Driving Simulator Training Outline

Tulare County Sheriff's Office

- **Introductions / Overview of Course**
  - **Staff / students introductions and evaluations**
    - Class documentation
    - Safety briefing
  - **Program purpose and philosophy**
    - Create a positive attitude toward vehicle operation
    - Increase officer survival and public safety
    - Increase awareness as a driver
- **Classroom Presentation**
  - **Liability Issues**
    - Lawsuits
    - Disciplinary action
    - Monetary losses and loss due to injuries
    - Vehicle and equipment loss
  - **Vehicle Control Techniques Overview and Application**
    - **Review of Known Concepts**
      - Work through each concept by questioning its impact on driving and vehicle control
      - Consider asking students to further explain, demonstrate, or illustrate concepts
      - High Visual Horizon
        - Look as far ahead as possible
        - Scan with head movement
        - Always try to give as much time and space as possible to adjust to circumstances
      - Steering
        - Two handed shuffle steering with soft grip
        - Minimizes steering inputs and enhances control
      - Braking
        - Right foot braking
        - Threshold braking
        - Straight line braking
      - Acceleration
        - Use for collision avoidance
        - Erratic application may cause loss of control
        - Smooth acceleration minimizes weight transfer
      - Weight Transfer
        - Lateral (side to side) / longitudinal (front to back)

        - Always attempt to introduce the least amount of weight transfer as possible, as this allows for maximum traction of all four tires
    - Road Position
        - Apexing (high low high)
        - Using proper driving line (center of roadway when code-3)
        - Improves visibility of vehicles
        - Provides more room for evasive action
    - Speed Judgement (22350 CVC)
        - Speed and over driving your headlights
        - Weather, road and traffic conditions
        - Knowing how much time and space is available. Allows for speed and path adjustment
- **Defensive Driving**
    - Tactical proactive driving
    - Maintaining vehicle control
        - Seatbelts and Airbags
        - Anticipating hazards and actions of others
    - The defensive driver
        - Avoids collisions regardless of right of way
        - Recognizes hazards
        - Reacts properly to hazards
        - Maintains a professional attitude
    - Recognizing dangerous attitudes
        - Overconfidence
        - Self-righteousness
        - Impatience
        - Pre-occupation
        - Fatigue
        - Speed
- **Intersection Analysis**
    - Scan intersection for dangerous areas
        - Failure to recognize perception, decision, reaction time requirements necessary to properly clear an intersection
    - Look in all directions (left, center, right, left)
    - Clear intersections lane by lane if necessary
    - Both hands on the steering wheel
    - Identify hazardous areas and prepare for them (move away from danger)
    - Move your vehicle to the best roadway position to see danger
    - Slow or stop as necessary for safety

        - Failure to arrive safely renders no assistance and creates another emergency
- **Emergency Vehicle Operation Regulations**
    - Vehicle code section (21052 CVC)
        - Routine driving (non code-3)
        - Obey all rules of the road
    - Violation of "rules of the road" when not Code-3 may present liability problems if in an accident
    - Proper lighting
    - Proper audio signal (siren)
    - Conditions that allow for a code-3 response
        - Fire
        - Emergency
        - Rescue
        - Pursuit (FERP)
    - Vehicle code section (21056 CVC)
        - Drive with due regard for others
        - Regardless of right of way
    - Vehicle code section (21806 CVC)
        - Other motorists duty to yield
        - Knowledge of approach
        - See emergency light and hear siren
        - Passing other vehicles (code-3)
- **Emergency Driving Policy and Procedures Legal Provision**
    - State law
        - 21055 CVC (exemption)
            - Provides exemption from "rules of the road"
            - Proper siren as is reasonably necessary
                - Conditions that allow for a code-3 driving (fire, emergency, rescue, pursuit)
        - TCSO Policy 309 / 17004.7 CVC
        - Case Law (Sac. Co. v. Lewis)
    - Vehicle Code Section 21056 CVC
        - Section 21056 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.
    - Vehicle Code Section 17004.7 CVC (TCSO Policy 309) Department policy must include
        - Supervisory control
        - Designation of primary unit and total units involved

        - Coordination with other jurisdictions
        - Guidelines for initiation and termination
- **Passing Other Vehicles (Code -3)**
    - 21806 CVC requires motorists to pull to right and stop for emergency vehicles operating code-3
        - Allow motorists time to hear, see, react
        - Pass on the left when possible and safe
    - If you must pass on the right, slow down to allow yourself time to react
        - Collision avoidance
    - Maintain a high visual horizon
        - Responsivity to drive at a speed with due regard for environmental factors
    - Maintain a safe space cushion
        - Drive with due regard for safety of persons and property
    - Perception and reaction time
        - Speed
        - Average perception, decision and reaction time is approx. 1.5 seconds
    - Anticipate other's actions
    - Anticipate other's actions
    - Look through turns before entry
    - Consider steering to the rear of the conflict vehicle
    - Drive around the problem
        - Use while driving in a straight line
        - Stay calm and speak clearly
        - Provides recorded documentation of activities
        - Avoid radio use while clearing intersections
    - Dangerous distractions
        - Electronic devices
        - Prisoners
        - Eating and drinking
        - Fatigue
- **Pursuits**
    - Type of offense
    - Speeds involved
    - Public safety
    - Officer safety
    - Traffic volume (pedestrians)
    - Time of day
    - Weather/road conditions
    - Familiarity with the area

- **Emotional Factors**
    - Siren syndrome
        - Physiological
    - Adrenaline rush
    - Need for self-control
    - Post-pursuit discipline
- **Termination of Pursuits**
    - Decision to pursue not irreversible
    - Based on all factors (past, current, future)
    - Unreasonable danger
        - Speed
        - Traffic volume
        - Maneuvering required
        - Capability of the driver and vehicle
- **Vehicle Operation Tactics**
    - Close distance before attempting stop – Consider potential immunity & liability issues
        - Driving with due regard to the public
        - The rules of the road cannot be violated without the use of lights / sirens
        - Does the law allows for the use of lights / sirens
        - You may have immunity from liability but you never have immunity from physics
    - Activation of Lights and Sirens
        - Before violating the rules of the road, activate lights and sirens
        - Turning off emergency equipment prior to the arrival at the scene for tactical reasons is acceptable but only if no longer violating the rules of the road
    - Vary pitch of siren approaching intersections
        - This helps other drivers locate the police vehicle
    - Consider backing off if an air unit is present
        - This is done in attempt to slow or lessen the dangerous behavior of the violator
    - Spacing of units to ensure safety
        - Leave adequate space cushions between involved units, at least 3 seconds
    - Proper braking distance
    - Sufficient reaction time/distance
    - Avoid tracking & tunnel vision
    - Offensive tactics (attempt to stop by)
        - Boxing in

        - Pursuit Intervention Technique (P.I.T.)
        - Heading off
        - Road spikes
        - Driving alongside
        - Ramming
    - Pursuits are following actions
        - No caravanning or paralleling by non-involved units
        - NO passing unless requested
        - Spacing of units to ensure safety
        - Proper braking distance
        - Sufficient reaction time/distance
    - Options
        - Roadblocks
            - Last resort
            - Generally ineffective
        - Road spikes
            - Time and availability of equipment
            - Controlled direction of travel
            - Potential danger to pursuing units
    - Blocking public access
        - Intersections
        - On and off ramps
            - For public and officer safety
            - Coordination/communication between units
            - No guarantee of safety through intersections
- **General Pursuit Considerations**
    - Penal Code Section 13519.8
        - Outlines the content and manner of training to be provided to allow for VC 17004.7
        - Vehicle Code Section 17004.7
        - Provides for public agency immunity if the agency adopts a written pursuit policy that includes specified standards and provides training on the policy on a regular basis
    - All persons involved are held accountable
    - Balance need for apprehension vs. risk created
    - Roll of the supervisor should be well defined and understood
    - Primary and secondary units only, unless additional authorized
    - Use of firearms and deadly force limited and policy issue
    - Proactive Pursuit Tactics
        - Pursuit Intervention Technique (PIT)
        - Road spikes
    - Factors influencing pursuit initiation, continuation, and termination

        - Public safety
        - Nature of offense and apparent circumstances
        - Officer safety
        - Vehicle Code and policy requirements
        - Passenger in officer's vehicle (e.g. citizens, witness, prisoner)
        - Pedestrian and vehicular traffic patterns and volume
        - Other persons in or on pursued vehicle (e.g. passengers, co-offenders, hostages)
        - Location of the pursuit (e.g. school zone, playground, residential, downtown)
        - Time of day
        - Speed of fleeing suspect
        - Weather and visibility
        - Road conditions
        - Identity of offender (if known)/offender can be located at a later time
        - Capabilities of law enforcement vehicle(s)
        - Ability of officer(s) driving
        - Availability of additional resources
        - Whether supervisory approval is required
        - Officer's/supervisor's familiarity with the area of the pursuit
        - Quality of radio communications (e.g. out of range, garbled, none)
    - Emotional Factors Impacting Pursuing Officers
        - Remain calm, analytical and professional, it's not personal
        - Partners must watch out for each other and make sure they are operating under control, it's a team effort
        - Siren syndrome (physiological)
        - Adrenaline rush
        - Tunnel vision
        - Need for self-control
        - Post-pursuit discipline
    - Pursuits are following actions
        - No caravanning or paralleling by non-involved units
        - No passing unless requested
- **Safe Driving Tactics**
    - Activation of lights and sirens
        - Close distance before activation if possible
        - Vary siren pitch approaching intersections
- **Radio use while driving**
    - Use while driving in a straight line

- Stay calm and speak clearly
    - Provides recorded documentation of activities
- Mobile Data Terminal (MDT)
    - Refrain from using any equipment while driving that requires taking eyes from road
    - If required, use extreme caution
    - Communications of immediate nature use radio
    - Collisions while using M.D.T. will usually be preventable
- Intersection and Cross Traffic
    - Intersection analysis should start early before entering intersection
        - Identify hazardous areas and prepare for them (move away from danger)
    - Slow or stop before entering intersections
        - Look in all directions (left, right, left)
    - Clear intersections lane by lane if necessary
    - Both hands on the steering wheel
    - Prima Fascia speed limit
        - Safe speed for conditions
        - Blind intersection 15 mph
        - Stop if necessary

- **LEDS System Orientation**
    - Five screens, 2000 field of view
    - Adjustable swivel seat with release
    - Seat Belt
    - Steering wheel (caster recovery)
    - Automatic transmission/column shift
    - Ignition switch (starter)
    - Horn/siren button
        - Why is a simulator used and what concepts does in reinforce? Expected responses: emphasize if not brought out by students
            - Emphasizes judgement and proper driving tactics
            - Provides simulated life and death situations
        - Briefly overview and point the key concepts related to using a driver training simulator
        - Advise students of simulator adaptation syndrome (SAS) and provide some mitigation strategy
            - Students should be continually monitor for SAS symptoms
        - The LEDS course is dependent upon being able to identify error and analyze what the modified response should be to correct the previous response

        - This training it is extremely important that the student be allowed to make mistakes during the scenarios, the facilitator will guide the students to discovery of their mistakes following the exercise
        - During the Debrief/After Action Review, students will be asked to analyze the outcome and articulate the choice they made based on their thinking and to explain their risk management assessments and if modification is necessary
        - The goal of the course is to enhance officer decision making skills by having them analyze their choices. This is not a course where the instructor will tell the student the correct answer. The facilitator will formulate thinking questions to guide the student to the best response based on the given scenario
- **Virtual City**
    - Simulator Vehicle Performance Orientation
        - The simulator will break, accelerate and corner similarly to a modern ford police interceptor law enforcement vehicle
        - You will experience a lack of accurate depth perception
        - Weight transfer will only be perceived visually by observing the hood moving up and down/side to side
        - Accelerator/throttle usage
            - Lack of sensation of speed and movement
            - Monitor digital speedometer on front screen
            - Make certain to look side-to-side with exaggerated movements to alleviate vertigo and SAS
        - E/W streets are numbered “A” through “N”
        - N/S streets are lettered “1” through “14”
        - Main St. is primary E/W street
        - Wall St. is primary N/S street
        - Contains signals, stop signs, yield signs
        - Numerous uncontrolled intersections
        - Variety of traffic (vehicle, bicycle, pedestrian, animal)
    - Orientation (scenarios chose from POST list)
        - Familiarization
        - Directed
        - Follow
        - Linked
- **Scenarios**
    - **Universe and scenario orientation**
        - Safety city map
            - This universe map is provided for overall student orientation

        - Explain that the MDC/MDT Mobile Digital Computer will provide a map and GPS guidance during the scenarios
    - **Cab**
        - The interior of each simulator Pod is meant to replicate the interior of a patrol vehicle, including steering wheel and brake pedal feedback
        - To the right of the seat on the floor is an emergency stop button that turns off the force feedback of the steering wheel
    - MDC
        - [F1] – Shows GPS screen with student shown as a red triangle. Other simulator vehicles are shown as blue triangles. Press [shift] to center on the red triangle.
        - [F2] – Allows messages to be sent to the student. The student may only acknowledge the message [spacebar] or give a negative response [backspace].
        - [F3] – Provides a description of the current call assigned to the student.
    - Pre-programmed set of circumstances
        - Realistic driving situations (without risk)
        - Normal "routine" driving; backing and parking
        - Traffic stops
        - Emergency (Code 3) responses
        - Pursuits
        - Not intended to replace "hands-on" EVOC training
        - Progress from simple to complex
        - Night and inclement weather situations
    - Requires demonstration of knowledge of rules
        - State laws governing emergency vehicles
        - Agency policy
        - Accepted standards and procedures
    - Requires decision making skills
    - Allows students to experience the consequences of their decisions
        - Proper driving tactics and hazard recognition
        - Replay of critical decision areas
        - Response to hazards
        - Collisions
        - Tactical decisions at end of scenario
- **Driving Simulator Scenarios**
    - Orientation
    - Traffic stops
    - Code-3
    - Pursuits

        - Termination pursuits
- **Critique / Debrief**
    - Bring the students together away from the simulators for a closing discussion
    - The goals of the discussion are as follows
        - Review the learning outcomes of the class
        - Discuss student learning
        - Allows students reorientation time before driving "real" vehicles
    - Learning Verification: Debrief the class by questioning students about their learning
        - Reflect back to the course content
        - Consider use of a "three two one" questioning sequence to get things rolling
            - Three: Describe three things you noticed about your driving performance
            - Two: Explain two concepts you learned today
            - One: What was the one most important point you gained from today
        - Other sample debrief questions
            - Refer to the learning outcomes. What exercises during the class allowed you to demonstrate these things? SPECIFICALLY, how did they do this?
            - What portion of the LEDS class was most valuable to you and why?
            - How will what you learned here today affect the way you drive on duty? Off duty?
            - What would you like to see in a LEDS scenario in the future? What would be the teaching point?
- **Key Learning Points**
    - Driving is an important component of officer survival and is an extension of tactics
    - Driving is a perishable skill and every time you get behind the wheel you should have a proactive attitude toward officer survival and public safety, this includes the use of seat belts
    - Proper driving techniques combined with good judgment and decision making will enhance the ability to operate the police emergency vehicle safely in all conditions
    - An exceptional driver utilizes exceptional decision making skills in order to avoid having to utilize exceptional driving skills