



Horse and Buggy Driver's Manual

Foreword

Now more than ever, we, as horse and buggy drivers, need to be careful and observe the basic rules of safety when traveling on today's busy roads. There is more traffic going much faster than ever before and we must do what we can to assure our own safety as well as that of motorists with whom we must share the road. We've created a horse and buggy driver safety manual to assist in this effort. Proper operation of your horse and buggy on these busy roads can greatly reduce crashes.

The manual is intended for horse and buggy drivers operating on public roadways. However, this manual can also be useful for motor vehicle drivers, especially out-of-town visitors and tourists, not familiar with encountering horse and buggies traveling on the road. We hope that you will find this information useful and will do your part to make our roadways safe.

Acknowledgements

We gratefully acknowledge and appreciate the cooperation of the following people and organizations:

Center for Traffic Safety
County of Lancaster
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Lancaster County Planning Commission
Lancaster Highway Safety Council
Members of the Plain Community
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Cover photo courtesy of Terry Ross Photography

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Dos and Don'ts for Day and Night Driving

- **DO** train yourself to think about safety for yourself and for anyone else who might happen to be on the road.
- **DO** stay awake and alert at all times while driving.
- **DO** be sure your buggy is well equipped with lights before you leave for home, even if you plan to be home before dark. Something may detain you and make you come home late.
- **DO** begin using your lights in plenty of time. Dusk and dawn are dangerous times. Once you see the first car with headlights on, it should be an indication to you that it is time for lights.
- **DO** have lights on at all times at night and during low visibility. Leaving your lights off until traffic approaches and then suddenly turning them on is dangerous.
- **DO** stay as far to the right as possible when you see a vehicle approaching from the rear. Remember, you are not as easily seen after dark as in the daylight. Also, there is always a possibility that the other driver may be half-asleep or even drunk.
- **DO** realize if a vehicle approaches from the front at the same time one is coming from the rear that you are in a dangerous position. Unless you have bright lights you may not be seen as the lights of one vehicle may blind the driver of the other vehicle. Watch the vehicle from the rear in your mirror and flash your lights to be better seen. Take the ditch if the driver does not slow down.
- **DON'T** leave home without lights and a fully charged battery.
- **DON'T** let yourself be distracted from your driving for any reason.
- **DON'T** blind oncoming traffic with your high beams. Make a habit of always dimming your headlights for oncoming traffic. Never allow your headlights to shine in the mirrors of the vehicle in front of you.
- **DON'T** forget to shut off your turn signal after completing a turn.
- **DON'T** drive while drowsy or impaired by any substance.

Chapter 1: Courtesy and Conduct

“Do unto others as you would have them do unto you.”

Let us as horse and buggy drivers be courteous and respectful as we travel today's busy roads. Here are a few things that will show the motorist that we truly are willing to do our part to make roads as safe as possible for all users.

1. Pull off the road to let traffic pass whenever it is safe.
2. Drive in the Buggy Lane if one is provided.
3. Be visible day and night at all angles by using lights and reflective tape.
4. Use horses that are safe to be on the road.
5. Train horses to always stop at the Stop signs.
6. Never try to race a motor vehicle at a crossroad. Be patient and wait until it is safe to cross.
7. Always be careful when making left turns. Signal first then proceed to make the turn when traffic is clear. See page 19 for more information.

There are a lot of our children and adults walking, bicycling, and horseback riding along today's busy highways. Let's be courteous, respectful, and visible in these situations as well.

Always practice courtesy, respect, and common sense when driving on highways.

At all times, we should be willing to stop and let the faster traffic go by. Never think, "I have just as much right on the road as anyone has." That is true according to the law, but at the same time, it is our Christian duty to always practice the Golden Rule and not 'hog' the road. We should consider it a privilege to use the road and not a right.

State law requires any slow moving vehicle to pull off the road at the first and safest opportunity to let the faster traffic pass. The slow moving vehicle may then return to the roadway when the faster traffic has passed.

Whenever traffic from the rear is unable to pass you because of a hill, curve, or oncoming traffic in the passing lane, be courteous and pull off to the side of the road when it is safe to do so and let other traffic pass.

Whether or not it is the law, driving on the shoulder of the road or as far to the right side of the road as possible and keeping a close watch

in your mirror to avoid hindering a fellow traveler will go a long way to build respect for the plain people in your community and for the values and principles we stand for.

Being respectful and courteous on the road is an excellent opportunity for us, in our small way, to be a light to the world. Let us not darken it by being inconsiderate to our fellow travelers and by demanding our rights.

One way to be courteous is to keep arms and legs inside the buggy at all times unless giving directions, such as signaling a turn, which is entirely legal. It can be very worrisome to other drivers to see arms and legs dangling out of doors and windows. Drivers behind you are concerned that someone may fall out of the buggy and get hit by the driver.

State law prohibits dropping or throwing any type of trash onto a road or into a waterway from a vehicle. This applies to the vehicle driver as well as any passengers in the vehicle. A violation of this law may result in a fine of up to \$300 upon conviction.

If there are any passengers riding in the buggy, they should be sure to stay out of the driver's line of vision and not obstruct the driver's view of the roadway and of other traffic.

Crashes

If you are involved in a traffic crash:

1. Move off the road, if possible, so you don't block traffic.
2. Call the police if someone is injured, dies, or if a vehicle needs to be towed. If the drivers are hurt and cannot call the police, witnesses should call for help.
3. Write down the information listed below for all of the drivers involved in the crash:
 - Name, address, and telephone number
 - Driver's license number
 - Registration number
 - Insurance company name and policy number
4. Write down the names and addresses of witnesses and other people involved in the crash.
5. If you hit a parked car, stop immediately and look for the owner. If you cannot find the owner, call the police and leave a note on the car with the following information:
 - Name, address, and telephone number
 - Driver's license number
 - Registration number
 - Insurance company name and policy number
 - Date and time of crash
6. If the police do not investigate a crash, send a Driver's Accident Report (Form AA-600) within five days to:

PA Department of Transportation
Division of Highway Safety & Traffic Operations
PO Box 2047
Harrisburg, PA 17105-2047

Driver's Accident Reports are available from your local or State Police.

If you witness a crash, find a safe place to pull off the road and wait for the police to arrive. Give the police your name and address and your statement of what you witnessed.

Chapter 2: Traffic Signs, Signals, and Pavement Markings

Although some of these signs do not apply to horse and buggy drivers, it is still important to know what they mean.

Traffic Signs

Regulatory Signs - this type of sign tells you what you are and are not allowed to do. Many of these signs are red.



At an intersection with a **STOP** sign, you must come to a complete stop at the stop line and allow pedestrians to cross. Once the intersection is clear, you may proceed. If you are unable to see the traffic after you have stopped at the stop line, you may move forward until you are able to see the traffic. Wait for pedestrians to cross and then proceed when the intersection is clear.

When you are approaching a **YIELD** sign, you must slow down and give the right of way to pedestrians and to through traffic. You may proceed when it is safe to do so and when you won't be interfering with the normal traffic flow.



These signs are usually placed in combination on a one-way street or a highway ramp to alert drivers they are going in the wrong direction.



If you are turning right, you are not required to stop. It is advisable to slow down before turning, other drivers may not yield the right of way to you.



At a one-lane bridge or underpass, you must yield the right of way to oncoming traffic.



All vehicles at a four-way intersection must stop. The first vehicle that arrives at the intersection goes first. If two vehicles arrive at the same time, you should yield to the driver on your right.



No Trucks



No Bicycles



No Pedestrian



No Parking



No U-Turns



No Left Turns



No Right Turns



This sign indicates that you are not allowed to pass another vehicle beginning at this point.



You are not allowed to pass any other vehicle going in the same direction.



You may not turn right during the red light. You may only turn during the green light.



The center turn lane is only for left turning vehicles in either direction. This lane may not be used as a through lane or to pass another vehicle.



This sign alerts drivers to keep to the right of a median or a divider.



This sign indicates the maximum speed a vehicle may travel. Unless otherwise posted, the speed limit is assumed to be 55 mph.



A left turn is permitted during the green light, but you must yield to oncoming traffic.



Parking is reserved for persons with disabilities. You must have an authorized license plate or permit to park in these spaces. Unauthorized parking can result in fines and towing of the vehicle.



Opposing traffic has a longer green light after your light has changed red.



You may turn left or right in this lane.



You may go straight or turn right in this lane.



You may only turn left in this lane.



This sign is placed before an intersection indicating that traffic in the left lane must turn left while traffic in the other lane may turn left or go straight.



You may only turn right in this lane.

Warning Signs - tell you what conditions to expect on or near the roadway.

These signs are posted before the condition so that you have time to react. Most warning signs are yellow, but there are exceptions: Construction signs are orange, school signs are fluorescent yellow green. Bicycle and pedestrian signs may be either yellow OR fluorescent yellow green.



Four-way intersection ahead



Right side road intersection ahead



T intersection ahead



Y intersection ahead



This sign indicates that the road curves to the left with a road entering from the right.



This sign indicates a set of reverse curves ahead with the first curve to the right.



This sign indicates a set of reverse curves ahead with the first curve to the left.



This sign indicates that the road may be slippery when wet. Drive carefully and take turns slowly.



A CHEVRON sign indicates there is a sharp turn in the road in the direction of the arrow.



This sign indicates there is a right curve ahead.



This sign indicates there is a sharp left turn ahead.



This sign indicates that the divided highway is ending.



This sign indicates that a divided highway is beginning. Stay to the right.



35
M.P.H.

An ADVISORY SPEED SIGN indicates the highest recommended speed you should travel around the curve.



A LANE ENDS sign indicates that the right lane is ending and drivers should merge into the other lane.



Two-way traffic ahead. The separated one way road is ending.



Traffic from the right will be merging into your lane.



Narrow bridge ahead



Traffic signal ahead. Slow down.



Stop sign ahead. Start to slow down.



A steep hill or downgrade is ahead. Slow down. Trucks should shift to a lower gear to stay in control.



This sign indicates clearance height. Do not enter if your vehicle is taller than indicated.



Railroad crossing ahead. Slow down. Look and listen for an oncoming train.



A pinch point (no shoulder, narrow lane, etc.) ahead. Provide space for bicyclists.



Trucks may roll over if traveling too fast on the curve to the left.



School crossing ahead. Slow down and watch for children crossing. Obey the crossing guard if one is present.



Pedestrian crossing ahead



Bicycle crossing ahead



Horse and buggies use the roads in this area. Be alert.



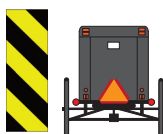
Construction area. A flagger is ahead directing traffic. Slow down.



Construction area. Slow down. Stay alert for traffic changes.



Construction area. The right lane of traffic will be closing in 1,000 feet. Merge to the left.



A hazard close to the roadway on the left is ahead. Be alert. Usually found on the end of a bridge abutment or at an underpass.



A hazard close to the roadway on the right is ahead. Be alert. Usually found on the end of a bridge abutment or at an underpass.

Guide Signs



US traffic route marker



To get to US Route 30, go straight and follow the signs.



You are approaching the intersection of US Route 30.



You must turn right to continue on US Route 30 West.



US route marker indicates you are traveling west on US Route 30.



Pennsylvania traffic route marker

Traffic Signals



A red light means you must stop and wait behind the stop bar for the light to turn green.

A yellow light indicates that the light is about to turn red. If you are not at the intersection, slow down and stop. If you are already crossing the intersection, proceed through the intersection.

A green light means you may proceed through the intersection or turn when traffic is clear. Yield to pedestrians who are also crossing the intersection.



A green arrow indicates the way you may turn. Usually this is an advanced green, protected left turn phase. Your lane may turn left while all other traffic is stopped (except for the oncoming vehicles that are also turning left). If the green turn arrow disappears but the green light is on, you may still turn but you must yield to the oncoming through traffic.



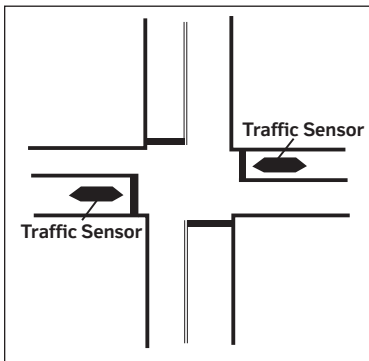
A single flashing red light is the same as a stop sign. You must come to a complete stop before proceeding through the intersection.



A single flashing yellow light means you should slow down and make sure the traffic is clear before proceeding through the intersection.

If the traffic signal at an intersection is not working, come to a complete stop and proceed when traffic is clear, just as you would do at an intersection with a stop sign.

Types of Traffic Signals



Pretimed

Pre-timed traffic signal control is a set of phases with fixed green, yellow, and red intervals that make up the cycle length that does not vary. Typically, pre-timed traffic control is most effective when used in an area where traffic patterns are predictable by time of day.

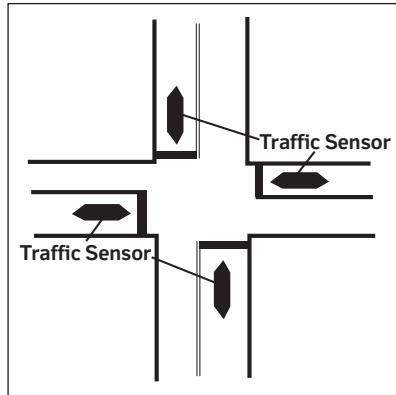
Semi-Actuated

Semi-actuated traffic signal control generally has detection on the minor approaches to provide green time for

the minor street phases based upon minor street traffic demand. Typically, semi-actuated traffic control operation is most efficient when the minor street has low volumes during the off-peak traffic periods.

Fully-Actuated

Fully-actuated traffic signal control has detection on all approaches to allow the green times to vary and non-actuated phases to be skipped based on the traffic demand. Typically, fully-actuated traffic signal control is the most responsive operation to traffic demands.



Pedestrian Crossing Signals

There are two types of pedestrian crossing signals: those with symbols and ones with words. They operate the same way, and you cross the road the same way.



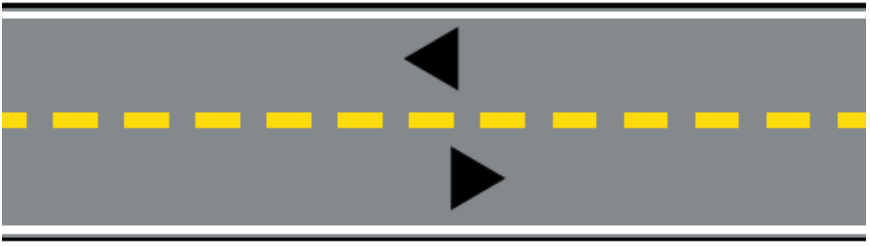
When a steady or a flashing WALK or person walking appears, you may cross in the crosswalk. Be aware of turning vehicles. You have the right-of-way but cars do not always yield to pedestrians.

A flashing DON'T WALK or hand indicates the signal will soon change. If you are in the crosswalk, finish crossing the street. If you have not left the curb, do not cross. Wait for the next signal to cross.

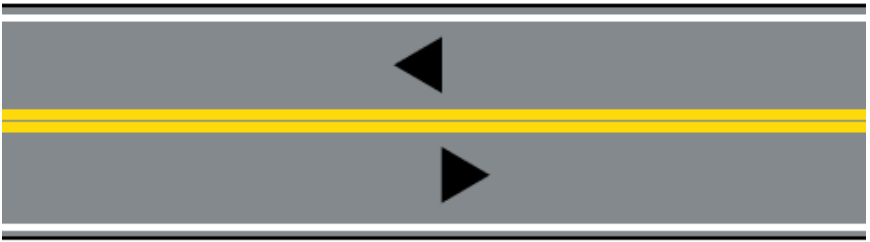
When a steady DON'T WALK or hand is shown, do not cross.

An audible beep may accompany pedestrian crossing signals at some intersections to assist disabled persons. Also, a blind pedestrian with a white cane or a guide dog will require more time to cross the street. Drivers must yield to them and wait until they have completely crossed the street.

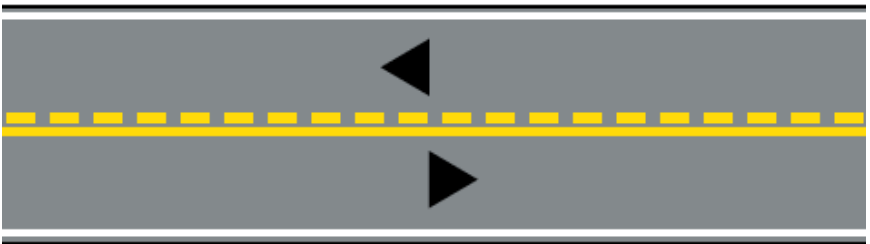
Pavement Markings



This is a two-way, two-lane road with a dashed yellow line indicating that passing is allowed by either vehicle.



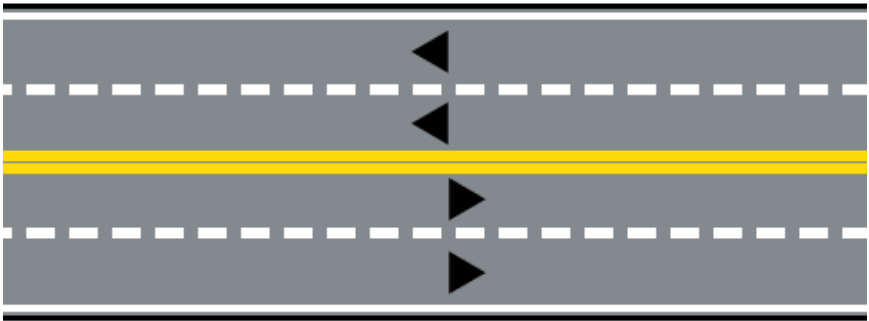
This is a two-way, two-lane road with a solid double yellow line indicating that passing is not allowed.



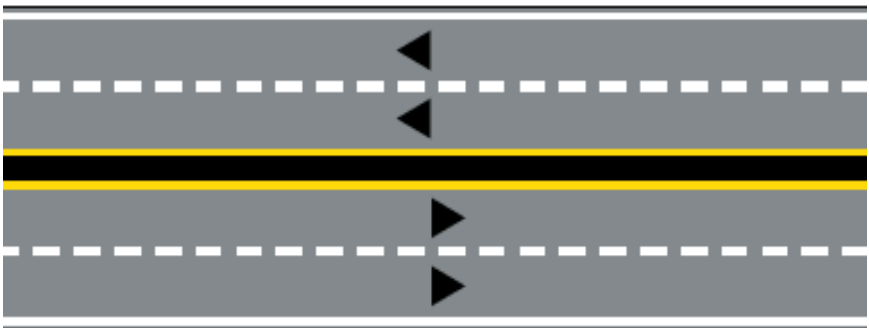
This is a two-way, two-lane road with a solid yellow line and a dashed yellow line indicating that a vehicle may pass when you have the dashed yellow line on your side. Any vehicles on the side with the solid yellow line may not pass.



This is a two-way, three-lane road with two lanes of travel and a center turn lane. Vehicles may not use the center lane to pass another vehicle. The center lane is for left turns only.



This is a two-way, four-lane road with two lanes of traffic traveling each direction. The dashed white lines allow you to pass a vehicle that is going in the same direction as you. You may not cross the solid double yellow line to pass. Example - Fruitville Pike.



This is a two-way, four-lane access controlled highway with two lanes of traffic traveling in each direction separated by a physical barrier called a median. The median can be concrete, grass, or guide rail, anything to prevent vehicles from crossing over into oncoming traffic. Examples - Route 222 and Route 283.

Chapter 3: Horse Handling and Harnesses

*Up hill wear me
Down hill spare me
On the level let me trot
In the stable forget me not*

As live horsepower is the form of energy we use to pull our buggies, a few words of caution in the use and treatment of horses is in order. Let us remember that a horse is a living being. If you treat him right, your horse will be your willing servant and will take you many miles to school, to church, to town, or to visit friends and relatives. In time, your horse may become more than a servant. He may become a trusted companion. While the driver of a car has only to keep a vehicle under control, the horse and buggy driver must also control an animal, with a mind of its own, that weighs 10 times as much as a human.

You are a horse's master, but be a master with a heart.

A horse has been described as “a large mass of nerve endings connected to a small brain.” Your horse cannot reason or understand the way you do. Things that seem simple to you may frighten or confuse the horse. Try to see potential problems before you arrive at them and think of how your horse may react.

While each horse has its own personality and must be handled accordingly, it is also true that a horse's reaction to certain situations is often the result of previous experiences. Therefore, if a horse has had a bad experience, it will probably take a while (maybe the rest of his life) for him to forget it.

Knowing that we must break young horses to drive, let us remember not to use them in heavy traffic areas until they have had experience in lighter traffic and are considered safe. You as the driver are responsible for your horse, and you must be able to control him to stop and stand as needed.

Hitching and Unhitching the Horse

Hitching and unhitching a horse can be mastered by children at quite a young age, but care should be taken to make sure everything is properly hooked. An unsnapped line, tug or holdback can cause any horse to become frightened and may prompt a runaway. This could result in injuries or fatalities to occupants of the vehicle and to those in the path of the runaway horse.

A good order to remember and to follow when hitching up is 1-line, 2-trace, and 3-holdback. Do this on one side and then on the other side. That way, the lines, which control the horse, will always be the first thing fastened. Not only is it important to double check that everything is fastened when hitching up, it is just as important to make sure all the traces and holdbacks are unhooked when unhitching the horse. Therefore, to unhitch, simply count backward 3-holdback, 2-trace, and 1-line. This way the holdback will always be the first thing unhooked.

Many horses will spook from a buggy coming after them in an unusual manner caused by a holdback still being attached to the harness.

ALWAYS tie your horse with the neck rope. Use respect when tying your horse in town or at public places. Always use a hitching rail if one is available. It is unadvisable to tie your horse to a sign or light post. Tie your horse if no one is available to hold him.

Be reasonable with your horse. When on long trips never drive him too far or too fast. Allow your horse time to rest after climbing a long hill or after traveling on hot days. A horse that is properly treated will serve you for a long time.

A Good Harness

Many crashes have been caused when a worn out harness breaks. A holdback tearing, a snap breaking, or a trace coming loose from the single tree can cause you to lose control of your horse. The harness should be checked regularly, and worn parts should be replaced.

Also, good maintenance of wear points on the buggy is very important. Always keep a good single tree and single tree bolt on the shafts. The single tree straps will not only keep the single tree from turning too far, but could hold the buggy in the event that the single tree bolt were to break. Keeping brakes in good working order is also very important, not only on down grades, but also to hold the buggy in case of any break in any part of the harness or buggy. The brake is great for holding the buggy at stop signs too.

Maintenance Checklist

It is advisable to check these things on the harness and the buggy before traveling:

- Line snaps
- Holdback straps
- Single trees and bolts
- Single tree straps
- Shaft eyes
- Brakes
- Slow moving vehicle emblem (Fanny flag)
- Battery
- Lights

Chapter 4: Buggy Lighting

With today's highways and speeding traffic, it has become especially important for slow moving vehicles to be well lighted and readily identifiable both by day and by night.

We expect that more criticism is voiced by automobile drivers about our nighttime driving than most other driving we do. For our safety and for the safety of our fellow men who share the road with us, we need to be well equipped with lights and reflectors.

Not all crashes can be prevented but it is still our responsibility as horse and buggy drivers to make ourselves as visible as possible, so long as it is within reason and church standards.

Pennsylvania state law requires that four-way flashers be used on all horse drawn buggies for nighttime driving. This means that a flashing amber (yellow) light must be visible from the front of the buggy and a flashing red light from the rear of the buggy. With the amount of traffic on today's roadways, it is advisable to use flashers and headlights at all times, and especially during conditions of poor visibility such as rain, fog, sleet, snow, dawn, and dusk.

This is the recommended way the front of a buggy should be lighted

- Two white headlights on the front of the buggy no more than 3 inches from the edge of the buggy. You can tilt the headlights slightly downward so they don't blind oncoming traffic.



- Two amber flashing warning lights (one on each side of the buggy) no higher than 4 feet from the ground. The lights should be at least 4 inches in diameter. These lights are also the turn signals.
 - When a turn is signaled, the light indicating your turn will continue to flash and the other light will remain steady until you have completed the turn.
 - Reflective tape on the front of the buggy is also recommended to improve the visibility of the buggy.
- A rearview mirror is needed to see the traffic behind you. Make sure the mirror is tilted so that there are no blind spots.

This is the recommended way the back of a buggy should be lighted.

- Two red flashing warning lights (one on each side of the buggy) no more than 4 feet from the ground. The lights should be at least 4 inches in diameter with 3 square inches of surface as required by state regulation. These lights are also the turn signals.



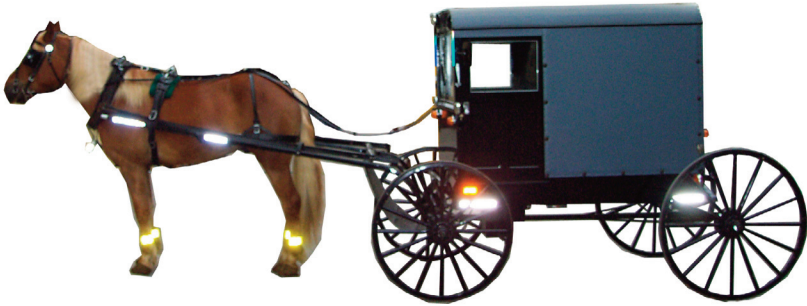
- When a turn is signaled, the light indicating your turn will continue to flash and the other light will remain steady until you have completed the turn.
- Two red flashing warning lights (one at each top corner of the buggy). More can be added for better visibility.
- Reflectors and reflective tape are strongly recommended for marking the buggy. Silver, red and orange reflective tape do provide some reflectivity, but it has been determined that white reflective tape has the highest visibility—500 feet. Adding reflective tape is another thing we can do to make ourselves more visible. Anything we can do to make ourselves more visible, increases safety for us and the automobile. Red/Silver mix tape is DOT approved for trucks and trailers and should not be used for buggies.



Slow Moving Vehicle Emblems

There is probably nothing you can do that will better warn the driver of a fast-approaching car than to have a slow moving vehicle (SMV) emblem or fanny flag on the back of your buggy. These emblems, however, have a tendency to fade or break and should be replaced from time to time. They are not expensive and are very easy to replace. The SMV emblem is required by state law to be displayed from 2-6 feet off the ground on the back of any vehicle traveling less than 25 mph. The SMV emblem is most effective when it is flat against the buggy and not tilting. The standard size of a SMV emblem is a 12-inch-high orange triangle with a 1 3/4 inches red border. The sign must cover an area of at least 72 square inches. Do not put bumper stickers on SMV emblem as this decreases the amount of orange required by law.

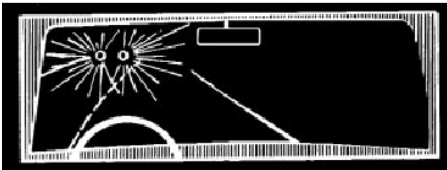
Reflectors are important for the side of the buggy and the horse. It is difficult for other drivers to tell what a buggy is from the side, especially at night.



Headlights

Headlights allow you to see where you are going and allow you to be seen by other drivers. It is very important to use your headlights at all times, when they are required. Once you turn on your headlights, leave them on all the time. Do not leave them turned off then suddenly turn them on when you see a vehicle approaching.

Turn on your headlights before it begins getting dark. Dusk and dawn are times of poor visibility and headlights are needed. Vehicle drivers may use their high beams when it is very dark out. Drivers are required to use their low beams whenever they are within 500 feet of an oncoming vehicle or 300 feet behind another vehicle. If the vehicle coming towards you does not change from their high beams to low beams, look at the right side of the road so you are not blinded.

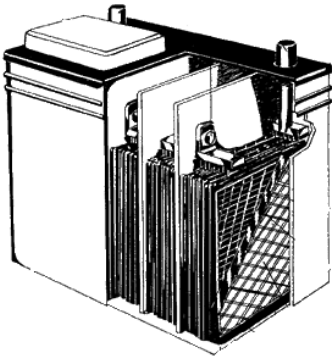


Failure to use your headlights when required by state law results in fines of at least \$25.

State law requires you to use your headlights:

- Between sunset and sunrise.
- During times of low visibility, such as rain, snow, fog, sleet, hail.
- When you cannot see at least 1,000 feet ahead of you.
- When you cannot see because of insufficient light on gray days.
- When you are in heavy traffic and your vehicle may blend in with the surroundings.
- When driving through posted work zones.

How to Care for Deep Cycle Batteries



- Keep the battery fully charged. A fully charged battery will not freeze in the winter.
- Do not charge your deep cycle battery at more than 14.6 volts.
- Recharge battery when it drops below 12.00 volts.
- Keep water filled completely and use only distilled water.
- Keep the connections clean.
- Clean batteries with water and baking soda.
- State regulation requires secure fastening of the battery.

Why Batteries Fail

- Battery charge drops below 11.50 volts
- Heat and overcharge
- Vibration
- Lack of maintenance

Battery State of Charge vs. Voltage/Specific Gravity

Voltage	Specific Gravity	State of Charge	Depth of Discharge
12.66	1.265	100%	0%
12.45	1.225	75%	25%
12.25	1.190	50%	50%
12.05	1.145	25%	75%
11.90	1.100	0%	100%

Chapter 5: Driving on the Road

Intersections

Right-of-Way at Intersections

The term right-of-way refers to laws granting one vehicle the right to go ahead of another vehicle in certain situations. It is important that we have a clear understanding of who has the right-of-way or the right to go first. That understanding may well make the difference in making a situation safe or potentially dangerous. A clear understanding of who has the right-of-way also

Whenever there is a doubt of who has the right-of-way, do not hesitate to grant the other driver the right-of-way.

helps to keep the traffic moving safely in crowded areas. However, in some cases, even if you have the right-of-way, it may well be appropriate and safer for you, the slower vehicle, to grant the right-of-way to the other driver. Also, buggy drivers should not motion traffic to pass, due to liability in case of a crash.

Stop Sign Intersection

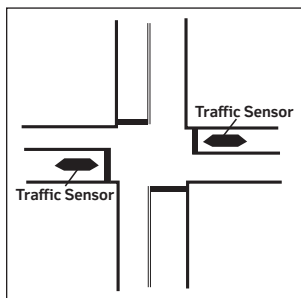
When you are stopped at a four-way stop intersection, you are to yield the right-of-way to the vehicle on your right if all of the vehicles arrived at the same time. If you arrived at the intersection before any other vehicles, you have the right of way to go through the intersection first. At a two-way stop intersection, the traffic on the main road (without a stop sign) has the right of way. You may go after you have stopped and when traffic is clear. If there is a vehicle at the opposite stop sign, the driver that arrived first should go first.

Regardless of who has the right-of-way, it is important to be watchful at all times. A vehicle driver may not see you or may not respect your right-of-way. It is foolish and dangerous to insist upon one's right-of-way. The engraving on a tombstone illustrates this very well:

*Here lies the body of William Gray
He died preserving his right-of-way
He was right (dead right) as he sped along
But he's just as dead as if he had been wrong.*

Traffic Signal Intersection

At a traffic signal intersection, the traffic signal governs who has the right-of-way. Some intersections with traffic signals have sensors in the road that when they are tripped the traffic signal changes so that the crossroad gets the green light. The sensors are diamond-shaped as shown in the figure. The metal of a vehicle triggers the sensor.



The major north-south road will continue to have a green light until a vehicle on the east-west side road triggers the traffic sensor. The side road will then have the green light.

When coming to a traffic light, stay in the middle of the traffic lane to better trip the sensors. The sensors are located in the roadbed and are not easy for a horse and buggy to trip. Try to drive directly on the sensor. A possible solution for tripping the sensors is to attach a piece of metal on the bottom of the buggy.

If you are unable to trip the sensor, you could have someone else in the buggy get out and push the pedestrian crossing button, if one is available. It is not recommended that the driver get out to push the button. The horse may move forward into traffic. The pedestrian crossing button will turn the light green for the side road allowing the traffic on the side road to proceed and allowing the pedestrian to walk across the road. This is only recommended as a last resort, especially if you are driving alone.



Pennsylvania law allows for any vehicle (car, bicycle, motorcycle, even a horse and buggy) to proceed with caution at an intersection if the traffic signal is malfunctioning or if it's vehicle-detection system fails to recognize you. In those times, the signal should be treated like a stop sign.

Turning at Intersections

According to Pennsylvania highway crash statistics, the biggest percentage of crashes occur at intersections, which could be a miscalculation of speed (see graphic illustration in Chapter 6). It is probably also largely due to the abuse of turn signals and improper lane usage. Another reason probably is haste, which leads to improperly calculating speed.

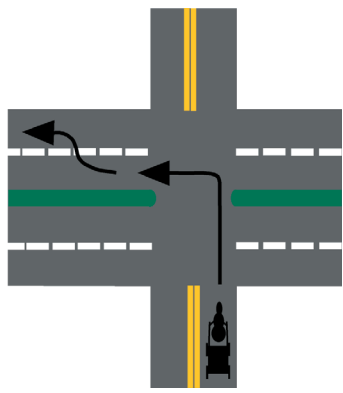
Speed is an important factor to consider when making a turn. You should slow down so that you are able to react to unexpected situations, like vehicles turning in front of you, pedestrians, and bicycles.

Never make a left turn from the shoulder of the road. Always check your side mirror first to make sure it is clear, if you want to turn left at the intersection, signal, and merge into the traffic lane before approaching an intersection. It is considered a violation to turn left from the right side of the shoulder. Besides, it is very dangerous.

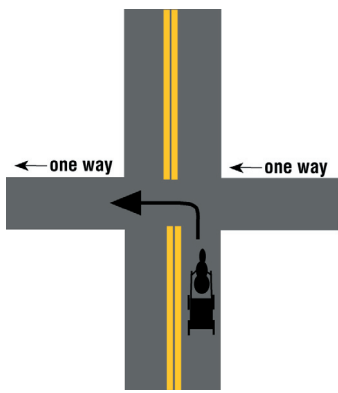
If you need to enter the fast lane of traffic to make a left turn or to cross a bridge or railroad track, you should be certain that the lane is clear of traffic before moving into that lane. Remember you must yield to the fast lane of traffic even if you are signaling your intentions to merge into that lane.

When entering the fast lane of traffic to make a left turn, this should be done before reaching the intersection so that you are in the proper lane (closest to the center) when reaching the intersection.

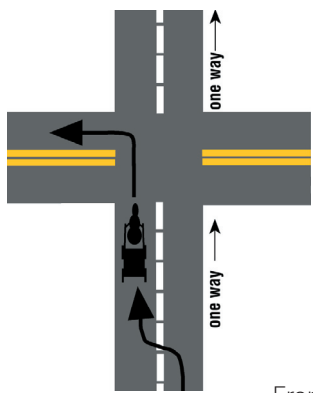
From two-lane to four-lane street.



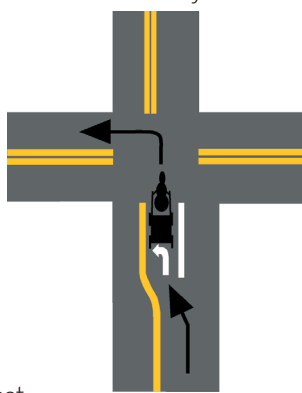
From two-lane to one-way street.



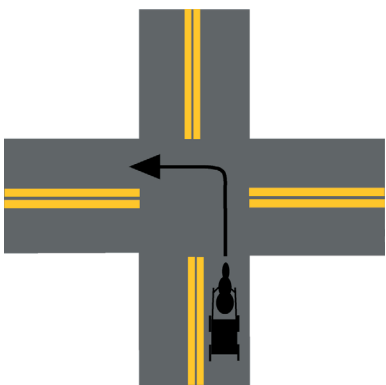
From one-way street to two-lane street.



From two-way street with turning lane to two-way street.



From tow-lane street to two-lane street.



On narrow country roads, always drive on the right side as there is often not much space to spare when two vehicles pass each other, even at the best location. It is especially important to stay on the right side of the road in hilly areas.

Many crashes happen because one driver does not see another driver or does not know what the other driver is going to do. This is why it is so important to communicate your intentions by using turn signals or hand signals every time before you make a change, such as:

- Turning at an intersection or driveway;
- Pulling away from the curb at a parking space;
- Pulling over to the shoulder; and
- Moving into another lane to pass.

Remind yourself to always use your turn signal, even if you do not see anyone else around. When you want to make a turn, use your signal to let others know you are going to turn, then slow down. Slow down enough so that you have time to react to an unexpected emergency situation. Be alert when turning, watch out for pedestrians and other traffic.

When driving less than 35 mph, state law requires drivers to use turn signals at least 100 feet before turning.

Remember to shut off the turn signal after the turn is completed. Beepers can be installed, fairly cheaply, that beep while the turn signal is activated. This will remind you to turn off your signal and helps save your battery.

It is recommended that all buggies have lighting and turn signals as indicated in Chapter 4. If the buggy does not have turn signals or if the turn signals are not working, you should use the hand signals shown below.

These graphics show an open buggy so that the hand signals can be easily seen. Hand signals could also be used in a closed buggy, but turn signals are recommended.

Most buggy drivers sit on the right side to be able to see obstacles on the shoulder.



Right Turn



Left Turn



Slow or Stop

Maintaining a Safe Distance

Have you ever seen a string of buggies following each other closely, one tight behind the other? This may happen Sunday mornings when a line of buggies enter the driveway at the home where church services are to be held or after a funeral en route to or from the cemetery. Don't let yourself get caught in such a trap. Not only is there danger of a horse or shaft running into the lead buggy if it stops suddenly, but a car coming from behind may attempt to pass what the driver thinks is only one buggy. If it then turns out to be three, four, five, or even more buggies in a tight cluster the driver might be unable to pass them all before meeting oncoming traffic. A situation like that certainly has the potential of becoming very dangerous.

You should always maintain a distance of several hundred feet between you and the buggy ahead of you, allowing plenty of space for a motor vehicle to get between the two buggies if it is necessary.

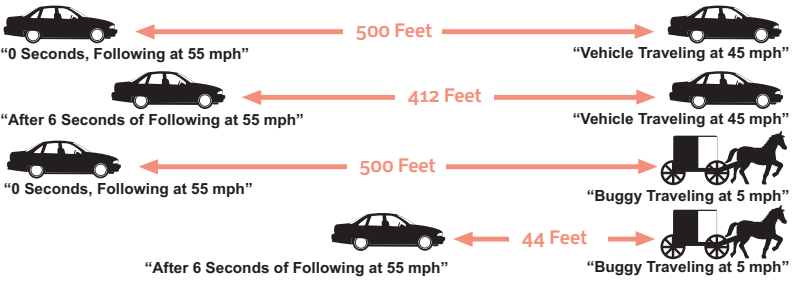
If another buggy is following very close behind you, pull over and let it pass. You don't need it back there. Of course, if you need to pass another buggy, you need to get closer to do so, but be very careful. Take no chances in areas where your view of the oncoming lane may be limited because of a hill or curve. Never underestimate the speed of an oncoming vehicle when you are attempting to pass another buggy.

Some horses are very sensitive to being passed by another horse and buggy and may speed up once you start to pass them. This may considerably increase the amount of time you will need to pass, so wait until there is plenty of time. We might also mention that some buggy drivers are also sensitive to having another buggy pass them. If it becomes apparent that the driver of the buggy ahead or behind you has racing in mind, do not let yourself be tempted. The roads of today are simply not the place for buggy racing.

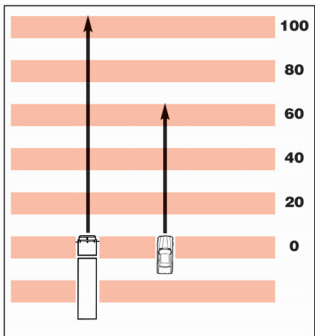
We as buggy drivers don't need to worry about maintaining a safe distance from a motor vehicle, but we do need to be aware of the safe stopping distance motor vehicles need to stop for a buggy.

The following diagram illustrates how quickly a vehicle approaches another vehicle after only six seconds. The distance is even greater when the vehicle approaches a buggy. Buggy drivers should be aware of this danger. Don't pull out in front of a vehicle expecting it to stop immediately. Wait until a safe break in traffic before pulling onto the road.

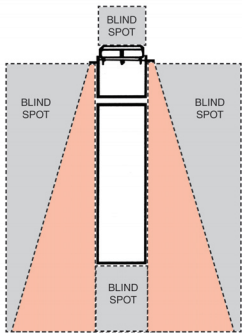
Following Distance at Varying Speeds



We should take extra precaution when pulling out in front of trucks and tractor-trailers. Trucks require an even greater distance to stop than vehicles do. A tractor-trailer with a full load can weigh up to 40 tons; a vehicle weighs about 2 tons. On dry roads, a tractor-trailer going 55 mph takes at least 100 yards to stop while a vehicle takes about 60 yards to stop. (See diagram below). The distance needed to stop increases as speed increases. For example, the stopping distance increases almost 50 percent when the speed is increased from 55 mph to 65 mph.



Another potential crash area for trucks is the No-Zone. The No-Zone or blind spot are the areas around a truck where you can't be seen by the truck driver. Try to stay out of these areas if you are passing, following, or driving alongside a truck. A good rule to follow is that if you can't see the driver in the truck's side mirror, then the truck driver can't see you. You should move so that you are not in a blind spot.



Emergency Stops

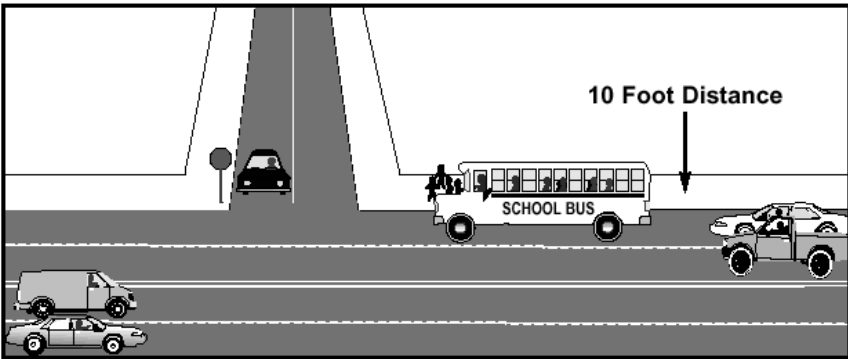
There are two types of emergency stops we might mention here. The first one is a true emergency when we must stop suddenly for some reason such as in the case of a crash ahead of us. Try to stop as far to the right of the road as possible. Before going to the assistance of someone in need of help, do what you can to make sure that something worse does not happen.

Watch for more traffic approaching and try to stop it, using flashing tail lights, if available, or by waving them to stop.

The other kind of stop might more correctly be called a visiting stop, as we so often do when meeting a friend on the road. Both buggies should stop as far to the right as possible. If there is a lot of traffic or if the spot is less than ideal, maybe we ought to just wave to our friend and keep going.

Stopping for School Buses

When a school bus starts flashing its yellow lights, it is an indication that it is going to stop to pick up children. When the bus stops, its red lights flash and a stop arm extends from the front of the bus. You are required to stop at least 10 feet away from the bus whether you are behind the bus or if you are in the opposite lane of oncoming traffic. You should remain stopped until the red lights stop flashing, the stop arm goes in, and any children are safely off the road. You are not required to stop for a school bus if you are in the opposite lane on a separate road or a divided highway.



Emergency Vehicles

You should pull off to the side of the road when and where it is safe to do so and remain there until the emergency vehicle has passed. Pay attention to how your horse reacts to the sirens and lights. Try to get him under control as soon as possible if he gets spooked.

State law requires that all vehicles yield the right of way to emergency vehicles, such as police, ambulances and fire trucks.

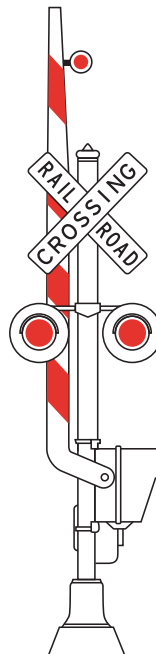
Railroad Crossings

Be alert when nearing a railroad crossing.

You are required by law to obey all railroad crossing signs and signals. It is against the law to go through a crossing when the signals are flashing, indicating a train is coming.

If there aren't signals or crossing gates, you should stop and look both ways before going through the crossing. You should also listen for a train whistle. The whistle will blow three times before reaching the crossing. Do not attempt to cross if you have heard the train whistle. Wait for the train to pass, then proceed through the crossing.

Do not stop on railroad tracks even if a train is not seen. If the line of traffic is backed up over the tracks, stop where you are completely off the tracks.



Chapter 6: Pedestrians, Bicycles and Scooters

A pedestrian is a person who travels on foot. While walking along public roads can be safe and enjoyable, it can also be very dangerous if you are unaware of the rules and regulations, ignore them, or become careless.

A good rule to follow is to use the opposite side of the road that vehicles use, which means walking on the left side of the road facing oncoming traffic. Beware of vehicles coming behind you that might be passing another vehicle and therefore be in your lane. Be especially cautious after dark because dark clothing cannot be seen, even with headlights. There are many reflective products available to wear that greatly increase your visibility, such as a safety vest, reflective wristbands or armbands, or reflective tape. Any addition of reflective material will increase your visibility to vehicles, but putting the reflective material on a moving part increases your visibility even more. The movement of the reflector catches the eye of the driver to make the driver aware of a person along the road. Also, carrying a flashlight when you walk at night will make you more visible to traffic.

If two or more people are walking together, walk in single file, especially in places where there are no shoulders. It is very disrespectful to take up an entire lane by walking side by side. When crossing the road always use caution and be sure the road is clear before you cross. Always walk and do not run when crossing the road. Wait for a break in traffic so that you may walk across the road. It is very dangerous to dash out across the road in front of vehicle. Sometimes it may take a few minutes until a safe break in traffic comes, but it is far better to have patience than run out and risk being hit.

When riding a bicycle, you are considered a vehicle under the law, and as such, you are expected to obey all vehicle traffic laws and regulations. Ride in the right lane, close to the edge of the road, or on the shoulder if it is in good condition. Ride with the flow of traffic and use hand signals (see Page 21) to indicate when you are turning or stopping. The hand signals for bicyclists are the same for horse and buggy drivers. You may ride with two people side by side, but it may be safer, due to traffic and narrow shoulders, to ride in a single file so that other traffic may pass. If you are riding a bicycle and need to pass a horse and buggy or another slow moving vehicle, you should pass on the left, just as a motor vehicle would do. Be cautious before passing in case a motor vehicle is trying to pass both you and the horse and buggy. In addition to the state requirements, bicycle riders are also strongly encouraged to use reflective material such as reflectors in the spokes, a safety vest, and reflective ankle straps (which also keep your pant leg from getting caught in the chain).

State law requires that between sunset and sunrise, bicycles be equipped with a front white light, a rear red reflector, and an amber reflector on each side (in the spokes of the tires).

If a powered vehicle or scooter is not titled and inspected, it is not permitted on the public roads. The only place it could be used is on private property and in that case, would not be titled or registered and would not require a license to operate.

Chapter 7: Other Travel Information

When We Hire Drivers

Respect your driver's load and passenger capacity limits

Do not ask your driver to go too long or far with minimum sleep. A tired driver is a crash waiting to happen.

Honor seat belt and car seat laws.

Last but not least, let us treat our drivers with respect and courtesy and not take them for granted.

Public Transit Buses

Another type of transportation that is available is the public transit bus.

Car Seats

State law requires that every child riding in a car be fastened in a child safety seat appropriate for the child's age, weight, and height.

When to use a rear-facing child safety seat: Children younger than two years of age must be secured in a rear-facing car seat. For babies who are younger than two years of age and exceed the weight or height limits of an infant only car seat, secure the child in a rear-facing convertible car seat that is approved for a higher weight and continue to ride rear-facing until the child reaches the maximum weight or height allowed by the car seat manufacturer. The harness straps should be at or below shoulder level.

When to use a forward-facing seat: If a child is at least 2 years of age and has outgrown the rear-facing car seat, secure the child in a forward-facing car seat. Children should remain in the forward-facing car seat until they reach the maximum weight or height allowed by the car seat manufacturer. The harness straps should be at or above shoulder level following the car seat manufacturer's instructions. Secure the child with a snug harness and place the harness retainer clip (chest clip) at armpit level.

When to use a booster seat: Once the child has outgrown their forward-facing car seat, use a booster seat with a lap and shoulder belt up to at least 8 years of age. The booster seat will help to position the lap and shoulder belt on the child's body. Never use a booster seat with a lap belt only. Make sure the shoulder belt is snug across the center of the child's chest and shoulder, and the lap belt is low and snug across the hips/upper thighs to avoid abdominal injuries.

When to buckle up a child in an adult seat belt: Once the child outgrows the booster seat, secure then in a correctly fitted lap and shoulder belt. A child can be moved out of a booster seat when:

The child can sit with their back straight against the vehicle seat back cushion with their knees bent over the vehicle's seat edge without slouching, and their feet flat on the floor;

The shoulder belt crosses the center of the chest and shoulder;
The lap belt crosses low and snug across the child's hips/upper thighs.

Never place a child in the front seat of a vehicle equipped with a passenger side front air bag. All children age 12 and younger should sit properly secured in the back seat.

Old/used child safety seats should not be used unless you are certain they have never been in a crash or exceeded the car seat manufacturer's recommended life span. Most manufacturers suggest replacing a car seat at 6 years from the date of manufacture, although some car seats have a life span up to 10 years. Before using an old or used car seats, check the seat to be sure you have all the pieces (including instructions), that the car seat functions correctly and check for recalls.

Car seats are designed to keep children safe in motor vehicles. Car seat manufacturers prohibit the use of car seats in low-speed vehicles that do not meet federal motor vehicle safety standards. (There are anecdotal accounts that the use of child seats in buggies may offer some protection to infants and children.)

Reporting Road Safety Issues

If you experience difficulty when traveling a road due to poor road conditions such as: improper intersection alignment creating turning conflicts, malfunctioning traffic signals, poor shoulder conditions including no shoulders at all, and poor sight distance/visibility due to trees or embankments, you should contact your local municipal officials to report the problem. They should assist you in petitioning PennDOT to correct the problem, or they should incorporate your concern in their municipal transportation plan.

There is a concern in the community about allowing small children to drive ponies on public roads. We all realize that our roads have much more traffic than they did when our Granddads were little boys. Our first concern should be for the safety of our children and others on the road. There is also the potential for lawsuits and liability which can be very expensive.

Please follow these recommendations:

1. Use common sense. The choices we make have far reaching effects.
2. Small ponies with young drivers are cute, but very dangerous on the road. A spooked pony can quickly become out of control and cause a crash.
3. Discourage allowing young children to drive on the road. They are too young to make the right choices on the road with other traffic.
4. It is recommended that a child complete the 8th grade before operating a horse-drawn vehicle on the roadway.
5. Drivers of any age should be strong, responsible, and have proper training.
6. Use this manual along with the Horse and Buggy Driver's Workbook as a training tool.
7. Be visible! Use full size fanny flags and Slow Moving Vehicle emblem as required by law and where applicable. Bike flags and safety vests are also recommended.