision, particularly at night. Water on the pavement reflects light back into the air instead of down across the surface of the road. Roadway markings may become difficult to see and a driver may not be able to differentiate between the shoulder of the road and the actual driving surface.
- Rain on the windshield reduces vision.
- Window fogging can cause a significant reduction in vision. The temperature within the passenger compartment should be controlled to minimize window fogging. If the interior of the vehicle is kept too warm during rainy weather, then moisture inside the car may evaporate, mixing with warm air and condensing on a cold windshield. The resulting condensation could completely obstruct vision through every window of the vehicle. Generally, operating the front defroster set on a cooler temperature is effective in controlling condensation. Utilizing the air conditioner with the heated thermostat selector on the "warm" setting will bring dry air into the vehicle and will help eliminate moisture condensation on the windows.

- **Grades**
  - A reduction of power may occur as the incline of a roadway increases. Shift to a lower gear while ascending a grade to maximize available power. If a grade is steep enough, then upon cresting a very steep grade, consideration should be given to the fact that the driver may temporarily lose visibility to the front of the vehicle.
  - While descending a grade, greater demand will be placed on the brakes due to momentum (remember, energy increases exponentially with speed) and the weight of the vehicle is being "pushed" downhill. Shift to a lower gear while descending a grade to minimize brake use and reduce the likelihood of overheating the brakes. The driver should be aware of the potential of increasing vehicle speed while going downhill.
- **Animals on the Roadway**
  - Animals can appear on the roadway suddenly and without warning. Even the most experienced drivers may have a tendency to swerve or brake to avoid an animal. Drivers must maintain control of their vehicles for the safety of themselves and others.
  - The size of an animal can dictate what action a driver might take. For example, striking a small animal will seldom damage an automobile, but colliding with a large animal could seriously damage a car and even injure or kill the driver or other vehicle occupants.
  - Animals on the roadway may become momentarily stunned by the bright lights of a vehicle. If drivers can see what appears to be two or more small lights or reflectors (possibly animal eyes) at the shoulder of the road, then they should immediately reduce speed and prepare to take possible evasive action. Be aware that deer usually travel in groups at night.
- **Wheel Off Roadway**
- On occasion, a driver may find that the right wheels of the vehicle have drifted from the pavement onto a soft or low shoulder of the highway. Many severe collisions have resulted from drivers improperly attempting to reposition their vehicles back onto the highway quickly.

- Attempting to quickly pull the car back onto the road could cause complete loss of control. Tires could hang up momentarily on the edge of the pavement, then, as the steering wheel is turned even more, the car could suddenly gain traction on the pavement edge and swerve across the roadway into opposing traffic, or it could go into a broadside skid. In either case, the result could be serious.
- If the right or left wheel leaves the pavement, ease up on the throttle and straddle the edge of the road. Keep a firm grip on the steering wheel and when the vehicle has slowed down sufficiently, smoothly maneuver the vehicle back onto the roadway.

Other Factors

Headlights

- Utilizing headlights during the day can be a valuable aid in reducing the risk of having a traffic collision. For this reason, most cars are now designed with daytime running lights.
- White light is the most discernible color to the human eye. For this reason, patrol vehicles are equipped with "wig-wag" headlights that are activated during Code 3 operation. The wig-wags alternate the high beams back and forth from the right to the left side.

Carrying Gasoline

Gasoline should never be carried in the trunk of the vehicle because few containers are completely leak-proof. The closed trunk environment is conducive to building up potentially explosive gasoline fumes. The mobile radio and other electronic equipment is mounted in the trunk and can potentially produce electrical sparks that can ignite gasoline fumes. When gasoline is transported in the vehicle, it should be carried in the passenger compartment with the windows open to provide ventilation.

CHAPTER FOUR
VEHICLE DYNAMICS

Introduction

The law enforcement driver must be proficient in the actual operation of the vehicle and knowledgeable about the dynamic forces at work. Proper application of this information enhances the driving expertise of the individual officer and will reduce the number of traffic collisions involving law enforcement personnel.

Instructor's Note: A comprehensive glossary of vehicle operations terminology is included in this manual.

Methods of Vehicle Control

- A vehicle has three basic inputs or means of control:
  - Steering
  - Braking
  - Throttle
- Application of any or all of the control functions will have an effect on the distribution of the vehicle's weight.
- On a stationary vehicle, the vehicle's weight is distributed between the front and rear wheels.
- Due to engine placement, weight distribution is seldom equal. The engine location will determine where the greater part of the weight distribution will be located.
- For a vehicle in motion, the vehicle's weight will be constantly shifted and redistributed in relation to the mode of operation, i.e.,
  - Steering
  - Braking
  - Accelerating

Weight Transfer

Weight transfer is the shifting of weight to the front, rear, or either side of a vehicle caused by acceleration, deceleration, or steering.

1. Longitudinal Weight Transfer

Longitudinal transfer of weight occurs when accelerating or decelerating. During acceleration, weight is transferred to the rear. Under certain conditions, this can increase traction and may help a driver retain or regain control of the vehicle.

Applying the brakes or decelerating transfers weight to the front of the vehicle and compresses the front suspension. If too much forward weight transfer is attained while entering a curve, then the lightened

rear end of the vehicle may become subject to oversteer. Forward longitudinal weight transfer may also prove hazardous if introduced prior to traversing dips, potholes, or railroad crossings.

2. Lateral Weight Transfer

Lateral weight transfer occurs when a car is turned to the right or left. This movement causes the vehicle's suspension to be compressed on one side and expanded on the other. Normally, as a turn is completed, the suspension system overcomes the effects of centrifugal force, returning the vehicle's chassis to its normal position. However, if the vehicle is turned in one direction and immediately turned in the opposite direction prior to stabilizing, then this stored potential energy in the suspension system (spring loading)can induce a violent lateral weight transfer.

When negotiating a series of turns (such as swerving from one direction to another), the transfer of weight can have a cumulative effect; i.e., each lateral transfer of weight becomes more violent than the one preceding it. If not properly compensated for, then the vehicle will ultimately spin out of control. Drivers must consider how their vehicles will react to each steering maneuver. Smooth operation of the steering inputs/outputs and using only the minimum amount of steering necessary are the only effective ways of minimizing lateral weight transfer.

3. Spring Loading

- Approximately 80–90% of a vehicle's weight is supported by its springs and suspension system.
- When weight transfer occurs, the suspension system and springs are compressed or extended depending on how the weight is transferred.
- The extension or compression of the vehicle's springs is a reflection of energy build up and is referred to as "spring loading."
- Spring loading presents a problem in vehicle control if a sudden or violent release of the built-up energy occurs.

4. Control Considerations

- Weight transfer cannot be totally eliminated from a vehicle in motion and is a potential hazard in high-speed vehicle operations.
- These hazards can be minimized through smooth operation of the vehicle's controls and use of proper roadway positioning.
- Forward longitudinal weight transfer can also have a negative effect prior to traversing dips, railroad crossings, chuckholes, etc. A driver encountering these unexpected driving hazards should:
  - ► Brake and reduce speed as much as possible prior to the hazard.
  - ► Drivers should consider how weight transfer will affect the operation of their vehicle. If weight is going to be shifted around the vehicle, then it should be done so when the shifting of weight is advantageous to the desired outcome. At the very least, weight should be shifted when the movement of the weight is neutral to the operation of the vehicle (i.e., braking hard in a straight line). Drivers should always avoid shifting weight that creates a disadvantage to the desired outcome (i.e., braking hard into the apex of a turn can create an oversteer condition).

CHAPTER FIVE
VEHICLE CONTROL TECHNIQUES

Introduction

Control techniques can be applied to vehicle operations regardless of the type of driving activity or vehicle speeds. Smoothness and coordination of vehicle control techniques will result in maximum safe control of the vehicle. Driving techniques emphasized will include steering control, speed judgment (throttle application), braking, and road position.

Steering Control

Driver Seat Position

- Driver comfort.
- Efficiency in vehicle control.
- When properly seated, drivers should be able to extend their arms forward comfortably and have the wrists "break" over the top of the steering wheel.
- Drivers should fasten seatbelts and be at least 12" from the air bag.
- Drivers should adjust rear- and side-view mirrors.

Adjustable Steering Wheels

- Most vehicles are equipped with adjustable steering wheels.
- While there is technically no "right" or "wrong" position, the driver should select a wheel position for comfort and steering efficiency that does not obstruct their view of the speedometer.

Steering Method -Two-hand Shuffle Steering Technique

- Hand positioning
  - If the steering wheel is portrayed as a clock for relative hand position locations, then the hands are placed at eight and four o'clock positions (optional: nine and three o'clock).
- Hands do not leave the steering wheel.
- Both hands do an equal and like amount of work.
- Keeping hands lower on wheel is more natural and comfortable and creates less strain in shoulder and arm muscles.
- Turning Maneuvers
  - Right hand operates right side of the steering wheel, left hand operates left side.
  - Neither hand crosses over the twelve o'clock nor under the six o'clock wheel positions.
  - Push/pull technique - shuffle steering wheel between hands.

- Advantages of Two-hand Shuffle Steering
  - Maximizes steering accuracy.
  - Safer and more effective recovery from steering input.
  - Maximum vehicle control by minimizing weight transfer.
  - Prevents radio cord from wrapping around steering column.
  - Minimizes air bag deployment injury.

Reverse Steering Technique

- One-hand (for vehicles where the driver can see out of the rear window)
  - The body is rotated to the right while in the seated position.
  - The right hand and arm are placed on the passenger seat backrest for stability.
  - Vision is directed over the right shoulder and toward the rear.
  - The left hand is positioned on the steering wheel at the twelve o'clock position and does all the steering. Palming is necessary with this steering technique.
  - Pressing the left leg against the bottom of the steering wheel will help stabilize the wheel.
  - The left foot is braced on the floorboard to provide driver stability and increased body elevation for better rear vision.
- Two-hand (For vehicles with limited visibility out of the rear window)
  - Direct attention to the rear by using a combination of mirrors and camera. Transition between each mirror and camera as needed to achieve maximum visibility.
  - Hand positioning
    - If the steering wheel is portrayed as a clock for relative hand position locations, then the hands are placed at eight and four o'clock positions (optional: nine and three o'clock).
    - Hands do not leave the steering wheel.
    - Both hands do an equal and like amount of work.
    - Keeping hands lower on wheel is more natural and comfortable and creates less strain in shoulder and arm muscles.
    - Turning Maneuvers
    - Right hand operates right side of the steering wheel, left hand operates left side.
    - Neither hand crosses over the twelve o'clock nor under the six o'clock wheel positions.
    - Push/pull technique - shuffle steering wheel between hands.

Two-hand Shuffle Steering Technique For Tactical Backing

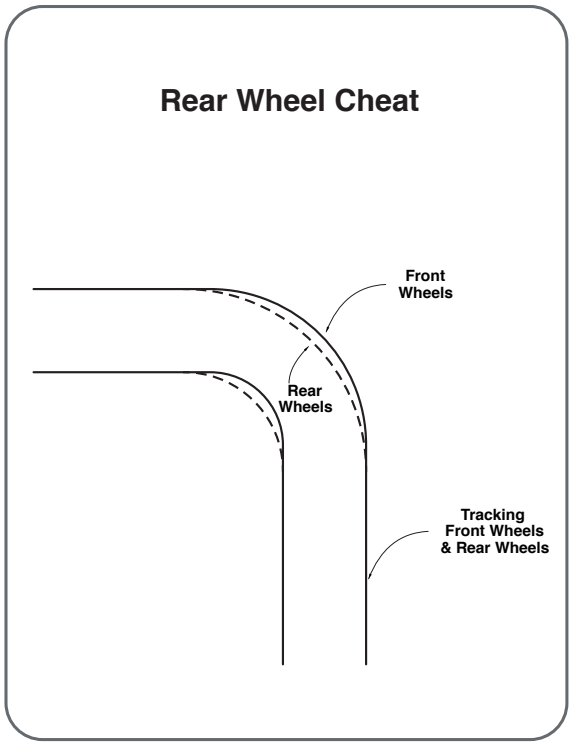
- Smooth steering input is critical when driving in reverse, because the caster effect has a destabilizing influence when driving backwards.
- Direct attention to the rear by using a combination of mirrors and camera. Transition between each mirror and camera as needed to achieve maximum visibility.
- Hand positioning
  - If the steering wheel is portrayed as a clock for relative hand position locations, then the hands are placed at eight and four o'clock positions (optional: nine and three o'clock).
- Hands do not leave the steering wheel.
- Both hands do an equal and like amount of work.
- Keeping hands lower on wheel is more natural and comfortable and creates less strain in shoulder and arm muscles.
- Turning Maneuvers
  - Right hand operates right side of the steering wheel, left hand operates left side.
  - Neither hand crosses over the twelve o'clock nor under the six o'clock wheel positions.
  - Push/pull technique - shuffle steering wheel between hands.
- Advantages of Two-hand Shuffle Steering
  - Maximizes steering accuracy.
  - Safer and more effective recovery from steering input.
  - Maximum vehicle control by minimizing weight transfer.
  - Prevents radio cord from wrapping around steering column.
  - Minimizes air bag deployment injury.

Vision Direction

- While traveling in a forward direction, the driver concentrates on the areas to the front of the vehicle. Scanning of the side and rearview mirrors is encouraged for reference.
- While traveling in a reverse direction, the driver's attention is focused to the vehicle's rear (direction of travel). This condition will prevail the majority of the time. However, the four corners of the vehicle must be monitored occasionally, especially when operating in very close quarters.

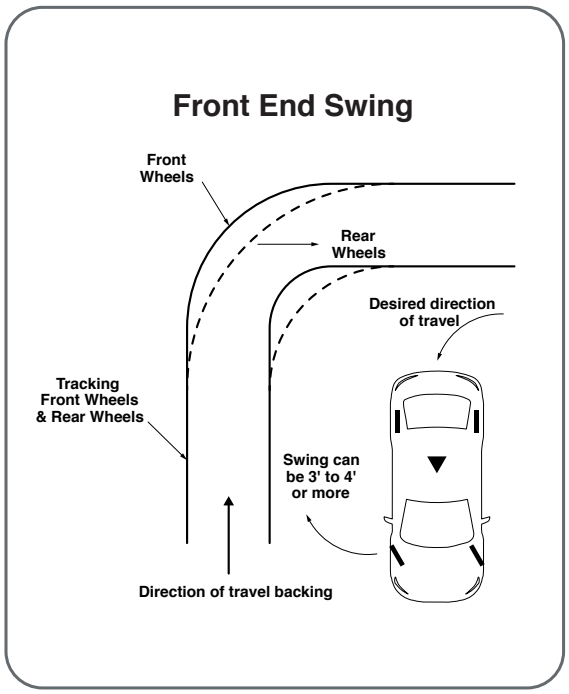
Late Steering (Delayed Steering)

- Late steering can be a problem in reverse; the wheels that provide steering are "following" the driver so the rear of the vehicle must be "pointed" by proper use of the front wheels. Steering control is not maintained at the "leading" end of the vehicle because the rear wheels cannot be turned. The driver must start the turning maneuver approximately ten feet earlier than when driving forward. If late steering occurs, then the only way to compensate is to steer quicker and with more steering input.



Rear Wheel Cheat

- Rear wheel cheat occurs any time a vehicle is turned from a straight path. When driving forward and turning in either direction, the rear tires will follow a path inside of that traveled by the front tires.
- In most vehicles, the path of the rear tires may be as much as 36" closer to the inside of the turn than the path of the front tires. The severity of rear wheel cheat is in direct proportion to the degree of the turn attempted and the vehicle wheel base. Consequently, the sharper the turn, the greater the rear wheel cheat.
- There are two methods of compensating for rear wheel cheat. The first method is to turn wide enough to allow space for the rear wheels of the vehicle to clear a hazard or obstacle. The second method is to proceed in a straight line until the rear axle is aligned with the hazard or obstacle. The rear axle is the pivot point of the car's turning movement and should proceed in a straight line until the rear axle is aligned with the hazard or obstacle.



Front-End Swing

- Backing a vehicle brings different dynamics into play. The most obvious factors are limited vision to the rear and the fact that the vehicle steering is now reversed. The driver must assume a somewhat awkward posture to afford adequate rear vision. Remember, the rear axle is the pivot point of the turning movement.
- When backing and turning, the front of the car will swing out as much as 4' opposite to the direction that you are turning. Front-end swing can cause a collision if the driver fails to allow sufficient clearance.
- When backing and turning in confined areas, it is important to position the vehicle as closely as possible in the direction the vehicle is to be turned. A driver should turn the vehicle no more than necessary to accomplish the maneuver. This will minimize front-end swing and reduce the potential for a collision.

Excessive Steering

- An excessive amount of steering input for the degree of turning radius desired. As speed is increased, excessive steering will result in additional weight transfer, potentially leading to loss of vehicle control.

Insufficient Steering

- An insufficient amount of steering input for the degree of turning radius desired.

Caster Effect

- Vehicles are engineered to primarily be driven in a forward direction.
- Vehicle suspensions possess a quality known as "caster." This is the effect that helps straighten out the front wheels after driving around a corner. Essentially, the left and right front wheels are designed to apply equal pressure toward each other, which stabilizes the car while driving in a straight line. This pressure also causes the steering wheel to turn back to straight after a turning maneuver without physical input by the driver. When having a vehicle's alignment adjusted, one of those adjustments is referred to as "caster."
- Caster gives a vehicle stability while traveling forward. Unfortunately, this force destabilizes the vehicle when driven in reverse.
- As a vehicle accelerates rearward, the front (steering) wheels will have a tendency to turn in one direction or another. This condition can be dealt with by:
- Keeping the steering wheel totally immobile while backing in a straight line.
- Decelerating slightly in order to safely negotiate turning maneuvers as the turning force increases.

Steering Direction

- Drivers sometimes become confused with steering direction in reverse maneuvering.
- A basic rule of thumb is to turn the steering wheel in the same direction in which you intend the vehicle to travel.

Rolling Friction

- Directional friction caused by tires rolling along the road surface. The front wheels of the vehicle must be rolling in order for the vehicle to be steered.
- Motion is transmitted to the vehicle by friction between the tires and the roadway.
- The front tires must be rolling to achieve directional steering in a vehicle.
- If the tires stop rolling, then the vehicle will not respond to steering inputs.

Elements of Steering Control

- Smoothness and accuracy of steering are essential for maintaining vehicle control.
- Minimal steering input as necessary is best for control of the forces at work on a turning vehicle.
- Any time the steering wheel is turned while the vehicle is in motion, a lateral or sideways force (centrifugal force) exerts pressure in the opposite direction from that in which the vehicle is turning.
- As the steering wheel is turned, a force pushes on the vehicle's center of gravity. If this force (centrifugal force)is greater than the force the vehicle can accept (centripetal force created by the tires turning), then it can cause loss of traction, which will result in loss of control.

- This force can only be altered by a change of speed or direction.
- Steering recovery is the process of reducing the steering input to complete the turn, returning the vehicle to a straight line.

Throttle Control

Applications

- Full throttle - total depression of the accelerator pedal regardless of end result of speed.
- Maximum throttle - that amount of throttle necessary to obtain a desired speed.
- Maximum acceleration - accelerating as quickly as possible to full throttle without losing traction, primarily when exiting a turn. Vehicles equipped with electronic stability control will automatically apply maximum acceleration even when full throttle is applied.

Control

- Smoothness in operation.
- A definite and immediate effect on vehicle weight transfer.

Effect on Road Position in Turning Maneuvers

- Increase of throttle will widen the arc of a turn's driving line.
- Decrease of throttle will tighten the arc of the driving line in a turn.

Speed Judgment

The ability of a driver to estimate a safe vehicular speed for any given driving situation. Considerations regarding speed judgment include:

- Road conditions
- Type of driving maneuvers
- Driver limitations
- Vehicle limitations
- Weather conditions

Closure Rate

- Closure rate is being able to judge the proper rate of deceleration necessary to negotiate a curve, avoid a hazard, or stop.

Entry Speed

- Entry speed in a turn is a critical factor. Turns should always be entered at a safe speed. Just because a driver manages to keep the car on the pavement through a turn does not mean that the speed prior to entering the turn was appropriate. At the proper speed, a driver can smoothly maneuver the vehicle into the desired road position while negotiating a turn.

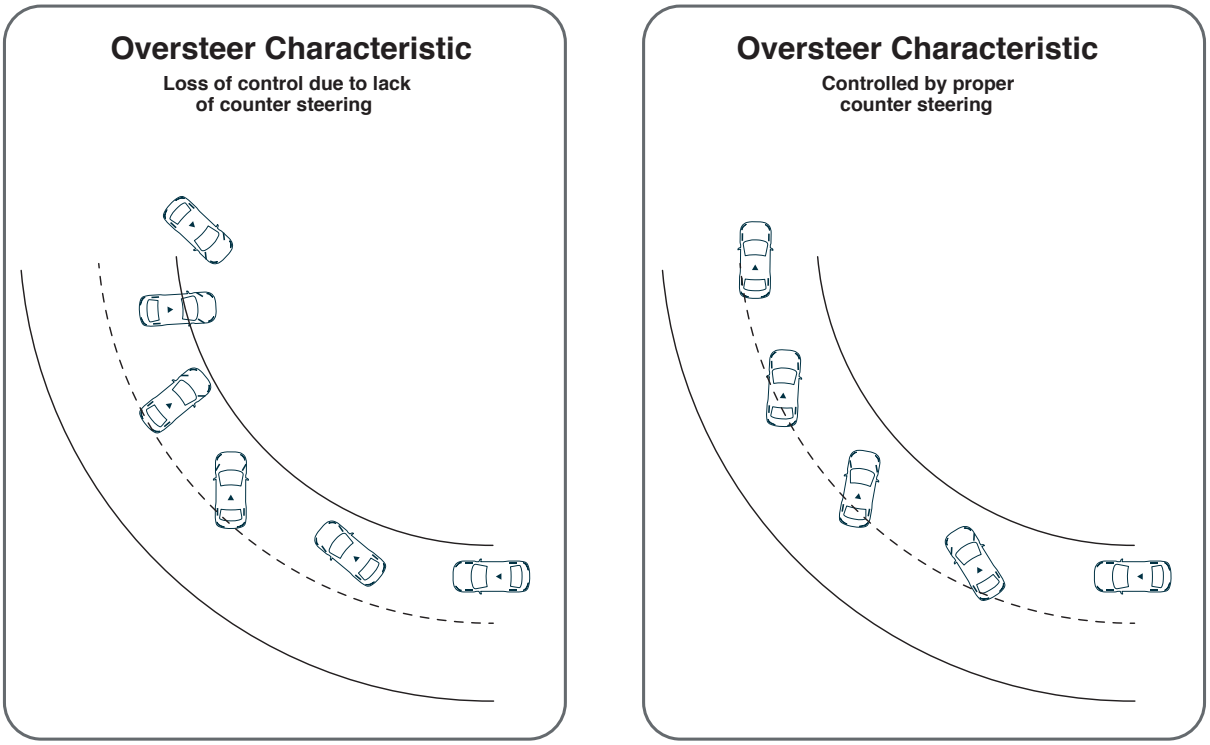
- Proper positioning of the vehicle through a turn will be impossible to attain if speeds are excessive prior to entering the turn. If a turn is entered at an unsafe speed, then the driver can only attempt to keep the car on the roadway. Throttle application may cause additional problems. Too much speed while entering a turn is most likely to cause the vehicle to understeer, thus making the car slide toward the outside edge of the turn and not maintaining the proper driving line to complete the turn as intended.

Traction

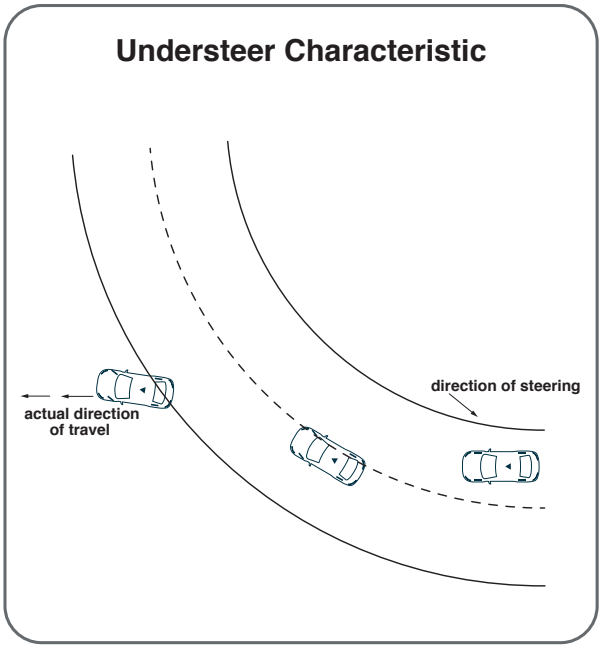
The result of adhesion between the roadway surface and the vehicle's tires. This is referred to as the "coefficient of friction."

Vehicle Oversteer Condition

- Oversteer occurs when the rear tires lose traction and the rear of the car skids toward the outside of the turn. Oversteer is a tendency to tighten the vehicle's turning radius.
- Oversteer is caused by excessive throttle in a turn, sudden and/or excessive input of steering, or over-braking in a turn.



To recover from an oversteer condition, reduce throttle, counter-steer and do not brake. Countersteering can be accomplished by manually moving the steering wheel or by allowing the caster effect to move the wheel. Be prepared for a secondary skid when manually moving the steering wheel. When using the caster effect, the chances of a secondary skid are minimized if no additional steering is introduced. When manually moving the wheel, it is imperative to remove the countersteer when the vehicle begins to recover in order to avoid spring loading being released quickly at the conclusion of the recovery, which can result in instability. The caster effect will help center the wheel when using this method.

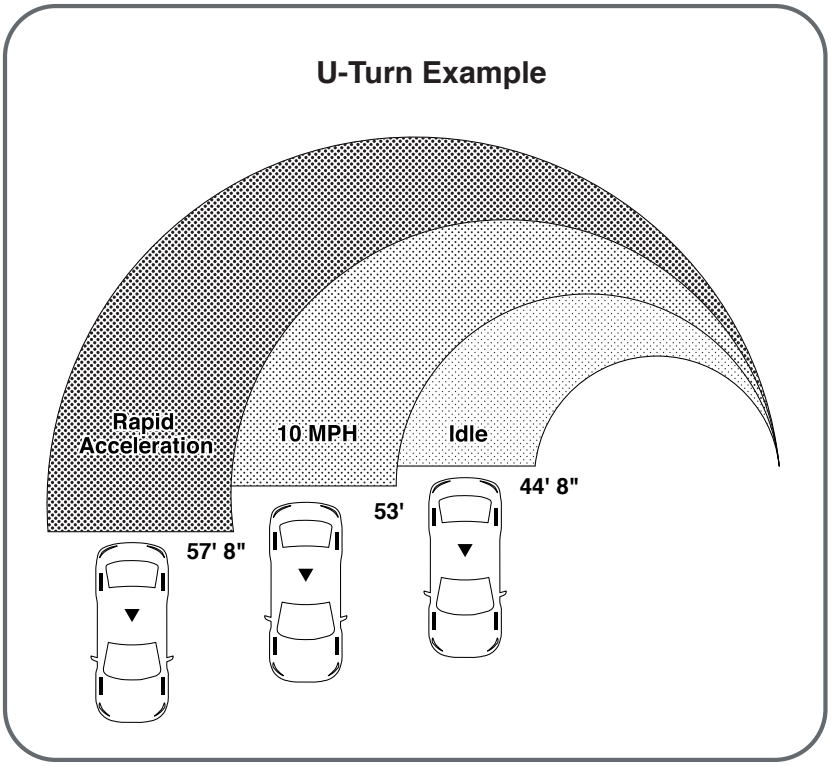


Vehicle Understeer Condition

- The loss of traction of the front tires, which tends to force the vehicle to continue in a straight line.
  - Driver's attempt to negotiate a curve at too high a speed. Adhesion between the front tires and roadway is lost and the car cannot be turned to the degree necessary to round the curve.
  - When loss of traction occurs, a driver may experience the extreme example of understeer with the front wheels turned completely to lock and the car proceeding straight ahead. As the vehicle slows, traction will be restored and steering regained.
  - How badly a car understeers is relative to the speed of the vehicle and the sharpness of the turn.

Centrifugal Force

- The force on a body in a curved motion that is directed away from the axis of rotation; a force that acts or impels an object away from the center of rotation.
- The force will increase relative to the speed and severity of the turn.
- When a vehicle's wheels are turned, centrifugal force wants the energy of the vehicle to continue straight ahead, thus creating the weight transfer.



Centripetal Force

- The force on a body in a curved motion that is directed toward the center axis of rotation. The force required to keep a moving mass in a circular path. A force that acts or impels an object toward a center of rotation. In a vehicle, the front tires apply centripetal force when turned while maintaining rolling friction.

"U"-turn Example

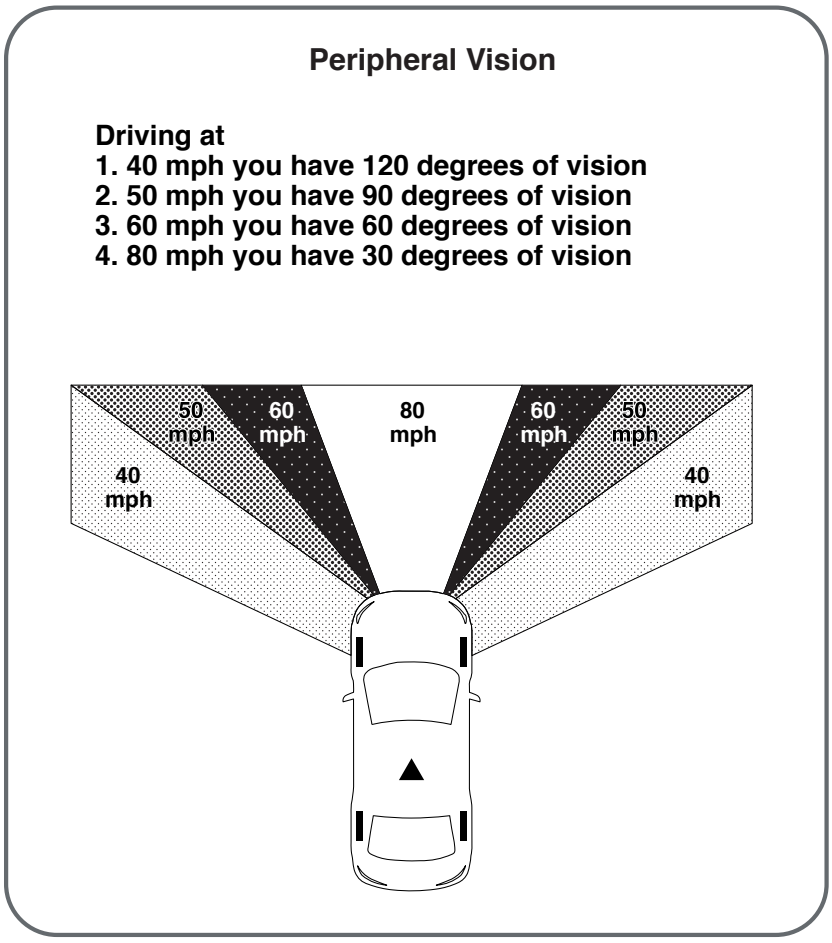
- A simple U-turn can serve to illustrate the effects of speed on a vehicle in a turning situation. The faster a U-turn is attempted, the wider the turning radius.

Slip Angle

- When a vehicle is in a turning mode, the severity of the turn plus the speed of the vehicle creates centrifugal force. This outward pushing force prevents the vehicle from exactly following the intended driving line. The difference between the direction of the steering wheels and the vehicle's path of travel is known as the "slip angle."
- As a vehicle travels in a straight line, the angle remains constant.
- An increase in centrifugal force will increase the vehicle's slip angle.
- The turning radius of the vehicle becomes larger as the contact patch or footprint of the tire is distorted by increasing the cornering force (centrifugal force). Essentially, the front tires start to skid sideways while turned. The higher the speed and the sharper the turn increases the severity of this condition. How much the car will actually turn is a ratio between the speed of the tire rotation and the amount of sideways skid realized during an understeer condition.

Visual Horizon

- Many drivers do not look far enough ahead when operating a vehicle.
- As speeds increase, the effect is amplified with vision being reduced as a result of tunnel vision.
- A driver must make a conscious effort to raise their visual horizon in order to enable timely and proper reactions to changing circumstances.



Peripheral Vision

- Peripheral vision is the lateral degree of perception present when the eyes are focused straight ahead.
- An average driver with good peripheral vision can see about 180 degrees laterally when the vehicle is stationary.
- The degree of peripheral vision is reduced significantly as vehicle speeds and stress (e.g., pursuit) increase. This leads to what is commonly known as "tunnel vision."
- Each driver's peripheral vision will be affected at a different level depending on a variety of factors, including experience and the ability to remain calm in stressful situations. The associated graph and degrees of peripheral vision impairment at different speeds are used as an example of how peripheral vision may be affected.

Reaction Time Lapse

When presented with an emergency situation requiring driver reaction, both the time of action and distance traveled are noteworthy.

- Remedial action can be separated into two distinct areas:
  - Driver perception phase
  - Driver decision/reaction phase
- Driver perception phase (.75 seconds)
- When confronted with an emergency situation, the driver must see the danger to initiate corrective action. Driver decision/reaction phase (.75 seconds)
- Decision/reaction time is defined as the lapse of time between the application of a stimulus (danger) and the beginning of a response (braking and steering, etc.).
- Time Lapse
  - It has been calculated that the perception/decision/reaction process is approximately 1.5 seconds in lapse time for the "average" driver.
  - This time frame is lengthened if the driver is distracted, the situation is complex, or the driver has an impaired physical condition.

Vehicle Distance

At 1 mph, a vehicle travels at approximately 1.5 feet per second (fps) (5,280 feet in a mile divided by 3,600 seconds in an hour equals 1.467, rounded up to 1.5).

10 mph= 15 fps

20 mph= 30 fps

30 mph= 45 fps

For the distance traveled in 1.5 seconds, multiply your speed by 2.2

10 mph X 2.2 = 22'

20 mph x 2.2 = 44'

30 mph X 2.2 = 66'

Another method is to calculate each ¾ second interval separately by using a multiplier of 1.1 (5,280 feet in a mile divided by 4,800 ¾ second intervals in an hour equals 1.1). This number can then be doubled to acquire the distance for 1.5 seconds.

10 mph X 1.1 = 11'

20 mph x 1.1 = 22'

30 mph X 1.1 = 33'

CHAPTER SIX
BRAKING

General Information

Performance and/or Code 3 driving situations require that the operator be able to rapidly slow and turn the law enforcement vehicle. Control of the vehicle during the braking and cornering maneuver is difficult because that is the time physical forces acting on the law enforcement vehicle are at their greatest and the likelihood of losing control of the vehicle is heightened. This becomes most obvious when one examines the high percentage of traffic collisions that occur during braking and cornering activities.

Proper brake application is essential to safe and efficient vehicle operation.

Overheating of the brakes is often the cause of mechanical malfunction in law enforcement vehicles. This can be directly attributed to improper or overuse of the braking system during emergency response or pursuit situations.

Braking Dynamics

- Brakes slow or stop the vehicle's wheels from rotating.
- The stopping of a vehicle in motion is a result of deceleration of wheel speed in relation to vehicle speed.
- The maximum amount of friction between the tire and road surface occurs just before tire rotation ceases completely (threshold braking).
- Friction produced by brake application will generate heat within the components of the brake system.
- A vehicle in motion is a form of "kinetic" (moving) energy. To overcome the vehicle's momentum, the kinetic energy is converted to "thermal" (heat) energy by the friction generated in the braking process. This thermal energy is dissipated to the ambient atmosphere in the form of cooling.

Left-foot Braking

Some drivers acquire the habit of "left-foot braking" when driving a car equipped with an automatic transmission. Following are some reasons that left-foot braking should not be practiced:

- A driver is best braced when the left foot is placed against the left floorboard of the car and the right foot is positioned over the accelerator pedal. The support provided will stabilize the driver's position behind the steering wheel and help retain control during sudden vehicle movements that occur during evasive action, mechanical failure, or actual impact with another object.
- In an emergency stop, the "left-foot braker" can end up with both the accelerator and brake pedal depressed.
- Left-foot brakers have a tendency to allow their left foot to rest on the brake pedal, actually pushing it down slightly as it is unlikely that the foot will remain poised over the pedal without

touching it for any length of time. Even a slight pressure can cause brakes to rub and become heated. The constant rubbing of brake shoes and pads will result in rapid destruction of disc brake rotors, brake drums, pads, and shoes. This heating of the brakes may lead to brake fade, so that the driver may find themselves with inadequate brakes when they need them most.

- The driver who rides the brakes with the left foot causes constant illumination of the brake lights, which reduces their warning value for other drivers.
- Left-foot braking may be justified in very limited circumstances such as when driving with a cold engine that is running at fast idle in congested areas and at low speeds. Left-foot braking is also a means of drying out water-soaked linings while operating at normal speeds.

Controlled Braking

- Braking control can be related to the amount or degree of foot pressure applied by the driver to the brake pedal. This pressure can be theoretically measured on a scale from 0 to 10.
- Zero on this scale would be the complete absence of any brake pedal pressure and ten would be the maximum application of brakes.
- Under normal operating conditions, a brake application to bring a vehicle traveling at 35 mph to a complete stop could be translated as a 4-5-6 on the firmness scale. This would result in the gradual decrease of vehicular speed and a smooth, controlled stop. Most drivers operate their brakes in this manner.

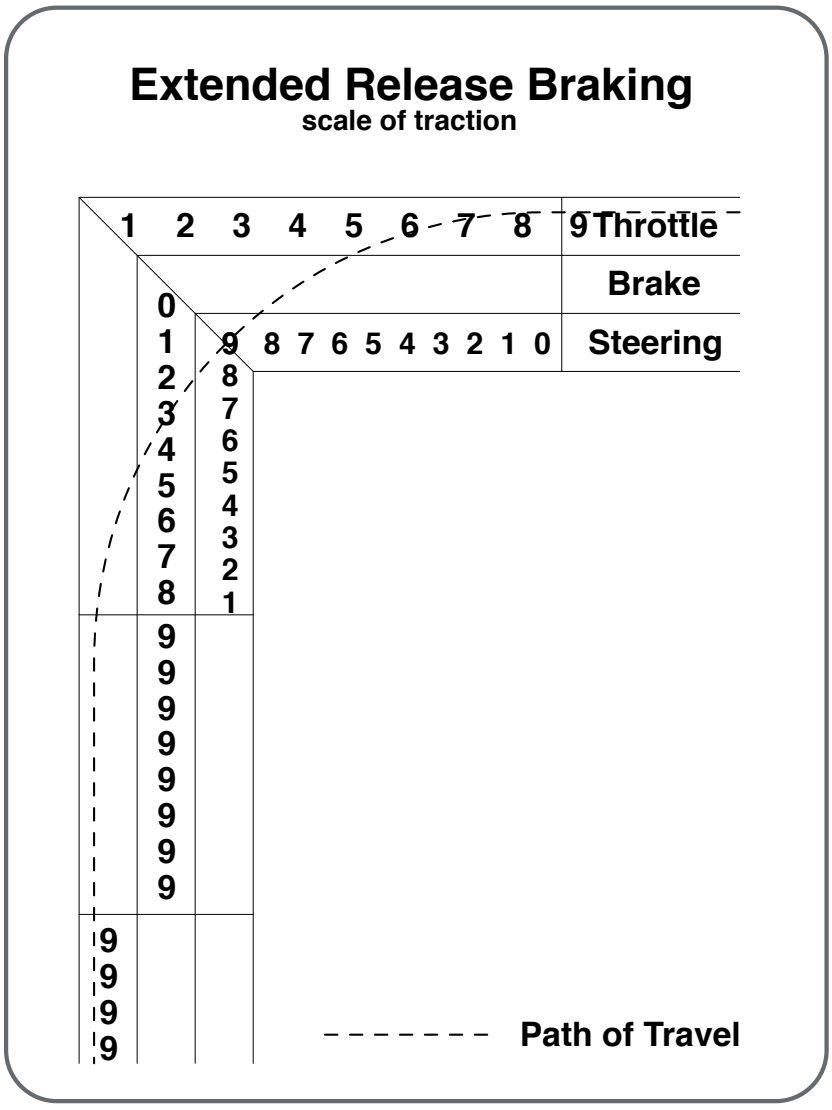
Threshold Braking

- In a high-speed driving situation, such as an emergency response, it is advantageous to cover the greatest possible driving distance in the shortest possible time. To accomplish this goal, the vehicle should be maintained at its highest controllable speed for as long as circumstances allow.
- Braking should be confined to the shortest practical time and distance necessary for speed reduction or stopping. This can be accomplished by "threshold" or "upper–scale" braking.
- Upper-scale braking in this case can be translated as 7-8-9 on the firmness scale. "Threshold" braking would occur in the 9 area on the scale.
- The term "threshold" implies that the vehicle's wheels are slowing in rotation just short of locking up or engaging the anti-lock braking system.
- Certain advantages are inherent to this braking method:
  - Allows speed maintenance over the greatest allowable distance.
  - Speed reduction occurs in the shortest possible time/distance.
- The brakes are allowed a longer cooling period due to short durations of usage.
- A substantial amount of weight transfer will occur during threshold braking. As long as the vehicle is traveling in a straight line, this longitudinal weight transfer should not have a negative effect on the vehicle.

Straight-line Braking

- In this particular form of brake application, speed is reduced to the desired level while the vehicle is traveling in a straight line.

- If applied to a high-speed turn situation, all braking would occur prior to steering input for the turning maneuver. The desired speed could then be maintained through the turn.
- The weight transfer incurred in braking is restricted to its simple longitudinal form and dealt with prior to entering the turn.
- Although the brakes are applied rapidly, the process should be smooth and controlled as opposed to a "stabbing" motion. Smooth brake application will translate into smooth weight transfer. Brake release should also be done as smoothly as the application for controlled weight transition.
- Once the vehicle's speed is reduced to the desired turn entry level, the necessary amount of throttle is applied to maintain that speed to the apex.
- Steering is also input upon brake release in the amount necessary to bring the vehicle into the apex along the desired driving line.



Extended Release Braking (Trail Braking)

The extended release braking technique begins as the vehicle is approaching a corner. The objective is to smoothly convert the traction generated by the front tires for braking into traction to be used for cornering. While driving in a straight line, the vehicle is rapidly brought to a threshold braking condition.

- As the vehicle arrives at the point where the driver begins to input steering, the driver simultaneously begins to release the brakes and turns toward the apex of the turn. The driver continues to release the brakes proportionately to the input of steering and in such a manner as to completely release the brakes at the same time maximum steering occurs, ideally prior to the apex of the turn. This is also the point of maximum lateral force on the vehicle.
- The extended release of the brakes serves several functions.

In many braking techniques, the brakes are fully released as soon as the driver begins to input steering. This causes weight to transfer from the front wheels (loaded by the initial weight

transfer caused by braking) to the rear. If the driver is abrupt with the release of brakes, then it can cause a violent transfer of weight away from the front wheels. This weight transfer from the front wheels limits the amount of traction the front wheels can generate. This reduction of available traction at the front wheels happens at the same time as when front wheel traction is most needed, at the initiation of the turning motion.

- A benefit of the extended release braking technique is that it makes more roadway available for braking prior to arrival at the apex of a turn. This means that a vehicle may be under power closer to a turn prior to brake application, or be able to use a less severe brake application if the same braking point is used. The area of roadway between the initial steering point and the apex of the turn is available for extended release braking to control speed.
- An additional consideration in favor of the extended release braking technique is the potential reduction in braking distance should the vehicle need to be stopped during the cornering maneuver. When using the extended release braking technique, the driver's foot is on the brake pedal up until the time when the foot must move to the accelerator pedal.
- Should an emergency arise during the approach to the apex, such as the suspect vehicle crashing, the driver is in a position to immediately increase pressure on the brake and need not move the foot from a standby position. While this may be a small amount of time difference, it may be critical in an emergency situation.
- The primary advantage of the extended release braking technique is that it allows the driver to maximize the smooth operation of the vehicle and allows for maximum speed through the turn. This tends to maximize the potential control the driver has of the vehicle.

Brake Fade

- When brakes become overheated, they will begin to lose their efficiency. This is termed "brake fade." Brake fade can occur in both drum and disc brakes; examples include steep downgrades, or pursuits requiring frequent hard braking.
- At high temperatures, brake fluid may begin to boil, reducing the hydraulic pressure necessary for the brake system to function properly.
- Long before the boiling temperature is reached, braking efficiency will begin to deteriorate.
- Normally, braking efficiency will return after a sufficient cooling period.

Anti-lock Brake System (ABS)

- ABS is a significant vehicle safety feature. The main feature of the system is to prevent brake lockup while stopping the vehicle as quickly as possible. In an emergency situation, the average driver will apply maximum pressure to the brake pedal, which will cause the tires to skid in a non-ABS vehicle. ABS is designed to prevent locked-wheel skids caused by hard-braking. In the event of an ABS failure, the normal braking system continues to operate.
- In order to have steering, there must be "rolling friction." In other words, the front tires must be rolling in order to steer the vehicle. When the brakes are locked, the tires have no directional control, they are skidding and the vehicle will continue to travel straight regardless the amount of steering input.

- Sensors on each wheel transmit information to a computer that modulates the braking pressure. This prevents lockup to maintain rolling friction and, thus, steering ability. In most cases, the stopping distance is shorter when applying maximum brake application activating the ABS system. ABS brakes are also more effective than non-ABS brakes when the road surface has a reduced coefficient of friction, such as water, ice, snow, etc.
- ABS produces a pulsation of the brake pedal and makes a noise similar to that of a "metal-to-metal" sound of worn brake pads. These are the same symptoms that may occur in a nonABS system that is failing. If the driver is not familiar with these sounds and the feel, then the driver could believe the brakes are failing and begin to "pump" the brakes. In most circumstances, the brake system is properly operating and, therefore, the pedal should not be pumped. Once ABS is applied, the braking pressure should be held steady, letting the system work. Pumping the brakes releases the ABS feature with each retraction of the brake pedal and braking efficiency will deteriorate.
- When crossing dips or bumps with the brakes applied, the driver may experience an ABS activation as the weight of the vehicle lifts up. This is normal and proper, as the sensors react to the braking system trying to lock up. There may be a slight increase in braking distance due to a less efficient braking ability caused by uplifted weight transfer. In this circumstance it may feel like the brakes are not working properly (not slowing enough), but the correct course of action is to maintain brake application until the weight stabilizes and traction is restored.
- Drivers who have never experienced ABS should practice stopping several times, braking hard enough to activate the ABS system. For example, this can be accomplished by sudden hard-braking from 50 mph on a safe road. This will allow the driver to feel the pulsing of the brake pedal and hear the associated sounds.

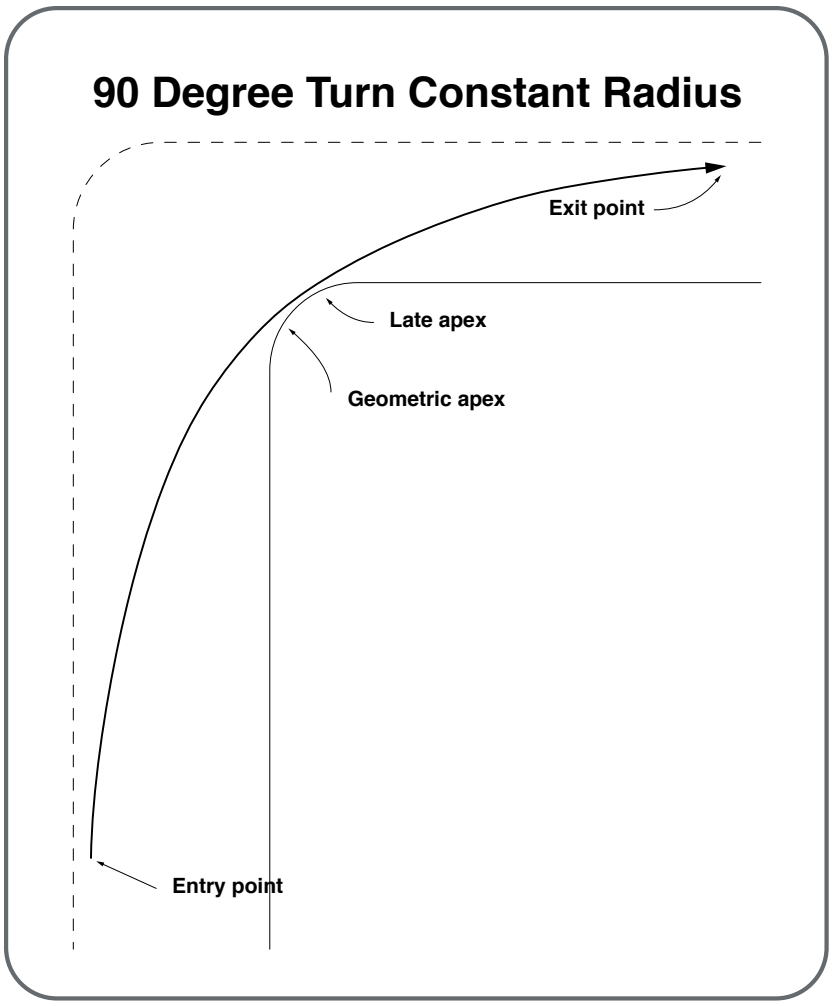
Instructor's Note: Manufacturer videos are available that clearly illustrate the Anti-lock Braking System (ABS) and Electronic Stability Control (ESC).

CHAPTER SEVEN
ROADWAY POSITION

Roadway Position

The position of the vehicle on the roadway to best facilitate the negotiation of a turn or curve at a safe rate of speed; the use of the available roadway to its fullest advantage with the least amount of steering. Roadway position is also referred to as the "driving line" through a turn.

Typical Turn Classifications



Constant Radius (90° Turn)

The most efficient driving line to negotiate a ninety degree turn is one with a constant radius. This turn would become a full circle if permitted to continue to a full 360°.

- There are three essential points of reference that are relevant to the turning maneuver.

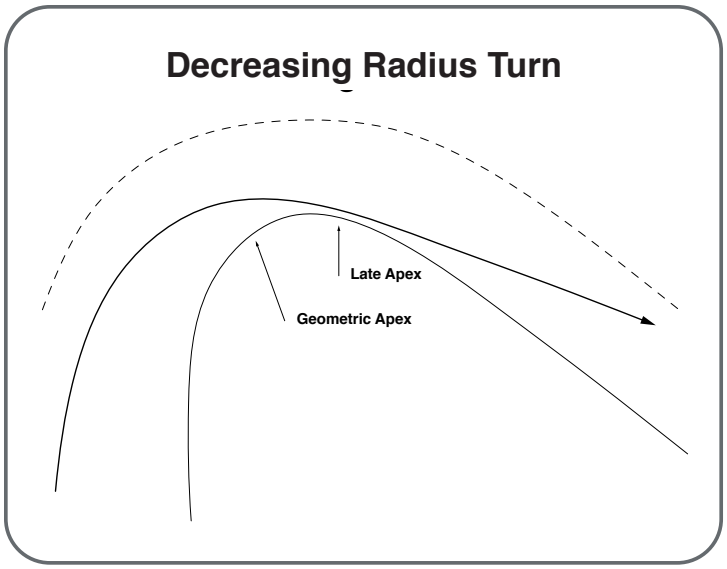
  Entry - placing the vehicle to the extreme outside edge of the available roadway. This is also the beginning point of steering input to perform the turning maneuver.

  Apex or "geometric apex" - the tightest innermost part of the available roadway; it is directly centered within the driving arc of the turn.

  Exit - placing the vehicle at the extreme outside edge of the available roadway while exiting the turn.

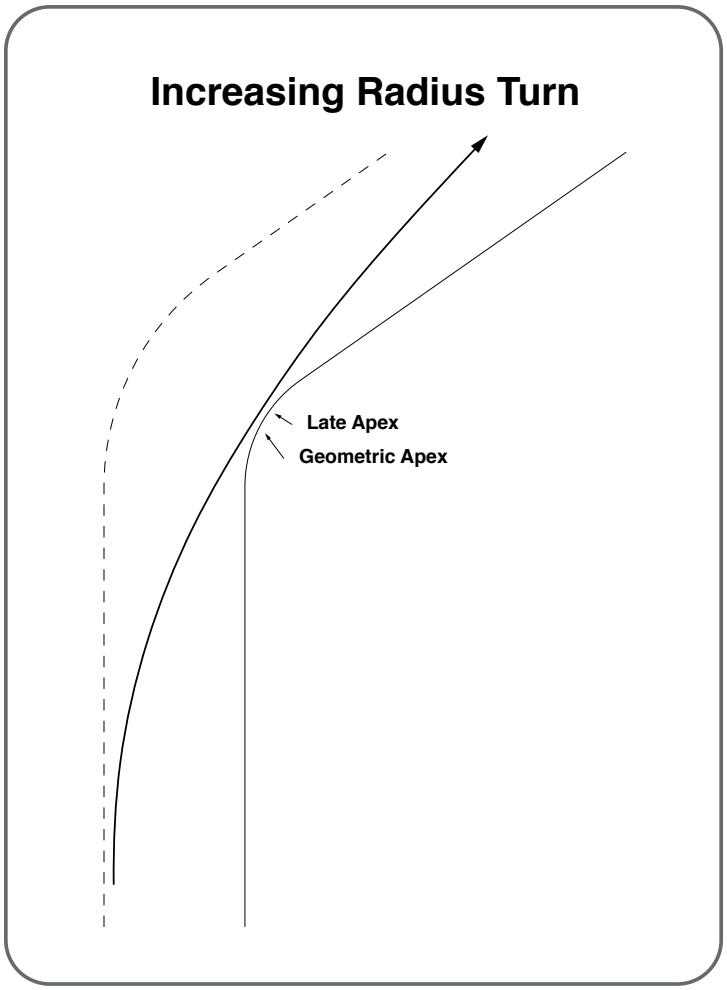
Proper turning techniques provide several driving advantages:

- ▹ Minimizes weight transfer.
- ▹ Minimizes steering input.
- ▹ Provides for smooth vehicle control.
- ▹ Provides for the greatest attainable safe speed through a turn.



Decreasing Radius

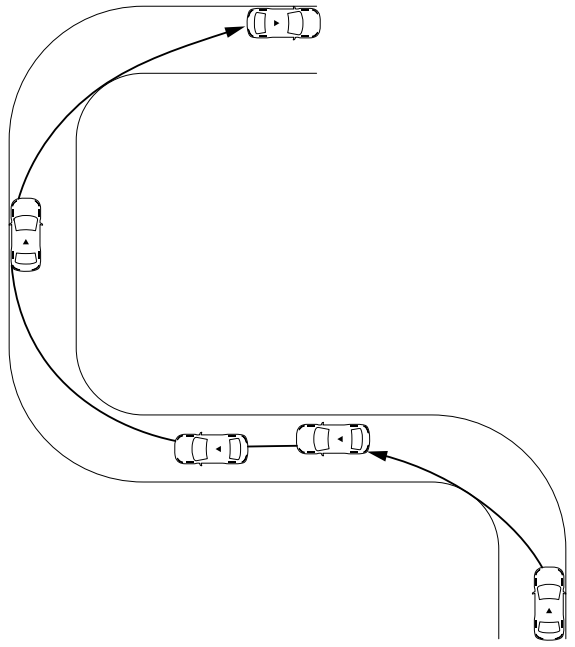
- A continually tightening turn.
- The driving speed will be decreased in proportion to the tightening of the turn.
- Negotiate the turn by taking the line of least resistance to the vehicle's travel.



Increasing Radius

- A turn that gradually straightens.
- Vehicle speed will be slower at the entry point and can be increased upon exiting.

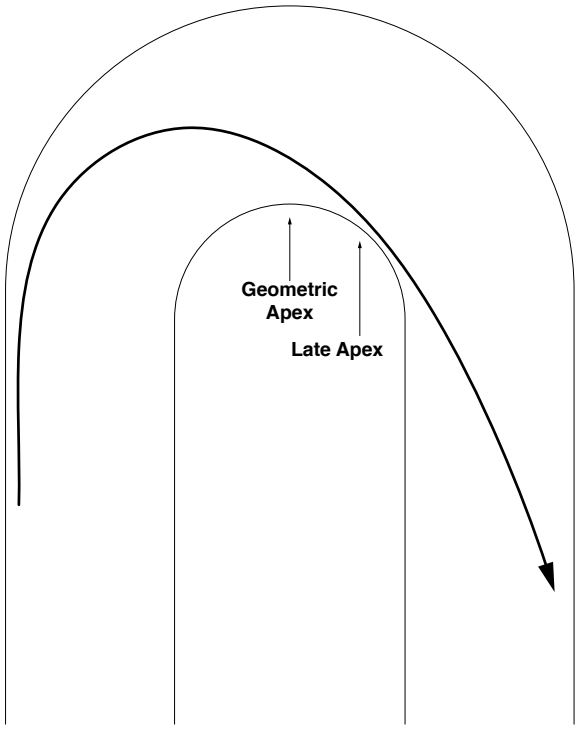
Road Position and Turning Multiple Turns



Multiple Turn Situation

- Multiple turns create a situation where vehicle control problems are likely to occur.
- Correct roadway position through multiple turns is a path that will reduce the amount of directional change from one turn to another. This will minimize side-to-side weight transfer and provide for the greatest possible traction.
- The driver should provide steering inputs in a smooth and consistent manner, ensuring that spring loading is dissipated prior to engaging into another turn in the opposite direction.
- Correct roadway position will vary as to the configuration of the turns. The driving line selected should provide for optimum efficiency and control at the exit of the final turn.

180° Turn



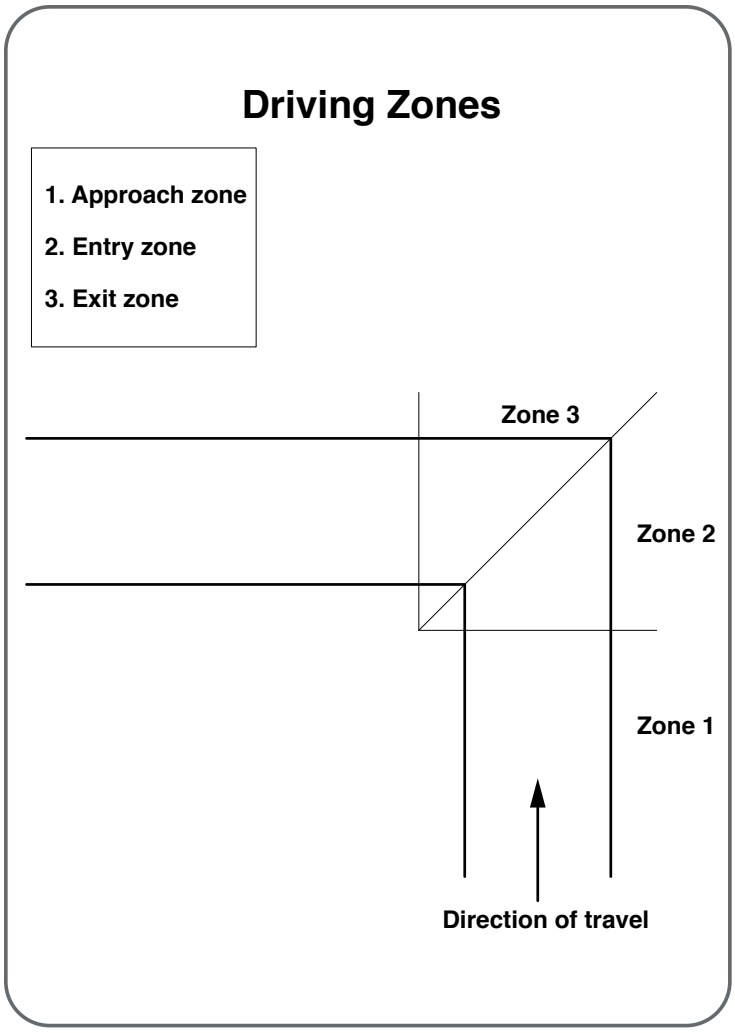
180° Turn

- The configuration of this turn corresponds to driving through one half of a circle.
- Entry should start from the extreme outside edge of the available roadway. This line will be maintained to the approach of the apex.
- The apex area is closer to the exit side of the turn. Apexing on the exit side of a 180 degree turn allows for acceleration from the apex and a smooth release of the steering input out to the outside edge of the turn.
- The exit point will be on the outside edge of the available roadway, beyond the apex area.

Control Considerations

To establish proper roadway position through a turn, the driver must scan the curve during the

approach. The path of travel should bring the vehicle to the apex or low side just prior to the exit of the turn. The car should be held as close as possible to the apex to allow adequate distance when exiting the turn. Vehicle stress and weight transfer may be reduced by allowing the car to smoothly drift out to the high side (outside) upon leaving the turn.



Speed Control

For purposes of speed control in a turning maneuver, consideration must be given to throttle and brake application in relation to the vehicle's position within the driving line. This is accomplished by dividing the driving line into zones of activity regarding brake and throttle usage.

Zone #1 Approach (Speed Adjustment) - This area consists of the approach up to the turn entry point. Speed reduction can be accomplished by:

- Extended release braking or straight-line threshold braking.

Zone #2 Entry – This area consists of the turning arc (driving line) between the entry point and the apex. The following two methods are acceptable:

- Extended release braking. Smooth release of the brake pedal as you enter the turn maintains additional traction on the front tires allowing for more control at higher speed.
- No throttle is used until lateral weight transfer is set.

Zone #3 Exit - This area consists of the roadway from the apex to the exit point. Different options can be exercised in this area depending on the circumstances:

- Speed maintenance
- Speed increase – maximum useable acceleration from the apex out to the exit provides for maximum possible acceleration into the straight-of-way
- Speed decrease

Reverse Driving Situations

- Reverse driving necessitates a different application of road position. The primary consideration is the swing of the vehicle's front end during turning motions.
- During constant, increasing, and decreasing radius turns, the part of the reverse driving line most affected will be the entry point. As soon as the steering wheel is turned, the vehicle's front

end will begin its turning arc (swing). Sufficient room must be allowed between the vehicle and the curb line (or other obstacles) to permit a continuous driving line without steering alteration or impacting of obstacles.

- Limited area maneuvering presents the driver with other considerations. Driving limits may be imposed by roadway width, space between obstacles, or both.
- Should ample roadway width exist, a driving line that angles through the obstacle spacing should be used to take full advantage of the available driving area. This will benefit vehicle control through minimal steering input and consequently minimal weight transfer.
- Limited driving area may necessitate a driving line to "crowd" (drive close to) the existing obstacles or hazards. Depending on vehicle placement, the hazards will be kept close to the vehicle's right or left side. This will allow the vehicle to avoid a collision while maintaining the available roadway.
- A vehicle reference turning (pivot) point must be selected. This can be either the vehicle's rear bumper or rear axle based on driver preference.

Formulas and Reference Tables

General Information

- The included formulas are offered for instructor reference should the need arise to mathematically compute a given situation.
- While not all-inclusive, the areas covered should suffice for the purpose of course instruction.

Conversion From Miles Per Hour to Feet Per Second

- Speed (mph) X 1.467 = distance (fps) Conversion generally taught as 1.5

Speed and the Effect Upon "Stopping Distances"

- Stopping distances increase exponentially due to the rate of increase in velocity being squared. The formula for calculating kinetic energy is $KE=0.5mv^2$. KE=Kinetic Energy, m=mass, v=velocity.
- If traveling three times as fast, then you must square three, which equals nine. Then multiply the stopping distance of the slower initial speed by that figure.

Hydroplaning (NASA Formula)

$V = 7.95 \sqrt{P(W/L)}$ The expression W/L is the aspect ratio

V = Minimum dynamic hydroplaning speed in miles per hour (mph)

P = Tire inflation pressure in pounds per square inch (psi)

W = Tire footprint width in inches

L = Tire footprint length in inches

The elements or contributing factors to hydroplaning are:

- Water depth
- Speed of vehicle
- Tire condition - tire tread depth, pressure, design, and width
- Hydroplaning is more likely as tire pressure is lowered. It is important to inflate tires on emergency vehicles to the Maximum PSI Cold listed on the sidewall of the tire, not the owner's manual.

CHAPTER EIGHT
EMERGENCY DRIVING OPERATIONS

General Information

Emergency response (Code 3) driving frequently demands split-second timing and instant reactions. This type of driving requires planning ahead without wasting valuable moments with panic or indecision. When confronted with hazards such as traffic congestion, slow down or even stop if in doubt as to what other drivers may do. Speed will depend on several variables and will ultimately be the decision of the individual officer.

When setting up an emergency driving course, consideration needs to be given to a layout that will accommodate the various evaluated criteria (see POST Vehicle Operations Competency Test Forms).

This should include a space long enough to allow for a minimum of 65 mph if that testing criterion is used in conjunction with the Code 3 test. 65 mph is the speed required for academy training and can be accomplished as a stand-alone test, included in the Code 3 test, or included in the pursuit test.

Emergency equipment (to include sirens) should be used when performing the emergency driving operations courses. Sirens may be wired to an internal speaker to simulate the audibility of an actual external siren.

When instructors are riding with students, they should pay attention to the basic driving principles in addition to the Code 3 aspects of the training. For example, is the student using good road positioning, shuffle steering, proper braking, acceleration, etc.? Students sometimes become so engrossed in the emergency response aspect of this exercise that they fail to maintain proper driving habits. Instructors should reinforce that adding components to the emergency vehicle driver training program does not mean ignoring the lessons learned previously. Good emergency vehicle operations starts with a solid foundation of basic driving techniques.

Students should be given a radio call to an emergency situation. The student acknowledges the call and then activates their emergency equipment to begin their emergency response driving.

An interference vehicle should be used during Code 3 training to demonstrate visually clearing intersections and providing the opportunity to properly pass traffic on the left (refer to Chapter 11).

Passing on the Right

Section 21806 CVC requires traffic to immediately pull to the right edge of the roadway and stop in response to the red light and siren. A law enforcement emergency driver should give traffic a chance to respond to the emergency equipment and yield to the right-hand side of the road. Passing traffic on the right when the emergency lights and siren are operating is extremely dangerous. This maneuver should be done with extreme caution and then only when no other alternative is available.

For POST tests, passing on the right is forbidden and would result in a failure. Instructors should also emphasize that if passing traffic on the right under Code 3 and a vehicle they are passing pulls to the right in order to comply with 21806 CVC causing a collision between their vehicle and the officer's vehicle, then the officer would most likely be found at fault for the accident.

Driving Considerations

Caution and good driving ability are better than emergency lights and a siren, but one must consider the limits as well as the advantages of the vehicle and its equipment.

Wig-Wags/Emergency Lights

- Wig-wag headlights are more discernible than the colored emergency lights. Most people will see the wig-wag headlights before they hear the siren or see the red and blue lights.
- Remember that 21055 CVC requires all emergency vehicles responding Code 3 to display at least one solid burning red lamp.
- High-beam headlights can have a tendency to obliterate (wash out) the emergency lights and blind oncoming drivers during nighttime operations. The use of auxiliary blue or amber lights in conjunction with an emergency red light is permissible under Vehicle Code Sections 25258(b) and 25259.
- Sirens are permissible for use under Vehicle Code Sections 21055(b) and 27002.
- Remember, emergency lights and sirens are no substitute for caution and common sense driving habits.

Siren Audibility Factors

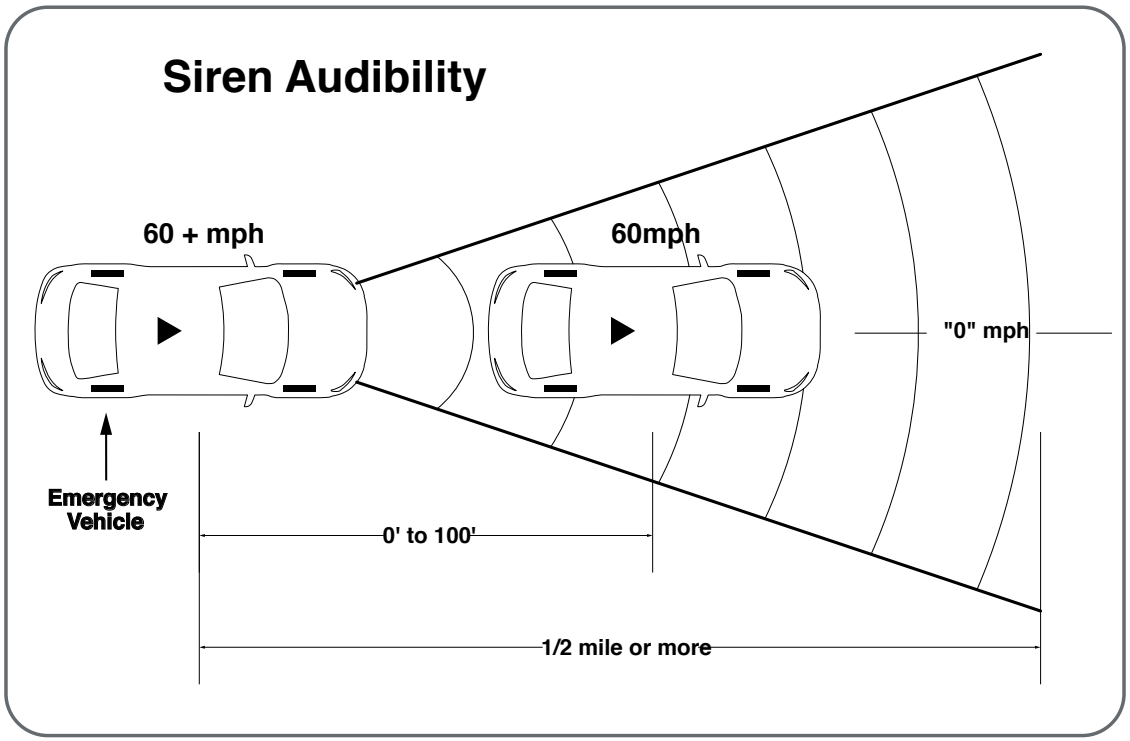
- Weather Conditions
- The siren may be heard sooner on an overcast or cloudy day.
- Siren audibility tends to dissipate into the atmosphere on clear days when there is no inversion layer. Fog will allow sound to "carry" through the moisture with a minimum loss of decibels at close range; however, it will stifle the sound at longer distances.

Traffic Conditions

- The siren becomes less audible with the increase of traffic noises; i.e., horns honking, engine and exhaust noises, etc.
- Heavy truck or bus traffic will decrease the effectiveness of the siren.

Location

- The siren may be less audible in a residential area than in a business district as trees and shrubbery tend to absorb the sound.
- Tall buildings may block, deflect, or funnel its audibility.
- In flat, open areas, e.g., the desert, the sound of a siren can usually be heard for a greater distance.



Driver Impairments

- Impairments
  - Driver under the influence
  - Physical or medical problems
- Distractions inside the vehicle
  - Children
  - Passengers talking to the driver
  - Radio, stereo, or cellular phones
  - Air conditioning, heater fan, etc.
  - Windows rolled up and radio ON
- Distractions outside of vehicle
  - Construction work
  - Law enforcement incident on the street
  - Sight-seeing
  - Animals on the roadway
- Unpredictable reactions of driver
  - Panic stop in the lane of traffic
  - A sudden movement, left or right

Speed

- As speed increases, the effectiveness of the siren decreases.
- Due to the increase of speed and the resultant increase of feet per second traveled by the emergency vehicle, other drivers and pedestrians may not have sufficient time to react to the sound of the siren.
- When an emergency vehicle is about to overtake and pass another vehicle traveling at 60 mph or faster, the driver of that vehicle cannot typically hear the siren until the emergency vehicle is within 100' of passing the vehicle.

Driving Tactics

Siren Syndrome

The most important factor in any Code 3 driving is the individual driver's calm demeanor and common sense in the application of proper driver techniques. Remember, the siren may also affect the emergency driver (i.e., "siren syndrome"):

- The adrenaline will be flowing, heart pounding—yet the driver must remain cool. Be aware of the fact that the excitement of the moment can adversely affect the driver's ability to concentrate and safely operate the vehicle.
- Tunnel vision may develop. Keep eyes moving to look for hazards.
- Speed reference may be lost due to the elimination of the sounds of speed (wind, engine noise). When driving at high speeds, the driver should glance at the speedometer regularly when safe to do so.
- Law enforcement drivers must remain calm despite the situation and drive with caution. Taking deep breaths is one method that can help reduce the symptoms of siren syndrome.

Many serious law enforcement collisions occur at intersections

- Slow down or stop before entering intersections; look in all directions; clear the intersection lane-by-lane.
- Approaching drivers cannot always see the emergency vehicle due to visual impairments such as buildings, vegetation, or other vehicles.
- Observations of cross streets should start before entering the intersection. Depending upon the circumstances, consider reducing speed or even coming to a stop if necessary.
- By fluctuating the pitch or changing the pattern of the siren from wail to yelp, the chances of persons on the road hearing the siren are greatly increased.

When responding

- Plan the most desirable, safest route of travel.

When driving Code 3

- Don't drive beyond the capabilities of the vehicle or self.

Use the radio

- Stay calm—let people know what is happening. Use the radio on straight stretches of road when possible.

If traffic does not yield

- Maintain a safe following distance until a motorist can see or hear emergency equipment and yield to the right.

If weather is bad or traffic is congested

- Response to an emergency should be at reduced speeds.

Driver should avoid using computer communications during emergency operations.

Be sure windows are rolled up when driving Code 3

- Reduce noise levels within the vehicle in order to hear radio traffic and for others to understand your radio transmissions.

CHAPTER NINE
VEHICLE PURSUIT OPERATIONS

Law Enforcement Pursuits

Pursuits are governed by all laws, policies, tactics and rules applicable to emergency (Code 3) responses.

There are few situations in law enforcement operations that require a higher degree of common sense and sound judgment than sustained high-speed vehicular pursuits. Officers must effectively perform in an atmosphere where long-range consequences may hinge upon the soundness of split-second decisions.

The immediate apprehension of the violator is never more important than the safety of officers and the public. When it becomes apparent that the immediacy of apprehension is outweighed by a clear and unreasonable danger to officers and the public, the pursuit should be abandoned (Balance Test).

While engaged in a pursuit, officers are exempt from the rules of the road only if they are operating the vehicle under Code 3. However, the law does not excuse or exempt an abuse or arbitrary exercise of this privilege, nor does it provide exemptions from criminal and civil liability when the vehicle is being driven without due regard for the safety of all persons using the highway (21056 CVC).

- The key to a successful conclusion of a pursuit is dependent upon proper self-discipline and sound professional judgment.

Pursuit Training

Pursuit training should be as realistic as possible. There are many formats a training program can use that require a student to engage in a training pursuit. For example, a radio call can be given that describes a suspect vehicle. The student locates the suspect vehicle and attempts to complete a traffic stop. Once all radio traffic is completed, the student activates the emergency equipment to conduct their traffic stop. The suspect vehicle then flees, requiring the student to notify communications and engage in a pursuit.

Once in pursuit, the student should demonstrate the ability to maintain their basic driving skills, provide updated communications as appropriate, maintain a high visual horizon, track the suspect vehicle, and visually clear intersections and engage the interference vehicle as necessary (see Chapter 11 for information on driving the suspect and interference vehicles).

Section 13519.8 California Penal Code

- This legislation provides a set of uniform minimum guidelines related to policy and training for adoption by California law enforcement agencies regarding vehicular pursuits. Refer to POST pamphlet "California Law Enforcement Vehicle Pursuit Guidelines" for additional information.
- EVOC Instructors should be aware of the issues included in this law and include these elements in training related to pursuits.
- Recruits and in-service personnel are required by law to receive training on these minimum guidelines, and it is recommended that pertinent agency policy requirements be discussed in periodic update trainings. Consideration should be given to including classroom lecture and

discussion, behind-the-wheel practical application, and/or other forms of "simulated" pursuit driving in these training programs.

- Each element of this law is listed below, with discussion points and driving tactics included to aid the instructor in comprehensively preparing a course of instruction.

Instructor's Note: These guidelines are not intended to be a standard for any agency. Each agency should adopt and follow its own policy in accordance with existing law and the jurisdiction it serves.

Discussion Regarding the Specific Guidelines of 13519.8 PC

The discussions on each element of 13598 PC (below) are relative to State law and do not include individual agency policy considerations that may be more restrictive. Students should become familiar with their own agency's policy.

When to Initiate a Pursuit

Pursuits may be initiated when a law violator clearly exhibits an intention to avoid arrest by using a vehicle to flee. Provide a definition of a pursuit: refer to agency policy.

- In order to diminish the likelihood of a pursuit, officers intending to stop a vehicle should, when possible, be within close proximity to the vehicle before attempting the stop.
- Officers initiating traffic stops must be aware of the presence and proximity of other motorists on the highway prior to utilizing emergency lights and siren. (Is there a motorist ahead and to the left of the officer that may view the emergency lights and yield into the path of the officer?). When practical, officers should close the distance between themselves and the violator's vehicle in order to minimize the likelihood of other vehicles swerving into their path.
- When possible, officers initiating a vehicle stop should attempt to select an area that provides optimal officer safety (e.g., wide roadway, high visibility to other motorists, minimal pedestrian activity, etc.).
- When circumstances indicate a high potential for a pursuit (e.g., felony warrants, known or suspected stolen vehicles, etc.) officers should ascertain the availability of additional backup units (including an air unit) and should await their arrival, if possible, prior to initiating the vehicle stop. What is the known or suspected offense and what form of response should be given if the driver fails to yield (e.g., immediate termination, reasonable short distance termination, termination only when conditions become too dangerous)? The determining factor should be the "balance test," i.e., does the seriousness of the crime warrant the level of threat to public safety caused by the pursuit?
- What are the public safety issues present (e.g., vehicle and pedestrian traffic volume, weather/visibility/roadway conditions, proximity to schools, residences, or crowded business areas)?
- Are non-law enforcement passengers present in the officer's vehicle, and should a pursuit be initiated if the suspect vehicle fails to yield?
- What is a reasonable speed within the existing driving environment should a pursuit take place? A constant re-evaluation should take place as conditions change.

- What is the quality of radio communication?
- How familiar is the officer with the surrounding area?
- Officers should make an honest assessment of their own training and experience, and assess the capabilities and limitations of the vehicle they are driving before they initiate a pursuit.

The Number of Involved Law Enforcement Units and Their Responsibilities

- The initial pursuing officer (primary unit) and the appropriate number of backup officers per agency policy (secondary or assisting units) should be the only units actively involved in the pursuit.
- All other officers should stay clear of the pursuit and operate their vehicles in compliance with the rules of the road, but should remain alert to its progress and location should suspect containment become necessary.
- Agency policy may dictate the addition or deletion of additional or substitute officers, and appropriate responsibilities.
- Specialized units (e.g., unmarked/properly equipped law enforcement vehicles, motorcycles, and four-wheel drive vehicles) may have limited roles in a vehicular pursuit (refer to agency policy).

Communications

- An officer initiating a vehicular pursuit should immediately advise by radio in a calm clear voice that . a pursuit is in progress.
- Appropriate concise information, per agency policy, should be provided in a timely manner. That information should include:
- Unit identification.
- Location, speed, and direction of travel.
- Specific reason for the pursuit, including known law violations.
- Vehicle description, including license number, if known.
- Number of occupants.
- Traffic and weather conditions.
- Any other pertinent information as it becomes available (e.g., contraband thrown from a vehicle, observed weapons, additional law violations).
- Secondary or assisting officers should restrict radio traffic to allow air time for the appropriate broadcasting officer to be monitored.
- Agency policy may allow for a secondary unit to broadcast for the primary officer.
- If an air unit is on the scene, then responsibility for broadcasting information may shift to that unit.
- Loss of all communications should be cause for termination of a pursuit due to concerns regarding officer safety and pursuit management.
- Agency policy may dictate specific responsibilities for desk and dispatch personnel during the conduct of a pursuit.

- Upon termination of a pursuit, an immediate advisement should be made by radio.
- When a suspect is placed into custody and there is no need for additional response by other officers, an appropriate and immediate radio advisement should be made by an officer at the scene.

Supervisory Responsibilities

- The responsibilities of specific supervisors should be known to all personnel. A supervisor need not be on the scene to exert appropriate control of a pursuit (e.g., designating by radio the addition or deletion of assisting units, termination of the pursuit by all units involved). If available, a supervisor should provide management control of a pursuit.
- A Watch Commander or designated officer may be, per agency policy, in overall command of all units involved in a vehicular pursuit.
- When practical, an available supervisor should respond to the termination point of a vehicular pursuit, oversee post-pursuit discipline and assert control when warranted. The supervisor's responsibility is to ensure compliance with all aspects of agency policy.
- Agency policy may dictate that a Field Supervisor or a Watch Commander terminate any vehicular pursuit when it is believed that policy is not being complied with, the threat to officer and public safety is too great, or that pertinent information is not being provided in a timely manner by the primary unit or designated assisting unit.

Driving Tactics

- Agency policy may identify what specific types of driving tactics are authorized or prohibited.
- All officers involved in a vehicular pursuit should comply with agency policy regarding authorized or prohibited driving tactics.
- Training should emphasize the potential threats to officer and public safety involved in certain driving situations, such as Code 3 passing and the entering and clearing of intersections.
- The need to provide officer and public safety will always supersede the need to apprehend a fleeing suspect during a vehicular pursuit. Driving tactics employed should always assist in maintaining that goal.

Blocking, Ramming, Boxing in, and Roadblock Procedures

- Agency policy may specify certain offensive tactics or intervention techniques that can be employed to assist officers in successfully stopping the movement of a suspect vehicle. Intervention can be defined for the purposes of this document as the deliberate act by law enforcement to force the violator's vehicle to stop. This may include, but is not be limited to the use of Tire Deflation Devices (TDD, e.g., Spike Strips) or Pursuit Intervention Techniques (PIT).
- Appropriate training should be provided to officers prior to the use of any offensive tactics.
- Officers should consider certain factors (e.g., nature of offense, threat to public safety in the immediate area, road conditions, potential for suspect[s] to be armed, and type of weapons, etc.) prior to the use of certain offensive tactics (e.g., PIT, ramming, roadblocks, spike strips).

- Generally speaking, most offensive tactics should only be employed during vehicular pursuits involving suspects who represent a significant threat to public safety. PIT can be used in circumstances approved by policy and with proper training.
- Along with adequate training, proper communication and coordination during certain offensive tactics is a key factor in ensuring a successful and safe conclusion to their use.

Speed Considerations

- Agency policy may specify certain factors for consideration by officers during the conduct of a vehicular pursuit as to what is a reasonable speed. These factors may include:
  - Public and officer safety (balance test: need to apprehend vs. threat to safety).
  - Nature of the offense and duration of the pursuit.
  - Pedestrian and vehicular traffic volume.
  - Environment (rural, residential, business).
  - Familiarity with the area.
  - Weather conditions and visibility.
  - Types of vehicles involved in pursuit.
  - The primary consideration for an officer or supervisor regarding what is a safe speed is not necessarily the posted prima facie limit, i.e., what is safe for the conditions (22350 CVC).
  - Pursuing officers should remember that they control their own speed, not the suspect.
  - Officers should discontinue/terminate any pursuit immediately when their speed exceeds what is reasonable.

Air Support

- The role of a helicopter or other form of air support during vehicular pursuits is to assist and coordinate the involved field units.
- The air unit should be monitoring and broadcasting pertinent pursuit information.
- If the circumstances of the pursuit indicate that apprehension of the suspect by pursuing officers appears unlikely (i.e., the suspect vehicle continuously increases distance from the ground units or the suspect's vehicle is frequently out of sight of the ground units), or the suspect's actions indicate the ground units should back off, the primary unit or an appropriate supervisor may direct the air unit to continue to track or provide surveillance of the suspect vehicle.
- Pursuing officers under such circumstances should then comply with any agency policy requirements regarding their continued effort.
- This may result in reducing the effort but continuing Code 3 operation or
- Discontinuing Code 3 operation (thereby complying with all "rules of the road") and reducing the effort to the point that they can no longer be seen by the suspect. Ground units may continue to follow as directed by the air unit until the suspect stops.

- The primary purpose of these types of tactics is to reduce the potential danger to officers and the public on the highway.
- When the air unit is tracking or conducting surveillance of the suspect vehicle, concerned ground units should restrict their radio traffic to only information necessary to provide assistance.
- If a pursuit is terminated, then the supervising officer may request the air unit to continue following the suspect after ground units have abandoned their pursuit.

Termination of a Pursuit

- The primary consideration in any vehicular pursuit is the safety of the officers involved and the public on or near the roadway.
- Officers involved in a vehicular pursuit should continually evaluate the necessity for continuing based upon the balance test: the need to apprehend versus the threat that the pursuit places on public safety.
- Officers must consider several factors in determining whether a vehicular pursuit should be continued. These factors are similar to those that should be considered at initiation and in determining what is a reasonable speed (Refer to "Initiation of a Pursuit" and "Speed Considerations"). The decision to terminate or abandon a vehicular pursuit may be based upon (but not limited to) the following:
  - When there is a clear and unreasonable danger to officers or other users of the highway ("due regard for public safety").
  - When the officer's or suspect's speed dangerously exceeds the existing flow of traffic, or when pedestrian traffic necessitates dangerous maneuvering that is likely to exceed the performance capabilities of either vehicle or driver.
  - When there is no compelling need for immediate apprehension and the violator can be identified to the point where an arrest can be more safely made at a later time.
  - When the pursuit violates agency policy. When appropriate and necessary emergency equipment or radio communication ceases to properly operate.
  - When an interjurisdictional situation requires termination per agency policy.
  - When a pursuit is terminated, all units should discontinue Code 3 operation and obey all rules of the road.

Instructor's Note: EVOC Instructors should emphasize the potential for the physiological effects of siren syndrome. The influence of increased adrenaline and the potential for tunnel vision may interfere with the officer's ability to adequately respond to a situation or identify other potential hazards. This may include the ability to properly evaluate the need to terminate a pursuit.

Capture of Suspect(s)

- Unless otherwise specified by agency policy, apprehension of the suspect(s) at the termination of a pursuit should be the responsibility of the initiating or primary unit.

- If more than one officer is in the primary unit, then the senior officer (unless otherwise specified in agency policy) should have tactical control of the vehicle stop/arrest procedures.
- The timely radio advisement of the suspect(s) being in custody is essential. Once that advisement is made, absent other circumstances, there is no reason for any additional units to respond to the termination point.

Instructor's Note: EVOC Instructors should emphasize the potential for the psychological effects of siren syndrome. The ability to control one's emotions while driving in a vehicular pursuit and during the subsequent arrest of the suspect is extremely important.

Interjurisdictional Considerations

- Vehicular pursuits are likely to enter more than one law enforcement agency jurisdiction. Adherence to agency policy is a primary consideration for each officer involved.
- Notification by another jurisdiction of a pursuit in progress should not be construed as a request to join the pursuit. Upon receiving such information, law enforcement officers must verify if a request for assistance is being made or if it is merely a notification for the purpose of awareness.
- Law enforcement officers should not become involved in another agency's pursuit unless specifically authorized per agency policy and/or their own Watch Commander or Field Supervisor. Some agency policies may allow consideration for situations involving a lone unit from another jurisdiction and the emergent nature of the situation that precludes the ability to ask for assistance. In this type of extreme and clearly demonstrable situation (e.g., shots being fired by suspect at the officer), it may be viewed as a request for immediate assistance for the purposes of officer safety.
- Agency policy may include consideration for circumstances justifying the number of officers that will be permitted to respond and the limitations on all other field units.
- The primary unit involved in a pursuit should make a timely notification by radio when it appears a pursuit is about to enter another agency's jurisdiction. If and when a vehicular pursuit enters a neighboring law enforcement jurisdiction, appropriate notification should be made to that agency as required by agency policy.
- Agency policy may provide additional general or specific responsibilities for supervisors regarding the management of a vehicular pursuit that enters another jurisdiction.
- Agency policy may provide specific requirements for officers in the field who observe another agency's pursuit enter their own jurisdiction. This could include notification mandates as well as receiving supervisory approval before becoming involved.
- Under circumstances where transfer of control of a vehicular pursuit from one jurisdiction to another is considered, agency policy may provide specific procedures to be followed. Factors that may influence this decision to relinquish control may include:
- Familiarity with the area.
- Availability of sufficient personnel.
- Loss or reduction in the quality of radio communication.
- Vehicle-related concerns (e.g., out of fuel, equipment breakdown).

- Interagency agreements.
- Agency policy may specify procedures to be followed and responsibilities for those personnel present at the termination point of an interjurisdictional vehicular pursuit. This may include issues related to responsibility for the arrest of the suspect(s).
- Agency policy may require specific post-pursuit reporting and review in interjurisdictional vehicular pursuits. Each agency involved may conduct their own review.
- Section 13519.8 PC recommends developing an interjurisdictional pursuit agreement that addresses the above considerations. Policies unique to a county or region may facilitate awareness by officers and supervisors of the pursuit procedures that may be used by other agencies.

Reporting and Post-pursuit Analysis

- The purpose of post-pursuit analysis is to assist in the overall management of vehicular pursuits, help develop and implement policy, and identify training needs. The desired goal is officer and public safety.
- Agency policy may designate the person(s) responsible for completing the pursuit report (CHP187 form). Each agency may require an additional departmental report(s) be submitted for review.
- It is a good practice to engage in a post-pursuit debriefing as soon as reasonably possible after the incident. Agency policy may delegate that responsibility to a specific individual (e.g., senior officer, initiating officer, Field Supervisor, or Watch Commander). Issues of consideration may include:
  - Officer and public safety
  - Compliance with agency policy
  - Critique of tactics employed during the pursuit
  - Communication and coordination concerns
  - Issues related to taking the suspect into custody
  - Recommendations for improving training or revising tactics

CHAPTER TEN
INTERFERENCE VEHICLES AND SUSPECT VEHICLES

Interference Vehicle

An interference vehicle is used to simulate civilian traffic during both emergency response and pursuit training and testing. Due to the safety issues involved, this vehicle must be driven by a POST-certified EVOC Instructor. Each training area is different, so how the interference vehicle is used will vary. In the case of pursuit training, the instructor driving the interference vehicle and the instructor driving the suspect vehicle must carefully coordinate their actions. During emergency response training, the student vehicle may make unpredictable turns. Instructor timing and proper vehicle placement are critical to avoid collisions.

Each student should be presented with various situations where they must safely deal with conflicts presented by the interference vehicle. It is advisable to present each student with a varied array of conflicts at intersections and passing situations. Because students communicate with each other between driving sessions, care should be taken to not have a conflict with the interference vehicle at the same location on the course at the same time for every student driving session. Doing so may result in students looking for the interference vehicle only at those locations and nowhere else.

Considerations for the instructor driving the interference vehicle:

- Vary the times and locations of the conflict presented by the interference vehicle.
- Time intersection interference so the interference vehicle does not arrive at an intersection too early or too late.
- Avoid putting the interference vehicle in a position where a collision will occur if the student makes a mistake, such as suddenly stopping or turning.
- Avoid sitting in a stationary position on the roadway where a collision could occur if a student makes a sudden or unexpected turn.
- In pursuit training, work out non-verbal signals with the instructor driving the suspect vehicle in order to set up situations where the student must deal with the interference vehicle.
- Work out signals where the student knows they failed to properly deal with the interference vehicle, such as the instructor honking the horn if a student fails to slow down and make eye contact at an intersection.
- Consider having students ride in the interference vehicle to gain the perspective of a citizen when encountering a police vehicle in an emergency response or pursuit.

Of all the skills instructors must develop, driving the interference vehicle is often the most difficult. Proper timing and communication with other instructors are skills that takes practice to master.

Suspect Vehicle

A suspect vehicle is used during pursuit training. As with the interference vehicle, the suspect vehicle must be driven by a POST-certified EVOC Instructor. The instructor-driver of the suspect vehicle must have complete situational awareness in order to avoid conflict or collision with the interference vehicle. Although each training area is different, it is most beneficial to have the suspect vehicle take varied routes in order to avoid students memorizing the pattern during training. Because students will be dealing with the interference vehicle, the suspect vehicle should avoid getting too far ahead of the student. The instructor should vary the distances between their suspect vehicle and the student vehicle in order to test the student's ability to judge following distance as well as their ability to keep a high visual horizon. Getting too far ahead, however, may make it inordinately difficult for the student to determine the specific route the suspect vehicle took.

Considerations for instructor driving the suspect vehicle:

- Take varied routes to avoid students memorizing a specific route and ignoring the suspect vehicle.
- Work out non-verbal signals with the instructor driving the interference vehicle in order to set up situations where the student must deal with the interference vehicle.
- Use improper driving lines through corners to test student focal point.
- Use improper driving techniques, such as skidding, understeering, and oversteering to test the student's ability to handle stress while maintaining proper speed and vehicle positioning.
- Have constant situational awareness to avoid unplanned conflicts with the interference vehicle.
- Consider having students ride in the suspect vehicle to gain added perspective.

Although driving the suspect vehicle can be fun, it comes with much responsibility in terms of safety and meeting the course learning objectives for the students.

CHAPTER ELEVEN
STUDENT DRIVING SKILL DEVELOPMENT

Driving Exercises Introduction

The following section comprises examples for individual driving exercises that can be used in a driver training program. The lessons are comprehensive and enable instructors to efficiently adapt and instruct the exercises. Each instructor should be familiar with the POST Safety Guidelines for driver training as they apply to their individual programs. Safety guidelines should be presented to students prior to practical application of exercises.

Not all of the driving exercises need be incorporated into a specific program. The individual exercises are widely varied as to purpose, need, and special requirements. A selection of exercises can be made to realistically conform to a program's goals and physical constraints, such as available driving area and time frames. The exercises contained in this document are illustrative examples of the types of vehicle dynamic exercises necessary for a successful program. Presenters may choose to use similar but different exercises based on their specific training area constraints.

Many of the exercises can also be linked together to incorporate a series of exercises similar in purpose, to constitute a skill course operation.

The following points of information are offered to enable maximum benefit for lesson plan usage.

Lesson Plan Format

The format used is identical for all the presented exercises and incorporates the following:

- Materials needed - All items of equipment necessary to lay out and operate the exercise.
- Goal - The ultimate purpose and desired result achieved by participating in the exercise.
- Objectives - Student benefits derived from the training.
- Introduction - A brief description of the exercise and its correlation to actual driving situations.
- Course description - A detailed representation of the exercise lay out, including all necessary linear dimensions and marking devices.
- Procedure to drive the course - Indicates all vehicular transitions through the exercise as well as the vehicle control techniques utilized.
- Demonstration phase - Describes the method employed to demonstrate the exercise to the student(s) as well as points of emphasis.
- Practical application - Indicates the procedure utilized for actual training application at the student driving level.
- Evaluation - Denotes the areas of performance by the student to be graded relative to each driving exercise.
- Diagram - A plot plan of the exercise to denote configuration, distances, and the placement of training aids such as cones, etc. The actual driving distances may necessarily vary according to the dimensions of the training vehicle(s) used.

Training Speeds

Reference is often made to the vehicle ultimately being driven at "training speeds." This is the vehicle's realistic operating speed for the performance of the exercise concerned and is obviously based on circumstances dictated by that exercise.

In this regard, the instructor should consider the following:

- Purpose of the exercise
- Vehicle limitations
- Road and weather conditions
- Student driver ability
- Safety margin

Student Evaluation

The student drivers will need to be graded on their ability to conform to the training objectives. This process should be thoroughly documented and may be objective, subjective, or both.

Timed Exercises

A time factor in negotiating various exercises should be considered for program operation. Depending on the exercise objectives, a time element can be useful for evaluating performance. Care should be used in the timing of a driving exercise as it can often induce a sense of competition among the student drivers, which may be detrimental to the performance objectives.

While stressed elsewhere within this manual, safety in driving exercises should always be a primary factor in program application.

Demonstration Techniques

General Information

- One of the primary areas of student instruction is the actual demonstration of the driving exercises by instructors.
- The demonstration is accomplished in one of the following two ways:
  - ► One instructor will verbalize the demonstration while another instructor drives the demonstration vehicle.
  - ► A single instructor will both drive and verbalize the demonstrations. The students will be passengers in the vehicle.

Methodology

- Dual instructor method (one instructor verbalizes from outside the vehicle to the students while another instructor drives)
  - ► This method requires coordination between the instructors.

- The verbalizing instructor actually controls the demonstration process.
- The driving instructor will react/respond to the verbal direction or hand and arm signals of the verbalizing instructor.
- The demonstration is performed once at slow speed and again at training speed.
- During the slow speed process, the vehicle is stopped at predetermined points as necessary to allow time for verbal instruction to be given.
- The verbal instruction will identically correspond to the activity of the demonstrating vehicle.
- All points of vehicle placement and control techniques will be emphasized.

- Single instructor method (one instructor will verbalize while driving)
  - This particular method works well in exercises that involve long distances and it is impractical for the students to follow the demonstrating vehicle.
  - The demonstration is performed once at slow speed and again at training speed.
  - The instructor will verbalize the exercise to the student passengers within the vehicle.
  - The vehicle can be stopped wherever necessary to ensure a comprehensive verbal instruction process.
  - Pertinent points of the instructional information will be stressed by the instructor's demonstration.

REVERSE DRIVING EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- At least one law enforcement training vehicle
- Sixteen cones and ten delineators

Goal

- The student will gain the knowledge and skills necessary to back a vehicle through a series of obstacles within a limited driving area (crowding or driving close to the hazard).
- The student will understand the importance of visual awareness of obstacles while backing a vehicle in order to avoid collisions.

Objectives

- The student will exercise proper speed judgment while maneuvering a vehicle within a limited space.
- The student will demonstrate the process of placing a vehicle in close proximity to a hazard for vehicle placement purposes.

Introduction

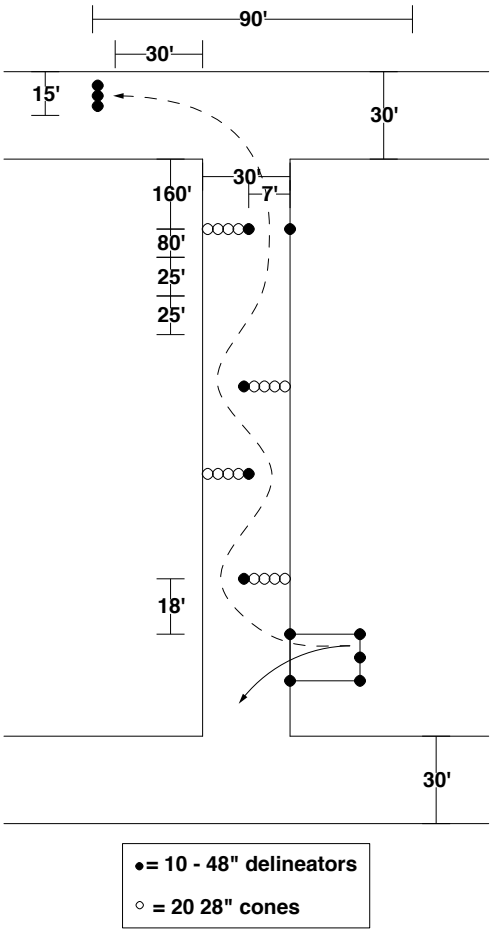
- A driver will often be placed in situations requiring the vehicle be backed through obstacles within a limited area.
- Unfamiliarity with the proper vehicle control techniques can result in vehicle and property damage.
- Placing a vehicle in close proximity to a hazard is stressed in this exercise to allow the vehicle to be safely backed through numerous obstacles while accounting for front-end swing and minimizing weight transfer through the turning maneuvers.

Course Description

- The course is basically a "T" configuration.
- The top of the "T" is 90' long and 30' wide.
- The straight-of-way in the "T" is 450' long and 30' wide and contains the driving obstacles included in the exercise.
- The obstacles include impaired clearance, cone obstacles with driving openings, and a driveway, which concludes the exercise.
- The impaired clearance is 160' deep into the straight-of-way and consists of a line of cones across the roadway with a 7' opening on the right side.

- The cone driving obstacles begin 80’ beyond the impaired clearance.
- The sixteen cones are arranged in series of four cones each, occupying 25’ of roadway per series. The individual series are separated by a 25’ driving opening.
- A driveway, 8’ long and 10’ wide, is placed off the roadway on the right side and 18’ beyond the last series of cones.

Reverse Driving Exercise



Procedure to Drive Course

- The vehicle is driven forward along the right curb lane of the upper part of the “T.”
- The vehicle proceeds past the straightaway for 30’ and is brought to a stop next to cones placed across the roadway for reference.
- The vehicle is placed in reverse and proceeds to back into the straight-of-way area.
- The driver will initially look over the left shoulder as the vehicle backs onto the straight-of-way. As the turn is completed, the driver will shift vision over the right shoulder and remain so for the remainder of the exercise. Depending on rear visibility, the driver may need to utilize the side view mirrors and/or backup camera.
- The vehicle proceeds down the straight-of-way and is placed to the right curb line for negotiation of the impaired clearance.
- Once through the impaired clearance, the vehicle is backed through the driving openings within the series of cones, which basically constitutes a chicane.
- The limited street width necessitates the driver to place the vehicle in proximity to the cones while maneuvering to allow for front-end swing.
- Once through the series of cone obstacles, the vehicle is backed into the driveway at the end of the course and brought to a stop. The method of return to the starting point is discretionary.
- The vehicle may be driven back through the course in a forward direction.
- The course may be exited completely and a return route established.
- The exercise may be driven in conjunction with other exercises, thus the vehicle would be directed to the next problem.

Demonstration Phase

- An instructor-driven vehicle will slowly negotiate the course, emphasizing steady throttle, timely and smooth steering, and vehicle placement.
- Vehicle placement will be stressed as it relates to placing a vehicle in close proximity to the hazard.

Practical Application Phase

- The student driver will negotiate the course employing the demonstrated control techniques.
- Vehicle speed will be relatively slow initially, enabling the student driver to concentrate on proper vehicle control and placement.
- The pace will be increased until the student driver attains a constant smooth speed.

Evaluation Phase

Student performance will be evaluated in the following areas:

- Visual awareness of obstacles to the rear
- Steering control
- Throttle control
- Use of roadway position
- Speed control
- Situational awareness

FORWARD/REVERSE MANEUVERING

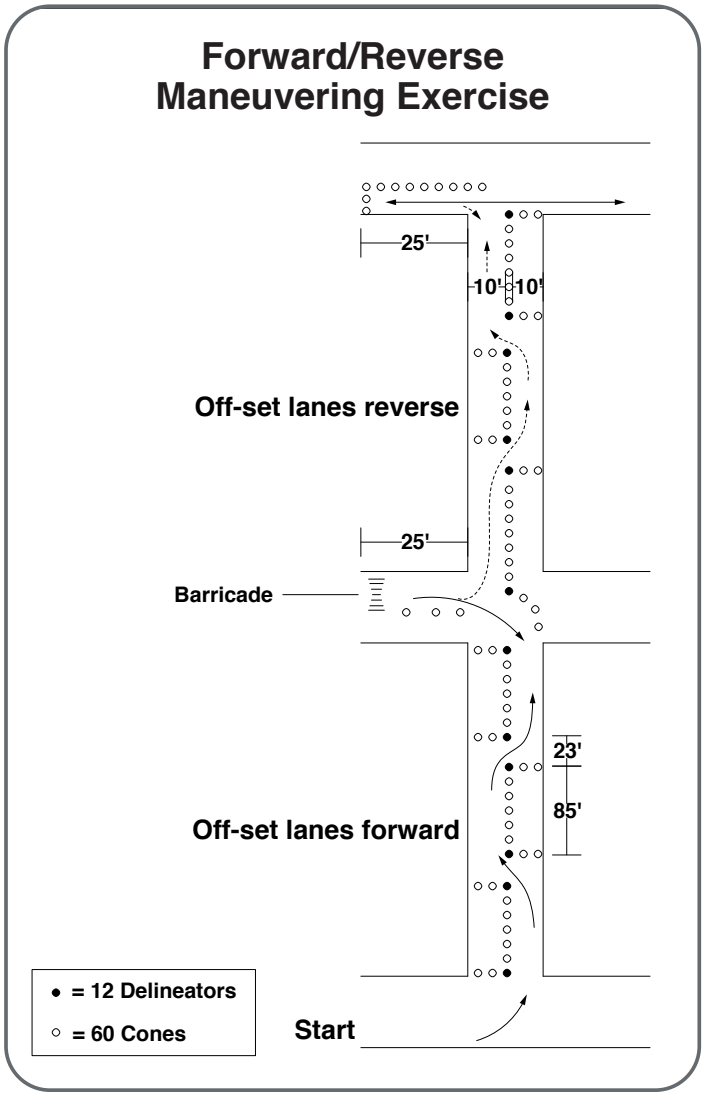
PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- At least one law enforcement training vehicle
- Sixty cones and twelve delineators.

Goal

- Demonstrate the need to continually monitor all four corners of the vehicle while backing.
- Backing takes pre-planning and judgment regarding the dimensions and limitations of the vehicle.



Objectives

- Students will demonstrate the ability to drive forward and in reverse properly.

Introduction

- This exercise teaches proper road position while driving forward and in reverse.
- This exercise will teach the student to properly position the vehicle both while driving forward and while driving in reverse. The student will learn to account for rear wheel cheat while driving forward and when driving in reverse, they will learn the limitations imposed on a vehicle whose turning is determined by the trailing wheels to include being aware of front-end swing.

Course Description

Procedure to Drive Course

The student enters in a forward direction, drives through the three offsets, and makes a left turn into the parking stall. The student backs out of the stall making a right turn and continues backing through three additional offsets until backing into the stall at the end of the exercise.

Demonstration Phase

An instructor will drive a vehicle through the exercise as explained in the procedure section.

Practical Application Phase

The student will drive the exercise as demonstrated.

Evaluation Phase

Student performance will be evaluated in the following areas:

- Steering control
- Proper road position
- Rear wheel cheat
- Visual awareness of obstacles to rear
- Front-end swing
- Situational awareness

VEHICLE CONTROL TECHNIQUES EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- One law enforcement training vehicle
- Ten cones

Goal

Understanding vehicle dynamics combined with accurate manipulation of the vehicle's controls.

Objectives

The student will successfully demonstrate the following fundamental vehicle control techniques while negotiating the exercise:

- Steering
- Throttle application
- Braking
- Roadway position
- Weight transfer
- Speed judgment
- Situational awareness
- Rate of performance

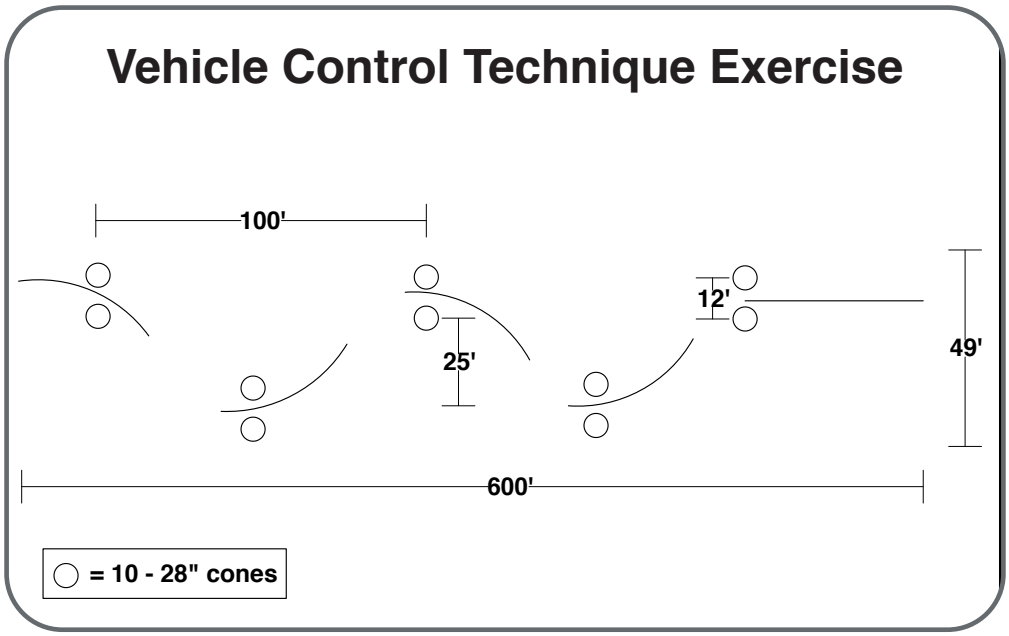
Introduction

- Law enforcement drivers must be able to properly control their vehicles under emergency as well as routine conditions.
- The course is designed to familiarize the student with the basic fundamentals of vehicle control.
- An understanding of vehicle dynamics, combined with accurate manipulation of the vehicle's controls, is essential to safe vehicle operation.

Course Description

- The course occupies a level, paved, driving area 600' long and 70' wide.
- Measurements can be adjusted to accommodate varying space restrictions.
- The course consists of five sets of cones, two per set, 12' apart.
- The first set of cones is placed 100' from the start of the exercise, with the remaining four sets at 100' intervals.

- The second and fourth sets of cones are offset 25’ from the other sets of cones to constitute an “S”-shaped driving line.
- The remaining 100’ of driving area is utilized for braking room.



Procedure to Drive Course

The exercise is conducted as a two-phase operation. In Phase One, the vehicle is driven from the start of the exercise forward through the course. In Phase Two, the vehicle is driven in reverse through the course.

The vehicle is driven in both forward and reverse at a constant speed, which will allow smooth vehicle operation.

At the end of the driving area, the vehicle will be brought to a complete stop while stressing smooth brake application for controlled weight transfer.

The student will back the vehicle through the course utilizing proper control techniques.

Demonstration Phase

- An instructor-driven vehicle will negotiate the course both in forward and reverse.
- The students will ride as passengers in the demonstration vehicle while the instructor drives and verbalizes the exercise.
- Front-end swing, rear wheel cheat, and the effects of caster are explained to the student driver.
- The demonstration will be driven once at slow speed then again at training speed.

Practical Application Phase

- Each student will perform the exercise both in forward and reverse as demonstrated.

Evaluation Phase

The student will be evaluated on performance in the following areas:

- Safety
- Situational awareness
- Braking technique(s)
- Steering technique(s)
- Throttle control
- Roadway positioning
- Operating associated equipment
- Rate of performance
- Level of performance
- Fluency of performance

CONTROLLED BRAKING EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle(s)
- Approximately thirty traffic cones and four delineators
- Three traffic signal lights with the capability of lane selection
- If the signal system is not operational, then an optional method of lane selection needs to be visual in nature (e.g., flag person)

Goal

- To teach the student to properly brake a vehicle in a turning maneuver while bringing the vehicle to a complete stop within the imposed boundaries.

Objectives

- To allow the student to experience the effect of the forces at work on a rapidly decelerating vehicle in a turning maneuver and the importance of avoiding excessive weight transfer.
- To allow the student to gain proficiency in properly braking a vehicle under emergency conditions.
- An optional objective can be to demonstrate the loss of steering ability (loss of rolling friction) should brake lock-up occur. In order to complete this objective, the ABS in the training vehicle would need to be disabled.

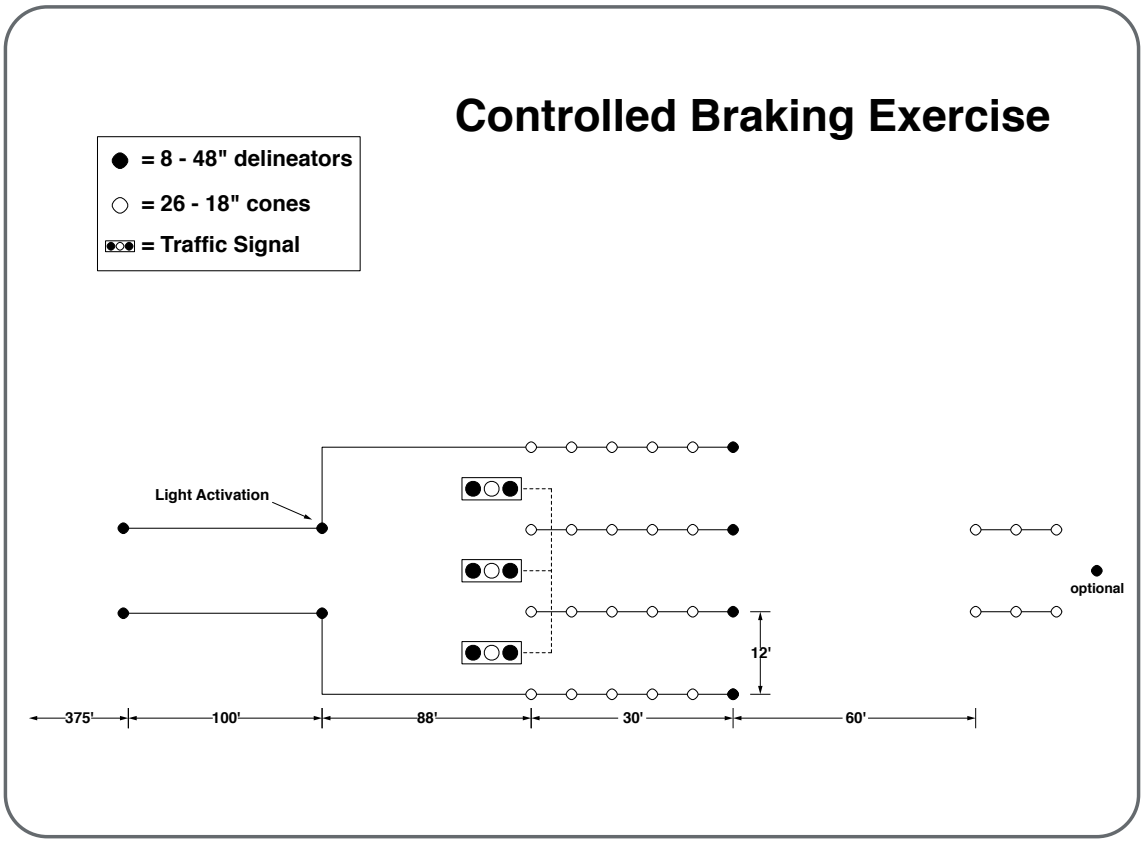
Introduction

- Drivers of emergency vehicles will engage in emergency driving situations. These situations will include turning maneuvers as well as straight-line driving and reacting to changing situations.
- Proper vehicle control may require braking prior to entering a turn.
- Braking in a straight line may not always be possible based on circumstances confronting the driver.
- This exercise is designed to present the student with an emergency turning and braking situation and develop the skills necessary for proper vehicle control.

Course Description

- The course is on a level, paved area approximately 750’ x 42’. It consists of:
- A 375’ starting and acceleration area.
- An approach lane that is 12’ in width.
- A lane change zone that is 88’ in length.

- Three traffic lanes that are each 12’ wide and 30’ in length.
- The traffic lanes are lined with cones.
- A trip device at the beginning of the 88’ lane-change zone for traffic signal light change activation.
- Light control box for traffic signal light operation.
- Center lane is blocked at the entrance, allowing access to only the right and left lanes.
- The braking exercise is completed prior to the training vehicle leaving the selected traffic lane, thus the center return lane indicated in the diagram below is not necessary. Many academy sites use the collision avoidance exercise layout and leave the return lane in place to conduct the braking exercise. This return lane may be removed at the discretion of the training site.



Procedure to Drive Course

- The student will drive the exercise at the following speeds:
  - 35 mph
  - 40 mph
  - 45 mph
- When at the starting point, the student will accelerate up to the desired speed.
- This speed will be maintained until the vehicle passes the trip device, causing the lights to change.
- The student will release the throttle, identify the location of the green light, and steer the vehicle

into the appropriate lane while braking at the same time.

- While in the indicated lane of travel, the vehicle will be brought to a complete stop as quickly as possible. After stopping, the student exits the lane.

Demonstration Phase

- An instructor will slowly negotiate the course, stressing focal point, road position, braking point, smooth brake application, and steering control.
- The demonstration vehicle will then negotiate the course at training speed.

Practical Application Phase

- The student will negotiate the course while employing the pertinent control techniques.

Evaluation Phase

Student performance will be evaluated in the following areas:

- Safety
- Situational awareness
- Braking technique(s)
- Steering technique(s)
- Throttle control
- Roadway positioning
- Operating associated equipment
- Rate of performance
- Level of performance
- Fluency of performance

COLLISION AVOIDANCE EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Approximately forty traffic cones and four delineators
- Three traffic signal lights with the capability of lane selection
- If the signal system is not operational, then an optional method of lane selection needs to be visual in nature (e.g., flag person)

Goal

- The student is taught to control a vehicle smoothly while performing an evasive maneuver to avoid an obstacle.

Objectives

- To test the driver's reaction and coordination of vehicle control inputs.
- To identify the hazards of quick turning movements and/or improper use of brakes.
- To demonstrate weight transfer of a vehicle and proper steering control.
- To emphasize that reaction distances increase as the speed of the vehicle increases.
- To emphasize to the student that more steering is required as the speed increases.
- To train the student in a method of avoiding a traffic collision other than an emergency/panic stop.

Introduction

Drivers of emergency vehicles may be required to execute quick turning movements or lane changes. It is imperative that they have knowledge of their personal reaction time at given speeds and know the vehicle's limitations. The collision avoidance exercise is designed to simulate an obstacle on a highway requiring the driver approaching the obstacle to quickly and skillfully change lanes to avoid a collision.

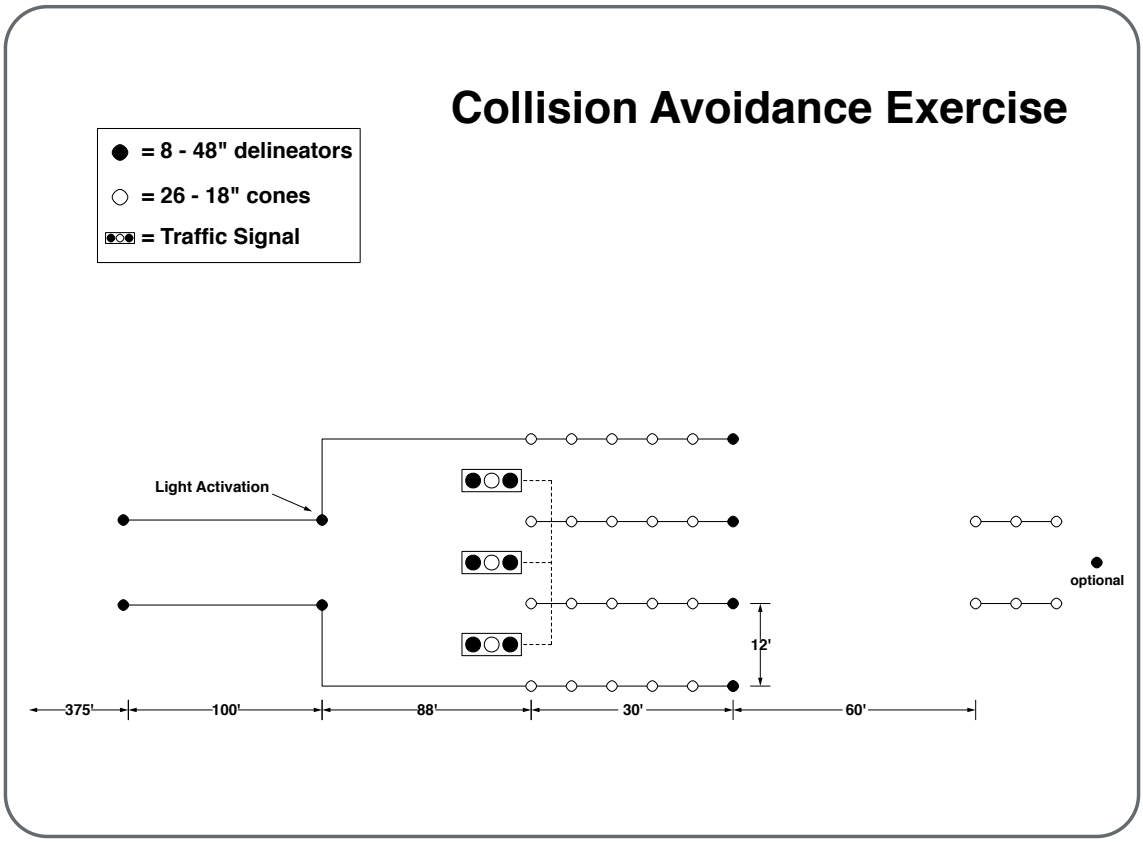
Course Description

The course is on a level, paved area approximately 750' x 42' and consisting of the following:

- A 375' starting and acceleration area.
- Three traffic lanes that are each 12' wide and 30' in length.
- An approach lane that is 12' in width.
- A lane-change zone that is 88' long.
- Three traffic lanes that are each 12' wide and 30' in length.
- Within 60' beyond the three traffic lanes is a 12' wide center lane, forcing the student to bring the

vehicle back to center. An option is to block this center exit lane forcing the student to bring the vehicle to a complete stop.

- All designated lanes are lined with cones.
- A trip device at the beginning of the 88' lane-change zone for traffic signal light change activation.
- Light control box for traffic signal operation.



Procedure to Drive Course

- The student will drive the exercise at the following speeds:
  - 30 mph
  - 35 mph
  - 40 mph
  - 45 mph (optional)
- When at the starting point, the student will accelerate up to the desired speed.
- This speed will be maintained until the vehicle passes the trip location, causing the lights to change.
- The student will release the throttle, identify the location of the green light, and steer the vehicle into the appropriate lane without striking a cone or applying the brakes. If using an exit lane that

is blocked such that the vehicle must come to a stop, then brakes should not be applied until the vehicle is in the designated lane.

- At the end of the lane of travel, the vehicle will be brought back to the center lane. As an option, the exit lane can be blocked and the vehicle brought to a stop in the designated exit lane.

Demonstration Phase

- An instructor will drive a vehicle as explained in the "Procedure to drive the course" section.

Practical Application Phase

- The student will demonstrate the techniques and objectives as presented.

Evaluation Phase

- Student performance will be evaluated in the following areas:
  - Safety
  - Situational awareness
  - Braking technique(s)
  - Steering technique(s)
  - Throttle control
  - Roadway positioning
  - Operating associated equipment
  - Rate of performance
  - Level of performance
  - Fluency of performance

SQUARE CORNER EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle
- Driving area with multiple 90-degree turns
- Radio communication between vehicles and instructors

Goal

- The student will become proficient at applying the fundamentals of vehicle control while approaching, turning through, and exiting a 90° corner. These fundamentals include:
  - Braking
  - Focal point
  - Entry
  - Apex
  - Exit
  - Acceleration

Objectives

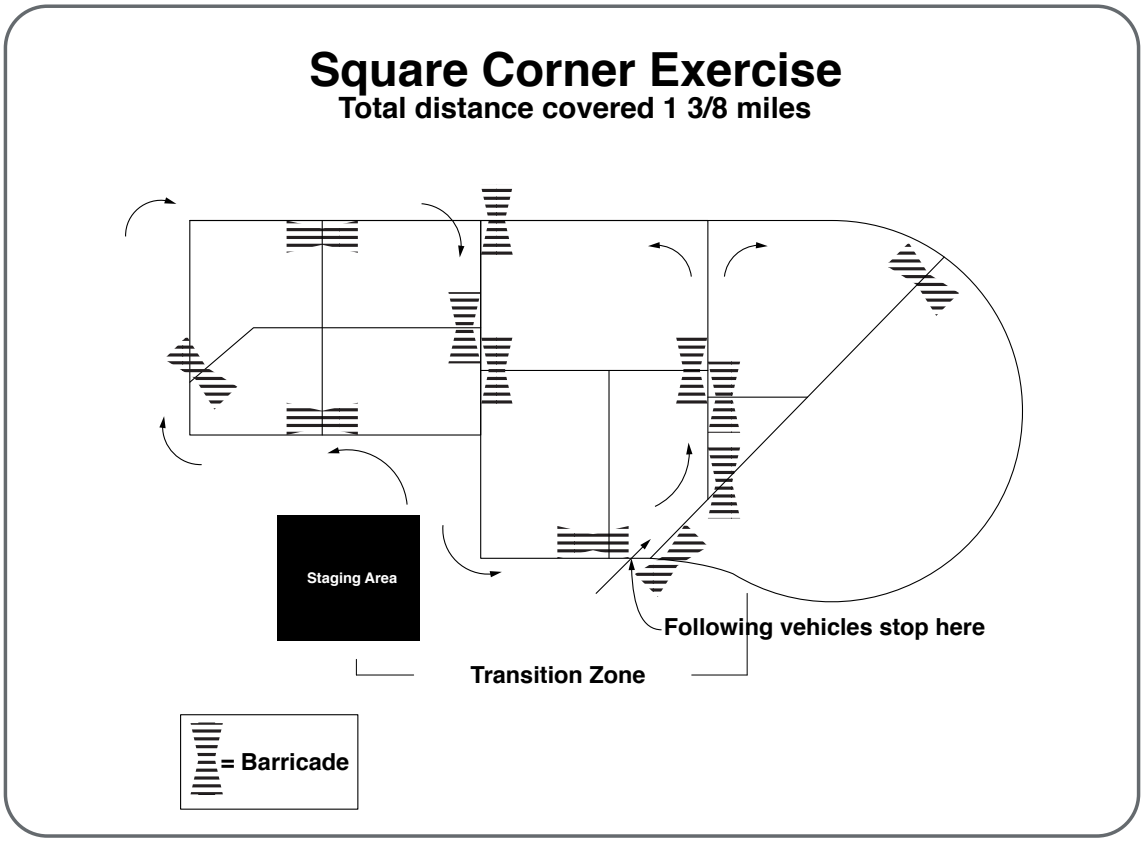
- This exercise will familiarize the student with the fundamentals of vehicle control. It is also designed to allow the student to drive several similar corners so that the student may become proficient in applying proper vehicle control techniques.

Course Description

- The diagram shown below is an example of a course design that provides for multiple corners as found in typical intersections. Any variation of course design that allows for repeated application of cornering would be acceptable.

Corners can be marked so the student can easily recognize the width of the available roadway during the entry and exit phases of a turn and be able to clearly see the apex of the turn (e.g., using cones, surplus tires, painted lines, etc.). The course need not be a closed loop.

The course should be designed so the student can drive multiple corners in close succession.



Procedure to Drive Course

Prior to actually driving the course, the instructor should review the fundamentals of vehicle control with the students and emphasize the need to coordinate the control inputs to produce driving smoothness.

- The instructor(s) may direct the student through the course with any additional student vehicles following at a safe distance.
- Upon approaching the turn, the instructor will emphasize the use of proper roadway position, brake application, and focal point.
- During cornering, the instructor should emphasize the smooth transition from braking to throttle control while providing smooth and appropriate input of steering into the apex.
- During the exit, the instructor should emphasize the smooth and controlled recovery of steering to the outside of the available roadway while providing appropriate throttle input.
- During the sections between corners, the instructor should emphasize early recognition of road position for the approaching corner and extend the student's vision down the road to the next corner (high visual horizon). The instructor can use this period to briefly critique the student's performance.

Demonstration Phase

- The demonstration is conducted with the instructor driving the vehicle and the students as passengers.
- The demonstration consists of several laps around the course.

- The first lap is driven slowly, with the instructor stopping at various points to explain the application of the various techniques.
- After the introductory lap, the instructor will increase speed, emphasizing proper vehicle control techniques.

Practical Application Phase

- To ensure the student maintains proper control of the vehicle, speeds should start out slow and gradually increase as student proficiency is demonstrated. Speeds must reach a level that requires the student to apply appropriate braking prior to entering a turn.
- The students should be encouraged to explore and experience vehicle control at speeds nearing the limit of their abilities. However, students should not be encouraged to drive faster than their skill level will allow.

Evaluation Phase

The square corners exercise can be utilized to evaluate vehicle control techniques. Each student should be critiqued during the exercise and after completion of the exercise. The instructor should emphasize the need for vehicle control through the smooth application of basic control techniques and proper focal points.

SKID PAN/SKIDCAR EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle(s) or SkidCar platform(s)
- Smooth driving surface
- Water – (not required for SkidCars)

Goal

The student will gain the necessary skills and knowledge for regaining and maintaining vehicle control after experiencing a variety of skids.

Objectives

- The student will demonstrate recovery from loss of vehicle control encountered during a skid.
- The student will demonstrate the ability to recover from an understeer condition.
- The student will demonstrate the ability to recover from an oversteer condition. Electronic Stability Control systems prevent oversteer from occurring. This training objective as a requirement should be evaluated based on the program, available equipment, and demonstrated need. For POST-certified skid control training, refer to the POST Training and Testing Standards (TTS) for current skid recovery requirements.

Introduction

- Drivers of emergency vehicles may be required to safely regain control of the vehicle while experiencing various types of skids. Inability to control these skids could result in sliding off the road, spinouts, and traffic collisions.
- Most skids occur as a result of:
  - Excessive speed
  - Improper brake application
  - Improper throttle application
  - Improper steering control
  - Improper focal point
  - Excessive weight transfer
  - Poor road conditions, i.e., wet, sandy, oily, icy, etc.
- The skid pan, or SkidCar, is designed to simulate at slower speeds (for safety) the conditions that may be experienced at higher speeds. By reducing the coefficient of friction between the tires and roadway, the various forces applicable to high-speed emergency driving become more readily apparent and may be experienced at low speeds, thus minimizing training hazards.

- Drivers must be able to regain/maintain control after experiencing different types of skids rather than completely losing control of the vehicle.
- Skid control training will address common errors that drivers make in response to controlling a skid. These include:
  - Failure to countersteer in a timely manner
  - Inputting more than required countersteer (often called overcorrection)
  - Under-correction
  - Improper throttle application
  - Improper use of brake
  - Some combination of the above vehicle inputs

Types of skids and control techniques:

A four-wheel locked skid can occur in the unlikely event of an ABS failure.

- While a vehicle is in a four-wheel locked skid, the driver will not have steering control due to loss of rolling friction. The vehicle will travel in a straight line unless acted upon by some external force.
- To regain steering control of a vehicle in a four-wheel locked skid, it is necessary to recover rolling friction. This is accomplished by releasing brake pressure to the point where the wheels begin to roll.
- Rolling friction occurs when the tires are rotating and the traction between the tire tread and the road surface allows the driver to exert directional control over the vehicle by using the steering wheel.
- Sliding friction (loss of rolling friction) occurs when the tires stop rotating and the traction between the tire tread and the road surface is lost, thereby causing a loss of directional control.
- Understeer (front-wheel skid) occurs when traction of the front tires is reduced or lost and the vehicle travels in a straighter line than intended.

Some conditions that contribute to understeer are:

- Excessive speed while turning
- Tire condition (air pressure and tread depth)
- Surface condition of roadway, i.e., wet, oily, sandy, icy, etc.

To recover steering control of a vehicle in an understeer condition:

- Maintain proper focal point
- Reduce steering to regain maximum rolling friction
- Appropriate braking—this may be dependent on the existence of stability control and/or ABS in the vehicle
- Good speed judgment prior to the turn is necessary to prevent an understeer skid.

Oversteer (rear-wheel skid)

- Occurs when traction of the rear tires is reduced or lost and the rear of the vehicle slides toward the outside of the turn. Some conditions that contribute to oversteer condition are:
  - Improper throttle application
  - Harsh or abrupt steering input
  - Excessive speed
  - Excessive weight transfer
  - Improper brake application
  - Tire condition and roadway surface
- To recover control of a vehicle that is oversteering:
  - Maintain proper focal point
  - Maintain proper throttle control
  - Countersteer through direct steering input or use of the caster effect
- When making the correction, if the driver fails to respond to the skid properly either in timing (too late) or in the degree of correction, then the vehicle will continue to skid out of control.
- When making the correction and the driver steers more than the degree of skid (i.e., over-correction), the primary skid will stop and the vehicle can experience a severe weight transfer that induces a secondary skid in the opposite direction.
- A variation of throttle pressure may be needed to control the skid. This may involve maintaining, increasing, or decreasing throttle pressure.

Instructor's Note: The secondary skid occurs in the opposite direction of the primary skid and sometimes occurs suddenly due to the late removal of countersteering and the severe unloading of springs (weight transfer); hence, maintaining vehicle control may be impossible.

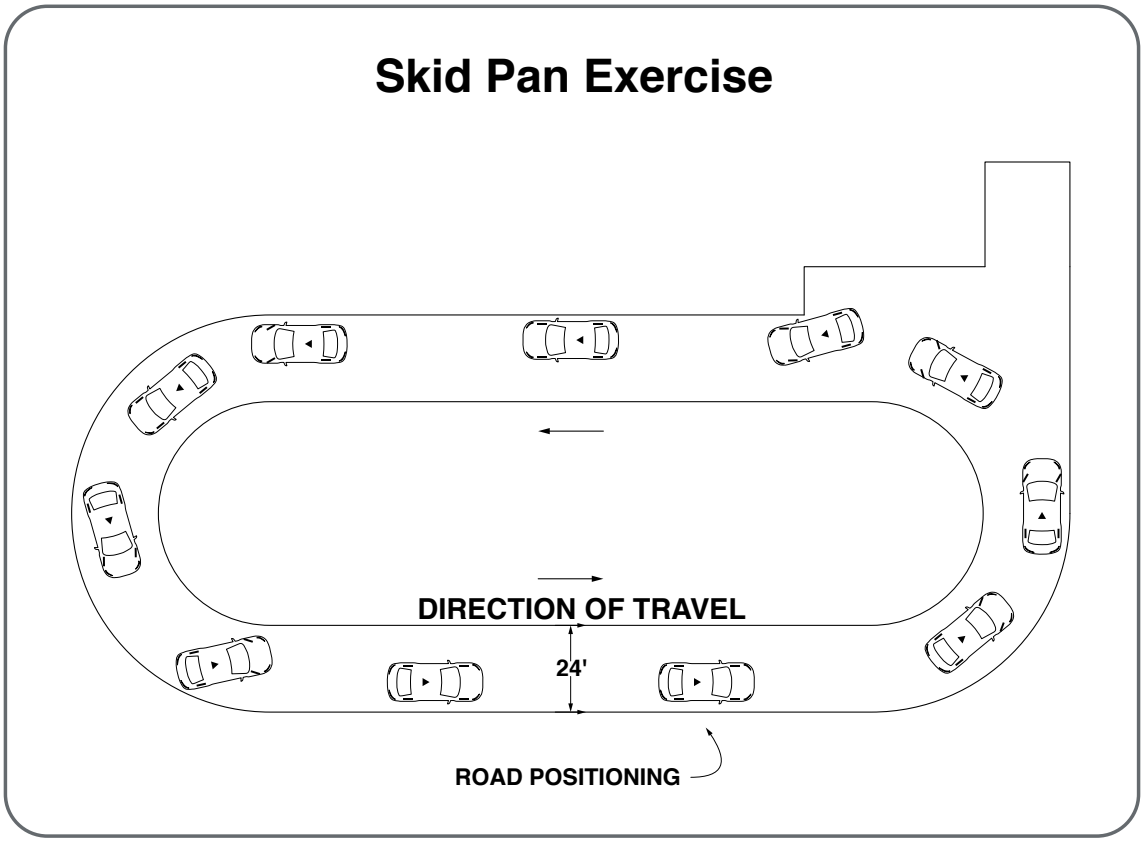
Course Description

Skid pan configurations can vary in size and shape depending on the space available and whether a special surface skid pan is used versus a SkidCar platform. Use of a SkidCar platform allows for many course configurations as no special surface or water is required. When setting up a skid course, appropriate turns should be included to ensure both understeer and oversteer skids will occur.

Below is an example of a skid pan course:

- This skid pan is a large, "D"-shaped, smooth concrete track.
- It is approximately 684' in length.
- The width of the concrete portion varies from 24' to 32'.
- The turns at each end of the skid pan curve in either an increasing radius or decreasing radius depending on the direction the course is driven.
- Water is applied to the training surface to reduce the coefficient of friction.

- Training vehicles may be equipped with special tires to further reduce the coefficient of friction.
- Smooth tires on the rear will provide for oversteer and smooth tires on the front will provide for understeer conditions.



Procedure to Drive Course

- The skid pan exercise can be driven at varying speeds depending on the facility and equipment. Students should drive more slowly at the beginning and increase speed as proficiency improves.
- The vehicle(s) will continue in a constant "free–flow" pattern, proceeding in the same direction. If multiple vehicles are on the course at the same time, then a safe distance shall be maintained at all times.
- Seatbelts shall be worn by drivers and all passengers.
- When experiencing understeer skid:
  - Maintain proper focal point
  - Ease off throttle
  - Evaluate for brake application (depending on stability control or ABS systems present on the vehicle)
  - Decrease steering input

Instructor's Note: The purpose of the corrective measures listed above is to regain rolling friction.

- When experiencing oversteer skid:
  - Maintain proper focal point
  - Maintain proper throttle control
  - Countersteer (i.e., turn in the direction of the skid); the caster effect can be used to allow the front wheels to naturally turn in the direction of the skid or manually steer in the direction of the skid (countersteer)
  - Avoid braking
  - Appropriate removal of countersteering input to avoid weight transfer and the possibility of a secondary skid
- The skid pan should be driven in both directions to gain experience for right and left turning movements.
- ABS brake activation can occur easily in low coefficient of friction conditions such as a skid pan or SkidCar platform.

Demonstration Phase

- Various types of skids are demonstrated with and without proper corrective techniques.

Instructor's Note: Emphasize that smoothness and coordination of steering and throttle are imperative for maximum vehicle control. Point out the road position to best utilize the skid surface of the track.

Practical Application Phase

- Each student will drive around the skid pan track in each direction.
- The student will experience loss of control due to the following:
  - Understeer skid. The driver must maintain proper focal point, reduce throttle to transfer weight to the front wheels while decreasing steering input. Braking may be appropriate for vehicles equipped with anti-lock brakes and/or electronic stability control.
  - Oversteer skid. The driver must maintain proper focal point and countersteer (turn in the direction of the skid) while coordinating steering and throttle input to regain vehicle control.

Evaluation Phase

Students will be evaluated on performance in the following areas:

- Safety
- Situational awareness
- Braking technique(s)
- Steering technique(s)
- Throttle control
- Control of weight transfer
- Skid control

- Rate of performance
- Fluency of performance
- Level of response

SKID RECOVERY AND BRAKING EXERCISE

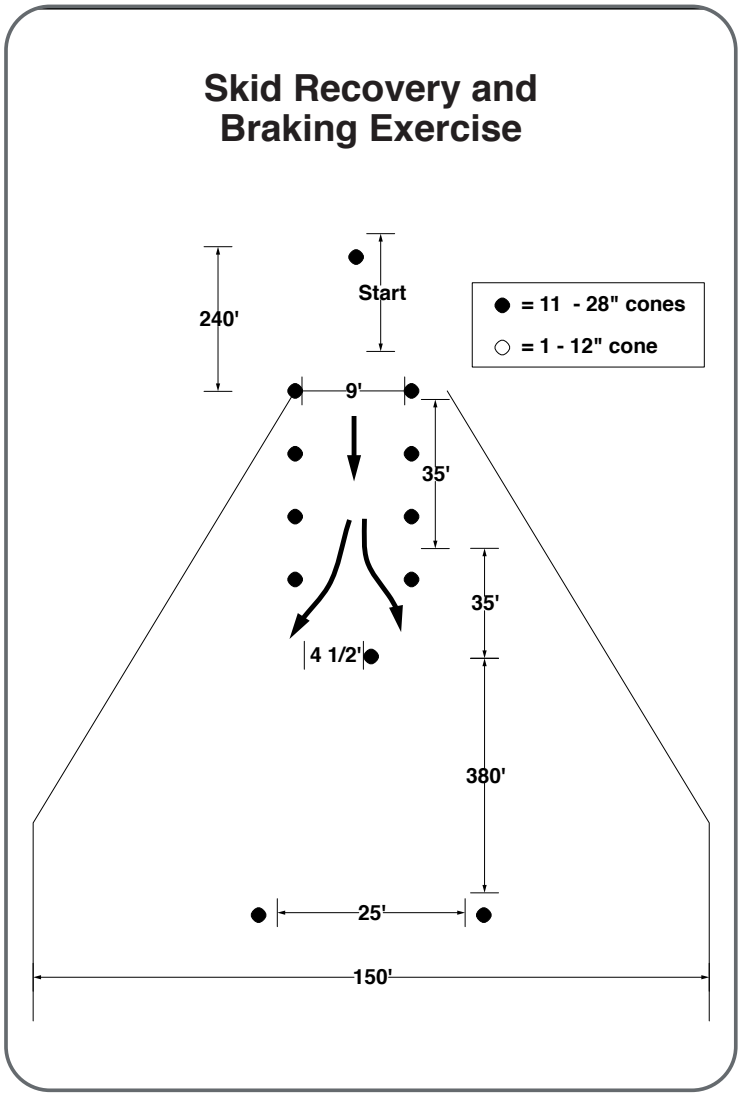
PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- One or more law enforcement training vehicles
- Twelve cones
- Hoses or other provisions to cover the driving area with water

Goal

The student will gain the skill necessary for regaining and maintaining control of a vehicle in a skidding situation. The student will learn to apply the brakes properly on a wet surface.



Objectives

- To teach countersteering techniques to regain control of a vehicle that is in an oversteer condition.
- To allow the student to experience the effects on a vehicle during multiple skids, i.e., primary and secondary.
- To teach proper brake application on wet or slippery pavement.
- To develop the skill necessary to regain vehicle control during a skid.

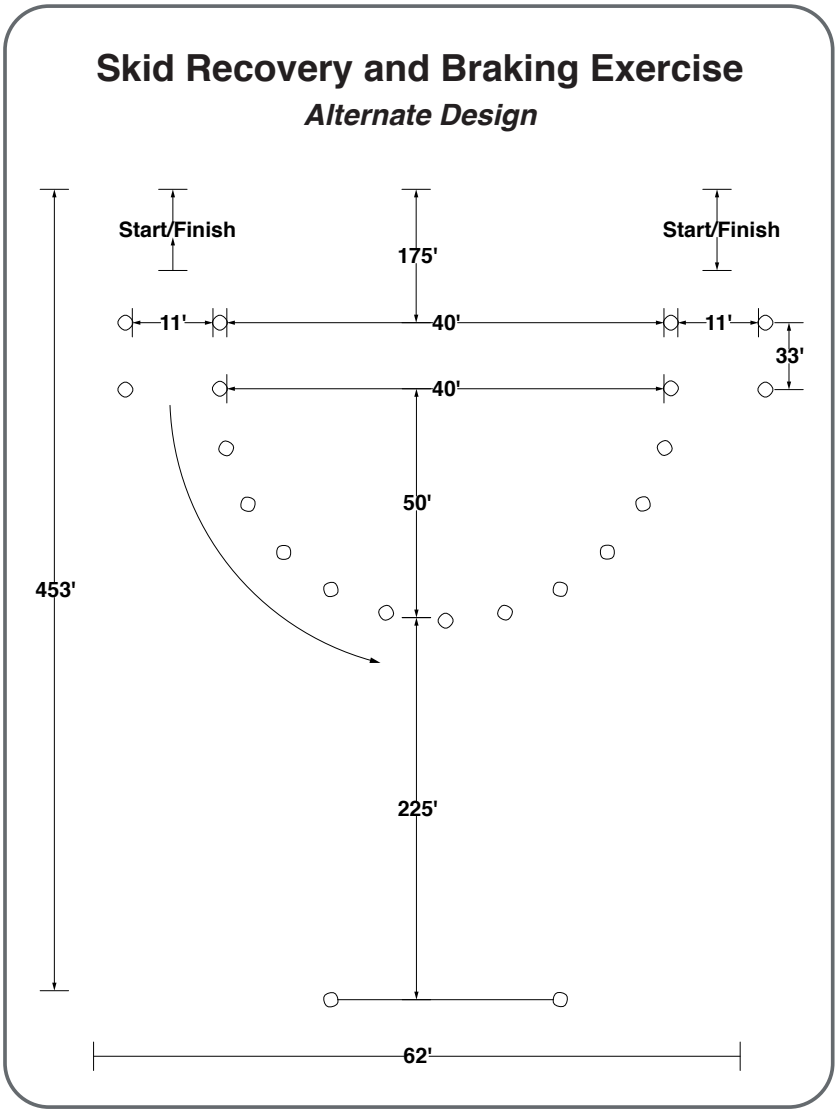
Introduction

- Drivers of emergency vehicles will sometimes be faced with adverse road and weather conditions, and possibly the loss of vehicle control due to skidding.
- This exercise is applied in order to place the student in a potentially "out-of-control" situation in a safe training environment.
- This will enable the student to repeatedly exercise those techniques for regaining vehicle control.
- The student may be exposed to the skid control exercise prior to this course to develop countersteering techniques at lower training speeds.

Course Description

- The course area is basically triangular in shape, with the vehicle entering at the narrow point and driving into a gradually widening area.
- The driving area is approximately 750' long and 150' wide at its widest point.
- The approach lane, turning point, and recovery area are kept layered with water to enable the training vehicle to easily begin skidding.

The following diagram shows an alternate design for the Skid Recovery and Braking Exercise.



Procedure to Drive Course

- The student will drive the course at designated increasing speeds commensurate with increasing expertise, until the final training speed is attained.

Demonstration Phase

- An instructor will negotiate the course at a moderate speed while explaining the driving techniques.

Practical Application Phase

- The student will leave the starting point and accelerate up to the designated speed. This speed will be maintained into the approach lane.
- Exiting the approach lane, the student will steer the vehicle around the turning cone(s) in the designated direction.
- This turning maneuver will usually place the vehicle into a skid.
- The student will reduce throttle input.
- The student drives the vehicle through the skid recovery area, compensating for the vehicle's skid by smooth, timely countersteering.
- As the student approaches the finish gate and recovers from the skid, the student will bring the vehicle to a complete stop in a straight line.
- The course will be negotiated at a speed that will allow a skid to occur.

Evaluation Phase

The students will be evaluated on performance in the following areas:

- Safety
- Situational awareness
- Braking technique(s)
- Steering technique(s)
- Throttle control
- Control of weight transfer
- Skid control
- Rate of performance
- Fluency of performance
- Level of response

EMERGENCY RESPONSE DRIVING EXERCISE (CODE 3)

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle(s) with radio communication
- Interference or "citizen" vehicle(s) with radio communication
- Cones and delineators

Goal

- The student will experience emergency response driving while maintaining control of the vehicle, being alert to hazards and managing the effects of siren syndrome.
- The student will demonstrate the ability to maintain control of the vehicle while communicating over the radio when appropriate.

Objectives

The student will be introduced to the stresses involved in emergency response driving situations and learn to safely control the vehicle while demonstrating:

- Safety
- Situational awareness
- Braking technique(s)
- Steering technique(s)
- Throttle control
- Roadway positioning
- Operating associated equipment
- Rate of performance
- Fluency of performance
- Level of performance

Introduction

- This exercise is used to demonstrate the dangers involved with emergency response driving as well as to teach techniques that will improve the student's driving ability.
- The exercise relates to real job performance and is something that law enforcement officers may experience.

Course Description

Areas to be used for this exercise should be asphalt or concrete surfaces with minimal obstructions (e.g., poles, trees, buildings, etc.). If obstructions are present, then they should be taken into consideration during course design to minimize potential hazards/conflicts. Emergency response course design should include intersecting roadways, varying turns, and straight-of-ways to accommodate the evaluated speed and vehicle dynamics required.

Examples of course hazards/interference:

- Vehicles in intersections
- Blind intersections
- Slow-moving vehicles
- Opportunity for passing on the right
- Simulated construction/school zones
- Oncoming traffic
- Water hazard

Interference vehicles shall be driven by POST-certified EVOC Instructors. Some issues to be considered while driving interference vehicles are as follows:

- Escape routes
- Planned/unplanned interference locations
- Communication between instructors verbal and/or non-verbal

Procedure to Drive Course

- The student will begin the emergency response on a pre-determined signal and continue until the exercise is terminated.
  - ► Students can be given an emergency response call via the radio requiring a Code 3 response.
- The student will demonstrate all of the learning objectives listed above during the emergency response.

Demonstration Phase

- The instructor will drive with student passengers to demonstrate appropriate emergency response driving techniques.
- There should be an interference vehicles on the course, which will create hazards. This can be accomplished by instructors switching roles from Code 3 demonstration to interference vehicle, allowing students to see the exercise from both perspectives.
- The instructor should demonstrate proper emergency response techniques including all of the objectives listed above. The instructor should emphasize high visual horizon, focal point, and visually clearing intersections to avoid the potential for collisions.

Practical Application Phase

- The student will properly complete an emergency response scenario, demonstrating all of the objectives required.
- During the exercise, the student will be required to utilize the radio.
- Students can be allowed to ride with an instructor in the interference vehicle(s) to help give them perspective of the overall emergency response conditions.
- The student must be able to identify the hazards associated with emergency response situations and the importance of utilizing proper judgment.

Evaluation Phase

Student performance will be evaluated in the following areas:

- Safety
- Situational awareness
- Braking technique(s)
- Steering technique(s)
- Throttle control
- Roadway positioning
- Operating associated equipment
- Rate of performance
- Level of performance
- Fluency of performance

PURSUIT DRIVING EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- Law enforcement training vehicle(s) with radio communication
- Suspect vehicle (marked or unmarked law enforcement training vehicle with radio communication)
- Interference or "citizen" vehicle(s) with radio communication
- Cones and delineators

Goal

- The student will experience pursuing a suspect while maintaining control of their vehicle, being alert to hazards and managing the effects of siren syndrome.
- The student will demonstrate the ability to maintain control of the vehicle while communicating over the radio when appropriate.
- The student will properly track the route of the suspect vehicle during the pursuit without becoming fixated on the trunk of the suspect vehicle (trunk fixation).

Objectives

- The student will be introduced to the stresses involved in pursuit situations and learn to safely control the vehicle.

Introduction

- This exercise is used to demonstrate the inherent difficulty and danger of a pursuit while teaching techniques to improve the student's driving ability and decision-making.
- The exercise relates to real job performance and is something that law enforcement officers may experience.

Course Description

Areas to be used for this exercise should be asphalt or concrete surfaces with minimal obstructions (e.g., poles, trees, buildings, etc.). If obstructions are present, then they should be taken into consideration during the course design to minimize potential hazards/conflicts. Pursuit course design should include intersecting roadways, varying turns, and straight-of-ways to accommodate the evaluated speed and vehicle dynamics required.

Examples of course hazards/interference:

- Vehicles in intersections
- Blind intersections

- Slow-moving vehicles
- Opportunity for passing on the right
- Simulated construction/school zones
- Oncoming traffic
- Water hazard

Suspect and interference vehicles shall be driven by POST-certified EVOC Instructors. Some issues to be considered while driving interference vehicles are as follows:

- Escape routes
- Planned/unplanned interference locations
- Communication between instructors verbal and/or non-verbal

Procedure to Drive the Course

- The student will begin pursuit of the "suspect" on a pre-determined signal and continue the pursuit until it is terminated.
  - ► Students can be given a radio call for service involving a vehicle. The vehicle description matches the suspect vehicle on the track. Student attempts a traffic stop, which leads to a pursuit being initiated.
- The student will demonstrate all of the learning objectives listed in the evaluation phase.

The student will maintain a proper distance between the law enforcement vehicle and the suspect vehicle while at the same time maintaining visual contact with the suspect vehicle.

Demonstration Phase

- The instructor will drive with student passengers to demonstrate appropriate pursuit driving techniques.
- There should be interference vehicles on the course to create hazards. This can be accomplished by instructors switching roles from pursuit demonstration to interference vehicle, allowing students to see the exercise from both perspectives.
- The instructor should demonstrate proper pursuit techniques including all of the objectives listed in the evaluation phase. The instructor should emphasize high visual horizon, not becoming fixated on the suspect vehicle, and visually clearing intersections to avoid the potential for collisions.

Practical Application Phase

- The student will properly complete a pursuit scenario demonstrating all of the objectives for pursuit driving.
- During the exercise, the student will be required to utilize the radio during the pursuit.
- Students can be allowed to ride with an instructor in the suspect and/or interference vehicle(s) to help give them perspective of the overall pursuit conditions.
- The student must be able to identify the hazards associated with pursuit situations and the importance of utilizing proper judgment.

Evaluation Phase

Student performance will be evaluated in the following areas:

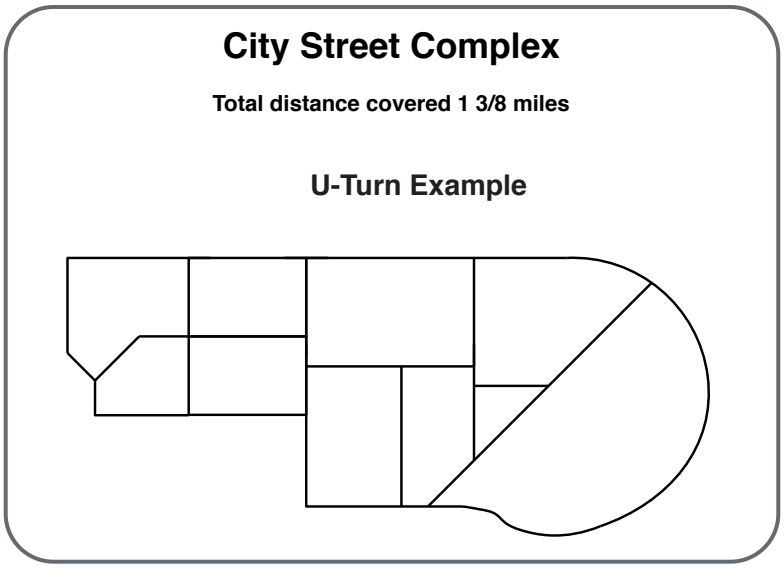
- Safety
- Situational awareness
- Braking technique(s)
- Steering technique(s)
- Throttle control
- Roadway positioning
- Operating associated equipment
- Rate of performance
- Level of performance
- Fluency of performance

Emergency Response and/or Pursuit Course Examples

Emergency Response and Pursuit Courses may vary depending on available space at the training location. Training areas should be asphalt or concrete surfaces with minimal obstructions (e.g., poles, trees, buildings, etc.). If obstructions are present, then they should be taken into consideration during the course design to minimize potential hazards/conflicts. Emergency Response and Pursuit course designs should include intersecting roadways, varying turns, and straight-of-ways to accommodate the evaluated speed and vehicle dynamics required.

Below are examples of courses that meet these objectives. They serve to assist instructors with considerations when designing their own courses.

- This emergency response/pursuit course covers an area 1,200' long and 750' wide. The course consists of simulated streets marked by traffic cones and/or old automobile tires. Street widths vary from 20' to 40'. The course contains all types of curves and intersections. The course can be on pavement or asphalt.



PERFORMANCE DRIVING EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- One or more law enforcement training vehicles (with radio communication)
- Cones and delineators

Goal

- The student will be exposed to vehicle operation at varied speeds.
- The student will operate the vehicle in an emergency response mode, realizing both driver and vehicle limitations.

Objectives

- To train the student in the basic techniques of performance driving.
- Emphasize the need for a student to know their own as well as the vehicle's limitations.
- Evaluate judgment, knowledge, skill, and aptitude.
- Develop smoothness, coordination, and discipline in driving.
- Teach safe and efficient driving techniques.
- The student will be exposed to the importance of maintaining proper vehicle control.

Introduction

- This exercise is designed to acquaint a student with the hazards involved in driving at varied speeds.
- Actually experiencing many of the problems encountered at varied speeds enables the student to recognize personal and vehicle limitations.
- During the initial laps, an instructor will point out mistakes and provide proper corrections. In the final laps, the student will be evaluated on the ability to comply with the fundamentals of vehicle control techniques, hazard awareness, and the ability to cope with the stresses involved in performance driving as required during Code 3 operation.

Course Description

- The track is a closed circuit course that includes straight-of-ways and multiple corners. The course can be set up to allow for multiple training vehicles to be on the course at the same time provided safe following distances are maintained.

Procedure to Drive Course

Each student is assigned an instructor who explains the proper use of the seat belt. The instructor demonstrates the techniques for driving the course to include throttle, braking, and steering smoothness.

- Proper shuffle steering will be demonstrated.
- Emphasis will be placed on smoothness of applications and steering accuracy to maintain proper roadway position.

Demonstration Phase

- The instructor will take student passengers on demonstration laps around the course.
- The first lap should be at slow speeds while the instructor explains the course and proper driving techniques.
- Additional demonstration laps will be at training speeds to illustrate the proper driving techniques and the effects of speed and weight transfer on the vehicle.

Practical Application Phase

- The instructor will coach the student as the vehicle is driven around the course, raising the vehicle speeds proportionately to the student's increasing ability.
- During this exercise, a student may be required to make radio transmissions.

Evaluation Phase

Students will be evaluated on performance in the following areas:

- Safety
- Situational awareness
- Braking technique(s)
- Steering technique(s)
- Throttle control
- Roadway positioning
- Operating associated equipment
- Rate of performance
- Fluency of performance
- Level of performance

SKILL COURSE EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

- One or more law enforcement training vehicles with radio communications
- Cones and delineators

Goal

To allow the student to experience varied driving situations.

Objectives

- To allow the student to exercise all vehicle control techniques in a single continuous exercise.
- To interject decision-making into the driving process such as direction of travel, road position, etc.
- To allow the student to experience changing conditions in driving.

Introduction

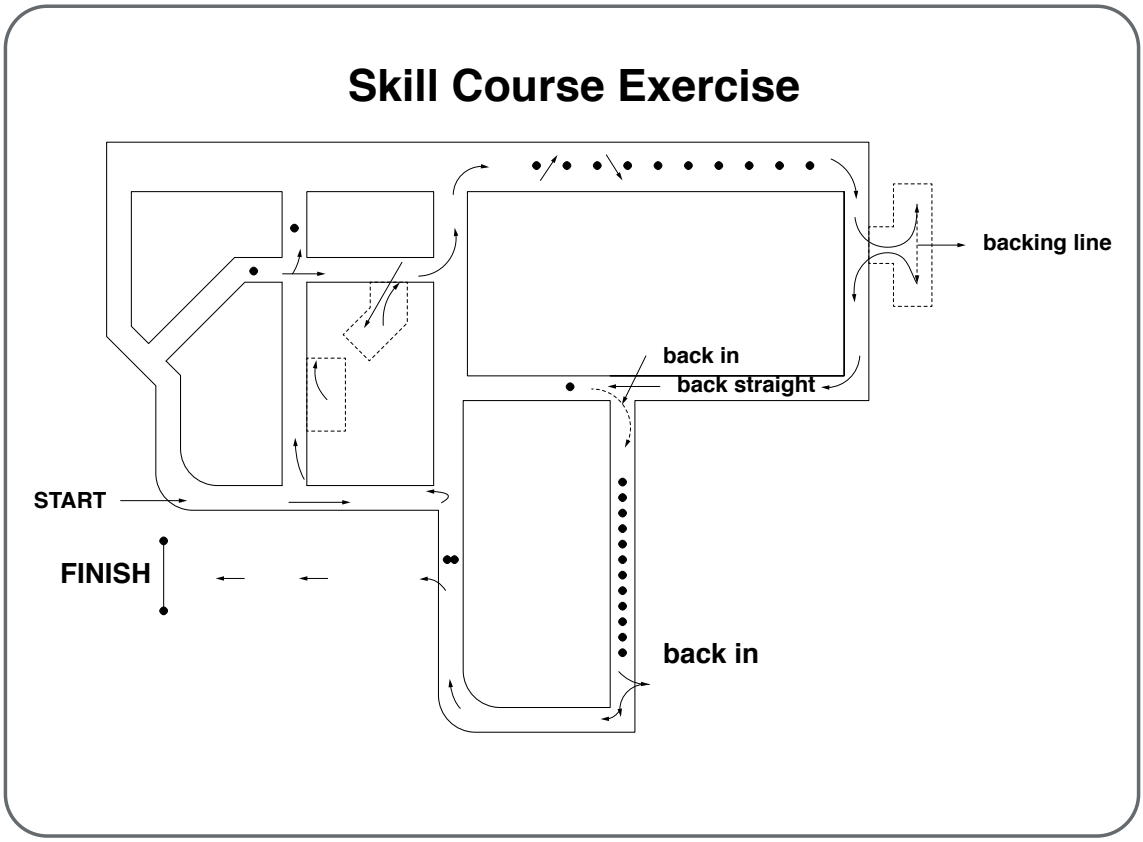
- The skill course is composed of various driving exercises arranged in a pattern to allow the student to drive from exercise to exercise.
- The individual driving exercises should be representative of situations encountered by law enforcement drivers.
- Type and number of exercises are optional depending on space limitations and training goals.

Course Description

- The course layout will be dependent on available driving area and number of exercises utilized.

Demonstration Phase

- An instructor will negotiate the entire course while demonstrating proper vehicle control techniques.
- An instructor will verbalize the demonstration.
- The students will follow the demonstration vehicle on foot or as passengers in an instructor-driven vehicle.



Practical Application Phase

- The students will drive the course from exercise to exercise.
- Vehicle speeds will be increased in relation to driver ability.
- During this exercise, the student may be required to make radio transmissions while driving the vehicle.

Evaluation Phase

Students will be evaluated on performance in the following areas:

- Safety
- Situational awareness
- Braking technique(s)
- Steering technique(s)
- Throttle control
- Roadway positioning
- Operating associated equipment
- Rate of performance
- Fluency of performance
- Level of performance

COMMENTARY DRIVING EXERCISE

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Materials Needed

Law enforcement training vehicle

Goal

To strengthen the student's defensive driving tactics and attitudes while driving on public roadways.

Objectives

- To instill situational awareness while performing normal driving tasks.
- To identify potential hazards encountered while driving.

Introduction

- Commentary driving is not only a training technique but can also serve as an evaluation process for both the basic and advanced driver.
- Every effort should be made to place the student in a relaxed atmosphere so that normal driving habits can be recognized.
- The instructor should communicate on an instructional basis, have a sincere interest in student improvement, and be knowledgeable in the techniques of collision avoidance.

Course Description

The exercise will be conducted on public streets and roadways. The route of travel should be preplanned to incorporate as many varied roadway/driving situations as possible within the allotted time.

Demonstration Phase

- The instructor will drive first, demonstrating the commentary driving techniques and verbalizing each movement while identifying potential hazards observed.

Procedure to Drive Course

The instructor will occupy the front passenger seat while a student drives. The remaining students will be rear seat passengers/observers.

- The student will drive the prescribed route, operating the vehicle in a routine manner and observing all the rules of the road.
- Real or potential hazards will be related verbally to the occupants by the driver.
- The student will operate the vehicle utilizing the proper vehicle control techniques.

Evaluation Phase

The student will be evaluated on performance in the following areas:

- Defensive driving tactics
- Identification and verbalization of driving hazards
- Compliance with the rules of the road
- Utilization of proper vehicle control techniques

DRIVING DEMONSTRATION: SIREN AUDIBILITY AND LIGHTING

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Driving Demonstration Introduction

The students participate as passengers and/or observers in the siren audibility and lighting demonstration.

Materials Needed

- A law enforcement training vehicle equipped with emergency lights and siren
- Two instructors participate in this demonstration, each as a driver of a demonstrating vehicle

Goal

- The student will recognize the limited effectiveness of the emergency lights and siren and the advantages of wig-wag lights.

Objectives

- The student will understand the various factors that affect siren audibility. These factors include:
  - Weather conditions
  - Traffic conditions
  - Environment, i.e., buildings, hills, freeways, shrubbery, etc.
  - Distracted driving (stereo, air conditioning, children, cell phones, etc.)
  - Speed
- Demonstrate effectiveness of the siren at operational speeds.
- Emphasize that the siren should not be used in lieu of knowledgeable and careful defensive driving.
- Studies have shown that white lights are more visible than colored lights, which is why wig-wag headlights are incorporated in most Code 3-equipped vehicles.

Course Description

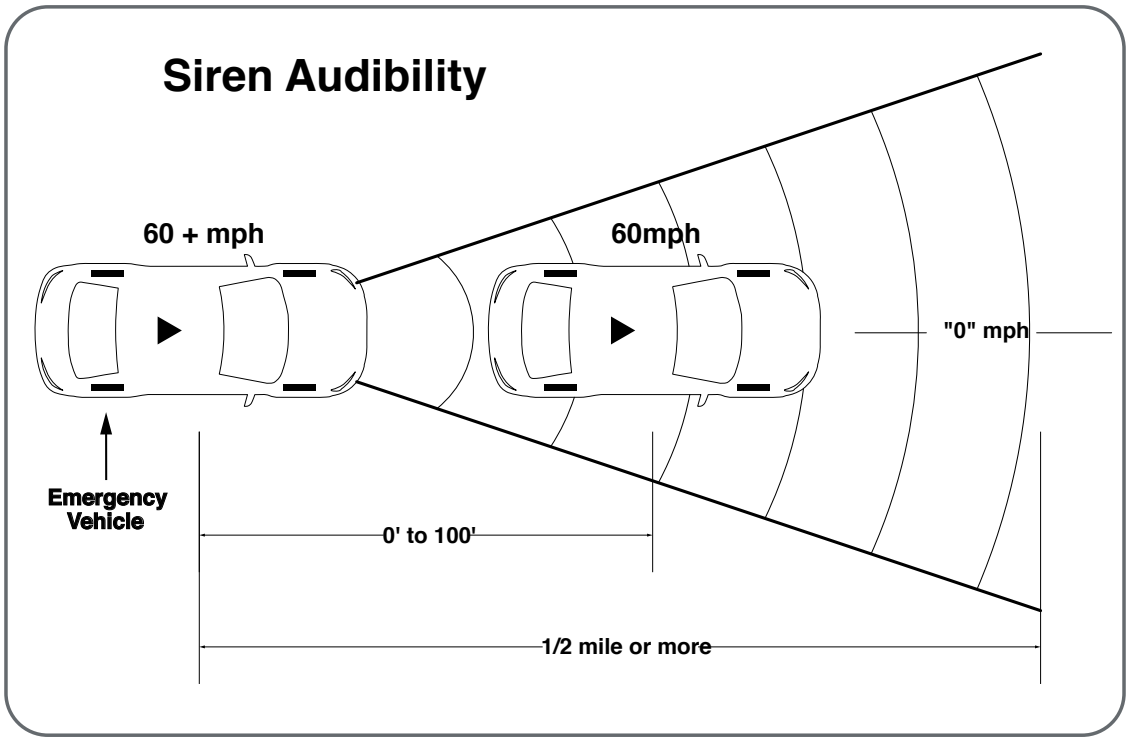
A straight section of roadway of sufficient length and width to accomplish the exercise.

Procedure to Drive Course

- Students are divided into groups and assigned to ride in a vehicle or observe from a stationary position.
- The lead vehicle is driven on the straight portion of the road to a speed of approximately 35–40 mph. The windows on the vehicle may be open and the students are requested to carry on a conversation in a normal tone of voice.
- With the windows down, conditions are ideal for an early response to the siren from the students in the lead car. The common result of this demonstration is the siren is first heard when the emergency vehicle is approximately three car lengths back from the lead car while traveling at a speed of approximately 50–55 mph.

Other drivers may be distracted or prevented from hearing or seeing emergency vehicles by things such as:

- Driving with the windows up
- Listening to loud music
- Talking on a cell phone
- Looking at GPS or watching a video
- Both the "Yelp" and "Wail" modes of the siren are demonstrated.



DRIVING DEMONSTRATION: VEHICLE DYNAMICS

PRIOR TO OPERATION OF THIS TRAINING EXERCISE, THE INSTRUCTIONAL STAFF SHOULD REVIEW THE POST SAFETY GUIDELINES FOR DRIVER TRAINING.

Driving Demonstration Introduction

The students participate as passengers and/or observers in the vehicle dynamics demonstration

Materials Needed

- A law enforcement training vehicle equipped with emergency lights and siren

Goal

- The student will observe and experience various aspects of weight transfer, spring loading, throttle control, braking, and steering techniques demonstrated by the instructor.

Objectives

- The student will understand the various factors that affect vehicle control and stability. These factors include:
  - Amount of steering
  - Throttle modulation
  - Environment, i.e., road surface conditions
  - Focal point
  - Speed
- Demonstrate effectiveness of precise driver control inputs and focal point.
- Emphasize that driver control and focal point has a dramatic effect on performance
- Demonstrate that increased speeds have an exponential affect on the forces affecting the vehicle

Course Description

The demonstration area should be of sufficient length and width to accomplish the exercise.

Procedure to Drive Course

- Students are divided into small groups and assigned to ride in a vehicle with an instructor.
- The instructor will perform various driving maneuvers consistent with their level of training to demonstrate vehicle dynamics described in previous chapters of this manual.
- Instructors will narrate the maneuvers they are performing, the resulting affects on the vehicle. Emphasis should be placed on focal point, steering techniques, and vehicle placement.

CHAPTER TWELVE
TESTING/EVALUATION TECHNIQUES

Practical Exercises

Each student must be evaluated and successfully pass an examination process that measures performance. POST has developed vehicle operations competency test forms for this purpose. The most current versions of these forms are available on the POST website under "Training Resources for Instructors and Presenters." The POST forms evaluate competency in the following areas:

- Safety
- Situational awareness
- Braking technique(s)
- Steering technique(s)
- Throttle control
- Roadway positioning
- Operating associated equipment
- Rate of performance
- Fluency of performance
- Level of performance

Remediation

Remediation is the process of improving a student's ability in the subject matter because they displayed unsatisfactory performance during their initial testing process. Techniques of remediation may vary depending on the student's needs and abilities. Remediation training may range from individual instruction geared to specific weaknesses to repetition of the entire course.

Testing, evaluation, and remediation require careful management in terms of documentation, objectivity, and equality in the appraisal process. Training records and test results must be completed and retained.

Instructional Evaluation Considerations

- The EVOC Instructor must possess the skill to assess the training needs of the student and be able to apply the techniques of teaching to meet those needs.
- Academy instructors must follow POST regulations with respect to testing procedures. Before beginning a test, both the student and the instructor must be clear that the testing process is beginning. The student will take the test and pass or fail at that time. There are no "do-overs."
- Once remedial training is complete, the student and instructor must be clear that the remedial testing process is beginning. The instructor must hold the student to the standard when determining a pass or fail rating.

- POST does not allow students to test a third time and doing so would be a violation of POST regulation, which can result in serious liability exposure. The academy or agency would also be at risk for decertification for violating POST regulations.

Remediation

Remediation is the process of improving a student's ability in the subject matter because they displayed unsatisfactory performance. Techniques of remediation may vary depending upon the student's needs and abilities. The remediation training may range from individual instruction geared to specific weaknesses to repetition of the entire course.

Testing, evaluation, and remediation require careful management in terms of documentation, objectivity and equality in the appraisal process. Training records and test results must be completed and retained.

Remedial Training Delivery

- The instructor must have a working knowledge of adult learning concepts.
- The instructor should use driving experiences as training opportunities.
  - ► Review and critique significant incident(s).
  - ► Discuss hypothetical variations of an incident.
- The instructor should recognize and be able to provide remedial solutions to potential training problems.

  For example:

  The student lacks self-confidence as manifested by:

  - ○ Being afraid to make driving decisions, feeling threatened by the evaluation process, seeming not to understand even after being told repeated times.
  - ○ Not being properly assertive while driving. Not being heard on the radio.
  - ○ Freezing on radio transmissions.
- The instructor must be flexible in the training techniques used to fit the subject student's limitations or capabilities.
  - ► The amount of verbal instruction given to the student.
  - ► The timing of instruction to the student's ability to react.
- The instructor must give timely feedback and clear direction to guide the student to a level of competence.
  - ► The evaluation must be based on performance, not on personality or other subjective factors.
  - ► The evaluation must be based on written, standardized rating guides.
  - ► The instructor must comprehend the rating system.
  - ► All instructors must rate consistently in accordance with the rating guide.
  - ► The instructor must develop good observation skills.
  - ► The instructor must report and rate performance observed.

- Blend criticism with positive direction for improvement.
- Include assessment of strengths and weaknesses to develop remedial strategies.
- The instructor must avoid common obstacles to effective evaluation.
- Avoid the "halo effect," which is the tendency to judge a person on the basis of one factor deemed important by the rater (good or bad in that area, must be good/bad in all).
- Leniency or strictness tendencies - inconsistency between "easy" and "hard" raters who are not following evaluation guidelines.
- Central tendency - clusters all trainees at or near middle range rather than using full range of rating scale.
- Recency - too much emphasis on performance immediately preceding rating deadline.
- Bias - influence of personal values on ratings.
- Factor clarity- importance of clear, consistent definition and understanding of all rating terms and values.
- Premature judgment - basing ratings on first impressions.
- Expended effort - Rewarding for efforts shown rather than actual performance.
- Untimely documentation - failure to document at time performance is observed.
- Inadequate documentation - lack of sufficient information regarding observed performance.

- The instructor must develop an effective verbal critique style:
  - Use effective interpersonal communication skills.
  - Provide immediate, supportive, and correction feedback to minimize the stress of evaluation keeping in mind the student's perceptions of the evaluation process.
  - Give sincere critique/evaluation feedback applicable to the individual student.
  - Solicit and/or be prepared for student response to the critique (explanation, emotional displays, being passive, giving up, etc.).
- The instructor must exhibit the courage to rate a student "Below Standard" or other appropriate designated classification when the student fails to operate a vehicle at a minimally acceptable level.
  - The primary concern is the future safety of the student and the public.
  - Another important concern is the potential liability to the student and their agency.
  - The instructor must clearly articulate to the student that the driving performance was unacceptable, explain the improper actions, and provide feedback as to what can be done to improve.
- The instructor must develop an effective written critique style:
  - Accurately translate performance.
  - Include documentation of remedial training undertaken.

- Identify areas that lend themselves to remediation or retraining.
- Include adequate narrative to correspond with and support ratings.
- Remember to emphasize strengths as well as weaknesses.
- Avoid predictions of future performance, comparing one student's performance with another, and general/conclusionary statements about student performance.
- Comment on trainee's acceptance of criticism.
- The instructor may also provide input to superiors for determining student status (i.e., required remediation, release to field duty, or termination) or discipline (i.e., a performance failure or a breach of proper conduct).
- The instructor provides feedback to superiors regarding program effectiveness and/or suggested improvements.

Instructor Development for Practical Application of Driving Exercises

- Create new driving exercises and present them to others.
  - Create the course diagram and the lesson plan in the classroom
  - Setup and practice driving the exercise
  - Explain and demonstrate the exercise to other students
  - Teach and evaluate the other students on the new exercise

The EVOC Training Staff should provide feedback to the student instructors, which will minimally include:

- Evaluate vehicle dynamics
- Emphasis on basic driving principles
- Clarity of explanation of driving demonstrations
- Driving demonstration adherence to proper techniques
- Feedback to fellow students during practical application

CHAPTER THIRTEEN
COURSE MANAGEMENT

Site Selection

- Site Preparation
  - The site should be able to accommodate students, vehicles, and exercises.
  - The training may have separate sites for lectures and driving and should be located within convenient proximity to each other.
  - The lecture classroom should be of adequate size to accommodate the number of students trained.
  - The site should have restricted access and be clearly identified during use.
  - Restrooms shall be available.
  - Consideration should be given to providing a site convenient to student travel.
  - Prior to using an external training site, initiate a written agreement between the property owner and/or lessee and the law enforcement agency conducting the training that absolves both of liability. Permit approvals and any Environmental Impact Report (EIR) should also be obtained if necessary.
  - A site should be selected that will be free of obstructions (i.e., poles, buildings, trees, etc.) that could present a potential hazard. The site should be sufficiently remote so as not to present visual or noise distractions to the students or the public.
  - The site should be accessible to water and electricity if necessary to accommodate specialized exercises and student comfort.
- Resources
  - Other driver training facilities and POST can provide assistance with design, layout, and expertise. The names and locations of these facilities may be obtained by contacting POST.
  - Design costs will vary depending on the layout, size, and complexity of the plans. Drawings may range from in-house preparation to elaborate engineering blueprints.
  - Funding can range from the refinement of an existing facility to the development of a new site financed by budget appropriations, bonds, grants, etc. Costs may vary from a few thousand to several million dollars.
  - Consider the flow of training traffic and each driving exercise so that concurrent training does not cause cross-traffic and potential collision, unless intended for training purposes.
  - Attention should also be given to solid impact avoidance, pedestrian traffic, and non-training vehicle access to eliminate potential collisions on and off the training course.
  - The design should encompass safety considerations to include the possibility of mechanical failures and student panic.

- The course should be designed to accommodate the size and types of vehicles used in the training. The variation may range from small compacts to large multi-passenger vehicles.

- Realistic Course Configurations
  - The design of the course should include, but is not be limited to:
    - Safety
    - Street/lane widths
    - Various intersection configurations
    - Forward/backing maneuvers
    - Speed
- Each exercise should relate directly to the prevention of law enforcement collisions.
- Skid pan exercises should be designed using a low coefficient of friction surface to accommodate front, rear, primary skids, secondary, and ABS skids. Programs using SkidCar platforms can be performed on any flat roadway surface.

Equipment and Materials

- Vehicles
  - Law enforcement-equipped vehicles are required. Vehicles must be continuously monitored and maintained for mechanical safety. Each training vehicle should be equipped with radio communications capability.
- Course Markers
  - Various types of cones or delineators may be used. Cones are available in various sizes from 6" to 36". Delineators are available from 36" and larger.
  - The cone positions can be marked with traffic-line paint of various colors to speed future course set-up.
  - Tires may be used as delineators; however, they may cause damage to the vehicle if struck. They can also be displaced upon impact, which may result in injury to bystanders/staff.
  - Barricades may be useful in course design to direct traffic.
- Equipment Resources
  - The acquisition of equipment is limited only by funding and the imagination of the procurement staff, other government entities, and corporate contributors.
- Safety and Control
  - Safety rules established and communicated to students
  - Restricted access training area
  - Course design safety configurations
  - Ongoing facility safety inspections
  - Adequately equipped training vehicles

- Factory seatbelts minimum standard
- Seatbelt use required
- Safety equipment on-site
- Vehicle safety inspections
- Instructor certification
- Appropriate staff-to-student ratios
- Lower staff-to-student ratios for pursuit and Code 3 training
- Recognize student fatigue

Instructor's Note: Refer to POST Safety Guidelines.

Scheduling

- Frequency
  - The frequency of training for officers is usually guided by training management decisions based on the needs of the individual officers and agencies. The frequency of course presentation is influenced by compatibility with other courses, facility availability, and funding resources.
- Record Keeping
  - All training should be properly documented and records retained pursuant to agency policy.

Contingency Planning

- From time to time, problems develop concerning the availability of the site, instructors, and/or equipment.
- Training sites such as airfields, parking lots, school campuses and military bases may be available on a temporary basis to meet short-term emergencies.
- A standby pool of instructors is desirable because of conflicting schedules and commitments, especially when the teaching staff is composed of working law enforcement officers.
- Because of the mechanical breakdown factor, standby equipment should be readily available when failures occur.

Student Instruction Ratio

- POST's maximum ratio of students-to-instructor is currently five-to-one (5:1)in the Basic Course. Although there are no specific requirements for other courses, consideration should be given to the nature of the training exercise. Factors such as higher operational speed may require lower student-to-instructor ratios.

CHAPTER FOURTEEN
LEGAL ISSUES/LIABILITIES

Introduction

It is imperative that EVOC Instructors provide students with comprehensive information concerning the statutes and case law decisions that define the proper operation of law enforcement vehicles.

Officers routinely face the possibility of being held civilly liable for their actions or the actions of their subordinates in law enforcement driving activities. Certain general legal principles are common to the three types of law enforcement driving (non-emergency, emergency response, and pursuit). The concepts of "negligence" and "willful misconduct" are central to understanding how officers may be judged responsible for injuries sustained by third parties that arise from law enforcement driving operations.

Whether the injury arises from a deficiency during non-emergency activity such as an officer's negligent placement of the vehicle during a routine call, an emergency response such as failure to activate warning devices when responding to a life-threatening situation, or during the course of a pursuit that creates danger to the public, injured parties frequently assert the offending officer's conduct was unreasonable under the circumstances or that it constituted an intentional disregard for the victim's safety.

Officers must be aware of the potential for civil lawsuits filed against them by injured parties, either in state or federal court. They must conduct their driving activities in nonemergency, emergency response, and pursuit modes so as to minimize liability to themselves and their agency. Extreme disregard for the safety of the public or other officers may well constitute recklessness or willful misconduct that can serve as a basis for criminal sanctions against the officer or supervisor in either state or federal court. The following statutes and comments provide an overview of relevant material for an instructor to know and utilize in preparing driver training instruction.

California Codes

Sections 17001,17004,17004.7 of the California Vehicle Code (CVC) discuss civil liability and immunity for public entities and public employees during the operation of a law enforcement vehicle within the scope of employment.

17001 CVC

Every public entity (state, county, city, etc.) is liable for death or injury to person or property proximately caused by a negligent or wrongful act or omission in the operation of any motor vehicle by an employee of the public entity acting within the scope of his employment.

17004 CVC

A public employee is not liable for civil damages on account of personal injury to or death of any person or damage to property resulting from the operation, in the line of duty, of an authorized emergency vehicle while responding to an emergency call or when in the immediate pursuit of an actual or suspected violator of the law, or when responding to but not returning from a fire alarm.

17004.7 CVC

This Section provides immunity to a public entity from civil liability for personal damages, death, or property damage resulting from a collision with a vehicle driven by an actual or suspected law violator pursued by a peace officer if the public employer adopts a written policy with the following specified minimum standards for a safe pursuit:

- If available, there should be supervisory control of a pursuit.
- Procedures for designating the primary pursuit vehicle and for determining the total number of vehicles to be permitted to participate at one time in the pursuit.
- Procedures for coordinating operations with other jurisdictions.
- Guidelines for determining when the interest of public safety and effective law enforcement justify a vehicular pursuit and when a vehicular pursuit should not be initiated, or should be terminated.

17004.7. (a) The immunity provided by this section is in addition to any other immunity provided by law. The adoption of a vehicle pursuit policy by a public agency pursuant to this section is discretionary

(b) (1) A public agency employing peace officers that adopts and promulgates a written policy on, and provides regular and periodic training on an annual basis for, vehicular pursuits complying with subdivisions (c) and (d) is immune from liability for civil damages for personal injury to or death of any person or damage to property resulting from the collision of a vehicle being operated by an actual or suspected violator of the law who is being, has been, or believes he or she is being or has been, pursued in a motor vehicle by a peace officer employed by the public entity.

(2) Promulgation of the written policy under paragraph (1) shall include, but is not limited to, a requirement that all peace officers of the public agency certify in writing that they have received, read, and understand the policy. The failure of an individual officer to sign a certification shall not be used to impose liability on an individual officer or a public entity.

(c) A policy for the safe conduct of motor vehicle pursuits by peace officers shall meet all of the following minimum standards:

(1) Determine under what circumstances to initiate a pursuit. The policy shall define a "pursuit," articulate the reasons for which a pursuit is authorized, and identify the issues that should be considered in reaching the decision to pursue. It should also address the importance of protecting the public and balancing the known or reasonably suspected offense, and the apparent need for immediate capture against the risks to peace officers, innocent motorists, and others to protect the public.

(2) Determine the total number of law enforcement vehicles authorized to participate in a pursuit. Establish the authorized number of law enforcement units and supervisors who may be involved in a pursuit, describe the responsibility of each authorized unit and the role of each peace officer and supervisor, and specify if and when additional units are authorized.

(3) Determine the communication procedures to be followed during a pursuit. Specify pursuit coordination and control procedures and determine assignment of communications responsibility by unit and organizational entity.

(4) Determine the role of the supervisor in managing and controlling a pursuit. Supervisory

responsibility shall include management and control of a pursuit, assessment of risk factors associated with a pursuit, and when to terminate a pursuit.

(5) Determine driving tactics and the circumstances under which the tactics may be appropriate.

(6) Determine authorized pursuit intervention tactics. Pursuit intervention tactics include, but are not limited to, blocking, ramming, boxing, and roadblock procedures. The policy shall specify under what circumstances and conditions each approved tactic is authorized to be used.

(7) Determine the factors to be considered by a peace officer and supervisor in determining speeds throughout a pursuit. Evaluation shall take into consideration public safety, peace officer safety, and safety of the occupants in a fleeing vehicle.

(8) Determine the role of air support, where available. Air support shall include coordinating the activities of resources on the ground, reporting on the progress of a pursuit, and providing peace officers and supervisors with information to evaluate whether or not to continue the pursuit.

(9) Determine when to terminate or discontinue a pursuit. Factors to be considered include, but are not limited to, all of the following:

(A) Ongoing evaluation of risk to the public or pursuing peace officer.

(B) The protection of the public, given the known or reasonably suspected offense and apparent need for immediate capture against the risks to the public and peace officers.

(C) Vehicular or pedestrian traffic safety and volume.

(D) Weather conditions.

(E) Traffic conditions.

(F) Speeds.

(G) Availability of air support.

(H) Procedures when an offender is identified and may be apprehended at a later time or when the location of the pursuit vehicle is no longer known.

(10) Determine procedures for apprehending an offender following a pursuit. Safety of the public and peace officers during the law enforcement effort to capture an offender shall be an important factor.

(11) Determine effective coordination, management, and control of interjurisdictional pursuits. The policy shall include, but shall not be limited to, all of the following:

(A) Supervisory control and management of a pursuit that enters another jurisdiction.

(B) Communications and notifications among the agencies involved.

(C) Involvement in another jurisdiction's pursuit.

(D) Roles and responsibilities of units and coordination, management, and control at the termination of an interjurisdictional pursuit.

(12) Reporting and post pursuit analysis as required by Section Sections 21052,21055,21056, 21057,21806,21807,22350 of the California Vehicle Code identify driver requirements for due regard for the safety of all persons on a highway, and specify that these provisions apply to all law enforcement officers.

21052 CVC

The provisions of this code applicable to the drivers of vehicles upon the highways apply to the drivers of all vehicles while engaged in the course of employment by this state, any political subdivision thereof, any municipal corporation, or any district, including authorized emergency vehicles subject to those exemptions granted such authorized emergency vehicles in this code.

21055 CVC

The driver of an authorized emergency vehicle is exempt from Chapter 2 through 10 of Division 11, and article 3 and 4 of Chapter 5 of Division 16.5 under all of the following conditions:

- If the vehicle is being driven in response to an emergency call or while engaged in rescue operations or is being used in the immediate pursuit of an actual or suspected violator of the law or is responding to, but not returning from, a fire alarm.....21055(a).
- If the driver of the vehicle sounds a siren as may be reasonably necessary and the vehicle displays a lighted red lamp visible from the front as a warning to other drivers and pedestrians.....21055(b).

21056 CVC

Section 21055 does not relieve the driver of a vehicle from the duty to drive with due regard for the safety of all persons using the highway, nor protect him from the consequences of an arbitrary exercise of the privileges granted in that section.

21057 CVC

Every law enforcement officer is hereby expressly prohibited from using a siren or red light or driving at an illegal speed when serving as an escort of any vehicle, except when the escort or conveyance is furnished for the preservation of life or expediting movements of supplies and personnel for any federal, state, or local governmental agency during a national emergency, or state of war emergency, or state of emergency, or local emergency as defined in Section 9558 of the Government Code.

21806 CVC

Upon the immediate approach of an authorized emergency vehicle which is sounding a siren, and which has at least one lighted lamp exhibiting a red light that is visible, the driver of every other vehicle shall yield the right-of-way and shall immediately drive to the right-hand edge or curb of the highway and stop.

21807 CVC

Provisions of 21806 shall not operate to relieve the driver of an authorized emergency vehicle from the duty to drive with due regard for the safety of all persons and property.

22350 CVC

No person shall drive a vehicle upon a highway at a greater speed than is reasonable or prudent having due regard for weather, visibility, the traffic on, and the surface and width of, the highway, and in no event at a speed which endangers the safety of persons or property.

165 CVC

Defines an authorized emergency vehicle as any vehicle owned and operated by a governmental entity and used by employees in the performance of law enforcement duties or other emergency services.

Section 13519.8 PC

Provides standards for minimum guidelines to be used by law enforcement agencies in developing department policies and training related to the conduct of vehicular pursuit of known or suspected violators of the law (See Chapter 11 - Vehicle Pursuit Operations).

Section 669 Evidence Code

Applied to actions from driving a law enforcement vehicle. It identifies a need to exercise due care and may be used as a basis for a claim in civil (tort) litigation.

- The failure of a person to exercise due care is presumed if:
- There is a violation of a statute, ordinance, or regulation of a public entity;
- The violation proximately caused death or injury to person or property;
- The death or injury resulted from an occurrence of the nature which the statute, ordinance, or regulation was designed to prevent; and
- The person or persons suffering the death, or injury to that person or property was one of the class of persons for whose protection the statute, ordinance, or regulation was adopted.
    - ► This presumption may be rebutted by proof that:
        - ○ The person violating the statute, ordinance, or regulation did what might reasonably be expected of a person of ordinary prudence, acting under similar circumstances, who desired to comply with the law.

The instructor should emphasize the importance of understanding the potential impact of Section 669. Not only must a peace officer know what the agency's policy states, but they must be in compliance or acting reasonably otherwise, and the officer's actions are subject to examination at a later date by the courts. Presumption of failure to exercise due care increases the likelihood of being held personally liable in criminal and civil court. Many court decisions base the admission and weight of agency policy guidelines submitted into evidence on this statute. The courts have restricted law enforcement in driving situations due to the impact of case law and an acknowledgment of an increased hazard to the public during vehicle operation.

Section 669.1 Evidence Code

Presumption or failure to exercise due care - violation of government rule, policy, manual, or guideline.

- "A rule, policy, manual, or guideline of state or local government setting forth standards of conduct or guidelines for its employment shall not be considered a statute, ordinance, or regulation of that public entity within the meaning of Section 669, unless the rule, manual, policy, or guideline has been formally adopted as a statute, as an ordinance or a local government entity in this state empowered to adopt ordinances, or as a regulation by an agency of the state pursuant to the Administrations Procedure Act or by an agency of the U.S. Government pursuant to the Federal Administrative Procedures Act."

- This section affects only the presumption set forth in Section 669 and is not otherwise intended to affect the admissibility or inadmissibility of the rule, policy, manual, or guideline under other provisions of law.

Instructor discussion regarding these statutes should include that:

- Code 3 operation of an emergency vehicle introduces hazards that are not present during the normal operation of law enforcement vehicles.
- Speeds that may be considered reasonable and prudent by the courts may be less than the posted speed limit, depending on weather and traffic conditions.
- If a law enforcement officer is involved in a collision while driving Code 3 and the siren was not being used, a subsequent investigation will probably disclose that use of the siren was reasonably required pursuant to Sections 21055 and 21806 CVC.
- Immunity from civil liability may only be· available when the emergency vehicle is being operated while displaying a red light, the siren utilized when reasonable to do so, and then only when the vehicle is being operated with due regard for the safety of all persons using the highway.
- During Code 3 operation, officers must allow their actions to be guided by sound professional judgment.
- The Vehicle Code is very specific as to the driving conduct of government employees operating an emergency vehicle under "ordinary" conditions (21052 CVC).
- Injuries sustained in a traffic collision are generally more severe than most other types of on-duty injuries. Historically, roughly fifty percent of all on-duty law enforcement deaths are the result of vehicle collisions.
- In cases where a law enforcement officer becomes involved in a traffic collision while operating a law enforcement vehicle and is acting within the scope of employment, both the agency and the officer may be financially liable for damages caused as the result of a traffic collision.
- It is important that law enforcement drivers fully understand the potential safety risks and legal liabilities involved in emergency driving, particularly in the following situations:
  - Safely clearing intersections requires stopping, if necessary, before entering and then proceeding and clearing the intersection lane-by-lane.
  - Passing other vehicles while operating Code 3 requires extreme caution and consideration should always be given to the potential hazards of passing on the right (refer 21806/21807CVC).
  - The physiological and psychological stresses involved in Code 3 operations require the constant attention of the law enforcement driver, particularly in relation to speed awareness and the potential for tunnel vision.
- Law enforcement vehicle emergency warning devices (lights and siren) are intended to warn other motorists of an approaching emergency vehicle. These warning devices require other motorists to yield the right-of-way, but do not guarantee that will occur. Law enforcement drivers must drive with consideration for these limitations.

CALIFORNIA CASE LAW

Introduction

Case law decisions have as much impact on law enforcement behavior as legislated laws. The difficulty for all members of law enforcement is to keep abreast of changes in interpretation and to properly relate those decisions to other situations where similarities exist. Case law, especially in Code 3 operations, has traditionally been more restrictive of law enforcement due to the potential threat to the safety of large numbers of the public. Following are some pertinent decisions worthy of consideration.

PETERSON vs. CITY OF LONG BEACH/05-16-79 (24Cal.3d 238; 155 Cal.Rptr.360, 594 P2d 477

Summary of Case

In 1972, a Long Beach law enforcement officer responded to what was later determined to be an erroneous report of a burglary in progress and observed Peterson running from the (Peterson's) location. There was no articulation of evidence of a weapon and, as Peterson fled, the officer shot and killed the "suspect." The family sued the law enforcement department and officer alleging the officer failed to comply with specific law enforcement department policy guidelines restricting use of deadly force. The policy limited use of deadly force to circumstances "only after all other means fail...in the necessary defense from death or serious injury of another person attacked...to effect an arrest, to prevent an escape, or to recapture an escapee when other means have failed, of an adult felony suspect when the officer has reasonable cause to believe that (a) the crime for which this arrest is sought involved conduct including the use of or threatened use of deadly force and (b) there is a substantial risk that the person whose arrest is sought will cause death or serious bodily harm if apprehension is delayed" (emphasis in original). The original trial court held that the officer acted within the existing state law (197 PC) and found for the officer and city.

Case Law Decision

The California Supreme Court (4 to 3) reversed the trial court, stating that while the officer acted within the general definition of Penal Code Section 197 (Criminal Liability), the central issue of civil liability dealt with the officer's failure to comply with the more restrictive policy guidelines on use of deadly force. The guidelines were held to be inclusive within the requirements of Section 669 of the Evidence Code (enacted 1967). Section 669 Evid.C. held that "the failure of a person to exercise due care is presumed if... he violated a statute, Ordinance, or regulation of a public entity..." The officer and his department were held civilly liable in this incident.

Impact on Law Enforcement

Although this is not a driving case, it impacts law enforcement conduct in future incidents where there is a failure to act within the more restrictive guidelines of department policy vs. state law. If a peace officer is acting within state law requirements but not within specific policy regulations, then that officer may be judged civilly liable as to be determined by 669 Evid.C. and the specifics of the particular incident.

Instructor's Note: The Peterson case is used here because of its reference to current laws in effect (669 Evid.C). There have been similar case law decisions specifically involving vehicle operation based on failure to comply with department "rules" (Torres vs. City of Los Angeles/06-21-62, 58 C2d.35; 22 Cal.Rptr. 866, 372 P.2d 906) and non-compliance with "training bulletins" (Dillenbeck vs. City of Los Angeles/10-28-68, 69 C2d.472; 72 Cal.Rptr. 321, 446 P.2d 129). These cases are frequently cited because laws now in effect are similar to those superseded laws originally considered.

BRUMMETT vs. COUNTY OF SACRAMENTO/08-24-78 (21 Cal.3d 880;148 Cal.Rptr.361, 582 P2d 952

Summary of Case

Two sheriff's deputies were engaged in a high-speed pursuit of a bank robbery suspect. Within an intersection, both deputies' vehicles struck another vehicle and one of the two patrol cars careened into a vehicle stopped in a left tum lane. The deputies' own testimony in the civil trial that ensued revealed the following.

Although uncertain of his speed, one deputy doubted he was exceeding 80 mph, but his speed was so excessive that effective evasive maneuvers were not possible and he was unaware of the color of the light when he entered the intersection. The other deputy thought he was going 90 mph at the highest rate of speed during the pursuit, that he did not step on his brakes at all even though other vehicles were in the intersection, and he acknowledged that law enforcement practices advised "if there is a problem" with chasing a suspected felon, then the officers were to cease pursuit, and that he understood this to refer to traffic conditions. The trial court held that pursuant to 17004 CVC, the deputies were not personally civilly liable while in pursuit of a felony suspect. The county also was held not liable pursuant to Section 815.2 Government Code, which stated "except as otherwise provided by a statute, a public entity is not liable for an injury resulting from an act or omission of an employee of the public entity where the employee is immune from liability.

Case Law Decision

The California Supreme Court unanimously reversed the trial court decision on liability of the county and upheld the immunity of the deputies. The specifics of 815.2 Government Code states: "Except as otherwise provided by statute" and the Supreme Court held that Section 17001 CVC removes any immunity from the public entity for negligence of its employees. The key in this case for County liability is whether the deputies were acting within the confines of 21056 CVC. However, the physical evidence and testimony of the deputies themselves showed negligence on their part for the safety of others.

Impact on Law Enforcement

Due to the presence of potential civil liability to local and state government, there has been an increase in restrictive guidelines (policy) to reduce the number of incidents where lawsuits will follow. Individual officers should not rule out the potential for personal liability if gross violations of Section 21056 CVC occur. It is also important to follow the requirements of 21055(a) and (b) CVC and roll Code 3 to protect themselves when they violate the "rules of the road." This case involved the direct operation of a motor vehicle by an officer who became involved in an accident.

DUARTE vs. CITY OF SAN JOSE/01-02-80 (I 000 Cal.App. 3d 648; 161 Cal.Rptr.l40)

Summary of Case

In 1975, a San Jose law enforcement officer arrested a suspected drunk driver. The suspect was handcuffed and placed in the rear seat of the patrol car. The suspect, who had been cooperative and "all but incapacitated by intoxication," complained of discomfort due to the handcuffs, and the officer removed them. The suspect was left "locked" in the rear area of the parked vehicle (with keys in the ignition and the engine apparently running) while the officer assisted another officer in moving the suspect's vehicle. The suspect unlocked the rear door, exited, and re-entered into the front seat and drove off. Two other law enforcement vehicles pursued the suspect at speeds up to 65 mph until they briefly lost sight of him. The suspect exited the roadway and struck and seriously injured a man who was mowing his lawn. The city claimed immunity under 815.2 and 845.8 of the Government Code (the latter provides immunity for a public entity when a person in custody/detention escapes and injures a third person in that escape). The trial court held for the city and its officers.

Case Law Decision

The California Court of Appeals held unanimously (3-0) that the officers were immune under 845.8 Government Code but that the city should be held liable under 17001 CVC. Negligent vehicle operation by a public entity's employee was held to encompass allowing the circumstances to exist (vehicle unattended, motor running) for the suspect to use the patrol car to flee.

Impact on Law Enforcement

Again, there was no personal liability to the officers, but the court is sending a clear message to public entities that it will hold them liable for negligence on the part of employees. Specific policy guidelines are the likely result as agencies attempt to clearly define proper and improper behavior, hoping to limit lawsuits. The more specific the policy guidelines become, the easier it may become for others to show non-compliance by an employee, thus "not exercising due care" (negligence) as per 669 Evid.C. This case, while not involving the direct operation of a vehicle by an officer, resulted in the ability of a suspect to become involved in a traffic accident.

GRANT vs. PETRONELLA/07-30-75 (50C.A.3d 281;123 Cal.Rptr. 399)

Summary of Case

In 1971, a deputy sheriff (defendant) was responding on the freeway to an emergency at a rate of speed higher than the posted speed limit and collided with a vehicle (plaintiffs) that was traveling in the same direction in front of him. The emergency vehicle was in the innermost lane and as the deputy attempted to swerve to the left, his vehicle's right front bumper struck the left rear or left door of the other vehicle. There was a dispute as to whether the other vehicle was already in the number one lane or changed lanes just prior to the collision. The deputy was not utilizing the vehicle's emergency red lights or its siren, and an argument was given that doing so "is not a safe procedure" on a freeway. The plaintiff argued that if an emergency vehicle is not Code 3 (21055 CVC), then it must comply with the same rules of the road as all other vehicles. The defendant argued that the emergency situation should be given consideration as to the justification for the deputy's driving in violation of specific Vehicle Code section(s) and requested that the appropriate jury instruction (BAJI 5.80) be given the jury. The trial court failed to advise the jury of the

substance of 21055 CVC and gave the BAn 5.80 instruction. A judgment was made for the defendant and the plaintiff appealed.

Case Law Decision

The Court of Appeals unanimously overturned the trial court's decision due to the actions of the court in failing to provide information to the jury on 21055 CVC and giving the BAn 5.80 instruction. Due to the fact the "emergency vehicle" was not in compliance with 21055 CVC and Code 3, it was not exempt from the rules of the road and its driver was, therefore, required to comply with the same laws as other drivers. Additionally, by not being Code 3, the jury should not consider the nature of the emergency as to why the vehicle was being driven in the manner it was.

Impact on Law Enforcement

If an officer is involved in emergency driving, then the officer must comply with 21055 CVC and utilize the law enforcement vehicle emergency lights and siren as reasonably necessary. If the officer is in compliance with 21055 CVC, then violations of the Vehicle Code do not necessarily determine negligence and the test is weighed against 21056 CVC and the "reasonable" actions of the officer.

STARK vs. CITY OF LOS ANGELES/05-16-85 (168 Cal. App. 3d 276;214 Cal.Rptr. 216)

Summary of Case

Los Angeles law enforcement officers observed a suspicious person in a vehicle that was violating the Vehicle Code. As the officers followed in their marked vehicle, the suspect picked up speed and, as the officers' vehicle was held up in traffic, the suspect made a squealing left turn, "apparently attempting to flee." As the patrol car turned left, the officers observed the suspect run a stop-signed intersection at approximately 55 mph, and then drive through a yield-signed intersection and another stop-signed intersection. The officers were approximately 500–600' behind and although following, had not yet activated red lights and siren. At this point, the officers were preparing to initiate a Code 3 pursuit when they observed the suspect vehicle enter another intersection and broadside the plaintiff's vehicle. The trial court found that the city was not immune under 845.8 Government Code and liable under 17001 CVC due to the failure of the officers to initiate their siren to warn other motorists ahead. The court felt the officers, by their actions, were in pursuit of the suspect. The city appealed the verdict.

Case Law Decision

The court of appeals unanimously affirmed the trial court on all points (3-0). While the officers were not personally liable, the public entity was held accountable for injury to a third person.

Impact on Law Enforcement

Providing an attempt to warn other motorists will be deemed reasonable and lessen the impact of potential lawsuits for not providing any warning at all. The court is willing to interpret what constitutes a "pursuit" when the "following" begins to violate Vehicle Code statutes.

Book of Approved Jury Instructions (BAJI)

The following information is given as part of the instructions by the court to a jury with regard to

emergency driving situations. Under some circumstances, some of these instructions that could be beneficial to law enforcement's case cannot be given due to actions or omissions by officers. The specific instruction(s) given will be determined by the specifics of the individual case.

"Authorized Emergency Vehicle Exemption" (BAJI 5.80):

- It is the duty of the driver of an authorized emergency vehicle to exercise that amount of care which, under all the circumstances, would not impose upon others an unreasonable risk of harm. That standard of conduct which is reasonable under all the circumstances must, of course, take into consideration the unusual circumstances confronting the driver of an authorized emergency vehicle—that is, the emergency necessitates immediate action and the duty imposed upon the driver is to take reasonable and necessary measures to alleviate the emergency. The question to be asked is, "What would a reasonable, prudent emergency driver do under all of the circumstances, including that of the emergency?"
- The California Vehicle Code provides that the driver of an authorized emergency vehicle is exempt from and need not observe the provisions of the Vehicle Code under the following conditions:
  - The vehicle is being driven in response to an emergency call or while engaged in rescue operations or is being used in the immediate pursuit of an actual or suspected violator of the law; or
  - is responding to a fire or fire alarm, (except that fire department vehicles are exempt whether directly responding to an emergency call or operated from one place to another as rendered desirable or necessary by reason of an emergency call and operated to the scene of the emergency or operated from one fire station to another or to some other location by reason of the emergency call); and
  - if the driver of the vehicle sounds a siren as may be reasonably necessary and the vehicle displays a lighted red lamp visible from the front as a warning to the other drivers and pedestrians.
- If the foregoing requirements are met, then it is not negligence as a matter of law for the driver of the authorized emergency vehicle to fail to observe those provisions of the Vehicle Code from which the driver is exempt. This exemption, however, does not relieve the driver of such vehicle from the duty to drive with due regard for the safety of all persons using the highway, nor does it protect the driver from the consequences of an arbitrary exercise of the privileges granted under the exemption.
- An arbitrary exercise of the privileges granted means an act performed either with knowledge that serious injury to another will probably result, or with wanton and reckless disregard of the possible consequences. (It has been established in this case that the vehicle operated by the defendant (driver) was an authorized emergency vehicle.)

"Test of an Emergency" (BAJI 5.81):

In determining whether an emergency vehicle was being driven in response to an emergency call, the test is not whether an emergency in actual fact existed, but rather whether the driver had received a report or a request or was informed of circumstances that would reasonably justify the belief that an emergency existed to which the driver was required to respond in the line of duty.

"Duty to Anticipate Criminal Conduct of Third Person" (BAJI3.13.1):

When the circumstances are such that the possibility of harm caused by the criminal conduct of a third person is, or in the exercise of due care should be, reasonably foreseeable, it is negligence to fail to use reasonable care to prevent such criminal act from causing (injury) (damage).

"Negligence per se - Violation of Statute, Ordinance, or Safety Order" (BAJI 3.45):

If you find that a party to this action violated the (statute) (ordinance) (safety order) just read to you (and that such violation was a (proximate) (legal) cause of injury to another or to himself), you will find that such violation was negligence (unless such party proves by a preponderance of the evidence that he did what might reasonably be expected of a person of ordinary prudence acting under similar circumstances, who desired to comply with the law. In order to sustain such burden of proof, such party must prove by a preponderance of the evidence that he was faced with circumstances which prevented compliance or justified noncompliance with the (statute) (ordinance) (safety order)).

"Duty of the Driver of Vehicle on Public Highway" (BAJI 5.00):

It is the duty of the driver of any vehicle using a public street or highway to exercise ordinary care at all times to avoid placing the driver or others in danger; (and) to use like care to avoid an accident; (to keep a proper lookout for traffic and other conditions to be reasonably anticipated) (and) (to maintain a proper control of the vehicle).

"Basic Speed Law" (BAJI 5.30):

The speed at which a vehicle travels upon a highway (not in excess of _____miles per hour), considered as an isolated fact and simply in terms of so many miles an hour, is not proof either of negligence or of the exercise of ordinary care.

Whether that rate of speed is a negligent one is a question of fact, the answer to which depends on all the surrounding circumstances.

The basic speed law of this State (as provided by Section 22350 of our Vehicle Code) is as follows:

- No person shall drive a vehicle upon a highway at a speed greater than is reasonable or prudent having due regard for weather, visibility, the traffic on, and the surface and width of, the highway, and in no event at a speed which endangers the safety of persons or property.
- A violation of this basic rule is negligence.

Federal Case Law

Introduction

Law enforcement is required to operate in a dynamic environment of case law decisions. As the courts decide what proper and improper conduct is, it is our responsibility to adapt our policies and training to meet those interpretations. Section 17004.7 of the California Vehicle Code provides civil immunity, under certain conditions, to public entities during pursuits—specifically where the actions of fleeing suspects have caused third-party injury or death.

The initial response by plaintiffs' attorneys to this immunity protection was to seek a detailed critique of the actions of law enforcement personnel in each pursuit and attempt to show noncompliance with the

policy. In Kishida v. State of California and Weiner v. City of San Diego, the state appellate courts ruled that if an agency's policy is ruled compliant with certain standards cited in the law, then the immunity exists. In Montes v. United States, the federal courts upheld the protections of the California law to federal law enforcement agencies whose policies met those standards. No further review of officer actions was required under case law.

The obvious next step for plaintiffs' attorneys was to attack the individual policy of the agency for being noncompliant with the minimum standards of Section 17004.7. In Colvin v. City of Gardena, a police department policy was ruled lacking in guidelines for initiating and discontinuing vehicular pursuits, and failing to provide procedures for designating the primary unit and the number of participating vehicles. The court felt that too much was left to individual officer discretion. This resulted in more specific guidelines or factors for consideration being established in policies. This ruling allowed the plaintiff's case to be tried in court at a later date, without the automatic immunity guarantee provided by Section 17004.7.

The state courts began granting immunity to law enforcement agencies whose policies met the court review process as to compliance with Section 17004.7. Agencies have adopted policies that have become more and more standardized. Plaintiffs' attorneys have subsequently turned to the federal court system for compensation because the immunity provided by Section 17004.7 CVC does not apply under federal law. In federal court, a plaintiff must prove a constitutional violation, primarily of the Fourth and Fourteenth Amendments in pursuit driving situations. The Federal Civil Rights Act (Title 42, U.S. Code, Section 1983) provides an avenue for these plaintiff actions. Some case law decisions that have an impact on law enforcement vehicle operations are not driving-related. That does not minimize the importance of the judicial opinion and its influence on the driving policy we establish, and the manner in which we conduct ourselves on the job while behind the wheel.

Refer:

- Kishida v. State of California, 229 Cal.App.3d 329,280
- Cal.Rptr. 62 (1991)
- Weiner v. City of San Diego, 229 Cal.App.3d 1203,280
- Cal.Rptr.818 (1991)
- Montes v. United States of America, 778 F.Supp. 19 (S.D.Cal. 1991)
- Colvin v. City of Gardena, 11 Cal.App. 4th 1270, 15
- Cal.Rptr. 2d 234 (1992)

MONELL vs. NEW YORK CITY DEPARTMENT OF SOCIAL SERVICES, 436 U.S. 658, 98 S.Ct. 2018 (1978)

Summary of Case

Female employees of the City of New York sued their respective agencies alleging an official policy compelling pregnant employees to take unpaid leaves of absence before such leaves were required for medical reasons. The principal question at issue was whether the "Federal Civil Rights Act" (Title 42, U.S. Code, Section 1983) is applicable to governmental entities as "individuals" so that a lawsuit could go forward.

Case Law Decision

The Supreme Court concluded that it was the intent of Congress to include local government agencies in the definition of "person" under Section 1983. They could not be granted the federal immunity provided to the state government. That allowed these entities to be sued directly for monetary, injunctive, and declaratory relief where allegedly unconstitutional conduct "implements or executes a policy statement, ordinance, regulation or decision officially promulgated by that body's officers." The Court also ruled that a lawsuit could occur against unofficial policy or custom even if it has not received formal approval. Prior to this case, a plaintiff could not sue a public entity or agency in Section 1983 cases.

Impact on Law Enforcement

The number of lawsuits against local government entities increased tremendously where "policies, customs, or practices" could be viewed as violating Constitutional guarantees. Policy makers are now more likely to write guidelines that are more clearly understood by their employees, with the expectation that there will be more compliance. With more specific language comes accountability and a potentially stricter interpretation by the courts. Training is likely to be held accountable for properly preparing employees to follow the rules in their daily duties.

TENNESSEE vs. GARNER, 105 S.Ct. 1694,471 U.S. 1, 85 L.Ed.2d 1, 53 USLW 4410 (1985)

Summary of Case

Memphis officers responded to a report of a nighttime residential burglary. An officer observed and chased a fleeing 15-year-old suspect through the rear yard. The officer could not articulate any concern that the suspect was armed or provided an immediate threat to the officer or others. The apparent sole purpose of his use of a firearm against the suspect was to prevent escape, which was permitted at that time under Tennessee law. The suspect was shot and killed, and no state charges were filed against the officer. The suspect's father brought a wrongful death action under the federal civil rights statute, against the officer and his department. He alleged that the force used was excessive and in violation of the suspect's right to be free from unreasonable seizures under the Fourth Amendment.

Case Law Decision

In a split decision, the Supreme Court ruled that the application of the Tennessee law was unconstitutional and that the officer unreasonably "seized" the suspect through the use of deadly force. The old English Common Law interpretation justifying the use of deadly force on fleeing felons was viewed as too strict incurrent times, given the fact that not all felonies today are capital crimes as they were hundreds of years ago. Additionally, the Court cited the fact that in practice, many police agencies required a stricter standard for use of deadly force (the capability and opportunity to seriously harm) than most state laws. A factor that weighed heavily in this case involved the lack of articulated justification by the officer to stop the suspect from fleeing by use of deadly force. The sole reason of preventing escape was ruled not sufficient. There was no reasonable evidence that this was anything other than a property crime, not a violent crime.

Impact on Law Enforcement

Although this is not a driving case, it is cited repeatedly in situations where deadly force, or its equivalent,

is used. During the vehicular pursuit of a fleeing suspect, an officer must consider the nature of the crime and the threat the suspect presents to the public when deciding what tactics will be employed. The use of firearms, ramming, etc. to stop the suspect should only occur in cases where deadly force would be reasonable and justified. The mere fact that the crime is a felony may not be sufficient to justify an action or tactic that is subsequently deemed by the court to be the equivalent of deadly force. As stated in this decision, "Whenever an officer restrains the freedom of a person to walk away, he has seized that person. It is plain that reasonableness depends on not only when a seizure is made, but also how it is carried out."

BROWER vs. INYO COUNTY,489 U.S. 593, 109 S.Ct. 1378 (1989)

Summary of Case

In 1984, a deputy sheriff was pursuing a grand theft auto suspect at night in a rural area at high speed. After about twenty miles, the deputy requested a roadblock to stop the suspect. An assisting unit established a roadblock by positioning a tractor–trailer across the roadway on the backside of a curve. The assisting deputy also positioned his unit near the curve and used his vehicle spotlight in such a manner that it blinded the suspect's view of the roadblock. The suspect was killed in the subsequent collision with the trailer that was blocking the roadway.

Case Law Decision

The Supreme Court stated that in this case, the use of a "deadman's roadblock" was deemed a violation of the suspect's Fourth Amendment rights, particularly because it was intentionally applied. There was no opportunity for the suspect to do anything but crash, given specific actions of the deputy at the roadblock. This ruling was also influenced by Tennessee v. Garner.

Impact on Law Enforcement

This ruling makes a strong statement about the potential for specific driving actions being deemed a violation of a suspect's Fourth Amendment right to be protected from unreasonable seizure. Tactics that are reasonably likely to cause serious injury or death to a suspect will be scrutinized in the future. This case ruled that seizure may be applied where a pursuit results in a "termination of freedom of movement through means intentionally applied." The criteria stated in Tennessee v. Garner (using deadly force only when the nature of the crime and the potential threat to public safety caused by the suspect can be articulated) will be influential in any decision of the court. It is not likely that the court will permit certain tactics on suspects wanted for minor offenses. Actions taken by law enforcement likely to produce the same result as the use of firearms should only be utilized in situations where deadly force would be justified and reasonable.

Note: The driving tactic commonly known as "Pursuit Intervention Technique" (PIT) is not the same as "ramming." When applied as trained, it has been demonstrated that PIT is relatively safe. Its use, like any other form of "legal intervention," carries potentially increased liability because it is initiated by law enforcement. Guidelines for its use, as in any offensive tactic, should be carefully prepared and adequately trained prior to use. Many departments have placed PIT and road spikes in a separate category from other forms of legal intervention in their policies and do not categorize these tactics as using deadly force. The key to this issue is whether a certain tactic is allowed per policy and how and when the tactic is applied?

CANTON vs. HARRIS, 489 U.S. 378, 103 L.Ed. 412, 109 S.Ct. 1197 (1989)

Summary of Case

The plaintiff was arrested by officers and taken to the department lockup. The plaintiff was incoherent and fell to the floor. She was allowed to remain on the floor so that she would not fall again and no medical aid was summoned. The Watch Commander had sole responsibility for determining whether an inmate should receive medical attention. Watch Commanders receive no special training other than basic first aid to evaluate inmates in custody who might require medical care. Upon release, the plaintiff was taken by her family to a hospital where she was admitted for one week for severe emotional ailments. She required a year of outpatient care.

Case Law Decision

The Supreme Court held that a municipality or its agencies may be subject to civil rights liability if it can be demonstrated that a constitutional violation occurred as a result of its policy (or lack of policy). In this case, the matter involved a lack of training for Watch Commanders. It was determined that there was a "reasonable expectation" that Watch Commanders would be faced with situations where inmates in their custody would require medical care. The court ruled that if it reasonably expected that a Watch Commander would be required to evaluate the medical needs of persons in their care, then there should be some form of training provided them to aid in their evaluation. Inadequacy of police training may serve as a basis for civil rights liability only where the failure to train amounts to "deliberate indifference" to the rights of persons with whom the police come into contact. Deliberate indifference is generally described as when action is not taken in face of a strong likelihood, rather than a mere possibility that failure to provide action will result in harm. It generally requires some level of conscious indifference. If the need for different training (than normally received) is so obvious that violations of constitutional rights are likely, then the policy makers can reasonably be said to have been "deliberately indifferent" to that need. It is the adequacy of the program that is key, not the shortcomings that may result from the actions of an individual that is negligent. The plaintiff must prove the deficiency of the training program actually caused the police officer's indifference to the constitutional rights of the plaintiff.

The court cited, as an example, the issue of a law enforcement agency arming its officers with firearms and the likelihood that those officers would be called upon at some time to attempt to arrest persons who flee from them. The constitutional guarantees secured under such case law as Tennessee v. Garner will be expected to be taught to officers who are likely to be faced with fleeing suspects who fail to heed warnings to stop. The need for such training is "so obvious" that failure to do so could properly be characterized as "deliberate indifference." The same argument could easily be made in pursuit situations regarding law enforcement's choice of actions to take against suspects fleeing in a vehicle.

A second method of municipal liability for failure to train is where it is shown that the policy makers were aware of and acquiesced in a pattern of constitutional violations involved in the exercise of police discretion. Such a pattern would put the municipality on notice that its officers confront a peculiar situation on a regular basis and that they often react in a manner contrary to constitutional requirements. This would amount to "deliberate indifference" or tacit authorization.

Impact on Law Enforcement

The need for training law enforcement personnel in the proper operation of law enforcement vehicles

in an effort to provide enhanced public safety is very obvious. POST minimum guidelines and state legislation (e.g., 13519.8 P.C.) require certain training to occur. Updating training and keeping it responsive to the needs of society is a method of assuring adequacy. All training should be periodically reviewed and critiqued as to its validity and relevance. If and when a driving tactic is added to an agency's accepted field procedures, it should be adequately trained. That is particularly important when the action can impact safety, whether it is for the public, the officer, or the suspect.

LEWIS vs. SACRAMENTO COUNTY (At time of printing: 96-1337, May 26, 1998)

Summary of Case

A deputy sheriff observed two juveniles on a motorcycle at the scene of a fight call that had been handled. The juveniles had driven up on the location at high speed not wearing helmets. They were not involved in the original disturbance. The deputy saw a city police vehicle's overhead lights come on and the city officer yell something at the juveniles, but the deputy could not hear what was said because his windows were up. The city officer attempted to position his vehicle adjacent to the deputy's vehicle to prevent the two boys from leaving. They maneuvered slowly between the two patrol cars and sped off. The deputy initiated a pursuit, which lasted about seventy-five seconds and covered 1.3 miles. Posted speed limits along the route were as low as 30 miles per hour. The average speed of the vehicles was later calculated at 60 miles per hour, with a high speed of approximately 100 miles per hour. The pursuit went through four stop lights and three ninety-degree turns. During the pursuit, two cars and a bicycle were forced to swerve off the roadway. It is estimated that the deputy's following distance was as little as 100–150'. After the suspects' motorcycle crested a hill, the operator attempted to make a left-hand turn and skidded to a halt. After the deputy's vehicle came over the hill at a high rate of speed, he attempted to stop when he saw the stopped motorcycle in his path. The motorcycle passenger was struck and killed by the deputy's vehicle.

Case Law Decision

The Supreme Court accepted an appeal of the Court of Appeals decision in this matter "to resolve a conflict among the Circuits over the standard of culpability on the part of a law enforcement officer for violating substantive due process in a pursuit case." The Court established a necessary standard of "shocks the conscience" rather than "deliberate indifference" or "reckless disregard" to determine a violation of substantive due process under the Fourteenth Amendment. It further ruled that this standard had not been met in this incident. The Court stated that "a police officer does not violate substantive due process by causing death through deliberate or reckless indifference to life in a high-speed automobile chase aimed at apprehending a suspected offender."

In addition, the Court found no violation of the Fourth Amendment related to search and seizure because "neither of which took place here." There was no argument as to a search and the Court found no violation of seizure in this matter because the fleeing suspect's "freedom of movement" was not terminated "through means intentionally applied." The Court found no seizure "where a police officer accidentally struck and killed a fleeing motorcyclist during a high-speed pursuit."

The Supreme Court ruled that conduct deliberately intended to injure in some way, that is unjustifiable, by any government interest is the sort of official action most likely to rise to the conscience-shocking level." The Court expressed the concern that "in circumstances of a high-speed chase aimed at apprehending a suspected offender, where unforeseen circumstances demand an instant judgment on the

part of an officer who feels the pulls of competing obligations, only a purpose to cause harm unrelated to the legitimate object of arrest will satisfy the shocks the conscience test."

The Court stated that the officer "was faced with a course of lawless behavior for which the police were not to blame ... had nothing to cause [the suspect's] high-speed driving in the first place, nothing to excuse his flouting of the commonly understood police authority to control traffic, and nothing (beyond a refusal to call off the chase) to encourage him to race through traffic at breakneck speed."

The Court recognized that "like prison officials facing a riot, the police on an occasion calling for fast action have obligations that tend to tug against each other. Their duty is to restore and maintain lawful order, while not exacerbating disorder more than necessary to do their jobs. They are supposed to act decisively and to show restraint at the same moment, and their decisions have to be made in haste, under pressure, and frequently without the luxury of a second chance. Police officers are often forced to make split-second judgments in circumstances that are tense, uncertain, and rapidly evolving.

A police officer deciding whether to give chase must balance on one hand the need to stop a suspect and show that flight from the law is no way to freedom, and, on the other, the high-speed threat to everyone within stopping range, be they suspects, their passengers, other drivers, or bystanders."

The Court declined to rule on the potential liability of the County under state law, instead dismissing the ... claims against the County without prejudice to refiling in state court. It further found "no genuine factual dispute as to whether the County adequately trains its officers in the conduct of vehicular pursuits or whether the pursuit policy of the Sheriff's Department evinces deliberate indifference to the constitutional rights of the public."

Impact on Law Enforcement

A standard of "shocks the conscience" has been set as to a violation of constitutional guarantees of suspect rights under the Fourteenth Amendment. The primary consideration has been established requiring an "intentional act" to harm a suspect, or maliciously deprive that suspect of due process rights.

This ruling addresses issues related to civil claims involving fleeing suspects. The Court made it very clear that "prudence would have repressed the reaction" to give chase under the circumstances of this case. The issue of balancing the need to show that using a vehicle to avoid arrest and escape justice versus the safety concerns that continuing to chase present was recognized by the Court.

Emphasis should be clearly stated in law enforcement pursuit training to continuously evaluate the balance test from moment-to-moment during the conduct of a pursuit. Safety and compliance with state laws and agency policy should continue to be the priorities in training and pursuit operations.

Agency Policies and Procedures

Agency driving policies must adhere to the California Vehicle and Evidence Codes as noted in this chapter. These regulations may be more stringent than statute law and may increase the risk of civil liability.

EVOC Instructors should be familiar with various agency pursuit policies and ensure that students acknowledge their need to understand their agency pursuit policy and emergency driving procedures.

CHAPTER FIFTEEN
INSTRUCTIONAL EQUIPMENT

Audio–Visual Equipment

- Computer & projector
- Monitors
- Screen
- Interactive system
- Presentation software

Visual Aids

- Videos
- Slides
- Chalkboard/dry erase board
- Chart/easel
- Diagrams/maps
- Props

Simulators

- Shuffle steering
- Judgement
- Decision-making

Vehicles

- Law enforcement training vehicles
- Skid pan or SkidCar vehicles
- Auxiliary support vehicles
- Suspect and interference vehicles

Communication and Electronic Equipment

- Two-way radios (for training and emergency use)
- Telephone/Cellphones
- Public address systems
- Recorders (siren/dispatcher/voice simulators)

Safety and Control Equipment

- Two/Three-phase signal (collision avoidance exercise)
- Light control box (collision avoidance exercise)
- First aid kits
- Fire extinguishers
- Pry tool
- Portable generators
- Safety guidelines

Considerations for Additional Equipment on High-Speed Courses

- Four-point or five-point occupant restraint system
- Roll bars
- Helmets
- Auxiliary brake
- Ignition kill switch
- Emergency extraction equipment

APPENDIX A
SIREN TYPES

Siren Types

Title 13, Section 8 California Code of Regulations

Section 1020 - Scope

This article applies to sirens for use on authorized emergency vehicles in accordance with Vehicle Code Section 27002.

Section 1021 -Definitions

A "siren" is an audible warning device that produces the readily recognizable warning sound identified with emergency vehicles.

- "Wail" is a siren sound producing a slow, continuous automatic cycling of increasing and decreasing frequencies and sound levels.
- "Yelp" is a siren sound producing a rapid, continuous automatic cycling of increasing and decreasing frequencies and sound levels.
- "Hi-Lo" is a non-siren sound alternating between a fixed high and a fixed low frequency, and is not legal in California.
- California Vehicle Code Sections related to sirens include:
  - 26103 CVC
  - 26104 CVC
  - 27002 CVC
  - 24012 CVC
- "ANSI" means a standard adopted by the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.
- "SAE" means a standard or recommended practice of the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096.

APPENDIX B
SAMPLE EVOC INSTRUCTOR COURSE OUTLINE

EVOC Instructor Course Outline

I. Peace officers need to demonstrate defensive driving principles and techniques in order to develop safe driving habits.

A. Demonstrate a safe distance when following another vehicle

1. Speed and distance traveled
2. Space cushion

B. BExperience the effect of speed and stress on a driver's peripheral vision

1. Other causes of tunnel vision

C. Experience how reaction time lapse affects vehicle stopping distance

1. Perception time
2. Decision/Reaction time

D. Demonstrate how to avoid potential hazards when entering intersections and appropriate actions to prevent collisions when driving a law enforcement vehicle

1. Clearing lane-by-lane
2. Left, right, left again

E. Recognize potential hazards of freeway driving and appropriate actions to prevent collisions

1. Positioning
2. Merging after stops

F. Demonstrate how to avoid potential hazards of operating a vehicle in reverse and appropriate actions to prevent collisions

1. Moving backwards, looking backwards
2. Proper use of mirrors
3. Tactical backing

G. Demonstrate the proper use of and identify the reasons for use of seatbelts and other occupant restraint devices in a law enforcement vehicle

1. The "3 Collisions"
2. Ejection
3. Injuries
4. Airbags
5. Crumple zones

H. Identify physiological and psychological factors that may have an effect on an officer's driving
    1. Attitudes and emotions
    2. Stress and human performance
I. Identify hazards of varied road conditions
    1. Weather
    2. Road surfaces
    3. Friction coefficients
J. Demonstrate a vehicle inspection
    1. Vehicle damage reporting requirements
    2. Fluids
    3. Tire pressure
        i. Effect on performance

II. Peace officers must recognize that emergency response (Code 3) driving demands a high level of concentration and instant reactions.
A. Identify the objectives of emergency response driving
    1. Arrive quickly
    2. Arrive safely
B. Recognize the statute governing peace officers when operating law enforcement vehicles in the line of duty
    1. Rules of the road
    2. Liability
C. Explain the importance of agency-specific policies and guidelines regarding emergency response driving
    1. Policy based on CVC
    2. Use of emergency equipment policy requirements
D. Identify the statutory responsibilities of non-law enforcement vehicle drivers when driving in the presence of emergency vehicles operated under emergency response conditions
    1. Hazards of passing on the right
E. Demonstrate the use of emergency warning devices available on law enforcement vehicles
F. Identify factors that can limit the effectiveness of a vehicle's emergency warning devices
    1. Open road
    2. Driving downtown
G. Demonstrate the use of communication equipment
    1. Communicate when on straight sections of roadway
    2. Do not stop looking for hazards when talking

H. Identify the effects of siren syndrome
    1. Stress and human performance
I. Recognize guidelines for entering a controlled intersection when driving under emergency response conditions
    1. Slow or stop if necessary
    2. Fluctuate siren
    3. Clear lane-by-lane

III. All officers who operate law enforcement emergency vehicles must recognize that even though the purpose of pursuit driving is the apprehension of a suspect who is using a vehicle to flee, the vehicle pursuit is never more important than the safety of officers and the public.
A. Identify the requirements of Penal Code Section 13519.8
    1. CVC and policy requirements
B. Recognize the risk to officer/public safety versus the need to apprehend
    1. The balance test
C. Discuss common ***offensive intervention tactics***
    1. PIT
    2. Ramming
    3. Spikes
    4. Road blocks
    5. Traffic breaks
D. Recognize conditions that could lead to the decision to terminate a vehicle pursuit
    1. Policy requirements
E. Demonstrate the safe operation of an emergency vehicle in a simulated pursuit
    1. Use of emergency equipment
    2. Clearing intersections
    3. Passing on the right scenarios
    4. Radio communication
    5. Proper road position
    6. Proper brake, throttle, and speed control

IV. Peace officers must be proficient in the operation of the vehicle and know the dynamic forces at work. Proper steering control, throttle control, speed judgment, and brake use enhances driving expertise.
A. Experience and control of lateral weight transfer
    1. Use of caster effect
    2. Proper focal point
B. Experience spring loading

1. Use of caster effect
2. Experience consequences of not dissipating spring loading

C. Demonstrate proper techniques for two-handed shuffle steering

D. Demonstrate proper throttle control

E. Demonstrate proper roadway position and the three essential reference points of a turning maneuver

1. Entry
2. Apex
3. Exit

F. Explain the primary effects speed has on a vehicle in a turning maneuver

G. Demonstrate proper braking methods

H. Distinguish between and describe the causes of the following types of vehicle skids

1. Understeer skid
2. Oversteer skid
3. Locked-wheel skid
4. Acceleration skid

I. Identify the causes and contributing factors of vehicle hydroplaning

V. Emergency Vehicle Operations instructors must be proficient in teaching the required elements of a driver training program through good communication skills, utilization of adult learning methods, and creating a safe learning environment.

A. Constructing the required learning activities

1. Identifying and alleviating potential safety hazards
2. Using appropriate equipment

B. Safety considerations

1. Adhering to safety plan
2. Covering safety with students each day
3. Equipment maintenance safety issues

C. Instructional delivery

1. Clear communication skills
2. Identifying types of learners
3. Identifying common problems
4. Remedial training issues
5. Completing the Competency Verification Checklist

APPENDIX C
SAMPLE EVOC INSTRUCTOR COURSE HOURLY DISTRIBUTION

EVOC Instructor Course Hourly Distribution (40 hours)

Day 1

0800-0815	Orientation and Registration
0815-1200	Small Groups: Group 1 – Performance Cornering & Code 3 Driving Introduction Group 2 – SkidCar
1200-1300	Lunch
1300-1700	Small Groups: Group 1 – SkidCar Group 2 – Performance Cornering & Code 3 Driving Introduction

Day 2

0800-1200	Small Groups: Group 1 – Focal Point Slalom, High-speed Slalom, High-speed Backing Group 2 – Code 3 Driving
1200-1300	Lunch
1300-1700	Small Groups: Group 1 – Code 3 Driving Group 2 – Focal Point Slalom, High-speed Slalom, High-speed Backing

Day 3

0800-1200	Small Groups: Group 1 – Pursuit Driving Group 2- Collision Avoidance Exercise, Barrel Race, Backing Slalom
1200-1300	Lunch
1300-1700	Small Groups: Group 1 – Collision Avoidance Exercise, Barrel Race, Backing Slalom Group 2 – Pursuit Driving

Day 4

0800-1200	Small Groups: Group 1 – Teaching Performance Cornering & Code 3 Driving Group 2 – Teaching Focal Point Slalom, High-speed Slalom, High-speed Backing
1200-1300	Lunch
1300-1700	Small Groups: Group 1 – Teaching Focal Point Slalom, High-speed Slalom, High-speed Backing Group 2 – Teaching Performance Cornering & Code 3 Driving

Day 5

0800-1145	Small Groups: Group 1 – Teaching Pursuit Driving Group 2 – Teaching Collision Avoidance, Barrel Race, Backing Slalom
1145-1245	Lunch
1245-1630	Small Groups: Group 1 – Teaching Collision Avoidance, Barrel Race, Backing Slalom Group 2 – Teaching Pursuit Driving
1630-1700	Evaluation and Critique

GLOSSARY

Acceleration
An increase in the speed of a vehicle.

Acute vision
Also known as visual acuity or focal point. The clear vision or that portion of what a person sees that is in focus. It constitutes approximately three to four percent of what a person sees, with the rest falling under the definition of peripheral vision.

Adhesion
The sticking tendency or traction relationship between two surfaces.

Aggression
A hazardous attitude characterized by mean, angry, and hostile driving.

Anti-lock braking system (ABS)
A computerized system that helps maintain rolling friction during hard braking. This provides for maximum braking effectiveness by preventing wheel lockup. It also provides the potential for steering capability during maximum braking by maintaining rolling friction.

Apex
Point in a turn where the vehicle comes closest to the innermost part of the available roadway.

Attitude
A state of mind that can be good, bad, or indifferent. Attitudes cannot be directly observed but must be inferred from overt behavior, both verbal and non-verbal.

Available roadway
The portion of the road available for your use. During normal driving, the available roadway includes only your lane(s). During emergency response and pursuit driving, the available roadway may include all lanes.

Balance test
This is a process of weighing the need to apprehend a suspect against the threat to public safety in deciding to initiate or continue a pursuit.

Balanced hand position
A wide grip on the steering wheel. Acceptable methods are an 8 o'clock and 4 o'clock position or, as an alternative, 9 o'clock and 3 o'clock position.

Braking distance
The distance from application of the brakes to complete stop.

Black Ice
An invisible, thin sheet of slick ice that is non-reflective and resembles bare pavement.

Blind Spot
Area that cannot be seen by a driver when using a vehicle's mirrors.

Brake fade
Loss of braking efficiency normally due to heat buildup resulting from excessive use.

Brake lock-up
The application of brakes to the point that the wheels can no longer rotate.

Braking distance
The distance through which brakes are applied to slow a vehicle; minimum braking distance is the shortest distance in which a particular vehicle can be stopped by braking from a specified speed on a particular surface; the distance from application of brakes to stop.

Braking, extended release
Begins with straight-line threshold braking and extends the release of the brake into the turn toward the apex.

Caravanning
A line of law enforcement vehicles following each other while in pursuit of a law violator.

Caster Effect
Design characteristic of a vehicle that helps keep the vehicle traveling in a straight line; also helps straighten out the front tires after a turning movement.

Central vision
That part of a driver's field of view that measures about 15 degrees around the focal point.

Centrifugal force
The force on a body in a curved motion that is directed away from the axis of rotation. A force that acts or impels an object away from the center of rotation.

Centrifugal skid (four wheel drift)
The loss of traction on all four tires traveling away from the axis of rotation.

Centripetal force
The force on a body in a curved motion that is directed toward the center axis of rotation. The force required to keep a moving mass in a circular path. A force that acts or impels an object toward a center of rotation. In the case of a vehicle, rotating front tires turning apply centripetal force.

Closure rate
The speed at which a vehicle is approaching a certain point.

Code 3 response
See *emergency response driving*.

Coefficient of friction
Measure of adhesion between two surfaces (e.g., a tire and the roadway); the lower the coefficient of friction, the more slippery the road surface.

Collision
An impact caused by a sequence of events that produces unintended injury, death, or property damage.

Collision avoidance
Maneuvering the vehicle from the intended path of travel quickly and efficiently to an alternate path of travel when the intended path of travel becomes unsafe.

Contact Patch
Area of the tire in contact with the roadway surface.

Countersteer
Turning the front wheels to counter the effects of a previous turning movement or of a skid in order to put the vehicle on its intended course of travel.

Deadly force
An action or force likely to cause death or great bodily harm (e.g., roadblocks, ramming, and use of firearms).

Deceleration
The change of speed as the vehicle slows down.

Defensive driving
Operating a vehicle in such a manner as to be able to avoid involvement in a collision regardless of the conditions. Anticipating and avoiding mistakes made by other drivers.

Discontinue
In the context of this document, discontinue describes the decision and actions of the pursuing law enforcement driver(s) who stops chasing a fleeing vehicle.

Driver capability
Level of proficiency pertaining to the successful operation of vehicles under all driving conditions.

Ego
A personality component that controls behavior. A state of mind that may cause a law enforcement officer to disregard caution and common sense.

Emergency
A situation in which there is a direct threat to a person's life and for which a rapid response by law enforcement will diminish the threat. Also, a crime in progress reported with sufficient promptness to demonstrate the strong likelihood of a response-related arrest.

Emergency response
Requiring immediate law enforcement response for the protection of life or property.

Emergency response call
A situation that requires immediate law enforcement attention for the protection of persons or property (also known as Code 3 response).

Emergency response driving
Operation of an emergency vehicle with red lights and siren in compliance with Vehicle Code Sections 21055 and 21056 (also known as Code 3 driving).

Emergency warning device
A solid red light to the front and a siren that meet the requirements of state statute(s).

Entry
The outside edge of the available roadway where turning begins.

Evasive action
Any action taken by a driver to avoid a hazardous situation. Steering, braking, or accelerating to avoid a collision or other accident.

Exit
The outside edge of the available roadway where the turn is concluded.

Extended release braking
Begins with straight-line threshold braking and extends the release of the brake into the turn toward the apex.

Failure to yield
In the context of this document, failure to yield refers to the actions of a vehicle operator who fails to stop or respond to the emergency light(s) and siren of a law enforcement vehicle. Generally, the vehicle operator continues to travel forward at or below the speed limit, observes traffic control devices and other applicable rules of the road, and does not change the direction of travel in an evasive manner.

Fight or flight mechanism
A reaction characteristic of all higher animals to an especially stressful situation. It prepares the animal/human to escape or fight by sending more blood to the skeletal muscles in order to sustain them during a fast attack or retreat.

Following
In the context of this document, following refers to the actions of a law enforcement officer to stay behind a vehicle and attempt to keep the vehicle in sight while complying with applicable laws and rules of the road.

Footprint (contact patch)
The area of the tire in contact with the roadway surface.

Force
An influence (e.g., a push or pull) that causes motion or change of motion.

Friction
Resistance to any force trying to produce motion; constantly present and always working opposite the direction in which an object is being moved. A force of resistance acting on a body that prevents or inhibits any possible slipping of the body.

Focal point
The specific point at which a driver is looking at any given moment.

Following distance
Distance maintained between a vehicle and the vehicle immediately in front of it.

Full throttle
Applying total compression of the accelerator pedal.

Front-end swing

Movement of the front end of a vehicle in the opposite direction of the steering input when driving in reverse, causing the front wheels to travel outside the path of the rear wheels.

Front-wheel skid
Occurs when the front tires have lost their adhesion to the ground and the vehicle does not travel in the direction it is being steered.

Guideline
In contrast to policy, which may prescribe or define courses of action or decision-making options, guidelines, in the context of this document, describe suggested discretionary actions regarding formulation of policy.

High visual horizon
Looking as far down the road as possible while observing the total driving environment.

Hydroplaning
Loss of contact between the tires and the roadway due to a layer of water between the vehicle's tires and the roadway surface.

Hyperventilation
Abnormally rapid or deep breathing in which excessive volumes of air are inhaled and little carbon dioxide is exhaled, which can cause buzzing in the ears, tingling of the extremities, and dulled perception.

Impatience
A hazardous attitude characterized by tension caused by the feeling of always being in a hurry.

Intervention tactics
In the context of this document, intervention tactics refers to specific operational tactics (e.g., pursuit intervention techniques [PIT], blocking, ramming, boxing, tire deflation device, and roadblock procedures) intended to disable a fleeing vehicle or otherwise prevent further flight or escape.

Lack of confidence
A hazardous attitude characterized by an underestimation of one's driving ability, often to the point of fear of driving.

Late apex
The inner most part of the turn beyond the geometric apex.

Late steering
To input steering late while driving in reverse because the wheels that provide steering are following the driver.

Lateral weight transfer
Weight transfer to the left side of a vehicle when a vehicle is turning right or weight transfer to the right side of the vehicle when a vehicle is turning left.

Law Enforcement Driving Simulator (LEDS)
A computer-based driving simulator used to introduce defensive driving concepts and decision-making processes.

Legal intervention
A use of force to terminate a pursuit situation.

Liability, criminal
The liability that is imposed upon a person who is guilty of gross negligence or misconduct.

Liability, civil
The liability that is imposed upon a person or agency for causing injury to another through negligence or willful misconduct.

Liability, vicarious civil
The liability that is imposed upon one who is without personal fault or complicity because of the relationship that the person bears toward the person who actually performed the wrongful act or omission.

Locked-wheel skid
When one or more of the vehicle's tires stops rotating and causes skidding over the roadway surface.

Longitudinal weight transfer
Weight transfer to the rear axle caused by acceleration or weight transfer to the front axle caused by deceleration or braking.

Maximum acceleration
Accelerating as quickly as possible to full throttle without losing traction.

Negligence
For civil litigation in some states, it is the failure of a law enforcement officer to conform his or her conduct to the standard deemed reasonable for a law enforcement officer under the same or similar circumstances.

Non-emergency (patrol driving)
All operations of a vehicle in other than an emergency or pursuit mode. Compliance with Penal Code 21052.

Offender
In the context of this document, offender refers to the subject operator and/or occupant(s) of a pursued vehicle.

Offensive intervention tactic
Specific operational tactic used by law enforcement officers with the intent to disable a fleeing vehicle or otherwise prevent further flight or escape (e.g., PIT, boxing, tire deflation devices, heading off, channeling, and road blocks).

Over-confidence
A hazardous attitude characterized by exaggerated opinion of one's driving ability and vehicle handling ability.

Oversteer (rear-wheel) skid
Loss of traction of the rear tires during a turn, causing the rear of the vehicle to slide toward the outside of the turn (also known as a rear-wheel skid).

Peer pressure
A hazardous attitude characterized by allowing real or perceived peer influence to override one's better judgment.

Perception time
The time it takes a driver to receive data through the senses and become aware of an object or potential hazard (for the average driver, the perception time is .75 seconds).

Peripheral vision
That part of a driver's field of view that lies outside the central field of vision.

Physiological factors
Factors such as vision. hearing, and fatigue that can interfere with defensive driving.

Policy
Policy may consist of values and principles that guide an agency's behavior or performance of its activity. It reflects a statement of guiding principles that should be done in order to achieve the agency's objectives. Agency policy may be more restrictive than state law.

Preoccupation
Thinking of or doing other things besides driving.

Primary unit
Initial pursuing officer in a vehicle pursuit.

Psychological factors
Attitudes and emotions that influence judgment and decision-making. (i.e., impatience, anger, overconfidence, etc.).

Psychomotor skill
Proficiency of movement or muscular activity associated with mental processes.

Pursuit driving
The act or instance of chasing or pursuing a fleeing vehicle in an attempt to apprehend the driver and/or occupants.

Reaction time
Amount of time after a driver has perceived an object or potential hazard until the driver makes a decision and initiates an action (for the average driver, the decision/reaction time is .75 seconds).

Rear wheel cheat
Tracking of the rear tires of a vehicle inside the path of the front tires during a forward turn.

Rear-wheel skid
The skid occurring when the rear wheels have lost their grip with the road, causing the back of the vehicle to swing out. Also referred to as "oversteer."

Ride-down effect
Vehicles are engineered to crumple in a controlled manner. Vehicle crumple zones and airbags along with the stretch built into the seatbelts help extend the time it takes the body to slow down. Seatbelts secure the occupant in the vehicle so the person can take maximum advantage of the extended stopping time and distance afforded by this ride-down effect.

Right-of-way
Rules governing situations when multiple vehicles are competing for the same space.

Roadway position
The position of the vehicle on the roadway. Proper roadway positioning maximizes speed and minimizes steering, which reduces the risk of losing vehicle control while negotiating a turn. Also known as the "driving line."

Rolling friction
Maintaining tire rotation without skidding.

Rules of the road
Rules prescribed for any citizen operating a motor vehicle on California highways.

Secondary unit(s)
Back up unit(s) in a vehicle pursuit.

Secondary Skid
Skid immediately following an initial skid, but in the opposite direction of the original skid.

Self-righteousness
Hazardous attitude characterized by the tendency to think that one is always right.

Shuffle steering
Both hands move up and down the wheel parallel to each other until touching at 12 o'clock position or the 6 o'clock position at which time the transfer of control from one hand to the other occurs.

Siren
Device used to generate and transmit the easily recognized oscillating sound whose frequency varies with time, and used as a warning signal by police vehicles, fire vehicles, and ambulances. There are two types of sirens modes: wail and yelp.

Siren syndrome
Psychological and physiological condition caused by the stresses of Code 3 operations that affects the decision-making ability of a law enforcement officer and, thus, negatively affects physical driving performance.

Skid
Loss of traction to one or more tires.

Skid, braking
The loss of traction when one or more wheels are locked by excessive braking pressure (absent an ABS).

Skid, cornering
The loss of traction in negotiating a curve or turn at a speed faster than can be sustained by the tire to road cornering traction limits.

Space cushion
Open area and maneuvering room surrounding a vehicle while it is in motion (also known as an "escape route" to the front, rear, and sides of the vehicle).

Space management
Selection of the best speed control, path of travel, or communication technique to maximize control of the space surrounding the vehicle.

Speed judgement
The driver's ability to evaluate how the present speed of the vehicle can be increased or decreased to appropriately meet the next driving task.

Spring loading
Energy buildup in a vehicle's springs when the vehicle experiences weight transfer.

Steering recovery
Controlled reduction of steering input causing a vehicle to return to a straight line of travel.

Stopping distance
The total of perception time and decision/reaction time plus the actual braking distance required to bring a vehicle to a stop.

Stress
Mental, emotional, or physical strain or distress that can dull perception and initiate the body's fight or flight mechanism.

Supervisor
In the context of this document, a supervisor is a person who has specific, formal responsibility for issuing orders and providing direction to subordinates. Supervisory responsibility may begin at any level and extend to the highest executive level in an agency.

Tactical seatbelt removal (TSR)
The disengaging and retraction of the seatbelt in a swift and efficient manner as the patrol vehicle is coming to a stop.

Terminate
In the context of this document, terminate describes the decision and actions of the pursuing law enforcement driver(s) who stops chasing a fleeing vehicle. Also referred to as "discontinue."

Threshold braking
Maximum brake application prior to wheel lockup. In vehicles equipped with Anti-lock Braking Systems (ABS), it is the maximum application of the brake just prior to engaging the ABS.

Throttle
Vehicle gas pedal or accelerator pedal.

Tire Pressure (psi)
Amount of air in the tire measured in pounds per square inch (psi).

Traction
The adhesive friction of a tire on the roadway surface.

Traction limit
The upper limit of the traction available to keep a vehicle under control.

Training, refresher
Training given to a person after they have been inactive for a period of time or to freshen knowledge, skills, and abilities infrequently used.

Trunk fixation
A tendency of law enforcement drivers to concentrate on a fleeing vehicle to the point that they (the officer) begin to unconsciously duplicate the suspect's unsafe driving maneuvers.

Tunnel vision
A reduction of peripheral vision.

Understeer (front wheel)skid
Loss of traction to the front wheels while attempting a turn. This results in the vehicle continuing in a straighter line than intended.

Vehicle abuse
Intentionally negligent behaviors or driving actions that can lead to mechanical damage.

Vehicle capability
The performance characteristics and limits engineered into a specific vehicle.

Vehicle control
An understanding of the principles and developing the proficiency pertaining to the successful operation of vehicles under all driving conditions.

Vehicle dynamic
Any force or condition that affects the control and direction of a vehicle in motion.

Vehicle pursuit
An event involving one or more law enforcement officers attempting to apprehend a suspect who is operating a motor vehicle while attempting to avoid arrest by using high speed or other evasive tactics, such as driving off a highway, turning suddenly, or driving in a legal manner but willfully failing to yield to the officer's signal to stop.

Velocity
The rate of change in position relative to time.

Visual horizon
The point at which a driver's eyes are focused on the roadway.

Weight transfer
Transfer of a vehicle's weight to the front or rear (longitudinal) or side to side (lateral) caused by acceleration, deceleration, steering, or braking or any combination thereof.