

# VISSIM 5.40 Release Notes



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Stumpfstr. 1  
D-76131 Karlsruhe  
Hotline: [www.ptv-vision.com/hotline\\_vissim](http://www.ptv-vision.com/hotline_vissim)

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## + New Features and Changes

### Analyzer:

- + Significant speed-up of the generation of queue lengths reports.

### ANM Import:

- + Includes optional PT telegram attributes of PT lines.
- + Adaptive import: Manually created detectors in a node are recovered if the node is recreated (because of a change in the ANM data).

### AVI Recording:

- + Creation of an \*.avi video file is possible from animation file (\*.ani) replay (in 3D only) but only without keyframes.

### Driving Behavior Parameters:

- + Lateral behavior (on the same lane): 3 new parameters:  
Collision time gain: Minimum advantage in expected collision time with desired speed which is required for a lateral change to a different lateral gap downstream.  
Minimum longitudinal speed: Minimum driving speed required for a lateral movement. Vehicles don't move laterally if they are slower than this value.  
Time between direction changes: Minimum time between the start of a lateral movement to the left and the next start of a lateral movement to the right (or vice versa).
- + Cooperative lane change: If this is active, a vehicle A who sees that the leading vehicle B on the adjacent lane wants to change to the lane of the vehicle A tries to change lanes itself to the other side in order to make room. Vehicle A behaves as if it had to change lanes for a connector far in the distance, accepting only the base values ("Accepted deceleration") for its own deceleration and for the trailing vehicle on the new lane. Vehicle A doesn't change cooperatively to a lane which is less suited for its own route, and it doesn't change lanes cooperatively if vehicle B is more than 3 m/s faster or if the collision time is more than 10 seconds with the speed of vehicle A increased by 3 m/s. These two parameters (maximum speed difference and maximum collision time) can be changed, too.
- + Fixed standstill distance upstream of static obstacle: If this option is checked, the vehicles using this parameter set use the given value as constant standstill distance upstream of all static obstacles except parking space end positions (i.e. signal heads, stop signs, pt stops, priority rules, conflict areas) instead of the normal distributed value [0.5; 0.15]. (This is required for PT vehicles at PT stops with platform screen doors or waiting queues at fixed positions on the platform.)
- + Smooth closeup: provides a smoother deceleration process up to a standing obstacle, avoiding unrealistic acceleration after the leading vehicle has (almost) stopped.
- + Advanced merging: better tactical look ahead by merging vehicles and by cooperative trailing vehicles on the target lane. This allows more vehicles to change lanes earlier and thus increases the capacity and reduces the probability of standing vehicles waiting for a lane change.

### Dynamic Assignment:

- + Parking Lot selection: Warning message if percentiles become 0 because of too large negative utility values.

### Evaluations:

- + Vehicle Record and Lane Change Record files: Optional AND-filter for link number(s).  
If the default entry "All links" is not selected, only vehicles on the selected links are listed in the respective evaluation file.

### Interfaces:

- + New DLL interface for external Driving Simulators - see separate documentation (on request).

### License Handling:

- + The number of simultaneous instances of VISSIM on one computer can be limited by the license. The default maximum for existing licenses is 4.

### Parking Lots:

- + A real parking lot (for on-street / curb-side parking) can have an optional blocking time distribution. The blocking time is the time between the first standstill of the parking vehicle at his parking space (the rear part of the vehicle blocks traffic on the lane adjacent to the parking space) until the final standstill (the vehicle is parallel to the link). (If the length of the parking lot is exactly the length of one parking space there is no snap into the parking space and the blocking time is ignored.) The blocking time distribution can be selected on the tab page "Parking Spaces" in the parking lot dialog. Selecting "0: None" disables the blocking time.

### Signal Control:

- + New controller types "McCain 2033" and "Fourth Dimension D4".
- + The RBC GUI now supports up to 64 detectors per intersection.

### Simulation Parameters:

- + New option "Retrospective synchronization". If this option is active VISSIM doesn't wait anymore at the end of each time step until the real time allocated for that single time step has been spent (defined as time step length divided by the simulation speed). Instead, VISSIM waits until the correct total amount of real time has been spent for all time steps since the last start of the continuous simulation. This means that VISSIM tries to catch up after slower time steps (e.g. because of signal control calculation or other external effects) as soon as possible. (This is required for synchronization with external controller hardware-in-the-loop.) Real time lost when a continuous simulation is paused due to an open dialog is considered as delay, too, so the simulation will continue after this with maximum speed until the simulation time divided by the simulation speed equals the total real time spent again. If the simulation speed is reduced during a continuous simulation run with active retrospective synchronization, the simulation waits until the total real time since the start of the continuous simulation equals the current simulation time divided by the simulation speed before the next time step is executed.
- + New option "Use gradient from z coordinates": If this option is active, the gradient used during the simulation is dynamically computed using the z coordinates of the current link segment of the front edge of a vehicle, ignoring the static gradient of the link.

### Unit Selection Dialog:

- + (View / Options / Language & Units) Buttons "All metric" and "All imperial".

### VISWALK:

- + New option for LOS display: A pedestrian can be "spread" over multiple cells (useful if the cells are smaller than a pedestrian). The radius of this approximated circle can be 1..5 cells.
- + Origin-destination evaluation for pedestrian travel times, delays and counts (see manual).
- + O-D matrix editor for pedestrian inputs and route volumes (see manual).
- + The module "Pedestrian Simulation" is now available as a standalone license (without vehicular traffic) under the name VISWALK. With such a license the program shows "VISWALK" instead of "VISSIM", has a different icon and splash screen and the GUI is reduced to the network objects which are required for pedestrian simulation. Objects used only by vehicular simulation are not available. VISSIM networks with vehicular links can be opened with VISWALK but all vehicle inputs and parking lots are disabled, so there is no vehicular traffic.
- + CAD Import (\*.dwg files) for areas and obstacles (see manual).
- + Escalators and moving walkways (see manual).