

Rule Book Module SP  
GERT8000-SP  
Issue 7 | December 2024

# Speeds

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## Conventions used in the Rule Book

A black line in the margin indicates a change to that rule since the last printed version. The Rule Book Briefing Leaflet in the online Standards Catalogue contains more information about the changes.  
Green text in the margin indicates who is responsible for carrying out the rule.

A white i in a blue box indicates that there is information provided at the bottom of the page.

A rule printed inside a red box is considered to be critical and is therefore emphasised in this way.

### Example



driver



If you do not understand anything in the Rule Book, ask your manager or supervisor to explain it to you.

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You will need this module if you carry out the duties of a:

- driver
- signaller
- train preparer.

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## **Blanket speed restrictions**

## 1

## Definitions

### Blanket speed restriction

A speed restriction which applies to an area rather than a geographical location.

### Differential speeds

If there is a differential permissible speed, or a differential temporary or emergency speed restriction, the higher speed applies to passenger, parcels and postal trains (loaded or empty) and light locomotives. The lower speed applies to all other trains.

### Emergency speed restriction

A speed restriction on an ERTMS line without lineside signals which has been imposed without ERTMS supervision.

A speed restriction on an ERTMS line with lineside signals which:

- has been imposed without ERTMS supervision
- has not been published in the Weekly Operating Notice
- has been published, but the times, speed or limits are different from those published
- has been imposed again after being withdrawn early
- has been shown in an amendment to the *Weekly Operating Notice*.

On any other line a speed restriction which:

- has not been published in the Weekly Operating Notice
- has been published, but the times, speed or limits are different from those published
- has been imposed again after being withdrawn early
- has been shown in an amendment to the *Weekly Operating Notice*.

## **Enhanced permissible speeds**

These speeds apply to class 221 and class 390 trains in tilting mode. Where differential signs are provided, the bottom figure shows the higher speed and applies to class 390 trains in tilting mode. The top figure applies to class 221 trains in tilting mode.

### **Permissible speed**

The speed which is published in Table A of the *Sectional Appendix*.

### **Temporary speed restriction**

A speed restriction on an ERTMS line without lineside signals which has been imposed by means of ERTMS supervision.

A speed restriction on an ERTMS line with lineside signals which has been imposed by means of ERTMS supervision and the details of which have been published in the *Weekly Operating Notice*.

On any other line a speed restriction, the details of which have been published in the *Weekly Operating Notice*.

# 2

## Permissible speeds

*The people responsible: driver, train preparer*

### 2.1 Permissible speeds and enhanced permissible speeds

#### driver

You must:

- control the speed of your train to no more than the permissible speeds, or any enhanced permissible speed that applies to your train, on all sections of the line
- make sure the whole of your train has passed clear of a section of line with a lower speed before increasing your speed.

If the change in permissible speed is marked by an acceleration indicator, you can accelerate to the new permissible speed as soon as the front of the train is at the position of the sign.

Where there are differential permissible speeds, you must control the speed of your train to no more than the speed that applies to that train.

Where permissible speeds are shown with letters, they apply only to the trains shown by the letters. You can allow your train to travel at no more than that speed, providing it is a train of the type to which the permissible speed applies.

This is what the letters mean.

<b>HST</b>	High speed trains
<b>MU</b>	Multiple-unit trains
<b>DMU</b>	Diesel multiple-unit trains
<b>EMU</b>	Electric multiple-unit trains
<b>SP</b>	Sprinter multiple-unit trains
<b>CS</b>	Class 67 locomotives

The classes of train that can travel at these speeds are shown in the *Sectional Appendix*.



## 2.2 Locomotives running light or hauling trains

You must make sure that locomotive-hauled trains in the formation shown, or locomotives running light, do not exceed the speeds shown in the table below where the permissible speed is more than 60 mph (95 km/h).

driver,  
train  
preparer

Train formation	Permissible speed	
	90 mph (145 km/h) or above	85 mph (135 km/h) or less
Any number of locomotives running light, or one or two locomotives with one, two or three coaching stock vehicles, or three or more locomotives and any number of coaching stock vehicles	75 mph (120 km/h)	60 mph (95 km/h)

## Speeds

driver,  
train  
preparer

You must make sure that locomotive-hauled trains conveying any type of coaching vehicles, postal or parcels vehicles, do not exceed the speeds shown in the table below where the permissible speed is more than 75 mph (120 km/h).

Train formation	Permissible speed		
	100 mph (160 km/h) or above	90 or 95 mph (145 or 155 km/h)	80 or 85 mph (130 or 135 km/h)
A locomotive with four, five or six vehicles, or two locomotives and from four to 10 vehicles.	90 mph (145 km/h)	80 mph (130 km/h)	75 mph (120 km/h)

You do not need to apply any of the restrictions in this section to some classes of locomotives or train formations, shown in your train operating company instructions, which have sufficient brake power.

# 3

## Temporary speed restriction (TSR)

*The person responsible: driver*

### 3.1 Driving over a TSR

When driving over a TSR, you must:

- control the speed of your train to no more than the speed shown on the warning board or the speed shown on the DMI
- make sure the whole of your train has passed clear of a section of line with a lower speed before increasing your speed.

driver

Where there are differential speeds shown on the warning board you must control the speed of your train to no more than the speed that applies to that train.

### 3.2 Normal arrangements with lineside equipment

The following equipment is used in connection with a TSR.

A portable AWS magnet is normally placed 180 metres (approximately 200 yards) on the approach to the warning board.

A warning board is placed on the approach to the speed indicator. The distance between the warning board and the speed indicator is normally the appropriate braking distance for the permissible speed at that location.

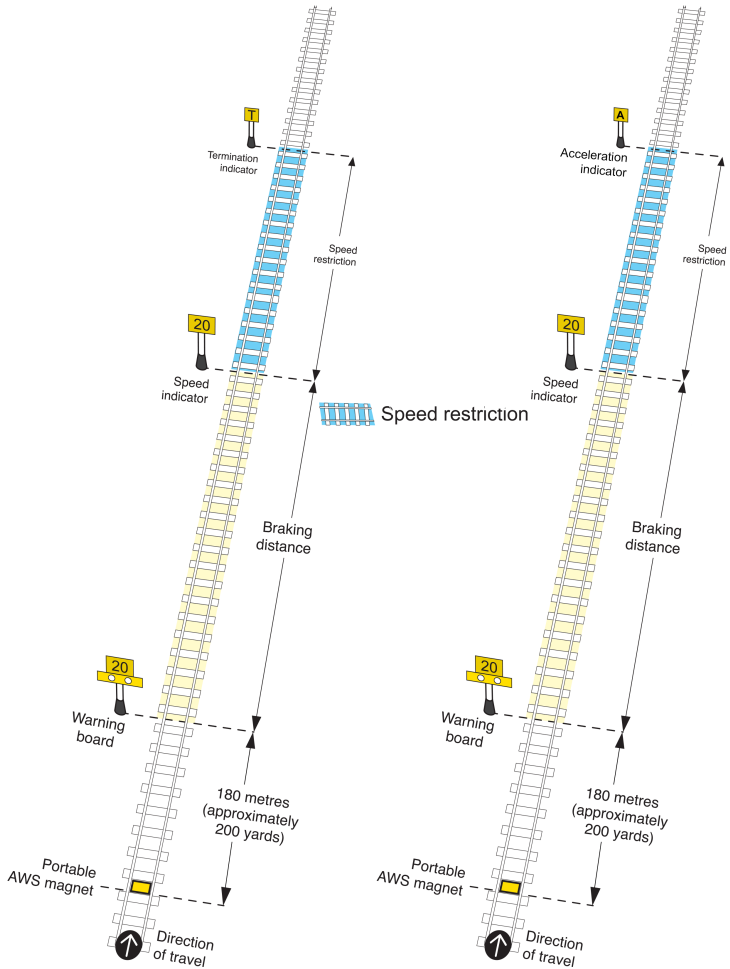
A speed indicator is placed at the start of the TSR.

A termination indicator is placed at the end of the TSR. This could be an acceleration indicator as an alternative in some circumstances.

[Diagram SP.1 a](#)) shows a normal TSR.

[Diagram SP.1 b](#)) shows arrangements for a TSR using the acceleration indicator.

# Speeds



**TSR normal arrangement**

**Diagram SP.1 a)**

**Diagram SP.1 b)**

### 3.3 Arrangements on ERTMS lines

On lines where lineside signals are not provided, AWS magnets and lineside equipment are not provided.

On lines where lineside signals are provided, the arrangements for the provision of AWS magnets and lineside equipment also apply.

You must make sure that planned TSRs are programmed into the system in enough time before they become active.

signaller

If available, a second competent person must check that each TSR is correctly:

- programmed into the system
- activated at the required time
- removed or changed at the required time.

### 3.4 Where there is a fixed AWS magnet

Diagram SP.2 on page 12 shows a TSR where there is already a fixed AWS magnet associated with a:

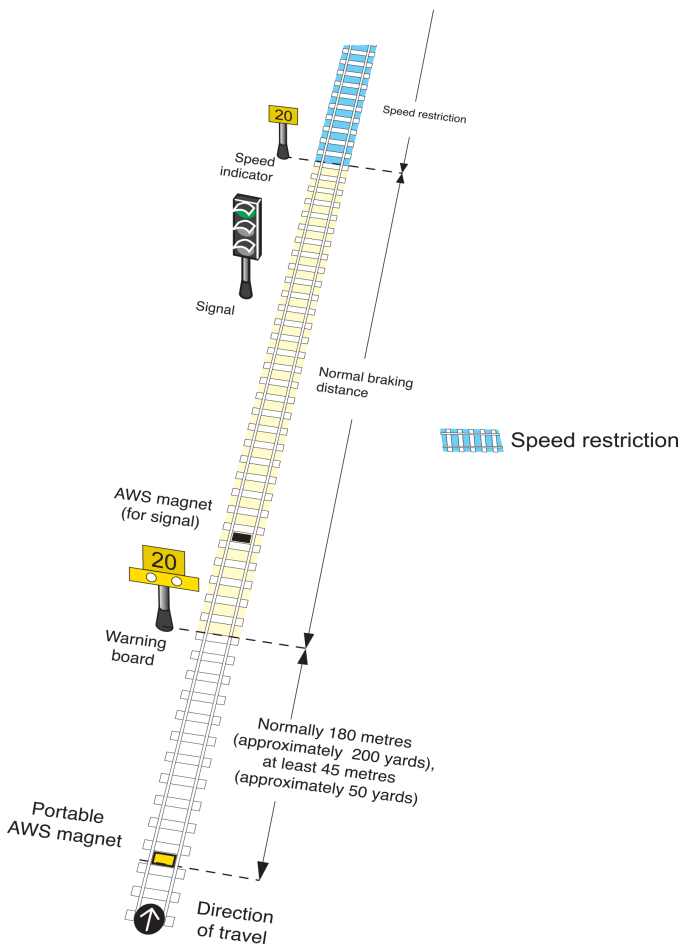
- signal
- permissible speed indicator
- level crossing warning board.

The warning board is not placed between a fixed AWS magnet and the equipment to which it applies.

If possible, the portable AWS magnet and the warning board are kept at the normal distance apart, but may be placed at a reduced distance of not less than 45 metres (approximately 50 yards).

The warning board may be placed at the signal, in which case the associated electro-magnet is disconnected and a temporary AWS magnet is not provided. The driver will always receive an AWS warning indication, no matter what aspect is displayed at the signal.

# Speeds



**Where there is already a fixed AWS magnet**

**Diagram SP.2**

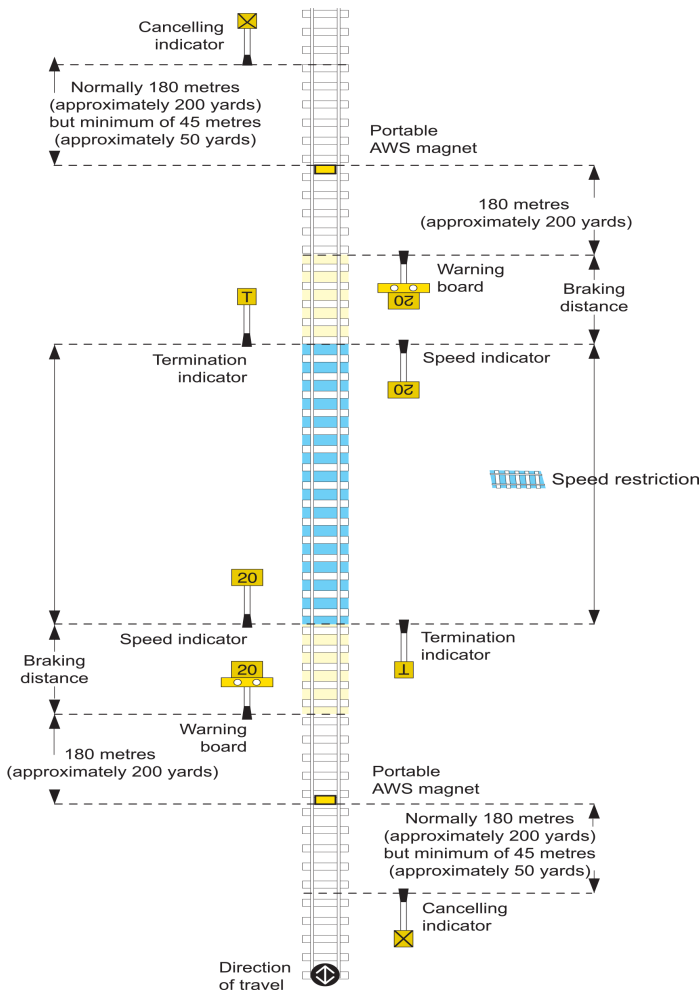
### **3.5 TSRs on single and bi-directional lines**

On a single or bi-directional line, equipment for a TSR is provided in both directions.

[Diagram SP.3](#) on page 14 shows an example of the arrangements.

A cancelling indicator is normally placed 180 metres (approximately 200 yards) beyond the AWS magnet at each end of the restriction facing trains that have already passed through the speed restriction, but may be placed at a reduced distance of not less than 45 metres (approximately 50 yards).

# Speeds



**Single and bi-directional lines**  
**Diagram SP.3**



## 3.6 Consecutive TSRs

### a) If there is a lower speed restriction beyond a higher speed restriction

If there are two TSRs with a lower speed restriction immediately beyond a higher speed restriction, a termination indicator is not placed at the end of the higher speed TSR. Instead a speed indicator is placed showing the speed for the lower speed TSR.

[Diagram SP.4 a\)](#) on page 16 shows two TSRs like this.

### b) If there is not sufficient distance to position the boards and indicators in the normal way

If there is not sufficient distance to position the warning boards and indicators in the normal way, then:

- the second warning board is placed at least 45 metres (approximately 50 yards) beyond the first warning board
- the second portable AWS magnet is placed immediately beyond the first warning board.

[Diagram SP.4 b\)](#) on page 16 shows two TSRs like this.

### c) If there is a higher speed restriction beyond a lower speed restriction

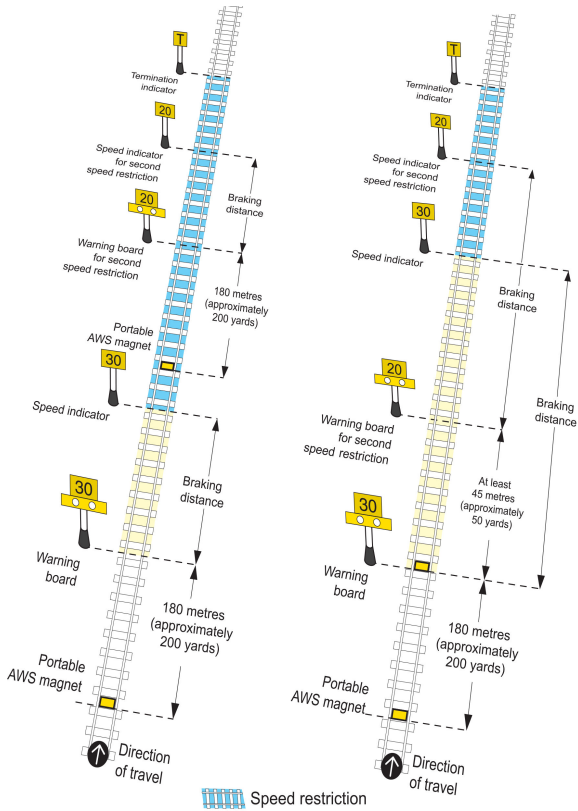
If there are two TSRs with a higher speed restriction immediately beyond a lower speed restriction, a warning board is not provided for the second TSR. A termination indicator is not placed at the end of the lower speed TSR. Instead a speed indicator is placed showing the speed for the higher speed TSR.

[Diagram SP.5](#) on page 17 shows two TSRs like this.

### d) Termination indicator

Only one termination indicator is provided. This is located at the end of the second TSR.

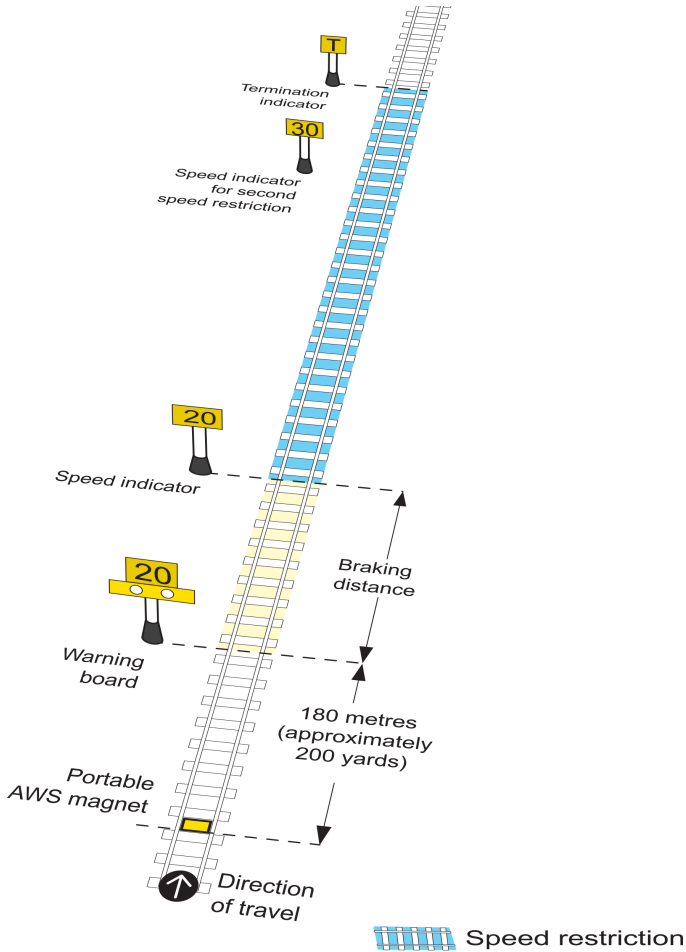
# Speeds



## Consecutive TSRs

Diagram SP.4 a)

Diagram SP.4 b)



### Consecutive TSRs

Diagram SP.5

### 3.7 One TSR inside another

#### a) If there is a lower speed restriction inside a higher speed restriction

If there are two TSRs with the lower speed restriction inside the higher speed, equipment is provided in the normal way except that the termination indicator is not placed at the end of the lower speed TSR. Instead a speed indicator is placed showing the speed of the higher speed TSR.

Diagram SP.6 a) on page 19 shows outer and inner TSRs like this.

#### b) If there is not enough distance to position the boards and indicators in the normal way

If there is not enough distance to position the warning boards and indicators in the normal way, then:

- the second warning board is placed at least 45 metres (approximately 50 yards) beyond the first warning board
- the second portable AWS magnet is placed immediately beyond the first warning board.

Diagram SP.6 b) on page 19 shows two TSRs like this.

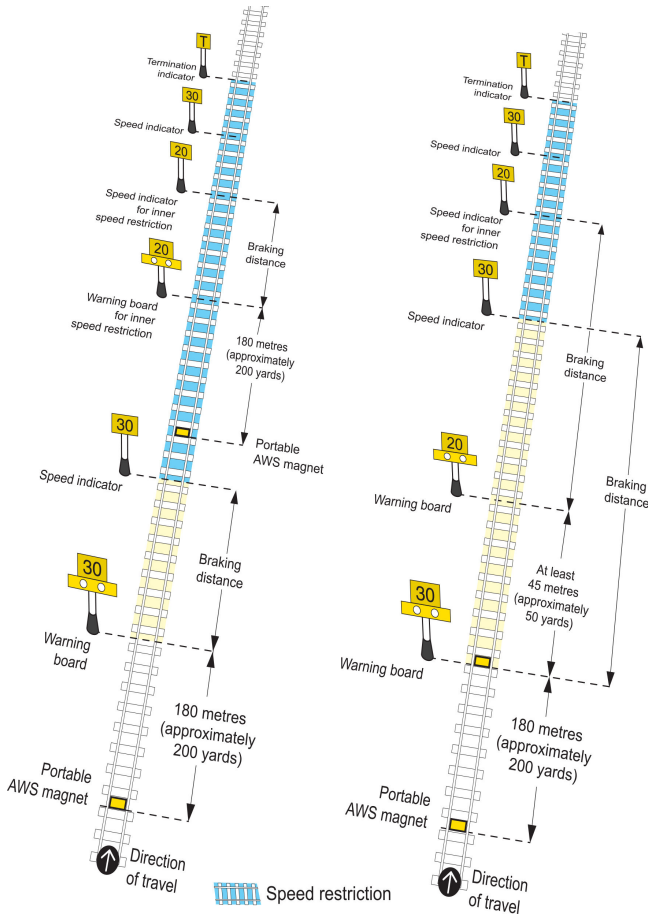
#### c) If there is a higher speed restriction inside a lower speed restriction

If there are two TSRs with the higher speed restriction inside the lower speed, a warning board is not provided for the higher speed TSR. A termination indicator is not placed at the end of the lower speed TSR. Instead a speed indicator is placed showing the speed for the higher speed TSR.

Diagram SP.7 on page 20 shows two TSRs like this.

#### d) Termination indicator

Only one termination indicator is provided. This is located at the end of the second TSR.

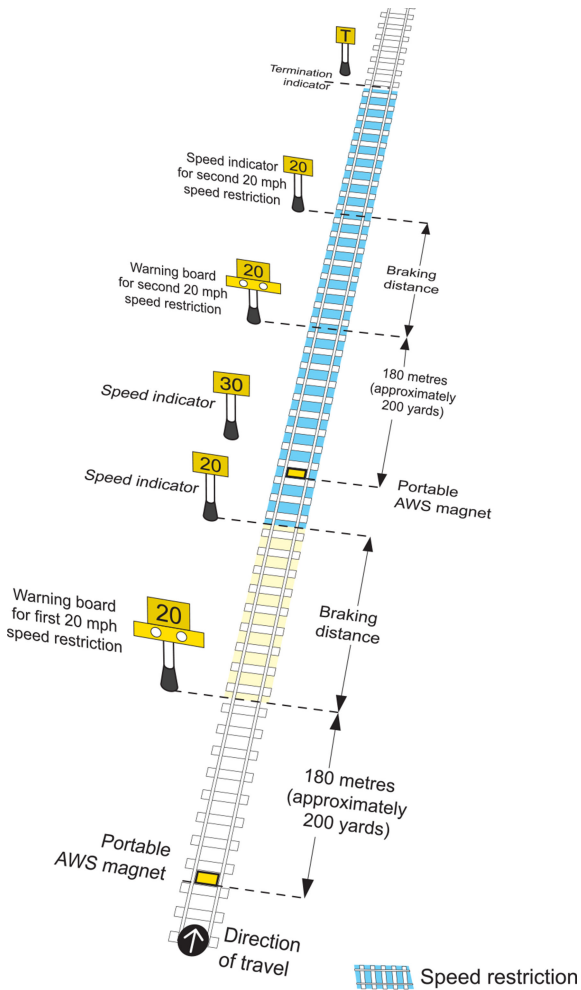


One TSR inside another

Diagram SP.6 a)

Diagram SP.6 b)

# Speeds



**One TSR inside another  
Diagram SP.7**

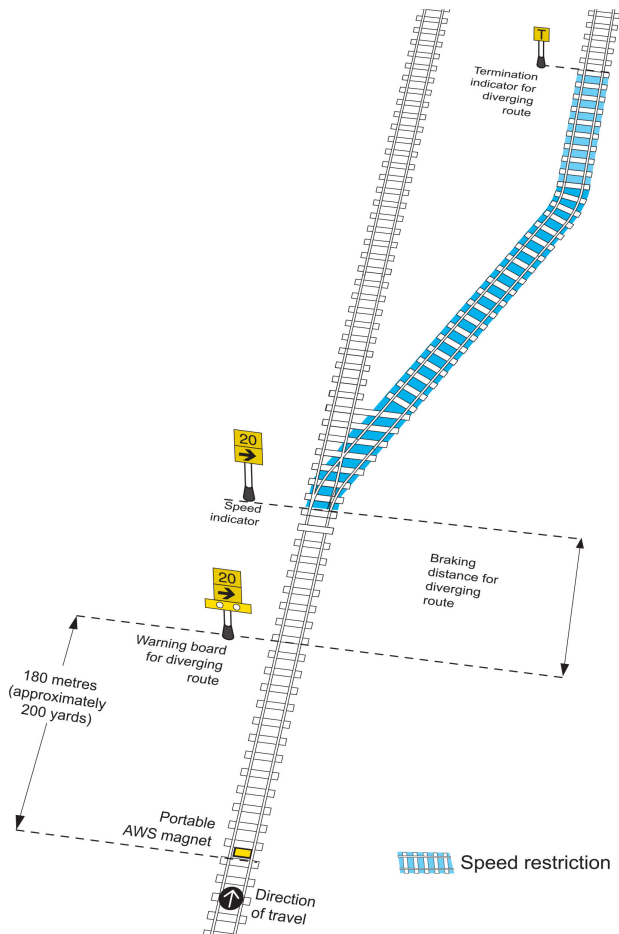
## **3.8 TSRs at a diverging junction**

### **a) TSR on diverging route only**

[Diagram SP.8](#) on page 22 shows a TSR on the diverging route only.

Equipment is provided in the normal way except that the warning board and speed indicator have a direction indicator to show that the TSR applies to the diverging route only.

# Speeds



**TSR on diverging route only**

**Diagram SP.8**



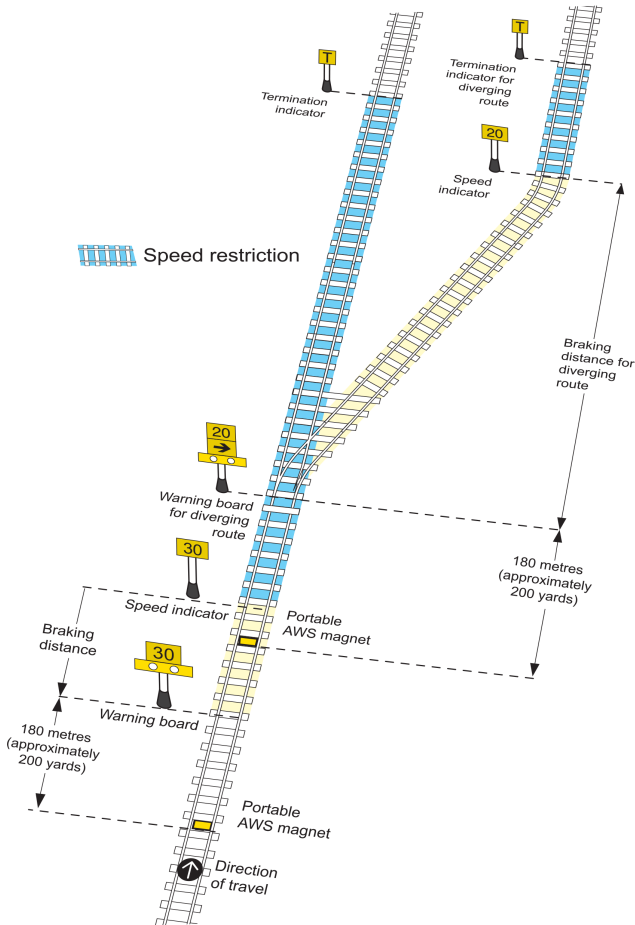
### **b) TSR on one route commences beyond the junction**

[Diagram SP.9](#) on page 24 shows a TSR on one route which commences before the diverging junction, and a TSR on the other route commences beyond the junction.

The warning boards for both TSRs are positioned on the approach to the junction, but only the speed indicator on the diverging route is beyond the junction.

Equipment is provided in the normal way except that one warning board has a direction indicator to show that the TSR applies to the diverging route only.

# Speeds



**TSR on one route commences beyond the junction**

**Diagram SP.9**

### **c) TSRs on both routes commencing beyond the junction**

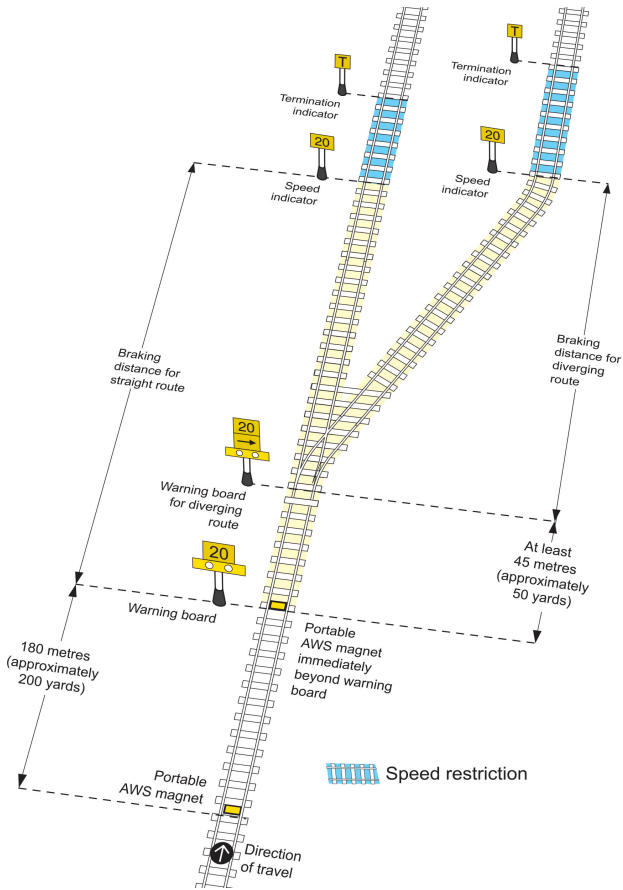
[Diagram SP.10](#) on page 26 shows TSRs on both routes which both commence beyond a diverging junction. The warning boards for both TSRs are positioned on the approach to the junction, but the speed indicators on both routes are beyond the junction.

Equipment is provided using the normal arrangement except that one warning board has a direction indicator to show that the TSR applies to the diverging route only.

However, if there is not sufficient distance to position the warning boards and indicators in the normal way, then:

- the warning board for the straight route is positioned on the approach side of the second warning board
- the second warning board is placed at least 45 metres (approximately 50 yards) beyond the first warning board
- the second portable AWS magnet is placed immediately beyond the first warning board.

# Speeds



**TSR on both routes commencing beyond the junction**

**Diagram SP.10**

### 3.9 TSRs beyond a station or siding connection

These instructions apply to a TSR if the warning board is on the approach to a:

- passenger station
- connection from a siding
- connection from a dead-end platform line.

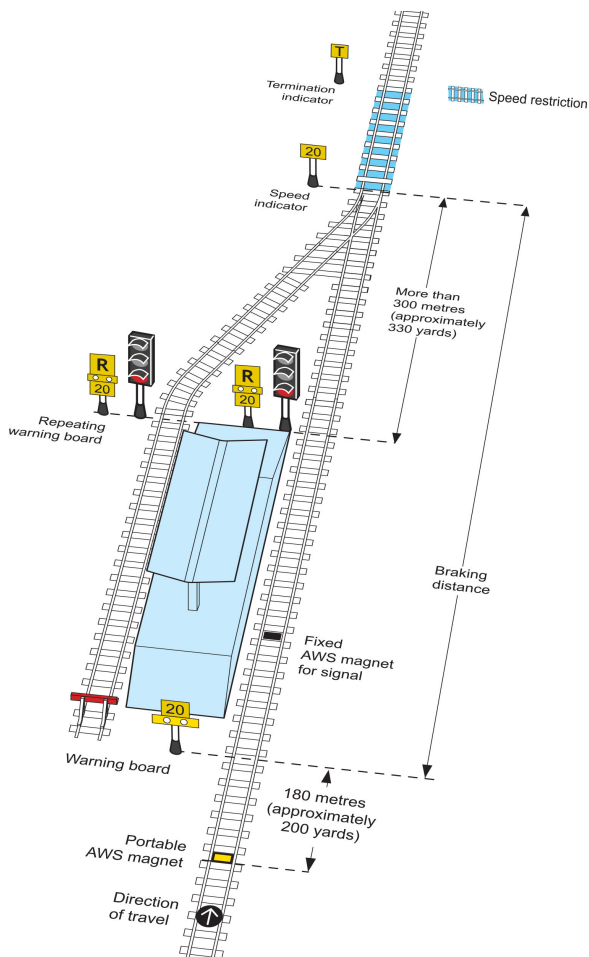
If the speed indicator is more than 300 metres (approximately 330 yards) beyond the station or sidings connection, a repeating warning board is placed as a reminder of the TSR as shown in [diagram SP.11](#) on page 28.

The repeating warning board is placed at one of the following locations.

- Next to the platform starting signal (if there is one).
- Next to the siding exit signal.
- Immediately ahead of the station, siding connection or dead-end platform line.

A portable AWS magnet is not provided on the approach to the repeating warning board.

# Speeds



**TSR beyond a station or siding connection**

**Diagram SP.11**

### **3.10 TSR at a location where trains can reverse or change drivers**

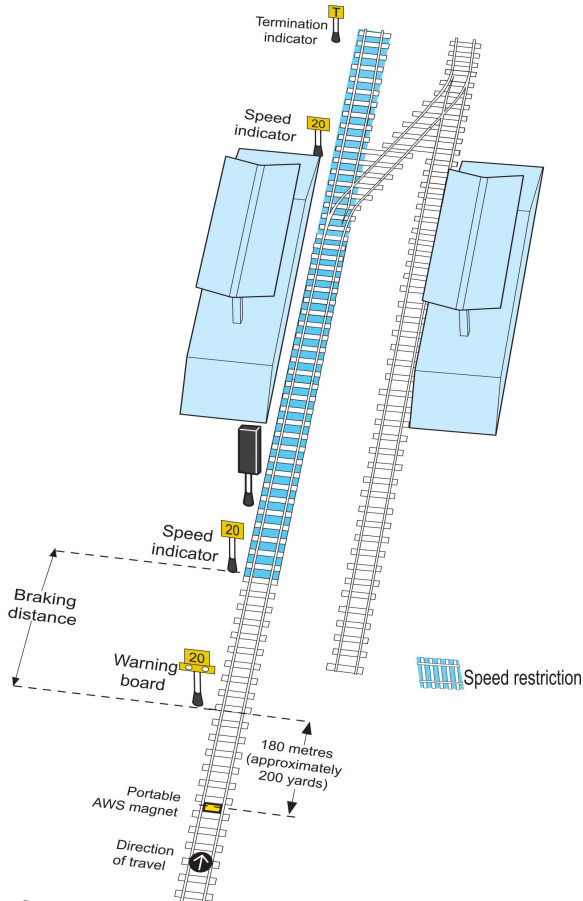
These instructions apply to a TSR at a location where trains can reverse or regularly change drivers.

An additional speed indicator is placed within the TSR as a reminder of the TSR as shown in [diagram SP.12](#) on page 30.

The additional speed indicator is placed at one of the following locations.

- Next to the starting signal.
- Immediately ahead of the station.

# Speeds



**TSR at a location where trains can reverse or change drivers**

**Diagram SP.12**



### 3.11 TSR across an ERTMS transition

On lines where lineside signals are provided, if the TSR starts within an ERTMS area but ends outside the ERTMS area, an additional speed indicator will be placed at the end of cab signalling board. See [diagram SP.13](#) on page 32.

This arrangement also applies on a single or bi-directional line.

### 3.12 When a TSR is to be moved

A TSR can be moved if the arrangements have been published in the *Weekly Operating Notice* and one of the following is applied.

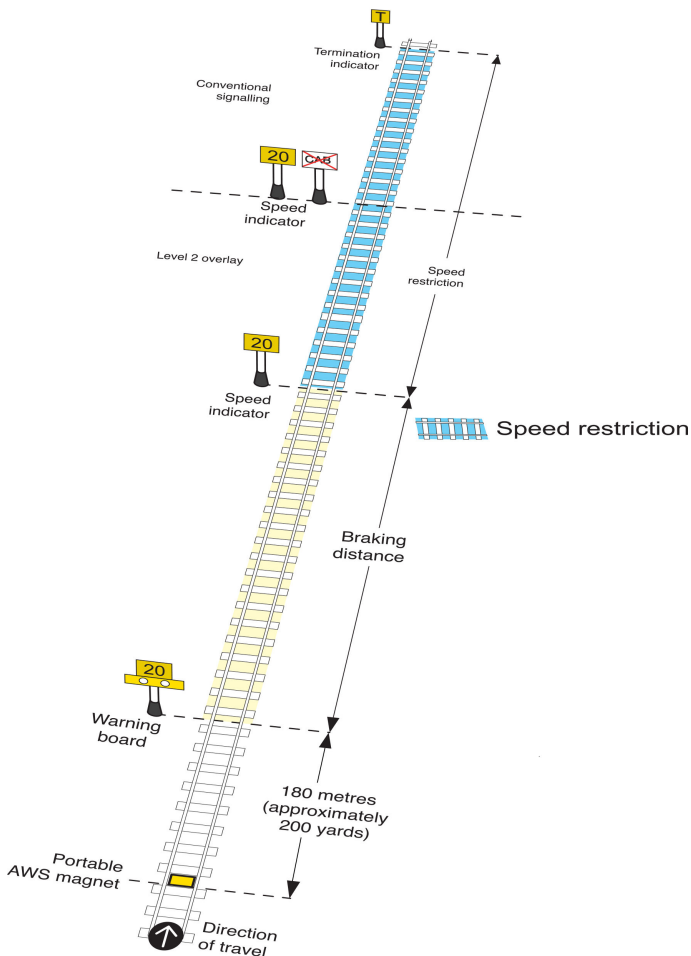
- The warning board, speed indicator and termination indicator are all moved in the direction of travel.
- The warning board and speed indicator are moved towards the termination indicator.
- The termination indicator is moved towards the speed indicator.

### 3.13 When a TSR is not introduced

When a TSR has been published in the *Weekly Operating Notice* but the restriction is no longer needed, the details are published in a special notice at least 24 hours before the TSR is due to start. However, the warning boards and indicators are not provided.

If it is not possible to do this at least 24 hours before the TSR is due to start, the TSR is set up as planned but the normal permissible speed will apply. The warning boards and speed indicator show either the permissible speed or a SPATE indicator.

# Speeds



**TSR across an ERTMS transition**

**Diagram SP.13**

### **3.14 When a TSR is eased or removed early**

When a TSR is eased to allow a higher speed earlier than that shown in the *Weekly Operating Notice*, the warning boards and speed indicator are changed to show the higher speed.

When a TSR is removed earlier than the time shown in the *Weekly Operating Notice*, the warning boards and speed indicator show either the permissible speed or a SPATE indicator.

# 4

## Emergency speed restriction (ESR)

*The people responsible: driver, signaller*

### 4.1 Signaller's actions

#### signaller

If it is necessary to allow trains to pass over the ESR before the equipment is in place, you must stop each train which will travel over the ESR and tell the driver:

- the location where the ESR begins and ends
- the speed limit imposed.

You must continue with these arrangements until the equipment has been set up, and on an ERTMS line, the signalling system is supervising the speed restriction.

### 4.2 Driver's actions

#### driver

When driving over an ESR before the equipment is in place, you must:

- control the speed of your train to travel over the affected portion of line at no more than the speed the signaller tells you
- make sure the whole of your train has passed clear of a section of line with a lower speed before increasing your speed.

After the equipment has been provided, you must control the speed of your train to no more than the speed shown on the warning board.

Where there are differential speeds shown on the warning board, you must control the speed of your train to no more than the speed that applies to that train.

### 4.3 Normal arrangements

When an ESR is to last for more than a short time, equipment is provided as soon as possible. The normal equipment for a TSR is provided as show in [section 3.2](#), and in addition an emergency indicator.

A portable AWS magnet is normally placed 180 metres (approximately 200 yards) on the approach to the emergency indicator.

The emergency indicator is placed at least 180 metres (approximately 200 yards) and not more than 400 metres (approximately 440 yards) on the approach to the warning board.

The portable AWS magnet for the warning board is placed at or beyond the emergency indicator.

[Diagram SP.14 a](#)) shows the normal arrangements for an emergency indicator.

On an ERTMS line you must make arrangements for the ESR to be programmed into the system.

signaller

# Speeds

## signaller

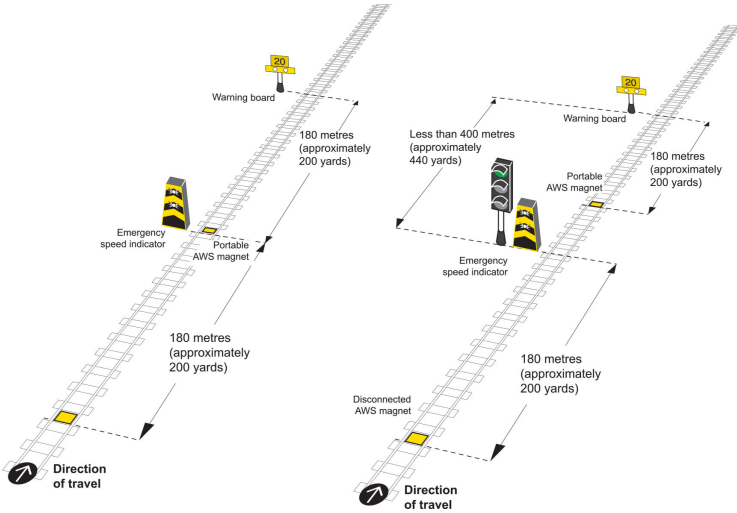


Diagram SP.14 a)

Diagram SP.14 b)

### Emergency indicator

## 4.4 Where there is a fixed AWS magnet

Diagram SP.14 b) on page 36 shows how an ESR is set up where there is already a fixed AWS magnet associated with a:

- signal
- permissible speed indicator
- level crossing warning board.

The emergency indicator is not placed between a fixed AWS magnet and the equipment to which it applies.

If possible, the portable AWS magnet and the warning board are kept at the normal distance apart, but may be placed at a reduced distance of not less than 45 metres (approximately 50 yards).

The emergency indicator may be placed at the signal, in which case the associated electro-magnet is disconnected and a portable AWS magnet is not provided. The driver will always receive an AWS warning indication, no matter what aspect is displayed at the signal.

## 4.5 Emergency indicator to stay in position

The emergency indicator will stay in position until:

- details of the speed restriction appear in the *Weekly Operating Notice*, or
- the speed restriction is withdrawn.

## 5

## Defective or missing ESR or TSR equipment

*The people responsible: driver, signaller*

### 5.1 Speed restriction boards or indicators missing or incorrect

#### driver

You must tell the signaller immediately if you see that a warning board, a repeating warning board or a speed indicator is:

- missing
- in a different place from the one published in the *Weekly Operating Notice*
- is more restrictive than that shown in the *Weekly Operating Notice*.

You must also tell the signaller immediately if the speed shown on the DMI is different to that shown on lineside equipment or the *Weekly Operating Notice*.

If necessary you must stop your train specially.

You do not have to tell the signaller if you have already been told about this.

#### signaller

You must report the defect the driver has told you about to Operations Control.

You must tell the driver of each train which will travel over the restriction about the irregularity until it has been put right.



## 5.2 Speed restriction boards or indicators that are, or are becoming, difficult to see

If you see a warning board, repeating warning board or speed indicator that is, or is becoming, difficult to see, you must tell the signaller at the first opportunity.

driver

You must report this to Operations Control.

signaller

If the driver has reported that a warning board or indicator is difficult to see, you must also stop each train approaching the warning board or indicator and tell the driver about the difficulty until it has been put right.

## 5.3 Defective or missing emergency indicator

You must tell the signaller immediately, if necessary stopping the train specially, if you see anything wrong with the emergency indicator.

driver

You must report this to Operations Control.

signaller

You must stop each train approaching the emergency indicator and tell the driver about the ESR until the irregularity has been put right.

# 6

## Blanket speed restrictions

*The people responsible: driver, signaller*

If a blanket speed restriction is imposed over an area, emergency indicators and other track equipment are not provided.

### signaller

If you are told by Operations Control that a blanket speed restriction is to be imposed, you must arrange for the driver of each affected train to be told about the speed restriction and the locations between which it is to be observed.

You do not need to do this if Operations Control has arranged to tell drivers by other means.

### driver

When a blanket speed restriction is imposed over an area, you must control the speed of your train to no more than the speed restriction throughout that defined area.





**Contact:** <https://customer-portal.rssb.co.uk>  
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**Web:** [www.rssb.co.uk](http://www.rssb.co.uk)

