

Manual



IX. Driving Environments & Their Characteristics

Rural Driving
Lessons and Hints to Work With Your New Teen Driver
Part 9



Be Ready, Be Safe, Be Responsible





IX. Driving Environments & Their Characteristics

Rural Driving

INTRODUCTION

- Secondary roads in remote and/or rural areas may present hazards that drivers accustomed to travel on urban and suburban roadways may not be aware of.
- We will look at the characteristics and hazards particular to rural roads .

Be Ready, Be Safe, Be Responsible

Introduction

Secondary roads in remote and/or rural areas may present hazards that drivers accustomed to travel on urban and suburban roadways may not be aware of.

We will look at the characteristics and hazards particular to rural roads.

STATISTICS

- Motorists on rural roads are more likely than those on urban roads to be involved in a fatal crash as a result of a vehicle leaving its lane.
- Fatal rural accidents are more likely than fatal accidents on all other routes to occur once a vehicle has left the roadway.

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Statistics

Motorists on rural roads are more likely than those on urban roads to be involved in a fatal crash because of a vehicle leaving its lane.

Fatal rural accidents are more likely than fatal accidents on all other routes to occur once a vehicle has left the roadway.

RURAL ROADS

Lesson Objectives and Learning Skills

- **Objectives**
 - Identifying and responding to negative roadway conditions
 - Identifying clues for sides roads, driveways and other problem areas
 - Responding to vehicle failure and driver error
 - Engine stall
 - Brake failure
 - Off-road recovery
 - Controlling a car that has lost engine power

- **Skills**
 - Identifying and responding to limiting highway conditions
 - Identifying locations of hidden side roads, lanes and driveways
 - Responding to right wheel drop-off onto shoulder
 - Restarting a stalled engine
 - Steering and braking a car that has lost power
 - Stopping a vehicle with the emergency brake
 - Read and act on signs
 - Adjust speeds and lane position with conditions
 - Identify and respond to road and weather conditions
 - Identify areas of limited space, visibility or traction
 - Safe speed through curves (slowdown, brake while straight)
 - Mirror use

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- six-and-a-half times more likely to be killed attempting to negotiate a curve.
- four times more likely to be involved in a fatal collision between vehicles going in opposite directions.

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CHARACTERISTICS OF RURAL ENVIRONMENT

- Extra caution when driving on "country roads" because they are not designed for efficient high-speed travel like urban roadways.
- The following characteristics and safety hazards are more likely to be found on rural roads:

Characteristics of Rural Environment

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Characteristics of Rural Environment

SPEED

- Posted speeds up to 45 m.p.h.
- Un-posted maximum speed-45 m.p.h.
- Some circumstances require driving well below the posted speed.
 - Adjust speed to roadway and driving conditions

SPEED

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Adjust speed to roadway and driving conditions.

Characteristics of Rural Environment SIGNS

Possibly, but not always:

- STOP, Speed Limit  
- Warning Signs 
 - Curves, Narrow Road, Farm, Deer Crossing
 - Possibly with safe suggested speeds
 - May warn of combinations of hazards

By Frank, Jr. 2009, by Department

SIGNS

Possibly, but not always:

STOP, Speed Limit

Warning Signs

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CHARACTERISTICS OF RURAL ROADS

1. Blind curves and hills.
2. Unusually steep hills or sharp curves
 - Traction-seasonal hazards
 - Snow, ice.
 - anti-skid material.
 - Wet leaves
3. Obstacles on road
 - slow-moving vehicles –types?
 - Animals-types
 - debris

Characteristics of Rural Roads

Blind curves and hills.

Unusually steep hills or sharp curves

Traction-seasonal hazards

Snow, ice,

anti-skid material

Wet leaves

Obstacles on road

slow-moving vehicles –types?

Animals-types

debris

CHARACTERISTICS OF RURAL...

4. Narrow width (not sufficient for vehicles to pass safely)
 - Closed space to the right—a problem for drivers on both sides
5. Solid impact obstacles
 - Trees, stumps, poles, large rocks, culverts, bridge abutments.

Characteristics of Rural...

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Solid impact obstacles

Trees, stumps, poles, large rocks, culverts, bridge abutments.

CHARACTERISTICS OF RURAL...

- 5. Shoulder drop-offs with no guard rails
- 6. Berms-Soft surface (loose gravel, dirt, mud, snow, slush)
 - Control problems-pull vehicle
- 7. Rough or damaged road surface
 - Wash-board
 - Pot-holes

Characteristics of Rural...

Shoulder drop-offs with no guard rails

Berms-Soft surface (loose gravel, dirt, mud, snow, slush)

Control problems-pull vehicle

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Washboard

Potholes

CHARACTERISTICS OF RURAL ROADS



Identify the hazards in these slides

CHARACTERISTICS OF RURAL ROADS



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CHARACTERISTICS OF RURAL



Identify the hazards in these flash slides

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Identify the hazards in these flash slides

CHARACTERISTICS OF RURAL...

Video



Identify the hazards in the video

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Video



Identify the hazards in the video

CHARACTERISTICS OF RURAL...



TWO WHEEL DROP-OFF

Soft shoulders create hazards to the unaware driver.

- If the right wheels drop off the road anticipate better traction with the left wheels that remain on the pavement.
- Reduce speed.
- Steer straight, don't brake dramatically.
- Let the momentum of the vehicle slow naturally then gradually work back onto the pavement.

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OFF-ROAD RECOVERY

- ~~Do not panic and jerk the steering wheel~~
- Look to safe path of travel on roadway
- Ease off accelerator/Don't brake hard
- Align vehicle with edge of road
- Check oncoming/following traffic
- Return to road gradually with proper steering technique

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DROP-OFF RECOVERY

Video



BLIND CURVES AND DIPS

- Roads are often too narrow for 2 vehicles to pass easily and have many sharp curves that prevent seeing approaching traffic.
- Rural roads may follow the topography of the landscape, resulting in many dips and rises that create blind spots in the road

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Hazards:

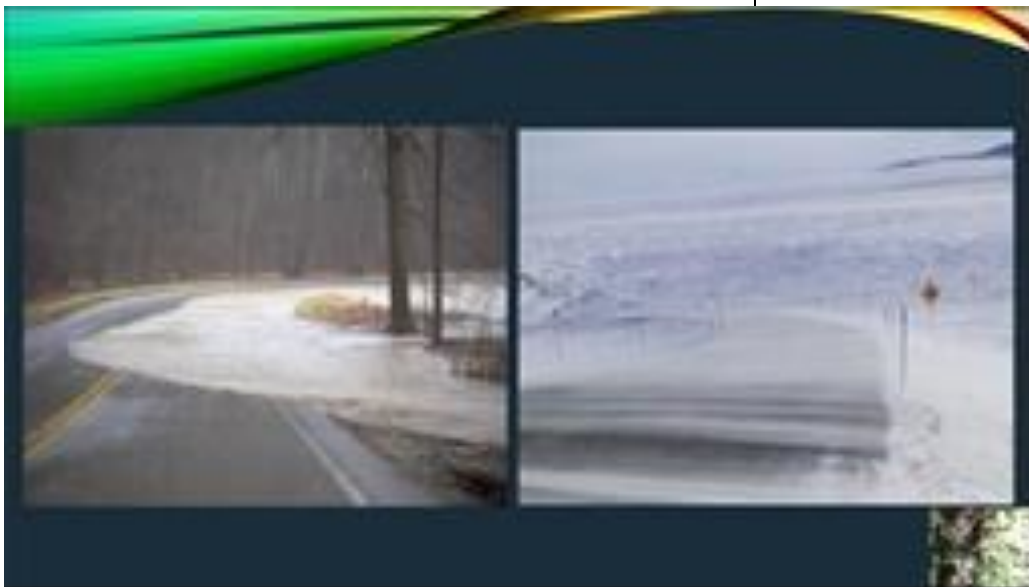
- Approaching vehicles, livestock or wild animals on the road, or slow-moving vehicles may be encountered without warning.
- Visibility may be suddenly reduced due to fog.

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Identify the hazards in these slides

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BLIND CURVES AND DIPS

CAUTIONS:

- When approaching a blind curve or dip or rise on a narrow road, slow down and keep to the right. Watch for dust indicating on-coming traffic and sound your horn to warn approaching vehicles if lack of visibility warrants.
- Stay as far right as possible when entering a blind curve to the right.

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CAUTIONS:

- Traction problems due to gravel, mud, snow anti-skid material.
- Dips in the road may be due to creeks where animals congregate on or near the road. Approach carefully if in a free-range area, or in twilight or darkness.

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BLIND CURVES AND DIPS



Identify the hazards in these slides

OBSTACLES

- Off-road vehicles such as tractors or bulldozers may drive on rural roads or be left parked on forest roads.
- Fallen trees or landslide debris may not be removed quickly from rural or forest roads.
- Hazard: Slow moving vehicles or stationary obstacles may require sudden stops.
- Livestock or wildlife may be encountered on roads.
Animals may move onto road unexpectedly or block it entirely. Collisions with large animals (deer, cows, sheep) can result in major vehicle damage and serious injury.

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CAUTIONS:

- Reduce speed on roads with blind curves or dips in case you need to stop suddenly.
- Be aware that farm vehicles and construction equipment may be wider than passenger vehicles. Pass with extra caution unless they pull over.
- When driving on forest roads if you see wildlife near the road, slow down and watch carefully for animals on or approaching the road.
- If an animal (e.g. rabbit, deer, skunk, etc.) runs out into the road in front of you, do not try to swerve around it or slam on the brakes. – Best option is to hit it rather than lose control and hit a solid object or roll over.

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STEEP GRADES

Description:
The steepness of most roads is limited for safety, but, rural or logging roads may exceed this limit putting unusual demands on vehicle brakes.

Hazard:
Excessive use of brakes can result in overheating and eventual failure. Skidding may occur more easily, especially when towing.

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STEEP GRADES

Cautions:

- When descending a long or particularly steep grade shift the vehicle into a lower gear to reduce the need to use the brakes. This applies to both manual and automatic transmission vehicles.
- On more level stretches of a long grade, avoid using brakes to let them cool.
- If the road may have sharp curves, maintain a lower speed than normal to allow stopping without skidding.

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GENERAL HINTS

Speed adjustments can be the most effective method to reduce risk in a rural environment.

- Use the warning signs and suggested speeds
- If you are in control before you enter a curve, chances are you'll be in control when you come out of the curve and more able to handle the hazards that may be on the other side

Be Ready. Be Safe. Be Responsible.

General hints

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GENERAL HINTS

• BROADEN YOUR SEARCH

- Look over, through and between.
- Search areas and visibility change with the seasons.

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General hints

BROADEN YOUR SEARCH

Look over, through and between.
Search areas and visibility change with the seasons.

Physics

PHYSICS

- Decelerate and brake straight
- If you brake hard in a curve, you can skid and continue going straight,

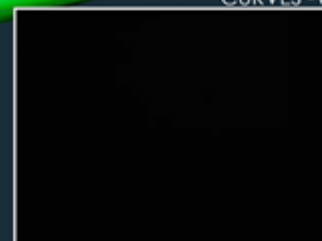
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Curves -video

CURVES -VIDEO



RURAL LESSON

RURAL ENVIRONMENT (Back Roads)

CHARACTERISTICS

- SPEEDS - MAY VARY POSTED UP TO 45 MPH
- TRAFFIC - MINIMAL, USERS VARY
- = local, recreational, farming

• TRAFFIC SIGNS

WARNING SIGNS & SPEED LIMITS

• ROADWAY

LANES VARIOUS WIDTHS, USUALLY UNMARKED
LIMITED SPACE TO RIGHT=

SOLID IMPACT OBJECTS=TREES, POLES, ROCKS

EMBANKMENTS=DITCHES, CULVERTS, NARROW BRIDGES

VARIOUS MATERIALS & MAINTENANCE

DIRT, GRAVEL, PAVED, MUD

POTHoles, CRUMBLING EDGES, DEBRIS

DRAINAGE, SNOW DRIFTS, ICE, WIND

= LIMITED TRACTION

SIGHTLINES (CHANGE WITH SEASON)

CURVES /BLIND CURVES, HILLS= LIMITED VISIBILITY

• WILDLIFE & FARM ANIMALS

BROAD SEARCH, AGGRESSIVE SCANNING-- BE AWARE OF MOVEMENT

DO NOT SWERVE!!!

PERCEPTUAL OBJECTIVES/SKILLS

- READ AND ACT ON SIGNS
- ADJUST SPEEDS AND LANE POSITION WITH CONDITIONS
- IDENTIFY AND RESPOND TO ROAD AND WEATHER CONDITIONS
- IDENTIFY LOCATIONS OF HIDDEN SIDE ROADS, LANES AND DRIVEWAYS
- RESPOND TO RIGHT WHEEL DROP-OFF ONTO SHOULDER
- IDENTIFY AREAS OF LIMITED SPACE, VISIBILITY OR TRACTION
- SAFE SPEED THROUGH CURVES (SLOWDOWN, BRAKE WHILE STRAIGHT)
- MIRROR USE

REGULAR & ROUTINE

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Rural Lesson

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IDENTIFY LOCATIONS OF HIDDEN SIDE ROADS, LANES AND DRIVEWAYS

RESPOND TO RIGHT WHEEL DROP-OFF ONTO SHOULDER

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MIRROR USE

REGULAR & ROUTINE

Anticipated Problems

- A) Not identifying limited space, visibility or traction
- B) Not identifying clues for hidden side roads and driveways
- C) Not slowing when responding to right wheel drop-off
- D) Not letting car clear the intersection when attempting to restart stalled engine
- E) Not holding button in or release out when using emergency brake to slow car
- F) Not adjusting speed or position to roadway conditions
- G) Not identifying and adjusting to warning signs

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This series was produced by the Novice Driver Statewide Program and the IUPUI Institute for Rural Health and Safety through a grant from the PA Highway Safety Office

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