



Driving in Different Environments

Session Goals

1. Understand the major types of roadways that make up the Highway Transportation System, the key differences of driving in rural, urban, and multi-lane settings, and how to manage risk and remain safe while driving on these roads.

Key Vocabulary and Topics

- Acceleration lane
- Entrance/exit ramp
- Expressway
- Urban roadway
- Rural roadway
- Overtaking
- Cruise control
- Merge point area
- Rural roadway
- Shared left-turn lane
- Slow moving vehicle
- Techniques: Isolate, Separate, Compromise, Minimize hazards
- Characteristics of different driving environments
- Limited visibility, space and traction situations
- School zone
- Advisory speed
- Basic speed laws
- Point of no return
- Yielding right of way
- Protected lanes
- Collector lanes

Driving Environments Brainstorm

- How do driving environments change?
- How should we adjust our driving techniques in those different environments?

Different Driving Environments

- Residential areas
- Urban areas
- Rural areas
- Highways/Expressways

Potential Residential Hazards

- Children playing
- Driveways (vehicles backing out)
- Animals
- Pedestrians
- Bicyclists
- Municipal Vehicles
- School buses
- Mailman (UPS, Fed Ex, etc.)
- Ice cream truck
- Emergency vehicles
- RV's



Driving in Residential Areas

- Speed limits range from 15 – 45 MPH
- Scan the environment (move eyes continuously side to side for hazards)
- Minimize time spent near parked vehicles (the door may pop open; the vehicle may pull out quickly)
- Cover the brake past parked vehicles – there may be a child or adult stepping out between the cars.

Driving in Residential Areas

- Separate multiple hazards 99% of the time by slowing down; speeding creates another problem
- Use lane positioning on turns (round off right turns and square off left turns)
- Look left first at intersection (you cross their path first)
- Show before you go (creep out at stop signs before accelerating on your way)

Urban Area Characteristics/Potential Hazards

- Vehicles parking/double parked vehicles
- Delivery vehicles
- Slower traffic/heavy traffic
- Bike lanes/bicyclists
- Pedestrians (jaywalkers, distracted)
- Busy intersections
- One way streets
- Construction
- Protected/unprotected turns
- Tailgaters, distracted drivers
- Public transport vehicles/school buses



Urban Area Driving

- Stay within the speed limit (15-30 MPH)
- Be more aggressive with visual skills
- Be ready to change lane position at any time
- Be ready to stop at any time
- Change lanes early for upcoming turns
- Expect tailgaters and signal early when you plan to turn or stop
- Remember left on red opportunity (turning left from a 1-way onto a 1-way street)
- Lots of stopping and going!

Rural Area Characteristics/Potential Hazards

- Poor road conditions – rough road, soft surfaces (gravel or dirt)
- Obstacles on the road
 - Large animals (deer, horses, cows)
 - Small animals (raccoons, skunks, etc.)
 - Debris
 - Slow moving vehicles (tractors, horse and buggies)
- Blind curves
- No shoulder or guard rails



Highway and Expressway Characteristics/Potential Hazards

- Highway hypnosis (Stay awake)
- Velocitation (check your speed after you leave the highway)
- Possible ramp signal lights (entrance ramps)
- Possible “ramp overflow” (exit ramps)
- Red/Green signal “X” over lane (toll booths)
- Disabled vehicles (look for pedestrians)
- Emergency vehicle stopped in right lane
- Police officer (lane change if possible)
- Construction zone speed limits
- Missed exit! What do you do?

The difference between a highway and an expressway is that highways have intersections, while expressways have on ramps and exit ramps. Highways are very dangerous because of the cross traffic.

Advantages of Expressway Driving

- No cross traffic (No intersections)
- Median or barrier between opposing lanes of traffic
- Reduced chance of encountering animals or slow moving vehicles
- Reduced risk of hitting stationary objects
- Drivers can anticipate conditions ahead through signs

Strategies for Practicing

1. Prepare yourself and your vehicle. Make sure you are alert and well rested and to check vehicle gas and coolant levels, tires.
2. Build experience gradually
3. Concentrate fully on the “driving task”
4. Cooperate with other drivers

Two “Nevers”

1. Never stop in the acceleration lane!

If you must stop for any reason (mechanical problems, unsure of direction, illness, etc.). Pull off to the right side of the entrance ramp.

2. Never back up to get a missed exit!

If you miss your exit, go to the next one and reverse your direction.

Expressways: Speed Limits

Basic Speed Law – speed that is safe and prudent for the weather and roadway conditions

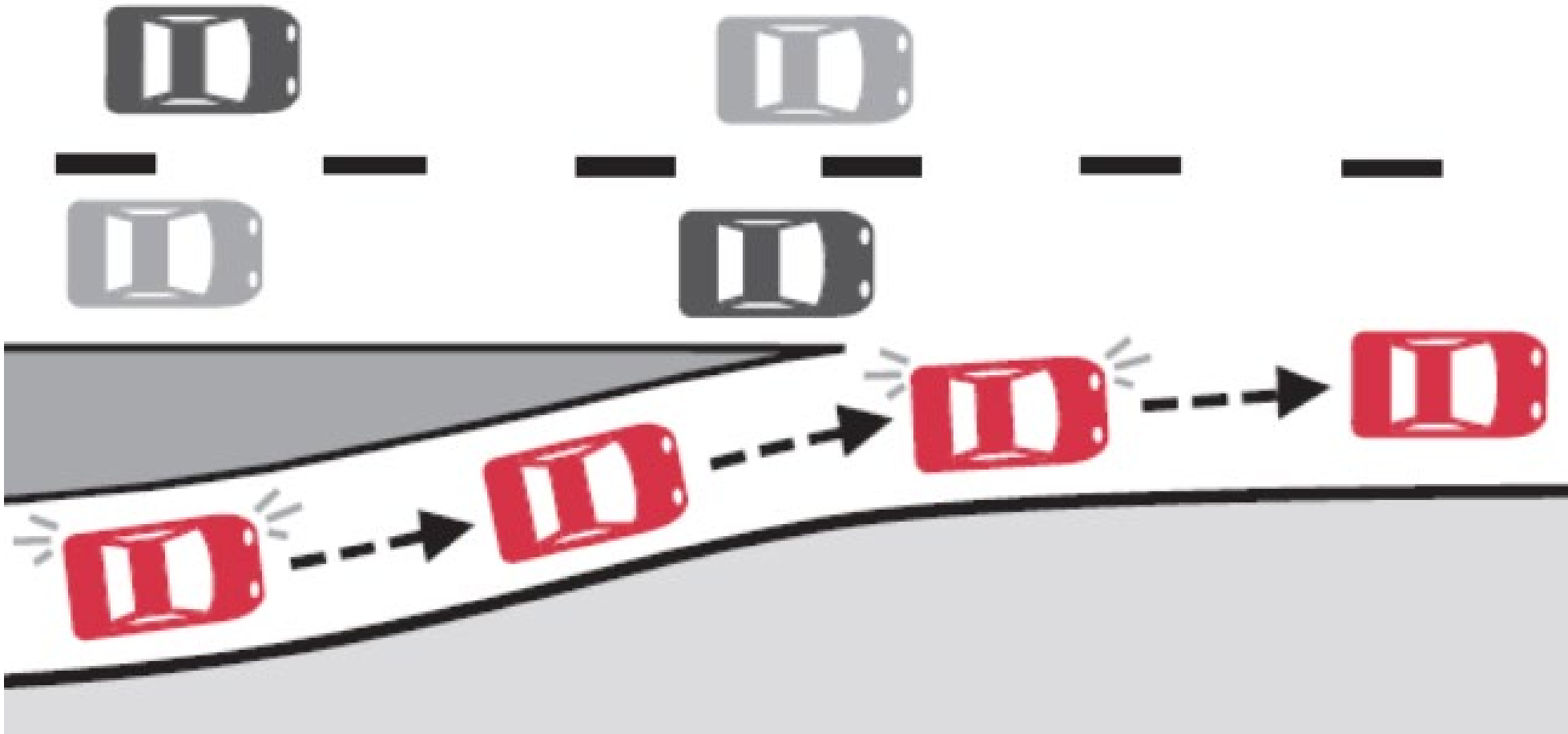
Maximum Speed Limits – These are the posted speed limits

Minimum Speed Limits – The lowest legal speed you can drive under ideal conditions (example for the I-90, it is 45 MPH)

Common Speed – The speed used by most drivers

Wolf Packs – a group of drivers traveling together at higher speeds; driving in them allows you little or no margin of safety

Entering the Expressway



Entering the Expressway

1. Choose the proper ramp. Signal. Check for “**Do Not Enter**” signs or “**Wrong Way**” signs.
2. Recognize your position on the ramp. Is there a short signal light?
3. Stabilize on the ramp. Obey the advisory speed limit.
4. Signal for the merge.
5. Adjust speed for the ramp.

Entering the Expressway

6. Glance back over your shoulder for the gap in traffic that you will need. Which vehicle will you “lead” or “follow”?
7. Use the entire acceleration lane to merge if possible.
8. Match speed of traffic (50-65 mph).
9. Use side view mirror to confirm your decision to lead or follow.
10. Merge smoothly. **ISOLATE** your vehicle in traffic. Stay between the wolf packs.

When You Should Increase Your Following Distance:

- Entering & exiting
- Following a truck
- Bad weather
- Being tailgated
- Heavy traffic
- Following a motorcycle
- Operating a motorcycle
- Driving a truck
- Pulling a trailer

Traffic Merging with You

Warning signs for merging traffic



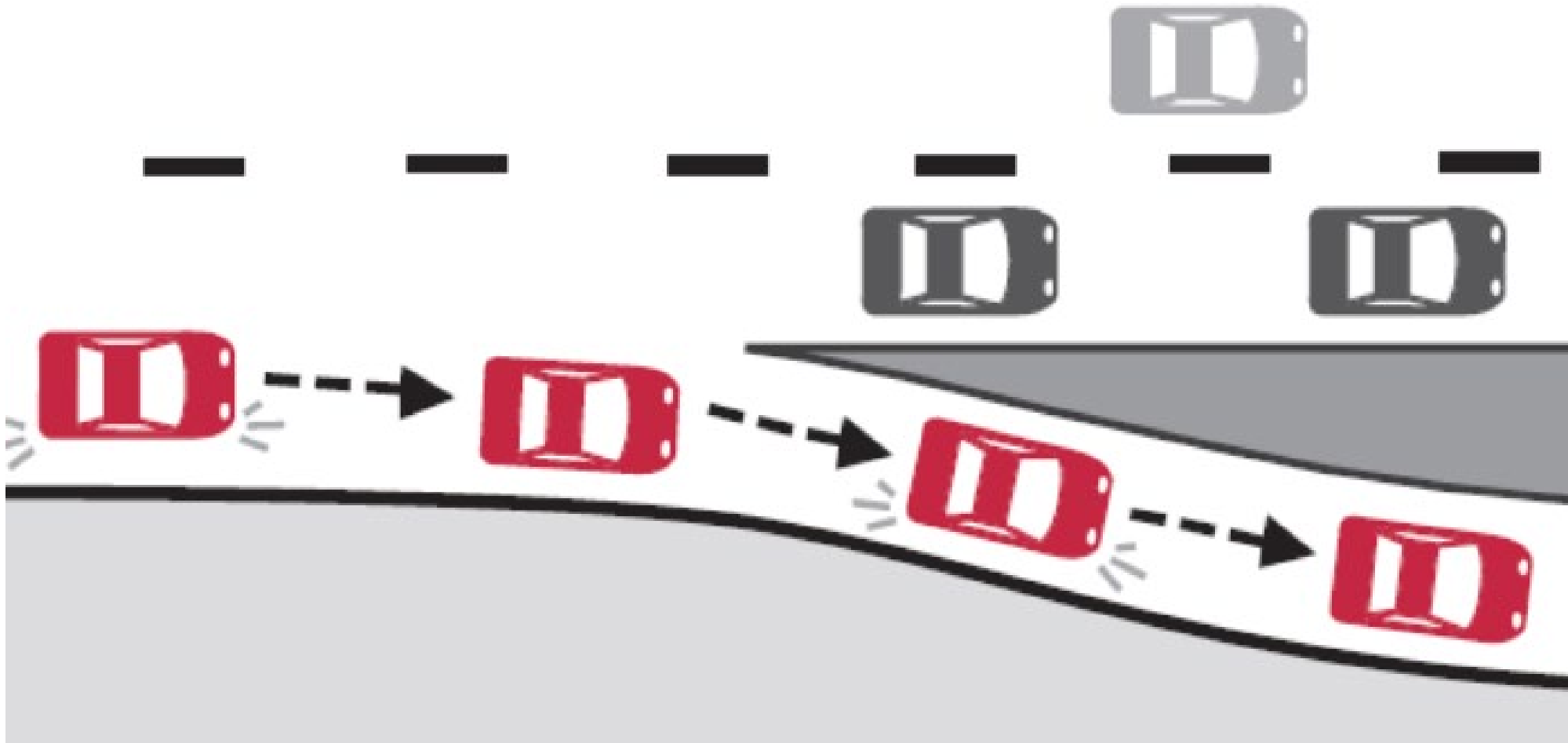
(merging traffic)



(merging traffic with
new lane creation)

To separate hazards you can change lanes or adjust your speed (slow down or speed up as needed)

Exiting the Expressway



Exiting the Expressway

1. Signal early, when you can see the arrow pointing to the ramp.
2. Let off of the accelerator only if no other vehicles behind you.
3. **Do not brake** on the expressway unless the exit ramp is short.
4. Blind spot check.
5. Lane change into the deceleration lane. All four vehicle wheels should be in lane before you begin braking.
6. Slow down in the deceleration lane.
7. Recognize upcoming control.
8. Watch velocitation.

Decision Making While Driving

We as drivers can make (3) THREE decisions while driving:

1. Change our speed
 2. Change our direction
 3. Communicate
- Changing speed can be referred to as “separating”
 - Changing direction can be referred to as “minimizing”
 - Communicating refers to signaling to another roadway user

Forms of Communication

Horn

- Sends a message 360 degrees around your vehicle
- Must be aware of where it is located on the steering wheel
- Should be aware of difference between using the “friendly toot” (for humans) or the “sharp blast” for animals

Forms of Communication

Lights

- Headlights on at all times so others can see you sooner
- Flash bright lights once to communicate
- Tap brake pedal to flash brake lights before turning or stopping
- Use turn signals for turns and lane changes
- Use 4-Way Flashers for hazardous conditions, vehicle problems and emergencies

Hand Signals

Use hand signals when turn signal is not working and/or to reinforce turn signals and brake lights



New York State Department of Motor Vehicles.
New York State Driver's Manual.

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.

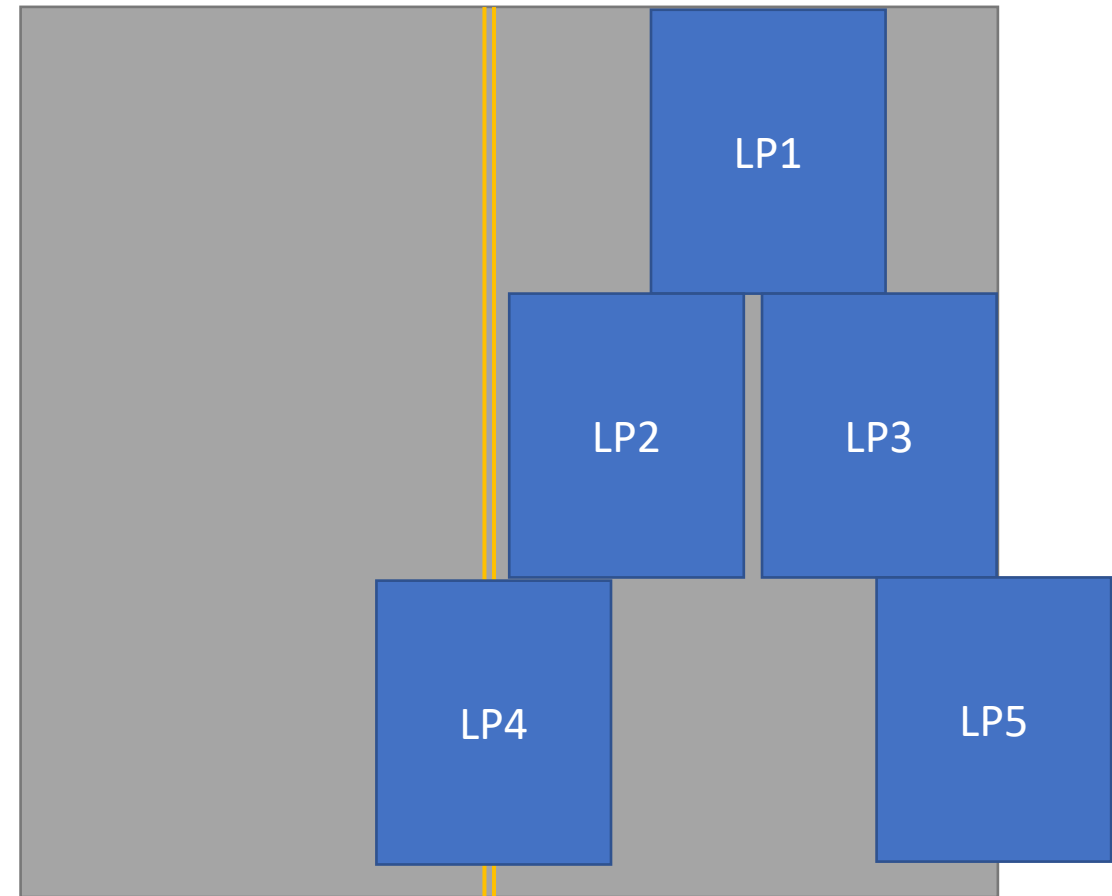
LP1 – Center of the lane

LP2 – Left edge of the lane (on yellow line)

LP3 – Right edge of lane (one white line)

LP4 – Over yellow line

LP5 – Over white line



Eye Contact

Use eye contact with other roadway users to confirm that they see you.

If you can not make eye contact, you must assume they do not see you.

Minimize – Separate – Compromise

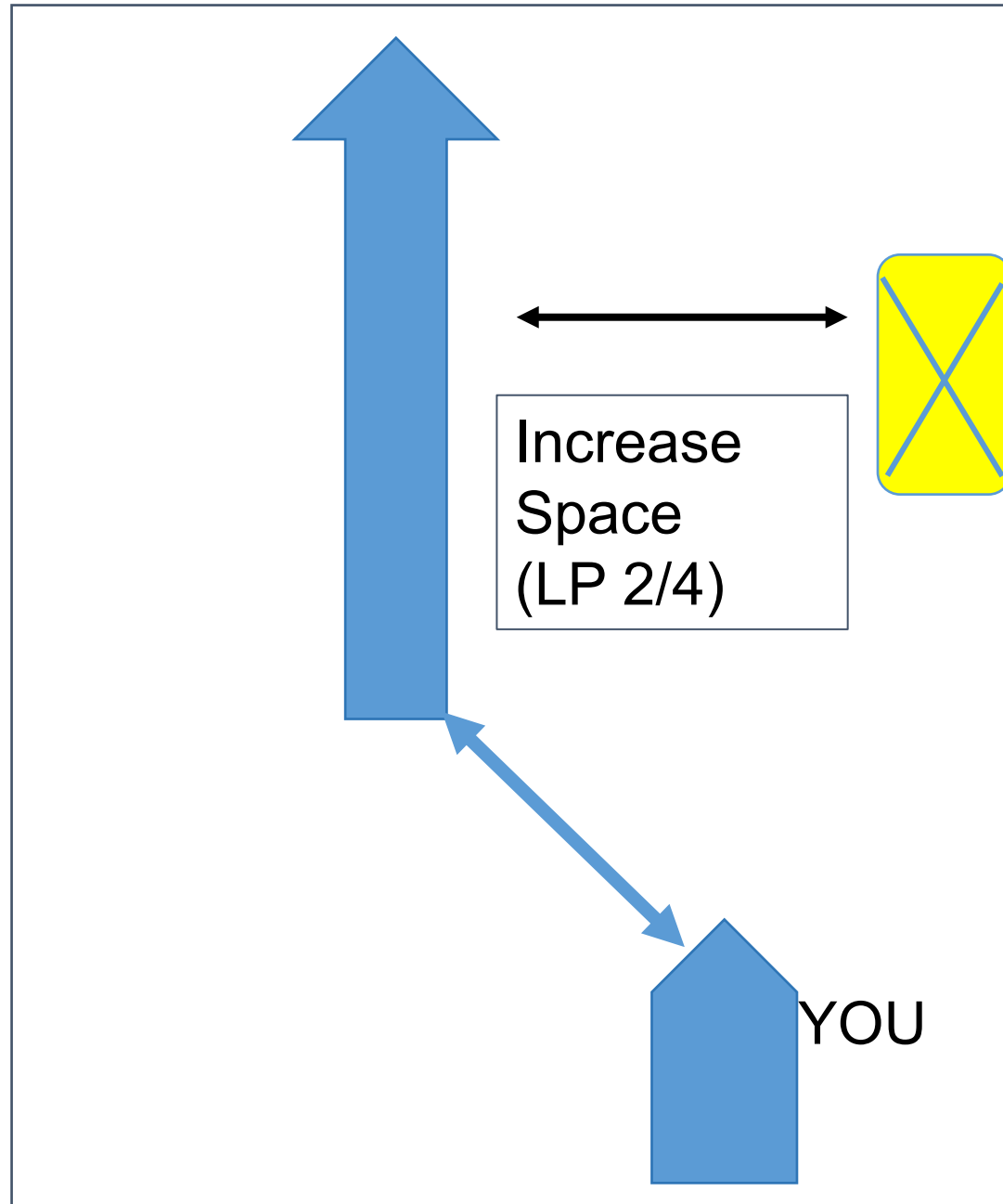
Minimize – Steer away to increase the distance between your vehicle and a (single) hazard

Separate – Change speed to take 2 or more hazards one at a time

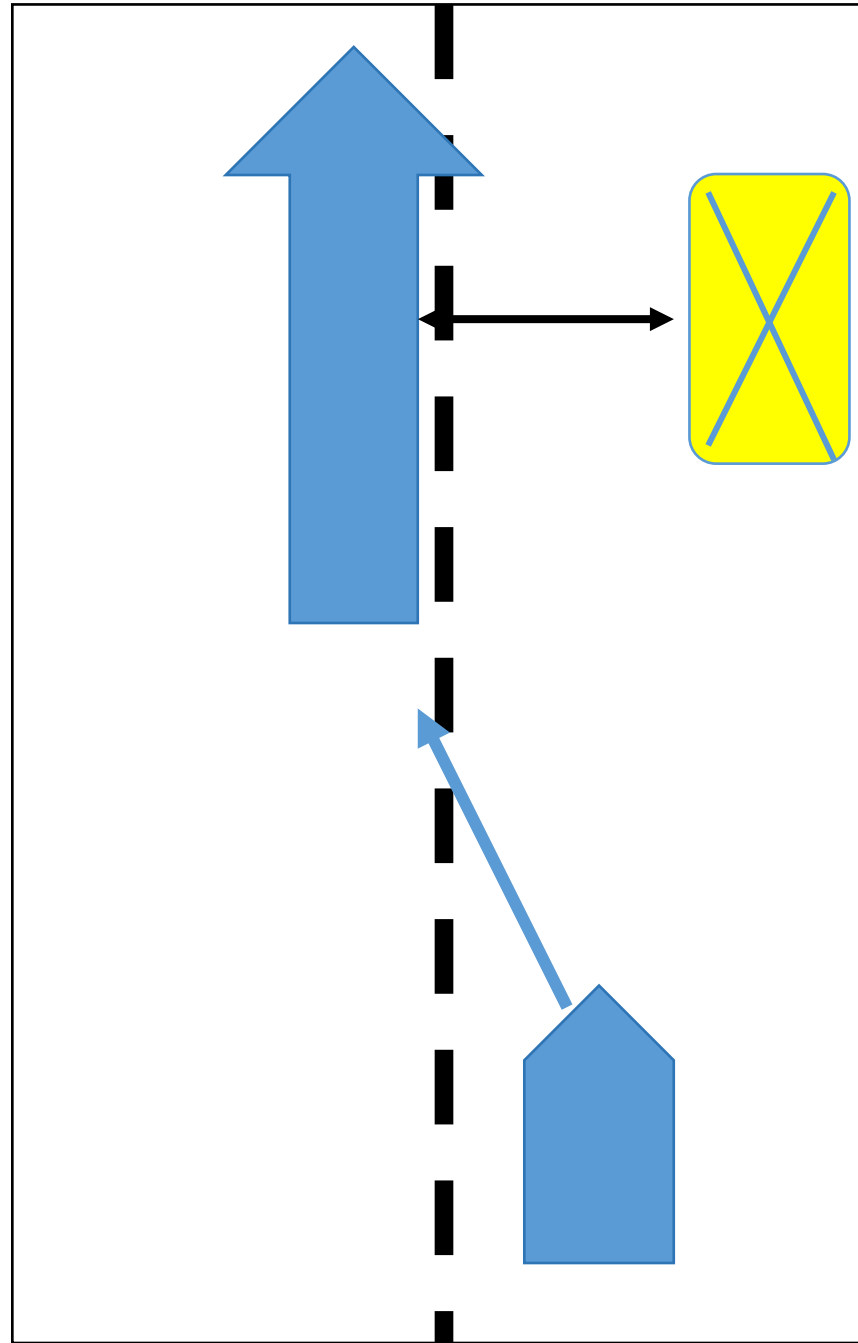
Compromise – Give up your speed (Time) and/or lane position (Space) to avoid a collision when you are not able to minimize or separate.

Minimize

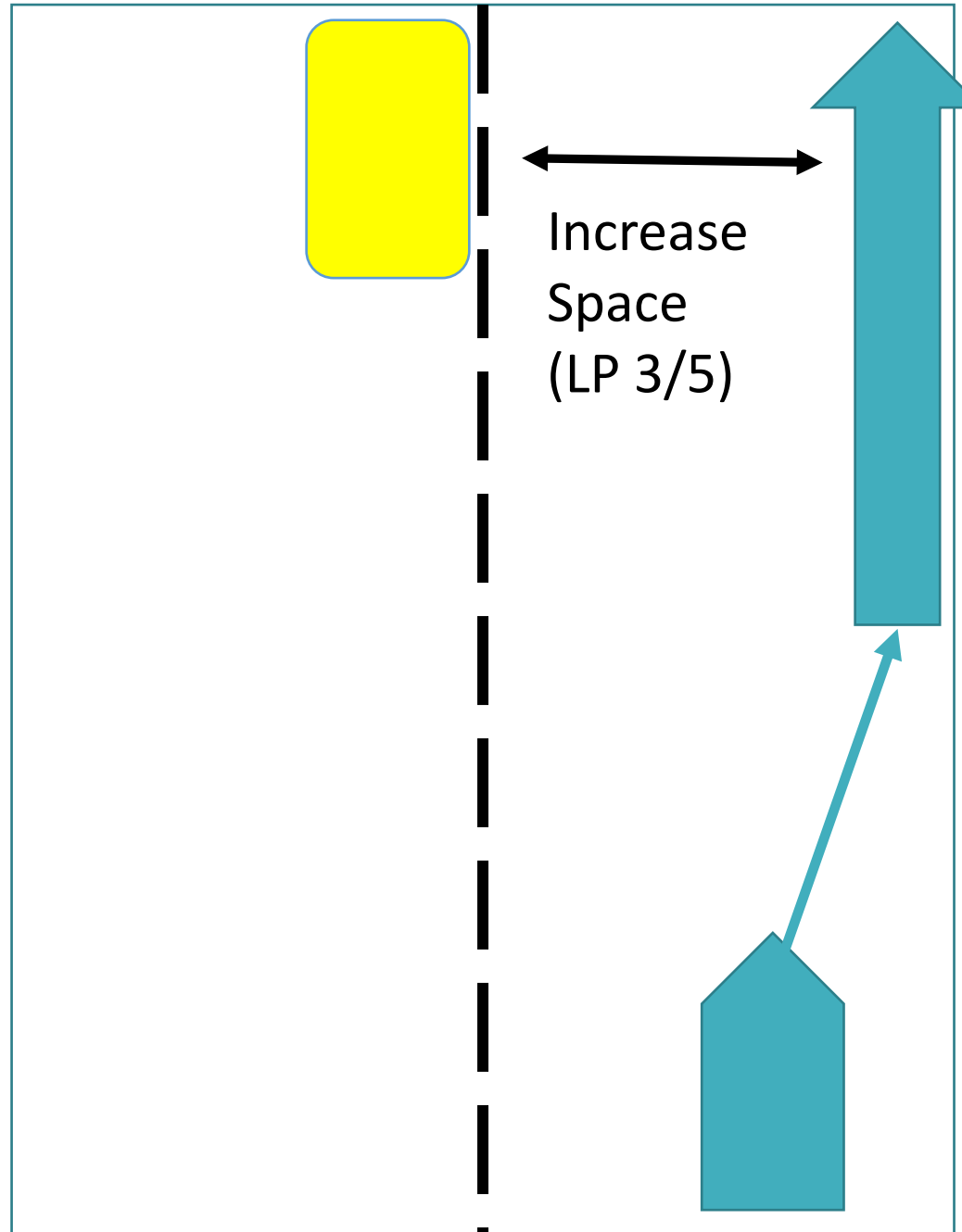
Steer away to place more distance between your vehicle and a hazard.



Minimize
Do not get
trapped by
lines.

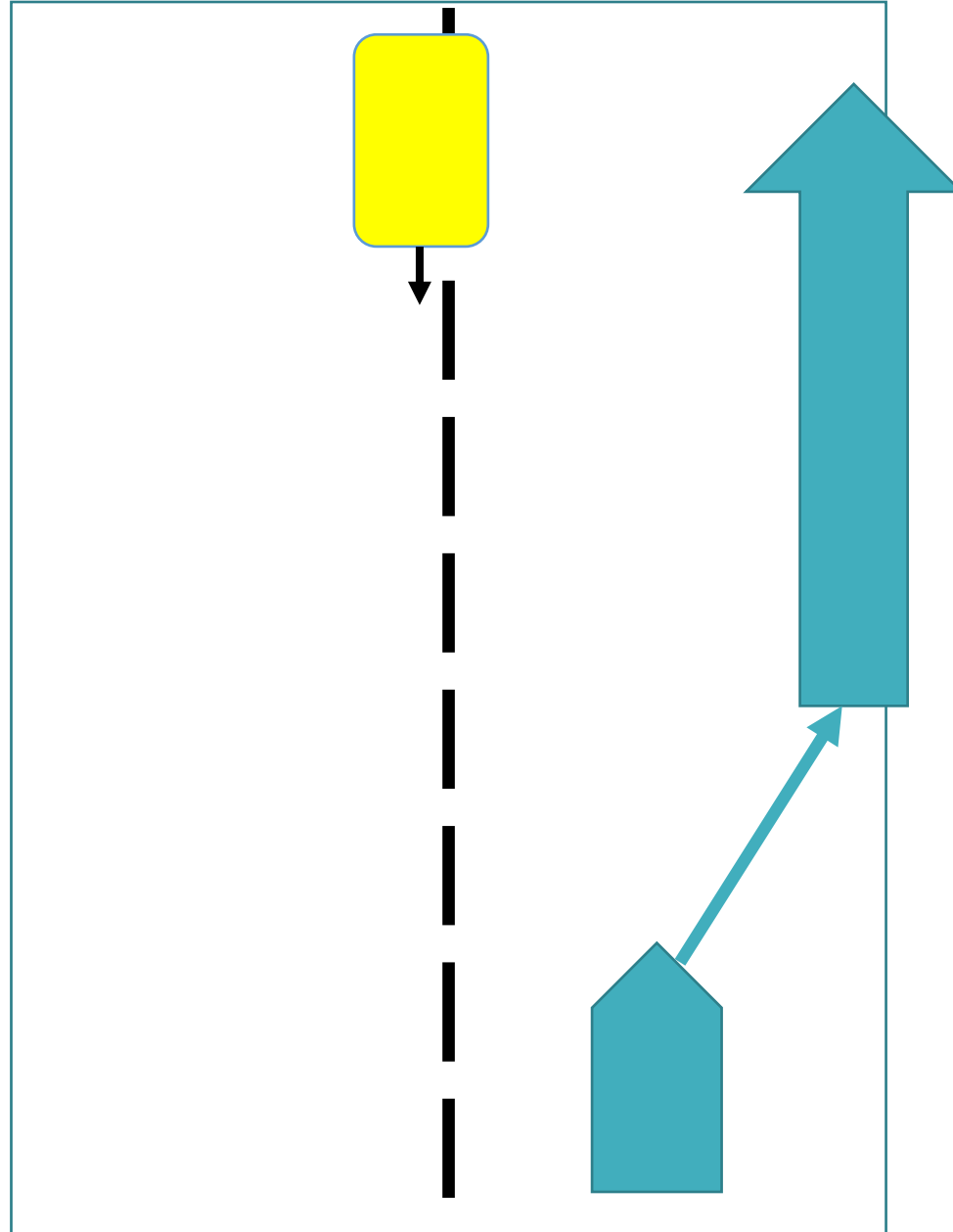


Approaching
vehicle in poor
lane position



Minimize
Steer away to
place more
distance
between you
and the hazard

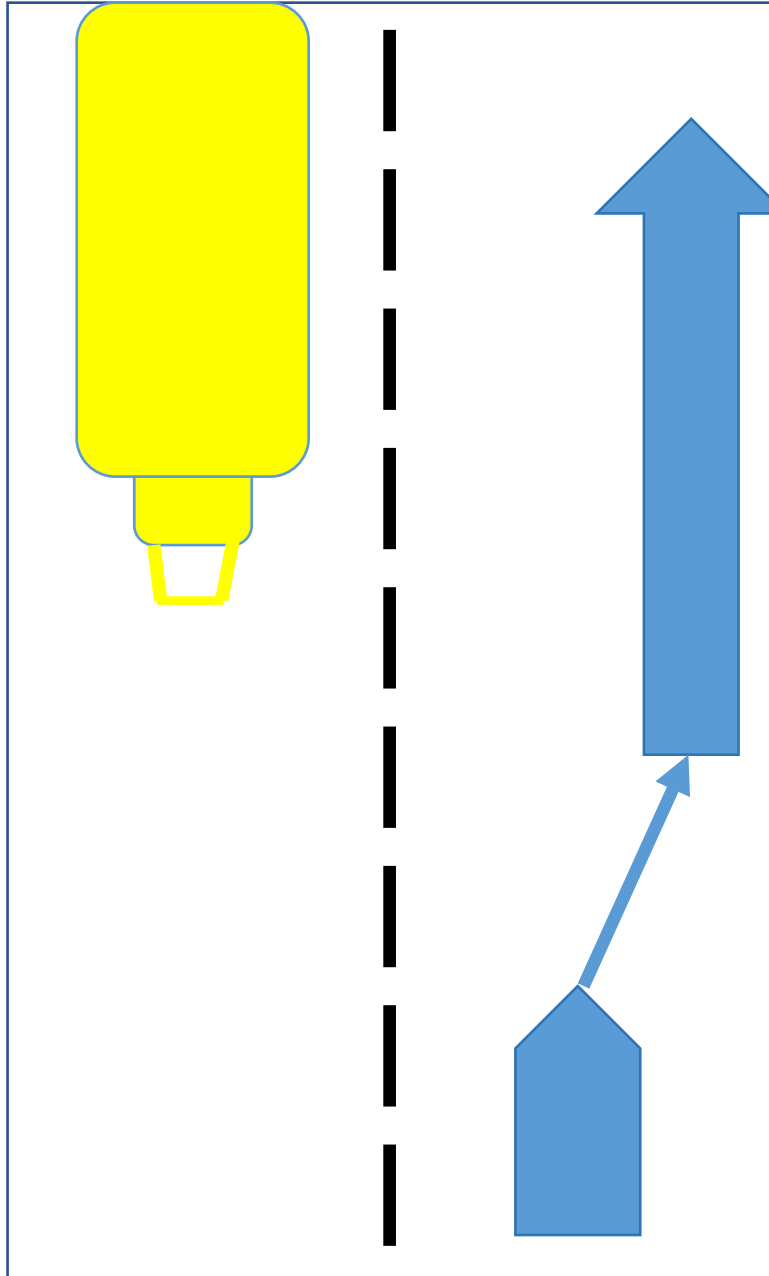
Approaching vehicle
on or over the
center line.



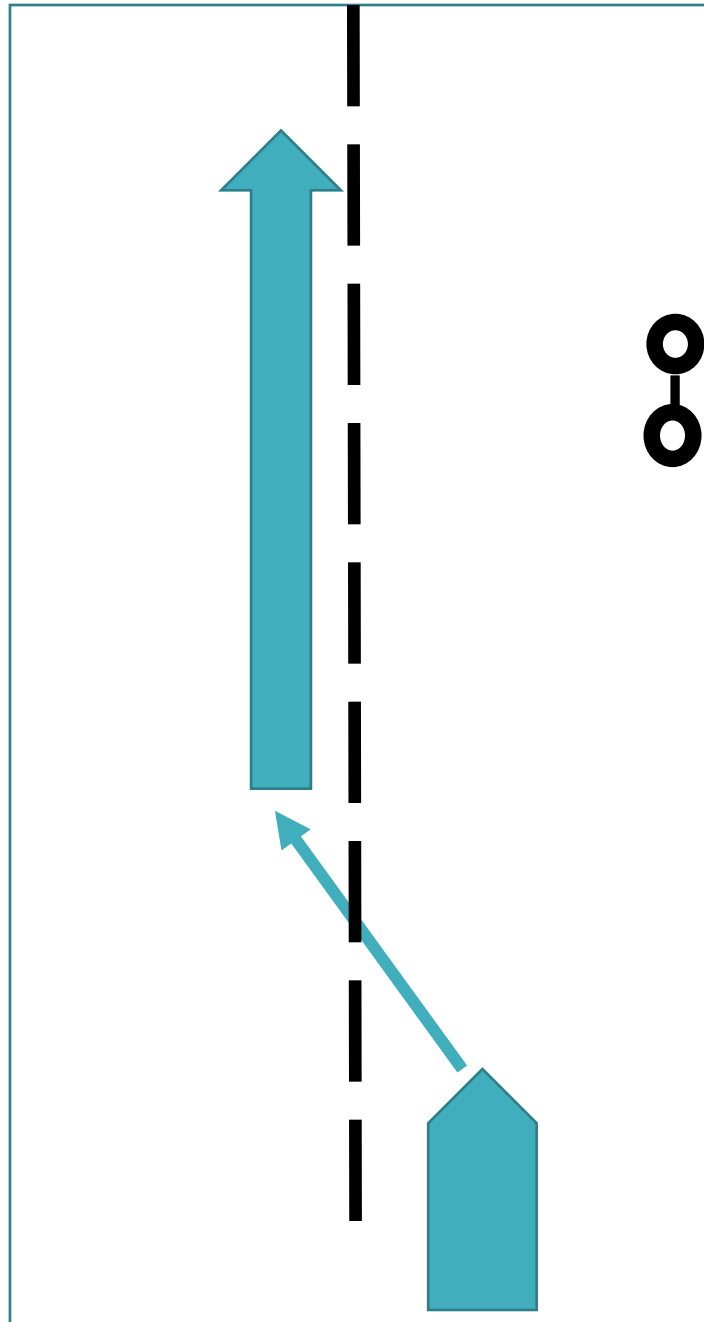
Minimize
Do not get
trapped by lines.

Minimize

The large
approaching
vehicle.

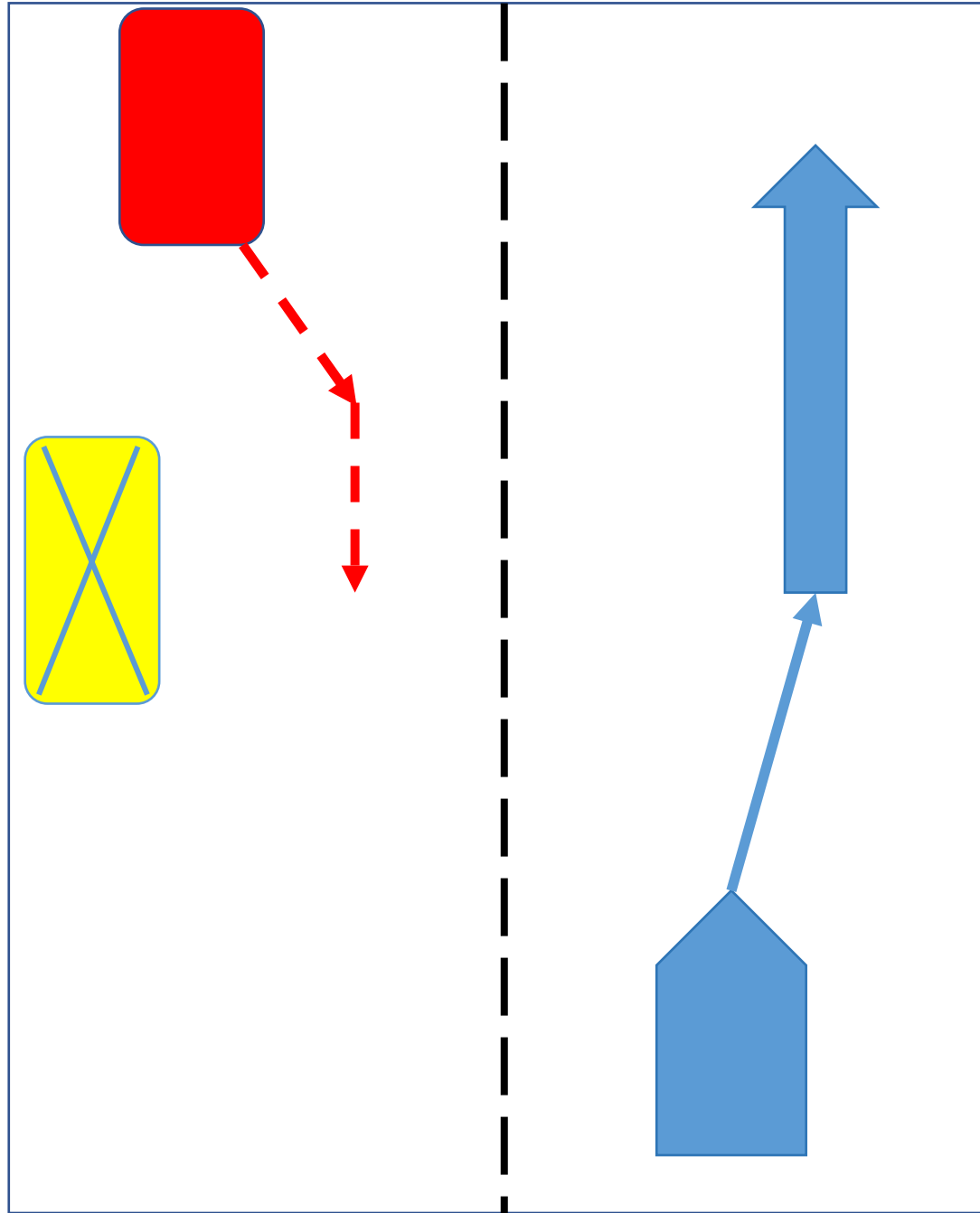


MINIMIZE means
to **MOVE** your
lane position.



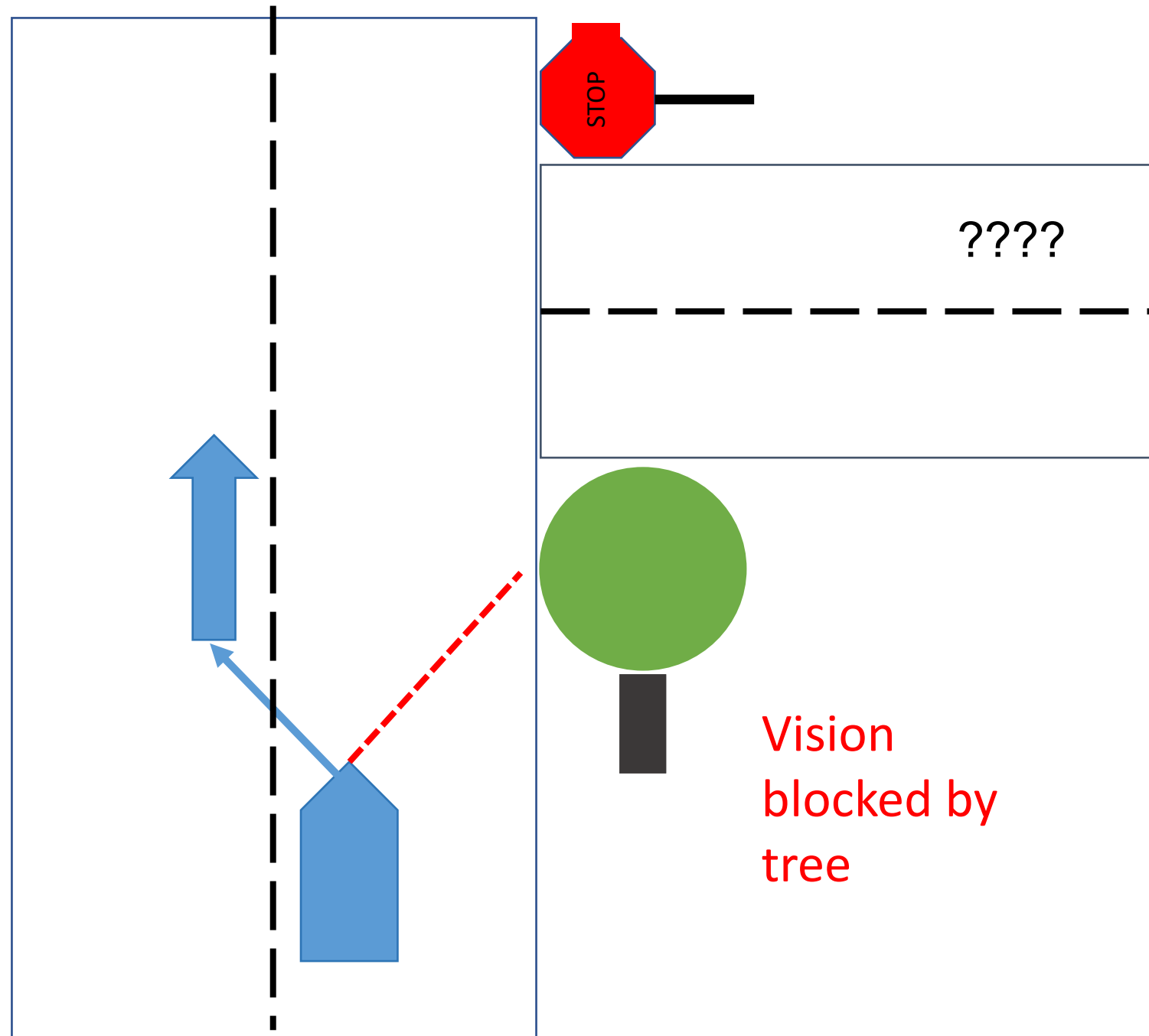
Minimize
all single
hazards
(steer away)

Parked
vehicle on
the left



Anticipate that
others will do
the same and
help when
possible.

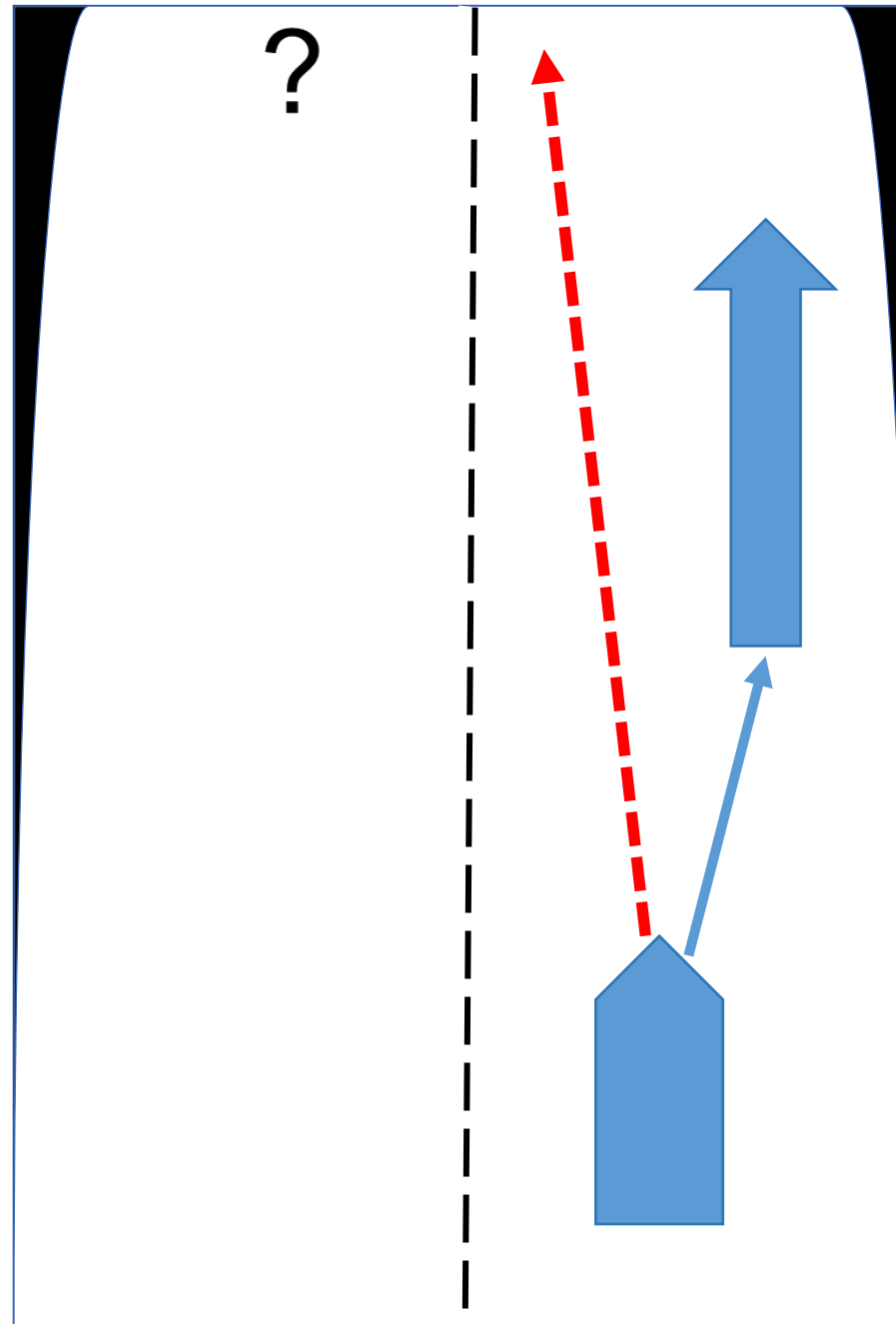
Minimize roadway
feature, hidden
side road



Minimize

Roadway Features

Going uphill with the
threat of a vehicle in
poor lane position

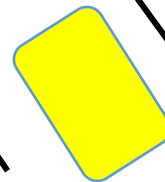
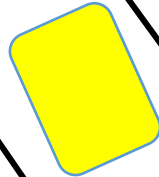


Poor Vision
oncoming
traffic, move to
LP3

Minimize on the
expressway if
possible to allow
others to merge



YOU



Drivers

Good Drivers: minimize a single hazard by moving away from it

Fair Drivers: do nothing and hope everything will work out

Poor Drivers: allow themselves to drift closer to the hazard

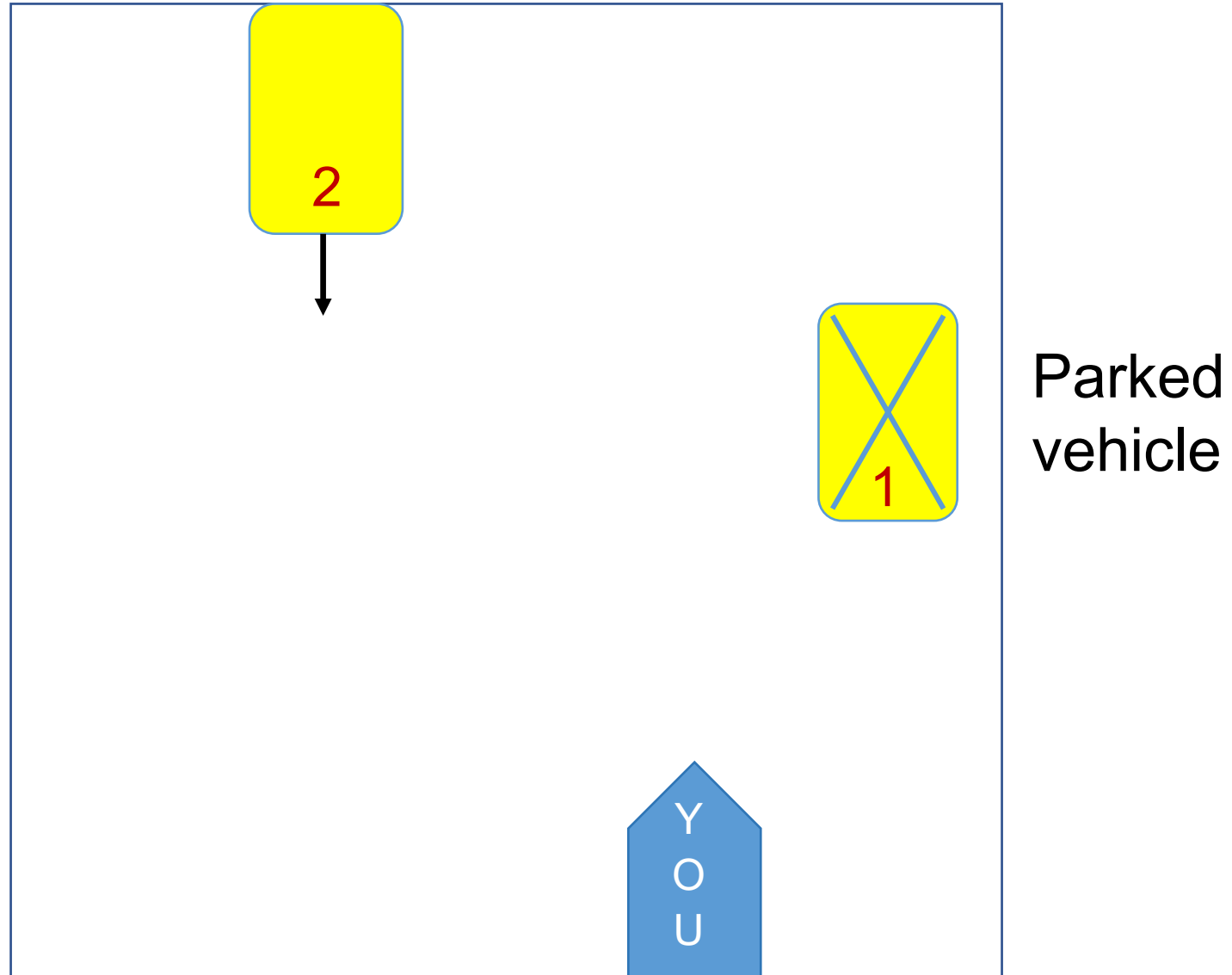
Separate = Changing Speed

- Separate two or more hazards by changing speed to take them one at a time
- It could mean slowing down or speeding up
- 95% of the time in residential areas it means slowing down. Why?

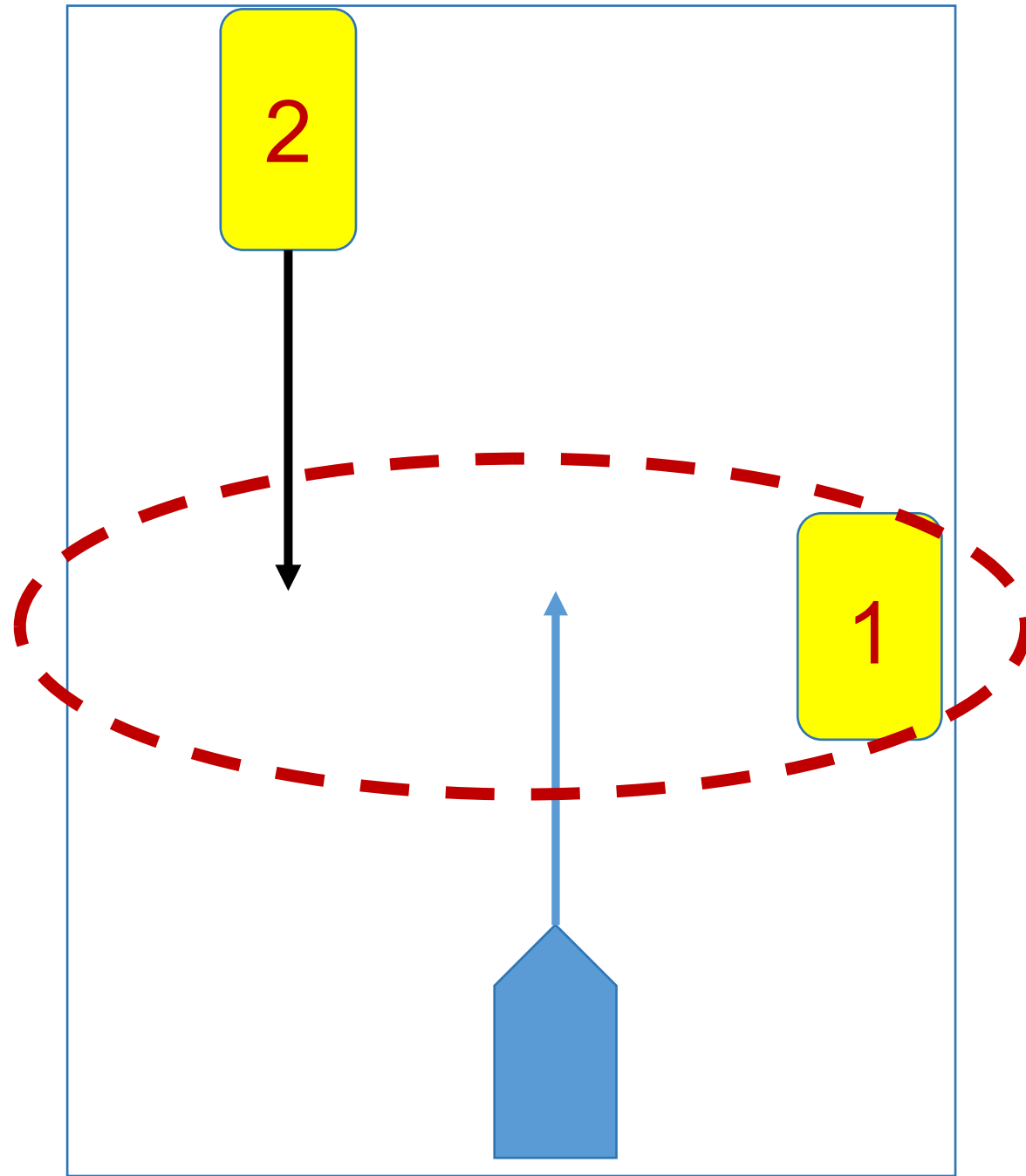
Accelerating may cause another problem!

Separate Multiple Hazards

When there are two or more hazards minimizing is out! WHY?



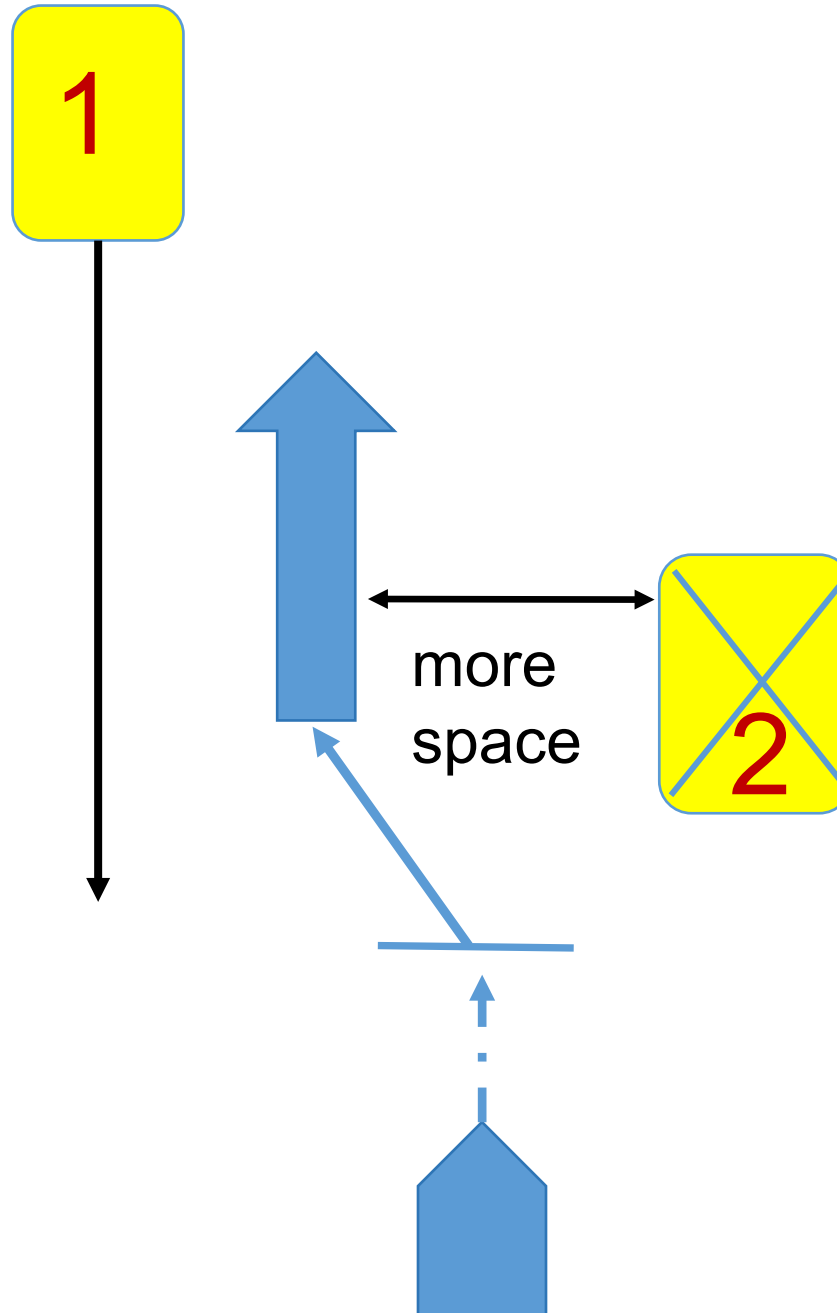
To do nothing would mean that the oncoming vehicle *and* our vehicle *and* the parked vehicle will all be in the same location at the same time.



This is a
COLLISION TRAP!

No escape if
something goes
wrong

By slowing down
we are able to
***change the order
of the hazards*** and
take them both
one at a time.



SEPARATE

Change your speed
handle the
approaching vehicle
first, then MINIMIZE
the parked vehicle.

Critical decision:
to slow down

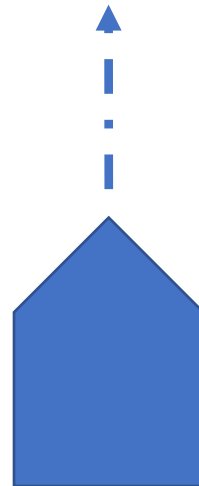
Slow Down! We cannot steer out of this.



SEPARATE

Substitute any two
roadway users at
same time.

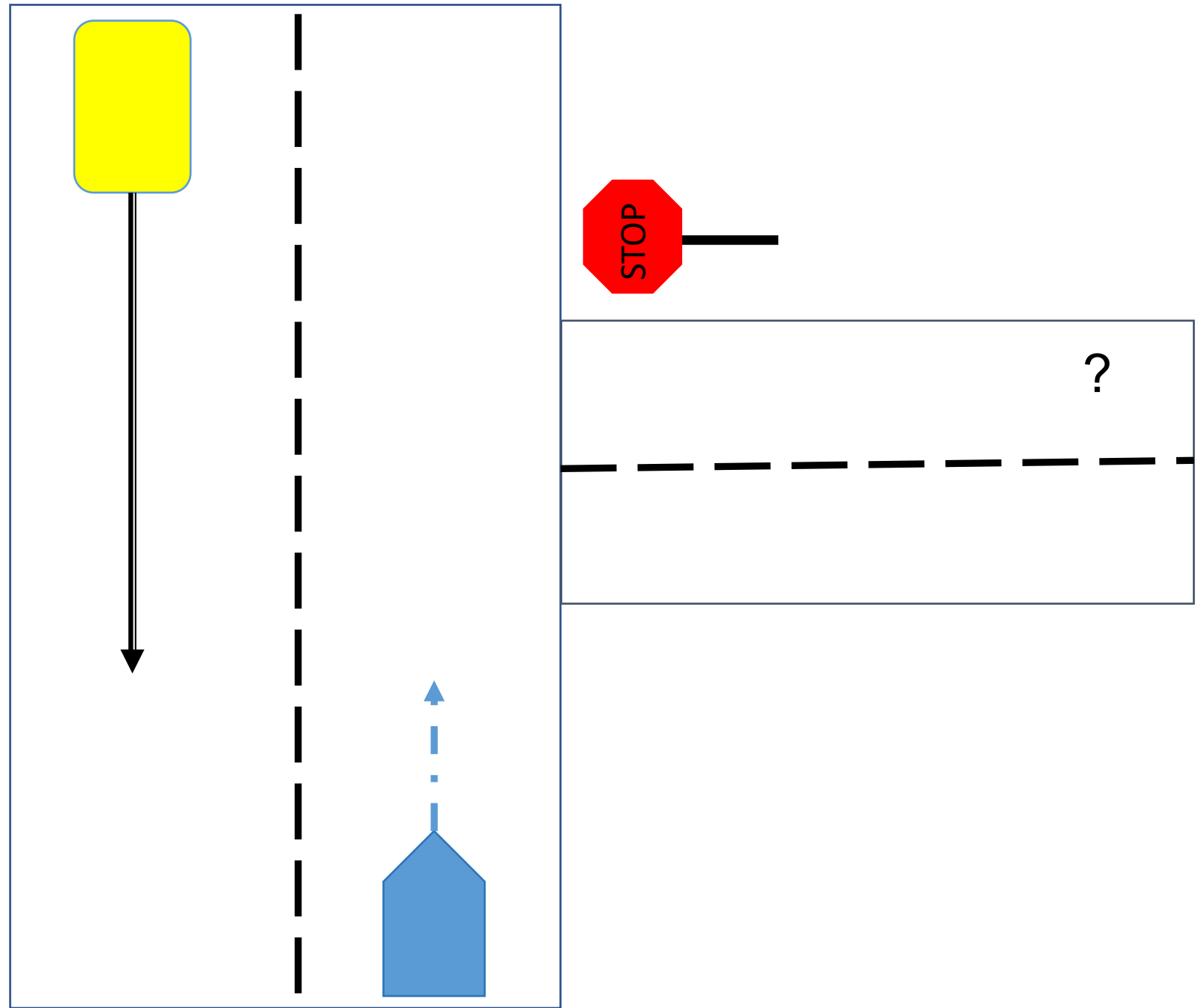
SEPARATE!



SEPARATE

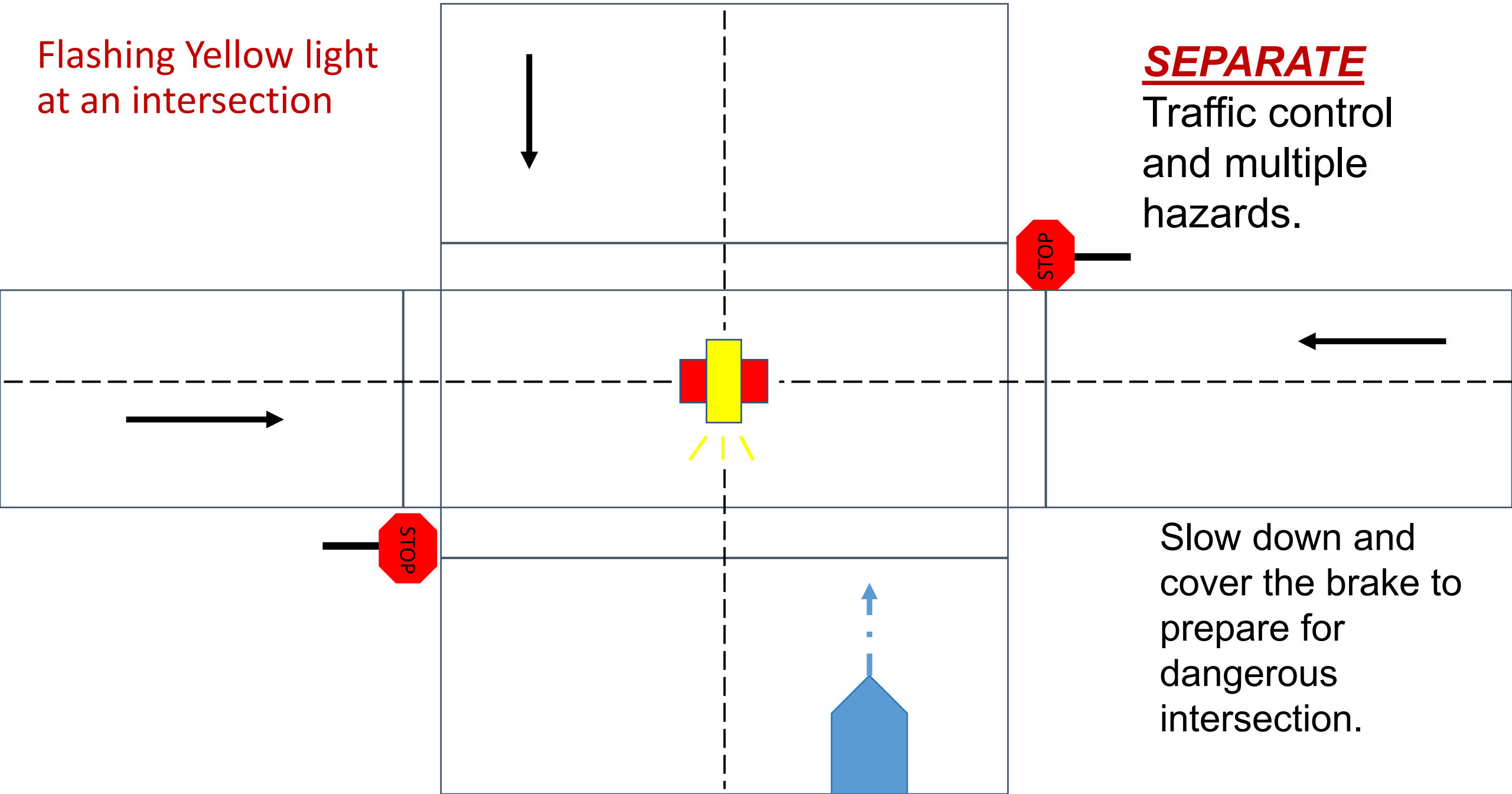
Roadway feature

The approaching vehicle and the potential side road hazard.



Flashing Yellow light
at an intersection

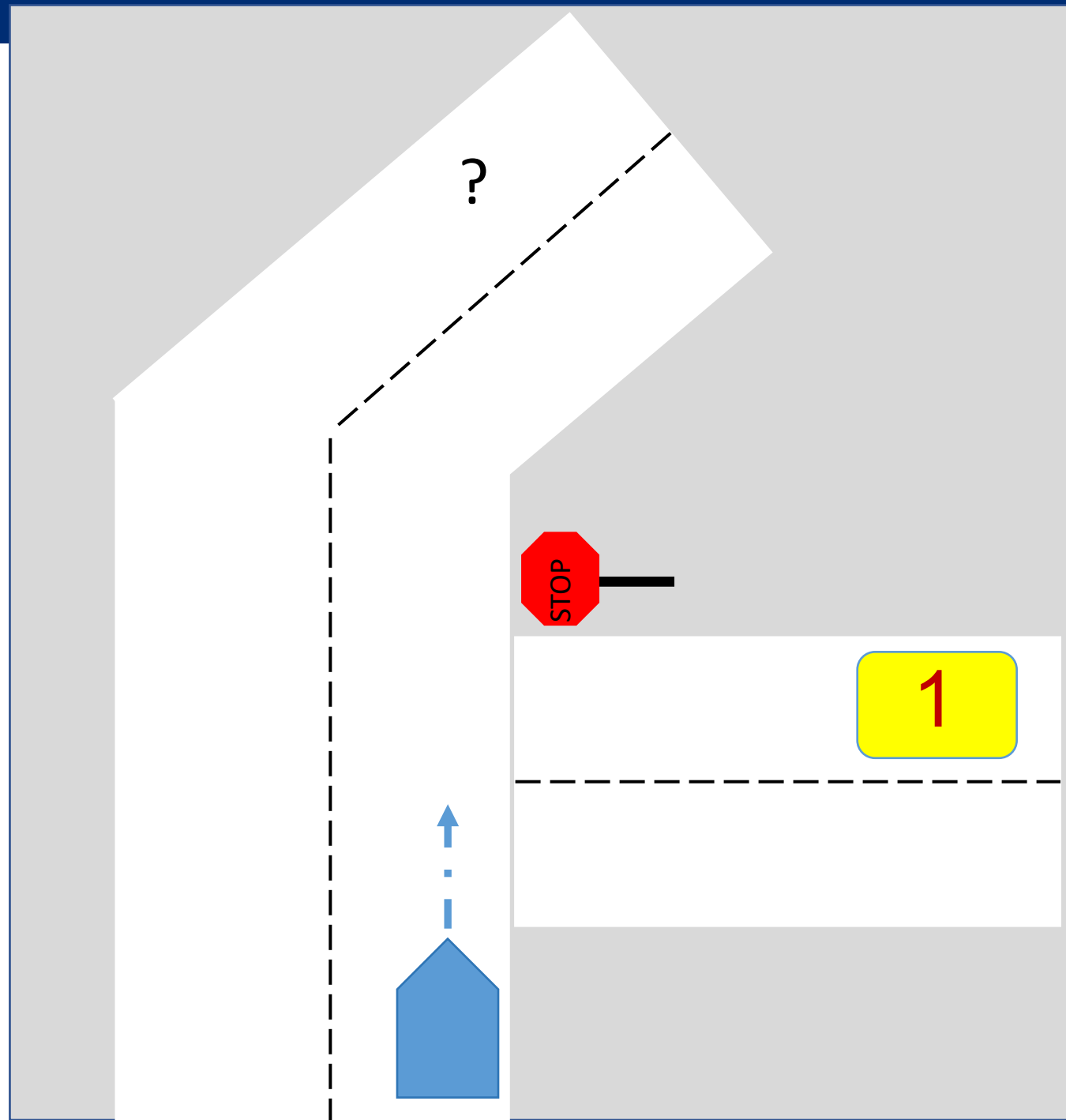
SEPARATE
Traffic control
and multiple
hazards.



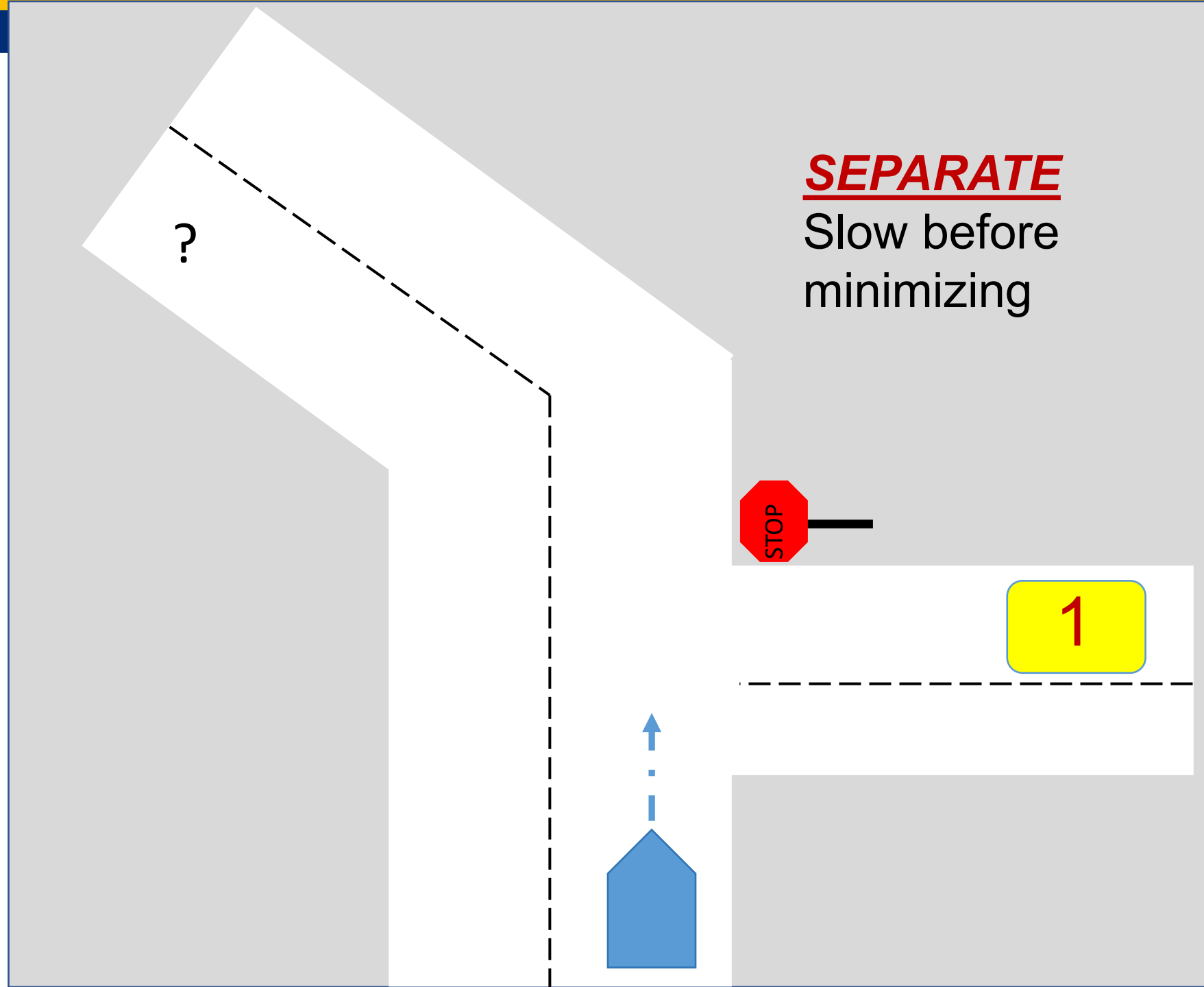
Slow down and
cover the brake to
prepare for
dangerous
intersection.

SEPARATE

*The upcoming curve
and the potential side
road hazard.*



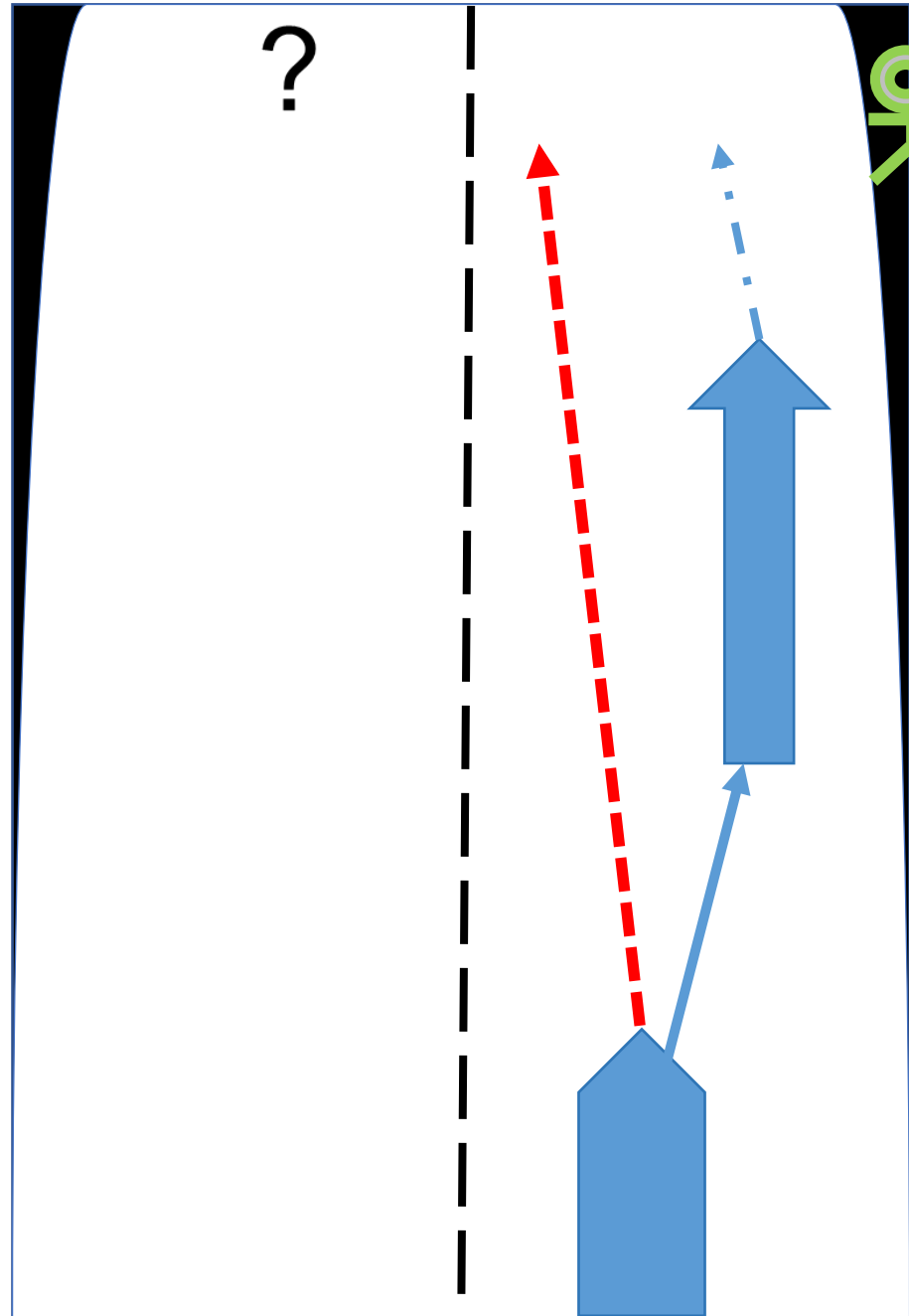
The upcoming curve and the potential side road hazard.



SEPARATE

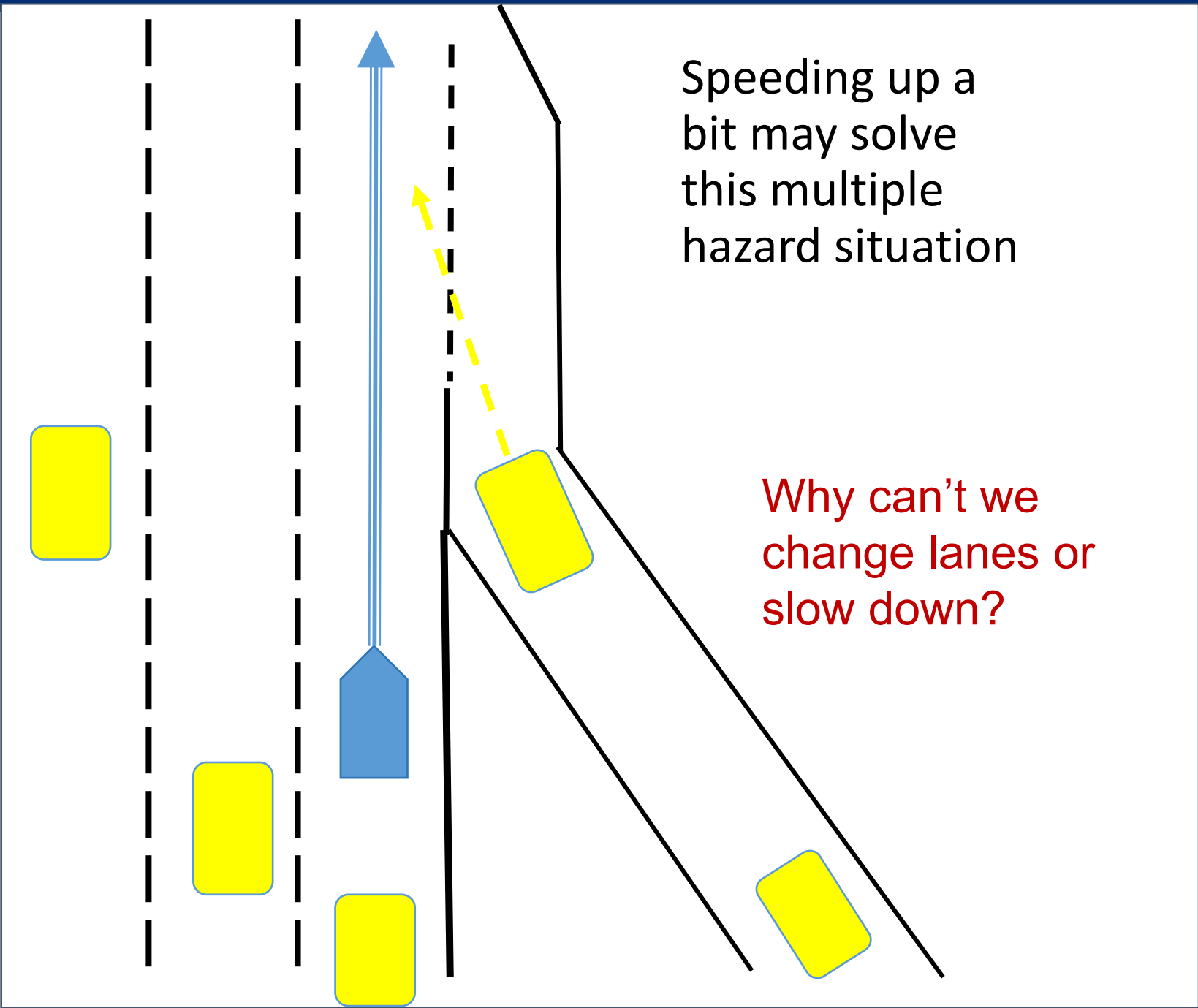
Going uphill with the threat of a vehicle in poor lane position and the pedestrian.

Minimize the potential oncoming threat, then **separate** (slow down) before reaching the top of hill.



Poor Vision
for oncoming
traffic.

Poor Space
with pedestrian
on shoulder

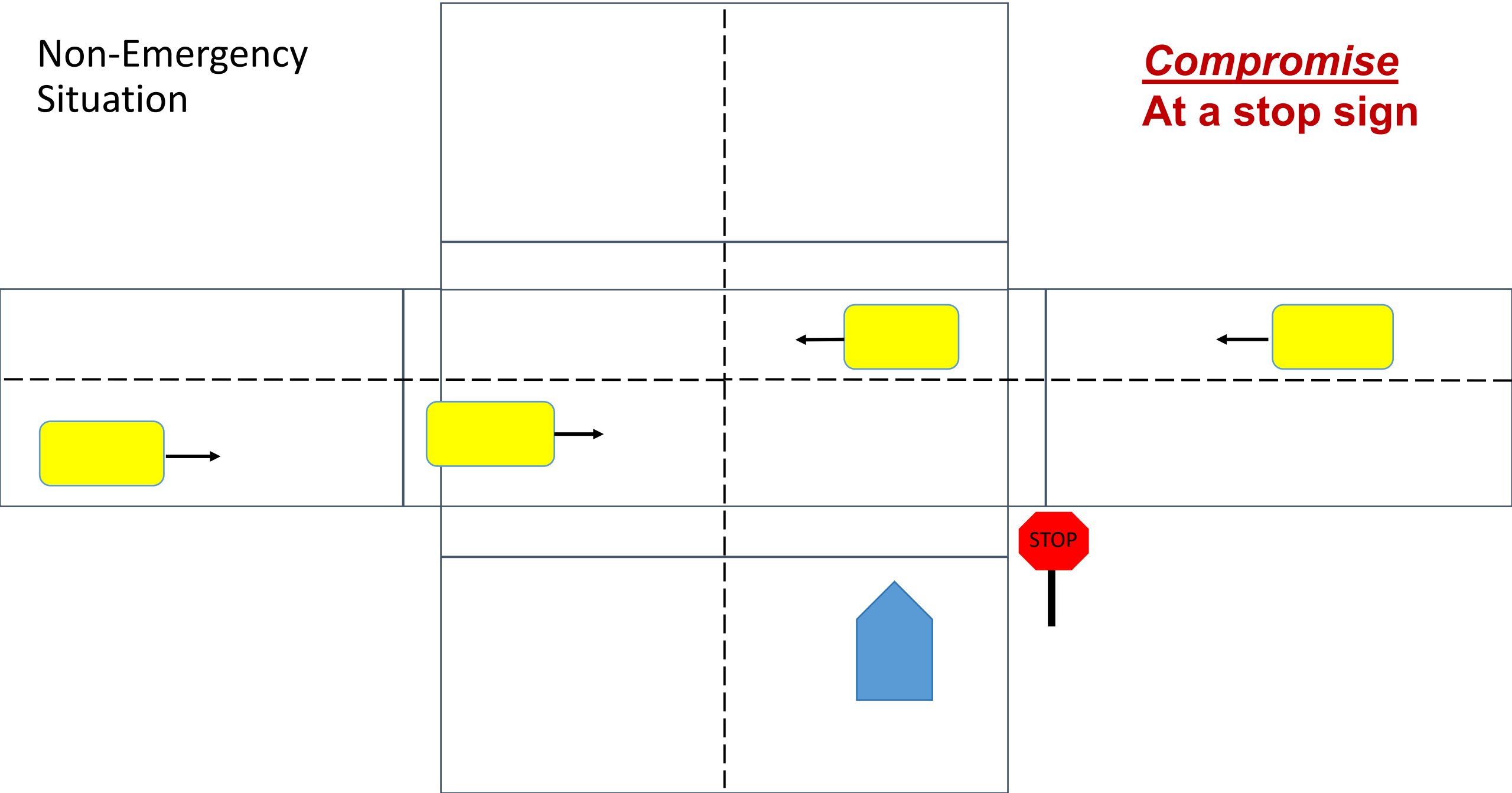


Compromise

- Compromise by giving up what is necessary to avoid a collision
- We have two possessions on the road. Our “time” and our “space”.
- Time = our speed
- Space = our lane position
 - Both are ours to give to the other driver
- Compromise by giving more space to the greater hazard
- Compromise by choosing the lesser of two alternatives
- Compromise when you can not minimize or separate
- Compromise can happen in both non-emergency and emergency situations
- Compromise can save a life!

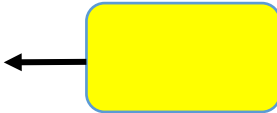
Non-Emergency
Situation

Compromise
At a stop sign

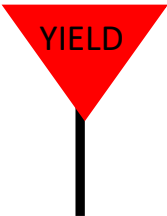


Non-Emergency
Situation

Compromise

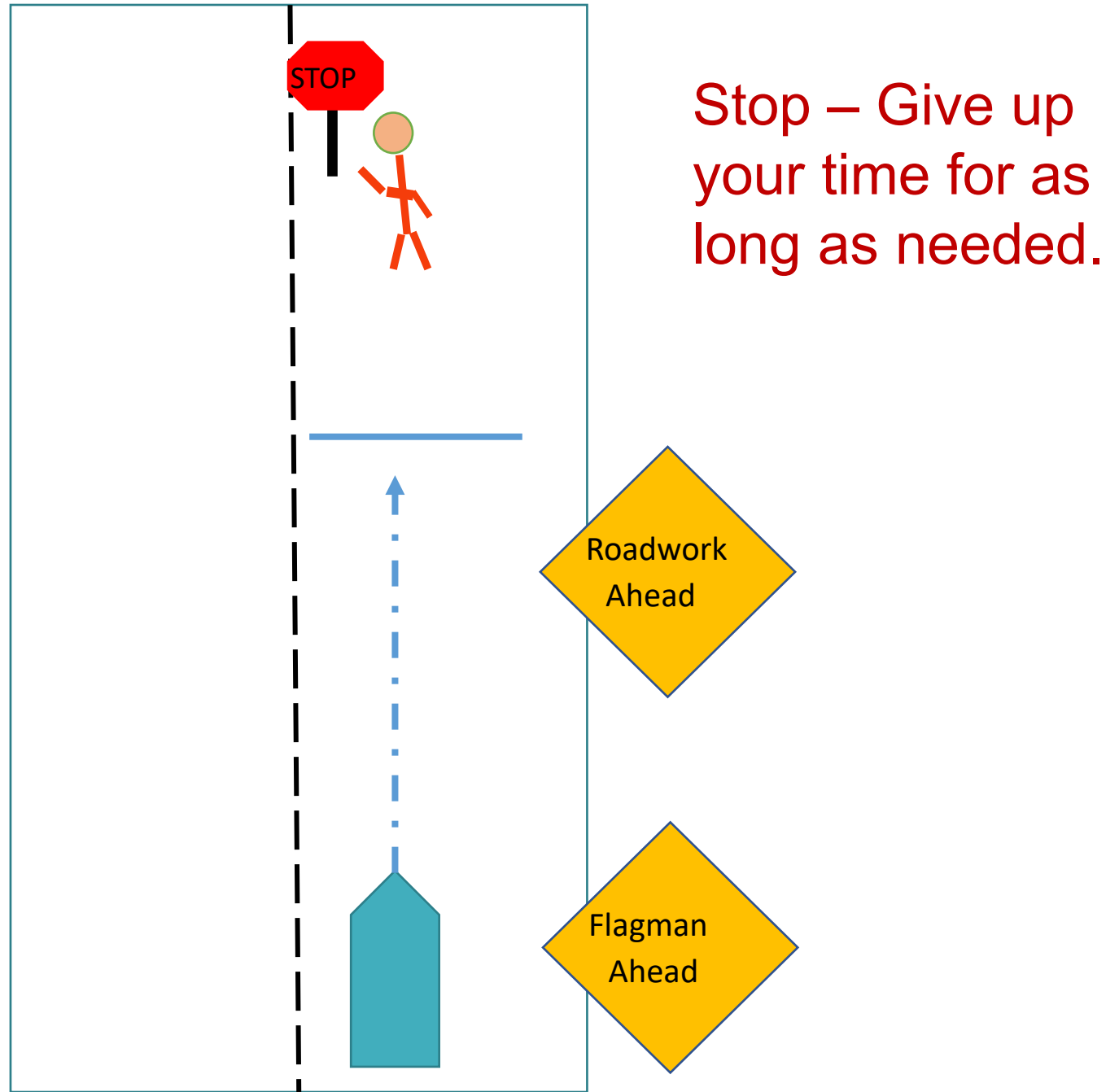


**Do the same at a
yield sign.**



CONSTRUCTION

Non-Emergency

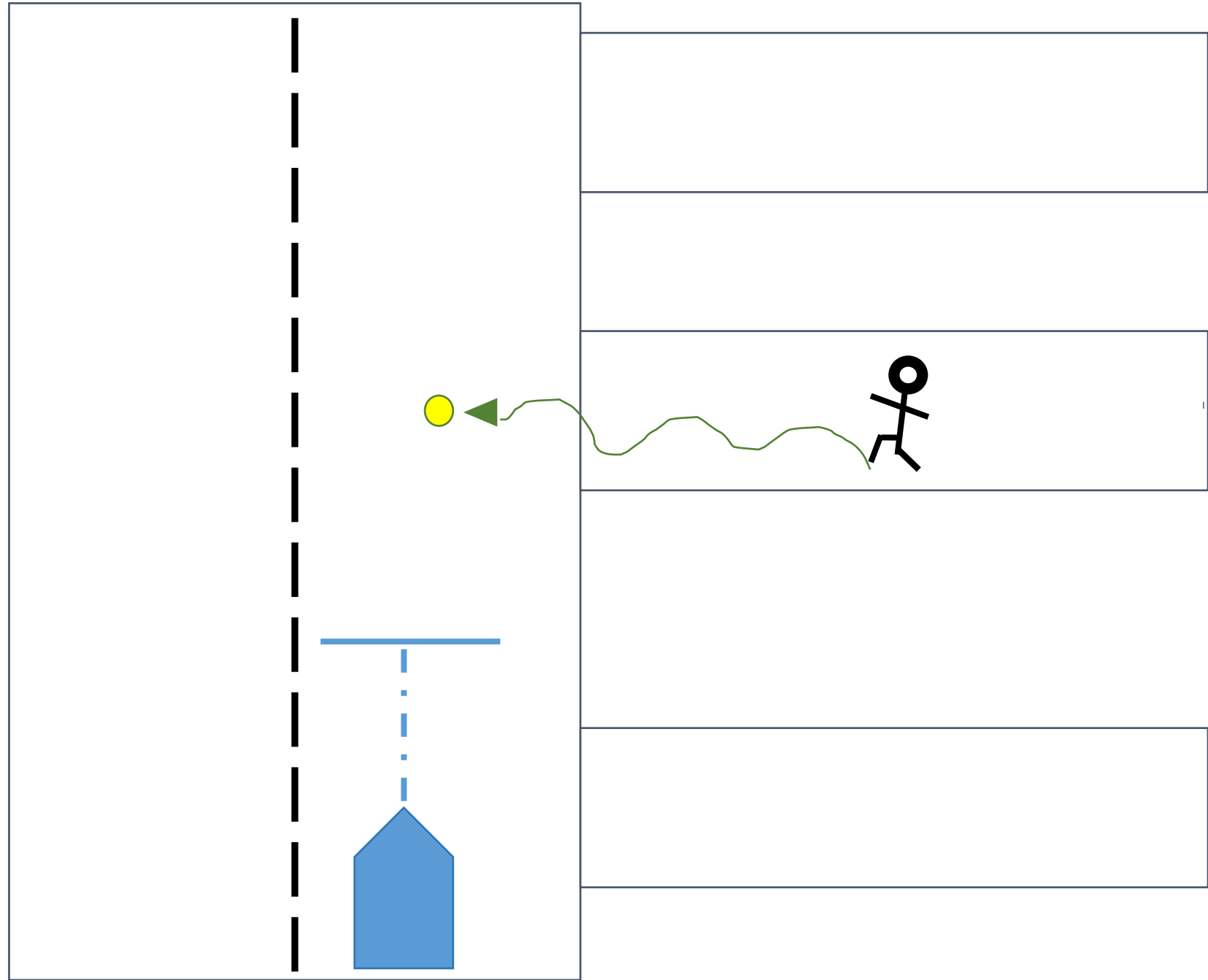


Non- Emergency

COMPROMISE

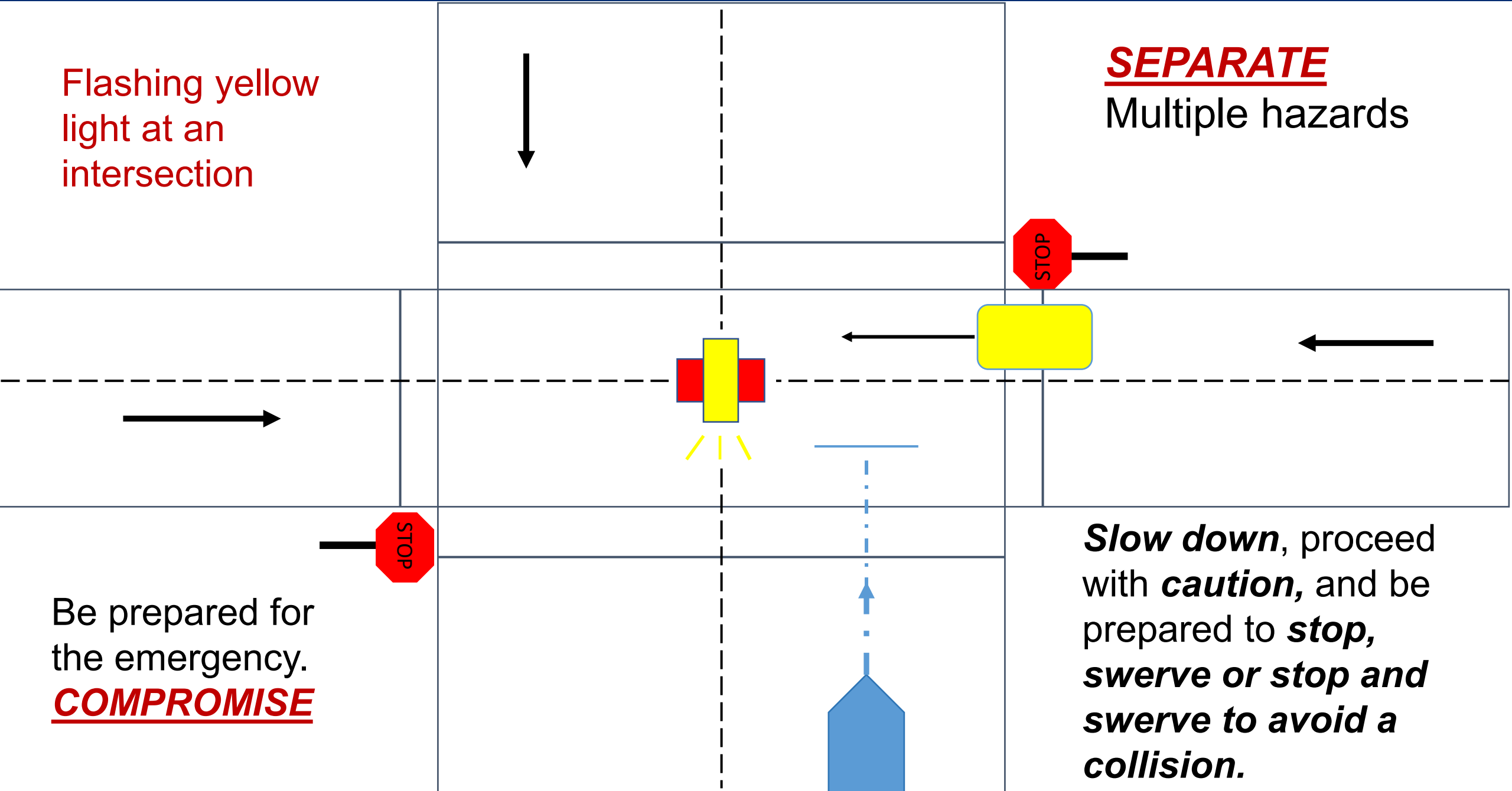
Child follows the ball out into the street and ***you see it and predict it.***

Come to a complete stop and let him pick up the ball.



Flashing yellow
light at an
intersection

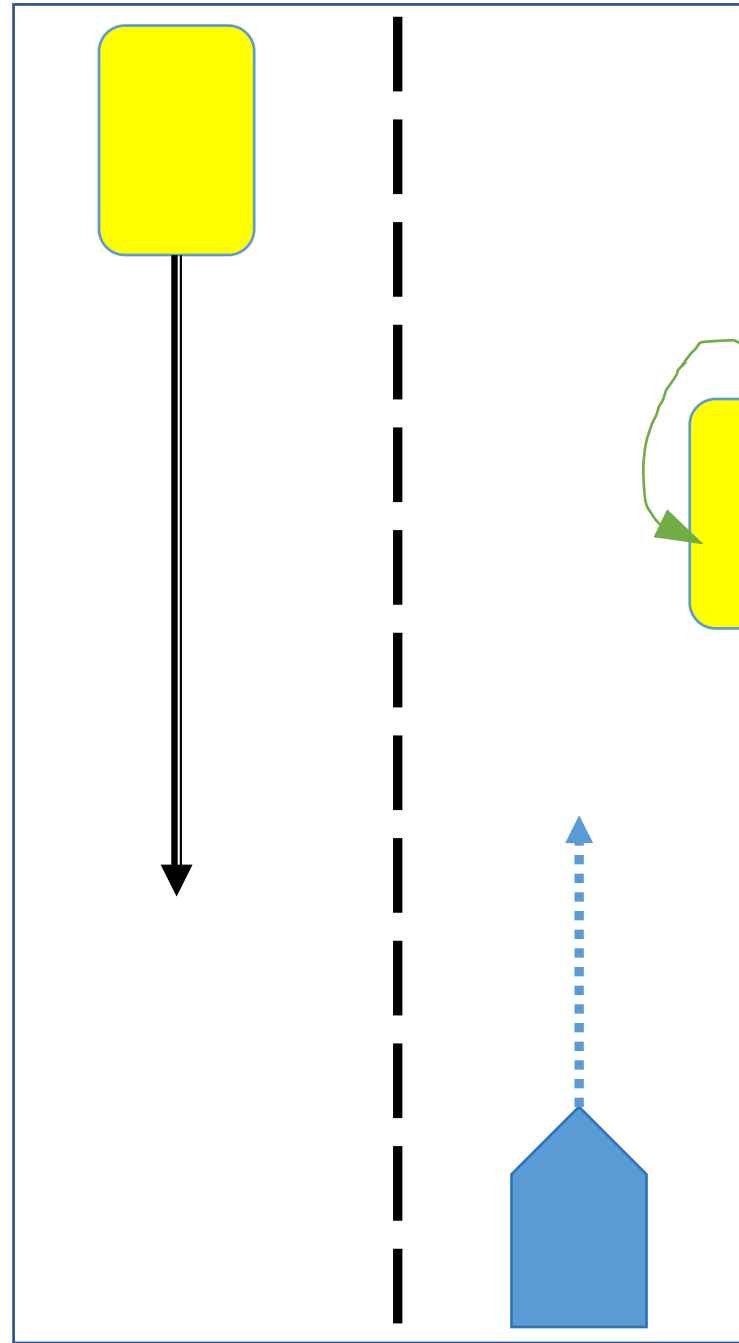
SEPARATE
Multiple hazards



Be prepared for
the emergency.
COMPROMISE

Slow down, proceed
with ***caution***, and be
prepared to ***stop***,
swerve or stop and
swerve to avoid a
collision.

COMPROMISE
Reduce speed
drastically!



Pedestrian
suddenly appears!

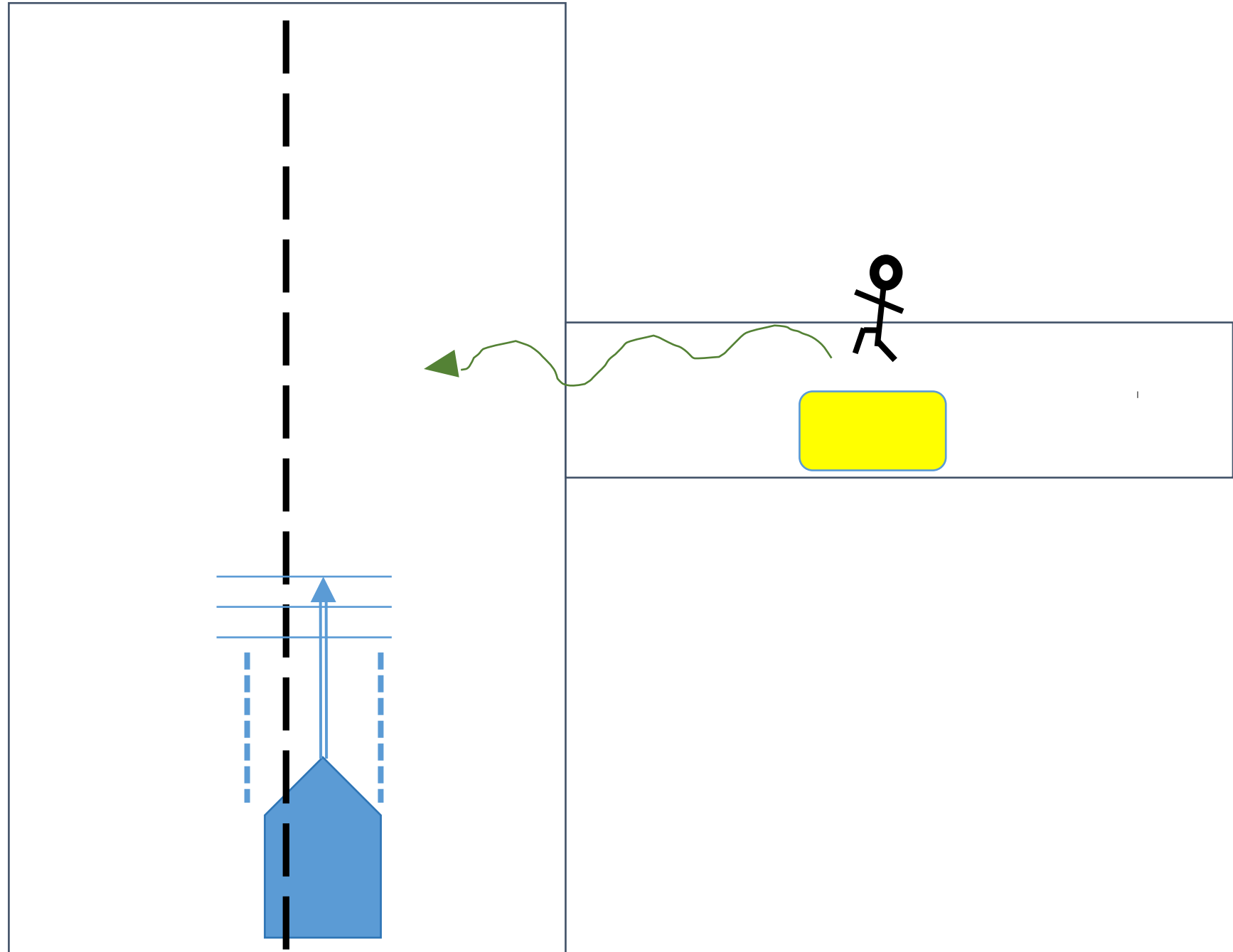
EMERGENCY!

Broken down vehicle on
roadside with approaching
vehicle. (plenty of space)

EMERGENCY - COMPROMISE

Child suddenly runs
out in front.

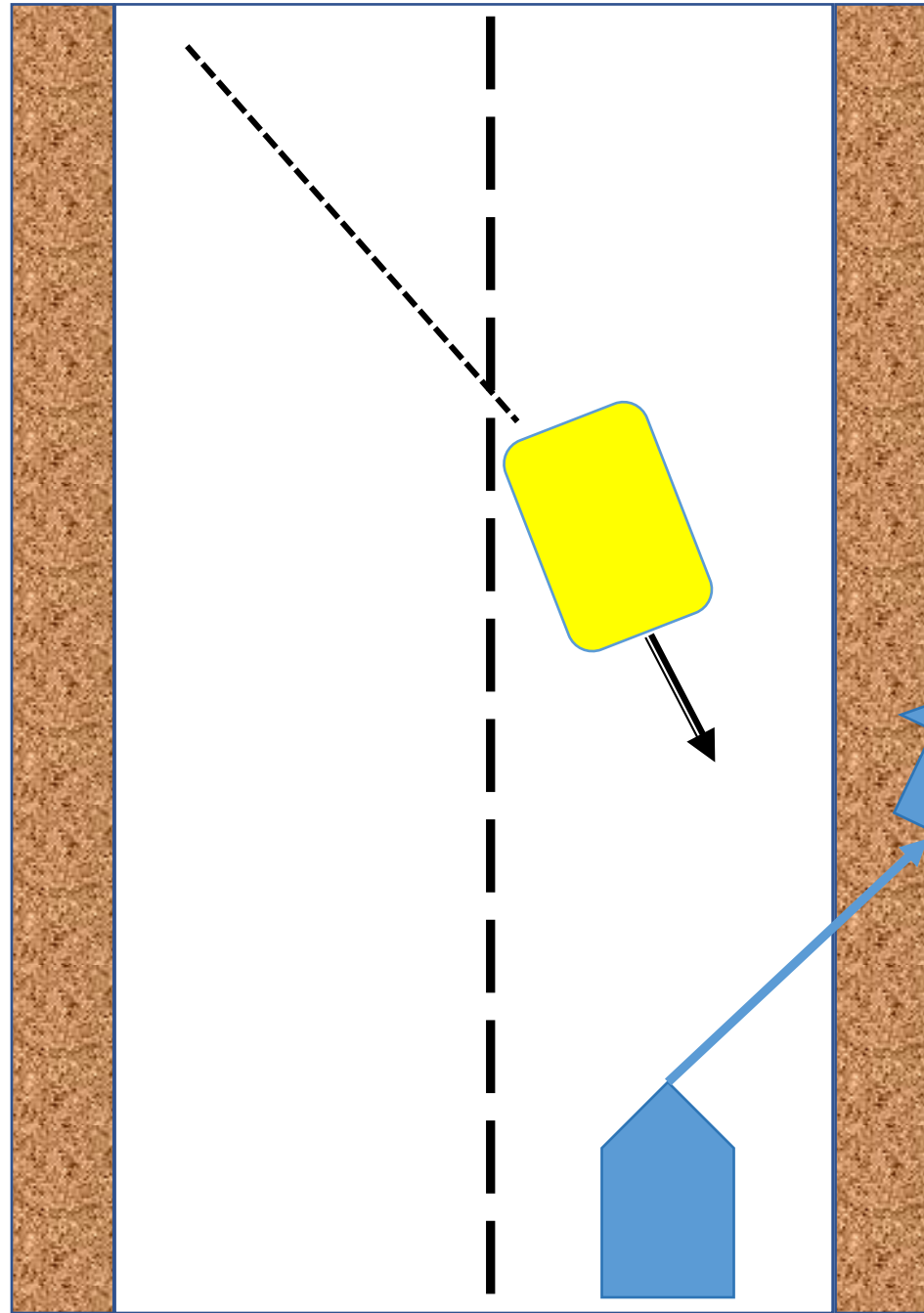
Slam on Brakes!



EMERGENCY!

Vehicle crossed into
your lane.

COMPROMISE SPACE!



Give up your lane
position to avoid the
crash.

Take the shoulder
– Take the ditch if
needed.

Quiz

Is this a
Minimize,
Separate, or
Compromise
situation for the
driver?

