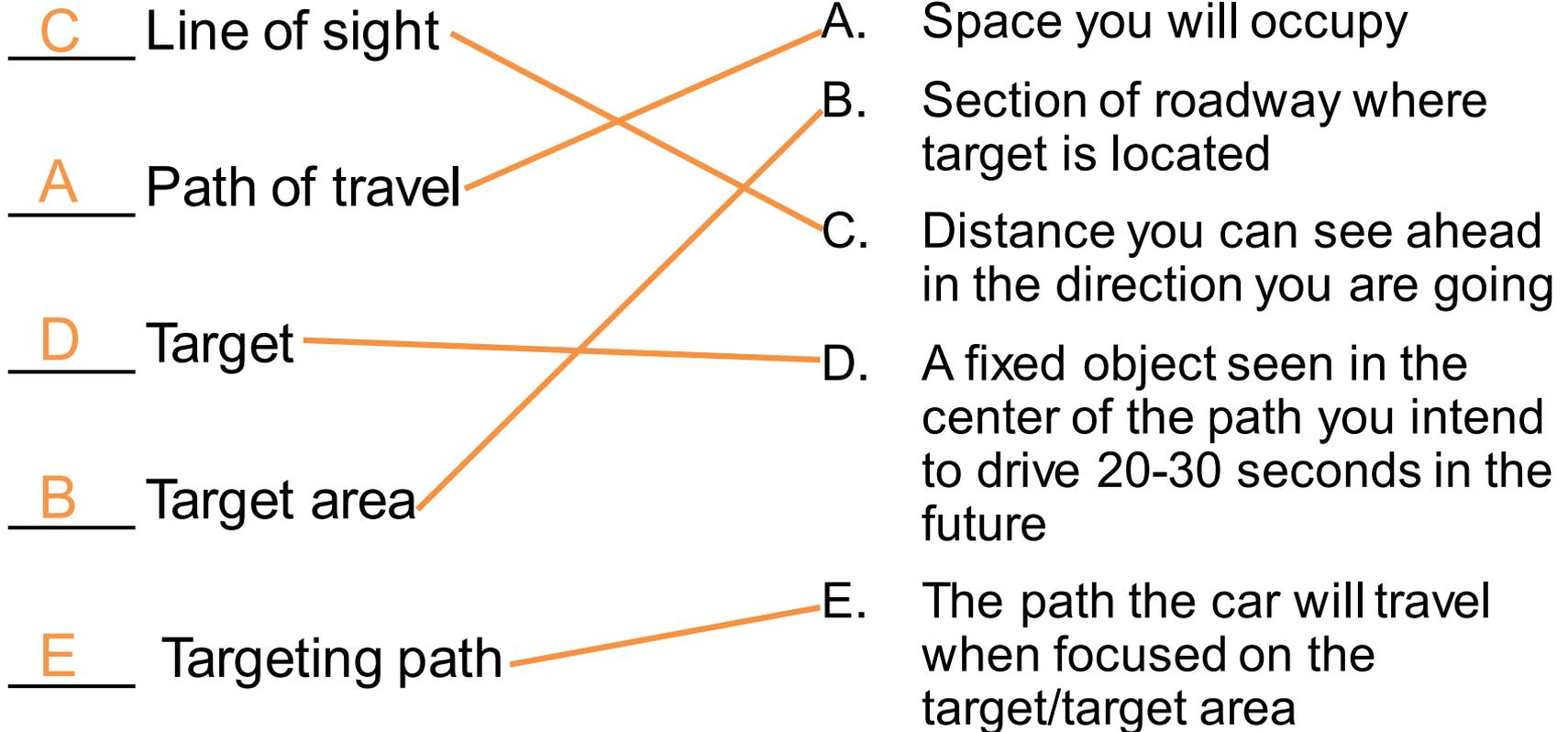


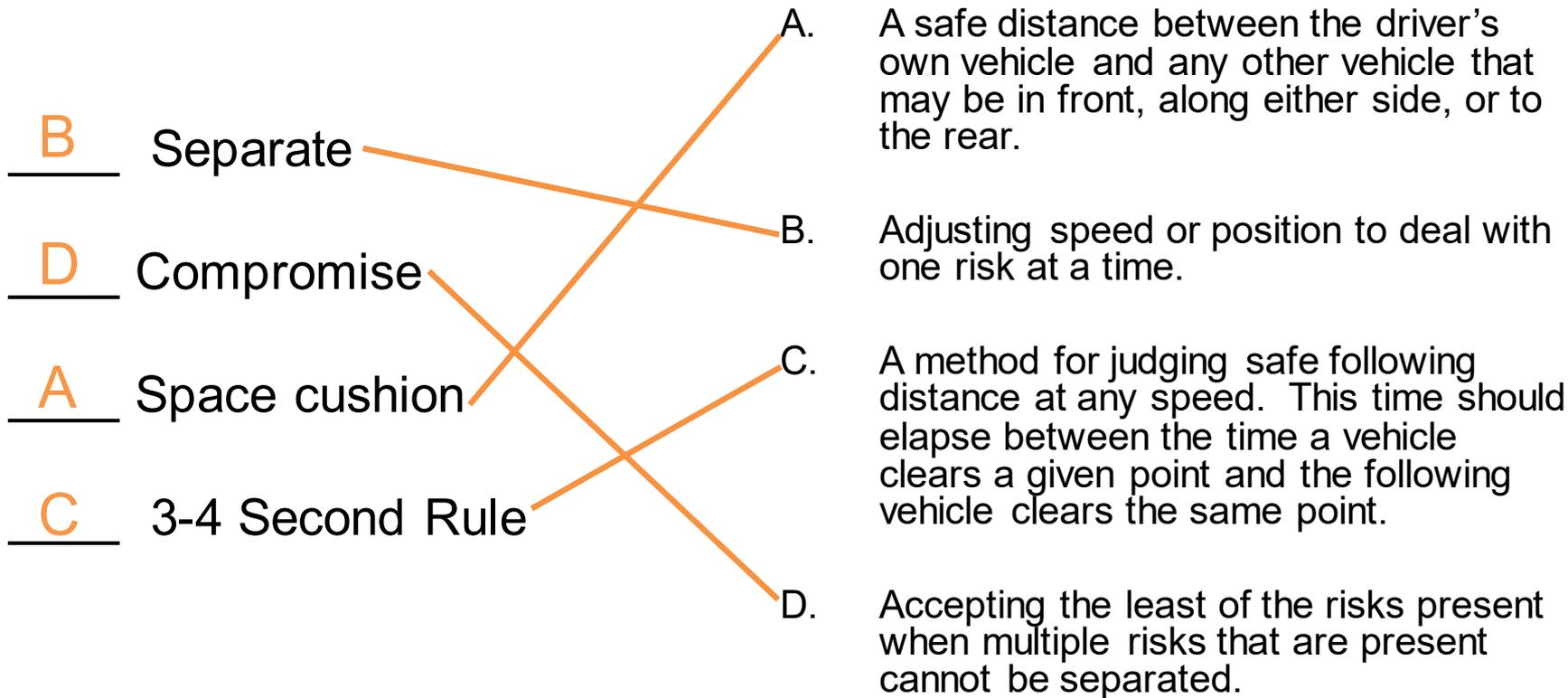


# Vision and Space

# Definitions



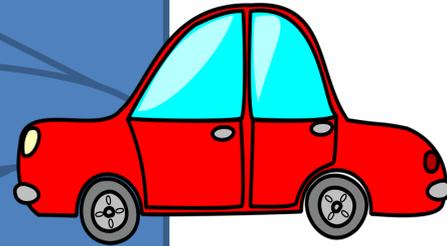
# More Definitions



# Field of Vision

Fringe Vision  
(Viewing Path of  
Travel)

Central Vision (Targeting, Reading Signs)

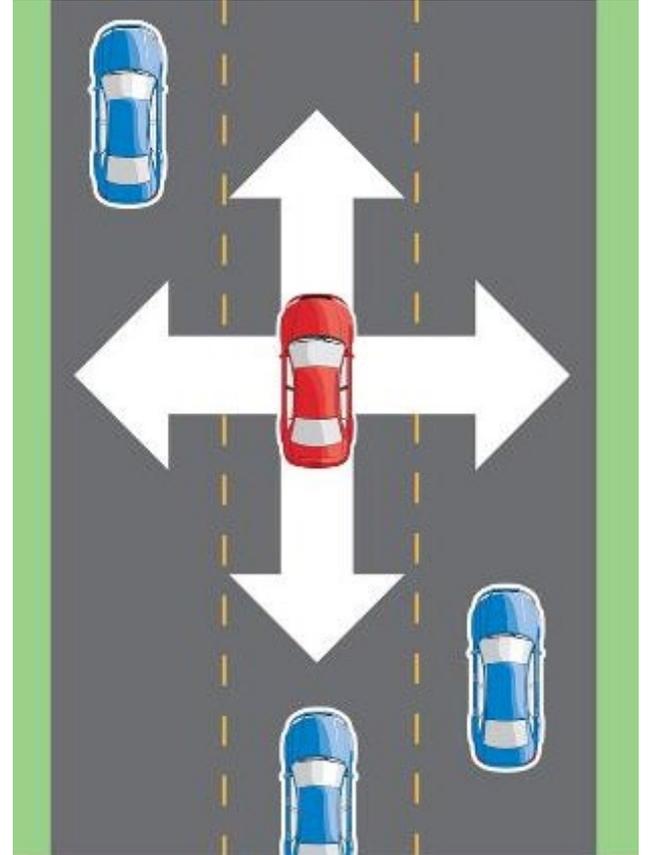


Peripheral  
Vision (Motion  
and Color  
Changes)

The task of driving is 90%  
visual input.

# Space Cushion

- A space cushion is a buffer around your vehicle that you maintain to allow room to maneuver, if necessary. Know what is in your space cushion, scan frequently, and maintain awareness of other vehicles.
- The extra space will help you move or maneuver in case of an emergency or hazardous situation. If you do not have an adequate space cushion on all sides, you must be extra alert.
- Try to maintain a space cushion in the front and on at least one side of your vehicle.





# Following Distance Video

# Brainstorm Activity

Working in small groups, discuss how vehicle speed, physical environment, and weather conditions affect visual space and following distance.

Explain how you would determine safe visual space and following distance in rain, snow, or when driving in heavy traffic.

# Blind Spots

- Blind spots are areas around the vehicle that cannot be directly observed by the driver while at the controls
- They can be caused by the window pillars, head rests, passengers, and other objects

# Compensating for Blind Spots

- When changing lanes, remember to execute a signal (to let others know your intention), check your mirrors, and complete a head check in the direction you intend to move.
- You also might have to lean forward or to a side to view the space you wish to enter.

# Selective Searching – Knowing Where to Direct Your Search

- Search for important factors
- Gather information
- Avoid surprises
- Look for changes in your line of sight
- Identify off road distractions
- Determine traffic conditions
- Adjust to changes in visibility
- Adjust to daylight hours and weather conditions (e.g. sunny day)

# Selective Searching – Classifying Information

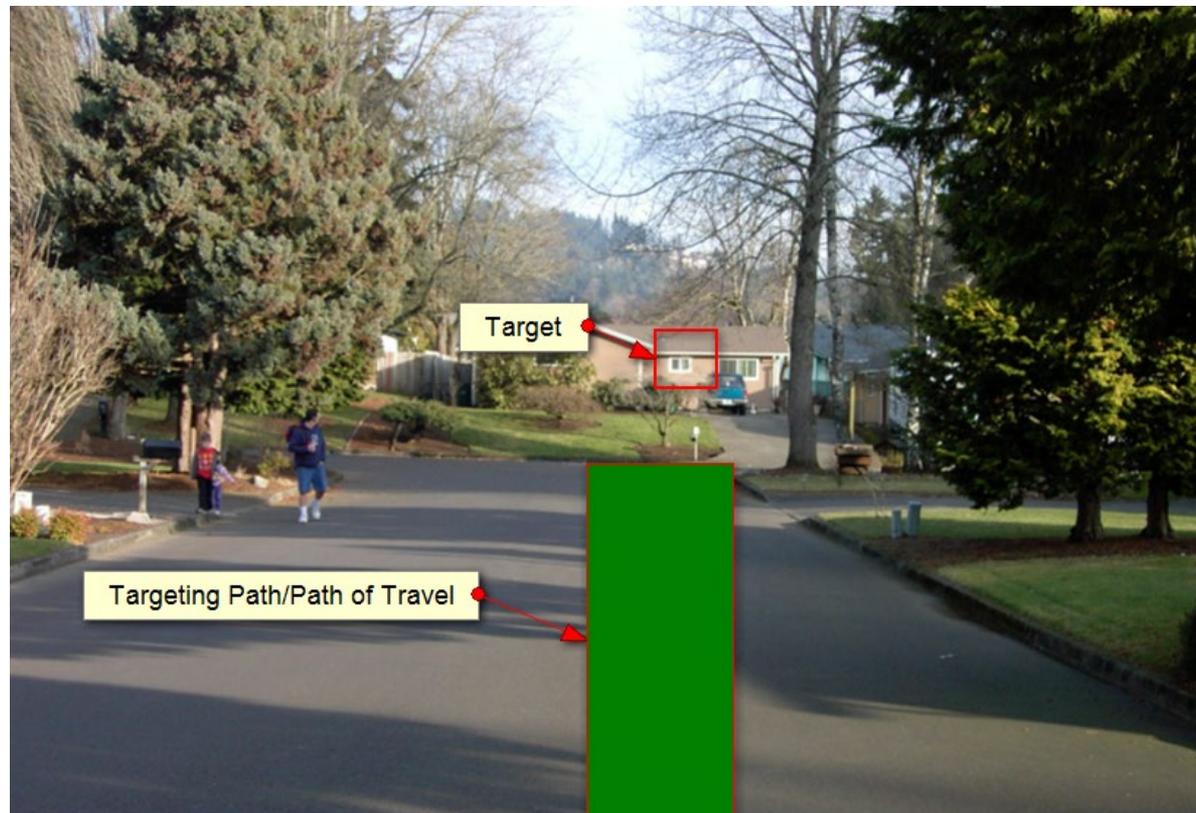
Classify information into categories:

1. Signs, signals, and markings
2. Roadway features
3. Motorized vehicles
4. Non-motorized roadway users



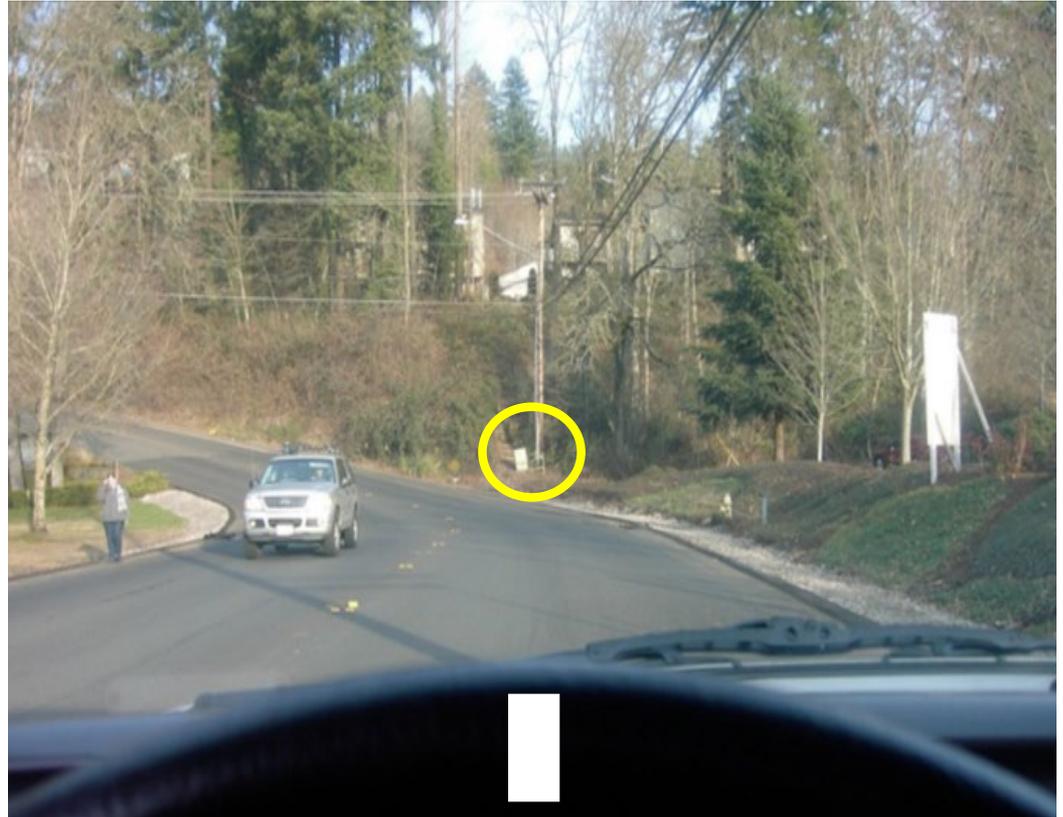
# Using Targets and Path of Travel

The **target** is a fixed object seen in the center of the path you intend to drive (**Path of Travel**).



# Use Your Steering Wheel

- You can use the steering wheel to reference the alignment of the car to the target and to the road.
- When the car is on target, you will see the center of the steering wheel aligned to the target.



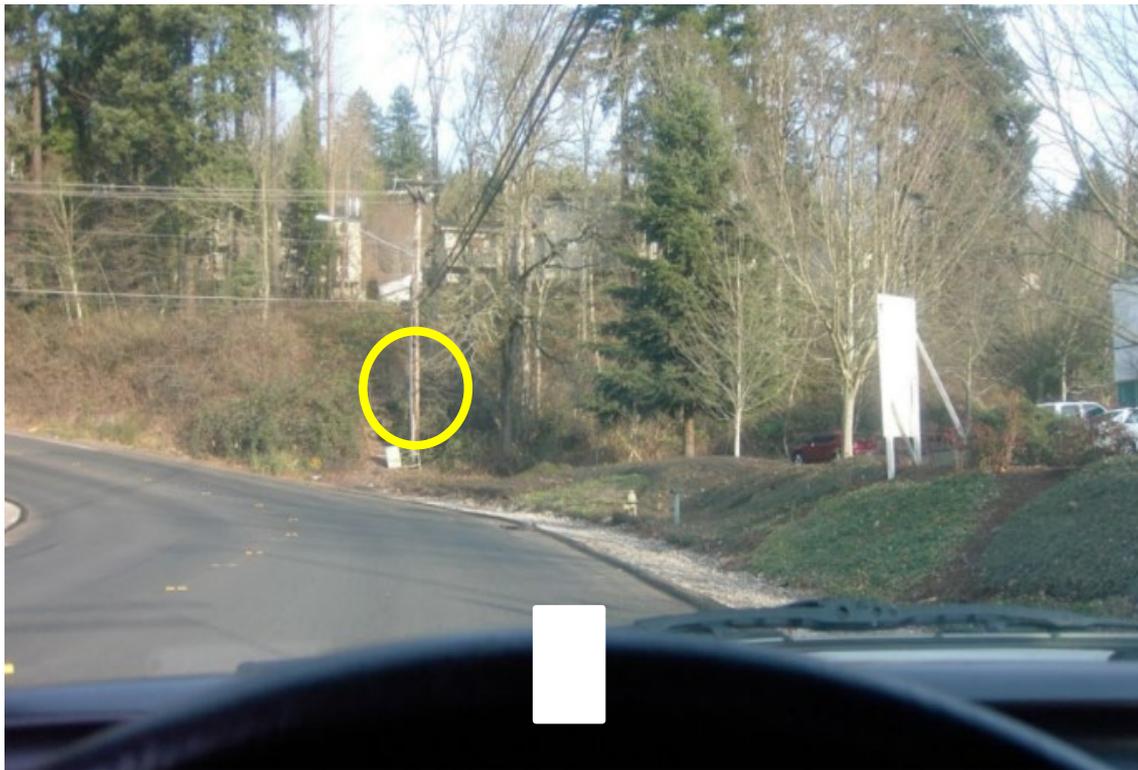
# Practice

Where is your target?

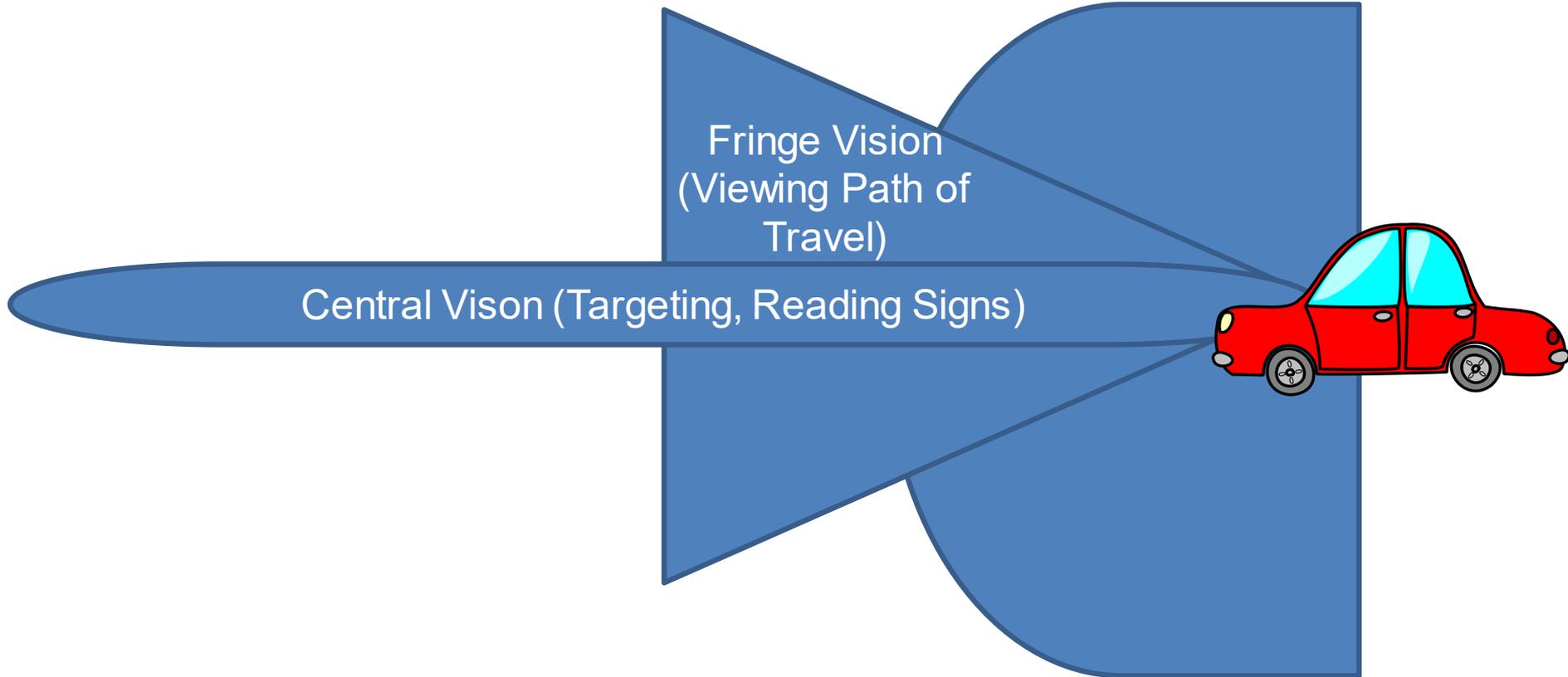


# Practice

Where is your target?



# Putting Theory Into Practice



# Theory to Real-Life

Central vision is a narrow cone of 5-10 degrees which is used to identify detail and objects.

We see the target with our central vision.



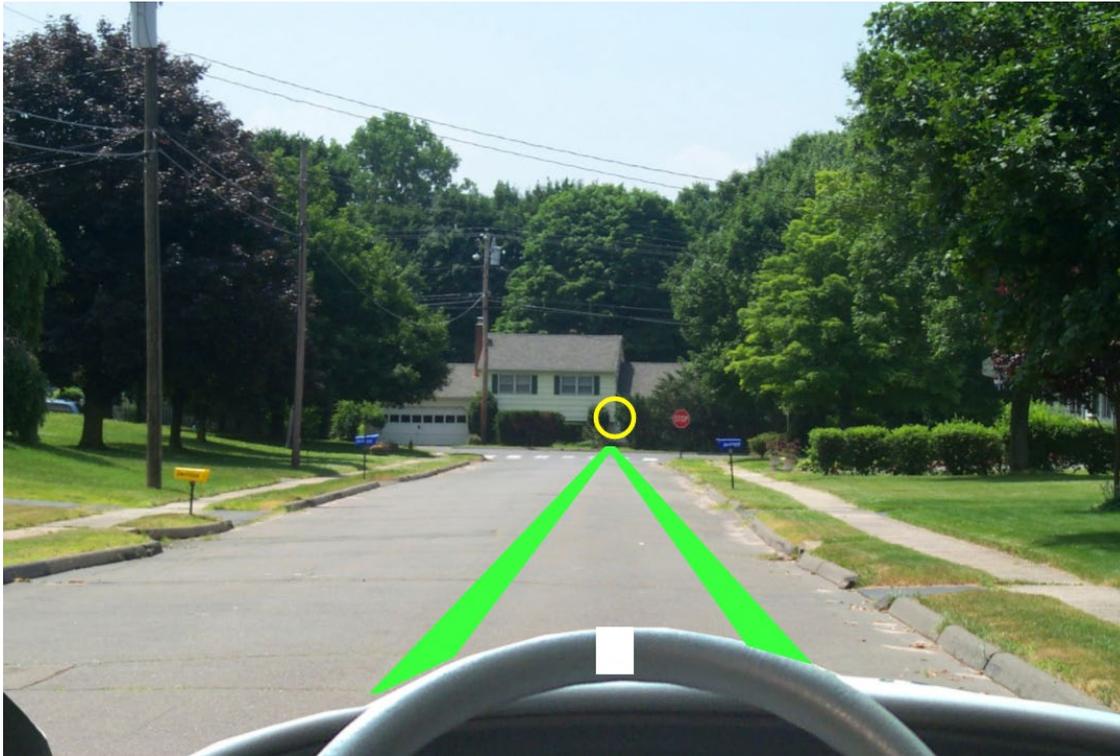
As we look ahead, we can tell how the car is aligned to the target by seeing the target with our central vision and steering wheel with our fringe vision (30 to 36 degrees).

- Vehicle to roadway reference
- Viewing path of travel
- Viewing line of sight to target area



Use your fringe vision to see the car aligned to the target.

The edges of the steering wheel indicate where the cars' tires will travel on the road.



# Is the car on or off target?



# Is the car on or off target?



**Where is your target if you intend to make a left turn?**



**Where is your target if you intend to make a right turn?**



# What is your target?



# Where is your target?



# Defensive Drivers Thought Activity

You are not out on the road alone, and you have to deal with many different situations, road conditions, and road users.

Lets take a minute to think about what it takes to be a “safe driver”. Write down 5 things that you think safe, defensive drivers do.

# What Does Defensive Driving Mean?

- Driving carefully.
- Making good decisions.
- Compensating for others.

# Smith System

- Aim high in steering (look far ahead).
- Get the big picture (look for hazards).
- Keep your eyes moving (don't stare).
- Make sure other highways users see you.
- Leave yourself an out (space cushion).

# SIPDE Process

- **S** – Search the area ahead and around your vehicle (20-30 seconds, 12-15 seconds, 3-4 seconds; front, sides, and rear of your vehicle; central, fringe, and peripheral).
- **I** – Identify hazards and escape routes.
- **P** – Predict what other drivers will do.
- **D** – Decide on an action to take give any situation.
- **E** – Execute that action (continue as is, braking, evasive steering).

# Search

- Search for other roadway users
- Roadway features & conditions
  - Intersections
  - Hills
  - Blind corners
  - Changes in surface or conditions of roads
  - Roadside hazards
- Signs, signals, and markings



# Identify

Identify potential hazards in your immediate path of travel

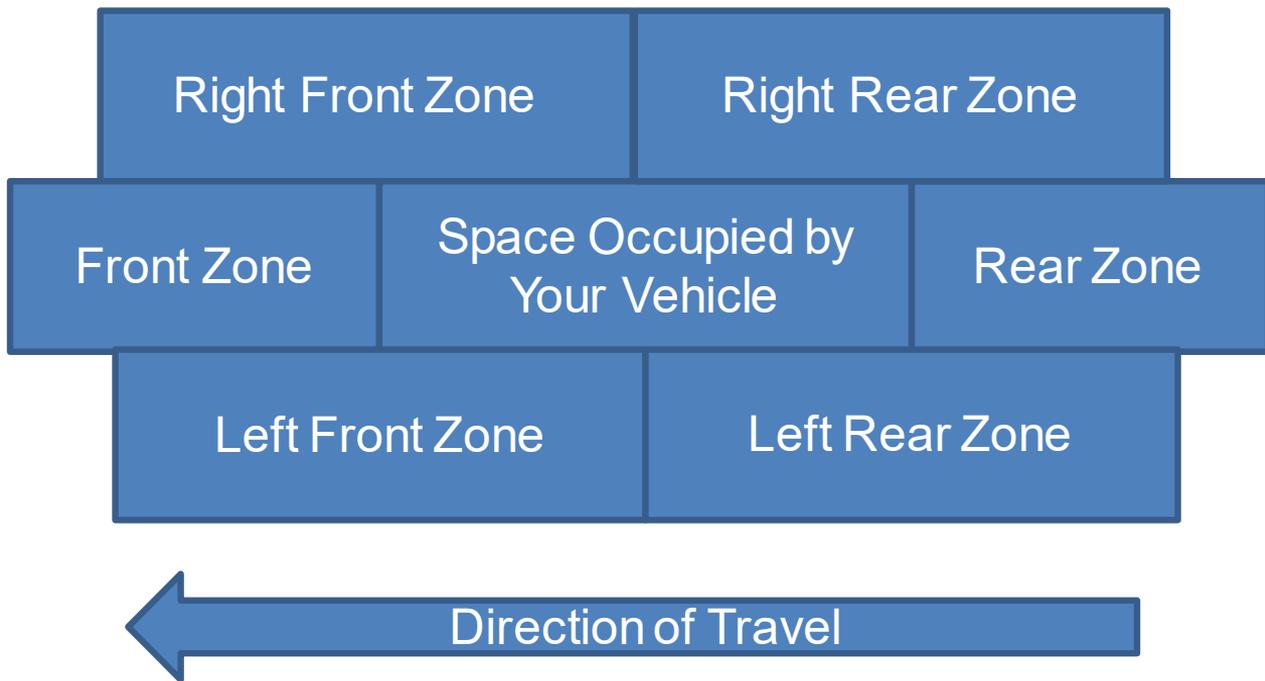


# Predict, Decide, and Execute<sup>3</sup>

- Rely upon your experience and knowledge of the rules of the road to predict the actions of other drivers, their potential paths of travel, and what conflicts could result.
- Decide in advance on safe action should you come across a hazard (ex: change your speed, change your direction).
- Communicate your intended safe action to other drivers and execute.

# Zone Control System<sup>2</sup>

A zone refers to one of the six spaces around your vehicle. It is the width of a traffic lane and extends as far as you can see.



# Zone Control System<sup>2</sup>

A zone can be open, closed, or changing.

Open Zone: no restrictions on sight or travel

Closed Zone: unavailable for the vehicle's path of travel or blocked from the driver's line of sight.

Changing Zone: an open zone that may change to a closed zone.

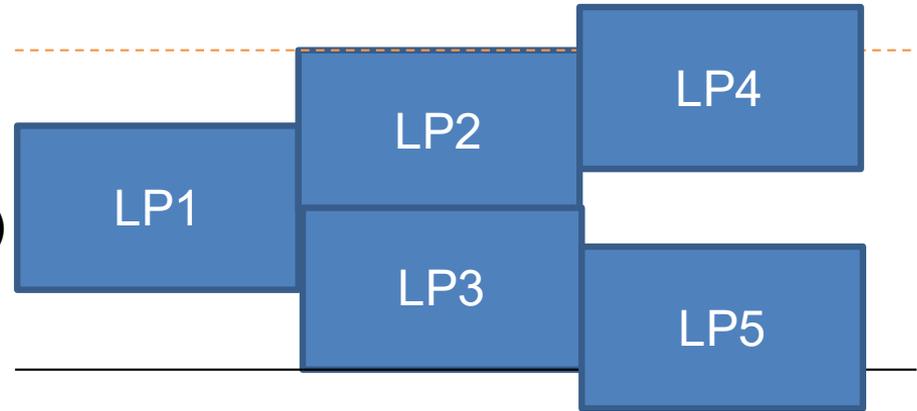
# Driving Limitations

- Limited Space – narrow road, heavy traffic, overpass, underpass, large vehicles, placement of other vehicles.
- Limited Time – following distance, changing speeds, speed of other vehicles.
- Limited Visibility – curves, hills, adverse weather, visual noise (buildings, parked cars, trees, snowbanks, fences, etc.).
- Limited Traction – adverse weather, gravel, different road types/conditions.

# Lane Position

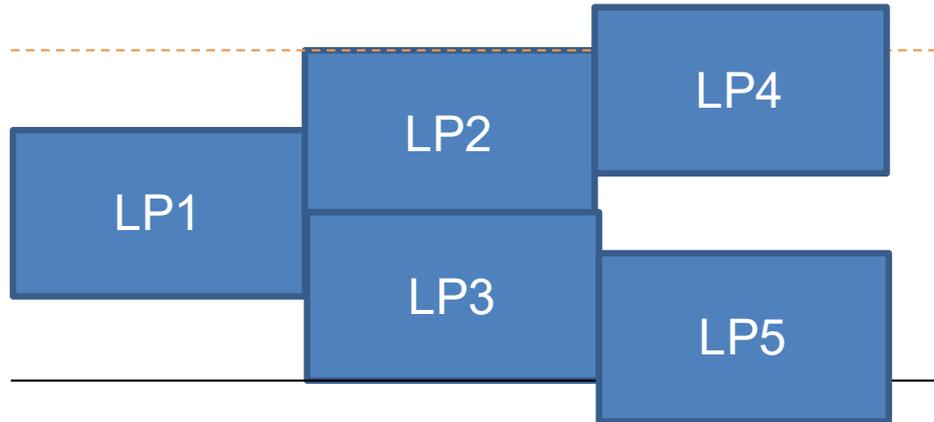
The width of the lane allows drivers to make lane position adjustments to minimize the risk and create more space between their car and problem situations.

- LP1 – Center of Lane
- LP2 – Left edge of lane (on yellow line)
- LP3 – Right Edge of Lane (one white line)
- LP4 – Over yellow line
- LP5 – Over white line



# Which Lane Position Would You Use?

1. There is a car on the right signaling to leave the curb
2. Vehicle approaching you, driving on the center line
3. Light traffic, traveling on the highway
4. Police officer conducting a traffic stop on the shoulder



# Review

- Your field of vision consists of three parts. What are they?  
Central vision, fringe vision, and peripheral vision
- Which part of your field of vision helps you determine motion changes and color changes, but is blurry?  
Peripheral vision
- This part of your field of vision is clear and sharp, but very small, so you must keep your eyes moving.  
Central vision

# Review

- The letters SIPDE stand for what method of defensive driving?  
Search, Identify, Predict, Decide, and Execute
- How can you adjust your vehicle to upcoming hazards?  
By changing your lane position to reduce risk

# References

1. Courtesy of AARP's Smart Driver Course. (2013, September 3). Speed Management – Safety is in Your Hands [IMAGE]. Retrieved from <https://www.aarp.org/auto/driver-safety/info-2013/create-space-cushion.html>
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