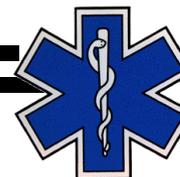




Emergency Vehicle Operators Instructors Course

Crash Prevention

C1





Crash Prevention

The Need for Driver Training

One Out of 5 to 10 Drivers is involved in a collision annually

One out of 15 drivers is involved in a REPORTABLE crash annually

For every age group the fatality rate per 100,000 population was lower for females than for males.

50% of fatal crashes occurred on roads with a speed limit of 55 mph or more.





Crash Prevention

The Facts

NHTSA - 2014

Traffic fatalities 32,675

90 persons each day

6,405 persons injured each day

61% of Fatal Crashes involve only a single vehicle

68% of all crashes occur during daylight conditions

There are common factors associated with many of these crashes

Not wearing a seat belt

Distracted Driving 10% of all fatal crashes

Speed / Loss of control (9,262 fatal)

contributing factor in at least 28% of all fatal crashes

Night-time

Weekends





Crash Prevention

The Need for Driver Training 2014

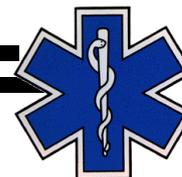
6.1 Million Police Reported crashes

2.3 Million Injuries

4.3 Million Property Damage only Crashes

Alcohol Impaired Driving Fatalities 9,967
31% of all traffic fatalities

52% of occupants killed in traffic crashes were unrestrained.





Crash Prevention

The Need for Driver Training

Population

319.9 million (2014 Estimate)

Licensed Drivers

214 million (2014 Estimate)

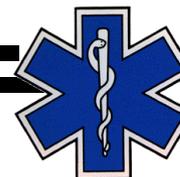
Registered vehicles

274 million (2014 Estimate)

Vehicle Miles Traveled (VMT) Per Driver

14,000 per year

Fatality Rate per 100 million vehicle miles traveled 1.14





Crash Prevention

What are the odds of dying?

Heart Disease

1 in 5

Stroke

1 in 23

Transportation Crash

1 in 100

Assault (firearm)

1 in 325

Plane Crash

1 in 20,000

Natural Disaster

1 in 80,000





Two Kind of Drivers, Which One Are You?

Those that believe that driving is not hazardous:

Their own driver error will not cause a major traffic crash.

These driver's don't realize they are part of the problem.

There is no need to adopt or follow safety precautions.

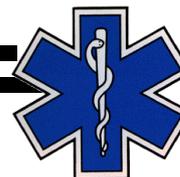
Think bad luck or defects in the road or car causes potential collisions.

Those that believe that driving is inherently hazardous:

That fault could lie with themselves or another driver.

Crashes are typically not caused by an external condition or bad luck.

Most collisions are caused by preventable mistakes committed by all drivers involved.





Senseless Loss

What are the odds of dying?

Police - 2015

128 Officers Killed in the Line Of Duty

47 Died from Traffic related accidents.

Second lowest total in the past 15 yrs.

27 died as the result of a automobile crash.

12 were struck and killed while outside their vehicle

3 were motor officers

5 in vehicle pursuit

41 Were killed during shooting incidents.

23 Succumbed to job-related illness (17 due to heart attack)

6 Bomb

3 Assault





Senseless Loss

What are the odds of dying?

Fire Service - 2014

91 Firefighter Fatality Notices Posted

(30) Career firefighters

(56) Volunteer, seasonal, and part time

(5) Wildland Agencies

Firefighter Leading Causes of Deaths by Nature (2014)

25 died while engaging in activities at the scene of a fire

24 died after returning from the emergency

13 died while responding to or returning from incidents

13 died other on duty activities

9 died while they were engaged in training activities

7 died on-scene (non-fire)





Senseless Loss

What are the odds of dying?

EMS Service - 2013

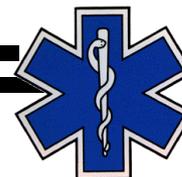
19 EMS Killed in the Line Of Duty

EMS Leading Causes of Deaths by Nature (2013)

8 Died involved in motor vehicle incidents

8 Died in Med Flight related incidents

3 Died due to health related incidents





Crash Prevention

Crashes are preventable.

So what's causing these crashes?

Emergency Vehicle – Causal Crash Factors:

Pursuits

Speed / Loss of control

Ran into another vehicle

Ran into a fixed object

Avoiding another object/animal

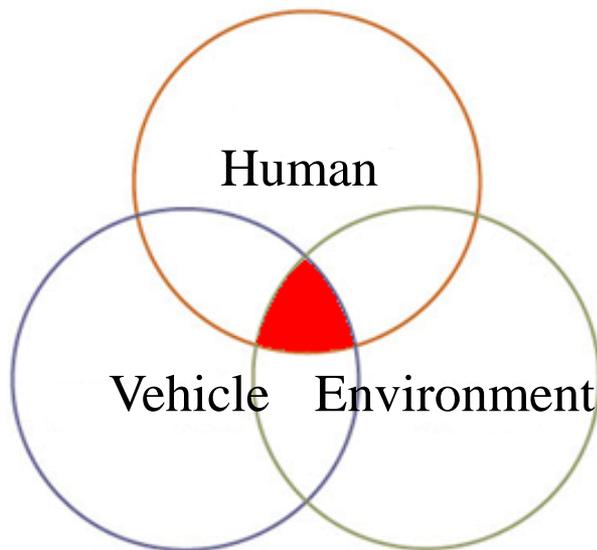
Fell Asleep (fatigue)

Backing Up





Definition of Driving



Driving a motor vehicle consists of taking skilled and properly timed actions under varying road and traffic conditions based on decisions that depend on:

Realistic Perceptions

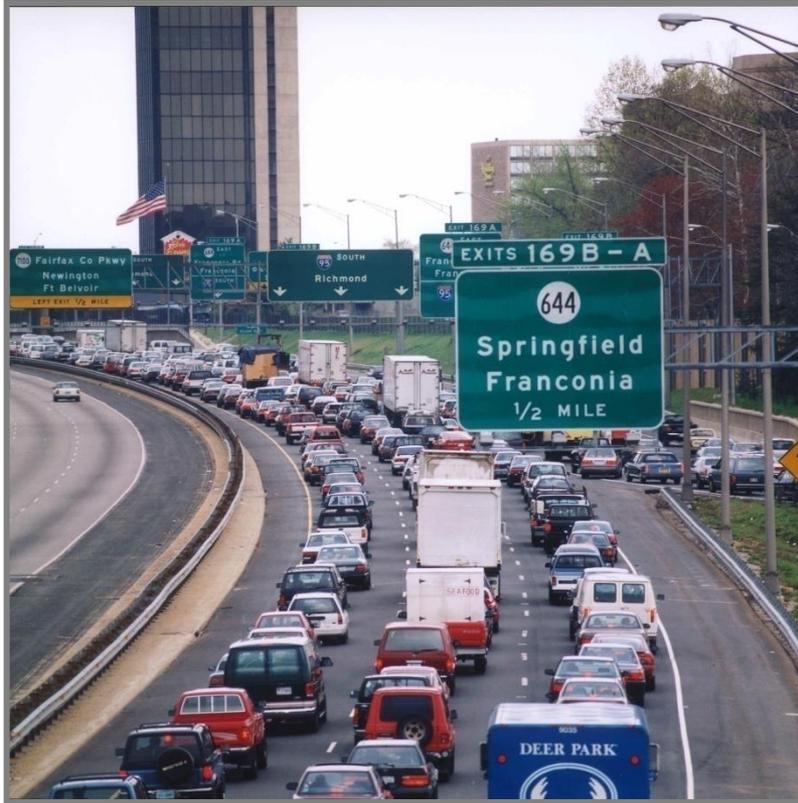
Learned information

Sound Judgments





Perception versus Reality



Perception is the process by which an individual receives or extracts information about the environment and attaches or assigns meaning to it.

Reality is the state of things as they actually exist, rather than as they may appear or may be thought to be.

Perception: Driving is not a hazardous activity

Reality: Driving is a hazardous activity



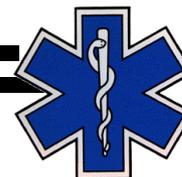


What is Risk?

Risk is defined as; The chance of injury, damage or loss

Is driving a vehicle risky business?

Does that risk increase when driving an emergency vehicle in a code response?





Assessing Risk When Driving

The amount of risk can seldom be determined with complete accuracy.

Is RISK present in everything we do?

Is driving a RISKY business?

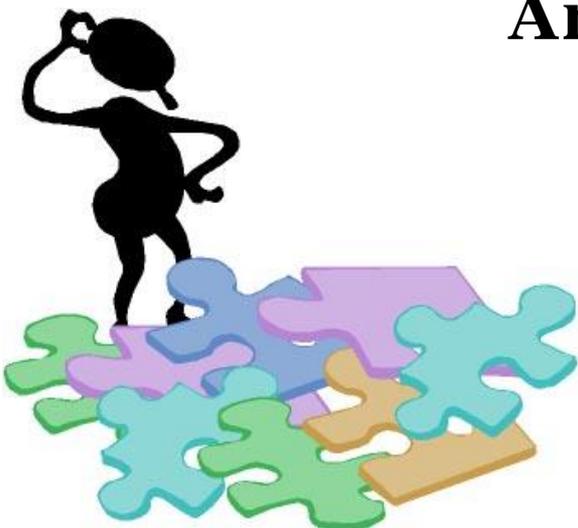
Is operating an EV in the emergency mode even RISKIER?





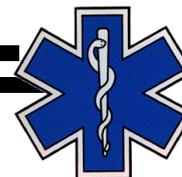
Operational Risk Management

Are you using ORM today?



Of course you are...

ORM may be known by other names or processes, we will address this in a later module.



Characteristics of Risks and Hazards



Task Loading
Distracted Driving
Driving while Fatigued
Complacency/Routine

Excessive Speed
Following Too Close
Driving Under the Influence





Factors to Evaluate for Better Risk Management

Probability

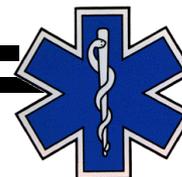
What is the likelihood of a dangerous event occurring?

Manageability

What is the manageability of the dangerous event?

Consequences

Identify and consider alternative actions.





Factors Affecting Decision Making and Risk Management

Sensory modalities

Sight

Smell

Touch

Movement

Hearing

Taste

Level of awareness

Fatigue, physical wellness

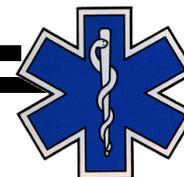
Drugs

Over-the-counter

Prescription

Illicit

Alcohol





Factors Affecting Decision Making and Risk Management

Laws of Learning

Recently

Level of training

Use

Transfer of training

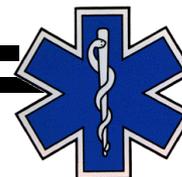
Classroom to car

Vehicles

Environments

Motivation

Attitudes, emotions, need





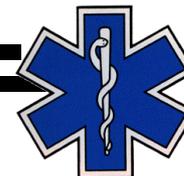
Reducing the Probability That a Dangerous Event Will Occur

Direct: driver performance

Manipulative competence, maximizing visibility, and vehicle performance

Indirect: influencing behavior of other highway users

Signaling, horn, obey traffic laws, do the expected, headlights, eye contact, position of vehicle, flashers, blind spots, reduce time of involvement





You can manage RISK by:

Use ORM to perform the following:

1. Perform an aggressive visual search.
2. Make good decisions with the information gained from the visual search.
3. Act on your decisions appropriately.





Costs Connected with Crashes

Vehicle Damage

Mechanical

Body

Vehicle Downtime

Personal Hours Lost

Investigations

Review Boards

Hearings

Suspension

Injuries/deaths

Litigation

Funerals

Personal Injury

Worker's Comp

Medical Bills

Hospital Visits

Delay in Service

Lower Crash Rate Benefits:

Improved Vehicle
Condition

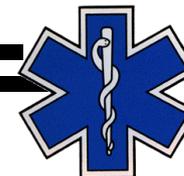
Better Employee
Relations

Reduced Operating
Costs

Improved Vehicle
Appearance

Better Driver Attitude

Lower Driver Turnover





Crash Costs

The highest price we pay for car crashes is in the loss of human lives, however society also bears the brunt of the many costs associated with motor vehicle accidents.

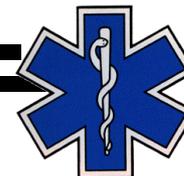
\$600,000 per single MV fatality

\$126,000 per injury crash

\$1,522 per person

\$299.5 Billion Annually

- **Fleet-crashes represent 25% of all worker compensation claims.**
- **A comprehensive safety or training program can save over \$50,000 for every million miles traveled.**





Reducing the Consequences of a Crash

Never hit anything head-on

Always drive off the road rather than skid off the road

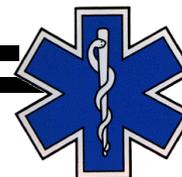
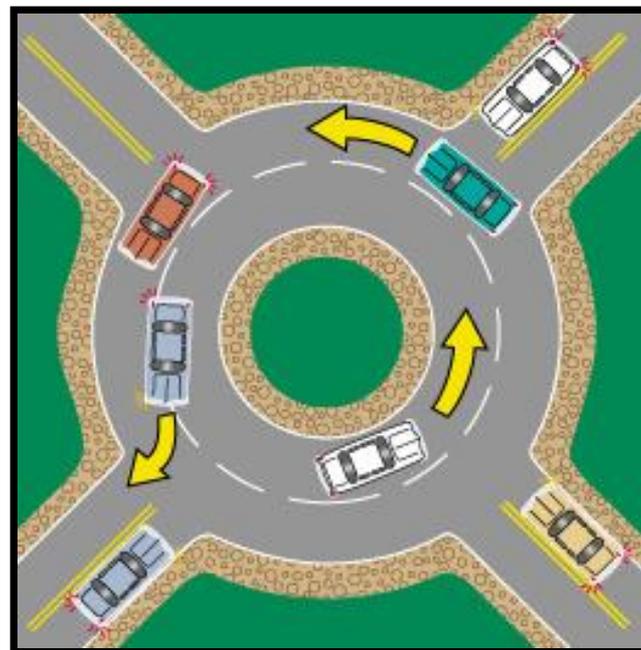
Always hit something soft rather than something hard

Always hit something going your way

Always hit something stationary with a glancing blow

Always hit something stationary before hitting something coming toward you

Steer to the right whenever possible





Crashes are Preventable

So what are some other things we can do to reduce the number of these crashes?

Planning & Training:

Incorporate state and local traffic laws into guidelines / SOPs

Adapt course material to parallel local EV guidelines.

Incorporate or review command policies

Assign a EVOC Coordinator / Trainer

Establish an EVOC Training Council





Crash Prevention

EVOC Training Council:

Should consist of both DoD and Outside agencies.

All divisions with EVs (i.e.. Fire, Police, EMS EOD etc..)

Meet once a quarter or prior to either a joint exercise or base open house (i.e.. Air show, auto show etc.)

Establish or review MOUs

Review joint response SOPs





Crash Prevention

EVOC Training Council:

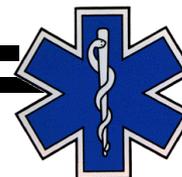
When should MOU's or SOP's be reviewed developed?

At least annually

When federal, state or local laws change

When federal, state or local laws are vague

Mishap or crash data indicates a issue.





Crash Prevention

EVOC Training Council:

The EV training council can be very productive in selecting topics and providing the necessary expertise pertaining to EV training and response.

Instructional method & strategies' for presenting lesson plans.

Up to date innovative techniques to help students learn how to safety operate emergency vehicles





Crash Prevention

EVOC Additional Resources:

Web Sites

Professional Publications

In Service / Phase Training

Roll Call

Word of mouth





REVIEW QUESTIONS

1) What are some of the common factors associated with crashes?

2) What are the two types of Driver's?

3) Risk is defined as what?

4) What are some things that you as the operator can do to reduce the consequences of a crash?

