RISK AWARENESS AND PERCEPTION TRAINING (RAPT) – Version 1

TRAINING PROGRAM FOR YOUNGER DRIVERS

Created by the
Human Performance Lab
Department of Mechanical and Industrial Engineering
University of Massachusetts at Amherst
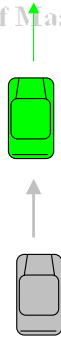**2005 (Modified June 2008)**

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Practice Scenario 1

You are about to see a sequence of schematic overhead views of a traffic scenario that you are likely to encounter while driving. This is the first view in the sequence. Think of yourself as driving the gray car in this and all the future views. There is a green car ahead of you in the same lane and traveling at the same velocity (as indicated by the length of the arrows). Before moving to the next page, imagine what the scene would be like in front of you if you were the driver of the gray car. OK, now go to the next page.

Practice Scenario 1 (Markers)

Blind Spots Markers

Visible Object Markers
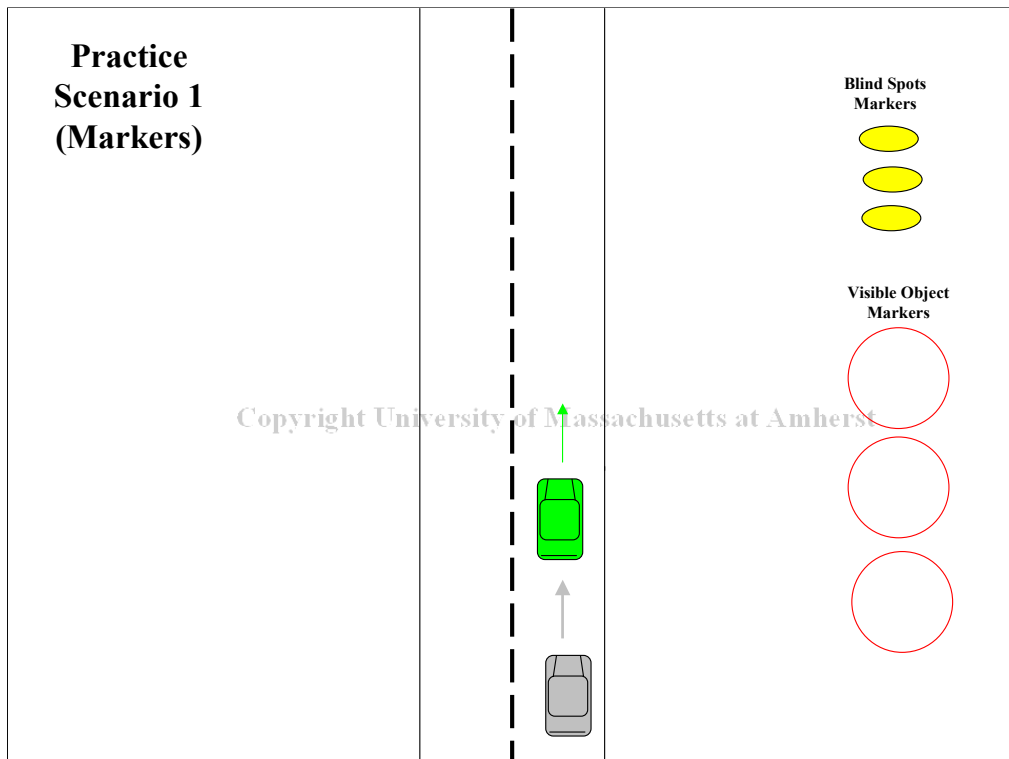
Now let's continue with having you imagine that you are the driver of the gray car, heading in the direction indicated by the gray arrow. Notice the red (unfilled) circles and yellow (filled) ovals on the right side of the overhead view. For this scenario and all the other scenarios in this training, a red circle indicates a visible location or object that you believe the driver, you, should monitor continuously in order to drive safely; a yellow oval indicates an area of the roadway that corresponds to a blind spot that you should monitor continuously and where there might be important information for the driver that is obscured by an object (such as another vehicle or a bush). For each scenario in this training, you will be asked to draw between 0 and 3 red circles and 0 and 3 yellow ovals to indicate the most important locations that the driver should be monitoring.

a) Please draw 0 to 3 red circles on the diagram above on the visible locations or objects that you believe you should monitor continuously in order to drive safely.

b) Please draw 0 to 3 yellow ovals on the diagram above on the areas of the roadway that correspond to blind spots where you think there might be important information for you as the driver that is currently obscured.

Note that here and in the other overhead views that are presented in this training, some of the objects that the driver cannot see are not shown explicitly in the scenario. For example, if a motorcycle were immediately in front of the green car, it would not necessarily be shown in this scenario because it would not be visible at this point in time to the driver of the gray car.

In general, there will be between 0 and 3 places in each scenario on which the driver should be focusing their attention. Do not feel as if you have to mark 3 or more places in a scenario, as drivers realistically can't look at everything when they drive and have to focus on what's most important.

OK, draw as many red circles and yellow ovals as you feel are relevant for this scenario. When you have finished, go to the next page to view the answers.

**Practice
Scenario 1
(Answers)**
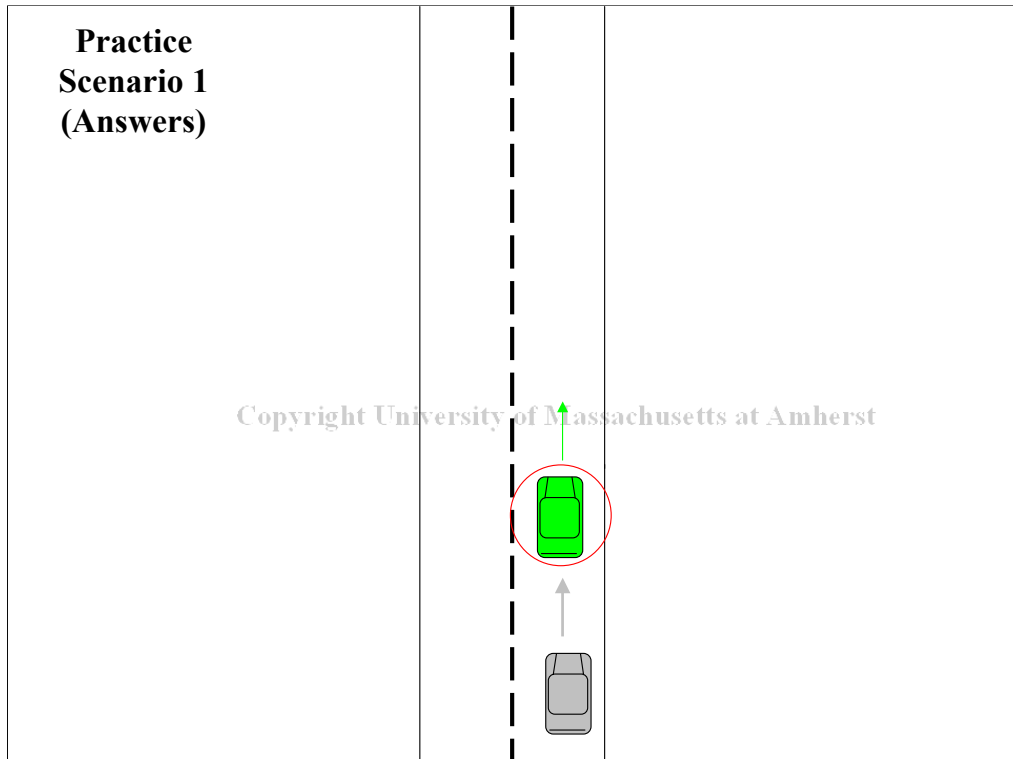
(**Red Circles**). A red circle has been placed over the green car. A red circle positioned over an object, as has been mentioned before, means that you want to focus on that particular object more or less continuously. Here it makes sense to focus on the car right in front of you and keep on monitoring that location since the car could brake suddenly to avoid an animal (e.g., squirrel) darting across the road, slow down to turn into a hidden driveway, or otherwise engage in an unsuspected maneuver to which you would need to respond.

(**Yellow Ovals**). There are no blind spots in this scenario that require particular attention and therefore no yellow ovals have been placed in this scenario.

Practice Scenario 1 (Red Circle)
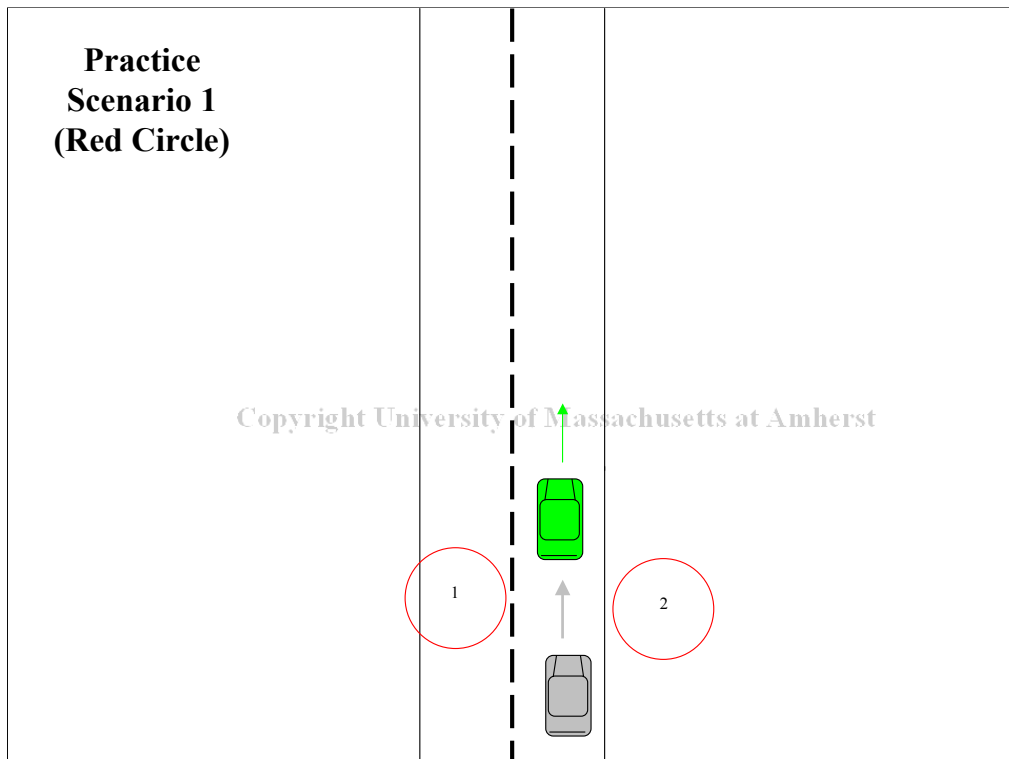
Please note that if you want to indicate that you need to focus continuously on any other part of the road, **you will have to mark another red circle at said point. This is also true for the blind spot markers (the yellow ovals).** For example if you think that you need to focus on: (1) the opposite lane or (2) the right side of the road, you will have to draw two more red circles as shown. **Please note this for future reference.**

Practice Scenario 2
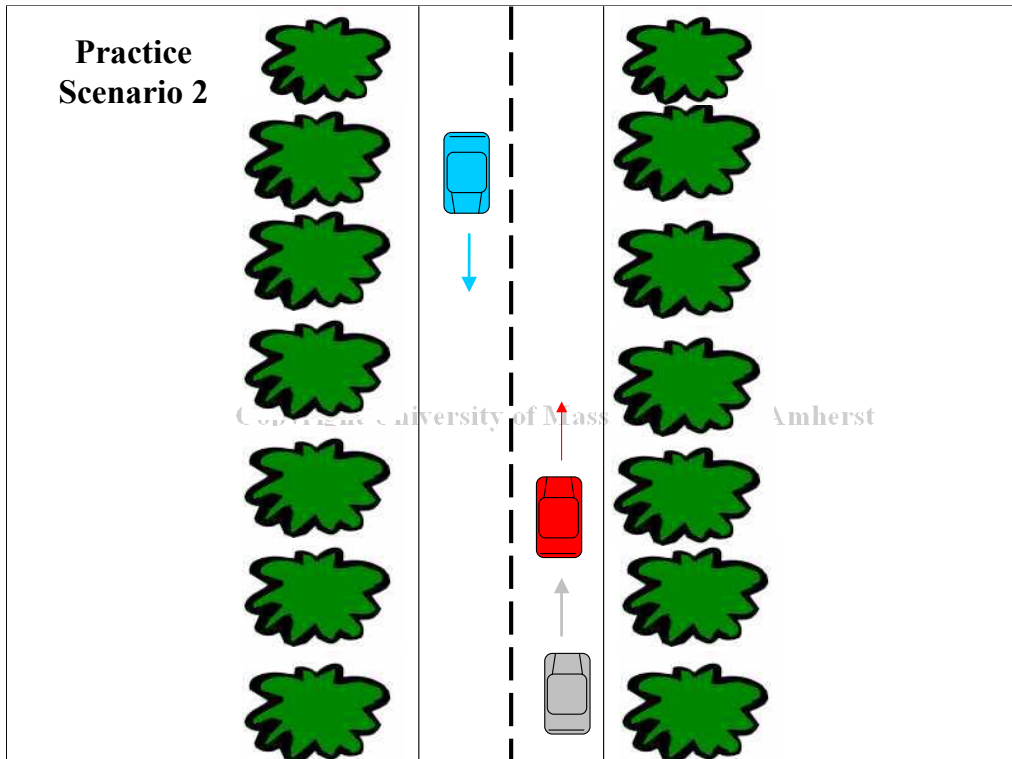
You are about to see a sequence of schematic overhead views of a traffic situation that you are likely to encounter in driving. This is the first view in the sequence. Think of yourself as driving the gray car in this and all the future views. There is a red car ahead of you in the same lane and traveling at the same velocity (as indicated by the length of the arrows). There is a blue car in the opposite lane, again traveling at the same velocity. There are trees on both the right and left hand sides of the road. Before moving to the next page, imagine what the scene would be like in front of you if you were the driver of the gray car. OK, now go to the next page.

Is this what you imagined? The dashboard is at the bottom of the picture; the red vehicle is immediately in front. Did you think that you could see all of the blue vehicle? Note that it is barely visible in the above photograph which represents the view you would have of the road ahead. Why is the blue vehicle barely visible? To see why move to the next page. Feel free to move back and forth between the two pages to be sure that you understand the representation in the overhead view.

Practice Scenario 2 (Cone of Vision)

20 degrees

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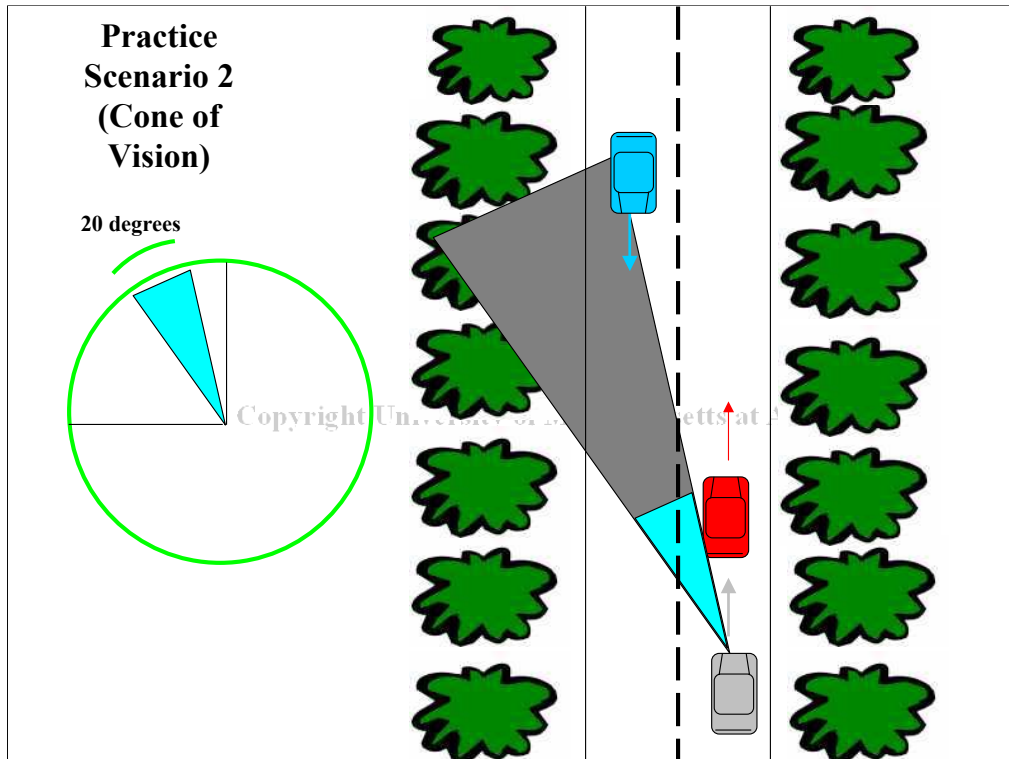
Your cone of vision is the area where you can see things clearly and it represented by the gray triangle in the picture. Objects outside this area can easily be missed, even if they are moving. Note that your cone of vision does not completely cover the blue car. The right edge of the cone is obscured by the left edge of the red car. You should constantly imagine what drivers can actually see when their eyes point to look in different directions, to help predict the areas of the roadway that may contain potential risks that are hidden from view.

If you are having trouble imagining just how wide an area is covered by the cone of vision look at the circle on the left hand side. It extends ten degrees horizontally on either side of the center of vision (i.e., where your eyes are pointing), so it extends 20 degrees from side to side (see the figure on the left). You can think of 20 degrees as roughly a quarter of 90 degrees, the upper quarter of the circle blocked out by the two black lines.
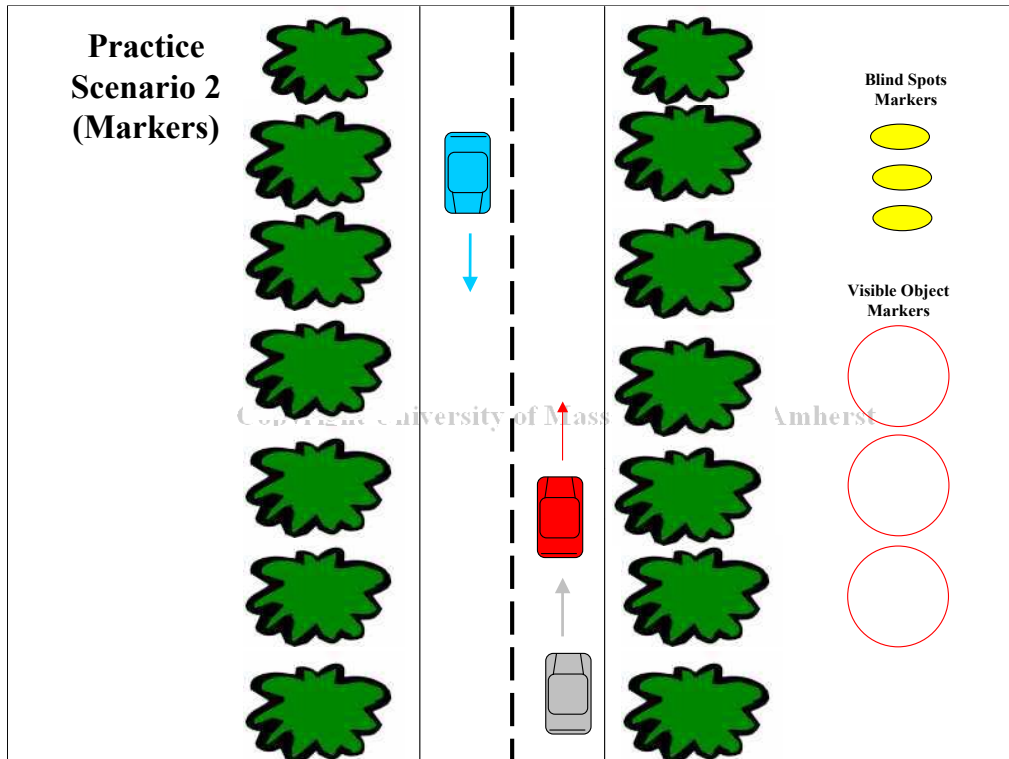
Practice Scenario 2 (Markers)

Blind Spots Markers

Visible Object Markers

Now let's continue with having you imagine that you are the driver of the gray car, heading in the direction indicated by the gray arrow. Notice the red (unfilled) circles and yellow (filled) ovals on the right side of the overhead view. You should do the same thing with the red circles and yellow ovals in this scenario as you did in the previous scenario. In particular,

a) Please draw 0 to 3 red circles on the diagram above on the visible locations or objects that you believe you should monitor continuously in order to drive safely.

b) Please draw 0 to 3 yellow ovals on the diagram above on the areas of the roadway that correspond to blind spots where you think there might be important information for you as the driver that is currently obscured.

Note that here and in the other overhead views that are presented in this training, some of the objects that the driver cannot see are not shown explicitly in the scenario. For example, if a motorcycle were immediately behind the blue car, it would not necessarily be shown in this scenario because it would not be visible at this point in time to the driver of the gray car.

In general, there will be between 0 and 3 places in each scenario on which the driver should be focusing their attention. Do not feel as if you have to mark 3 or more places in a scenario, as drivers realistically can't look at everything when they drive and have to focus on what's most important.

OK, draw as many red circles and yellow ovals as you feel are relevant for this scenario. When you have finished, go to the next page to view the answers.

Practice Scenario 2 (Answers)
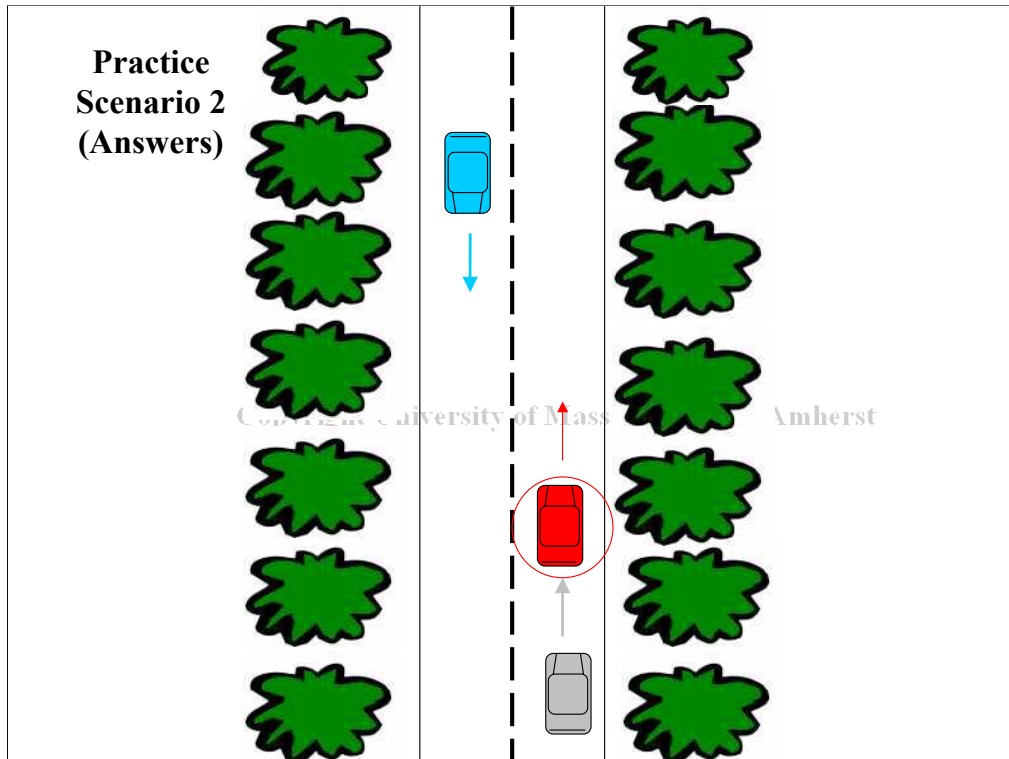
(**Red Circles**). A red circle has been placed over the red car. A red circle positioned over an object, as has been mentioned before, means that you want to focus on that particular object more or less continuously. Here it makes sense to focus on the car right in front of you and keep on monitoring that location since it could brake suddenly to avoid an animal (e.g., squirrel) darting across the road, slow down to turn into a hidden driveway, or otherwise engage in an unsuspected maneuver to which you would need to respond. It must be noted that although you may glance at the blue car in the other lane, it would not only be erroneous to monitor it continuously, but also quite dangerous. Hence, you must endeavor to cover only on those objects which, in your opinion, are absolutely necessary to focus on more or less continuously in order that you can proceed smoothly and safely through the scenario.

(**Yellow Ovals**). There are no blind spots in this scenario that require particular attention and therefore no yellow ovals have been placed in this scenario.
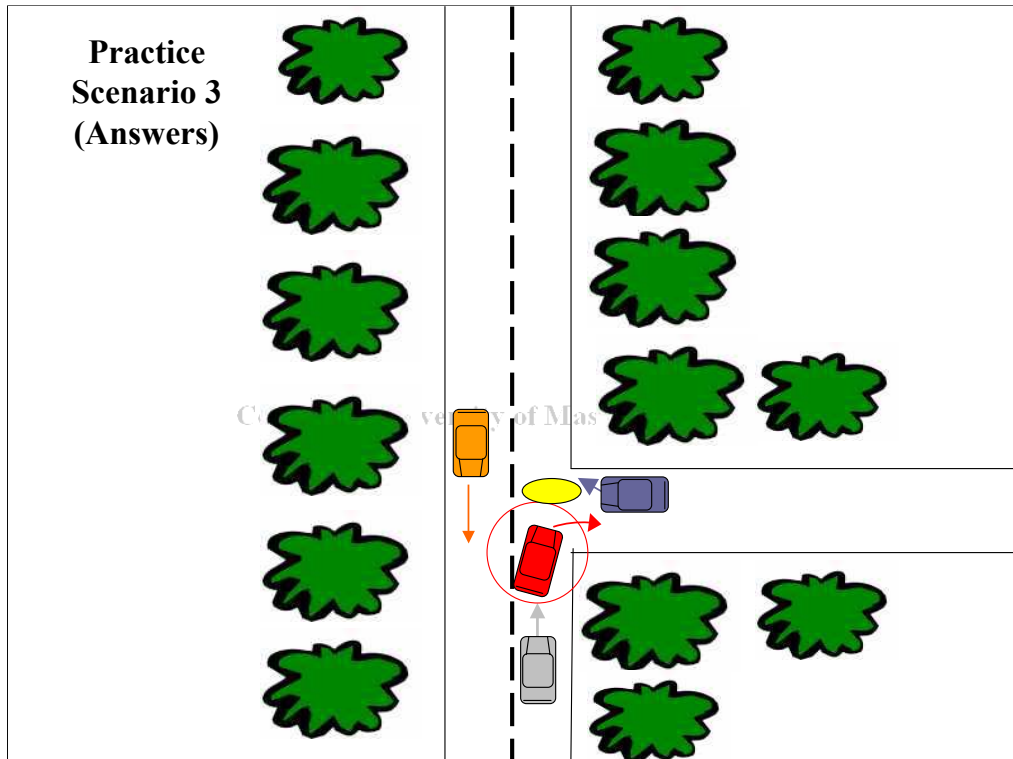
Practice Scenario 3
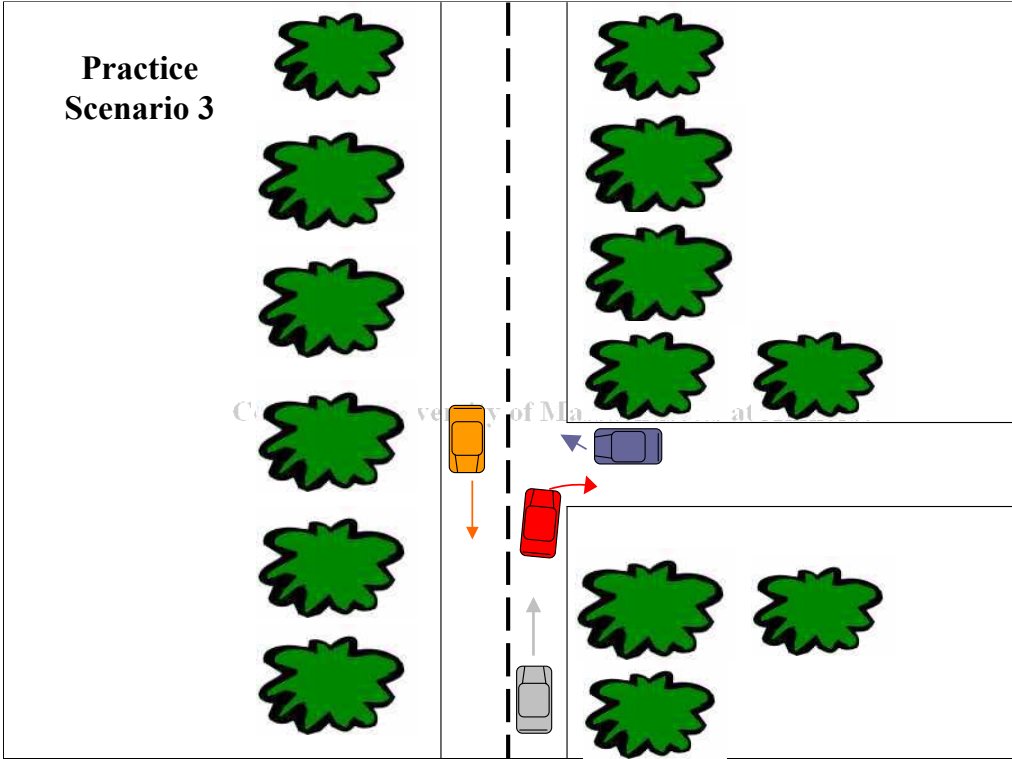
Now let's turn to a third scenario. Assume that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow in the above overhead view. Imagine what the scene would look like in front of you. When you have imagined the positions of the various vehicles, go to the next page.

Practice Scenario 3
(Photographic View)

Orange Vehicle

Red Vehicle

Blue Vehicle

Is this what you imagined? This photograph is a good example of the scenario that was discussed on the previous page. The red vehicle ahead of the driver is turning to the right (note in the overhead view on the previous page that a red arrow is placed in front of the red vehicle and curved to the right). The orange vehicle in the opposing lane is traveling straight. Note also the trees in the photograph on the right. The blue vehicle on the side street is creeping forward (note the very short blue gray arrow). Did you imagine that the blue vehicle on the right would not be visible to the driver? It is completely visible to the driver. To see this, go to the next page.

**Practice Scenario 3 (Cone of Vision)**
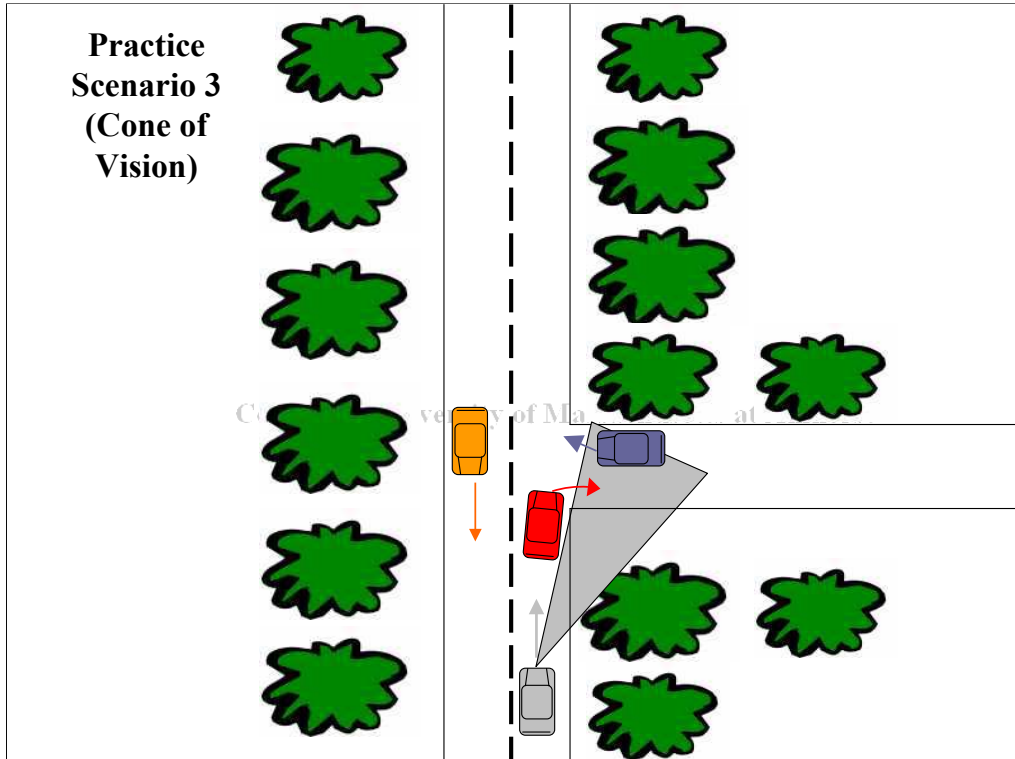
Looking at the overhead view, you may have thought that the blue vehicle would not be visible to the driver of the gray car. However, if the cone of vision is extended from the driver's eye point ahead and to the right, it is clear that the entire blue vehicle is visible.

Practice Scenario 3 (Markers)

Blind Spot Markers

Visible Objects Markers

Now draw between 0 and 3 red circles and 0 and 3 yellow ovals over the places in the scenario where you believe there is information that should be monitored more or less continuously by the driver of the gray car when it is in this location and moving forward. Draw red circles where there are areas or objects that the driver should glance at several times in order to drive safely. Draw yellow ovals at locations in the scenario where you think there might be important information that cannot be seen.

As with the earlier scenarios, there will be generally be between 0 and 3 places in each scenario on which the driver should be focusing their attention. Do not feel as if you have to mark 3 or more places in a scenario, as drivers realistically can't look at everything when they drive and have to focus on what's most important.

Practice Scenario 3 (Answers)

(**Red Circles**). This depicts a possible situation that might occur as the scenario above unfolds over time. The driver in this scenario should continuously monitor the car ahead. Thus, a red circle appears around the car ahead (red car). The car ahead needs to be monitored because it may stop suddenly while turning. This is a possibility in this scenario for several different reasons. For example, perhaps a pedestrian will step out into the road and therefore causes the right-turning car (red car) to slow suddenly, causing you (the driver of the gray car immediately behind the red car) to need to brake as well.

(**Yellow Ovals**). A yellow oval appears in front of the red car. The oval has been placed there to indicate that ideally you, the driver, would like to be able to see what is in front of the red car and that the red car is potentially obstructing critical information to you as the driver specific to this scenario. In particular, note that as the red car brakes, slows, and turns right, it may obscure another small vehicle (bicycle or motorcycle) or pedestrian. You, the driver of the gray car, need to be aware that something may appear in front of the red car after it turns so that you adjust your speed appropriately and are prepared to brake if something should be there.

Practice
Scenario 2
(Evaluation)
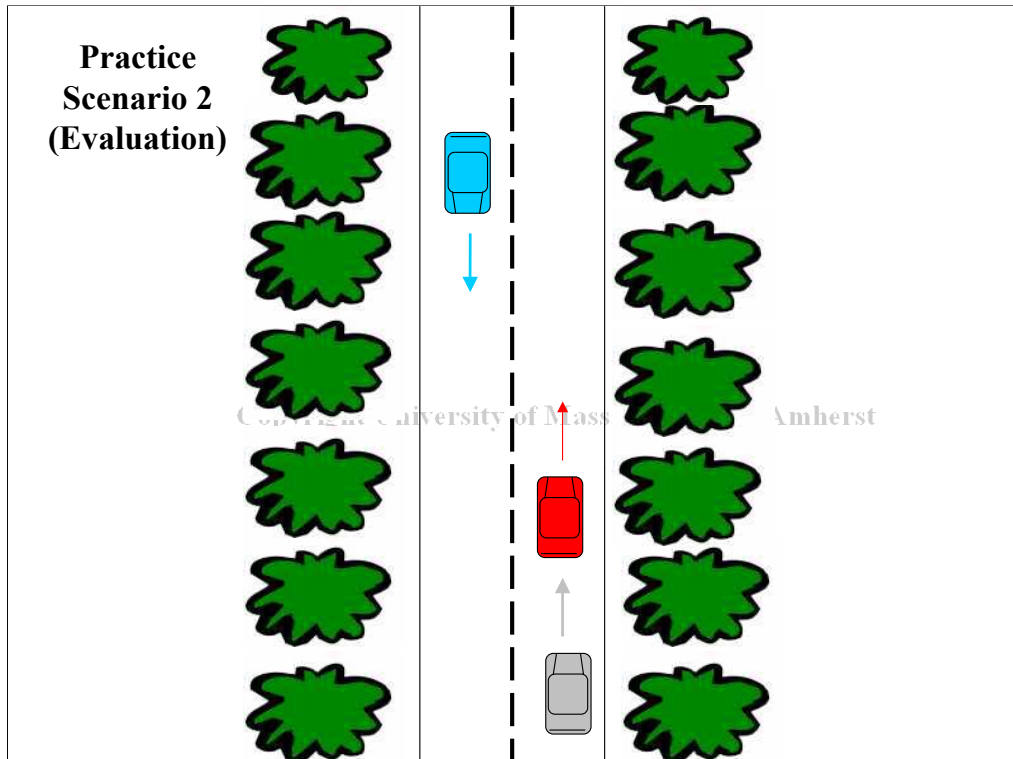
Here, and elsewhere throughout this training, we will test your memory for what
you have learned. Consider again Practice Scenario 2.

Please write your answers after each question.

a) If you are the driver of the gray car, can you see all of the blue car? (Yes or no.)
-→

b) List one reason that you might want to monitor over time the red car in front of
you. -→

c) What is the color of the vehicle that you are driving? -→

Practice Scenario 2 (Feedback)
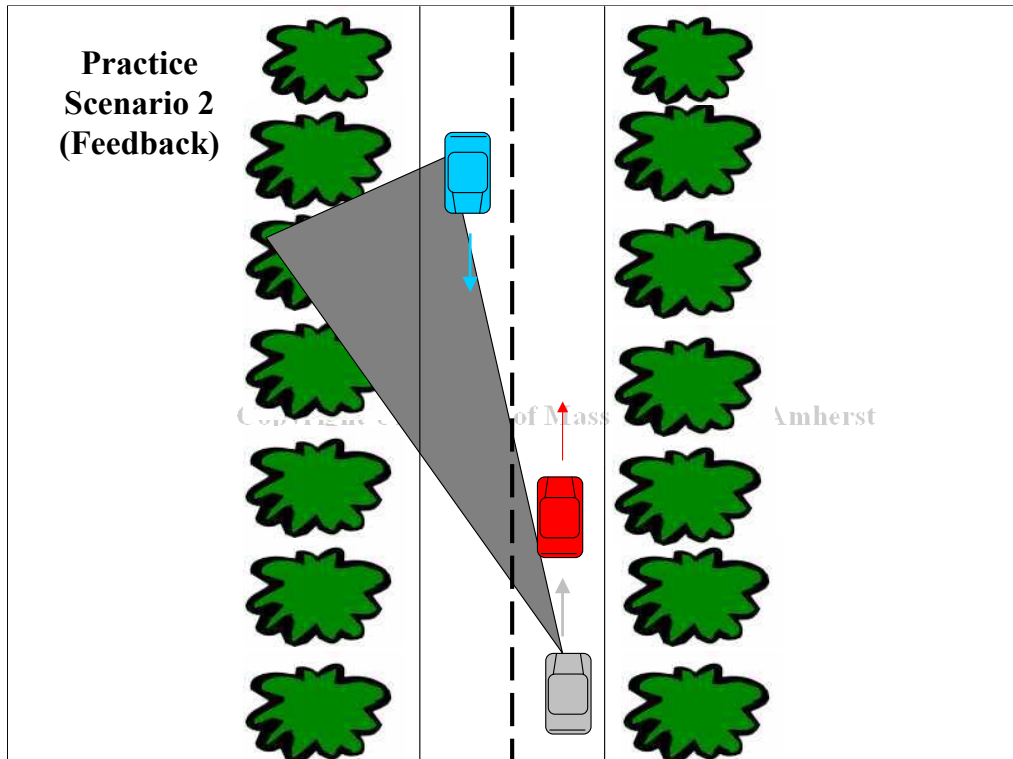
Do your answers match the answers below?

a) If you are the driver of the gray car, can you see all of the blue car? *No. To repeat, note that your cone of vision cannot cover all of the blue car. The right edge of the cone is obscured by the left edge of the red car. As a driver, you should constantly project your cone of vision in various different directions, predicting areas of the roadway that may contain potential risks that are hidden from view.*

b) List one reason that you might want to monitor over time the red car in front of you. *The red car might brake suddenly, perhaps because a squirrel runs across the road.*

c) What is the color of the vehicle that you are driving? *Gray.*

Practice Scenario 3 (Evaluation)
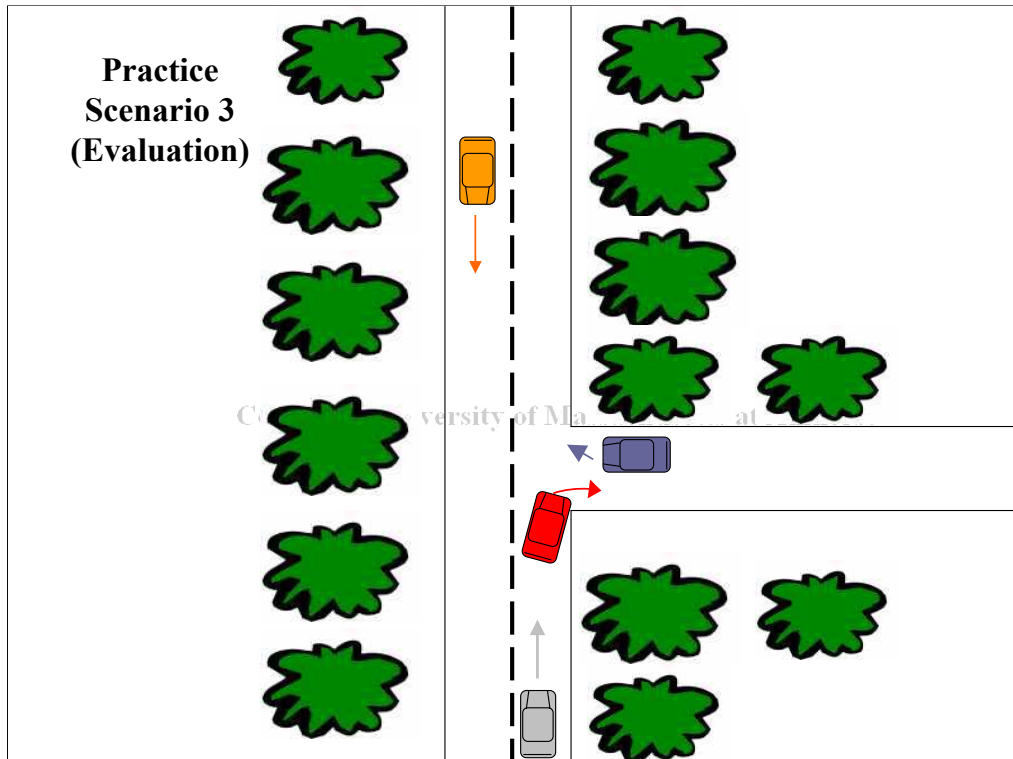
Again, we want to test your understanding of the scenarios. Consider this new version of Practice Scenario 3.

Please write your answers after each question.

a) List one reason that the red car must be watched closely in the above scenario. -→

b) Can you see all of the orange car? (Yes or no.) -→

c) Can you see any of the blue car? (Yes or no.) -→
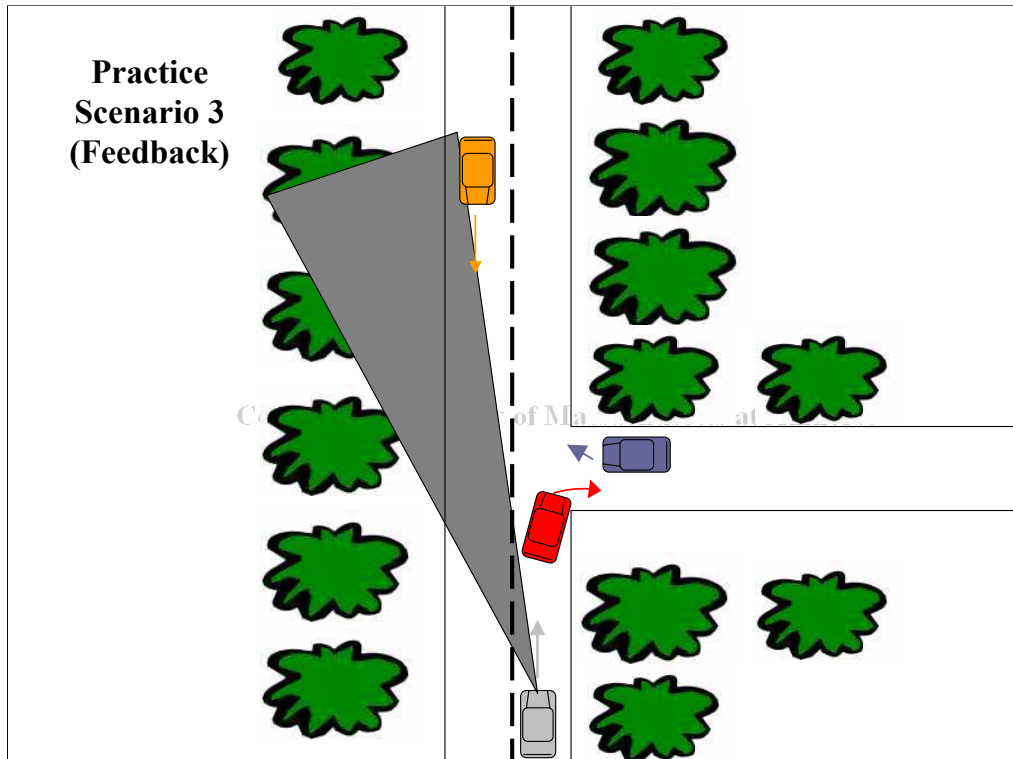
Practice Scenario 3 (Feedback)

Do your answers match the answers below?

a) List one reason that the red car must be watched closely in the above scenario.
The red car might need to slow down to a stop while making the right turn, perhaps because a pedestrian appears on the right.

b) Can you see all of the orange car? (Yes or no.) *No. You should imagine the cone of vision in your mind's eye.*

c) Can you see any of the blue car? (Yes or no.) *At this point yes, but as your vehicle moves closer to the red car as it comes to a stop, your view is blocked.*

Training Scenario 1

Visible Object Markers

Blind Spot Markers

Sidewalk
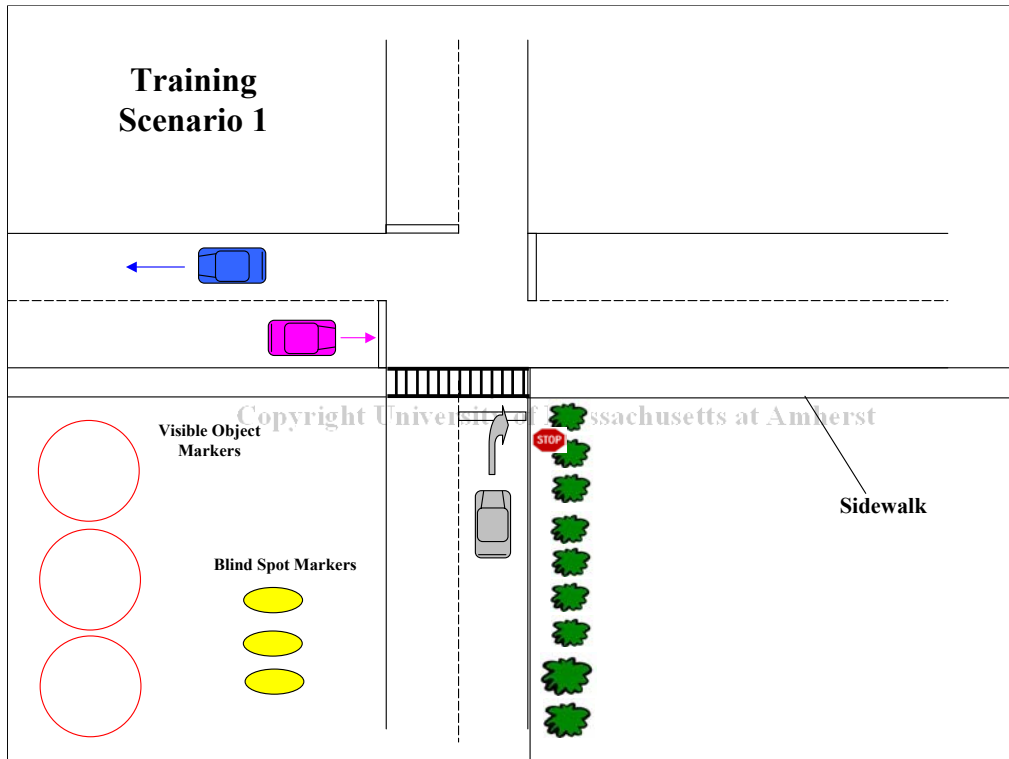
We now move on to ten training scenarios.

Training Scenario 1: Imagine that you are the driver of the gray car, that you are located at the indicated position on the road, and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places as you pull up to the stop line (before you take the turn).

As in the earlier practice scenarios, a red circle indicates a visible location or object that you believe the driver, you, should monitor continuously in order to drive safely; a yellow oval indicates an area of the roadway that corresponds to a blind spot that you should monitor continuously and where there might be important information for the driver that is obscured by an object (such as another vehicle or a bush).

Once you are done, you can move on to the next page.

Training Scenario 1 (Cone of Vision)
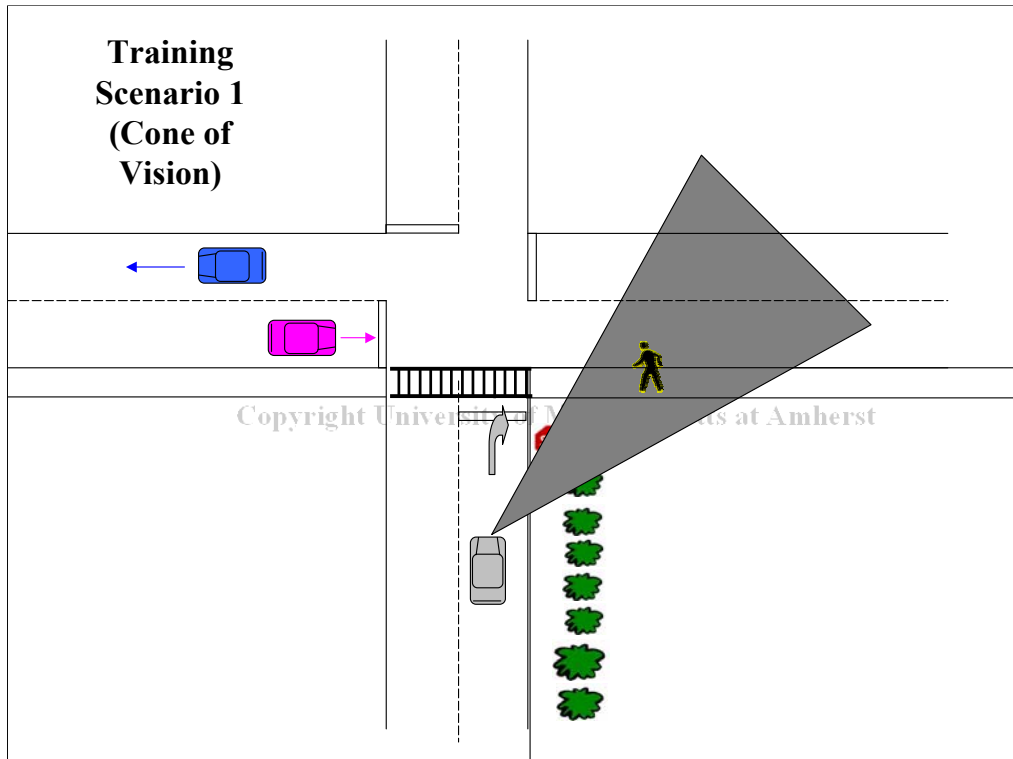
Note that your cone of vision cannot see around the bushes, and that the center portion of the cone is obscured by the bushes. As a driver, you should constantly project your cone of vision in various different directions, predicting areas of the roadway that may contain potential risks that are hidden from view.
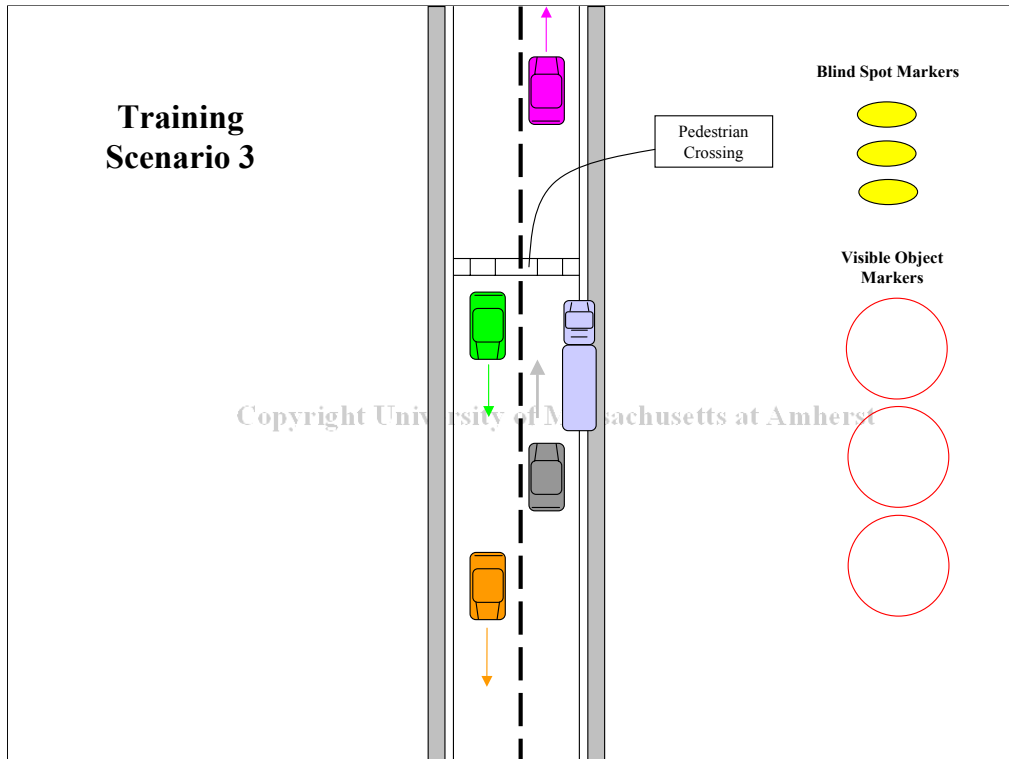
Training Scenario 1 (Answers)
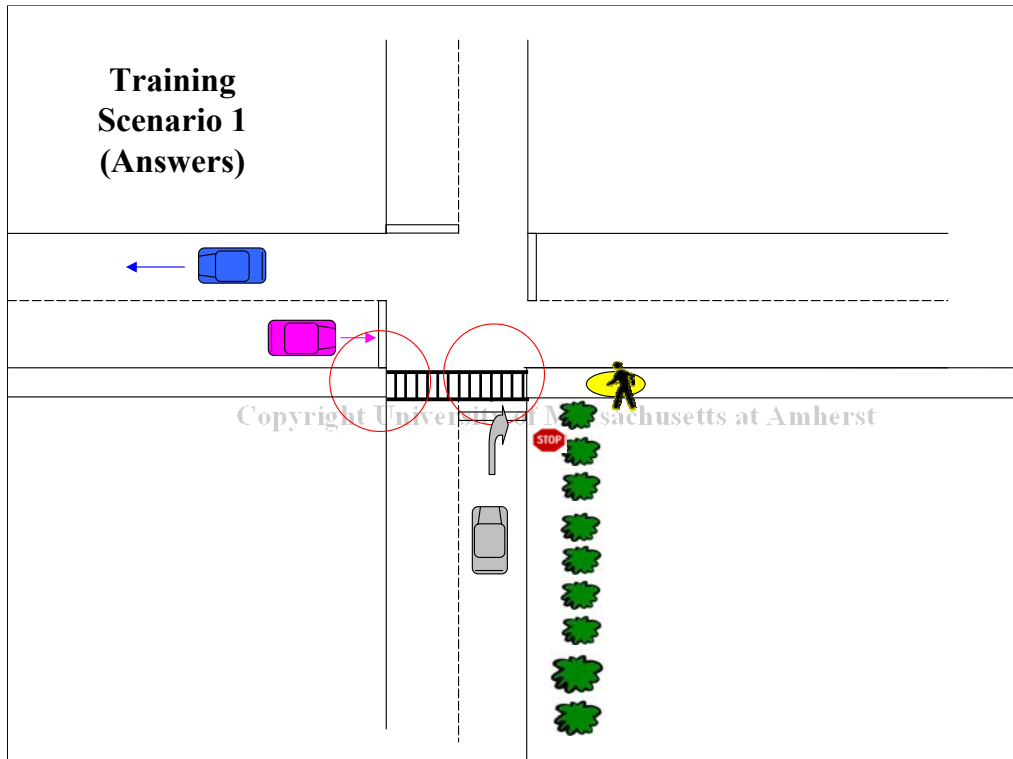
(**Red Circles**). The driver in this scenario should continuously monitor the crosswalk ahead, in front and to the left, as he or she pulls up to the stop line.

(**Yellow Ovals**). Additionally, a yellow oval appears in the sidewalk ahead. The oval indicates that the driver's view of the sidewalk has been obscured by the bushes and that he might not be able to see a pedestrian who may be crossing from the sidewalk onto the crosswalk.

Training Scenario 2

Visible Object Markers

Blind Spot Markers

STOP 2-WAY

STOP 2-WAY

ONLY
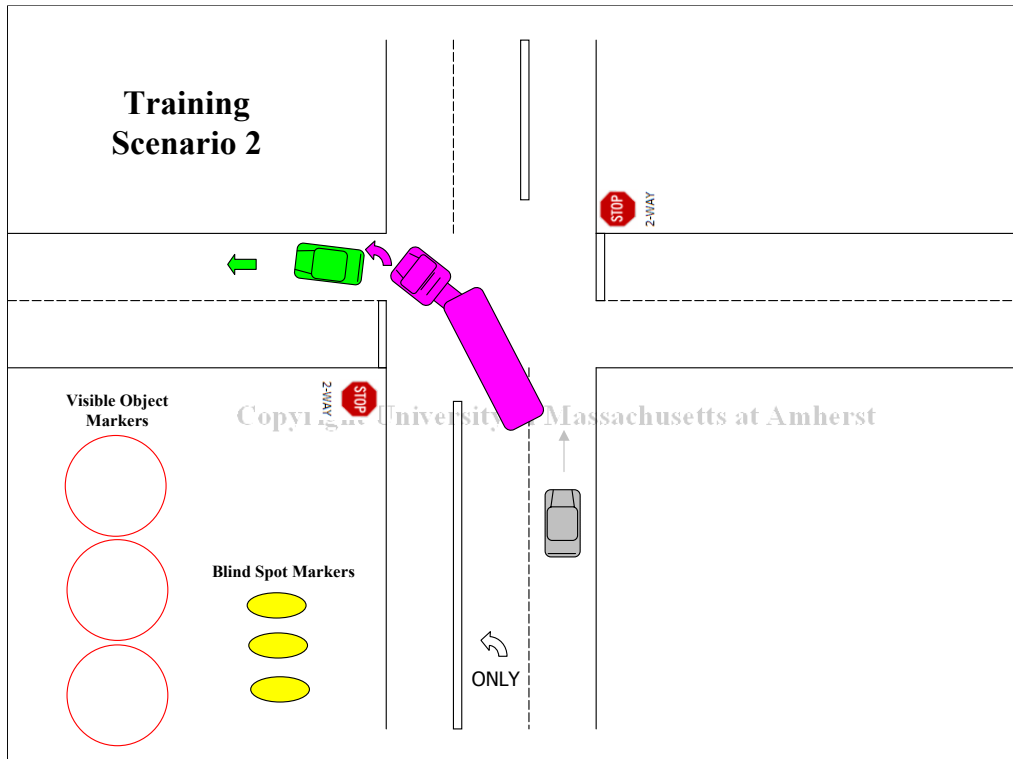
Training Scenario 2: Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

Once you are done, you can move on to the next page.

Training Scenario 2 (Cone of Vision)

STOP 2-WAY

2-WAY STOP

ONLY
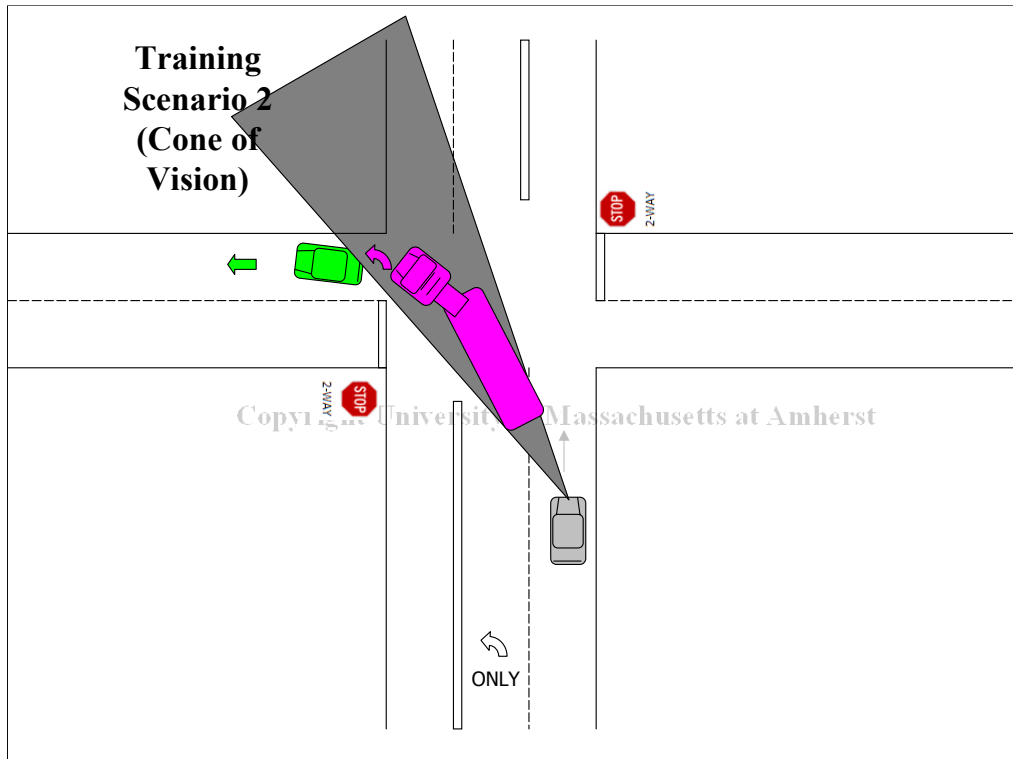
Note that your cone of vision cannot see around the truck. The center portion of the cone is obscured by the truck. As a driver, you should constantly project your cone of vision in various different directions, predicting areas of the roadway that may contain potential risks that are hidden from view.

Training
Scenario 2
(Answers)
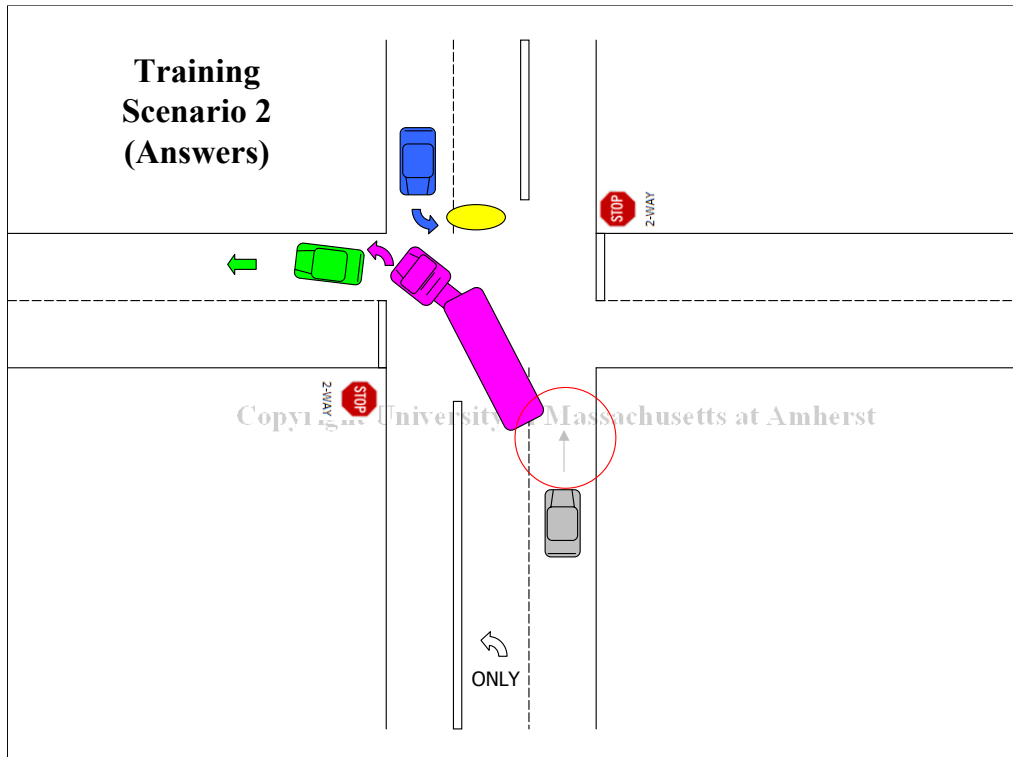
(**Red Circles**). The driver in this scenario should continuously monitor the pink truck ahead for signs of it coming to a stop or slowing down as it makes the left turn. Please note that you are monitoring the road ahead, in part, because something might appear out of the spot where the red circle is placed.

(**Yellow Ovals**). Additionally, a yellow oval appears ahead of the truck. The oval is there to indicate that ideally you would like to be able to see what is in front of the truck and that the truck is potentially obstructing critical information to you as the driver specific to this scenario. Therefore, the driver should monitor the area in which the obstruction occurs, in this case the area in front of the truck, so that as soon as that obstruction is no longer an issue the driver can see the obscured object, in this case a possible car taking a left in the lane directly opposite to the truck.

Training Scenario 3

Blind Spot Markers

Pedestrian Crossing

Visible Object Markers

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Training Scenario 3: Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.
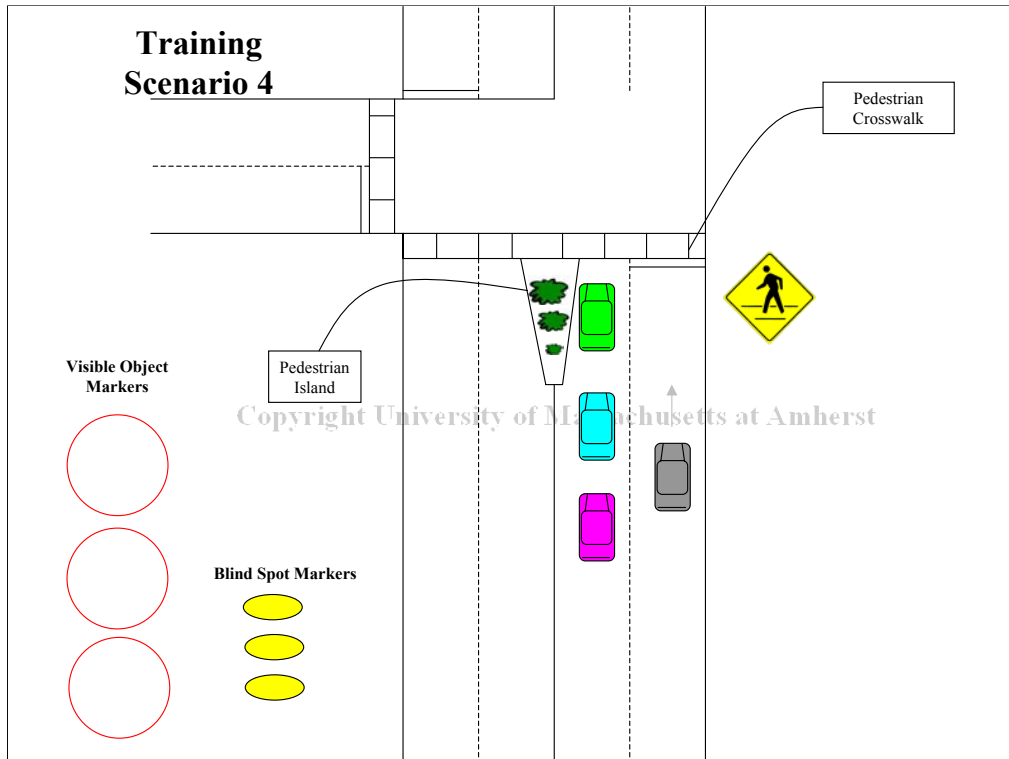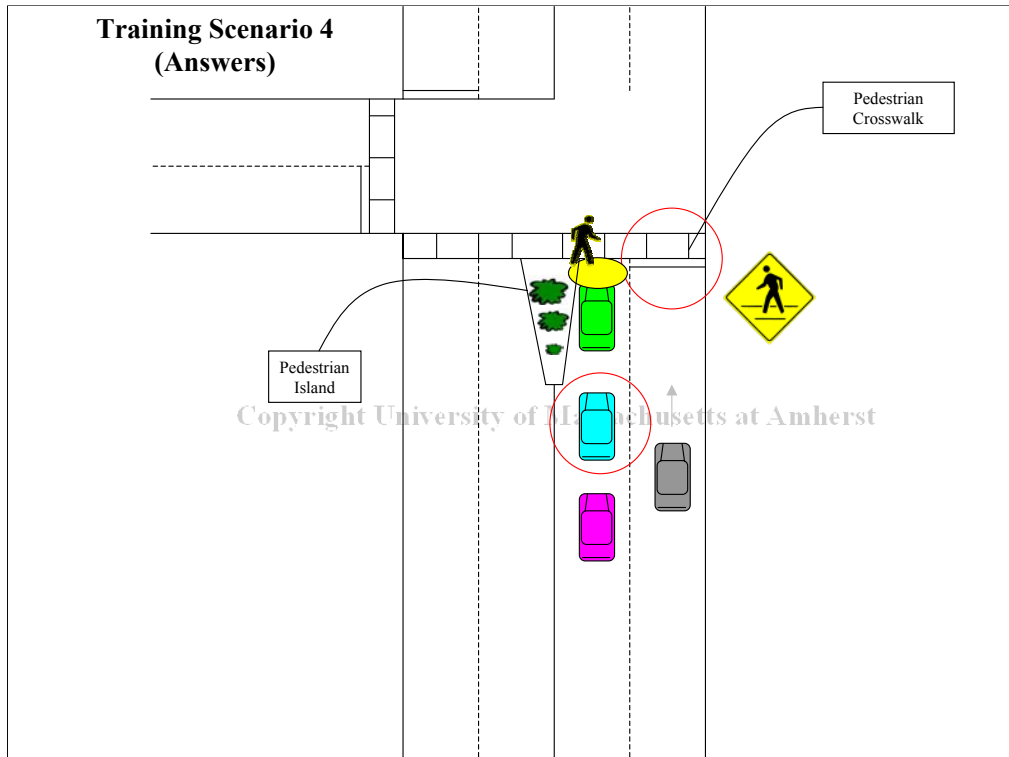
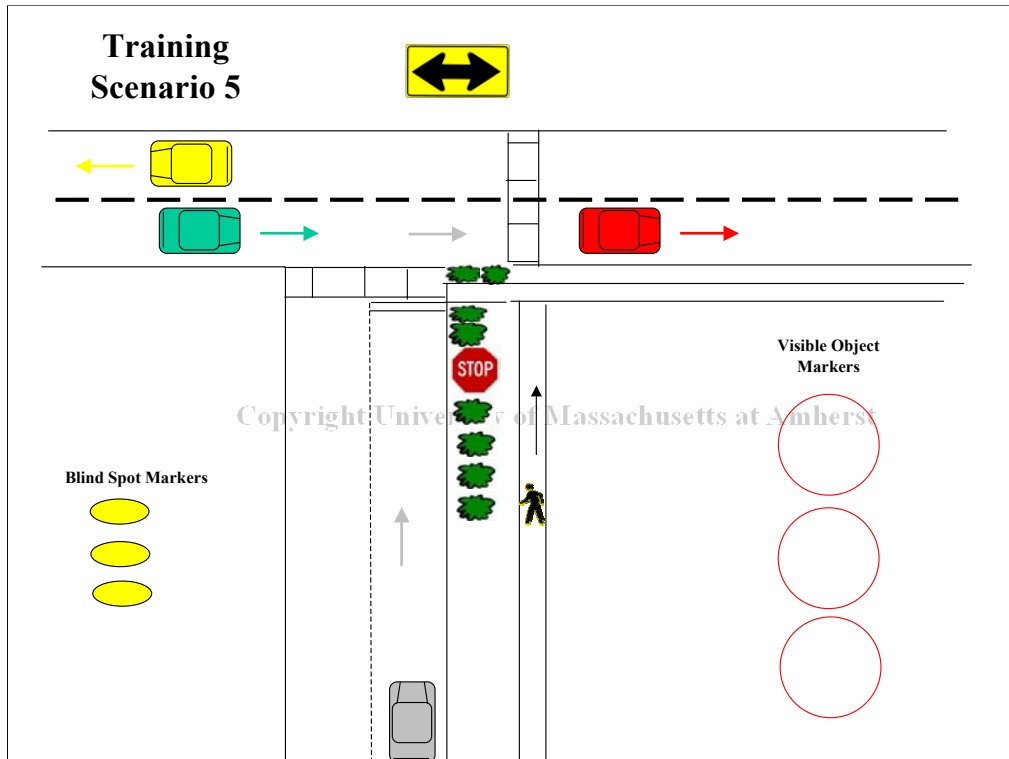Once you are done, you can move on to the next page.

Training Scenario 3 (Cone of Vision)

Pedestrian Crossing
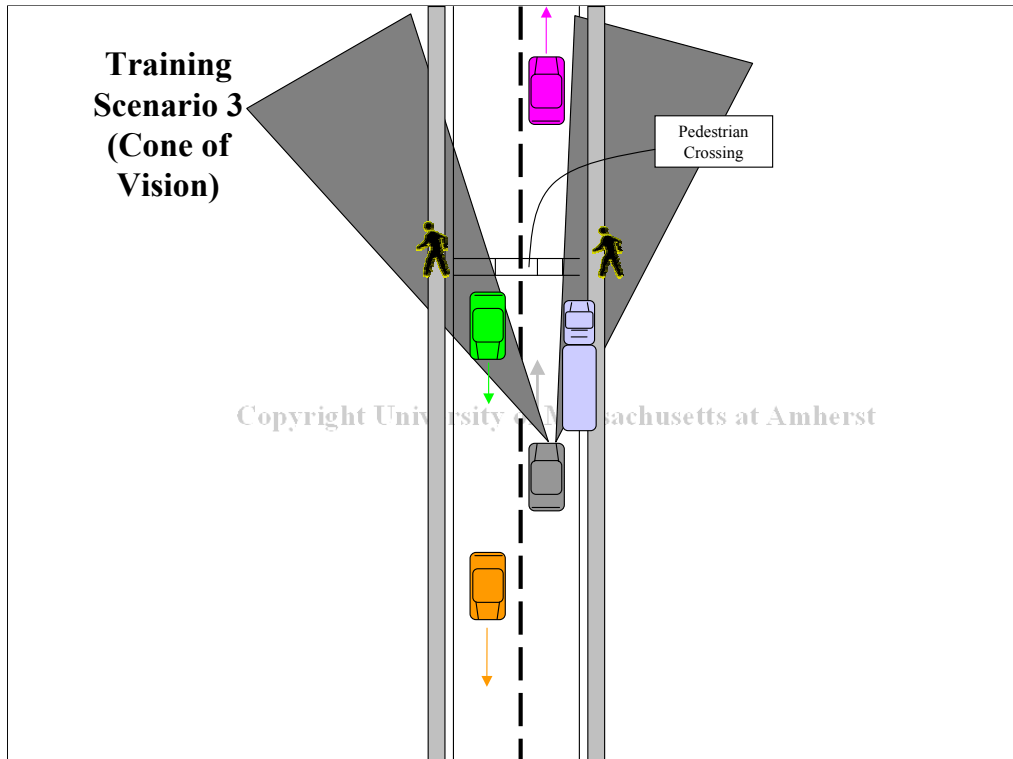
Note that your cone of vision cannot see around the truck or around the green car. The right portion of the cone is obscured by the truck and the left portion by the green car. As a driver, you should constantly project your cone of vision in various different directions, predicting areas of the roadway that may contain potential risks that are hidden from view.

Training
Scenario 3
(Answers)

Pedestrian
Crosswalk
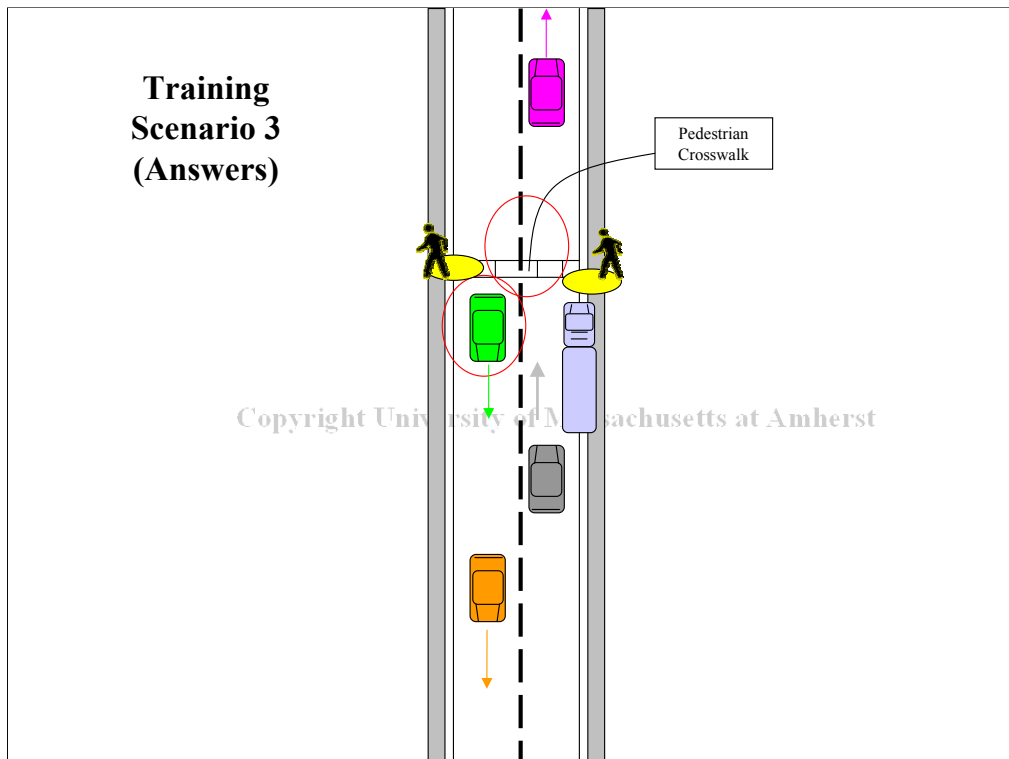
(**Red Circles**). The driver in this scenario should continuously monitor the pedestrian crosswalk ahead for pedestrians, as well as focus on the green car as he will have to thread between that car and the truck.

(**Yellow Ovals**). Additionally, a yellow oval appears in front of the truck and behind the green car. The oval is there to indicate that ideally you would like to be able to see what is in front of the truck and behind the green car and that the truck and green car are potentially obstructing critical information to you as the driver specific to this scenario. Therefore, the driver should monitor the area in which the obstruction occurs, in this case the area in front of the truck, so that as soon as that obstruction is no longer an issue, the driver can see the obscured object, in this case a possible pedestrian crossing from the front of the truck or the rear of the green car.

**Training
Scenario 4**

Pedestrian
Crosswalk

Pedestrian
Island

**Visible Object
Markers**

Blind Spot Markers
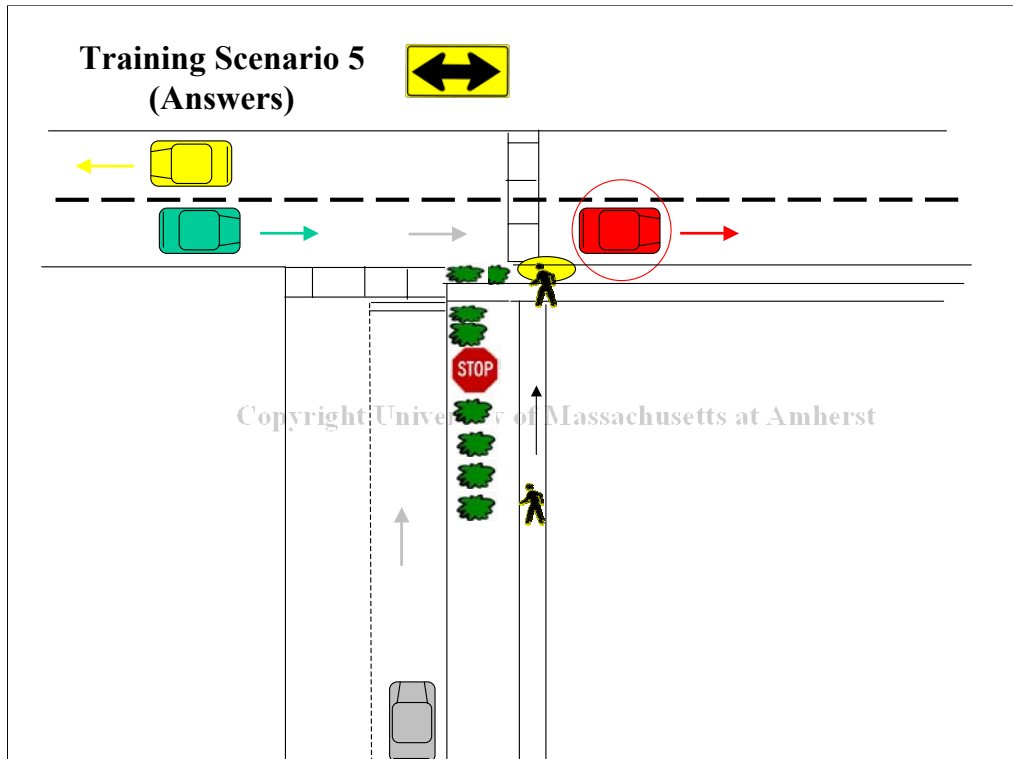
Training Scenario 4: Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

Once you are done, you can move on to the next page.

**Training Scenario 4
(Cone of Vision)**

Pedestrian
Crosswalk

Pedestrian
Island
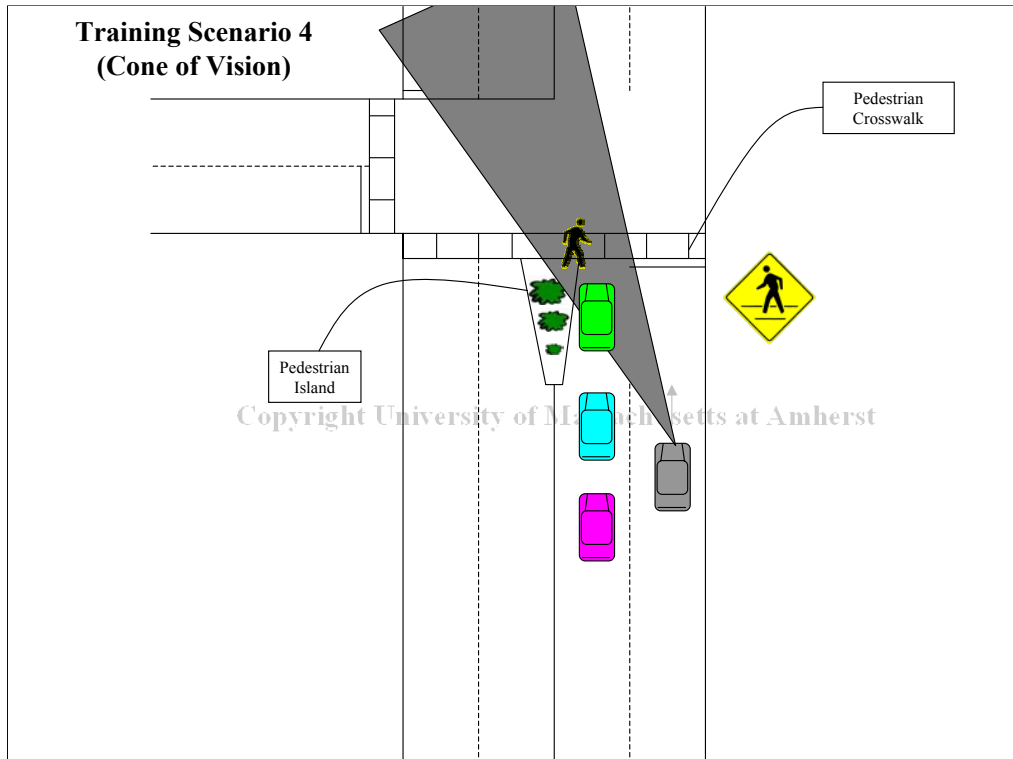
Note that your cone of vision cannot see around the green car. The left portion of the cone is obscured by the green car. As a driver, you should constantly project your cone of vision in various different directions, predicting areas of the roadway that may contain potential risks that are hidden from view.

Training Scenario 4
(Answers)

Pedestrian
Crosswalk

Pedestrian
Island

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(**Red Circles**). The driver in this scenario should continuously monitor the blue car because it may change lanes suddenly (not recognizing that the green car is stopped for a pedestrian). Additionally a red circle appears over the pedestrian crossing because a pedestrian may cross from the left at any time and so you need to constantly monitor that area.

(**Yellow Ovals**). A yellow oval appears over the green car. The oval is there to indicate that ideally you would like to be able to see what is in front of the green car and that vehicle is potentially obstructing critical information to you as the driver specific to this scenario. In particular, note that as the green car brakes, slows, and stops, the blue car and the pink car also slow down, forming a line which obstructs the gray car's (your) view of the pedestrian island and any pedestrian that might be crossing from the island across the lane in which the gray car (yours) is traveling. As the gray car moves close to the crossing, it is essential that it have a complete view of the pedestrian island and crosswalk so as not to injure any pedestrians. Therefore, the driver should monitor the area in which the obstruction occurs, in this case the area in front of the green car, so that as soon as that obstruction is no longer an issue the driver can see the obscured object, in this case the pedestrian.

Training Scenario 5: Imagine that you are the driver of the gray car, that you are heading in the direction towards the stop sign, as indicated by the gray arrow, and that you are then taking a right hand turn, again as indicated by a gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places immediately after you have taken the right hand turn.
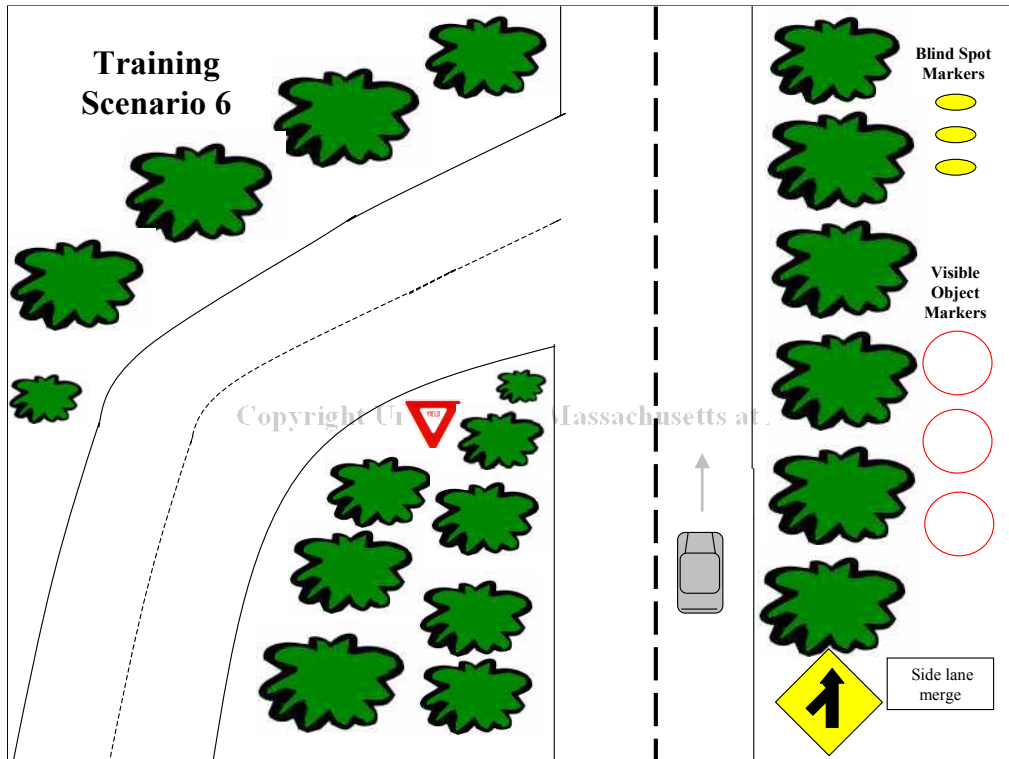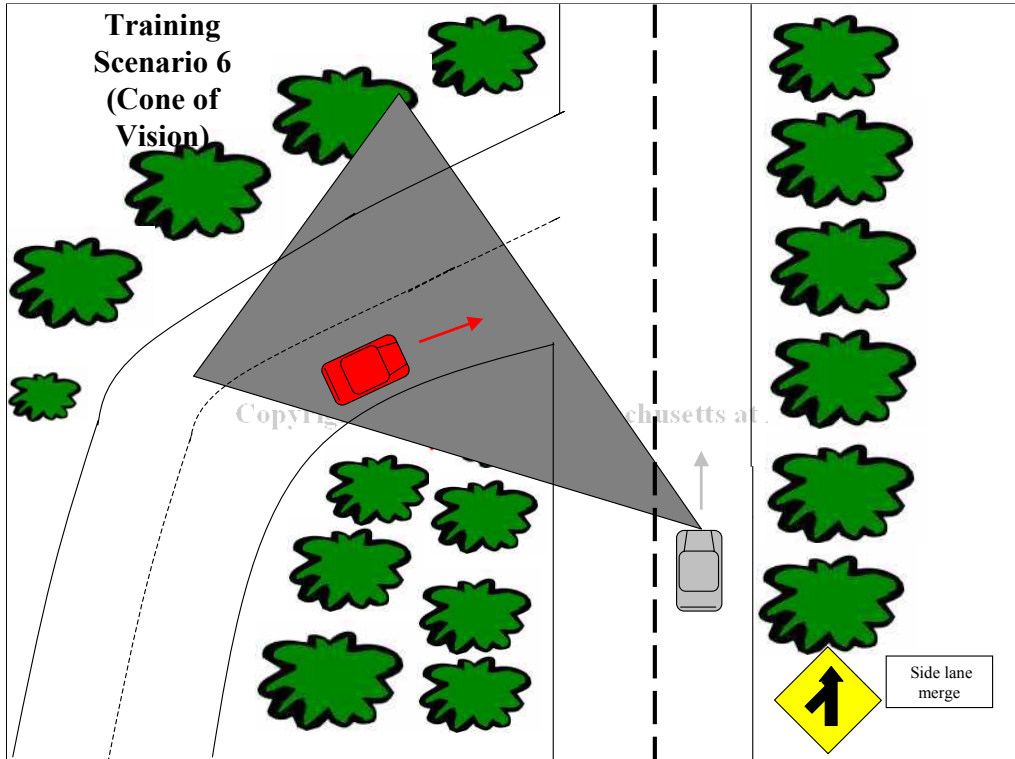
Once you are done, you can move on to the next page.

Training Scenario 5 (Cone of Vision)
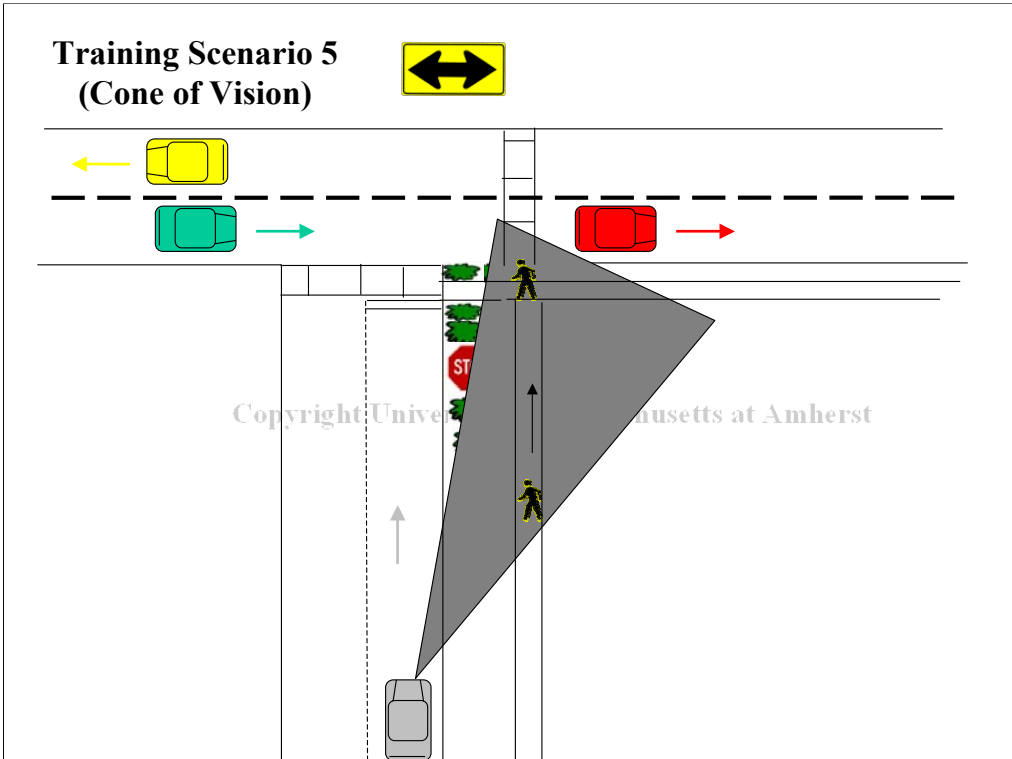
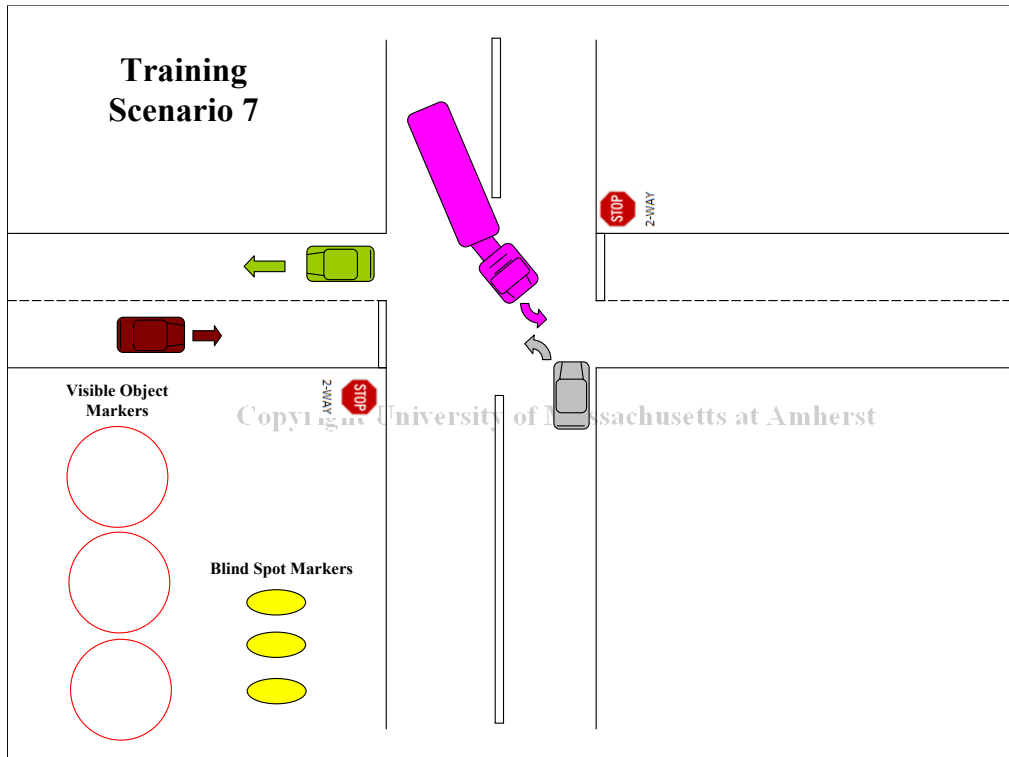Note that your cone of vision cannot see around the bushes. The left portion of the cone is obscured by the bushes. As a driver, you should constantly project your cone of vision in various different directions, predicting areas of the roadway that may contain potential risks that are hidden from view.

Training Scenario 5 (Answers)

(**Red Circles**). The driver in this scenario should continuously monitor the road ahead, including the red car, after taking the turn.

(**Yellow Ovals**). A yellow oval appears in the sidewalk ahead. It indicates that the driver's view of the sidewalk has been obscured by the bushes and that he might not be able to see a pedestrian who may be crossing from the sidewalk onto the crosswalk after taking the turn.
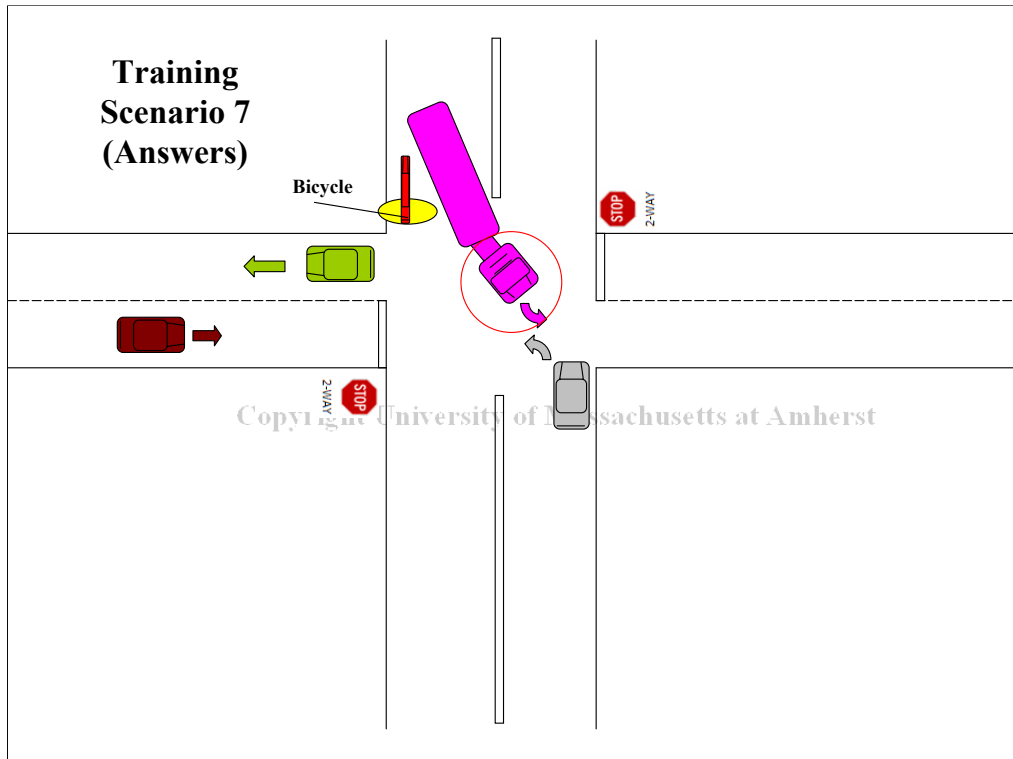
Training Scenario 6: Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

Once you are done, you can move on to the next page.

Training Scenario 6 (Cone of Vision)

Side lane merge

Note that your cone of vision cannot see around the bushes. As a driver, you should constantly project your cone of vision in various different directions, predicting areas of the roadway that may contain potential risks that are hidden from view.

Training Scenario 6 (Answers)

Side lane merge
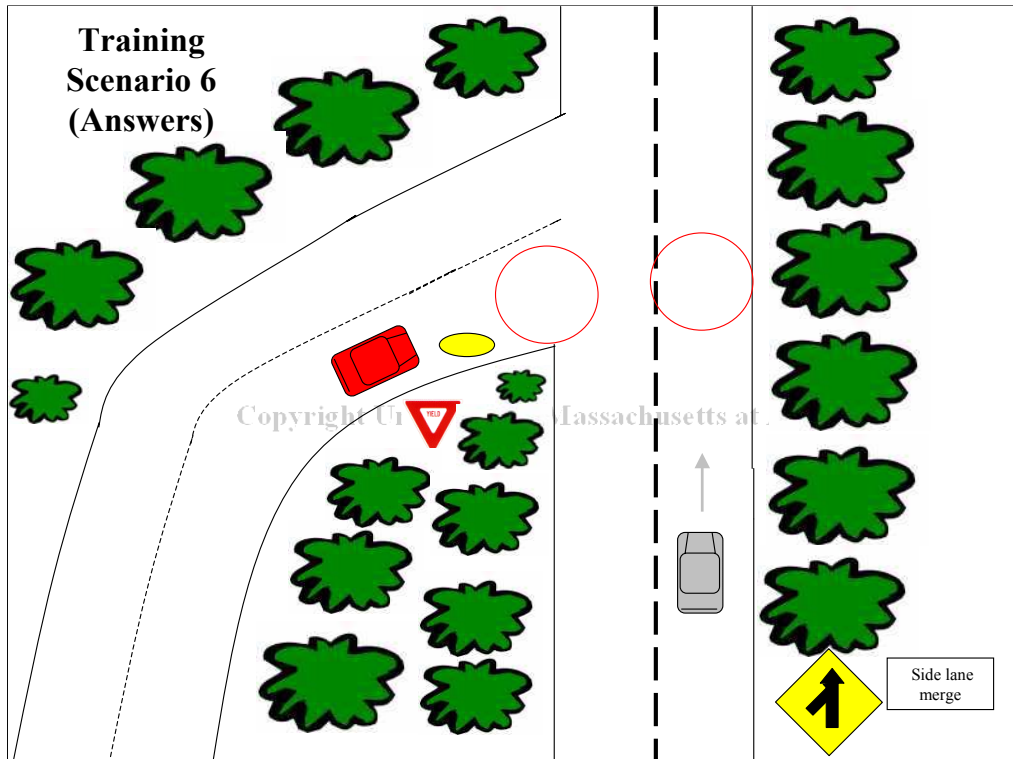
(**Red Circles**). The driver in this scenario should continuously monitor the road ahead and the point where the side road merges with the main road.

(**Yellow Ovals**). Additionally, a yellow oval appears beyond the bushes. The oval indicates that ideally you would like to be able to see what is beyond the bushes and that the bushes are potentially obstructing critical information to you as the driver specific to this scenario. Therefore, the driver should monitor the area in which the obstruction occurs, in this case the area beyond the bushes, so that as soon as that obstruction is no longer an issue the driver can see the obscured object, in this case another vehicle (red car) possibly on the side road.

Training Scenario 7

Visible Object Markers

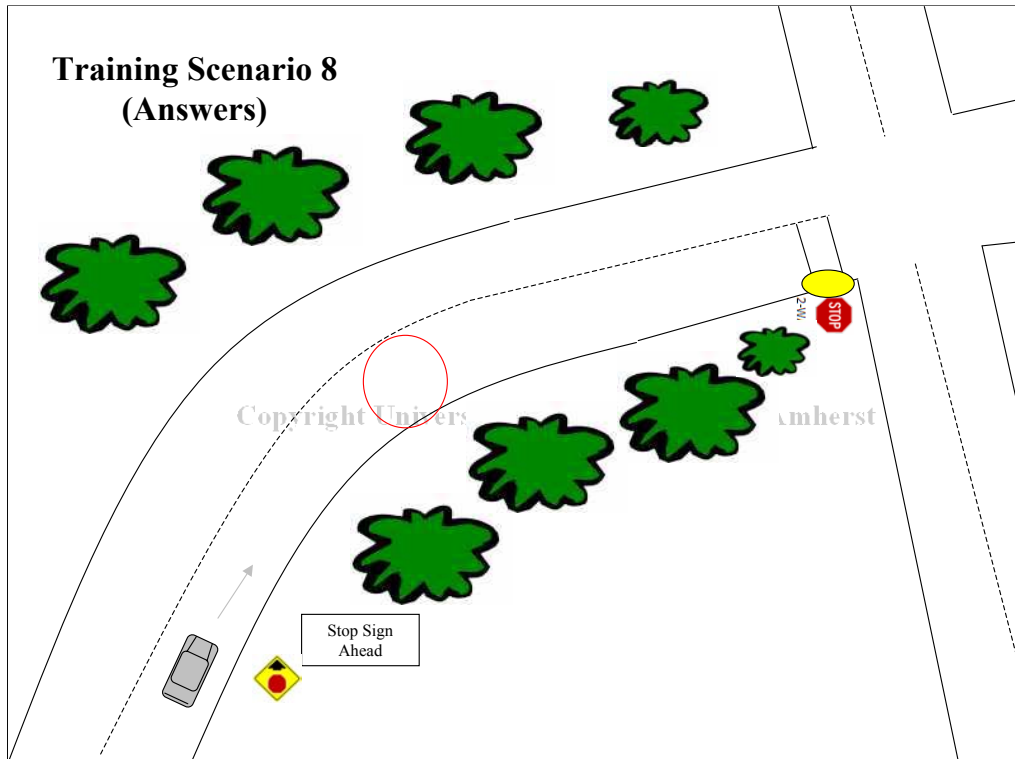Blind Spot Markers

STOP 2-WAY

STOP 2-WAY

Training Scenario 7: Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places for when you are halfway through your turn.

Once you are done, you can move on to the next page.

Training Scenario 7 (Cone of Vision)

Bicycle
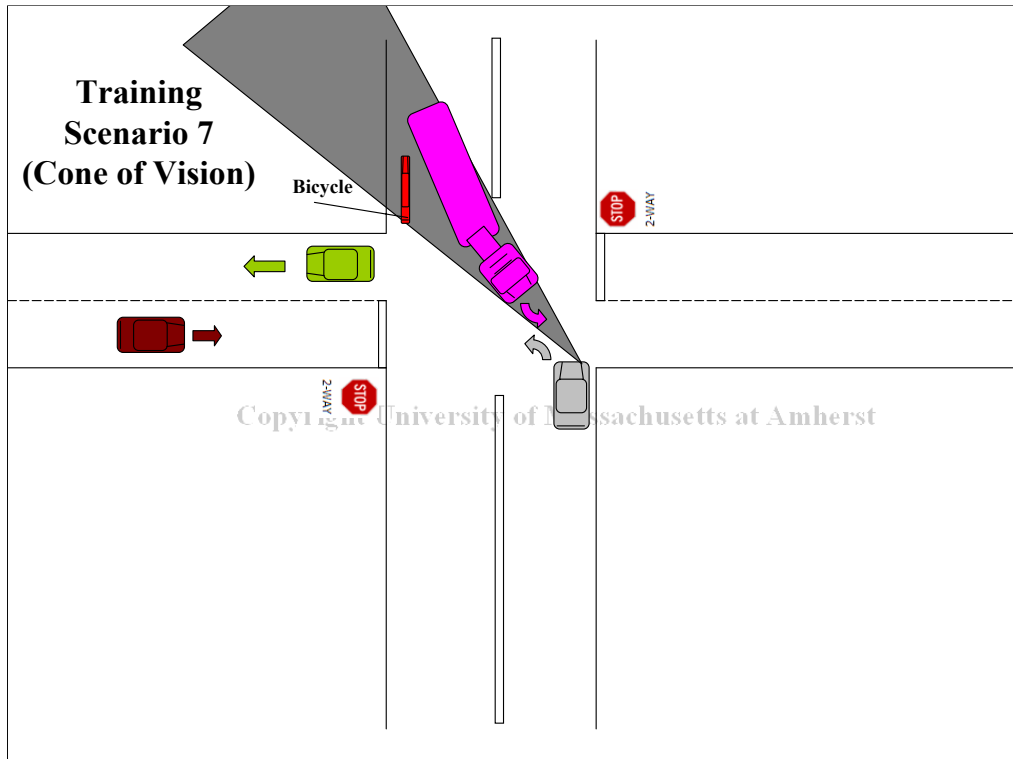
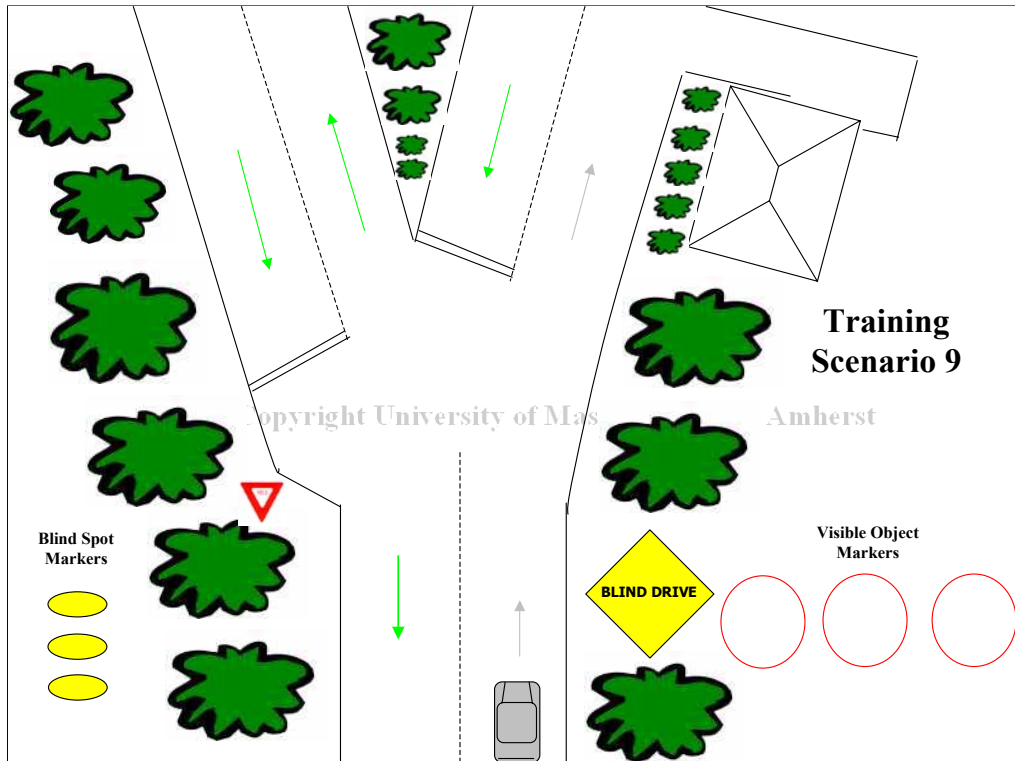   Note that your cone of vision cannot see around the truck. The left portion of the cone is obscured by it. As a driver, you should constantly project your cone of vision in various different directions, predicting areas of the roadway that may contain potential risks that are hidden from view.

Training Scenario 7 (Answers)

Bicycle

(**Red Circles**). The driver should focus on the pink truck.

(**Yellow Ovals**). The pink truck completes obscures traffic to its side. This is the reason for the yellow oval being placed in this scenario. Ideally you would like to be able to see what is beyond the pink truck, and the truck is potentially obstructing critical information to you as the driver in this scenario, such as a bicycle possibly.

Training
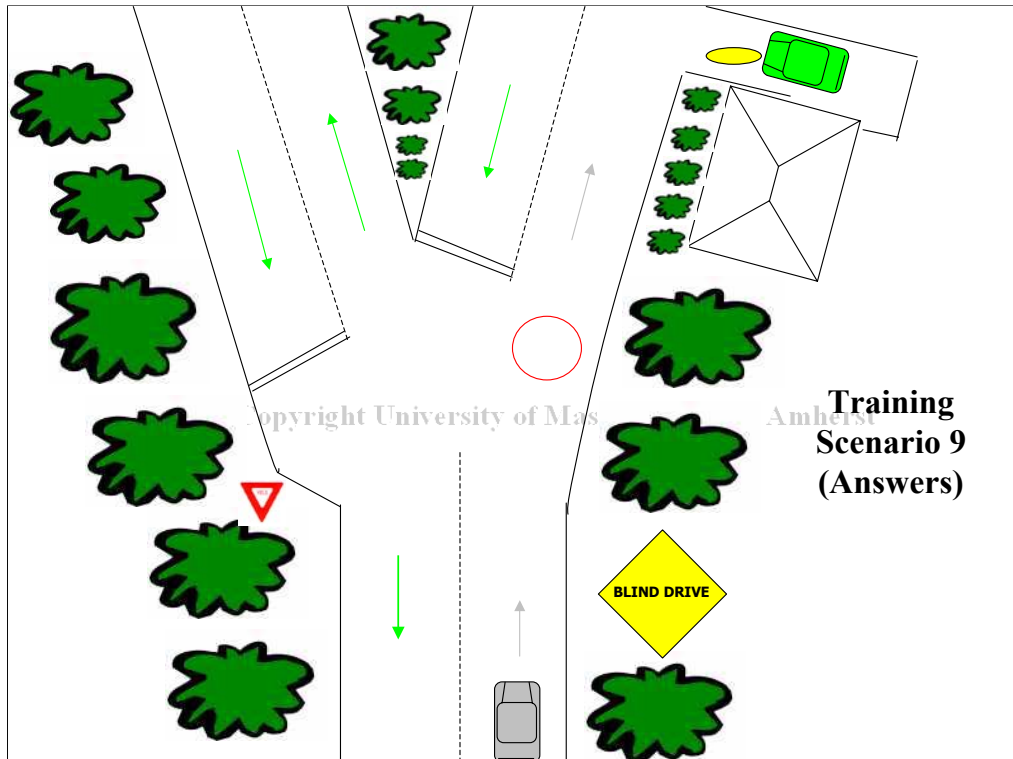**Scenario 8**

Blind Spot Markers

Visible Object
Markers

Stop Sign
Ahead
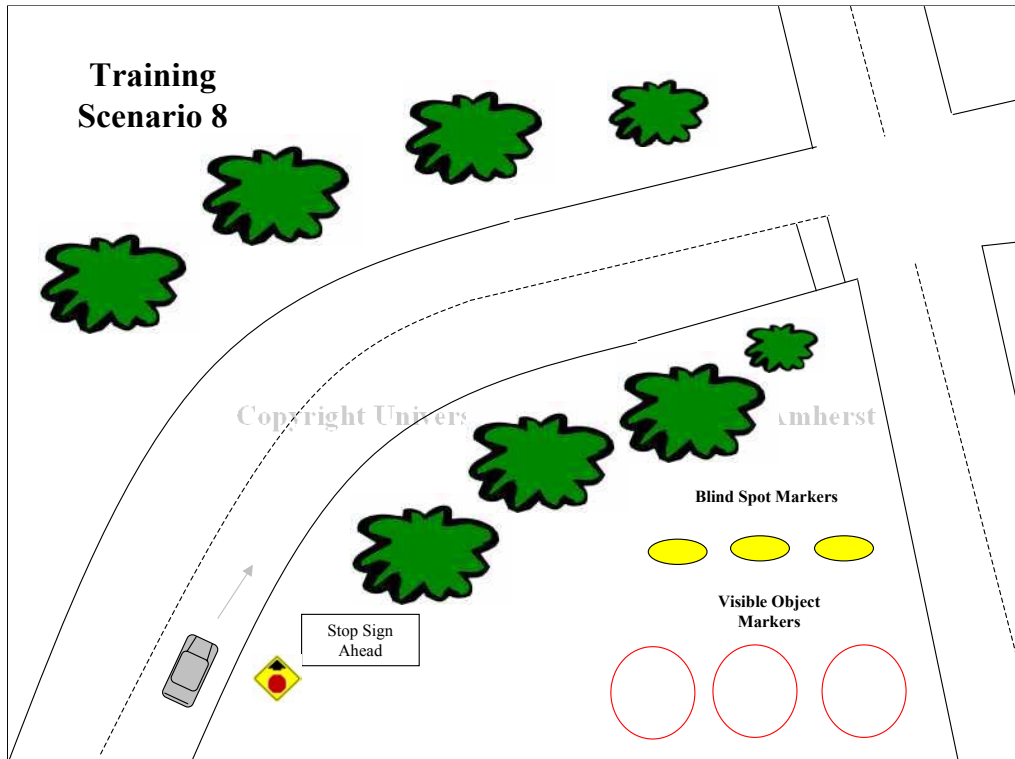
Training Scenario 8: Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places just before you are approaching the intersection.

Once you are done, you can move on to the next page.
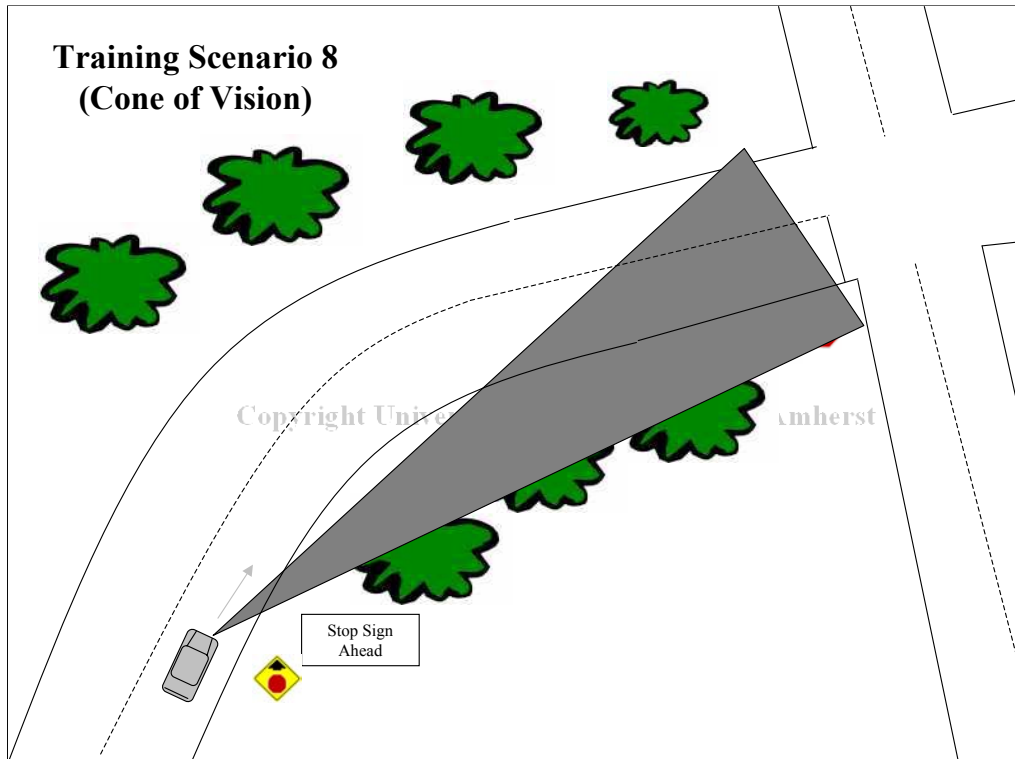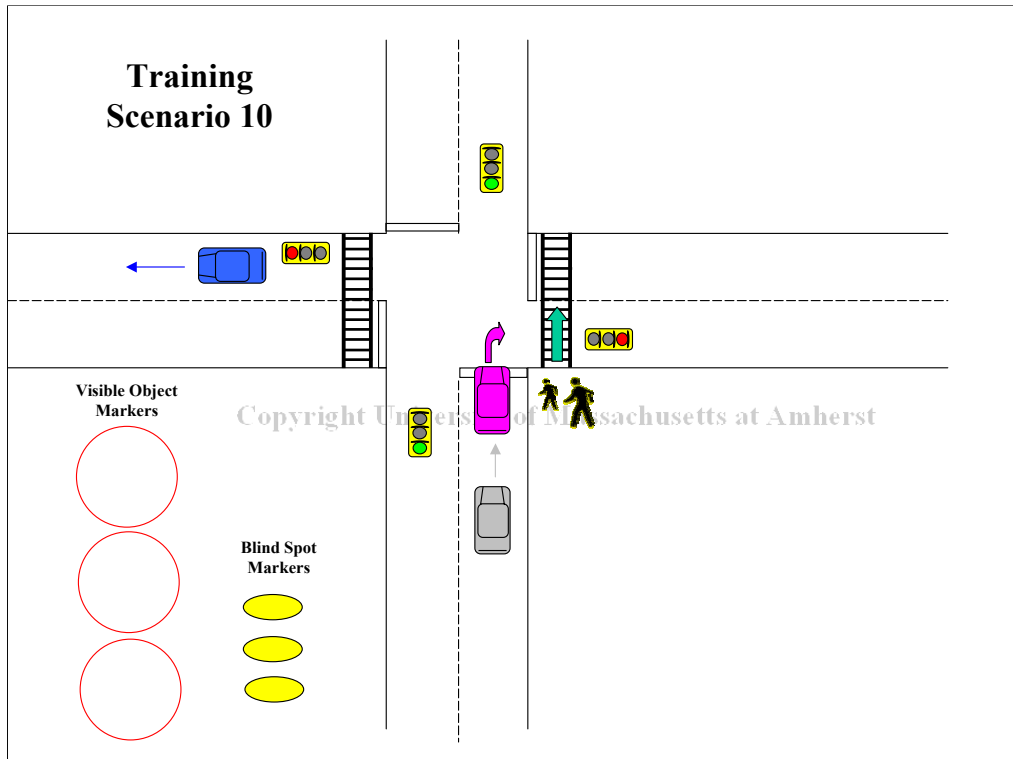
**Training Scenario 8
(Cone of Vision)**

Stop Sign
Ahead

Note that your cone of vision cannot see around the bushes. The right portion of the cone is obscured by the bushes. As a driver, you should constantly project your cone of vision in various different directions, predicting areas of the roadway that may contain potential risks that are hidden from view.

Training Scenario 8
(Answers)

Stop Sign Ahead

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(**Red Circles**). The driver in this scenario should continuously monitor the lane for the stop sign as well as focus on slowing down since he has already noticed the Stop Sign Ahead sign.

(**Yellow Ovals**). Additionally, a yellow oval appears near the right most bush. The oval is there to indicate that ideally you would like to be able to see what is in front of the bush and that the bush is potentially obstructing critical information to you as the driver specific to this scenario.

Training Scenario 9

Blind Spot Markers

Visible Object Markers

BLIND DRIVE

Training Scenario 9: Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrows (taking a right at the fork). Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

Once you are done, you can move on to the next page.

Training Scenario 9 (Cone of Vision)

BLIND DRIVE
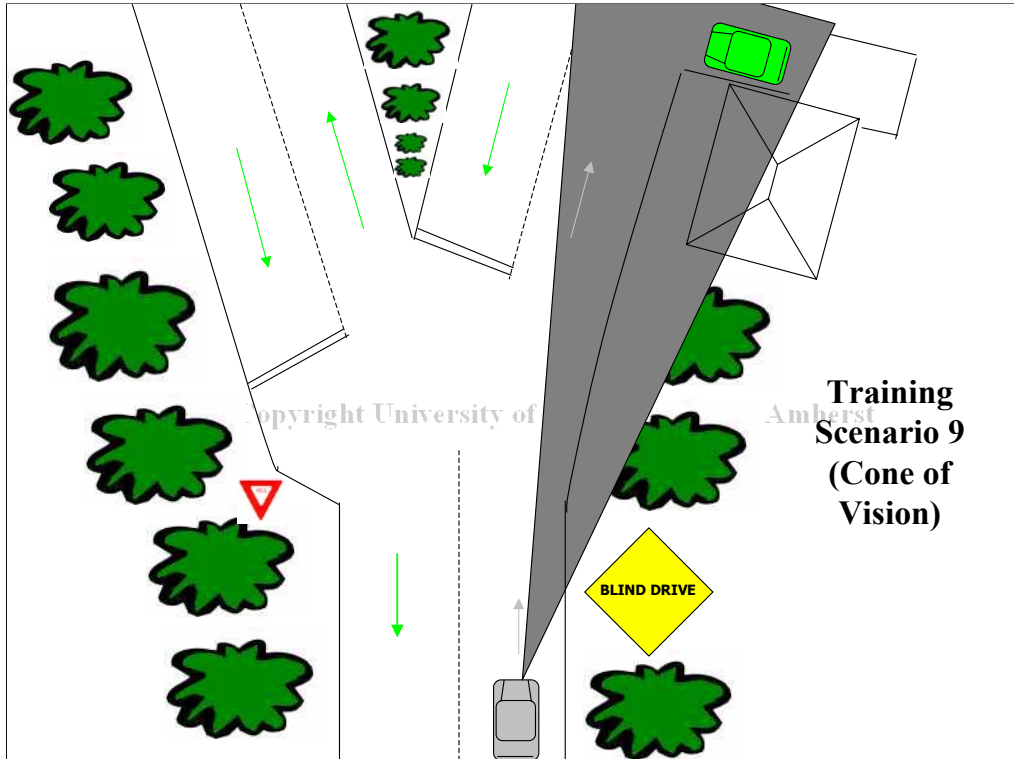
Note that your cone of vision cannot see around the bushes. The right portion of the cone is obscured by the bushes and the house. As a driver, you should constantly project your cone of vision in various different directions, predicting areas of the roadway that may contain potential risks that are hidden from view.

Training Scenario 9 (Answers)

(**Red Circles**). The driver in this scenario should continuously monitor the road ahead as well as focus on slowing down since he has already noticed a blind drive sign.

(**Yellow Ovals**). Additionally, a yellow oval appears on the driveway. The oval indicates that ideally you would like to be able to see what is in the driveway and that the bushes and the house are potentially obstructing critical information to you as the driver specific to this scenario, such as a car (green car) possibly leaving the driveway.

Training Scenario 10

Visible Object Markers

Blind Spot Markers

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Training Scenario 10: Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow (straight). Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

Once you are done, you can move on to the next page.

Training Scenario 10 (Answers)

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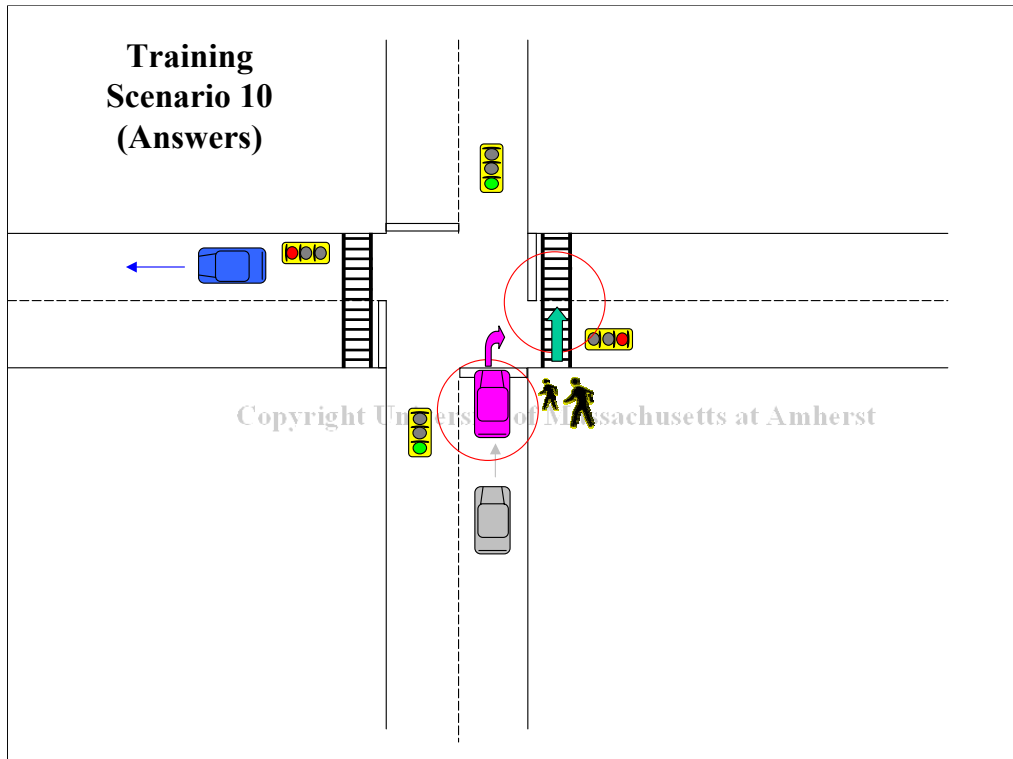
(**Red Circles**). You want to continuously monitor the pedestrian crosswalk on the right and the vehicle ahead. In this case, the risk is that the vehicle ahead of you will brake suddenly if they do not notice the pedestrian in the crosswalk until the last minute.

(**Yellow Ovals**). There are no blind spots in this scenario that require particular attention and therefore no yellow ovals have been placed in this scenario.

Training
Scenario 1
(Evaluation)
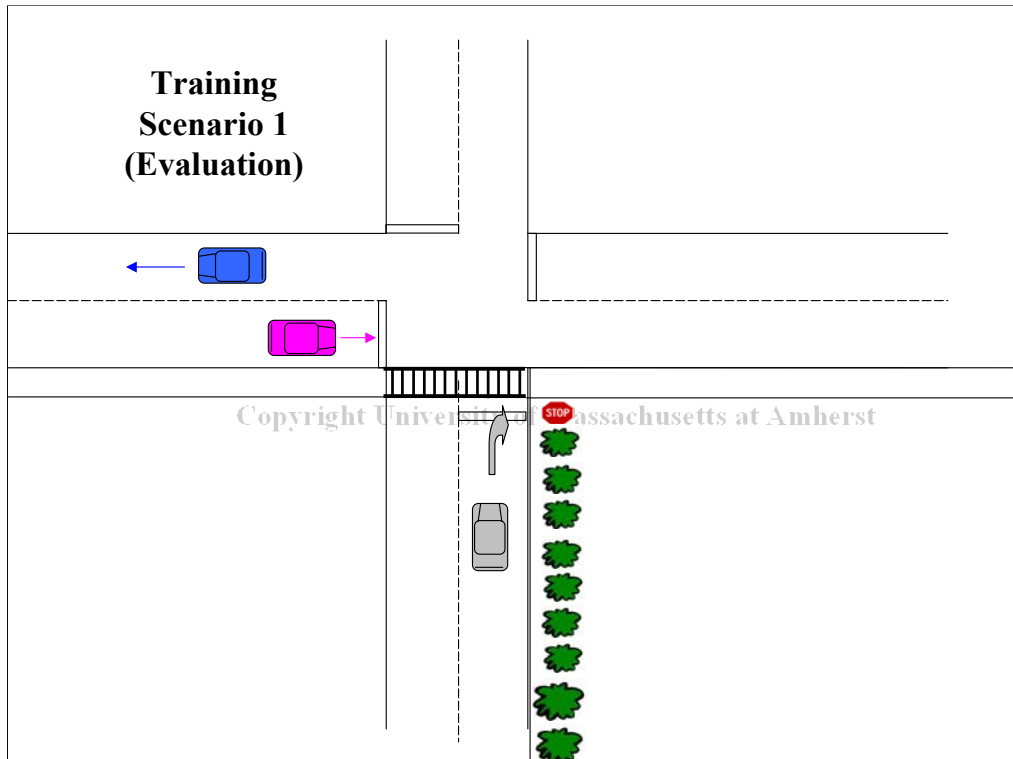
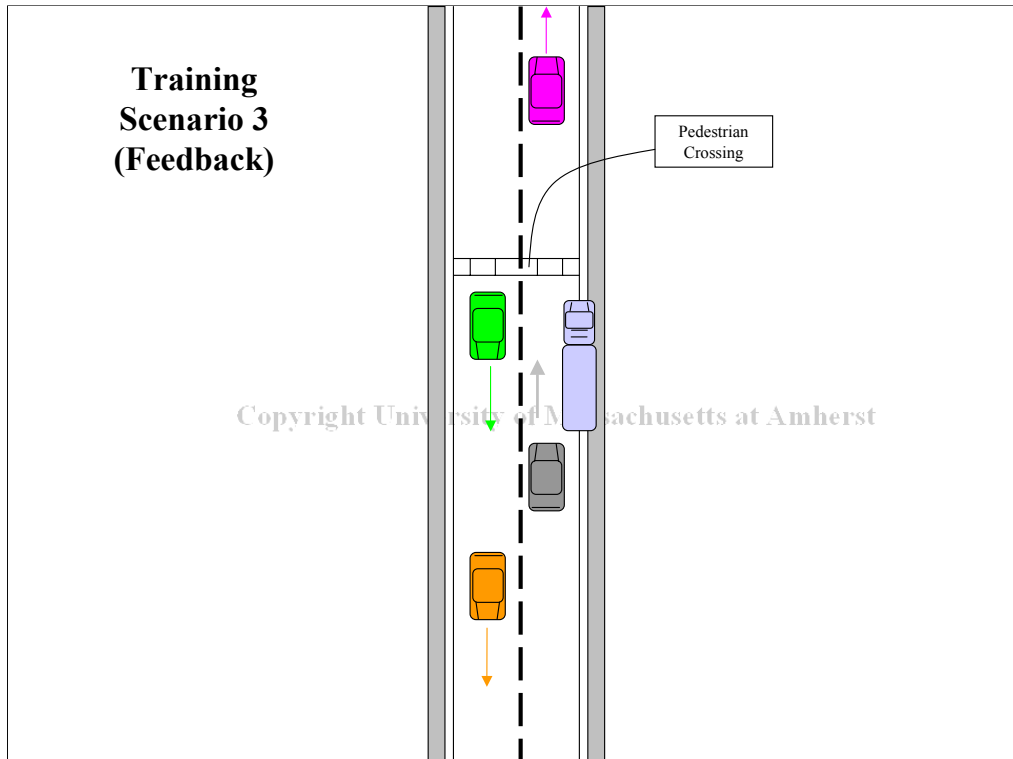Here, and elsewhere throughout training, we will test your memory for what you have learned. Consider Training Scenario 1 again.

Please write your answers after each question.

a) Can you see around the bushes? -→

b) List one reason that you might want to monitor the road ahead over time. -→

Training Scenario 1 (Feedback)

Do your answers match the answers below?

a) Can you see around the bushes? *No.*

b) List one reason that you might want to monitor the road ahead over time. *For pedestrians who may cross.*

Training
Scenario 2
(Evaluation)
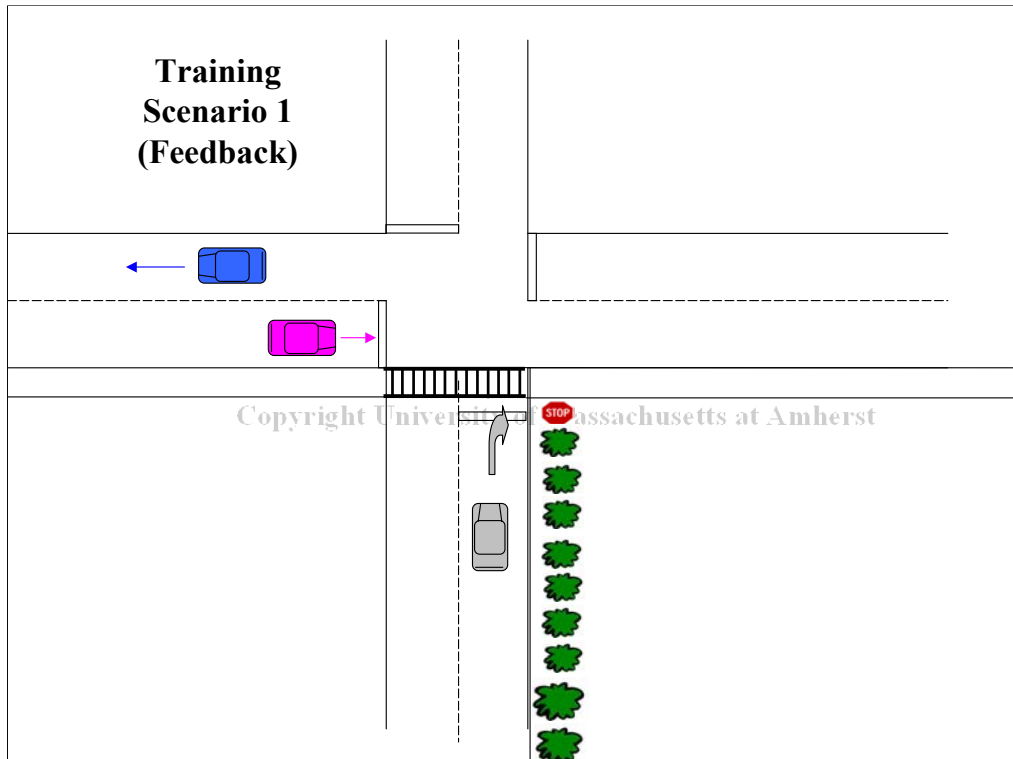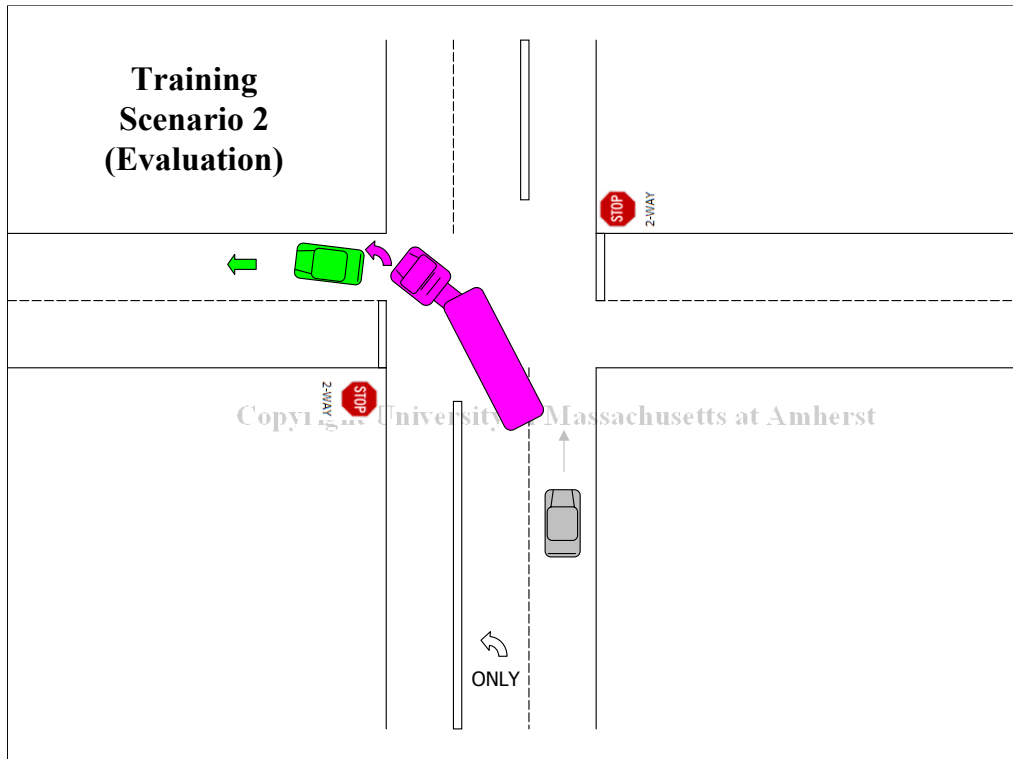
Here, we will test your memory for what you have learned. Consider Training Scenario 2.

Please write your answer after the question.
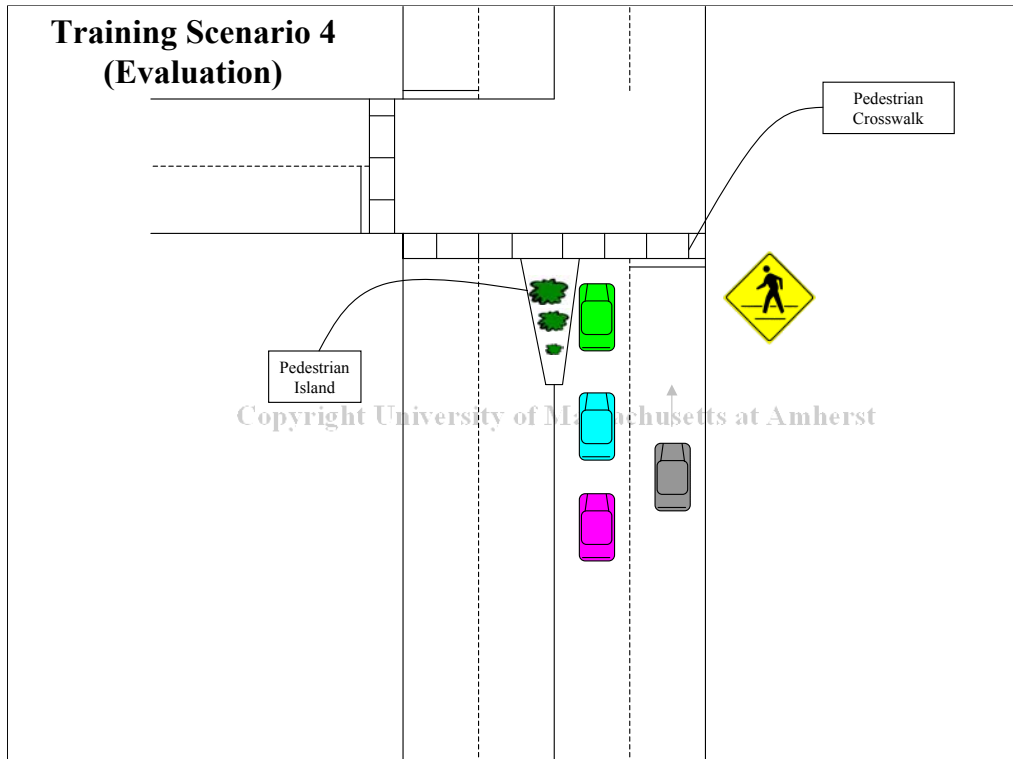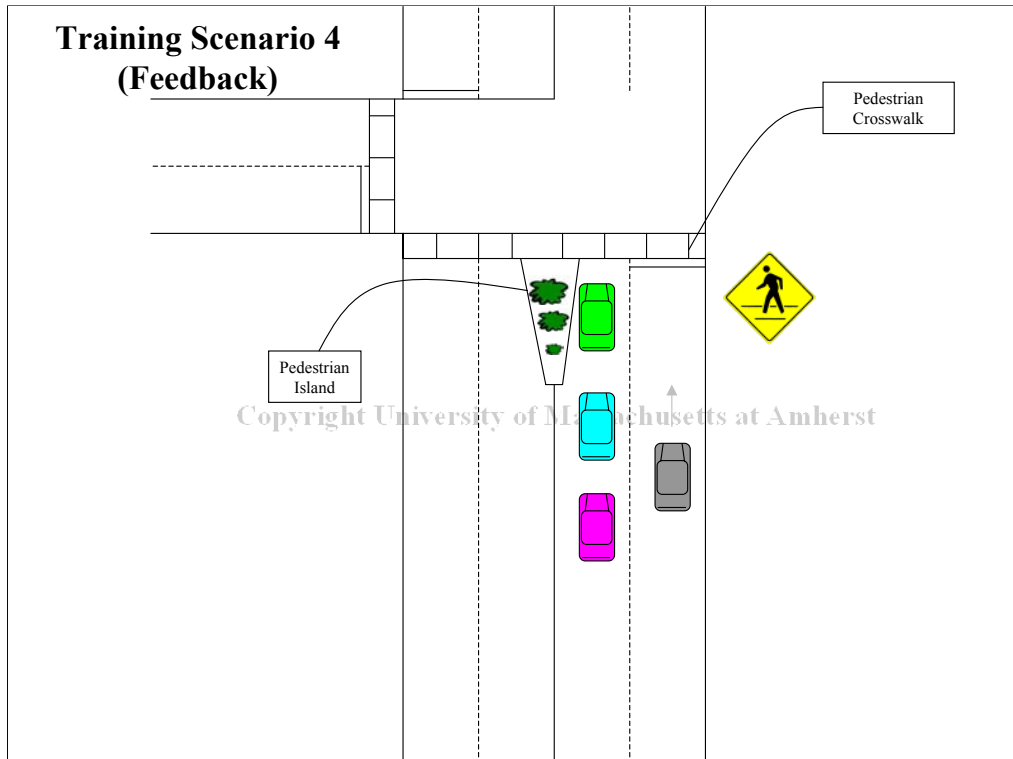
a) Can you see ahead of the truck? -→
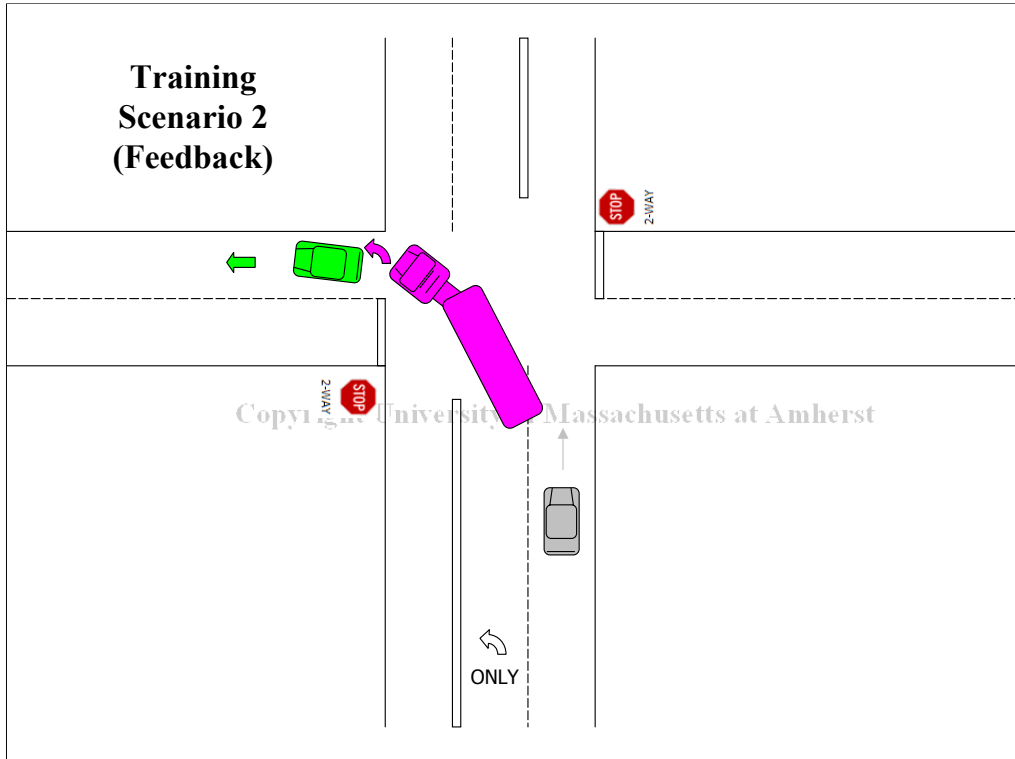
Training Scenario 2 (Feedback)

STOP 2-WAY

STOP 2-WAY

ONLY

Does your answer match the answer below?

a) Can you see ahead of the truck? *No*

Training Scenario 3 (Evaluation)

Pedestrian Crossing
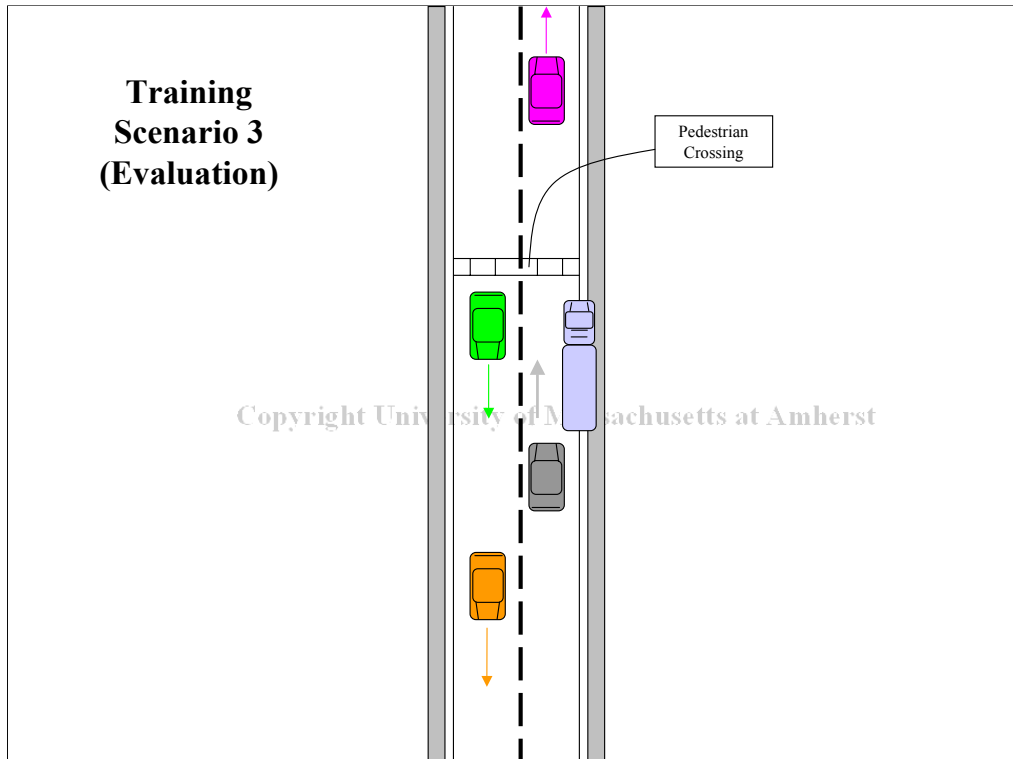
Here, we will test your memory for what you have learned. Consider Training Scenario 3.

Please write your answers after each question.

a) Can you see ahead of the truck? -→

b) List one reason that you might want to monitor the road ahead over time. -→

Training Scenario 3 (Feedback)

Pedestrian Crossing

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Do your answers match the answers below?

a) Can you see ahead of the truck? *No.*

b) List one reason that you might want to monitor the road ahead over time. *A pedestrian may cross the road at any time.*

Training Scenario 4 (Evaluation)

Pedestrian Crosswalk
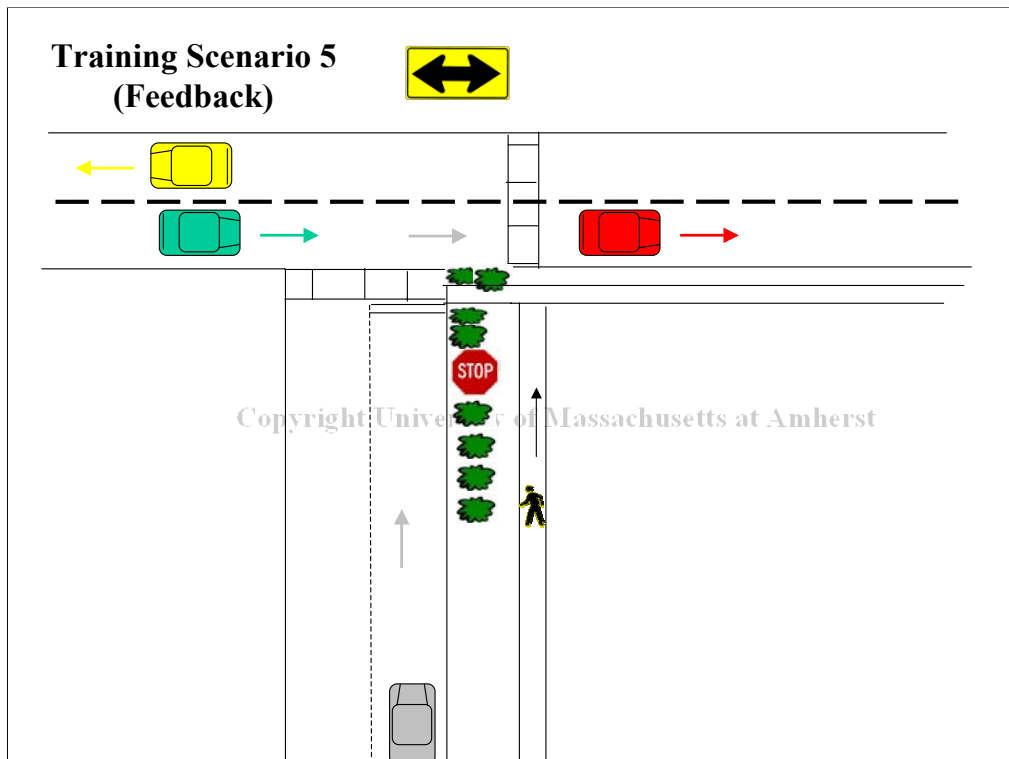
Pedestrian Island

Here, we will test your memory for what you have learned. Consider Training Scenario 4.

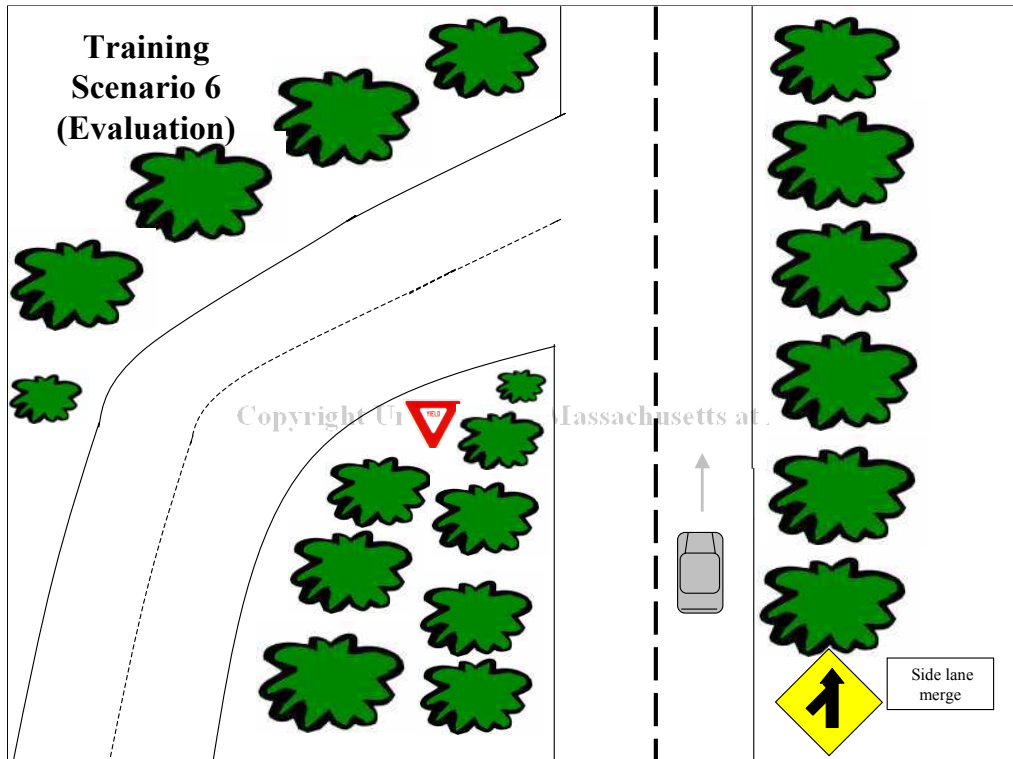*Please write your answers after each question.*

a) Can you see ahead of the green car? -→

b) List one reason that you might want to monitor over time the pedestrian crosswalk in front of you. -→

c) List a reason that you might want to monitor over time the green car in front of you. -→

Training Scenario 4 (Feedback)

Pedestrian Crosswalk

Pedestrian Island

Do your answers match the answers below?

a) Can you see ahead of the green car? *No.*

b) List one reason that you might want to monitor over time the pedestrian crosswalk in front of you. *A pedestrian may cross from either side.*

c) List a reason that you might want to monitor over time the green car in front of you. *A pedestrian may cross from the side of the green car (from the pedestrian island) and you might spot him/her too late if you do not monitor the green car frequently.*
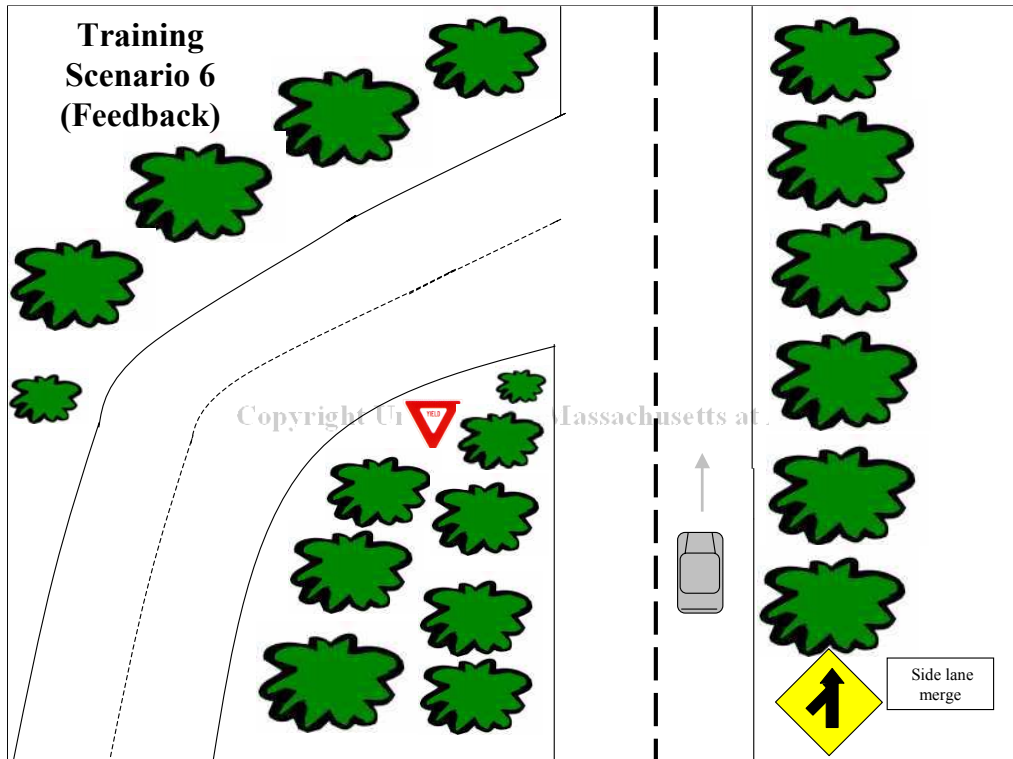
**Training Scenario 5
(Evaluation)**
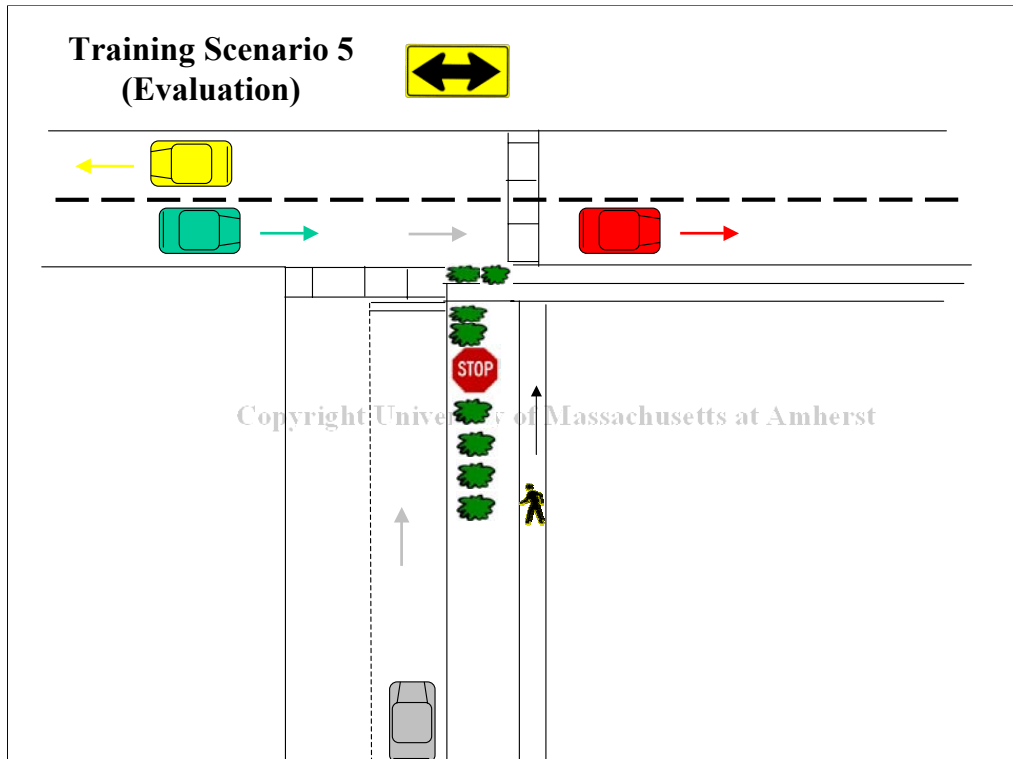
Here, we will test your memory for what you have learned. Consider Training Scenario 5.

Please write your answers after each question.
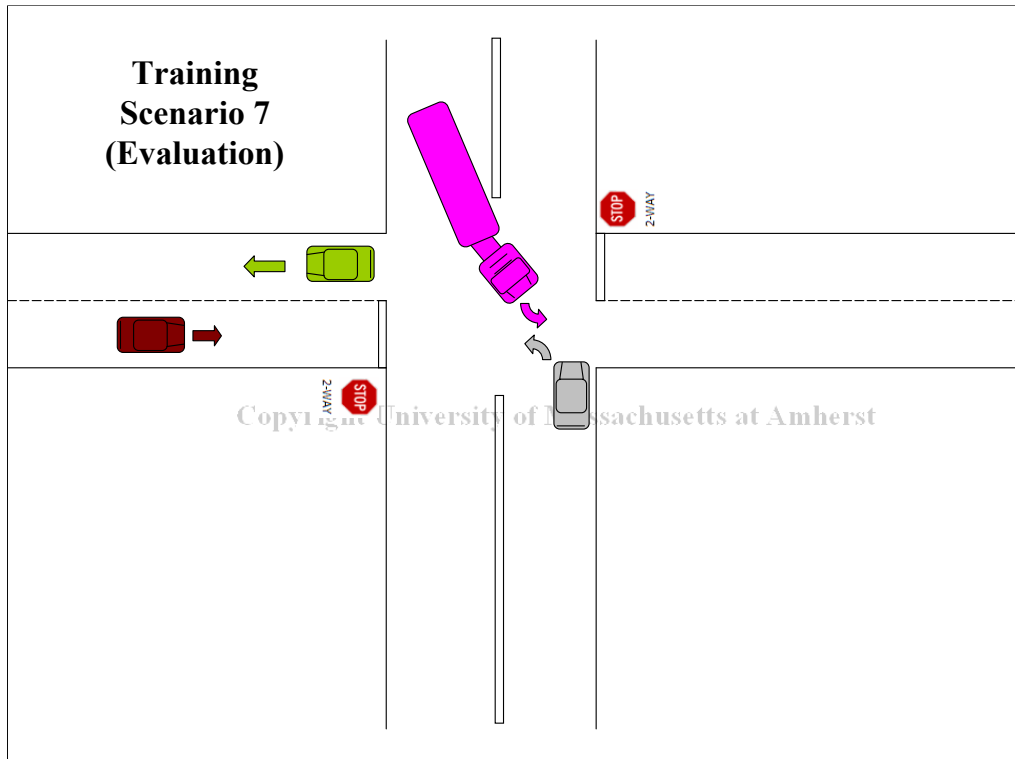
a) Can you see around the bushes? -→

b) List one reason that you might want to monitor the road ahead over time. -→

Training Scenario 5
(Feedback)

Do your answers match the answers below?

a) Can you see around the bushes? *No.*

b) List one reason that you might want to monitor the road ahead over time. *For pedestrians who may cross.*

Training Scenario 6 (Evaluation)

Side lane merge

Here, we will test your memory for what you have learned. Consider Training Scenario 6.

Please write your answers after each question.

a) Can you see around the bushes? -→

b) List one reason that you might want to monitor the road ahead over time. -→

**Training
Scenario 6
(Feedback)**

Side lane
merge

Do your answers match the answers below?

a) Can you see around the bushes? *No*

b) List one reason that you might want to monitor the road ahead over time. *It is possible that a car coming from the side lane will merge into the lane in which your vehicle is traveling and this could result in a high speed collision if one does not pay attention.*

Training
Scenario 7
(Evaluation)
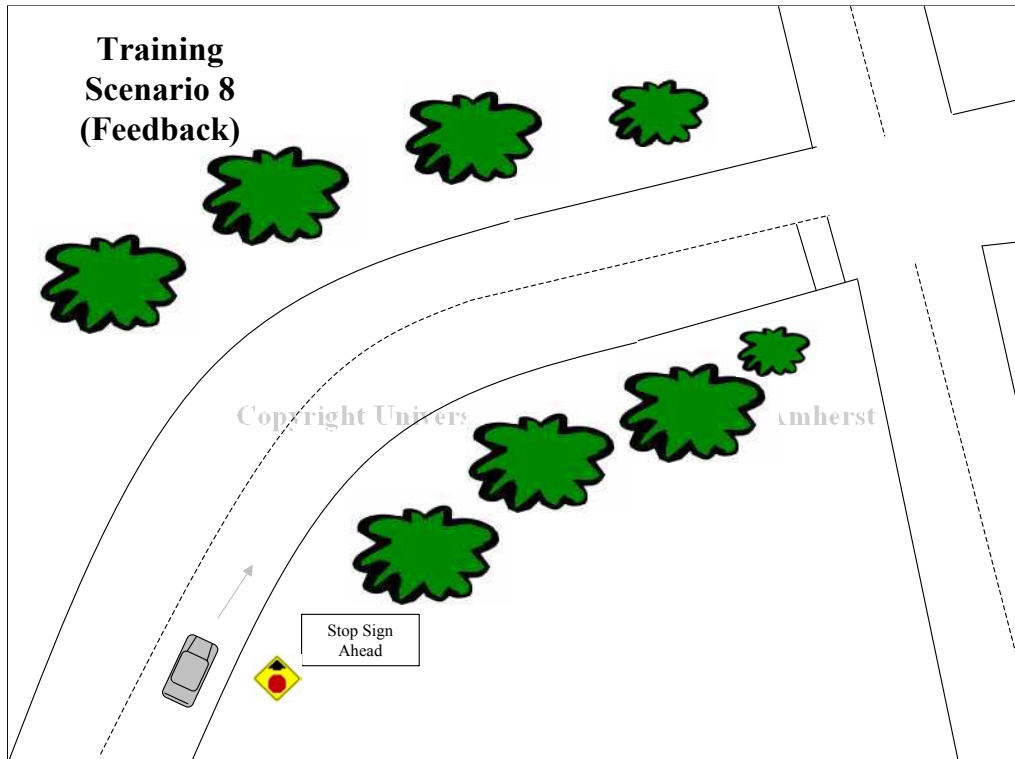
Here, we will test your memory for what you have learned. Consider Scenario 7.

Please write your answers after each question.

a) Can you see across the pink truck? -→

Training Scenario 7 (Feedback)
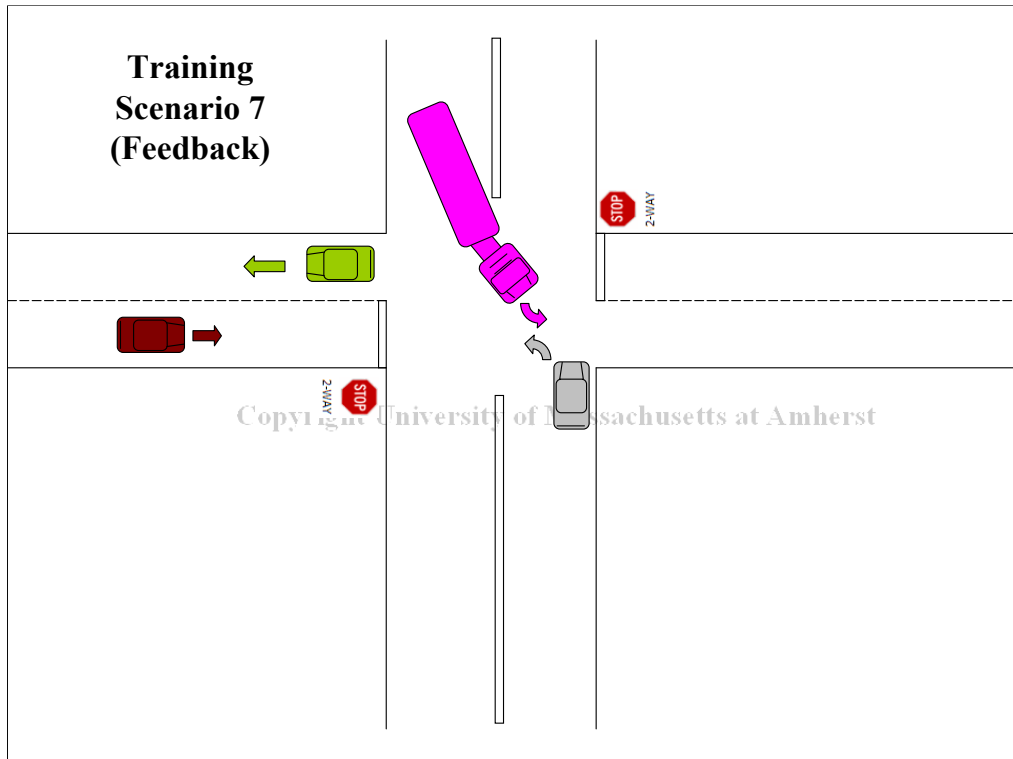
Does your answer match the answer below?

a) Can you see across the pink truck? *No.*
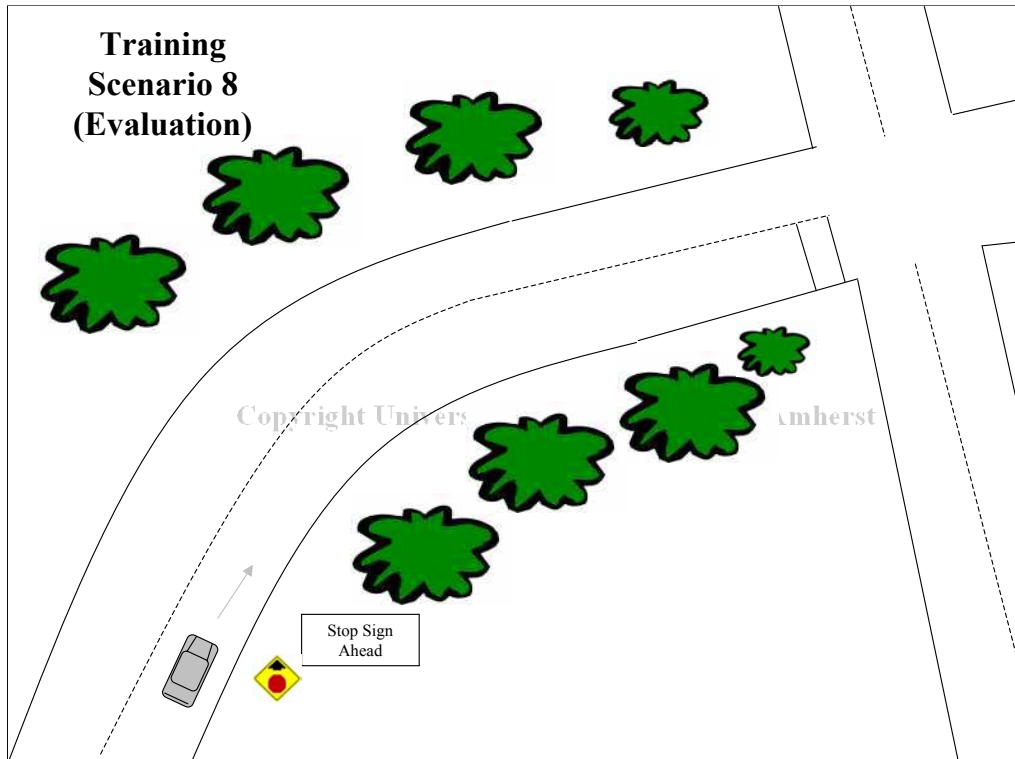
Here, we will test your memory for what you have learned. Consider Training Scenario 8.

Please write your answers after each question.

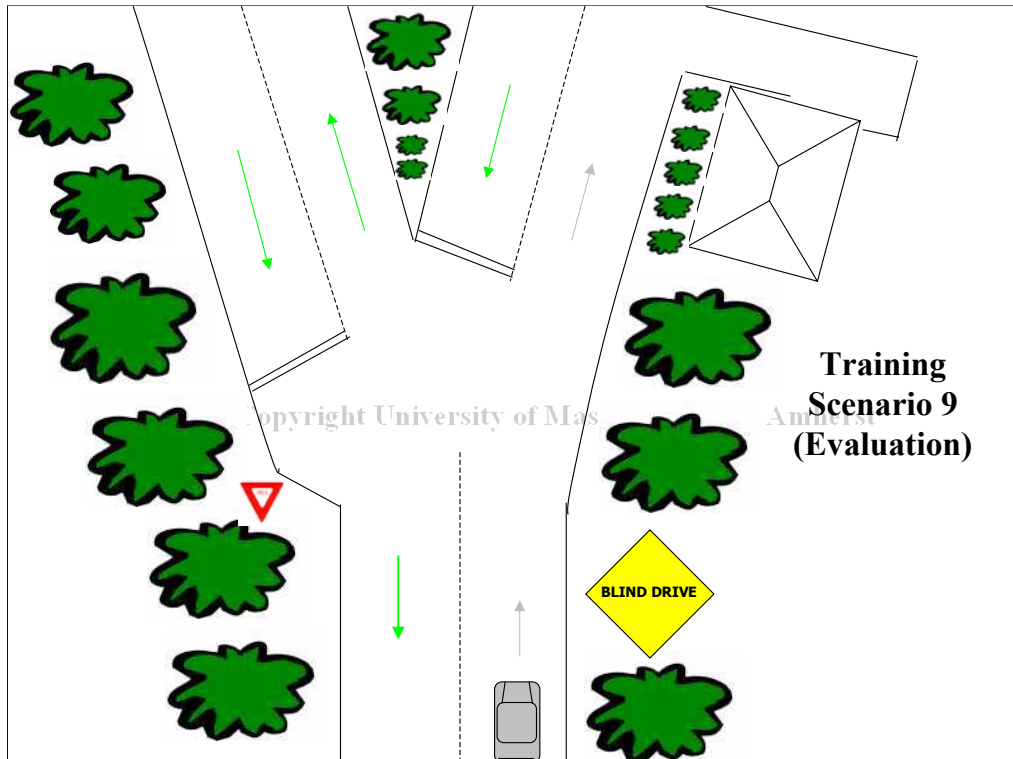a) Can you see ahead of the bushes? -→

b) List one reason that you might want to monitor the road ahead over time. -→

Training Scenario 8 (Feedback)

Stop Sign Ahead

Do your answers match the answers below?
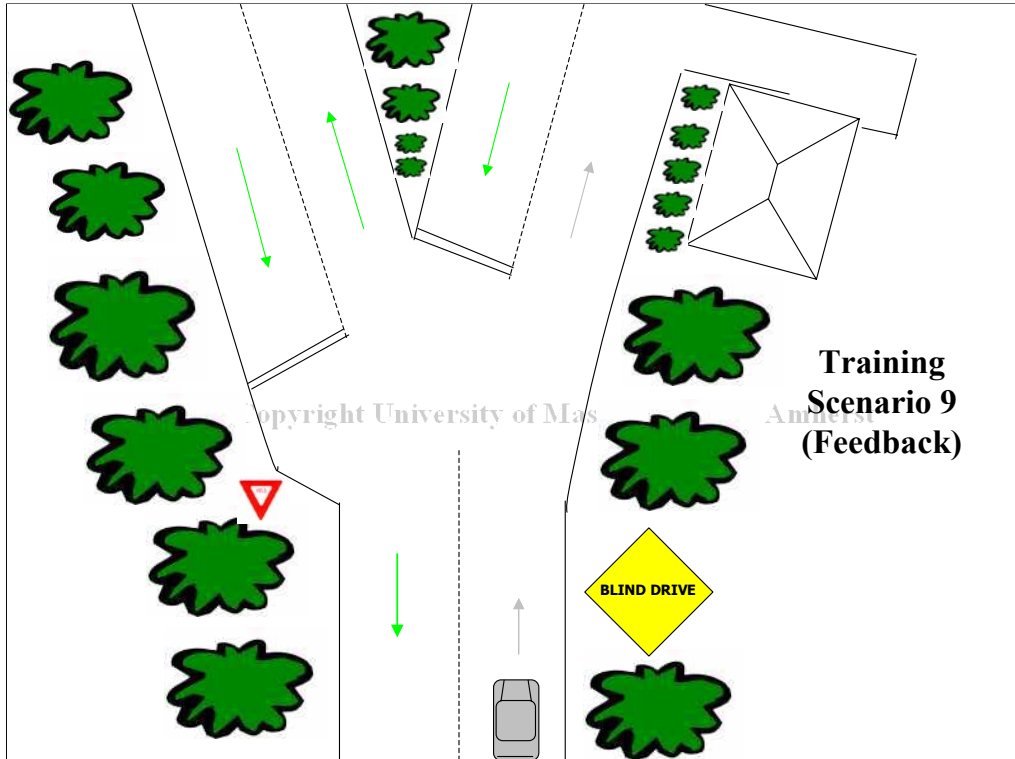
a) Can you see ahead of the bushes? *No.*

b) List one reason that you might want to monitor the road ahead over time. *You have been warned that there is a Stop Sign ahead. In this case, the Stop Sign could be hidden by the bushes and so you should pay especially close attention to the side of the road.*

Training Scenario 9 (Evaluation)

Here, we will test your memory for what you have learned. Consider Training Scenario 9.

Please write your answers after each question.

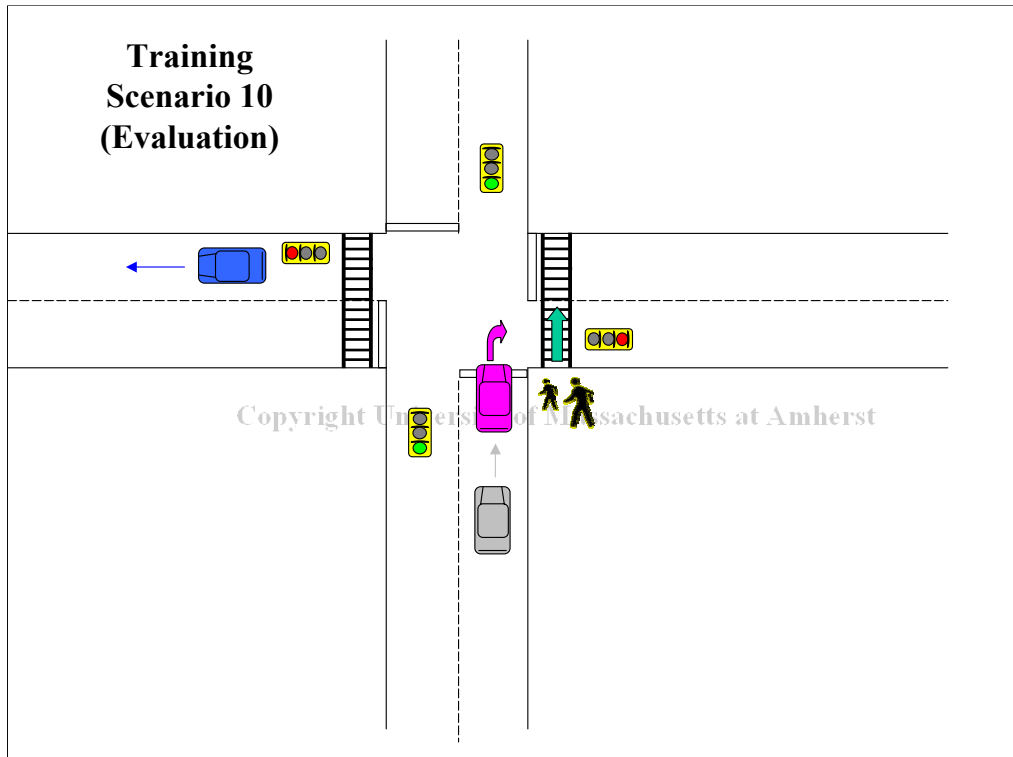a) Can you see around the bushes? -→

Training Scenario 9 (Feedback)

BLIND DRIVE

Does your answer match the answer below?
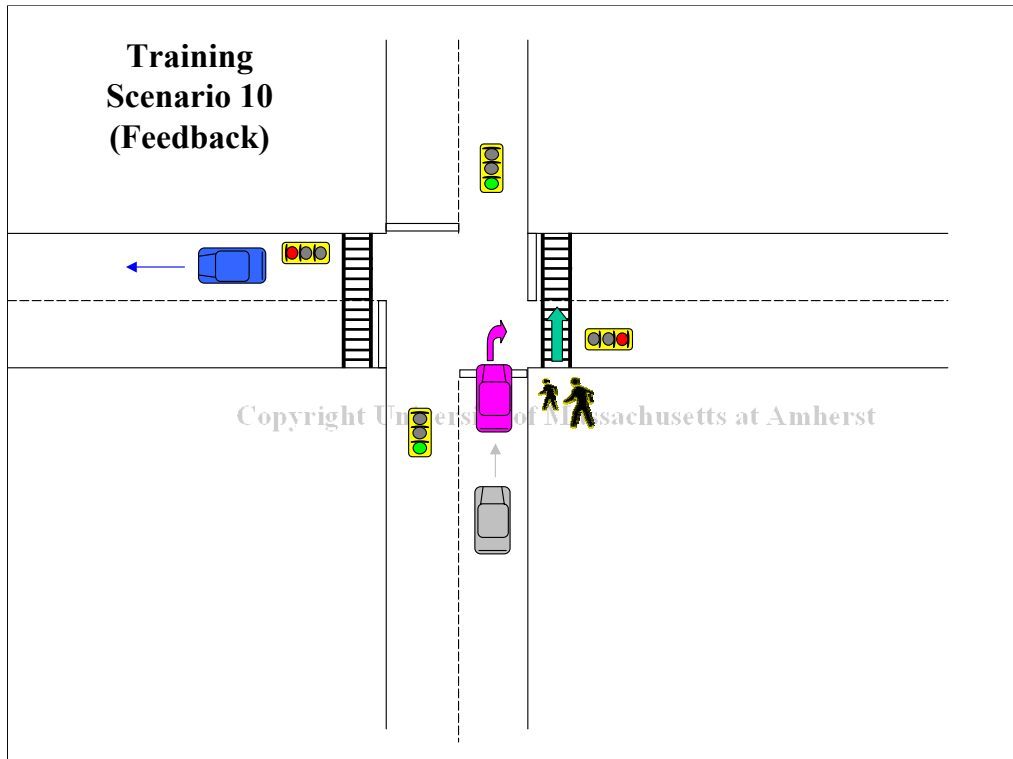
a) Can you see around the bushes? *No.*

Here, we will test your memory for what you have learned. Consider training scenario 10.

Please write your answers after each question.

a) List one reason that you might want to monitor over time the pedestrians at the crosswalk to the right. -→

b) List one reason that you might want to monitor over time the pink car ahead of you. -→

Training Scenario 10 (Feedback)

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Do your answers match the answers below?

a) List one reason that you might want to monitor over time the pedestrians at the crosswalk to the right. *They may cross as the pink car moves into the crosswalk causing it to brake suddenly.*

b) List one reason that you might want to monitor over time the pink car ahead of you. *The pink car may brake if the pedestrians cross the crosswalk.*
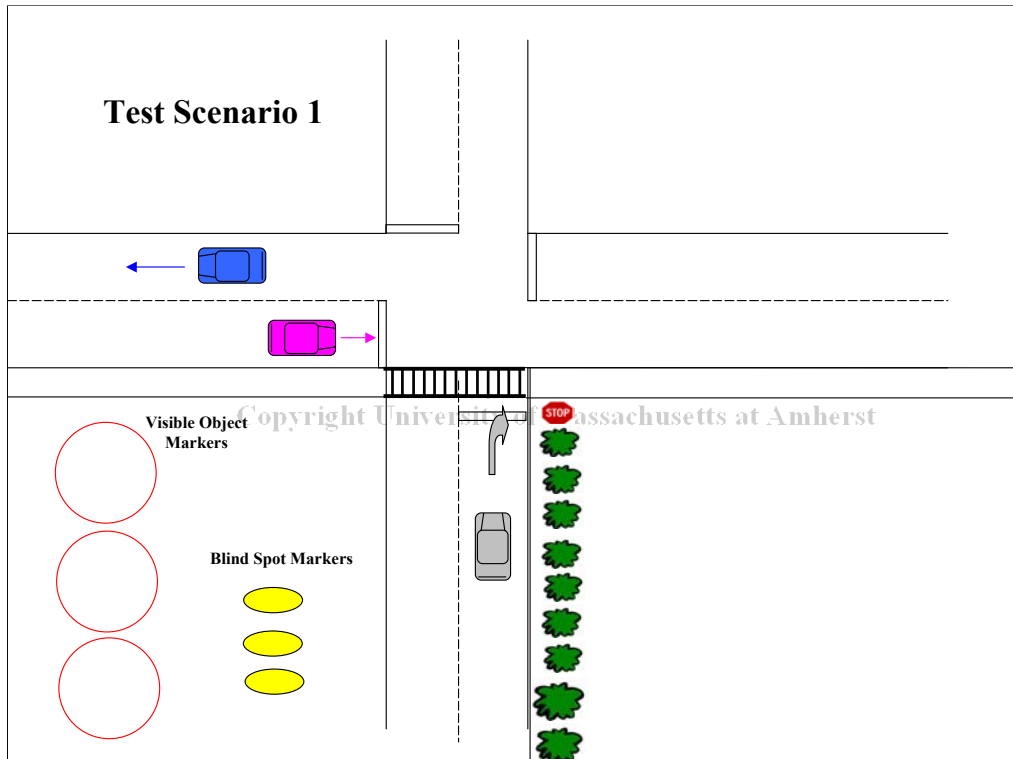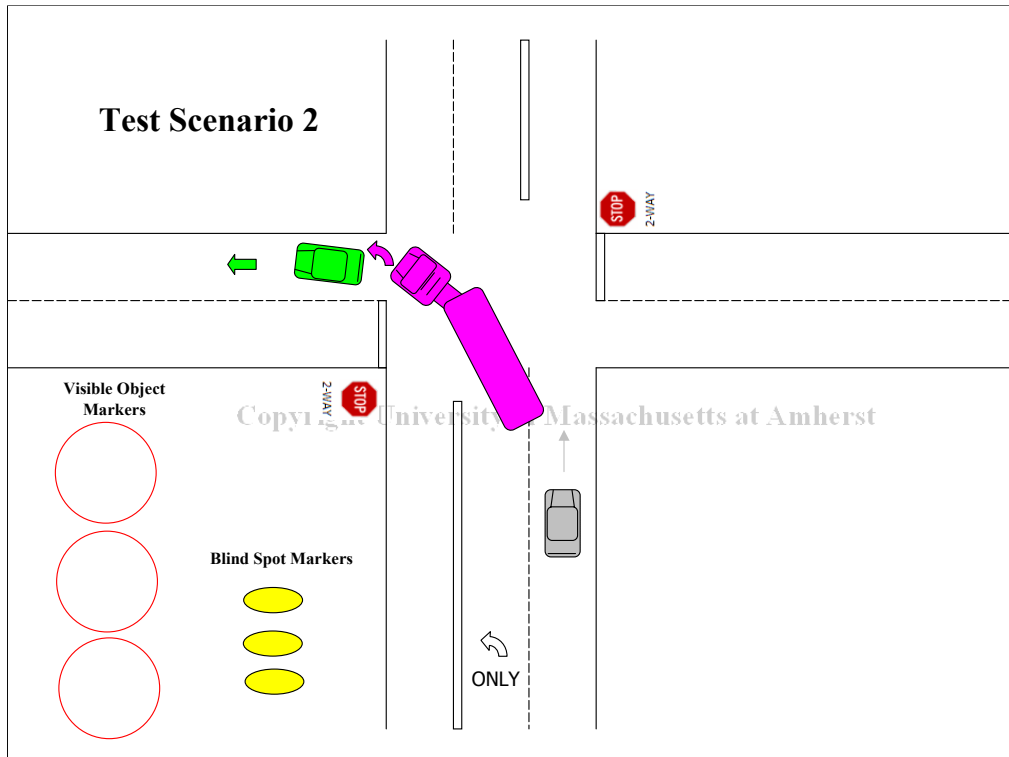
Testing Section: You will now see a total of 10 test scenarios. For each test scenario, you will be asked to mark red circles and yellow ovals on the page as appropriate. Remember that a red circle indicates a visible location or object that you believe the driver, you, should monitor continuously in order to drive safely; a yellow oval indicates an area of the roadway that corresponds to a blind spot that you should monitor continuously and where there might be important information for the driver that is obscured by an object (such as another vehicle or a bush).
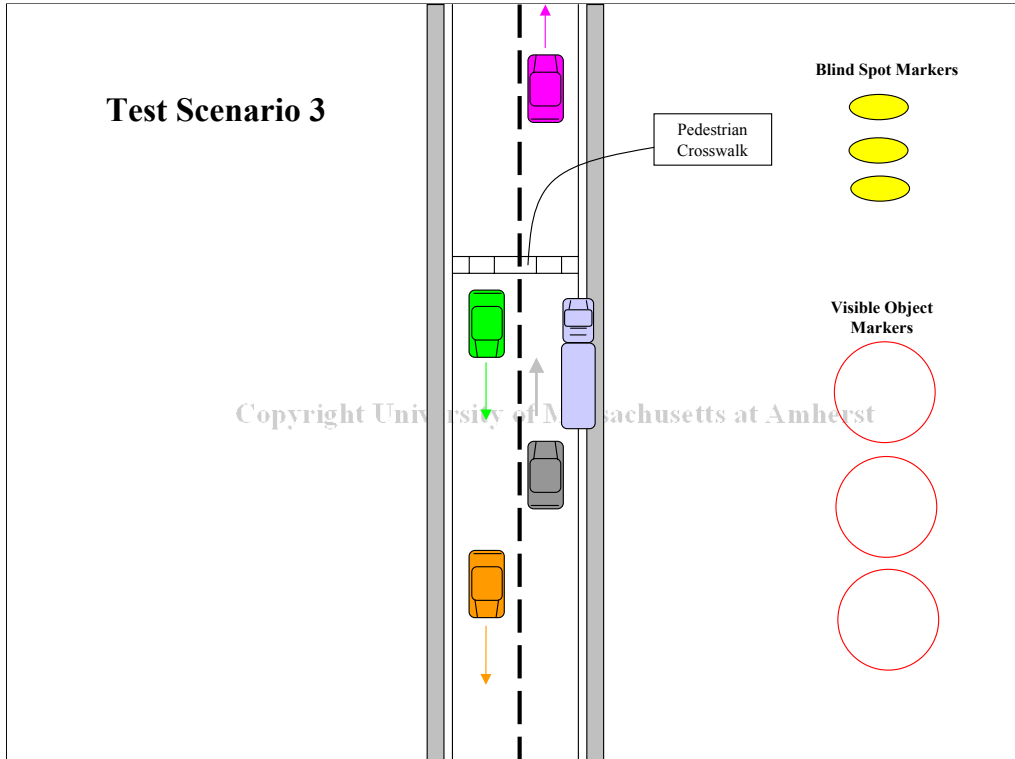

Your answers will be scored as follows:

a) 10 points: You place a red oval on a critical object

b) 10 points: You place a yellow oval on a critical area

c) –5 points: You place a red circle on an object that is not critical

d) –5 points: You place a yellow oval on an area that is not critical

Test Scenario 1

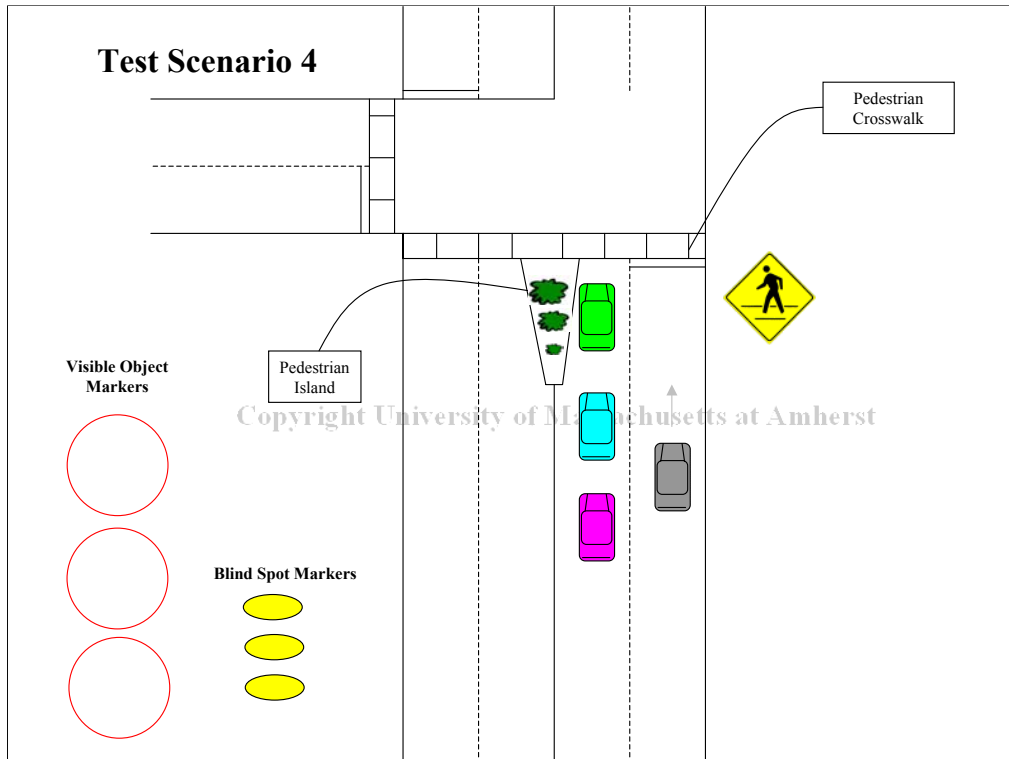Visible Object Markers

Blind Spot Markers

Imagine that you are the driver of the gray car, that you are located at the indicated position on the road, and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places as you pull up to the stop line (before you take the turn).

Test Scenario 2

Visible Object Markers

Blind Spot Markers

STOP 2-WAY

STOP 2-WAY

ONLY

Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

Test Scenario 3

Pedestrian Crosswalk

Blind Spot Markers

Visible Object Markers
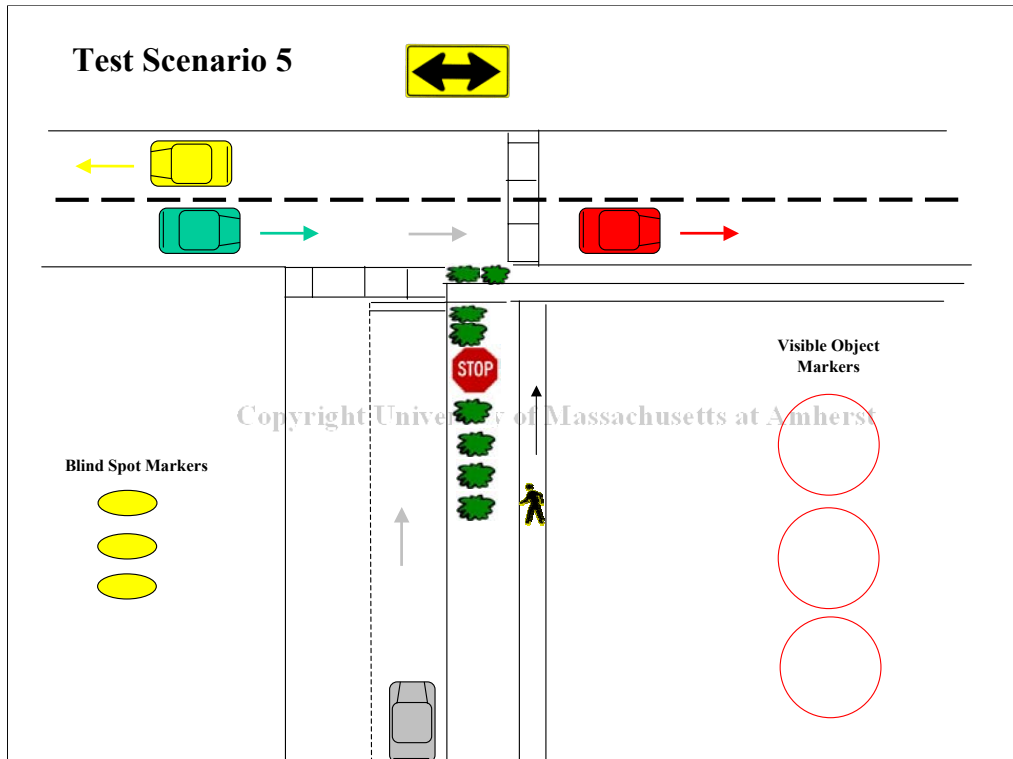
Copyright University of Massachusetts at Amherst

Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

Test Scenario 4

Pedestrian Crosswalk

Pedestrian Island

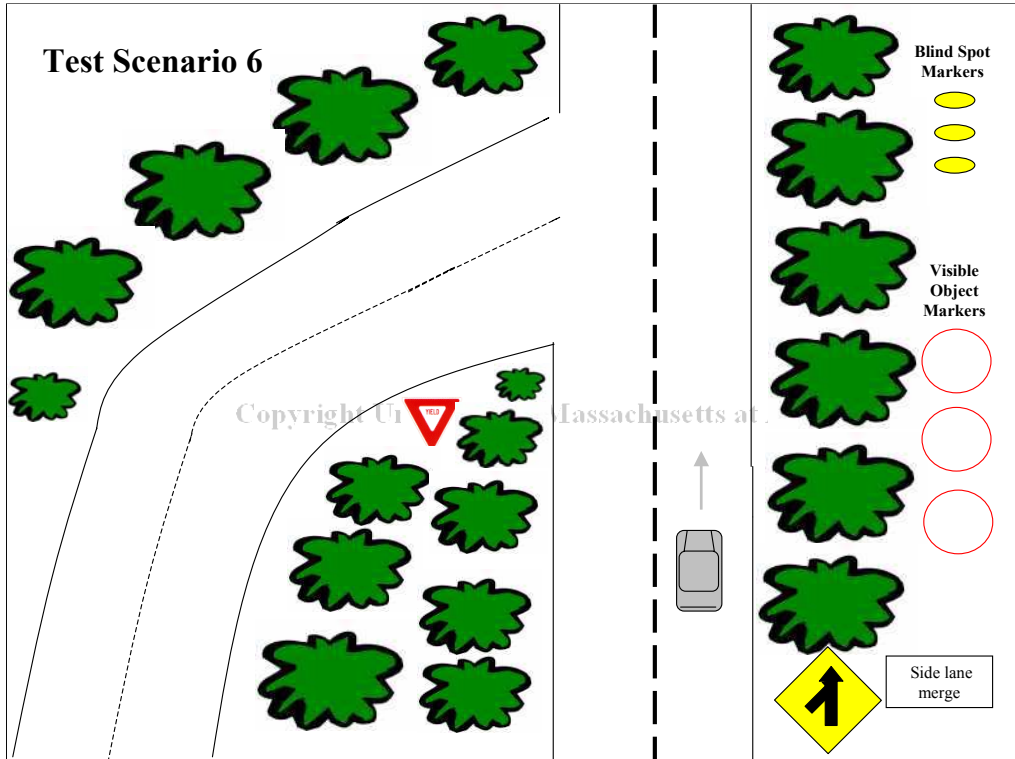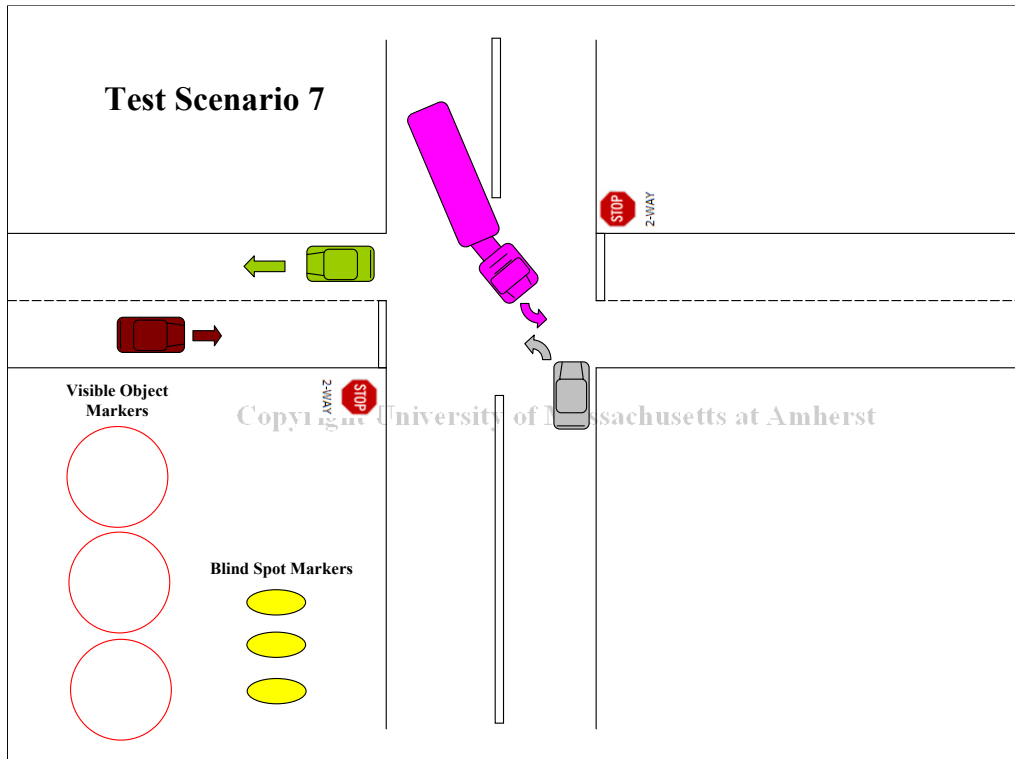Visible Object Markers

Blind Spot Markers

Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

Test Scenario 5

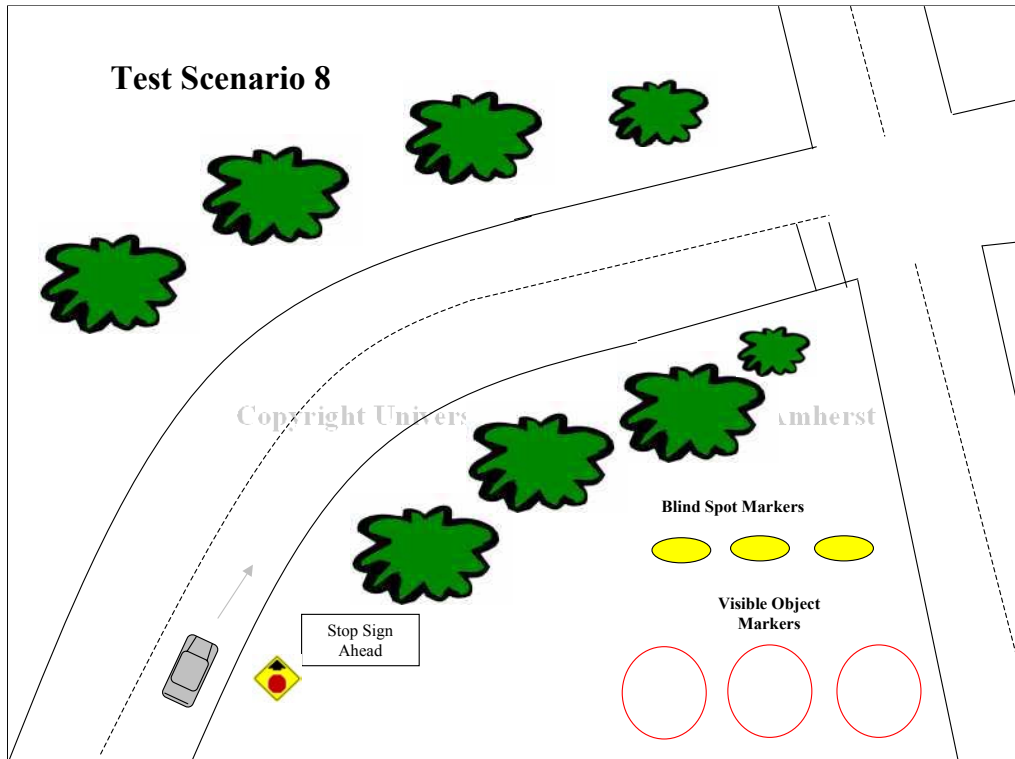Visible Object Markers

Blind Spot Markers

Imagine that you are the driver of the gray car, that you are heading in the direction towards the stop sign, as indicated by the gray arrow, and that you are then taking a right hand turn, again as indicated by a gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places immediately after you have taken the right hand turn.

Test Scenario 6

Blind Spot Markers

Visible Object Markers

Side lane merge

Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

Test Scenario 7

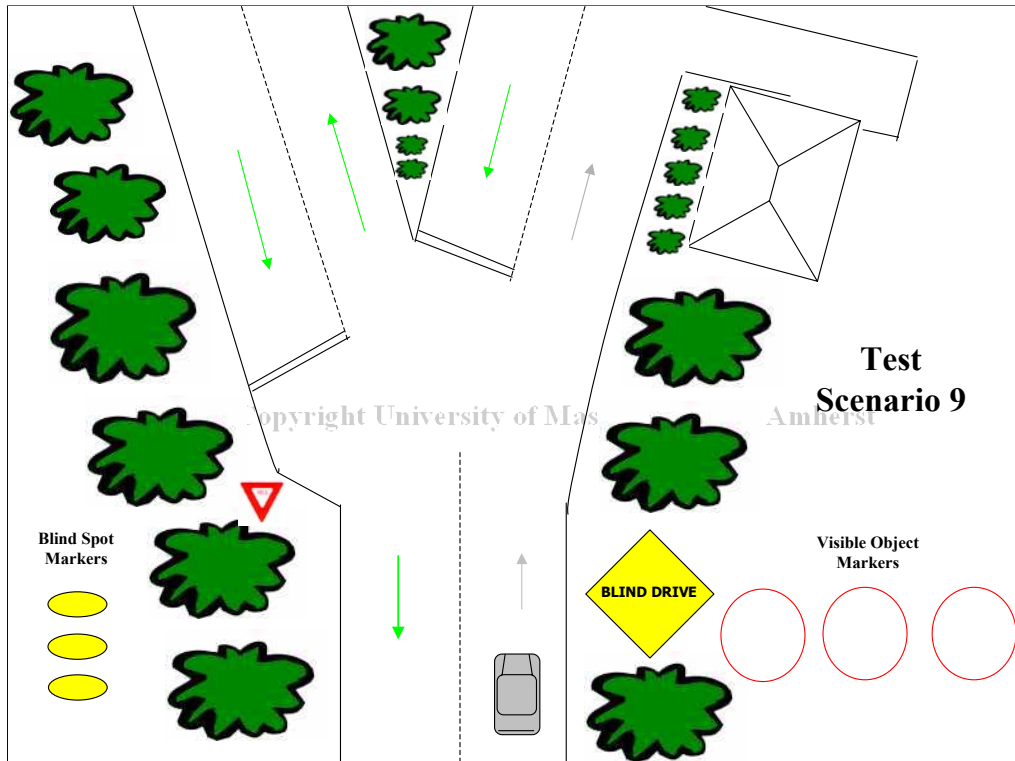Visible Object Markers

Blind Spot Markers

Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places for when you are halfway through your turn.

Test Scenario 8

Blind Spot Markers

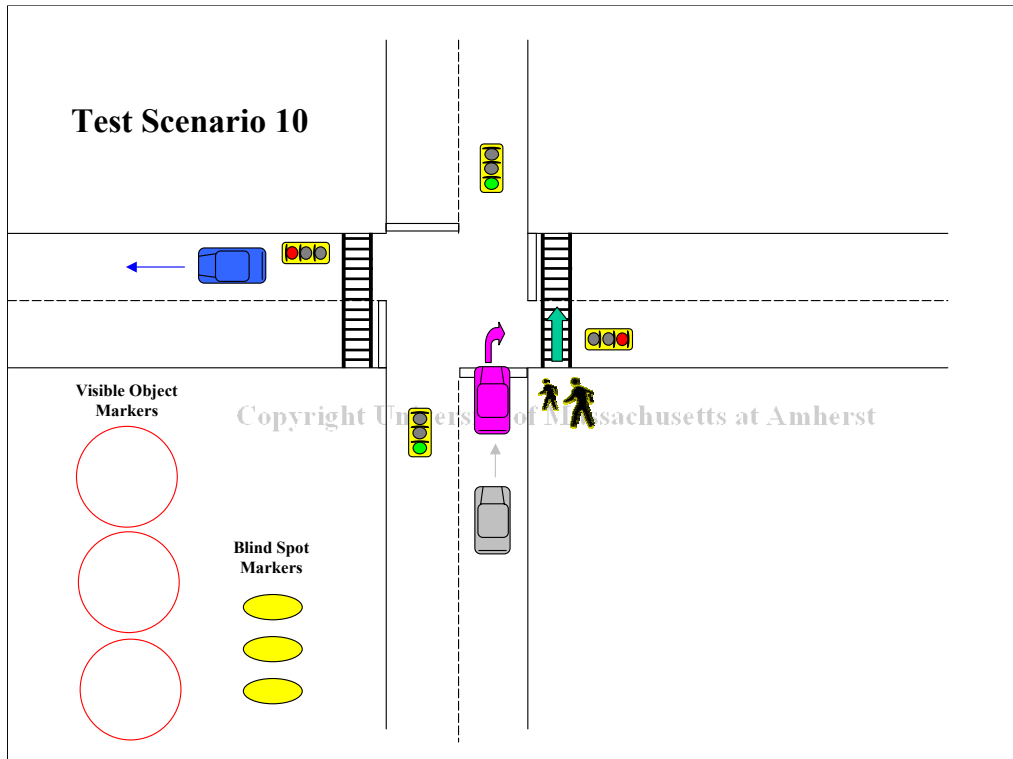Visible Object Markers

Stop Sign Ahead

Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow. Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

Test Scenario 9

Blind Spot Markers

Visible Object Markers

BLIND DRIVE

Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrows (taking a right at the fork). Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

Test Scenario 10

Visible Object
Markers

Blind Spot
Markers

Imagine that you are the driver of the gray car and that you are heading in the direction indicated by the gray arrow (straight). Please draw between 0 and 3 red circles and between 0 and 3 yellow ovals in the scenario at the appropriate places.

You have now completed the testing section of this training. For more information on any of the test scenarios or to review the correct answers, you can return to the training scenario explanations provided beginning on page number 21.