

## 4.0 INVENTORY UPDATE PROCEDURES

### 4.1 General

The procedures for updating the National Inventory File are applicable to public, private and pedestrian crossings, whether at grade or grade separated. These procedures are designed to insure availability and use of an up-to-date highway-rail crossing data base with uniform and consistent data collection criteria and a uniformity in the procedures used by States and railroads.

The procedures are based on the concept that the State transportation agency should be the party who forwards all data item changes for any and all crossings to the FRA. This is consistent with the sequence of steps followed during the initial inventory. The steps are railroad to State to FRA. Or in situations where the State agency (rather than a railroad) initiates crossing changes, the sequence is State to railroad to State to FRA.

The process requires a continuing, cooperative effort between the States and railroads because only one may have changes to report, yet both need to review and update their respective crossing records. Channels of communication need to be established whereby such information is provided to the appropriate individuals in the railroad companies and the State transportation agencies.

There are five types of update formats which may be submitted. These are:

- a. U.S. DOT-AAR Crossing Inventory Form
- b. Mass Update Form
- c. Inventory Computer Printout
- d. Magnetic Tape
- e. GX Computer Program

Examples of the different types of forms upon which changes and corrections may be submitted are shown in Figure 4-1. At the top is the "Inventory Computer Printout," on the right in the middle of the page is the "U.S. DOT-AAR Crossing Inventory Form," and the fill-in-the-blanks Mass Update Form is at the bottom. Section 5.0 of this manual addresses the use of the Mass Update Forms. Use of the Inventory Computer Printout for mark-up is discussed and illustrated at the end of this section. Section 6.0 of this manual explains how updates may be submitted on magnetic tape.

Changes may also be submitted on floppy disk using the GX computer program. If the changes are submitted on the GX disks by a railroad, the railroad should send a copy of the transmittal letter to the State (contact person) and the FRA to notify them that a change has been submitted via GX disk. This notifies the State that in 2 or 3 months they can receive a



GX update of this material after it has been added to the National File. The same applies to a State that submits changes. The State should notify the railroads involved and the FRA by sending a copy of the transmittal letter. Section 7.0 of this manual describes the use of the GX Programs.

This section, Section 4 of this manual, emphasizes the procedures involved for submitting updates via the U.S. DOT-AAR Crossing Inventory Form.

#### 4.2 Inventory Form

The U.S. DOT-AAR Crossing Inventory Form FRA F6180.71 (OMB-004-R4039) (see Figure 1-1) is used for providing data to initiate new crossings or changes to the Highway-Rail Crossing Inventory. The inventory forms are four-part forms with a self-carbon feature. This form is used for reporting all types of changes, including the establishment of a new crossing, closing of an existing crossing, or changes in the characteristics of a crossing. Detailed instructions for completing the form are given in Section 3.0. The form does not provide space for comments. Should comments or explanation regarding a crossing be considered necessary or useful, a separate sheet should be used and attached to the form.

While changes and corrections may be submitted using other formats, new crossings must always be submitted on the Inventory Form. When Parts I, II and III have been completed by the railroad, the top three copies must be forwarded to the State for completion of Part IV. It is suggested that FRA be sent a copy of the transmittal correspondence.

Railroads and State highway agencies may obtain needed forms from the FRA. The address is:

Federal Railroad Administration  
Office of Safety  
Highway-Rail Crossing and Trespasser Programs Division  
400 7th Street, S.W. (RRS-23)  
Washington, D.C. 20590

#### 4.3 Data Items

Each data element contained on the inventory form is considered to be one of three categories: administrative, physical, or operational. The following tables contain the data elements comprising the three categories. The tables also indicate the agency that is expected to be most aware of any changes to those data elements and which would normally initiate the update process.

Table 4-1 lists the administrative data elements, which pertain to the management and jurisdiction of the crossing. Changes in administrative data elements (such as division, subdivision names, etc.) usually occur because of an administrative action by a railroad. A State agency may also make decisions that would result in changes in certain administrative elements. Thus, the appropriate agency should initiate the update process when changes occur.

Item No.	Element Name	Agency
I-4	State	State Highway or Railroad
I-5	County	State Highway or Railroad
I-6	County Map Reference	State Highway or Railroad
I-7	City	State Highway or Railroad
I-8	Nearest City	State Highway or Railroad
I-9	Highway Number	State Highway or Railroad
I-10	Street or Road Name	State Highway or Railroad
IV-1	Highway System	State Highway
IV-2	Crossing on State System	State Highway
IV-3	Functional Class	State Highway
I-1	Railroad Company	Railroad
I-2	Railroad Division	Railroad
I-3	Railroad Subdivision	Railroad
I-11	Railroad I.D. Number	Railroad
I-12	Timetable Station	Railroad
I-13	Branch or Line Name	Railroad
I-14	Railroad Milepost	Railroad
II-5	Another Railroad?	Railroad
I-15	Pedestrian Crossing	State Highway or Railroad
I-16	Private Vehicle Crossing	State Highway or Railroad
I-17	Public Vehicle Crossing	State Highway or Railroad

Table 4-1. Administrative Data Elements

The physical items describe the crossing configuration. Changes to physical characteristics generally occur as a result of construction activity by a railroad or State. The authority for the work usually is in the form of a contract, work order, etc. An update must be submitted by the proper agency when any of these data elements change. Table 4-2 lists the physical data elements.

Item No.	Element Name	Agency
II-3	Type, Number Tracks	Railroad
II-4	Separate Track/Other Railroad	Railroad
II-6	Type of Warning Device	Railroad or State Highway
II-7	Commercial Power?	Railroad or State Highway
II-8	Speed Selection Provided	Railroad
II-9	Signals for Train Control	Railroad
III-8	Crossing Surface	Railroad or State Highway
III-1	Development	State Highway
III-2	Crossing Angle	State Highway or Railroad
III-3	Number Traffic Lanes	State Highway or Railroad
III-4	Truck Pullout Lanes	State Highway
III-5	Is Highway Paved?	State Highway or Railroad
III-6	Pavement Markings	State Highway or Railroad
III-7	Advance Warning Signs	State Highway

Table 4-2. Physical Data Elements

The operational items pertain to the use of the crossing by railroads. It is recognized that the values of the operational data elements (e.g., number of trains, speeds, etc.) may change over a period of time. Whenever the changes are made or become known, the data elements should be updated. Table 4-3 lists the operational data elements.

Item No.	Element Name	Agency
II-1	Daily Train Movements	Railroad
II-2	Maximum Train Speed/Crossing	Railroad
IV-4	Estimated AADT	State Highway
IV-5	Estimated Percent Trucks	State Highway

Table 4-3. Operational Data Elements

#### 4.4 Railroad and State Agency Update Submission Procedures

There are three situations which require the reporting of changes by a railroad or State highway agency. These situations are as follows:

- a. When one or more of the physical, operational, or administrative characteristics of an existing crossing change,
- b. When a new crossing is opened, and
- c. When an existing crossing is closed.

**IMPORTANT NOTE:** In all cases when an update form is prepared, the items in Table 4-4 must be provided in addition to the items being updated.

Section	Item No.	Item
Heading	A	Initiating agency
Heading	B	Crossing number
Heading	C	Type of update
Heading	D	Effective date
Part I	1	Railroad operating company
Part I	4	State
Part I	5	County

Table 4-4. Required Update Items

Only the data items being updated, i.e., those items for which a value is being changed from the existing records, are to be entered in the appropriate place on the form. These items should then be circled.

The steps necessary to process an update are shown in Figures 4-2 and 4-3. The primary responsibility for submitting the data changes to the FRA lies with the State agencies; however, the railroad has responsibility for submitting updates to the State. The sequence for submitting updates is shown in Figures 4-2 and 4-3, depending upon whether the update is initiated by the railroad or the State agency.

RAILROAD INITIATED

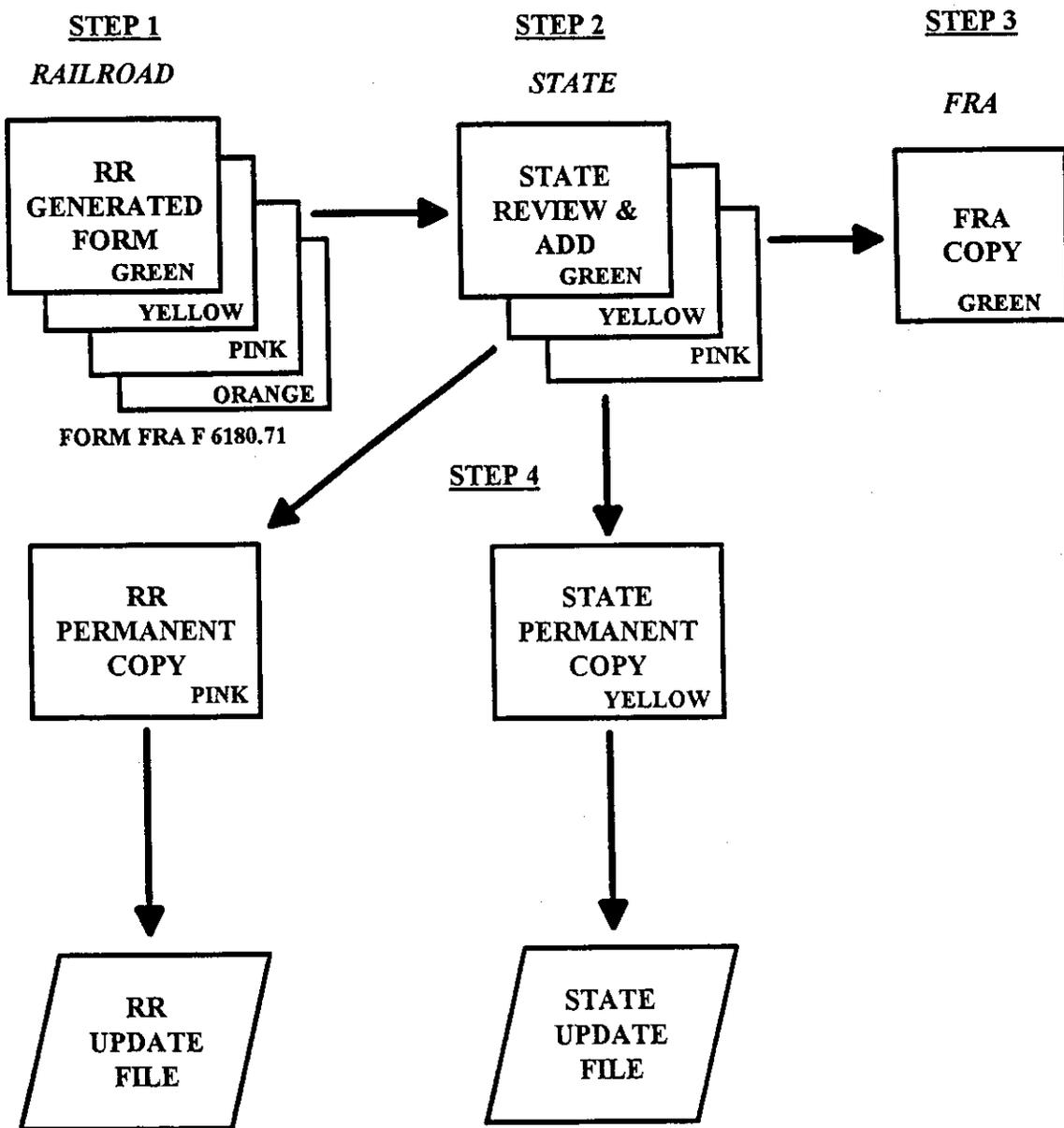


Figure 4-2. Railroad Initiated Update

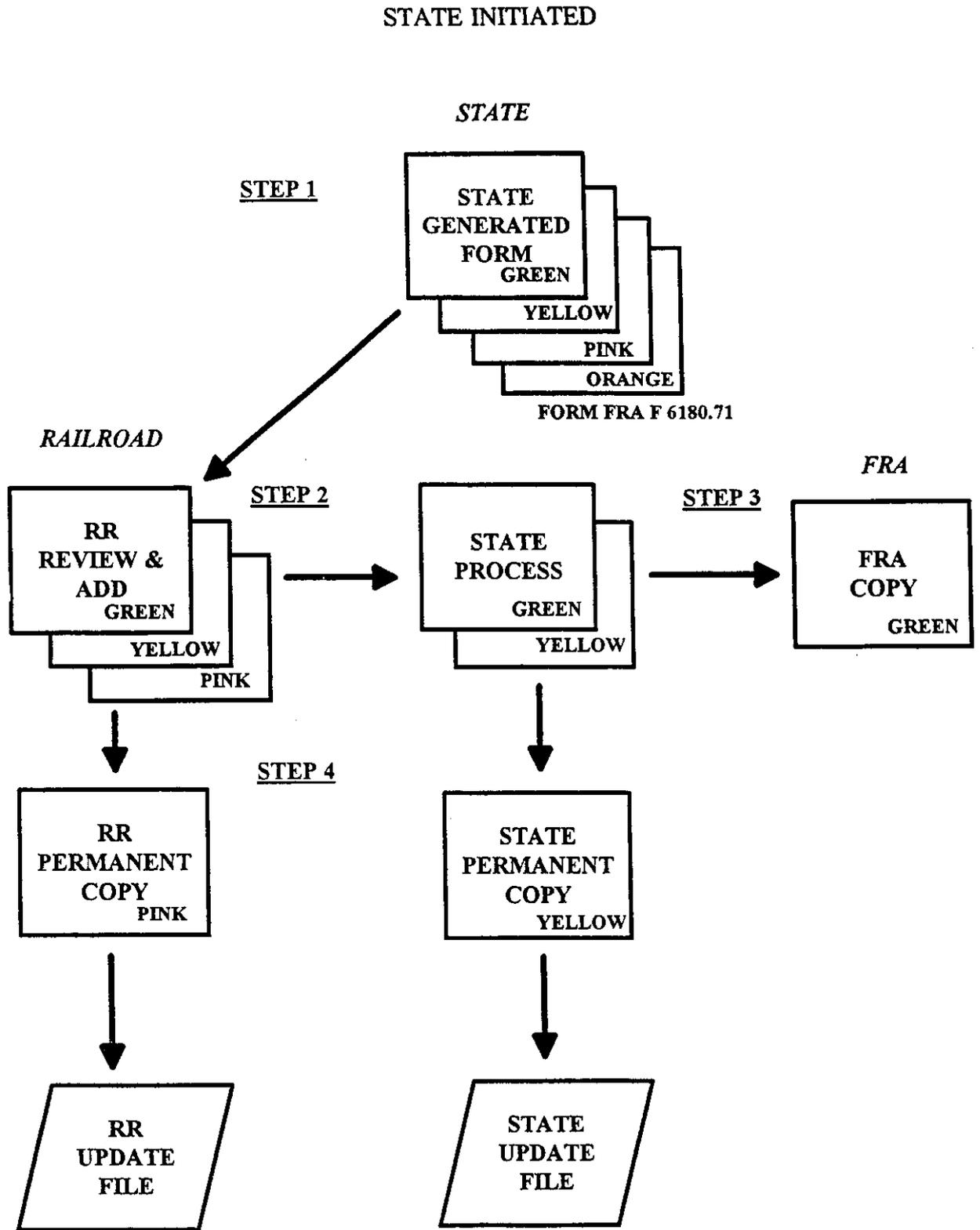


Figure 4-3. State Agency Initiated Update

Depending upon the data element(s) involved (see Tables 4-1, 4-2, and 4-3), either a State or a railroad should initiate the update form. Unless otherwise mutually agreed by the State and the railroad, the party initiating an update should be in accordance with these tables.

As has previously been explained, an update form should be initiated when one or more of the physical, operational, or administrative characteristics change (see Tables 4-1, 4-2, and 4-3). Physical characteristic changes generally occur as a result of a construction activity. Changes in administrative data elements usually occur because of an administrative action on the part of the State highway agency or a local jurisdiction. Operational data elements may change significantly annually or over a period of time (e.g., traffic counts, percent trucks, pavement markings, etc.). The procedures of the State should be such that these items are updated at least every 3 years. However, whenever the changes become known, the data elements should be immediately updated.

When a new crossing is opened, Form FRA F 6180.71 must always be used to report the inventory information. The process is the same as for the process just described for reporting changes. The railroad/State needs to complete an update form for the new crossing and assign a valid crossing number. Crossing numbers can be obtained from the FRA (see Section 2.0). The railroad/State must also install the crossing identification number at the crossing and it is strongly recommended that it be installed on both sides of the crossing. If the crossing is public, the form must be completely filled out. If the crossing is private or grade separated, only Part I of the form must be completed. The railroad/State should initiate the update by completing a form and routing it according to Figure 4-2 or 4-3, whichever applies.

The sequence of steps to be followed when a crossing is reported closed is the same as for the submissions for changes and additions.

When a railroad initiates an update submission, the flow process is as pictured in Figure 4-2. The railroad will complete a four-part form, retaining the bottom (orange) copy, and forwarding the top three copies to the appropriate State agency (Step 1). The State agency will review the form, adding any changes necessary, and return a copy (pink) to the railroad for use in updating its records (Step 4). The top copy (green) will be forwarded by the State agency to FRA for processing into the National File.

**The State agency should carefully review the forms to insure that the location information is correct and that the State concurs in the railroad's classification of the crossing as public or private.** The State agency and the railroad must reach agreement regarding the crossing classification, prior to forwarding the inventory form to the FRA.

**The State highway agency should review other parts of the completed form for a new public crossing to insure that the data shown agrees with its records.**

After the railroad has received the final copy (pink) of the completed four-part form set from the State highway agency, for all types of submissions (i.e., add, change, or delete), the railroad should update its records. This may consist of placing the pink update form in its proper place in a file cabinet, and/or entering the information into a computerized data base.

When the State is responsible for initiating the update submission, the flow will be as shown in Figure 4-3. The State will send three copies of the form to the railroad. Whenever a form set (three copies) for a crossing is received by the railroad from a State agency, existing data elements for the crossing should be reviewed, particularly the railroad operational items, although other items also should be checked. If it is known that the values for these items have changed, efforts should be made to determine the current values and they should be entered on the form. Two copies (green and yellow) of the form will then be returned to the State agency, with one copy (pink) being retained for the railroad's permanent records.

This process provides the opportunity to update all data elements of a crossing that may have changed. The items involved in these situations probably will be the operational items, but could include other administrative or physical items. If there is any doubt about whether a change has been reported previously, it should be included at this time.

Routing of the four-part forms will be the same as just described for adds, changes, and deletions.

**NOTE:** The State agency has the primary responsibility for submittal of forms to FRA, including the top (green) copy of the four-part form.

The top (green) copy of the four-part form should be sent to:

Federal Railroad Administration  
Office of Safety  
Highway-Rail Crossing and Trespasser Programs Division  
400 7th Street, S.W. (RRS-23)  
Washington, D.C. 20590

#### 4.5 Summary of Completed Inventory Form Handling Procedures

Forms submitted by railroads and States need to have the changes circled in accordance with the instructions (reference Section 4.4 of this manual). Please double check submittals to insure that any and all changed items are circled.

When the forms are completed and reviewed, including resolution of any discrepancies between railroad and State agency information, they are to be handled in the following manner:

- a. Initially, for railroad completed inventory forms, the railroad shall mail the top three copies to the State contact (see Appendix A). If possible, include county maps with the crossing identified by location and number. The railroad should keep the fourth (orange) copy for its interim records.
- b. Initially, when the State agency has completed the inventory form, they will mail the top three copies to the railroad.
- c. The final distribution of the color copies of the inventory form is as follows:
  1. Green Copy. This copy is to be forwarded by the State agency to the FRA.
  2. Yellow Copy. This copy is to be retained by the State DOT.
  3. Pink Copy. This copy is to be retained by the railroad.
  4. Orange Copy. This copy is to be retained temporarily by the railroad or State agency, whichever is initiating the update form, and destroyed when the permanent pink or yellow copy is received.

It is suggested that a cover letter accompany each group of update forms shipped. This letter should include the total number of forms included in the mailing and broken down according to private, pedestrian, grade separation, and public at-grade crossings, and the crossing numbers submitted.

Completed inventory forms for transmittal to the FRA (green copies only) should be sent to the following address:

Federal Railroad Administration  
Office of Safety  
Highway-Rail Crossing and Trespasser Programs Division  
400 7th Street, S.W. (RRS-23)  
Washington, D.C. 20590

#### 4.6 One-party Submissions

If a State or railroad initiates update forms and the other party does not review the forms and provide its update information within a reasonable time, the initiating party may make a one-party submission to the FRA. Instead of sending the green, yellow, and pink copies of the

update form to the other party, the green copy can be sent directly to the FRA and the yellow or pink copy, as appropriate, would be sent to the other party. The letter of transmittal to the FRA should explain that it is a one-party submission and that the other party has been sent the appropriate copy of the update form. However, this procedure should only be used if, after repeated attempts, the other party does not review and return forms within a reasonable time (usually 3 months maximum).

#### 4.7 Inventory Computer Printout Mark-up

When there are a few simple corrections that need to be made, such corrections can be indicated directly on the Computer Inventory Printout, circled in red pen (or high-lighted), effective date indicated, and returned to the FRA for processing. A copy needs to be sent to the appropriate State or railroad.

This procedure should only be used for direct numerical or word replacements and when only a few updates are involved. An example of this process and the procedure is shown in Figure 4-3.

Figure 4-4 is a sample of what one State uses as a checklist of guidelines for their inspectors to use when marking up the computer printouts or completing the Inventory Forms.

#### 4.8 Overview of Update Processing at FRA

All Inventory File update submissions are received by FRA, where a cursory review of the submissions is performed. After the review is accomplished, FRA forwards the submissions by courier to the contractor for processing. A flow chart showing an overview of the current GCIS processing is contained in Figure 4.5. The major steps comprising the update processes are as follows:

- Updates to the Inventory are received either on hard copy format (inventory forms or fill-in-the-blanks) or magnetic media (9-track tape or GX format on diskettes).
- Hard copy updates are sorted and batched manually. Updates on magnetic media are sorted and assigned batches programmatically.
- A rapid scan of the hard copy documents is performed to identify records which are ineligible for updating because of missing or invalid mandatory source data.
- Updates on inventory forms and printouts are key entered into the system.
- All source data is fully edited and validated and exceptions are "Suspended" for resolution.

U.S. DOT-AAR CROSSING INVENTORY INFORMATION  
AS OF 12/09/93  
FOR THE STATE OF SOUTH CAROLINA

CROSSING NUMBER: 71656X EFFECTIVE BEGIN-DATE OF RECORD: 08/30/93

PART I LOCATION AND CLASSIFICATION OF ALL CROSSINGS

RAILROAD: NORTH SUBURBAN MASS TRANSIT  
STATE: SOUTH CAROLINA  
NEAREST CITY: JONESVILLE  
STREET OR ROAD NAME: PINE NEEDLE ST  
NEAREST RR TIMETABLE STN.: JONESVILLE  
CROSSING TYPE AND PROTECTION: PUBLIC AT GRADE  
DIVISION: DELEWARE  
COUNTY: UNION  
IRNY TYPE AND NO.: S44  
RAILROAD I.D. NO.:  
BRANCH OR LINE NAME: W  
SURDIVISION: SPTRG TO COLA  
COUNTY MAP REF. NO.: 44  
FRA RR NETWORK LIC: S0311  
RAILROAD MILEPOST: 84.70

3/7/94

NORTH

160

PART II DETAILED INFORMATION FOR PUBLIC VEHICULAR AT GRADE CROSSINGS

TYPICAL NUMBER OF DAILY TRAIN MOVEMENTS: 2 DAY THRU 0 DAY SWITCHING 2 NIGHT THRU 0 NIGHT SWITCHING  
SPEED OF TRAIN AT CROSSING: MAXIMUM TIMETABLE SPEED 45 TYPICAL SPEED RANGE OVER CROSSING FROM 00 TO 75 MPH  
TYPE AND NUMBER OF TRACKS: 1 MAIN 0 OTHER  
DOES ANOTHER RR OPERATE A SEPARATE TRACK AT CROSSING? NO  
DOES ANOTHER RR OPERATE OVER YOUR TRACK AT CROSSING? NO  
TYPE OF WARNING DEVICE(S) AT CROSSING 0 NON-REFLECTORIZED CROSSBUCK(S)  
SIGNS: 2 REFLECTORIZED CROSSBUCK(S) 0 OTHER STOP SIGN(S)  
0 STANDARD HIGHWAY STOP SIGN(S) 0 OTHER SIGNS:

TRAIN ACTIVATED DEVICES: NONE  
SPECIAL WARNING DEVICES NOT TRAIN ACTIVATED: NONE  
IS COMMERCIAL POWER AVAILABLE? YES  
DOES CROSSING SIGNAL PROVIDE SPEED SELECTION FOR TRAINS? N/A  
METHOD OF SIGNALING FOR TRAIN OPERATION: IS TRACK EQUIPPED WITH SIGNALS? NO

PART III PHYSICAL DATA

TYPE OF DEVELOPMENT: RESIDENTIAL  
SMALLEST CROSSING ANGLE: 60 TO 90 DEGREES  
NUMBER OF TRAFFIC LANES CROSSING RAILROAD: 1  
ARE TRUCK PULLOUT LANES PRESENT? NO  
IS HIGHWAY PAVED? YES  
PAVEMENT MARKINGS: NO PAVEMENT MARKINGS  
ARE RR ADVANCE WARNING SIGNS PRESENT? YES  
CROSSING SURFACE: ASPHALT  
DOES TRACK RUN DOWN A STREET? NO  
NEARBY INTERSECTING HIGHWAY? YES

YES

PART IV HIGHWAY DEPARTMENT INFORMATION

HIGHWAY SYSTEM: NON-FEDERAL-AID  
IS CROSSING ON STATE HIGHWAY SYSTEM? NO  
FUNCTIONAL CLASSIFICATION OF ROAD OVER CROSSING: RURAL: LOCAL  
ESTIMATED AADT: ~~990005~~  
ESTIMATED PERCENT TRUCKS: 02

6300

Figure 4-3. Inventory Computer Printout Mark-Up Procedure

## FIELD INSPECTORS GUIDELINES AND CHECKLIST

INITIAL THE UPPER LEFT CORNER OF THE FORM  
 WRITE "TAGGED" OR "NO TAG" IN UPPER RIGHT CORNER (referring to the crossing number tag)  
 IF CLOSED, WRITE "CLOSED" IN THE UPPER RIGHT CORNER  
 [A "CLOSED" crossing is one that a train or a motorized vehicle is unable to access]

CROSSING NUMBER (Verify against tag is one is posted.)  
 EFFECTIVE BEGIN-DATE OF RECORD Use today's date unless one of the following occurs:  
 [No changes made = 1/1/94] - this shows verification of the crossing information.  
 [Gates and lights installed - date of service]

## PART I

COUNTY \_\_\_\_\_  
 CITY \_\_\_\_\_  
 NEAREST CITY [When crossing is not in a city you must note the nearest city.]  
 HWY TYPE AND NUMBER [ie: SR, CR, IR, US]  
 STREET OR ROAD NAME [Verify with street sign]  
 CROSSING TYPE AND PROTECTION \_\_\_\_\_  
 PEDESTRIAN - CHOOSE ONE --->[At Grade, RR Under, RR Over]  
 PRIVATE - CHOOSE ONE --->[Farm, Residential, Recreational, Industrial]  
 - CHOOSE ONE --->[At Grade, RR Under, RR Over]  
 - CHOOSE ONE --->[Signs (SPECIFY), Signals (SPECIFY), None]  
 PUBLIC - CHOOSE ONE --->[At Grade, RR Under, RR Over]

## PART II

NUMBER OF TRACKS \_\_\_\_\_  
 TYPE OF WARNING DEVICES AT CROSSING \_\_\_\_\_  
 CROSSBUCKS - Count 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.  
 Also count crossbucks on cantilevers.

\*\*\*\*\*  
 \* SPECIFY IF THEY ARE \*  
 \* NO SIGNS OR SIGNALS \*  
 \*\*\*\*\*

CANTILEVERED FLASHING LIGHTS - Separate cantilevered flashers from those over traffic lanes and those not reaching the roadway or over only parking lanes, turnout lanes, or shoulders.

MAST MOUNTED FLASHING LIGHTS - Count all flashers on a single mast as one flasher. Do not count flasher heads or a pair of flashing lights separately, EXCEPT WHEN FLASHER HEADS, ALTHOUGH A PAIR, ANOTHER DOWN MAIN ST., ANOTHER DOWN SIDE ST.)

OTHER FLASHING LIGHTS - Lights that are not in accordance with the MUTCD.

IS COMMERCIAL POWER AVAILABLE?  
 \_\_\_\_\_

## PART III

TYPE OF DEVELOPMENT - CHOOSE ONE --->[Open Space, Residential, Commercial, Industrial, Institutional]  
 SMALLEST CROSSING ANGLE - CHOOSE ONE --->[0-29, 30-59, 60-90 degrees]  
 NUMBER OF TRAFFIC LANES CROSSING RAILROAD \_\_\_\_\_  
 ARE TRUCK PULLOUT LANES PRESENT? [Not commonly seen] \_\_\_\_\_  
 IS HIGHWAY PAVED? \_\_\_\_\_  
 PAVEMENT MARKINGS - CHOOSE ALL THAT APPLY --->[Stop lines, RR Xing Sym., None]  
 ARE RR ADVANCE WARNING SIGNS PRESENT? [If they are at least one sign = YES, zero = NO] \_\_\_\_\_  
 CROSSING SURFACE - [Sec. Timber, Full Rd. Plank, Asphalt, Concrete Slab, Concrete Pave., Rubber, Metal Sections, Other Metal, Unconsolidated, Other Specify] \_\_\_\_\_  
 DOES TRACK RUN DOWN A STREET? \_\_\_\_\_  
 HEAVY INTERSECTING PUBLIC ROAD WITHIN 75 FT.? [Does not include residential or commercial entrances] \_\_\_\_\_

Figure 4-4. Sample Guidelines and Checklist for Field Inspectors

- All manually input data is subjected to 100% sight verification to insure accuracy.
- Master data is uploaded to NIH for further processing.
- The data is submitted to the edit job stream. Valid updates are posted to the Inventory and error records are "Suspended" for resolution.

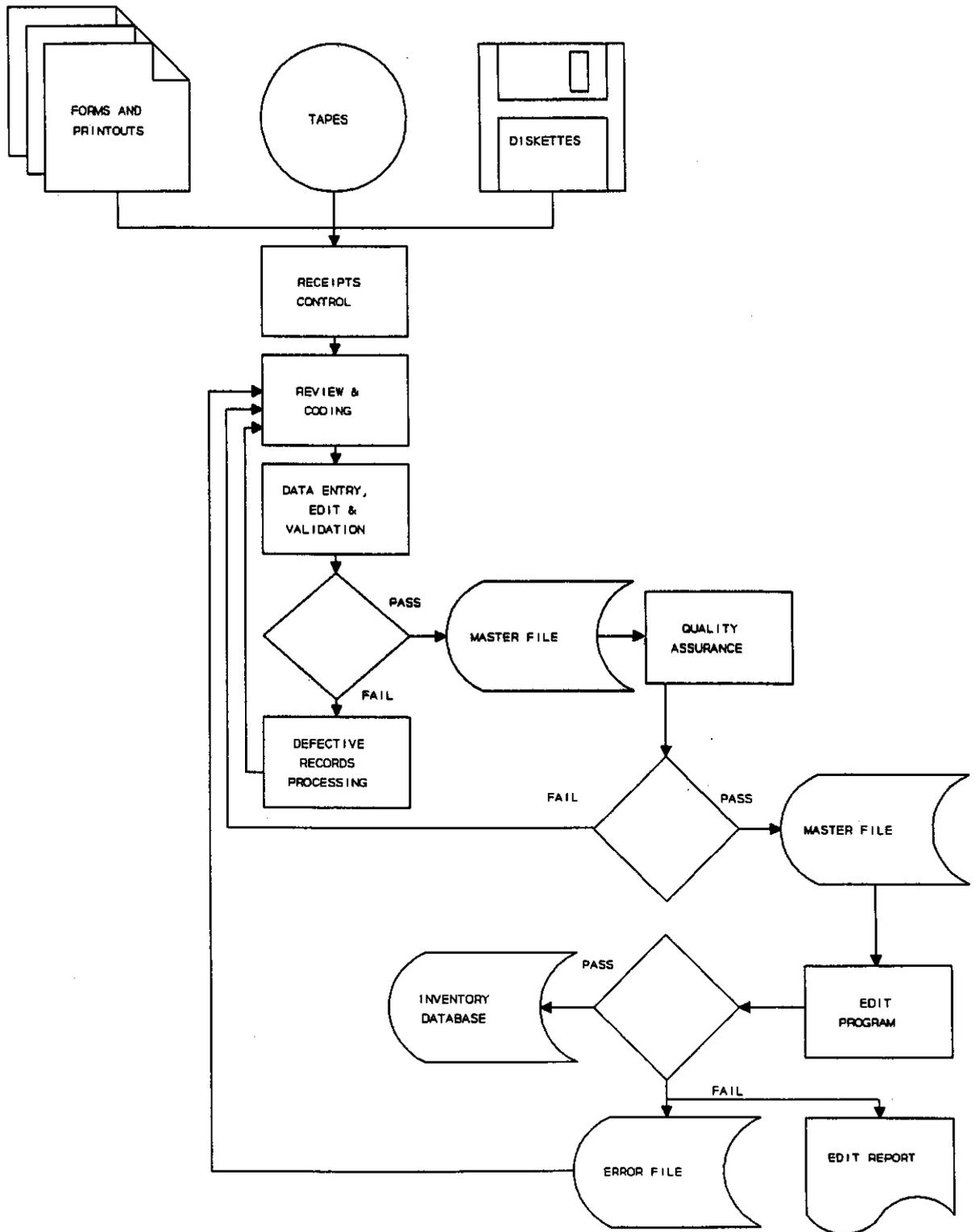


Figure 4-5. Overview of Current GCIS Processing