APPARATUS SAFETY & COMMON SITUATIONS

Emergency Vehicle Operator Course

Module 5

Departing

Leaving the Bay

- Complete a visual check
- Disconnect shorelines
- Verify the door is fully open
- Verify the crew is ready
  - Seated, belted, doors closed
- Leave slowly
- Engage any traffic control

Overhead Doors

- When the door is in motion you should be stationary
- Do not rely upon collision sensors
- Sensors are for human safety
  - Too slow to avoid apparatus
- Know how your doors work!

Circle Check - 360°

Pre-Departure

- Sides
  - Compartment doors
  - Patient compartment door
  - Running boards – loose items
  - Portable radio straps
- Front & Rear
  - Bumpers/steps
  - Loose items and people
- Below
  - PPE
  - Obstructions or forgotten equipment
  - Wheel chock
- Take seconds to save minutes

Crew Security

Pre-Departure

- Is the crew ready for the truck to move?
- All crew members seated and restrained
- Members having trouble
  - Practice getting dressed
  - Practice buttoning up while seated and belted
  - Practice donning SCBA from the seat
- 76% of firefighters killed in vehicle crashes were unrestrained

MCFRS Guidance

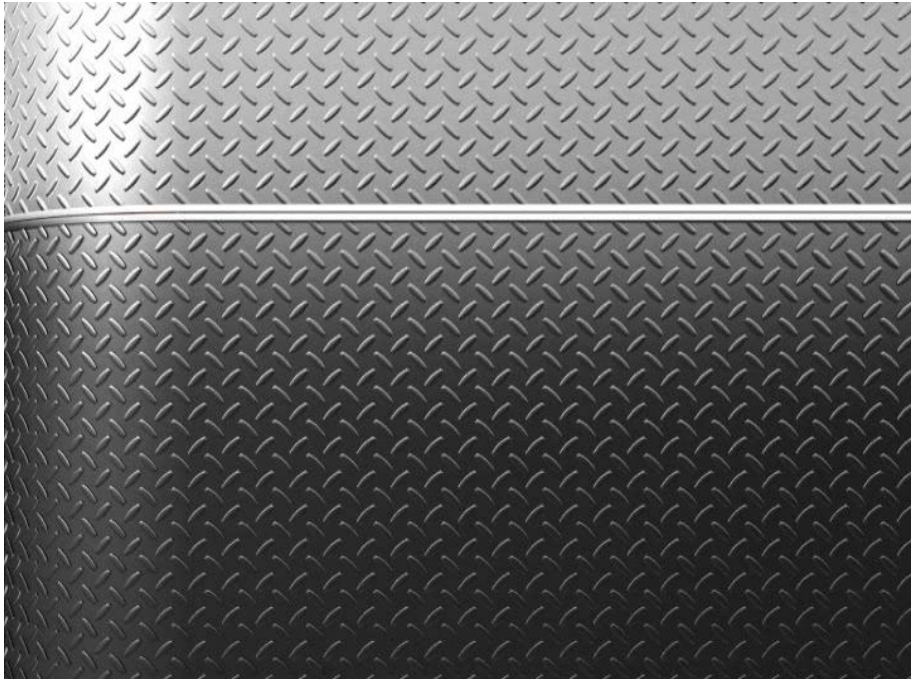
Policy 808 and Directive 04-21

- Personnel must not mount or dismount moving apparatus.
  - Officers and drivers are responsible for passengers being seated and/or restrained before moving
  - Riding the tailboard is forbidden
- All personnel in MCFRS vehicles must wear seatbelts
  - Unit officers are responsible for authorizing movement of the vehicle

Closed cab doors are not a passenger restraint.

Departing the Station

Develop a pattern that you follow each time you depart the station – things don't get missed



Departing

- Driver/operators should be aware of destination and route of travel, as well as road closings and traffic congestion.
- Know the characteristics of your station's bay door timers and any traffic control systems
- Watch for pedestrians and bicyclists on the apron

Underbody Clearance

- Angle of approach
- Angle of departure
- Underbody clearance
- Clearances can vary
  - Unit to unit
  - Same unit; different conditions
  - Prior damage

Underbody Clearance

- Apparatus components may drag when transitioning between surfaces
  - Parking areas
  - Driveways
  - Curbs
  - Medians – paved or unpaved
- Damage prevention
  - Signs of prior damage on pavement
  - First due knowledge
  - Approach or depart at an angle

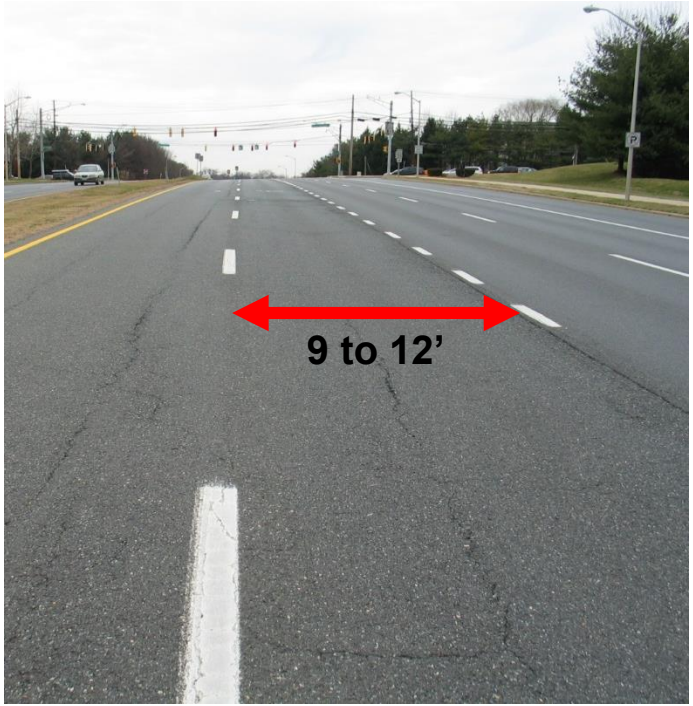
Overhead Clearances

- Two key pieces of information:
  - Overall vehicle height
  - Clearance to overhead obstruction
- Respect any posted clearances
  - Clearances change a few inches with paving or grade changes
- Recognize that the vehicle height on the data plate may vary a few inches
  - Tire condition and inflation
  - Equipment, water, and personnel load

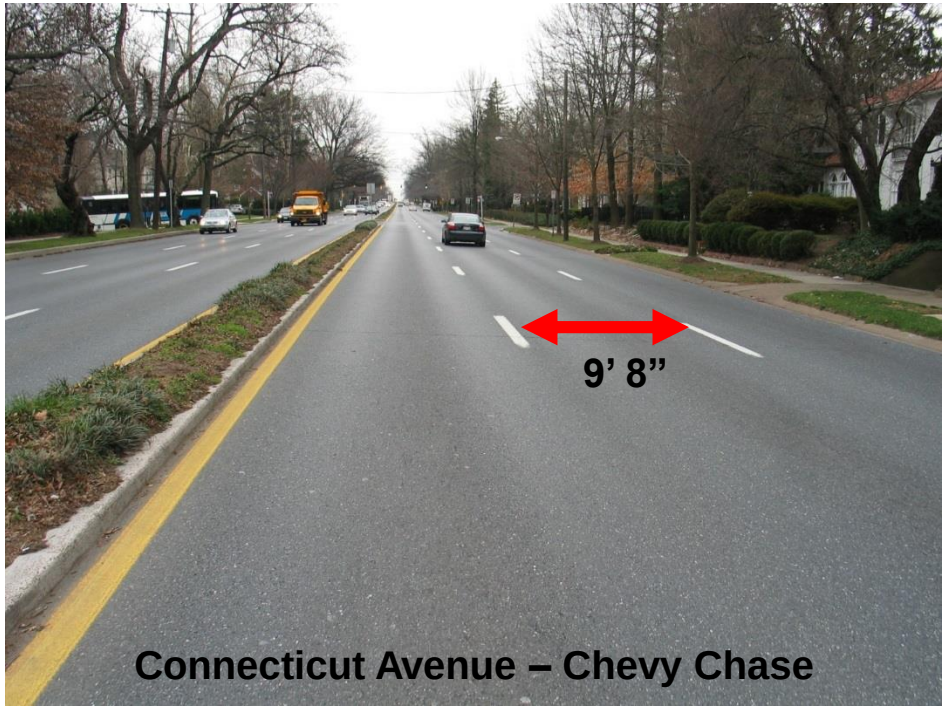
Get
Out
And
Look!

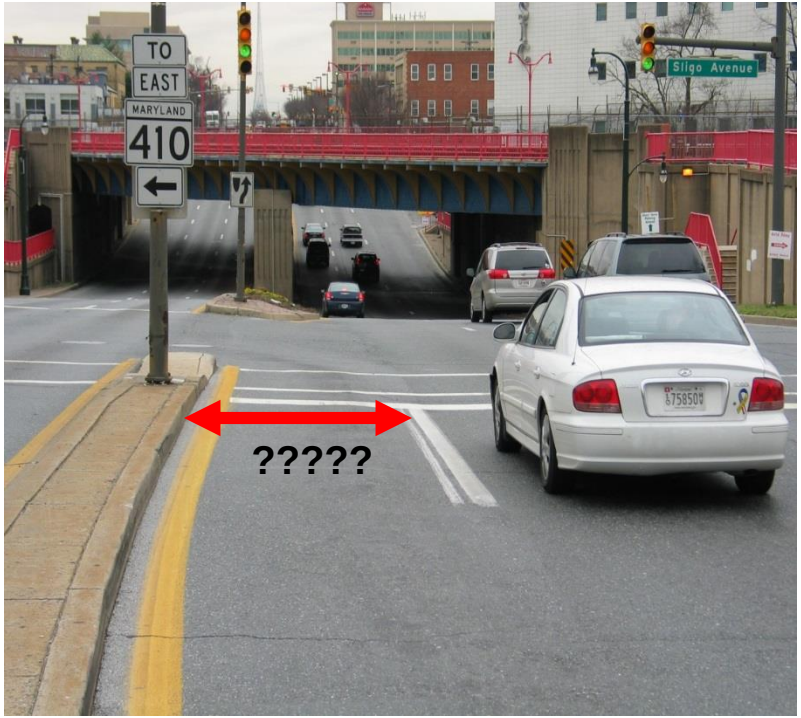
Horizontal Clearances

- Public roadways are typically 9 to 12 feet wide dependent upon speed and traffic volume
- Apparatus widths are:
  - 2008 Crimson – 9’ 9”
  - 2016 Freightliner EMS Unit – 9’ 6”
  - 2016 Pierce Arrow – 9’ 8”
  - SUV – 7’
- Private driveways, alleys, and other non-public roadways have no standard

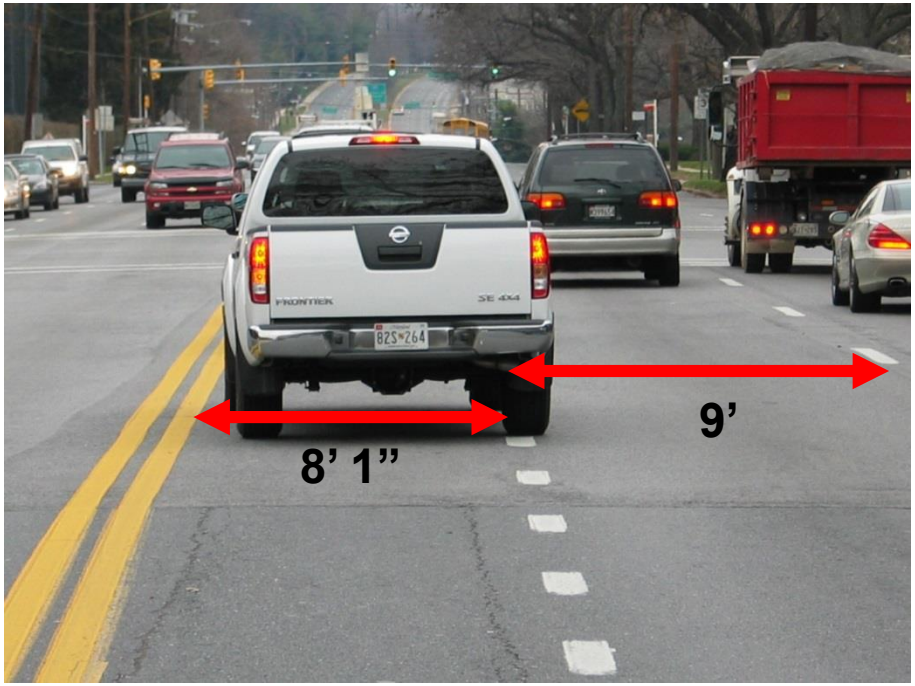


Horizontal Clearances





Horizontal Clearances



Horizontal Clearances

Horizontal Clearances

Your margin for error can be inches.

- How fast should you be going?
- How important is it to squeeze through?
- Will the situation clear if you wait?

Horizontal Clearances

When you Must Go

- Expand your “look ahead” distance
- Use spotters to assist the driver
- Crowd or change lanes
  - Must know what is going on around the vehicle and have complete situational awareness
  - Do not run other vehicles out of their lane
- Use appropriate speed
  - Time to identify obstacles, decide options, and execute the maneuver
- Best visibility for the driver is the driver’s side of the apparatus
  - keep the driver’s side of the apparatus as close as reasonable to the fixed objects
  - Use mirrors to watch clearances as fixed objects are passed.

Night Driving

- All of the same hazards as daytime driving, but with less visibility
- Most drivers use the same approach to driving day or night
- Night-time driving problems are not recognized or understood
- Fatal collision rates are 3x higher at night
- More encounters with impaired drivers
- Prime time for road closures or work

Night Driving
Challenges

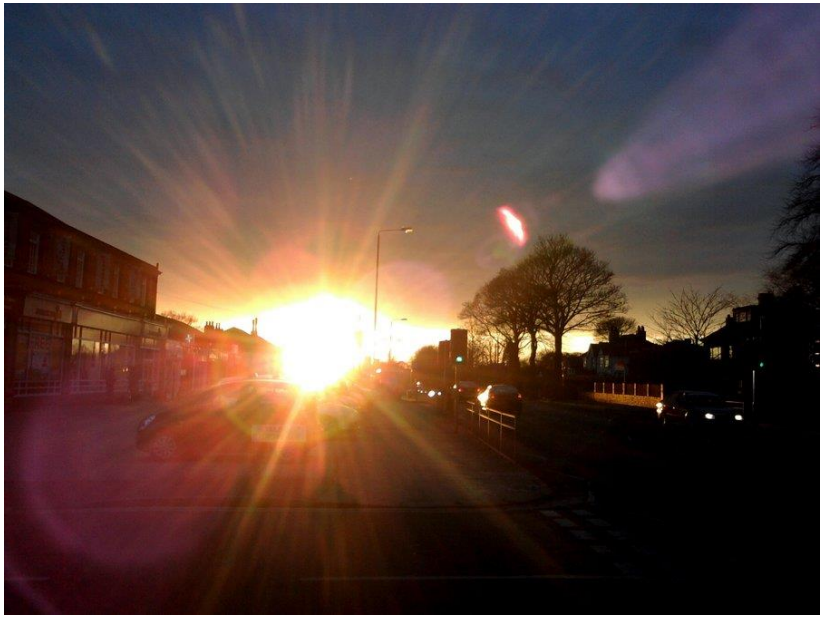
- Difficulty with visual perception
- Eyes adapting to changing levels of brightness
  - Other drivers blinding you
  - You blinding other drivers
- Visual “cues” at darkness are eliminated
- Shorter and narrower fields of vision
- Limited or no visibility in mirrors and to the rear
- Reduced level of alertness (fatigue)
- Seniority

Night Driving

Glare

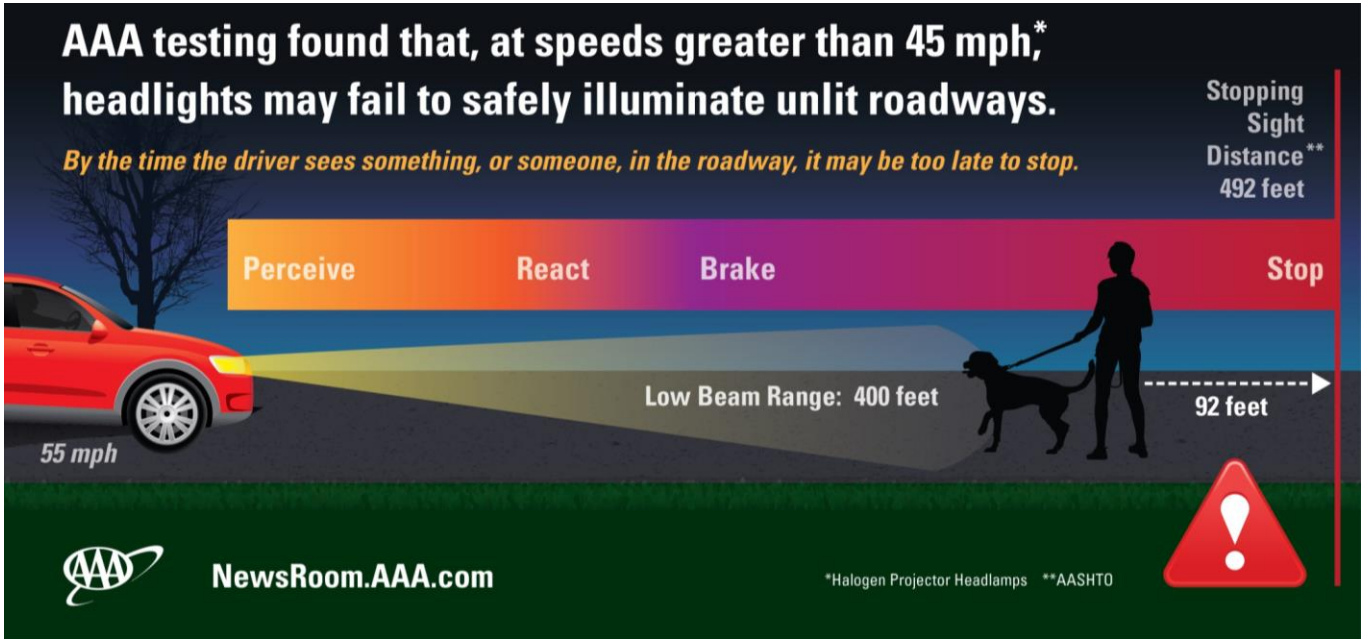
The human eye takes about 7 seconds to fully recover from being blinded by bright light.

In 7 seconds, a vehicle traveling 60mph will travel 616 feet.



Night Driving
Precautions

- Know the range of your headlights
- Reduce speed and increase following distances



Night Driving

Precautions

- Avoid driving while fatigued whenever possible
- Keep your eyes moving to avoid glare and fixating
- Recognize that your warning lights and floodlights will create glare for other drivers
- Reduce glare inside the cab by using red overhead lights, dimming the MDT screen, and dimming the panel lights
  - Communicate to the crew when lights in the rear of the cab are a problem
- Keep your windshield, headlights and warning lights clean

Adverse Weather

- Any precipitation can create poor traction and low visibility
- Emergency responses during inclement weather are just going to take longer
- Realize that other vehicles on the road also have reduced traction and visibility
  - Snow restricts ability to move over for you

Safe Speed

- Posted speed limits are for good conditions
- Slow for less than ideal conditions
- Smooth acceleration and deceleration
- Maintain adequate space cushions
- Your best defense is to **SLOW DOWN**

Posted speed limits are for ideal conditions

Winter Weather

Does this even look slippery?

What are the clues to upcoming trouble?

Wet Weather

What are the clues to upcoming trouble?

Backing

- Planning ahead to minimize backing
  - Eliminate the need to back – find another route
  - Position to back to open areas or away from obstacles
  - If you can avoid backing, don't do it!
- As you pull into an area, notice landmarks or obstacles that will be behind you when backing – leave yourself space!
- Avoid backing into open roadways or uncontrolled traffic
- Backing needs to be smooth and methodical
  - Steering and pivot points will be much more pronounced when in reverse

Backing

Before and during backing the driver should:

- Roll down their window
- Remove their headset
- Give clear directions to the backers
- Go only as fast as the backers can adjust
- Check both mirrors and the backup camera – do not fixate; keep your eyes moving
- Back only as far as necessary

GET

OUT

AND

LOOK

Backing

- Spotter priorities – rear driver's side ➔ front curb side ➔ rear curbside
- If there is no spotter available:
  - Reconsider backing up. Is it really necessary right now?
  - Make a reasonable attempt to get someone to act as a spotter.
  - If a spotter cannot be obtained, get out the unit and walk around the unit completing a "circle of safety" and survey the backing area. Before proceeding to back unit, being sure to also check overhead clearance.
- Give a final warning of two horn blasts just prior to backing.
- If you lose sight of spotters – STOP
- The best spotter is another apparatus operator

Backing

Effective spotters:

- Know the intended path of the vehicle
- Maintain eye contact with the driver and know the blind spots
- Remain focused on the task and take it seriously
- Look behind, around, below, and above the vehicle
- Wear traffic vests and carry handlights
- Recognize stopping distance requires reaction time and braking distance – signal before it is too late!
- Use visible, clear, and recognized hand signals
- Stop the driver if uncertainty develops

Backing

Effective spotters:

- Conduct a circle check of the vehicle of their own
- Identify and communicate any potential obstacles or hazards to the driver
- Position themselves 8-10 feet away from the apparatus and in the line of sight of the driver
  - Avoid being in pinch points between the apparatus and fixed objects
- Use a talk-around channel when conditions make verbal communications between the driver and the ground personnel important, i.e. low-visibility, complex maneuvers, confined areas

BACKING

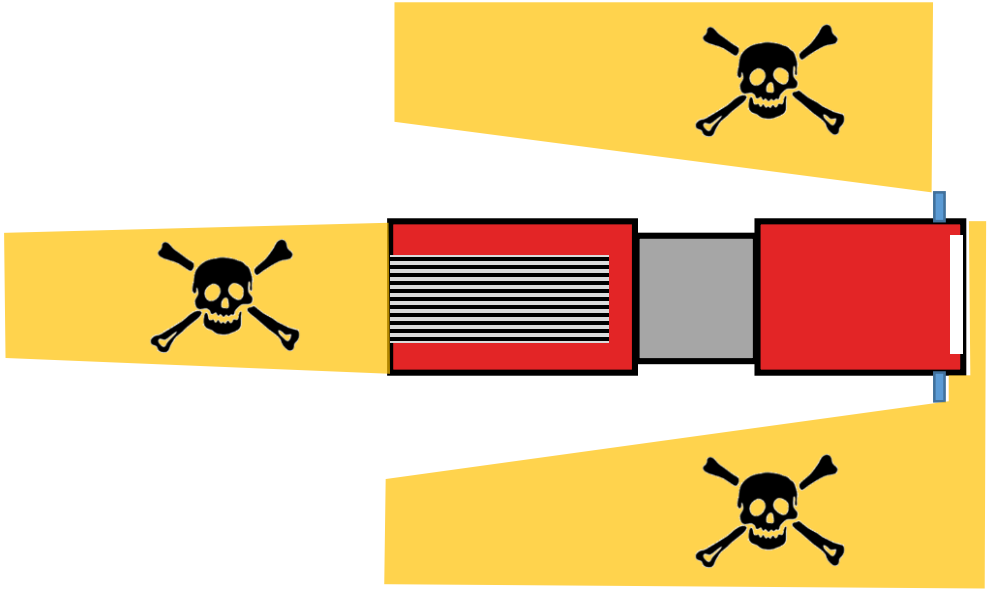
STANDARD HAND SIGNALS

STOP

TURN

DIMINISHING CLEARANCE

Apparatus Blindspots



If you cannot see the driver, they cannot see you!

If you can see the driver, do not assume they see you!

Parking Lots

- Immediately limited clearance
- Physical Hazards
  - Tight corners
  - Landscape trees overhanging lanes
  - Protective bollards
  - Light poles
  - Landscape rocks
  - Illegal parking – fire lanes
- Pedestrians
- Distracted drivers
- Adjust time of day if possible
- Avoid entering parking lots whenever possible
- Choose your parking spot
- Should you park?

Bridges

- Weight limits
  - Best practice is to identify weight restrictions BEFORE a response – know your area
  - Public roadways vs private right-of-ways
- Bridge width may also limit access
- Caution other incoming units if you discover a limitation

Railroad Crossings

- MCFRS policy requires stops at unguarded crossings
  - Approach guarded crossings with skepticism
- Stop, look, and listen in both directions
- Trains may travel in either direction on all tracks
- Wait a moment to proceed after a train passes
- Never park or stop on train tracks
- More than one railroad or agency may operate on a set of tracks
  - Halting train traffic may be difficult

Collision video

Conclusion

- Emergency vehicles are subject to the same traffic hazards as other traffic
- The size and nature of emergency vehicles create special challenges not present in ordinary passenger vehicles
- Do not get drawn into bad situations by having false objectives
  - Do you really need to be right there right now?