

Rule Book Handbook 7
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General duties of a controller of site safety (COSS)

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1 Competence and identification

To act as a controller of site safety (COSS), you must have with you a valid COSS certificate of competence issued by your employer.

You must wear a COSS armlet on the left arm or a COSS badge on the upper chest when you are carrying out the duties of a COSS.

You must not wear the COSS armlet or badge at any other time.

The COSS armlet or badge must have COSS in white letters on a blue background.

2 Walking alone on or near the line

2.1 When you can walk alone on or near the line

If it is possible to walk to or return from a site of work without going into the area on or near the line, you must do so.

You must only walk on or near the line to get to or return from a site of work as long as one of the following applies:

- You have blocked the line as shown in handbook 8.
- The line has been blocked by a protection controller (PC) and you have agreed a safe system of work with that PC as shown in handbook 7.
- Your site of work is within an engineering supervisor's (ES) work site and you have agreed the safe system of work with the ES, as shown in handbook 9.
- Your site of work is within an engineering supervisor's (ES) protection zone and you have agreed the safe system of work with the ES, as shown in handbook 12.
- Your site of work is within a siding and you have agreed a safe system of work with the person in charge of the siding possession (PICOS) as shown in handbook 9.
- You are carrying out alternative arrangements which are shown in your safe work pack or company instructions.

2.2 Moving around obstacles

If you come across any unexpected or temporary obstacles whilst you are walking that mean you will have to go on or near a running line that is open to traffic, you must do one of the following so that you can safely bypass the obstacle.

- Use an alternative route that does not involve going on or near the line.
- Carry out an alternative arrangement that is shown in your company instructions if you can do so without blocking the line.
- Arrange to block the line as shown in handbook 8.

2.3 Crossing open lines

You can cross lines which are open to traffic when you are walking alone if one of the following applies.

- Your safe work pack shows that you are to cross the line at the location you have reached using a defined method and you have made sure that you can carry out those arrangements.
- You are at a location where the Crossing the Line procedure is permitted and you are competent to use that procedure at the location concerned.
- The location is defined as a planned crossing point and you are competent to apply those arrangements

3 Work that you can do without the line being blocked

3.1 Work that does not affect the safety of the line

If the work will not affect the safety of the line and nobody will come within 2 metres (6 feet 6 inches) of the nearest running rail of an open line, or 1.25 metres (4 feet) if a rigid or tensioned barrier or permanent fence is used, you may carry out the work without blocking that line.

3.2 Patrolling, examining or inspecting when alone

You can patrol, examine or inspect an open line when you are alone if you are sure you will be able to look up often enough (at least every 5 seconds) to see any train approaching and:

- you will be able to reach a position of safety at least 10 seconds before any approaching train arrives, and
- you can reach that position of safety without crossing any open line other than the one you are on.

You must not use these arrangements during darkness, poor visibility or when in a tunnel.

3.3 Crossing the line procedure

You can use this procedure if you are walking alone, or with a group that is walking and need to:

- cross no more than four running lines
- walk past a structure that restricts clearance from a running line.

You can only use this procedure if all of the following apply.

- The location is one that has been approved for the use of the procedure, and you and signallers have been given details about the location and the conditions for using it.
- You are competent in using the procedure and your name has been given to signallers.
- You are not using the procedure during the time you or any of the group are carrying out any work, including patrolling or inspecting, only when walking.
- You, or any of the group, must not carry anything that will affect your ability to walk safely.

You must contact the signaller using a mobile phone.

You must tell the signaller:

- where you want to cross the line or pass by a structure
- your name and employer
- how long it will take to cross the line or pass by the structure.

When the signaller tells you that the group can cross the line or pass by a structure you must:

- tell the group that they can cross the line or pass by a structure
- immediately cross the line or pass by the structure
- stay on the phone to the signaller until everyone has crossed the line or passed by the structure
- make sure that everyone is in a position of safety.

You must then tell the signaller that the group is clear of any line.

4 Work that needs the line to be blocked

4.1 Work group at risk from trains

If the activity could be carried out using lookout or equipment warning but neither is available, the line concerned must be blocked or another safe system used.

4.2 Work affecting the safety of the line

Unless specifically allowed in your company instructions, you must consider the following as types of work that affect the safety of the line.

- Carrying heavy or awkward equipment or materials across or along the line.
- Work that will affect the condition of the track.
- Digging a hole or stacking material or equipment close to the line or near the edge of a platform.
- Placing a hand trolley on the line.
- Using plant within 2 metres (6 feet 6 inches) of the line.
- Using a road vehicle within 2 metres (6 feet 6 inches) of the line.
- Using on-track plant (OTP) that will foul the line.
- Using a crane or other lifting equipment that will foul the line.
- Attaching anything to a railway structure, such as a bridge, a station roof or building, a signal post or gantry, or electrical equipment.
- Using a ladder, unless secured so that it cannot fall towards the line.
- Using scaffolding or a climbing tower, unless secured so that it cannot fall or move towards the line.
- Felling or trimming trees.

4.3 Before starting work

You must not start or allow your group to start work as shown in section 4.1 or 4.2 unless the line concerned is blocked by one of the following methods.

- You have blocked the line as shown in handbook 8 or the line has been blocked by a protection controller (PC) and you have agreed a safe system of work with that PC as shown in handbook 8.
- Your site of work is within an engineering supervisor's (ES) work site and you have agreed the safe system of work with the ES as shown in handbook 9.
- Your site of work is within an engineering supervisor's (ES) protection zone and you have agreed the safe system of work with the ES, as shown in handbook 12.
- Your site of work is within a siding and you have agreed a safe system of work with the person in charge of the siding possession (PICOS) as shown in handbook 9.

4.4 Placing possession protection

You may place detonator protection for a possession as long as the PICOP has assured you that the protecting signal for the line concerned has been placed to danger or the route has been closed.

You may place work-site marker boards for a work site within a possession as long as the ES has given you permission to do so.

5 Walking with a group

5.1 Before starting to walk with a group

You must carry out these instructions if a group is required to walk:

- to a site of work
- from one site of work to another
- from a site of work to the place where the group will leave the railway infrastructure.

There must be at least 3 metres (10 feet) between any open line and any member of your group.

Where this is not possible, you must make sure there is a safe system of work in place.

You must set up either one of the safe systems of work shown in section 6.2, or an alternative arrangement that is shown in your safe work pack that allows you to walk on or near the line.

Note: If a group is to walk on or near the line, site wardens cannot be used as a safe system of work. Lookouts can only be used if this has been authorised.

You must make sure that you have used all available sources of information so that the safe system of work identifies:

- walkways
- obstructions in the route
- where to cross the line
- how it will be possible for a member of the group to leave it in order to leave the railway infrastructure, or to join the group

You must use authorised access points, walking routes and crossing points, as identified within the National Hazard Directory, if they are available.

You must make sure that you are at the correct location before you start walking.

Before the group starts to walk on or near the line, you must make sure each member fully understands the safe system of work.

You must tell the group:

- the route to be taken
- the start and finish locations of the walk
- which lines are blocked and which are still open
- if they will be using an authorised walking route any known obstructions in the way
- if they are using a safety barrier, not to pass beyond the barrier and not to lean or place tools on it
- if they are using equipment warning, the method of warning and the position of safety
- if they are using lookouts, who the site lookouts are, the method of warning and the position of safety.

Before allowing your group to walk to the site of work or to start work, you must have:

- set up the safe system of work so that nobody in the group will be put in danger by a passing train
- briefed everyone in the group about the safe system of work.

You must make sure each member of the group confirms they understand the safe system of work by signing your safe-work briefing form (RT9909).

5.2 Moving around obstacles

If you come across any unexpected or temporary obstacles whilst your group is walking that mean you will have to go on or near a running line, you must do one of the following so that the group can safely bypass the obstacle.

- Use an alternative route that does not involve going on or near the line.
- Set up one of the safe systems of work shown in section 6.2, if you can do so without blocking the line.
- Carry out an alternative arrangement that is shown in your company instructions.
- If it is necessary to block the line, you must do so as shown in handbook 8.

5.3 Crossing open lines

You can allow your group to cross lines which are open to traffic if one of the following applies.

- Your safe work pack shows that you are to cross the line at the location you have reached using a defined method and you have made sure that you can carry out those arrangements.
- You are at a location where the Crossing the Line procedure is permitted and you are competent to use that procedure at the location concerned.
- The location is defined as a planned crossing point and you are competent to apply those arrangements.

You must make sure that you have briefed the group and that they understand the arrangements.

5.4 Joining or leaving a group

You must carry out the following instructions if anyone is to:

- go onto the railway infrastructure to walk to a site of work and join your group
- leave your group to walk to a place where that person will leave the railway infrastructure
- return to the railway infrastructure to walk to a site of work and rejoin your group.

Joining a group

Before anyone begins to walk to a site of work where your group is working, that person must speak to you.

You must both agree:

- the access point where that person is
- the location that person is to walk to.

You must explain the route that must be followed to the site of work.

You must tell the person which of the following applies.

- The site of work, or a location where you will meet the person can be reached without going on or near the line.
- The route will be on or near one or more running lines, but these lines are not open to traffic.
- The route will be on or near one or more running lines and you will set up a safe system of work so that it will be safe to walk near them.
- You will come to that location, give a briefing on a safe system of work and will then accompany the person to the site of work.

You must then set up any safe system of work that is necessary for the person to join the group safely.

The safe system of work must either be one of those shown in section 6.2, or an alternative arrangement shown in the safe work pack that allows a person to walk on or near the line.

You must make sure that you have explained the arrangements.

If it is necessary to leave your group, you must tell the group to stop work and make sure they are all in a position of safety.

Leaving a group

If anyone has to leave a group to walk from the site of work to a place where that person will leave the railway infrastructure, that person will tell you.

You must both agree the location that the person will be walking to, and you must explain the route that must be followed.

You must tell the person which of the following applies:

- The location where the railway infrastructure will be left can be reached without going on or near the line.
- The route will be on or near one or more running lines, but these lines are not open to traffic.
- The route will be on or near one or more running lines and you will set up a safe system of work so that it will be safe to walk near them.
- You will give a briefing on a safe system of work and will then accompany the person to the location where the railway infrastructure will be left.

You must then set up any safe system of work that is necessary for the person to leave the group safely.

The safe system of work must either be one of those shown in section 6.2, or an alternative arrangement shown in the safe work pack that allows a person to walk on or near the line.

You must make sure that you have explained the arrangements.

If it is necessary to leave your group, you must tell the group to stop work and make sure they are all in a position of safety.

Moving around obstacles

If anyone joining or leaving a group tells you that an unexpected obstacle or obstruction has been encountered whilst walking, that means it is necessary to go on or near a running line, you must arrange to block that line, so that person can safely go on or near it to bypass the obstacle.

6 Working with a group

6.1 Remaining with your group

You must stay with your group so that you are able to personally observe and advise everyone until:

- work is completed and your group is no longer on or near the line, or
- you are replaced by another COSS.

6.2 Safe systems of work

The following are the safe systems of work available.

Safeguarded - where every line at the site of work has been blocked to normal train movements.

Fenced - where there is a suitable barrier between the site of work and any line open to the normal movement of trains.

Separated - where there is a distance of at least 2 metres (6 feet 6 inches) between the nearest running rail of an open line and the site of work, and a site warden has been appointed.

There must be an identifiable limit to the site of work.

If it is only you and one other person in the group, you do not need to appoint a site warden. However, you must make sure neither of you go any closer than 2 metres (6 feet 6 inches) to the nearest running rail of the open line.

Equipment warning - where there is equipment provided to give enough warning to allow everyone involved to reach a position of safety before any train arrives at the site of work.

Lookout warning - where one or more lookouts are positioned to provide enough warning to allow everyone involved to reach a position of safety before any train arrives at the site of work.

6.3 Setting up the safe system of work

There must be at least 3 metres (10 feet) between any open line and any member of your group.

Where this is not possible, the instructions shown in sections 6.4, 6.5, 6.6, 6.7 or 6.8 must be applied.

Before allowing your group to start work, you must have:

- set up the safe system of work so that no body in the group will be put in danger by a passing train
- tested the safe system of work to make sure it is adequate
- briefed everyone in the group about the safe system of work.

6.4 Blocking the line

You may use a blocked line as part of the safe system of work.

You must only consider a line to be blocked if at least one of the following applies.

- You have blocked the line or lines concerned as shown in handbook 8.
- The line or lines concerned have been blocked by a PC and you have agreed a safe system of work with that PC as shown in handbook 8.
- Your site of work is within an ES's work site and you have agreed the safe system of work with the ES, as shown in handbook 9 or handbook 9 ERTMS.
- Your site of work is within an ES's protection zone and you have agreed the safe system of work with the ES, as shown in handbook 12.
- Your site of work is within a siding and you have agreed the safe system of work with the PICOS, as shown in handbook 9 or handbook 9 ERTMS.

When all lines are blocked, you may consider your safe system of work as safeguarded.

6.5 Safe system of work using a safety barrier (fenced)

If there is a safety barrier that is approved by the infrastructure manager between you and any open line, you may work as follows.

Rigid or tensioned barrier or permanent fence

As long as the barrier or fence is at least 1.25 metres (4 feet) from the nearest running rail of the open line, you may allow work to start on the safe side of the fence.

Fence made of barricade tape or plastic netting

If the fence is placed at 1.25 metres (4 feet) from the nearest running rail of the open line and the maximum speed on the open line is no greater than 40 mph (65 km/h), you may work on the safe side of the fence.

If the fence is at least 2 metres (6 feet 6 inches) from the nearest running rail of the open line, you may work on the safe side of the fence. There is no restriction on the speed of trains on the open line.

Note: A rigid or tensioned barrier placed at 0.9 metres (3 feet) from an open line along with automatic track warning system (ATWS) is sometimes used when on-track plant is being used close to an open line. You must not use a barrier at this distance as part of your safe system of work.

6.6 Safe system of work (separated)

You may set up a safe system of work using one or more site wardens as long as all of the following conditions apply.

- There will be at least 2 metres (6 feet 6 inches) between the site of work (the safe area) and the nearest running rail of an open line.
- You appoint one or more site wardens to watch all members of the group to make sure no one is allowed to go outside the safe area.
- You and each site warden can clearly identify the limits of the safe area.
- If you act as a site warden, you must take no part in the actual work.

Before starting work

You must check that each site warden is competent and is correctly wearing a site warden armband or badge.

You must point out the limits of the safe area and who will be the site wardens to each member of the group.

You must agree with each site warden and each member of the group what warning the site warden is to give if anyone attempts to move out of the safe area.

You must position each site warden so that the limits of the safe area and everyone in the group can clearly be seen and the warning will be heard by everyone in the group.

You must test the warning before allowing work to start.

You must make sure nobody distracts the site warden.

Note: If it is only you and one other person in the group, you do not need to appoint a site warden, but you must make sure neither of you go any closer than 2 metres (6 feet 6 inches) to the nearest running rail of the open line.

6.7 Safe system of work using ATWS, SATWS, TOWS or LOWS (equipment warning)

If there is an automatic track warning system (ATWS), semi-automatic track warning system (SATWS), train operated warning system (TOWS) or lookout operated warning system (LOWS), you can use this equipment to give warning of approaching trains as long as all of the following conditions apply.

- You or a member of your group are competent to use the equipment at that location.
- The equipment will provide an adequate warning of all approaching trains on the line or lines concerned.
- You and all members of the group will be able to stop work and reach the position of safety at least 10 seconds before the train arrives.
- Noise from any work that is being carried out will not prevent any member of the group from hearing the warning.

You must test the warning before allowing work to start.

If the equipment is already in use when you arrive, you must reach a clear understanding with the other person using it so that you each know what is happening.

When leaving the site of work, you must agree with anyone else using the equipment whether or not to leave the equipment in use.

6.8 Safe system of work using lookouts (lookout warning)

Conditions

You may set up a safe system of work using one or more lookouts as long as all of the following conditions apply.

- There is no realistic alternative safe system of work that can be used.
- Using lookouts at that location is not prohibited.
- You do not act as a lookout.
- There will be no need for anyone to cross more than two open lines to reach the position of safety.
- The group will not need to walk more than 25 metres (approximately 25 yards) along the line to reach the position of safety.
- The warning time needed is not more than 45 seconds.
- The warning time will be enough for everyone in the group to stop work and to then reach the position of safety at least 10 seconds before any train arrives (this is called the required warning time).
- Noise from any work that is being carried out will not prevent any member of the group from hearing the warning.

Arranging lookouts

You must make sure each lookout:

- knows the direction and lines that need to be watched for approaching trains
- is not distracted
- takes no part in the actual work
- has no other duties.

You must check that each lookout is competent and is correctly wearing a lookout armband or badge.

You must position site lookouts so that:

- any train approaching can clearly be seen
- the required warning time is available (use distant and intermediate lookouts if necessary)
- the warning will be received by everyone in the group (if necessary, use more than one site lookout).

On single or bi-directional lines, or when single line working is taking place, you must make sure enough warning is given for both directions.

You must test the warning before allowing work to start.

Deciding what is an approaching train

In deciding which lines the lookout needs to watch for approaching trains, you must consider all of the following.

- a) A line on which the group is walking or working.
- b) A line adjacent to a) that could also put anyone in the group in danger.

- c) A line that has to be crossed to reach the position of safety.
- d) A line on which a train could be routed towards a), b), or c) from any direction.
- e) A line where, at the required sighting distance, it is not possible to tell whether a train is on a line shown in a) to d) above.

Note: A lookout is not needed for an adjacent line, as shown in b) above, if a train approaching on the adjacent line cannot put the group in danger, for example where the group will not pass beyond the six-foot rail.

Using distant and intermediate lookouts

If the site lookout cannot achieve enough sighting to provide the required warning time, you may appoint distant and intermediate lookouts as long as the following conditions apply.

- It is daylight with clear visibility.
- Not more than one distant and one intermediate lookout is used in any direction.

You must make sure that any distant or intermediate lookouts are located in a position of safety.

However, if the site of work is mobile and the intermediate and distant lookouts will walk while carrying out their duties, they may leave the position of safety when they need to pass an obstruction.

You must make sure the distant lookout or intermediate lookout communicate correctly with each site lookout by using the blue and white chequered flags.

Method of warning used by a site lookout

You must choose the warning to suit the type of work and the location from:

- a horn
- a whistle
- a touch.

You may, if necessary, also get the lookout to shout.

When a site lookout gives the warning

You must make sure everyone goes to the position of safety when the warning is given.

If someone does not immediately stop work and go to the position of safety, the lookout will give an urgent warning.

Make sure tools and equipment are taken to the position of safety, unless they are too heavy to be moved by the slipstream of a passing train and are left clear of the line.

Working out the required warning time

You must consider how long it will take to stop work and place any tools or equipment down and how long it will take to get to the position of safety.

You may take into account an emergency speed restriction (ESR) or temporary speed restriction (TSR) as long as it has been imposed for the work.

You must add the following:

- 5 seconds for each additional direction the site lookout will be looking
- 5 seconds for each distant lookout
- 5 seconds for each intermediate lookout.

You must then add 10 seconds to be in the position of safety before the train arrives.

Use the sighting distance chart, shown at the back of this handbook, to work out the required sighting distance needed for your safe system of work.

You must not use lookouts as your safe system if:

- they cannot achieve the required sighting distance
- the warning time needed is more than 45 seconds
- the number of lookouts needed is not available.

Using lookouts during darkness, poor visibility or when in or near a tunnel

You may use lookouts during darkness, poor visibility or when in or near a tunnel as long as:

- the speed of approaching trains is no greater than 20 mph (30 km/h)
- the site lookout has enough sighting distance available
- you do not need to use a distant lookout or an intermediate lookout.

7 COSS briefing

Before the group goes on or near the line, you must make sure each member fully understands the safe system of work.

You will need to tell the group:

- the nature of the work
- the location of the work
- which lines have been blocked and which are still open
- if they are using a safety barrier, not to pass beyond the barrier and not to lean or place tools on it
- if they are using site wardens, who the site wardens are and the limits of the safe area
- if they are using equipment warning, the method of warning and the position of safety
- if they are using lookouts, who the site lookouts are, the method of warning and the position of safety.

You must make sure each member of the group confirms they understand the safe system of work by signing your safe-work briefing form (RT9909).

8 Visitor permits

If a person is issued with a visitor permit as shown in your company instructions, you may allow that person to take part in the work even though they do not hold the required track safety competence.

The person concerned must give you a document telling you that their visit onto the operational railway has been approved.

You must:

- brief the person on the safe system of work
- sign and keep the visitor permit
- stay with the person until they leave the operational railway.

Aid to working out warning times

	Up	Down
Maximum speed (from the Sectional Appendix or TSR or ESR)		
Time needed to stop work and down tools		
Time needed for everyone to reach a position of safety		
Add 5 seconds for each additional direction the site lookout is looking		
Add 5 seconds for each distant lookout		

	Up	Down
Add 5 seconds if working alone		
Add 5 seconds for each intermediate lookout		
Add 10 seconds (minimum time to be in a position of safety)	10	10
Total warning time needed (Must be no more than 45 secs)		
Sighting distance needed		
Sighting distance available		

Sighting distance chart (in metres) mph

Maximum Speed	Sighting distance, in metres (m), needed to give a warning time of							
	15 secs	20 secs	25 secs	30 secs	35 secs	40 secs	45 secs	
125 mph	900m	1200m	1400m	1700m	2000m	2300m	2600m	
120 mph	900m	1100m	1400m	1650m	1900m	2200m	2500m	
115 mph	800m	1100m	1300m	1550m	1800m	2100m	2400m	
110 mph	800m	1000m	1300m	1500m	1800m	2000m	2300m	
105 mph	800m	1000m	1200m	1450m	1700m	1900m	2200m	
100 mph	700m	900m	1200m	1350m	1600m	1800m	2050m	
95 mph	650m	850m	1100m	1300m	1500m	1700m	1950m	
90 mph	650m	850m	1050m	1250m	1450m	1700m	1850m	
85 mph	600m	800m	950m	1150m	1350m	1600m	1750m	
80 mph	550m	750m	900m	1100m	1300m	1500m	1650m	
75 mph	550m	700m	850m	1050m	1200m	1400m	1550m	
70 mph	500m	650m	800m	950m	1100m	1300m	1450m	
65 mph	450m	600m	750m	900m	1050m	1200m	1350m	

Sighting distance chart (in metres) mph

Maximum Speed	Sighting distance, in metres (m), needed to give a warning time of							
	15 secs	20 secs	25 secs	30 secs	35 secs	40 secs	45 secs	
60 mph	450m	550m	700m	850m	950m	1100m	1250m	
55 mph	400m	500m	650m	750m	900m	1000m	1150m	
50 mph	340m	500m	600m	680m	800m	900m	1050m	
45 mph	320m	420m	520m	620m	720m	820m	920m	
40 mph	280m	360m	460m	540m	640m	720m	820m	
35 mph	240m	320m	400m	480m	560m	640m	720m	
30 mph	220m	280m	340m	420m	480m	540m	620m	
25 mph	180m	240m	280m	340m	400m	460m	520m	
20 mph	140m	180m	240m	280m	320m	360m	420m	
15 mph	120m	160m	180m	220m	240m	280m	320m	
10 mph	80m	100m	120m	140m	160m	180m	220m	
5 mph	40m	60m	60m	80m	80m	100m	120m	

Sighting distance chart (in metres) km/h

Maximum Speed	Sighting distance, in metres (m), needed to give a warning time of							
	15 secs	20 secs	25 secs	30 secs	35 secs	40 secs	45 secs	
200 km/h	900m	1200m	1400m	1700m	2000m	2300m	2600m	
195 km/h	900m	1100m	1400m	1650m	1900m	2200m	2500m	
185 km/h	800m	1100m	1300m	1550m	1800m	2100m	2400m	
175 km/h	800m	1000m	1300m	1500m	1800m	2000m	2300m	
170 km/h	800m	1000m	1200m	1450m	1700m	1900m	2200m	
160 km/h	700m	900m	1200m	1350m	1600m	1800m	2050m	
155 km/h	650m	850m	1100m	1300m	1500m	1700m	1950m	
145 km/h	650m	850m	1050m	1250m	1450m	1700m	1850m	
135 km/h	600m	800m	950m	1150m	1350m	1600m	1750m	
130 km/h	550m	750m	900m	1100m	1300m	1500m	1650m	
120 km/h	550m	700m	850m	1050m	1200m	1400m	1550m	
115 km/h	500m	650m	800m	950m	1100m	1300m	1450m	
105 km/h	450m	600m	750m	900m	1050m	1200m	1350m	

Sighting distance chart (in metres) km/h

Sighting distance chart (in metres) km/h

Maximum Speed	Sighting distance, in metres (m), needed to give a warning time of							
	15 secs	20 secs	25 secs	30 secs	35 secs	40 secs	45 secs	
95 km/h	450m	550m	700m	850m	950m	1100m	1250m	
90 km/h	400m	500m	650m	750m	900m	1000m	1150m	
80 km/h	340m	500m	600m	680m	800m	900m	1050m	
70 km/h	320m	420m	520m	620m	720m	820m	920m	
65 km/h	280m	360m	460m	540m	640m	720m	820m	
55 km/h	240m	320m	400m	480m	560m	640m	720m	
50 km/h	220m	280m	340m	420m	480m	540m	620m	
40 km/h	180m	240m	280m	340m	400m	460m	520m	
30 km/h	140m	180m	240m	280m	320m	360m	420m	
25 km/h	120m	160m	180m	220m	240m	280m	320m	
15 km/h	80m	100m	120m	140m	160m	180m	220m	
10 km/h	40m	60m	60m	80m	80m	100m	120m	

Sighting distance chart (in miles and yards)

Sighting distance chart (in miles and yards)

Maximum Speed	Sighting distance, in miles (m) and yards (y), needed to give a warning time of								
	15 secs	20 secs	25 secs	30 secs	35 secs	40 secs	45 secs		
125 mph	920y	1240y	1540y	1m80y	1m380y	1m700y	1m1000y		
120 mph	1 ¹ / ₂ mile	1180y	1480y	1 mile	1m300y	1m600y	1 ¹ / ₂ mile		
115 mph	860y	1140y	1420y	1700y	1m220y	1m500y	1m780y		
110 mph	820y	1080y	1360y	1620y	1m140y	1m400y	1m660y		
105 mph	780y	1040y	1300y	1540y	1m40y	1m300y	1m560y		
100 mph	740y	980y	1240y	1480y	1720y	1m200y	1 ¹ / ₄ mile		
95 mph	700y	940y	1180y	1400y	1640y	1m100y	1m340y		
90 mph	660y	1 ¹ / ₂ mile	1100y	3 ³ / ₄ mile	1540y	1 mile	1m220y		
85 mph	640y	840y	1040y	1260y	1460y	1680y	1m120y		
80 mph	600y	800y	980y	1180y	1380y	1580y	1 mile		
75 mph	560y	740y	920y	1100y	1300y	1480y	1660y		
70 mph	520y	700y	860y	1040y	1200y	1380y	1540y		
65 mph	480y	640y	800y	960y	1120y	1280y	1440y		

Sighting distance chart (in miles and yards)

Sighting distance chart (in miles and yards)

Maximum Speed	Sighting distance, in miles (m) and yards (y), needed to give a warning time of							
	15 secs	20 secs	25 secs	30 secs	35 secs	40 secs	45 secs	
60 mph	1 ⁴ mile	600y	740y	1 ² mile	1040y	1180y	3 ⁴ mile	
55 mph	420y	540y	680y	820y	960y	1080y	1220y	
50 mph	380y	500y	620y	740y	860y	980y	1100y	
45 mph	340y	1 ⁴ mile	560y	660y	780y	1 ² mile	1000y	
40 mph	300y	400y	500y	600y	700y	800y	1 ² mile	
35 mph	260y	360y	1 ⁴ mile	520y	600y	700y	780y	
30 mph	220y	300y	380y	1 ⁴ mile	520y	600y	660y	
25 mph	200y	260y	320y	380y	1 ⁴ mile	500y	560y	
20 mph	160y	200y	260y	300y	360y	400y	1 ⁴ mile	
15 mph	120y	160y	200y	220y	260y	300y	340y	
10 mph	80y	100y	140y	160y	180y	200y	220y	
5 mph	40y	60y	80y	80y	100y	100y	120y	

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Contact: <https://customer-portal.rssb.co.uk>
Tel: +44 (0) 20 3142 5300
Web: www.rssb.co.uk

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