How to work with signals

Note

Signals are a very complicated subject and they keep many people occupied in the real railroad world today. Trains can only really run safely with signals. But signals alone do not guarantee absolute safety. Deadlocks or stoppages cannot be prevented even with the best signal system without human logistics.

Signals are also not easy to use in Transport Giant. We therefore only recommend experienced players to select this option.

Signals are not a must in Transport Giant, but an added extra. They are not required to earn record profits or to develop a complicated traffic system!

Select signals for game

You can choose whether to use signals or not in the “degree of difficulty” menu when starting a new endless map or a mission.

Changing this option is no longer possible for games that have already been saved. So if you start a game without signals, it is not possible to activate signals later on during this game.

Building signals

You can build signals in the same menu as tracks or stations.
Click on the desired symbol in the menu. Now as many signals as desired can be located on the screen on top of tracks.

Removing signals

Select the symbol for “Removing” in the “Building tracks”. Now signals can be removed. If only a signal should be removed and not the surrounding tracks, only the field on which the signal is located should be marked for removal.

Signals at stations

Stations are always secured by main signals. These are placed automatically and cannot be removed!

Signal direction

Signals are always valid for both directions in order to make the system easily understandable for railroad novices.
With vane or form signals the upper vane always indicates the direction from the bottom to the top (seen from the players view with respect to the screen), the lower vane indicates the other direction.

Block signals

Block signals are a very easily understandable type of signal. A stretch of track between two block signals is always blocked for following, crossing or oncoming traffic from the moment a vehicle is located within the stretch of track.

Block signals serve mainly to increase the traffic volume on one-way tracks in one(!) direction. More details are given later on.

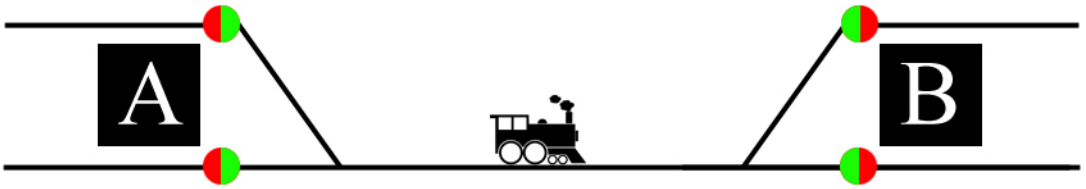
Main signals

Main signals are more “intelligent” than block signals, but they are also slightly more difficult to understand. Main signals form super-ordinate block sections between neighboring main sections. Block signals, forming subordinate blocks, can be located within this section.

These signals prevent access to a blocked section in the same way as block signals do. If block signals are however used additionally, the main signals then monitor the direction of travel of the vehicle within the block. The section is thus blocked for a defined direction of travel. Free subsections can be traveled on in the same direction but not in the opposite direction.

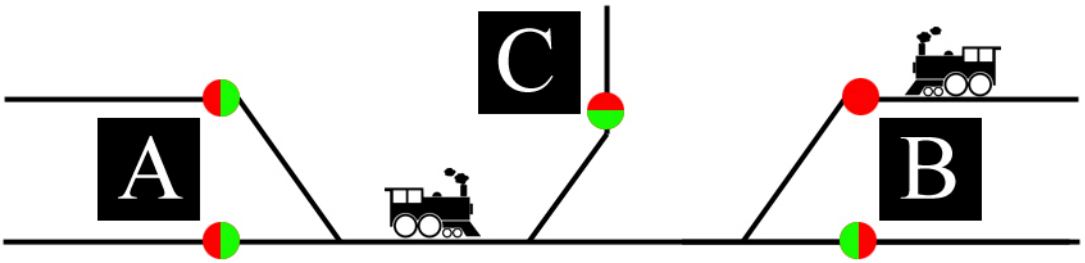
Some examples:

Single section with main signals



Two stations are secured with main signals (automatically). The complete section is blocked as soon as a train travels on the section. It is thus not possible to have several trains traveling in this section at the time. Other trains must wait in the station until the section is free again.

Connected section with several stations

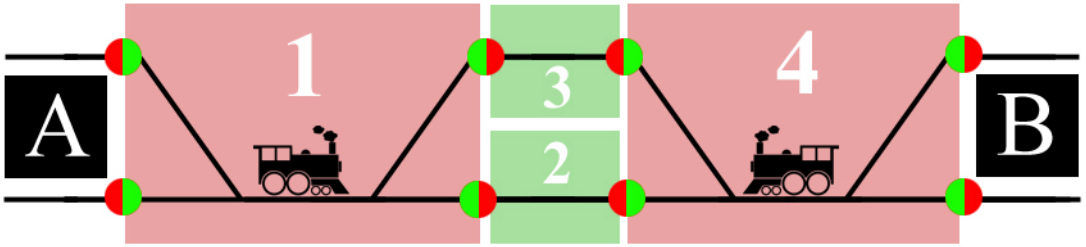


The same is true here as in the example above. All stations are secured with main signals thus creating a large block section. Once again only one train can travel on the free section between the stations.

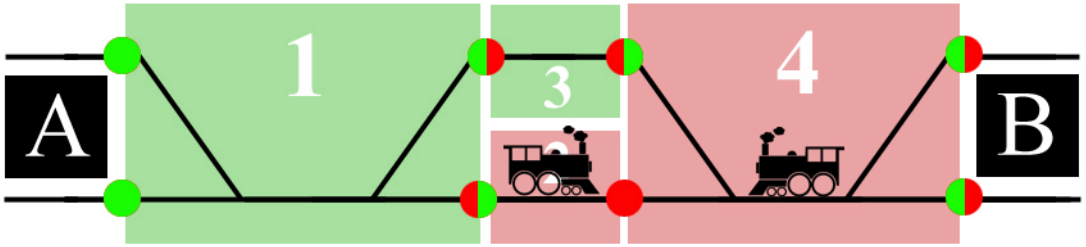
This means that a track section also belongs to a block section if it is connected by points.

Section with diversion track

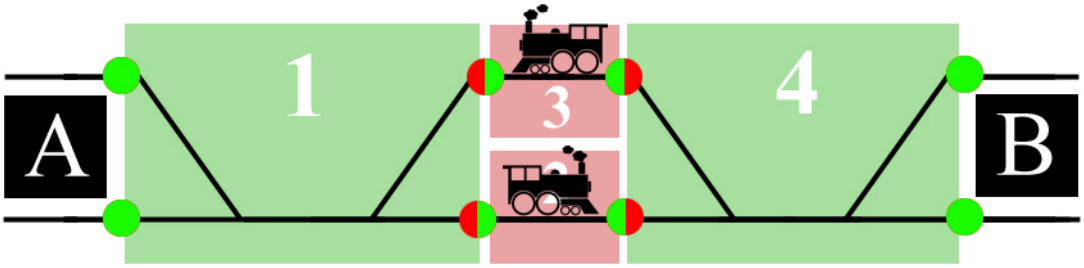
Many trains can travel on this section at the same time. We can see a total of four block sections (1 – 4) which are secured with main signals.



If a train now starts from A, it will travel through block section 1. This is then blocked for all other trains.
A second train travels from B in the direction of A and thus blocks the block section 4.

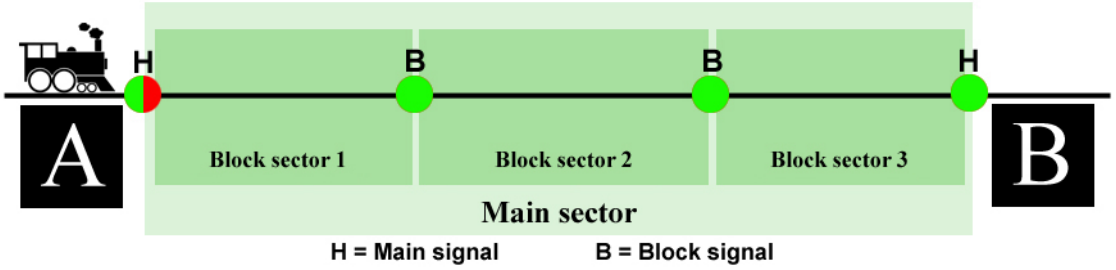


The first train's route leads through to block section 2. Block section becomes free again as soon as the train and all its wagons have left it; block section 2 is now however blocked.

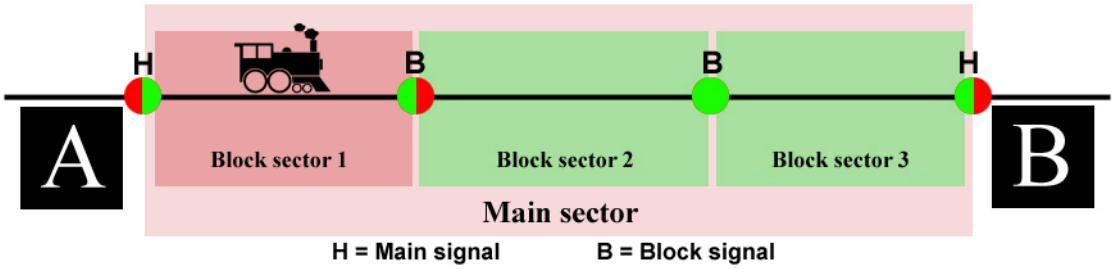


The train must now wait until the second train has entered block section 3, thus leaving block section 4 free again for access.

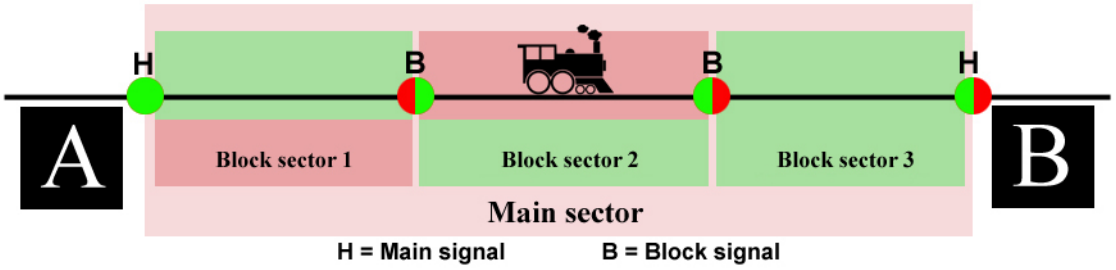
Sections with block signals



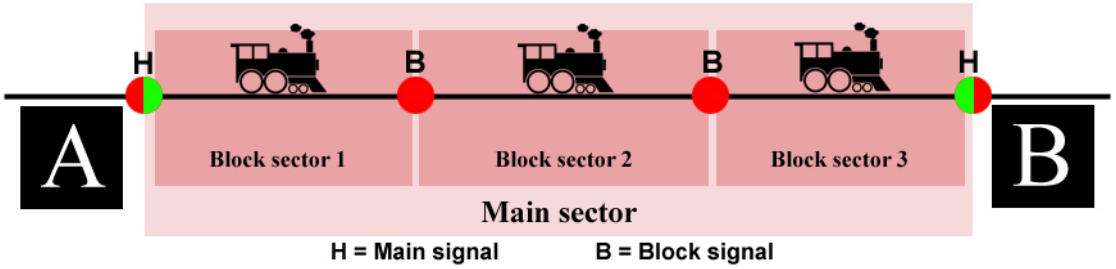
This example illustrates the function of block signals. The section is secured by main signals at the stations and block signals in between.
One large main block section and three smaller block sections are thus created.



A train now traveling from A to B, first enters the block section 1. The entire main block section is blocked. Block section 2 is however free as no train is located there (secured by block signals). Traffic can however not pass in the opposite direction, because the main block section is blocked (secured by main signals).



Now the train has reached block section 2. This block section is now of course blocked. A train can now however enter block section 1 from A. It can do this because the main signal recognizes that a further block signal is located between it and the train in front to secure the train.



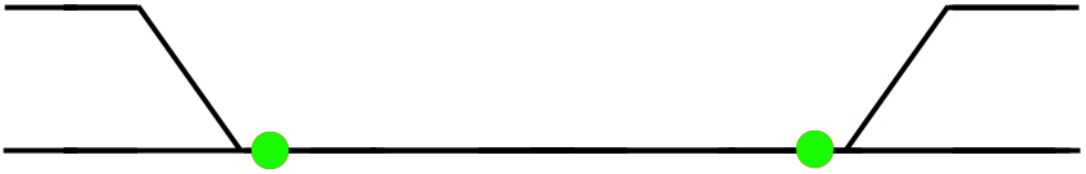
Up to three trains can thus travel in the same direction between A and B using this method. However only one train can still travel within each individual block signal.

Whilst therefore only one train can travel between these stations if only main signals are used, a higher volume of trains in one direction can be attained by using block signals.

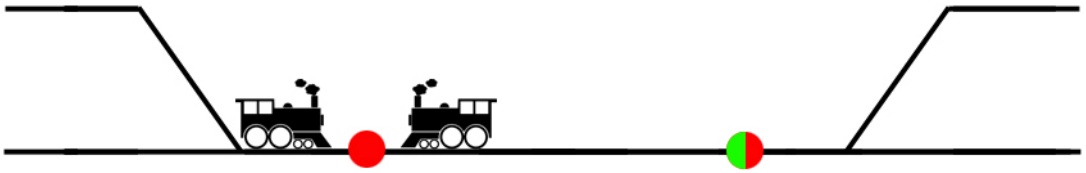
Signal deployment at points

Signals should always be located at the double end for points. The system only works correctly in this case.

This is right



and this is wrong!



If signals are located incorrectly for points, so-called deadlocks can occur. Trains are located on both sides of the signal and neither one can proceed.

Safety distance

A safety distance for trains applies. It amounts to roughly the length of four wagons. This means that the actual length of a train is always 4 wagons longer than the real number of wagons connected.

This should be observed especially in the case of diversion sections. These should always be long enough so that the longest train plus four additional wagons can be completely located between the securing signals.
If this is not the case the (invisible) end of the train can block the signal behind the train!