FERMILAB

TRAFFIC SAFETY AWARENESS TRAINING

PREPARED BY THE FERMILAB TRAFFIC SAFETY SUBCOMMITTEE (TSS)
A SUBCOMMITTEE OF THE FERMI NATIONAL ACCELERATOR LABORATORY SAFETY COMMITTEE (LSC)

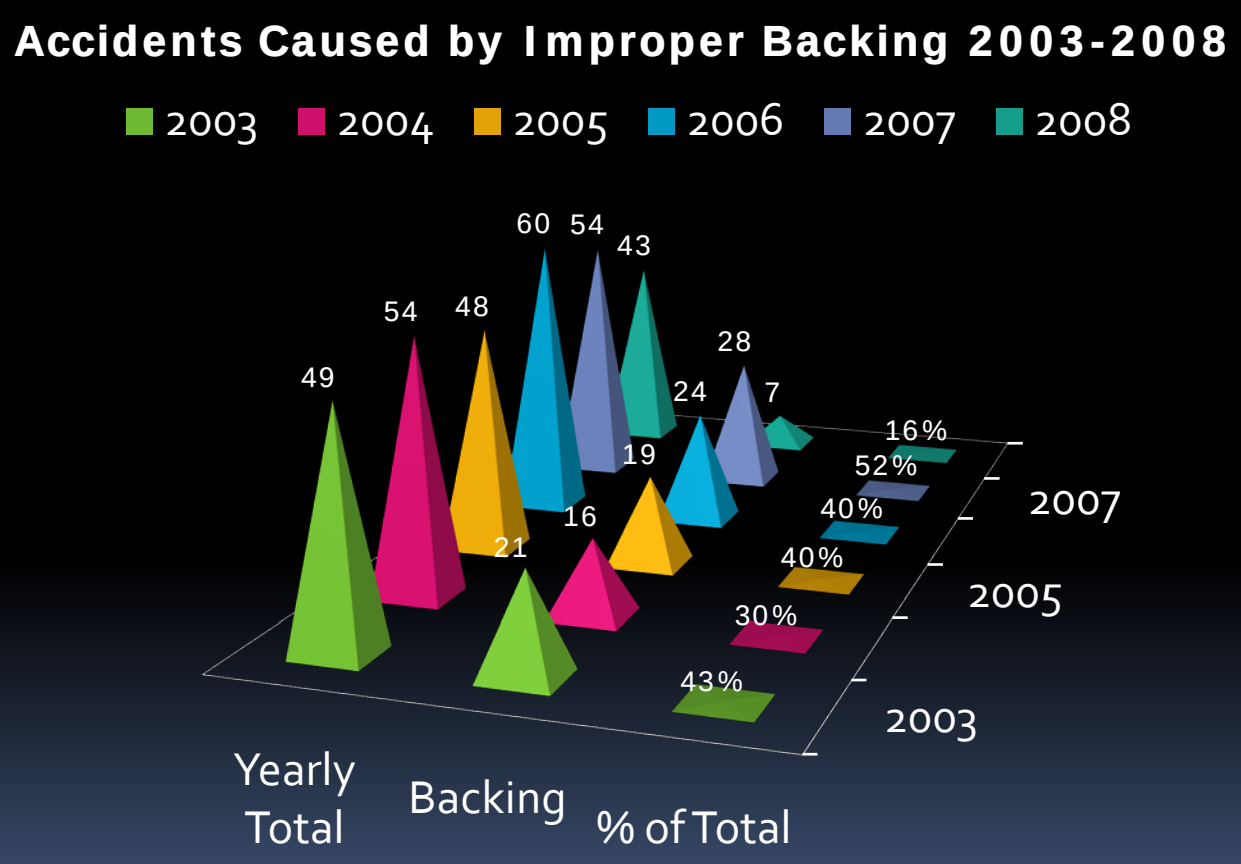
Traffic Safety Rules

Fermilab observes State of Illinois Traffic Safety Rules. Operators of all motorized vehicles and bicycles shall abide by these rules. Fermilab employs a corrective action process for both parking and moving violations. Corrective actions are based on a progressive disciplinary system which includes automated written warnings. Details of Fermilab Traffic Safety Rules and corrective actions can be found in the Fermilab ES&H Manual, Chapter 9010.
http://www-esh.fnal.gov/FESHM/9000/9010.htm

Fermilab has identified five factors contributing to most on-site vehicle accidents:

- Improper Backing
- Hazardous Weather Conditions
- Distracted Driving
- Speeding
- Improper Road Sharing
  - Bicycles
  - Motorcycles

Improper Backing



Proper Backing Tips

- Don’t back up unless absolutely necessary. Proper planning can reduce the amount of backing.
- Whenever possible, back into a parking space upon arrival.
- Check to ensure backup lights function properly.
- Visually scan area around vehicle before entering.
- Buckle up.
- Turn off radio and roll down window so warnings can be heard.
- Check view in mirrors – right, left and rearview mirrors.
- Check blind spots that are not visible in mirrors.
- Check to ensure shift lever is in reverse.

Proper Backing Tips continued

- Place right arm behind passenger seat, turn your head and body to watch over your shoulder.
- Back up no faster than a slow walk.
- Continue to watch over shoulder and check view in mirrors.
- Observe front end of vehicle.
- When backing a large vehicle, van, or truck use the buddy system – one person should stand outside of the vehicle to “direct” the driver. Guide should stand in a safe area away from path of backing vehicle.
- NEVER back around a corner.
- NEVER back unless you can see clearly.

Proper Backing Tips continued

Place right arm behind passenger seat, turn your head and body to watch over your right shoulder.

Proper Backing Tips continued

When backing a large vehicle, van, or truck use the buddy system – one person should stand outside of the vehicle to “direct” the driver. Guide should stand in a safe area away from path of backing vehicle.

Proper Backing Tips continued

When backing a large vehicle, van, or truck use the buddy system – one person should stand outside of the vehicle to “direct” the driver. Guide should stand in a safe area away from path of backing vehicle. Driver should continue checking view in mirrors.

Winter Driving Tips

"The leading cause of death during winter storms is transportation accidents."
-- Illinois State Trooper Delila Garcia, District 2

- Buckle your seatbelts as required by the State of Illinois. Buckled seatbelts are a requirement in all government owned vehicles (including Fermilab taxis).
- Remove snow and ice from all windows and roof.
- Remove snow and ice from front and back bumpers. Directional, brake and headlights should be visible and snow-free.
- Allow front and rear windshields to completely defrost before driving.
- Avoid using parking brake in freezing weather. Brake linings could freeze to the brake drum and disk.
- Do not use cruise control when driving on ice and snow as it can cause your vehicle to go into a skid.

Winter Driving Tips continued

Clean windows completely. Remove snow and ice from front and back bumpers so that directional, brake and headlights are visible.

Winter Driving Tips
Snow Plows and Parking

- Observe “No Parking After Snowfall” signs.
- Observe “No Parking Snow Plow” green cones. Salt for treating roads tripled in price in 2008 and 2009 forcing maintenance crews in the region to re-evaluate their efforts and priorities. Fermilab has reduced salt usage with the green cone no plow areas, saving money and focusing more on the prioritized areas.
- Observe “Winter Road Closure” signs and barricades.
- Snow Plow tips
  - Do not follow closely.
  - Pass with caution and only when road ahead of plow is visible.
  - Allow plenty of space when passing.
  - Allow plenty of space for oncoming plow.
  - A cloud of snow in the roadway could indicate plowing activity.
  - Be alert when approaching – plow could be stopping or preparing to turn around.

Winter Driving Tips continued

Observe “No Parking” signs.

Winter Driving Tips continued

Observe “No Parking Snow Plow” green cones.

Winter Driving Tips continued

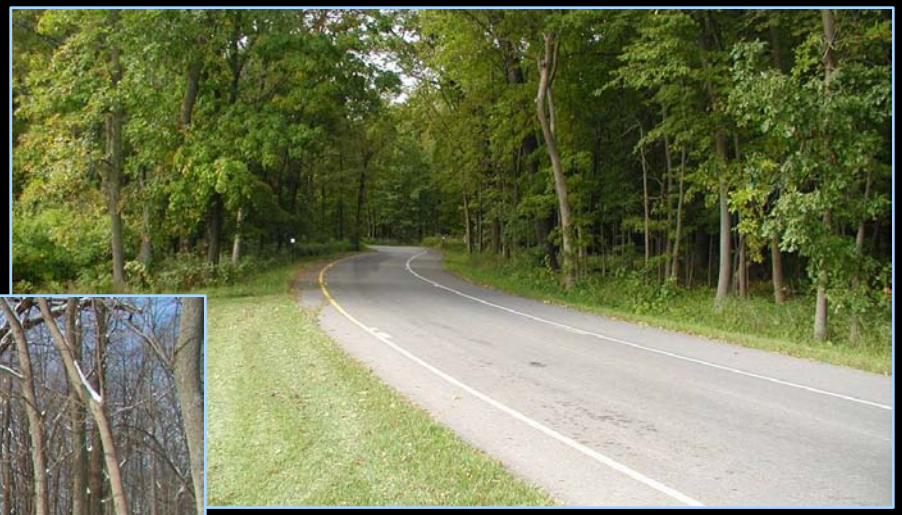
Observe “Winter Road Closure” signs and barricades.

Recurrent Winter Accident Locations

- Inbound Pine Street
- Outbound Pine Street
- D-Road
- South Eola Road
- Swenson Road
- B-Road

Recurrent Winter Accident Locations continued

Outbound Pine Street



Recurrent Winter Accident Locations continued

Outbound Pine Street too Fast for Conditions

Recurrent Winter Accident Locations continued

D-Road, 500 feet west of Sauk – too fast for conditions

Recurrent Winter Accident Locations continued

Eola Road – slid off shoulder, failure to maintain lane

Recurrent Winter Accident Locations continued

Swenson Road – dangerous curve, frequent accident site

Recurrent Winter Accident Locations continued

B-Road Curve, west of Receiving Road

Ice, Black Ice and Foggy Conditions

- Ice patches can occur on roadways in shady areas, on overpasses, and under bridges.
- Be aware of black ice – a thin, nearly transparent patch of ice that can occur on roadways. Black ice sometimes looks like wet pavement or a shadow and occurs after rain falls on a roadway that is below freezing. Drive slowly and allow longer stopping distances.
- Watch for ice and black ice on curves.
- Use low beam or fog lights when driving in foggy conditions.
- Pull over to the side of the road and turn on emergency flashers when visibility is severely reduced by fog.

Speed Tips for Slick Road Surfaces
Rain, Snow, Ice

- Reduce speed. Posted speeds are for dry surfaces.
- Drive slowly – it takes longer to accelerate, stop, turn on slick pavement.
- Allow a following distance of at least ten seconds.
- Start slowly, brake gently and cautiously.

Hydroplaning

When rain water is on the road, depending upon vehicle speed, your tires may be floating on a film of water. This is called hydroplaning.

- Driving is most dangerous just at the beginning of a storm due to a slippery oil film on the road. You can lose traction and control.
- Hydroplaning on wet roads can cause the vehicle to skid.
- Worn tire tread can keep you from stopping quickly and from controlling your vehicle properly.
- To avoid hydroplaning reduce your speed, use windshield wipers and turn on headlights for visibility.
- If water is across road do not attempt to pass until you know how deep it is.
- Never use cruise control when the road is wet or icy.

Hydroplaning continued

Photo – Storm Spotter Guide

Diagram of a hydroplaning tire

Image from Wikipedia

Distracted Driving

"Driver distractions and inattentive driving play a part in one out of every four motor vehicle crashes. That's more than 1.5 million collisions a year – more than 4,300 crashes each day!" **-- Jesse White, Secretary of State, *The Dangers of Distracted Driving and How to Prevent Them***

- Fermilab discourages the use of cell phones when driving government vehicles.
- Illinois law states that cell phone use while driving for persons under age 19 is prohibited except in the case of an emergency to contact a law enforcement agency, health care provider or emergency services agency.
- Pull over to a safe place to talk on the phone, text message, or email.
- Place calls when stopped, or have a passenger dial.
- Use a speaker phone/hands-free device. Avoid talking on the phone in congested traffic or bad weather.

Distracted Driving continued

- Don’t multitask and drive.
- Adjust seats, mirrors, climate controls, radios while vehicle is stopped or before driving.
- Don’t eat food or drink beverages while driving.
- Keep both hands on the wheel and eyes on the road.
- Constantly scan roadway ahead for situations that could require quick action.
- Don’t drive while drowsy. Get enough rest before driving. Take breaks often to avoid becoming drowsy.

Distracted Driving continued

- Recreational activity (including motorcycle, bicycle and pedestrian) increases during warmer months – be aware of bicycles and pedestrians crossing the road. Observe all posted bicycle trail and pedestrian crossing signs.
- Wildlife activity increases during warmer months – be aware of geese and other wildlife crossing roadways.
- Deer activity increases during Autumn and early evening to early morning hours.
- After dusk be aware of nocturnal animals crossing roadways.

Distracted Driving continued

Observe “pedestrian crossing” signs.

Distracted Driving continued

Wilson Gate – Driver was dialing cell phone upon impact

Distracted Driving continued

Wilson Gate -- Driver was dialing cell phone upon impact.

Speeding

"Speeding, driving too fast for conditions or exceeding the legal speed limit, is a problem on all roadways nationwide. But, on the less-forgiving rural roadways, speeding takes a deadly toll." **-- Federal Highway Administration (FHWA)**

- Observe all posted speed limit signs.
- Maximum speed site-wide is 40 miles per hour (mph) unless otherwise posted.
- Maximum speed in the village is 25 mph unless otherwise posted.
- Speed limit at site exit is 25 mph.
- Speed limit on Ring Road (Main Ring) is 20 mph.

Speeding continued

- Reduce speed when approaching security guard shelters.
- Reduce speed in construction areas and where Roads and Grounds personnel are working.
- Reduce speed when snow is present.
- Allow three seconds stopping distance between your vehicle and the vehicle ahead. Look for a mark on the road. When the vehicle ahead of you passes that mark, there should be three seconds before you reach that mark. If the road or weather conditions are not good, increase your following distance.

Speeding continued

Observe posted speed limits.

Speeding continued

Reduce speed in construction areas and where Roads and Grounds personnel are working.

Share the Road
Bicycles

- Individuals who ride a bicycle on loan from Fermilab, or ride a personal bicycle in the performance of their work duties, are required to wear a helmet. Details of Fermilab helmet policy can be found in the Fermilab ES&H Manual, item number 7 http://www-esh.fnal.gov/FESHM/9000/9010.htm .
- Bicyclists must observe Illinois Rules of the Road.
- Bicyclists must use manual turn signals and observe stop signs.
- Bicyclists have the same rights and responsibilities as other roadway users.
- Illinois law states that vehicles should maintain at least three feet of passing space when encountering a bicycle.

Share the Road continued
Bicycles

- Bicyclists are required to travel in the same direction as vehicles.
- Bicyclists should travel to the right of traffic.
- Motorists should be aware that bicyclists may need to travel toward the center of the lane due to certain roadway hazards or changes in traffic pattern.
- Vehicles should not park or drive in bicycle lanes.
- Do not follow bicyclists closely. Give them plenty of room and be prepared to stop quickly.

Share the Road continued
Bicycles

- Reduce high beams when encountering an oncoming bicycle at night.
- Check side mirror after parking and before opening vehicle door. Wait for passing bicyclist.
- Use caution at intersections. Bicycles may be approaching from side paths. Check your blind spots.
- It is safest to ride single file. Never ride more than two abreast.
- Bicycle rules and road sharing details can be found on the Illinois Secretary of State website. http://www.cyberdriveillinois.com

Share the Road continued
Bicycles

Bicyclists must observe Illinois Rules of the Road.

Share the Road continued
Bicycles

Vehicles should not park or drive in bicycle lanes.

Share the Road continued

Bicycles

When a motorist is turning right and there is a bicyclist approaching on the right, the motorist should let the bicyclist go through the intersection before completing the right turn.

Share the Road continued
Bicycles

Outbound Pine Street – bicycles cross traffic to access bike trail.

Share the Road continued
Bicycles

Bike trail exit Pine Street – bicycles cross traffic to access bike trail.

Share the Road continued
Bicycles

Use caution at intersections. Bicycles may be approaching from side paths. Check your blind spots.

Share the Road continued
Bicycles

Use caution where bike trails cross roads.

Share the Road continued
Bicycles

Outbound Pine Street – Bicycles cross from trail to road.

Share the Road continued
Bicycles

Motorists should be aware that bicyclists may need to travel toward the center of the lane due to certain roadway hazards or changes in traffic pattern.

Share the Road continued
Bicycles

Maintain lane position through curves.

Share the Road continued
Bicycles

Motorists should be aware that bicyclists may need to travel toward the center of the lane due to certain roadway hazards or changes in traffic pattern.

Share the Road continued
Bicycles

It is safest to ride single file. Never ride more than two abreast.

Share the Road continued

Bicycles

Do not follow bicyclists closely. Give them plenty of room and be prepared to stop quickly.

Share the Road continued
Bicycles

Illinois law states that vehicles should maintain at least three feet of passing space when encountering a bicycle.

Share the Road continued
Bicycles

Even though each is in their own lane, this is passing too close!

Share the Road

Motorcycles

"More than 50 percent of all motorcycle collisions occur at intersections. The most common situation occurs when an oncoming automobile makes a left turn in front of a motorcycle." **-- Illinois Rules of the Road**

- Motorcycle riders have the same rights and responsibilities as other roadway users.
- Watch for motorcycles before turning and yield right-of-way.
- A motorcyclist needs room to maneuver safely and is entitled to the entire lane – a motorist should not drive in the same lane next to a motorcyclist.
- When a motorcyclist is passing your vehicle, remain in your lane, maintain position and speed. Allow the motorcycle to complete the maneuver.
- More than 50% of all motorcycle accidents occur at intersections. Look three times before turning left. Look left, right, then left before safely proceeding.

Share the Road continued
Motorcycles

- Maintain a three to four second following distance between your vehicle and a motorcycle.
- Use low beam headlights when following motorcycles.
- Motorcyclists often slow by downshifting or rolling off the throttle, thus not activating the brake light. Predict a motorcyclist may slow down without visual brake light warning and allow more following distance.
- Expect to see motorcycles in traffic at any time and include them in your visual search pattern.
- Because of its small size, a motorcycle might look farther away than it is, and it might be difficult to judge a motorcycle's speed. Always predict a motorcycle is closer than it appears.

Share the Road continued
Motorcycles

- Motorcyclists should be aware that they may be difficult to see on the road.
  - Wear bright colored clothing and helmet.
  - Keep headlight on at all times (motorcycles sold in the United States since 1978 automatically have the headlights on when running). Illinois law requires that the headlight be on when operating on streets and highways. Use high beam during day, low beam at night and during cloudy weather.
  - Ride in the best lane position to see and be seen.
  - Communicate your intentions – use the proper signals, brake light and lane position.
- Motorcyclists should maintain an adequate space cushion when following, being followed, lane sharing, passing and being passed.

Share the Road continued
Motorcycles

- Motorcyclists are prohibited from passing on the right unless there is unobstructed pavement at least 8-feet wide to the right side of the vehicle being passed.
- Motorcyclists are prohibited from passing between two other vehicles going the same direction unless there is an unobstructed traffic lane available to permit such passing safely.
- Familiarize yourself with a new or borrowed motorcycle before riding on the street.
- Motorcycle rules and road sharing details can be found on the Illinois Secretary of State website www.cyberdriveillinois.com .

Share the Road continued

Motorcycles

Expect to see motorcycles in traffic at any time and include them in your visual search pattern.

Share the Road continued
Motorcycles – Statistics

- According to the National Highway Traffic Safety Administration, motorcycle fatalities now account for 11% of total road fatalities and have increased every year, from a low of 2,116 in 1997 to 4,810 in 2006.
- Human error is still the primary cause of motorcycle crashes. In 37% of the crashes, the primary accident contributing factor was a human error on the part of the motorcyclist. In 50% of the crashes, the driver of the other vehicle was deemed to have made the primary error.
- Helmets have been found to be an effective protective device to reduce the severity of head injuries.
- One out of every nine U.S. road fatalities involves motorcycle riders while the number of automobile deaths has actually decreased.
- Studies prove that 90% of all threats from traffic and environment are in front of the motorcyclist.

Government Vehicles

- Fermilab employees with a valid State Driver's license appropriate for the vehicle may operate Laboratory vehicles.
- Subcontractor employees may be allowed to operate Laboratory vehicles, but only on the Fermilab site and with specified restrictions.
- Users may be allowed to operate Laboratory vehicles, but only on the Fermilab Site. They must have a valid State or foreign/international driver's license and with specified restrictions.
- Details and information on Rules for Operators of Laboratory (Fermilab and GSA) Government Vehicles can be found at http://bss-support.fnal.gov/Products%5CSUP_BOOK.nsf/Ref/23029459 .

Government Vehicles continued

These rules are required for all Government Owned Vehicles (GOVs) and are advisable for personal vehicles (Window sticker on all GOVs – available through Vehicle Maintenance Dept.)

Fermilab

Driver Requirements - Fermilab Vehicles:

All drivers are required to adhere to the following:

Check behind the vehicle for obstacles before backing.

Do not allow distractions to take your mind away from driving.

Possess a valid **State drivers license** for this type and size vehicle.

Illinois State traffic regulations and Fermilab traffic / parking rules.

Report all accidents or vehicle damage to Security.

Do not operate an unsafe vehicle.

Remove keys when vehicle is unattended.

Wear seat belts, including passengers.

No Smoking Permitted.

Employee Drivers Only / Passengers must be on official Fermilab business.

Government Business Use Only.

Rev 08-07

Useful Links

Federal Highway Administration http://safety.fhwa.dot.gov/

Fermilab ES&H Safety Manual (FESHM) Chapter 9010 http://www-esh.fnal.gov/FESHM/9000/9010.htm

Fermilab Traffic Safety Subcommittee http://bss.fnal.gov/security/accidents.html

Illinois Department of Transportation Travel Information http://www.dot.state.il.us/tpublic.html

Illinois Secretary of State http://www.cyberdriveillinois.com/

Illinois Secretary of State Bicycle Rules of the Road Booklet
http://www.cyberdriveillinois.com/publications/pdf_publications/dsd_a1434.pdf

Illinois Secretary of State Motorcycle Operator Manual
http://www.cyberdriveillinois.com/publications/pdf_publications/dsd_X140.pdf

Illinois State Winter Driving Tips http://www.isp.state.il.us/traffic/traffictips.cfm

League of Illinois Bicyclists http://www.bikelib.org/

League of Illinois Bicyclists “Share the Road” video http://www.bikelib.org/video/

Motorcycle Safety Foundation http://www.msf-usa.org/

Motorcycle Safety Information http://www.motorcyclesafetyinfo.com/

National Highway Safety Administration
http://www.nhtsa.dot.gov/portal/site/nhtsa/menuitem.54757ba83ef160af9a7ccf10dba046a0/

Network of Employees for Traffic Safety http://www.trafficsafety.org/index2.asp

Rules for Operators of Laboratory (Fermilab and GSA) Government Vehicles
http://bss-support.fnal.gov/Products%5CSUP_BOOK.nsf/Ref/23029459

The Weather Channel’s Motor Vehicle Safe Driving Tips
http://www.weather.com/activities/driving/drivingsafety/drivingsafetytips/tipIndex.html?from=safety_MoreTips

Resources

AAA Foundation for Traffic Safety

Fermilab Environmental Safety and Health Manual (FESHM)

Fermilab Traffic Safety Subcommittee

Hurt Study

Illinois Rules of the Road

Illinois State Trooper Delila Garcia, District 2

MAIDS Motorcycle Accident Study

Motorcycle Safety Foundation

Network of Employers for Traffic Safety (NETS)

The League of Illinois Bicyclists

U.S. Department of Transportation National Highway Traffic Safety Administration

Fermilab Traffic Safety Subcommittee (TSS)

TSS Charter

Purpose: Enhance and improve safety for pedestrians, cyclists and motorists on the Fermilab site.

Goal: Reduce the frequency of traffic-related accidents by half, thereby decreasing the potential for personal injury and lowering annual property damage losses.

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