

SIDRA INTERSECTION 8.0 UPDATE HISTORY

Version: 8.0.7.7948

Release Date: 19 September 2019

Bug Fixes

- Resolved a problem related to some cases of program-calculated signal offsets that was introduced in Version 8.0.6.7947 (availability stopped soon after release).
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Version: 8.0.6.7947

Release Date: 4 September 2019

Enhancements

- Licensing modules were updated to meet latest Federal Information Processing Standard (FIPS) security standards.
- Improvements to licensing information in all output reports and displays. Watermarks for Educational and Trial licences revised.
- Improvements to excess back of queue calculations for upstream continuous lanes.
- Added a footnote to Delay (Control) Movement Displays when LOS method is not delay-based to explain why colour coding is not used.
- Various improvements to input dialogs.
- Various improvements to output reports and displays.
- Improvements to the User Guide and Help system.

Bug Fixes

- Minimum required green times were not being reduced for actuation effects for the second green period for vehicle and pedestrian movements when actuation was specified.
- Phase Transition parameter was not being applied correctly to overlap movements in some signal phasing cases.
- Phase Transition flag was displayed for the wrong green period in the Timing Analysis report in some cases.
- Fixed some unusual cases of lost time and effective green calculation for opposed movements at signals.

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- Fixed some errors in Signal Offset calculations when continuous lanes (e.g. two-Way Sign Control major road lanes) existed between two signalised Sites.
 - Fixed an error in All-Way Stop Control calculations that occurred with an unusual arrangement of one-way approaches and one-way exits.
 - Improved Desired Speed and Speed Efficiency calculations.
 - Fixed incorrect calculation of some Approach Travel Time values.
 - Fixed incorrect calculation of various Persons statistics that were reported incorrectly for Routes.
 - Removed Speed Efficiency option from Site Graphs and Variable Run reports where it is not applicable.
 - Fixed the operation of Quick Input and Reset to Defaults in the Vehicle Movement Data dialog, Path Data tab so that it works for all parameters separately.
 - Fixed updating of Network by Routes ribbon button after all Routes in a Network are removed.
 - When a movement that forms part of a Route is removed in the Movement Definitions dialog under the Site tab, the Route is now deleted automatically.
 - Fixed incorrect calculation of vehicle Operating Cost Rate (\$/km, or \$/mile in cases when US Customary units are being used).
 - Units and Cost Units reported in the Project Summary report were wrong in some cases where a project contained Sites with differing Units or Cost Units.
 - Fixed an error in the Route Configuration dialog that occurred in some cases when a Network has been processed and had generated Diagnostic Messages.
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Version: 8.0.5.7916

Release Date: 29 March 2019

Enhancements

- When a slip lane is introduced at a roundabout on the "wrong side", i.e. a right-turn slip lane for driving on the left, or a left-turn slip lane for driving on the right, the circulating flows for other legs and the opposing flow for the slip lane were not calculated correctly (this type of slip lane was treated as a normal lane for these purposes). These types of lanes, which may be used at various innovative intersection treatments such as "divergeabouts" are now properly accounted for in all calculations.
- Added explanatory text to Movement IDs Display in cases where a Movement Class has been included by the user but not been allocated to any OD movement and lane.
- Updates to User Guide and Help System including explanations of signal coordination input parameters, arrival headway distributions, right-click options for Leg Geometry in the Approach Selector of the Intersection input dialog, lower limit of Flow Scale in demand analysis, Project file format and Project pane resizing.
- Minor updates to the Software licence.

Bug Fixes

- In some cases for computers with low resolution or when a high scaling percentage is applied, the improvements to the Project Pane introduced in the Version 8.0.4.7902 update may lead to the program opening with the Site Output section not visible. The software will now prevent this section from moving below the bottom of the screen in all cases.

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- When Network Demand and Sensitivity is performed with "Results for Network (Pedestrians)", and the Network has no Sites with pedestrians, a message will appear if the user attempts to open the Network Graphs or Network Variable Run report, explaining that the report is not available as there are no pedestrians at any Site.
 - Exit flows were not appearing in the Approach & Exit Flows display for one-way exits.
 - Fixed non-working Help links in Signal Timing Output and Volumes Displays dialogs.
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Version: 8.0.4.7902

Release Date: 8 February 2019

Enhancements

- Improved flexibility for users to change sizes of various sections in the Project Pane under the Site, Network and Route tabs.
- The Network Configuration dialog will now prevent removal of connections between Sites that form part of a Common Control Group.
- When more than one instance of SIDRA INTERSECTION is running on one computer, any changes to the User Settings will not be saved. When the program is closed, a warning message will inform users that the changes were not saved.
- An upper limit of 0.9 is now imposed on the "Lower Limit of Speed Efficiency" parameter in the Network Data and Route Data dialogs. This parameter is used in calculation of Travel Time Index.
- Imposed an upper limit on the value that can be calculated for the Congestion Coefficient in cases where the Speed Efficiency is very low (usually cases where the Average Travel Speed is very low).
- Diagnostic added for cases where movements in a shared lane run in different phases and thus have no common green time. This can lead to very low lane capacity estimates.
- Improved error messages for some signal cases related to Optimum Cycle Time and Network Cycle Time.
- Improvements to footnotes in Network Summary, Route Summary and Route Travel Performance reports.
- Added right-click options to Approach Selector and improved Dialog Tips in the Intersection dialog.
- Improvements to legend and tooltips in Network Configuration dialog.
- Minor improvements to Detailed Output report.
- Updates to User Guide and Help System.

Bug Fixes

- Incorrect Geometric Delay value was calculated when several OD Movements in one lane had different Approach Speeds.
- Pedestrian growth was not being applied to staged pedestrian movements in Design Life and Flow Scale Analysis cases.
- User-specified Phase Times were being checked against Dummy Movement Minimum Green time even when the Dummy Movement was removed by unchecking the Dummy Movement checkbox.

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- Fixed a short lane error message that referred to the wrong lane number in some two-segment lane cases.
 - Fixed a bug with the Layout Picture island for Left In-Left Out and Right In-Right Out cases.
 - Fixed a bug with the Layout Picture related to slip lanes on the right (driving on left) or on the left (driving on right) on one-way approaches.
 - Fixed reporting of Level of Service in Variable Run reports for Sites, CCGs and Networks.
 - Fixed an error with Graphs and Variable Run report in some cases where Pedestrian movements do not exist.
 - Fixed problems with Network Graphs and Network Variable Run report that caused empty graphs and reports to appear in some cases where multiple Networks were selected.
 - Removed a graph error message related to the Optimum Cycle Time upper limit that wrongly appeared when Practical or User-Given Cycle Time was used.
 - If Network Demand & Sensitivity was not used, Network Level of Service Method and Network Level of Service Target were not set during processing of the Network.
 - Fixed an error that occurred when Route Display was open and the data in Route Data dialog was changed.
 - Fixed a problem with Detailed Output settings that led to an empty report in some cases.
 - Fixed various problems related to reporting of Lane Data in Input Comparison when comparing with Defaults.
 - Fixed error in Network Configuration dialog that occurred when Sites were positioned too closely to each other.
 - Fixed a problem when maximising the main SIDRA window on some dual monitor systems.
 - When multiple Sites were selected, there was a movement display problem related to selecting a specific Movement Class when the Movement Class did not exist in some of the selected Sites.
 - Fixed reporting of midblock outflow data in a Network case where one Site has a specific Movement Class but the Site it is connected to does not.
 - Fixed a problem with Route Offset Priority data that occurred when importing projects from earlier versions of the software.
 - Fixed some alignment problems in the Intersection Summary report.
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Version: 8.0.3.7864

Release Date: 16 August 2018

Enhancements

- Added the ability for users to specify page breaks in User Report Templates.
- Improved footnotes in Timing Analysis report.
- Improved messages for cases where Graphs displays and Variable Run reports cannot be created.
- Improvements to the calculation of the pedestrian adjustment factor for roundabouts to prevent very low or negative adjustment factors being calculated under conditions of very high circulating flow. This issue is related to the equations in the original Highway Capacity Manual method.

Bug Fixes

- Zero queue distance that was reported for diagonal pedestrian movements fixed.
 - Fixed some errors in the reporting of Unblocked Time Ratio for movements that were not subject to gap acceptance.
 - Flag indicating that "Percentage of exiting flow included in opposing vehicle flow" was wrongly included for movements set as 100% opposed by nearest lane. In this case, the percentage of exiting flow is not included.
 - Prevented slip lane movements with the setting "Exclude Slip/Bypass Lane from Signal Analysis" from being shown in the Critical Movements display.
 - Fixed a problem that prevented the Route Layout picture from drawing in some cases.
 - Removed blank button from Project Properties dialog.
 - Fixed missing Site Type icons and paragraph alignment issues when SIDRA output reports are copied to Microsoft Word.
 - Fixed an error that occurred with the Site Variable Run report when the Site was reprocessed.
 - Fixed some header alignment problem in the Variable Run report.
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Version: 8.0.2.7846

Release Date: 14 June 2018

Enhancements

- API for Version 8 completed with the addition of all new input and output data. API error handling improved.
- Improved usage of Network Peak Flow Period. The Network value will be set from Site Peak Flow Period values if these were specified consistently. Diagnostic messages added to assist users in cases where Site Peak Flow Period values differ between Sites in a Network.
- Improvements to calculations of lane distribution of Midblock Inflows when special Movement Classes are being used.
- Improved control of options related to Clone, Import, Convert and Reverse functions for Sites, Networks and Routes. Full Suffix, Number Suffix and No Suffix options are now available.
- Various improvements to User Reports including improved consistency with SIDRA standard reports.
- Standard mouse usage adopted for in-dialog displays: Mouse Wheel will scroll the display and Ctrl+Mouse Wheel will zoom the display.
- Improvements to Lane Flow and Capacity Information table in Detailed Output report.
- Improvements to Roundabout Pedestrian Effects section in Detailed Output report.
- Improvements to Gap Acceptance Parameters table in Sign Control Analysis report.
- Lane Changes display improved for two-segment lanes.
- Various minor improvements (formats, etc.) to reports and displays.
- Capacity parameters which were not relevant in Network/CCG Graphs and Variable Run reports have been removed.

Bug Fixes

- In some cases, performance results did not include effects of capacity adjustments due to user specification or Network blockage effects.
- Level of Service was not reported correctly when the "Delay & Degree of Saturation (SIDRA)" method was selected.
- The Displayed Green Time row in the Signal Offsets report was wrongly showing Phase Time values.
- Correction to reporting of Network Model Variability parameters in Diagnostics Report.
- User-specified gap-acceptance data was lost when a roundabout Site was converted to a roundabout with metering signals.
- Removed FHWA 2000 roundabout model tab from Roundabouts dialog for roundabouts with metering signals as this model is not used in this case.
- Fixed a problem with the Phasing Summary that prevented printing of more than three phase boxes.
- Fixed some problems with the Critical Movements display when there was a large number of phases and several Dummy Movements.
- Phasing Summary for Common Control Groups did not show Continuous Movements correctly in some cases.
- Fixed a problem with Site and Network Layouts which caused these not to draw correctly in some cases.
- Fixed parameter ordering for in-dialog display of Volume Factors for North approach.
- Incorrect graphs were shown in User Reports for Common Control Groups.
- Print All did not work when a Site belonging to a Common Control Group was selected for printing.
- U-turn arrows in Network Midblock Inflows/Outflows display were missing in some circumstances.
- An error message was wrongly given about Variable Phasing not being allowed for a Site with no phase times given when the Network User-Given Cycle Time option with User-Given Site Phase Times was selected.
- Some items in right-click Site menus were wrongly set as disabled in some circumstances.
- Some movements were missing from Movement ID in-dialog displays.
- Fixed an error related to using Print Preview after copying to MS Word.

Version: 8.0.1.7778

Release Date: 24 April 2018

This is the first release of SIDRA INTERSECTION 8.0. The new features of this version available in the first release are listed below.

SIDRA INTERSECTION Version 8 includes much improved network *model processing efficiency* and much improved *workflow efficiency* through substantial enhancements to the user interface including improved visualisation and new output reports and displays. It also incorporates various important model improvements.

Program Efficiency

- Substantial increases are achieved in computing speeds for the iterative network analysis method enabling facilities for optimum timings as well as demand and sensitivity analysis for networks. Average computing speeds about 5 to 10 times faster than previous versions can be expected in Network analysis.

- Various improvements to increase efficiency of database operations implemented.
- Memory management enhancements introduced.

User Interface

- Graphical displays of intersection geometry, volumes, signal phasing and Movement IDs are included within most Site input dialogs for assisting the input data entry process and allowing direct in-display data entry.
- Various commands hidden in right-click menus in previous versions have been made available in the Site / Network / Route ribbon or in Site Output sections (e.g. Rotate Network, CCG Sequence, Variable Run for Sites and Networks).
- Double-clicking Site / Network / Route name opens the relevant layout picture.
- Right-clicking an output report or display opens the relevant Site / Network / Route input menu and some display commands.
- Processing icon animation modified according to the new structure for Network model iterations.
- Where Network parameters override Site data, there is no need to process the Network again if any of the corresponding input parameters are changed in Sites that constitute the Network.
- Pop-up tooltips added for blocked Apply and Process buttons.
- In Demand & Sensitivity dialogs, Pedestrian options are removed for Sites and Networks where these options are not applicable.
- Import Volume Data function is improved (Vehicle and Pedestrian volume data imports are combined in one dialog and volume import from another Project is allowed).
- Volume Data Settings for Pedestrians simplified.
- Under the Network tab, "Network Demand & Sensitivity" input dialog added, dialog name "Common Control Groups" changed to "CCG Phasing & Timing", and the "Timing Options" tab added in the "Network Timing" dialog.
- When the current Project is closed without opening an existing Project, a new Project will be created automatically.
- Various improvements in the CCG Phasing & Timing and the Network Data dialogs.
- Changes to the permissible ranges and default values of various input parameters.
- Cancelling Process enabled when processing multiple Networks and Sites.
- Option provided to include or exclude suffixes (Copy, Conversion, Import, Reversed) when Clone, Import, Convert, Reverse functions are used for Sites, Networks, Routes and Sequences.
- Zoom Slider improved including a dialog to set exact zoom values.

Output Reports and Displays

- Project Summary report using the new Site Category and Network Category parameters is introduced under the new Tools tab.
- The User Report facility based on user-defined report templates are available under the new Tools tab.
- Enhanced Input Comparison and Output Comparison facilities using results from different Projects are available within the current Project under the new Tools tab.
- Critical Movements display is introduced showing critical movements identified as part of signal timing analysis with a phase - movement timings bar display and an ARR 123 style critical movement diagram.

- Movement Timing display for Common Control Groups (CCGs) showing all movements of the CCG together is introduced.
- Numerical values are shown in all Network and Route Displays.
- Site Flows displays are significantly enhanced.
- Network Flows display with pop-up boxes showing Site flows is introduced for Networks and Routes.
- Midblock Flows display with pop-up boxes showing upstream and downstream flow rates is introduced for Networks and Routes.
- Network Flows and Midblock Flows displays are now available for both Demand Flows and Arrival Flows by movement class.
- Lane Changes display with pop-up boxes showing lane change flow rates by movement class is introduced for Networks.
- Lane Flows display with pop up boxes showing approach lane flow rates by movement class is introduced for Networks.
- New Approach Distances display is introduced for Networks.
- The message about Network iterations stopping conditions (Network model stability) is enhanced.
- Route Travel Performance report introduced. This includes Route results as well as results for individual movements on the Route.
- Signal Coordination displays colour coded according to Platoon Ratios and implied Arrival Types:
 - Lane Displays for Sites, Networks and Routes showing Signal Coordination characteristics per lane.
 - Movement Displays for Sites showing Signal Coordination characteristics per movement.
- Display of CCG Sequence by Movement Class is introduced.
- Variables for Graphs and Variable Run reports can be selected via right-clicking on the Graphs or the Variable Run report display for Sites, CCGs and Networks.
- Saturation Flows report for signalised Sites presenting details of the effect of parameters used in saturation flow calculations is introduced.
- Gap Acceptance Cycle Parameters are included in the Sign Control Analysis and Roundabout Analysis reports.
- Roundabout Circulating Flow display enhanced.

Model Improvements

- Optimum Cycle Time is method available for Networks of signalised intersections, interchanges and crossings.
- Optimum Cycle Time and Optimum Maximum Green Settings methods are available for Common Control Groups.
- Treatment of Uncoordinated and Unconnected Sites for signal timing calculations in determining the Network Cycle Time is improved.
- Demand and Sensitivity analysis methods are available for design life, flow scale and parameter sensitivity for Networks.
- The methods used for stopping conditions in Network and Site model iterations are enhanced. Network Model Variability Index and Site Model Variability Index are introduced as parameters given in various output reports and displays.

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- Improvements to the iterative method used for Site capacity and timing analyses result in fewer cases of unsettled results.
 - Peak Flow Period parameter is introduced in the Network Data dialog as a new Network parameter to override Site data for uniform use for all Sites in Network analysis.
 - Network Level of Service Target parameter added in the Network Data dialog.
 - New Phase Time calculation options are introduced including:
 - for Network timings, phase times to be determined including downstream lane blockage effects or not;
 - for Site and Common Control group timings, Green Split Priority options to use new User-Specified Priority Movements or Coordinated Movements as in previous versions, or not to apply the Green Split Priority method (default) resulting in EQUISAT green splits.
 - Average Number of Cycles to Depart for signalised Sites included in Movement Summary and Detailed Output reports.
 - Minimum delay per lane for gap acceptance cases (for roundabouts and two-way sign control) included in the Lane Delays table of the Detailed Output report.
 - Program calculation of roundabout Inscribed Diameter when the Circulating Road Widths are different for the subject approach and the opposite approach.
 - Queue at Start of Green for signalised Sites is included in queue statistics.
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