FRA Instructions for Electronic Submission of U.S. DOT Crossing Inventory Data Grade Crossing Inventory System (GCIS) v2.5.0.0, Released: 12/28/2016

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Revision Summary

Revision Date	Document Version #	Revision Class	Summary
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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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. Please note that FRA's Secure API requires a registered username, password, and access token.

3. Submission Instructions

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:

Table 3.2-1: FRA Data Requests

Operation	Description
GET	All OData request must use HTTP GET. A few examples of requesting crossing inventory data are: ○ Get a list of all crossings last submitted for a specific crossing location ○ Get all crossings that were successfully submitted and published to the National Crossing Inventory ○ Get all crossings that were submitted and failed validations for your agency ○ Get all crossings that are pending because it failed validations or saved and have not been validated ○ Get all crossings that were submitted based on a Submission ID ○ Get all crossings for a specific Railroad agency ○ Get all crossings within a specific State ○ Get all crossings where the Crossing Type is Public or Private Additional details regarding a few GET requests are provided below.
○ Get Crossings Containing Errors	To get a list of all crossings that were submitted and failed validations for your agency, the following request should be sent as follows: /Masterwebservice/secureapi/gcis/v1/odata/CrossingErrors?token=<user token id>
○ Get Lookup Values	You can additionally request information supporting crossing data by passing the following Entity Types: ErrorCodes, Lookups, Locations
• ErrorCodes	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: /Masterwebservice/secureapi/gcis/v1/odata/ErrorCodes?token=<user token id>
• Lookups	To query a list of lookup values used within the Grade Crossing Inventory Form for: ○ Functional Classifications ○ HSR Corridor Codes and Descriptions ○ MUTCD Codes and Descriptions The query string request should be sent as follows: /Masterwebservice/secureapi/gcis/v1/odata/Lookups?token=<user token id>
• Locations	To query a list of location values to include: ○ State Code, Abbreviation, Name ○ County Code or Name ○ City Code or Name /Masterwebservice/secureapi/gcis/v1/odata/Locations?token=<user token id>
• Railroads	To query for Railroad Codes and Names: /Masterwebservice/secureapi/gcis/v1/odata/Railroads?token=<user token id>
• Companies	To query for Company Codes and Names: /Masterwebservice/secureapi/gcis/v1/odata/Companies?token=<user token id>
• Timetable Station	To query for a list of Timetable Station Codes and Names: /Masterwebservice/secureapi/gcis/v1/odata/TimeTableStations?token=<user token id>
• Latitude/ Longitude	To query for a list of Latitude and Longitude values: /Masterwebservice/secureapi/gcis/v1/odata/CountyCoordinates?token=<user token id>

Operation	Description
POST / PUT / PATCH ○ Submit Crossing Record(s)

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.

  Note: If 0 is not a valid value for the numeric field, leave the field blank to remove the previous value from the inventory.
- 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

Railroad Filename Format:	State Filename Format:
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.

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/Auxilary.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 2 = State 3 = Transit 4 = FRA Internal Use	State & Railroad
C	ReasonId	Reason for Update	2	N	14 = Change in Data 15 = New Crossing 16 = Closed 19 = Re-Open 20 = Date Change Only 21 = Change in Primary Operating RR 22 = Admin. Correction 23 = Quiet Zone Update 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 code must be in FRA Locations Reference table.	State for Public Crossings 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 Railroad for Private Crossings

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 1 = Near	State for Public Crossings 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 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 Railroad for Private Crossings
I.5	BlockNumb	Block Number of Street or Road	6	C	Blank or Numeric Characters.	State for Public Crossings 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 Railroad for Private Crossings
I.7	SepInd	Do Other RRs Operate a Separate Track at Crossing?	1	C	1 = Yes 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 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

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 3 = Public	State & Railroad

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 2 = Pathway, Pedestrian 3 = Station, Pedestrian	State & Railroad
I.19	PosXing	Crossing Position	1	C	1 = At Grade 2 = RR Under 3 = RR Over	State & Railroad
I.20	OpenPub	Public Access	1	C	1 = Yes 2 = No	Railroad
I.21	TypeTrnSrvcIDs	Type of Train	32	C	11 = Freight 12 = Intercity Passenger 13 = Commuter 14 = Transit 15 = Shared Use Transit 16 = Tourist/Other	Railroad If only 'Freight' is selected, then PassCnt must = '0.'
I.22	Lt1PassMov	Less Than One Average Passenger Train Count Per Day?	1	C	1 = Less than One Average Passenger Train Movement Per Day 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 12 = Residential 13 = Commercial 14 = Industrial 15 = Institutional 16 = Farm 17 = Recreational 18 = RR Yard	State & Railroad
I.24	XingAdj	Is there an Adjacent Crossing with a Separate Number?	1	C	1 = Yes 2 = No	Railroad
I.24	XngAdjNo	If Yes, Provide Crossing Number	7	C	Must be valid crossing number	Railroad

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 1 = 24 hr 2 = Partial 3 = Chicago Excused	FRA Will Populate
I.25	WhistDate	Date Established		D	Date Established Format: MM/DD/YYYY	FRA Will Populate
1.26	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) Latitude Degrees must be 24 to 49. For the State of Alaska it must be 50 to 71. 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) Longitude Degrees must be - 66 to -124. For the State of Alaska it must be -165 to 1132 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 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

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. (*Posted*)	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 (*Telephone No.*)	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 (*Telephone No.*)	10	N	Must be numeric (area code and phone number) with no hyphens or parenthesis between area code and phone number 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 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

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	SpselIDs	Train Detection (Main Track Only)	32	C	0 = None 11 = Constant Warning Time 12 = Motion Detection 14 = Other 16 = AFO 17 = PTC 18 = DC	Railroad
II.6	Sgnleqp	Is Track Signaled?	1	C	1 = Yes 2 = No	Railroad
II.7.A	EMonitorDvce	Event Recorder	1	C	1 = Yes 2 = No	Railroad
II.7.B	HealthMonitor	Remote Health Monitoring	1	C	1 = Yes 2 = No	Railroad
III.1	NoSigns	Are there Signs or Signals?	1	C	1 = Yes (At least one sign or signal at crossing) 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

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: 1 = W10-1 2 = W10-2 3 = W10-3 4 = W10-4 11 = W10-11 12 = W10-12 0 = None	State
III.2.D	AdvW10_1	Advance Warning Signs (W10-1)	1	N	Valid Value: 1 to 9	State
III.2.D	AdvW10_2	Advance Warning Signs (W10-2)	1	N	Valid Value: 1 to 9	State
III.2.D	AdvW10_3	Advance Warning Signs (W10-3)	1	N	Valid Value: 1 to 9	State
III.2.D	AdvW10_4	Advance Warning Signs (W10-4)	1	N	Valid Value: 1 to 9	State
III.2.D	AdvW10_11	Advance Warning Signs (W10-11)	1	N	Valid Value: 1 to 9	State
III.2.D	AdvW10_12	Advance Warning Signs (W10-12)	1	N	Valid Value: 1 to 9	State
III.2.E	Low_Grnd	Low Ground Clearance Signs (W10-5)	1	C	1 = Yes 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 1 = Stop Lines 2 = RR Xing Symbols 3 = Dynamic Envelope	State
III.2.G	Channel	Channelization Devices	1	C	1 = All Approaches 2 = One Approach 3 = Median – All Approaches 4 = Median – One Approach 5 = None	State
III.2.H	Exempt	Exempt Sign (R15-3)	1	C	1 = Yes, crossing is exempt 2 = No, crossing is not exempt	State
III.2.I	EnsSign	ENS Sign Displayed (I-13)	1	C	1 = Yes 2 = No	State

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 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 2 = No 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 (Railroad If Changed)
III.3.A	GatePed	Gate Arms: Pedestrian	2	N	Valid Value: 0 to 99	State (Railroad If Changed)
III.3.B	GateConf	Gate Configuration	32	C	1 = 2 Quad 2 = 3 Quad 3 = 4 Quad	State (Railroad If Changed)
III.3.B	GateConfType	Gate Configuration Type	32	C	4 = Full (Barrier) Resistance 6 = Median Gates	
III.3.C	FlashOv	Cantilevered (or Bridged) Flashing Light Structures: Over Traffic Lane	2	N	Valid Value: 0 to 9	State (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 (Railroad If Changed)
III.3.C	CFlashType	Cantilevered (or Bridged) Flashing Light Structures (Type)	32	C	0 = None 1 = Incandescent 2 = LED	State (Railroad If Changed)

Box No. on Form 6180.71	Field Name	Description	Field Size	Data Type*	Single-field Data Validation Rules	Update Provided By
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 1 = Incandescent 2 = LED	State (Railroad If Changed)
III.3.D	Bkl_FlashPost	Mast Mounted Flashing Lights: Back Lights Included	32	C	1 = Yes 2 = No	State (Railroad If Changed)
III.3.D	Sdl_FlashPost	Mast Mounted Flashing Lights: Side Lights Included	32	C	1 = Yes 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 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 2 = No	State (Railroad If Changed)
III.3.G	AwhornlDate	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 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 1 = Flagging/Flagman 2 = Manually Operated Signals 3 = Watchman 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)

Box No. on Form 6180.71	Field Name	Description	Field Size	Data Type*	Single-field Data Validation Rules	Update Provided By
III.4.A	HwynrSig	Does Nearby Hwy Intersection have Traffic Signal?	1	C	1 = Yes 2 = No	State
III.4.B	Intrprmp	Hwy Traffic Signal Interconnection	32	C	1 = Not Interconnected 2 = For Traffic Signals 3 = For Warning Signs "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 2 = Advance	State & Railroad
III.5	HwtrfPsig	Highway Traffic Pre-Signals	1	C	1 = Yes 2 = No	State
III.5	HwtrfPsigsdis	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 1 = Yes-Photo/Video Recording 2 = Yes-Vehicle Presence Detection	State
IV.1	TraficLn	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 2 = Two-way Traffic 3 = Divided Traffic	State
IV.2	HwyPved	Is Roadway Paved?	1	C	1 = Yes 2 = No	State
IV.3	Downst	Does Track Run Down a Street?	1	C	1 = Yes 2 = No	State
IV.4	Illumina	Is Crossing Illuminated?	1	C	1 = Yes 2 = No	State

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 (Railroad If Changed)
IV.5	XSurfWidth	Crossing Surface: Width	3	N	Optional or 4-999 Feet (Feet Measurement)	State (Railroad If Changed)
IV.5	XSurfLength	Crossing Surface: Length	3	N	Optional or 3-999 Feet (Feet Measurement)	State (Railroad If Changed)
IV.5	XSurfaceIDs	Crossing Surface (on Main Track): Type	32	C	11 = 1. Timber 12 = 2. Asphalt 13 = 3. Asphalt and Timber 14 = 4. Concrete 15 = 5. Concrete and Rubber 16 = 6. Rubber 17 = 7. Metal 18 = 8. Unconsolidated 19 = 9. Composite 20 = 10. Other (specify) Specify all codes that apply if there are multiple main line tracks which have different type of surface.	State (Railroad If Changed)
IV.5	XSurOthr	Crossing Surface for Other (*specify*)	256	C	Open Text	State & Railroad (If Changed)
IV.6	HwyNear	Intersecting Roadway within 500 feet?	1	C	1 = Yes 2 = No	State
IV.6	HwynDist	If Yes, Approximate Distance (feet)	4	N	If Yes, Valid Value: 1-500 If No, Valid Value: 501-2500	State
IV.7	XAngle	Smallest Crossing Angle	1	C	1 = 0-29 degrees 2 = 30-59 degrees 3 = 60-90 degrees	State
IV.8	ComPower	Is Commercial Power Available?	1	C	1 = Yes 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 2 = (02) Other Nat Hwy System (NHS) 3 = (03) Federal Aid, Not NHS 8 = (08) Non-Federal Aid	State
V.2	HwyClassCD	Functional Classification of Road at Crossing	1	C	0 = (0) Rural 1 = (1) Urban	State
V.2	HwyClassrdtpID	Functional Classification of Road at Crossing	32	C	11 = (1) Interstate 12 = (2) Other Freeways and Expressways 13 = (3) Principal Arterial Other 16 = (4) Minor Arterial 17 = (5) Major Collector 18 = (6) Minor Collector 19 = (7) Local	State
V.3	StHwy1	Is Crossing on State Highway System?	1	C	1 = Yes 2 = No	State
V.4	HwySpeed	Highway Speed Limit (MPH)	3	N	0 to120 miles per hour	State
V.4	HwySpeedps	Highway Speed Limit - Posted or Statutory	1	C	1 = Posted 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 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. on Form 6180.71	Field Name	Description	Field Size	Data Type*	Single-field Data Validation Rules	Update Provided By
V.10	EmrgncySrvc	Emergency Services Route	1	C	1 = Yes 2 = No	State

* Data Type
- C: Character String
- N: Numeric
- 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 2 = State 3 = Transit 4 = FRA Internal Use	
C	ReasonId	Reason for Update	14 = Change in Data 15 = New Crossing 16 = Closed 19 = Re-Open 20 = Date Change Only 21 = Change in Primary Operating RR 22 = Admin. Correction 23 = Quiet Zone Update 24 = No Train Traffic	Related fields: REPORTSTATUS, REPORTTYPE If ReasonId = 20 (Date Change Only), then ReportStatus must equal “Published” and ReportType must equal “Major”
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.	

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.3	CntyCD	County	County Name or FIPS Code must be in FRA Locations Reference table.	Related fields: STATE, CNTYCD County code must be found in FRA Organization Reference Table. STATE + CNTYCD look up where County Name must correspond to County Code.
I.4	Nearest	In or Near City Indicator	0 = In 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 If in city (NEAREST=0), then City must be in the specified State and County. STATE + CNTYCD + CITYCD look up where City Code must correspond to City Name. If near city (NEAREST=1), then City must be in the specified State. 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 2 = No	

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.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	Related Fields: RAILROAD, SEPIND and SEPRR1 Railroad code in SEPRR1 must not be the same code as the Primary Operating Railroad (field I.1.). Railroad code in SEPRR1 must not be the same code as SEPRR2,SEPRR3 or SEPRR4 IF SEPRR1 is not blank, then SEPIND must be "1" (Yes) IF SEPRR1 is blank, then SEPIND must be "2" (No)
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	Related Fields: RAILROAD, SEPIND and SEPRR2 Railroad code in SEPRR2 must not be the same code as the Primary Operating Railroad (fieldI.1.). Railroad code in SEPRR2 must not be the same code as SEPRR1,SEPRR3 or SEPRR4 IF SEPRR2 is not blank, then SEPIND must be "1" (Yes)

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.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	Related Fields: RAILROAD, SEPIND and SEPRR3 Railroad code in SEPRR3 must not be the same code as the Primary Operating Railroad (field I.1.). Railroad code in SEPRR3 must not be the same code as SEPRR1,SEPRR2 or SEPRR4 IF SEPRR3 is not blank, then SEPIND must be "1" (Yes)
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	Related Fields: RAILROAD, SEPIND and SEPRR4 Railroad code in SEPRR4 must not be the same code as the Primary Operating Railroad (field I.1.). Railroad code in SEPRR4 must not be the same code as SEPRR1,SEPRR2 or SEPRR3 IF SEPRR4 is not blank, then SEPIND must be "1" (Yes)
I.8.	SameInd	Do other RRs Operate Over Your Track at Crossing?	1 = Yes 2 = No	Related Fields: REASON, SAMEIND and SAMERR

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.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	Related Fields: RAILROAD, SAMEIND and SAMERR1 Railroad code in SAMERR1 must not be the same code as the Primary Operating Railroad (field I.1.) Railroad code in SAMERR1 must not be the same code as SAMERR2, SAMERR3 or SAMERR4 IF SAMERR1 is not blank, then SAMEIND must be "1" (Yes) IF SAMERR1 is blank, then SEPIND must be "2" (No)
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	Related Fields: RAILROAD, SAMEIND and SAMERR2 Railroad code in SAMERR2 must not be the same code as the Primary Operating Railroad (fieldI.1.) Railroad code in SAMERR2 must not be the same code as SAMERR1, SAMERR3 or SAMERR4 IF SAMERR2 is not blank, then SAMEIND must be "1" (Yes)

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.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	Related Fields: RAILROAD, SAMEIND and SAMERR3 Railroad code in SAMERR3 must not be the same code as the Primary Operating Railroad (field I.1.) Railroad code in SAMERR3 must not be the same code as SAMERR1, SAMERR2 or SAMERR4 IF SAMERR3 is not blank, then SAMEIND must be "1" (Yes)
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	Related Fields: RAILROAD, and SAMERR4 Railroad code in SAMERR4 must not be the same code as the Primary Operating Railroad (field I.1.) Railroad code in SAMERR4 must not be the same code as SAMERR1, SAMERR2 or SAMERR3 IF SAMERR4 is not blank, then SAMEIND must be "1" (Yes)
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)	

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.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 3 = Public	Related Fields: POSXING, XPURPOSE, HWYCONT 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). If Crossing Type (TYPEXING) is ‘2’ (Private), then Parts I – II data items must be specified. 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). Parts II –V are not required for Grade-Separated (RR Under and RR Over) crossings.

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)
				If Type of Crossing (TYPEXING) is '3', then HWYCONT must contain a value and vice-versa.
I.18	XPurpose	Crossing Purpose	1 = Highway 2 = Pathway, Pedestrian 3 = Station, Pedestrian	
I.19	PosXing	Crossing Position	1 = At Grade 2 = RR Under 3 = RR Over	
I.20	OpenPub	Public Access	1 = Yes 2 = No	Related Fields: TYPEXING, POSXING If Type of Crossing is Private at-grade (TYPEXING=2, POSXING=1), then Public Access (OPENPUB) must not be blank
I.21	TypeTrnSrvcIDs	Type of Train	0 = None 11 = Freight 12 = Intercity Passenger 13 = Commuter 14 = Transit 15 = Shared Use Transit 16 = Tourist/Other	Related Fields SEPRR (I.7), SAMERR(1.8) 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)

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.22	Lt1PassMov	Less Than One Average Passenger Train Count Per Day?	1 = Less than One Average Passenger Train Movement Per Day 2 = Number per Day	Related Fields: TYPETRNSRVCIDS, PASSCNT If Less Than One Average Passenger Train Count Per Day is 'Yes' (LT1PASSMOV=1) , then the Number Per Day (PASSCNT) must be 0. If Less Than One Average Passenger Train Count Per Day is 'No' (LT1PASSMOV=2), then the Number Per Day (PASCCNT) must be greater than 0. If Less Than One Average Passenger Train Count Per Day is 'Yes' (LT1PASSMOV=1), then Type of Train Service (TYPETRNSRVC) must show all or any of these codes: '12', '13', '14' and/or '15'.
I.22	PassCnt	Number Per Day	Valid value: 0 to 999	Related Fields: LT1PASSMOV, DAYTHRU, NGHTTHRU, DAYSWT and NGHTSWT The number of trains (PASSCNT) must be 0, If less than 1 train per day is 'Yes' (LT1PASSMOV=Y) The number of trains (PASCCNT) must be greater than 0 If less than 1 train per day is 'No' Passenger train movements (PASSCNT) must be less or equal to the sum of Total Day Thru (DAYTHRU), Total Night Thru (NIGHTHRU), Total Day Switching (DAYSWT) and Total Night Switching (NIGHTSW).

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 12 = Residential 13 = Commercial 14 = Industrial 15 = Institutional 16 = Farm 17 = Recreational 18 = RR Yard	
I.24	XingAdj	Is there an Adjacent Crossing with a Separate Number?	1 = Yes 2 = No	Related Fields: XNGADJNO If value is "1" (Yes), then crossing number (XNGADJNO) must not be blank 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 If not blank, then (XINGADJ) must equal "Yes" If blank, then (XINGADJ) must not equal "Yes"
I.25	WhistBan	Quiet Zone (FRA Provided)	0 = No 1 = 24 hr 2 = Partial 3 = Chicago Excused	
I.25	WhistDate	Date Established	Date Established Format: MM/DD/YYYY	Related Fields: WHISTBAN Date must be specified if Quiet Zone (WHISTBAN) is 1, 2, or 3
1.26	SfxHscoRrid	HSR Corridor ID Suffix		

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.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) Latitude Degrees must be 24 to 49. For the State of Alaska it must be 50 to 71. Latitude values will be acceptable between 5 to 7 digits after the decimal point.	Related Fields: STATE, LONGITUDE and LLSOURCE 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) Longitude Degrees must be - 66 to -124. For the State of Alaska it must be -165 to 1132 Longitude values will be acceptable between 5 to 7 digits after the decimal point.	Related Fields: STATE, LATITUDE and LLSOURCE 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 2 = Estimated	LLSOURCE must be specified Latitude/Longitude data changes. 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	

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.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. (*Posted*)	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) If Sign is Displayed (ENSSIGN= 1), then Emergency Notification Telephone No.(POLCONT) must not be blank.
I.34	RrCont	Railroad Contact (*Telephone No.*)	Must be numeric (area code and phone number) with no hyphens or parenthesis between area code and phone number	
I.35	HwyCont	State Contact (*Telephone No.*)	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 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.

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.1.B	NghtThru	Total Night Thru Trains (6 PM to 6AM)	Valid value: 0 to 500	Related Fields: DAYTHRU, TOTALSWT, TOTALLTR, LT1MOV, MAINTRK, SIDINGTRK, YARDTRK, TRANSITTRK, INDUSTRYTRK 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.
II.1.C	TotalSwt	Total Switching Trains (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 2 = One or More Movements Per Day	Related Fields: DAYTHRU, NGHTTHRU, TOTALSWT, TOTALLTR, LT1MOV 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. 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. 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.

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.1.E	WeekTrnMov	How many trains per week?	Valid value: 0 to 999	Related Fields: LT1MOV 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 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 Value should be less than or equal to MAXSPD 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 Value should be greater than or equal to MINSPD Value should be less or equal to MAXTTSPD

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 If multiple codes are present in Crossing Surface (XSURFACEIDS), then Main Track (MAINTRK) must be greater than 1. 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 11 = Constant Warning Time 12 = Motion Detection 14 = Other 16 = AFO 17 = PTC 18 = DC	
II.6	Sgnleqp	Is Track Signaled	1 = Yes 2 = No	
II.7.A	EMonitorDvce	Event Recorder	1 = Yes 2 = No	

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.7.B	HealthMonitor	Remote Health Monitoring	1 = Yes 2 = No	
III.1	NoSigns	Are there Signs or Signals?	1 = Yes (At least one sign or signal at crossing) 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: 1 = W10-1 2 = W10-2 3 = W10-3 4 = W10-4 11 = W10-11 12 = W10-12 0 = None	
III.2.D	AdvW10_1	Advance Warning Signs (W10-1)	Valid Value: 1 to 9	Related fields: ADVWARN 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: 1 to 9	Related fields: ADVWARN 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.

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.2.D	AdvW10_3	Advance Warning Signs (W10-3)	Valid Value: 1 to 9	Related fields: ADVWARN 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: 1 to 9	Related fields: ADVWARN 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: 1 to 9	Related fields: ADVWARN 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: 1 to 9	Related fields: ADVWARN 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 2 = No	
III.2.E	Low_GrndSigns	Low Ground Clearance Signs (W10-5) count		

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.2.F	PaveMrkIDs	Pavement Markings	0 = None 1 = Stop Lines 2 = RR Xing Symbols 3 = Dynamic Envelope	Related Field: HWYPVED (IV. 2) If Highway Paved (HWYPVED) is 2 (No), then Pavement Marking (PAVEMRKIDS) must be 0 (None). 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 2 = One Approach 3 = Median – All Approaches 4 = Median – One Approach 5 = None	
III.2.H	Exempt	Exempt (R15-3)	1 = Yes, crossing is exempt 2 = No, crossing is not exempt	
III.2.I	EnsSign	ENS Sign Displayed (I-13)	1 = Yes 2 = No	
III.2.J	OthSgn	Other MUTCD Signs	1 = Yes 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 If Other Signs Count (OTHSGN1) is greater than 0, then Other Sign Description (OTHDES1) must not be blank or vice-versa (If Other Sings 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

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.2.J	OthDes2	Specify Type	Must be an item in the MUTCD table	Related fields: OTHSGN, OTHSGN2 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 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 2 = No Blank if Type of Crossing is Public	Related Fields: TYPEXING 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) If Private Crossing Signs is “1” or “2”, then Type of Crossing (TYPEXING) cannot be Public (3) 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	

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.B	GateConf	Gate Configuration	1 = 2 Quad 2 = 3 Quad 3 = 4 Quad	Related fields: GATES (Roadway), TYPEXING, POSXING and XPURPOSE. Gate Roadway (GATES) must be greater than 0 If Gate Configuration (GATECONF) is not blank.
III.3.B	GateConfType	Gate Configuration Type	4 = Full (Barrier) Resistance 6 = Median Gates	
III.3.C	FlashOv	Cantilevered (or Bridged) Flashing Light Structures: Over Traffic Lane	Valid Value: 0 to 9	Related fields: NOSIGNS, FLASHNOV, CFLASHTYPE If Type of Cantilevered of Flashing Light Structure Code (CFLASHTYPE) is "1" or "2", then the sum of Cantilevered Flashing Light Structures Count Over Traffic Lane and Count Not Over Traffic Lane (FLASHOV + FLASHNOV) must greater than 0.
III.3.C	FlashNov	Cantilevered (or Bridged) Flashing Light Structures: Not Over Traffic Lane	Valid Value: 0 to 9	Related fields: NOSIGNS, FLASHOV, CFLASHTYPE If Type of Cantilevered of Flashing Light Structure Code (CFLASHTYPE) is "1" or "2", then the sum of Cantilevered Flashing Light Structures Count Over Traffic Lane and Count Not Over Traffic Lane (FLASHOV + FLASHNOV) must greater than 0.
III.3.C	CFlashType	Cantilevered (or Bridged) Flashing Light Structures (Type)	0 = None 1 = Incandescent 2 = LED	Related fields: FLASHOV, FLASHNOV If Cantilevered Flashing Light Structures Counts (FLASHOV or FLASHNOV) is greater than 0, then Type of Cantilevered of Flashing Light Structures (CFLASHTYPE) must be "1" or "2".

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.D	FlashPost	Mast Mounted Flashing Lights (count of masts)	Valid Value: 0 to 9	Related fields: NOSIGNS, FLASHPOSTTYPE and BKL_FLASHPOST 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 1 = Incandescent 2 = LED	Related fields: NOSIGNS, FLASHPOST, BKL_FLASHPOST If the number of Mast Mounted Flashing Lights (FLASHPOST) is greater than 0, then the Type of Mast Mounted Flashing Lights (CFLASHTYPE) must be “1” or “2”.
III.3.D	Bkl_FlashPost	Mast Mounted Flashing Lights: Back Lights Included	1 = Yes 2 = No	Related fields: NOSIGNS, FLASHPOST 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 2 = No	Related fields: NOSIGNS, FLASHPOST 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

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.F	AwdIDate	Installation Date of Current Active Warning Devices	Valid format for Month and Year: MMYYYY Optional for active warning devices installed before Effective Date of Final Rule.	Related fields: REASONID, GATES, GATEPED, FLASHOV, FLASHNOV, FLASHPOST, FLASHPAI Month and Year must be provided if changes on Warning Devices. 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 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 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 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 1 = Flagging/Flagman 2 = Manually Operated Signals 3 = Watchman 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

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 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 2 = No	
III.4.B	Intrprmp	Hwy Traffic Signal Interconnection	1 = Not Interconnected 2 = For Traffic Signals 3 = For Warning Signs "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". 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 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 (PREMPTYPE) must be "1" or "2".
III.5	HwtrfPsig	Highway Traffic Pre-Signals	1 = Yes 2 = No	
III.5	HwtrfPsigsdis	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 If Roadway Gate Arms (GATES) is 0, then Highway Traffic Pre-Signals Stop Line Distance (HWTRF_PSIGLNDIS) must be blank.

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.6	MonitorDev	Highway Monitoring Devices	0 = None 1 = Yes-Photo/Video Recording 2 = Yes-Vehicle Presence Detection	
IV.1	TraficLn	Traffic Lanes Crossing Railroad: Number of Lanes	Valid Value: 0 to 9	Related Field: TRAFLNTYPE If type of Traffic Lanes type (TRAFLNTYPE) is not blank, then Traffic Lanes (TRAFICLN) must be greater than 0
IV.1	TraflnType	Traffic Lanes Crossing Railroad – Type	1 = One-way Traffic 2 = Two-way Traffic 3 = Divided Traffic	Related Field: TRAFICLN If Traffic Lanes (TRAFICLN) is greater than 0, then type of Traffic Lanes type (TRAFLNTYPE) must not be blank.
IV.2	HwyPved	Is Roadway/ Pathway Paved?	1 = Yes 2 = No	Related Field: PAVEMRKIDS (III.2.F) 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 2 = No	
IV.4	Illumina	Is Crossing Illuminated?	1 = Yes 2 = No	
IV.5	XSurfDate	Crossing Surface: Installation Date	Valid Format: MMYYYY	Related fields: INIT, XSURFACEIDS, MAINTRK 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

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

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.6	HwynDist	If Yes, Approximate Distance (feet)	If Yes, Valid Value: 1-500 If No, Valid Value: 501-2500	Related Field: HWYNEAR 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. 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 2 = 30-59 degrees 3 = 60-90 degrees	
IV.8	ComPower	Is Commercial Power Available?	1 = Yes 2 = No	
V.1	HwySys	Highway System	1 = (01) Interstate Highway System 2 = (02) Other Nat Hwy System (NHS) 3 = (03) Federal Aid, Not NHS 8 = (08) Non-Federal Aid	
V.2	HwyClassCD	Functional Classification of Road at Crossing	0 = (0) Rural 1 = (1) Urban	
V.2	HwyClassrdtpID	Functional Classification of Road at Crossing	11 = (1) Interstate 12 = (2) Other Freeways and Expressways 13 = (3) Principal Arterial Other 16 = (4) Minor Arterial 17 = (5) Major Collector 18 = (6) Minor Collector 19 = (7) Local	
V.3	StHwy1	Is Crossing on State Highway System?	1 = Yes 2 = No	

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)
V.4	HwySpeed	Highway Speed Limit (MPH)	0 to120 miles per hour	Related Field: HWYSPEED, HWYSPEEDPS 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 2 = Statutory	Related Field: HWYSPEEDPS 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 2 = No	Related Fields: SCHLBUSCNT 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 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 2 = No	

B-2: Business Rules Validations

Applies To	ID	Description	Definition
ALL	BRC101	**Applies to ALL Submissions - Core Fields** 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 **all** of the core fields, rule is valid.
ALL	BRC102	**Applies to ALL Submissions - Single Fields** 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 **single field** validations, rule is valid.
ALL	BRC103	**Applies to ALL Submissions - Cross Field** 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 **cross field** 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	**Applies to ALL Submissions - Existence of Crossing** 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 **exists** in the FRA National Crossing Inventory, then the crossing **EXISTS**; else the crossing is **NEW**.
ALL	BRC105	**Applies to ALL Submissions - Initiating Agency** 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	**Applies to ALL Submissions - Crossing Updates Submitted by a two different users of the same agency** If a different agency has submitted changes to the same crossing being submitted, then a confirmation is required. 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 **Questionable** for confirmation.

Federal Railroad Administration Highway-Rail Crossing Division

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

Federal Railroad Administration Highway-Rail Crossing Division

Applies To	ID	Description	Definition
NEW C**rossing**	BRN03	**Applies to NEW Crossings - Private Highway Vehicle At-Grade** 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. *Please review the Guide for Preparing U.S. DOT Crossing Inventory Forms for the list of fields that are expected.*	If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then: 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.
NEW Crossing	BRN04	**Applies to NEW Crossings - All Pedestrian** 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. *Please review the Guide for Preparing U.S. DOT Crossing Inventory Forms for the list of fields that are expected.*	If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then: If the Crossing Purpose **is not** Highway Vehicle, all fields (per the Guide for Preparing U.S. DOT Crossing Inventory Forms) in Parts I - IV of the form are required.
NEW Crossing	BRN05	**Applies to NEW Crossings - All Grade Separated** 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. *Please review the Guide for Preparing U.S. DOT Crossing Inventory Forms for the list of fields that are expected.*	If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then: If the Crossing Position **is not** At Grade, all fields in Part I of the form are required.
NEW Crossing	BRN06	**Applies to Unreported NEW Crossings - Close Crossing** This rule provides the steps taken when a New Crossing is submitted with the reason for update is equal to 'Closed'.	If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then: 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.
EXISTING Crossing	BRE01	**Applies to EXISTING Crossings - Select Record to Modify** 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.	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.
EXISTING Crossing	BRE02	**Applies to EXISTING Crossings - Update Responsibility** This rule determines agency's field responsibility based on the electronic submission instructions.	If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad, then allow updates to **Railroad** fields, else if the agency is a State or the agency has been delegated reporting privileges from a State, then allow updates to **State** fields**.** Updates to fields not in the agency's purview will not be allowed.

Federal Railroad Administration Highway-Rail Crossing Division

Applies To	ID	Description	Definition
EXISTING Crossing	BRE02.01	**Applies to EXISTING Crossings - Delegate Reporting** 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 **State** and **Railroad** for the submitted crossing, then allow update to all fields on the form
EXISTING Crossing	BRE03	**Applies to EXISTING Crossings - Warning Device Upgrade (from Railroad)** 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: 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 **most recent** 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	**Applies to EXISTING Crossings - Warning Device Downgrade (from State)** 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: 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 **Questionable.**
EXISTING Crossing	BRE04	**Applies to EXISTING Crossings - Operating RR Transfer (Accepted)** This rule determines if the submitting agency is the Primary Operating Railroad and is transferring the ownership to another agency. **Only the Primary Operating Railroad or designated agency is allowed to transfer ownership.**	If the agency is a Railroad or the agency has been delegated reporting privileges from a Railroad then: 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	**Applies to EXISTING Crossings - Changing Crossing Types** 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: Crossing Type updates will be accepted provided that the updated Crossing Type passes all applicable rules (**BRN02, BRN03, BRN04**).

Applies To	ID	Description	Definition
EXISTING Crossing	BRE06	**Applies to EXISTING Crossings - Close an Open Crossing (Accepted)** 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: 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 **not** 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	**Applies to EXISTING Crossings - Close an Open Crossing (Questionable)** 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: 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 not** 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 **Questionable**
EXISTING Crossing	BRE06.02	**Applies to EXISTING Crossings - Updates to a Closed Crossing** 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: If the Reason for Update **is NOT** 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** Closed or Out-service/Inactive or Abandoned and the Reason for Update **is not** 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	**Applies to EXISTING Crossings -** 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: 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	**Applies to EXISTING Crossings - Revision Date Only** This rule determines if the submitted crossing form will **ONLY** 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: 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.

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

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. on Form 6180.71	Field Name	Description	Railroad or Transit					State	
			New Crossings			Existing Crossings		Existing Crossings	
			Public[1]	Private[2]	Grade Separated[3]	Public	Private	Public	Private
Part I: Location and Classification Information									
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. on Form 6180.71	Field Name	Description	Railroad or Transit					State	
			New Crossings			Existing Crossings		Existing Crossings	
			Public[1]	Private[2]	Grade Separated[3]	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		

Box No. on Form 6180.71	Field Name	Description	Railroad or Transit					State	
			New Crossings			Existing Crossings		Existing Crossings	
			Public[1]	Private[2]	Grade Separated[3]	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	TypeTrnSrvcIDs	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. on Form 6180.71	Field Name	Description	Railroad or Transit					State	
			New Crossings			Existing Crossings		Existing Crossings	
			Public[1]	Private[2]	Grade Separated[3]	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							
1.26	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 (max 10 char., WGS84 std nn.nnnnnnn)	R	R	R		R	R	
I.28	Longitude	Longitude in decimal degrees (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		

Box No. on Form 6180.71	Field Name	Description	Railroad or Transit					State	
			New Crossings			Existing Crossings		Existing Crossings	
			Public[1]	Private[2]	Grade Separated[3]	Public	Private	Public	Private
I.32.B	StNarr	State Narrative						O	
I.33	PolCont	Emergency Notification Telephone No. (*Posted*)	R	R	R	R	R		
I.34	RrCont	Railroad Contact (*Telephone No.*)	R	R	R	R	R		
I.35	HwyCont	State Contact (*Telephone No.*)						R	
Part II: Railroad Information									
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		

Box No. on Form 6180.71	Field Name	Description	Railroad or Transit					State	
			New Crossings			Existing Crossings		Existing Crossings	
			Public[1]	Private[2]	Grade Separated[3]	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		
Part III: Highway or Pathway Traffic Control Device Information									
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	

Box No. on Form 6180.71	Field Name	Description	Railroad or Transit					State	
			New Crossings			Existing Crossings		Existing Crossings	
			Public[1]	Private[2]	Grade Separated[3]	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. on Form 6180.71	Field Name	Description	Railroad or Transit					State	
			New Crossings			Existing Crossings		Existing Crossings	
			Public[1]	Private[2]	Grade Separated[3]	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	AwhornlDate	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	

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Box No. on Form 6180.71	Field Name	Description	Railroad or Transit					State	
			New Crossings			Existing Crossings		Existing Crossings	
			Public[1]	Private[2]	Grade Separated[3]	Public	Private	Public	Private
III.5	HwtrfPsig	Highway Traffic Pre-Signals	C	O	O			R	
III.5	HwtrfPsigsdis	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	
Part IV: Physical Characteristics									
IV.1	TraficLn	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 (*specify*)	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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Box No. on Form 6180.71	Field Name	Description	Railroad or Transit					State	
			New Crossings			Existing Crossings		Existing Crossings	
			Public[1]	Private[2]	Grade Separated[3]	Public	Private	Public	Private
Part V: Public Highway Information									
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	EmrgncySrvc	Emergency Services Route	C	O	O			R	

Public[1]:

- 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.

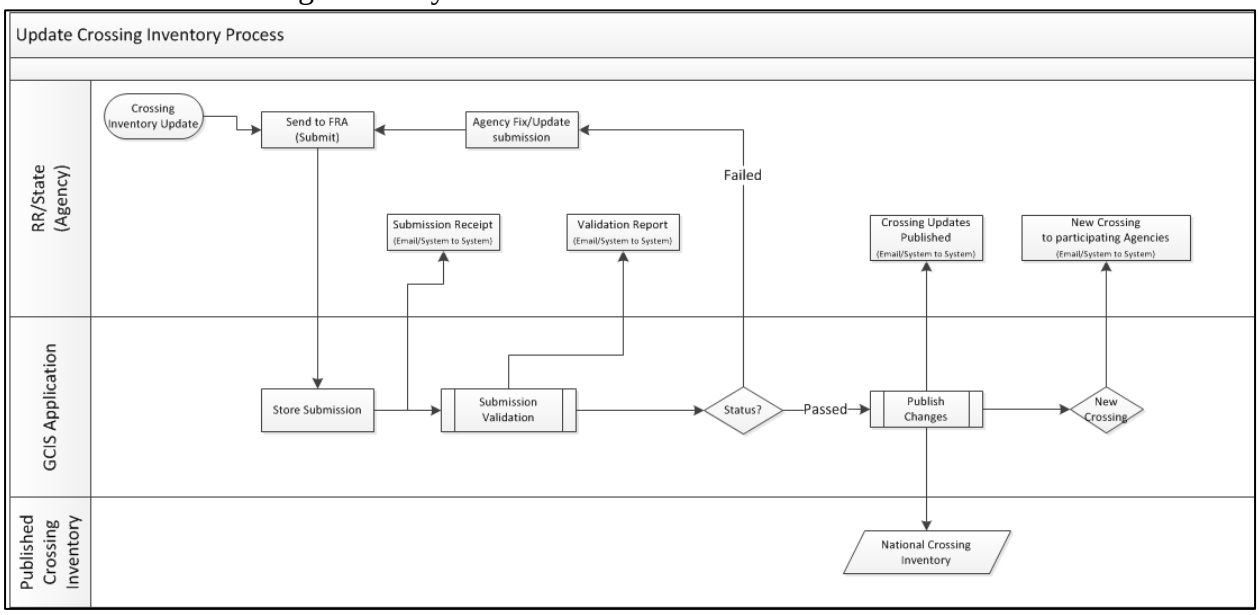
Private[2]: For all Private Grade Crossing, the Header and Part I – V, with the exception of I.20 and III.2.K, must be provided. All other fields are optional.
Grade Separated[3]: The Header and Part I, with the exception of I.20, must be provided. All other fields are optional.

Appendix D: GCIS Business Processes

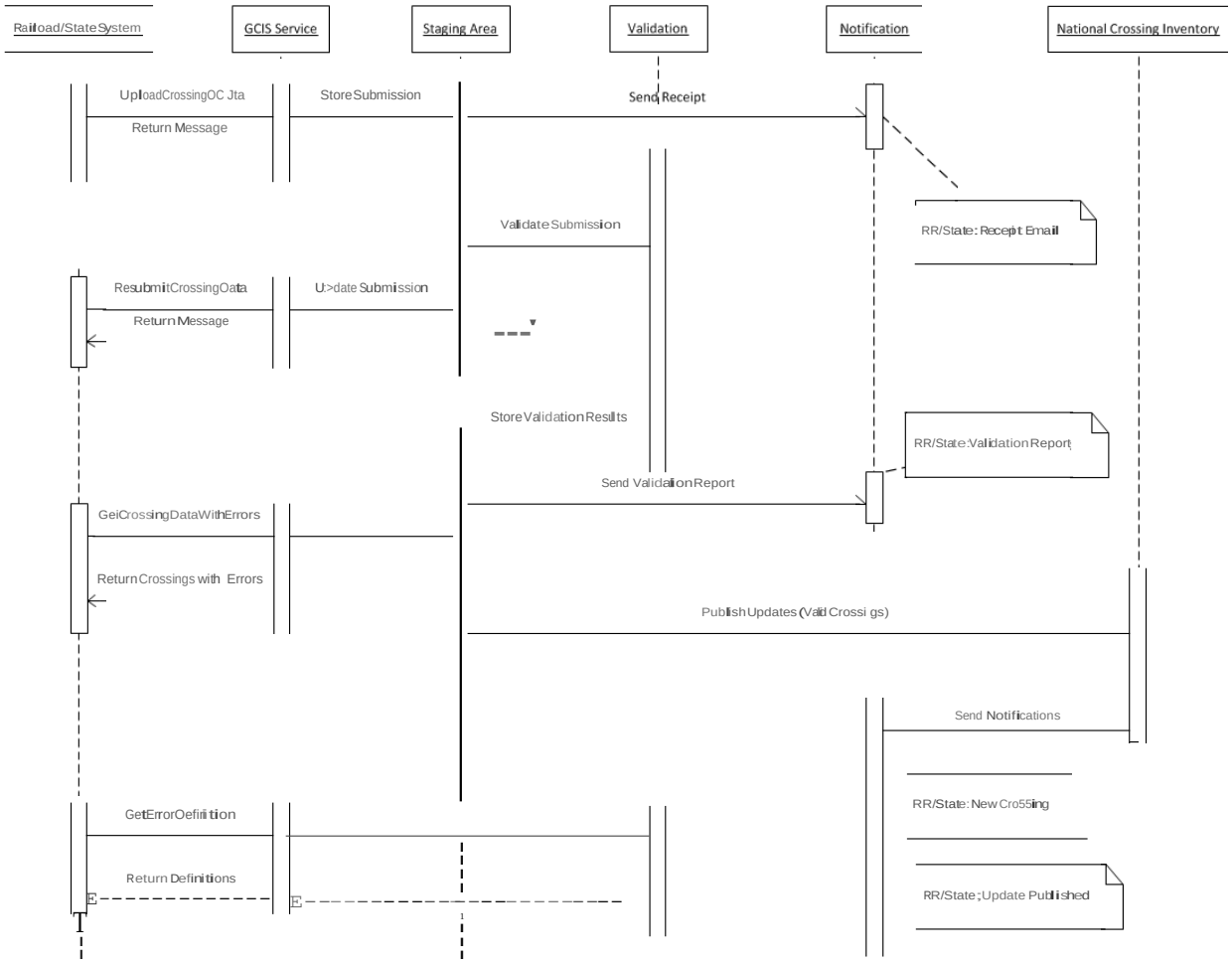
This appendix describes the key business processes used by the GCIS application.

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.


Railroad/State System
GCIS Service
Staging Area
Validation
Notification
National Crossing Inventory
UploadCrossingOC Jta
Store Submission
Send Receipt
Return Message
Validate Submission
RR/State: Receipt Email
ResubmitCrossingOata
U>date Submission
Return Message
Store Validation Results
RR/State:Validation Report
Send Validation Report
GeiCrossingDataWithErrors
Return Crossings with Errors
Publish Updates (Valid Crossi gs)
Send Notifications
RR/State: New Cro55ing
GetErrorOefiniition
Return Definitions
RR/State ;Update Published