FRA Data Dictionary for Internal Use Grade Crossing Inventory System (GCIS) v3.2.0,
Release Date: 06/21/2022
Document Revision Date: 06/2/2022

U.S. Department of Transportation

Federal Railroad Administration

Office of Railroad Safety

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Revision Summary

Revision Date	Document Version #	Revision Class	Summary
03/06/2015	1.0	Major	Initial Availability
10/02/2015	1.1	Minor	Added Document Versioning
11/13/2015	2.0	Major	Updated field type for III.2.J, OthSgn2, and OthSgn3
01/15/2016	3.0	Major	Updated Part III.4.C, III.6, and IV.6
02/12/2016	4.0	Major	Updated Data Model and Added Section 2.2.4 Changed CI_CrossingHeader from Lookup table to Data table
12/28/2016	4.1	Minor	Updated Document Versioning
02/17/2017	4.2	Minor	Updated Document Versioning
12/01/2017	4.3	Minor	Added CrossingClosed field to CI_ReportBase
05/04/2018	4.4	Minor	Updated Document Versioning
07/02/2019	4.5	Minor	Updated Document Versioning • Updated page 1 RRS 23 to RRS 22
04/30/2020	4.6	Minor	Updated Release Version and Dates Adjusted Pagination and Table of Contents
03/09/2021	4.7	Minor	• Updated Release Version and Dates • Section 1 wording has been updated • Header Row is added to Tables (Tables have be reformatted) • The column "Field Values" has been updated for the following fields: AwdlDate AwhornlDate Branch Created HscoRrid SfxHscoRrid LastUpdated RrDiv RrMain RrSubDiv XSurfDate XingOwnr • Two fields have been added to the ci_locationandclassification table: Thrrequestno Ccmqzid
05/25/2022	4.8	Minor	Updated Release Version and Dates
06/2/2022	4.9	Minor	Modernizing formatting of the document and tables

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Section 1. Introduction

1.1. Purpose

GCIS is a web-based application allowing Railroad, State, and Transit users to directly submit crossing records through three methods: (1) a web user interface, (2) upload of multiple records using FRA pre-approved Excel template(s), and (3) a web Application Programming Interface (API). The data received are stored within a SQL Server database. This document contains the names of tables used in GCIS, and details such as field names, and valid field values. This document can be used as a reference for data model, table and field names, valid values as stored in the GCIS data tables, and field descriptions. For related electronic data submission instructions, including the format that agencies can submit data electronically, can be found in the document: "***FRA Instructions for Electronic Submission of U.S. DOT Crossing Inventory Data, Grade Crossing Inventory System (GCIS)***".

1.2. Background

The previous Grade Crossing Inventory System was designed over a decade ago by FRA. The system had two versions: GX32 and GCIS. GX32 was a VB application with an MS Access database backend and some Railroads and States used it to maintain and upload grade crossing data. The previous GCIS was a VB application with a SQL Server backend and was used by the FRA data entry team to process grade crossing inventory data. The old grade crossing system was replaced by the GCIS web application on March 7, 2015.

1.3. Scope

This document provides details about the data tables that are used in the GCIS backend database. A brief summary of each table is provided along with the column name, a description of each column, the value(s) that are stored, field types, and the location of the field within the Grade Crossing Inventory Form (6180.71) (if applicable).

Section 2. Overview

At a high level, the GCIS data model contains four main categories as follows:

- Crossing Records – contains data consisting of all five parts of the Grade Crossing Inventory Form including the Header information
- Delegations – stores the delegating and delegated agency information
- Lookups – stores all the lookup values used throughout the application
- Audit Logs – stores all historical crossing records and submissions

2.1. Data Model

The data model provides an overview of the GCIS database structure. The table prefixes are labeled with, CI_ to indicate that those tables capture crossing inventory information. The subsequent sections provide further explanation regarding each table in the GCIS database.
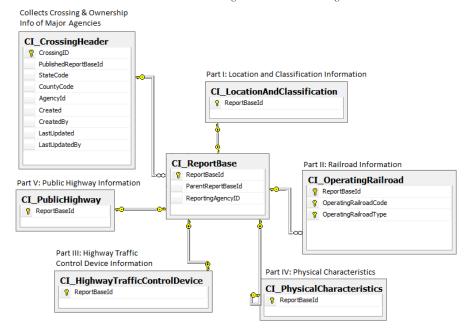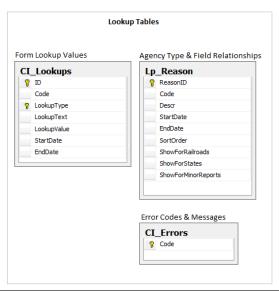
Figure 1- Full GCIS Logical Data Model

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2.2. Data Tables
2.2.1. Tables Storing Crossing Inventory Records
2.2.1.1. CI_BulkUpload

This table contains data related to a bulk upload, whether it was submitted using the File Upload function or through the Secure API. The corresponding audit log table is called CI_AuditLog_BulkUpload.

Table 1 - Fields in CI_BulkUpload

CI_BulkUpload				
Box No. on Form	**Column Name**	**Description**	**Field Values**	**Type**
	AgencyFileName	The name of the file that the agency user submitted		varchar(MAX)
	AgencyID	The ID assigned to each Railroad, State, or Transit agency from which the submission originated from		int
	BulkUploadID	The Primary Key for each individual submission (not crossing records)		varchar(50)
	Comments	Comments		varchar(500)
	FileLocation	The file location to where the Excel file submission was saved		varchar(MAX)
	UploadStatus	Provides the status of the submission	Pending = Pending Error = Submitted w/ Errors Success = Submitted Successfully	varchar(50)
	UploadType	Identifies where the report originated from: File Upload (using an Excel file) or the Secure API Web service	File Upload Secure API	varchar(50)
	Created	Date for which the original submission was created	Date and Time (Eastern Standard Time)	datetime
	CreatedBy	Username of the user who originally submitted the records		varchar(50)
	LastUpdated	Date for which the existing submission was modified	Date and Time (Eastern Standard Time)	datetime
	LastUpdatedBy	Username of the user who last submitted the updated records		varchar(50)

2.2.1.2. CI_CrossingHeader

This table contains data related to the crossing and ownership information of the Primary Operating Railroad agency. The corresponding audit log table is CI_AuditLog_CrossingHeader.

Table 2 - Fields in CI_CrossingHeader

CI_CrossingHeader			
Column Name	**Description**	**Field Values**	**Type**
AgencyId	The Reporting Agency Type ID from which the submission originated	1 = Railroad 2 = State 3 = Transit 4 = FRA Internal 5 = DOT (No longer used) 6 = Other (No longer used)	int
CountyCode	The code assigned to each U.S. County		varchar(5)
CrossingID	Primary Key. Also the Crossing Inventory Number.		varchar(50)
PublishedReportBaseId	Foreign key to the CI_ReportBase table		int
StateCode	The code assigned to each U.S. State		varchar(5)
Created	Date for which the original submission was created	Date and Time (Eastern Standard Time)	datetime
CreatedBy	Username of the user who originally submitted the records		varchar(50)
LastUpdated	Date for which the existing submission was modified	Date and Time (Eastern Standard Time)	datetime
LastUpdatedBy	Username of the user who last submitted the updated records		varchar(50)

2.2.1.3. CI_HighwayTrafficControlDevice

This table stores information pertaining to Part III: Highway or Pathway Traffic Control Device Information of the Grade Crossing Inventory Form (6180.71). Detailed information regarding the table is described in the table below. The corresponding audit log table is called CI_AuditLog_HighwayTrafficControlDevice.

Table 3 - Fields in CI_HighwayTrafficControlDevice

Box No. on Form	Column Name	Description	Field Values	Type
		CI_HighwayTrafficControlDevice		
III.2.D	AdvW10_1	Count of Advance Warning Signs W10-1 flag		numeric(1,0)
III.2.D	AdvW10_11	Count of Advance Warning Signs W10-11 flag		numeric(1,0)
III.2.D	AdvW10_12	Count of Advance Warning Signs W10-12 flag		numeric(1,0)
III.2.D	AdvW10_2	Count of Advance Warning Signs W10-2 flag		numeric(1,0)
III.2.D	AdvW10_3	Count of Advance Warning Signs W10-3 flag		numeric(1,0)
III.2.D	AdvW10_4	Count of Advance Warning Signs W10-4 flag		numeric(1,0)
III.2.D	AdvWarn	Advance Warning Signs	0 = None 1 = W10-1 2 = W10-2 3 = W10-3 4 = W10-4 11 = W10-11 12 = W10-12	varchar(32)
III.3.F	AwdIDate	Installation Date of Current Active Warning Devices	MMYYYY (-1 indicates "Not Required")	varchar(6)
III.3.G	AwhornChk	Wayside Horn	1 = Yes 2 = No	varchar(1)
III.3.G	AwhornlDate	Wayside Horn Installed On (date)	MMYYYY	varchar(6)
III.3.I	Bells	Number of Bells		numeric(2,0)
III.3.D	Bkl_FlashPost	Mast Mounted Flashing Lights: Back Lights Included	1 = Yes 2 = No	varchar(32)
III.3.C	CFlashType	Type of Cantilevered (or Bridged) Flashing Light Structures	0 = None 1 = Incandescent 2 = LED	varchar(32)
III.2.G	Channel	Channelization Devices/Medians	1 = All Approaches 2 = One Approach 3 = Median – All Approaches 4 = Median – One Approach 5 = None	varchar(1)
III.2.I	EnsSign	ENS Sign Displayed	1 = Yes	varchar(1)

		CI_HighwayTrafficControlDevice		
Box No. on Form	**Column Name**	**Description**	**Field Values**	**Type**
			2 = No	
III.2.H	Exempt	EXEMPT Signs	1 = Yes 2 = No	varchar(1)
III.3.C	FlashNov	Count of Cantilevered (or Bridged) Flashing Light Structures Not Over Traffic Lane		numeric(2,0)
III.3.K	FlashOth	Other Flashing Lights or Warning Devices: Count		numeric(2,0)
III.3.K	FlashOthDes	Other Flashing Lights or Warning Devices: Specify type		varchar(256)
III.3.C	FlashOv	Count of Cantilevered (or Bridged) Flashing Light Structures Over Traffic Lane		numeric(2,0)
III.3.E	FlashPai	Total Count of Flashing Light Pairs		numeric(2,0)
III.3.D	FlashPost	Mast Mounted Flashing Lights (count)		numeric(2,0)
III.3.D	FlashPostType	Mast Mounted Flashing Lights Type	0 = None 1 = Incandescent 2 = LED	varchar(32)
III.3.B	GateConf	Gate Configuration	1 = 2 Quad 2 = 3 Quad 3 = 4 Quad	varchar(32)
III.3.B	GateConfType	Type of Gate Configuration	4 = Full (Barrier) Resistance 6 = Median Gates	varchar(32)
III.3.A	GatePed	Count of Pedestrian Gate Arms		numeric(2,0)
III.3.A	Gates	Count of Roadway Gate Arms		numeric(2,0)
III.5	HwtrfPsig	Highway Traffic Pre-Signals	1 = Yes 2 = No	varchar(1)
III.5	HwtrfPsiglndis	Stop Line Distance (count)		numeric(3,0)
III.5	HwtrfPsigsdis	Storage Distance (count)		numeric(3,0)
III.4.A	HwynrSig	Does Nearby Hwy Intersection have Traffic Signals?	1 = Yes 2 = No	varchar(1)
III.3.H	HwyTrafSignl	Highway Traffic Signals Controlling Crossing	1 = Yes 2 = No	varchar(1)
III.4.B	Intrprmp	Hwy Traffic Signal Interconnection	1 = Not Interconnected 2 = For Traffic Signals 3 = For Warning Signs	varchar(32)
III.2.L	Led	LED Enhanced Signs		varchar(256)

		CI_HighwayTrafficControlDevice		
Box No. on Form	**Column Name**	**Description**	**Field Values**	**Type**
III.2.E	Low_Grnd	Low Ground Clearance Signs	1 = Yes 2 = No	varchar(1)
III.2.E	Low_GrndSigns	Number of Low Ground Clearance Signs		numeric(2,0)
III.6	MonitorDev	Highway Monitoring Devices	0 = None 1 = Yes-Photo/Video Recording 2 = Yes-Vehicle Presence Detection	varchar(32)
III.1	NoSigns	Are there Signs or Signals?	1 = Yes 2 = No	varchar(1)
III.2.J	OthDes1	Specify Type of Other MUTCD Signs		varchar(10)
III.2.J	OthDes2	Specify Type of Other MUTCD Signs 2		varchar(10)
III.2.J	OthDes3	Specify Type of Other MUTCD Signs 3		varchar(10)
III.2.J	OthSgn	Other MUTCD Signs	1 = Yes 2 = No	varchar(1)
III.2.J	OthSgn1	Number of Other MUTCD Signs		numeric(2,0)
III.2.J	OthSgn2	Number of Other MUTCD Signs 2		numeric(2,0)
III.2.J	OthSgn3	Number of Other MUTCD Signs 3		numeric(2,0)
III.2.F	PaveMrkIDs	Pavement Markings	0 = None 1 = Stop Lines 2 = RR Xing Symbols 3 = Dynamic Envelope	varchar(32)
III.4.C	PrempType	Highway Traffic Signal Preemption	1 = Simultaneous 2 = Advance	varchar(1)
III.2.K	PrvxSign	Private Crossing Signs	1 = Yes 2 = No	varchar(1)
	ReportBaseId	Foreign Key to the CI_ReportBase table		int
III.3.D	Sdl_FlashPost	Mast Mounted Flashing Lights: Side Lights Included	1 = Yes 2 = No	varchar(32)
III.3.J	SpecPro	Non-Train Active Warning	0 = None 1 = Flagging/Flagman 2 = Manually Operated Signals 3 = Watchman	varchar(20)

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Box No. on Form	Column Name	Description	Field Values	Type
			4 = Floodlighting	
III.2.B	StopStd	Number of STOP Signs		numeric(1,0)
III.2.A	XBuck	Number of Crossbuck Assemblies		numeric(2,0)
III.2.C	YieldStd	Number of YIELD Signs		numeric(1,0)
	WdCode	Warning Device Code		varchar(1)
	Wigwags	Number of Wigwags (No longer used)		numeric(2, 0)
	Created	Date for which the original submission was created	Date and Time (Eastern Standard Time)	datetime
	CreatedBy	Username of the user who originally submitted the records		varchar(50)
	LastUpdated	Date for which the existing submission was modified	Date and Time (Eastern Standard Time)	datetime
	LastUpdatedBy	Username of the user who last submitted the updated records		varchar(50)

2.2.1.4. CI_LocationAndClassification

This table stores information pertaining to Part I: Location and Classification Information of the Grade Crossing Inventory Form (6180.71). The corresponding audit log table is called CI_AuditLog_LocationAndClassification.

Table 4 - Fields in CI_LocationAndClassification

		CI_LocationAndClassification		
Box No. on Form	**Column Name**	**Description**	**Field Values**	**Type**
I.5	BlockNumb	Block Number		varchar(6)
	Ccmqzid	THR_Request Number field (previous number) associated with a Quiet Zone (related to Thrrequestno and Whistban fields)		varchar(20)
I.4	CityCD	The code assigned to each U.S. City		varchar(10)
I.3	CntyCD	The code assigned to each U.S. County		varchar(10)
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	varchar(32)
I.6	Highway	Highway Type & No.		varchar(256)
I.26	HscoRrid	HSR Corridor ID	ID (identifier) from the GCIS Look Up reference table (-1 indicates "N/A") Related field: SfxHscoRrid	varchar(4)
I.35	HwyCont	State Contact (Telephone No.)		varchar(10)
I.27	Latitude	Latitude		varchar(256)
I.29	LLsource	Lat/Long Source	1 = Actual 2 = Estimated	varchar(1)
I.28	Longitude	Longitude		varchar(256)
I.7	MultFrmsFiled	Do Other Railroads Operate a Separate Track at Crossing?	1 = Yes 2 = No	varchar(1)
I.4	Nearest	In/Near	0 = In 1 = Near	varchar(1)
I.20	OpenPub	Public Access (If Private Crossing)	1 = Yes 2 = No	varchar(1)

		CI_LocationAndClassification		
Box No. on Form	**Column Name**	**Description**	**Field Values**	**Type**
I.33	PolCont	Emergency Notification Telephone No.		varchar(10)
I.19	PosXing	Crossing Position	1 = At Grade 2 = RR Under 3 = RR Over	varchar(1)
I.1	Railroad	The code associated with the Primary Operating Railroad		varchar(32)
	ReportBaseId	Foreign Key to the CI_ReportBase table		int
I.34	RrCont	Railroad Contact (Telephone No.)		varchar(10)
I.13	RrID	Line Segment		varchar(256)
I.15	RrMain	The code associated with the Parent Railroad	Valid Railroad or Company Code (-1 is a code meaning "N/A")	varchar(32)
I.32.A	RrNarr	Railroad Narrative		varchar(max)
I.30.A	RrNarr1	Railroad narrative A		varchar(256)
I.30.B	RrNarr2	Railroad narrative B		varchar(256)
I.30.C	RrNarr3	Railroad narrative C		varchar(256)
I.30.D	RrNarr4	Railroad narrative D		varchar(256)
I.8.	SameInd	Do Other Railroads Operate Over Your Track at Crossing?	1 = Yes 2 = No	varchar(1)
I.8.	SameRr1	The code associated with the Railroad selected in the 1st drop-down list for field I.8		varchar(32)
I.8.	SameRr2	The code associated with the Railroad selected in the 2nd drop-down list for field I.8		varchar(32)
I.8.	SameRr3	The code associated with the Railroad selected in the 3rd drop-down list for field I.8		varchar(32)
I.8.	SameRr4	The code associated with the Railroad selected in the 4th drop-down list for field I.8		varchar(32)
I.7	SepInd	Do Other Railroads Operate a Separate Track at Crossing?	1 = Yes 2 = No	varchar(1)
I.7	SepRr1	The code associated with the Railroad selected in the 1st drop-down list for field I.7		varchar(32)
I.7	SepRr2	The code associated with the Railroad selected in the 2nd drop-down list for field I.7		varchar(32)
I.7	SepRr3	The code associated with the Railroad selected in the 3rd drop-down list for field I.7		varchar(32)
I.7	SepRr4	The code associated with the Railroad selected in the 4th drop-down list for field I.7		varchar(32)
I.26	SfxHscoRrid	HSR Corridor ID Suffix	Rail-Section Identifier (numeric 1-9) or 'X' if numeric not used	varchar(4)
I.2	StateCD	The code assigned to each U.S. States		varchar(2)
I.32.B	StNarr	State Narrative		varchar(max)
I.31.A	StNarr1	State narrative A		varchar(256)
I.31.B	StNarr2	State narrative B		varchar(256)

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		CI_LocationAndClassification		
Box No. on Form	**Column Name**	**Description**	**Field Values**	**Type**
I.31.C	StNarr3	State narrative C		varchar(256)
I.31.D	StNarr4	State narrative D		varchar(256)
I.5	Street	Street or Road Name		varchar(256)
	Thrrequestno	THR_Request Number (current number) field associated with a Quiet Zone (related to Ccmqzid and Whistban fields)		varchar(30)
I.14	Ttstn	Timetable Station		varchar(6)
I.14	TtstnNam	Nearest RR Timetable Station		varchar(256)
I.21	TypeTrnSrvcIDs	Type of Train Service	11 = Freight 12 = Intercity Passenger 13 = Commuter 14 = Transit 15 = Shared Use Transit 16 = Tourist/Other	varchar(32)
I.17	TypeXing	Crossing Type	2 = Private 3 = Public	varchar(1)
I.25	Whistban	Quiet Zone	0 = No 1 = 24 hr 2 = Partial 3 = Chicago Excused	varchar(1)
I.25	WhistDate	Date Established (Quiet Zone)		datetime
I.24	XingAdj	Is there an Adjacent Crossing with a Separate Number?	1 = Yes 2 = No	varchar(1)
I.16	XingOwnr	Crossing Owner (RR ID)	Valid Railroad or Company Code (-1 is a code meaning "N/A")	varchar(32)
I.24	XngAdjNo	If Yes, Provide Crossing Number		varchar(7)
I.18	XPurpose	Crossing Purpose	1 = Highway 2 = Pathway, Pedestrian 3 = Station, Pedestrian	varchar(1)
	Created	Date for which the original submission was created	Date and Time (Eastern Standard Time)	datetime
	CreatedBy	Username of the user who originally submitted the records		varchar(50)
	LastUpdated	Date for which the existing submission was modified	Date and Time (Eastern Standard Time)	datetime
	LastUpdatedBy	Username of the user who last submitted the updated records		varchar(50)

2.2.1.5. CI_OperatingRailroad

This table contains 2 Primary Keys consisting of the OperatingRailroadCode and OperatingRailroadType that distinctly identifies that the record is a Multiple Forms Filed (MFF) record and the ReportBaseId that is a foreign key to the CI_ReportBase table capturing the Header information. It also captures data for Part II: Railroad Information of the Grade Crossing Inventory Form (6180.71). The corresponding audit log table is called CI_AuditLog_OperatingRailroad.

Table 5 - Fields in CI_OperatingRailroad

CI_OperatingRailroad				
Box No. on Form	**Column Name**	**Description**	**Field Values**	**Type**
I.11	Branch	Branch or Line Name	Any Alphanumeric Data (#N\A is a code meaning "None")	varchar(256)
II.1.A	DayThru	Total Daylight Thru Trains		numeric(3,0)
II.7.A	EMonitorDvce	Event Recorder	1 = Yes 2 = No	varchar(1)
II.7.B	HealthMonitor	Remote Health Monitoring	1 = Yes 2 = No	varchar(1)
II.4	IndustryTrk	Number of Industry tracks		numeric(2,0)
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	varchar(1)
I.22	Lt1PassMov	Average Passenger Train Count Per Day: Less Than One Per Day	1 = Yes 2 = No	varchar(1)
II.4	MainTrk	Number of Main tracks		numeric(2,0)
II.3.B	MaxSpd	Typical Speed Range Over Crossing - MaxTypical Speed Range Over Crossing (maximum)		numeric(3,0)
II.3.A	MaxTtSpd	Maximum Timetable Speed		numeric(3,0)
I.12	MilePost	RR Milepost Number		varchar(8)
II.3.B	MinSpd	Typical Speed Range Over Crossing (minimum)		numeric(3,0)
II.1.B	NghtThru	Total Night time Thru Trains		float
	OperatingRailroadCode	Primary Key. The code associated with the Primary Operating Railroad		varchar(32)
	OperatingRailroadType	Primary Key. The type distinguishing whether the operating Railroad is the Primary, Operate a Separate Track, or Operate Over a Track	Primary = Primary Operating Railroad Samerr = Operate Over Your Track at Crossing Seprr = Operate a Separate Track at Crossing	varchar(10)
II.4	OthrTrk	Number of other tracks (No longer used)		numeric(2,0)
II.4	OthrTrkDes	Other tracks description (No longer used)		varchar(32)
I.22	PassCnt	Average Passenger Train Count Per Day: Number per day		numeric(3,0)

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Box No. on Form	Column Name	Description	Field Values	Type
		CI_OperatingRailroad		
I.12	PrfxMilePost	RR Milepost Prefix		varchar(3)
	ReportBaseId	Foreign key to the CI_ReportBase table		int
I.9	RrDiv	Railroad Division or Region	Any Alphanumeric Data (#N\A is a code meaning "None")	varchar(256)
I.10	RrSubDiv	Railroad Subdivision or District	Any Alphanumeric Data (#N\A is a code meaning "None")	varchar(256)
I.12	SfxMilePost	RR Milepost Suffix		varchar(3)
II.6	Sgnleqp	Is Track Signaled?	1 = Yes 2 = No	varchar(1)
II.4	SidingTrk	Number of Siding tracks		numeric(2,0)
II.5	SpselIDs	Train Detection	0 = None 11 = Constant Warning Time 12 = Motion Detection 14 = Other 16 = AFO 17 = PTC 18 = DC	varchar(32)
II.1.D	TotalLtr	Total Transit Trains		float
II.1.C	TotalSwt	Total Switching Trains		float
II.4	TransitTrk	Number of Transit tracks		numeric(2,0)
II.1.E	WeekTrnMov	How many Trains per Week?		Float
II.4	YardTrk	Number of Yard tracks		numeric(2,0)
II.2	YearTrnMov	Year of Train Count Data		float
	Created	Date for which the original submission was created	Date and Time (Eastern Standard Time)	datetime
	CreatedBy	Username of the user who originally submitted the records		varchar(50)
	LastUpdated	Date for which the existing submission was modified	Date and Time (Eastern Standard Time)	datetime
	LastUpdatedBy	Username of the user who last submitted the updated records		varchar(50)

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2.2.1.6. CI_PhysicalCharacteristics

This table stores information pertaining to Part IV: Physical Characteristics of the Grade Crossing Inventory Form (6180.71). The corresponding audit log table is called CI_AuditLog_PhysicalCharacteristics.

Table 6 - Fields in CI_PhysicalCharacteristics

		CI_PhysicalCharacteristics		
Box No. on Form	**Column Name**	**Description**	**Field Values**	**Type**
IV.8	ComPower	Is Commercial Power Available?	1 = Yes 2 = No	varchar(1)
IV.3	Downst	Does Track Run Down a Street?	1 = Yes 2 = No	varchar(1)
IV.6	HwynDist	Approximate Intersecting Roadway Distance (feet)		numeric(4,0)
IV.6	HwyNear	Intersecting Roadway within 500 feet?	1 = Yes 2 = No	varchar(1)
IV.2	HwyPved	Is Roadway/Pathway Paved?	1 = Yes 2 = No	varchar(1)
IV.4	Illumina	Is Crossing Illuminated?	1 = Yes 2 = No	varchar(1)
	ReportBaseId	Foreign key to the CI_ReportBase table		int
IV.1	TraficLn	Number of Traffic Lanes Crossing Railroad		varchar(2)
IV.1	TraflnType	Traffic Lane Type	1 = One-way Traffic 2 = Two-way Traffic 3 = Divided Traffic	varchar(1)
IV.7	XAngle	Smallest Crossing Angle	1 = 0° – 29° 2 = 30° – 59° 3 = 60° - 90°	varchar(1)
IV.5	XSurfaceIDs	Crossing Surface	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)	varchar(32)
IV.5	XSurfDate	Crossing Surface Installation Date	MMYYYY	varchar(6)
IV.5	XSurfLength	Crossing Surface Length		numeric(3,0)
IV.5	XSurfWidth	Crossing Surface Width		numeric(3,0)

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<table>
<tr><th colspan="5" align="center">CI_PhysicalCharacteristics</th></tr>
<tr>
<th>Box No.
on Form</th>
<th>Column Name</th>
<th>Description</th>
<th>Field Values</th>
<th>Type</th>
</tr>
<tr>
<td>IV.5</td>
<td>XSurOthr</td>
<td>Other Crossing Surface (description)</td>
<td></td>
<td>varchar(256)</td>
</tr>
<tr>
<td></td>
<td>Created</td>
<td>Date for which the original submission was created</td>
<td>Date and Time
(Eastern Standard Time)</td>
<td>datetime</td>
</tr>
<tr>
<td></td>
<td>CreatedBy</td>
<td>Username of the user who originally submitted the records</td>
<td></td>
<td>varchar(50)</td>
</tr>
<tr>
<td></td>
<td>LastUpdated</td>
<td>Date for which the existing submission was modified</td>
<td>Date and Time
(Eastern Standard Time)</td>
<td>datetime</td>
</tr>
<tr>
<td></td>
<td>LastUpdatedBy</td>
<td>Username of the user who last submitted the updated records</td>
<td></td>
<td>varchar(50)</td>
</tr>
</table>

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2.2.1.7. CI_PublicHighway

This table stores information pertaining to Part V: Public Highway Information of the Grade Crossing Inventory Form (6180.71). The corresponding audit log table is called CI_AuditLog_PublicHighway.

Table 7 - Fields in CI_PublicHighway

Box No. on Form	Column Name	Description	Field Values	Type
		CI_PublicHighway		
V.7	Aadt	Annual Average Daily Traffic (AADT) Count		varchar(6)
V.7	AadtYear	Annual Average Daily Traffic (AADT) Year		varchar(4)
V.10	EmrgncySrvc	Emergency Services Route	1 = Yes 2 = No	varchar(1)
	HazmtVeh	Hazmat Vehicles (No longer used)		varchar(1)
V.2	HwyClassCD	Functional Classification of Road at Crossing: Rural or Urban	0 = (0) Rural 1 = (1) Urban	varchar(1)
V.2	HwyClassrdtpID	Functional Classification of Road at Crossing: Type of Highway/Roadway (ID)	11 = (1) Interstate 12 = (2) Other Freeways and Expressways 13 = (3) Other Principal Arterial 16 = (4) Minor Arterial 17 = (5) Major Collector 18 = (6) Minor Collector 19 = (7) Local	varchar(32)
V.4	HwySpeed	Highway Speed Limit		numeric(3,0)
V.4	HwySpeedps	Highway Speed Limit: Posted or Statutory	1 = Posted 2 = Statutory	varchar(1)
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	varchar(2)
V.6	LrsMilePost	LRS Milepost		varchar(256)
V.5	LrsRouteid	Linear Referencing System (LRS Route ID)		varchar(256)
V.8	PctTruk	Estimated Percent Trucks		varchar(2)
	ReportBaseId	Foreign key to the CI_ReportBase table		Int
V.9	SchlBsCnt	Average Number School Bus Count per Day		numeric(3,0)
V.9	SchlBusChk	Regularly Used by School Buses?	1 = Yes 2 = No	varchar(1)
V.3	StHwy1	Is Crossing on State Highway System?	1 = Yes 2 = No	varchar(1)

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<table>
<tr><th colspan="5">CI_PublicHighway</th></tr>
<tr><th>Box No. on Form</th><th>Column Name</th><th>Description</th><th>Field Values</th><th>Type</th></tr>
<tr><td></td><td>Created</td><td>Date for which the original submission was created</td><td>Date and Time (Eastern Standard Time)</td><td>datetime</td></tr>
<tr><td></td><td>CreatedBy</td><td>Username of the user who originally submitted the records</td><td></td><td>varchar(50)</td></tr>
<tr><td></td><td>LastUpdated</td><td>Date for which the existing submission was modified</td><td>Date and Time (Eastern Standard Time)</td><td>datetime</td></tr>
<tr><td></td><td>LastUpdatedBy</td><td>Username of the user who last submitted the updated records</td><td></td><td>varchar(50)</td></tr>
</table>

2.2.1.8. CI_ReportBase

This table stores the Header information, as well as the crossing records where the Primary Operating Railroad selected the value of Yes for field I.7 Do Other Railroads Operate a Separate Track at Crossing? This means that the Primary Operating Railroad is listing up to four (4) additional railroads to submit their railroad and train count data. These submissions will be flagged with a value of 1 in the database, denoting that the record is a Multiple Forms Filed (MFF) record. Detailed information regarding the table is described in the table below. The corresponding audit log table is called CI_AuditLog_ReportBase.

Table 8 - Fields in CI_ReportBase

		CI_ReportBase		
Box No. on Form	**Column Name**	**Description**	**Field Values**	**Type**
	CrossingClosed	Crossing Closed Indicator	1 = Closed 2 = Open	int
D	CrossingID	DOT Crossing Inventory Number		varchar(20)
D	CrossingIdSuffix	Crossing ID suffix		varchar(20)
	MultipleFormsFiled	Multiple Forms Filed (boolean)	1 = Yes 2 = No	int
	ParentReportBaseId	Unique ID for all crossings in this table		int
A	PostmarkDate	Submission Date		datetime
C	ReasonID	Reason for Update	14 = Change in Data	int
	ReportBaseId	Foreign key to the CI_ReportBase table		int
	ReportingAgencyID	Reporting Agency ID		int
B	ReportingAgencyTypeID	Reporting Agency Type ID	1 = Railroad 2 = State 3 = Transit	int

		CI_ReportBase		
Box No. on Form	**Column Name**	**Description**	**Field Values**	**Type**
	ReportStatus	The status of the submission	Bulk Upload Error Cancelled Expired Pending Published	varchar(20)
	ReportType	Major or Minor Railroad (used for MFF)	Major = Primary Operating Railroad Submitting	varchar(20)
A	RevisionDate	Revision Date		datetime
	ValidationErrors	Stores all the error code(s) that failed validations		varchar(4000)
	Created	Date for which the original submission was created	Date and Time	datetime
	CreatedBy	Username of the user who originally submitted the records		varchar(50)
	LastUpdated	Date for which the existing submission was modified	Date and Time	datetime
	LastUpdatedBy	Username of the user who last submitted the updated records		varchar(50)
	LastUpdatedBy	Username of the user who last submitted the updated records		varchar(50)

2.2.1.9. CI_ReportBulkUpload

This table stores information submitted via the File Upload module from within the GCIS secure web interface or the Secure API Web Service. The corresponding audit log table is called CI_AuditLog_ReportBulkUpload.

Table 9 - Fields in CI_ReportBulkUpload

Box No. on Form	Column Name	Description		Type
		CI_ReportBulkUpload		
	BulkUploadID	Foreign key to the CI_BulkUpload table		varchar(50)
	ReportBaseId	Foreign key to the CI_ReportBase table		int
	ReportBulkUploadID	Primary Key for this table		varchar(50)
	ReportUploadStatus	Status of the record in the CI_ReportBase table		varchar(50)
	Created	Date for which the original submission was created	Date and Time (Eastern Standard Time)	datetime
	CreatedBy	Username of the user who originally submitted the records		varchar(50)
	LastUpdated	Date for which the existing submission was modified	Date and Time (Eastern Standard Time)	datetime
	LastUpdatedBy	Username of the user who last submitted the updated records		varchar(50)

2.2.2. Tables that Store Delegation Requests

2.2.2.1. CI_Delegation

This table contains all approved delegations that have been set up through the GCIS secure web interface. It captures the Delegating and Delegated Agency ID. The corresponding audit log table is CI_AuditLog_Delegation.

Table 10 - Fields in CI_Delegation

CI_Delegation			
Column Name	**Description**	**Field Values**	**Type**
Comments	Comments		varchar(MAX)
DelegatedAgencyId	Foreign key to the CI_Agency table		int
DelegatingAgencyId	Foreign key to the CI_Agency table		int
DelegationId	Primary Key		int
FRAStatus	Provides the approval status (No longer used)	Approved Pending	varchar(10)
StateCode	The code assigned to each U.S. States		varchar(5)
LastUpdated	Date for which the existing submission was modified	Date and Time (Eastern Standard Time)	datetime
LastUpdatedBy	Username of the user who last submitted the updated records		varchar(50)

2.2.3. Tables that Stores Lookup Values

2.2.3.1. CI_Errors

This table contains all the validation error messages that are returned by the system. The corresponding audit log table is called CI_AuditLog_Errors.

Table 11 - Fields in CI_Errors

CI_Errors			
Column Name	**Description**	**Field Values**	**Type**
Code	Primary Key. Also the unique code assigned to each error.		varchar(10)
Description	The description of each error message		varchar(MAX)
Section	Stores the section name of the crossing inventory form	Header Part I: Location and Classification Information Part II: Railroad Information Part III: Highway or Pathway Traffic Control Device Information Part IV: Physical Characteristics Part V: Public Highway Information	varchar(100)
ShowForMinorReports	Identify whether the error message should be returned for users submitting the short form (Railroad Data Only)	0 = True 1 = False	int
ShowForRailroads	Identify whether the error message should be returned for Railroad users	0 = True 1 = False	int
ShowForStates	Identify whether the error message should be returned for State users	0 = True 1 = False	int
SortOrder	Stores the sort order number		int
Created	Date for which the original error was created	Date and Time (Eastern Standard Time)	datetime
CreatedBy	Username of the user who originally created the records		varchar(50)
LastUpdated	Date for which the existing error was modified	Date and Time (Eastern Standard Time)	datetime
LastUpdatedBy	Username of the user who last modified the record		varchar(50)

2.2.3.2. CI_FAQ

This table contains the questions and answers that are displayed under the Help module within the GCIS secure web interface. The corresponding audit log table is called CI_AuditLog_FAQ.

Table 12 - Fields in CI_FAQ

CI_FAQ			
Column Name	**Description**	**Field Values**	**Type**
Description	Stores the answer to the question		varchar(MAX)
Field	If the Q&A pertains to the crossing inventory form, this field will store the box number related to the form (ex: II.1.E or IV.5)		varchar(50)
GroupHeader	Describes the group to which the Q&A belongs to	General Part I Part II Part III Part IV Part V Public API Secure API	varchar(50)
Header	Stores the question		varchar(300)
Id	Primary Key		int
SortOrder	Stores the sort order number		int
Status	Stores the active status	0 = True 1 = False	bit
Created	Date for which the original Q&A was created	Date and Time (Eastern Standard Time)	datetime
CreatedBy	Username of the user who originally created the records		varchar(50)
LastUpdated	Date for which the existing Q&A was modified	Date and Time (Eastern Standard Time)	datetime
LastUpdatedBy	Username of the user who last modified the record		varchar(50)

2.2.3.3. CI_Lookups

This table contains all the valid values available when completing a crossing record. The corresponding audit log table is called CI_AuditLog_Lookups

Table 13 - Fields in CI_Lookups

CI_Lookups			
Column Name	**Description**	**Field Values**	**Type**
Code	The unique code associated with each lookup type		varchar(50)
EndDate	The date in which the item is no longer active		datetime
ID	Primary Key		varchar(50)
LookupText	Description of the lookup value		varchar(500)
LookupType	The type of lookup		varchar(50)
LookupValue	The value the lookup is stored as in the database (compared to what is displayed on the front-end UI)		varchar(50)
StartDate	The date in which the item was made active		datetime
Status	Active/Inactive	0 = Inactive 1 = Active	bit
Created	Date for which the original submission was created	Date and Time (Eastern Standard Time)	datetime
CreatedBy	Username of the user who originally submitted the records		varchar(50)
LastUpdated	Date for which the existing submission was modified	Date and Time (Eastern Standard Time)	datetime
LastUpdatedBy	Username of the user who last submitted the updated records		varchar(50)

2.2.3.4. Lp_Reason

This table stores all the available values that will populate the drop-down list field in Box C. Reason for Update of the Grade Crossing Inventory Form (6180.71). The corresponding audit log table is called Lp_AuditLog_Reason.

Table 14 - Fields in Lp_Reason

Lp_Reason			
Column Name	**Description**	**Field Values**	**Type**
ReasonID	Primary Key for this table		tinyint
Code	Unique code assigned to each item in this table		varchar(3)
Descr	The description of each reason for update		varchar(50)
StartDate	The date in which the item was made active		datetime
EndDate	The date in which the item was made inactive		datetime
SortOrder	Username of the user who originally submitted the records		int
ShowForMinorReports	Identify whether the error message should be returned for users submitting the short form (Railroad Data Only)	0 = True 1 = False	int
ShowForRailroads	Identify whether the error message should be returned for Railroad users	0 = True 1 = False	int
ShowForStates	Identify whether the error message should be returned for State users	0 = True 1 = False	int

2.2.4. Table Storing User and Agency Associations

2.2.4.1. CI_AgencyToUserAssociation

This table stores all relationships between a single username (email address) and all the agencies they are associated to. The corresponding audit log table is called CI_AuditLog_AgencyToUserAssociation.

Table 15 - Fields in CI_AgencyToUserAssociation

Column Name	Description	Field Values	Type
AssociationId	Primary Key for this table		int
UserName	User's email address		varchar(500)
AgencyTypeId	The Agency Type ID		int
AgencyId	The Agency ID		int
AgencyCode	The Agency's Code		varchar(5)
IsActive	Determines whether the current association is active or not	0 = True 1 = False	bit
Created	Date for which the original submission was created	Date and Time (Eastern Standard Time)	datetime
CreatedBy	Username of the user who originally submitted the records		varchar(50)
LastUpdated	Date for which the existing submission was modified	Date and Time (Eastern Standard Time)	datetime
LastUpdatedBy	Username of the user who last submitted the updated records		varchar(50)

2.2.5. Audit Log Tables

Each table in the RSIS_GCIS database contains its own audit log table. The audit log tables will store historical records of each item that is created. All data columns in the original tables are also stored in its corresponding audit log table, with the addition of the fields noted in the table below.

Table 16 - Additional Fields in CI_AuditLog_<OriginalTableNames> Tables

Box No. on Form	Column Name	Description	Field Values	Type
		CI_AuditLog_<OriginalTableNames> Tables		
	AuditLogId	Primary Key for this table		uniqueidentifier
	AuditLogged	Captures the date of the entry		datetime
	AuditLoggedBy	Username of the user who last submitted the updated records		varchar(50)
	AuditType	Captures the type of audit that was made	QuietZone Update Validation Log	varchar(50)

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