



**FRA Instructions for Electronic Submission  
of U.S. DOT Crossing Inventory Data  
Grade Crossing Inventory System (GCIS)  
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**U.S. Department of Transportation  
Federal Railroad Administration**

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**Office of Railroad Safety**

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## Revision Summary

| <b>Revision Date</b> | <b>Document Version #</b> | <b>Revision Class</b> | <b>Summary</b>   |
|----------------------|---------------------------|-----------------------|--|
| 01/07/2015           | 1.1                       | Major                 | Initial Availability   |
| 03/06/2015           | 1.2                       | Minor                 | Updated Appendix A, Field Size column  |
| 10/02/2015           | 2.0                       | Major                 | Revised and edited document to support Release 2.1.0.0 enhancements (see release notes for details). |
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|                      |                           |                       |  |
|                      |                           |                       |  |

## Table of Contents

|  |    |
|--|----|
| Revision Summary .....   | 3  |
| Table of Contents .....  | 4  |
| List of Tables .....   | 4  |
| 1. Introduction .....  | 5  |
| 2. Background .....  | 5  |
| 3. Submission Instructions .....   | 5  |
| 3.1. Submitting Crossing Inventory Data via GCIS Web Application .....       | 6  |
| 3.1.1. Uploading Electronic Files Using the New GCIS Web Application .....   | 6  |
| 3.2. GCIS System to System Operations .....                                  | 6  |
| 4. Electronic Data File Format Specifications .....                          | 8  |
| 4.1. Updating Crossings .....  | 9  |
| 4.2. Uploading File Formats .....  | 9  |
| 5. Data Validation Specifications .....                                      | 10 |
| 6. Contact Information to Request Assistance .....                           | 10 |
| Appendix A: GCIS Inventory Data Field File Specification – Update Only ..... | 11 |
| Appendix B: GCIS Data Validation Rules .....                                 | 25 |
| B-1: Single and Cross-field Validations .....                                | 25 |
| B-2: Business Rules Validations .....  | 52 |
| Appendix C: GCIS Required and Optional Fields .....                          | 58 |
| Appendix D: GCIS Business Processes .....                                    | 68 |

## List of Tables

|  |   |
|--|---|
| Table 3.2-1: FRA Data Requests .....             | 7 |
| Table 4.2-1: File Upload Naming Convention ..... | 9 |

## **1. Introduction**

These instructions are intended to supplement the FRA Guide for Preparing U.S. DOT Crossing Inventory Forms (“Inventory Guide”), as well as the reporting and updating requirements contained in subpart F to 49 CFR Part 234. This document is also intended to provide the electronic file formats allowed by the FRA and valid data specifications for electronic submission of the U.S. DOT Crossing Inventory Form data (Form FRA F 6180.71).

## **2. Background**

The FRA requires Class I Railroads to submit crossing inventory data to the FRA electronically as set forth in subpart F to 49 CFR Part 234. To support this requirement, the FRA developed a new Grade Crossing Inventory System (GCIS). As a result of GCIS, the FRA discontinued the use of GX 32, a PC-based crossing data maintenance system software previously used by data providers. The FRA now provides a new secure web-based application that allows Railroads, Transits, and States to submit their U.S. DOT Crossing Inventory data (Form FRA F 6180.71) as electronic files in the formats specified below. The web application will allow the submission of report data in the following formats:

- Microsoft (MS) Excel (.xlsx)

Users have the ability to submit multiple crossing records at the same time using a preformatted Excel file template. A copy of the Excel template can be downloaded from the secure GCIS web-based application located under the File Upload or Help section.

- Application Programming Interface (API)

A separate capability of the GCIS system provides Railroads, Transits, and States the ability to submit data directly to FRA via a secure Application Programming Interface (API). FRA has selected Open Data (OData) as the API protocol to be used to retrieve FRA data. OData uses the Representational State Transfer (REST) model for all data requests. Although the OData protocol supports a full suite of Create, Update, and Delete (CRUD) functionality, FRA supports only commands associated with retrieving data and for the submission of one or many crossing inventory data in the following electronic format:

- Extensible Markup Language (.xml)
- Java Script Object Notification, (.json)
- ATOM (.atom)

Each GET or POST request must follow the GCIS Inventory Data Field File Specification table (Appendix A). The web address to the GCIS Secure Safety Data API website is located at <https://safetydata.fra.dot.gov/MasterWebService/secureapi>. You can view a copy of the XML metadata schema by going to the Grade Crossing Inventory Dataset page and clicking on the Metadata web link.

## **3. Submission Instructions**

## **Federal Railroad Administration Highway-Rail Crossing Division**

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As stated above, the new GCIS facilitates the submission of U.S DOT Crossing Inventory Form data through the web-based application or the System to System interface. Both of these components will require information uploaded or transmitted via electronic files to follow the *GCIS Inventory Data Field File Specification* ([Appendix A: GCIS Inventory Data Field File Specification – Update Only](#)) described later in this document.

### **3.1. Submitting Crossing Inventory Data via GCIS Web Application**

In brief, authorized agencies can submit railroad crossing inventory data and related updates electronically using FRA's new Grade Crossing Inventory System (GCIS) and the instructions provided below. Authorized Railroad, State, and Transit users can access it using the following location: <http://safetydata.fra.dot.gov/Gcis/>. All authorized users must have a registered username and password. For additional information regarding the new GCIS web application, please refer to the [FRA GCIS Web User Guide](#).

#### **3.1.1. Uploading Electronic Files Using the New GCIS Web Application**

After a successful login, the user is redirected to the GCIS Home page of the web application. Users who want to upload an Excel file containing their crossing inventory data will click on the File Upload tab located in the top navigation menu to access the Upload Multiple Crossing Records page.

Electronic file submissions must follow the instructions provided in the *FRA Guide for Preparing U.S. DOT Crossing Inventory Forms* and the *GCIS Inventory Data Field File Specification* table provided in this document ([Appendix A: GCIS Inventory Data Field File Specification – Update Only](#)). For further instructions on how to submit an Excel file through the web application, please refer to the [FRA GCIS Web User Guide](#).

### **3.2. GCIS System to System Operations**

FRA provides a web Application Programming Interface (API) that enables agencies the ability to submit multiple crossing records simultaneously using their own system and connecting to FRA's Secure Safety Data API services. The service uses Open Data (OData) as the API protocol to retrieve FRA data. OData uses the Representational State Transfer (REST) model for all data requests. Although the OData protocol supports a full suite of Create, Update, and Delete (CRUD) functionality, FRA supports only commands associated with requesting and posting data. The following is a brief summary of instructions for requesting and submitting railroad crossing inventory data electronically using FRA's Secure API. Please note that FRA's Secure API require a registered username, password, and access token to gain access to the operations described below.

At a high level, the GCIS System to System submissions provide the following operations:

**Federal Railroad Administration Highway-Rail Crossing Division**

**Table 3.2-1: FRA Data Requests**

| Operation  | Description   |
|--|---|
| <p><b>GET</b></p> <ul style="list-style-type: none"> <li>○ Get Crossings Containing Errors</li> <li>○ Get Lookup Values               <ul style="list-style-type: none"> <li>● ErrorCodes</li> <li>● Lookups</li> <li>● Locations</li> <li>● Railroads</li> <li>● Companies</li> <li>● Timetable Station</li> <li>● Latitude/ Longitude</li> </ul> </li> </ul> | <p>All OData request must use HTTP GET. A few examples of requesting crossing inventory data are:</p> <ul style="list-style-type: none"> <li>○ Get a list of all crossings last submitted for a specific crossing location</li> <li>○ Get all crossings that were successfully submitted and published to the National Crossing Inventory</li> <li>○ Get all crossings that were submitted and failed validations for your agency</li> <li>○ Get all crossings that are pending because it failed validations or saved and have not been validated</li> <li>○ Get all crossings that were submitted based on a Submission ID</li> <li>○ Get all crossings for a specific Railroad agency</li> <li>○ Get all crossings within a specific State</li> <li>○ Get all crossings where the Crossing Type is Public or Private</li> </ul> <p>Additional details regarding a few GET requests are provided below.</p> <p>To get a list of all crossings that were submitted and failed validations for your agency, the following request should be sent as follows:<br/> <a href="#">/Masterwebservice/secureapi/gcis/v1/odata/CrossingErrors?token=&lt;user token id&gt;</a></p> <p>You can additionally request information supporting crossing data by passing the following Entity Types: ErrorCodes, Lookups, Locations</p> <p>Provides a listing of all error codes and their associated messages. To query a list of error codes, the sample request should be sent as follows:<br/> <a href="#">/Masterwebservice/secureapi/gcis/v1/odata/ErrorCodes?token=&lt;user token id&gt;</a></p> <p>To query a list of lookup values used within the Grade Crossing Inventory Form for:</p> <ul style="list-style-type: none"> <li>○ Functional Classifications</li> <li>○ HSR Corridor Codes and Descriptions</li> <li>○ MUTCD Codes and Descriptions</li> </ul> <p>The query string request should be sent as follows:<br/> <a href="#">/Masterwebservice/secureapi/gcis/v1/odata/Lookups?token=&lt;user token id&gt;</a></p> <p>To query a list of location values to include:</p> <ul style="list-style-type: none"> <li>○ State Code, Abbreviation, Name</li> <li>○ County Code or Name</li> <li>○ City Code or Name</li> </ul> <p><a href="#">/Masterwebservice/secureapi/gcis/v1/odata/Locations?token=&lt;user token id&gt;</a></p> <p>To query for Railroad Codes and Names:<br/> <a href="#">/Masterwebservice/secureapi/gcis/v1/odata/Railroads?token=&lt;user token id&gt;</a></p> <p>To query for Company Codes and Names:<br/> <a href="#">/Masterwebservice/secureapi/gcis/v1/odata/Companies?token=&lt;user token id&gt;</a></p> <p>To query for a list of Timetable Station Codes and Names:<br/> <a href="#">/Masterwebservice/secureapi/gcis/v1/odata/TimeTableStations?token=&lt;user token id&gt;</a></p> <p>To query for a list of Latitude and Longitude values:<br/> <a href="#">/Masterwebservice/secureapi/gcis/v1/odata/CountyCoordinates?token=&lt;user token id&gt;</a></p> |

## Federal Railroad Administration Highway-Rail Crossing Division

| Operation   | Description  |
|---|--|
| <p><b>POST / PUT / PATCH</b></p> <ul style="list-style-type: none"> <li>○ Submit Crossing Record(s)</li> <li>○ Submit Crossing Record Associated with a Different Agency</li> </ul> | <p>In order to submit crossing inventory data through the Secure API, you must use the POST, PUT, or PATCH endpoint in the request.</p> <p>To add a new crossing record, the POST, PUT, or PATCH request must contain the &lt;CrossingId&gt; and all properties associated with a new crossing.</p> <p>To update an existing crossing record, the POST, PUT, or PATCH request must contain the &lt;CrossingId&gt; and the field(s) requiring a value to be updated.</p> <p><i>Note: All requests must contain a property call &lt;isCancelRequest&gt; and it must be set to <b>false</b>.</i></p> <p>Once your account (email address) have been associated with a different agency other than the one agency you are approved for, you can submit crossing updates for those associated agency(s). To perform this update, you can use the POST endpoint in the request and pass the ID value of the Reporting Agency for which you are updating for to the &lt;ReportingAgencyID&gt; property.</p> <p>The following sample POST request using JSON will<br/>/MasterWebService/SecureAPI/gcis/v1/odata/Crossings?token=&lt;token-value&gt;</p> <pre>{   "ReasonId": 14,   "ReportingAgencyTypeID": 1,   "ReportingAgencyID": 230,   "CrossingId": "024856Y",   "ReportType": "Full Inventory Record ",   "Railroad": "BNSF",   "StateCD": "35",   "CntyCD": "35006",   "Nearest": "0",   "CityCD": "350060360",   "Street": "EL MORRO RD",   "BlockNumb": "",   "RrMain": "N/A",   "PosXing": "3" }</pre> |
| <ul style="list-style-type: none"> <li>○ Cancel Pending Crossing Records</li> </ul>   | <p>To cancel a pending crossing record (records that have not been published to the National Crossing Inventory), the POST request must contain the &lt;CrossingId&gt; and the &lt;isCancelRequest&gt; must be set to <b>true</b>.</p>   |

To view the current metadata schema, please visit the FRA's Secure Safety Data API page for [Grade Crossing Inventory](#).

### 4. Electronic Data File Format Specifications

Data submitted using FRA's approved file formats, identified above, must comply with the field names, valid values, and other rules provided in the *GCIS Inventory Data Field File Specification* table (Appendix A: GCIS Inventory Data Field File Specification – Update Only).

Regardless of the format chosen to submit crossing data, the same business rules will apply. Therefore, States are only able to update the fields which they have access to, while Railroad and



## **Federal Railroad Administration Highway-Rail Crossing Division**

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Transit agencies can update any field (except State Use & Narrative fields), except in specific circumstances defined in the *FRA Guide for Preparing U.S. DOT Crossing Inventory Forms* and subpart F to 49 CFR Part 234. (Please refer to the final *GCIS Inventory Data Field File Specification* table (Appendix A: GCIS Inventory Data Field File Specification – Update Only) for the columns that assign responsibility for specific data fields to States, Railroads or both for updating purposes.)

The following instructions apply to XML and XSLX file submissions, unless otherwise noted (specific field types and field names referenced are found in Appendix A: GCIS Inventory Data Field File Specification – Update Only).

### **4.1. Updating Crossings**

To make updates to crossing data, simply enter the new value in the fields to be updated. In order to retain the current inventory value in the pending record, no changes are to be made. Also, please note the following:

- If the current value in a numeric field is to be changed to zero (0), then enter a zero in the field. The value of zero in a number field will indicate to the FRA that the submitter wishes to change the field's current value to zero.
- Blank values will now be treated as null values. Users will enter the value, **(X)**, (i.e., Open Parenthesis, the letter X, Closed Parenthesis) to indicate the removal of a value from open text fields.

The application will validate any data submitted; therefore clearing any existing data may result in data validation errors, regardless of how the update is being submitted.

### **4.2. Uploading File Formats**

The filename for Excel (.XLSX) files must be in the following format:

**Table 4.2-1: File Upload Naming Convention**

| <b>Railroad Filename Format:</b> | <b>State Filename Format:</b>        |
|----------------------------------|--------------------------------------|
| GXRR_RAILROADCODE_MMDDYYYY.XLSX  | GXST_STATEABBREVIATION_MMDDYYYY.XLSX |

*Note: XML files do not require a filename convention as they can be derived based on the authenticated account used to submit the information.*

## **5. Data Validation Specifications**

Reporting agencies shall provide all required fields as listed in [Appendix C: GCIS Required and Optional Fields](#) on all crossing inventory submissions. This data will be considered accurate if it successfully passes all data validation rules in Appendix B: GCIS Data Validation Rules. If these two conditions are not met, than the agency's data submission is not considered complete.

Data required as part of the crossing form will vary based on the agency's Reason for Update. For example, if there have been no changes to the data, a user may select "Date Change Only"; likewise, if a user would like to transfer the crossing from one Railroad to another, then "Change in Primary Operating Railroad" should be selected, and an update to that field will then be required. When it is determined that any data element(s) is not complete or accurate, the application will display error message(s) that will inform the user of what needs to be corrected. The record will only be accepted and then published to the National Crossing Inventory once it passes all validations and no errors are generated. Users will be provided with a receipt of their submission as well as a status of the submission on whether the updates were published to the National Crossing Inventory. If the data was not successfully published then the user can view the validation errors generated by the submission.

## **6. Contact Information to Request Assistance**

For assistance with issues encountered during the account registration or data submission processes, the submitting agency may contact FRA Support (Help Desk) by telephone at (888) 372 -9393.

**Federal Railroad Administration Highway-Rail Crossing Division**

**Appendix A: GCIS Inventory Data Field File Specification – Update Only**

Data submitted using the GCIS Inventory Data Field File Specifications should use the latest FRA code values (City, County and State codes) provided in FRA’s Auxiliary (Reference) tables with download versions available at: <http://safetydata.fra.dot.gov/OfficeofSafety/publicsite/downloads/Auxiliary.aspx>

Upon submission, all electronic files will undergo various types of validations (Single, Cross-field and other rules). For additional information, see [Appendix B: GCIS Data Validation Rules](#).

| Box No. on Form 6180.71 | Field Name            | Description                        | Field Size | Data Type* | Single-field Data Validation Rules   | Update Provided By   |
|-------------------------|-----------------------|------------------------------------|------------|------------|--|--|
| A                       | RevisionDate          | Revision Date (Date of Submission) |            | D          | U.S. Date Format: MM/DD/YYYY   | State & Railroad   |
| B                       | ReportingAgencyTypeID | Reporting Agency                   | 1          | N          | 1 = Railroad<br>2 = State<br>3 = Transit<br>4 = FRA Internal Use   | State & Railroad   |
| C                       | ReasonId              | Reason for Update                  | 2          | N          | 14 = Change in Data<br>15 = New Crossing<br>16 = Closed<br>19 = Re-Open<br>20 = Date Change Only<br>21 = Change in Primary Operating RR<br>22 = Admin. Correction<br>23 = Quiet Zone Update<br>24 = No Train Traffic | State & Railroad   |
| D                       | CrossingId            | DOT Crossing Inventory Number      | 20         | C          | First 6 characters must be numeric followed by an alphabetic character.  | State & Railroad   |
| I.1                     | Railroad              | Primary Operating Railroad         | 32         | C          | Must be a valid Railroad Code. It must be in FRA Railroad Reference table.   | Railroad   |
| I.2                     | StateCD               | State                              | 2          | C          | State Abbreviation or FIPS codemust be in FRA Locations Reference table.   | State for Public Crossings<br>Railroad for Private Crossings |
| I.3                     | CntyCD                | County                             | 10         | C          | County Name or FIPS Code must be in FRA Locations Reference table.   | State for Public Crossings<br>Railroad for Private Crossings |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name | Description  | Field Size | Data Type* | Single-field Data Validation Rules  | Update Provided By   |
|-------------------------|------------|--|------------|------------|---|--|
| I.4                     | Nearest    | In or Near City Indicator  | 1          | C          | 0 = In<br>1 = Near  | State for Public Crossings<br>Railroad for Private Crossings |
| I.4                     | CityCD     | City/Municipality  | 10         | C          | City Name or FIPS Code must be in FRA Locations Reference table.                                  | State for Public Crossings<br>Railroad for Private Crossings |
| I.5                     | Street     | Street or Road Name  | 256        | C          | Any alpha or numeric characters including dash (-) and slash (/)                                  | State for Public Crossings<br>Railroad for Private Crossings |
| I.5                     | BlockNumb  | Block Number of Street or Road   | 6          | C          | Blank or Numeric Characters.  | State for Public Crossings<br>Railroad for Private Crossings |
| I.6                     | Highway    | Highway Type and No.   | 256        | C          | Any alpha or numeric characters including comma (,) and dash (-)                                  | State for Public Crossings<br>Railroad for Private Crossings |
| I.7                     | SepInd     | Do Other RRs Operate a Separate Track at Crossing?                             | 1          | C          | 1 = Yes<br>2 = No   | Railroad   |
| I.7                     | SepRr1     | Specify RR Code of Other Railroads that Operate Separate Track                 | 32         | C          | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | Railroad   |
| I.7                     | SepRr2     | Specify RR Code of Other Railroads that Operate Separate Track                 | 32         | C          | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | Railroad   |
| I.7                     | SepRr3     | Specify RR Code of Other Railroads that Operate Separate Track                 | 32         | C          | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | Railroad   |
| I.7                     | SepRr4     | Specify RR Code of Other Railroads that Operate Separate Track                 | 32         | C          | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | Railroad   |
| I.8.                    | SameInd    | Do other RRs Operate Over Your Track at Crossing?                              | 1          | C          | 1 = Yes<br>2 = No   | Railroad   |
| I.8                     | SameRr1    | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | 32         | C          | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | Railroad   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name   | Description  | Field Size | Data Type* | Single-field Data Validation Rules   | Update Provided By |
|-------------------------|--------------|--|------------|------------|--|--------------------|
| I.8                     | SameRr2      | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | 32         | C          | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table                          | Railroad           |
| I.8                     | SameRr3      | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | 32         | C          | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table                          | Railroad           |
| I.8                     | SameRr4      | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | 32         | C          | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table                          | Railroad           |
| I.9                     | RrDiv        | Railroad Division or Region  | 256        | C          | Any Alphanumeric Data  | Railroad           |
| I.10                    | RrSubDiv     | Railroad Subdivision or District   | 256        | C          | Any Alphanumeric Data  | Railroad           |
| I.11                    | Branch       | Branch or Line Name  | 256        | C          | Any Alphanumeric Data  | Railroad           |
| I.12.                   | PrfxMilePost | RR Milepost Prefix   | 3          | C          | Valid value: one to three alphanumeric characters or blank   | Railroad           |
| I.12.                   | MilePost     | RR Milepost  | 8          | C          | Must be a numeric and the acceptable format is: NNNN.NNN (with explicit decimal point)                                     | Railroad           |
| I.12                    | SfxMilePost  | RR Milepost Suffix   | 3          | C          | Valid value: one to three alphanumeric characters or blank   | Railroad           |
| I.13                    | RrID         | Line Segment   | 256        | C          | Any Alphanumeric Data  | Railroad           |
| I.14                    | TtstnNam     | Nearest RR Timetable Station Name  | 256        | C          | If specified then it must be in FRA Time Table Station Reference Table look up   | Railroad           |
| I.15                    | RrMain       | Parent RR  | 32         | C          | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table.                         | Railroad           |
| I.16                    | XingOwnr     | Crossing Owner   | 32         | C          | If specified then it must be a valid Railroad or Company Code. It must be in FRA Railroad Reference table or Company Code. | Railroad           |
| I.17                    | TypeXing     | Crossing Type  | 1          | C          | 2 = Private<br>3 = Public  | State & Railroad   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name     | Description   | Field Size | Data Type* | Single-field Data Validation Rules  | Update Provided By |
|-------------------------|----------------|---|------------|------------|---|--------------------|
| I.18                    | XPurpose       | Crossing Purpose                                      | 1          | C          | 1 = Highway<br>2 = Pathway, Pedestrian<br>3 = Station, Pedestrian   | State & Railroad   |
| I.19                    | PosXing        | Crossing Position                                     | 1          | C          | 1 = At Grade<br>2 = RR Under<br>3 = RR Over   | State & Railroad   |
| I.20                    | OpenPub        | Public Access   | 1          | C          | 1 = Yes<br>2 = No   | Railroad           |
| I.21                    | TypeTrnSrcvIDs | Type of Train   | 32         | C          | 11 = Freight<br>12 = Intercity Passenger<br>13 = Commuter<br>14 = Transit<br>15 = Shared Use Transit<br>16 = Tourist/Other                        | Railroad           |
| I.22                    | Lt1PassMov     | Less Than One Average Passenger Train Count Per Day?  | 1          | C          | 1 = Less than One Average Passenger Train Movement Per Day<br>2 = Number per Day  | Railroad           |
| I.22                    | PassCnt        | Number Per Day  | 3          | N          | Valid value: 0 to 999   | Railroad           |
| I.23                    | DevelTypID     | Type of Land Use                                      | 32         | C          | 11 = Open Space<br>12 = Residential<br>13 = Commercial<br>14 = Industrial<br>15 = Institutional<br>16 = Farm<br>17 = Recreational<br>18 = RR Yard | State & Railroad   |
| I.24                    | XingAdj        | Is there an Adjacent Crossing with a Separate Number? | 1          | C          | 1 = Yes<br>2 = No   | Railroad           |
| I.24                    | XngAdjNo       | If Yes, Provide Crossing Number                       | 7          | C          | Must be valid crossing number   | Railroad           |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name  | Description   | Field Size | Data Type* | Single-field Data Validation Rules  | Update Provided By |
|-------------------------|-------------|---|------------|------------|---|--------------------|
| I.25                    | WhistBan    | Quiet Zone (FRA Provided)   | 1          | C          | 0 = No<br>1 = 24 hr<br>2 = Partial<br>3 = Chicago Excused   | FRA Will Populate  |
| I.25                    | WhistDate   | Date Established  |            | D          | Date Established Format: MM/DD/YYYY   | FRA Will Populate  |
| I.26                    | SfxHscoRrid | HSR Corridor ID Suffix  | 4          | C          |   | State & Railroad   |
| I.26                    | HscoRrid    | HSR Corridor ID   | 4          | C          | Must be in FRA High Speed Corridor Reference Table. The 4th character must be 1-9 or 'X'  | State & Railroad   |
| I.27                    | Latitude    | Latitude in decimal degrees (max 10 char., WGS84 std nn.nnnnnnn)    | 7-10       | N          | Latitude coordinates must in decimal degrees. Valid Format: NN.NNNNNNN (with explicit decimal point)<br><br>Latitude Degrees must be 24 to 49. For the State of Alaska it must be 50 to 71.<br><br>Latitude values will be acceptable between 5 to 7 digits after the decimal point.          | State & Railroad   |
| I.28                    | Longitude   | Longitude in decimal degrees (max 11 char., WGS84 std -nnn.nnnnnnn) | 7-11       | N          | Longitude Coordinate must in decimal degrees. Valid Format: NN.NNNNNNN (with explicit decimal point)<br><br>Longitude Degrees must be - 66 to -124. For the State of Alaska it must be -165 to 1132<br><br>Longitude values will be acceptable between 5 to 7 digits after the decimal point. | State & Railroad   |
| I.29                    | LLsource    | Latitude/Longitude Source   | 1          | C          | 1 = Actual<br>2 = Estimated   | State & Railroad   |
| I.30.A                  | RrNarr1     | Railroad Use  | 256        | C          | Railroad Use  | Railroad           |
| I.30.B                  | RrNarr2     | Railroad Use  | 256        | C          | Railroad Use  | Railroad           |
| I.30.C                  | RrNarr3     | Railroad Use  | 256        | C          | Railroad Use  | Railroad           |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name | Description  | Field Size | Data Type* | Single-field Data Validation Rules   | Update Provided By |
|-------------------------|------------|--|------------|------------|--|--------------------|
| I.30.D                  | RrNarr4    | Railroad Use   | 256        | C          | Railroad Use   | Railroad           |
| I.31.A                  | StNarr1    | State Use  | 256        | C          | State Use  | State              |
| I.31.B                  | StNarr2    | State Use  | 256        | C          | State Use  | State              |
| I.31.C                  | StNarr3    | State Use  | 256        | C          | State Use  | State              |
| I.31.D                  | StNarr4    | State Use  | 256        | C          | State Use  | State              |
| I.32.A                  | RrNarr     | Railroad Narrative                                     | max**      | C          | Railroad Narrative   | Railroad           |
| I.32.B                  | StNarr     | State Narrative  | max**      | C          | State Narrative  | State              |
| I.33                    | PolCont    | Emergency Notification Telephone No. ( <i>Posted</i> ) | 10         | N          | Must be numeric (area code and phone number) with no hyphens or parenthesis between area code and phone number   | Railroad           |
| I.34                    | RrCont     | Railroad Contact ( <i>Telephone No.</i> )              | 10         | N          | Must be numeric (area code and phone number) with no hyphens or parenthesis between area code and phone number   | Railroad           |
| I.35                    | HwyCont    | State Contact ( <i>Telephone No.</i> )                 | 10         | N          | Must be numeric (area code and phone number) with no hyphens or parenthesis between area code and phone number<br><br>Blank if Type of Crossing is Private | State              |
| II.1.A                  | DayThru    | Total Day Thru Trains (6 AM to 6 PM)                   | 3          | N          | Valid value: 0 to 500  | Railroad           |
| II.1.B                  | NghtThru   | Night Thru Trains (6 PM to 6AM)                        | 3          | N          | Valid value: 0 to 500  | Railroad           |
| II.1.C                  | TotalSwt   | Total Switching Trains (6 AM to 6 PM)                  | 3          | N          | Valid value: 0 to 500  | Railroad           |
| II.1.D                  | TotalLtr   | Total Transit Trains                                   | 3          | N          | Valid value: 0 to 500  | Railroad           |
| II.1.E                  | Lt1Mov     | Check if Less Than One Movement Per Day                | 1          | C          | 1 = Less Than One Movement Per Day<br>2 = One or More Movements Per Day  | Railroad           |
| II.1.E                  | WeekTrnMov | How many trains per week?                              | 3          | N          | Valid value: 0 to 999  | Railroad           |
| II.2                    | YearTrnMov | Year of Train Count Data                               | 4          | N          | Must be current year of update (YYYY)  | Railroad           |



**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name    | Description                                  | Field Size | Data Type* | Single-field Data Validation Rules   | Update Provided By |
|-------------------------|---------------|--|------------|------------|--|--------------------|
| II.3.A                  | MaxTtSpd      | Maximum Timetable Speed                      | 3          | N          | Valid value: 1-150 (mph)   | Railroad           |
| II.3.B                  | MinSpd        | Typical Speed Range Over Crossing (mph) From | 3          | N          | Valid value: 1-150 (mph)   | Railroad           |
| II.3.B                  | MaxSpd        | Typical Speed Range Over Crossing (mph) To   | 3          | N          | Valid value: 1-150 (mph)   | Railroad           |
| II.4                    | MainTrk       | Main   | 2          | N          | Valid value range is 0 through 9   | Railroad           |
| II.4                    | SidingTrk     | Siding                                       | 2          | N          | Valid value range is 0 through 9   | Railroad           |
| II.4                    | YardTrk       | Yard   | 2          | N          | Valid value range is 0 through 9   | Railroad           |
| II.4                    | TransitTrk    | Transit                                      | 2          | N          | Valid value range is 0 through 9   | Railroad           |
| II.4                    | IndustryTrk   | Industry                                     | 2          | N          | Valid value range is 0 through 9   | Railroad           |
| II.5                    | SpseIDs       | Train Detection (Main Track Only)            | 32         | C          | 0 = None<br>11 = Constant Warning Time<br>12 = Motion Detection<br>14 = Other<br>16 = AFO<br>17 = PTC<br>18 = DC | Railroad           |
| II.6                    | Sgnleqp       | Is Track Signaled?                           | 1          | C          | 1 = Yes<br>2 = No  | Railroad           |
| II.7.A                  | EMonitorDvce  | Event Recorder                               | 1          | C          | 1 = Yes<br>2 = No  | Railroad           |
| II.7.B                  | HealthMonitor | Remote Health Monitoring                     | 1          | C          | 1 = Yes<br>2 = No  | Railroad           |
| III.1                   | NoSigns       | Are there Signs or Signals?                  | 1          | C          | 1 = Yes (At least one sign or signal at crossing)<br>2 = No (No signs or signals at crossing)                    | State              |
| III.2.A                 | XBuck         | Crossbuck Assemblies (count)                 | 2          | N          | Valid value: 0 to 99   | State              |
| III.2.B                 | StopStd       | Stop Signs (R1-1)                            | 1          | N          | Valid value: 0 to 9  | State              |
| III.2.C                 | YieldStd      | Yield Signs (R1-2)                           | 1          | N          | Valid value: 0 to 9  | State              |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name    | Description                              | Field Size | Data Type* | Single-field Data Validation Rules  | Update Provided By |
|-------------------------|---------------|--|------------|------------|---|--------------------|
| III.2.D                 | AdvWarn       | Advance Warning Signs                    | 32         | C          | Provide codes all that apply:<br>1 = W10-1<br>2 = W10-2<br>3 = W10-3<br>4 = W10-4<br>11 = W10-11<br>12 = W10-12<br>0 = None | State              |
| III.2.D                 | AdvW10_1      | Advance Warning Signs (W10-1)            | 1          | N          | Valid Value: 0 to 9   | State              |
| III.2.D                 | AdvW10_2      | Advance Warning Signs (W10-2)            | 1          | N          | Valid Value: 0 to 9   | State              |
| III.2.D                 | AdvW10_3      | Advance Warning Signs (W10-3)            | 1          | N          | Valid Value: 0 to 9   | State              |
| III.2.D                 | AdvW10_4      | Advance Warning Signs (W10-4)            | 1          | N          | Valid Value: 0 to 9   | State              |
| III.2.D                 | AdvW10_11     | Advance Warning Signs (W10-11)           | 1          | N          | Valid Value: 0 to 9   | State              |
| III.2.D                 | AdvW10_12     | Advance Warning Signs (W10-12)           | 1          | N          | Valid Value: 0 to 9   | State              |
| III.2.E                 | Low_Grnd      | Low Ground Clearance Signs (W10-5)       | 1          | C          | 1 = Yes<br>2 = No   | State              |
| III.2.E                 | Low_GrndSigns | Low Ground Clearance Signs (W10-5) count | 2          | N          |   | State              |
| III.2.F                 | PaveMrkIDs    | Pavement Markings                        | 32         | C          | 0 = None<br>1 = Stop Lines<br>2 = RR Xing Symbols<br>3 = Dynamic Envelope   | State              |
| III.2.G                 | Channel       | Channelization Devices                   | 1          | C          | 1 = All Approaches<br>2 = One Approach<br>3 = Median – All Approaches<br>4 = Median – One Approach<br>5 = None              | State              |
| III.2.H                 | Exempt        | Exempt Sign (R15-3)                      | 1          | C          | 1 = Yes, crossing is exempt<br>2 = No, crossing is not exempt   | State              |
| III.2.I                 | EnsSign       | ENS Sign Displayed (I-13)                | 1          | C          | 1 = Yes<br>2 = No   | State              |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name   | Description  | Field Size | Data Type* | Single-field Data Validation Rules                       | Update Provided By             |
|-------------------------|--------------|--|------------|------------|--|--------------------------------|
| III.2.J                 | OthSgn       | Other MUTCD Signs  | 1          | C          | 1 = Yes<br>2 = No  | State                          |
| III.2.J                 | OthSgn1      | Other MUTCD Signs: Count   | 2          | N          | Valid Value: 1 to 99                                     | State                          |
| III.2.J                 | OthDes1      | Specify Type   | 10         | C          | Must be an item in the MUTCD table                       | State                          |
| III.2.J                 | OthSgn2      | Other MUTCD Signs: Count   | 2          | N          | Valid Value: 1 to 99                                     | State                          |
| III.2.J                 | OthDes2      | Specify Type   | 10         | C          | Must be an item in the MUTCD table                       | State                          |
| III.2.J                 | OthSgn3      | Other MUTCD Signs: Count   | 2          | N          | Valid Value: 1 to 99                                     | State                          |
| III.2.J                 | OthDes3      | Specify Type   | 10         | C          | Must be an item in the MUTCD table                       | State                          |
| III.2.K                 | PrvxSign     | Private Crossing Signs   | 1          | C          | 1 = Yes<br>2 = No<br>Blank if Type of Crossing is Public | Railroad                       |
| III.2.L                 | Led          | LED Enhanced Signs   | 256        | C          | Any Alphanumeric Description                             | State                          |
| III.3.A                 | Gates        | Gate Arms: Roadway   | 2          | N          | Valid Value: 0 to 99                                     | State<br>(Railroad If Changed) |
| III.3.A                 | GatePed      | Gate Arms: Pedestrian  | 2          | N          | Valid Value: 0 to 99                                     | State<br>(Railroad If Changed) |
| III.3.B                 | GateConf     | Gate Configuration   | 32         | C          | 1 = 2 Quad<br>2 = 3 Quad<br>3 = 4 Quad                   | State<br>(Railroad If Changed) |
| III.3.B                 | GateConfType | Gate Configuration Type  | 32         | C          | 4 = Full (Barrier) Resistance<br>6 = Median Gates        |                                |
| III.3.C                 | FlashOv      | Cantilevered (or Bridged) Flashing Light Structures: Over Traffic Lane     | 2          | N          | Valid Value: 0 to 9                                      | State<br>(Railroad If Changed) |
| III.3.C                 | FlashNov     | Cantilevered (or Bridged) Flashing Light Structures: Not Over Traffic Lane | 2          | N          | Valid Value: 0 to 9                                      | State<br>(Railroad If Changed) |
| III.3.C                 | CFlashType   | Cantilevered (or Bridged) Flashing Light Structures (Type)                 | 32         | C          | 0 = None<br>1 = Incandescent<br>2 = LED                  | State<br>(Railroad If Changed) |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>                                     | <b>Field Size</b> | <b>Data Type*</b> | <b>Single-field Data Validation Rules</b>   | <b>Update Provided By</b>   |
|--------------------------------|-------------------|--|-------------------|-------------------|---|-----------------------------|
| III.3.D                        | FlashPost         | Mast Mounted Flashing Lights (count of masts)          | 2                 | N                 | Valid Value: 0 to 9   | State (Railroad If Changed) |
| III.3.D                        | FlashPostType     | Mast Mounted Flashing Lights (Type)                    | 32                | C                 | 0 = None<br>1 = Incandescent<br>2 = LED   | State (Railroad If Changed) |
| III.3.D                        | Bkl_FlashPost     | Mast Mounted Flashing Lights: Back Lights Included     | 32                | C                 | 1 = Yes<br>2 = No   | State (Railroad If Changed) |
| III.3.D                        | Sdl_FlashPost     | Mast Mounted Flashing Lights: Side Lights Included     | 32                | C                 | 1 = Yes<br>2 = No   | State (Railroad If Changed) |
| III.3.E                        | FlashPai          | Total Count of Flashing Light Pairs                    | 2                 | N                 | Valid Value: 0 to 99  | State (Railroad If Changed) |
| III.3.F                        | AwdIDate          | Installation Date of Current Active Warning Devices    | 6                 | C                 | Valid format for Month and Year: MMYYYY<br>Optional for active warning devices installed before Effective Date of Final Rule. | State (Railroad If Changed) |
| III.3.G                        | AwhornChk         | Wayside Horn   | 1                 | C                 | 1 = Yes<br>2 = No   | State (Railroad If Changed) |
| III.3.G                        | AwhornIDate       | Wayside Horn Installed On                              | 6                 | C                 | Valid format for Month and Year: MMYYYY   | State (Railroad If Changed) |
| III.3.H                        | HwyTrafSignl      | Highway Traffic Signals Controlling Crossing           | 1                 | C                 | 1 = Yes<br>2 = No   | State (Railroad If Changed) |
| III.3.I                        | Bells             | Bells  | 2                 | N                 | Valid Value: 0 to 9   | State (Railroad If Changed) |
| III.3.J                        | SpecPro           | Non-Train Active Warning                               | 20                | C                 | 0 = None<br>1 = Flagging/Flagman<br>2 = Manually Operated Signals<br>3 = Watchman<br>4 = Floodlighting                        | State (Railroad If Changed) |
| III.3.K                        | FlashOth          | Other Flashing Lights or Warning Devices: Count        | 2                 | N                 | Valid Value: 0 to 9   | State (Railroad If Changed) |
| III.3.K                        | FlashOthDes       | Other Flashing Lights or Warning Devices: Specify Type | 256               | C                 | Any Alphanumeric Description  | State (Railroad If Changed) |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name     | Description                                       | Field Size | Data Type* | Single-field Data Validation Rules  | Update Provided By |
|-------------------------|----------------|---|------------|------------|---|--------------------|
| III.4.A                 | HwyrSig        | Does Nearby Hwy Intersection have Traffic Signal? | 1          | C          | 1 = Yes<br>2 = No   | State              |
| III.4.B                 | Intrprmp       | Hwy Traffic Signal Interconnection                | 32         | C          | 1 = Not Interconnected<br>2 = For Traffic Signals<br>3 = For Warning Signs<br><br>“1” must not be specified should Codes “2” or “3” be specified. | State & Railroad   |
| III.4.C                 | PrempType      | Highway Traffic Signal Preemption                 | 1          | C          | 1 = Simultaneous<br>2 = Advance   | State & Railroad   |
| III.5                   | HwtrfPsig      | Highway Traffic Pre-Signals                       | 1          | C          | 1 = Yes<br>2 = No   | State              |
| III.5                   | HwtrfPsigdis   | Highway Traffic Pre-Signals – Storage Distance    | 3          | N          | Optional value if HwtrfPsig is “YES” (0 to 99)  | State              |
| III.5                   | HwtrfPsiglndis | Highway Traffic Pre-Signals – Stop Line Distance  | 3          | N          | Optional value if HwtrfPsig is “YES” (0 to 99)  | State              |
| III.6                   | MonitorDev     | Highway Monitoring Devices                        | 32         | C          | 0 = None<br>1 = Yes-Photo/Video Recording<br>2 = Yes-Vehicle Presence Detection   | State              |
| IV.1                    | TrafficLn      | Traffic Lanes Crossing Railroad: Number of Lanes  | 2          | C          | Valid Value: 0 to 9   | State              |
| IV.1                    | TraflnType     | Traffic Lanes Crossing Railroad – Type            | 1          | C          | 1 = One-way Traffic<br>2 = Two-way Traffic<br>3 = Divided Traffic   | State              |
| IV.2                    | HwyPved        | Is Roadway Paved?                                 | 1          | C          | 1 = Yes<br>2 = No   | State              |
| IV.3                    | Downst         | Does Track Run Down a Street?                     | 1          | C          | 1 = Yes<br>2 = No   | State              |
| IV.4                    | Illumina       | Is Crossing Illuminated?                          | 1          | C          | 1 = Yes<br>2 = No   | State              |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name  | Description                               | Field Size | Data Type* | Single-field Data Validation Rules  | Update Provided By             |
|-------------------------|-------------|---|------------|------------|---|--------------------------------|
| IV.5                    | XSurfDate   | Crossing Surface: Installation Date       | 6          | C          | Valid Format: MMYYYY  | State<br>(Railroad If Changed) |
| IV.5                    | XSurfWidth  | Crossing Surface: Width                   | 3          | N          | Optional or 4-999 Feet (Feet Measurement)   | State<br>(Railroad If Changed) |
| IV.5                    | XSurfLength | Crossing Surface: Length                  | 3          | N          | Optional or 3-999 Feet (Feet Measurement)   | State<br>(Railroad If Changed) |
| IV.5                    | XSurfaceIDs | Crossing Surface (on Main Track):<br>Type | 32         | C          | 11 = 1. Timber<br>12 = 2. Asphalt<br>13 = 3. Asphalt and Timber<br>14 = 4. Concrete<br>15 = 5. Concrete and Rubber<br>16 = 6. Rubber<br>17 = 7. Metal<br>18 = 8. Unconsolidated<br>19 = 9. Composite<br>20 = 10. Other (specify)<br><br>Specify all codes that apply if there are multiple main line tracks which have different type of surface. | State<br>(Railroad If Changed) |
| IV.5                    | XSurOthr    | Crossing Surface for Other<br>(specify)   | 256        | C          | Open Text   | State & Railroad (If Changed)  |
| IV.6                    | HwyNear     | Intersecting Roadway within 500 feet?     | 1          | C          | 1 = Yes<br>2 = No   | State                          |
| IV.6                    | HwynDist    | If Yes, Approximate Distance (feet)       | 4          | N          | If Yes, Valid Value: 1-500<br>If No, Valid Value: 501-2500  | State                          |
| IV.7                    | XAngle      | Smallest Crossing Angle                   | 1          | C          | 1 = 0-29 degrees<br>2 = 30-59 degrees<br>3 = 60-90 degrees  | State                          |
| IV.8                    | ComPower    | Is Commercial Power Available?            | 1          | C          | 1 = Yes<br>2 = No   | State                          |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name     | Description   | Field Size | Data Type* | Single-field Data Validation Rules   | Update Provided By |
|-------------------------|----------------|---|------------|------------|--|--------------------|
| V.1                     | HwySys         | Highway System  | 2          | C          | 1 = (01) Interstate Highway System<br>2 = (02) Other Nat Hwy System (NHS)<br>3 = (03) Federal Aid, Not NHS<br>8 = (08) Non-Federal Aid   | State              |
| V.2                     | HwyClassCD     | Functional Classification of Road at Crossing                         | 1          | C          | 0 = (0) Rural<br>1 = (1) Urban   | State              |
| V.2                     | HwyClassrdtpID | Functional Classification of Road at Crossing                         | 32         | C          | 11 = (1) Interstate<br>12 = (2) Other Freeways and Expressways<br>13 = (3) Principal Arterial Other<br>16 = (4) Minor Arterial<br>17 = (5) Major Collector<br>18 = (6) Minor Collector<br>19 = (7) Local | State              |
| V.3                     | StHwy1         | Is Crossing on State Highway System?                                  | 1          | C          | 1 = Yes<br>2 = No  | State              |
| V.4                     | HwySpeed       | Highway Speed Limit (MPH)   | 3          | N          | 0 to 120 miles per hour  | State              |
| V.4                     | HwySpeedps     | Highway Speed Limit - Posted or Statutory                             | 1          | C          | 1 = Posted<br>2 = Statutory  | State              |
| V.5                     | LrsRouteid     | Linear Referencing System (LRS Route ID)                              | 256        | C          | Any Alphanumeric Description   | State              |
| V.6                     | LrsMilePost    | LRS Milepost  | 256        | C          | Any Alphanumeric Description   | State              |
| V.7                     | Aadt           | Annual Average Daily Traffic (AADT)                                   | 6          | C          | Valid Values: 000001 - 999999  | State              |
| V.7                     | AadtYear       | AADT: Year  | 4          | C          | Valid Year Date Format: YYYY   | State              |
| V.8                     | PctTruk        | Estimated Percent Trucks  | 2          | C          | Valid Values: 0 to 99  | State              |
| V.9                     | SchlBusChk     | Regularly Used by School Buses?                                       | 1          | C          | 1 = Yes<br>2 = No  | State              |
| V.9                     | SchlBsCnt      | Average No. of School Buses Passing Over the Crossing on a School Day | 3          | N          | Valid Value: 0 to 999  | State              |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No.<br>on<br>Form<br>6180.71 | Field Name | Description              | Field<br>Size | Data<br>Type* | Single-field Data Validation Rules | Update Provided By |
|----------------------------------|------------|--------------------------|---------------|---------------|------------------------------------|--------------------|
| V.10                             | EmrgncySrv | Emergency Services Route | 1             | C             | 1 = Yes<br>2 = No                  | State              |

\* Data Type

- o C: Character String
- o N: Numeric
- o D: DateTime

\*\* max – this field does not have any character restrictions



**Appendix B: GCIS Data Validation Rules**

Submissions received by FRA will be validated against:

- 1) Single and Cross-field Validations – Data standardization and quality checks that ensure 1) values submitted to FRA are within the expected ranges and 2) values among related fields are logical and follow FRA established guidance.
- 2) Business Rules Validations – Data integrity checks that ensure changes to the crossing in the National Crossing Inventory 1) follow a standard process, 2) are reported by the appropriate agency, and 3) meet minimum criteria for publishing.

**B-1: Single and Cross-field Validations**

| Box No. on Form 6180.71 | Field Name            | Description                        | Single-field Data Validation Rules   | Cross-field Data Validation Rules (Relationship of Two or More Data items) |
|-------------------------|-----------------------|------------------------------------|--|--|
| A                       | RevisionDate          | Revision Date (Date of Submission) | U.S. Date Format: MM/DD/YYYY   |  |
| B                       | ReportingAgencyTypeID | Reporting Agency                   | 1 = Railroad<br>2 = State<br>3 = Transit<br>4 = FRA Internal Use   |  |
| C                       | ReasonId              | Reason for Update                  | 14 = Change in Data<br>15 = New Crossing<br>16 = Closed<br>19 = Re-Open<br>20 = Date Change Only<br>21 = Change in Primary Operating RR<br>22 = Admin. Correction<br>23 = Quiet Zone Update<br>24 = No Train Traffic |  |
| D                       | CrossingId            | DOT Crossing Inventory Number      | First 6 characters must be numeric followed by an alphabetic character.  |  |
| I.1                     | Railroad              | Primary Operating Railroad         | Must be a valid Railroad Code. It must be in FRA Railroad Reference table.   |  |
| I.2                     | StateCD               | State                              | State Abbreviation or FIPS code must be in FRA Locations Reference table.  |  |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>                                 | <b>Single-field Data Validation Rules</b>                          | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>   |
|--------------------------------|-------------------|--|--|---|
| I.3                            | CntyCD            | County   | County Name or FIPS Code must be in FRA Locations Reference table. | Related fields: STATE, CNTYCD<br><br>County code must be found in FRA Organization Reference Table.<br><br>STATE + CNTYCD look up where County Name must correspond to County Code.   |
| I.4                            | Nearest           | In or Near City Indicator                          | 0 = In<br>1 = Near   |   |
| I.4                            | CityCD            | City/Municipality                                  | City Name or FIPS Code must be in FRA Locations Reference table.   | Related fields: STATE, CNTYCD, CITYCD and NEAREST<br><br>If in city (NEAREST=0), then City must be in the specified State and County.<br><br>STATE + CNTYCD + CITYCD look up where City Code must correspond to City Name.<br><br>If near city (NEAREST=1), then City must be in the specified State.<br><br>STATE + CITYCD look up where City Code must correspond to City Name. |
| I.5                            | Street            | Street or Road Name                                | Any alpha or numeric characters including dash (-) and slash (/)   |   |
| I.5                            | BlockNumb         | Block Number of Street or Road                     | Blank or Numeric Characters.                                       |   |
| I.6                            | Highway           | Highway Type and No.                               | Any alpha or numeric characters including comma (,) and dash (-)   |   |
| I.7                            | SepInd            | Do Other RRs Operate a Separate Track at Crossing? | 1 = Yes<br>2 = No  |   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No.<br>on<br>Form<br>6180.71 | Field Name | Description  | Single-field Data Validation Rules  | Cross-field Data Validation Rules<br>(Relationship of Two or More Data items)  |
|----------------------------------|------------|--|---|--|
| I.7                              | SepRr1     | Specify RR Code of Other Railroads that Operate Separate Track | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | <p>Related Fields: RAILROAD, SEPIND and SEPRR1</p> <p>Railroad code in SEPRR1 must not be the same code as the Primary Operating Railroad (field I.1.).</p> <p>Railroad code in SEPRR1 must not be the same code as SEPRR2,SEPRR3 or SEPRR4</p> <p>IF SEPRR1 is not blank, then SEPIND must be "1" (Yes)</p> <p>IF SEPRR1 is blank, then SEPIND must be "2" (No)</p> |
| I.7                              | SepRr2     | Specify RR Code of Other Railroads that Operate Separate Track | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | <p>Related Fields: RAILROAD, SEPIND and SEPRR2</p> <p>Railroad code in SEPRR2 must not be the same code as the Primary Operating Railroad (fieldI.1.).</p> <p>Railroad code in SEPRR2 must not be the same code as SEPRR1,SEPRR3 or SEPRR4</p> <p>IF SEPRR2 is not blank, then SEPIND must be "1" (Yes)</p>  |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No.<br>on<br>Form<br>6180.71 | Field Name | Description  | Single-field Data Validation Rules  | Cross-field Data Validation Rules<br>(Relationship of Two or More Data items)  |
|----------------------------------|------------|--|---|--|
| I.7                              | SepRr3     | Specify RR Code of Other Railroads that Operate Separate Track | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | <p>Related Fields: RAILROAD, SEPIND and SEPRR3</p> <p>Railroad code in SEPRR3 must not be the same code as the Primary Operating Railroad (field I.1.).</p> <p>Railroad code in SEPRR3 must not be the same code as SEPRR1,SEPRR2 or SEPRR4</p> <p>IF SEPRR3 is not blank, then SEPIND must be "1" (Yes)</p> |
| I.7                              | SepRr4     | Specify RR Code of Other Railroads that Operate Separate Track | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | <p>Related Fields: RAILROAD, SEPIND and SEPRR4</p> <p>Railroad code in SEPRR4 must not be the same code as the Primary Operating Railroad (field I.1.).</p> <p>Railroad code in SEPRR4 must not be the same code as SEPRR1,SEPRR2 or SEPRR3</p> <p>IF SEPRR4 is not blank, then SEPIND must be "1" (Yes)</p> |
| I.8.                             | SameInd    | Do other RRs Operate Over Your Track at Crossing?              | 1 = Yes<br>2 = No   | Related Fields: REASON, SAMEIND and SAMERR   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No.<br>on<br>Form<br>6180.71 | Field Name | Description  | Single-field Data Validation Rules  | Cross-field Data Validation Rules<br>(Relationship of Two or More Data items)  |
|----------------------------------|------------|--|---|--|
| I.8                              | SameRr1    | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | <p>Related Fields: RAILROAD, SAMEIND and SAMERR1</p> <p>Railroad code in SAMERR1 must not be the same code as the Primary Operating Railroad (field I.1.)</p> <p>Railroad code in SAMERR1 must not be the same code as SAMERR2, SAMERR3 or SAMERR4</p> <p>IF SAMERR1 is not blank, then SAMEIND must be "1" (Yes)</p> <p>IF SAMERR1 is blank, then SEPIND must be "2" (No)</p> |
| I.8                              | SameRr2    | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | <p>Related Fields: RAILROAD, SAMEIND and SAMERR2</p> <p>Railroad code in SAMERR2 must not be the same code as the Primary Operating Railroad (fieldI.1.)</p> <p>Railroad code in SAMERR2 must not be the same code as SAMERR1, SAMERR3 or SAMERR4</p> <p>IF SAMERR2 is not blank, then SAMEIND must be "1" (Yes)</p>   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>   | <b>Single-field Data Validation Rules</b>   | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>   |
|--------------------------------|-------------------|--|---|---|
| I.8                            | SameRr3           | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | <p>Related Fields: RAILROAD, SAMEIND and SAMERR3</p> <p>Railroad code in SAMERR3 must not be the same code as the Primary Operating Railroad (field I.1.)</p> <p>Railroad code in SAMERR3 must not be the same code as SAMERR1, SAMERR2 or SAMERR4</p> <p>IF SAMERR3 is not blank, then SAMEIND must be "1" (Yes)</p> |
| I.8                            | SameRr4           | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table | <p>Related Fields: RAILROAD, and SAMERR4</p> <p>Railroad code in SAMERR4 must not be the same code as the Primary Operating Railroad (field I.1.)</p> <p>Railroad code in SAMERR4 must not be the same code as SAMERR1, SAMERR2 or SAMERR3</p> <p>IF SAMERR4 is not blank, then SAMEIND must be "1" (Yes)</p>         |
| I.9                            | RrDiv             | Railroad Division or Region  | Any Alphanumeric Data   |   |
| I.10                           | RrSubDiv          | Railroad Subdivision or District   | Any Alphanumeric Data   |   |
| I.11                           | Branch            | Branch or Line Name  | Any Alphanumeric Data   |   |
| I.12.                          | PrfxMilePost      | RR Milepost Prefix   | Valid value: one to three alphanumeric characters or blank  |   |
| I.12.                          | MilePost          | RR Milepost  | Must be a numeric and the acceptable format is: NNNN.NNN (with explicit decimal point)            |   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>                | <b>Single-field Data Validation Rules</b>  | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>  |
|--------------------------------|-------------------|-----------------------------------|--|--|
| I.12                           | SfxMilePost       | RR Milepost Suffix                | Valid value: one to three alphanumeric characters or blank   |  |
| I.13                           | RrID              | Line Segment                      | Any Alphanumeric Data  |  |
| I.14                           | TtstnNam          | Nearest RR Timetable Station Name | If specified, then it must be in FRA Timetable Station Reference Table   |  |
| I.15                           | RrMain            | Parent RR                         | If specified, then it must be a valid Railroad Code and found in the FRA Railroad Reference table                          |  |
| I.16                           | XingOwnr          | Crossing Owner                    | If specified then it must be a valid Railroad or Company Code. It must be in FRA Railroad Reference table or Company Code. |  |
| I.17                           | TypeXing          | Crossing Type                     | 2 = Private<br>3 = Public  | <p>Related Fields: POSXING, XPURPOSE, HWYCONT</p> <p>If Crossing Type (TYPEXING) is '3' (Public), Position of a Crossing (POSXING) is '1' (At Grade), and Crossing Purpose (XPURPOSE) is '1' (Highway), then Parts I – II data items must be specified (except for I.20).</p> <p>If Crossing Type (TYPEXING) is '2' (Private), then Parts I – II data items must be specified.</p> <p>If Type of Crossing (TYPEXING) is '3' (Public), Position of a Crossing (POSXING) is '1' (At Grade) and Crossing Purpose (XPURPOSE) is '2' (Pathway, Pedestrian), then Parts I – II data items must be specified (except for I.20).</p> <p>Parts II –V are not required for Grade-Separated (RR Under and RR Over) crossings.</p> |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No.<br>on<br>Form<br>6180.71 | Field Name    | Description       | Single-field Data Validation Rules   | Cross-field Data Validation Rules<br>(Relationship of Two or More Data items)  |
|----------------------------------|---------------|-------------------|--|--|
|                                  |               |                   |  | If Type of Crossing (TYPEXING) is '3', then HWYCONT must contain a value and vice-versa.   |
| I.18                             | XPurpose      | Crossing Purpose  | 1 = Highway<br>2 = Pathway, Pedestrian<br>3 = Station, Pedestrian  |  |
| I.19                             | PosXing       | Crossing Position | 1 = At Grade<br>2 = RR Under<br>3 = RR Over  |  |
| I.20                             | OpenPub       | Public Access     | 1 = Yes<br>2 = No  | Related Fields: TYPEXING, POSXING<br><br>If Type of Crossing is Private at-grade (TYPEXING=2, POSXING=1), then Public Access (OPENPUB) must not be blank   |
| I.21                             | TypeTrnSrcIDs | Type of Train     | 0 = None<br>11 = Freight<br>12 = Intercity Passenger<br>13 = Commuter<br>14 = Transit<br>15 = Shared Use Transit<br>16 = Tourist/Other | Related Fields SEPRR (I.7), SAMERR(1.8)<br><br>If ATK (Amtrak) is being specified as Other Railroad Operates a Separate Track (SEPRR) or ATK is being specified as Other Railroad Operates over your track(SAMERR), then code "12" (Intercity Passenger) must be present for Type of Train Service (TYPETRNSRVC) |



Federal Railroad Administration Highway-Rail Crossing Division

| Box No.<br>on<br>Form<br>6180.71 | Field Name | Description  | Single-field Data Validation Rules   | Cross-field Data Validation Rules<br>(Relationship of Two or More Data items)   |
|----------------------------------|------------|--|--|---|
| I.22                             | Lt1PassMov | Less Than One Average Passenger Train Count Per Day? | 1 = Less than One Average Passenger Train Movement Per Day<br>2 = Number per Day | <p>Related Fields: TYPETRSRVCIDS, PASSCNT</p> <p>If Less Than One Average Passenger Train Count Per Day is 'Yes' (LT1PASSMOV=1), then the Number Per Day (PASSCNT) must be 0.</p> <p>If Less Than One Average Passenger Train Count Per Day is 'No' (LT1PASSMOV=2), then the Number Per Day (PASSCNT) must be greater than 0.</p> <p>If Less Than One Average Passenger Train Count Per Day is 'Yes' (LT1PASSMOV=1), then Type of Train Service (TYPETRSRVC) must show all or any of these codes: '12', '13', '14' and/or '15'.</p> |
| I.22                             | PassCnt    | Number Per Day                                       | Valid value: 0 to 999  | <p>Related Fields: LT1PASSMOV, DAYTHRU, NGHTTHRU, DAYSWT and NGHTSWT</p> <p>The number of trains (PASSCNT) must be 0, If less than 1 train per day is 'Yes' (LT1PASSMOV=Y)</p> <p>The number of trains (PASSCNT) must be greater than 0 If less than 1 train per day is 'No'</p> <p>Passenger train movements (PASSCNT) must be less or equal to the sum of Total Day Thru (DAYTHRU), Total Night Thru (NGHTTHRU), Total Day Switching (DAYSWT) and Total Night Switching (NGHTSW).</p>   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name  | Description   | Single-field Data Validation Rules  | Cross-field Data Validation Rules (Relationship of Two or More Data items)  |
|-------------------------|-------------|---|---|---|
| I.23                    | DevelTypID  | Type of Land Use                                      | 11 = Open Space<br>12 = Residential<br>13 = Commercial<br>14 = Industrial<br>15 = Institutional<br>16 = Farm<br>17 = Recreational<br>18 = RR Yard |   |
| I.24                    | XingAdj     | Is there an Adjacent Crossing with a Separate Number? | 1 = Yes<br>2 = No   | Related Fields: XNGADJNO<br><br>If value is "1" (Yes), then crossing number (XNGADJNO) must not be blank<br><br>If value is "2" (No), then crossing number (XNGADJNO) must be blank |
| I.24                    | XngAdjNo    | If Yes, Provide Crossing Number                       | Must be valid crossing number   | Related Fields XINGADJ<br><br>If not blank, then (XINGADJ) must equal "Yes"<br><br>If blank, then (XINGADJ) must not equal "Yes"  |
| I.25                    | WhistBan    | Quiet Zone (FRA Provided)                             | 0 = No<br>1 = 24 hr<br>2 = Partial<br>3 = Chicago Excused   |   |
| I.25                    | WhistDate   | Date Established                                      | Date Established Format: MM/DD/YYYY   | Related Fields: WHISTBAN<br><br>Date must be specified if Quiet Zone (WHISTBAN) is 1, 2, or 3   |
| I.26                    | SfxHscoRrid | HSR Corridor ID Suffix                                |   |   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>   | <b>Single-field Data Validation Rules</b>   | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>   |
|--------------------------------|-------------------|--|---|---|
| I.26                           | HscoRrid          | HSR Corridor ID  | Must be in FRA High Speed Corridor Reference Table (FRA guide Appendix F). The 4th character must be 1-9 or 'X'   |   |
| I.27                           | Latitude          | Latitude in decimal degrees (max 10 char., WGS84 std nn.nnnnnnn)     | Latitude coordinates must in decimal degrees. Valid Format: NN.NNNNNNN (with explicit decimal point)<br><br>Latitude Degrees must be 24 to 49. For the State of Alaska it must be 50 to 71.<br><br>Latitude values will be acceptable between 5 to 7 digits after the decimal point.          | Related Fields: STATE, LONGITUDE and LLSOURCE<br><br>Corresponding LLSOURCE must be entered Lower and Upper Latitude Degrees (whole number section) for the specified STATE must in FRA Latitude/Longitude Reference Table  |
| I.28                           | Longitude         | Longitude in decimal degrees (max 11 char., WGS84 std - nnn.nnnnnnn) | Longitude Coordinate must in decimal degrees. Valid Format: NN.NNNNNNN (with explicit decimal point)<br><br>Longitude Degrees must be - 66 to -124. For the State of Alaska it must be -165 to 1132<br><br>Longitude values will be acceptable between 5 to 7 digits after the decimal point. | Related Fields: STATE, LATITUDE and LLSOURCE<br><br>Corresponding LLSOURCE must be entered Lower and Upper limits of Longitude Degrees (whole number section) for the specified STATE must in FRA Latitude/Longitude Reference Table  |
| I.29                           | LLsource          | Latitude/Longitude Source  | 1 = Actual<br>2 = Estimated   | LLSOURCE must be specified Latitude/Longitude data changes.<br>If Latitude/Longitude values for an existing crossing in the National Crossing Inventory database is actual reading (LLSOURCE=1) and the submitted Latitude/Longitude values are estimate values (LLSOURCE = 2 or Blank), then the submitted latitude/longitude values will not be accepted. |
| I.30.A                         | RrNarr1           | Railroad Use   | Railroad Use  |   |
| I.30.B                         | RrNarr2           | Railroad Use   | Railroad Use  |   |
| I.30.C                         | RrNarr3           | Railroad Use   | Railroad Use  |   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>                                     | <b>Single-field Data Validation Rules</b>  | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>   |
|--------------------------------|-------------------|--|--|---|
| I.30.D                         | RrNarr4           | Railroad Use   | Railroad Use   |   |
| I.31.A                         | StNarr1           | State Use  | State Use  |   |
| I.31.B                         | StNarr2           | State Use  | State Use  |   |
| I.31.C                         | StNarr3           | State Use  | State Use  |   |
| I.31.D                         | StNarr4           | State Use  | State Use  |   |
| I.32.A                         | RrNarr            | Railroad Narrative                                     | Railroad Narrative   |   |
| I.32.B                         | StNarr            | State Narrative  | State Narrative  |   |
| I.33                           | PolCont           | Emergency Notification Telephone No. ( <i>Posted</i> ) | Must be numeric (area code and phone number) with no hyphens or parenthesis between area code and phone number | Related Field: ENSSIGN (III.2.I) POLCONT (I. 33)<br><br>If Sign is Displayed (ENSSIGN= 1), then Emergency Notification Telephone No.(POLCONT) must not be blank.  |
| I.34                           | RrCont            | Railroad Contact ( <i>Telephone No.</i> )              | Must be numeric (area code and phone number) with no hyphens or parenthesis between area code and phone number |   |
| I.35                           | HwyCont           | State Contact ( <i>Telephone No.</i> )                 | Must be numeric (area code and phone number) with no hyphens or parenthesis between area code and phone number |   |
| II.1.A                         | DayThru           | Total Day Thru Trains (6 AM to 6 PM)                   | Valid value: 0 to 500  | Related Fields: NGHTTHRU, TOTALSWT, TOTALLTR, LT1MOV, MAINTRK, SIDINGTRK, YARDTRK, TRANSITTRK, INDUSTRYTRK<br><br>If the sum of Day Thru (DAYTHRU) and Night Thru (NIGHTTHRU) is greater than 0, then the sum of Main (MAINTRK), Siding (SIDINGTRK), Yard (YARDTRK), Transit (TRANSITTRK), and Industry (INDUSTRYTRK) must be greater than 0. |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No.<br>on<br>Form<br>6180.71 | Field Name | Description                              | Single-field Data Validation Rules                                      | Cross-field Data Validation Rules<br>(Relationship of Two or More Data items)  |
|----------------------------------|------------|--|---|--|
| II.1.B                           | NghtThru   | Total Night Thru Trains<br>(6 PM to 6AM) | Valid value: 0 to 500   | <p>Related Fields: DAYTHRU, TOTALSWT, TOTALLTR, LT1MOV, MAINTRK, SIDINGTRK, YARDTRK, TRANSITTRK, INDUSTRYTRK</p> <p>If the sum of Day Thru (DAYTHRU) and Night Thru (NIGHTTHRU) is greater than 0, then the sum of Main (MAINTRK), Siding (SIDINGTRK), Yard (YARDTRK), Transit (TRANSITTRK), and Industry (INDUSTRYTRK) must be greater than 0.</p>  |
| II.1.C                           | TotalSwt   | Total Switching Trains<br>(6 AM to 6 PM) | Valid value: 0 to 500   | Related Fields: DAYTHRU, NGHTTHRU, TOTALSWT , LT1MOV   |
| II.1.D                           | TotalLtr   | Total Transit Trains                     | Valid value: 0 to 500   | Related Fields: DAYTHRU, NGHTTHRU, TOTALSWT, LT1MOV  |
| II.1.E                           | Lt1Mov     | Check if Less Than One Movement Per Day  | 1 = Less Than One Movement Per Day<br>2 = One or More Movements Per Day | <p>Related Fields: DAYTHRU, NGHTTHRU, TOTALSWT, TOTALLTR, LT1MOV</p> <p>If Daily Train Movement count is Less Than One Movement Per Day (LT1MOV=1), then the sum of DAYTHRU, NGHTTHRU, TOTALSWT and TOTALLTR must be 0.</p> <p>If Daily Train Movement count is not Less Than One Movement Per Day (LT1MOV=2), then the sum of DAYTHRU, NGHTTHRU, TOTALSWT and TOTALLTR must greater than 0.</p> <p>If the sum of DAYTHRU, NGHTTHRU, DAYSWT and NGHTSWT is 0, then How many trains per week (WEEKTRNMOV) must be greater than 0 or vice-versa.</p> |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No.<br/>on<br/>Form<br/>6180.71</b> | <b>Field Name</b> | <b>Description</b>                           | <b>Single-field Data Validation Rules</b> | <b>Cross-field Data Validation Rules<br/>(Relationship of Two or More Data items)</b>  |
|--|-------------------|--|---|--|
| II.1.E                                     | WeekTrnMov        | How many trains per week?                    | Valid value: 0 to 999                     | Related Fields: LT1MOV<br><br>If Daily Train Movement count is Less Than One Movement Per Day (LT1MOV=1), then How many trains per week (WEEKTRNMOV) must be greater than 0 or vice-versa. |
| II.2                                       | YearTrnMov        | Year of Train Count Data                     | Must be current year of update (YYYY)     | Year must be equal to current year if any changes have been made to train counts   |
| II.3.A                                     | MaxTtSpd          | Maximum Timetable Speed                      | Valid value: 1-150 (mph)                  | Related Fields: MINSPD, MAXSPD<br><br>Valid value range is 1 through 150   |
| II.3.B                                     | MinSpd            | Typical Speed Range Over Crossing (mph) From | Valid value: 1-150 (mph)                  | Related Fields: MAXTTSPD, MAXSPD<br><br>Value should be less than or equal to MAXSPD<br>Value should be less or equal to MAXTTSPD  |
| II.3.B                                     | MaxSpd            | Typical Speed Range Over Crossing (mph) To   | Valid value: 1-150 (mph)                  | Related Fields: MINSPD , MAXTTSPD<br><br>Value should be greater than or equal to MINSPD<br>Value should be less or equal to MAXTTSPD  |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name   | Description                       | Single-field Data Validation Rules   | Cross-field Data Validation Rules (Relationship of Two or More Data items)  |
|-------------------------|--------------|-----------------------------------|--|---|
| II.4                    | MainTrk      | Main                              | Valid value range is 0 through 9   | Related Fields: MAINTRK, SIDINGTRK, YARDTRK, TRANSITTRK, INDUSTRYTRK, DAYTHRU, NGHTTHRU, XSURFACEIDS<br><br>If multiple codes are present in Crossing Surface (XSURFACEIDS), then Main Track (MAINTRK) must be greater than 1.<br><br>If Through Train Movement count (DAYTHRU + NIGTTHRU) is greater than 0 (Zero), then the sum of the values in II.4 Type and Count of Tracks (MAINTRK, SIDINGTRK, YARDTRK, TRANSITTRK, and INDUSTRYTRK) must also be greater than 0 (Zero). |
| II.4                    | SidingTrk    | Siding                            | Valid value range is 0 through 9   |   |
| II.4                    | YardTrk      | Yard                              | Valid value range is 0 through 9   |   |
| II.4                    | TransitTrk   | Transit                           | Valid value range is 0 through 9   |   |
| II.4                    | IndustryTrk  | Industry                          | Valid value range is 0 through 9   |   |
| II.5                    | SpselIDs     | Train Detection (Main Track Only) | 0 = None<br>11 = Constant Warning Time<br>12 = Motion Detection<br>14 = Other<br>16 = AFO<br>17 = PTC<br>18 = DC |   |
| II.6                    | Sgnleqp      | Is Track Signaled                 | 1 = Yes<br>2 = No  |   |
| II.7.A                  | EMonitorDvce | Event Recorder                    | 1 = Yes<br>2 = No  |   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>            | <b>Single-field Data Validation Rules</b>   | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>   |
|--------------------------------|-------------------|-------------------------------|---|---|
| II.7.B                         | HealthMonitor     | Remote Health Monitoring      | 1 = Yes<br>2 = No   |   |
| III.1                          | NoSigns           | Are there Signs or Signals?   | 1 = Yes (At least one sign or signal at crossing)<br>2 = No (No signs or signals at crossing)                               |   |
| III.2.A                        | XBuck             | Crossbuck Assemblies (count)  | Valid value: 0 to 99  |   |
| III.2.B                        | StopStd           | Stop Signs (R1-1)             | Valid value: 0 to 9   |   |
| III.2.C                        | YieldStd          | Yield Signs (R1-2)            | Valid value: 0 to 9   |   |
| III.2.D                        | AdvWarn           | Advance Warning Signs         | Provide codes all that apply:<br>1 = W10-1<br>2 = W10-2<br>3 = W10-3<br>4 = W10-4<br>11 = W10-11<br>12 = W10-12<br>0 = None |   |
| III.2.D                        | AdvW10_1          | Advance Warning Signs (W10-1) | Valid Value: 0 to 9   | Related fields: ADVWARN<br><br>If Advance Warning Signs (ADVWARN) shows code '1', then the count of units for Advance Warning Signs W10-1 must be greater than 0 or vice-versa. |
| III.2.D                        | AdvW10_2          | Advance Warning Signs (W10-2) | Valid Value: 0 to 9   | Related fields: ADVWARN<br><br>If Advance Warning Signs (ADVWARN) shows code '2', then the count of units for Advance Warning Signs W10-2 must be greater than 0 or vice-versa. |



**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No.<br/>on<br/>Form<br/>6180.71</b> | <b>Field Name</b> | <b>Description</b>                       | <b>Single-field Data Validation Rules</b> | <b>Cross-field Data Validation Rules<br/>(Relationship of Two or More Data items)</b>   |
|--|-------------------|--|---|---|
| III.2.D                                    | AdvW10_3          | Advance Warning Signs (W10-3)            | Valid Value: 0 to 9                       | Related fields: ADVWARN<br><br>If Advance Warning Signs (ADVWARN) shows code '3', then the count of units for Advance Warning Signs W10-3 must be greater than 0 or vice-versa.   |
| III.2.D                                    | AdvW10_4          | Advance Warning Signs (W10-4)            | Valid Value: 0 to 9                       | Related fields: ADVWARN<br><br>If Advance Warning Signs (ADVWARN) shows code '4', then the count of units for Advance Warning Signs W10-4 must be greater than 0 or vice-versa.   |
| III.2.D                                    | AdvW10_11         | Advance Warning Signs (W10-11)           | Valid Value: 0 to 9                       | Related fields: ADVWARN<br><br>If Advance Warning Signs (ADVWARN) shows code '11', then the count of units for Advance Warning Signs W10-11 must be greater than 0 or vice-versa. |
| III.2.D                                    | AdvW10_12         | Advance Warning Signs (W10-12)           | Valid Value: 0 to 9                       | Related fields: ADVWARN<br><br>If Advance Warning Signs (ADVWARN) shows code '12', then the count of units for Advance Warning Signs W10-12 must be greater than 0 or vice-versa. |
| III.2.E                                    | Low_Grnd          | Low Ground Clearance Signs (W10-5)       | 1 = Yes<br>2 = No                         |   |
| III.2.E                                    | Low_GrndSigns     | Low Ground Clearance Signs (W10-5) count |   |   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>        | <b>Single-field Data Validation Rules</b>  | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>  |
|--------------------------------|-------------------|---------------------------|--|--|
| III.2.F                        | PaveMrkIDs        | Pavement Markings         | 0 = None<br>1 = Stop Lines<br>2 = RR Xing Symbols<br>3 = Dynamic Envelope                                      | Related Field: HWYPVED (IV. 2)<br><br>If Highway Paved (HWYPVED) is 2 (No), then Pavement Marking (PAVEMRKIDS) must be 0 (None).<br><br>If Highway Paved (HWYPVED) is 1 (Yes), then Pavement Marking (PAVEMRKIDS) code must be 0, 1, 2 or 3. |
| III.2.G                        | Channel           | Channelization Devices    | 1 = All Approaches<br>2 = One Approach<br>3 = Median – All Approaches<br>4 = Median – One Approach<br>5 = None |  |
| III.2.H                        | Exempt            | Exempt (R15-3)            | 1 = Yes, crossing is exempt<br>2 = No, crossing is not exempt  |  |
| III.2.I                        | EnsSign           | ENS Sign Displayed (I-13) | 1 = Yes<br>2 = No  |  |
| III.2.J                        | OthSgn            | Other MUTCD Signs         | 1 = Yes<br>2 = No  |  |
| III.2.J                        | OthSgn1           | Other MUTCD Signs: Count  | Valid Value: 1 to 99   | Related fields: OTHSGN, OTHDES1  |
| III.2.J                        | OthDes1           | Specify Type              | Must be an item in the MUTCD table   | Related fields: OTHSGN, OTHSGN1<br><br>If Other Signs Count (OTHSGN1) is greater than 0, then Other Sign Description (OTHDES1) must not be blank or vice-versa (If Other Signs Count is 0, then Other Sign Description must be blank).       |
| III.2.J                        | OthSgn2           | Other MUTCD Signs: Count  | Valid Value: 1 to 99   | Related fields: OTHSGN, OTHDES2  |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No.<br/>on<br/>Form<br/>6180.71</b> | <b>Field Name</b> | <b>Description</b>       | <b>Single-field Data Validation Rules</b>                | <b>Cross-field Data Validation Rules<br/>(Relationship of Two or More Data items)</b>  |
|--|-------------------|--------------------------|--|--|
| III.2.J                                    | OthDes2           | Specify Type             | Must be an item in the MUTCD table                       | Related fields: OTHSGN, OTHSGN2<br><br>If Other Signs Count (OTHSGN2) is greater than 0, then Other Sign Descriptions (OTHDES2) must not be blank or vice-versa.   |
| III.2.J                                    | OthSgn3           | Other MUTCD Signs: Count | Valid Value: 1 to 99                                     | Related fields: OTHSGN, OTHDES3  |
| III.2.J                                    | OthDes3           | Specify Type             | Must be an item in the MUTCD table                       | Related fields: OTHSGN, OTHSGN3<br><br>If Other Signs Count (OTHSGN3) is greater than 0, then Other Sing Descriptions (OTHDES3) must not be blank or vice-versa.   |
| III.2.K                                    | PrvxSign          | Private Crossing Signs   | 1 = Yes<br>2 = No<br>Blank if Type of Crossing is Public | Related Fields: TYPEXING<br><br>If Type of Crossing is Private (TYPEXINX = 2), then Private Crossing Signs (PRVXSIGN) must be '1' (Private Crossing Sign Installed) or "2" (Private Crossing signs not installed)<br><br>If Private Crossing Signs is "1" or "2", then Type of Crossing (TYPEXING) cannot be Public (3)<br>If Type of Crossing (TYPEXING) is Public, then Private Crossing (PRVXSIGN) Signs must be blank. |
| III.2.L                                    | Led               | LED Enhanced Signs       | Any Alphanumeric Description                             |  |
| III.3.A                                    | Gates             | Gate Arms: Roadway       | Valid Value: 0 to 99                                     | Related fields: TYPEXING, POSXING,XPURPOSE, NOSIGNS, WDCODE and GATECONF   |
| III.3.A                                    | GatePed           | Gate Arms: Pedestrian    | Valid Value: 0 to 99                                     |  |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No.<br>on<br>Form<br>6180.71 | Field Name   | Description  | Single-field Data Validation Rules                | Cross-field Data Validation Rules<br>(Relationship of Two or More Data items)   |
|----------------------------------|--------------|--|---|---|
| III.3.B                          | GateConf     | Gate Configuration   | 1 = 2 Quad<br>2 = 3 Quad<br>3 = 4 Quad            | Related fields: GATES (Roadway),<br>TYPEXING, POSXING and XPURPOSE.<br><br>Gate Roadway (GATES) must be greater than 0<br>If Gate Configuration (GATECONF) is not<br>blank.   |
| III.3.B                          | GateConfType | Gate Configuration Type  | 4 = Full (Barrier) Resistance<br>6 = Median Gates |   |
| III.3.C                          | FlashOv      | Cantilevered (or Bridged) Flashing<br>Light Structures: Over Traffic Lane        | Valid Value: 0 to 9                               | Related fields: NOSIGNS, FLASHNOV,<br>CFLASHTYPE<br><br>If Type of Cantilevered of Flashing Light<br>Structure Code (CFLASHTYPE) is "1" or "2",<br>then the sum of Cantilevered Flashing Light<br>Structures Count Over Traffic Lane and Count<br>Not Over Traffic Lane ( FLASHOV +<br>FLASHNOV) must greater than 0. |
| III.3.C                          | FlashNov     | Cantilevered (or Bridged) Flashing<br>Light Structures: Not Over Traffic<br>Lane | Valid Value: 0 to 9                               | Related fields: NOSIGNS, FLASHOV,<br>CFLASHTYPE<br><br>If Type of Cantilevered of Flashing Light<br>Structure Code (CFLASHTYPE) is "1" or "2",<br>then the sum of Cantilevered Flashing Light<br>Structures Count Over Traffic Lane and Count<br>Not Over Traffic Lane ( FLASHOV +<br>FLASHNOV) must greater than 0.  |
| III.3.C                          | CFlashType   | Cantilevered (or Bridged) Flashing<br>Light Structures (Type)                    | 0 = None<br>1 = Incandescent<br>2 = LED           | Related fields: FLASHOV, FLASHNOV<br><br>If Cantilevered Flashing Light Structures<br>Counts (FLASHOV or FLASHNOV) is greater<br>than 0, then Type of Cantilevered of Flashing<br>Light Structures (CFLASHTYPE) must be "1"<br>or "2".  |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>                                 | <b>Single-field Data Validation Rules</b> | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>  |
|--------------------------------|-------------------|--|---|--|
| III.3.D                        | FlashPost         | Mast Mounted Flashing Lights (count of masts)      | Valid Value: 0 to 9                       | Related fields: NOSIGNS, FLASHPOSTTYPE and BKL_FLASHPOST<br><br>If Type of Mast Mounted Flashing Lights Code (FLASHPOSTTYPE) is "1" or "2" or the Code to indicate Backlights are Included (BKL_FLASHPOST) is "1" (Yes), then the number of Mast Mounted Flashing Lights must be greater than 0. |
| III.3.D                        | FlashPostType     | Mast Mounted Flashing Lights (Type)                | 0 = None<br>1 = Incandescent<br>2 = LED   | Related fields: NOSIGNS, FLASHPOST, BKL_FLASHPOST<br><br>If the number of Mast Mounted Flashing Lights (FLASHPOST) is greater than 0, then the Type of Mast Mounted Flashing Lights (FLASHPOSTTYPE) must be "1" or "2".  |
| III.3.D                        | Bkl_FlashPost     | Mast Mounted Flashing Lights: Back Lights Included | 1 = Yes<br>2 = No                         | Related fields: NOSIGNS, FLASHPOST<br><br>If the number of Mast Mounted Flashing Lights (FLASHPOST) is greater than 0, then the Code to indicate Back Lights are included (BKL_FLASHPOST) must be "1" or "2".  |
| III.3.D                        | Sdl_FlashPost     | Mast Mounted Flashing Lights: Side Lights Included | 1 = Yes<br>2 = No                         | Related fields: NOSIGNS, FLASHPOST<br><br>If the number of Mast Mounted Flashing Lights (FLASHPOST) is greater than 0, then the Code to indicate Side Lights are included (SDL_FLASHPOST) must be "1" or "2".  |
| III.3.E                        | FlashPai          | Total Count of Flashing Light Pairs                | Valid Value: 0 to 99                      | Related fields: NOSIGNS  |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>                                  | <b>Single-field Data Validation Rules</b>   | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>   |
|--------------------------------|-------------------|---|---|---|
| III.3.F                        | AwdIDate          | Installation Date of Current Active Warning Devices | Valid format for Month and Year: MMYYYY<br>Optional for active warning devices installed before Effective Date of Final Rule. | Related fields: REASONID, GATES, GATEPED, FLASHOV, FLASHNOV, FLASHPOST, FLASHPAI<br><br>Month and Year must be provided if changes on Warning Devices.<br><br>If REASONID is '15' and the sum of Roadway Gate Arms (GATES), Pedestrian Gate Arms (GATEPED), Over Traffic Lane (FLASHOV), Not Over Traffic Lane (FLASHNOV), Mast Mounted Flashing Lights (FLASHPOST), and Total Count of Flashing Light Pairs (FLASHPAI) is equal to 0, then "-1" (Not Required) must be submitted for AWDIDATE. |
| III.3.G                        | AwhornChk         | Wayside Horn  | 1 = Yes<br>2 = No   | Related Field: AWHORN_IDATE   |
| III.3.G                        | AwhornlDate       | Wayside Horn Installed On                           | Valid format for Month and Year: MMYYYY   | Related Field: AWHORN_CHK<br><br>If Code for Automatic Wayside Horn (AWHORN_CHK) is "1" (Yes), then Installation Date of Automatic Wayside Horn must not be blank   |
| III.3.H                        | HwyTrafSignl      | Highway Traffic Signals Controlling Crossing        | 1 = Yes<br>2 = No   | Related fields: NOSIGNS, WDCODE   |
| III.3.I                        | Bells             | Bells   | Valid Value: 0 to 9   | Related fields: NOSIGNS, WDCODE   |
| III.3.J                        | SpecPro           | Non-Train Active Warning                            | 0 = None<br>1 = Flagging/Flagman<br>2 = Manually Operated Signals<br>3 = Watchman<br>4 = Floodlighting                        | Related fields: NOSIGNS, WDCODE   |
| III.3.K                        | FlashOth          | Other Flashing Lights or Warning Devices: Count     | Valid Value: 0 to 9   | Related Fields: FLASHOTHDES, WDCODE   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No. on Form 6180.71 | Field Name     | Description  | Single-field Data Validation Rules  | Cross-field Data Validation Rules (Relationship of Two or More Data items)  |
|-------------------------|----------------|--|---|---|
| III.3.K                 | FlashOthDes    | Other Flashing Lights or Warning Devices: Specify Type | Any Alphanumeric Description  | Related Fields: FLASHOTH, WDCODE<br><br>If Other Flashing lights is greater than 0 then Specify must not be blank or vice-versa.  |
| III.4.A                 | HwynrSig       | Does Nearby Hwy Intersection have Traffic Signal?      | 1 = Yes<br>2 = No   |   |
| III.4.B                 | Intrprmp       | Hwy Traffic Signal Interconnection                     | 1 = Not Interconnected<br>2 = For Traffic Signals<br>3 = For Warning Signs<br><br>"1" must not be specified should Codes "2" or "3" be specified. | If Does Nearby Hwy Intersection have Traffic Signal (HWYNRSIG) is "2" (No), then Hwy Traffic Signal Interconnection (INTRPRMP) must be "1".<br><br>If Does Nearby Hwy Intersection have Traffic Signal (HWYNRSIG) is "1" (Yes), then Hwy Traffic Signal Interconnection (INTRPRMP) must be "1", "2" and/or "3". |
| III.4.C                 | PrempType      | Highway Traffic Signal Preemption                      | 1 = Simultaneous<br>2 = Advance   | If Does Nearby Hwy Intersection have Traffic Signal (HWYNRSIG) is "1" (Yes) and Hwy Traffic Signal Interconnection (INTRPRMP) is "2" and/or "3", then Highway Traffic Signal Preemption (PREMPYTYPE) must be "1" or "2".  |
| III.5                   | HwtrfPsig      | Highway Traffic Pre-Signals                            | 1 = Yes<br>2 = No   |   |
| III.5                   | HwtrfPsigdis   | Highway Traffic Pre-Signals – Storage Distance         | Optional value if HwtrfPsig is "YES" (0 to 99)  | Related Field: HWTRF_PSIG   |
| III.5                   | HwtrfPsiglndis | Highway Traffic Pre-Signals – Stop Line Distance       | Optional value if HwtrfPsig is "YES" (0 to 99)  | Related Fields: HWTRF_PSIG, GATES<br><br>If Roadway Gate Arms (GATES) is 0, then Highway Traffic Pre-Signals Stop Line Distance (HWTRF_PSIGLNDIS) must be blank.  |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>                                  | <b>Single-field Data Validation Rules</b>                                       | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>   |
|--------------------------------|-------------------|---|---|---|
| III.6                          | MonitorDev        | Highway Monitoring Devices                          | 0 = None<br>1 = Yes-Photo/Video Recording<br>2 = Yes-Vehicle Presence Detection |   |
| IV.1                           | TrafficLn         | Traffic Lanes Crossing Railroad:<br>Number of Lanes | Valid Value: 0 to 9   | Related Field: TRAFNLNTYPE<br><br>If type of Traffic Lanes type (TRAFNLNTYPE) is not blank, then Traffic Lanes (TRAFICLN) must be greater than 0  |
| IV.1                           | TraflnType        | Traffic Lanes Crossing Railroad –<br>Type           | 1 = One-way Traffic<br>2 = Two-way Traffic<br>3 = Divided Traffic               | Related Field: TRAFICLN<br><br>If Traffic Lanes (TRAFICLN) is greater than 0, then type of Traffic Lanes type (TRAFNLNTYPE) must not be blank.  |
| IV.2                           | HwyPved           | Is Roadway/ Pathway Paved?                          | 1 = Yes<br>2 = No   | Related Field: PAVEMRKIDS (III.2.F)<br><br>If Pavement Marking (PAVEMRKIDS) is not blank, then Highway Paved (HWYPVED) must not be blank.   |
| IV.3                           | Downst            | Does Track Run Down a Street?                       | 1 = Yes<br>2 = No   |   |
| IV.4                           | Illumina          | Is Crossing Illuminated?                            | 1 = Yes<br>2 = No   |   |
| IV.5                           | XSurfDate         | Crossing Surface: Installation Date                 | Valid Format: MMYYYY  | Related fields: INIT, XSURFACEIDS, MAINTRK<br><br>If Reporting Agency (INIT) is Railroad and Crossing Surface has been changed, then Crossing Surface Effective Date (XSURFDATE) must be specified. |
| IV.5                           | XSurfWidth        | Crossing Surface: Width                             | Optional or 4-999 Feet (Feet Measurement)                                       | Related fields: XSURFACEIDS, XSLENTH  |
| IV.5                           | XSurfLength       | Crossing Surface: Length                            | Optional or 3-999 Feet (Feet Measurement)                                       | Related fields: XSURFACEIDS, XSWIDTH, XSLENTH   |



Federal Railroad Administration Highway-Rail Crossing Division

| Box No. on Form 6180.71 | Field Name  | Description                                   | Single-field Data Validation Rules  | Cross-field Data Validation Rules (Relationship of Two or More Data items)   |
|-------------------------|-------------|---|---|--|
| IV.5                    | XSurfaceIDs | Crossing Surface (on Main Track):<br>Type     | 11 = 1. Timber<br>12 = 2. Asphalt<br>13 = 3. Asphalt and Timber<br>14 = 4. Concrete<br>15 = 5. Concrete and Rubber<br>16 = 6. Rubber<br>17 = 7. Metal<br>18 = 8. Unconsolidated<br>19 = 9. Composite<br>20 = 10. Other (specify)<br><br><b>Specify all codes that apply if there are multiple <u>main line tracks</u> which have different type of surface.</b><br><br><b>Note: XSurfaceIDs only applies to II.4 Main (and not Siding, Yard, Transit, and Industry)</b> | Related fields: XSURFACEIDS, XSINDATE, XSWIDTH, XSLENTH, MAINTRK<br><br>If Crossing Surface (XSURFACEIDS) code is 20 (Other), then Description of Crossing Surface (XSUROTHR) must not be blank  |
| IV.5                    | XSurOthr    | Crossing Surface for Other ( <i>specify</i> ) | Open Text   | Related fields: XSURFACEIDS<br><br>If Crossing Surface Code is 20 (Other), then "XSUROTHR" must not be blank   |
| IV.6                    | HwyNear     | Intersecting Roadway within 500 feet?         | 1 = Yes<br>2 = No   | Related Field: HWYNDIST<br><br>If Approximate Intersecting Roadway distance (HWYNDIST) is greater than 0, then Intersecting Roadway within 500 feet (HWYNEAR) code must be 1 (YES).<br><br>If Approximate Intersecting Roadway distance (HWYNDIST) is greater than 501, then Intersecting Roadway within 500 feet (HWYNEAR) code must be 2 (NO). |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>                            | <b>Single-field Data Validation Rules</b>  | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>  |
|--------------------------------|-------------------|---|--|--|
| IV.6                           | HwynDist          | If Yes, Approximate Distance (feet)           | If Yes, Valid Value: 1-500<br>If No, Valid Value: 501-2500   | Related Field: HWYNEAR<br><br>If Intersecting Roadway within 500 feet (HWYNEAR) is 1 (YES), then Approximate Intersecting Roadway Distance (HWYNDIST) must be greater than 0 and less than 501.<br><br>If Intersecting Roadway within 500 feet (HWYNEAR) is 2 (NO), then Approximate Intersecting Roadway Distance (HWYNDIST) must be greater than 500 and less than 2501. |
| IV.7                           | XAngle            | Smallest Crossing Angle                       | 1 = 0-29 degrees<br>2 = 30-59 degrees<br>3 = 60-90 degrees   |  |
| IV.8                           | ComPower          | Is Commercial Power Available?                | 1 = Yes<br>2 = No  |  |
| V.1                            | HwySys            | Highway System                                | 1 = (01) Interstate Highway System<br>2 = (02) Other Nat Hwy System (NHS)<br>3 = (03) Federal Aid, Not NHS<br>8 = (08) Non-Federal Aid   |  |
| V.2                            | HwyClassCD        | Functional Classification of Road at Crossing | 0 = (0) Rural<br>1 = (1) Urban   |  |
| V.2                            | HwyClassrdtpID    | Functional Classification of Road at Crossing | 11 = (1) Interstate<br>12 = (2) Other Freeways and Expressways<br>13 = (3) Principal Arterial Other<br>16 = (4) Minor Arterial<br>17 = (5) Major Collector<br>18 = (6) Minor Collector<br>19 = (7) Local |  |
| V.3                            | StHwy1            | Is Crossing on State Highway System?          | 1 = Yes<br>2 = No  |  |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Box No. on Form 6180.71</b> | <b>Field Name</b> | <b>Description</b>  | <b>Single-field Data Validation Rules</b> | <b>Cross-field Data Validation Rules (Relationship of Two or More Data items)</b>  |
|--------------------------------|-------------------|---|---|--|
| V.4                            | HwySpeed          | Highway Speed Limit (MPH)   | 0 to 120 miles per hour                   | Related Field: HWYSPEED, HWYSPEEDPS<br><br>If Highway Speed Limit - Posted or Statutory (HWYSPEED) is greater than 0, then Highway Speed Limit Posted or Statutory must not be blank.        |
| V.4                            | HwySpeedps        | Highway Speed Limit - Posted or Statutory                             | 1 = Posted<br>2 = Statutory               | Related Field: HWYSPEEDPS<br><br>If Highway Speed Limit - Posted or Statutory (HWYSPEED) is 1 (YES), then Highway Speed Limit must be greater than 0.  |
| V.5                            | LrsRouteid        | Linear Referencing System (LRS Route ID)                              | Any Alphanumeric Description              |  |
| V.6                            | LrsMilePost       | LRS Milepost  | Any Alphanumeric Description              |  |
| V.7                            | Aadt              | Annual Average Daily Traffic (AADT)                                   | Valid Values: 000001 - 999999             | Related Field: AADTYEAR  |
| V.7                            | AadtYear          | AADT: Year  | Valid Year Date Format: YYYY              | Related Field: AADTYEAR  |
| V.8                            | PctTruk           | Estimated Percent Trucks  | Valid Values: 0 to 99                     |  |
| V.9                            | SchlBusChk        | Regularly Used by School Buses?                                       | 1 = Yes<br>2 = No                         | Related Fields: SCHLBUSCNT<br><br>If Average No. of School buses Passing Over the Crossing (SCHLBUSCNT) is greater than 0, then Regularly Used by School Buses (SCHLBUSCHK) must be 1 (Yes). |
| V.9                            | SchlBsCnt         | Average No. of School Buses Passing Over the Crossing on a School Day | Valid Value: 0 to 999                     | Related Field: SCHLBUSCHK<br><br>If Crossing is Regularly Used by School Buses (SCHLBUSCHK='1') then the number of School Bused (SCHLBUSCNT) must be greater than 0.                         |
| V.10                           | EmrgncySrvc       | Emergency Services Route  | 1 = Yes<br>2 = No                         |  |

Federal Railroad Administration Highway-Rail Crossing Division

**B-2: Business Rules Validations**

| Applies To | ID     | Description  | Definition   |
|------------|--------|--|--|
| ALL        | BRC101 | <b>Applies to ALL Submissions - Core Fields</b><br>The submitted crossing data is validated to ensure that the core (required) fields necessary are present and that they contain the appropriate values. The core fields are specified in the electronic filing instructions.   | If the submitted crossing data contains <b>all</b> of the core fields, rule is valid.  |
| ALL        | BRC102 | <b>Applies to ALL Submissions - Single Fields</b><br>The submitted crossing data is validated to ensure that the values provided for each field are valid. Single field validations as specified in the electronic filing instructions.  | If the submitted crossing data passes all <b>single field</b> validations, rule is valid.  |
| ALL        | BRC103 | <b>Applies to ALL Submissions - Cross Field</b><br>The submitted crossing data is validated to ensure that the values across related fields are valid. Cross field validations as specified in the Appendix B-1: Single and Cross-field Validations table.   | If the submitted crossing data passes all <b>cross field</b> validations, rule is valid. For the list of cross field validations please use the Appendix B-1: Single and Cross-field Validations table.  |
| ALL        | BRC104 | <b>Applies to ALL Submissions - Existence of Crossing</b><br>The DOT Crossing Inventory Number of the submitted crossing data is check against the National Crossing Inventory.  | If the DOT Crossing Inventory Number of the submitted crossing data <b>exists</b> in the FRA National Crossing Inventory, then the crossing <b>EXISTS</b> ; else the crossing is <b>NEW</b> .  |
| ALL        | BRC105 | <b>Applies to ALL Submissions - Initiating Agency</b><br>The initiating agency will be determined based on the profile of the account used to submit the crossing data.  | The submitter's account will be linked to the submission.  |
| ALL        | BRC106 | <b>Applies to ALL Submissions - Crossing Updates Submitted by a two different users of the same agency</b><br>If a different agency has submitted changes to the same crossing being submitted, then a confirmation is required.<br>If a different agency does not address possible validation issues, the submitted changes on the crossing data may be over-written. | Upon receipt of the submitted crossing data, the DOT Crossing Number will be checked for other pending submissions which are updating common fields and both entities have different values, then both submissions will be <b>Questionable</b> for confirmation. |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Applies To   | ID       | Description   | Definition   |
|--------------|----------|---|--|
| ALL          | BRC106.1 | <p><b>Applies to ALL Submissions - Multiple Agencies Filing Separately</b><br/>                     When multiple Agencies operate "THROUGH" the same crossing and the submitting agency is not the Primary Operating Railroad then the only fields required are - Core Fields per electronic submissions guide and updates for any of the following items:<br/>                     &gt;I.9 (Railroad Division or Region)<br/>                     &gt;I.10 (Railroad Subdivision or District)<br/>                     &gt;I.12 (RR Milepost)<br/>                     &gt;II.1.A (Total Day Thru Trains)<br/>                     &gt;II.1.B (Total Night Thru Trains)<br/>                     &gt;II.1.C (Total Switching Trains)<br/>                     &gt;II.1.D (Total Transit Trains)<br/>                     &gt;II.2 (Year of Train Count Data)<br/>                     &gt;II.3.A (Maximum Timetable Speed)<br/>                     &gt;II.3.B (Typical Speed Range Over Crossing (mph))<br/> <b>Only rules associated with these fields will be applied (Single/Cross-field)</b></p> | <p>If the crossing referenced in the submission exists in the National Crossing Inventory and the submitting agency was identified as a "THROUGH" Operator (I.7) and the following fields are provided then the submission is valid.<br/>                     Must provide:<br/>                     Core Fields per electronic submissions guide and any of the following<br/>                     &gt;I.9 (Railroad Division or Region)<br/>                     &gt;I.10 (Railroad Subdivision or District)<br/>                     &gt;I.12 (RR Milepost)<br/>                     &gt;II.1.A (Total Day Thru Trains)<br/>                     &gt;II.1.B (Total Night Thru Trains)<br/>                     &gt;II.1.C (Total Switching Trains)<br/>                     &gt;II.1.D (Total Transit Trains)<br/>                     &gt;II.2 (Year of Train Count Data)<br/>                     &gt;II.3.A (Maximum Timetable Speed)<br/>                     &gt;II.3.B (Typical Speed Range Over Crossing (mph))</p> <p><b>If the referenced crossing is not found, then submission will be held until the Primary Operating Railroad submits their form.</b></p> |
| ALL          | BRC107   | <p><b>Applies to ALL Submissions - Publishing</b><br/>                     Crossing updates submitted to FRA must pass all rules/validations in order to be posted to the National Crossing Inventory.</p>  | <p>All rules/validations must be valid. The submitting agency will be notified of the appropriate corrections needed.</p>  |
| NEW Crossing | BRN01    | <p><b>Applies to NEW Crossings - Who Can Report?</b><br/>                     The agency must be a Railroad or Transit, or have been delegated reporting privileges from a Railroad.</p>  | <p>If the agency is a Railroad or Transit or the agency has been delegated reporting privileges from a Railroad, then New Submission are allowed</p>   |
| NEW Crossing | BRN02    | <p><b>Applies to NEW Crossings - Public Highway Vehicle At-Grade</b><br/>                     The agency must be a Railroad, or have been delegated reporting privileges from a Railroad and they must provide data for Header and Parts I-V of the form.</p> <p><i>Please review the Guide for Preparing U.S. DOT Crossing Inventory Forms for the list of fields that are expected.</i></p>   | <p>If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then:<br/>                     If the Crossing Type is Public and the Crossing Purpose is Highway Vehicle and the Crossing Position is At Grade, all fields (per the Guide for Preparing U.S. DOT Crossing Inventory Forms) in Parts I - V of the form are required.</p>  |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Applies To</b> | <b>ID</b> | <b>Description</b>   | <b>Definition</b>   |
|-------------------|-----------|--|---|
| NEW Crossing      | BRN03     | <p><b>Applies to NEW Crossings - Private Highway Vehicle At-Grade</b><br/>The agency must be a railroad, or have been delegated reporting responsibility from a railroad and they must provide data for the Header and Parts I-II of the form.</p> <p><i>Please review the Guide for Preparing U.S. DOT Crossing Inventory Forms for the list of fields that are expected.</i></p> | <p>If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then:<br/>If the Crossing Type is Private and the Crossing Purpose is Highway Vehicle and the Crossing Position is At Grade, all fields (per the Guide for Preparing U.S. DOT Crossing Inventory Forms) in the Header and Parts I - II of the form are required.</p> |
| NEW Crossing      | BRN04     | <p><b>Applies to NEW Crossings - All Pedestrian</b><br/>The agency must be a Railroad, or have been delegated reporting privileges from a Railroad and they must provide data for Parts I-IV of the form.</p> <p><i>Please review the Guide for Preparing U.S. DOT Crossing Inventory Forms for the list of fields that are expected.</i></p>                                      | <p>If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then:<br/>If the Crossing Purpose is <b>not</b> Highway Vehicle, all fields (per the Guide for Preparing U.S. DOT Crossing Inventory Forms) in Parts I - IV of the form are required.</p>  |
| NEW Crossing      | BRN05     | <p><b>Applies to NEW Crossings - All Grade Separated</b><br/>The agency must be a Railroad, or have been delegated reporting privileges from a Railroad and they must provide data for Parts I of the form.</p> <p><i>Please review the Guide for Preparing U.S. DOT Crossing Inventory Forms for the list of fields that are expected.</i></p>                                    | <p>If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then:<br/>If the Crossing Position is <b>not</b> At Grade, all fields in Part I of the form are required.</p>  |
| NEW Crossing      | BRN06     | <p><b>Applies to Unreported NEW Crossings - Close Crossing</b><br/>This rule provides the steps taken when a New Crossing is submitted with the reason for update is equal to 'Closed'.</p>  | <p>If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then:<br/>If the Reason for Update is either 'Closed', then all business rules associated with New Crossings are applicable. If all rules are met, a new (1) crossing record will be added to the National Crossing Inventory based on the form submitted.</p>       |
| EXISTING Crossing | BRE01     | <p><b>Applies to EXISTING Crossings - Select Record to Modify</b><br/>This rule determines the appropriate National Crossing Inventory Record that is being modified by the submitted crossing form. It also identifies the record to which the submitted changes will merged in to.</p>   | <p>From the National Crossing Inventory, select the most recent crossing record with the Revision Date less than or equal to the submitted crossing form's Revision Date.</p>   |
| EXISTING Crossing | BRE02     | <p><b>Applies to EXISTING Crossings - Update Responsibility</b><br/>This rule determines agency's field responsibility based on the electronic submission instructions.</p>  | <p>If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad, then allow updates to <b>Railroad</b> fields, else if the agency is a State or the agency has been delegated reporting privileges from a State, then allow updates to <b>State</b> fields. Updates to fields not in the agency's purview will not be allowed.</p>   |

**Federal Railroad Administration Highway-Rail Crossing Division**

| <b>Applies To</b> | <b>ID</b> | <b>Description</b>  | <b>Definition</b>   |
|-------------------|-----------|---|---|
| EXISTING Crossing | BRE02.01  | <b>Applies to EXISTING Crossings - Delegate Reporting</b><br>This rule determines agency's field responsibility based on the electronic submission instructions have been delegate to the submitting agency.  | If the agency has been given reporting privileges from the <b>State</b> and <b>Railroad</b> for the submitted crossing, then allow update to all fields on the form   |
| EXISTING Crossing | BRE03     | <b>Applies to EXISTING Crossings - Warning Device Upgrade (from Railroad)</b><br>This rule determines if the fields associated with a Warning Device should be updated if the submitting agency is a Railroad and if it is upgrading the warning device on the crossing.  | If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then:<br>If the numeric crossing Warning Device WD Code on the submitted crossing form is greater than the FRA calculated WD numeric code (based on the warning device fields that exists) in the <b>most recent</b> National Crossing Inventory record, then the Railroad agency will be allowed to update all Warning Device Fields (Part III of the Form). |
| EXISTING Crossing | BRE03.01  | <b>Applies to EXISTING Crossings - Warning Device Downgrade (from State)</b><br>This rule determines if a Warning Device Downgrade is being submitted to the National Crossing Inventory record.  | If the agency is a State or the agency has been delegated reporting privileges from a State then:<br>If the FRA calculated WD numeric codes (based on the warning device fields updates) in the submitted crossing data is less than the FRA calculated WD numeric code (based on the warning device fields that exists) in the most recent National Crossing Inventory record, then flag as <b>Questionable</b> .  |
| EXISTING Crossing | BRE04     | <b>Applies to EXISTING Crossings - Operating RR Transfer (Accepted)</b><br>This rule determines if the submitting agency is the Primary Operating Railroad and is transferring the ownership to another agency. <b>Only the Primary Operating Railroad or designated agency is allowed to transfer ownership.</b> | If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then:<br>If the agency is the Primary Operating Railroad on the submitted crossing data and the Reason for Update is Operating RR Transfer, then the Primary Operating Railroad change will be allowed.   |
| EXISTING Crossing | BRE05     | <b>Applies to EXISTING Crossings - Changing Crossing Types</b><br>This rule determines if the Crossing Type change meets the criteria applicable to the Crossing Type.  | If the agency is a Railroad/State or the agency has been delegated reporting privileges from a Railroad or State then:<br>Crossing Type updates will be accepted provided that the updated Crossing Type passes all applicable rules ( <b>BRN02, BRN03, BRN04</b> ).  |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Applies To        | ID       | Description  | Definition   |
|-------------------|----------|--|--|
| EXISTING Crossing | BRE06    | <b>Applies to EXISTING Crossings - Close an Open Crossing (Accepted)</b><br>This rule determines if the submitted crossing form will close an Open crossing in the National Crossing Inventory.  | If the Agency is a Railroad /State or the Agency has been delegated reporting privileges from a Railroad /State then:<br>If the Reason for Update is Closed or Out-Service/Inactive or Abandoned in the submitted Crossing Form and the Reason for Update in the most recent National Crossing Inventory record is <b>not</b> Closed or Out-service/Inactive or Abandoned and the Revision Date is Greater than or equal to the Revision Date in the most recent National Crossing Inventory, then the Crossing will be closed   |
| EXISTING Crossing | BRE06.01 | <b>Applies to EXISTING Crossings - Close an Open Crossing (Questionable)</b><br>This rule determines if the submitted crossing form will close an Open crossing in the National Crossing Inventory.  | If the Agency is a Railroad /State or the Agency has been delegated reporting privileges from a Railroad /State then:<br>If the Reason for Update <b>is</b> Closed or Out-Service/Inactive or Abandoned in the submitted Crossing Form and the Reason for Update in the most recent National Crossing Inventory record <b>is not</b> Closed or Out-service/Inactive or Abandoned and the Revision Date is Less than the Revision Date in the most recent National Crossing Inventory, then the submission will be Flag as <b>Questionable</b>                              |
| EXISTING Crossing | BRE06.02 | <b>Applies to EXISTING Crossings - Updates to a Closed Crossing</b><br>This rule determines if the submitted crossing form will update a Closed crossing in the National Crossing Inventory.   | If the Agency is a Railroad /State or the Agency has been delegated reporting privileges from a Railroad /State then:<br>If the Reason for Update <b>is NOT</b> Closed or Out-Service/Inactive or Abandoned in the submitted Crossing Form and the Reason for Update in the most recent National Crossing Inventory record <b>is</b> Closed or Out-service/Inactive or Abandoned and the Reason for Update <b>is not</b> Re-Open in the submitted Crossing Form, then the submission will be Invalid. The Agency must re-submit with the Reason for Update set to Re-Open. |
| EXISTING Crossing | BRE07    | <b>Applies to EXISTING Crossings -</b><br>This rule determines if the submitted crossing form contains the same values as the most recent crossing in the National Crossing Inventory.   | If the Agency is a Railroad /State or the Agency has been delegated reporting privileges from a Railroad /State then:<br>If the submitted Form has no changes when compared to the most recent National Crossing Inventory record, then the submission will be considered as a No Change.  |
| EXISTING Crossing | BRE08    | <b>Applies to EXISTING Crossings - Revision Date Only</b><br>This rule determines if the submitted crossing form will <b>ONLY</b> update the Revision Date for a record in the National Crossing Inventory. If so the Reason for Update should be Change Date Only and the submitted date must be greater than the most recent record for the selected crossing. | If the Agency is a Railroad/State or the Agency has been delegated reporting privileges from a railroad /State then:<br>If the Reason for Update is Date Change Only and Revision Date on the Submitted Form is less than or equal to the most recent National Crossing Inventory record, then the rule is invalid.  |



**Federal Railroad Administration Highway-Rail Crossing Division**

| Applies To        | ID    | Description   | Definition   |
|-------------------|-------|---|--|
| EXISTING Crossing | BRE09 | <p><b>Applies to EXISTING Crossings - Latitude / Longitude</b><br/>                     Latitude and/or Longitude updates to a record in the National Crossing are only allowed when the submitted values fall in the following categories:<br/>                     1) The agency is submitting <b>Estimated</b> values and the selected National Crossing Inventory has <b>estimated or none</b>.<br/>                     2) The agency is submitting <b>Actual</b> values and the selected National Crossing Inventory have <b>estimated or none</b>.</p> | <p>If the Lat/Long Source on the Submitted Form is <b>Estimated</b> and the Lat/Long Source on the selected National Crossing Inventory record is <b>estimated or empty/blank</b><br/>                     OR<br/>                     If the Lat/Long Source on the Submitted Form is Actual and the Lat/Long Source on the selected National Crossing Inventory record is <b>estimated or empty/blan</b>, then the update is valid. Otherwise the submission will be rejected.</p> |

**Appendix C: GCIS Required and Optional Fields**

This appendix provides a listing of required vs. optional fields to be used by Agencies when submitting the following types of modifications to the National Grade Crossing Inventory:

- 1) New Crossings
- 2) Updates to an existing crossing

For modifications, the fields can either be:

- 1) R: Required – A value for the field must be provided
- 2) O: Optional – The field can be ignored or left blank/null
- 3) C: Conditional - The field can be ignored or left blank/null, however if a value in a related field (See Appendix B-1 for Single and Cross-Field Validations) is provided, then the field becomes required

Example: If TYPEXING=2 and POSXING=1, then Public Access (OPENPUB) must not be blank

| Box No.<br>on Form<br>6180.71                          | Field Name            | Description                        | Railroad or Transit |                      |                              |                    |         | State              |         |
|--|-----------------------|------------------------------------|---------------------|----------------------|------------------------------|--------------------|---------|--------------------|---------|
|  |                       |                                    | New Crossings       |                      |                              | Existing Crossings |         | Existing Crossings |         |
|  |                       |                                    | Public <sup>1</sup> | Private <sup>2</sup> | Grade Separated <sup>3</sup> | Public             | Private | Public             | Private |
| <b>Part I: Location and Classification Information</b> |                       |                                    |                     |                      |                              |                    |         |                    |         |
| A  | RevisionDate          | Revision Date (Date of Submission) | R                   | R                    | R                            | R                  | R       | R                  |         |
| B  | ReportingAgencyTypeID | Reporting Agency                   | R                   | R                    | R                            | R                  | R       | R                  |         |
| C  | ReasonId              | Reason for Update                  | R                   | R                    | R                            | R                  | R       | R                  |         |
| D  | CrossingId            | DOT Crossing Inventory Number      | R                   | R                    | R                            | R                  | R       | R                  |         |
| I.1  | Railroad              | Primary Operating Railroad         | R                   | R                    | R                            | R                  | R       |                    |         |
| I.2  | StateCD               | State Numeric Code                 | R                   | R                    | R                            |                    | R       | R                  |         |
| I.3  | CntyCD                | County Numeric Code                | R                   | R                    | R                            |                    | R       | R                  |         |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No.<br>on Form<br>6180.71 | Field Name | Description  | Railroad or Transit |                      |                              |                    |         | State              |         |
|-------------------------------|------------|--|---------------------|----------------------|------------------------------|--------------------|---------|--------------------|---------|
|                               |            |  | New Crossings       |                      |                              | Existing Crossings |         | Existing Crossings |         |
|                               |            |  | Public <sup>1</sup> | Private <sup>2</sup> | Grade Separated <sup>3</sup> | Public             | Private | Public             | Private |
| I.4                           | Nearest    | In or Near City Indicator  | R                   | R                    | R                            |                    | R       | R                  |         |
| I.4                           | CityCD     | City/Municipality Numeric Code   | R                   | R                    | R                            |                    | R       | R                  |         |
| I.5                           | Street     | Street or Road Name  | R                   | R                    | R                            |                    | R       | R                  |         |
| I.5                           | BlockNumb  | Block Number (of Street or Road)   | O                   | O                    | O                            |                    | O       | O                  |         |
| I.6                           | Highway    | Highway Type and No.   | R                   | R                    | R                            |                    | R       | R                  |         |
| I.7                           | SepInd     | Do Other RRs Operate a Separate Track at Crossing?                             | R                   | R                    | R                            | R                  | R       |                    |         |
| I.7                           | SepRr1     | Specify RR Code of Other Railroads that Operate Separate Track                 | C                   | C                    | C                            | C                  | C       |                    |         |
| I.7                           | SepRr2     | Specify RR Code of Other Railroads that Operate Separate Track                 | C                   | C                    | C                            | C                  | C       |                    |         |
| I.7                           | SepRr3     | Specify RR Code of Other Railroads that Operate Separate Track                 | C                   | C                    | C                            | C                  | C       |                    |         |
| I.7                           | SepRr4     | Specify RR Code of Other Railroads that Operate Separate Track                 | C                   | C                    | C                            | C                  | C       |                    |         |
| I.8                           | SameInd    | Do other RRs Operate Over Your Track at Crossing?                              | R                   | R                    | R                            | R                  | R       |                    |         |
| I.8                           | SameRr1    | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | C                   | C                    | C                            | C                  | C       |                    |         |
| I.8                           | SameRr2    | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | C                   | C                    | C                            | C                  | C       |                    |         |
| I.8                           | SameRr3    | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | C                   | C                    | C                            | C                  | C       |                    |         |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No.<br>on Form<br>6180.71 | Field Name     | Description  | Railroad or Transit |                      |                              |                    |         | State              |         |
|-------------------------------|----------------|--|---------------------|----------------------|------------------------------|--------------------|---------|--------------------|---------|
|                               |                |  | New Crossings       |                      |                              | Existing Crossings |         | Existing Crossings |         |
|                               |                |  | Public <sup>1</sup> | Private <sup>2</sup> | Grade Separated <sup>3</sup> | Public             | Private | Public             | Private |
| I.8                           | SameRr4        | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | C                   | C                    | C                            | C                  | C       |                    |         |
| I.9                           | RrDiv          | Railroad Division or Region  | R                   | R                    | R                            | R                  | R       |                    |         |
| I.10                          | RrSubDiv       | Railroad Subdivision or District   | R                   | R                    | R                            | R                  | R       |                    |         |
| I.11                          | Branch         | Branch or Line Name  | R                   | R                    | R                            | R                  | R       |                    |         |
| I.12                          | PrfxMilePost   | RR Milepost Prefix   | O                   | O                    | O                            | O                  | O       |                    |         |
| I.12                          | MilePost       | RR Milepost  | R                   | R                    | R                            | R                  | R       |                    |         |
| I.12                          | SfxMilePost    | RR Milepost Suffix   | O                   | O                    | O                            | O                  | O       |                    |         |
| I.13                          | RrID           | Line Segment   | O                   | O                    | O                            | O                  | O       |                    |         |
| I.14                          | TtstnNam       | Nearest RR Timetable Station Name  | O                   | O                    | O                            | O                  | O       |                    |         |
| I.15                          | RrMain         | Parent RR  | R                   | R                    | R                            | R                  | R       |                    |         |
| I.16                          | XingOwnr       | Crossing Owner   | R                   | R                    | R                            | R                  | R       |                    |         |
| I.17                          | TypeXing       | Crossing Type  | R                   | R                    | R                            |                    | R       | R                  |         |
| I.18                          | XPurpose       | Crossing Purpose   | R                   | R                    | R                            |                    | R       | R                  |         |
| I.19                          | PosXing        | Crossing Position  | R                   | R                    | R                            |                    | R       | R                  |         |
| I.20                          | OpenPub        | Public Access (if Private Crossing)  |                     | R                    | C                            |                    | R       |                    |         |
| I.21                          | TypeTrnSrvclDs | Type of Train  | R                   | R                    | R                            | R                  | R       |                    |         |
| I.22                          | Lt1PassMov     | Less Than One Average Passenger Train Count Per Day?                           | R                   | R                    | R                            | R                  | R       |                    |         |
| I.22                          | PassCnt        | Number Per Day   | C                   | C                    | C                            | C                  | C       |                    |         |
| I.23                          | DevelTypID     | Type of Land Use   | R                   | R                    | R                            |                    | R       | R                  |         |

**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No.<br>on Form<br>6180.71 | Field Name  | Description  | Railroad or Transit |                      |                              |                    |         | State              |         |
|-------------------------------|-------------|--|---------------------|----------------------|------------------------------|--------------------|---------|--------------------|---------|
|                               |             |  | New Crossings       |                      |                              | Existing Crossings |         | Existing Crossings |         |
|                               |             |  | Public <sup>1</sup> | Private <sup>2</sup> | Grade Separated <sup>3</sup> | Public             | Private | Public             | Private |
| I.24                          | XingAdj     | Is there an Adjacent Crossing with a Separate Number?                  | R                   | R                    | R                            |                    | R       | R                  |         |
| I.24                          | XngAdjNo    | If Yes, Provide Crossing Number  | C                   | C                    | C                            |                    | C       | C                  |         |
| I.25                          | WhistBan    | Quiet Zone (FRA Provided)  |                     |                      |                              |                    |         |                    |         |
| I.25                          | WhistDate   | Date Established   |                     |                      |                              |                    |         |                    |         |
| I.26                          | SfxHscoRrid | HSR Corridor ID Suffix   | R                   | R                    | R                            |                    | R       | R                  |         |
| I.26                          | HscoRrid    | HSR Corridor ID  | R                   | R                    | R                            |                    | R       | R                  |         |
| I.27                          | Latitude    | Latitude in decimal degrees<br>(max 10 char., WGS84 std nn.nnnnnnn)    | R                   | R                    | R                            |                    | R       | R                  |         |
| I.28                          | Longitude   | Longitude in decimal degrees<br>(max 11 char., WGS84 std -nnn.nnnnnnn) | R                   | R                    | R                            |                    | R       | R                  |         |
| I.29                          | LLsource    | Latitude/Longitude Source  | R                   | R                    | R                            |                    | R       | R                  |         |
| I.30.A                        | RrNarr1     | Railroad Use   | O                   | O                    | O                            | O                  | O       |                    |         |
| I.30.B                        | RrNarr2     | Railroad Use   | O                   | O                    | O                            | O                  | O       |                    |         |
| I.30.C                        | RrNarr3     | Railroad Use   | O                   | O                    | O                            | O                  | O       |                    |         |
| I.30.D                        | RrNarr4     | Railroad Use   | O                   | O                    | O                            | O                  | O       |                    |         |
| I.31.A                        | StNarr1     | State Use  |                     |                      |                              |                    |         | O                  |         |
| I.31.B                        | StNarr2     | State Use  |                     |                      |                              |                    |         | O                  |         |
| I.31.C                        | StNarr3     | State Use  |                     |                      |                              |                    |         | O                  |         |
| I.31.D                        | StNarr4     | State Use  |                     |                      |                              |                    |         | O                  |         |
| I.32.A                        | RrNarr      | Railroad Narrative   | O                   | O                    | O                            | O                  | O       |                    |         |

Federal Railroad Administration Highway-Rail Crossing Division

| Box No.<br>on Form<br>6180.71        | Field Name | Description  | Railroad or Transit |                      |                              |                    |         | State              |         |
|--------------------------------------|------------|--|---------------------|----------------------|------------------------------|--------------------|---------|--------------------|---------|
|                                      |            |  | New Crossings       |                      |                              | Existing Crossings |         | Existing Crossings |         |
|                                      |            |  | Public <sup>1</sup> | Private <sup>2</sup> | Grade Separated <sup>3</sup> | Public             | Private | Public             | Private |
| I.32.B                               | StNarr     | State Narrative  |                     |                      |                              |                    |         | O                  |         |
| I.33                                 | PolCont    | Emergency Notification Telephone No. ( <i>Posted</i> ) | R                   | R                    | R                            | R                  | R       |                    |         |
| I.34                                 | RrCont     | Railroad Contact ( <i>Telephone No.</i> )              | R                   | R                    | R                            | R                  | R       |                    |         |
| I.35                                 | HwyCont    | State Contact ( <i>Telephone No.</i> )                 |                     |                      |                              |                    |         | R                  |         |
| <b>Part II: Railroad Information</b> |            |  |                     |                      |                              |                    |         |                    |         |
| II.1.A                               | DayThru    | Total Day Thru Trains (6 AM to 6 PM)                   | R                   | R                    | O                            | R                  | R       |                    |         |
| II.1.B                               | NghtThru   | Night Thru Trains (6 PM to 6AM)                        | R                   | R                    | O                            | R                  | R       |                    |         |
| II.1.C                               | TotalSwt   | Total Switching Trains (6 AM to 6 PM)                  | R                   | R                    | O                            | R                  | R       |                    |         |
| II.1.D                               | TotalLtr   | Total Transit Trains                                   | R                   | R                    | O                            | R                  | R       |                    |         |
| II.1.E                               | Lt1Mov     | Check if Less Than One Movement Per Day                | C                   | C                    | O                            | C                  | C       |                    |         |
| II.1.E                               | WeekTrnMov | How many trains per week?                              | C                   | C                    | O                            | C                  | C       |                    |         |
| II.2                                 | YearTrnMov | Year of Train Count Data                               | R                   | R                    | O                            | R                  | R       |                    |         |
| II.3.A                               | MaxTtSpd   | Maximum Timetable Speed                                | R                   | R                    | O                            | R                  | R       |                    |         |
| II.3.B                               | MinSpd     | Typical Speed Range Over Crossing (mph) From           | R                   | R                    | O                            | R                  | R       |                    |         |
| II.3.B                               | MaxSpd     | Typical Speed Range Over Crossing (mph) To             | R                   | R                    | O                            | R                  | R       |                    |         |
| II.4                                 | MainTrk    | Main   | R                   | R                    | O                            | R                  | R       |                    |         |
| II.4                                 | SidingTrk  | Siding   | R                   | R                    | O                            | R                  | R       |                    |         |
| II.4                                 | YardTrk    | Yard   | R                   | R                    | O                            | R                  | R       |                    |         |
| II.4                                 | TransitTrk | Transit  | R                   | R                    | O                            | R                  | R       |                    |         |

**Federal Railroad Administration Highway-Rail Crossing Division**

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|--|---------------|--|---------------------|----------------------|------------------------------|--------------------|---------|--------------------|---------|
|  |               |  | New Crossings       |                      |                              | Existing Crossings |         | Existing Crossings |         |
|  |               |  | Public <sup>1</sup> | Private <sup>2</sup> | Grade Separated <sup>3</sup> | Public             | Private | Public             | Private |
| II.4   | IndustryTrk   | Industry                                 | R                   | R                    | O                            | R                  | R       |                    |         |
| II.5   | SpselIDs      | Train Detection (Main Track Only)        | R                   | R                    | O                            | R                  | R       |                    |         |
| II.6   | Sgnleqp       | Is Track Signaled                        | R                   | R                    | O                            | R                  | R       |                    |         |
| II.7.A   | EMonitorDvce  | Event Recorder                           | R                   | R                    | O                            | C                  | C       |                    |         |
| II.7.B   | HealthMonitor | Remote Health Monitoring                 | R                   | R                    | O                            | C                  | C       |                    |         |
| <b>Part III: Highway or Pathway Traffic Control Device Information</b> |               |  |                     |                      |                              |                    |         |                    |         |
| III.1  | NoSigns       | Are there Signs or Signals?              | C                   | O                    | O                            |                    |         | R                  |         |
| III.2.A  | XBuck         | Crossbuck Assemblies (count)             | C                   | O                    | O                            |                    |         | R                  |         |
| III.2.B  | StopStd       | Stop Signs (R1-1)                        | C                   | O                    | O                            |                    |         | R                  |         |
| III.2.C  | YieldStd      | Yield Signs (R1-2)                       | C                   | O                    | O                            |                    |         | R                  |         |
| III.2.D  | AdvWarn       | Advance Warning Signs                    | C                   | O                    | O                            |                    |         | R                  |         |
| III.2.D  | AdvW10_1      | Advance Warning Signs (W10-1)            | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.D  | AdvW10_2      | Advance Warning Signs (W10-2)            | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.D  | AdvW10_3      | Advance Warning Signs (W10-3)            | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.D  | AdvW10_4      | Advance Warning Signs (W10-4)            | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.D  | AdvW10_11     | Advance Warning Signs (W10-11)           | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.D  | AdvW10_12     | Advance Warning Signs (W10-12)           | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.E  | Low_Grnd      | Low Ground Clearance Signs (W10-5)       | C                   | O                    | O                            |                    |         | R                  |         |
| III.2.E  | Low_GrndSigns | Low Ground Clearance Signs (W10-5) count | C                   | O                    | O                            |                    |         | C                  |         |

**Federal Railroad Administration Highway-Rail Crossing Division**

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|-------------------------------|--------------|--|---------------------|----------------------|------------------------------|--------------------|---------|--------------------|---------|
|                               |              |  | New Crossings       |                      |                              | Existing Crossings |         | Existing Crossings |         |
|                               |              |  | Public <sup>1</sup> | Private <sup>2</sup> | Grade Separated <sup>3</sup> | Public             | Private | Public             | Private |
| III.2.F                       | PaveMrkIDs   | Pavement Markings  | C                   | O                    | O                            |                    |         | R                  |         |
| III.2.G                       | Channel      | Channelization Devices   | C                   | O                    | O                            |                    |         | R                  |         |
| III.2.H                       | Exempt       | Exempt (R15-3)   | C                   | O                    | O                            |                    |         | R                  |         |
| III.2.I                       | EnsSign      | ENS Sign Displayed (I-13)  | C                   | O                    | O                            |                    |         | R                  |         |
| III.2.J                       | OthSgn       | Other MUTCD Signs  | C                   | O                    | O                            |                    |         | R                  |         |
| III.2.J                       | OthSgn1      | Other MUTCD Signs: Count   | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.J                       | OthDes1      | Specify Type   | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.J                       | OthSgn2      | Other MUTCD Signs: Count   | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.J                       | OthDes2      | Specify Type   | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.J                       | OthSgn3      | Other MUTCD Signs: Count   | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.J                       | OthDes3      | Specify Type   | C                   | O                    | O                            |                    |         | C                  |         |
| III.2.K                       | PrvxSign     | Private Crossing Signs   |                     | R                    | O                            |                    | R       |                    |         |
| III.2.L                       | Led          | LED Enhanced Signs   | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.A                       | Gates        | Gate Arms: Roadway   | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.A                       | GatePed      | Gate Arms: Pedestrian  | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.B                       | GateConf     | Gate Configuration   | C                   | O                    | O                            |                    |         | C                  |         |
| III.3.B                       | GateConfType | Gate Configuration Type  | C                   | O                    | O                            |                    |         | C                  |         |
| III.3.C                       | FlashOv      | Cantilevered (or Bridged) Flashing Light Structures: Over Traffic Lane | C                   | O                    | O                            |                    |         | R                  |         |



**Federal Railroad Administration Highway-Rail Crossing Division**

| Box No.<br>on Form<br>6180.71 | Field Name    | Description  | Railroad or Transit |                      |                              |                    |         | State              |         |
|-------------------------------|---------------|--|---------------------|----------------------|------------------------------|--------------------|---------|--------------------|---------|
|                               |               |  | New Crossings       |                      |                              | Existing Crossings |         | Existing Crossings |         |
|                               |               |  | Public <sup>1</sup> | Private <sup>2</sup> | Grade Separated <sup>3</sup> | Public             | Private | Public             | Private |
| III.3.C                       | FlashNov      | Cantilevered (or Bridged) Flashing Light Structures: Not Over Traffic Lane | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.C                       | CFlashType    | Cantilevered (or Bridged) Flashing Light Structures (Type)                 | C                   | O                    | O                            |                    |         | C                  |         |
| III.3.D                       | FlashPost     | Mast Mounted Flashing Lights (count of masts)                              | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.D                       | FlashPostType | Mast Mounted Flashing Lights (Type)  | C                   | O                    | O                            |                    |         | C                  |         |
| III.3.D                       | Bkl_FlashPost | Mast Mounted Flashing Lights: Back Lights Included                         | C                   | O                    | O                            |                    |         | C                  |         |
| III.3.D                       | Sdl_FlashPost | Mast Mounted Flashing Lights: Side Lights Included                         | C                   | O                    | O                            |                    |         | C                  |         |
| III.3.E                       | FlashPai      | Total Count of Flashing Light Pairs  | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.F                       | AwdIDate      | Installation Date of Current Active Warning Devices                        | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.G                       | AwhornChk     | Wayside Horn   | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.G                       | AwhornDate    | Wayside Horn Installed On  | C                   | O                    | O                            |                    |         | C                  |         |
| III.3.H                       | HwyTrafSignl  | Highway Traffic Signals Controlling Crossing                               | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.I                       | Bells         | Bells  | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.J                       | SpecPro       | Non-Train Active Warning   | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.K                       | FlashOth      | Other Flashing Lights or Warning Devices: Count                            | C                   | O                    | O                            |                    |         | R                  |         |
| III.3.K                       | FlashOthDes   | Other Flashing Lights or Warning Devices: Specify Type                     | C                   | O                    | O                            |                    |         | R                  |         |
| III.4.A                       | HwynrSig      | Does Nearby Hwy Intersection have Traffic Signal?                          | C                   | O                    | O                            |                    |         | R                  |         |
| III.4.B                       | Intrprmp      | Hwy Traffic Signal Interconnection   | C                   | O                    | O                            |                    |         | R                  |         |
| III.4.C                       | PrempType     | Highway Traffic Signal Preemption  | C                   | O                    | O                            |                    |         | C                  |         |

Federal Railroad Administration Highway-Rail Crossing Division

| Box No.<br>on Form<br>6180.71            | Field Name     | Description                                      | Railroad or Transit |                      |                              |                    |         | State              |         |
|--|----------------|--|---------------------|----------------------|------------------------------|--------------------|---------|--------------------|---------|
|  |                |  | New Crossings       |                      |                              | Existing Crossings |         | Existing Crossings |         |
|  |                |  | Public <sup>1</sup> | Private <sup>2</sup> | Grade Separated <sup>3</sup> | Public             | Private | Public             | Private |
| III.5                                    | HwtrfPsig      | Highway Traffic Pre-Signals                      | C                   | O                    | O                            |                    |         | R                  |         |
| III.5                                    | HwtrfPsigdis   | Highway Traffic Pre-Signals – Storage Distance   | C                   | O                    | O                            |                    |         | C                  |         |
| III.5                                    | HwtrfPsiglndis | Highway Traffic Pre-Signals – Stop Line Distance | C                   | O                    | O                            |                    |         | C                  |         |
| III.6                                    | MonitorDev     | Highway Monitoring Devices                       | C                   | O                    | O                            |                    |         | R                  |         |
| <b>Part IV: Physical Characteristics</b> |                |  |                     |                      |                              |                    |         |                    |         |
| IV.1                                     | TrafficLn      | Traffic Lanes Crossing Railroad: Number of Lanes | C                   | O                    | O                            |                    |         | R                  |         |
| IV.1                                     | TraflnType     | Traffic Lanes Crossing Railroad – Type           | C                   | O                    | O                            |                    |         | R                  |         |
| IV.2                                     | HwyPved        | Is Roadway/ Pathway Paved?                       | C                   | O                    | O                            |                    |         | R                  |         |
| IV.3                                     | Downst         | Does Track Run Down a Street?                    | C                   | O                    | O                            |                    |         | R                  |         |
| IV.4                                     | Illumina       | Is Crossing Illuminated?                         | C                   | O                    | O                            |                    |         | R                  |         |
| IV.5                                     | XSurfDate      | Crossing Surface: Installation Date              | C                   | O                    | O                            |                    |         | O                  |         |
| IV.5                                     | XSurfWidth     | Crossing Surface: Width                          | C                   | O                    | O                            |                    |         | O                  |         |
| IV.5                                     | XSurfLength    | Crossing Surface: Length                         | C                   | O                    | O                            |                    |         | O                  |         |
| IV.5                                     | XSurfaceIDs    | Crossing Surface (on Main Track): Type           | C                   | O                    | O                            |                    |         | R                  |         |
| IV.5                                     | XSurOthr       | Crossing Surface for Other ( <i>specify</i> )    | C                   | O                    | O                            |                    |         | C                  |         |
| IV.6                                     | HwyNear        | Intersecting Roadway within 500 feet?            | C                   | O                    | O                            |                    |         | R                  |         |
| IV.6                                     | HwynDist       | If Yes, Approximate Distance (feet)              | C                   | O                    | O                            |                    |         | C                  |         |
| IV.7                                     | XAngle         | Smallest Crossing Angle                          | C                   | O                    | O                            |                    |         | R                  |         |
| IV.8                                     | ComPower       | Is Commercial Power Available?                   | C                   | O                    | O                            |                    |         | O                  |         |

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|---|----------------|---|---------------------|----------------------|------------------------------|--------------------|---------|--------------------|---------|
|   |                |   | New Crossings       |                      |                              | Existing Crossings |         | Existing Crossings |         |
|   |                |   | Public <sup>1</sup> | Private <sup>2</sup> | Grade Separated <sup>3</sup> | Public             | Private | Public             | Private |
| <b>Part V: Public Highway Information</b> |                |   |                     |                      |                              |                    |         |                    |         |
| V.1                                       | HwySys         | Highway System  | C                   | O                    | O                            |                    |         | R                  |         |
| V.2                                       | HwyClassCD     | Functional Classification of Road at Crossing                         | C                   | O                    | O                            |                    |         | R                  |         |
| V.2                                       | HwyClassrdtpID | Functional Classification of Road at Crossing                         | C                   | O                    | O                            |                    |         | R                  |         |
| V.3                                       | StHwy1         | Is Crossing on State Highway System?                                  | C                   | O                    | O                            |                    |         | R                  |         |
| V.4                                       | HwySpeed       | Highway Speed Limit (MPH)   | C                   | O                    | O                            |                    |         | R                  |         |
| V.4                                       | HwySpeedps     | Highway Speed Limit - Posted or Statutory                             | C                   | O                    | O                            |                    |         | R                  |         |
| V.5                                       | LrsRouteid     | Linear Referencing System (LRS Route ID)                              | C                   | O                    | O                            |                    |         | O                  |         |
| V.6                                       | LrsMilePost    | LRS Milepost  | C                   | O                    | O                            |                    |         | O                  |         |
| V.7                                       | Aadt           | Annual Average Daily Traffic (AADT)                                   | C                   | O                    | O                            |                    |         | R                  |         |
| V.7                                       | AadtYear       | AADT: Year  | C                   | O                    | O                            |                    |         | R                  |         |
| V.8                                       | PctTruk        | Estimated Percent Trucks  | C                   | O                    | O                            |                    |         | R                  |         |
| V.9                                       | SchlBusChk     | Regularly Used by School Buses?                                       | C                   | O                    | O                            |                    |         | R                  |         |
| V.9                                       | SchlBsCnt      | Average No. of School Buses Passing Over the Crossing on a School Day | C                   | O                    | O                            |                    |         | R                  |         |
| V.10                                      | EmrgncySrv     | Emergency Services Route  | C                   | O                    | O                            |                    |         | R                  |         |

Public<sup>1</sup>:

- For Public Highway-Rail Grade Crossing, the Header and Part I – V, with the exception of I.20 and III.2.K, must be provided.
- For Public Pathway Grade Crossing, the Header and Part I – II, with the exception of I.20, must be provided. All other fields optional.

Private<sup>2</sup>: For all Private Grade Crossing, the Header and Part I – V, with the exception of I.20 and III.2.K, must be provided. All other fields are optional.

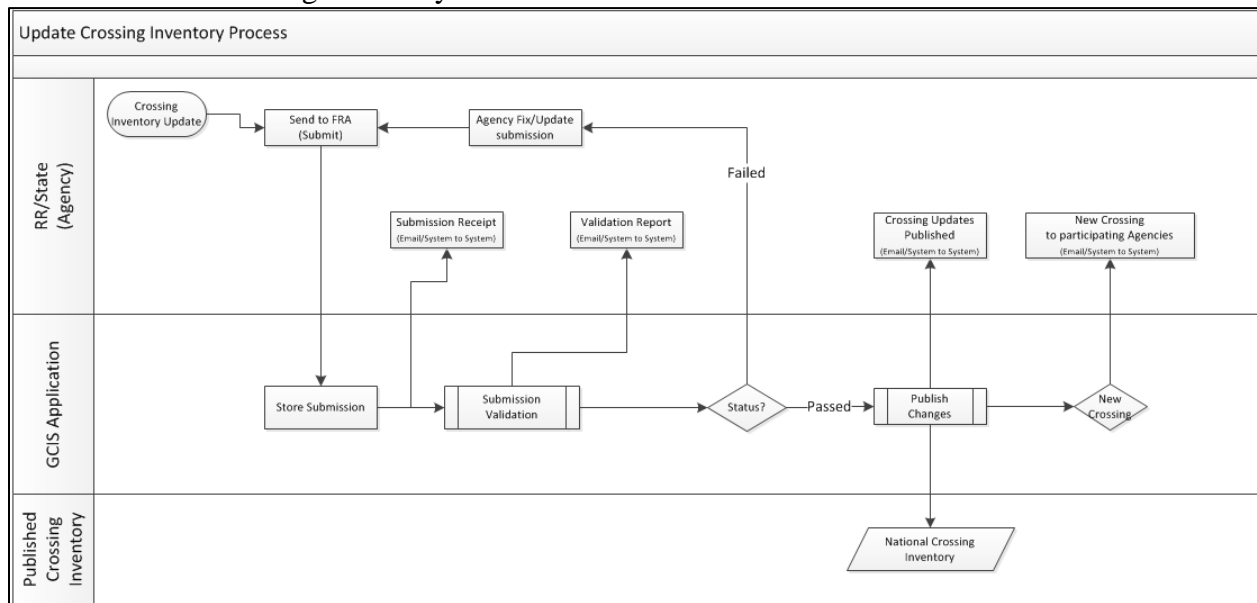
Grade Separated<sup>3</sup>: The Header and Part I, with the exception of I.20, must be provided. All other fields are optional.

## Appendix D: GCIS Business Processes

This appendix describes the key business processes used by the GCIS application.

- 1) **Grade Crossing Inventory Update Process:** Describes the end to end process that will facilitate the submission, receipt, validation and publishing of submitted crossing updates regardless of the capability (On-line or System to System) used by the agency.
- 2) **Grade Crossing Inventory System Process:** Describes the end to end process that will facilitate the submission, receipt, validation and publishing of submitted crossing updates regardless of the capability (On-line or System to System) used by the agency.

The diagram below depicts the business process for Additions (New) or Modifications (Update) to the National Crossing Inventory:



The diagram below depicts how the FRA Secure API could be used for this process.

# Federal Railroad Administration Highway-Rail Crossing Division

