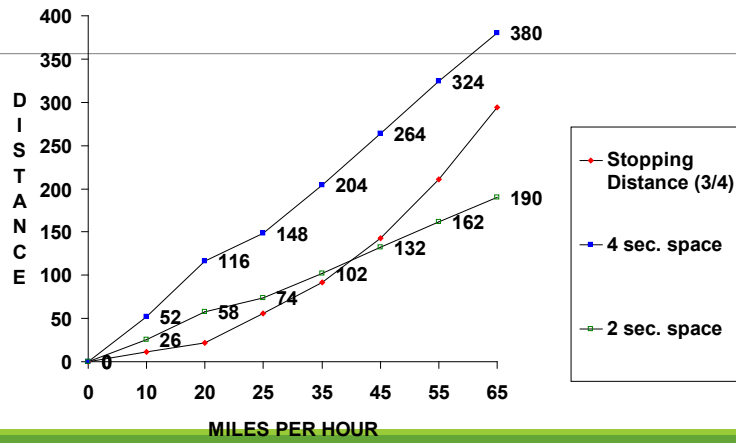


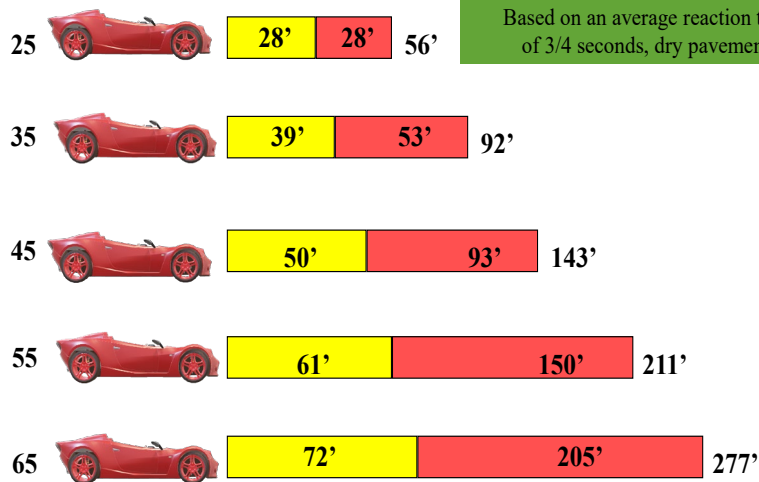
NDSP & IRHS Driver Proficiency Workshop

Evasive Maneuver Exercises

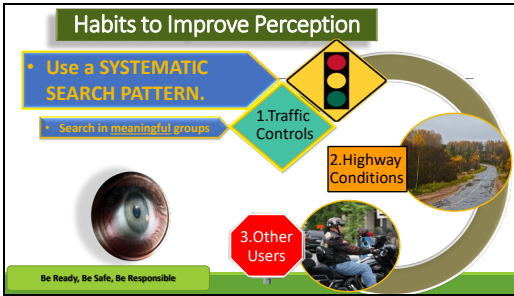
Stopping/Following Distances



STOPPING DISTANCES



Reaction Distance
 Braking Distance



Use a systematic search pattern

When there are many things to observe, it is best to deal with them in a few meaningful groups. This aids in the selection process and helps ensure that you do not overlook important clues.

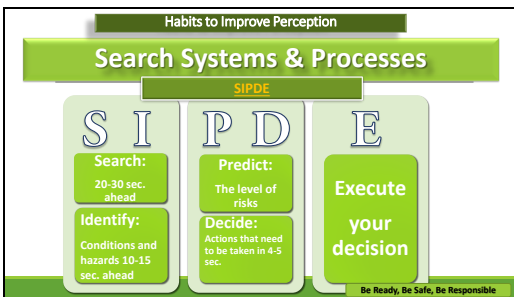
We will classify all things into three major groups.

- First search for traffic controls,
- Second for highway conditions and
- Third for Other Users.

The reason that traffic controls are first, they are well located, easy to identify and universal meaning.

If we are mentally "set" for something, we require less time to perceive it, and we tend to stay alert.

Where and what to look for.



Search for Conflict Situations

- Your projected path of travel is the basic point of reference in the selection of what to perceive as well as for the guidance of your vehicle.
- Your primary search must be for those hazards or other user movements that could result in a conflict within your path of travel.
- Anything not related to your path of travel should be passed over quickly. Then, you will not be distracted from perceiving the critical events.
- A key question you should start asking yourself is: "Will my travel path be clear for 20 to 30 seconds ahead?"

Know Where to Look and What to Look For

- These three habits for improving perceptions will result in your knowing what to look for - the real key to the selection process. This is because you will develop a mental "set" for observing what's important.
- As you practice these habits, it will help to ask yourself three questions: "What is it?" "Where is it?" and "What is it doing?"

Search

- Use visual search pattern and selective seeing
- Keep your eyes moving
- Leave yourself an “out”
- Look far ahead (at least 12 seconds)
- Look through curves

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Identify

- Specific clues
- Other roadway users
- Roadway features and conditions
- Traffic controls
- Condition of your vehicle

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Predict

- Actions of other roadway users
- Control of your vehicle
- Consequences of your actions
- Use judgement, knowledge, and experience

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Decide

- Change speed
- Change direction
- Communicate

Decide

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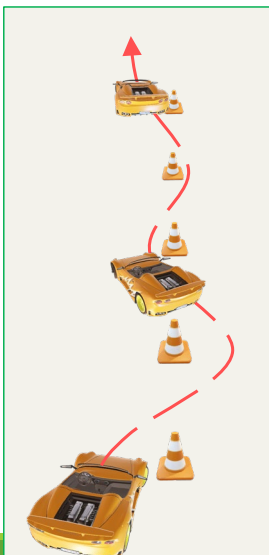
Execute

- Accelerate
- Brake
- Steer
- Communicate
- Combined actions

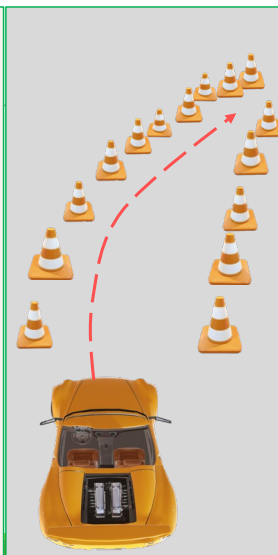
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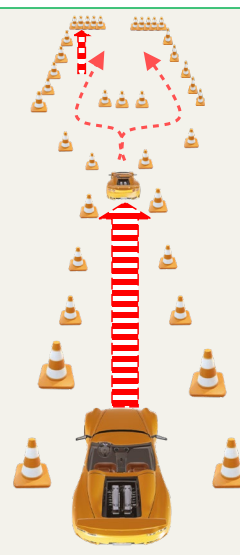
1. Serpentine Course Layout



2. Constant Cornering



3. Evasive Maneuver Layout



4. Controlled Braking Layout



Serpentine

Procedures

- Use steering at 9 and 3 position
- Steer to center area between cones
- Maintain steady speed
 - start at 15mph
 - increase speed at 5mph intervals to maximum level....20-25mph
- Traction is lost as speeds increase

Skill Techniques

- Visual**
 - Use the middle of area between cones as visual cue
 - Keep eyes moving to the next cue area when you cannot see the initial cue
 - Finish exercise by looking at the center of the exit area
- Motion**
 - Do not fluctuate speed
 - Steady pressure with heel of foot at base of accelerator
 - Try not to brake
 - Each try should be at a slightly higher speed
- Steering**
 - Start at 9-3 position
 - Move steering wheel until you feel touch of arms...180 degrees (forearm bump)
 - Movements should be smooth and directed

Serpentine

Procedures

Use steering at 9 and 3 position

Steer to center area between cones

Maintain steady speed

1. start at 15mph

2. increase speed at 5mph intervals to maximum level....20-25mph

D. Traction is lost as speeds increase

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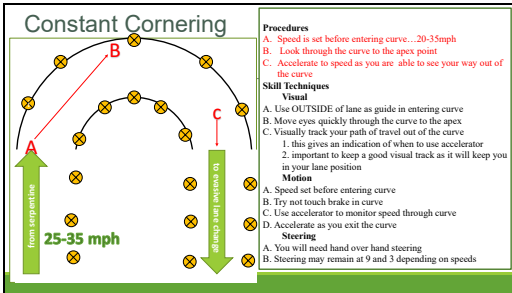
Steering

Start at 9-3 position

Move steering wheel until you feel touch of arms...180 degrees (forearm bump)

Movements should be smooth and directed

Serpentine



Constant Cornering

Procedures

Speed is set before entering curve...20-35mph

Look through the curve to the apex point

Accelerate to speed as you are able to see your way out of the curve

Skill Techniques

Visual

A. Use OUTSIDE of lane as guide in entering curve

B. Move eyes quickly through the curve to the apex

C. Visually track your path of travel out of the curve

1. this gives an indication of when to use accelerator

2. important to keep a good visual track as it will keep you in your lane position

Motion

A. Speed set before entering curve

B. Try not touch brake in curve

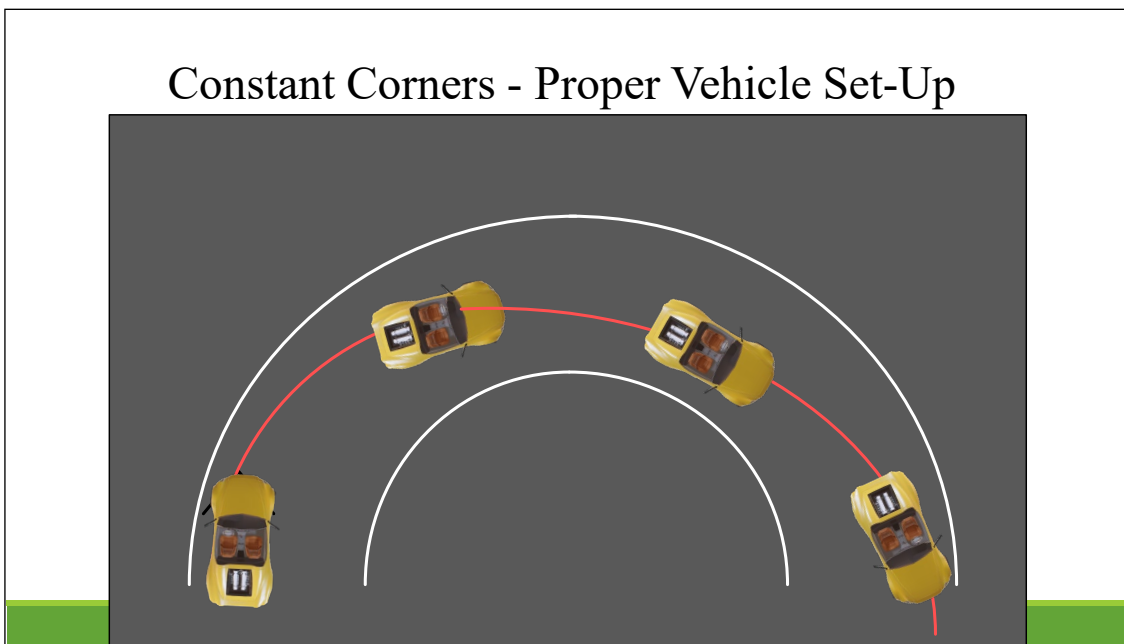
C. Use accelerator to monitor speed through curve

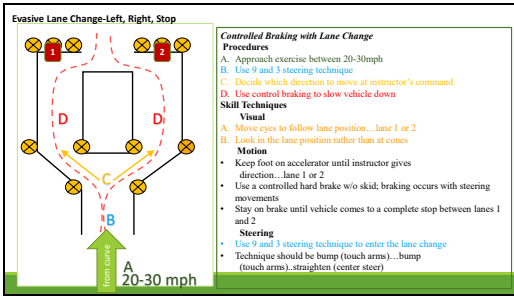
D. Accelerate as you exit the curve

Steering

A. You will need hand over hand steering

B. Steering may remain at 9 and 3 depending on speeds





Evasive Lane Change-Left, Right, Stop Controlled Braking with Lane Change

Procedures

- A. Approach exercise between 20-30mph
- B. Use 9 and 3 steering technique
- C. **Decide which direction to move at instructor's command**
- D. **Use control braking to slow vehicle down**

Skill Techniques

Visual

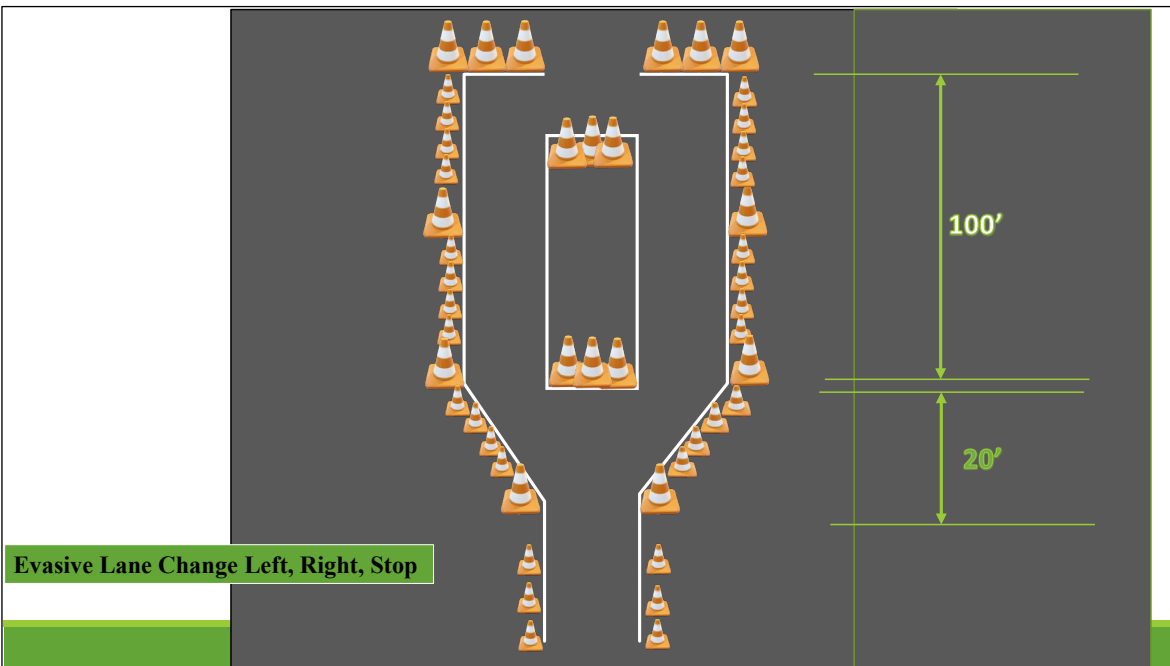
- A. **Move eyes to follow lane position...lane 1 or 2**
- B. **Look in the lane position rather than at cones**

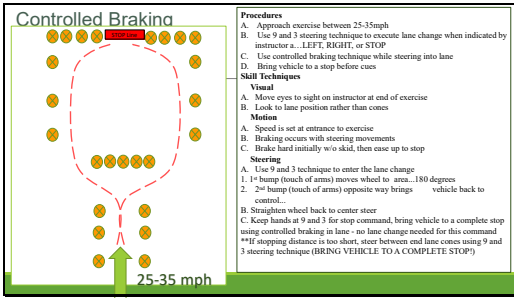
Motion

- Keep foot on accelerator until instructor gives direction...lane 1 or 2
- Use a controlled hard brake w/o skid; braking occurs with steering movements
- Stay on brake until vehicle comes to a complete stop between lanes 1 and 2

Steering

- Use 9 and 3 steering technique to enter the lane change
- Technique should be bump (touch arms)...bump (touch arms)..straighten (center steer)





Controlled Braking

Procedures

- Approach exercise between 25-35mph
- Use 9 and 3 steering technique to execute lane change when indicated by instructor a...LEFT, RIGHT, or STOP
- Use controlled braking technique while steering into lane
- Bring vehicle to a stop before cues

Skill Techniques

Visual

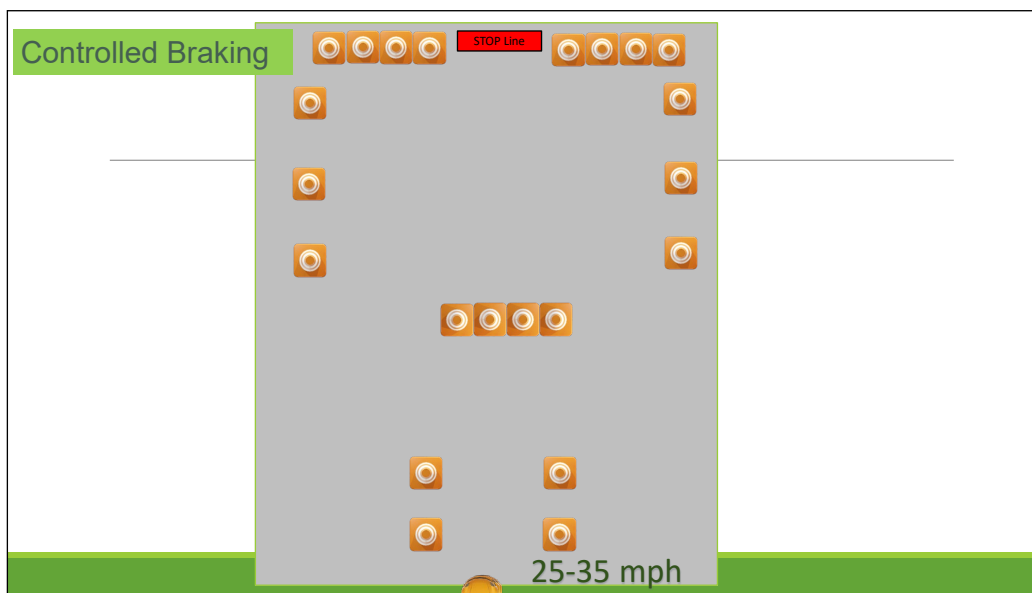
- Move eyes to sight on instructor at end of exercise
- Look to lane position rather than cones

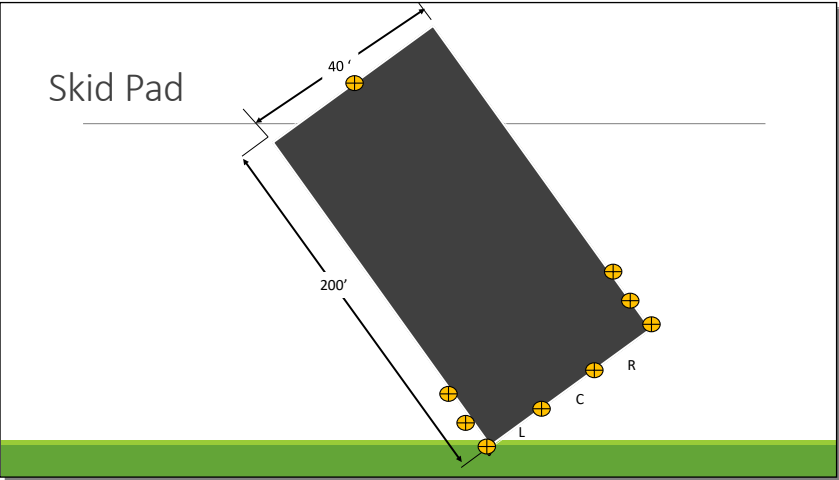
Motion

- Speed is set at entrance to exercise
- Braking occurs with steering movements
- Brake hard initially w/o skid, then ease up to stop

Steering

- Use 9 and 3 technique to enter the lane change
 - 1st bump (touch of arms) moves wheel to area...180 degrees
 - 2nd bump (touch of arms) opposite way brings vehicle back to control...
 - Straighten wheel back to center steer
 - Keep hands at 9 and 3 for stop command, bring vehicle to a complete stop using controlled braking in lane - no lane change needed for this command
- **If stopping distance is too short, steer between end lane cones using 9 and 3 steering technique (BRING VEHICLE TO A COMPLETE STOP!)





Skid Control

- One out of every four accidents involve skidding.
- Skidding results from changes in speed or direction that are too abrupt for road surface conditions
- Your ability to control skidding is critical in reducing the likelihood and severity of a collision.
- The most critical elements in skid control is to manipulate the brake to avoid locking the wheels and to maintain steering control.

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Skid Exercises

Four Wheel Lock-up

- Demonstrate that locked-sliding wheels can't be steered.
- Demonstrate that locked-sliding wheels go further than controlled braking.

Controlled Braking-Straight Line

- Maximum braking without locking wheels
- Demonstrate stopping distance is shorter than when wheels were locked and sliding.
- If lock-up occurs, release pressure slightly on brake and squeeze again (DO NOT pump the brakes).

Uncontrolled Skid

- Demonstrate an uncontrolled skid.
- Demonstrate that locked-sliding wheels will always want to lead.

Skid Exercises

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Skid Exercises Cont...

Skid Control

Rear Wheels will begin to skid and want to lead.

1. Steer in a direction you want to go,
2. Remove foot from gas.
3. (DO NOT brake)
4. As vehicle begins to respond to your steering, stop and begin steering in the other direction.
5. As the vehicle is stabilized, use the controlled braking and stop.

Controlled Braking With Evasive Lane Change

1. Initiate controlled braking.
2. Steer into the center lane and stop vehicle.

Skid Exercises Cont...

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What is ABS?

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- does not allow the wheels to lock-up and slide when the brakes are applied.

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What ABS Doesn't Do

- It DOESN'T shorten reaction distance or braking distance.
- It DOESN'T defy the laws of physics.
- It DOESN'T improve action time.
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ABS Exercises

Straight-line Braking
Braking and Evasive Steering

ABS Malfunction

ABS Symbol on Dash Panel

Conventional Brakes

ABS Malfunction

- ABS Symbol on Dash Panel
- Conventional Brakes take over

ABS Exercises

Straight-line Braking

Braking and Evasive Steering

