PTV Vissim & Viswalk 2023 Release Notes

Last modified: 2022-12-19

https://www.ptvgroup.com/en/support-vissim
https://www.ptvgroup.com/en/support-viswalk

2023.00-03 [253154] — 2022-12-16

New Features and Changes

Data Model

- Simultaneous editing of the attributes 'Signal Controller' and 'Port number' of multiple detectors is now possible. After editing, the type and smoothing factors are adjusted automatically to the values of the detector with the smallest number that has the same signal controller and port number. **(7347)**
- User-Defined Attributes can now be created for objects of type '3D Traffic Signal'. **(17757)**

Formulas

- In the 'Insert function' dialog of the formula editor, the displayed names of the following functions were corrected: 'Log' was renamed to 'Ln' to better reflect that the function is the natural logarithm and not base 10 logarithm. The function name 'Wenn' is now correctly translated to 'If'. The function name 'Mod' was replaced with 'Modulo' to avoid misconceptions. Please note that these changes only affect the displayed names in the insert function dialog. The formula syntax itself does not change. All existing formulas continue to be valid. **(16692)**

Graphics

- The motion animation of 3D Models from FBX files that shall be used by Vissim for animating pedestrians and bicycles can now be selected and previewed in the 2D/3D Model dialog. **(17438)**

Signal Control

- The fixed time controller (Vissig) also includes the signal sequence Green - Amber - Off now. **(17764)**
- The fixed time controller (Vissig) also includes the signal sequence Green - Red - Off now. **(17765)**

Workspace

- The default functions for curve speeds of HGVs and bikes adjusted for lateral movement were updated in the file 'defaults.inpx'.
  For HGVs, the new function was derived from the curve speed function of cars using plausibility considerations. The additional second function for HGVs, which was contained in previous versions of Vissim 2023, was removed.
  For bikes, a calculation error concerning the lateral movement was corrected.
  To make use of the new functions in existing networks, please use the 'Read additionally' functionality and adjust the reference in the settings of each HGV and bike vehicle type. **(17769)**

Fixed Bugs

3D Vehicle Models

- Vehicle models without wheels (like parts of trams) that were imported through the Vissim 3D model dialog got a wrong z-offset. Now the dimensions are not automatically adjusted anymore so that they keep their correct orientation. **(17776)**

Data Model

- After editing the type of a detector, the smoothing factors are now automatically adjusted, so that all detectors in a group have the same values. The values are taken from the detector with the smallest number in that group. **(17759)**
- The attributes 'Surcharge1' and 'Surcharge2' of links now have a maximum value of 1,000,000 to prevent numerical issues in the shortest path search during dynamic assignment. Larger values will be automatically reduced to the maximum value when reading networks. **(17723)**

Graphics

- DWG background images containing rasterized images are now displayed correctly in 3D mode again. **(17747)**
- WMS services could not be added: Since ID 17735, WMS map layers could not be added in the user settings. This bug has been fixed. **(17762)**

Lists

- Lists of network objects are now much more responsive, if they contain attributes which are file references and point to network drive locations. **(17644)**

OpenDRIVE Import

- Vissim no longer crashes when importing an OpenDRIVE file containing spirals with equal curvature at start and end of the spiral. **(17802)**

Scenario Management

- Loading scenarios or applying model transfer files, which include modifications of emission class distributions, will not cause errors anymore. **(17717)**

Signal Control

- RBC:
  The controller's behavior during pattern changes has been improved. New force-off points respectively yield points are used for signal groups that are green at the time the new pattern takes effect. In some situations, the controller also assigns less green time to coordinated signal groups the first time they turn green after the pattern starts, so that calls for non-coordinated signal groups with open permissive periods can be served more quickly. Also, the behavior in the first cycle after simulation start has been improved in coordinated mode. (811)
  Shortly after the controller changes from coordinated to free-running mode, signal groups could turn amber without a max-out or a gap-out when their coordination split timer expired. This issue has been fixed. (809)
  By default, the RBC dialog shows the Pattern Global parameters of pattern 1 again. (803)
  Pattern start times are now shown in HH:MM:SS format instead of seconds since midnight. (794) **(17779 !)**

Vehicle Simulation

- Vehicles now react more properly to lane conflicts on adjacent lanes and other vehicles inside or approaching these lane conflicts. For example, vehicles will better respect avoid blocking conflict areas now. **(17693 !)**
- Vehicles now take into account curve speed when planning lane changes and overtaking maneuvers. **(17655 !)**
- Vehicles now take into account their maximum achievable speed when planning lane changes and overtaking maneuvers. This maximum achievable speed is defined by the maximum acceleration function, the desired acceleration function and the current gradient at the vehicle's position. **(17739 !)**
- Vehicles repeatedly parking in and out will now more reliably return to their original route after parking out, instead of blocking links or disappearing. **(17638 !)**

Vissim Kernel

- The number of cores used by a simulation now defaults to the settings in the simulation parameters of the networks, but may be overridden by the command line parameter of Vissim Kernel. **(15778)**

Workspace

- Copying numerous network objects to the clipboard is now much faster. **(17423)**

Breaking Changes

Signal Control

- RBC:
  The behavior of the signal controller may differ when compared to previous versions shortly after simulation start and when a new pattern takes effect. **(17779 ✓)**

Vehicle Simulation

- In networks containing conflict areas as well as links with multiple lanes, simulation results can differ to those of previous versions. **(17693 ✓)**
- In networks using speed limitation in curves, simulation results can differ to those of previous versions. **(17655 ✓)**

- In networks with vehicles parking in and out repeatedly by crossing multiple parking route decisions, simulation results can differ to those of previous versions. **(17638)**
- Simulation results can differ to those of previous versions. **(17739)**

2023.00-02 [251790] — 2022-11-14

New Features and Changes

Installation

- Component zlib updated: The zlib library, which was affected by a security vulnerability, has been updated. **(17729)**

Network Editor

- Double-clicking on network objects in 3D mode now behaves like in 2D mode: For the respective network object either the edit dialog or the list will open. As before, double-clicking on pedestrians or vehicles changes the view to the driver's or pedestrian's perspective, respectively. **(16989)**

Signal Control

- Conversion of signal controller from type 'Ring Barrier Controller' to type 'Ring Barrier Controller (old)' is no longer supported. **(17728)**
- Signal controllers of type 'Ring Barrier Controller (old)' are no longer supported by the simulation. Networks containing these signal controllers can still be opened, edited and the signal controllers can be converted to the new type 'Ring Barrier Controller'. We recommend using Vissim 2022 for simulating networks containing signal controllers of type 'Ring Barrier Controller (old)'. **(17711)**

Vehicle Simulation

- The runtime of simulations with a large number of vehicles reversing in or out has been improved significantly. **(17725)**

Workspace

- There is only one default function for curve speed of cars in the file 'defaults.inpx'. This function is based on the previous functions as well as additional data from scientific literature. **(17748)**
- We have improved the runtime of creating the dynamic assignment or evaluation graph in large networks containing edges consisting of many link segments. **(17687)**

Fixed Bugs

ANM Import

- Desired speed decisions are now also created at the exit and bypasses of roundabouts if the speed of the respective ANM links differ from that of the roundabout. **(17689)**

COM Interface

- The COM function SuspendUpdateGUI now also causes diagrams with vehicle data to suspend updates. **(17658)**

File Handling

- Opening the file selection dialog for the attribute '3D model file' of 2D/3D model segments does not cause Vissim to crash anymore. **(17674)**

Graphics

- Several issues with the 3D geometry of arms of type gantry and gantry bar of 3D traffic signals have been fixed. **(17696)**
- The Traffic Signs of 3D Traffic Signals now remain visible when viewed from large distances in 3D network editor. **(17741)**
- WMS services with server-specific attributes in the URL not usable: WMS services with server-specific attributes in their URL could not be included as a background map via the dialog. This error has been corrected. **(17735)**

Network Editor

- When dragging or duplicating connectors without the from-link or to-link, the position of any network objects located on that connector will not change anymore. This also applies if the connector is part of a multi selection. **(17740)**

Scenario Management

- When duplicating a scenario, all files located in the folder of that scenario will be copied to the folder of the newly created scenario. Note that this only applies to files, not subfolders. **(17091)**

Signal Control

- Fixed Time:
  Switching between signal programs using daily signal program lists does not cause unintended time shifts in the resulting signal times tables anymore. **(17707)**
- RBC:
  When the current pattern changes after simulation start, the controller ignored new values for the parameters Min Green, Veh Extension and parameters related to Max Green. This problem has been fixed. (808)
  The parameters Force Off, Permissive Start and Permissive End are now limited by the cycle length. (769)
  In the RBC editor, the behavior of cells with drop-down lists has been improved. (572) **(17743)**

Vehicle Simulation

- In certain situations when multiple vehicles on the same or adjacent lane were closing up, they misestimated the distance to their front vehicle. **(17746)**
- In simulations with dynamic traffic assignment enabled, vehicles that miss their destination parking lot will not cause a crash anymore. **(17681)**
- The simulation no longer crashes in certain situations where vehicles with a driving behavior using the car following model 'No interaction' approach multiple conflict areas. **(17447)**
- Vehicles will not ignore other vehicles in certain situations anymore, if the other vehicle were reversing into parking spaces. **(17237)**

Workspace

- Several cases where incomplete routes were not detected now cause proper error messages when checking the network or starting a simulation. **(17653)**
- To prevent Vissim from deadlocking or running out of memory, trying to create the dynamic assignment graph in large networks with very few nodes or a single node will now cause an error. These previously mentioned problems were caused by the huge number of parallel edges between nodes in such networks. Please refer to the documentation how to correctly model nodes for dynamic traffic assignment. **(16367)**
- Trying to create the dynamic assignment or evaluation graph in large network with only a few nodes or a single node will not cause crashes anymore. This also applies to starting the simulation dynamic assignment or node evaluation enabled. **(13238)**

Breaking Changes

Signal Control

- Fixed Time:
  Signal controllers of type 'fixed time' using daily signal program lists may behave differently when compared to previous versions. **(17707)**
- RBC:
  The behavior of the signal controller may differ when compared to previous versions if the parameters Min Green, Veh Extension and parameters related to Max Green are used in patterns. **(17743)**

Vehicle Simulation

- In simulations containing vehicles with a driving behavior using the car following model 'No interaction', results can differ to those of previous versions. In addition, the insertion time points of vehicles with vehicle types of category 'Pedestrian' may differ to those of previous versions. Furthermore, in simulations which make use of the driving behavior option 'diamond queuing', simulation results may slightly differ to those of previous versions. **(17447)**
- Networks containing reversing in parking lots may produce different results compared with previous versions. **(17237)**
- Results of simulations with vehicles can differ slightly to those of previous versions. **(17746)**

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New Features and Changes

3D Models

- With version 2023 the default 3D models, which are included in the installation, are provided in the more commonly used FBX file format. The former files of v3d format will still be delivered for a limited period in the subdirectory '\3DModels_Legacy (files will not be distributed with future versions)'. However, they will not be part of future versions.
  For network files written by version 2022 and earlier, the file references to the standard 3D models are updated automatically to a far extent, making the transition to the new 3D models as smooth as possible. For some models there may be minor changes in one or more attributes (such as axle positions, length, doors) which may lead to small changes during the simulation. These adaptions are recorded in the log file. For most standard models the data is identical. In case door data was defined manually in Vissim for any standard 3D model, these data needs to be newly defined after the automatic adaption.
  Only if there are substantial differences between a former and its corresponding new 3D model, a warning is generated. Then a repair function is offered through the message window which provides several options to fix the network file.
  As for static 3D models which contain an animation (like a moving barrier), the replacement with the corresponding FBX model requires also the animation control to be adapted. Therefore, the file references to these models are not adapted automatically, as the mere model change might break the original functionality. In these cases also a repair function is provided which allows to copy the original model locally for future use. **(17562)**

Application Examples

- Bosch emission calculation: There are new exemplary emission class distributions for England, Scotland, and Wales. **(16993)**

DriverModel.DLL Interface

- DRIVER_DATA_RADIUS will now be the value of the attribute 'Radius' of the next downstream Point 3D of a link that a vehicle can react to. **(17479)**

File Handling

- Networks in the *.inp format can longer be read in by Vissim 2023. These networks can be converted to *.inpx format using Vissim 2022. **(17194)**

Graphics

- Playback of animations of network objects of type Static 3D Model may be reversed using the new attribute 'Reverse playback animation (3D)', which is useful for animating opening and closing doors, for example. **(17411)**
- The Vissim specific attributes of 3D models (length , with, height, positions of axles, joints and shaft, parts without passengers) can now be defined using common 3D modelling tools and be imported automatically in Vissim using the Filmbox format (*.fbx). **(17260)**
- Variable message signs can now be visualized in 3D. Therefore, arms of 3D traffic signals offer the new types 'Gantry' and 'Gantry Bar'. The signs can be displayed as small pictures (textures) of traffic signs which can be changed through the attribute 'TextureFilename'. This can be done during a simulation run by means of attribute modifications, for example. **(16854)**

Installation

- Academic packages as product variants: Academic licenses are now configured differently than before. **(17556)**
- The CodeMeter Runtime deployed with PTV Vissim has been updated to CodeMeter 7.50. **(17547)**
- Vissim Viewer is no longer available. Instead, an installation of the common Vissim version can be used with the included demo license. **(17523)**

Signal Control

- RBC:
  Error and warning messages are now shown in Vissim's message window. They are no longer recorded in a separate file.
  In coordinated mode, the simulation start time setting is taken into account when computing the cycle second. The offset attribute is interpreted relative to midnight.
  An issue was fixed regarding the computation of permissive periods. In certain situations, calls for non-coordinated signal groups with open permissive periods could be wrongly ignored.
  In coordinated mode, Dual Entry is now taken into account when deciding whether to turn a signal group green after its permissive period has closed. This can happen when no signal groups are active in a ring. **(17611)**

SignalController.DLL Interface

- Strings of arbitrary length can now be transferred to and from Vissim using the GetStringValueW functions of the signal controller API. **(16348)**

Synchro Import

- Synchro Import is no longer available in Vissim 2023. We recommend to use PTV Visum or PTV Vistro for importing Synchro networks instead. Please refer to the "What's new in PTV Vissim/Viswalk 2023" document for further information. **(17624)**

Vehicle Simulation

- Vehicles now automatically adjust their speed in curves. There is no need anymore to place reduced speed areas in each curve. The curve speed may be defined for each vehicle type as a function of the curve radius. A detailed description of using this feature is available in the document "What's new in PTV Vissim/Viswalk 2023". **(23)**

Viswalk

- BIM Import (*.ifc) now also produces a Static 3D Model of the imported building that can be used for visualization. **(16877)**

Fixed Bugs

COM Interface

- Use of the COM functions 'MoveLinkDuringSimulation' and 'MoveLinkToPointDuringSimualtion' will not produce large amounts of errors related to conflict areas anymore. **(13904)**

Charts

- Attributes with subattributes are now available in the attribute selection for scatter plots, even if only result attributes of the current (multi-) run are kept. **(17036)**

Dialogs

- Crash when exiting the WMS dialog: A crash no longer occurs when exiting the 'WMS map layer' dialog via the OK button if no connection has been created or selected yet. **(17497)**

DriverModel.DLL Interface

- An active lane change is never completed by Vissim if DRIVER_DATA_SIMPLE_LANECHANGE was set to 0, even if a vehicle is already with its full width on the target lane when the middle of the front end reaches the target lane. **(17569)**
- DRIVER_DATA_LANE_WIDTH: Vissim now sends the correct lane width for each lane. Previously, the width of the vehicle's lane was sent for each lane. **(17584)**

Evaluations

- Accelerating vehicles with jerk limitation enabled will not generate delay after leaving a reduced speed area or after increasing their desired speed. **(17582)**
- Pedestrian network performance: During computation of specific evaluation attributes, data from the previous and current time step is no longer mixed up. **(15923)**
- SSAM: Filtering the output by sections now correctly reduces the dimension of the analysis zone, preventing the error "Safety analysis zone is too large." from the SSAM tool. **(17570)**

File Handling

- Vissim no longer crashes when reading networks with duplicated conflict areas, that have their link pair exchanged. This problem occurred when reading very old networks into Vissim 2022 SP7 or Vissim 2023 Beta. **(17598)**

Graphics

- Textures assigned to object groups in SketchUp files (*.skp) are now displayed correctly in Vissim. **(17589)**

Lists

- Attribute modifications: Invalid values for the attribute "target attribute" are now shown in strike-through. **(16872)**

Network Editor

- Create car park: the geometry of generated connectors was improved in specific cases. **(17332)**
- Editing the start position of a PT line now preserves intermediate route locations of the PT line. **(17443)**
- Ramps and stairs with shapes other than 'Straight' are now displayed correctly in the network editor. **(17592)**
- When dragging the start of a conflict marker onto overlapping links, the link containing the end position of the conflict marker is now preferred. **(16846)**

Presentation

- Reversing in vehicles are now exported to ANI text files (*.txt) correctly. **(17541)**

Scenario Management

- Vissim no longer sporadically crashes when loading a scenario containing conflict areas with links that are pedestrian areas. **(17407)**

Signal Control

- The cycle second of signal controllers with type 'Fixed Time (simple)' is now computed relative to midnight instead of relative to the start time of the simulation. **(17567)**

Simulation

- Vissim does not crash in rare situations anymore, when running out of memory during a simulation. Instead, the simulation is now cancelled and an appropriate error message is displayed. **(17553)**

Vehicle Simulation

- A problem causing parking-in vehicles to block each other has been resolved. **(17345)**
- If the slow lane rule is enabled, vehicles now always use the speed of the vehicles on the faster lane to determine if they may overtake on the slower lane. Previously, the speed on the slower lane was considered depending on the traffic rule. **(17532)**
- Vehicles approaching conflict areas now react to other vehicles blocking the conflict area with their rear, even if the blocking vehicle already left the conflict area by taking an outgoing connector. **(17057)**

Viswalk

- Installing updates of Viswalk now also updates the application examples. **(17563)**
- Pedestrians do not have to evade invisible obstacles at the start and end of ramps with a shape other than 'Straight' anymore. These obstacles were created erroneously at the start of a simulation depending on the orientation and geometry of ramps. **(17510)**
- Pedestrians near the end of ramps, elevator doors and PT vehicle doors now better evade other nearby pedestrians. **(17436)**
- Several issues during the BIM import (*.ifc) were fixed. This also reduces the number of warnings produced by the BIM import. **(15730)**

Workspace

- Some Web Map Services (WMS) which do not completely conform to the WMS standard of version 1.3.0 are handled more gracefully, enabling them to be used in Vissim. **(17642)**
- Vissim is now much more responsive when selecting very large amounts of objects in lists or the network editor. **(17422)**

Breaking Changes

3D Models

- The automatic adaption of standard 3D models to FBX format may lead to minor changes in model dimensions and hence in the simulation. **(17562)**

DriverModel.DLL Interface

- The values for DRIVER_DATA_RADIUS sent by Vissim will be different from those of previous versions **(17479)**

Evaluations

- Pedestrian network performance results can be different when compared to previous versions. **(15923)**
- The delay of vehicles can differ to those of previous versions. **(17582)**

Signal Control

- In networks containing signal controllers with type 'Fixed Time (simple)', simulation results can differ to those of previous versions. **(17567)**

Vehicle Simulation

- In networks where multiple incoming or outgoing connectors at the same link position, simulation results can differ to those of previous versions. **(17514)**
- In networks where vehicles reverse into parking lots, simulation results can differ to those of previous versions. **(17345)**
- In networks with intersection controlled by conflict areas simulation results can differ to those of previous versions. **(17057)**
- In networks with slow lane rule enable, simulation results can differ to those of previous versions. **(17532)**

Viswalk

- In networks containing ramps with shapes other than 'Straight', simulation results can differ to those of previous versions. **(17510)**
- In networks containing ramps, elevators or PT stops, simulation results can be different when compared to previous versions. **(17436)**

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New Features and Changes

COM Interface

- All evaluations can now be disabled by a single call of the COM function "Vissim.Net.Evaluation.DisableAllEvaluations()". They stay disabled after a simulation run, and if the network is saved, the disabled state is written to the *.inpx file. **(13412)**
- Several checks have been integrated into the COM function "MoveToLinkPosition" of vehicles, preventing undefined behavior or crashes. **(16928)**

Data Model

- Detectors have the new attribute "Distance in front of stop line", which can be edited if the detector is in front of a signal head on the same link to change the position of the detector. **(9600)**
- Pavement markings have the new attribute "Distance to stop line", which can be edited to change the position of the pavement marking if it is located upstream of a signal head on the same link. **(13487)**

Dialogs

- The color definition dialog now also provides previews for changing hue and lightness. **(16665)**

Formulas

- Access to n-th word in a string: The new WORDN function can be used to access the n-th word that is created from a string when it is split into words using a specified separator. **(16782)**

Graphics

- Lane markings can now be customized for each lane separately by creating new "Lane Marking Types" and assigning them to the "Marking Type" attribute of Lanes. The list of "Lane Marking Types" can be opened via the menu entry Base Data -> Lane Marking Types. See the document "Vissim 2022 - what's new.pdf" for details. **(15201)**
- Vissim now supports 3D models of FBX (Filmbox) format, including animations. These models may be used for pedestrians, vehicles, or static 3D models. See the document "Vissim 2022 - what's new.pdf" for details. **(16849)**

Installation

- Python: Vissim now installs Python 3.9 as an embedded package below the Vissim-Exe directory. This ensures that a compatible Python version is used by Vissim scripts and reduces interference with system-wide Python installations. It is not required to manually install Python anymore. **(16936)**

Meso Simulation

- All nodes required for a Meso simulation of a network suitable for dynamic assignment can now be created automatically. The function can be accessed via a menu entry under "Traffic -> Dynamic Assignment", or via the context menus of the node list or a selected node in the network editor. See the document "Vissim 2022 - what's new.pdf" for details. **(15213)**
- The requirement of links of Meso turns to have an identical number of lanes was relaxed to simplify the modelling of nodes used for Meso. Instead, the number of Meso lanes is set to the minimum number of lanes of all links contained in the Meso turn. **(15206)**

Network Editor

- A single link can now be rotated by dragging it while holding the Alt key pressed. The "Generate Spline" functionality that formerly was accessed by this gesture is now accessible by holding Alt and dragging the mouse with the RIGHT mouse button held down. **(7808)**
- Connectors can now be dragged and duplicated like links, without having to select either the From-link or the To-link. The geometry of the connector will be kept. The ends of the connector must overlap with links to successfully complete the action. **(15114)**
- The mouse gesture for generating a spline for a selected link was changed to holding down the Alt key + dragging with the right (instead of left) mouse button held down. The former gesture now rotates the entire link, like rotating other network objects. **(16972)**

Signal Control

- Fixed Time (simple): the attributes of the signal controller and its signal groups are now editable during simulations. **(17350)**

Viswalk

- Pedestrians riding elevators will not generate delay anymore. **(12826)**

Workspace

- Duplication of multiple selections, especially when containing network objects of different types, has been vastly improved, making copy and paste much more intuitive to use. See the document "Vissim 2022 - what's new.pdf" for details. **(15555)**
- Pedestrian routes can now be duplicated or copy and pasted much more intuitively, even as part of multiselections. If the multiselection contains also the routing decision as well as the area of the routing decision, a new routing decision for the duplicated route will be created, otherwise the route is attached to the already existing routing decision. **(15112)**
- There is a new context menu entry for 2D/3D models and 2D/3D model segments to reset attribute values to those of the 3D model referenced by the 3D model file. The context menu entry is only available if the 3D model file exists and the attribute values actually differ from those of the 3D model. **(16572)**
- Two networks can now be compared within Vissim. Their differences are visualized in the new "Network Comparison" window as well as the network editor. See the document "Vissim 2022 - what's new.pdf" for details. **(9743)**

Breaking Changes

COM Interface

- Event based scripts trying to start, step or stop a simulation will now cause an error. **(16503)**
- Simulations using scripts that call the COM function "MoveToLinkPosition" may yield results that differ from those of previous versions. **(16928)**

Meso Simulation

- Results of meso simulations of networks with PT lines starting inside nodes used for meso may differ when compared to previous versions. **(17228)**

Presentation

- ANI recordings (*.ani) created with Vissim 2022 or an earlier version are not compatible with ANI recordings of Vissim 2023 and vice versa. Trying to replay an incompatible ANI recording will result in an error message. **(17360)**

Signal Control

- Signal controllers using PT calling points may behave differently compared to previous versions. **(17007)**
- Signal controllers with detectors near parking spaces where vehicles reverse in or out may behave differently compared to previous versions. **(17203)**

Simulation

- If attribute modifications or event based scripts at the end of a time step are used during a simulation, results and ANI recordings may differ compared to those of previous versions. **(16955)**

Vehicle Simulation

- Results of simulations where vehicle approach conflict areas with high speeds may yield different results when compared to previous versions. **(16272)**
- The results of simulations with vehicles stopping at stop signs on links with multiple lanes may differ when compared to previous versions. **(17251)**

Viswalk

- If during simulations, multiple PT vehicles stop at PT stops with a common waiting area in the same time step, simulation results may differ when compared to previous versions. **(16679)**
- Simulation results of pedestrian delays in networks containing elevators will differ from those of previous versions. **(12826)**