

Exercises

Driving Exercise materials needed for a typical Street Survival School

Cones

Minimum 250-300, smaller the better, 6" cones work well. Do NOT use weighted bases.

These can be purchased from companies such as:

- Traffic Safety Warehouse - <https://www.trafficsafetywarehouse.com/>
- Traffic Cones for Less - <https://www.trafficsafetystore.com/traffic-cones>
- Uline - <https://www.uline.com/>

Don't be afraid of the 'blemished' or seconds. They won't; stay clean and pretty for long.

Or, these can be borrowed from:

- Police Departments
- Fire Departments
- State/Local Public Works Depts.
- Paving Companies
- Rental Companies
- Landscape Companies
- Construction Equip. Rental

Anti-Grip Media Sources for Skip Pad

- Cracked corn - (25#-50# bags total of 500#'s) *Preferred method*
If the facility will allow it's use, this is becoming to go-to solution. It is very eco-friendly and most times you can just leave it at the end of the day as most wildlife will eat it.
Typically comes in 25# or 50# bags. 300-500#'s is what is needed. It all depends on how aggressive (rough) the pavement is. It ranges from \$12-20 a bag. Many times, the feed store will deliver it to the site.
You manage it with a leaf blower and/or wide shop type brooms keeping it swept into the path of travel of the cars. Usually about every other/3rd car it'll needed to be pushed around some. It'll fill in the divots and then create a layer for the car NOT to get traction on. Do not wet it, likewise it won't work in heavy rain. Watch the weather and have a back up plan.
If the facility will allow it but asks you to clean it up, sweep/blow it into piles and use the bags it came it to dispose of it.
This can be obtained from:
Feed Stores
Pet Supply Stores
Walmart
- Water (to be used with soap) –
Fire hydrants are best source. This might require a permit &/or a meter but the quantity of water needed is more than a residential hose and lawn sprinkler can provide. Do not attempt to use a residential hose. If a hydrant is not possible a truck based water supply is good.
 - Fire Departments
 - Tanker trucks w/ drop spreaders or sprayers)
 - Construction Companies
 - Paving Companies
 - Landscape Companies
 - Construction Equip. Rental Co.



- Fire & Garden Hoses (could be 100's of feet depending on site conditions NOTE: Residential size hoses do not deliver enough water)
 - Fire Departments
 - Nursery / Garden Centers
 - Landscaping Companies
 - Construction Equip. Rental Co.

- Soap (to be used with water)

Provided the facility you use will allow it, a case of big bottles from Sam's, Walmart, Costco have the best value and for some reason Dawn seems to work best. Poured around each skid pad. The water will spread it and conditions will become extremely slick. Do not over water it that washes it off. It works better almost paste like. Yes the cars will be dirty. No the soap won't hurt the cars finish.



Exercise Layouts

Depending on your venue size, number of coaches and staff you have a choice to make on how the layout of your exercises will be accomplished. There are 2 basic systems; the “Circuit” or “Stations”.

Circuit -

The *Circuit* concept uses all the prescribed exercises (minus the skid pad) connected so that the student enters the exercises and completes them all before returning to the staging area. Depending on the venue this system can have the student waiting in line the least.

Stations –

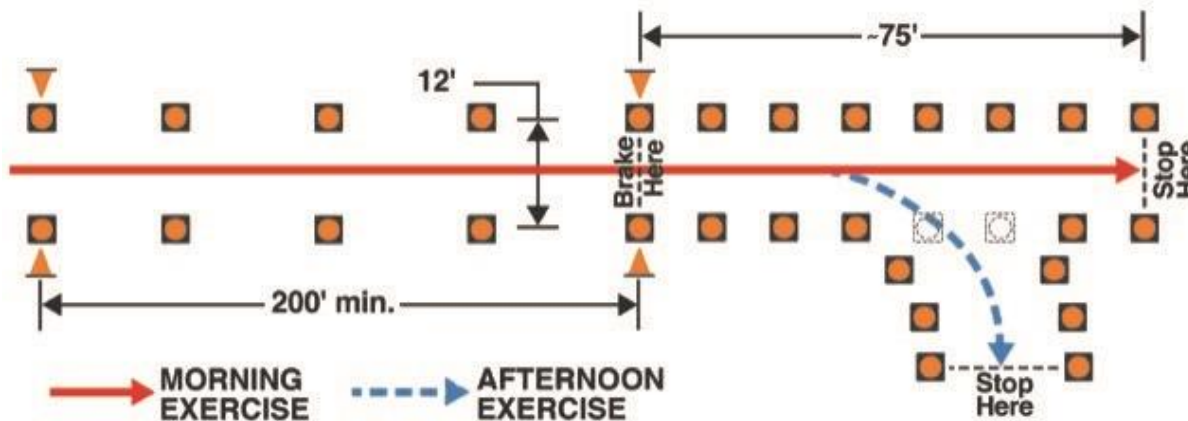
The *Stations* concept uses a separate exercise for each element. Slalom, Braking, Lane Change, Skid Pad etc... The student will participate in each exercise multiple times before moving to the next element.

Both these systems will lend itself to doing a split school which allows you to split the students into two groups allowing you to hold more students with fewer in-car coaches. using a 2 students per coach. This will require you to hold each classroom session 2 times but it will allow one group to be in class while another is driving. A sample schedule is at the end of the Event Kit document.

The following examples lay out the typical exercise elements. If the circuit concept is being used these are to be connected with additional driving elements such as decreasing radius turns, chicanes etc.. this is should be laid out keeping speeds under control and with safety zones from adjacent exercises elements.



Straight Line Braking / “Wake Up Drill”



ABSTRACT: ABS has saved many lives but it has also likely cost a few – especially the early systems – because people felt the vibration in the pedal and heard the noise generated by the valves and got off the brakes thinking something was wrong. We want students to get accustomed to the feel of ABS. Furthermore, we want them to understand that ABS kicks in when too much is being asked of the tire. Crashes that occur at the end of long straight skids made by front wheels turned fully one way or the other are now, thankfully, rare. We don't feel that it is necessary to teach threshold braking if the car has ABS. They should, hear and understand the concept but it is unlikely that if they are driving a car with ABS now that they will revert back to a non-ABS car in the future. Trying to get them to outwit the ABS isn't the best use of the limited time we have them. In the event they drive a car without ABS, or with a broken ABS system, we'd like them to understand tire limits and develop threshold-braking skills.

The goal is maximum braking without the tire locked up.
Please remember the basic concepts we're teaching...

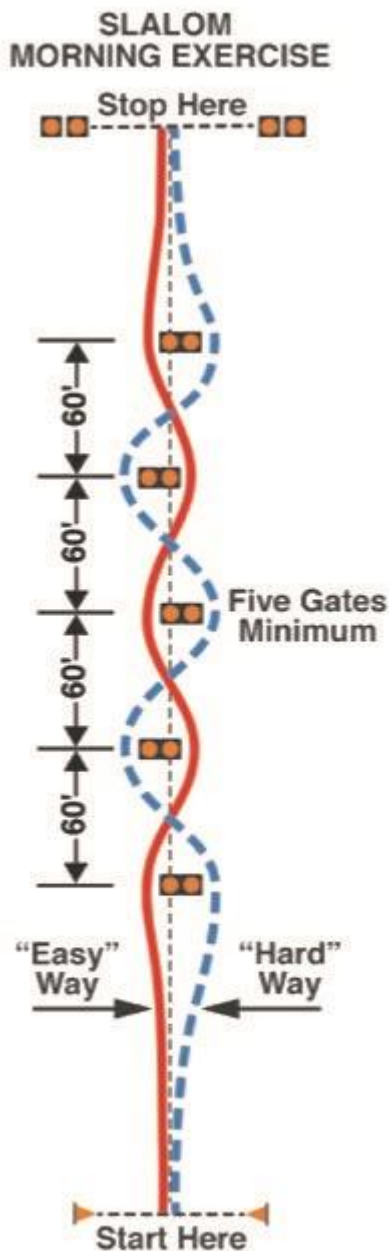
- 1) Speed and Braking Consistency
- 2) Familiarity with ABS braking
- 3) Braking Skill – Modulating Braking Pressure

EXERCISE SETUP Within reason, the general rule for this exercise is the faster the better as long as there is room to accelerate and stop safely. The faster the student travels the more time they spend actually on the brakes. The exercise can be effective at as little as 30mph, but 40mph to 45mph works best.

“Wake Up” Drill –

The morning wake up drill is for just that. Getting the students attention that they are not just sitting in the classroom all day. Use the straight line braking for this. 2 or 3 runs though this exercise will help energize the student and get their attention. If possible multiple lanes of this should be set up to help facilitate this exercise quickly. Their driving technique, successfully or not, is not as important as it will be later. Setting up this exercise with traffic circulation in mind is critical. Having the wait line close to the exit for the coaches is important as the coach may have to get out and get to the head of the line quickly to get to the next car in line.

Slalom



ABSTRACT: The slalom course at first blush appears to be a speed event. It is not. This exercise teaches both weight transfer and proper use of eyes/vision. This provides the proper control to change direction of the vehicle. The Slalom allows better understanding of the vehicle's capability during transitional maneuvers.

Please remember the basic concepts we're teaching...

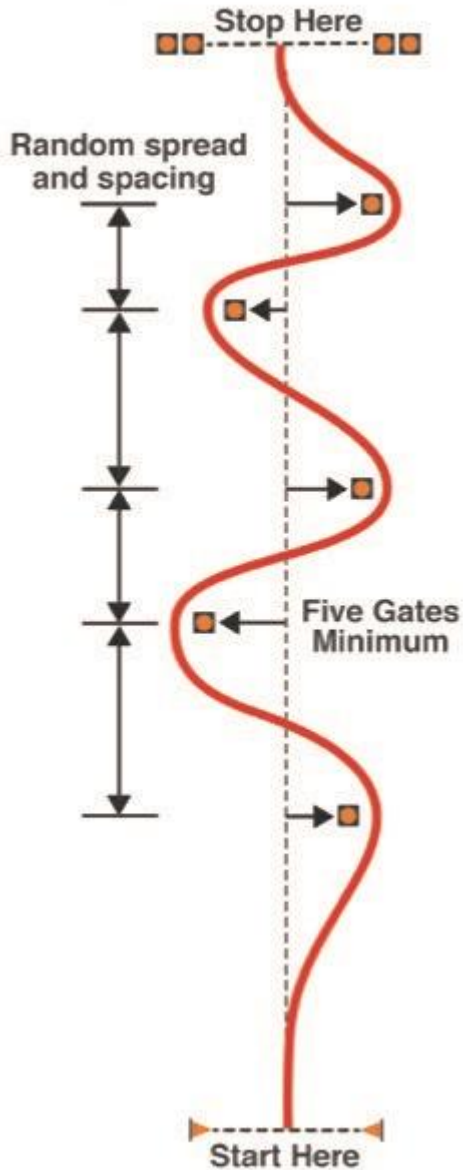
- 1) vision down the course
- 2) smoothness in weight transfer

If using the slalom in both morning and afternoon, have the morning set-up as a simple regulated course. Cones paced off at 35-45 paces in one line straight. Then alternating cone on the side of these cones creating an 'easy' and a 'hard' side.

The exercise can be effective at as little as 15-20mph, but 25-30mph works best. Second gear in manual cars. Within reason, the general rule for this exercise is the faster the better.

Please remember, however, that repetition is crucial so keep the layout with the flow of traffic always in mind. Conversations at the end staging area should not interrupt the flow of the exercise. In-car coaches should direct their students out of the exercise path to give them feedback if needed.

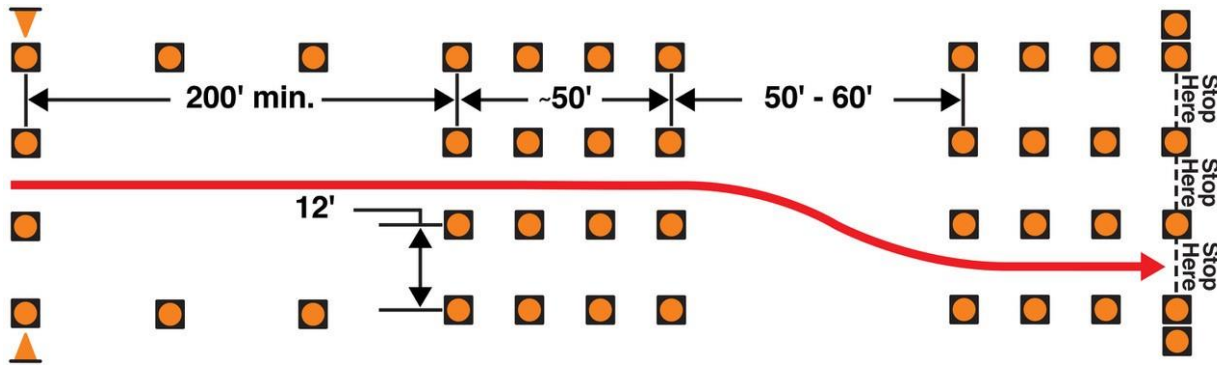
SLALOM AFTERNOON EXERCISE



In the afternoon have the course look the same at a glance but have the cones not set at a regular spacing tightening at the end and offset out of line.

With this layout the speeds could be a bit slower, depending on the spacing.

EMERGENCY AVOIDANCE



EXERCISE SETUP

The speed at which this exercise is run will be determined by the spacing of the two sets of cones. Again, a faster execution works best, but will require greater distance between the two sets of lanes. The exercise can be facilitated by a flagger at the end of the exercise a safe distance away from the braking zone or by the in car coach giving the commands at the last second.

TEACHING TIPS

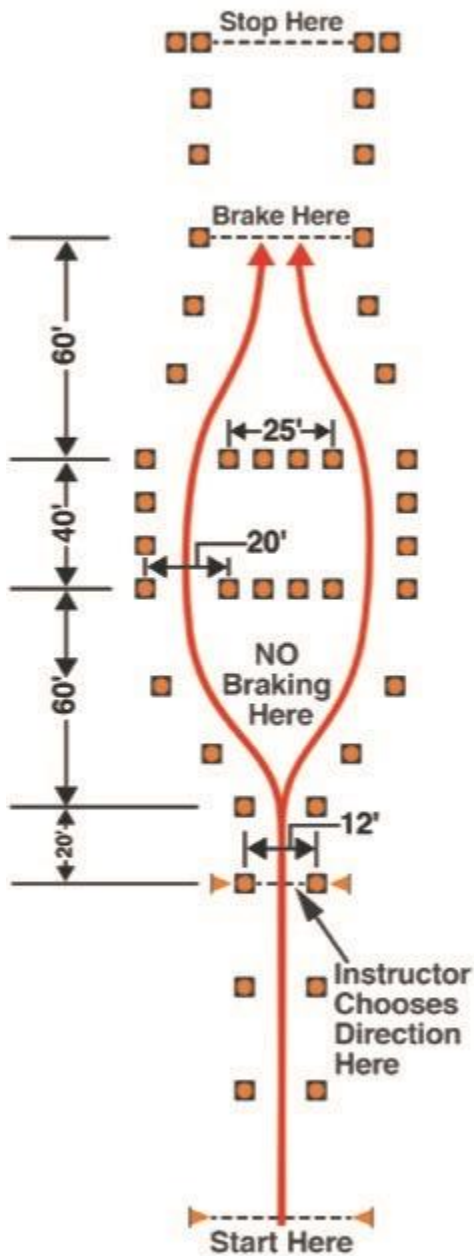
The coach should explain the possibility of extreme secondary weight transfer. Every pass in this exercise should be concluded with a controlled braking to a complete stop. Be incessant in the need for the complete stop at the end of this exercise or it becomes a driving chicane which has a tendency to increase speeds, which is not the intent.

STAGING

Center lane for single lane change, alternating outside lanes for double lane change. If using this exercise in both the morning and afternoon, use the single lane in the morning and the double lane in the afternoon. **HCG vehicles should not do a double lane change.** Always have the student do a complete stop at the end.

SINGLE LANE CHANGE Students should make their first single lane changes at a conservative speed and keep a constant throttle setting until they are in the second set of cones, at which time they are to brake to a stop. Speed is increased until they are reaching the limit. When everybody has demonstrated that they have a handle on this (three or four passes), the group will change to double lane change and they will repeat the process.

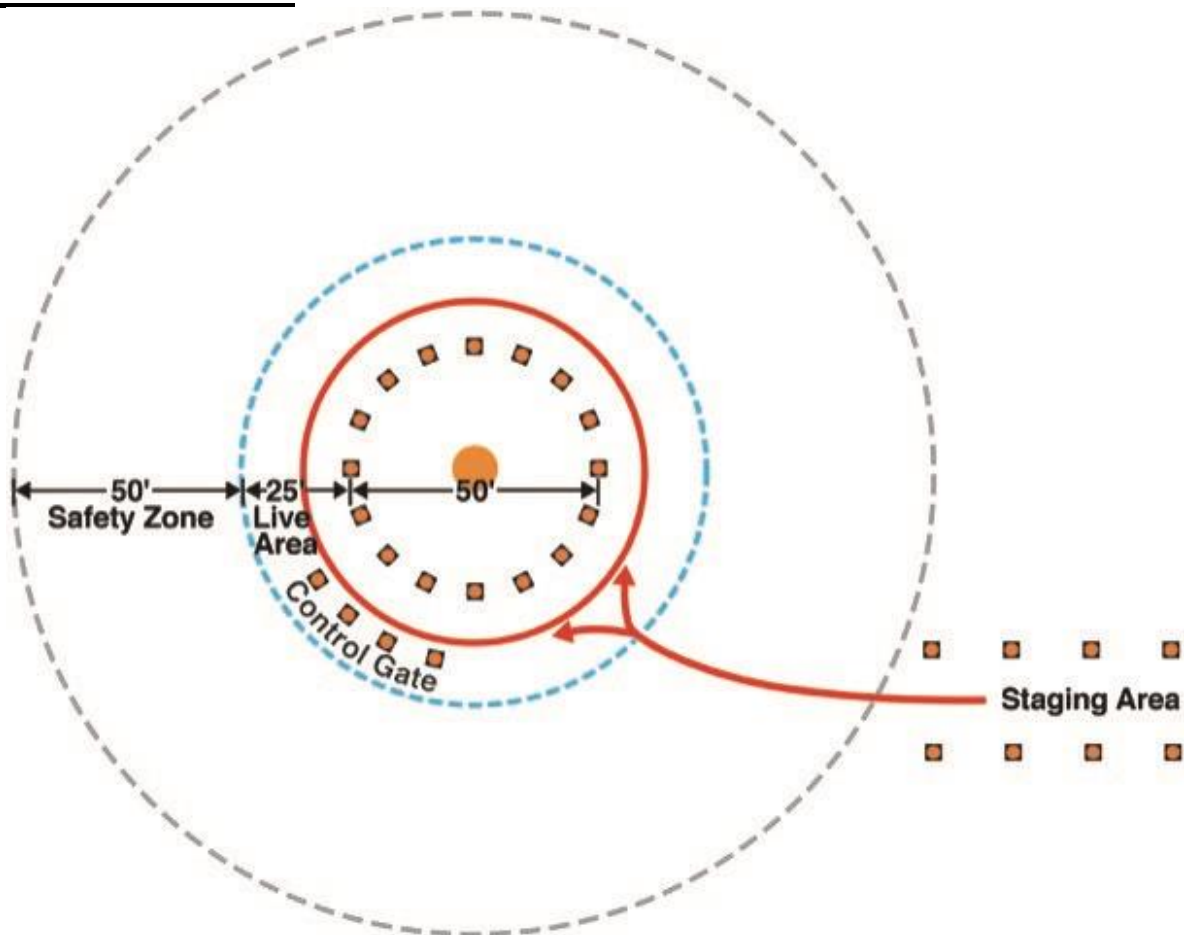
DOUBLE LANE CHANGE – When the students begin reaching the limit at a constant throttle have them instead begin lifting off the gas just as they turn in. They will find that weight transfer helps to turn the car. With this approach, increase speed in small increments until they are again at the limit, and by this time experiencing significant weight transfer. If there are cars that persist in understeering during the initial turn in, students can achieve further weight transfer by very gently brushing the brakes just before their initial turn in. Keep in mind that in a real avoidance maneuver the driver will lift and generally go for the brakes, so the purpose of the exercise is two-fold. We want students to be prepared to make the most dramatic avoidance maneuver possible, and we also want them to be capable of dealing with the car control challenges that may result.



ALTERNATE DESIGN

EXERCISE SETUP – This design does not replicate the idea of driving in the middle of 3 lanes of traffic but more of the idea of following a vehicle in a single lane. Again, a faster execution works best, but will require greater distance from the point of command from the coach and the 1st barrier. This design can still be facilitated by a flagger at the end of the exercise a safe distance away from the braking zone or by the in car coach giving the commands at the last second. Every pass in this exercise should be concluded with a controlled braking to a complete stop. Be incessant in the need for the complete stop at the end of this exercise or it becomes a driving chicane which has a tendency to increase speeds, which is not the intent.

SKID PAD



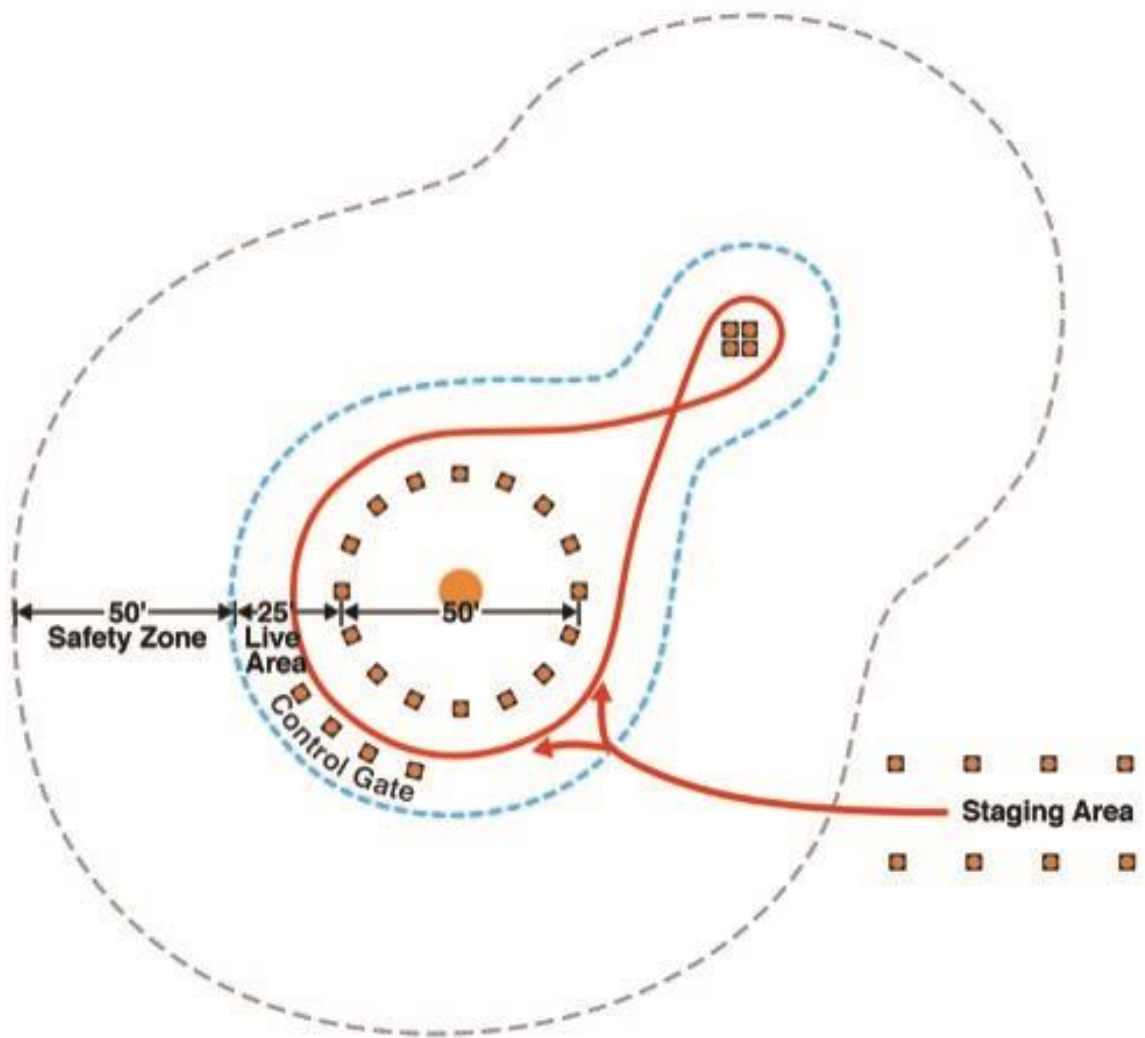
SKID PAD ABSTRACT

This exercise can be the biggest educational tool in your driving exercises of the day. It can also be one of the biggest disappointments. If you have pavement that will allow a slippery surface, it can be a fun day. If not then you are facing an uphill battle. Be careful at the attempt to get the cars to go into oversteer. If you are just grinding the front tires away all you are going to have are angry parents.

Note : All traction control, stability control and all other electronic aids are to be left on. **At NO time are any of these devices to be turned off to “show the student what the car is doing for them”.** These are life saving instruments just like seat belts and air bags. The maturity of the teenager mind (or lack of maturity) might see that when these devices are turned off it makes the car ‘more fun to drive’. This can do more future damage than you realize in the heat of the moment of instructing. Please leave them on.

STAGING Set aside an area outside the skid pad, where a couple of cars can wait for a spot to open (Instructor and student belted and ready). Depending on the size of the pad and its adhesion, note the physical effects on the students, many cannot sustain going in circles for long sessions (coaches also!). Let every student have minimum of two turns of approximately 6 - 8 rotations each; more turns if class size allows. Don't sit too long here waiting. Time is much better served doing another rotation of the other driving exercises than sitting and waiting too long. A suggestion would be having one or two cars at the most waiting 'on deck' while a car is on the skid pad.

SKID PAD – FIGURE 8

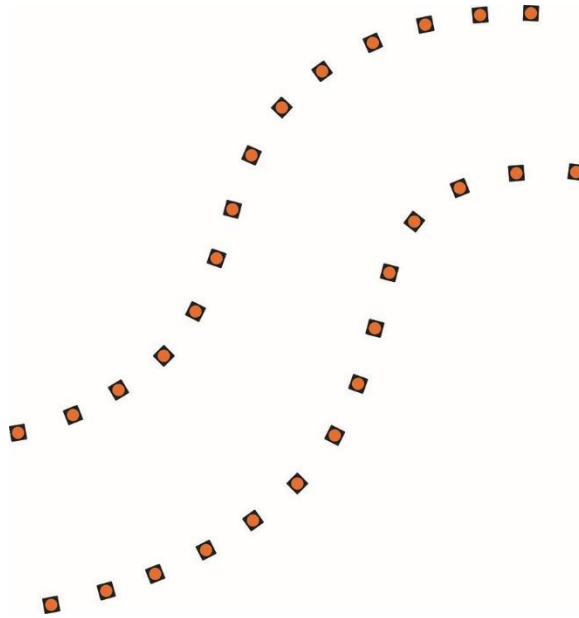


If room allows a Figure 8 design give both sides of the car the ability to experience oversteer/understeer in a single lap. Some have g-had success in a single circle in the morning and a figure 8 in the afternoon.

Safety zones are critical as most of our incidents have historically occurred on the skip pad.

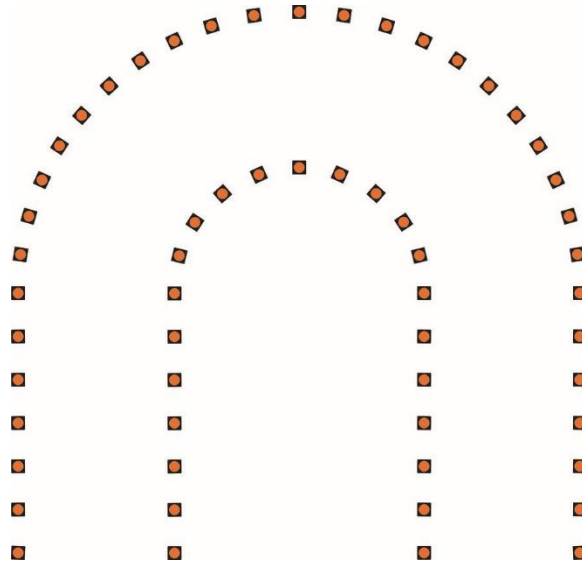
COMBINING ELEMENTS

Using the following elements in combination with the individual elements, to create a course, is an alternate to the 'Station' concept. This will also allow you to set up the final exercise runs of the day.



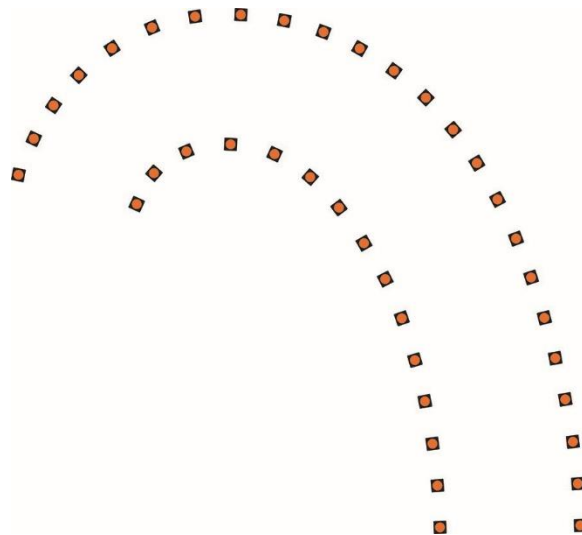
ESSES

Consecutive corners require good use of vision and proper management of secondary reaction of weight transfer. The angle can vary from mild to extreme depending on the venue and need to control speed. Obstacles can be added for additional avoidance skill training. Staging a course worker at this location and have them eliminate or add the obstacles to the course add complexity and assists in keeping the student's attention with constant variables. Another advantage would be to have a course worker toss a cone, beach ball etc... into the path of the vehicle, without notice of the student, and having them avoid the obstacle.



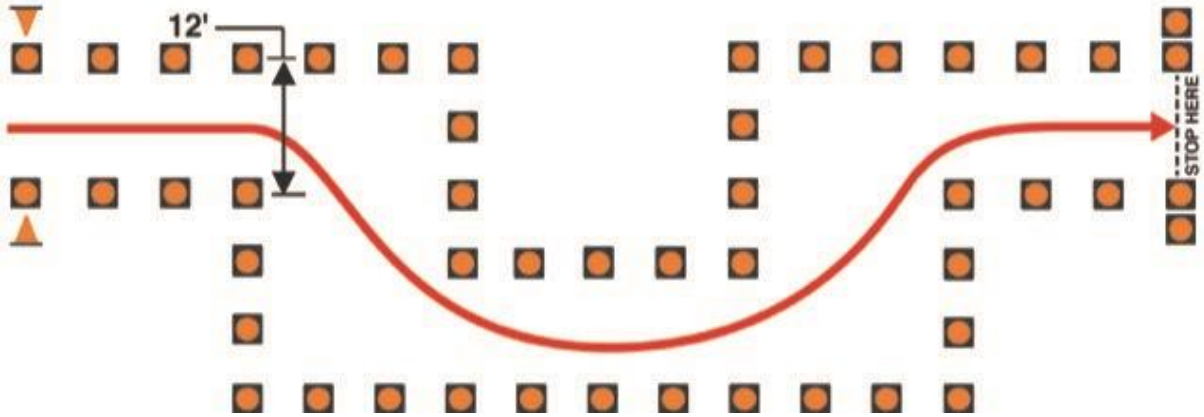
HORSESHOE/HAIRPIN

Hairpins cause the eyes to drop and if taken too fast, the front wheels to slide, understeer. Eyes need to be up and corrections to understeer taken to correct the sliding front end.



DECREASING / INCREASING RADIUS

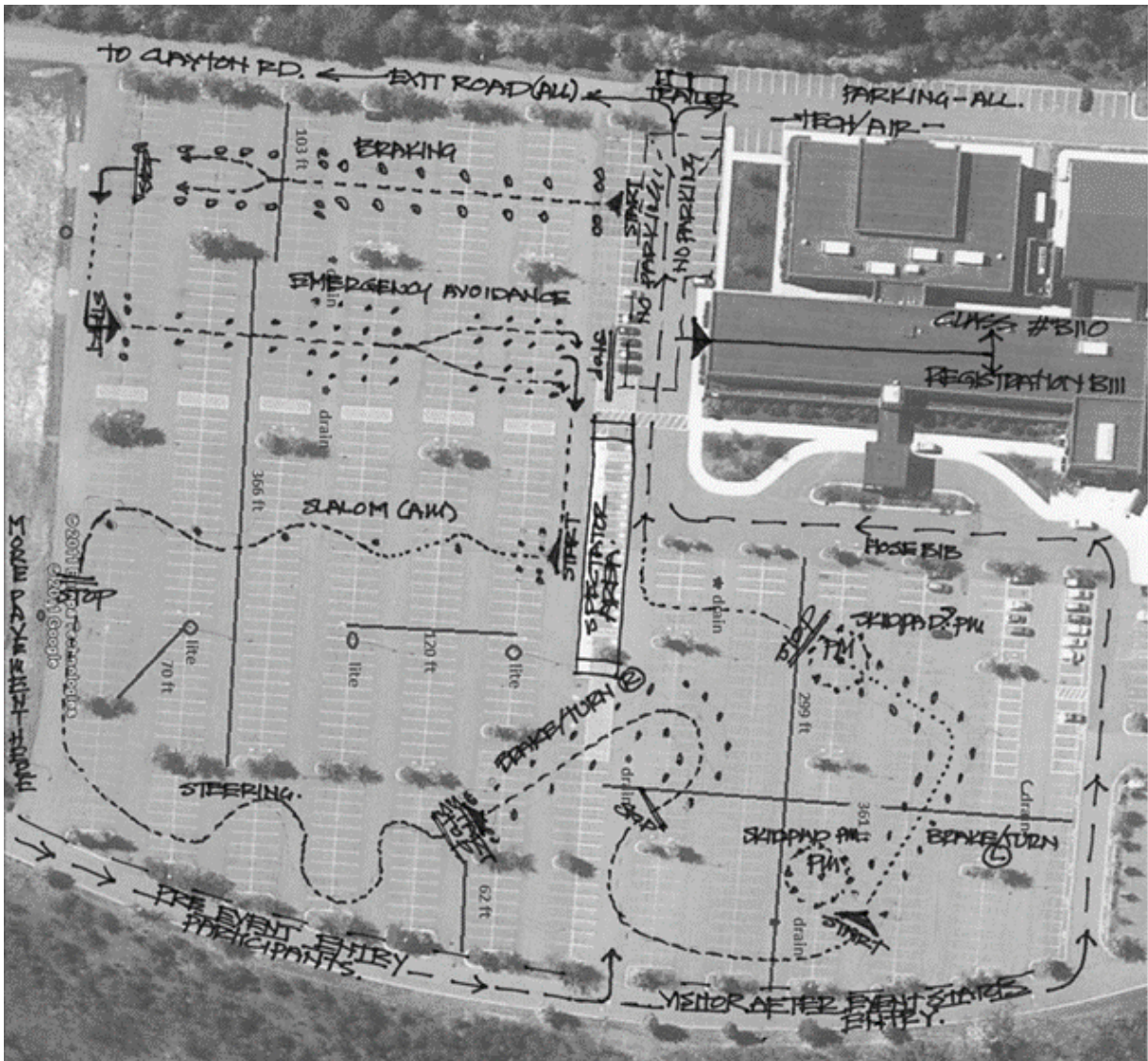
Decreasing radius corners pose the same challenge as coming upon an obstacle in the middle of a corner. Either Oversteer or Understeer may result. If using a circuit course, the morning exercise can have an increasing radius corner connecting 2 elements. Then in the afternoon, use a decreasing radius corner in the same location so it appears the same at entry. The student will assume it's the same corner and will get a surprise, again, giving them a real world experience.



CHICAGO BOX

Use this element as part of the combination elements to reinforce an avoidance maneuver and help set muscle memory in “pitching” the car around an obstacle and keeping eyes up and looking forward.

Combined Exercise



Circuit / Combined exercise course example

ABSTRACT

The Combined Exercise is, obviously, an autocross without timing... please, however, refrain from referring to it as an autocross. Aside from the obvious insurance implications, we want to discourage the perception that this exercise is about speed or skill. Instead, emphasize that the course is designed to randomly and repeatedly produce the kinds of driving challenges that students might encounter during emergency situations.

LAYOUT

The examples provided in the lecture material provide a good basis for an exercise designed to replicate the kinds of vehicle dynamics challenges students will face in emergency situations. On a practical note, we want the entry and exits to be fairly far apart, yet we will also likely need to cycle coaches from the finish back to the start. Have them drive back to the start with the coaches so that they may exit the cars and

get into the next car in line. This is at the end of the day and the coaches are tired... remember they aren't the young ones here today.

COMBINED EXERCISE RUNS

Coaches should keep students within their limits, but at the same time push them hard enough to get adequate benefit from each corner. Again, the goal is to produce all of the various vehicle dynamics challenges that might occur in an emergency situation. Coaches need to stay in the car at all times.

COMBINED EXERCISE RUNS w/ PARENTS Allowing the students to take their parents out for a few runs at the end of the day gives them a chance to show the parents what they have learned.

At no time should a coach take a student or parent out for a 'Demo' run on what 'the car can do' or 'what the limit is like'. This has led to examples of incidents that are not in keeping with our goals of the program.



Who can instruct?

Many ask what it takes to be an In-car Coach with the Tire Rack Street Survival Program®. We feel that you don't have to be the fastest racer or track school driver or champion autocrosser. We know lots of great, fast drivers that are very poor instructors.

They need to have basic car control technique experience and be able to describe:

- The differences between oversteer and understeer, and the corrections for their associated slides.
- The theory of the contact patch and how weight transfer affects it.

If they can teach threshold breaking in a non-ABS equipped car.

If they can sit in the right hand seat and know if the student is sitting properly, using their hands properly.

If they can tell when the student is not looking down the slalom course far enough.

If they can ride around the skid pad without throwing up.

If they can sit in the right hand seat and not scream when the student loops the car on the skid pad.

If they can sit in the seat next to a teenager that is waiting in line to drive in the next exercise and talk to them like a young adult, about anything and not be freaked out by body piercings, weird clothes, weirder hair, too tight of clothes, too much skin showing and all the giggles, screams and associated dumb things that the 16-year-old driving student might do. Then they can instruct.

It really helps to have done some instructing (High Performance Driving / Auto-X) before but it's not mandatory. We have a manual and our online training that can help with this.

Any type of instructing, if it's skiing, tennis, cooking, knitting, algebra etc. ... is very helpful because if you're saying something that they are not getting you have to be able to recognize it and adapt and not expect the student to adapt.

As we say in the High Performance Driving Instructor Training Schools, it's not just about how well you can drive but how well you can communicate.

Our on-line training and test can be found at: <http://streetsurvival.org/schools/become-a-coach/>.

This no longer requires the coach to create an account but it doesn't not allow you to monitor their progress. At completion, they are put on the master list. You will be sent a list of your area instructors, periodically and in enough time prior to your school to take appropriate actions.

In-Car Coaches Training

In our efforts to continue to grow the Tire Rack Street Survival program with our coaching staff we have developed an on-line web based training course for our In Car Coaching staff. As the program as matured over the years we have gained the attention of national sponsors, companies like the Tire Rack, Michelin and FCP Euro. These companies expect a level of professionalism and a level of consistency with the program. We feel that this course will help us obtain both of these goals.

ABSTRACT

The intent is for each in car coach to go thru this course regardless of their experience level. We need to have 100% of the existing coaching staff approved thru this system and be able to offer it to all new coaches before they get in the car the 1st time.

PROCESS

The course should take approximately 45 – 90 minutes to complete and can be done in multiple sessions. There will be the ability to report your training success with the other organizations so you only have to do this once. We will reference the In-Car Coaches guide and the book by Richmond Shreve's "Your Role as a Coach" These manuals have been embedded into the process so you can read them without leaving the course. There are quizzes along the way for you to gauge your knowledge and then a 'final' test at the end.

Go to: <http://streetsurvival.org/schools/become-a-coach/>.

You then enter the course.

The course begins.

- Select "Course Navigation" to learn how to navigate the course with the screen functions. Once ready select the arrow pointing to the right to go forward/continue in the course.
- At the "Main Menu" you will see 4 windows
- What is TRSS?
- How to Coach a Teen
- In-Car Coaches Guidelines
- Final Test

Select each lesson in order. When you have completed all three lessons, you must successfully complete the final test to complete this course.

Select "What is TRSS?" to get started. When a 'Fast Fact' window appears you must select it before you can proceed. Whenever the right arrow isn't selectable it means another portion of the page needs to be selected to give you more information. Whenever the Stop Watch appears it's a *Knowledge Check* select the right top button that is 'flashing'. answer the questions. although the clock is running it does not improve your score to answer them fast. If you 'time out', run out of time, just select the button labeled "Finish Quiz". You can see your score as you proceed at the bottom right corner under the watch. Once finished you can also review your answers.



- Select the right arrow to continue.
- When prompted select the book "*Your Role as a Coach*" It will load in a separate window as a .pdf file. It's the same 21-page document that is available for all coaches. Read the document.
You will have a *Knowledge Check* quiz after you review this document.
- When prompted select the book "*In-Car Coaching Guidelines*" It too will load in a separate window as a .pdf file. It's the same 22-page document that is available for all coaches. Read the document.
You will have a *Knowledge Check* quiz after you review this document. (notice the time to answer the questions is getting shorter?)
- It's now time to take the Final Test. There is no time limit. You'll have 20 questions to answer. A score of 80% or above is required to successfully complete the course and become a Tire Rack Street Survival coach. At the end you have the option of going back and reviewing the questions you answered incorrectly.
- You can save a copy of this final page for your training records.
- When successful on the final test, your name will be entered into our master list of coaches. After a school opens, a list of available coaches will be sent to the school organizer. A coach's name will be on this list if their zip code is within 100 miles of that school.

Since we have converted this system into a HTML website, it means you and the national staff have no way to monitor who has taken the course and successfully completed it like we did before. The master list of coaches, along with any organizer's own list, is our only control of our trained coaches. Because we are now up to over 70 hosts with their own registrars which can change from year to year even school to school, we need one list for all of Tire Rack Street Survival.

We have transferred the coaches that have taken the course into a database and have sorted it by zip code of the coaches.. They will not have to take the course over.

If you have any questions of problems, please contact Tim Beechuk at tim.beechuk@streetsurvival.org or at 513-604-2398 (8am - 8pm Eastern time please).



SPLIT SCHEDULE EXAMPLE

pre-7:00	Coaches Arrive / Course Design
7:30	Registration opens / Coaches Meeting
8:00 – 9:00	Technical Inspection / Coaches /Student Introductions
9:00 – 9:20	Welcome / Group Intro in Classroom
9:20 – 9:45	Threshold Brake “Wake-up Drill”
9:45– 10:45	Group 1 – Classroom—Basic Skills Group 2 – Driving Exercises Slalom, Braking, Lane Change, Skid Pad Wet
10:45 – 11:00	Group Switch / Stage Cars
11:00 – 12:00	Group 1 – Driving Exercises Slalom, Braking, Lane Change, Skid Pad Wet Group 2 – Classroom—Basic Skills
12:00 – 1:00	Lunch Break / Demo’s / Presentations Air Bag Demo Semi Truck Demo Law Enforcement/ EMS Presentation (*note! change - driving course *)
1:00 – 2:00	Group 1 – Classroom II – Judgment & Awareness Group 2 – Driving Exercises Alt. Slalom, Braking w/ turns, Lane Change II, Skid Pad Dry
2:00 – 2:15	Group Switch / Stage Cars
2:15 – 3:15	Group 1 – Driving Exercises Alt. Slalom, Braking w/ turns, Lane Change II, Skid Pad Dry Group 2 – Classroom II – Judgment & Awareness
3:15 – 3:30	Break / Evaluations (note: driving course change)
3:00 – 3:20	Tail Gating / 2 Wheels off Exercise
3:45—4:30	Conclusion / Thank you's / Graduation
4:30 – ?:00	Clean –up / Tear down

