OPERATIONS MANUAL

For

StreetSync

A Module of ATMS

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Table of Contents

Introduction 5
Purpose 5
Product Scope 5
Overall Description 5
Product Perspective 5
Product Functions 5
Operating Environment 5
Traffic Controller Support 5
StreetSync Versions 5
StreetSync Solo 5
StreetSync Enterprise 5
Database structure 6
Permanent File 6
Upload File 6
Installing StreetSync 7
Starting StreetSync 13
Quick Action Tool Bar 13
Selection Drop-Down Menu 15
New City/Jurisdiction 15
Viewing all City/Jurisdictions 16
Switch to another City/Jurisdiction 17
Configuration 19
ATMS 19
RS-232 19
Ethernet (Available for Controllers using Scout [V85.x] software ONLY) 20
Sync 21
Considerations: Synchronizing Software 23
Initial Screen 24
Controller Section 25
Add 25
Delete 26
Delete All 26
Sort By ID, Sort By Name 27
Database Section 28
View 28
Edit 29
Print 31
Export 32
Save 33
Compare 33
Diagnostics 36
Action Section 38
Upload / Download 38
Download Real-Time 39
Realtime Section 40
Scan 40

Software Update Section 41
Modem String Initialization 41
Flash Firmware 42
Help Section 43
Hardware considerations 44
PC to 2070 Cable Setup 44
NEMA TS2 Communications Port Cable setup 44

Introduction

Purpose

The purpose of the ATMS StreetSync application (StreetSync) is to provide access to traffic controller units that are otherwise disconnected from the central system via a laptop.

Product Scope

The product is an application to access the ATMS database and the traffic controllers in the field with minimal effort. The product will use standard protocols where possible to maximize accessibility to the existing ATMS software environment.

Overall Description

Product Perspective

The application will install on a variety of laptop devices running Windows 7 or higher using serial connectivity.

Product Functions

The major functions in the app include:

- One-click application installation
- "Connection-less" Accessibility to ATMS
- List all available controllers
- View/Edit each available controller's database
- Single action menu to provide access to all functions
- Upload database from a controller
- Download database to a controller
- Compare changed database parameters within a controller
- Retrieve most recent controller databases from the central system
- Transfer recent controller uploads to the central system
- Download current time-of-day to a controller
- Download firmware to Cubic | Trafficware NEMA Controllers Using Version 61.x software and MM516 MMU's
- Create, save and access multiple cities and/or jurisdictions

Operating Environment

The operating environment will be Windows 7 or higher, running on a variety of PC devices.

Traffic Controller Support

The app will support both TS2, 2070, ATC and Commander traffic controllers containing Cubic | Trafficware software/firmware.

StreetSync Versions

There are two versions of StreetSync available as described below. Please contact your Cubic | Trafficware representative for more information.

StreetSync Solo

This version is used for standalone applications and does not interface directly with ATMS. It is intended for agencies that want to keep database information on isolated controllers.

StreetSync Enterprise

This version is used with agencies that have ATMS and want a laptop interface for isolated controllers that are not communicating on their system.

Database structure

The key to understanding the ATMS StreetSync file system is how the system protects the Permanent File (last successful download through the communication system). The system performs a verification by uploading the controller to the Upload File and comparing the upload with the Permanent File. The verify procedure is used to prevent edit changes at central from being copied over valid changes made in the field through the keyboard.

Permanent File

ATMS saves a copy of the last successful download to the Permanent File to maintain an accurate copy of each controller database in the field. A separate Permanent File for each controller is stored in the /nazserv/data directory on the server with a .prm file extension.

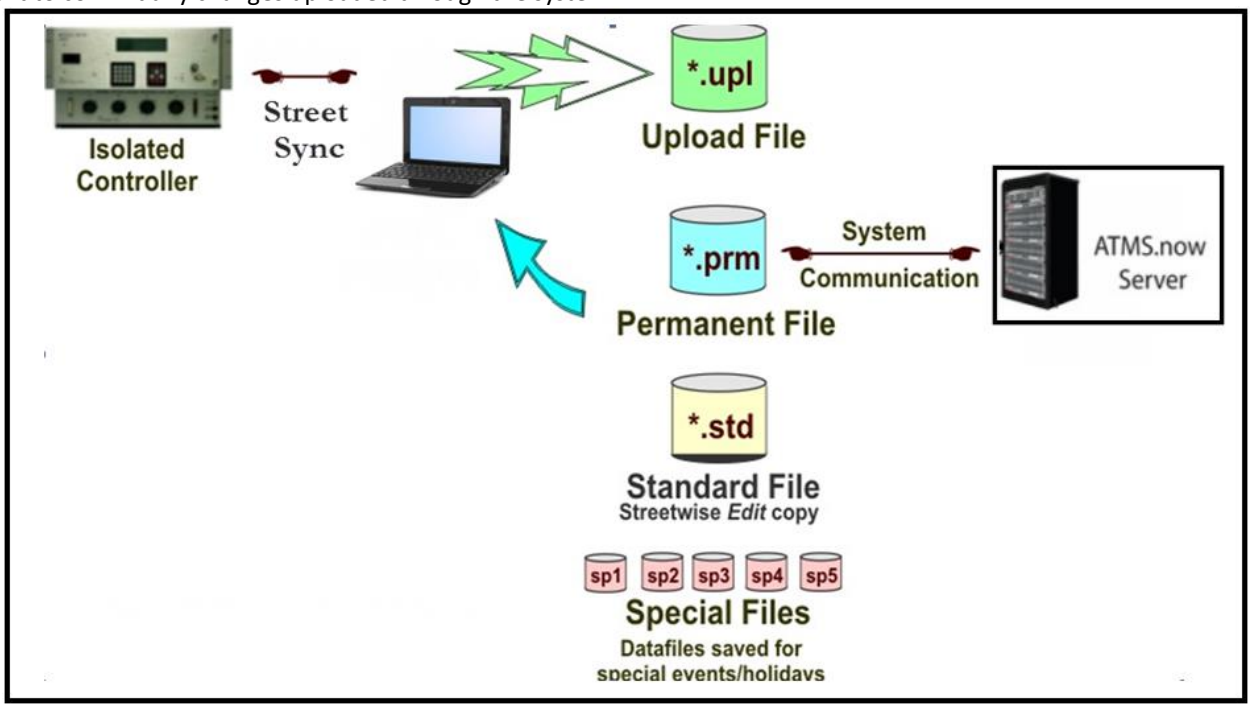
The Permanent File is transferred to StreetSync during the synchronization procedure. This insures that StreetSync carries the last successful download to the field.

The PC which contains StreetSync stores the .prm files in the directory /nazserv/data. All Data which is edited using StreetSync is saved on the /nazserv/data directory on the StreetSync PC. When editing is completed, the updated .prm file is then time stamped.

Upload File

StreetSync saves a copy of the controller database uploaded by the system to the Upload File on the ATMS server after synchronization with the ATMS server. All Data which is edited using StreetSync is also stored in the Upload file on the ATMS server. When editing is completed, the file is then time stamped. A separate Upload File for each controller is stored in the /nazserv/data directory on the ATMS server with an .upl file extension.

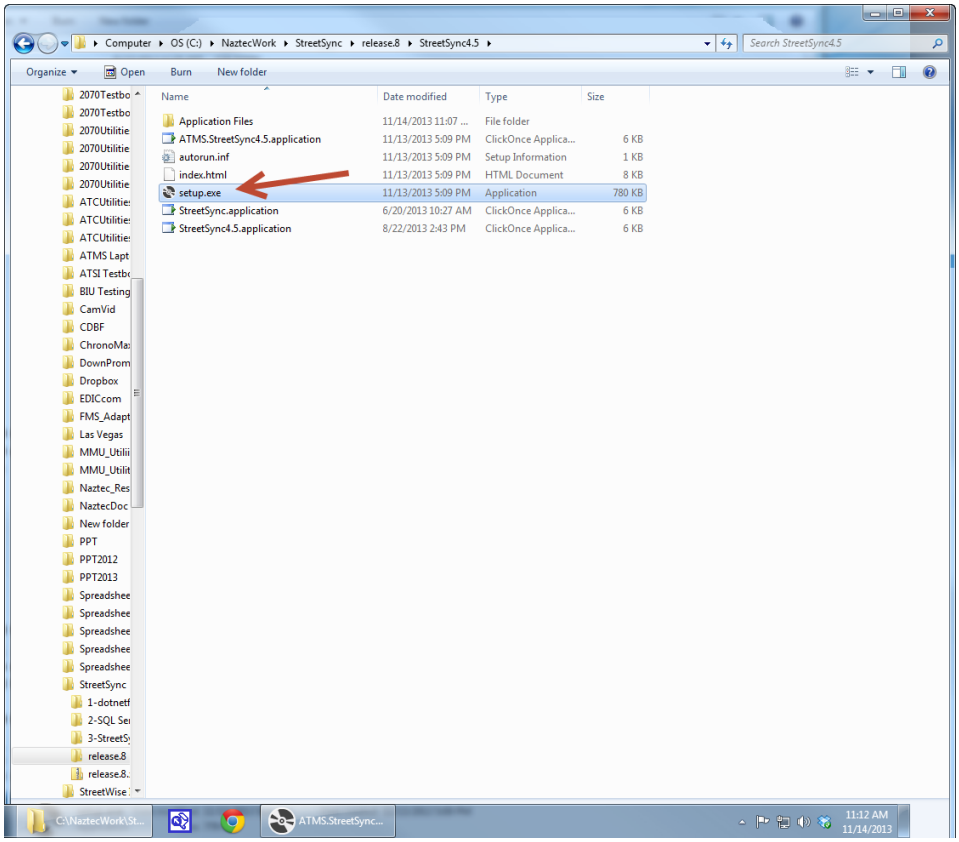
Keep in mind that the Permanent and Standard Files are protected from all field uploads in ATMS and from the StreetSync synchronization procedure. Therefore, in ATMS the user is required to manually copy the Upload File to either the Standard or Permanent to commit any changes uploaded through the system.



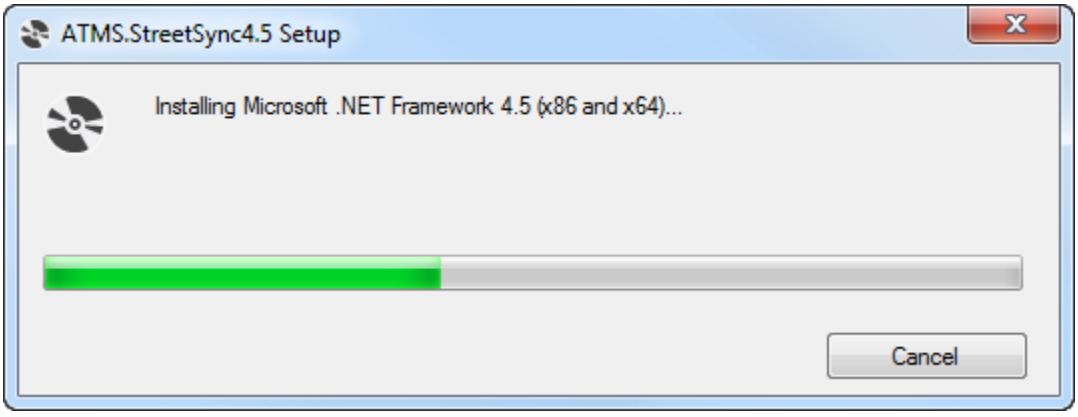
Installing StreetSync

NOTE: To properly install StreetSync using the Microsoft toolset, you must connect your device to the Internet. After installation, Internet access is not necessary. If Internet access cannot be achieved, contact Cubic | Trafficware technical support for further installation instructions.

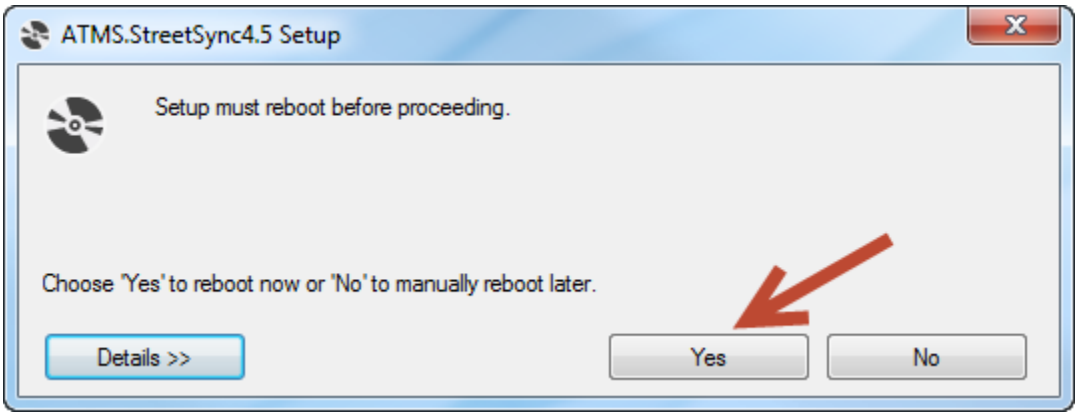
1. The CD provided by Cubic | Trafficware should automatically start the install of StreetSync. If not browse the CD and run the file labeled **setup.exe** to begin the installation.



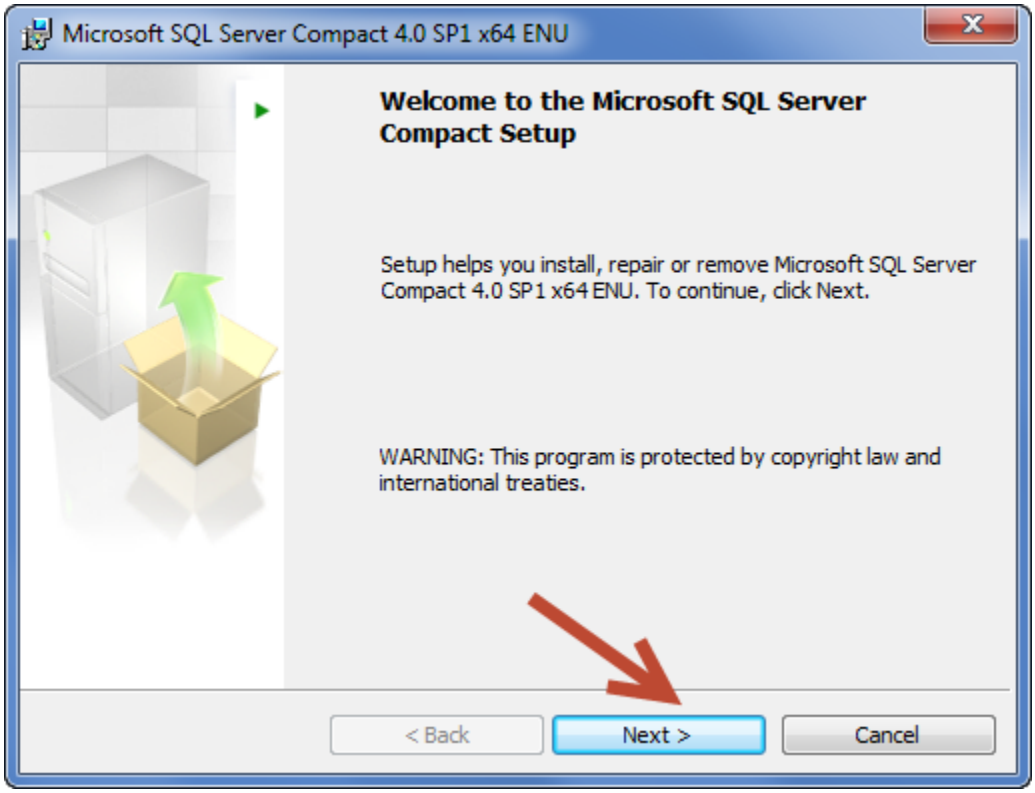
2. The setup will begin and you should see the screen below while StreetSync is installing.



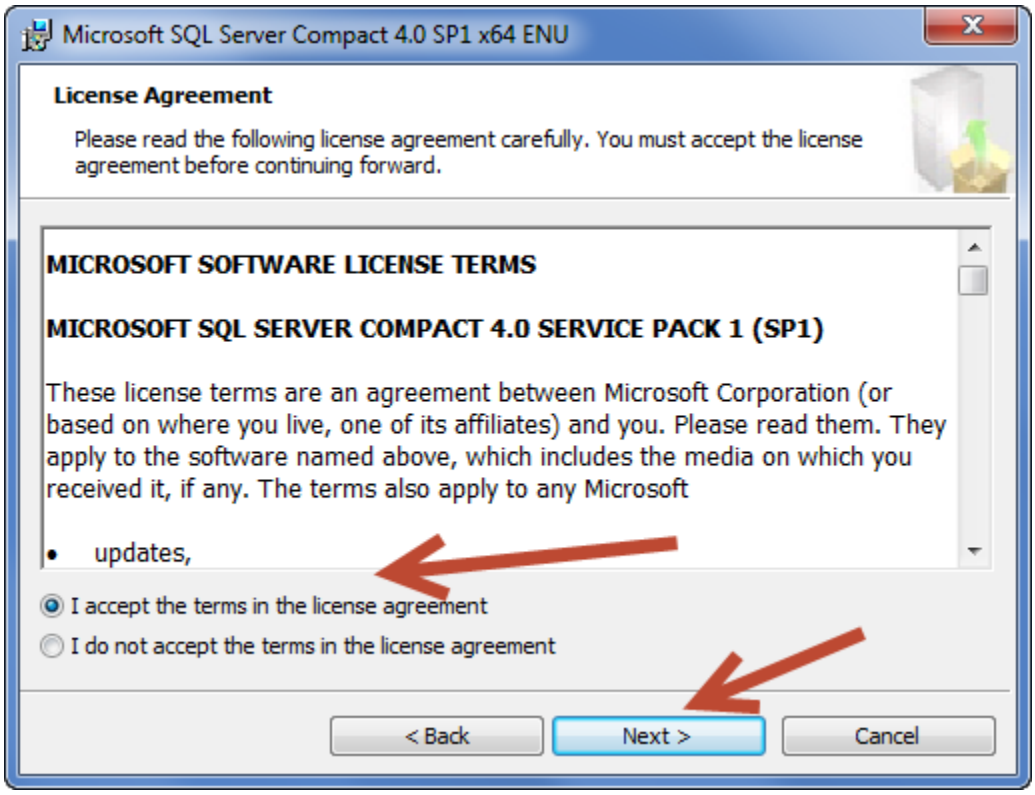
3. When the initial installation is completed the following screen will request a hardware reboot. Please answer **Yes** to reboot your PC, laptop, or tablet.



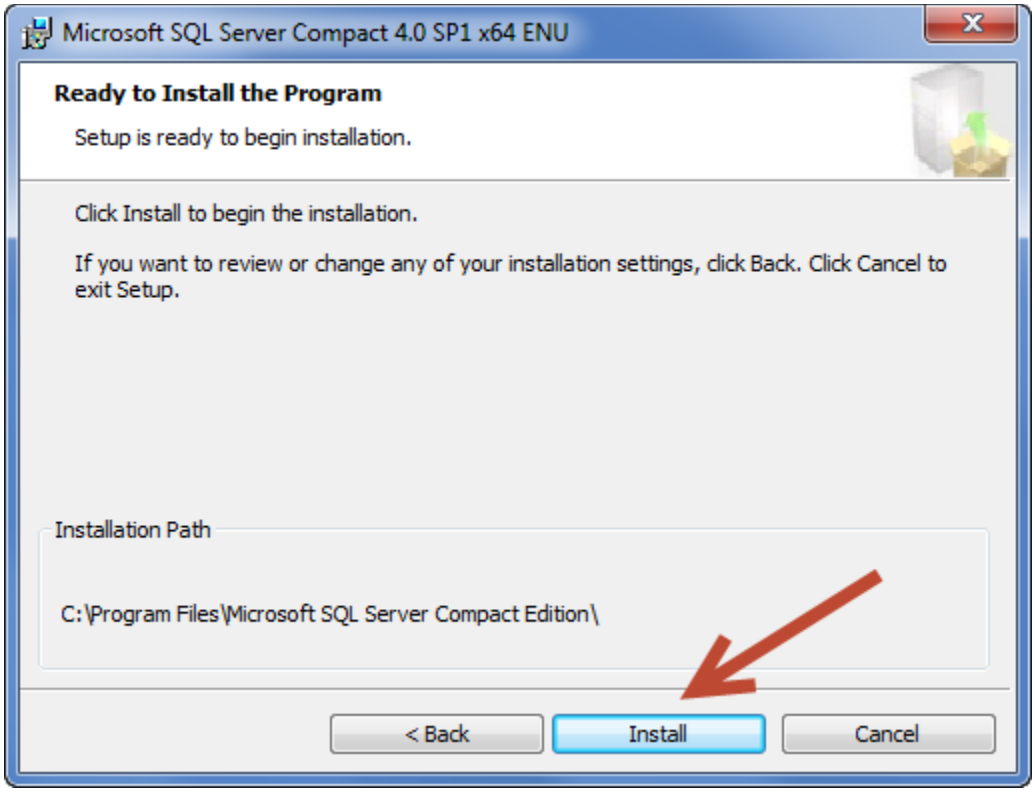
4. Upon restart the following screen may be displayed depending on what has been previously installed on your particular PC/Laptop/Tablet computer. If this screen is displayed then the setup will now install Microsoft SQL Compact Database software otherwise it has previously been installed. If this screen is not displayed then the setup software will skip to step 10 below.



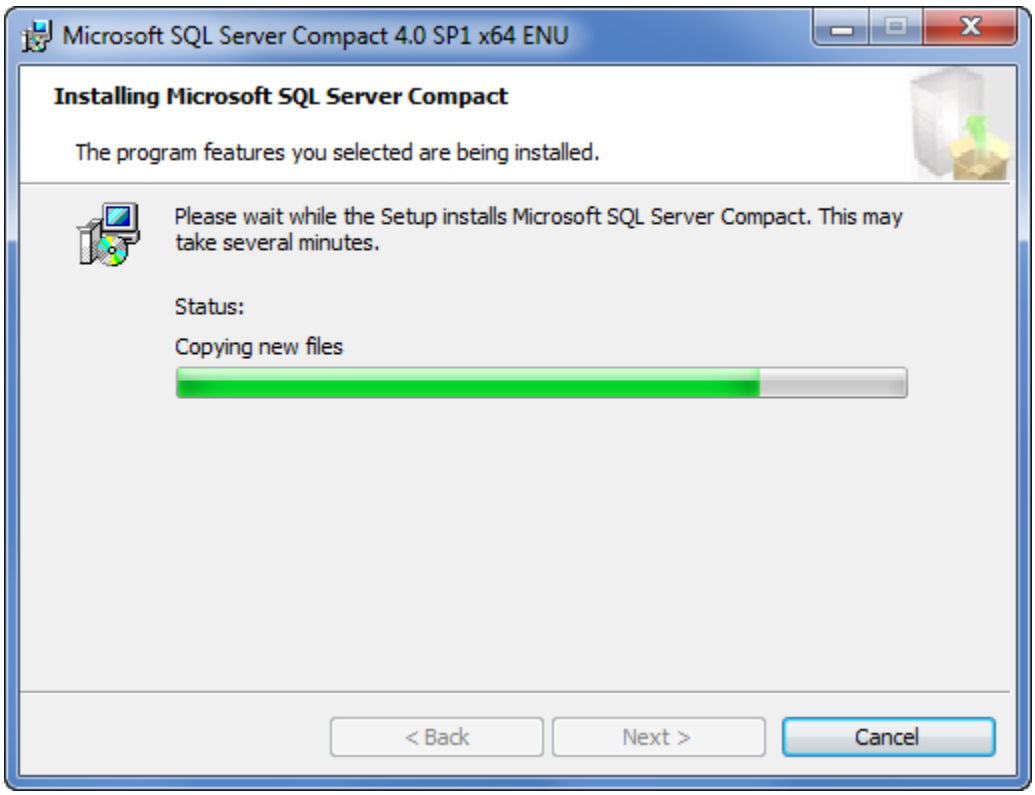
5. Select Next to continue.



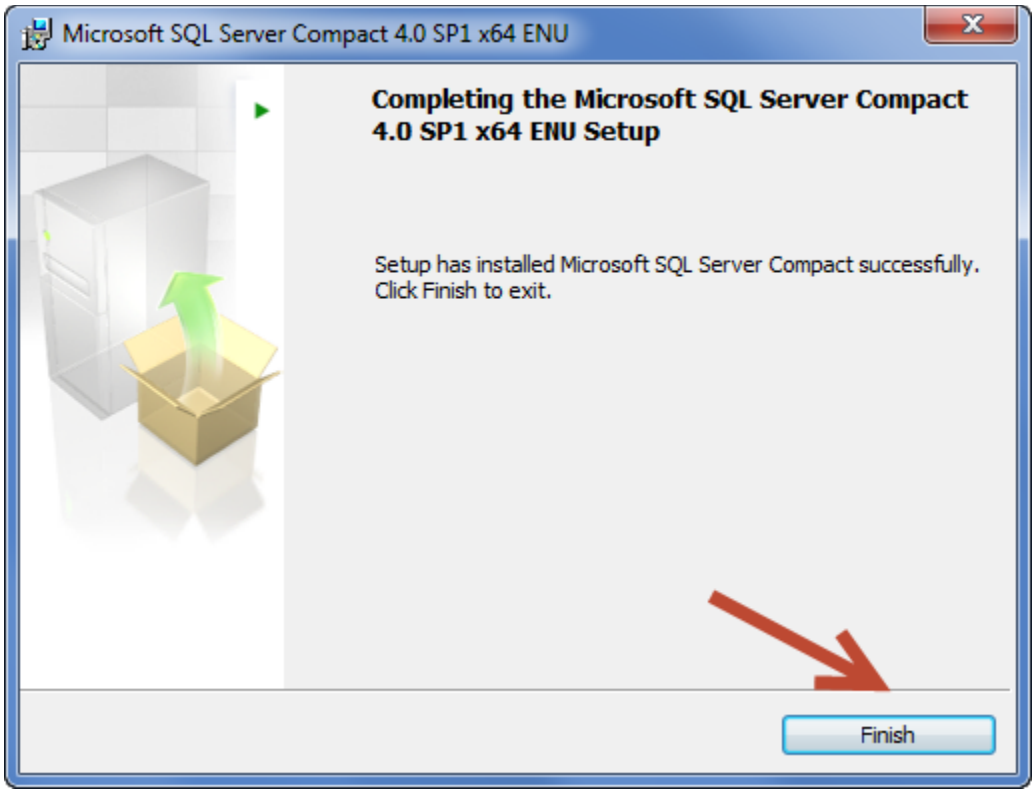
6. Accept the License Agreement and select Next to continue.



7. Select Install to install the SQL Compact Database software.

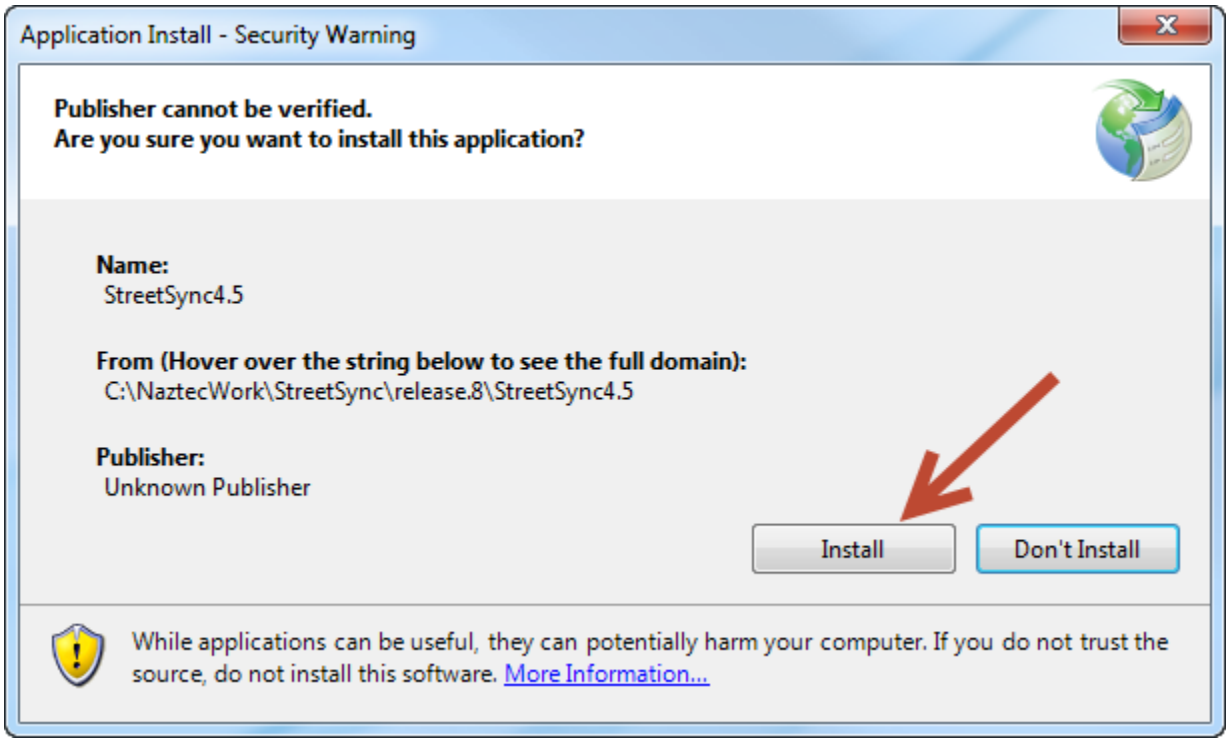


8. When completed, the following screen will be displayed.

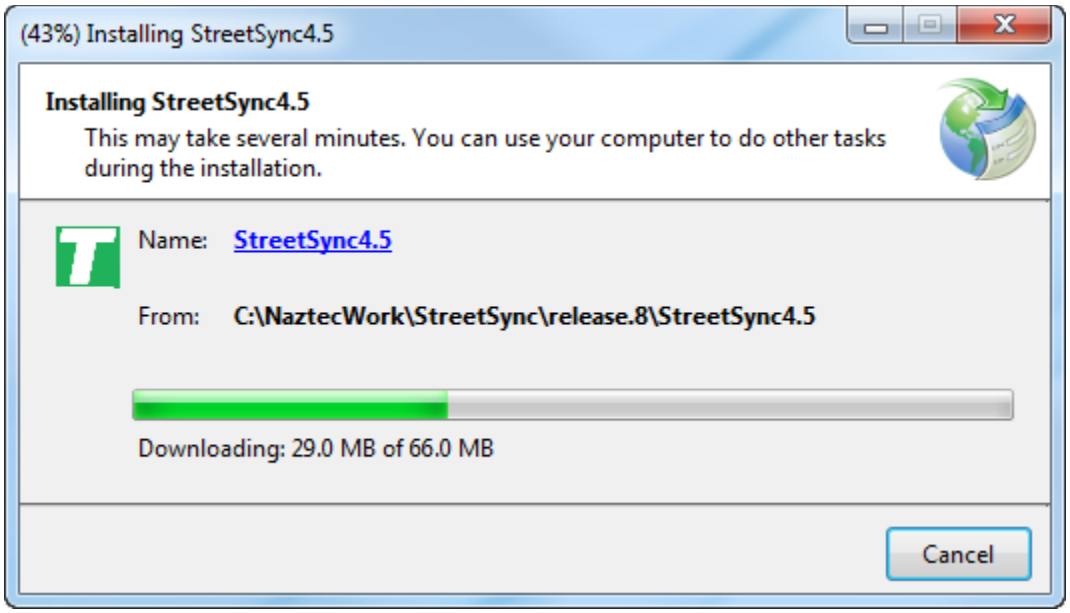


9. Select Finish to complete the Microsoft SQL Compact Database software.

10. The following screen will automatically be displayed. If not, run Setup again to finish the StreetSync Installation.



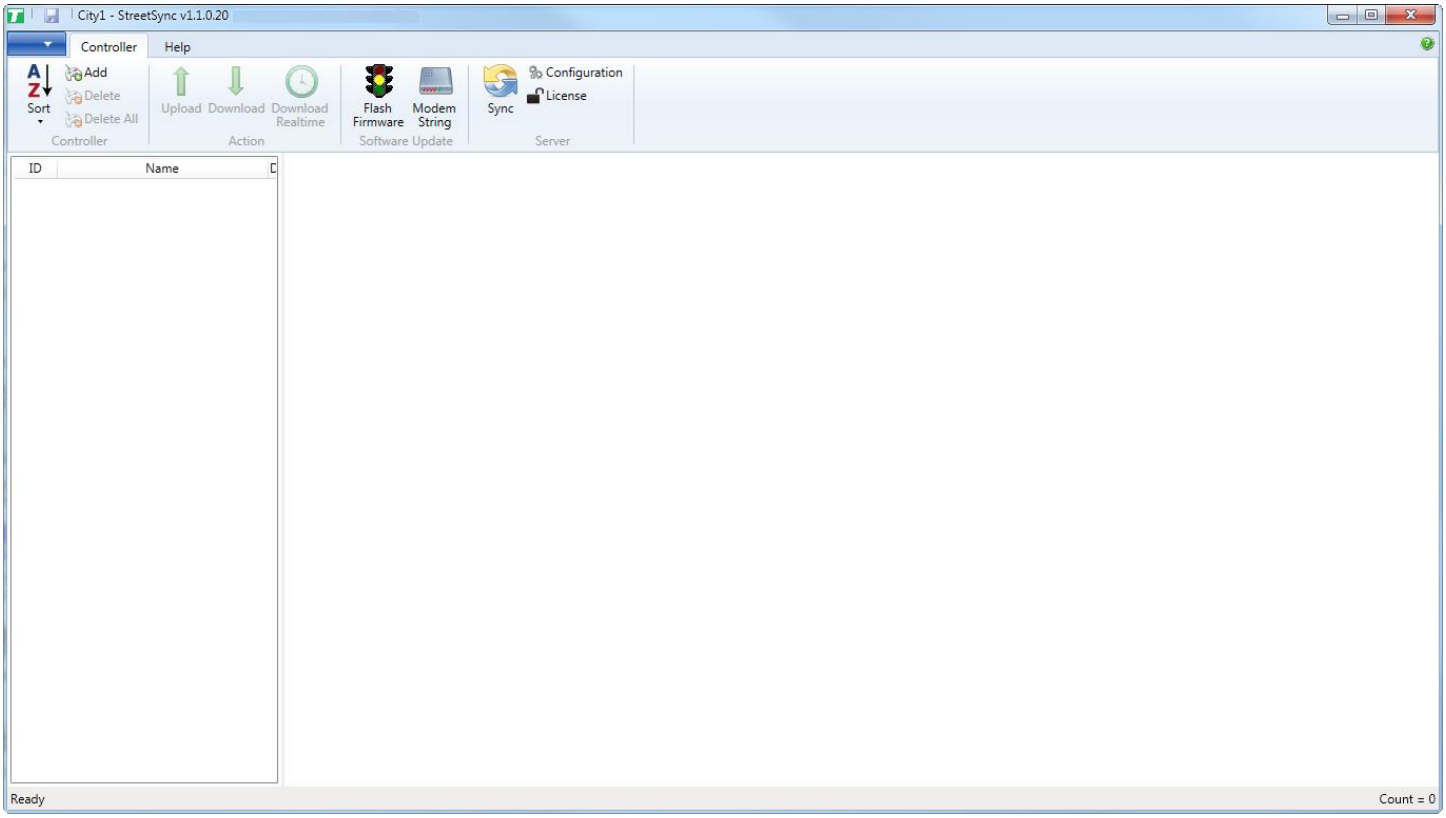
11. While Installation is occurring, the following screen will be displayed.



12. When installation is completed StreetSync will automatically start and the splash screen below will be displayed.

Starting StreetSync

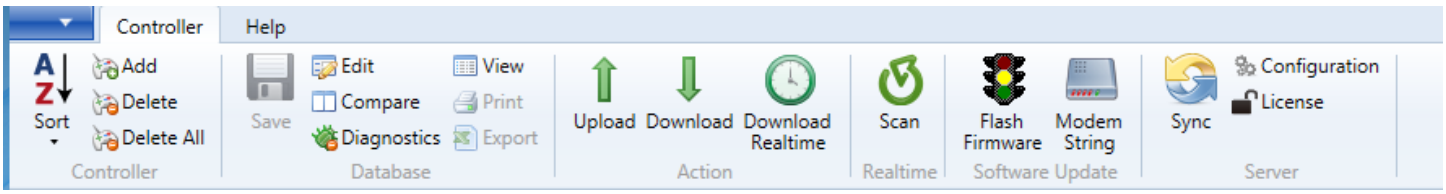
When you first start StreetSync the following screen will appear.



You must now license the firmware via the tool bar.

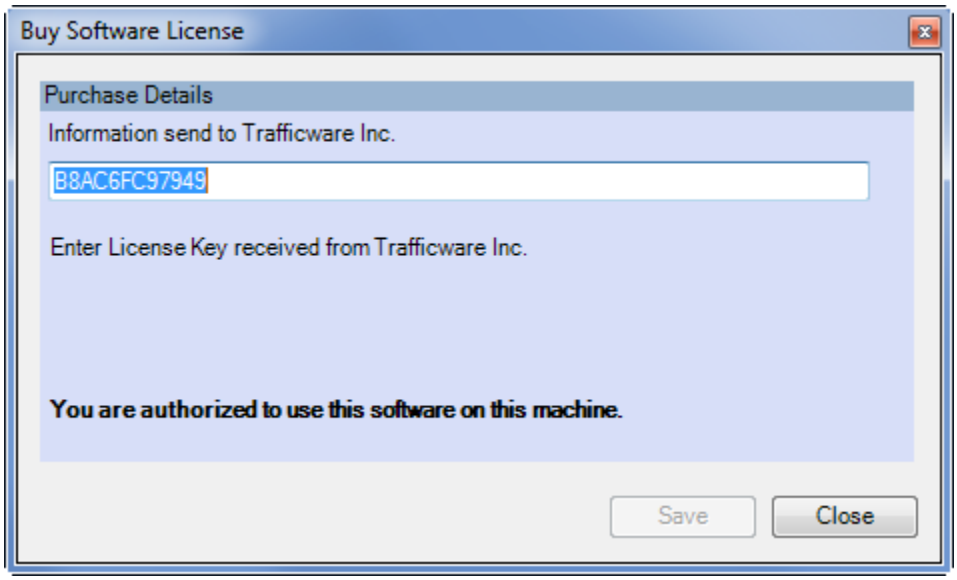
Quick Action Tool Bar

There is a quick access toolbar on the top of the screen that allows you to access the controller databases, as shown below.

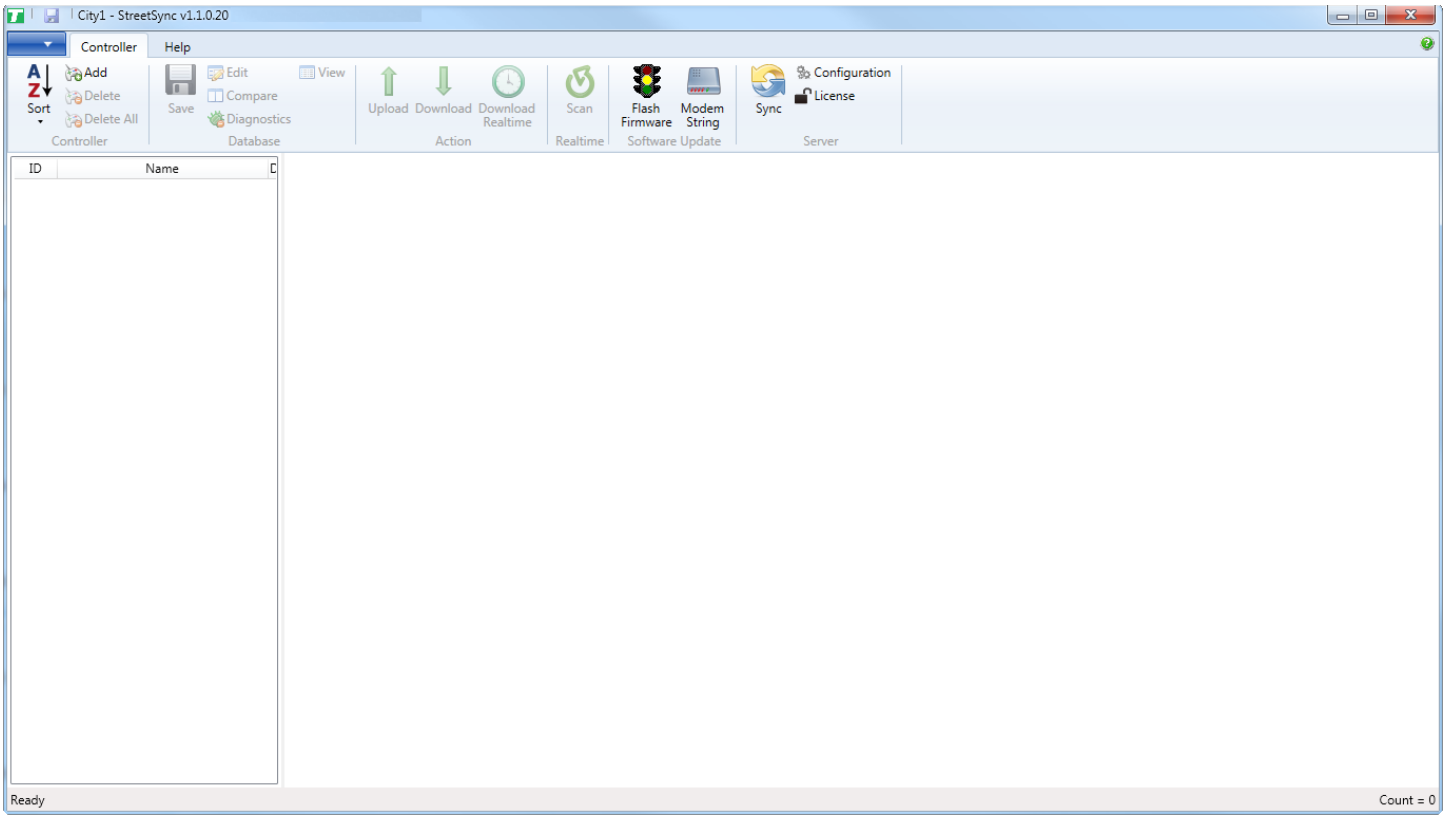


License

Each time you install StreetSync on a PC you need to license it with Cubic | Trafficware. The following screen will appear for you to enter and validate your license. *Please contact your Cubic | Trafficware representative to acquire a license.*

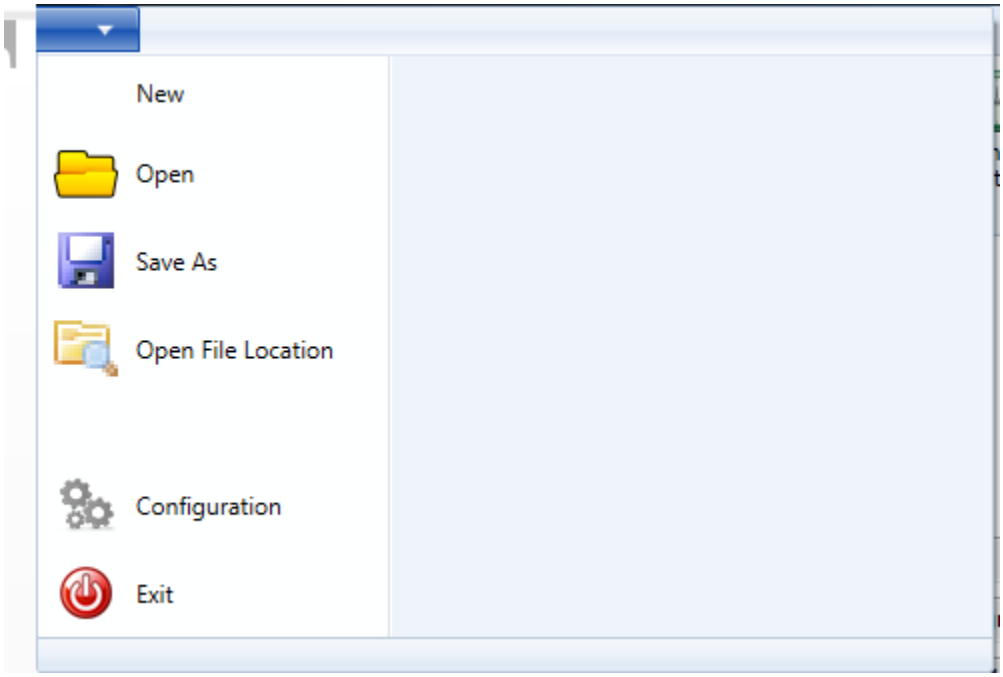


Once licensed, the following screen will appear:



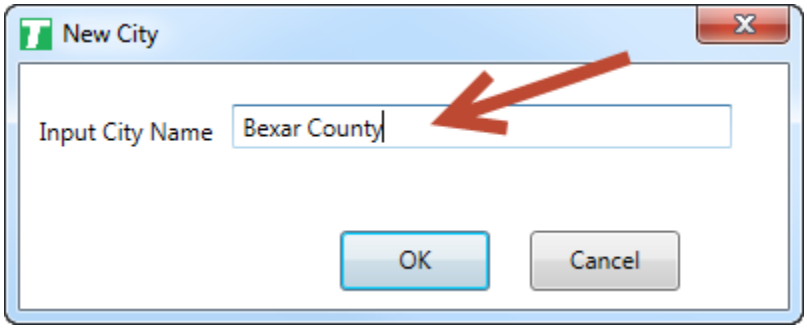
Selection Drop-Down Menu

StreetSync allows the agency to be able to save multiple jurisdictions to separate StreetSync Files. This can be helpful for larger agencies.

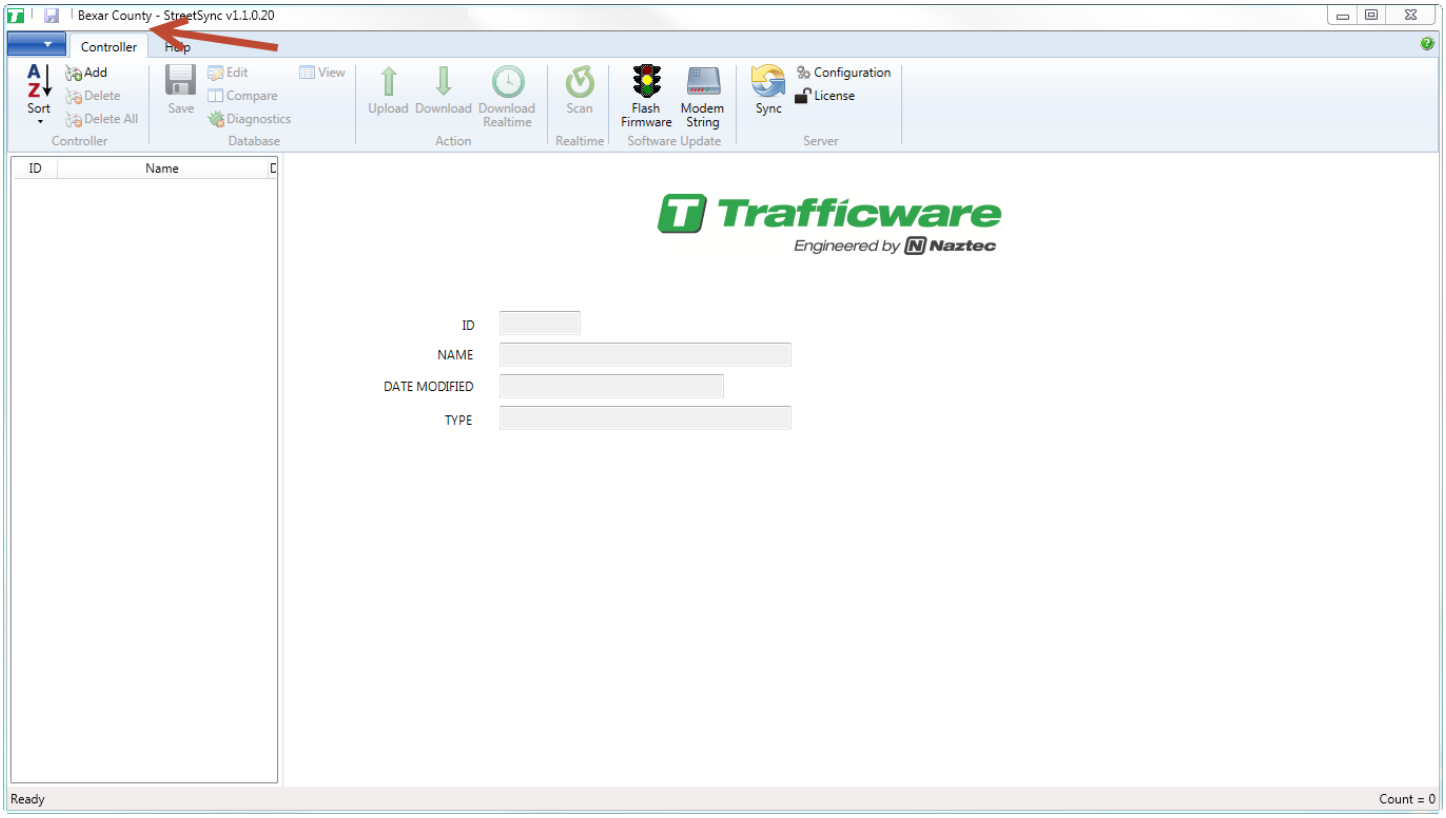


New City/Jurisdiction

Whenever you bring up StreetSync for the first time you **must** create a city/jurisdiction. To create a new city/jurisdiction select **New** and the following screen will come up for you to enter the City, County or Jurisdiction name.

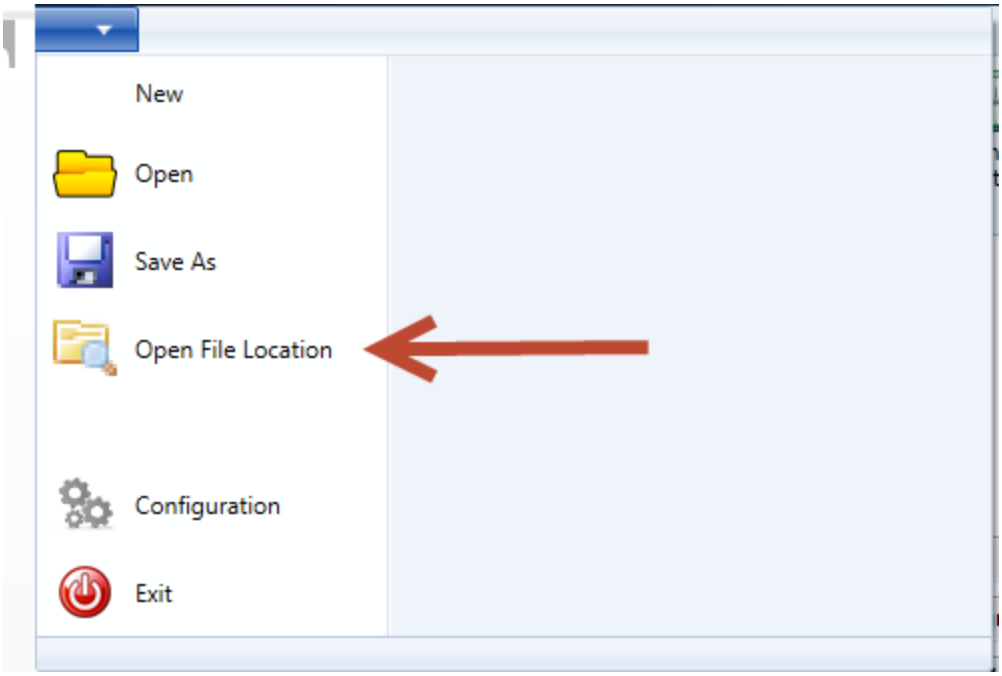


Once the new city/jurisdiction is created, the title bar will change to reflect the file.

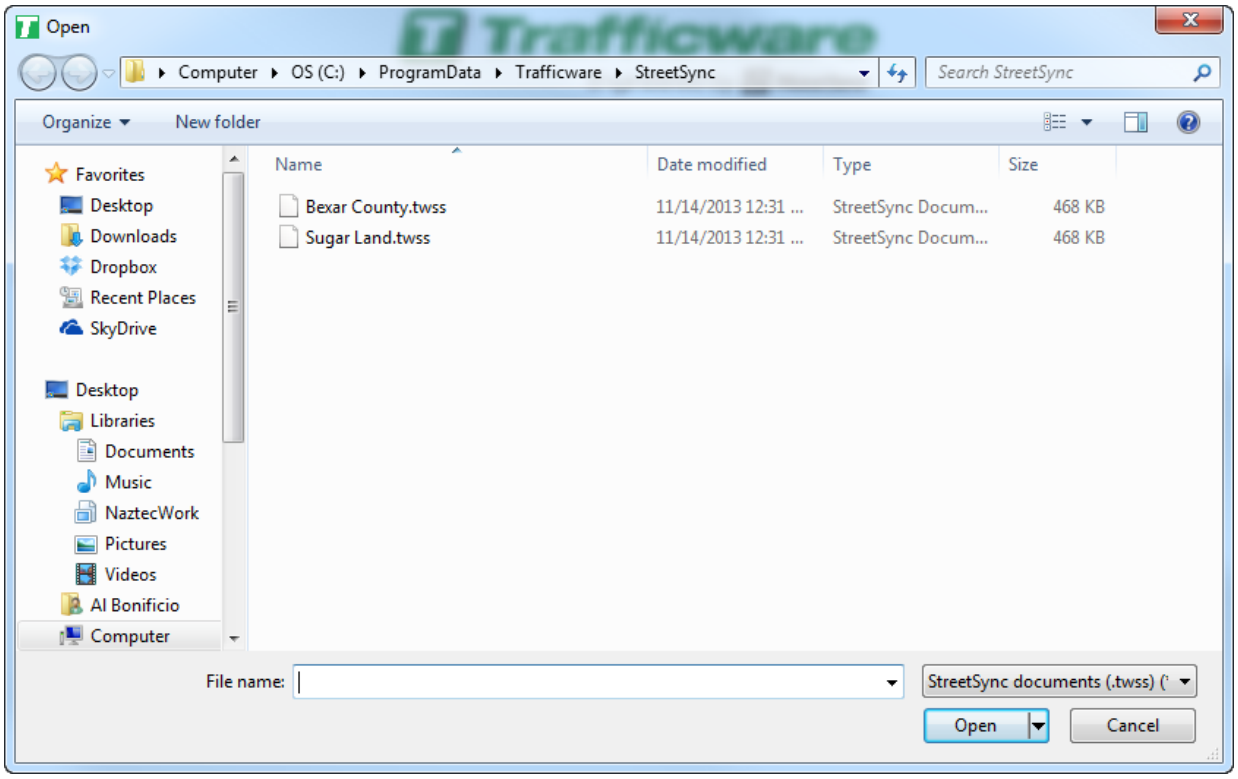


Viewing all City/Jurisdictions

Go to the Selection Drop Down menu and choose **Open File Location.**

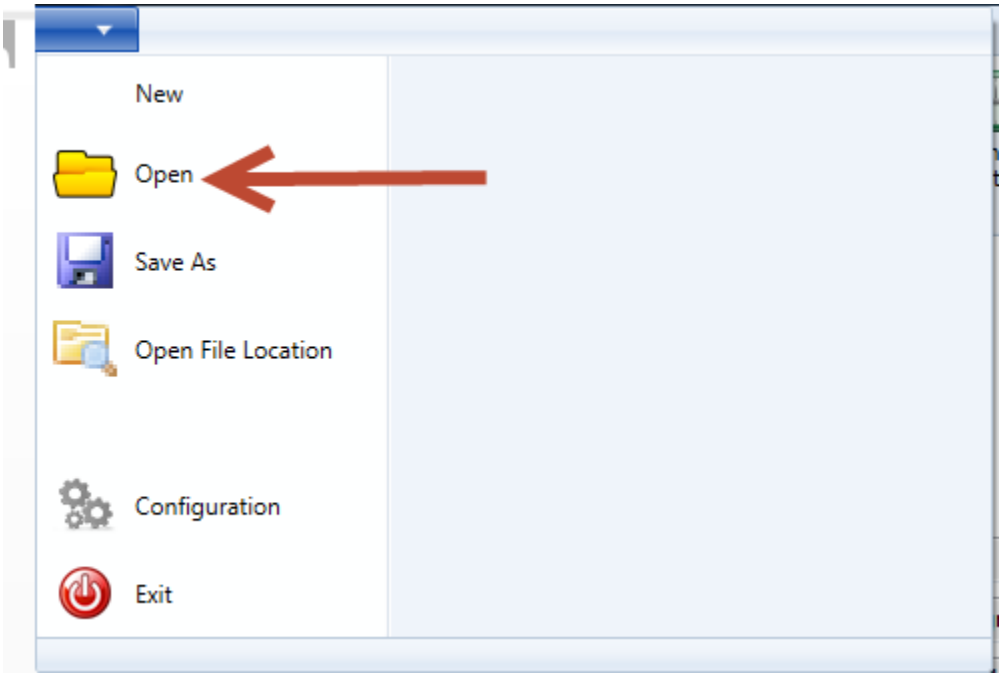


The following browser screen will be displayed.

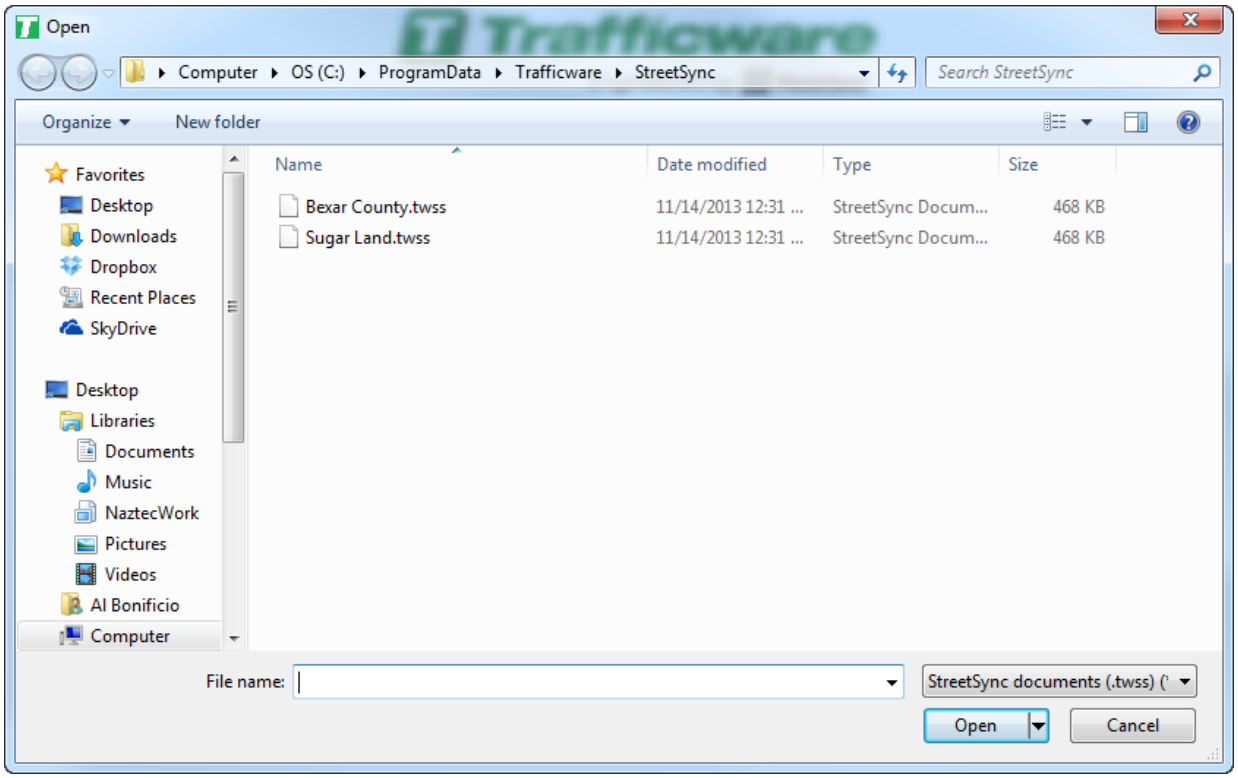


Switch to another City/Jurisdiction

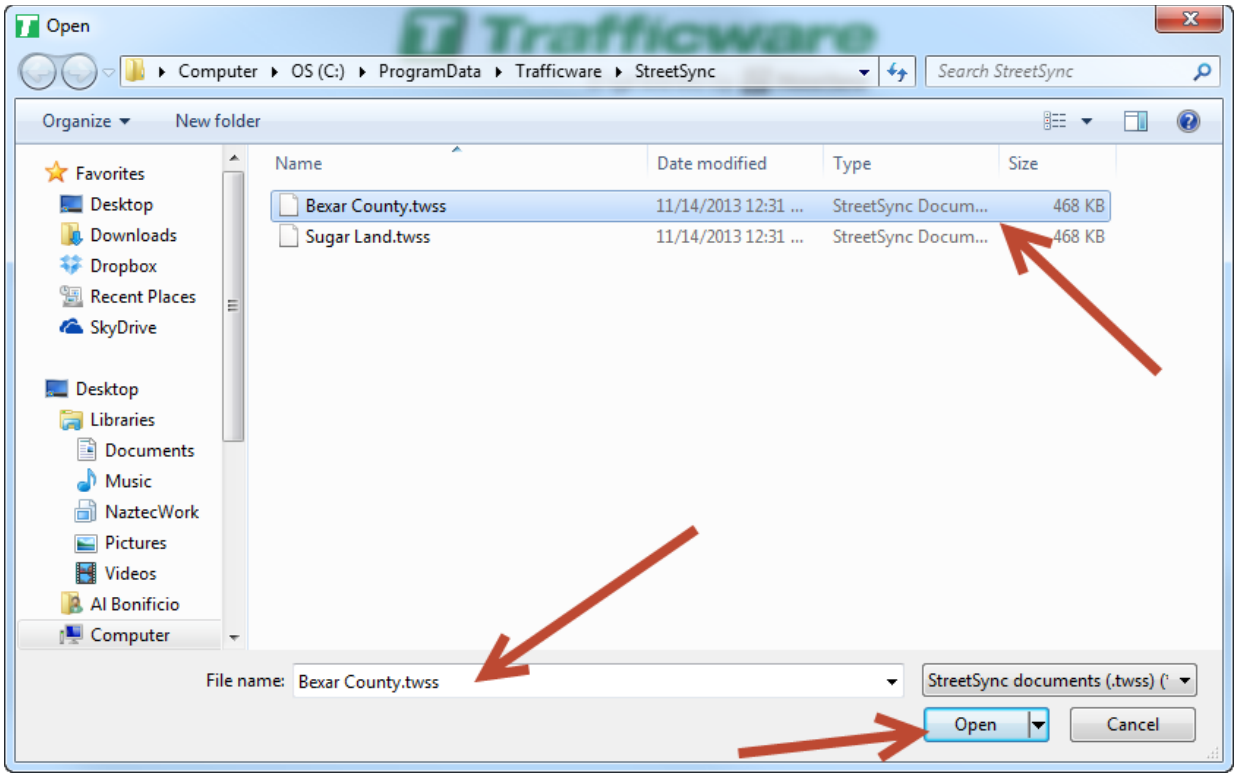
Go to the Selection Drop Down menu and choose **Open**.



The following browser screen will be displayed.



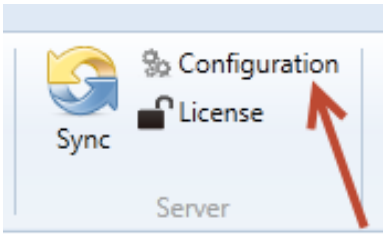
Note: Each city created has the extension .twss which will contain the database information for the city/jurisdiction. Select and open the file you want to access.



Once you have created a City/Jurisdiction you are ready to configure StreetSync for the interface to ATMS or to create standalone controllers.

Configuration

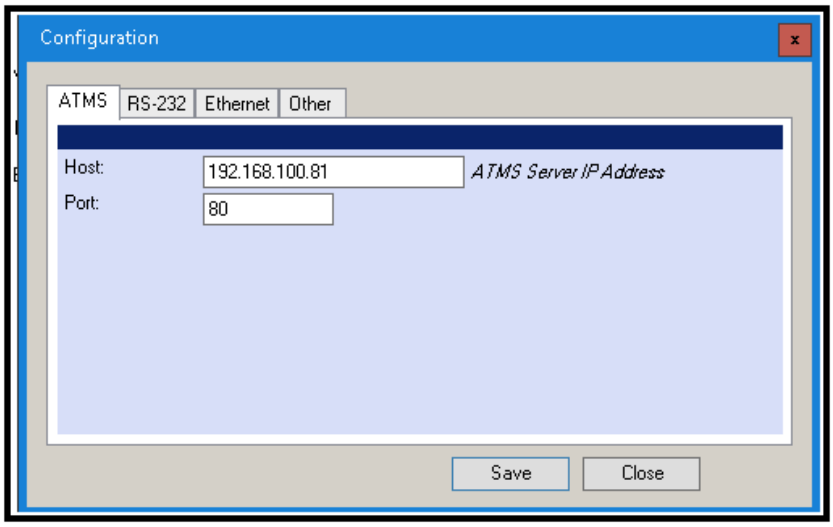
From the Toolbar you must first configure StreetSync to access ATMS by using the configuration button in the server section.



The configuration screen will have three Tabs that will allow the user to configure StreetSync as shown below. There are three tabs that contain configuration parameters and they are described below.

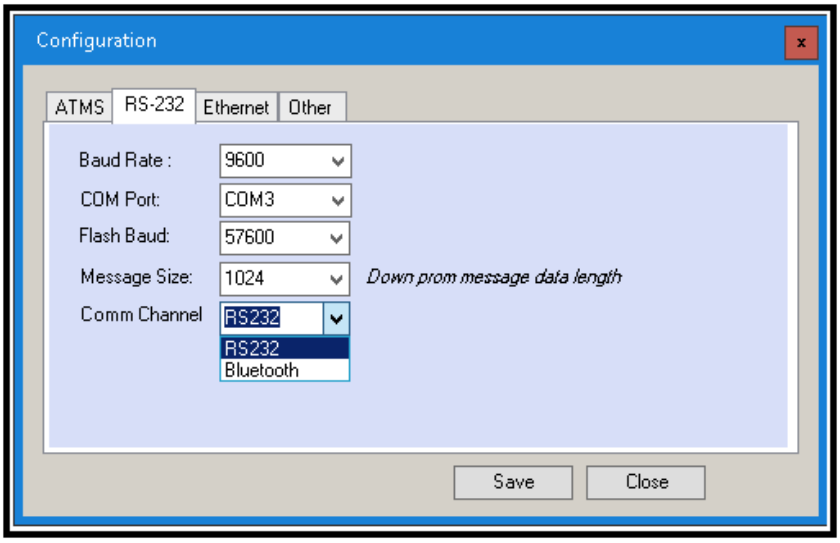
ATMS

This screen allows the user to choose the ATMS **Server** used to get the controller list during the Sync Action and the **Port** number of that server (typically Port 80).



RS-232

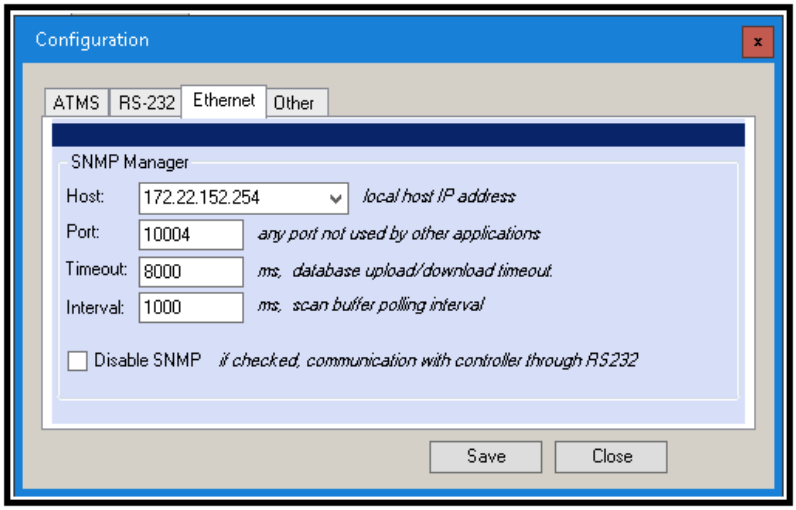
The user will be able to set up the **COMM Channel** (*RS232 or Bluetooth*) **COMM Port** and the **Baud Rate** *(9600 Baud-57600 Baud)* to be used for the laptop device that will connect to the controller. The user can also set up a **Flash Baud Rate** *(9600 Baud-57600 Baud)* when "Flashing" firmware to a TS2 controller or MMU. The user should also set up The Flash Firmware Message Length to insure that the headers are sent to the controller.



NOTE: The Baud Rate and Flash Baud Rate for an MMU should be set to 9600 and the Message Size should be set to 512.

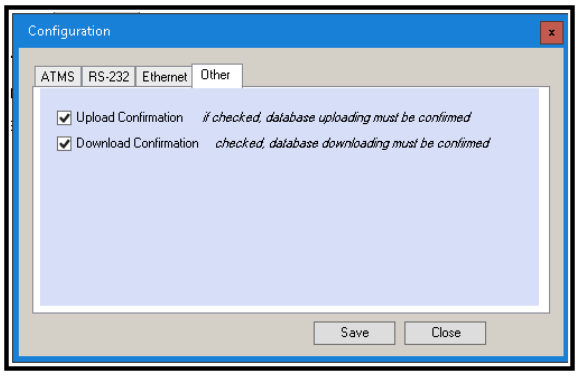
Ethernet (Available for Controllers using Scout [V85.x] software ONLY)

Controllers using *Scout [V85.x]* software can (and should) communicate using a direct connect Ethernet cable. The user must program the **Host** IP address (the IP of the laptop using StreetSync), the IP **Port** that the laptop will use to communicate to the controller, a communications **Timeout** parameter (in milliseconds) and a polling **Interval** used in association with the scan buffer when scanning the live data from an intersection. If you are communicating with a V80 controller, you should use Ethernet but is it is unavailable, you can check the Disable SNMP box to communicate via RS232. Keep in mind that a typical Ethernet upload will be substantially quicker that RS232.

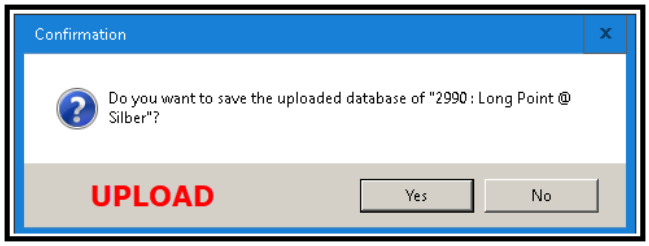


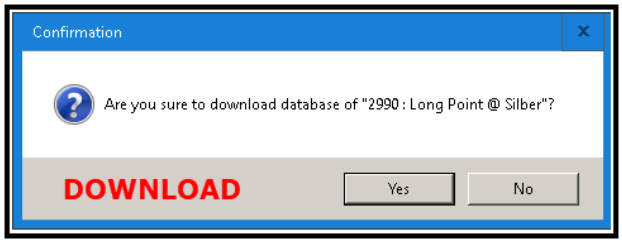
Other (Confirmation of Uploads/Downloads)

If the agency requires its staff to confirm that they want to perform a database upload or download, then check the confirmation boxes under the ***Other*** tab as shown below.

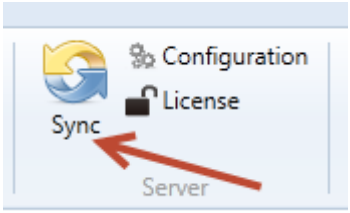


When selected then a Confirmation Message will be displayed that will require the user to confirm before saving the uploaded database or starting the download as shown below.

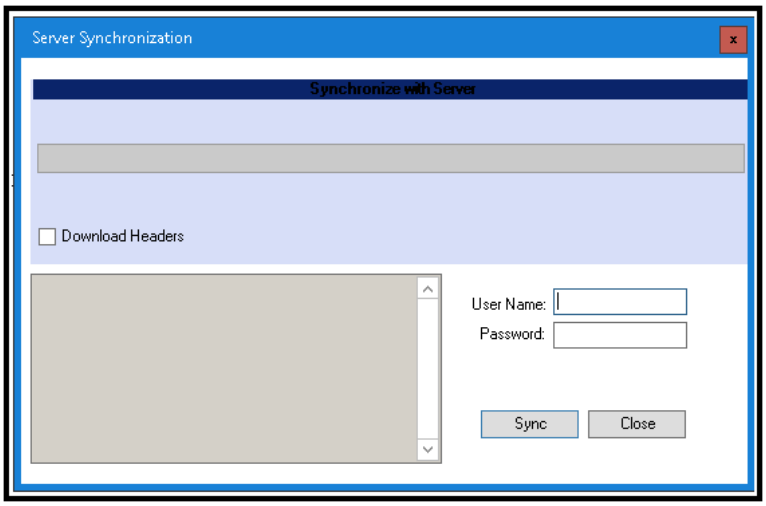




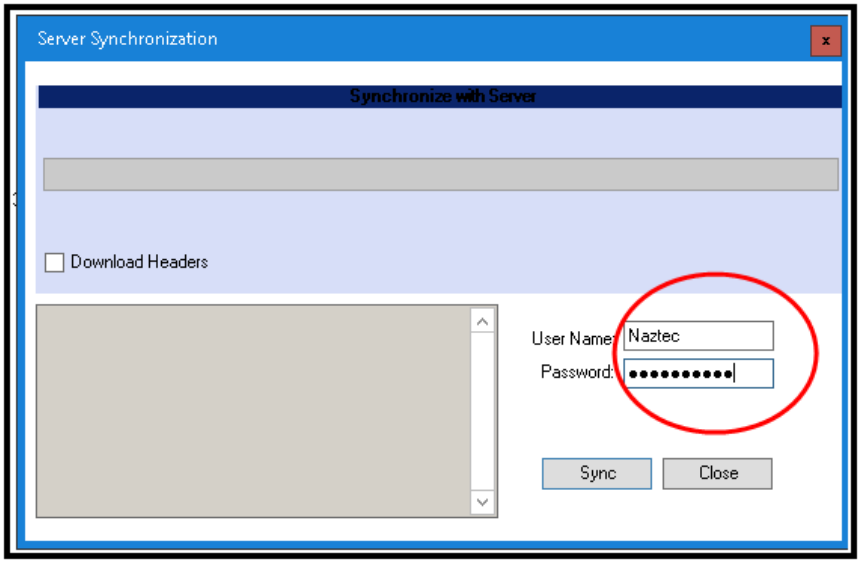
Sync



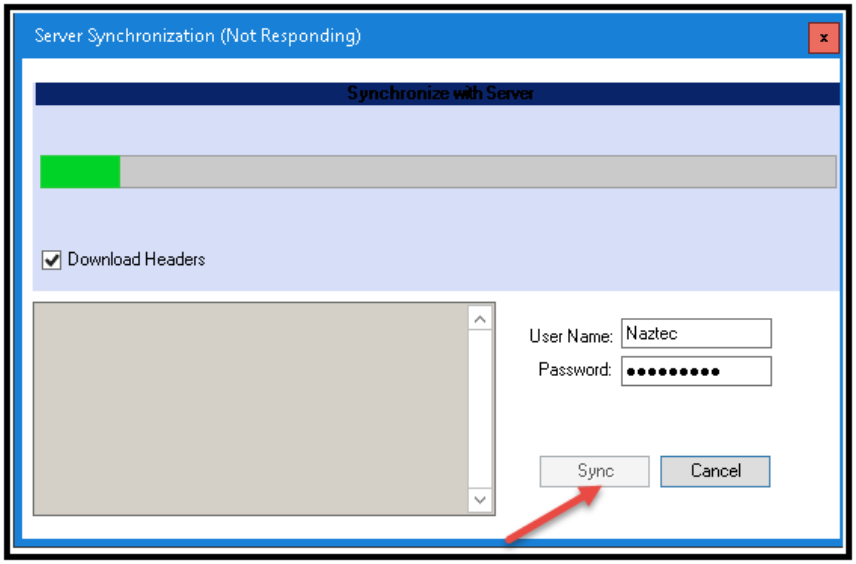
When the user clicks the Sync Action in the server section, the system will display the Sync action item as shown below.



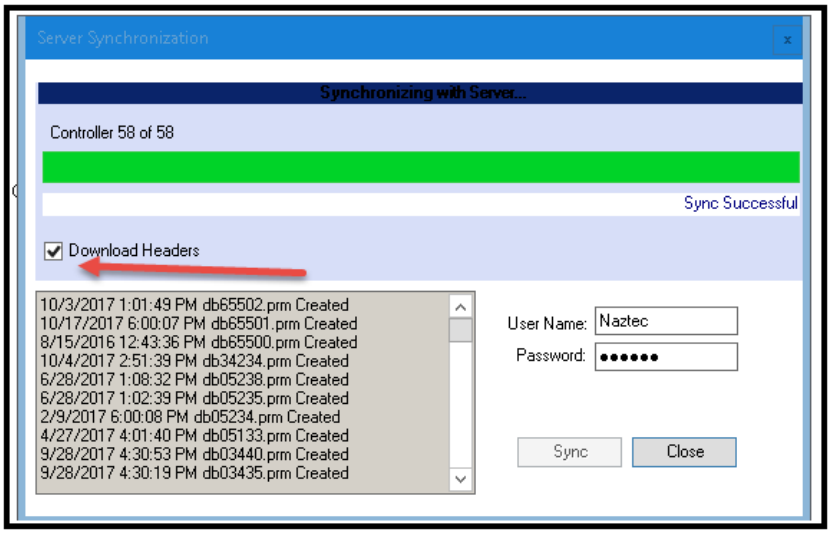
Logging into the ATMS server is required for syncing. In addition, the log-in will reflect the jurisdictional control that is set up in ATMS. Therefore, by logging-in the user's StreetSync database will only synchronize the databases that they are allowed to use. The user must provide a username and password as shown below.



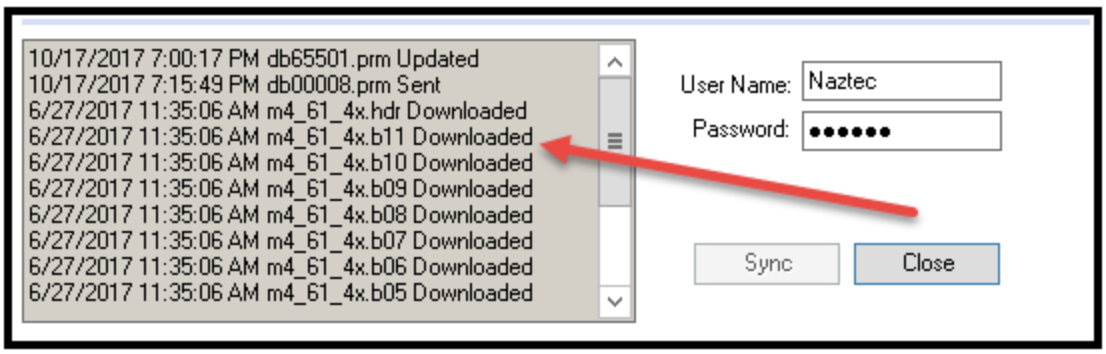
Selecting Sync will begin the Synchronization process. While the Synchronization process occurs, a progress bar indicating how much of the controller data set has been synchronized with the server. The user may cancel the operation at any time.



Please note that the user can select Download Headers if it is desired to download firmware to TS2 controllers. StreetSync will search for the server directory **…Naztec/Nazserv/Downprom** for the TS2 firmware data and header files and place it in the **Downprom** folder of the StreetSync City directory.



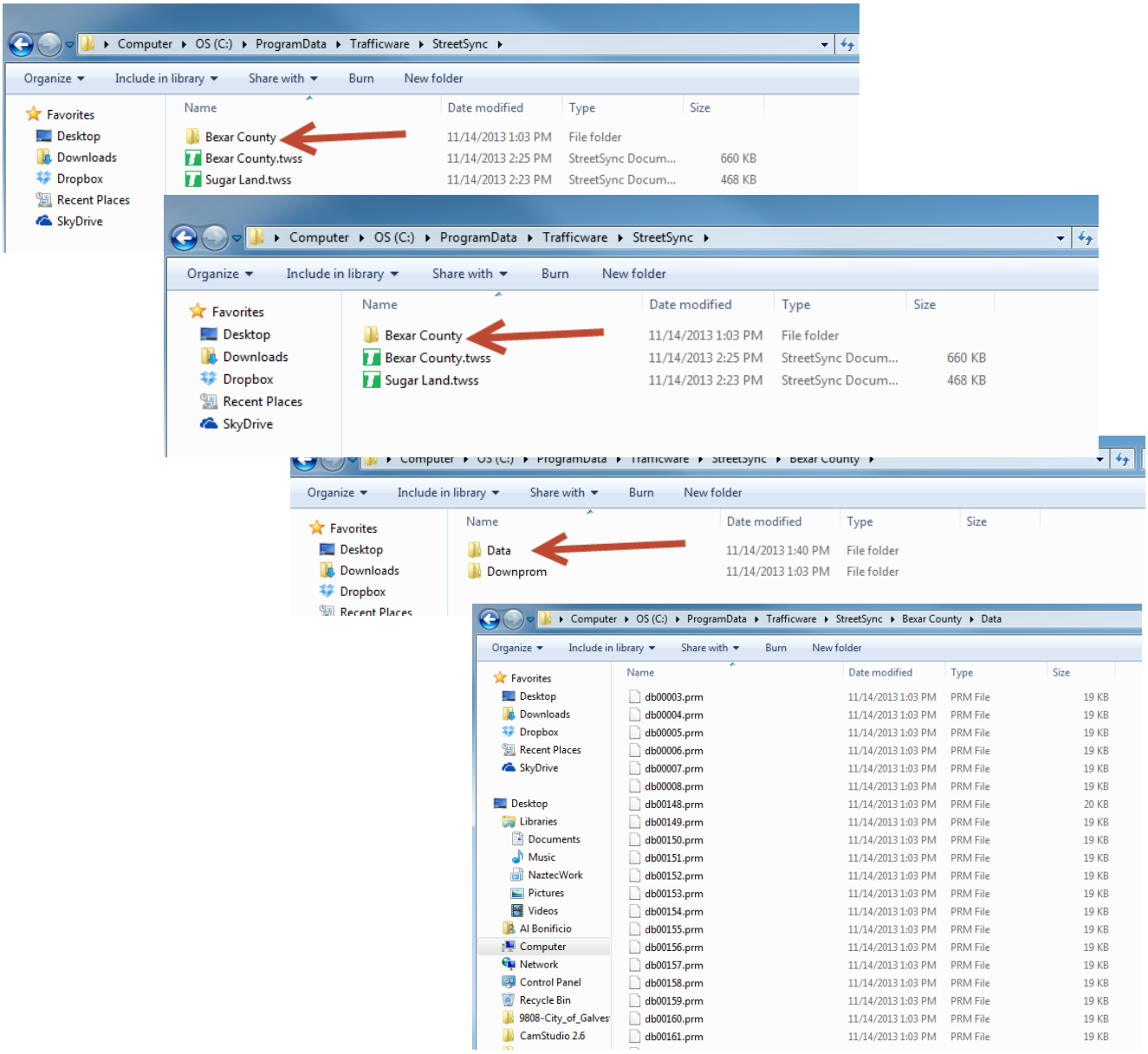
When the Sync is completed, a list of controllers will be displayed.Please note that the status of the transfer from ATMS to StreetSync is also displayed on the left side of the screen as shown below.



Considerations: Synchronizing Software

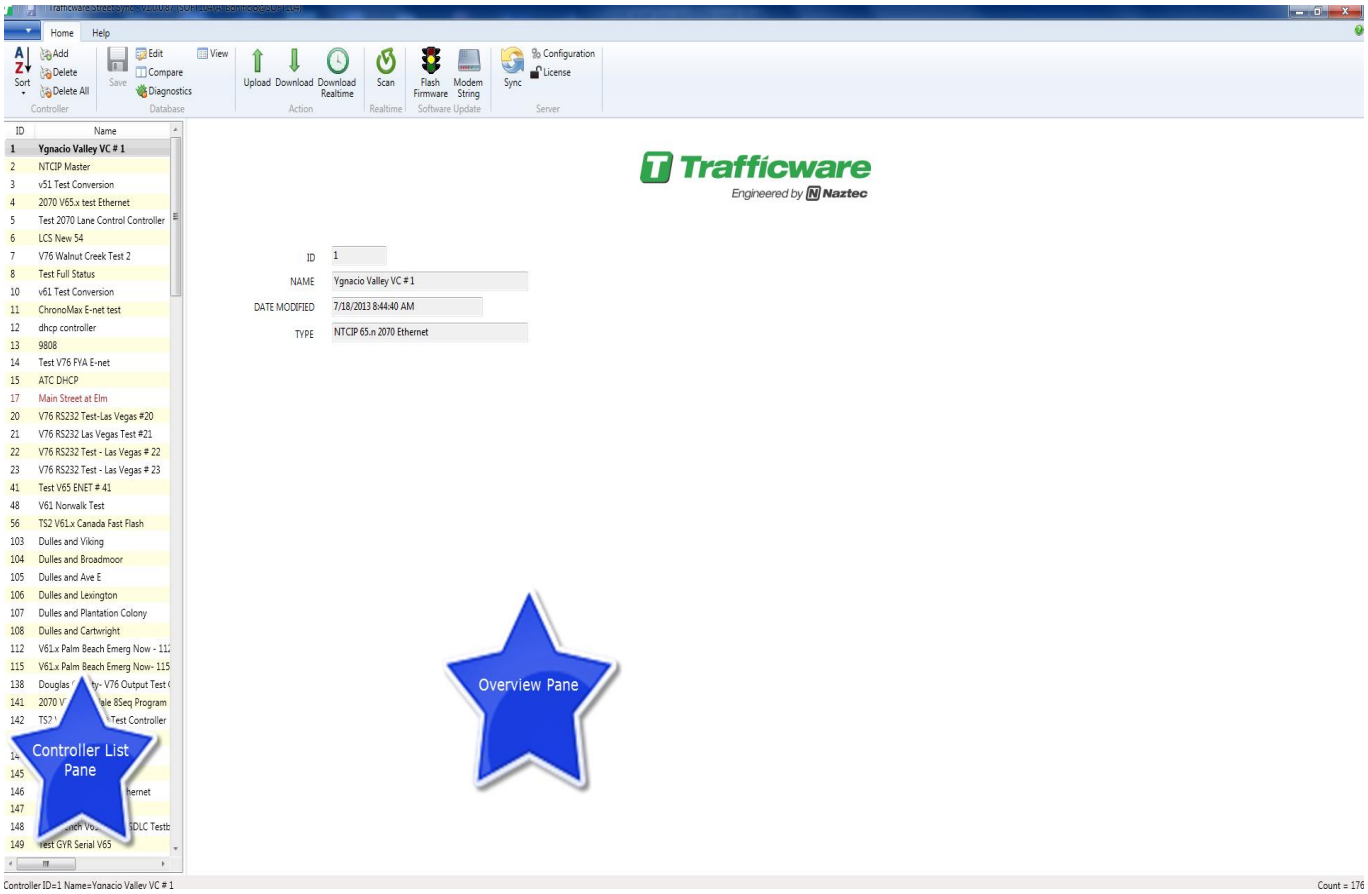
For existing controllers, the synchronization logic first compares the timestamps of the Upload file in ATMS with the "Last Updated" timestamp in ATMS StreetSync. If the "Last Updated" timestamp in StreetSync is newer than the Upload file in ATMS, the controller settings from StreetSync are copied to the Upload file of the corresponding controller in ATMS. If the Upload file in ATMS is equal to or newer than the "Last Updated" timestamp in StreetSync, then the timestamp of the Permanent file in ATMS is compared to the "Last Updated" timestamp in StreetSync. If the timestamp of the Permanent file in ATMS is newer than the "Last Updated" timestamp in StreetSync, then the Permanent file of the controller in ATMS is copied to StreetSync. Finally, if the controller name or type is different between ATMS and StreetSync, then the Permanent file of the controller in ATMS is copied to StreetSync.

Once synchronized StreetSync will create folders with the data as shown below.

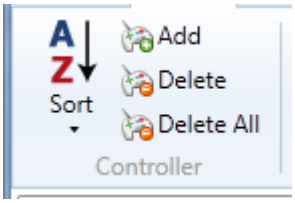


Initial Screen

When the app first starts, it will display the list of controllers in the system as shown above, As already stated, this list will be populated from the application server after syncing from the server. There are two sizable window panes that the user can view: the Controller List pane and the Overview pane.



Controller Section

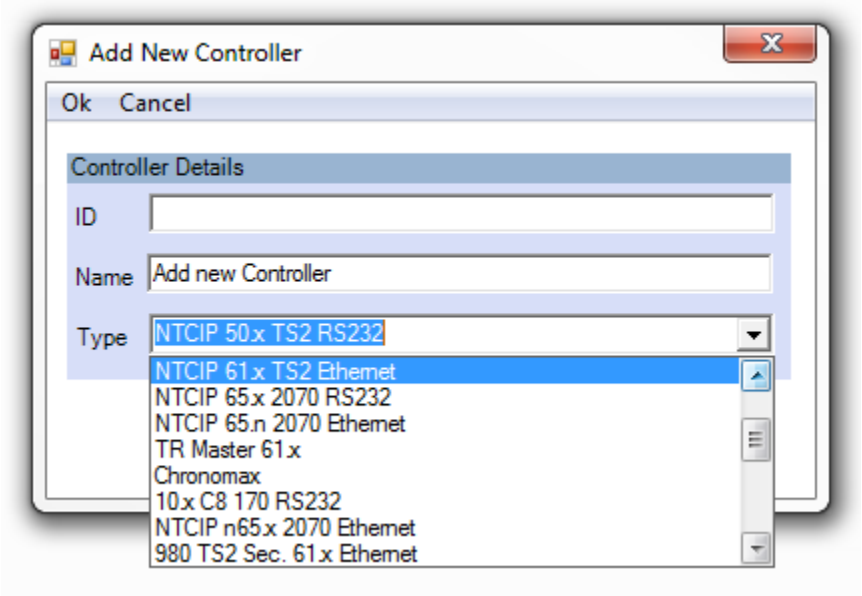


The controller section menu allows the user to modify the controller database that StreetSync utilizes.

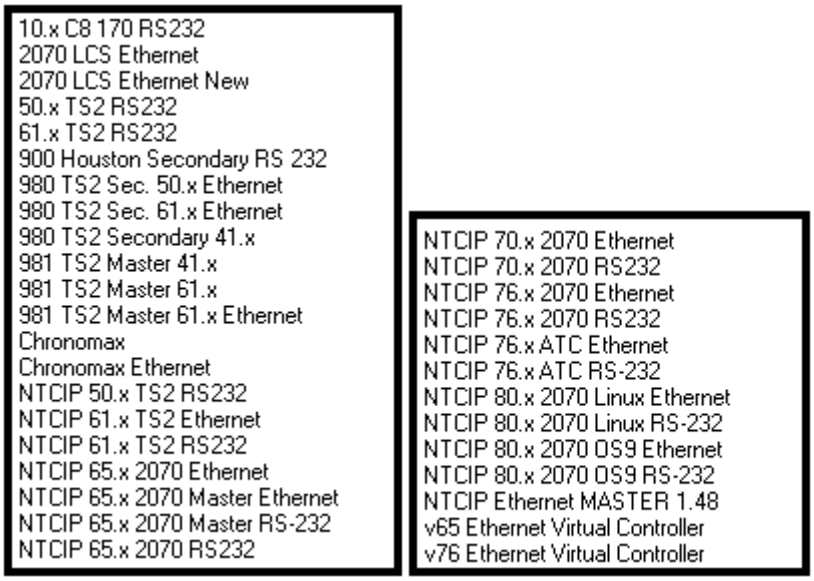
Add

If you add a new controller to the StreetSync database, the following screen will be displayed.

Important: If you create a new controller on the laptop, it will be highlighted as a different color in the controller List Pane and will not be part of the ATMS configuration.

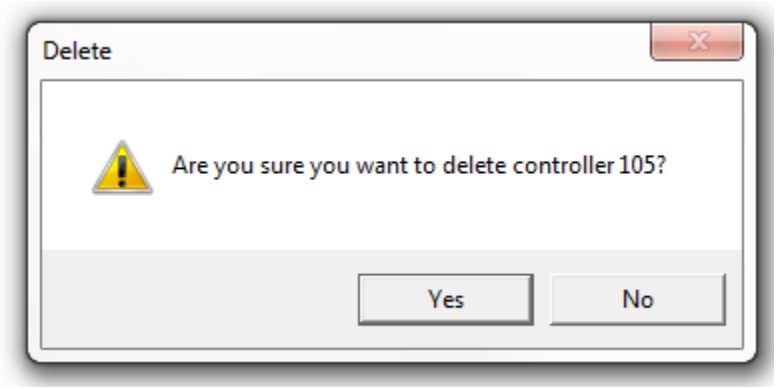


ID: Choose an ID that is not in the database. Valid ID numbers are 1-9999.
NAME: Give a description of this controller.
TYPE: this is the type of controller that you are communicating with. The types are listed below:



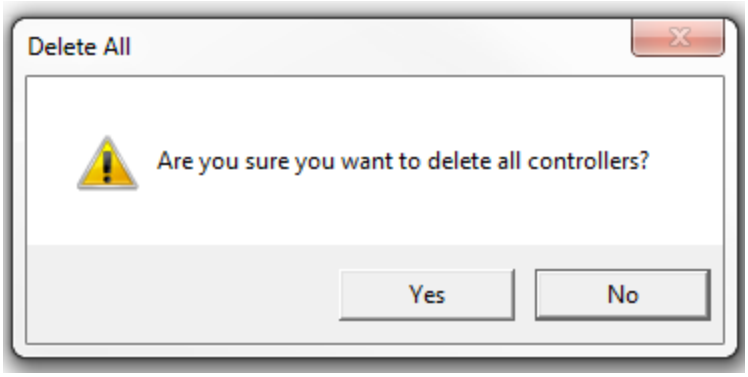
Delete

To delete a controller from the Street Sync Database, select it and select **Delete**. A confirmation screen will appear. By selecting **Yes**, the controller will be deleted.



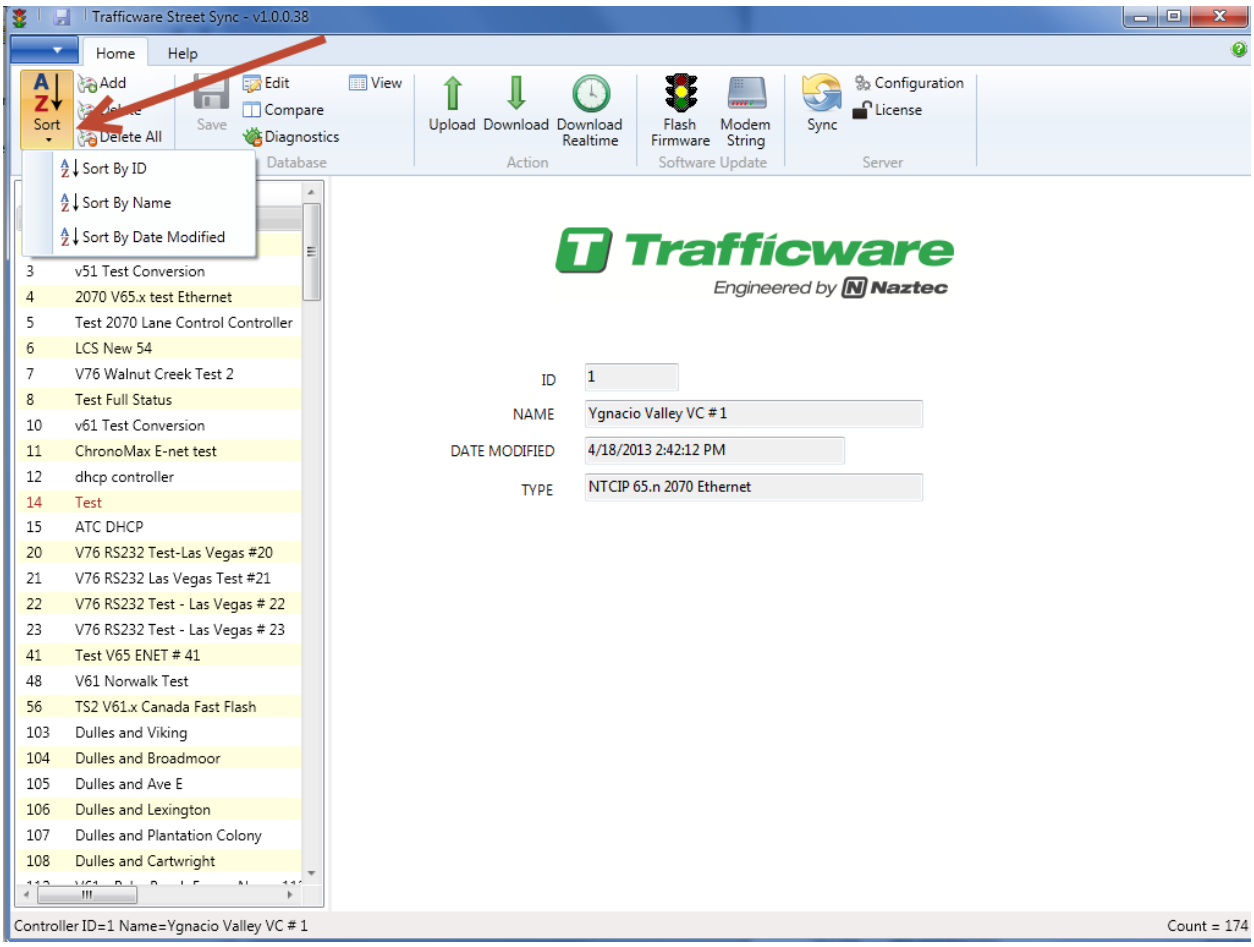
Delete All

This selection will delete all controllers from the StreetSync database. Again, a confirmation screen will appear.



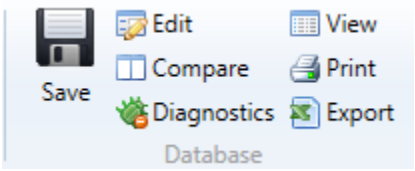
Sort By ID, Sort By Name

You can sort the database by ID Number, by controller name or by the date modified by this selection or by double-clicking on the column fields in the List pane.



Database Section

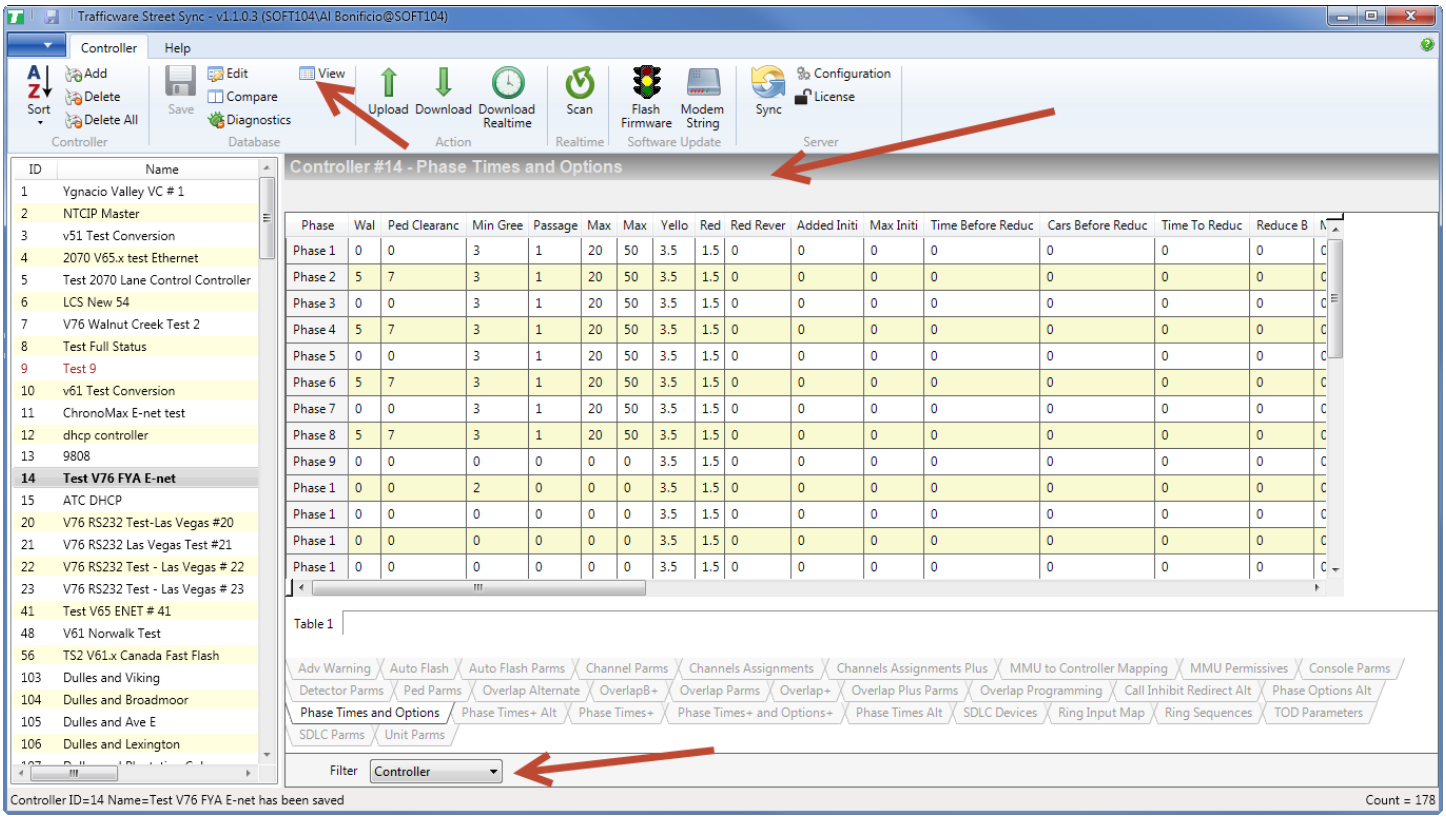
The Database Section allows the user to select a database and view, modify and save database parameters for each controller. Once a user selects a controller the user can access this section.



NOTE: The Database Section is enabled using a machine specific license key. Contact your Cubic | Trafficware representative on information on acquiring this capability.

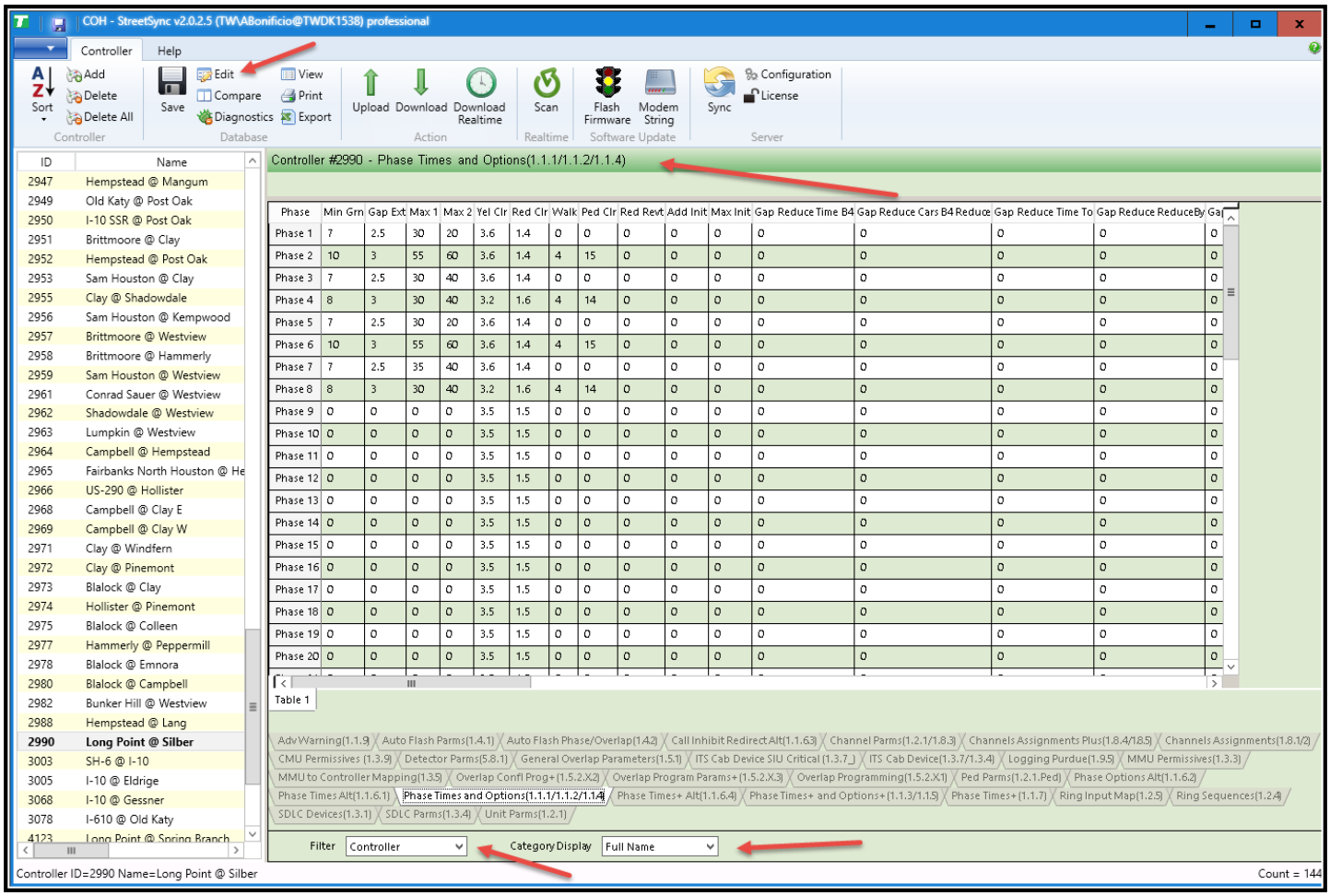
View

This selection allows the user to view data. The info bar on the overview pane will be highlighted in gray when view is selected. StreetSync provides a database Filter for easy navigation to the specific database category of the selected database. The Filter categorizes the database according to the database categories provided in the controller. When a category is selected, the affiliated sub-categories will display in tabs within the window. If "All" is selected, every database tab will be displayed. The database tabs display and operate similar to Microsoft Excel.



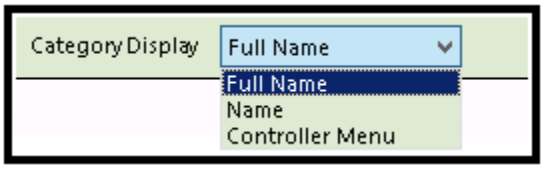
Edit

This selection allows the user to edit and modify data. The info bar on the overview pane will be highlighted in blue when view is selected. StreetSync provides a database Filter for easy navigation to the specific database category of the selected database. The Filter categorizes the database according to the database categories provided in the controller. When a category is selected, the affiliated sub-categories will display in tabs within the window. If "All" is selected, every database tab will be displayed. The database tabs display and operate similar to Microsoft Excel.



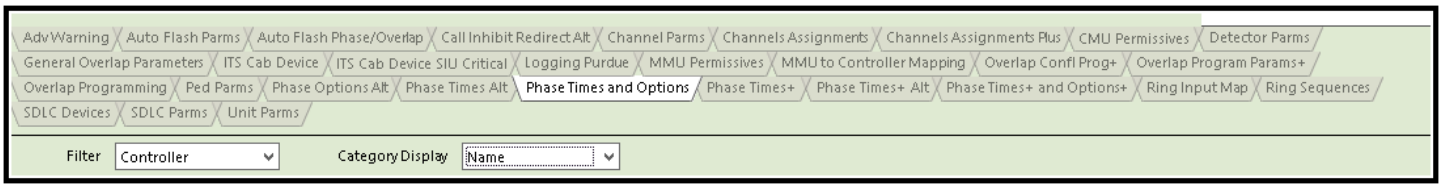
NOTE: After editing data in a cell the user MUST click on another cell for the editing change to be saved to the StreetSync database.

The Category Display section (**Scout [V85.x] ONLY**) will display each tab using the named item, the controller menu Item (in ascending Numerical order) or Both (Full Name).



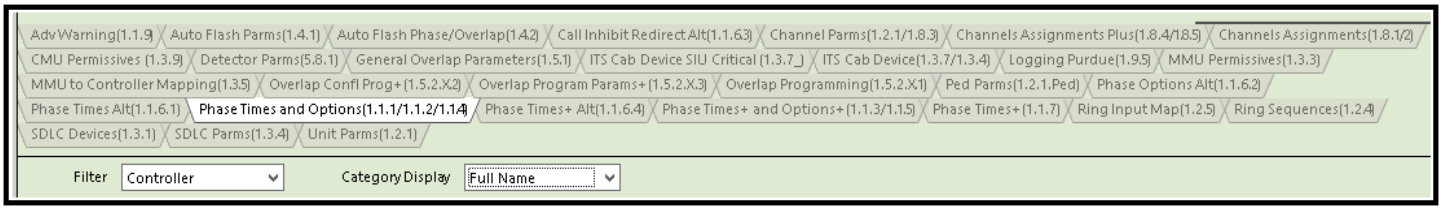
Below is an example of the Controller Filter tab displays based on the Category display selection as shown below:

Name



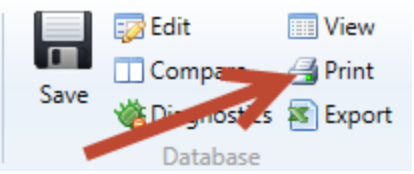
Controller Menu

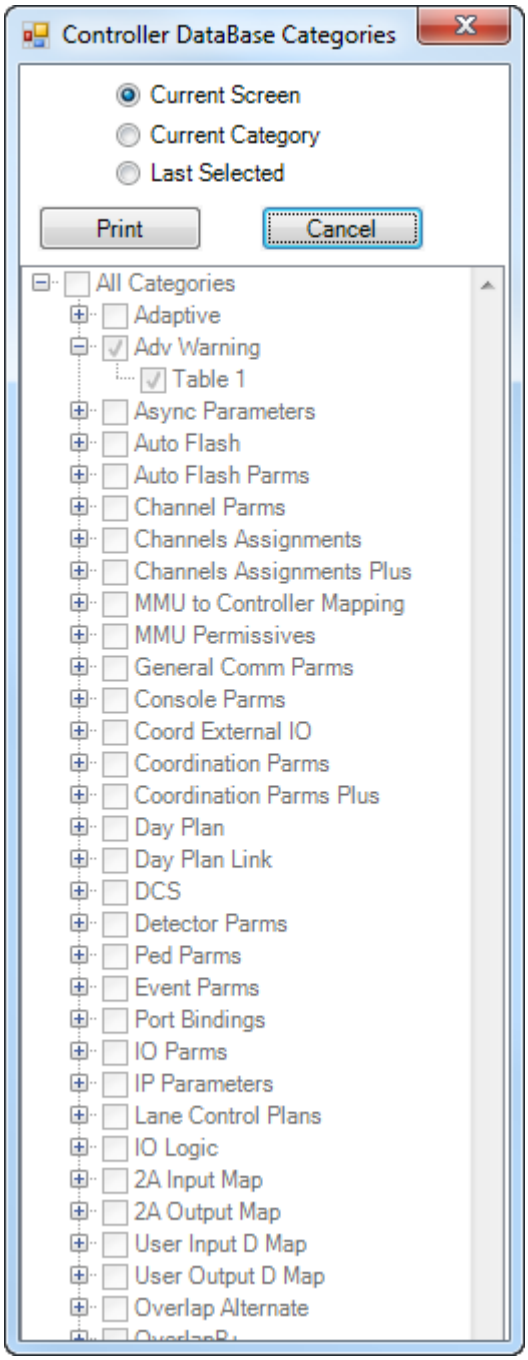
Full name



Print

While you are still in the edit screen, the user may print out selected sheets via the **Print** command. This command will allow the user to select tabs to print out to a printer. When **Print** is selected a drop down menu appears as shown below.





The user can select which sheets to print out via the radio buttons on the top of the screen.

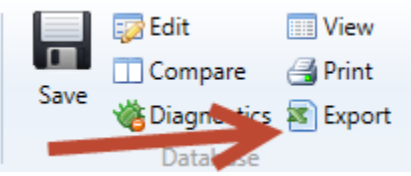
Current Screen will print the current screen being edited.

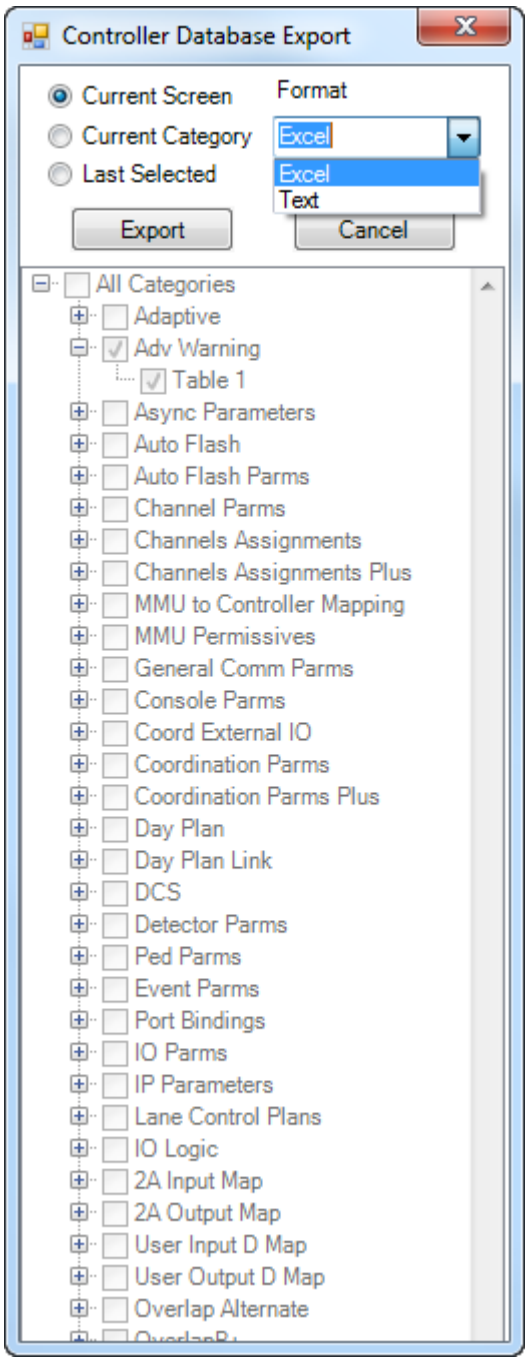
Current Category will print the current all the screens under the category that is being edited.

Last Selected will allow the user to select categories and/or screens to be printed including all screens.

Export

While you are still in the edit screen, the user may export selected sheets via the **Export** command. This command will allow the user to select tabs to export to an Excel or a text file. When **Export** is selected a drop down menu appears as shown below.





The user can select which sheets to export out via the radio buttons on the top of the screen.

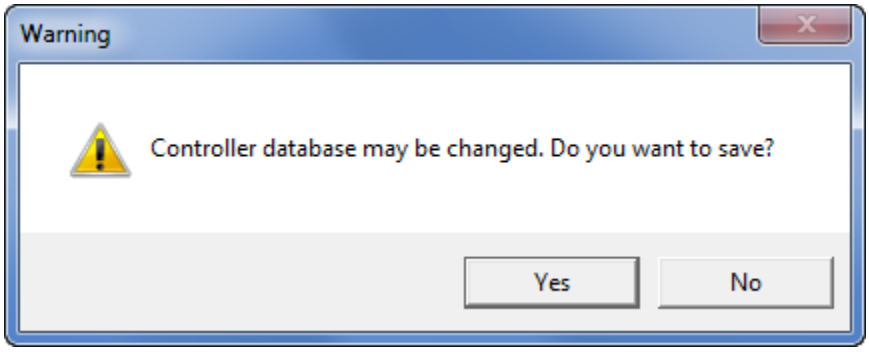
Current Screen will print the current screen being edited.

Current Category will print the current all the screens under the category that is being edited.

Last Selected will allow the user to select categories and/or screens to be printed including all screens.

Save

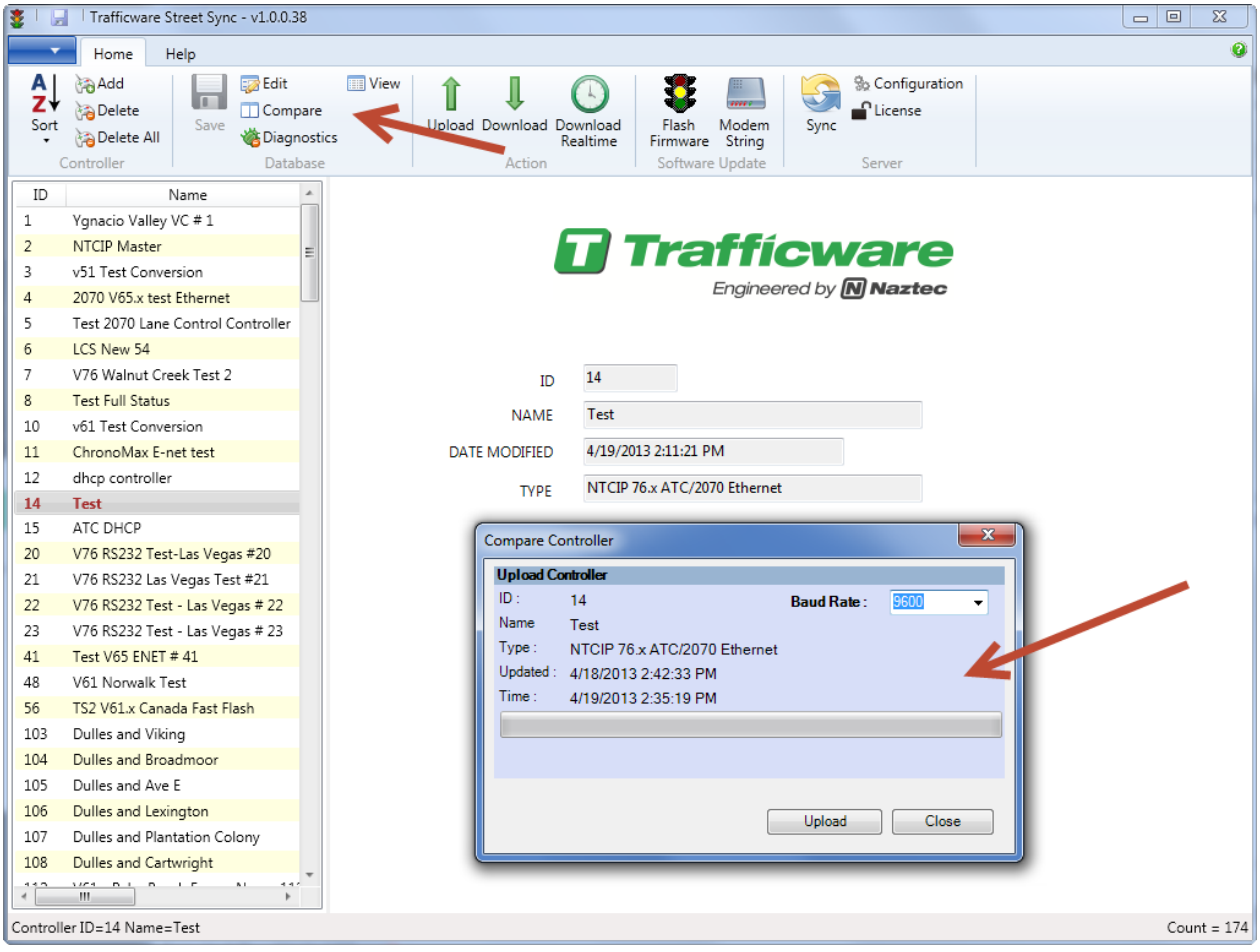
Once edits are completed, Save will write the changes to the database. After selecting Save, the following window will appear. Navigate to the Save Screen by clicking on another icon or menu item.



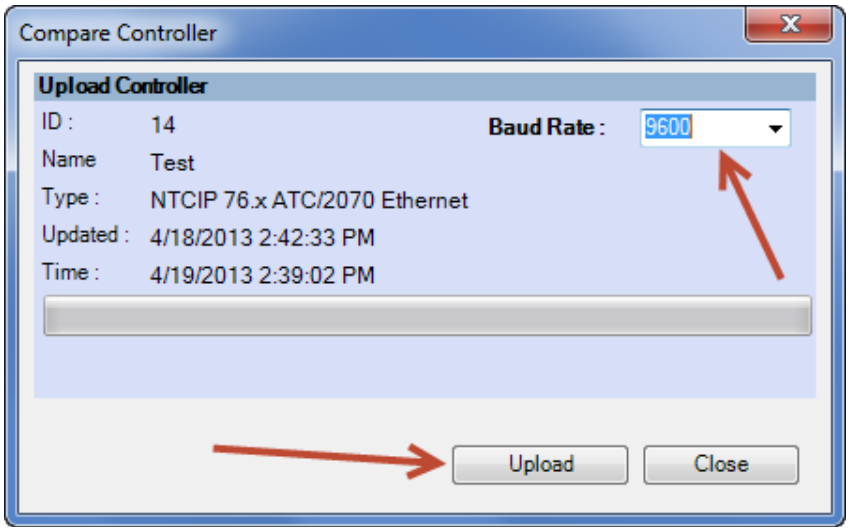
Selecting YES will save the database. All Data which is edited using StreetSync is saved on the /nazserv/data directory on the StreetSync PC. When editing is completed, the updated .prm file is then time stamped.

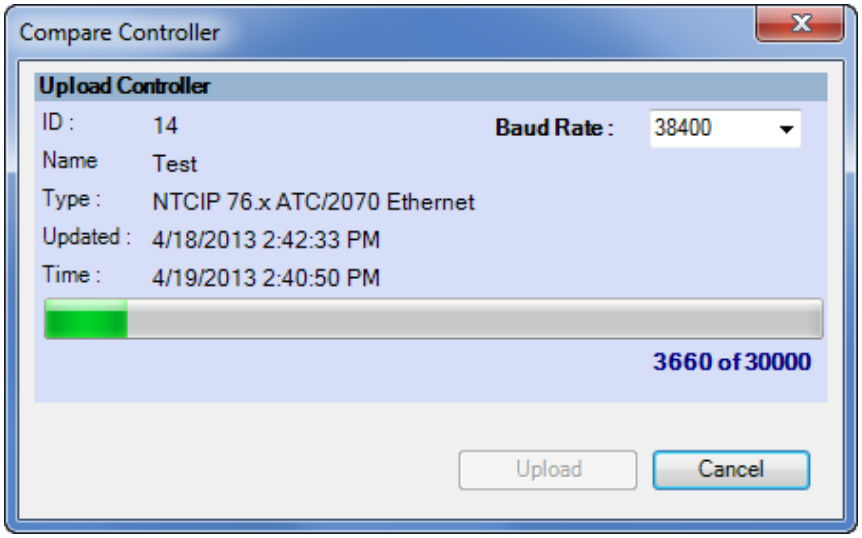
Compare

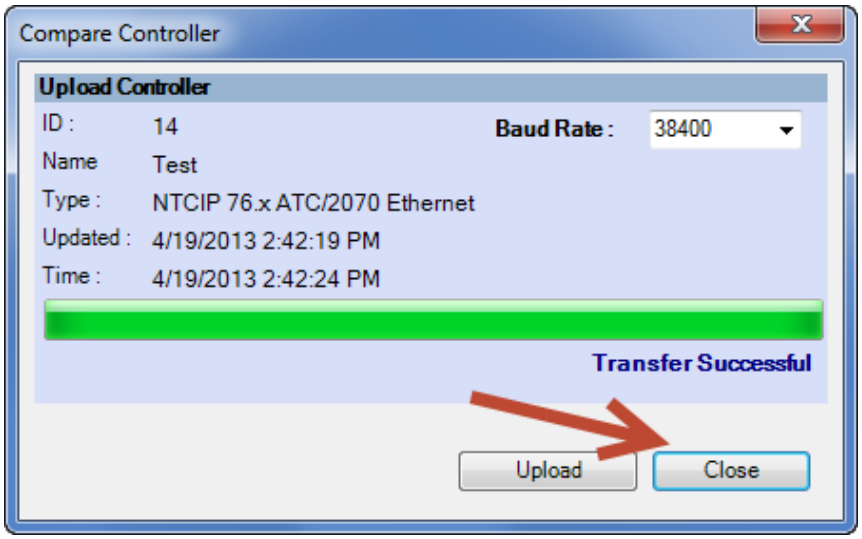
The user can compare the StreetSync database parameters with the controller's data. When accessing Compare, the Compare window will appear:



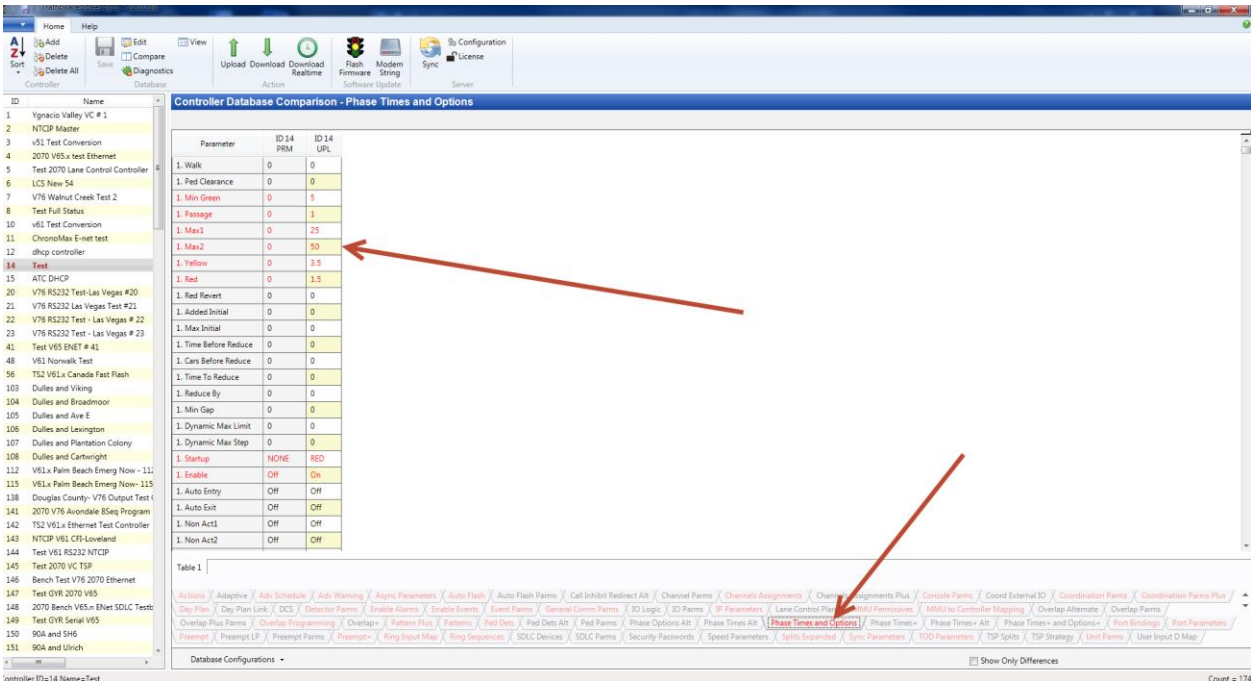
You can select the proper BAUD Rate to match your controller's serial communications speed via the drop down menu. Hitting Upload will begin the process of uploading data.







Once the upload is completed, select Close and the following will appear on the Overview Pane:

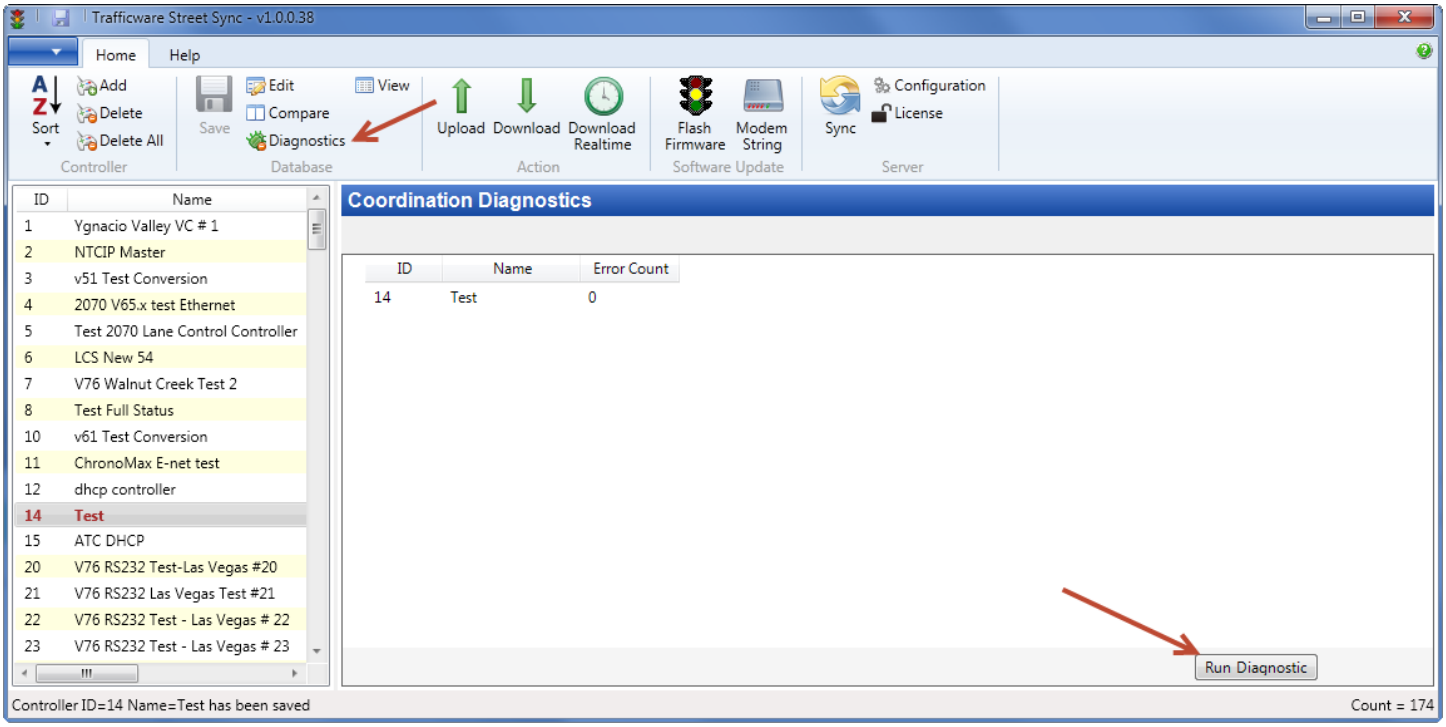


Differences are easily located and identified between the StreetSync database (PRM) and the uploaded database from the controller (UPL). Database differences are shown by color coding each database category tab and corresponding database parameter in **RED**. This will occur when a difference is present between the database types.

The user can make note of these differences and edit the database if needed.

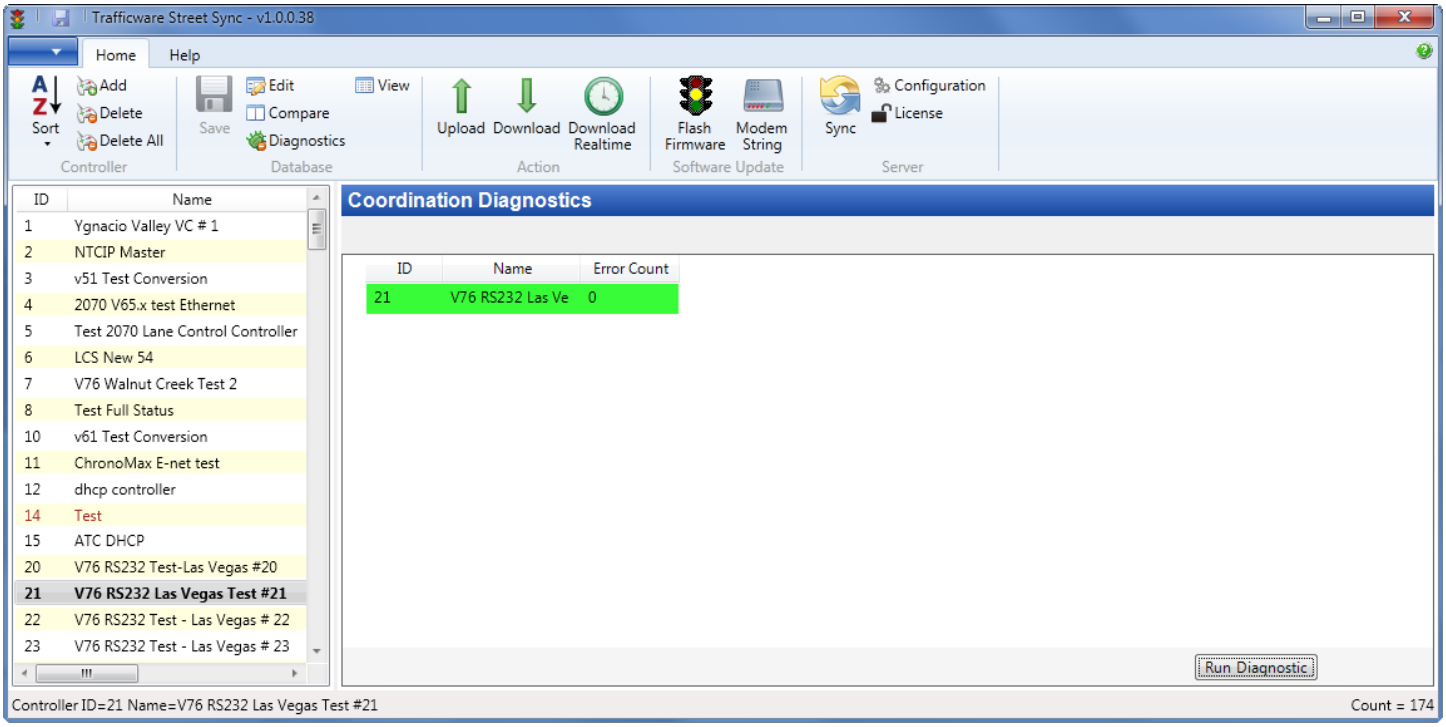
Diagnostics

The Coordination Diagnostics feature enables the user to run coordination database checks prior to download or by uploading an active database to run a diagnostics from ATMS. Users can run diagnostics on databases from StreetSync. Once this is selected, the following screen will be shown.

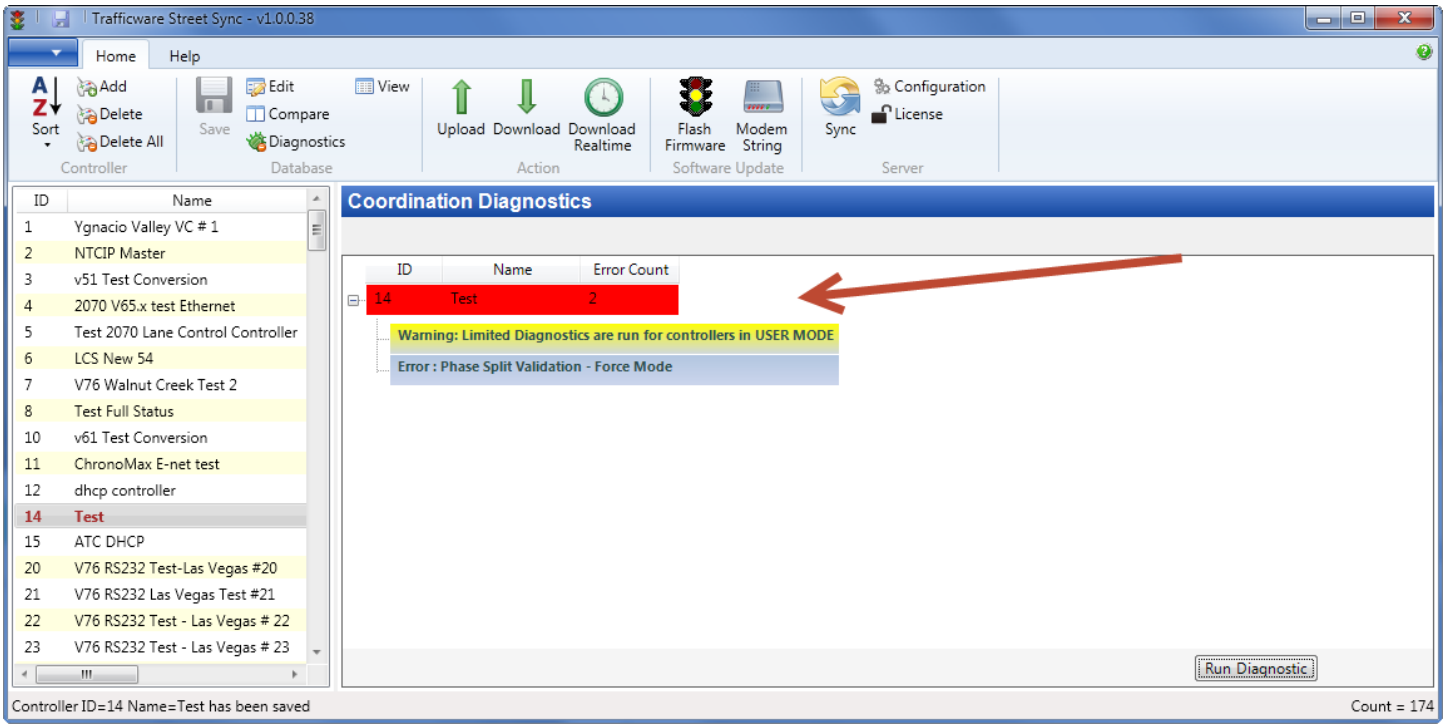


Select Run Diagnostics to run coordination diagnostics.

If the database passes the diagnostics check, the controller line will be highlighted GREEN as shown below

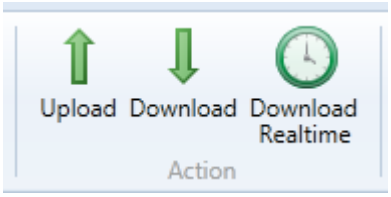


If a database does not pass the diagnostics, it will highlighted in **RED** and each individual error will be described. In the picture below, the database has been found with an error.



Action Section

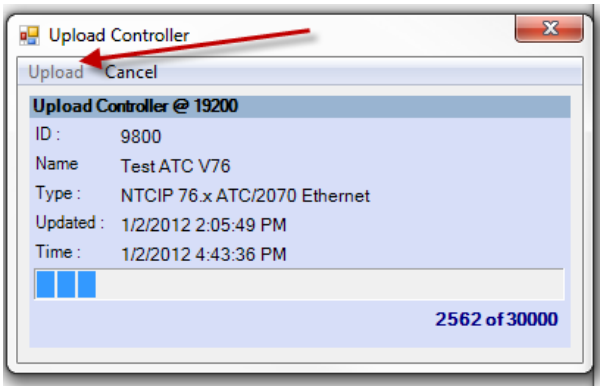
The Action menu will appear in the lower-left portion of the display. Sync operation is considered a "static" action, meaning that it is enabled whether or not a controller is selected. The other actions are "instance" actions, meaning that they are only enabled when a controller is selected.

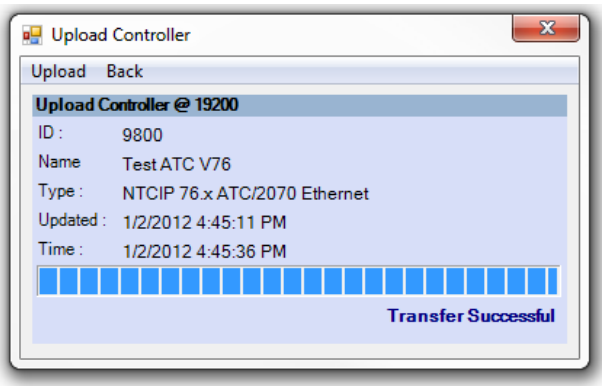


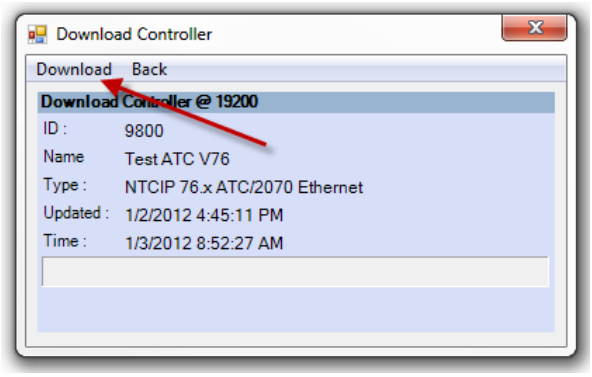
Upload / Download

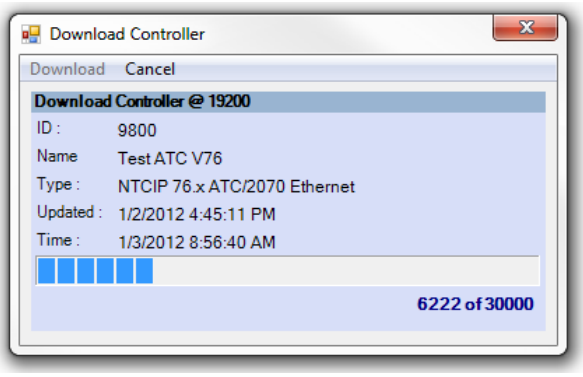
The Upload / Download screen works the same way as the existing ATMS Partner screen. The user selects a controller from the list, and then chooses the **Upload** or **Download** menu item. The app then displays the screen depicted below, indicating the selected controller. The user may then click either the **Upload** or **Download** menu item to transfer data between the device and the controller.

A screen will appear to allow the user to begin the Upload or Download. Select the action from the menu bar and the upload/download process will occur. A progress bar indicating how much of the laptop data has been transferred from (upload) or to (download) the controller. The user may cancel the operation at any time. When the Synchronization is complete, the progress bar displays ***Transfer Successful***.



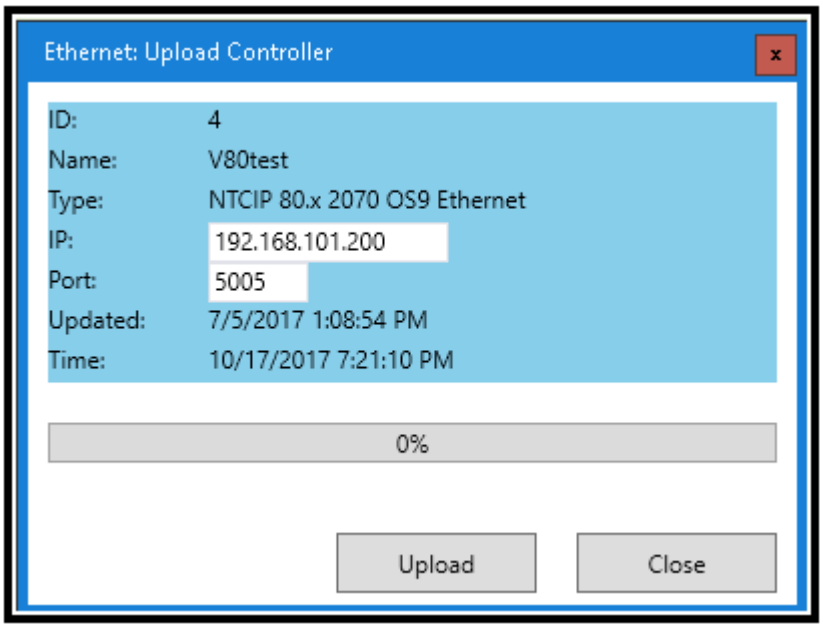






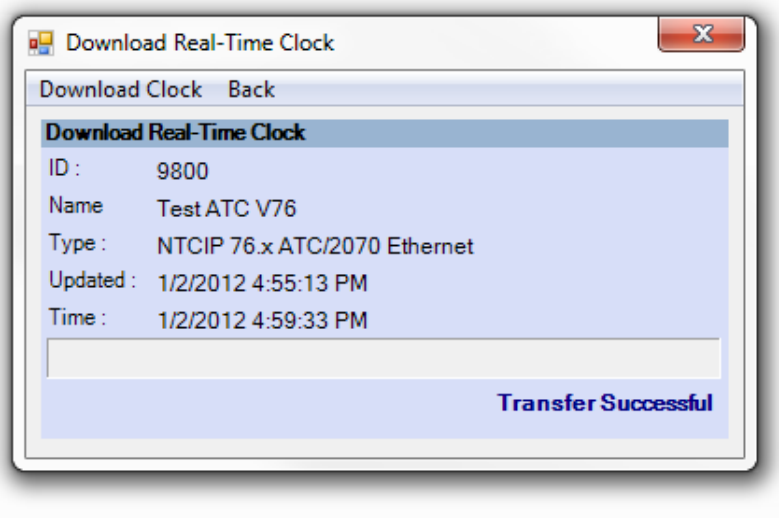
Please note that both Upload and Download overwrite the .PRM file in the StreetSync Database.

When uploading Scout [V85.x] controllers via Ethernet, The following screen will be display



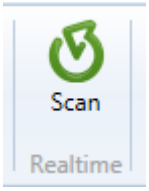
Download Real-Time

The Download Real Time screen works the same way as the existing ATMS Partner screen. The user selects a controller from the list, then chooses **Download Real Time** menu item. The app then displays the screen depicted below, indicating the selected controller. The user may then click the **Download Clock** button to transfer time data between the device and the controller. When the Synchronization is complete, the progress bar displays ***Transfer Successful.***



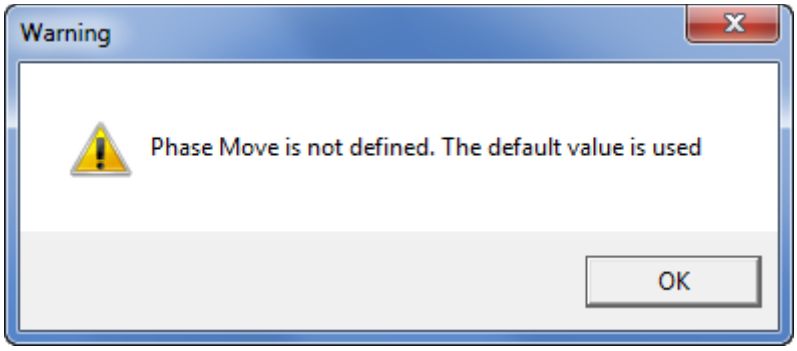
Realtime Section

The Real time section allows the user to scan a connected controller to view Red/Yellow/Green status

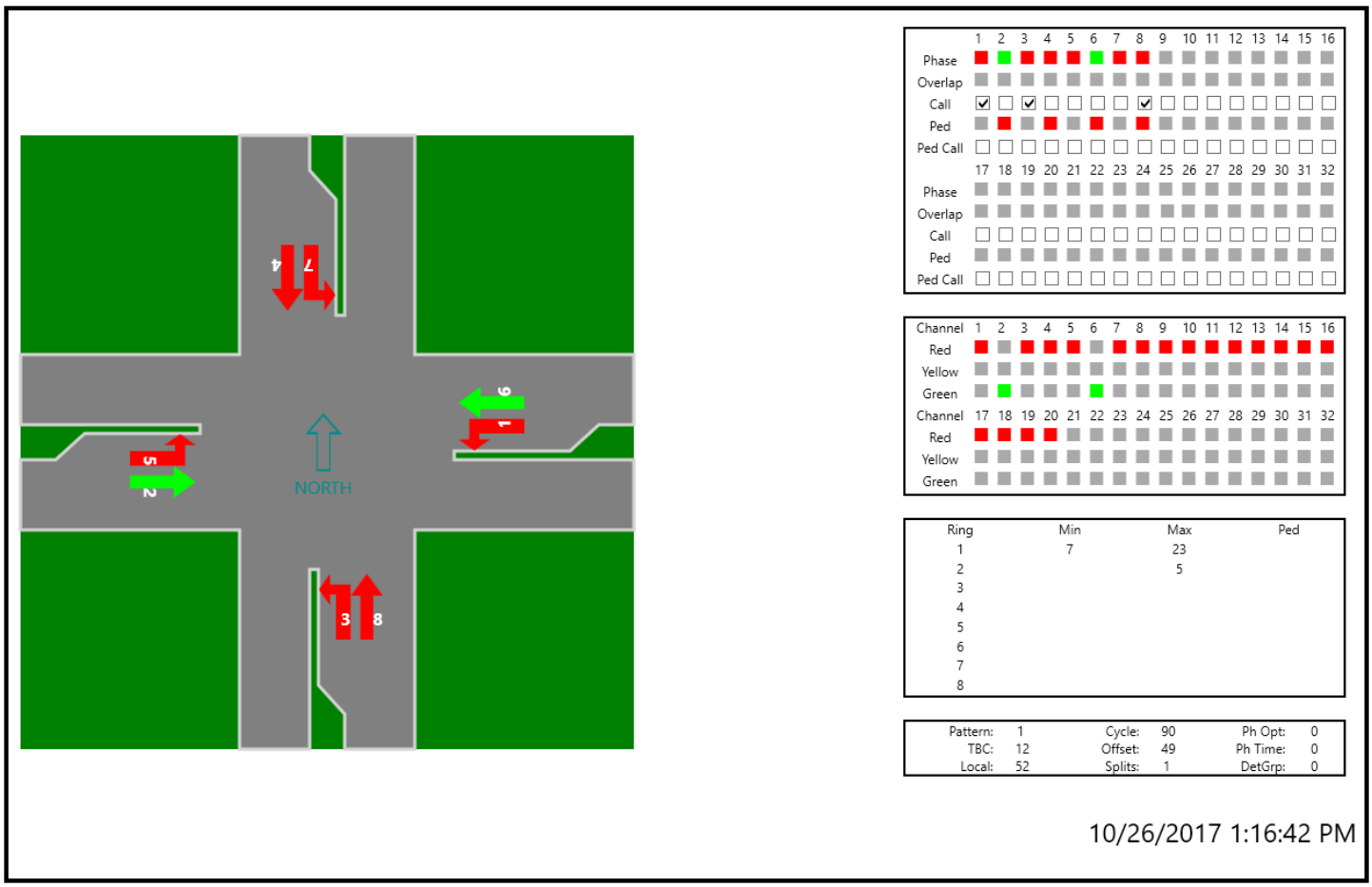


Scan

After selecting the intersection and connecting it to StreetSync the user can run a scan screen. The scan screen layout is dependent upon the ATMS setting known as *Edit Turn Phase/Directions.* If this is programmed in ATMS for the intersection that you are connected to the scan screen will be laid out as per this program. If *Edit Turn Phase/Directions* is not set then the following message will appear and a default screen is displayed.

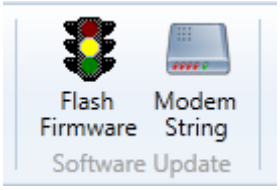


After hitting OK a scan background will occur like the default on below.



The scan screen will display Phase Red/Yellow/Green status, timing, Channel Outputs and coordination data so that the user can check the intersection from his PC while verifying field data.

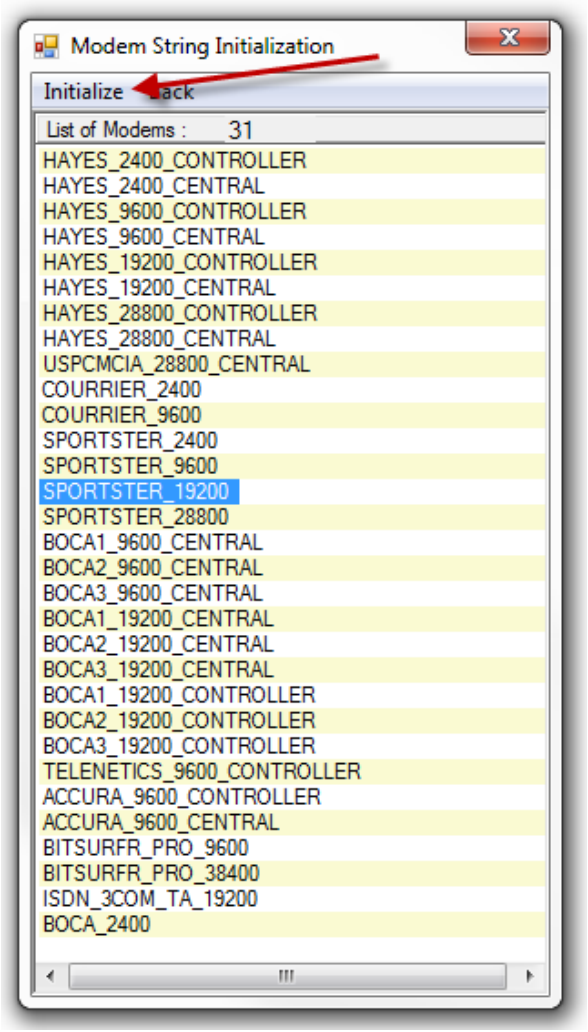
Software Update Section



The software Update sections allows the user to Flash firmware to a 980 NEMA controller or a Cubic | Trafficware MMU as well as interface to dial modems to set up communication strings.

Modem String Initialization

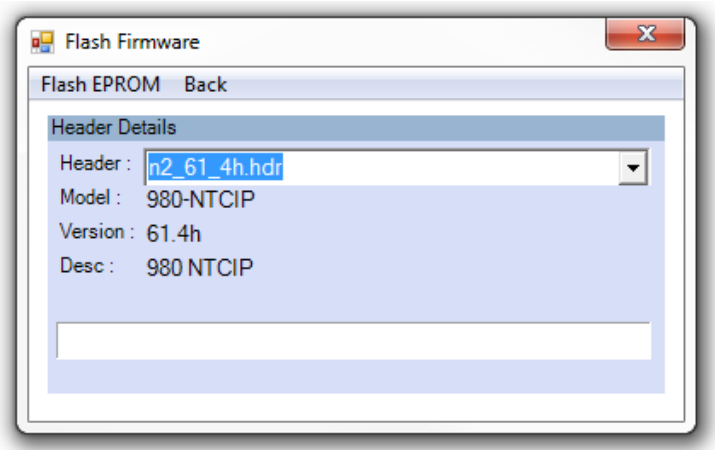
The user can connect the laptop to a modem to initialize it with setup data if needed. Select the **Modem String** Action and chose the modem type that you plan to initialize.



By selecting **Initialize** and connecting the laptop to your modem, StreetSync will download a setup string to the modem.

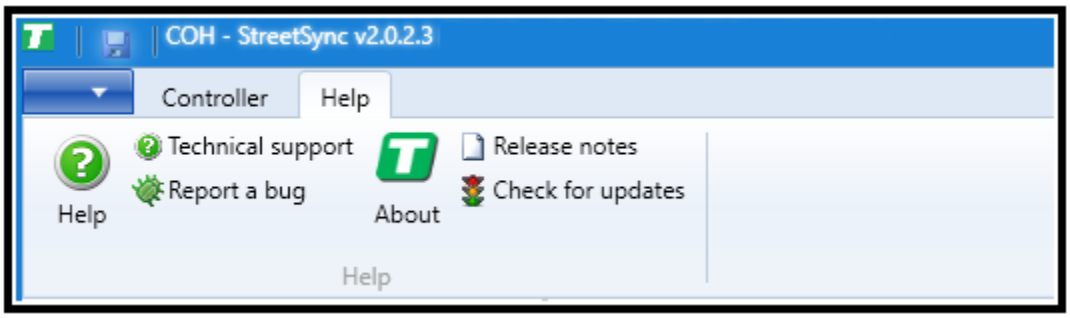
Flash Firmware

For Cubic | Trafficware TS2 controllers and Cubic | Trafficware MMU's firmware can be upgraded and installed via ATMS.partner. Selecting **Flash Firmware** will bring up the following screen as shown below.



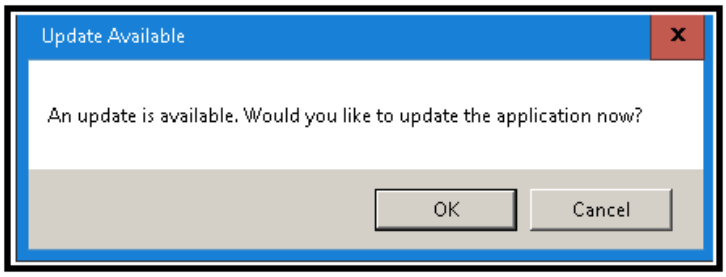
Click on the pull down menu to select the firmware header file. A list will appear, with the available Proms to download. Select the desired EPROM. Finally, Select **FlashEPROM** from the menu to begin the download. The header files must be located on the ATMS server under the directory: **…Naztec/Nazserv/Downprom.**

Help Section

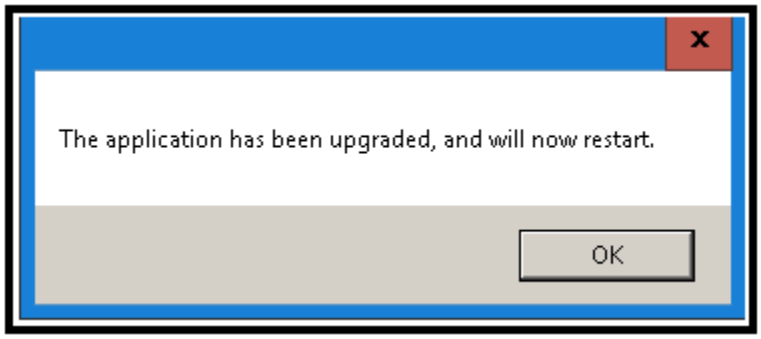


Among the features of the StreetSync ***Help*** section is access to this manual, release notes and an automatic update check feature.

Note: If a StreetSync update is available via the internet and you run it, it may take a few minutes to access and install the update files. You will get the following if an Update is available:



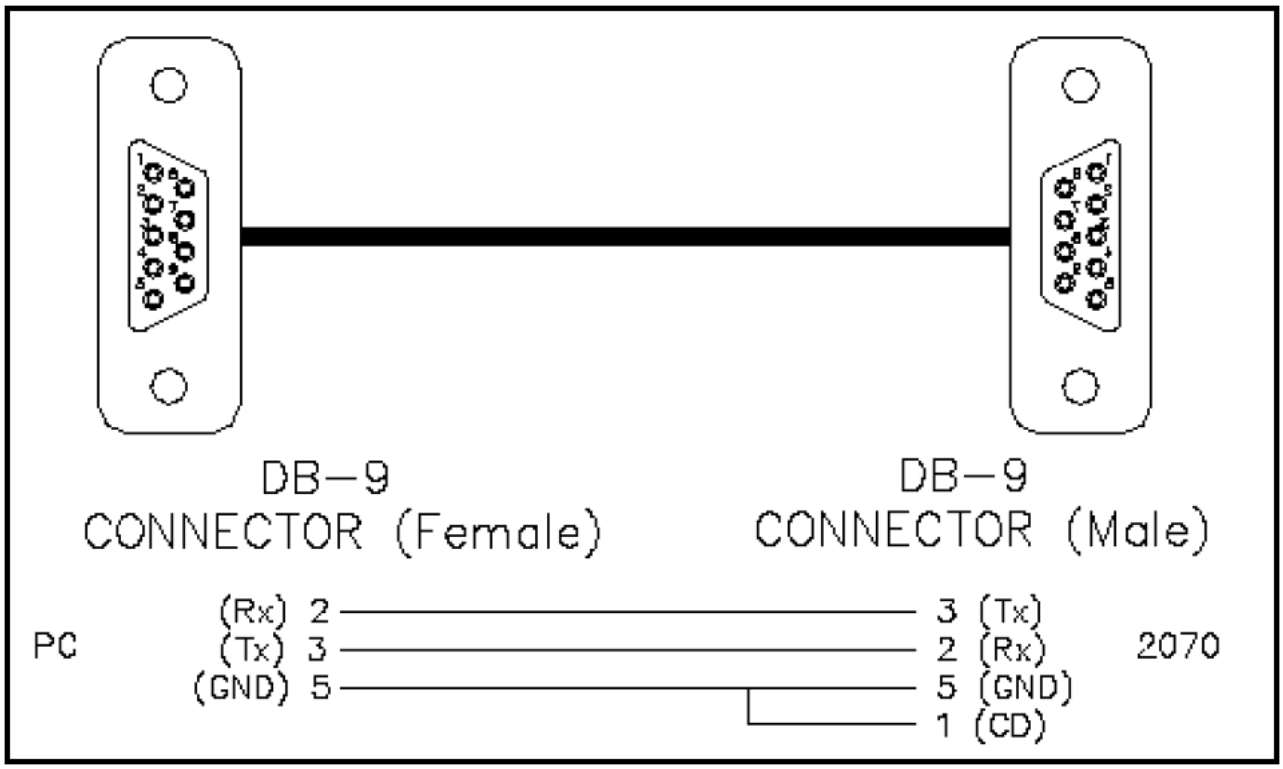
During the update process, StreetSync will not display any confirmation screen. Please wait until you see the following confirmation screen be displayed that insures that StreetSync was updated:



Hardware considerations

PC to 2070 Cable Setup

The following is a diagram outlining the pin-outs for a cable connecting the 2070 C50 connector to the comm. port of your PC or laptop.



NEMA TS2 Communications Port Cable setup

System (P-A)			
Pin	Function	Pin	Function
1	Earth Ground	7	Signal Ground
2	TX	8	DCD
3	RX	20	DTR
4	RTS	24	Enable
5	CTS	25	Logic Ground

System Up (P-A)			
Pin	Function	Pin	Function
1	Earth Ground	7	Signal Ground
2	TX	8	DCD
3	RX	20	DTR
4	RTS	24	Enable
5	CTS	25	Logic Ground

System Down (P-B)			
Pin	Function	Pin	Function
1	Earth Ground	5	CTS
2	TX	7	Signal Ground
3	RX	8	DCD
4	RTS	20	DTR

NOTE: Additional Hardware setup information can be found in TecNote 3033 as published on Trafficware's Freshdesk Documentation Site. Contact your Trafficware representative for further information.