PTV Vistro 2024 Release Notes

PTV | GROUP

Last modified: 2024-03-27

2024.00-04 [277082]   2024-03-27

✅ Fixed Bugs

Data model

- ✅ An issue regarding signal group data in scenarios was fixed. In specific situations, the data set on signal groups in scenarios was not retained. When a base network was saved, data stored in scenarios was no longer applied to certain signal groups. This only happened for signal groups on turns with control type protected/permissive or overlap. Furthermore, either the related through movement was unsignalized or the reference movement, i.e. the movement used to define the signal of the permissive phase, was not a through movement. **(215166)**

Data model and Synchro export

- ✅ Synchro export in could fail with three consecutive error messages, one of them in German. This only happened if the network contained controllers with a sequence that contained a signal group twice. Sequences, that could contain the same signal group twice could be created by changing control types of movements and using specific sequences, where the signal groups were not at their usual slots, for example if the first ring had the signal groups 3, 4, -, 2. All issues were fixed: It is no longer possible to create sequences with duplicate signal groups, and Synchro export issues one understandable error message if it cannot be executed. **(212343)**

File import / export

- ✅ Visum: It was possible that Vistro crashed after importing a file from Visum. This happened only, if there were 'forked' approaches, i.e. approaches that consisted of two different Visum links with the same orientation. It is not possible to create such data in Vistro, therefore only file import was affected. This issue was fixed. **(211167)**

Simulation

- ✅ An issue was fixed, where pedestrian detectors in the simulation were not connected correctly to pedestrian signal groups. The pedestrian signals therefore never turned green. **(215269)**
- ✅ Exclusive pedestrian phases: Signal heads on intersections with an exclusive pedestrian phase are now correctly connected to the pedestrian phase. In earlier versions, the signal heads were incorrectly connected to the vehicle signal group. **(161133 | 2240)**
- ✅ In rare cases a preview in Vissim or the import in Vissim of an ANM file written with Vistro failed with the message "KEY: id already exists. (ANM lane turn...)". This issue was fixed. **(215333)**
- ✅ Vistro could crash during ANM export or when Preview in Vissim was used. This issue was fixed. The crash occurred when a controller had more than 16 signal groups and an exclusive pedestrian phase was defined, that was not one of the first 16 signal groups of the controller. ANM export and preview in Vissim were now adjusted so that controllers with more than 16 signal groups are exported as fixed-time controllers. RBC controllers in Vissim only allow up to 16 signal groups. **(215228)**

2024.00-03 [274736]   2024-02-16

➕ New Features and Changes

Traffic Control tab

- ➕ The value 'C, Cycle Length' in the sub-table 'Lane Group Calculations' was renamed to 'C, Calculated Cycle Length'. **(215636)**

✅ Fixed Bugs

Optimization

- ✅ An issue was fixed were signal timing optimization did not work. The problem only occurred when amber, all red, and delayed vehicle green did not add up to an integer. **(215246)**

2024.00-02   [273334]

➕ New Features and Changes

Calculation

- ➕ Cycle length on semi-actuated intersections: To improve the optimized cycle length calculation on semi-actuated control types, the process relies on the coordinated flags that are present in the "Phasing and Timing" sub-table. If there is at least one coordinated signal group, then the calculated cycle length will depend on the splits. This will be identical to the cycle length that was set on the controller if the data was consistently set up. However, if there is no coordinated phase, then the cycle length will depend on the demand. In earlier versions, the cycle length on semi-actuated controllers was always based on the splits, even if there were no coordinated phases. **(194694 ❗)**
- ➕ Split optimization: The Split optimization feature now includes two new settings related to pedestrian timing. These settings allow optimizing splits without forcing pedestrian signals (walk plus pedestrian clearance) to be shorter than or equal to vehicle signals (delayed vehicle green plus split minus amber minus all-red). As a result, controllers can retain a long pedestrian phase and a shorter vehicle phase on approaches with low pedestrian volumes and longer crossing lengths. This functionality reflects the approach taken by signals in the field to temporarily operate out of coordination to serve this condition. The settings are called 'Major: Pedestrian timing can exceed vehicle splits' and 'Minor: Pedestrian timing can exceed vehicle splits'. The Major setting affects all signal groups set on major flow, while the minor setting affects all signal groups on minor flows. **(194674 ❗)**

Data model

- ➕ Uncontrolled and Two-way yield: Two new entries have been added to the intersection control type's drop-down list: 'Uncontrolled' and 'Two-way yield'. The 'Uncontrolled' option is similar to 'Unknown', while 'Two-way yield' is similar to 'Two-way stop'. However, the calculation results for 'Two-way yield' are slightly different from those for 'Two-way stop', as defined in the Highway Capacity Manual (HCM). Previously, when a Visum file was opened in Vistro, 'Uncontrolled' was converted to 'All-way Stop' and 'Two-way yield' was converted to 'Two-way stop'. However, this has now changed - control types are retained and remain the same even when re-imported into Visum. This makes it easier to go back and forth between Visum and Vistro. **(196393)**

File import / export

- ➕ Synchro import: If a movement has a second detector, it will appear now as advanced detector in the traffic control grid. **(203264)**

Graphic Parameters

- ➕ Show Detectors: A new button in the graphic parameter toolbar toggles on and off detector visibility in the network. The detectors are displayed with their correct stop line position and length. The icon for the Queue Length button has been updated to avoid confusion with the Show Detector icon. **(202499)**

Graphical editors

- ➕ Yield and stop signs: When the 'Show intersection info' graphic parameter is activated and control type 'Two-way yield' is selected, Vistro now draws yield signs at intersections. Additionally, the color of the stop signs has been changed to match the color of the new yield signs. **(201382)**

Installation

- ➕ Update CodeMeter Runtime: The CodeMeter Runtime deployed with PTV Vistro has been updated to CodeMeter 8.00. **(208185)**

Traffic Control tab

- ➕ Advanced detectors: It is now possible to add a second detector to each movement. To achieve this, three new data rows have been introduced - Advanced Detector, Advanced Detector Location, and Advanced Detector Length. These detectors will appear in Vissim after an export and in the Vissim preview. **(194675)**

✅ Fixed Bugs

Calculation

- Semi-actuated: A problem was identified on controllers with semi-actuated control. In cases where there is at least one coordinated signal group and one ring without a coordinated signal group, there was an issue with the calculation of the equivalent max green. This could lead to incorrect calculation results later on. One of the effects of this issue was the display of wrong negative values for Clearance Lost Times, especially if phases were set up with very long maximum green times. **(164349 ⊘)**

Graphical editors

- Insert intersection: When an intersection is inserted over a link ('Insert Intersection' after a right click on a link), the new intersection will now have movements in all directions. In earlier versions, the new approaches only had straight movements. **(201664)**
- Stop signs on outbound one-way streets: Vistro no longer draws stop signs on outbound one-way streets. **(208092)**

Signal Optimization

- Wrong lower bound for split: In old networks, it was possible due to data errors that split optimization used a wrong lower bound for certain phases. This data error does not occur in networks that were created with newer versions. **(196891 ⊘)**

Signal timing optimization

- Undo: Undo did not work correctly after optimization. The splits were not set to the correct values before the optimization. This issue was fixed. **(210493)**

⊘ Breaking Changes

Calculation

- Semi-actuated intersections: Calculation results on semi-actuated intersections will be different if there are no coordinated phases. **(194694 ⊕)**
- Semi-actuated: Calculation results can be different on semi-actuated controllers with at least one coordinated signal group and at least one ring without coordinated signal group. **(164349 ⊘)**
- Split optimization: Optimization results for semi-actuated controller can be different. **(194674 ⊕)**

Signal Optimization

- Wrong lower bound: Split optimization can lead to smaller splits for certain phases in old network files. **(196891 ⊘)**

2024.00-01 [269410]	2023-10-30

⊘ Fixed Bugs

Calculation

- Delayed Vehicle Green: In certain situations it was possible that the signal timing optimization showed the message 'Split Optimization only works for cycletimes greater or equal the minimum cycle time (X s)', even if all timings were set up correctly. The reason was that delayed vehicle green was not taken into account correctly. This issue was fixed. **(190815 ⊘)**

File import / export

- Synchro import: When a file contained an invalid row identifier, Vistro would show many error messages. Now it is possible to suppress further error messages. **(198714)**

Signal timing optimization

- Undo: Undo did not work correctly after optimization. The splits were not set to the correct values before the optimization. This issue was fixed. **(197228)**

Simulation

- Crosswalks too short: An issue was fixed, where crosswalks would not cross both entry and exit, when a median was present. The export of crosswalks on roundabouts was improved, too. **(194980)**

Trip Distribution tab

- ✅ Many zones: Vistro sometimes crashed, when the trip distribution tab was opened in a network with more than 150 zones. This issue was fixed. **(194108)**

Trip Generation

- ✅ ITE Trip Gen: When the 'Fitted Curve' setting is used in the dialog ITE TripGen, Vistro now also transmits the values Quantity, %In, and %Out to the zone. This way the values are consistent. **(198808)**
- ✅ Report 'Trip generation summary': The reporting for zones with data entry type 'Trips' was changed. The value trip generation rate no longer is reported. Quantity, %In, and %Out are reported but grayed out. **(198820)**

❗ Breaking Changes

Calculation

- ❗ Signal timing optimization: Optimization results might be different, if delayed vehicle green is set, because Vistro can now use smaller cycle times in certain configurations. **(190815 ✅)**

2024.00-00 [267609]   2023-09-21

⊕ New Features and Changes

Calculation

- ⊕ Emissions: Vistro now calculates emissions on signalized intersections, that are calculated with HCM 2010, 6th or 7th Edition. The calculated values are fuel consumption and emitted CO, NOx, and VOC. They are shown in a new Emissions sub-table in the traffic control tab. Calculations can be influenced with global settings for the emitted substances per unit of fuel. The Volumes tab now includes a Proportion of EVs % per signalized intersection to easily account for an electric vehicles in the volumes. This value reduces the total vehicles contributing to emissions calculations resulting a reduction in fuel consumption and emitting gases. The total emissions for the network are shown in the network statistics window. The values are also written to the reports. **(184150)**

Cloud

- ⊕ Opening calculation results from the MRU list: When opening a cloud model from the MRU list that has a corresponding calculation result, there is now an option to also open the calculation result. **(183172)**

Graphical editors

- ⊕ Channelized lanes and bypasses: The visualization of dedicated lanes, i.e. channelized lanes or bypass lanes that do not reach the stop line, has been improved. The length of such lanes is now measured starting at the deviation point where the movement starts being separated from the main approach. In previous versions, this length was measured beginning at the stop line. The new visualization is closer to the resulting Vissim network after an export. **(175357)**
- ⊕ Channelized turns: The display of channelized turns with a dedicated target lane was improved. The movement now attaches smoothly to the target lane. If the target lane is exclusively used by the channelized turn, the target lane no longer starts at the intersection but further downstream. **(161120 | 2186)**
- ⊕ Roundabouts: The visualization of roundabouts was substantially improved. The values Entry Radius and Exit Radius now have an influence on how entries and exits are drawn. The inner area of the roundabout now is transparent. **(175356)**

Multi Change

- ⊕ Show Name: The approach value 'Show Name' was added to the list of values selectable in the Multi Change window. **(193639)**

Simulation

⊕ Delayed Vehicle Green exported: The parameter 'Delayed Vehicle Green' is now exported directly and used by Vissim in the ANM import. In earlier Vistro versions, overlaps where created in the prbc file, and the value was written to the 'Delay Green' value of the overlap. This is no longer necessary. Now, the Vistro's 'Delayed Vehicle Green' value will directly be imported as 'Delay Green (LPI)' in the Basic Timing table in Vissim, and no overlaps will be created. **(183989)**

Traffic Control tab

⊕ Rows rearranged: The order of rows in the grid was changed for HCM analysis types. The sub-table 'Phasing & Timing' was split up into two sub-tables: 'Phasing & Timing (Basic)' and 'Phasing & Timing: "Active Pattern"', where "Active Pattern" stands for the currently selected pattern. The Basic sub-table contains values that are the same in all patterns. The "Active Pattern" sub-table contains values that are specific for each pattern or the Free Running timing. These changes also affect the reporting. **(169071)**

Traffic Control tab & Vissim export

⊕ Improved consistency: Several changes were made to improve the export to Vissim and to have controllers in Vistro that have consistent coordination settings. Vistro now automatically determines start-up signal groups to avoid warnings in Vissim. For coordinated controllers, Vistro automatically generates coordinated flags on signal groups, if none have been set. The ICA check now points out inconsistencies between the controller and the coordinated flags of the signal groups. On the other hand, for isolated, fully actuated controllers, cycle length 0 is now exported. **(184720)**

Trip generation tab

⊕ ITE TripGen: The ITE TripGen Graph Look Up dialog was extended. It now shows data statistics once a specific land use has been selected. The additional statistics include number of studies, average number of items with respect to the independent variable, average rate, standard deviation, fitted curve equation, R squared, and directional distribution. **(189489)**

Workspace

⊕ Menu entry for start page: The menu entry 'Open start page in web browser' was added to the 'View' menu. It opens the start page in a web browser. **(183808)**