

Synchro Studio

Getting Started and What's New in Version 11

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Chapter 1 – Introduction

Welcome to Version 11, the latest release of the **Synchro Studio** software applications. CUBIC | Trafficware's software suite is a complete solution for analysis, optimization and simulation of roadway networks. Using Synchro Studio, traffic professionals can easily analyze capacity and timing optimization as well as simulate, check and fine-tune traffic signal operations.

License Options

Trafficware offers the following purchase options.

- Synchro Studio 11 (Synchro, SimTraffic, 3D Viewer)
- Synchro/SimTraffic 11
- Synchro/SimTraffic 11 Light
- 3D Viewer 11

The **Getting Started Guide** and **Synchro Studio 11 User Guide** together provide information on the full product line. Depending on your license level, you may not have access to the full features of the Studio Suite 11. Contact Trafficware for details on licensing or visit <http://www.trafficware.com/synchro-store.html>.

Reader Versions

Upon successfully downloading and installing the software, users have the option to use a read-only version of those applications that were not purchased. The following section highlights each of the software applications.

Synchro

The Reader version can be used to preview data and perform limited functions within the software. Managers often use this mode to review the work of their co-workers, or agencies to review the work of their consultants. Report creation is not available, and files may not be edited or saved.

SimTraffic

The Reader version can be used to playback prerecorded history files. This allows unlicensed users to view animation files. If you would like to share a SimTraffic animation with a colleague or run an animation on a laptop, install and use Synchro and SimTraffic in the Reader mode. The Reader can view the animations but not make changes. You will need the following files to run a prerecorded SimTraffic animation:

1. The Synchro Data file (SYN)
2. The SimTraffic Parameters file (SIM)
3. The History file (HST)
4. Timing or volume data files, if data access is used.
5. The Synchro/SimTraffic download file (setup.exe).

The Reader Version of the software must be the same version number as was used to record the .hst file(s). Check installation version within the software by selecting Help>About Synchro/SimTraffic.

Chapter 2 – Operating System and Software Prerequisites

Synchro requires a few software prerequisites to operate. This section highlights these requirements.

Basic Requirements

This section summarizes a few requirements related to the computer 's set-up that should be reviewed prior to installing Synchro 11.

- Ensure **Admin Rights** have been allowed at the user level
- Hard drive cannot be compressed or encrypted
- Itanium drives are not supported

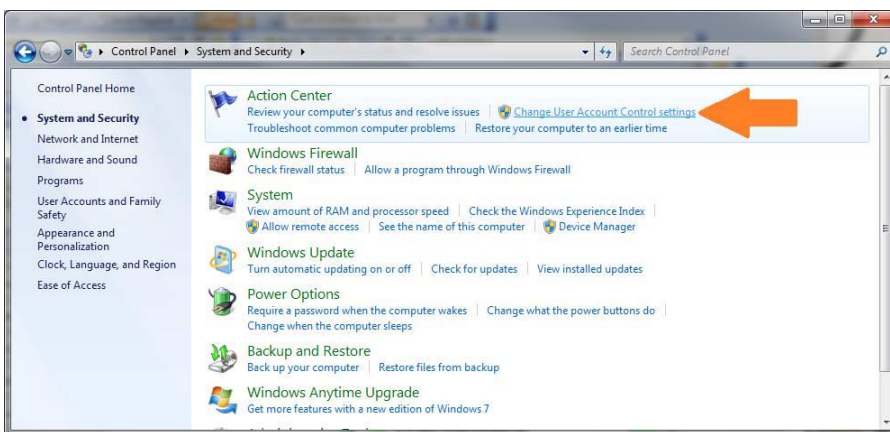
Windows 7/8/10 Prerequisites

If you have a computer running **Windows 7, 8, or 10** operating system, please modify the UAC settings prior to installation. After installation, the UAC settings can be reverted back if desired.

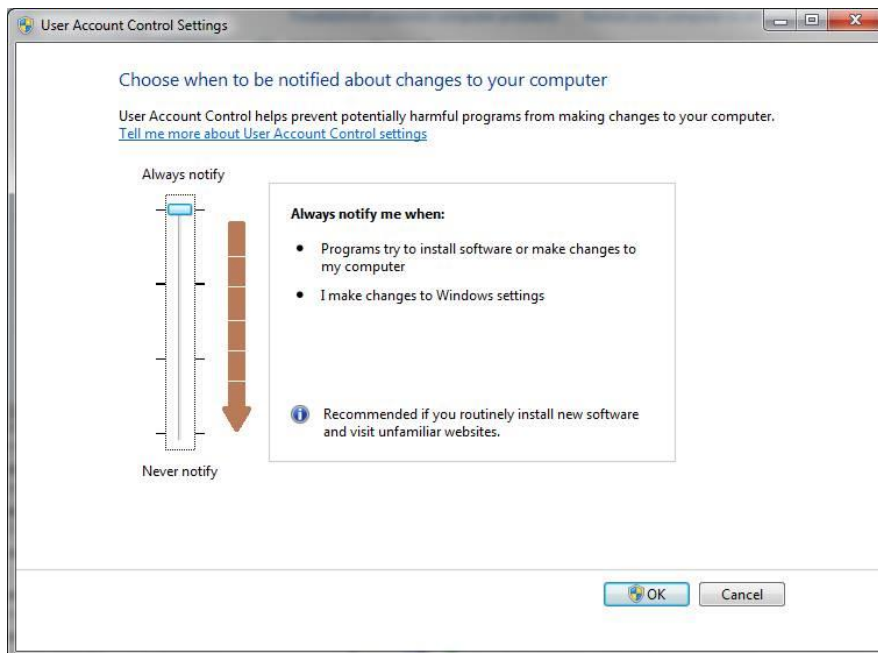
1. Go to Control Panel.
2. Select the “System and Security Icon”



3. Select the “Change User Account Control Settings” from the Action Center (or Security and Maintenance, in Windows 10).



4. Pull down the scroll bar to the bottom.



5. Click OK to close the User Account Control Settings window.
6. REBOOT to have changes to security take effect.
7. Install and Activate as directed.
8. Once installation and activation have been completed, return to the Control Panel and set your security to the highest setting, if so desired.
9. REBOOT to have changes to security take effect.

Chapter 3 – Installing Synchro Studio 11

This section guides you through the installation process for Synchro Studio 11.



If this is an upgrade, make sure that the Synchro Studio version 10 software is installed prior to installing version 11. Please refer to the previous section regarding the UAC settings before completing the following steps.

Synchro 11 can be downloaded by visiting the Trafficware website, online.trafficware.com/downloads.

The Installation Wizard will guide you through the installation process (after you download the setup file). It is recommended that you close all other applications before starting installation. Press [Next] to begin.

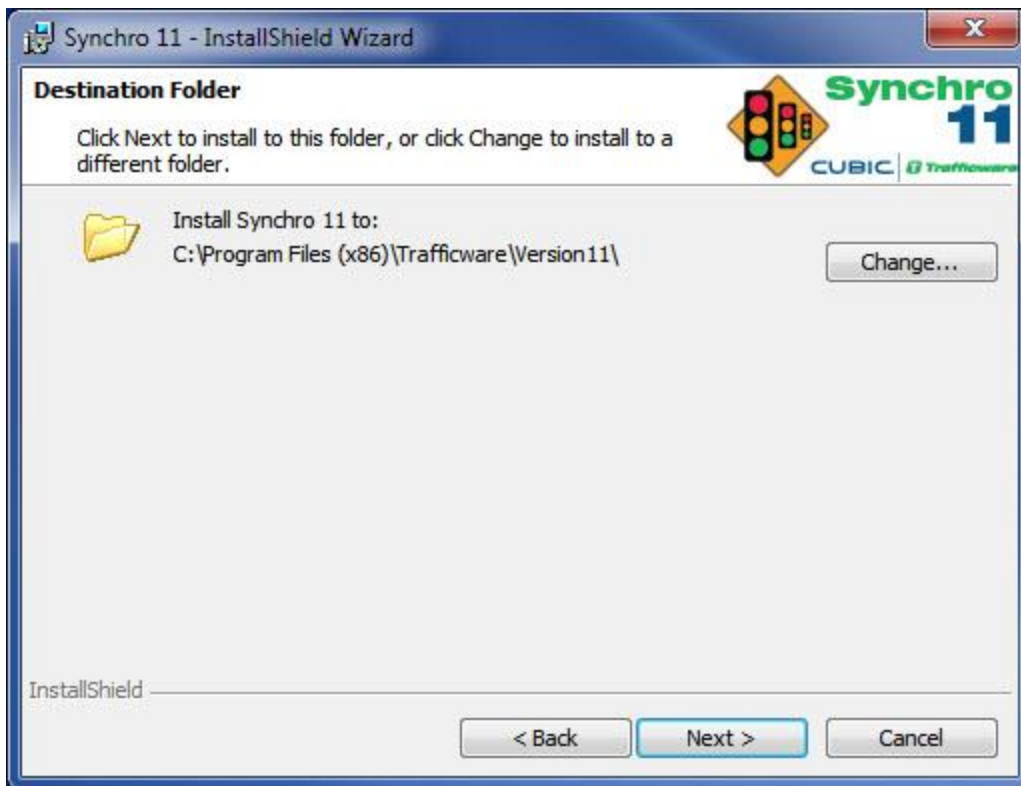


1. Read the license agreement carefully.

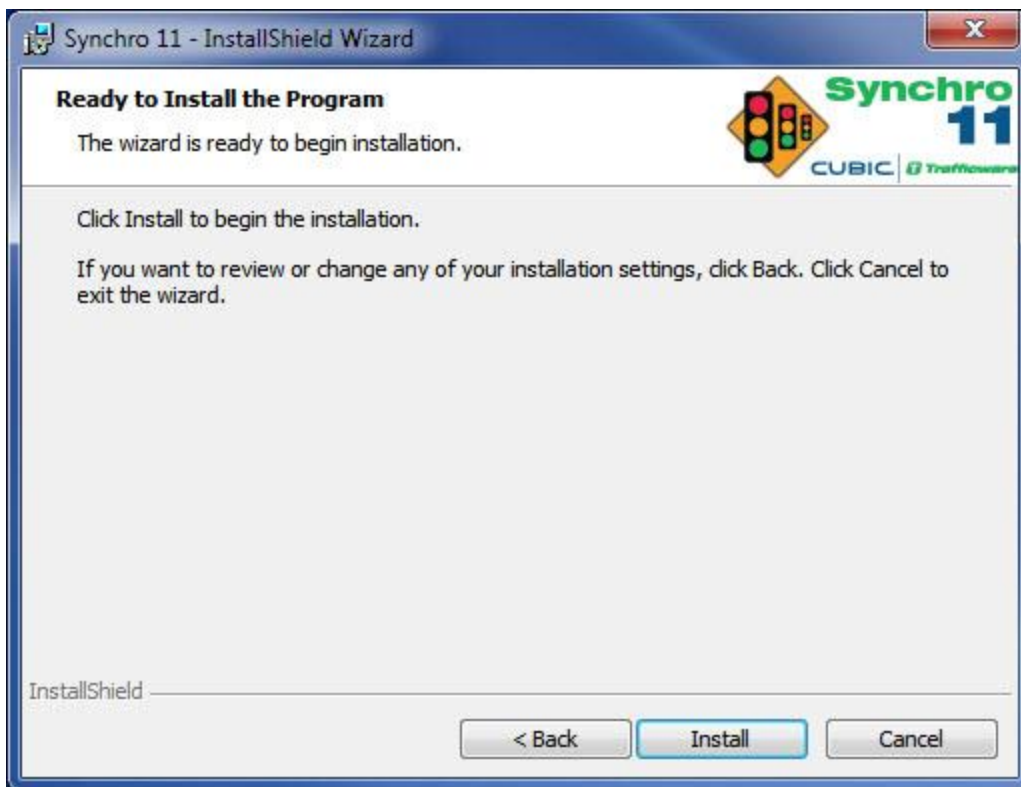


Select the [I accept] button to accept the terms of the license agreement and proceed with the installation. You must accept the license agreement to install Synchro Studio 11 and Press [Next].

2. Choose the destination folder and Press [Next].



3. Click [Install] to begin the installation.



4. When the installation is complete, select the [Finish] button to exit the Installation Wizard.



To Activate Synchro Studio 11



When you activate Synchro Studio 11, activate under the user's profile on the laptop/PC. Log on to the laptop/PC as the User Profile of the individual that will be using Synchro Studio 11.

1. Select the Start Menu, then choose Programs→Trafficware→Synchro 11 (3D Viewer 11) or double click on the shortcut from your desktop.
2. Read the license agreement carefully.



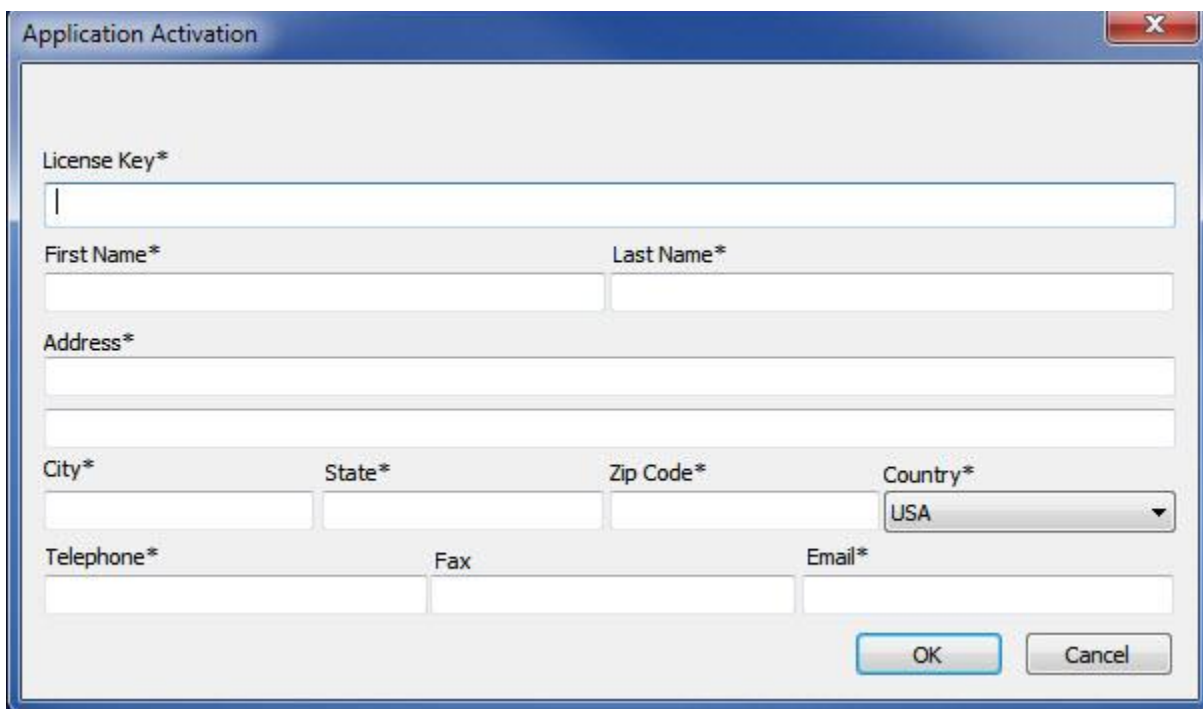
Check the 'I Accept the Trafficware® License Agreement and Microsoft® Bing™ Maps Terms of Use' box to proceed.

Select [Activate] to proceed with the activation. Press [Reader] if you want to use the reader version. The reader version will allow you to try out the features by viewing the sample files. The sample files are located in the directory where you have installed Synchro Studio 11. You will not be able to create your own network if activated in reader mode.

3. The first-time using Synchro (3D Viewer), you will be asked to activate your software. Enter the requested information within the Application Activation dialog box shown below.



The information entered in the Application Activation dialog is used to setup the profile for online support with Cubic | Trafficware. Be sure to enter the information for the individual that will be using the software.

The 'Application Activation' dialog box is a standard Windows-style window with a blue title bar. It contains several input fields: 'License Key*' (a single-line text box), 'First Name*' and 'Last Name*' (two single-line text boxes), 'Address*' (two stacked single-line text boxes), 'City*', 'State*', 'Zip Code*', and 'Country*' (four single-line text boxes, with 'Country*' being a dropdown menu currently showing 'USA'), 'Telephone*', 'Fax', and 'Email*' (three single-line text boxes). At the bottom right are 'OK' and 'Cancel' buttons.

The License Key is provided by Trafficware and will be shown on your license certificate and will be emailed to you. The License Key is in the format (Serial Number / Company Name - Product Key).

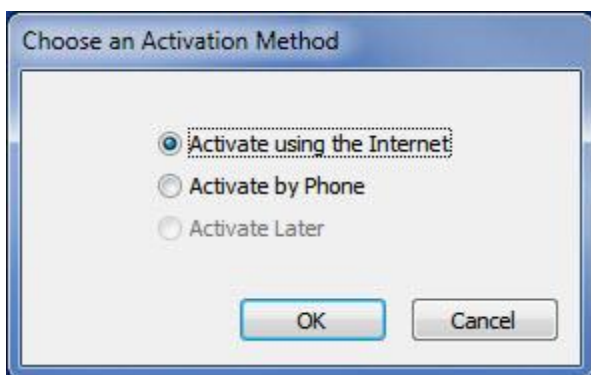


To ensure accurate entry into the Application Activation dialog, copy the entire string from your email message and paste into the License Key box.

The entries with the asterisk (*) are required to activate the software.

After entering the necessary information, select [OK].

4. The next dialog gives you two options to activate and an option to activate later.

The 'Choose an Activation Method' dialog box has a blue title bar. It contains three radio button options: 'Activate using the Internet' (which is selected), 'Activate by Phone', and 'Activate Later'. At the bottom are 'OK' and 'Cancel' buttons.

'Activate using the Internet' is the preferred method for activating your software. Choose this option and select [OK] to automatically and quickly activate your software. Use the 'Activate Later' option to work with Synchro Studio.



The grace period is forty-five days from the date of your order. When activating via the internet, a message may appear indicating that the invoice has not been paid.

If you do not have an internet connection, use the 'Activate by Phone' option and press [OK]. Follow the instructions on the Phone Activation dialog. Before calling, make sure the invoice has been paid and have your license key

available. Trafficware staff will ask for the Machine Key listed in the Phone Activation dialog. With this information, an Activation Code will be provided.

To Deactivate Synchro Studio 11

A Synchro license is activated to one user. You can de-activate on your primary user and move to another user.

1. Select the Start Menu, then choose Programs→Trafficware→Synchro 11 (3D Viewer) or double-click on the shortcut from your desktop.
2. From Synchro, choose Help→License Key.
3. Make a copy of your full License Key.
4. Choose the [Deactivate] button and write down the Deactivation Code.
5. Call CUBIC | Trafficware at (281) 240-7233, option 1 during business hours with the Deactivation Code. Or email the code to TrafficwareSales@cubic.com.



BE CAREFUL, this will deactivate your software on your machine. Once deactivated, you will need to contact Cubic | Trafficware to reactivate on your laptop or PC. Please be sure to time this during normal business hours of 8:30am-4:00pm (CST) M-F.

To View Sample Files

Synchro Studio comes with sample files so that you can see how street networks are modeled. To view the sample files:

1. From Synchro, choose the **File→Open→Sample Files** command.
2. Select a file from the list.
3. Review the “Synchro Studio 11 Examples.pdf” document (installed in the Trafficware directory) to see how these files were created.

List of Sample Files

The sample files are located in the directory: C:\Users\Public\Documents\Trafficware\Synchro Studio 11\Sample Files. The table below is a listing of the files with a brief description.

Sample File Name	Description
Scenario Manager Demo	Coding elements for Scenario Manager
HCM_AWSC_Example	Coding elements for an All-Way Stop Control T-Intersection.
HCM_TWSC_Example	Coding elements for a Two-Way Stop Control intersection with flared approaches and median storage.
HCM_TWSC Ped_ Example	Coding elements for a Two-Way-Stop-Control intersection with pedestrian analysis.
Single Lane Roundabout	Coding elements for single lane roundabout with bypass lanes

Sample File Name	Description
Dual Lane Roundabout	Coding elements for dual lane roundabout without bypass lanes
99 diverging diamond3	Diverging Diamond Interchange (DDI), also known as a Double Crossover Diamond Interchange www.fhwa.dot.gov/publications/research/safety/09054/index.cfm
DLT Step 4 Signal Timing	Displaced Left Turn Intersection (DLT), also known as Continuous Flow Intersection (CFI), using all four quadrants https://www.fhwa.dot.gov/publications/research/safety/09055/
Leading Peds	The EBR and WBR have a Hold phase 5, used to mimic a leading pedestrian interval
Super Street, Signalized	Example of a Super Street signalized network www.fhwa.dot.gov/publications/research/safety/04091/10.cfm#c1025
Tucson concurrent lagging lefts	Example of concurrent lagging lefts as used in Tucson, AZ
2 Inter One Controller	Coding for grouping two intersections using one controller
6 Leg Intersection	Example of a multiple approach intersection
Basic 2P w Porkchops	Example illustrating channelized islands
Basic 2-Phase	Simple 4-leg intersection with basic 2-phase operation.
Demo3D	Includes vehicle mix, buildings, etc.
Diamond – Leading Alt	A diamond interchange coding example (also known as a Texas Diamond operation)
Diamond Lag Lag	A diamond intersection with lagging left-turns at both intersections
Diamond w Front Roads	A diamond intersection where the ramps merge onto a frontage road
Dual ring	Example using standard NEMA phasing

Sample File Name	Description
Fixed Cycle Coordination	Two coordinated arterial roadways
Continuous Green T no peds	Example of an intersection with a free through movement (EBT) http://safety.fhwa.dot.gov/intersection/innovative/others/casestudies/fhwasa09016/fhwasa09016.pdf
Continuous Green T with peds	Same as the above example but includes a pedestrian phase
Gate_Stop on Yellow	An example of a gate or a meter
Group Control 2	Complex coding for grouping two intersections using one controller
Median UTurn	An example of a Median U-Turn (MUT) intersection, also known as a Michigan Left intersection
Roundabouts (for SimTraffic)	An example with two roundabouts
Single Point	An example of a single point urban interchange (SPUI)
Single Ring	Example showing coding with one ring (instead of dual ring)
Spillback blocking	Example that shows the queue delay (Spillback) between adjacent intersections
Starvation	Example that show the queue delay (Starvation) between adjacent intersections.
Two way traffic control	Example that illustrates a one-lane bridge

Chapter 4 - What's New in Synchro and SimTraffic

This section summarizes the changes between Synchro version 10 and version 11. It is recommended that you review this section if you are a user of previous versions of Synchro.

Bing™ Map as default background

Synchro 11 introduces Bing™ Maps as the default Synchro background. This increases the efficiency of coding a Synchro network without putting in the extra effort to import a background image. Using a Bing™ Map assures that the Synchro network is scaled properly and follows accurate latitude and longitude.

Upon opening Synchro 11, a Bing™ map is now the default background. A search bar will open automatically, and can be used to navigate and position the map to the required location. Enter the location in the search bar, as shown in the image below and click the search icon or hit enter to find it in the map. After drawing a single intersection at the desired location, you will be given an option to anchor the network position with the map by clicking the icon shown below. When opening a Synchro 10 file with a Bing™ region already defined, your network will be positioned on the map according to the previously defined Bing Maps reference point. If no Bing™ region has been previously defined in Synchro 10, you can use the Bing search bar to navigate to a new location as you would with a new file, and then anchor the map to that location once positioned correctly.

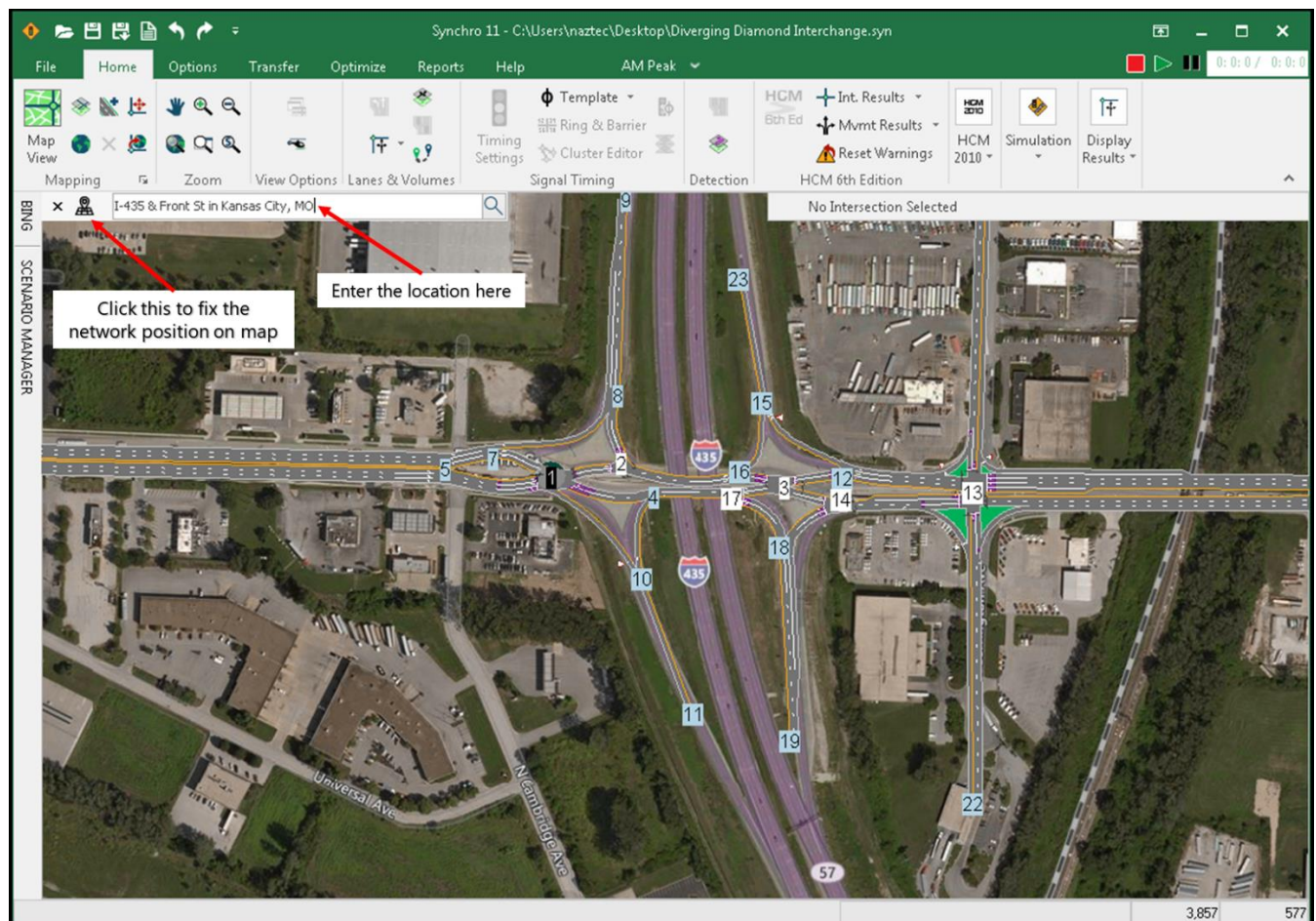


Figure 1 Synchro 11 Bing™ Map View with Functionality

Scenario Manager

Synchro 11 introduces Scenario Manager which allows saving multiple scenarios to a single Synchro file to efficiently manage multiple scenarios. Also, it allows quick switch between scenarios allowing for easier analysis of results with different volumes and/or timings.

Scenario Manager allows user to:

- **Save multiple scenarios to a single Synchro file:** With Scenario Manager, you can save multiple scenarios in single Synchro file which allows you to reduce the number of Synchro files needed for same network.
- **Change the timing plan for each scenario separately:** Scenario manager provides the option to change the timing plan for each scenario individually.
- **Change the volumes for each scenario separately:** Scenario manager allows you to have different volumes for each scenario
- **Sync geometry across all scenarios:** Change the geometry in one place and Synchro will automatically apply the new geometry to all scenarios in the Synchro file.

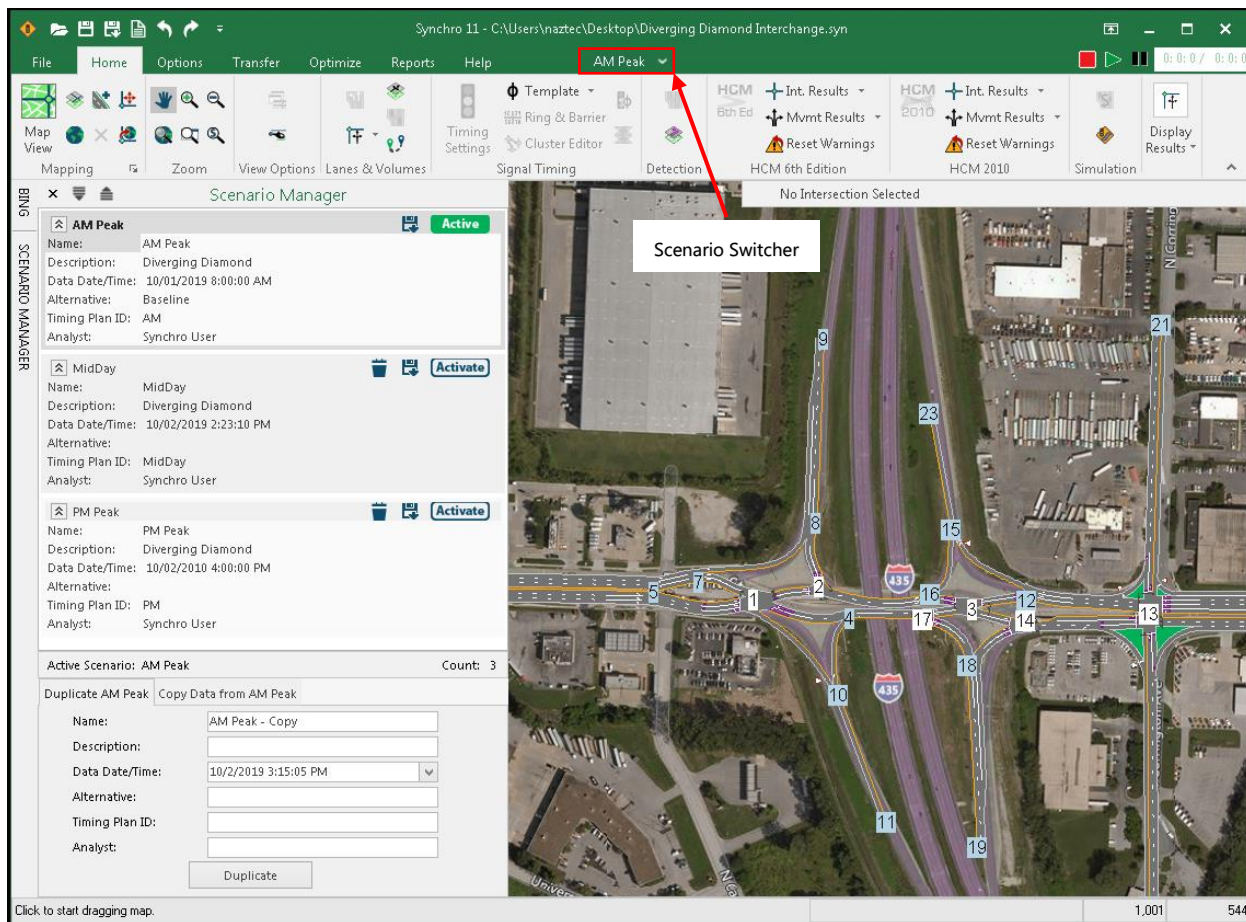


Figure 2 *Synchro 11 Scenario Manager Window*

User Interface Changes

The user interface is updated, introducing a vertical bar allowing options to operate BING (Figure 1) and SCENARIO MANAGER (Figure 2). BING button opens the Bing Maps controls. The SCENARIO MANAGER button opens the Scenario Manager Window, providing the options to create, activate, duplicate, copy, save and delete scenario.

There is a quick scenario switcher (Figure 2) in the middle of the menu bar. Use this to easily switch between scenarios.