

Driver Skills Development Program Curriculum

**Commonwealth of Massachusetts
MA Department of Transportation
REGISTRY OF MOTOR VEHICLES DIVISION
Driver Licensing Section**

Preface

The Registry of Motor Vehicles has developed the following Driver Skills Development Program Curriculum as a means of providing minimum standards and uniformity for course content and delivery. It is important to note that programs may develop and implement additional exercises provided all exercises contained in this manual are utilized and prior RMV authorization for additional exercises has been granted. It is the RMV's expectation that Driver Skills Development Programs, in conjunction with the new Professional Driver Education Program and enhanced junior operator penalties and restrictions, lead to a reduction in the number of crashes by junior operators.

A Driver Skills Development Program must consist of a minimum of the exercises and drills highlighted in this manual. These drills and exercises are designed to not only reinforce skills learned in a Professional Driver Education Program, such as proper seating and hand position and proper braking techniques, but additionally to teach advanced skills in order to avoid the most common and serious types of crashes while maintaining vehicle control. These drills simulate emergency situations on a closed course that would otherwise not be possible to recreate during on-road training on a public way.

The RMV recommends that the exercises be presented in the order they appear. If the instructor chooses to vary from the recommended program, the order in which the exercises are presented must be documented and made available upon request. Each student must be taught all the exercises contained in this manual and demonstrate a minimum proficiency level in order to proceed from one exercise to the next. No student should be encouraged to proceed to the next exercise unless they feel confident in doing so.

Many of the exercises and drills contained in this manual are conducted at actual highway speeds of 50-55 mph. The safety of all participants, instructors and observers of the Driver Skills Development Program should be of primary concern at all times. The Principal Administrator shall be responsible for maintaining and ensuring that all vehicles used for instruction are maintained in a safe and acceptable manner for the type of instruction to be performed. Additionally the Principal Administrator shall be responsible for ensuring that the off-road training course is devoid of potholes, bumps, permanent obstacles or any other potential road hazard that could hinder safe instruction.

All participants and instructors are required to wear safety belts at all times while operating a training vehicle or as a passenger and program observers shall be required to stay in designated safety zones at all times.

Lastly, the RMV encourages parental involvement whenever possible in driver's education. Parents should be encouraged to participate in all classroom discussions and if possible to ride along during drill demonstrations in order to better understand the skills their children will be learning.

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SECTION I - INTRODUCTION

Purpose: To introduce students to the Driver Skills Development Program content and expectations. The instructor should discuss the basic elements of the program and what new skills the student should expect to take out on the road with them once they complete the course.

Content:

- Driver Skills Development Program – What is it all about (accident avoidance techniques)
- Why do new drivers need additional training
 - Lack of skills
 - Lack of experience
 - Attitude
- Driving Skills and Experiences
- Student evaluation
- Safety rules
- Instructor introductions

Student Evaluation: At the end of the introduction students should have a clear understanding of the purpose of additional driver training, the drills they will be experiencing, and the techniques they will be learning. Additionally, students should understand all the safety rules and the importance of observing the rules.

SECTION II – SAFETY REQUIREMENTS

Driver Skills Development Programs teach advanced accident avoidance maneuvers at actual speeds in a controlled environment on a closed course. As such, safety should be a primary concern at all times. The Principle Administrator shall be responsible to ensure the safety of participants at all times.

Course Set-up. Training courses shall be comprised of a suitable paved and level road surface devoid of potholes, bumps, permanent obstacles or other potential road hazards that could hinder safe instruction. Non-permanent obstructions placed by program staff specifically to facilitate instruction, such as traffic cones, are permitted. The Principal Administrator of the Driver Skills Development Program shall control access to such closed off-road course and the Principal Administrator shall ensure that the course remains safe, and prevents unauthorized intrusions by non-participants of the course.

Off-road courses shall be a minimum of 950 feet in length, at least 125 feet in width, paved, and provide a perimeter of at least 50 feet of unobstructed land in all directions.

Driver Skills Development Programs must provide a classroom to facilitate instruction not conducted behind the wheel and an observation area where students and non-participants may view on-course instruction. The classroom and observation area must be located in a safe location away from an actively used training course and all participants and non-participants shall be required to remain in the observation area during live instruction.

Vehicles. It is the Principal Administrator's responsibility to ensure that braking, suspension and steering systems on each vehicle are working properly prior to each day's session and that all tires on each vehicle are in an acceptable and safe condition for the instruction that will be provided during the session. All vehicles shall be regularly maintained to ensure that all systems are in proper working order and continually meet the safety inspection standards set by Massachusetts law.

The type of tires used on such vehicles shall be appropriate for the repeated severe braking and maneuvering required for such driver skills development training, shall be properly inflated, shall not contain bald spots, uneven wear, bulges, embedded foreign matter that can damage the tire, or wear bars that are even with the tread and shall have sufficient tread on all four tires to ensure safe operation. All driving instruction vehicles shall be equipped with driver and passenger side air bags and safety belts for each passenger. Additionally all instructional vehicles shall be equipped with ABS brakes (*schools may use a non-ABS equipped vehicle to demonstrate the difference in braking systems between vehicles equipped with ABS brakes and those without*).

Additional Precautions. Unless otherwise noted all participants shall wear seat belts at all times during live demonstrations and instruction and there shall be only one student in the vehicle with an instructor during live instruction at all times.

Many of the exercises and drills contained in this manual are conducted at actual highway speeds. The speeds indicated in the drill descriptions are during ideal, dry weather conditions. The Principle Administrator shall be responsible to ensure appropriate adjustments in the speed at which the drills are performed are made in order to accommodate for inclement weather conditions such as rain, snow, high winds etc. Additionally, the Principle Administrator shall be responsible to determine whether a class should be canceled due to inclement weather conditions.

SECTION III - DRIVING SKILLS

Skill 1 - Proper Hand and Seating Position

Purpose: To emphasize the importance of hand and seating position and its relation to the safe operation of a motor vehicle and reduction of injuries due to air bag deployment.

Drill Description:

Seating position - When seated in the vehicle the seat should be adjusted so that the student should be able to comfortably place his/her left foot flat against the deadpedal. Students should be able to gently push themselves back into the seat.

Hand position - Students should position the seatback so that with the hands positioned in the 9 o'clock and 3 o'clock position there is a bend in the elbow. Students should be able to maintain a bend in the elbow through a complete turn. Instruction should include the importance of proper hand positioning and its relation to reducing injuries due to air bag deployment.

Seat Belts – Students should be shown the proper adjustment and position of lap and shoulder belts. Emphasis should be placed on the use of seatbelts as an integral part of the passenger restraint system in conjunction with the airbag system.

Demonstration: While seated in the driver's seat, the instructor should demonstrate proper seating position, hand position, and seat belt position to each student stressing the importance of always wearing a seat belt and how proper seating and hand position can increase the chances of avoiding an accident.

Student Participation: Students should demonstrate proper seating position, hand position, and seatbelt position each time they participate in a drill. Instructors should assess and require proper seating, hand and seat belt position prior to the student performing any live drill.

Student Evaluation: Students should be able to adjust the seat height and seatback to the proper position to allow access to all vehicle controls and ensure safe operation of the motor vehicle and to properly adjust and position the seatbelt. Students should be aware of how proper seating and hand positioning and the proper use of seat belts prevents accidents and lessen potential injuries in a crash.

Skill 2 - Emergency Braking

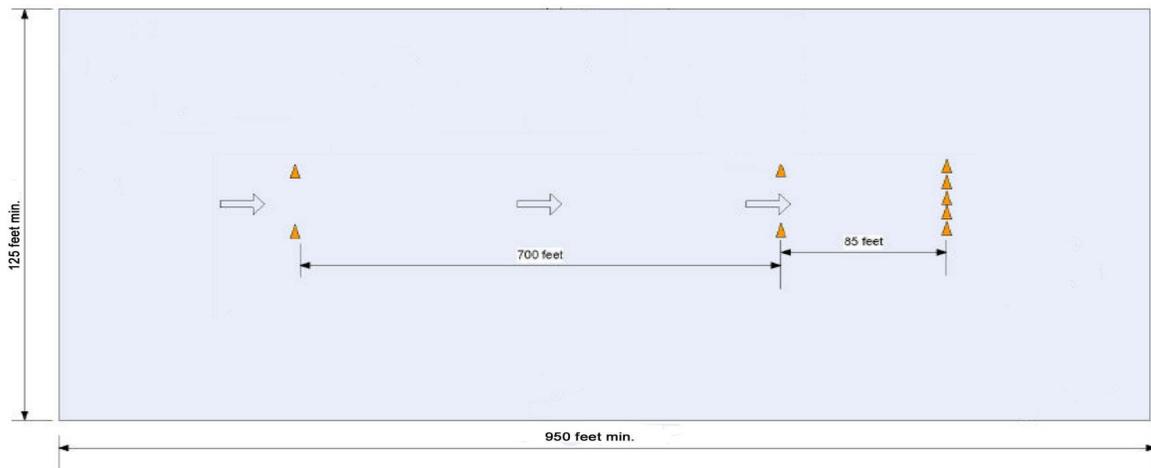
Purpose: To teach students proper emergency braking techniques and to demonstrate the effectiveness of anti-lock brakes (ABS) during an emergency stop.

Drill Description: Consists of the student accelerating up to 45-50 mph and then coasting to a gate marked by two cones in a straight line. When the front of the vehicle crosses the gate the student fully depresses the brake activating the ABS braking system until the vehicle comes to a complete stop prior to a wall of cones set 85 feet from the gate.

Demonstration: Instructor demonstration consists of the instructor and a maximum of three student passengers with the instructor making at least two demonstration runs explaining and demonstrating the proper use and feel of the ABS braking system.

Student Participation: Student participation consists of one student operator and the instructor in the vehicle. The student will make a minimum of two runs. Before starting the run the instructor should assess proper seating, hand and seatbelt positioning and describe the drill and what the student will be experiencing.

Diagram



Student Evaluation: Students should be able to bring the vehicle to a complete stop in less than 100 feet at 50 mph. Proficiency shall be established when a student makes a minimum of two successful emergency braking maneuvers without striking the barrier. At the completion of the drill instructors should review what has been learned and how it will be incorporated into other drills.

Skill 3 - Steering Control Skills

Purpose: To teach proper steering techniques and control skills. Re-emphasize proper seating and hand position and introduce how speed affects the control of the vehicle.

Drill Description: The Steering Control Skills drill requires the student to make a series of turns through seven cones placed 60 feet apart in a straight line. The drill will be done at varying speeds starting from approximately 20 mph and increasing in increments of 5 mph up to a maximum speed of 35 mph.

Demonstration: Instructor demonstration consists of the instructor and a maximum of three student passengers. The demonstrations will consist of 4 runs. The Steering Control Skills drill gets students comfortable with quick turning, creates an automatic "turn back" response, increases car accuracy, creates smoothness, and creates and reinforces good vision habits.

The first demonstration run will be at approximately 15 mph. The instructor will line the car up to left side of the first cone and demonstrate the most efficient path through the Steering Control Skills by crossing very closely behind the first cone, and initiating the second and all subsequent turns as the car touches the centerline when going around each successive cone.

The second run should be an increasing speed-run. The instructor will show how bringing the hand over the top of the wheel (the left hand from 9 o'clock to 2 o'clock for right hand turns, the right hand from 3 o'clock to 10 o'clock for left hand turns) is sufficient for a full lane change. Starting at 15 mph, the instructor will point out 5 mph speed increases, showing the significant difference in control a small increase in speed can make.

The third run should demonstrate proper technique. At 35 mph show proper distance from first cone, early first turn, equal turn amounts, and a gradual controlled increase in speed.

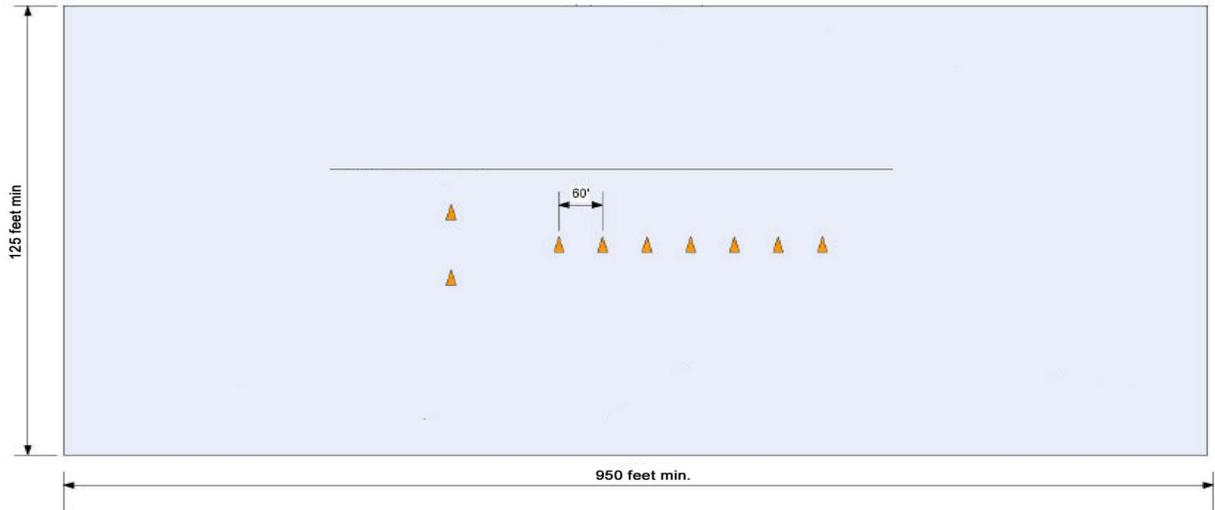
The final run should demonstrate common problems and their solutions.

Student Participation: Student participation shall include a minimum of 8 runs. The first run should start at a slow speed, less than 25 mph. Remind the student that the focus will be on two points only; 1) a complete, early first turn and 2) consistent turns as you progress through the slalom.

The second run starts at the ending speed of the first (25 mph), and slowly increases speed through the Steering Control Skills drill. The objectives are to maintain consistency in the turns, complete early turns, keep vision up and focused, and to have smooth accelerator inputs.

Subsequent runs work on improving consistency and speed until reaching the limit of the car or student's ability (approximately 35 mph).

Diagram



Student Evaluation: Students should be able to navigate the course at a constant speed of 30-35 mph while maintaining control of the vehicle. Proficiency shall be established when students make a minimum of two successful passes at approximately 35 mph.

Skill 4 – Proper Following Distance

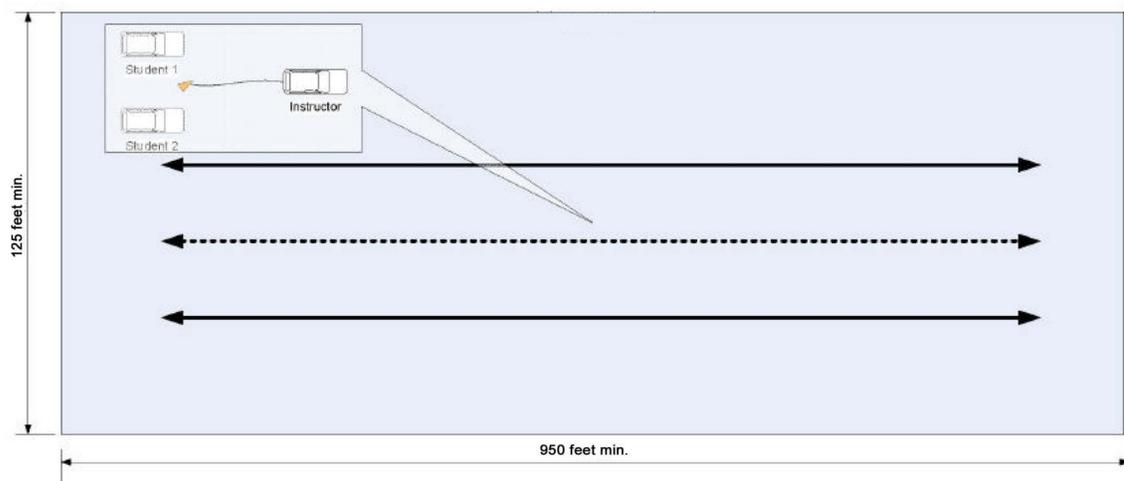
Purpose: To teach students how to measure safe following distances, to demonstrate the importance of keeping a safe following distance, and to avoid tailgating. Places emphasis on the importance of proper seating and hand position and proper emergency stopping techniques learned in Emergency Braking. Instructors should stress the fact that tailgating is the most common factor in crashes.

Drill Description: The proper following distance drill consists of two vehicles operated by students (with an instructor in the passenger seat and another student in the rear seat) chasing a lead vehicle operated by an instructor in a straight line at 50-55 mph. The chase vehicles are operated at a safe distance (12-15 feet) to the left and right hand side and trailing the lead vehicle by approximately 40 feet (this is indicated by a small cone attached to a rope connected to the lead vehicles bumper). When the instructor vehicle reaches a speed of 50-55 mph and the trailing student vehicles are in position the instructor vehicle will perform an emergency stop. When the instructor in the lead vehicle stops the trailing student operators are required to perform an emergency braking maneuver in order to avoid a simulated rear end collision. After the first student driver performs the drill he/she then switches with the student in the rear seat and they must complete the drill.

Instructor Demonstration: There is no hands-on instructor demonstration. Instead instructors describe the drill to be performed and how students will be required to perform an emergency braking maneuver as learned in Skill 2 – Emergency Braking.

Student Participation: All students shall successfully complete two runs of the Proper Following Distance drill.

Diagram



Student Evaluation: Students should be aware of the importance of practicing safe following distances.

Skill 5 – Crash Avoidance

Purpose: To utilize and combine skills learned in the Steering Control Skills, Emergency Stop and the Proper Following Distance drills and learn an instinctive response to an emergency situation. This drill is designed to learn sudden and evasive emergency maneuvers around an obstacle and then return to the original lane of travel.

Drill Description: Emergency Lane Change consists of traveling in a straight line to a gate marked by two cones. At the gate a pair of lights mounted on the vehicle dash will indicate that the student must make an evasive lane change to either the left or the right of a barrier of cones. Once the vehicle has evaded the cones they must reposition the vehicle in the original travel lane.

Instructor Demonstration: Instructor demonstration consists of the instructor and a maximum of three student passengers. The demonstration will consist of a total of four runs. The first two runs will be an introduction to the outline of the drill, the first showing the lights on the dash and their operation, and the second at a speed sufficient (approximately 40 mph) for demonstrating proper technique, including: turning before the last cone in the entry, smooth complete steering (recall Steering Control Skills), crossing the end line of the barrier with front wheels and beginning new turn, and finally the importance of eyes/vision (looking where you want to go not at the obstacle or lights).

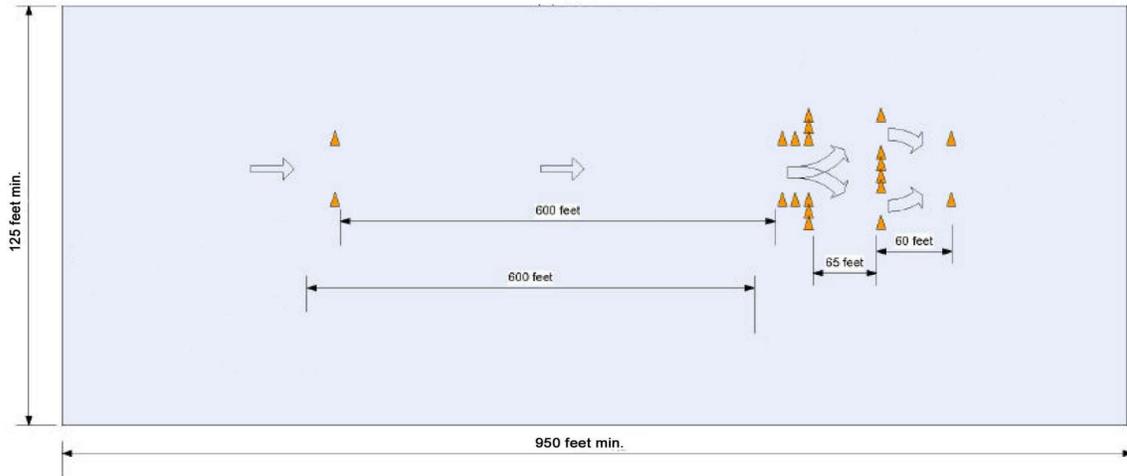
The third run is without the use of brakes near the limit of the car (approximately 45 mph), showing the dangers of attempting the maneuver without using brakes and the significant change in difficulty with a minimal increase in speed.

For the fourth run, the maneuver will be performed using the brakes and the vehicles speed will be increased to the limit of the car (approximately 45 mph). The main teaching point is that brakes must be applied before turning. Special emphasis should be given to show how applying the brakes first puts the weight of the vehicle on the front wheels equally, rather than on one wheel.

Student Participation: Student performance will begin with the first run performed without applying the brakes. The run will be introductory and performed at 20 mph. Students should feel comfortable with seeing the directional indicator lights, negotiating the obstacle, and using proper technique.

For subsequent runs the students will apply the brakes. Runs should start at 30-35 mph, and increase to 55-60 mph. Primary attention will be paid to establishing the proper technique of applying brakes first and then steering, with a slight delay between. Instructors should also reinforce the importance of proper hand and seating position, vision, speed vs. control, and importance of proper equipment (tires, brakes etc.).

Diagram



Student Evaluation: Students should be able to demonstrate proficiency at making an evasive maneuver around an obstacle at approximately 55 mph. Proficiency shall be established when students perform a minimum of two successful passes avoiding the barrier and safely bring the vehicle to a complete stop in its original lane of travel.

Skill 6 – Backing-Up

Purpose: To demonstrate the limited visibility an operator has when backing-up using the vehicles rear-view mirrors.

Drill Description: This drill is a group exercise where the instructor uses student volunteers to demonstrate the inherent dangers in backing-up a vehicle

Instructor Demonstration/Student Participation: This exercise should be demonstrated to the group as a whole. A student volunteer is instructed to sit in a vehicle (***without the motor running***) and adjust the rear-view mirrors to the proper position. An instructor then moves to the rear of the vehicle with a small cone and places it at a spot where the operator indicates they can see the top and bottom of the cone.

Then a second student volunteer is instructed to sit in the vehicle. While the second student is entering the vehicle an instructor sits approximately 10' directly behind the vehicle (preferably without the new operator's knowledge). The student sitting in the operator's seat is then asked if they can see the entire cone and to indicate if it is safe to start the vehicle and back-up (***do not allow the student to start the vehicle***). As the student will not be able to see the instructor, they are alarmed to learn that if this had not been an exercise they would have struck and seriously injured the person behind the vehicle.

After the demonstration the instructor should stress the importance of when it is necessary to back up, only backing-up as far as necessary to be able to pull the vehicle forward. And if possible, to park the vehicle in a position where it is not necessary to back-up such as pulling through parking spots.

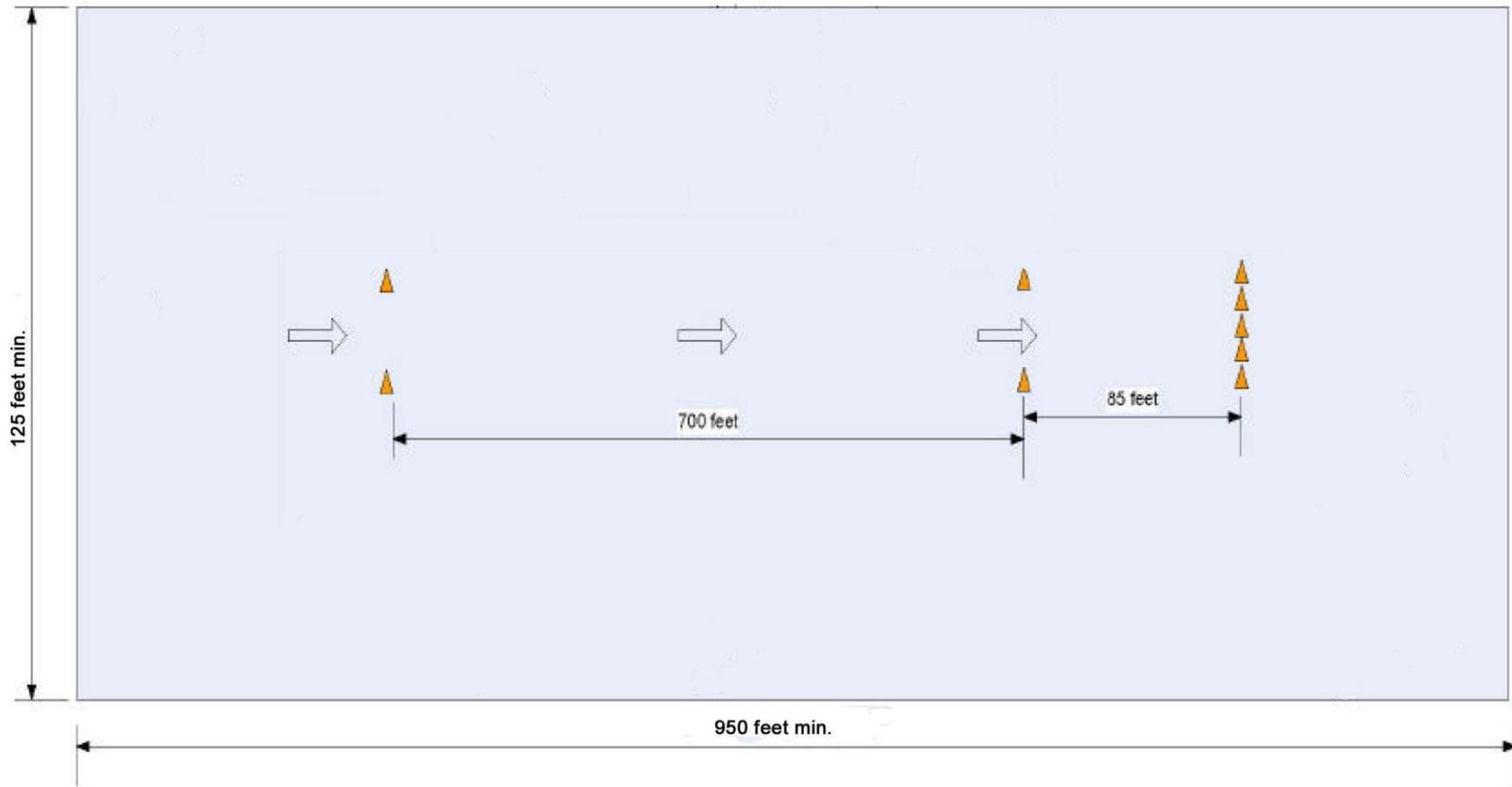
Student Evaluation: Students should be knowledgeable to the dangers involved in backing-up a motor vehicle and the precautions that need to be taken when backing-up.

SECTION V – FINAL REVIEW & QUIZ

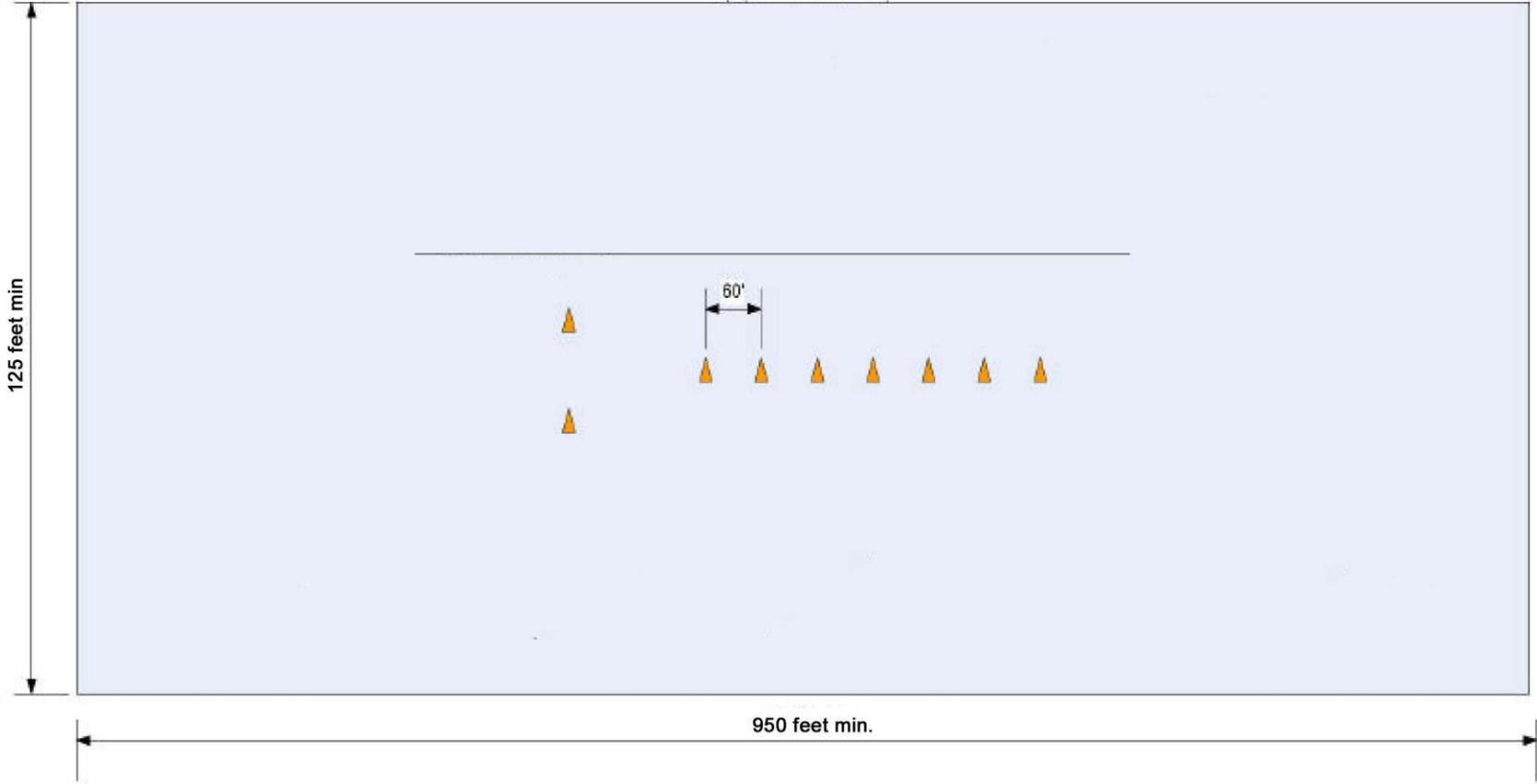
Purpose: The purpose of the final review and quiz are to reinforce the skills, attitudes and experiences learned throughout the day. Instructors should stress that the skills and attitudes learned in the Driver Skills Development Program are not of value unless the student applies those lessons learned everyday while they are behind the wheel of an automobile. Instructors may administer a final oral or paper quiz in order to further reinforce the lessons learned in the Driver Skills Development Program.

SECTION V - APPENDIX

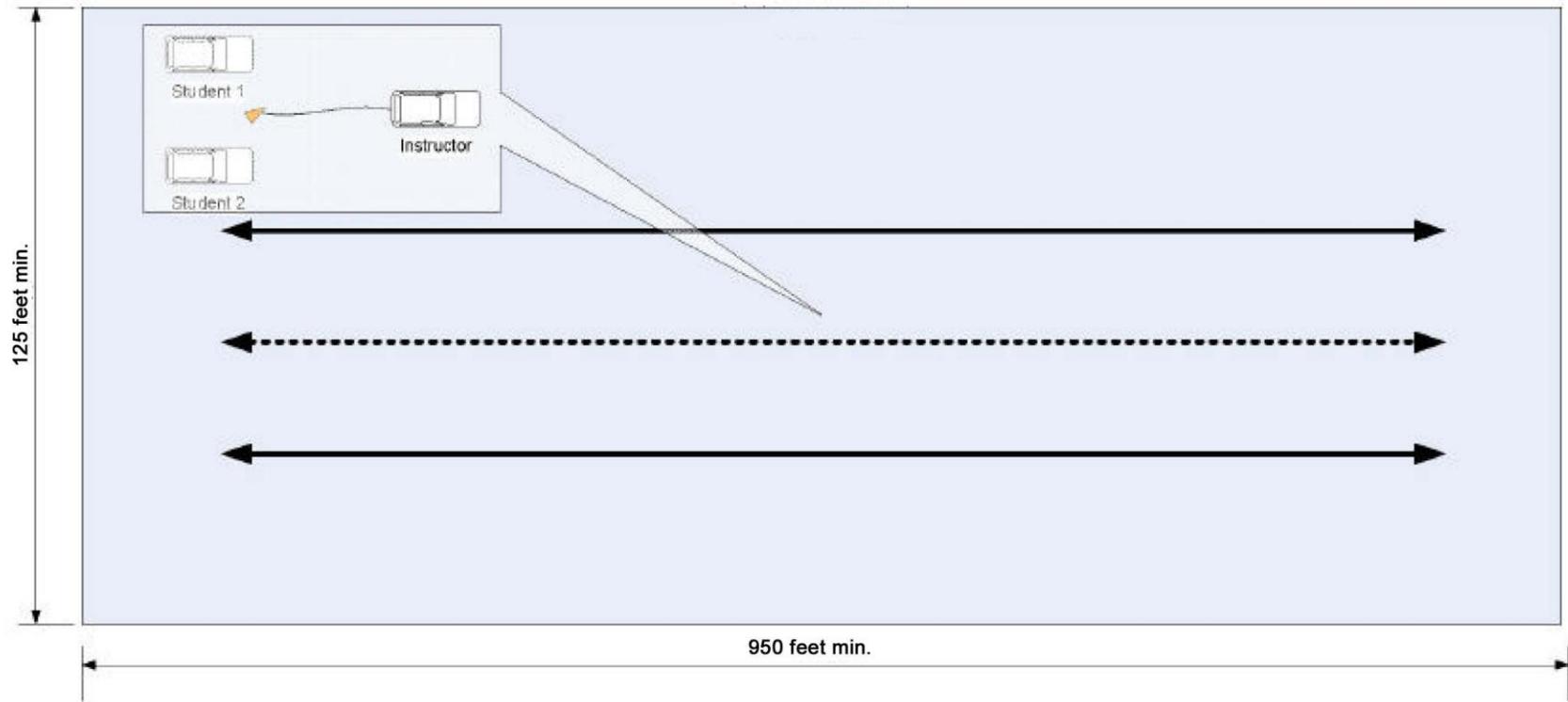
Appendix 1 – Emergency Braking



Appendix 2 – Steering Control Skills



Appendix 3 – Proper Following Distances



Appendix 4 – Crash Avoidance

