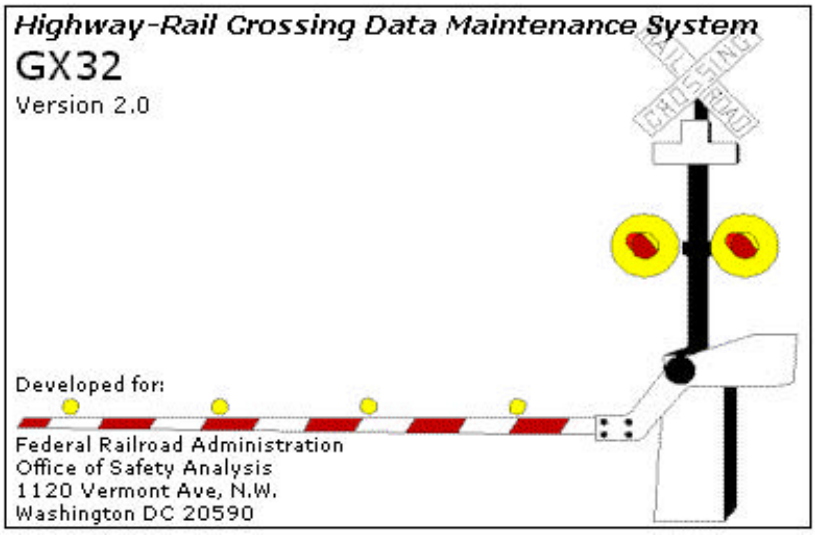
User's Manual
for the
Federal Railroad Administration's
Highway-Rail Crossing Data Maintenance System
GX 32, Version 2.0



DRAFT

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NOTICE

While GX 32 is provided to interested States and Railroads free of charge, use of this product is purely voluntary. No warranties relating to the use of this product are expressed or implied. Neither the Government nor INDUS Corporation is responsible for any damage to data or hardware which may arise from the use of this product.

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USER'S MANUAL
FOR THE FEDERAL RAILROAD ADMINISTRATION'S
HIGHWAY-RAIL CROSSING DATA MAINTENANCE SYSTEM (GX 32)

Introduction

GX 32 is the Federal Railroad Administration's (FRA's) PC-based Highway-Rail Crossing Data Maintenance System. GX 32 is provided to States and Railroads so that they can maintain their crossing data and send additions and updates to the AAR-DOT National Highway-Rail Crossing Inventory (referred to herein as "National Inventory"). Users can enter data in an electronic version of Form FRA F 6180.71, the U.S. DOT Crossing Inventory Form. GX 32 displays DOT accident prediction values for open Public at-Grade crossings, and a calculation feature determines accident prediction values for actual and hypothetical crossing parameters. GX 32 also displays Form FRA F 6180.57, Highway-Rail Grade Crossing Accident/Incident Report data for grade crossing records.

GX 32 is a self-contained database system which allows the user to retrieve and display the most recent data on a crossing or a group of crossings; update records; print and preview reports; produce electronic updates for submission to the FRA; and perform administrative functions. GX 32 can be used to update or close existing crossings, re-open closed crossings, and add new crossings.

The GX 32 package includes a custom database containing the crossing records for the requesting agency, reference tables (e.g., cities, counties, railroads), and the programs to run the system. GX 32 users can make updates to their data as often as they desire. Periodically (at least once every 3 months), the user should upload these changes to the FRA to update the National Inventory.

The system requirements for running GX 32 are:

- IBM PC or compatible computer, preferably with a 80486 or higher processor
- A minimum of 25 megabytes of free hard disk space (this amount depends on the number of crossings in the user's database and the size of the user's files)
- A minimum of 16 MB of RAM
- Microsoft Windows 95, 98, 2000, or NT

GX 32 features both single crossing record data update and mass update (mass processing) for a group of crossing records. GX 32's back up and restore utilities allow the user to restore lost data that has been backed up to diskette.

The user can browse through all of the crossings in his/her custom database or just a subset of the crossings (e.g., Open Crossings only, or a combination such as Open Public at-Grade Crossings only). GX 32 allows the user to rapidly shift from the browse display into the edit mode which allows him/her to view and update an individual crossing record formatted as Form FRA F 6180.71, the U.S. DOT Crossing Inventory Form. In the edit mode, look up tables are displayed so that the user can select such data as Railroad, City and County Names, and Timetable Stations.

GX 32 runs extensive edit and validation checks on the crossing data and alerts the user to any data errors found. The user can fix these errors prior to submitting updates (i.e., uploading data to the FRA). Later, the submitted updates and additions are edited against the National Inventory file to ensure accuracy. Additions and updates which do not pass the edit program will be returned to the submitting agency for review, reprocessing, and re-submission.

What's New in Version 2.0

This version of GX 32 allows the user to maintain and update the new version of the U.S. DOT Crossing Inventory Form (Form FRA F 6180.71 (11/99)). There are some new edits for error checking and minor modifications in the tool bar and in user prompts. There are also changes in the GX32 database (see section on "Running Queries" for information on these database changes).

GX32 Version 2.0 can be installed as either a single user or as a multiuser system. In a single user system, the GX 32 application and database will both be on a single PC. In a multiuser setup, the database can reside on a network server while the application is run from various client machines so that several users can use GX32 simultaneously. In version 2.0, GX32 no longer asks the user if he/she would like to save his/her selections upon exiting.

Installation: Single vs. Multiuser Setup

With GX32 Version 2.0, there are single user and multiuser installations. With single user installation, both the application and the database reside on a single PC, whereas with a multiuser system, the application runs from each client and there is a single database residing on a server. More than one user can run GX32 simultaneously in the multiuser setup.
Refer to the single user and multiuser installation instructions that come with the installation CD.

GX 32 will only look for a single GX 32 database. Therefore, there should not be more than one GX 32 database to be updated. This means that if a user requires a GX 32 database that consists of special requirements, such as a database with 2 states, than a special GX 32 installation package would need to be prepared.

Obtaining GX 32 Package and National Inventory Data

The GX 32 software package is maintained for the Federal Railroad Administration (FRA) by INDUS Corporation. The FRA provides the GX 32 package and data **free of charge** to States and Railroads so that they can maintain their crossing inventory data. The GX 32 system is provided on CD ROM.

Qualified individuals who are interested in obtaining a copy of GX 32 and a custom copy of the inventory database for their State or Railroad can contact the FRA Project Help Desk, 8:00 am - 8:00 pm EST, at (888) 372-9393 x243 or write to:

INDUS Corporation
FRA Project/GX 32 Program Manager
1340 Braddock Place, Suite 200
Alexandria, VA 22314

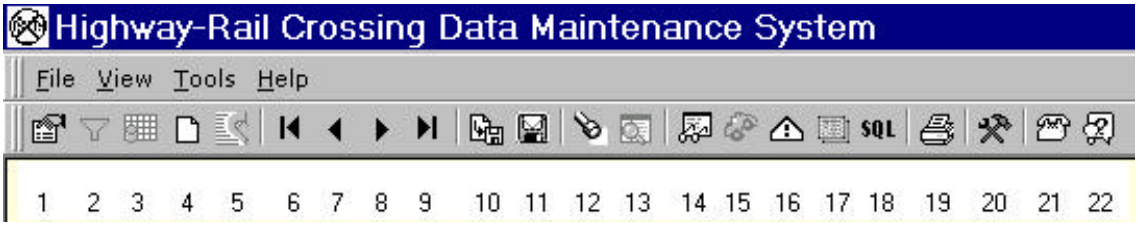
Running GX 32 (System Start-up)

To begin running GX 32, the user can click on the GX 32 icon (alternatively, he/she can click on the Windows Start button, on Programs, and then on the GX 32 program.) The GX 32 system will start up and the GX 32 logo will appear on the screen. After this, GX 32 will let the user know if his/her system has not been updated recently. This message will appear if the user has not replaced his data with current FRA data and over 90 days have past since last replacing the data (see section on Replacing Data for further information). If this happens, the user may want to get an updated version of the data; however prior to this, he/she should upload his/her GX 32 system's data to the FRA, so that the updates and additions in GX 32 are made to the National Inventory file. Then afterwards the user can request a current data set from the National file be sent so that he/she can replace data on his/her GX 32 system with this data.

In addition, the system will indicate if an upload has not been created recently. This message will appear if any changes have been made to the data and a GX 32 upload file has not been created and over 90 days have passed since the last upload. In this case, the user may want to upload the GX 32 updates and additions to the FRA (see section on Uploading for further information).

Using the System - An Overview

Using GX 32 is easy! GX 32 displays its data and information in different windows, and allows the user to click on menu selections (in the menu bar) or on buttons (in the tool bar) to access GX 32's features. The tool bar is located towards the top of the GX 32 application window. There is a picture on each of the tool bar's buttons to help the user associate the button to it's feature. Using the mouse to point over a button results in the display of a brief description of the button's feature.



Refer to GX 32's tool bar. GX 32's tool bar buttons are:

Multi Select View (1): The user can look through a list of crossing records, browse through the data, and select a single crossing record or a group of records. Selected crossings can be updated, printed, and previewed. Accident prediction values can be obtained for open public at-grade crossings, Accident/Incident data can be obtained for highway-rail grade crossings, and update information can be obtained. A group of selected (i.e., marked) crossing records can be mass processed.

Filter Crossings (2): The user can specify what types of crossings to display in the **Crossings** list (Public, Private, Pedestrian, At Grade, Railroad Under, Railroad Over); for All, Open, or Closed crossings. The user can have only records with errors displayed within the filter.

Mass Processing (3): The user can make common changes to a group of crossing records all at once. These are changes to the Railroad, Division, Subdivision, Branch, Parent Railroad, Crossing Owner (Administrative data), speeds and counts, and contact data. The user can also close a group of crossings, and print marked crossings.

New Crossing (4): The user can add a new crossing by entering data into an electronic version of the U.S. DOT Crossing Inventory Form.

Edit/View Crossing (5): The user can view and make changes to (update) an existing crossing record.

Show First Page (6): The user can go directly to the first screen for viewing.

Show Previous Page (7): The user can go to the previous screen for viewing.

Show Next Page (8): The user can go to the next screen for viewing.

Show Last Page (9): The user can view the last screen without having to view the others

first.

Save Crossing (10): In the **New Crossing** and **Edit Crossing** windows, the user can save the changes he/she has made to the crossing record.

Cancel Changes (11): The user can cancel the changes he/she has made to the crossing record.

Error List (12): The user can see a list of errors for a particular crossing record.

Errors Report (13): The user can obtain a report of errors for all updated/saved and new crossing records in the user's GX 32 system.

Table Lookup (14): The user can search through tables (e.g., Railroad, County, City) and select an entry from a table.

Accident Prediction (15): The user can see DOT accident prediction values, and have these values calculated for actual data and hypothetical changes in data.

Incident Reports (16): The user can view Form FRA F 6180.57, Highway-Rail Grade Crossing Accident/Incident Report data for crossing records.

Report Changes (17): GX 32 keeps a record of changes to a crossing record and effective dates of the changes.

Sql Query (18): The user can create queries to search through the crossing data and retrieve and output the results to a report designed by the user.

Print (19): The user can print and preview.

Other Tools (20): **Upload** the GX 32 additions and updates to the FRA.

Replace the GX 32 data set in the user's system with current FRA data.

Click on **Up Internet** to create and send an upload file of changes via the Internet.

Set up **Options** in the GX 32 system (specify identifying data--State, Railroad, POC (Point of Contact) number, telephone number, etc.). Enter the data and click on the **Apply** button.

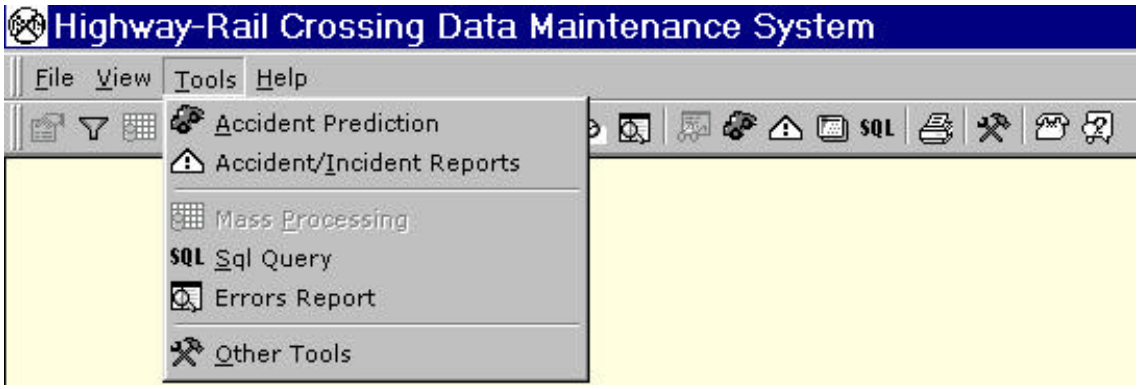
Backup the GX 32 system data to diskette.

Restore, to the system, the data that was backed up. (Note: restoring will overwrite the GX data files with the data in the restore file.)

Exit: Click on to exit utilities window.

Technical Support (21): GX 32 provides information on where to get technical support.

Help (22): The user can look through the user guide on the screen for help on using GX 32 and obtaining descriptions of the items in the Inventory form.



GX 32 Menu Bar with Tools Menu

The user can also make selections from the GX 32 menu bar which displays drop down menus. Reference the GX menu bar. The menus and their selections are:

File: New Crossing (add new crossing record)
Edit/View Crossing (view and/or update existing crossing record)
Save Crossing (save changes to a crossing record)
Report Changes (view changes to a crossing record)
Cancel Changes (cancel changes to a crossing record)
Print (same as **Print** button)

View: Multi Select (same as **Multi Select View** button)
Filter Crossings (same as **Filter Crossings** button)
Error List (same as **Error List** button)

Tools: Accident Prediction (same as **Accident Prediction** button)

Accident/Incident Reports (same as **Incident Reports** button)
Mass Processing (same as **Mass Processing** button)
Sql Query (same as **Sql Query** button)
Errors Report (same as **Errors Report** button)
Other Tools - Upload, Replace, Options, Back up, Restore

Help: Get help and technical support

Working with Windows in GX 32

In GX 32, different windows are often displayed at the same time. For example, with the **Crossings** window on the screen (the user can click on the **Multi Select View** button to display this window), if the user clicks on the **Edit/View Crossing** button for a tagged crossing, the **Edit Crossing** window will be displayed. The user can minimize this window by clicking on the minimize button or click on the button immediately after the minimize button to change the size of the window (or click on the maximize button to maximize the window again). With the window displayed on the screen, but not completely maximized (size changed), the user should be able to see the **Crossings** window dimmed in the background and the **Edit Crossing** window in front. The user can click on the title bar of a window (e.g., the **Edit Crossing** window) and then drag it to a new position on the screen. The window that is active will have its title bar highlighted, while the inactive window's title bar is dimmed. Clicking on an inactive window will make it active so the user can work in that window.

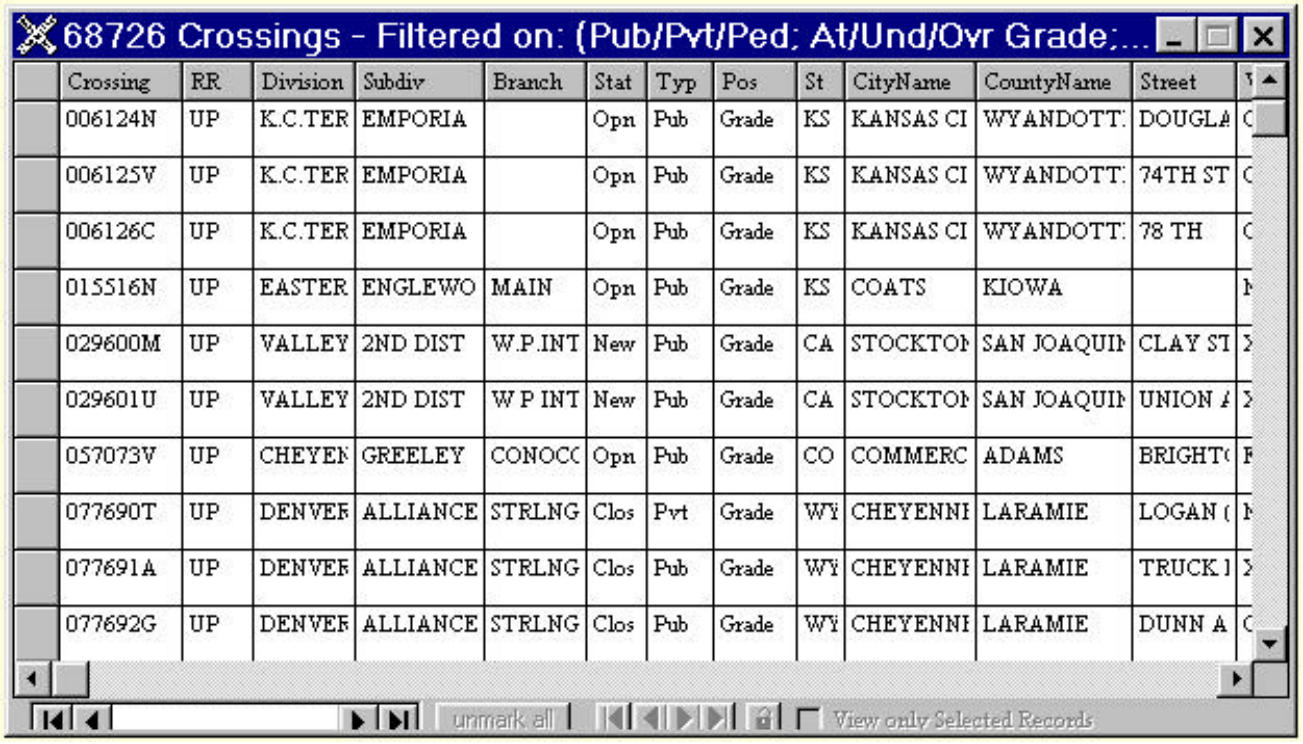
To close a window, the user can click on the button at the far right of the window with the "**X**" on it (the **Close** button).

Exiting the System

To exit from GX 32, the user can click on the **Close** button ("**X**") in the top right hand corner.

Browsing through a List of Crossing Records

A quick way to look through the crossing data is to browse through the crossing records in GX 32's **Crossings** window.



Crossings Window

Reference the **Crossings** window. This **Crossings** window can be accessed by clicking on the **Multi Select View** button in the GX 32 tool bar. In the **Crossings** list that appears, the user can browse through the crossing data. Note that the number of crossing records that are displayed is given at the left side of the window's title bar (e.g., 68,726 crossings).

If a filter had been previously set (for example, the user specified that only Public at-Grade crossings are to be displayed), then when the user calls up the **Crossings** window, only the filtered **Crossings** list will be displayed. GX 32 will display, in the **Crossings** window title bar, the type of filtering that has been set (e.g., Pub/Ped; At/Und/Ovr Grade; Open Only--Public/Pedestrian, At Grade/Under/Over; Open Only). If the **Crossings** list is filtered, and the user wants to display all the system's crossings, he/she can set the filter to show all crossing records (see section on Filtering for further information).

If the **View only Selected Records** option is indicated, only marked (i.e., selected) crossings will be displayed in the **Crossings** list.

The user can click on the gray box preceding a crossing record to mark (select) or tag the record. Marked crossings will be highlighted. If marking is disabled (by clicking on the **Lock/Unlock Marks** button until lock on this button appears to be closed) clicking on a gray box preceding a crossing record will tag, rather than mark a crossing record. An arrow will appear in the gray box indicating that

the crossing record is tagged. See section on Updating, Closing, Printing Multiple Crossings at the Same Time (Mass Processing) for further information on marking and tagging crossing records.

A crossing record that is tagged or marked (selected) can be viewed, printed, and updated. Previous update information can be obtained for a crossing. For open public at-Grade crossings, accident prediction values can be obtained. Accident/Incident forms (FRA F 6180.57) for the past 5 years (not including the current year) can also be viewed for highway-rail grade crossings.

The user can scroll through the crossing records by clicking on the vertical scroll bar arrows or dragging the square up and down in the scroll bar. To move from record to record, the user can click on the horizontal arrows (move to first record (|<), previous record (<), next record (>), and last record (|>)). The user can click on the right border of a column heading box in the top row and drag to adjust the width of the column.

In the **Crossings** list the first row contains the headings for the list. The elements in the **Crossings** list are:

Heading	**Description**
Crossing	Crossing Numbers in the GX 32 system
RR	Railroad Abbreviation
Division	Railroad Division
Subdiv	Railroad Subdivision
Branch	Railroad Branch
Stat	Status of the Crossing Closed (Clos) New (New) Open (Opn)
Typ	Type of Crossing Pedestrian (Ped) Public (Pub) Private (Pvt)
Pos	Position of Crossing At Grade (AtG)

RR Over (Ovr)
RR Under (Und)

St State abbreviation

CityName City

CountyName County

Street Street

WD Warning Device
Flashing Lights (FL)
All other gates (GT)
No sign or signal (NO)
Stop signs (SS)
Crossbucks (XB)
Highway signals, wigwags, bells, or other activated (HS)
Other signs (OS)
Special active warning devices (SP)
Four quad (full barrier gates) (FQ)

MilePost Milepost

To mark (i.e., select) a crossing in the **Crossings** window the user can click on the gray box preceding the crossing record. Marking can also be accomplished from the search window (see section on Searching for a Particular Crossing Record). The user may need to mark several crossings in order to mass process a group of crossings--this is covered in the section on Updating Multiple Crossings at the Same Time--Mass Processing.

In the **Crossings** list:

1. The user can search for record(s) containing a particular value (e.g., Crossing or Street) (see section on Searching for a Particular Crossing Record).

2. The user can generate the **Crossings** list to display only certain crossing records (see section on Displaying only Certain Types of Crossings (Filter Crossings)).

Searching for a Particular Crossing Record

In the **Crossings** window, the user can search for a crossing record that contains specific search data. For example, the user can search for a record with a particular crossing number, or for a crossing at a specific street. The user can search through the items in the **Crossings** list (e.g., Crossing, RR, Division, CityName, Street). To do this, the user will first display the **Crossings** window, if it is not already being displayed (by clicking on the **Multi Select View** button). Then the user will point over the heading of the item that will be searched through (for example, the user would point over "Division" to search for a railroad division name) and click on the left mouse button. GX 32 will display a search window (e.g., **Division**) which lists all existing values for the item that the user is searching through.

Search Window

Reference the search window. In the search window's list, the user will click on the value to search for and then on the **Find Next** button. GX 32 will go to the crossing record containing the search value. In a search window, clicking on the **Mark** button will mark (select) the crossing record, or clicking on the **Unmark** button will unmark (de-select) the crossing record (the **Unmark** button will not appear in the search window if there are no crossing records marked). (To mark multiple crossings, see section on mass processing).

NOTES:

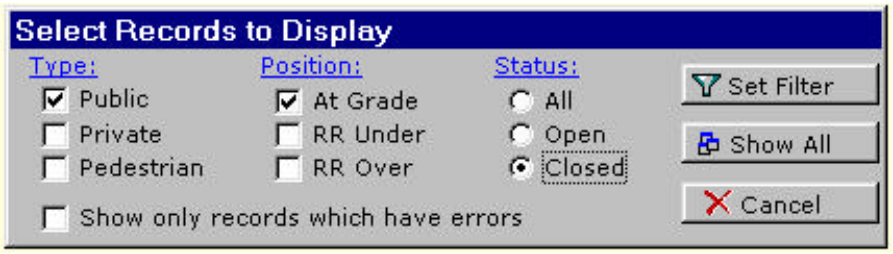
1. The user should search starting from the first record in the **Crossings** list. This way the user will be searching from the beginning so that GX 32 won't miss finding a record with the value the user is searching for the cases where there is more than one record containing the search value (the user will click on the **Find Next** button until the record is found).

2. If the **Crossings** list was generated by setting a filter (**Filter Crossings**) and the user calls up the search window and searches, then he/she will only be searching through a subset of the GX

32 crossing records. The user should be sure that this is what he/she wants to do, otherwise he/she can close the search window and set the filter to show all records and then search again.

Displaying Information on Only Certain Types of Crossings (Filter Crossings)

The user can have GX 32 display only those crossing records that are Public, Private, or Pedestrian (crossing type); and either At Grade, RR Under, RR Over (crossing position); and combinations of these for All, Open, or Closed crossings (Status). To do this, the user can first call up the **Crossings** window by clicking on the **Multi Select View** button from the GX 32 tool bar. The user can then click on the **Filter Crossings** button. The **Select Records to Display** window will appear.



Filtering

Reference the **Select Records to Display** window. The user can click on the box(es) and circle(s) (i.e., radio buttons) to check off the Type, Position, and select the Status of the crossings to be displayed. For example, if the user wants to display Public at-Grade crossings that are either open or closed, he/she can check off Public, At Grade, and select All. A different example would be to display all Public at-Grade crossings that are closed. In this case the user can select Public, At Grade, and Closed. (If an item is checked off that shouldn't be, the user can simply click on the box to un-check or unmark it.)

The user can click on the **Show only records which have errors** to have GX 32 display a **Crossings** list of updated/saved or new crossing reports which have errors in them, for the filtered set (e.g., Public, At Grade, All), and then click on the **Set Filter** button. If the user then wishes to see all the records for the specified filter, he/she can click on the **Filter Crossings** button again and de-select **Show only records which have errors**.

If there are no records that match the filter/specifications set (for example, there are no updated/saved or new crossing reports with errors and **Show only records which have errors** is specified), GX 32 will display a message indicating that there is no match. The user must change the filter/specifications so that the specification that is causing the no match message to appear is no longer checked, and the **Crossings** window will be displayed again.

Once the user has made the selections, he/she can click on the **Set Filter** button. The **Crossings** list will then display only those type of crossings specified. To display all the crossings again, the user can set the filter again to **Show All** crossing records (from the **Select Records to Display** window, the user will click on the **Show All** button).

IMPORTANT: If the user has shut down GX 32, and then later starts it up again, the filter will be maintained, regardless of single user or multiuser environment. This means that the **Crossings** window will display only those crossing records according to the filter that was set. The filter specifications are displayed in the **Crossings** window's title bar, and the user can reset the filter to "show all" to display all GX 32 records.

Effective Date

The Effective date is the date that a change (in a crossing record) was completed or put into effect. If it is verified that there are no changes in the data and the crossing still exists, and the most recent record is over 5 years old, an effective date of January 1 of the current year should be used. If the user enters an Effective Date that is not at least 2 days after the existing effective date in the crossing record that he/she is updating, GX 32 will alert the user to this fact and allow the user to enter a different Effective Date. If the user has not finished updating the Crossing record and saves it, then edits the record another time, GX 32 will keep a record of the update and allow the user to save without changing the Effective Date again. The user can click on the down arrow button at the end of the date block to select a date from a calendar.

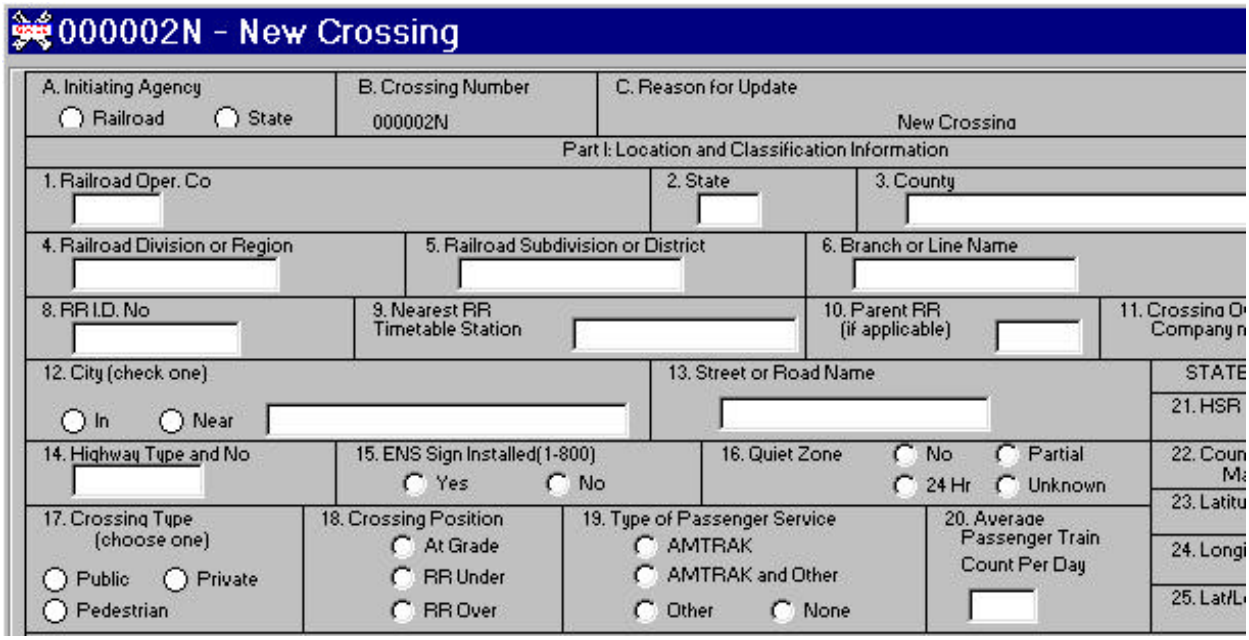
Add New Crossing

GX 32 allows crossings to be added. To do this, the user can click on the **New Crossing** button. The user can enter a valid crossing number into the **Enter New Crossing #** window.

Enter Crossing ID

If an invalid number is entered, GX 32 will alert the user to this and the user can enter a valid number. If a crossing already exists in the user's GX 32 data file with the number entered, the user will be alerted to this. When the ID number is entered the user can click on the **Ok** button.

A **New Crossing** window will appear which displays an electronic version of the U.S. DOT Crossing Inventory Form (FRA F 6180.71).



The user can tab to each item (or click on an item) and enter data. For some items, the user can click on the **Table Lookup** button to get a drop down list of selections to choose from (see section on Table Lookups). The user can click on the **Save Crossing** button to save the record. For more detailed information on entering (and editing) data into the crossing record, refer to instructions in this manual on Updating Crossing Records (Edit Crossing Data). For information on error checking, see section on Viewing Errors.

NOTE: Refer to Appendix A-GX 32, U.S. DOT Crossing Inventory Form Instructions for detailed information on each individual field displayed in the **New Crossing** window.

Update Crossing Record (Edit Crossing Data) and Close and Re-open Crossings

An important feature in GX 32 is updating. States and Railroads can update crossing data and then periodically upload the data to the FRA where the updates (and additions) are incorporated into the National Inventory. GX 32 allows updating a single crossing record, and also updating multiple records at once (which is covered in the section on Updating Multiple Crossings at the Same Time (Mass Processing)).

To update a single crossing record, the user will click on the **Multi Select View** button, and tag the crossing record to be updated by clicking on the gray box preceding it. The user will then click on the **Edit/View Crossing** button (or alternatively double click on the crossing record). An **Edit Crossing** window will appear. This window is identical to the **New Crossing** window with the exception of item C. "Reason for Update" which is "Changes in Existing Crossing Data" or "Closed Crossing or Abandoned" instead of "New Crossing."

In the **Edit Crossing** window, from the first screen, the user can click on the **Show Next Page** button to see the second screen. If the crossing is not Public at-Grade, then Parts II through V are not applicable. However, GX32 does allow data to be entered in Parts II through V for Private at-Grade crossings if the user wishes to do this.

For changes in data, the user can click in the item and key in the change (changes will appear in red after tabbing to next item). The user can update the Initiating Agency, Reason for Update (Changes in Existing Crossing Data, Closed Crossing or Abandoned), and Effective Date. Clicking on the down arrow button following "D. Effective Date" provides the user with a calendar from which he/she can click on a date to select it.

To select an item that is preceded by a circle (i.e., radio button), the user can click on the circle.

For those items that GX 32 provides look up tables for, the user can first click on the item, and then click on the **Table Lookup** button. This will bring up a list of valid values. The user can search through this list, seek or filter entries containing the characters specified, and select an entry. For more information, refer to the section on Table Lookups. Examples of these items are Railroad Operating Company, State, City, Nearest City, County, items with a Railroad Name (e.g., Part II.4. Does Another RR Operate a Separate Track at Crossing?).

When the user is finished updating the crossing record, he/she can click on the **Save Crossing** button in the GX 32 tool bar to save the changes and exit the record. GX 32 will check the data for errors and will allow the user to see any errors. For new crossings, if the user wishes to have the record added to the National Inventory file, all errors must be fixed. See the section on Viewing Errors for more detailed information.

If the user did not make any changes, he/she can click on the window's **Close** button (the button with the "**X**" on it) at the far right corner of the window.

If the user wants to re-open the crossing, he/she can select this crossing from the **Crossings** list, click on the **Edit/View Crossing** button, make the changes (the user must enter an effective date which is at least two days after the existing effective date), save and choose to re-open when prompted to do so. If the user tries to make changes to a closed crossing record and attempts to save but then chooses not to re-open the crossing, the changes made will not be saved.

Note: In the multiuser setup, only one user may have a particular crossing record open at a time. If a user tries to edit/view a record that another user is already viewing, an error message will occur informing the user of this. In other words, the record will be locked for all other users until the first user saves or closes the record. Once complete, edits made by one user may be viewed by others in this multiuser environment.

NOTE: Refer to Appendix A-GX 32, U.S. DOT Crossing Inventory Form Instructions for detailed information on each individual field displayed in the **Edit Crossing** window.

Viewing Errors

When starting up GX 32, if there are any updated/saved or new crossing records with errors or invalid data, a message will be displayed indicating how many of these records contain errors.

The user can click on the **Errors Report** button to get error information for all updated/saved or new crossing records in the user's GX 32 database. The report shows the crossing id number, error code, and description of the error for these updated/saved or new crossings.

The user can also display a **Crossings** list of updated/saved or new crossing records with errors for the specified filter. To do this, the user will click on the **Multi Select View** button to display the **Crossings** window. The user will then click on the **Filter Crossing** button and specify the desired filtering and select "**Show only records which have errors**". The user can then click on the **Set Filter** button. A **Crossings** window displaying records with errors (for the specified filtering) will be displayed. See the section on Filtering for further information.

When the user saves the data in a **New Crossing** or **Edit Crossing** window (i.e., user saves data in the Grade Crossing Inventory form), if there are any errors, GX 32 will prompt the user and give him/her the opportunity to see the errors ("Yes") or save the record without seeing the errors ("No"). When the user tags, in the **Crossings** window, a record that has errors, the **Error List** button will be enabled, and the user can click on this button to see the errors for the record.
To see error messages while in the **New Crossing** or **Edit Crossing** window, the user can click on the **Error List** button. A list of errors for that particular record will be displayed.

Note: If the reason for update is "New Crossing", the crossing will not be added to the National Inventory file if it is not error free.

Viewing Recorded Changes for a Crossing

GX 32 keeps a record of changes made to a crossing. To see this, the user can click on the **Multi Select View** button from the GX 32 tool bar. Then from the **Crossings** window, the user can click on

the gray box preceding a crossing to be tagged, and then click on the **Report Changes** button in the tool bar.

A **Fields Changed: #Crossing ID** window will be displayed which lists date updated and the items that were changed.

If no recorded changes for the crossing were found, a message will appear stating such.

Table Lookups

In the **New Crossing** and **Edit Crossing** windows, the user can invoke a table of valid values for items such as Railroad Operating Company, State, City, and County. To do this, the user will click on the item that he/she wants a Table Lookup for (e.g. Part I, Item 1. RR Operating Company). Then the user will click on the **Table Lookup** button.

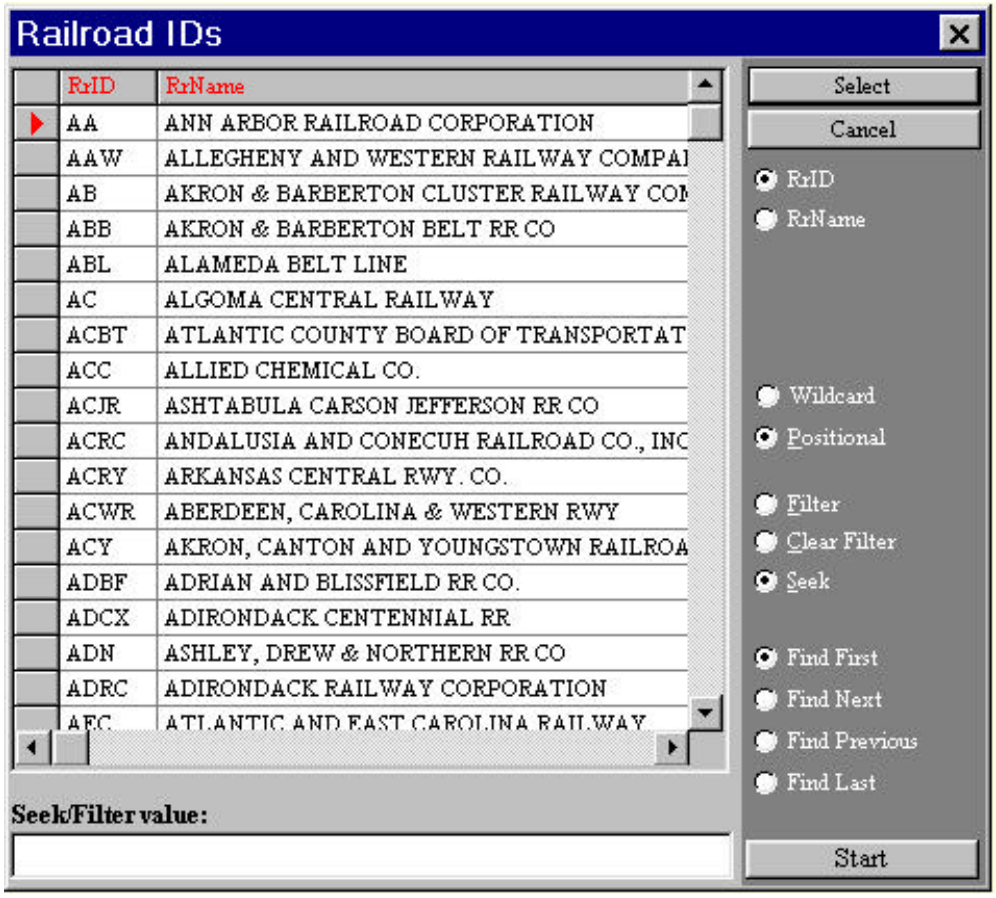


Table Lookup

Reference the **Railroad IDs** Table Lookup window. In this window the user can scroll through the entries, click on the appropriate entry and then on the **Select** button.

If the user can't find the entry, he/she can enter, for a search string (i.e., **Seek/Filter value:**), a string of characters contained in the entry (e.g., UP). He/She should then specify how GX 32 should search through the entry (e.g., RrID):

- Search through a Code or a Description (e.g., search through the Railroad Codes (RrID), or search through the Railroad descriptions (RrName)).

- Do a positional search which looks for the search string at the beginning of an entry OR do a wildcard search to look for the search string anywhere in the entry.

- Do a seek which has GX 32 go to the first entry containing the search string, but still displays the other entries in the table OR do a filter to have GX 32 display ONLY those entries found containing the search string that the user entered.

The user can click on the **Start** button to start a search.

When doing a seek, the user can click on the **Find First**, **Find Next**, **Find Previous**, and **Find Last** buttons to move to another item to be found.

The user can click on the entry desired and click on the **Select** button to have the entry entered into the item in the **New Crossing** or **Edit Crossing** windows.

The Table Look up feature is available for the following:

ITEMS WITH TABLE LOOKUP FEATURE AVAILABLE

Part I 1. Railroad Oper Co.; 2. State; 3. County 4. Railroad Division or Region; 8. RR I.D. No.; 9. Nearest RR Timetable Station; 10. Parent RR; 11. Crossing Owner; 12. City; 21. HSR Corridor ID
Part II 4. Does Another RR Operate a Separate Track at Crossing? If Yes, Specify RR; 5. Does Another RR Operate Over Your Track at Crossing? If Yes, Specify RR
Part V 1. Highway System; 3. Functional Classification of Road at Crossing

Update, Close, Print Multiple Crossings at the Same Time (Mass Processing)

The user can take advantage of GX 32's Mass Processing features:

- mass updating a group of marked crossing records for editing/updating purposes:

To change the Name of the Railroad, Division, Subdivision, Branch, Parent Railroad, and Crossing Owner (Administrative Changes); update Train Speeds and Train Counts (Train Statistics), and edit Contact Information (Railroad, State, Police/Emerg.).

- mass updating to close a group of marked crossings

- generating various mass processing reports, including printing the U.S. DOT Crossing Inventory Form for each marked crossing, and creating a list of all crossing records which are marked for mass processing

Note: "marked crossing(s)" indicates that these are crossing records which are selected in the Crossings window.

The following box contains a summary of how to mass process, and detailed instructions follow.

Summary of how to Mass Process GX 32 records

1. Click on the **Multi Select View** button
2. Mark (i.e., select) records to be mass processed
3. Click on **Mass Processing** button
4. Select type of Mass Processing (and if mass updating, select type of mass update) and implement

1. Click on the **Multi Select View** button

   To mass process a group of crossings, the user will first click on the **Multi Select View** button from the GX 32 tool bar.

2. Mark (i.e., select) records to be mass processed.

   In the **Crossings** window the user will mark (i.e., select) the crossings to be mass processed by:

a. Clicking on the gray box preceding the first crossing record to be marked. It will become highlighted. If the user is then marking several crossings records that immediately follow this crossing, he/she can click on the down vertical scroll bar arrow and point over the gray box preceding the last crossing in the group to be marked. Then he/she can press the Shift key and the left mouse button at the same time. All of the crossing records in the group will be marked. This only marks a single group--attempting to mark a second group this way will unmark the first group, so marking this way should be done carefully.

b. Clicking on the gray box preceding the first crossing record to be marked, then pointing over the gray box preceding the next crossing record to be marked and pressing on the Ctrl key and on the left mouse button at the same time (doing this to a marked crossing will unmark it).

c. Marking crossings as a group that meet specific criteria (e.g. all crossings with a particular Railroad, Division, and Subdivision). To do this, the user can click over the heading in the column of the first item to be marked (e.g., RR for Railroad), select a value from the list (e.g., the Railroad's name), and then click on the **Mark** button. To unmark some of these marked records (e.g., unmark records for some divisions), the user can click on the heading (e.g., Division) in the **Crossings** list, select the division to unmark records for, and click on the **Unmark** button.

d. The user can mark a single crossing record by clicking on the Crossing heading, then clicking on the crossing record to be marked and clicking on the **Mark** button (the user can repeat this for each crossing to be marked). The user can also unmark this way but would click on the **Unmark** button instead.

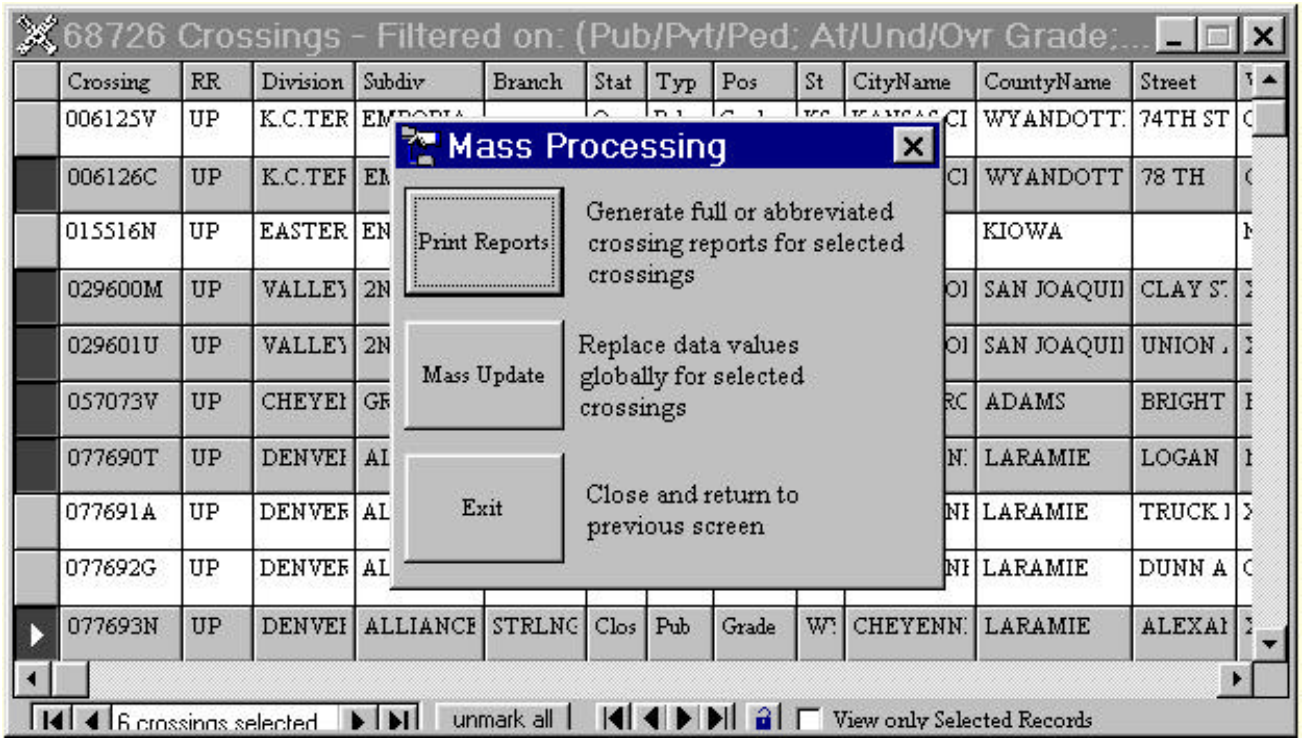
e. Clicking on the **Lock/Unlock Marks** button at the bottom of the **Crossings** window enables or disables the ability to mark/unmark. If the marking is disabled (the lock on the **Lock/Unlock Marks** button appears closed), all crossings so far marked will remain marked, but the user will not be able to mark any more crossing records. If the user clicks on the gray box preceding a crossing record, an arrow will be displayed in the box, indicating the record is tagged. The tagged crossing record will be the record which is displayed if the user clicks on the **Edit/View** Crossing button.

   If the lock on the **Lock/Unlock Marks** button appears open, marking is enabled. In this case, if the user clicks on the gray box preceding a crossing record while there are other records marked, the marked records will become unmarked. The user can mark records while the marking is enabled.

f. Clicking on the **unmark all** button will unmark all of the marked crossing records and they will no longer be highlighted in the list.

3. Click on **Mass Processing** button

Once the crossings records to be updated are marked (marked crossings will appear highlighted), the user can click on the **Mass Processing** button in the GX 32 tool bar.



Mass Processing with Records Marked in Background

4. Select type of Mass Processing (and if mass updating, select type of mass update) (e.g., Administrative)

   Reference the **Mass Processing** window. In the **Mass Processing** window:

   a. The user can have GX 32 generate various mass processing reports by first clicking on the **Print Reports** button. The user will then be able to choose from the following reports:

      -Inventory - to print/preview the U.S. DOT Crossing Inventory Form for each marked crossing.

      -Administrative - to generate an administrative summary of the crossing records which are marked (i.e., selected) in the **Crossings** window. This summary lists Crossing No., and select data (Type, Position, and Status of Crossing; Railroad, Division, Milepost, State, County, and Street) about the crossing. The user may want to print this summary in order to have a list of marked crossings for review prior to making changes.

      -Operational - to generate a summary report with train counts and speeds for marked crossings. This report only lists Public at-Grade crossing records.

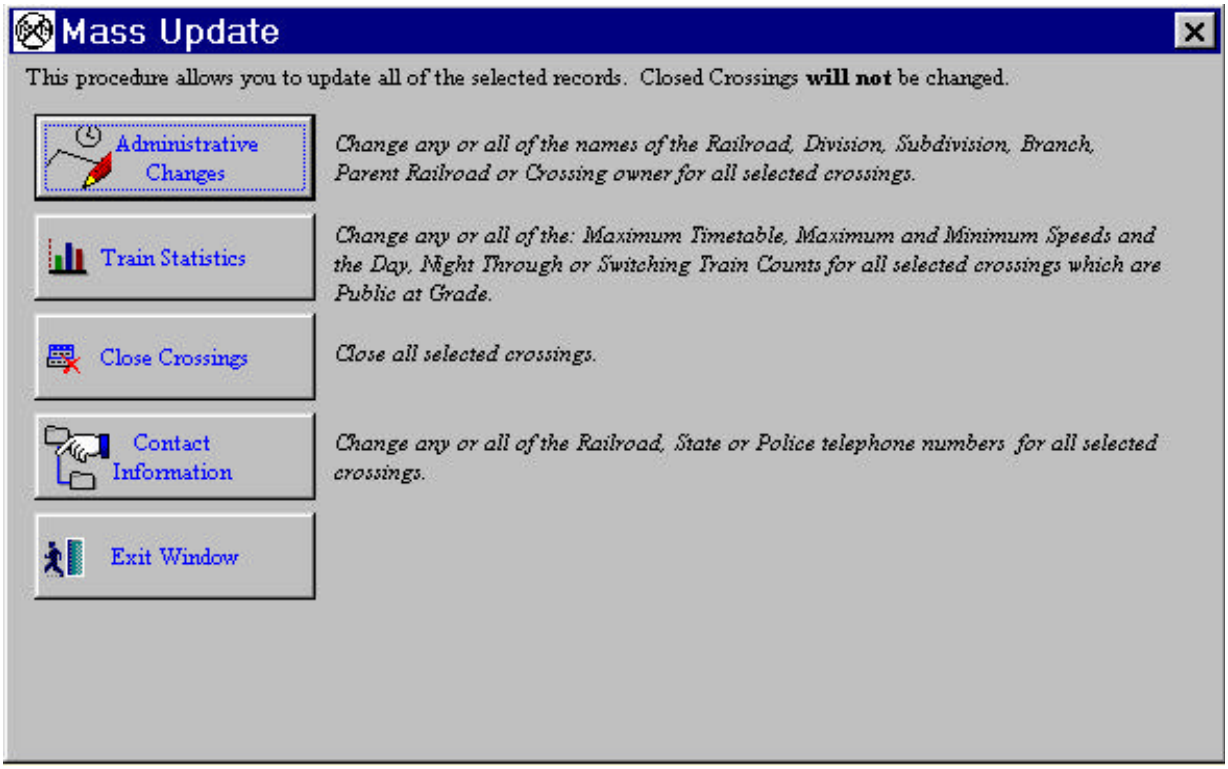
-Accidents - to print/preview Accident/Incident Reports (FRA F 6180.57) for the marked crossings if any exist.

-Accident Summary - to generate Accident Summary report for marked crossings.

Prior to generating several of the above reports, the user can specify how the crossing records in the report should be sorted by clicking on the radio button preceding a sorting order. The user can also enter a title for some of the reports. The user can then click on the **Create Report** button to have the report generated.
When print/previewing the generated reports, the user can select to print, zoom, and go to previous and next pages (note: numbering such as 1/8 indicates the first page of eight pages), and back and forward.

b. The user can also Mass Update:

The user can click on the **Mass Update** button in the **Mass Processing** window to call up the **Mass Update** window.



Mass Update

Reference the **Mass Update** window. In this window:

(1) The user can click on the **Administrative Changes** button to change value for Railroad, Division, Subdivision, Branch, Parent Railroad, and Crossing Owner in the marked (open) crossing records. The user will enter the change and the effective date of the change (clicking on the button following the date block will display a calendar from which the user can click on the effective date). Then the user will click on the **Commit Change(s)** button to have GX 32 make the changes to the marked crossing records.

(2) The user can click on the **Train Statistics** button, and update train speeds and counts. If the user is mass updating through train numbers and speeds, GX 32 will update all open public at-grade crossing records that are marked for mass updating, but will not make changes to any not public at-grade record.

(3) The user can click on the **Close Crossings** button to close all marked crossings. The user will need to enter the Effective date of the change and then click on the **Commit Changes** button to have GX 32 close the selected crossings. If the effective date (of a crossing record being closed during mass processing) conflicts with the effective date of the change, (e.g. the existing effective date is later than the date the user entered for the change), GX 32 will allow the user to enter a new date.

(4) The user can make mass updates to the contact information for marked (open) crossings (the user will click on the **Contact Information** button).

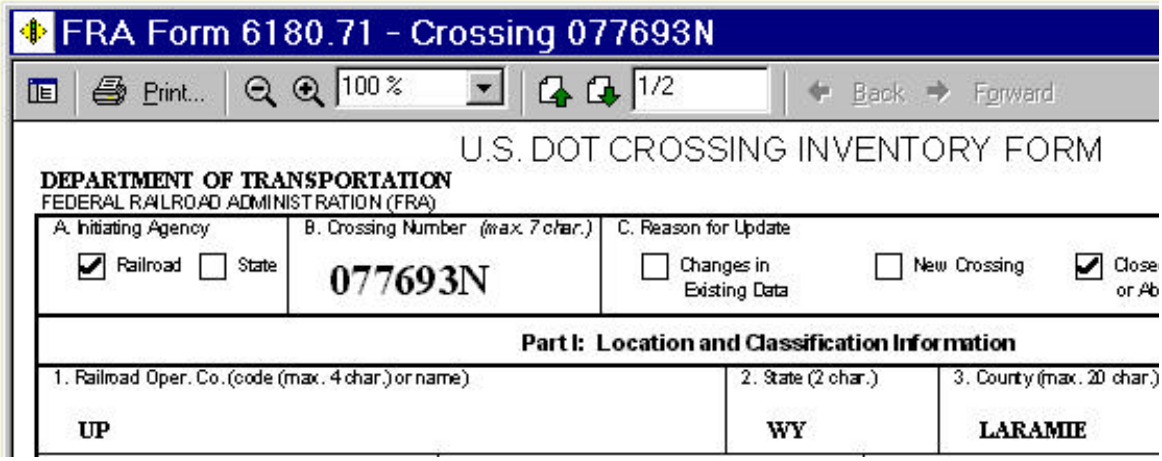
c. The user can exit (to the **Crossings window**).

For Administrative Changes, Train Statistics Updates, and editing Contact Information, GX 32 checks all of the crossing records marked for mass updating. If any of the crossings are closed, GX 32 will not mass update these crossings. GX 32 will present the user with processing statistics that specify how many records were selected, and how many of these crossings were closed and thus not processed. GX 32 will indicate how many selected (i.e., marked) crossings were mass updated/processed and provide a list of changes to the crossing records. The user can choose **All**, to see all changes made to the selected crossings, or **Current**, to see changes just made to the selected crossings (the Summary Report of Mass Processed Changed Crossings can be printed).

Note: When GX32 is set up as a multiuser system and two users are making mass processing changes at the same time, changes will be made for whoever clicks on the **Commit Changes** button first. The user who clicks on the **Commit Changes** button next will receive a prompt asking if he/she would like to overwrite the changes made by the other user.

Printing or Previewing a Crossing Record

The user can preview and print an Inventory Form. To do this, in the **Crossings** list (**Multi Select View** button), the user will tag the crossing record that he/she wishes to view in Form FRA F 6180.71 Inventory Form format (by clicking on the gray box preceding a crossing). The user will then click on the **Print** button in the GX 32 tool bar.



Print Preview/Print

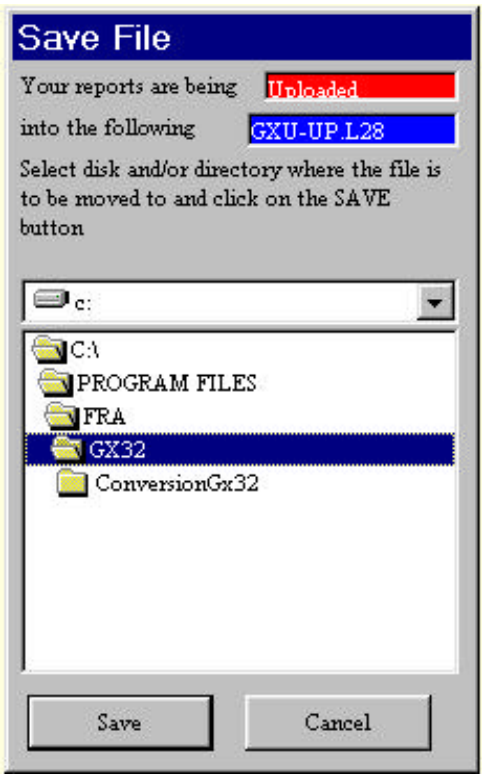
A print preview screen will appear. The user can choose to print from this screen (by clicking on the **Print** button in the Preview window), zoom, move from previous to next pages and back and forward. The user can also see what page is being displayed, and how many total pages there are (e.g., page 1 of 8 -- 1/8).

(Note: If the **Edit Crossing** window is on the screen, the user can click directly on the **Print** button. If any changes made have not been saved, the changes will not appear in the printed version.)

Sending Updates to the FRA (Uploading the GX 32 Data)

One of the principle capabilities that GX 32 provides States and Railroads is allowing them to maintain and update the National Highway-Rail Crossing Inventory file. In order to update this National file, States and Railroads can upload their GX 32 data files (which they have made updates and additions to) to the FRA. GX 32 will create an upload file that contains all changes/updates and all added crossing records. The user should upload GX 32 updates and additions (i.e., the GX 32 upload file that is created) at least every 3 months, at a minimum. GX32 will alert the user, upon system start up, if a GX 32 upload file has not been created and over 90 days have passed since the last upload.

To upload, the user can click on the **Other Tools** button, then, from the **Utilities** window, the user can click on the **Upload** button.



GX 32 Upload

In the **Save File** window that appears, the GX 32 system will display the name of the file that the GX 32 data has been "uploaded" to. This is the GX 32 upload file for this particular data upload. The user must select which disk and path that GX 32 should save the upload file to (make a note of the file name and path). The user can click on the **Save** button. The **Upload Data** window will appear. GX 32 will let the user know when it has finished saving the upload file.

If "Notice" appears in the Upload Data window, this notice lets the user know how many crossings have errors in them. In order for the National Inventory to be updated with new crossings, the new crossings must be error free.

To transmit the upload file electronically to the FRA, the user can use a communications program. The user can, for example, use Microsoft Outlook, and attach the upload file to an e-mail message and send the e-mail message with attachment to the FRA. GX 32 upload files can be sent to:

Support@frasafety.net

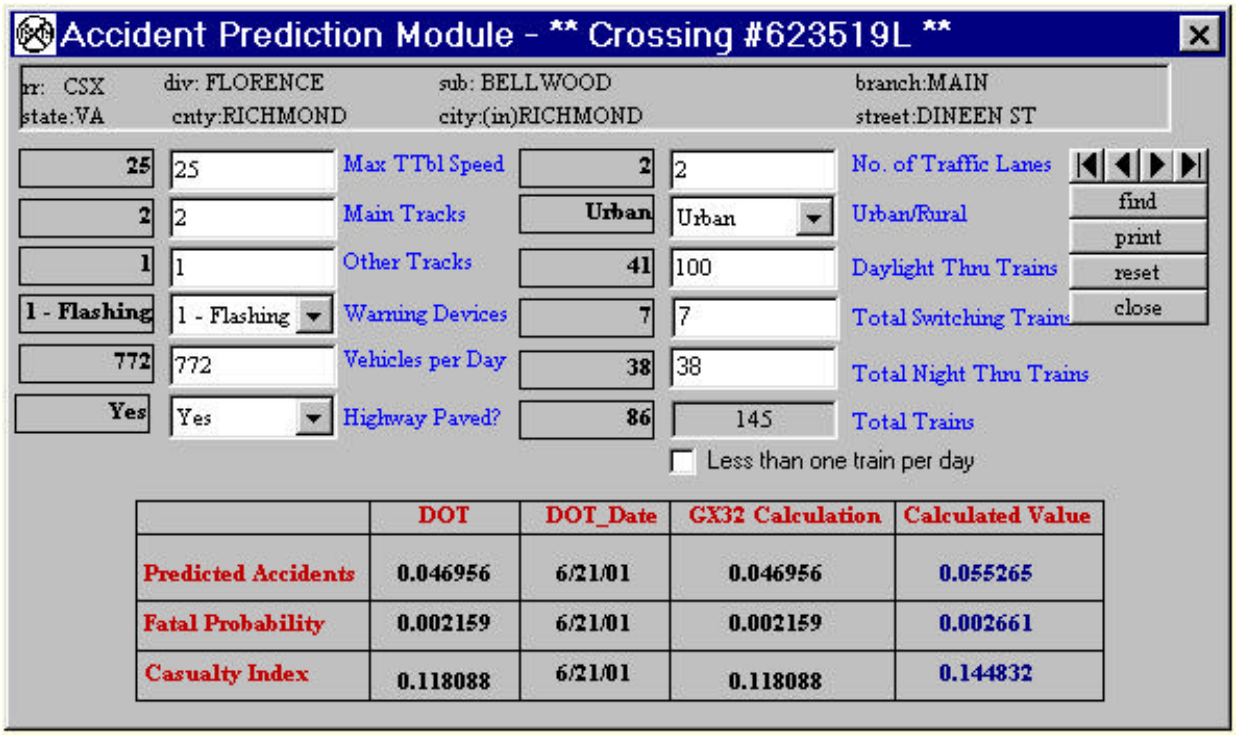
Another option is to save the upload file to diskette and then mail it to INDUS Corporation. If the user made a note of the upload file name and path, he/she can copy the file to the diskette. Then the user can send the diskette to INDUS Corporation.

Note: If upload occurs while another user is in the process of updating a record (in GX32 multiuser environment), and the updates have not yet been saved, these updates may not be included in this particular upload.

Accident Prediction

The GX 32 system contains accident prediction data for Open, Public at-Grade crossings. To access this accident information, from the **Crossings** list (the user can click on the **Multi Select View** button to get this list), the user will click on the gray box preceding the crossing record he/she wants to find out accident prediction values for, and then click on the **Accident Prediction** button. GX 32 will display the DOT accident prediction value for the crossing and also show values that GX 32 calculates by using the DOT Accident Prediction Formula and DOT Severity Prediction Formulas. These formulas can be found in the "Rail-Highway Crossing Resource Allocation Procedure User's Guide, Third Edition, U.S. DOT, FRA, FHA, August 1987 (DOT/FRA/OS-87/10 DOT-TSC-FRA-87-1) and "Summary of the DOT Rail-Highway Crossing Resource Allocation Procedure - Revised, June 1987 (DOT/FRA/OS-87/05 DOT-TSC-FRA-86-2) (available from National Technical Information Service, Springfield, VA 22161).

An **Accident Prediction Module** window will appear. GX 32 provides the user with an accident prediction "calculator" in this module.



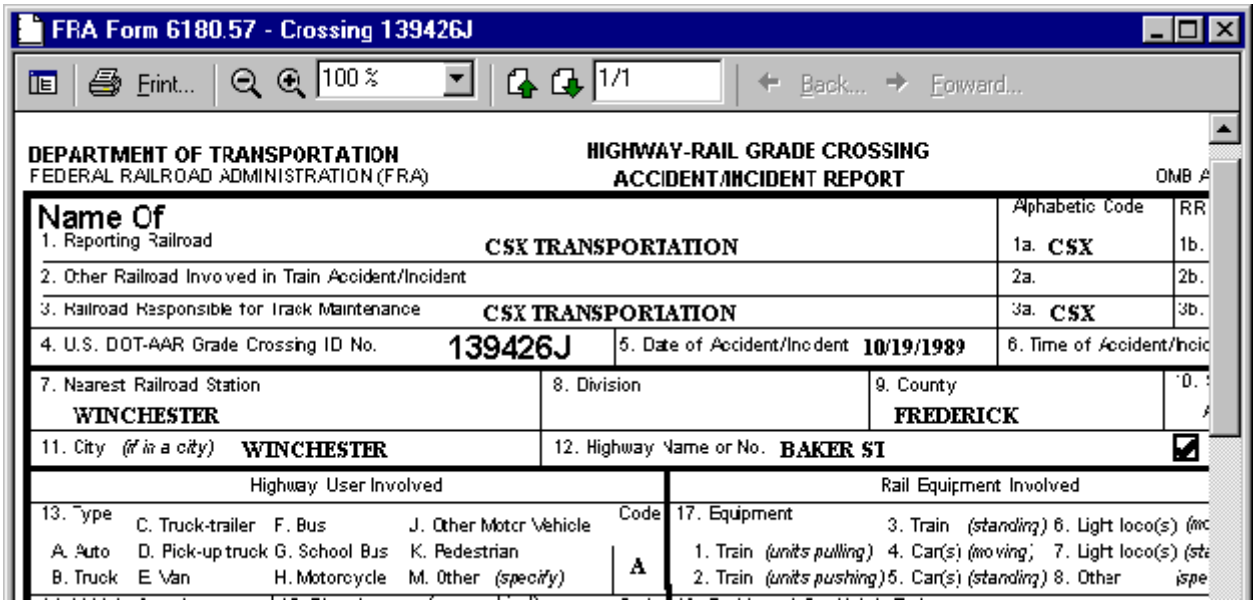
Accident Prediction

Reference the **Accident Prediction Module** window. From this window, the user can click on the arrows to scroll through different crossing records in the **Crossings** list. He/She can click on the **find** button and select a different crossing id. The crossing id # will be listed in the window's title bar.

The actual values that are in the crossing record will be displayed in the gray boxes in the left column and initially in the white boxes (in the right column). The DOT Predicted Accidents, Fatal Probability and Casualty Index values are displayed under the heading "DOT" in the left boxes and the values calculated by GX 32 (based on crossing record values in GX32) are in the boxes on the right (under the heading "GX 32 Calculation"). The user can change the values in the white boxes to a hypothetical value (e.g., change Daylight Thru Trains to 100) to see the effect of the change on the accident prediction values. This effect can be seen in the column labeled "Calculated Value". For Warning Devices, Highway Paved, and Urban/Rural, the user can click on the down arrow following the item's block and make a selection from the drop down list. The user simply enters the change and the Predicted Accidents, Fatal Probability and Casualty Index will be calculated for the changed value. The user can reset the values to what was previously entered by clicking on the **Reset** button, and can print by clicking on the **Print** button.

Viewing Accident/Incident Data

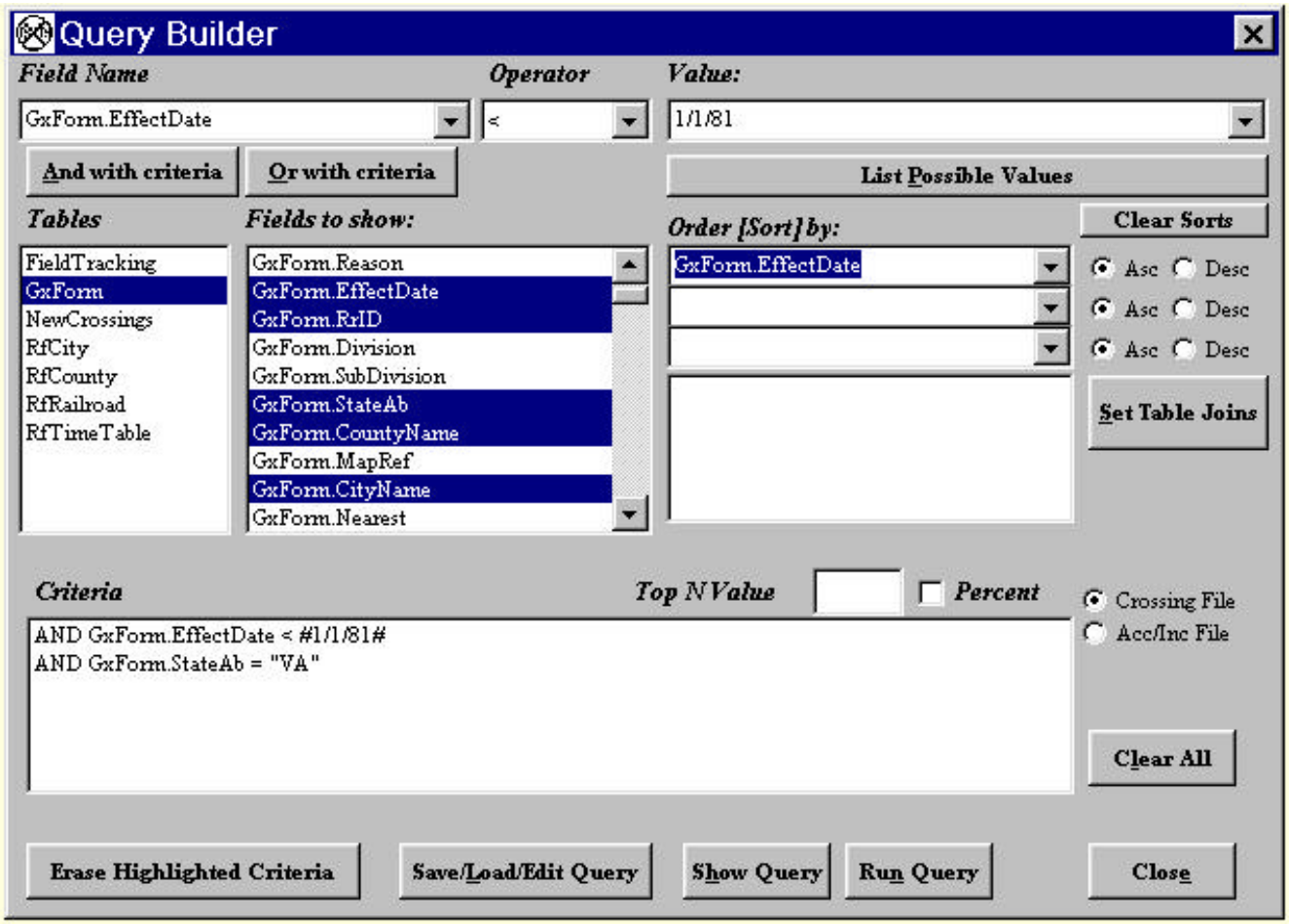
GX 32 allows the user to view Accident/Incident data (for the past 5 years) on the Highway-Rail Grade Crossing Accident/Incident Report, Form FRA F 6180.57. The user can tag the crossing of interest from the **Crossings** window by clicking on the gray box preceding the crossing record. Then the user can click on the **Incident Reports** button. If there are any reports, a print preview screen will appear and display the report(s). From this screen, the user can print, zoom, and go to next and previous pages. Reference the print/preview screen for the accident/incident report.



Accident/Incident Data - Print/Preview

Running Queries (Unique Searches/Retrievals)

GX 32 allows the user to run queries to search for specific data in the GX 32 system. To use the Query Builder, the user can click on the **Sql Query** button in the GX 32 tool bar to display the **Query Builder** window.



Query Builder

Reference the **Query Builder** window. In this window the user first selects to search through the Crossing file or Accident/Incident File by clicking on the radio button (on the right side of the window below the **Set Table Joins** button). Then the user can select the Tables to search through. These tables are where the GX 32 system data is stored. The data in the Inventory form is stored in the table "GxForm" (the user can click on this entry (GxForm) in the **Tables** list on the left side of the **Query Builder** window). The user can select the tables by clicking on the table name in the Tables list (note, the Accident/Incident data is stored in gxir.)

The user can then create expressions which tell GX 32 what to search for and can either AND or OR each expression just created to the next one that is to be created. To begin creating an expression the user can select a **Field Name** (by clicking on the down arrow next to the **Field Name** box and clicking on an entry) (e.g., GxForm.CityName) and operator (e.g., =), and select a value (e.g., Alexandria) (to select a value, the user can click on the **List Possible Values** button first, click on the down arrow after the **Value** box, and click on a entry. The operators used in the expression are: = equal (exactly); < less than; <> not equal; <= less than or equal; > greater than; >= greater than or equal; Like matches, but not exactly equal, and IS NULL. An example of an expression is CityName = Alexandria.

The user can create more than one expression (e.g., EffecDate < 1980). The user can combine an expression together with the next expression created by clicking on the **And with criteria** button (AND Gx_Form.CityName = Alexandria) or on the **Or with criteria** button. The expressions will be automatically entered in the **Criteria** block. If the user ANDs each expression together, then the records found as a result of the query will meet the criteria in every expression in the query; however if the user ORs every expression together the records found may meet the criteria in one or more expressions.

Changes in GX32 database:

In the new version of the U.S. DOT Crossing Inventory form (Form FRA 6180.71), some of the items have been changed. For example, in the previous version of the Crossing Inventory form, there were fields for Daylight Switching, Night Switching, Night Thru, Crossbucks (reflectorized), Crossbucks (nonreflectorized), Other Stop Signs, Gates (red and white reflectorized), and Gates (Other colored). These fields are not on the new version of the form and are no longer maintained in the National Inventory file. For some of these fields, such as Crossbucks (reflectorized) and Crossbucks (nonreflectorized) (part II 6 A on previous form), there is a new field (Crossbucks) (part III 2 A on new form) in which to provide the total crossbuck count. There are other such fields for Total Trains, Total Switching Trains, and Gates. Contact INDUS Corporation (FRA Project help desk) for further information.

Example of what a query can do: The user can search through the GX 32 system to find all crossing records in VA with an effective date before 1981. The results of the search will be a report of the crossings found in VA with an effective date before 1981 and the report will display (as selected in the **Fields to show** box) the Crossing ID number, the Railroad Operating Company, the Street, City and County and State of the Crossing and the effective date. The report will be sorted in ascending order of Effective date (**Order [Sort] by**--the user can click on the down arrow and select GXForm.EffectDate). Summary: (1) the user creates an expression GxForm.StateAb = VA, (2) the user clicks on the **And with criteria** button (3) the user creates the expression GxForm.EffectDate < 1/1/81, (4) the user clicks on the **And with criteria** button. The user can run the query by clicking on the **Run Query** button.

It is recommended that queries consist of expressions either only ANDed together OR only ORed together (using ANDs and ORs in a single query is not always straightforward).

The user can review expressions in the Criteria box and if he/she does not want a particular expression he/she can click on the expression to highlight it and then click on the **Erase Highlighted Criteria** button.

The user can choose to output a certain number of records found during the query by inputting the number of records to output in the Top N Value block. Alternatively the user can specify the percent of the total records found in the query that should be output by entering a percent in the Top N Value block and clicking on the box preceding Percent (entering 25 and choosing Percent will show the first 25% of the records found).

The Order [Sort] by, Desc (Descending Order) and Asc (Ascending Order) selections let the user specify what order the records should be displayed. The user can click on the **Clear Sorts** button to remove the sorting specifications.

Once the user clicks on the **Run Query** button, GX 32 will display the resulting report with a count of the crossing records found. The user can choose to **Generate Report** in which case the user can zoom in and out, and print.

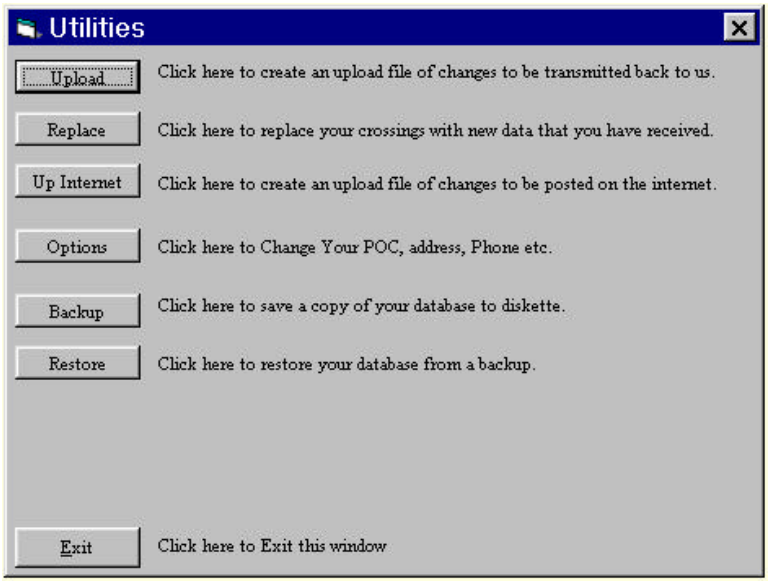
When the user is finished running the query, he/she can Exit the report, and either click on the **Clear All** button to run a new query, or click on the **Close** button to close the **Query Builder** window.

The Query Builder lets the user save the queries. While the query is still set up in the **Query Builder** window, the user can click on the **Save/Load/Edit Query** button and then on the **Add Current Query** to above button. The user can key in a description of the query. The user can also edit the query. The user can click on a query and then on **Edit Above Selected Query** to modify the query and/or its description. The user can run a query by highlighting it and clicking on **Use Above Selected Query**. To remove a query that is saved, the user can highlight it and then click on **Delete above Selected Query**.

Note, the **Set Table Joins** button allows the user to join tables together for GX 32 to search through.

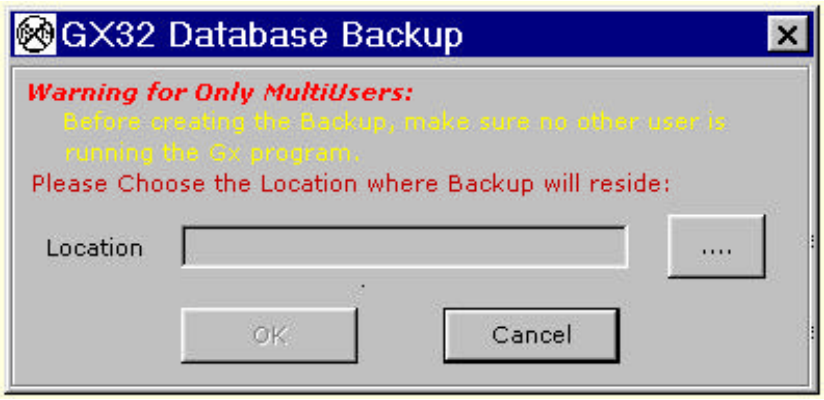
Back up and Restore

The user should make sure he/she frequently backs up his/her GX 32 data to diskette or another drive (medium external to the computer such as diskettes is advised.) Then, if there is ever a problem with the data file, the backed up data can be restored from the diskette. The user can click on the **Other Tools** button in the GX 32 tool bar. The **Utilities** window will appear.



Utilities Window

Reference the **Utilities** window. To backup, from the **Utilities** window, the user will click on the **Backup** button.

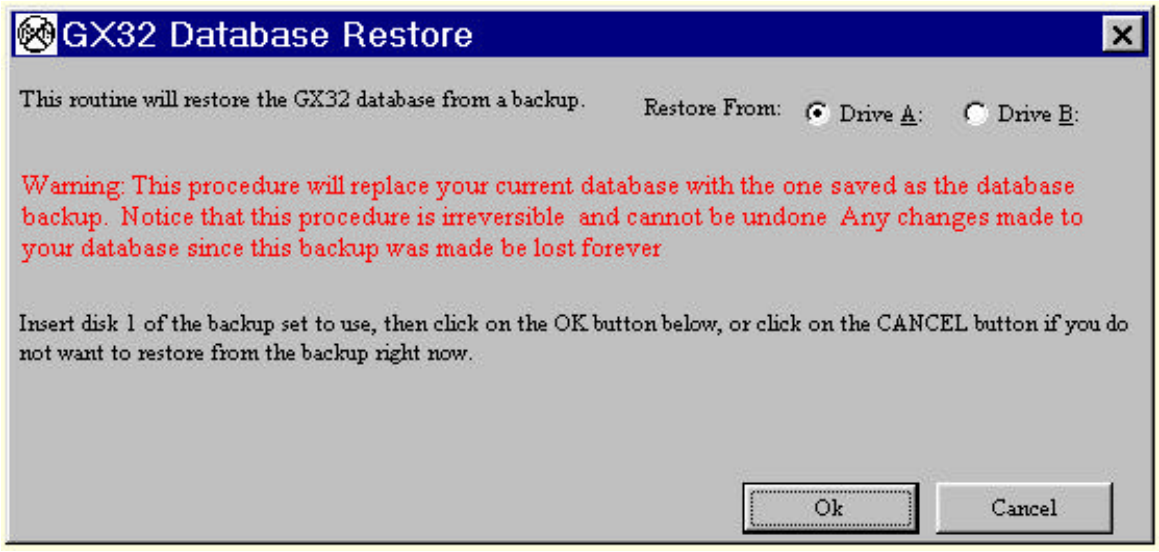


Database Backup

Reference the **GX 32 Database Backup** window. A warning will appear on the screen that applies to multiusers only. Before creating the backup, the user must make sure that no other user is running the GX program. The user can then click on the **. . . .** button to choose the location the backup is to be saved to. In the **Browse for Folder** window, the user can click on the location where the backup is to go (double click on each folder until the full location is selected). The user can then click on OK (the path will appear in the **Location** box). The user can then click on the **OK** button to have GX 32 generate the backup. When the backup is complete, the user will be notified. He/She should note the path and name of the backup file. The user can then exit to the **Utilities** window.

Warning: If the user restores from a backup file, the back up file's data will completely replace any existing data in the GX 32 system. Backups should be made frequently so that the data in the backup file contains recent updates.

If the GX data is lost for some reason, the user will want to restore. Prior to restoring, it is recommended that the user call INDUS Corporation (FRA Project help desk) to see if restoring is the best way to proceed. To restore the backed up data, the user can click on the **Other Tools** button and on the **Restore** button. Make sure to restore from the most recent backup file.



Database Restore Window

Reference the **Database Restore** window. In the **GX32 Database Restore** window, the user can specify the drive to restore from, and insert the disk containing the back up file into the drive, and click on the file to restore from and on the **Ok** button. GX 32 will process the data restoration.

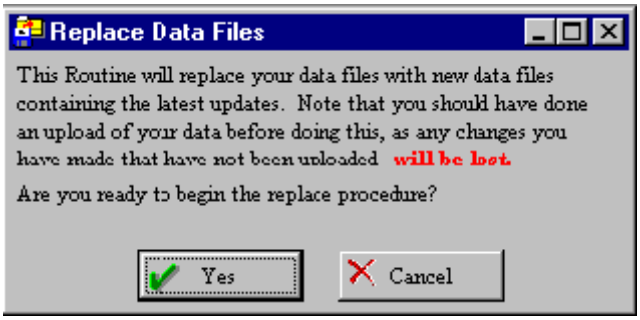
Note: When GX32 is being used as a multiuser system, and the user wants to restore the database from a backup, he/she must make sure all other users have exited GX 32 before restoring.

Replacing GX 32 Data with Current FRA Inventory Data

The user can replace his/her GX 32 data with current Inventory data that is sent to him/her by the FRA. Normally, the user will first upload his/her GX 32 updates and additions to the FRA. Once the upload has been processed (and the National Inventory file updated), the FRA can send the user the most current National Inventory data that the user requires. GX 32 will alert the user, upon system startup, if the data has not been replaced and it has been over 90 days since the last GX 32 data replacement. The user can click on the **Other Tools** button on the GX 32 tool bar and then on the **Replace** button.

It is important to know that the Replace feature will replace all data in the user's GX 32 system with the data sent by the FRA. The user must be absolutely certain this is what he/she wants to do (it is

recommended that the user back up his/her data to diskette prior to doing a Replace). The **Replace Data Files** window will appear when the user clicks on the **Replace** button.



Replace Data Files

Reference the **Replace Data Files** window. To replace, the user can click on the **Yes** button and select the data file sent by the FRA by specifying the file name and path in the **Open** window. The user can then proceed with the Replace.

DRAFT

U.S. DOT CROSSING INVENTORY FORM INSTRUCTIONS
(Form version dated 11/99)

1.1 Recording Instructions

The following explains the process of filling out the new U.S. DOT Crossing Inventory Form, Form FRA F 6180.71.

1.2 U.S. DOT Crossing Inventory Form Heading

A. Initiating Agency

Enter a check mark in the appropriate box (for either Railroad or State) to indicate the initiator of: the update, adding a new crossing, or closing a crossing.

B. Crossing Number

Enter a valid crossing inventory number (6-digits followed by an alpha character).

C. Reason for Update

Enter a check mark in the appropriate box to indicate the reason for submittal of the form:

(1) change(s) in existing data,
(2) adding a new crossing, or
(3) crossing being closed or abandoned

D. Effective Date

Enter the date (MM/DD/YYYY) the change was completed or put into effect. Ideally, all public, private and pedestrian crossings, including grade-separated, should be updated to at least verify that the crossings still exist. A current effective date should be indicated. If it is verified that there are no changes in the data and the crossing still exists, an effective date of January 1 of the current year (e.g., 01/01/2002) should be indicated.

1.3 Part I: LOCATION AND CLASSIFICATION INFORMATION

Item 1. Railroad Operating Company

Enter the valid railroad code for the "operating" railroad company, i.e., the railroad that operates train movements over the crossing. The operating railroad will normally be the reporting railroad, but may or may not own and maintain the roadbed, tracks, and signal system controlling the crossing. If the operating railroad company is not the owner of the track, it is suggested the owner's name be entered in Item 6, *Branch or Line Name* and/or Item 11, *Crossing Owner*. Valid railroad codes can be obtained or will be assigned by FRA.

NOTE: Crossings are to be assigned to the operating railroad, that is, the identity of the railroad company that operates over the trackage where the crossing is located and not necessarily to the owner of the track or property itself, unless it is also the operating railroad. Thus, designations such as "XYZ Corporation" should be changed to the name of the railroad that is actually operating on the specific line since they are the operating railroad.

When this data is processed, a maximum of 4 characters will be allowed. If the valid Railroad or Company Code is not known, and instead the name is provided, FRA will match the name to the valid code and will enter that code. If the name cannot be matched to a code, the report cannot be processed. Either a new code will be assigned or the form will be returned to the Initiating Agency for correction.

Item 2. State

Enter the abbreviation for the name of the State where the crossing is located. If the crossing is located on a State boundary so that parts of the crossing lie in two or more States, agreement must be made between the two States as to which shall claim the crossing for inventory record purposes. When a crossing is located on a State line, it is suggested that the crossing be inventoried by and in the State that is south or east geographically.

Item 3. County

Enter the name of the county where the crossing is located. If the crossing is on a county line so that parts of the crossing lie in two or more counties, a decision must be made to place it in one county only. When a crossing is located on a county line, it is suggested that the crossing be inventoried in the county that is south or east geographically.

Item 4. Railroad Division or Region

Enter the name of the division, region, or major district, if the railroad system is divided into such groups.

Item 5. Railroad Subdivision or District

Enter the name of the sub-division or other classification, if the railroad system is divided into such groups.

Item 6. Branch or Line Name

Enter the name of the line or branch as used by the railroad to describe this segment of track. If the track is an industry lead, industry spur, yard lead, wye, etc., enter the name of the track or industry.

Item 7. Railroad Milepost

Enter the railroad milepost number in miles and hundredths of miles (53 feet is approximately 1/100 mile.) Enter the number with the decimal point (nnnn.nn).

NOTE: Because of data-retrieval anomalies, alphabetical letters in the milepost field need to be avoided.

Item 8. RR I.D. No.

Enter the railroad identification of the crossing or the track line segment number. If a crossing has an identification number other than the DOT number, such as a State agency number (e.g., a Public Utility Commission (PUC) assigned number), enter that number. However, with the expansion of the data fields, State PUC's should now consider using one of the "State Use" fields (Items 29.A.-D.; preferably Item 29.A.) for the State PUC number.

Item 9. Nearest RR Timetable Station

This is now an optional field. Enter the name of the nearest timetable station of the operating company.

Item 10. Parent RR

If applicable, enter the code for the parent railroad (that is, the railroad which is parent to the railroad entered in Part I, Item 1, *Railroad Operating Company*. This must be a valid railroad code.

Item 11. Crossing Owner (Railroad or Company name)

If applicable, enter the code for the owner of the crossing. This must be a valid railroad or company code, and if unknown, it can be obtained from FRA.

When this data is processed, a maximum of 4 characters is allowed. If the valid Railroad or Company Code is not known, and the name is instead provided, an attempt will be made to match the name to its valid code, and that code will be entered. If the name cannot be matched to a code, the report cannot be processed. Either a valid code will be assigned or the form will be returned to the Initiating Agency for correction.

Item 12. City

Enter a check mark to indicate if the crossing is located "In" or "Near" the city to be specified. If the crossing is not within the boundaries of a city, town, or village, enter a check mark in the box for "Near."

Enter the name of the city, town, or village where the crossing is located (maximum of 16 characters) which must be a valid location within the State. If "In" is checked, the entered city name must be located in the county specified in Part I, Item 3, *County*. If the crossing is on a city line so that parts of the crossing lie in two or more cities, identify only one city.

Item 13. Street or Road Name

Enter the name of the highway or street, if the highway or street has a name. If it is a private roadway and it has a name, enter the name of the road or the owner's name, otherwise just enter "private."

Item 14. Highway Type and No.

Enter the type of highway such as Interstate (I), U.S. numbered (US), State (ST), county (C), local (L), etc., and number of the highway, if it has one. Please abbreviate, as I-95, US-1, ST-234, C-2096, etc. The number of the highway should be posted on the highway or found on State or county maps. If there is more than one number, enter the most important route, or all the numbers.

Item 15. ENS Sign Installed (1-800)

If there is an Emergency Notification System (ENS) sign installed at the crossing, check the box preceding "Yes." Otherwise, check the box preceding "No."

The ENS sign may be any sign posted at the crossing that displays a phone number (e.g., a 1-800 number) that the public, motorists, State Highway, Law Enforcement, and others can call to report problems, signal malfunctions, or emergencies at a highway-rail crossing. This sign will also usually display the Crossing Number for the crossing.

Item 16. Quiet Zone

Enter a check in the appropriate box to indicate whether or not a whistle ban is in effect for the crossing. If a whistle ban is in effect, indicate if it is for 24 hours per day or only a partial day (usually 10 p.m. to 6 am). This item must be completed for public, private, and pedestrian crossings.

Note: The "Whistle Ban" NPRM (expected release is Fall 1999) will provide for a whistle (horn) ban area where a quiet zone can be established.

Item 17. Crossing Type

Enter a check in the appropriate box to indicate the type of crossing. Valid choices are (1) Public, (2) Private, or (3) Pedestrian.

Item 18. Crossing Position

Enter a check in the appropriate box for the position of the railroad relative to the crossing. Valid choices are (1) At Grade, (2) Railroad Under, or (3) Railroad Over.

Item 19. Type of Passenger Service

If there is passenger service over the crossing, enter a check in the appropriate box to indicate the type(s) of passenger trains using this crossing. Valid values are:

- **AMTRAK** only
- **AMTRAK and Other** (commuter, tourist, etc.)
- **Other**, including commuter, tourist, etc.
- **None** (no passenger service)

Item 20. Average Passenger Train Count Per Day

Enter the average number of passenger trains using this crossing, per day, on a typical operating day. The value cannot exceed the total train count in Part II, Item 1, *Typical Number of Daily Train Movements, 1.A. Total Trains*. If the passenger type in Part I, Item 19, *Type of Passenger Service* is "None," then the passenger train count should be 0.

Item 21. HSR Corridor ID (State Supplied Information)

Enter the High Speed Rail (HSR) Corridor Identifying Code from the pre-identified list of corridor codes (if in question, contact FRA) if the crossing is located on such a corridor. This field is used to identify the "Section 1010" or “Section 1103" high-speed rail corridor on which the crossing is located.

FRA will provide the HSR ID and will assign a code for each corridor. Once assigned, States can modify records to add or delete crossings (e.g., when deleting a crossing, a State can remove code if crossing is not on the corridor).

Item 22. County Map. Ref. No. (State Supplied Information)

Enter the county map identification or other reference number provided by the highway agency to specifically identify the crossing on the street and road system. If it is not available, leave this entry blank.

Item 23. Latitude

Enter the crossing latitudinal coordinate as measured at the center of the crossing. This field, along with Longitude, is used to identify the crossing location using a standardized GPS location point. Latitude should be entered in decimal format (nn.nnnnnnn).

In order to convert latitude from degrees, minutes, seconds to decimal form:

Latitude in Decimal Format = Degrees + (Minutes divided by 60) + (Seconds divided by 3600)

Item 24. Longitude

Enter the crossing longitudinal coordinate as measured at the center of the crossing. This field, along with Latitude, is used to identify the crossing location using a standardized GPS location point. Longitude should be entered in decimal format (nnn.nnnnnnn). It will be processed as a negative value.

In order to convert longitude from degrees, minutes, seconds to decimal form:

Longitude in Decimal Format = Degrees + (Minutes divided by 60) + (Seconds divided by 3600)

Item 25. Lat/Long Source

Enter a check in the appropriate box to indicate the source of the Latitude and Longitude coordinates provided, "Actual" or "Estimated." Actual values are those where GPS measurements are taken at the crossing or determined by some other positive

identification method. Otherwise, the values are indicated as "Estimated." Latitude and Longitude values, in general, should be measured at the center of the highway-rail crossing.

Note: In 1997, FRA hired a contractor to determine the latitude and longitude (by interpolation) of about 80% of the crossings in the Nation. In January 1999, these values were inserted into the National file and are shown as "Estimated."

Item 26. Is there an Adjacent Crossing with a Separate Number?

Enter a check in the appropriate box to indicate whether or not there is an adjacent crossing with a separate number. If there is, enter the valid crossing number (6-digits followed by an alpha character).

Item 27 PRIVATE CROSSING INFORMATION

When the type of crossing is **Private**, this item must be completed.

Item 27.A. [Private Crossing] Category

Enter a check in the box which best describes the usage of the private crossing based on the following categories:

Category Descriptions:

Farm. A farm crossing is any crossing used for the movement of farm motor vehicles, farm machinery or livestock in connection with agricultural pursuits, forestry, or other land-productive purposes.

Residential. A residential crossing is any crossing used to provide vehicular access for residence owners.

Recreational. A recreational crossing is any crossing used to provide access to recreational areas.

Industrial. An industrial crossing is any crossing used to provide access to industrial plant facilities or other industrial areas.

Commercial. A Commercial crossing is any crossing used to provide access to privately owned commercial facilities that openly invite and solicit the general public as patrons (e.g., shopping centers and stores).

Item 27.B. [Private Crossing] Public Access

Enter a check in the box to indicate "Yes" if the private crossing is open to public access or "No" if it is not, or "Unknown" if it is not known.

Examples where "Yes" is appropriate are shopping centers, certain residential areas, fairgrounds, parks, schools, libraries, hospitals, clinics, airports, bus terminals, beaches, piers, boat launching ramps, and recreational facilities.

Item 27.C. [Private Crossing] Signs/Signals

Enter a check in the appropriate box(s) for the type(s) of crossing warning device. If signs and/or signals exist, enter a brief description in the spaces provided.

Items 28.A., 28.B., 28.C., and 28.D. Railroad Use

The railroad may enter text or data of its choice in these fields. No editing will be performed on these fields.

Items 29.A., 29.B., 29.C., and 29.D. State Use

The State may enter text or data of its choice in these fields. No editing will be performed on these fields. It is suggested that a State which has a separate PUC number for a crossing may wish to use one of the Item 29, *State Use*, fields for this purpose. (For those States that have used the RR I.D. field for this in the past, FRA will move that data to Item 29 if requested.)

Item 30. Narrative

Enter any narrative comments desired in this field. No editing will be performed on this field.

Item 31. Emergency Contact (Telephone No.)

Enter the telephone number (area code and phone number) for the Emergency Notification System Contact (e.g., Law Enforcement, Railroad Emergency Contact, or State Emergency Contact) associated with the crossing. Normally, this will be the ENS telephone number posted at the crossing or along the railroad branch line. This should be a 24-hour number that can be called to speak with an Emergency Notification Center who can send emergency

responder(s) to the crossing in the event of problems, signal malfunctions, or other emergencies at the crossing. (This might be performed as a mass update by contacting FRA.)

Item 32. Railroad Contact (Telephone No.)

Enter the telephone number (area code and phone number) of the railroad contact associated with the crossing. This would normally be the Railroad Inventory Contact or Public Project Coordinator. (This can be performed as a mass update by contacting FRA.)

Item 33. State Contact (Telephone No.)

Enter the telephone number (area code and phone number) of the State highway contact associated with the crossing. This may be the State Inventory Contact or the DOT Engineering Contact responsible for crossing improvement projects. (This can be performed as a mass update by contacting FRA.)

NOTE:	If the crossing is Public at-Grade, Parts II through V **must** be completed before the data can be entered into the file. For Private at-Grade crossings, complete or partial submittals are optional, but all submitted information will be entered into the file.

1.4 Part II: RAILROAD INFORMATION

Item 1. Number of Daily Train Movements

Item 1.A. Total Trains
Item 1.B. Total Switching Trains
Item 1.C. Total Daylight Thru Trains (6 AM to 6 PM)

Enter the number of the train movements through the crossing and the number of switching movements at the crossing, as follows:

Total Trains are the total of the number of through trains and switching trains (per day) through the crossing during normal railroad operating periods.

Total Switching Trains are the number of switching trains through the crossing (per day) during normal railroad operating periods.

Total Daylight Thru Trains are the number of through trains through the crossing between the hours of 6 AM and 6 PM.

Typical number of daily train movements means the normal or average daily train movements. "Through Trains" are trains whose primary responsibility is to move cars over the road, and there may be a limited number of pickups and setouts along the route.
Classify all others, (i.e., locals, industrial runs, switch engine) as switching movements. Include the total number of the train movements both for the reporting "operating" railroad and for any other railroad operating over the crossing.

Item 1.D. Check if Less Than One Movement Per Day

Enter a check in the box if train frequency is less than one train per day.

Item 2. Speed of Train at Crossing

Item 2.A. Maximum Time Table Speed

Enter the maximum time table speed in miles per hour (mph). This field must not be less than the value in Item 2.B, *Typical Speed Range Over Crossing*.

Item 2.B. Typical Speed Range Over Crossing

Enter the typical minimum speed ("from") over the crossing in miles per hour (mph). This must be less than the maximum time table speed in Item 2.A.

Enter the typical maximum speed ("to") over the crossing. This cannot be greater than the maximum time table speed in Item 2.A. and cannot be less than the typical minimum speed range.

Item 3. Type and Number of Tracks

Enter the number of main line tracks and specify the number and type of any "Other" tracks. A track is considered main if through trains operate on the track. If "Other," specify.

Item 4. Does Another RR Operate a Separate Track at Crossing?

Enter a check mark in the appropriate box to indicate if another railroad operates a separate track at the crossing. If "Yes," enter the FRA railroad code for all railroads that operate a separate track within the warning devices at the crossing. Up to four railroad codes, in codes of up to four characters each, may be entered in this field.

Item 5. Does Another RR Operate Over Your Track at Crossing?

Enter a check mark in the appropriate box to indicate if another railroad operates over the track at the crossing. If Yes, enter the FRA railroad code for all railroads that operate trains over the track at the crossing. Up to four railroad codes, in codes of up to four characters each, may be entered in this field.

1.5 Part III: TRAFFIC CONTROL DEVICE INFORMATION

Item 1. No Signs or Signals

Enter a check to indicate if no signs or signals are present. If no signs or signals are present, there is no need to complete Items 2 or 3.

Item 2. Type of Warning Device at Crossing - Signs.

NOTE:	If more than one type of warning device is present, indicate all applicable types of warning device(s). Provide short descriptions of "Other" devices in the appropriate spaces.

Item 2.A. Crossbucks

Enter the number of masts with crossbucks, not a count of all crossbuck signs. Two or more crossbucks mounted on a single mast are counted as one crossbuck. Include in the count all masts with crossbucks, without making a distinction as to the reflectivity type.

Item 2.B. Highway Stop Signs (R1-1)

Enter the number of Standard Highway Stop Signs (this is the MUTCD specified Stop Sign, R1-1). Enter a "9" where the number is 9 or greater. A standard highway stop sign is red with white letters and has eight sides as defined in the Manual on Uniform Traffic Control Devices (MUTCD).

Any other non-standard MUTCD stop signs should be listed in the field for "Other Signs."

Item 2.C. RR Advance Warning Signs (W10-1)

Enter a check in the appropriate box to indicate the existence of advance warning signs along the highway approaches that are in compliance with the MUTCD (normally, would be on both sides).

Item 2.D. Hump Crossing Sign (W10-5)

Enter a check in the appropriate box to indicate whether or not high profile hump surface signs are present at the crossing or such are scheduled for installation in the immediate future. The standard Advance Warning Signs for High-Profile Crossings is identified in the MUTCD as W10-5. Non-standard warning signs or advisories should be listed in "Other Signs."

Item 2.E. Pavement Markings

Enter a check in the appropriate box for each type of pavement marking present that conforms to the MUTCD. If both stop lines and RR crossing symbols are present, check both boxes. If neither stop lines nor RR crossing symbols are present, check "None."

Item 2.F. Other Signs

Enter the number and specify the type of any other passive signs at crossing. Specify MUTCD Type. Non-standard stop signs should also be reported in this item. Enter a "9" where the number is 9 or greater.

Item 3. Type of Warning Device at Crossing - Train Activated Devices

Item 3.A. Gates

Enter the count of gates. Include in the count all gates without making a distinction as to the color or reflectivity of the gate or arms.

Item 3.B. Four-quadrant (or full barrier) Gates

Enter a check in the appropriate box to indicate whether or not four-quadrant (or full barrier) gates are present at the crossing. Full barrier gates apply in the case of 1-way streets or where the gate arms reach across the entire roadway.

Item 3.C. Cantilevered (or Bridged) Flashing Lights

Enter the number of cantilevered (or bridged) flashing lights in the appropriate block. Separate cantilevered flashers from those over traffic lanes and those not reaching the roadway (over only parking lanes, turnout lanes, or shoulders). Count individual cantilever units; do not count the flasher head pairs mounted on the units. Enter a "9" where the number is 9 or greater.

Item 3.D. Mast Mounted Flashing Lights

Enter the number of mast mounted flashing light units. Count all flashers on a single mast as one flasher. Do not count flasher heads or a pair of flashing lights separately.
Enter a "9" where the number is 9 or greater.

Item 3.E. Number of Flashing Light Pairs

Enter the total number of pairs of flashing lights mounted on signal masts in Item 3.D. and on cantilever (or bridge) units in Item 3.C. and/or on other masts or poles.

Item 3.F. Other Flashing Lights

Enter the number of other flashing lights not in accordance with the MUTCD. Enter a "9" where the number is 9 or greater. Specify type.

Item 3.G. Highway Traffic Signals

Enter the number of highway traffic signals (red-yellow-green signals) that are train activated and which control street traffic over the crossing. Do not count highway signals controlling a nearby intersection even if they are interconnected with the crossing devices.
Enter a "9" where the number is 9 or greater.

Item 3.H. Wigwags

Enter the number of wigwag signals. Enter a "9" where the number is 9 or greater.

Item 3.J. Bells

Enter the number of all bells, if present, that are either alone or in conjunction with other train activated warning devices. Enter a "9" where the number is 9 or greater.

Item 3.K. Other Train Activated Warning Devices

List any train activated devices not otherwise specified, such as an arrester net, dragnet or other new technology.

Item 4. Specify Special Warning Device NOT Train Activated

Enter the type of any special warning device which is not train activated. Examples of special warning devices not train activated are:

a. Manually operated signals and/or gates
b. Train crew flagging the crossing
c. Watchmen
d. Floodlights (may be train activated)

For watchmen and for manually operated gates, the number of hours daily in effect should also be indicated. For floodlighting, the number of masts with lights should be reported. Only floodlighting which is distinctive from other ordinary street lighting in intensity, light distribution, focus or color is to be reported.

Item 5. Channelization Devices With Gates

Enter a check in the appropriate box to indicate whether or not there are channelized devices (i.e., median barriers) with gates at the crossing. If channelized devices are present, indicate if they are on all approaches or just one approach.

Item 6. Train Detection

Enter a check to indicate type of train detection used at the crossing. Choices are:

- Constant Warning Time (or Predictors)
- Motion Detectors
- DC/AFO
- Other
- None

The following apply to active crossings only: Constant Warning Time, Motion Detectors, DC/AFO, or Other. If the crossing is not active, "None" should be checked.

NOTE: This item, *Train Detection*, replaces Part II, Item 8, *Does Crossing Signal Provide Speed Selection for Trains?* (Yes, No, N/A) that was on the previous version of the inventory form (Form FRA F 6170.71 (8-84)). Data in the system provided for *Does Crossing Signal Provide Speed Selection for Trains?* was converted (on or before November 1, 2000) as follows:

Speed Selection (Previous Values)	**Train Detection (Converted Values)**

Yes	—>	CWT
No	—>	DC/AFO
N/A	—>	None

None of the data was converted to Motion Detectors or Other.

Item 7. Signalling for Train Operation: Is Track Equipped with Train Signals?

Enter a check to indicate whether the track has train operation or interlocking signals to control train operations.

Item 8. Traffic Light Interconnection/Preemption

Enter a check in the appropriate box to indicate the type of crossing interconnection/ preemption.

DEFINITIONS:

The following are definitions for highway and rail signal interconnections. The definitions which are in italics are those defined by the Technical Working Group (TWG) on Rail-Highway Intersections:

1. ***Interconnection:*** *The electrical connection between the railroad active warning system and the traffic signal controller assembly for the purpose of preemption.*

   Interconnection consists of an electrically connected control circuit at a highway-rail intersection which has railroad active warning devices utilizing a supervised closed-circuit principle activated by the approach or presence of a train and which is used to preempt the normal operation of a highway traffic signal.

2. ***Preemption****: The transfer of the normal operation of traffic signals to a special control mode.*

   Preemption is the activity when, as a result of a signal received from the railroad active warning device system, the normal operation of a highway traffic signal is interrupted and transferred to a specific programmed sequence.

3. ***Simultaneous Preemption****: The notification of an approaching train is forwarded to the highway traffic controller unit or assembly and the railroad active warning devices at the <u>same time</u>.*

Simultaneous Preemption is the activity when the highway traffic signal controller receives notice from the interconnection control circuitry and is activated at the same time as the railroad active warning system. Usually, this will be used to prohibit highway vehicular traffic from traversing through the crossing intersection.

4. ***Advanced Preemption****: The notification of an approaching train is forwarded to the highway traffic controller unit or assembly by the railroad equipment for a period of time prior to activating the railroad active warning devices.*

   Advance Preemption is the activity when the highway traffic signal controller receives notice from the interconnection control circuit before the railroad active warning system is activated (usually 20-25 seconds before train arrival) to interrupt the signal's normal operation to begin its specific programmed sequence. Usually, this will be used to move the highway vehicular traffic through a storage area between the highway-rail intersection and the highway-highway intersection well before the railroad active warning devices start to operate to clear the crossing and eliminate the potential of vehicular entrapment on the crossing.

Items 9-12. Reserved for Future Use

These items are reserved for future use. No input required.

1.6 Part IV: PHYSICAL CHARACTERISTICS

Item 1. Type of Development

Enter a check in the appropriate box which best describes the predominant type of development in the vicinity (up to 1000 feet) of the crossing based on the following categories:

1. **Open Space**. Sparsely or undeveloped, lightly populated, or agricultural.
2. **Residential**. Built-up residential area.
3. **Commercial**. Retail stores and businesses, offices, personal services.
4. **Industrial**. Manufacturing, construction, heavy products, factories, and warehouses.
5. **Institutional**. Schools, churches, hospitals, parks, and other community facilities.

Item 2. Smallest Crossing Angle

Enter a check in the appropriate box which most closely describes the smallest angle between the highway and the track. (The angle may be estimated by eye or with a simple device, such as a protractor.)

Item 3. Number of Traffic Lanes Crossing Railroad

Enter the number of through traffic lanes crossing the track. Do not include shoulders or lanes that may be used for parking.

Item 4. Are Truck Pullout Lanes Present?

Enter a check in the appropriate box for special added lanes provided to accommodate commercial vehicles which are required to stop at the crossing.

Item 5. Is Highway Paved?

Enter a check in the "Yes" box if the highway is paved with material on which pavement markings can be effectively maintained. Enter a check in the box preceding "No" if the highway surface is gravel, dirt, or has a surface treatment on which markings cannot be maintained.

Item 6. Crossing Surface (on main line)

Enter a check in the appropriate box which most closely fits one of the following descriptions. If there are multiple tracks which have different types of surfaces, indicate the lower grade surface material on the Inventory Form.

1. **Timber.** Includes Sectional Treated Timber and Full Wood Plank:

   Sectional Treated Timber is prefabricated units approximately 8 feet in length of treated timber individually installed and removable for maintenance and replacement purposes. **Full Wood Plank** is a timber surface which covers the entire crossing area above the crossties, made of ties, boards, bridge ties, etc.

2. **Asphalt**. Asphalt surface over the entire crossing area.

3. **Asphalt and Flange.** Asphalt surface in the area between flange timber planks or other material forming flangeway openings which may include the use of rubber.

4. **Concrete.** Includes Concrete Slab and Concrete Pavement.

   Concrete Slab is precast concrete sections which are usually individually installed and removable for maintenance and replacement purposes. **Concrete Pavement** is a

concrete surface which is continuous over the track area and is not removable except by destruction of the surface.

5. **Concrete and Rubber.** An installed crossing surface which consists of both concrete and rubber materials.

6. **Rubber**. Preformed rubber sections which are usually individually installed and removable for maintenance and replacement purposes.

7. **Metal.** Includes Metal Sections and Other Metal.

   Metal Sections are sections of steel or other metal which are usually individually installed and removable for maintenance and replacement purposes. **Other Metal** includes other metal materials which are usually not removable in sectional units which provide complete coverage of the crossing area within the track.

8. **Unconsolidated**. Ballast or other unconsolidated material placed over crossties, with or without planks, on one or both sides of the running rails.

9. **Other** (Specify). Surfaces other than the previously described surfaces and would include structural foam, plastic, "high-tech," etc.

Note: On or before November 1, 2000, the Crossing Surface data was converted as follows:

New Categories	**Old Categories**
1. Timber	Sectional Treated Timber (1) and Full Wood Plank (2)
2. Asphalt	Asphalt (3)
3. Asphalt and Flange	(New)
4. Concrete	Concrete Slab (4) and Concrete Pavement (5)
5. Concrete and Rubber	(New)
6. Rubber	Rubber (6)
7. Metal	Metal Sections (7) and Other Metal (8)
8. Unconsolidated	Unconsolidated (9)
9. Other (Specify)	Other (0)

Item 7. Does Track Run Down a Street?

Enter a check in the appropriate box for whether the crossing involves a railroad track which is parallel to and within a street or highway.

Item 8. Nearby Intersecting Highway?

Enter a check in the appropriate box for whether the street or highway at this crossing is intersected by another street or highway and at what approximate distance from the crossing.

Valid values are:

Yes, within 500 feet	=	Less than 75 feet; 75 to 200 feet; 200 to 500 feet
No, or greater than 500 feet	=	N/A

Note: Conversion of data previously entered is:

Yes –> Less than 75 feet
No –> N/A

Is it Signalized?

Enter a check mark (Yes or No) to indicate if the nearby intersecting highway contains traffic signals.

Item 9. Is Crossing Illuminated?

An Illuminated Crossing is defined as when overhead street lighting provides reasonable illumination of trains present at the crossing and is within approximately 50 feet of the crossing. If street lights are present within 50 feet of the nearest rail, the "Yes" box should be checked. Since street lamp light-intensity can vary, sufficient lighting may be present for street lights located up to 100 feet from the crossing.

Item 10. Is Commercial Power Available?

Enter a check to indicate if there is commercial electric power available within 500 feet of the crossing.

Item 11. Space Reserved for Future Use

This item is reserved for future use. No input is required.

1.7 Part V: HIGHWAY INFORMATION

Item 1. Highway System

Enter a check for the correct highway system code.

The Highway System Codes for the National Highway-Rail Crossing Inventory File were revised as a result of the 1991 Intermodal Surface Transportation Efficiency Act, (ISTEA) Section 1006. ISTEA required the redefinition of the National Highway System (NHS) which is included in the total Federal-Aid Highway (FAH). The three classifications are: (1) National

Highway System, (2) Other Federal-Aid Highway, and (3) Non-Federal-Aid. The National Crossing Inventory File uses this classification, but subdivides the National Highway System into "Interstate" and "Other NHS."

The Highway System Codes are listed in the following table.

Code	Definition	Included
1	Interstate National Highway System	Interstate, rural, and urban
2	Other National Highway System	Other urban and rural principal arterial, Non Interstate
3	Other Federal-Aid Highway, Not NHS	Rural major collector and higher category, or urban collector and higher category, not part of NHS
8	Non Federal Aid	Local rural roads, rural minor collectors, and local urban city streets or any other non-Federal-Aid roadway

Table 1-1. Highway System Codes

Item 2. Is Crossing on State Highway System?

Enter a check in the appropriate box to indicate whether (or not) the crossing is on a State highway system.

If "Yes" is indicated, be sure that the *Highway Type and Number* are entered in Part I (Item 14).

Item 3. Functional Classification of Road at Crossing

Enter the appropriate code for the highway functional classification which the State has determined in accordance with the Federal-Aid Highway Program Definitions. The current functional classification codes are listed in Table 1-2.

Category	Codes	Functional Classification
Rural	01	Interstate
Rural	02	Other principal arterial
Rural	06	Minor arterial
Rural	07	Major collector
Rural	08	Minor collector
Rural	09	Local

Category	Codes	Functional Classification
Urban	11	Interstate
Urban	12	Other freeway and expressway
Urban	14	Other principal arterial
Urban	16	Minor arterial
Urban	17	Collector
Urban	19	Local

Table 1-2. Functional Classification Codes

NOTE: The tens digit for the Rural codes must be "0" and for Urban must be "1".

Item 4. Posted Highway Speed

Enter the posted highway speed at the crossing. The "Posted Speed" is defined as the assigned roadway speed limit. Where no speed signage exists, the State's statutory speed limit would apply.

Item 5. Annual Average Daily Traffic (AADT)

Enter the annual average daily traffic (total both directions) based on available traffic information. A reasonable estimate of the AADT is acceptable if actual traffic counts are not readily available. Enter the year which matches the AADT data supplied.

Item 6. Estimate Percent Trucks

Enter the estimated percentage of trucks in the traffic stream.

Item 7. Average Number of School Buses Over Crossing per School Day

Enter the daily average number of scheduled school buses passing over the crossing on a normal school day. Back and forth counts as 2.