

Traffic-controlled traffic light at a T-junction

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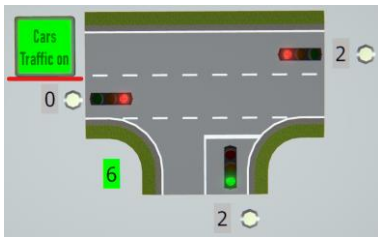
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A traffic-controlled traffic light system with three traffic lights at a T-junction is shown. The event management is annotated.

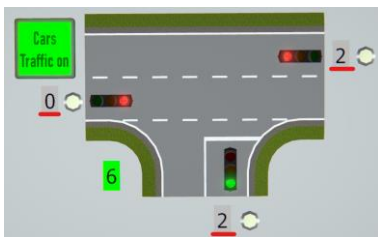
In addition, there is a train-controlled level crossing, a central depot for cars and simple roads to control oncoming traffic in the single-track section. The control of the level crossing is shown in more detail in the layout "Train-controlled two-track level crossing".

The concept is not simply to switch traffic lights in turn, but depending on traffic, as is the case almost everywhere in real life. The main purpose of the level crossing is to create a plausible traffic jam in front of one of the traffic lights. The control of the level crossing is described in a separate layout in the pure technic for 3D Train Studio by Phrontistes series.

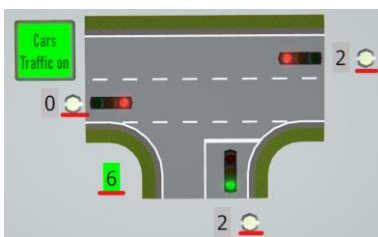
The cars can be sent to the depot or restarted with the large button:



To enable control by road traffic, the cars approaching the intersection are counted approx. 100 m (1:1) before the intersection by contacts (Count contact 1-3; Events / Streets / Traffic Lights / Counters / Count1-3_+/-; Variables CarCount1-3). The number is displayed consecutively. It decreases as soon as a car leaves the stop contact (Stop contact traffic light 1-3) at traffic lights.



The event management determines and displays the duration of the green phase required for a speedy outflow of the cars. In addition, there are three yellow indicator lights on the display panel (see below for meaning).



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The control ("Events / Streets / Traffic Lights / Run traffic lights") has the following logic:

- As long as there is no car on one of the stop contacts (Stop contact traffic light 1-3), all traffic lights remain red. This is checked once per second.
- Next, it is checked whether from one of the directions a car is standing in front of the traffic light and its green phase has already been disregarded once (visualized by the yellow control; due to the following logic; variable NotPickedUp 1-3). A green phase fails at most once, otherwise the driver standing in front of the traffic light becomes impatient and thinks the traffic light is broken.
- If "NotPickedUp" is not applicable, the event management checks at which traffic light most cars are situated. This traffic light is selected (variable TrafficLight#) - but not the same traffic light twice in a row (comparison with variable TrafficLightLast#), which could otherwise happen randomly if many more cars drive over the upstream counter contact during the green phase.
- After selecting the traffic light (variable TrafficLight#), variables NotPickedUp 1-3 must first be set for the next run. If necessary, the yellow indicator light is switched on (Not picked 1-3 indicator light on/off).
- Finally, the duration of the green phase (variable DurationGreen) results from the number of cars standing in front of or approaching * 1.5 seconds but is at least 4.5 seconds. It is displayed in the green text box (Set indicator duration green)

In order to generate smooth operation and prevent cars from colliding, various deceleration and acceleration contacts are set. In addition, the cars are given the suitable settings when they leave the depots ("Events / Streets / Car depots / Car leaves a virtual depot").