Crossroads Software, Inc.
Guide to Street Name Verification

The purpose of street name verification is to clean up your collision data in the Crossroads system by making sure the street names in your collision reports conform to the formal, uniform names of the streets in your GIS map. Once your data is cleaned up, you can generate much more accurate queries, reports, graphs, and other material. There are three steps in the verification process: Soft Verification, Hard Verification, and Geocoding.

Getting Started

From the Launch Menu, click the Full Collision Database button to open the Crossroads Collision Database System. Then, from the Collision Database Main Menu, click the button labeled **Street Name Verification**.
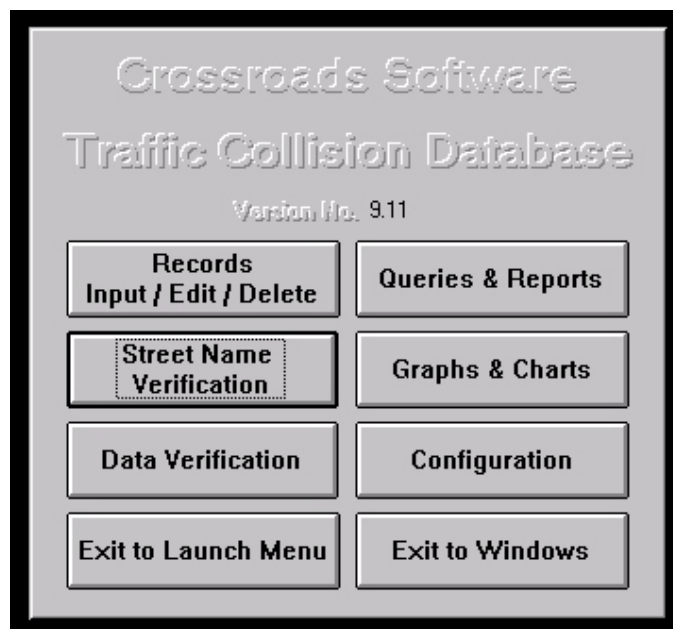

Fig. 1

Note: You should run Street Name Verification on any new data that you have added to the system. For example, if you read data in from one external file (like the SWITRS file), you should run Street Name Verification on the entire data range of the new data you've read in. If data input is being entered into the system from hard-copy reports, then Street Name Verification should be done on a regular basis, say every week, for example.

When the Street Name Verification screen opens, the first thing that you should do is enter a starting date and ending date for the date range of the data you intend to work on. For instance, if you wanted to verify data in the first quarter of 2006, you would enter **01/01/2006** as the **Starting Date** and **03/31/2006** as the **Ending Date** in the same format as the dates shown in Fig. 2.
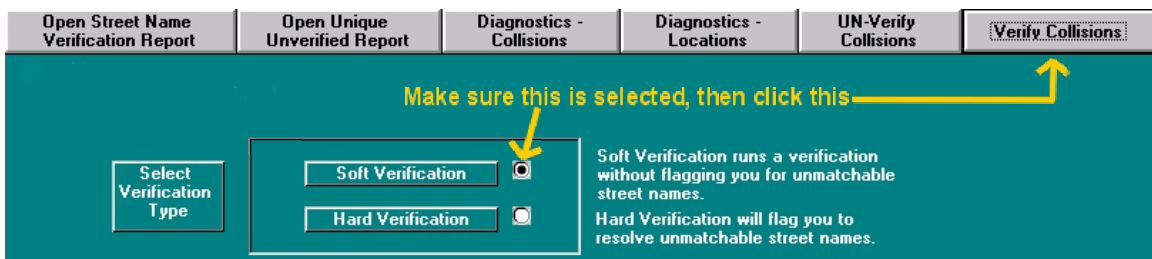

Fig. 2

Step One: Soft Verification

After you have entered the desired date range, you are ready to begin soft verification. Make sure **Soft Verification** is selected in the **Select Verification Type** area. Then click the button labeled **Verify Collisions**. When a message box appears that asks you if you would like to continue, click **Yes.**

Fig. 3

The computer will now run soft verification. During this process, the program goes through all of the collision records in the date range that you entered and tries to match the street names on the records with the official street names from your GIS map. After this process is complete, you will be able to open a report that will tell you how many collision records the program was able to verify. This report also provides you with a list of the remaining unverified collision records, which you will have an opportunity to try to verify yourself using hard verification.

When the computer is finished running soft verification, a message box will appear to notify you that the process is complete. Click **Ok**. To open the verification report, click the button in the top left of the Street Name Verification Screen, labeled **Open Street Name Verification Report**. The report will look similar to the one shown in Fig. 4.

Street Name Verification Report

8/23/06

Total Collisions: 294

Unverified: 172 Not Geocoded: 294

% Verified: 41.5 % Geocoded: .

Date Range Reported: 01/01/2001 - 03/31/2001

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Report #	Date	Time	Dist.	Dir.	Primary Road	Secondary Road
30020101011358013	1/1/01	1:58 PM	106	West	BIRCH	ORANGE AV
30020101011957014	1/1/01	7:57 PM	0	Not Stated	BIRCH	RANDOLPH AV
30020101020626011	1/2/01	6:26 AM	30	North	ROSE	WABASH
30020101021533011	1/2/01	3:33 PM	325	East	YORBA LINDA	LAKE VIEW
30020101021651013	1/2/01	4:51 PM	29	East	RT 90	WALNUT
30020101030035013	1/3/01	12:35 A	0	Not Stated	RT 90	ST CLG BL
30020101031241014	1/3/01	12:41 P	0	Not Stated	STATE CLG	CLIFFWOOD
30020101031844013	1/3/01	6:44 PM	106	West	RT 90	BREA PLZ
30020101040413013	1/4/01	4:13 AM	0	Not Stated	CARBON CYN RD	OLINDA DR LT
30020101041323013	1/4/01	1:23 PM	0	Not Stated	DOMINGUEZ RCH	VIA CAZADOR
30020101041528012	1/4/01	3:28 PM	192	East	IMPERIAL HWY	ST CLG BL
30020101042128012	1/4/01	9:28 PM	104	North	FAIRMONT	LITTLE CYN

Fig. 4

The report lists the total number of collisions in the date range you entered, the number of collisions that are still unverified (you will have the opportunity to try to verify these collisions during hard verification), and the percentage of the collisions that the computer was able to verify during soft verification. The main part of the report shows a list of collision locations that are still unverified. The program does its best to match the street names in your collision reports, but because of misspellings, abbreviations, and other user-related issues., the computer will rarely be able to verify 100% of the collisions during soft verification. Hard verification gives you the opportunity to verify these records yourself.

To close the report, select **Close** from the **File** menu.

Step Two: Hard Verification

To begin the hard verification process, make sure **Hard Verification** is selected in the **Select Verification Type** area. Then click the button labeled **Verify Collisions** (as shown in Fig. 5 on the next page). When a message box appears that asks you if you would like to continue, click **Yes**.
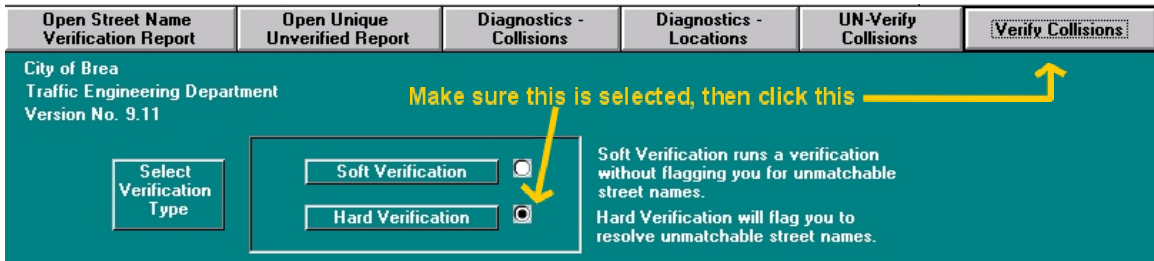
Fig. 5

After selecting **Verify Collision**, you will be in the hard verification portion of the program, which looks like the screen shown below. At the bottom left of the screen there is information about the individual collision report you are looking at (report number, date, time, etc.). This information is just for reference; you won't be doing anything with it. At the top portion of the screen are the headings **Primary Road** and **Secondary Road**. Underneath these headings, to the left of the label **Originally Reported**, are the street names listed on your collision report. The central, and most important, portion of the screen contains two drop-down lists of streets. These lists contain the official street names found in your GIS map. Notice that there is a heading called **All Streets** above one of the lists and another heading named **Cross Streets** above the other. The first thing you should do is try to match the street name listed under the **All Streets** heading with an official street name in the drop-down list. Sometimes the computer will already have matched this street name for you. Once you have found the correct street name in the drop-down list, you should select the correct cross street in the other drop-down list located below the heading **Cross Streets**.
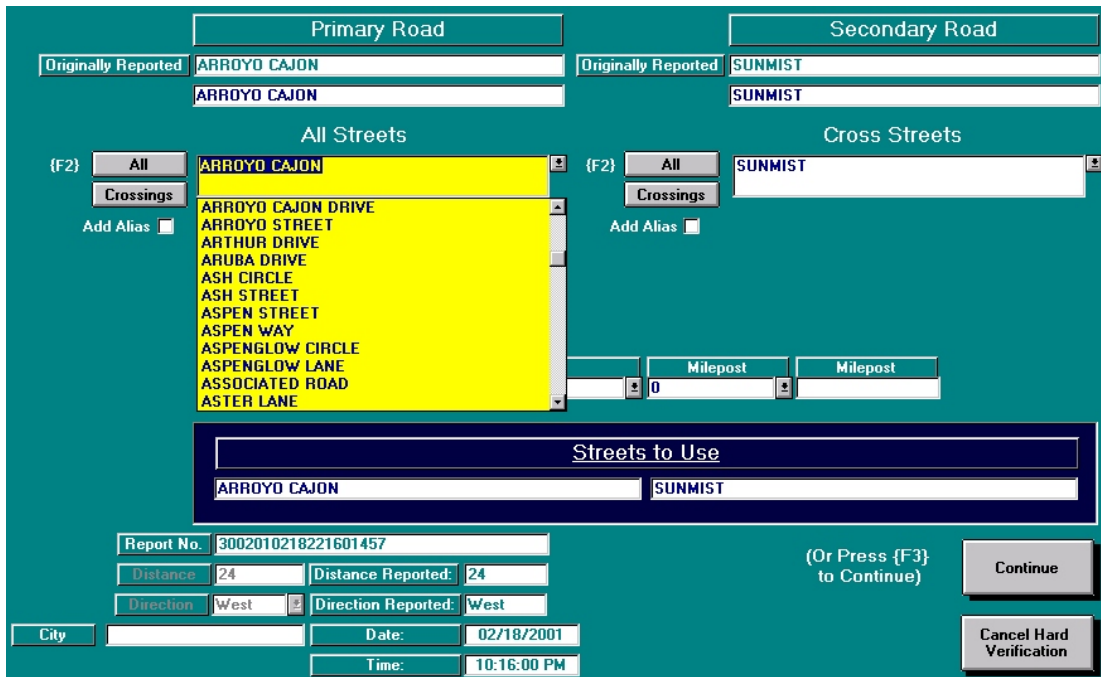

Fig. 6

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Note: There is a button labeled **All** to the left of each drop-down list. Clicking this button turns the drop-down list next to it into the list of all streets and the other drop-down list into the list of cross streets. For example, in the screen shown above, if you wanted to choose SUNMIST from a complete street list, you would simply click the **All** button to the left of the drop-down list on the right. This would change the heading above this drop-down list to **All Streets** and the heading above the drop-down list on the left to **Cross Streets**. You would then be able select SUNMIST from a complete list on the right and then open the drop-down list on the left and select ARROYO CAJON from a list of SUNMIST's cross streets.

Once you have found the correct official street names in the drop-down lists for the primary and secondary roads, you can move on to the next collision record by using the **Continue** button, which is located towards the bottom right of the screen. Before choosing **Continue**, make sure the official names that you've chosen from the drop-down lists appear in the areas under the **Streets to Use** heading.

Streets to Use	
ARROYO CAJON DRIVE	SUNMIST DRIVE

Fig. 7

If you were unable to locate the correct street names in the drop-down list for any reason, you can click **Continue** to skip past the collision record on the screen and move on to the next one. Before choosing **Continue**, make sure that you have used the Backspace key on your keyboard to erase any attempts you have made at finding the correct street name and check the areas under the **Streets to Use** heading to make sure they still show the original street names listed on the collision report (these names should match the names at the top of the screen next to the **Originally Reported** label).

To make this a little clearer, let's look at an example. On the screen below (Fig. 8), it was possible to find BIRCH STREET in the drop-down list on the left, but after the user typed in the letters MAR in the box on the right, she discovered that there was no street named MARKET PLACE in the list of cross streets, so she hit the Enter key on her keyboard to move on. However, as shown below, if a user enters text into the drop-down list and then hits the Enter key, the text is copied into the box under the **Streets to Use** heading. Once the **Continue** button is pressed, the program takes whatever names are listed in the **Streets to Use** area and replaces the **Primary Road** and **Secondary Road** names with these names. To prevent the **Secondary Road** name from being changed from MARKET PL to MAR, MAR must be removed from the drop-down list box on the right. To do this, simply click inside of the drop-down list box and use the Backspace key on the keyboard to erase the letters MAR. Then hit the Enter key and the name in the **Streets to Use** area should change back to the original name next to the **Originally Reported** label. You can then click **Continue** to move on to the next collision. Another way of refining the Streets to Use is to click on the originally reported street.

Fig. 8

Sometimes, the reporting officer will abbreviate a street name, and this abbreviation will show up more often in the reports than the actual street name does. For example, MARTIN LUTHER KING BOULEVARD is often abbreviated MLK BL. The Collision Database has a function that prevents you from having to hard verify these collision reports repeatedly. The **Alias Table** records the abbreviation of a street and the official street name that the abbreviation corresponds to.

To add a street and its abbreviation to this table, just find the street name that the abbreviation refers to in the drop-down list, as usual. However, before clicking the **Continue** button, click the small box next to the label **Add Alias**, which is located to the left of each drop-down list. A small '**X**' should appear in the box. You can now click the **Continue** button to move on, and the program will automatically add the abbreviation (the name next to the **Originally Reported** label) and the official street name (listed under the **Streets to Use** heading) to the Alias Table. Now the program will recognize that abbreviation in all future reports and use the official street name it has recorded to attempt to verify the report so that you don't have to.

Take a look at Fig. 9.

Fig. 9

In Fig. 9 above, it was possible to add two aliases to the Collision Database System. In this city, RT 90 is another name for IMPERIAL HIGHWAY, so the user found IMPERIAL HIGHWAY in the drop-down list and then chose STATE COLLEGE BOULEVARD in the list of cross streets (notice that the collision report author abbreviated STATE COLLEGE BOULEVARD as ST CLG BL). The boxes next to the labels **Add Alias** were then clicked so that an **X** appeared in each box. Now, when the user clicks **Continue** these two aliases will be added to the system so that the program now automatically recognizes RT 90 to be IMPERIAL HIGHWAY and ST CLG BL to be STATE COLLEGE BOULEVARD.

Note: In the above example, RT 90 is always IMPERIAL HIGHWAY, so it can be added as an alias. However, sometimes a route number refers to multiple street names. For example, RT 30 might be MAIN STREET for one half of a city, but then change names to 1ST STREET for another part of the same city. In this case, an alias should not be added to the system because saying that RT 30 is actually MAIN STREET or that RT 30 is actually 1ST STREET is incorrect, because it is both. An alias should only be used when an abbreviation refers to only one official street name.

If you would like to exit in the middle of hard verification at any time, just click the **Cancel Hard Verification** button in the bottom right of the hard verification screen.

Once you have finished going through each record in the date range you entered, the program will automatically exit from the hard verification screen and return to the main street name verification screen. A notification that says '**Finished doing hard verification**' should appear on the screen. Click '**Ok**'.

If you would like to continue doing hard verification, enter a new '**Starting Date**' and '**Ending Date**'. Then click the '**Verify Collisions**' button and continue as before. Once again, you can run the Street Name Verification Report to see what number and percentage of collisions you were able to verify.

Step Three: Geocoding

After your collisions have been soft and hard verified, they need to be geocoded. When the program "geocodes" your collisions, that means that it finds the coordinates on your GIS map that each collision corresponds to and assigning a node number and segment number to each collision. Geocoding is essential to obtaining correct queries and reports. On the main street name verification screen there is a button labeled **Geocode Verified Collisions Between Dates**. Simply click this button and then click **Yes** when a message box appears to ask you if you would like to continue.

Fig. 10 shows the Geocoding buttons.

Fig. 10

The computer will start to run the geocoding process. When it is finished, a message box will appear, notifying you that the computer has **Finished Geocoding Collisions**. Click **Ok**. Now when you open the Street Name Verification Report, the percentage of geocoded collisions should match the percentage of verified collisions.

Fig. 11

Other Functions in the Street Name Verification Screen

Fig. 12

We have already discussed the far left button at the top of the street name verification screen, which is labeled **Open Street Name Verification Report**. This is the button that produces a report that displays a list of each unverified location and gives the exact number and percentage of verified collisions. Let's look at some of the other verification functions.

The next button is labeled **Open Unique Unverified Report** and also gives a list of the unverified locations. However, this report groups identical locations together as one entry and lists the number of unverified collisions at that location to the right of the entry. For example, the last location in the list below, IMPERIAL HIGHWAY at SHOPPING CNTR, has a number 2 to the right of it, which means that there are two collisions reported at this location. Listing the locations in this manner allows the user to easily see which unverified locations have the most collisions. Notice that this form also displays the total number of collisions, the total number of unverified collisions and the percent of verified collisions.

Street Name Verification Report: Unique Locations

8/24/06

Date Range Reported:	01/03/2001 - 01/31/2001		Total Collisions: 83
			Unverified: 5
			Percent Verified: 93.98
			Page 1

Primary Road	Secondary Road	#
BIRCH STREET	MARKETPLACE	1
IMPERIAL HIGHWAY	BREA PLZ	1
IMPERIAL HIGHWAY	GINGERWOOD CIR	1
IMPERIAL HIGHWAY	SHOPPING CNTR	2

Fig. 13

The button labeled **Diagnostics - Collisions** should be used whenever your GIS map is updated. This diagnostics report can be run once your new GIS map has replaced the old one on your computer and the new map is linked to the collision database system. The report detects the areas of your map that have changed and gives you a list of collision locations that these map changes will affect. For example, let's say that you have a collision that was verified to the intersection of MAIN ST and 1ST ST. Then you geocoded it, which means that the program recorded the precise coordinates of this intersection in your GIS map. Suppose the people who created your GIS map discovered that this intersection was drawn incorrectly and redrew it, but the newly drawn intersection is five feet to the right of where it was before. This means that the precisely recorded coordinates in the program no longer match the location of the intersection on your map. The **Diagnostics - Collisions** report finds any locations that have this problem. It then provides you with a list of the collisions at these locations and marks these collisions for re-verification.

To run the **Diagnostics - Collisions** report just click its button at the top of the main street name verification screen and then click **Yes** when a message box appears asking if you would like to continue.

Open Street Name Verification Report	Open Unique Unverified Report	Diagnostics - Collisions	Diagnostics - Locations	UN-Verify Collisions	Verify Collisions	

Fig. 14

When the program is finished running the diagnostics, the report will open automatically. The report, which resembles the one shown below, will include a total number of collisions that need to be re-verified and re-geocoded, as well as a list of each collision.

Collision Reverification Report   Total Collisions: 17

8/30/06

The following collisions need to be reverified and regeocoded:

Date Range Reported: 01/01/2001 - 01/05/2001

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Report #	Date	Time	Dist.	Dir.	Primary Road	Secondary Road
30020101011358013	1/1/01	1:58 PM	106	West	BIRCH STREET	ORANGE AVENUE
30020101011957014	1/1/01	7:57 PM	0	Not Stated	BIRCH STREET	RANDOLPH AVENUE (W)
30020101040413013	1/4/01	4:13 AM	0	Not Stated	CARBON CANYON ROAD	OLINDA DRIVE
30020101011336014	1/1/01	1:36 PM	356	West	CHICAGO AVENUE	3RD STREET
30020101041323013	1/4/01	1:23 PM	0	Not Stated	DOMINGUEZ RANCH ROAD	VIA DEL CAZADOR
30020101042128012	1/4/01	9:28 PM	104	North	FAIRMONT BOULEVARD	LITTLE CANYON LANE
30020101041431014	1/4/01	2:31 PM	125	West	IMPERIAL HIGHWAY	PLACENTIA AVENUE
30020101011815014	1/1/01	6:15 PM	218	West	IMPERIAL HIGHWAY	PUENTE STREET
30020101031622013	1/3/01	4:22 PM	0	Not Stated	IMPERIAL HIGHWAY	SATURN STREET
30020101041528012	1/4/01	3:28 PM	192	East	IMPERIAL HIGHWAY	STATE COLLEGE BOULEVARD

Fig. 15

Running the '**Diagnostics - Collisions**' function not only produces a report, it also marks the collisions for re-verification. This means that the program has put these collisions aside to allow you to re-verify them separately, instead of having to re-verify every collision in the database. To begin the process of re-verifying these collisions, click the box next to the label **Operate only on Collisions Marked for Re-Verification (Use Diagnostics - Collisions button to Mark Collisions for Re-Verification)**, which is located on the main street name verification screen. As soon as you click this box, the buttons on the screen will change (see Fig. 16 on the following page).

Fig. 16

First, click the button labeled **UN-Verify Marked Collisions**. Once the collisions are unverified, you can re-verify them using the same verification process discussed earlier. Note that the **Verify Collisions** button has changed to **Verify Marked Collisions**, the **Open Street Name Verification Report** button has changed to **Street Name Verif. Report for Marked Collisions**, and the **Geocode Verified Collisions Between Dates** button has changed to **Geocode Verified Collisions Marked for Re-Verif. Between Date**'. After you have finished re-verification and re-geocoding of these collisions and would like to exit this mode and return to the normal verification screen, simply click the box next to the label'**Operate only on Collisions Marked for Re-Verification**. This should remove the **X** from the box and return all of the buttons to normal.

Back on the normal street name verification screen again, return your attention to the top row of buttons. Towards the right there is a button labeled **UN-Verify Collisions**. This button will unverify the collisions in the date range that you specify below. This button is commonly used if you make a mistake during hard verification. It allows you to unverify collisions in the date range you choose so that you can start over with verification. If you use this button, collisions will need to be soft and hard verified again, as well as geocoded.

Fig. 17

On the main street name verification screen, there is a button labeled **UN-Geocode Collisions Between Dates**. This button will ungeocode your collisions in the date range that you specify below. This button is commonly used when large changes are made to your GIS map. Earlier, we discussed an example where an intersection in a GIS map was moved a few feet and so the collisions that were referenced to that intersection needed to be regeocoded. Sometimes, a city may need to move their entire GIS map over a few feet. In this case, the coordinates for every intersection in the map change, and the program needs to record the new coordinates for each one so that the collisions can be properly referenced to the map. In this situation, the **UN-Geocode Collisions Between Dates** button would be used to remove the old coordinates, and then the **Geocode Verified Collisions Between Dates** button would be used to record new coordinates.

Fig. 18

The button underneath the **Un-Geocode**... button is labeled **Open Alias Table**. This button can be used to view a list of the aliases that you have added to the program during hard verification (as discussed earlier in this manual). You may want to view this list to remind yourself what you have aliased or to delete an alias that you added by accident (a sample list is shown in Fig. 19). To delete an alias, just click the small gray box next to the row with the alias and street name that you want to delete. This should highlight the entire row in black. Now just press the Delete key on your keyboard. If done correctly, the system should display a message that states **You have just deleted 1 record(s)**. Then, click **Ok**.

Alias Name	Street Name
BREA BL	BREA BOULEVARD
CANYON CNTRY	CANYON COUNTRY ROAD
RT 90	IMPERIAL HIGHWAY
ST CLG BL	STATE COLLEGE BOULEVARD
STATE CLG	STATE COLLEGE BOULEVARD
CARBON CYN	CARBON CANYON ROAD
OLINDA PL	OLINDA PLACE
CARBON CYN RD	CARBON CANYON ROAD
DOMINGUEZ RCH	DOMINGUEZ RANCH ROAD

Fig. 19

Now let's turn our attention to the various functions at the bottom of the main street name verification screen. Directly below the area where you can enter a date range, there are three check boxes. The first one has the label **Include Private Property**. The collision database automatically omits private property collisions from the verification process because it is usually not possible to verify them. This is because they are often located at street poles or parking lots, etc., and these are obviously locations that are not included in the GIS map. However, if you would like to include these collisions in the verification process or view these collisions in the Street Name Verification Report, clicking the check box next to **Include Private Property** will do so.

Fig. 20

The middle check box has the label **Multiple Cities**. This function is only for counties that use a version of the Collision Database System that includes the incorporated cities. Checking this box makes a drop-down list of all of the cities in the county appear on the screen. The user can then pick a city from the list and look at the verification information for that city separately.

The bottom check box has the label **Check Milepost First (in Hard Verification)**. This function exists for those cities that reference collisions to mileposts and include milepost location information in their GIS maps. Clicking this check box allows the user to attempt to verify all collisions that include mileposts before attempting to verify all remaining collisions.

The final function on the main street name verification screen uses the two drop-down lists with the labels **Street Name** and **Cross Street**, which are located at the bottom of the screen. These can be used to quickly check if a certain street crosses another. For example, if you wanted to know if MAIN ST ever crossed 1ST ST, you would choose MAIN ST in the first drop-down list and then check the second drop-down list to see if 1ST ST appears as a cross street.

Fig. 21

The drop-down lists shown on the previous page can also be used to single out certain collision locations for verification. For example, let's say that you want to verify all collisions at BIRCH ST and BREA BL in the year 2000, but you do not want to have to go through all of the other collisions in that year. You could enter BIRCH ST into the **Street Name** drop-down list and BREA BL into the **Cross Street** drop-down list. You would then enter the desired date range (in this case, your **Starting Date** would be 01/01/2000 and your **Ending Date** would be 12/31/2000) and choose Soft or Hard Verification as usual. However, because you have streets entered in the drop-down lists, the collision database will only run verification on collisions that occur at that location.

Note: The Collision Database will only run verification on collisions that occur at the exact location you entered in the drop-down lists. For example, entering BIRCH ST in the first list and BREA BL in the second list will only run verification on collisions with those exact street names in that order. This means that it will not include collisions at BREA BL and BIRCH ST. It will also not include collisions that have misspelled street names; for instance, a collision listed at BRICH ST and BREA BL would not be included. It should be noted that you do not have to choose a name that is included in the drop-down list. It is possible to type your own names into the boxes next to **Street Name** and **Cross Street**. For example, if you wanted to verify the collision listed at BRICH ST and BREA BL, you could simply type BRICH ST into the **Street Name** box and BREA BL into the **Cross Street** box and then use hard verification.

Fig. 22