FRA Data Migration Strategy Grade Crossing Inventory System (GCIS) v2.9.0.0, Released: 07/02/2019

Document Revision Date: 07/02/2019

U.S. Department of Transportation

Federal Railroad Administration

Office of Railroad Safety

DOT/FRA/RRS-22

Published: January 6, 2015

Effective: March 7, 2015

This page intentionally left blank

Revision Summary

Revision Date	Document Version #	Revision Class	Summary
03/06/2015	1.0	Major	Initial Availability
10/02/2015	2.0	Major	Revised and edited document to support Release 2.1.0.0 enhancements to include: • Page 17, XSURFACE was changed to XSURFACEIDS • Page 17, under the Migration Strategy column for XSURFACE, the label/texts were updated
11/13/2015	2.1	Minor	Updated Document Versioning
12/18/2016	2.2	Minor	Updated Document Versioning
01/15/2016	3.0	Major	Updated text for Part III.6 and migration for HWYNEAR
02/12/2016	3.1	Minor	Updated Document Versioning
12/28/2016	3.2	Minor	Updated Document Versioning
02/17/2017	3.3	Minor	Updated Document Versioning
12/01/2017	3.4	Minor	Updated Document Versioning
05/04/2018	3.4	Minor	Updated Document Versioning
07/02/2019	3.5	Minor	Updated Document Versioning • Updated Page 1 to change RRS-23 to RRS 22

Table of Contents

Section 1. Introduction

1.1. Purpose

This document provides the strategies through which data in the current Grade Crossing Inventory System (GCIS) database migrated into the new GCIS database, known as GCIS v2.0.

The transition from the original database into the new database includes migration from the current processing of in-house applications to a web-based system which allows both internal (FRA Project Office) and external (Railroad, Transit, and State) users to enter crossing inventory data using the same web-based GCIS system. The new GCIS system is able to handle and process inventory data submissions based on the Final Rule changes to 49 CFR 234, changes to the inventory form (Form FRA F 6180.71), the new inventory reporting requirements, and the Railroad/State/Transit field responsibilities.

1.2. Background

The previous Grade Crossing Inventory System was designed over a decade ago by FRA using Visual Basic 6.0 (VB) with a SQL Server and MS Access database backend. 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.

1.3. Scope

This document describes the methodology through which data existing in the current Grade Crossing Inventory System migrated into the new system, GCIS v2.0. It is not intended to explain how the data was validated. For a detailed explanation of how the data was validated, please see the FRA Instructions for Electronic Submission of U.S. DOT Crossing Inventory Data.

Section 2. Migration Approach Overview

At a high level, the migration approach allows for:

- Acceptance and processing of inventory data in the new inventory data file format
- Minimal impact to existing applications that use the inventory data
- Direct migrations of data from the GCIS to the new GCIS v2.0 application wherever practical

2.1. Open Text Conversions

Several fields in the previous applications (GX32 and GCIS) that allowed users to enter open text were changed so that users are now required to select from a finite set of values. Therefore, FRA made data migration decisions by examining the current data and determining what would migrate in the interests of accuracy and integrity. Some values were not migrated into the new database because they did not satisfy the intent of a specific data field or appear elsewhere on the form. As a result, some existing values were not migrated, meaning that these fields will

need to be completed the next time data is submitted to GCIS v2.0. For a list of the data elements that required a change to formats and/or coding, please refer to Appendix B: Type and Count of Tracks, and Appendix C: Non-Train Active Warning.

2.2. Change in data formats and coding

Some changes to the methods in which data was collected necessitated a change in the way the data is coded. This is the case when data that was previously stored in two fields has been migrated into one new field, or when data previously stored in one field is divided into two new fields. While FRA kept these changes to a minimum, they were necessary to conform to the new reporting format. In these cases, migration strategies were designed in such a way as to preserve accuracy of data, and to maintain consistency in the data codes to the extent possible. For a list of the data elements that required a change to formats and/or coding, please refer to Appendix A: Type of Land Use and Appendix D: Functional Classification of Road at Crossing.

2.3. Data Migration Strategy

Several fields listed below are new to the GCIS v2.0 database. As a result, there was no data to migrate. These fields are indicated by the words "new field" under the *Migration Strategy* column. Whenever data has migrated from one field to a field of the same name in the GCIS v2.0 database, the strategy is listed as "straight migration". Whenever data migrated from one field to a new field of a different name, both fields are specified in the strategy. The table below lists all fields in the GCIS v2.0 database indicating the type of migration that was performed.

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
LONGBDAT	REVISIONDATE	Revision Date	A	Straight migration
INIT	REPORTINGAGENCY	Reporting Agency	B	Straight migration
REASON	REASONID	Reason for Update	C	**Current** / **New** / **Code** Change in Data / ☐ Change in Data / 14 New Crossing / ☐ New Crossing / 15 Closed / ☐ Closed / 16 Re-Open / ☐ Re-Open / 19 Date Change Only / ☐ Date Change Only / 20 Operating RR Transfer / ☐ Change in Primary Operating RR / 21 Admin Correction / ☐ Admin. Correction / 22 Quiet Zone Update / ☐ Quiet Zone Update / 23 Abandoned / ☐ No Train Traffic / 24
CROSSING	CROSSINGID	DOT Crossing Inventory Number	D	Straight migration
RAILROAD	RAILROAD	Primary Operating Railroad	I.1	Straight migration
STATE	STATECD	State	I.2	Straight migration
CNTYCD	CNTYCD	County	I.3	Straight migration
NEAREST	NEAREST	In or Near	I.4	Straight migration
CITYCD	CITYCD	City/Municipality		Straight migration
STREET	STREET	Street/Road Name	I.5	Straight migration
	BLOCKNUMB	Block Number	I.5	New field
HIGHWAY	HIGHWAY	Highway Type & No.	I.6	Straight migration

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
SEPIND	SEPIND	Do Other Railroads Operate a Separate Track at Crossing?	I.7	Straight migration
SEPRR1	SEPRR1	Separate Track RR 1	I.7	Straight migration
SEPRR2	SEPRR2	Separate Track RR 2	I.7	Straight migration
SEPRR3	SEPRR3	Separate Track RR 3	I.7	Straight migration
SEPRR4	SEPRR4	Separate Track RR 4	I.7	Straight migration
	MULTFRMSFILED	Multiple Forms Filed	I.7	New field ***Note: Not included on any user interface, but maintained in database***
SAMEIND	SAMEIND	Do Other Railroads Operate Over Your Track at Crossing?	I.8	Straight migration
SAMERR1	SAMERR1	Same Track RR 1	I.8	Straight migration
SAMERR2	SAMERR2	Same Track RR 2	I.8	Straight migration
SAMERR3	SAMERR3	Same Track RR 3	I.8	Straight migration
SAMERR4	SAMERR4	Same Track RR 4	I.8	Straight migration
RRDIV	RRDIV	Railroad Division or Region	I.9	Straight migration
RRSUBDIV	RRSUBDIV	Railroad Subdivision or District	I.10	Straight migration
BRANCH	BRANCH	Branch or Line Name	I.11	Straight migration
MILEPOST	PRFXMILEPOST	Milepost Prefix	I.12	From MILEPOST, any alpha characters that precede the numeric characters was migrated into PRFXMILEPOST.
MILEPOST	MILEPOST	RR Milepost	I.12	Straight migration

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
	SFXMILEPOST	Milepost Suffix	I.12	New field
RRID	RRID	Line Segment	I.13	Straight migration
TTSTNNAM	TTSTNNAM	Nearest RR Timetable Station	I.14	Straight migration
RRMAIN	RRMAIN	Parent RR	I.15	Straight migration (must be in FRA RR list)
XINGOWNR	XINGOWNR	Crossing Owner	I.16	Straight migration
TYPEXING	TYPEXING	Crossing Type	I.17	Straight migration for Public and Private; see field I.18 Crossing Purpose for Pedestrian.
XPURPOSE	XPURPOSE	Crossing Purpose	I.18	From TYPEXING, current Pedestrian (code=1) was migrated into XPURPOSE as Pathway Pedestrian with a code of 2. ***Note: Station, Ped. was not populated with existing data; Highway is populated if crossing is not Pedestrian.***
POSXING	POSXING	Crossing Position	I.19	Straight migration
OPENPUB	OPENPUB	Public Access	I.20	Straight migration
PASSCD	TYPETRNSRVC	Type of Train	I.21	**Current** → **New** A=Amtrak ☐ 12=Intercity Passenger B=Amtrak & Other ☐ 13=Commuter C=Other ☐ 16=Tourist/Other D=None 11=Freight 14=Transit 15=Shared Use Transit ***Note: "None" was not migrated.***

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
	LT1PASSMOV	Less Than One Average Passenger Train Count Per Day?	I.22	New field
PASSCNT	PASSCNT	Number Per Day	I.22	Straight migration
DEVELTYP	DEVELTYPID	Type of Land Use	I.23	See Appendix A: Type of Land Use
XINGADJ	XINGADJ	Is there an Adjacent Crossing with a Separate Number?	I.24	Straight migration
XNGADJNO	XNGADJNO	If Yes, Provide Crossing Number	I.24	Straight migration
WHISTBAN	WHISTBAN	Quiet Zone	I.25	Straight migration
WHISTDATE	WHISTDATE	Date Established	I.25	***Note: Obtained from FRA***
	SFXHSCORRID	HSR Corridor ID Suffix	I.26	New field
HSCORRID	HSCORRID	HSR Corridor ID	I.26	See Appendix E: HSR Corridor ID
LATITUDE	LATITUDE	Latitude in Decimal Degrees	I.27	Straight migration
LONGITUDE	LONGITUDE	Longitude in Decimal Degrees	I.28	Straight migration
LLSOURCE	LLSOURCE	Lat/Long Source	I.29	Straight migration
RRNARR1	RRNARR1	Railroad Use	I.30.A	Straight migration
RRNARR2	RRNARR2	Railroad Use	I.30.B	Straight migration
RRNARR3	RRNARR3	Railroad Use	I.30.C	Straight migration
RRNARR4	RRNARR4	Railroad Use	I.30.D	Straight migration
STNARR1	STNARR1	State Use	I.31.A	Straight migration
STNARR2	STNARR2	State Use	I.31.B	Straight migration

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
STNARR3	STNARR3	State Use	I.31.C	Straight migration
STNARR4	STNARR4	State Use	I.31.D	Straight migration
NARR	RRNARR	Railroad Narrative	I.32.A	Straight migration
	STNARR	State Narrative	I.32.B	New field
POLCONT	POLCONT	Emergency Notification Telephone No.	I.33	Straight migration. ***Note: "911" was not migrated.***
RRCONT	RRCONT	Railroad Contact (Telephone No.)	I.34	Straight migration
HWYCONT	HWYCONT	State Contact (Telephone No.)	I.35	Straight migration
DAYTHRU	DAYTHRU	Total Day Thru Trains	II.1.A	Straight migration
NGHTTHRU	NGHTTHRU	Total Night Thru Trains	II.1.B	Subtract sum of DAYTHRU and TOTALSWT from TOTALTRN for NIGHTHRU value. TOTALTRN is maintained in database.
TOTALSWT	TOTALSWT	Total Switching Trains	II.1.C	Straight migration
	TOTALLR	Total Transit Trains	II.1.D	New field
LT1MOV	LT1MOV	Check if Less Than One Movement Per Day	II.1E	Straight migration
	WEEKTRNMOV	How many trains per week?	II.1.E	New field
	YEARTRNMOV	Year of Train Count Data	II.2	New field
MAXTTSPD	MAXTTSPD	Maximum Timetable Speed	II.3	Straight migration
MINSPD	MINSPD	Typical Speed Range Over Crossing (mph) From	II.3.A	Straight migration

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
MAXSPD	MAXSPD	Typical Speed Range Over Crossing (mph) To	II.3.A	Straight migration
MAINTRK	MAINTRK	Main Tracks	II.4	Straight migration
OTHRTRK, THRDES	SIDING	Siding Tracks	II.4	See Appendix B: Type and Count of Tracks
OTHRTRK, THRDES	YARD	Yard Tracks	II.4	See Appendix B: Type and Count of Tracks
OTHRTRK, THRDES	TRANSIT	Transit Tracks	II.4	See Appendix B: Type and Count of Tracks
OTHRTRK, THRDES	INDUSTRY	Industry Tracks	II.4	See Appendix B: Type and Count of Tracks
	SPSELIDS	Train Detection	II.5	**Current** / **New** 5=None ☐ 0=None 1=Constant Warning ☐ 11=Constant Warning Time 2=Motion Detectors ☐ 12=Motion Detection 4=Other ☐ 14=Other 16=AFO 17-PTC 3=DC/AFO ☐ 18=DC
SGNLEQP	SGNLEQP	Is Track Signaled?	II.6	Straight migration
	EMONITORDVCE	Event Recorder	II.7.A	New field
	HEALTHMONITOR	Remote Health Monitoring	II.7.B	New field

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
NOSIGNS	NOSIGNS	Are There Signs or Signals?	III.1	Straight migration
XBUCK	XBUCK	Crossbuck Assemblies	III.2.A	Straight migration
STOPSTD	STOPSTD	STOP Signs	III.2.B	Straight migration
OTHDES1, THDES2	YIELDSTD	YIELD Signs	III.2.C	Read "yield", "R1-2" from current OTHDES1 and OTHDES2 into new YIELDSTD.
ADVWARN	ADVWARN	Advance Warning Signs	III.2.D	Straight migration ***Note: W10-1 is the only value that was migrated.***
	ADVW10_1	Advance Warning Signs (W10-1)	III.2.D	New field
	ADVW10_2	Advance Warning Signs (W10-2)	III.2.D	New field
	ADVW10_3	Advance Warning Signs (W10-3)	III.2.D	New field
	ADVW10_4	Advance Warning Signs (W10-4)	III.2.D	New field
	ADVW10_11	Advance Warning Signs (W10-11)	III.2.D	New field
	ADVW10_12	Advance Warning Signs (W10-12)	III.2.D	New field
HUMPSIGN	LOW_GRND	Low Ground Clearance Sign (W10-5)	III.2.E	Straight migration from HUMPSIGN into LOW_GRND
	LOW_GRNDSIGNS	Low Ground Clearance Sign (W10-5) count	III.2.E	New field
PAVEMRK	PAVEMRKIDS	Pavement Markings	III.2.F	Straight migration ***Note: "Dynamic Envelope" is a new choice.***
CHANNEL	CHANNEL	Channelization Devices/Medians	III.2.G	Straight migration
OTHSIGN1, OTHDES1; OTHSIGN2, OTHDES2	EXEMPT	EXEMPT Sign (R15-3)	III.2.H	Migrated "R15-3" and "R-15-3P" from current OTHDES1 and OTHDES2 into EXEMPT. Migration occurred only if values in OTHSIGN1 and/or OTHSIGN2 are greater than 0.

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
ENSSIGN	ENSSIGN	ENS Sign Displayed (I-13)	III.2.I	Straight migration
OTHSIGN1, OTHDES1; OTHSIGN2, OTHDES2	OTHSGN	Other MUTCD Signs	III.2.J	If current OTHSGN1 and/or OTHSGN2 contain a numeric value higher than zero, and there is a valid corresponding description of Other Warning Signs in OTHDES1 and/or OTHDES2, then "yes" was populated. Otherwise, "no" was populated.
OTHSGN1	OTHSGN1	Other MUTCD Signs: Count	III.2.J	Straight migration
OTHDES1	OTHDES1	Specify Type	III.2.J	Any valid MUTCD code was migrated with the exception of codes for R15-3: EXEMPT and R1-2: YIELD.
OTHSGN2	OTHSGN2	Other MUTCD Signs: Count	III.2.J	Straight migration
OTHDES2	OTHDES2	Specify Type	III.2.J	Any valid MUTCD code was migrated with the exception of codes for R15-3: EXEMPT and R1-2: YIELD.
	OTHSGN3	Other MUTCD Signs: Count	III.2.J	New field
	OTHDES3	Specify Type	III.2.J	New field
PRVIND	PRVXSIGN	Private Crossing Signs	III.2.K	If Current PRVIND has a value of 1, 2, or 4 to indicate that the Private Crossing has signs and/or signals, then new PRVXSIGN is 1 to indicate that there are signs present at Private Crossing.
	LED	LED Enhanced Signs	III.2.L	New field
GATES	GATES	Gate Arms: Roadway	III.3.A	Straight migration
	GATEPED	Gate Arms: Pedestrian	III.3.A	New field
FOURQUAD	GATECONF	Gate Configuration	III.3.B	Straight migration from FOURQUAD (yes/no) into GATECONF (checkbox)
	GATECONFTYPE	Gate Configuration Type	III.3.B	New field

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
FLASHOV	FLASHOV	Cantilevered (or Bridged) Flashing Light Structures: Over Traffic Lane	III.3.C	Straight migration
FLASHNOV	FLASHNOV	Cantilevered (or Bridged) Flashing Light Structures: Not Over Traffic Lane	III.3.C	Straight migration
	CFLASHTYPE	Cantilevered (or Bridged) Flashing Light Structures (Type)	III.3.C	New field
FLASHMAS	FLASHPOST	Mast Mounted Flashing Lights (count of masts)	III.3.D	Straight migration from FLASHMAS into FLASHPOST
	FLASHPOSTTYPE	Mast Mounted Flashing Lights (Type)	III.3.D	New field
	BKL_FLASHPOST	Mast Mounted Flashing Lights: Back Lights Included	III.3.D	New field
	SDL_FLASHPOST	Mast Mounted Flashing Lights: Side Lights Included	III.3.D	New Field
FLASHPAI	FLASHPAI	Total Count of Flashing Light Pairs	III.3.E	Straight migration
	AWDIDATE	Installation Date of Current Active Warning Devices	III.3.F	New field
	AWHORNCHK	Wayside Horn	III.3.G	New field
	AWHORNLDATE	Wayside Horn Installed On	III.3.G	New field
HWYSGNL	HWYTRAFSIGNL	Highway Traffic Signals Controlling Crossing	III.3.H	Straight migration from HYWSGNL to HWYTRAFSIGNL
WIGWAGS	WIGWAGS	Wigwags		Field is obsolete
BELLS	BELLS	Bells	III.3.I	Straight migration
SPECPRO	SPECPRO	Non-Train Active Warning	III.3.J	See Appendix C: Non-Train Active Warning

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
FLASHOTH	FLASHOTH	Other Flashing Lights or Warning Devices: Count	III.3.K	Straight migration
FLASHDES, WARNACTO	FLASHOTHDES	Other Flashing Lights or Warning Devices: Specify Type	III.3.K	Straight migration from FLASHDES; straight migration from WARNACTO; data elements was separated by a semicolon.
HWYNRSIG	HWYNRSIG	Does Nearby Hwy Intersection have Traffic Signals?	III.4.A	Straight migration
INTRPRMP	INTRPRMP	Highway Traffic Signal Interconnection	III.4.B	**Current** / **New** 0=Not Interconnected ☐ 1=Not Interconnected 1=Simultaneous ☐ 2=For Traffic Signals 2=Advance ☐ 3=For Warning Signs 8,9=N/A ***Note: ""N/A" was not migrated***
INTRPRMP	PREMPTYPE	Highway Traffic Signal Preemption	III.4.C	Straight migration ***Note: "Not Interconnected" was migrated to the previous field (III.4.B).***
	HWTRFPSIG	Highway Traffic Pre-Signals	III.5	New Field
	HWTRFPSIGSDIS	Highway Traffic Pre-Signals – Storage Distance	III.5	New field
	HWTRFPSIGLNDIS	Highway Traffic Pre-Signals – Stop Line Distance	III.5	New field
	MONITORDEV	Highway Monitoring Devices	III.6	New field
WDCODE	WDCODE	Warning Device Code		Straight migration ***Note: This field is not displayed on the form, but is maintained in database.***

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
TRAFICLN	TRAFICLN	Traffic Lanes Crossing Railroad: Number of Lanes	IV.1	Straight migration
	TRAFLNTYPE	Traffic Lane Type	IV.1	New field
HWYPVED	HWYPVED	Is Roadway Paved?	IV.2	Straight migration
DOWNST	DOWNST	Does Track Run Down a Street?	IV.3	Straight migration
ILLUMINA	ILLUMINA	Is Crossing Illuminated?	IV.4	Straight migration
	XSURFDATE	Crossing Surface: Installation Date	IV.5	New field
	XSURFWIDTH	Crossing Surface: Width	IV.5	New field
	XSURFLENGTH	Crossing Surface: Length	IV.5	New field
SURFACE	XSURFACEIDS	Crossing Surface (on Main Track): Type	IV.5	**Current** / **New** 1=Timber ☐ 11 = 1. Timber 2=Asphalt ☐ 12 = 2. Asphalt 3=Asphalt & Flange ☐ 13 = 3. Asphalt & Timber 4=Concrete 14 = 4. Concrete 5=Concrete & Rubber ☐ 15 = 5. Concrete & Rubber 6=Rubber ☐ 16 = 6. Rubber 7=Metal ☐ 17 = 7. Metal 8=Unconsolidated ☐ 18 = 8. Unconsolidated 19 = 9. Composite 9=Other (specify) ☐ 20 = 10. Other (specify)
XSUROTHR	XSUROTHR	Crossing Surface for Other (*specify*)	IV.5	Straight migration

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
HWYNEAR	HWYNEAR	Intersecting Roadway within 500 feet?	IV.6	**Current** / **New** 1 (less than 75) ☐ Yes 2 (75 - 200) ☐ Yes 3 (200 - 500) ☐ Yes 4=NA ☐ No
HWYNEAR	HWWNDIST	If Yes, Approximate Distance (feet)	IV.6	**Current** / **New** 1 (less than 75) ☐ 75 2 (75 - 200) ☐ 200 3 (200 - 500) ☐ 500
XANGLE	XANGLE	Smallest Crossing Angle	IV.7	Straight migration
COMPOWER	COMPOWER	Is Commercial Power Available?	IV.8	Straight migration
HWYSYS	HWYSYS	Highway System	V.1	Straight migration
HWYCLASS	HWYCLASSCD	Functional Classification of Road at Crossing: Rural or Urban	V.2	See Appendix D: Functional Classification of Road at Crossing
HWYCLASS	HWYCLASSRDTPID	Functional Classification of Road at Crossing: Type of Highway/Roadway	V.2	See Appendix D: Functional Classification of Road at Crossing
STHWY1	STHWY1	Is Crossing on State Highway System?	V.3	Straight migration
HWYSPEED	HWYSPEED	Highway Speed Limit (MPH)	V.4	Straight migration; values of 0 *was not migrated*
HWYSPEED	HWYSPEEDPS	Highway Speed Limit - Posted or Statutory	V.4	If current HWYSPEED has a value greater than 0, "posted" was populated.
	LRSROUTEID	Linear Referencing System (LRS Route ID)	V.5	New field
	LRSMILEPOST	LRS Milepost	V.6	New field

Current Field	NEW FIELD	Name on Form	Box No. on Form	Migration Strategy
AADTYEAR	AADTYEAR	Estimated Annual Average Daily Traffic Year	V.7	Straight migration
AADT	AADT	Estimated Annual Average Daily Traffic Count	V.7	Straight migration
PCTTRUK	PCTTRUK	Estimated Percent Trucks	V.8	Straight migration
SCHLBUS	SCHBUSCHK	Regularly Used by School Buses?	V.9	If current SCHLBUS has a value greater than 0, “yes” is populated. If current SCHBUL has a value of 0, “no” is populated.
SCHLBUS	SCHBUSCNT	Average No. of School Buses Passing Over the Crossing on a School Day	V.9	Straight migration
	EMRGNCYSRVC	Emergency Services Route	V.10	New field

Appendix A: Type of Land Use

Prior to GCIS v2.0, Private Crossings and Public Crossings each had separate categories to indicate Type of Land Use. These fields were combined on the new form so that users enter data in only one place for both Public and Private crossings. In order to account for this change, the manner in which the Type of Land Use is coded for Private Crossings was altered. The migration for current "Type of Development" and "Private Crossing" into the new "Type of Land Use" is detailed in the table below.

Current Field	New Field	Name on Form	Box No. on Form	Migration Strategy	Comments
PRVCAT, DEVELTYP	DEVELTYP	Type of Land Use	I.23	For existing Public Crossings, the data migrated directly. For existing Private Crossings, the data migrated as follows: **New** **Current** 11=Open Space 12= Residential ☐ 2=Residential 13=Commercial 15=Commercial 14=Industrial ☐ 4=Industrial 16=Farm ☐ 1=Farm 17=Recreational ☐ 3=Recreational 18=RR Yard	"Farm" and "Recreational" were previously unavailable for Public Crossings. "RR Yard" is a new choice for both crossing types.

Appendix B: Type and Count of Tracks

Prior to GCIS v2.0, the U.S. DOT Crossing Inventory Form allowed users to enter the number of Main Tracks and the number of Other Tracks at each crossing. If Other Tracks were present, users specifed the type by entering the information into the space provided. However, GCIS v2.0 does not contain an open text field for Other Tracks. Rather, users must choose from a list of Track Types: Main, Siding, Industry, Yard, and Transit. Therefore, the OTHRTRK and values under the old system had to be migrated in such a way as to preserve the correct number of the specified tracks. The table below details the values that were selected from OTHRDES to give a count of Siding, Industry, and Yard tracks. There were no values found in the previous database to indicate the presence of Transit tracks.

Current Field	New Field	Name on Form	Box No. on Form	Migration Strategy	Comments
OTHRTRK, OTHRDES	SIDING	Type and Count of Tracks - Siding	II.4	The following values in current OTHRDES were selected to populate new field SIDING by migrating the corresponding number value in OTHRTRK to SIDING (number value): • sidg • Siding • SIDIDNG • SIDING TK • Sidng	When current OTHRDES contained a combination of Siding and another type of track, nothing was migrated. The count of each track type was unable to be determined.
OTHRTRK, OTHRDES	YARD	Type and Count of Tracks - Yard	II.4	The following values in current OTHRDES were selected to populate new field YARD by migrating the corresponding number value in OTHRTRK to YARD (number value): • YARD • YARD TRK • RAIL YARD • YARD TRKS • YARDTRKS • YARD TKS • YARD TRK • YARD TRKS • YARDTRACK • YARD-TRCKS • YARD TK. • YARD TRACK • YARD TRCKS • YARDS • YARDTRK • YARD • YARD TRKS	When current OTHRDES contained a combination of Yard and another type of track, nothing was migrated. The count of each track type was unable to be determined.

Appendix C: Non-Train Active Warning

Prior to GCIS v2.0, users were allowed to enter up to 20 characters in order to describe any special warning devices not train activated. In GCIS v2.0, users are restricted to five distinct choices: Flagging/Flagman, Manually Operated Signals, Watchman, Floodlighting, and None. The table below indicates what values migrated into the new database structure.

Current Field	New Field	Name on Form	Box No. on Form	Migration Strategy
SPECPRO	SPECPRO	Non-Train Active Warning	III.3.J	The following values were selected to populate Flagging/Flagman: • flag • flgs • flga • flgmn • flgng • flgd • flgg The following values were selected to populate Manually Operated Signals: • manual (block anything from migrating into this category if it also contains "flagging") The following values were selected to populate Watchman: • watch • wtch The following values were selected to populate Floodlighting: • floo • fld The following values were selected to populate None: • No • None

Appendix D: Functional Classification of Road at Crossing

In order to avoid confusion, the codes for the Functional Classification of Road at Crossing were changed to be consistent with the classification codes of the Federal Highway Administration. In the previous GCIS database, these codes consisted of a two-digit number with the first number indicating if the road is rural or urban, and the second number indicating the function of the road (interstate, minor arterial, etc.). Because the codes are now separated into two separate data elements to indicate if a) the road is urban or rural, and b) what function the road serves, significant design changes were implemented for the new database. The table below details how these data elements were migrated.

Current Field	New Field	Name on Form	Box No. on Form	Migration Strategy
HWYCLASS	HWYCLASSCD	Functional Classification of Road at Crossing: Rural or Urban	V.2	Any data element in this field that begin with 0 were migrated in such a way that it populates the new "Rural" choice, while anything that begins with 1 were migrated to populate the new "Urban" choice.
HWYCLASS	HWYCLASSRDTP	Functional Classification of Road at Crossing: Road Function	V.2	**Current** → **New** 01-R. Interstate → 11-Interstate 11-U. Interstate → 11-Interstate 12-U. Other Freeway/Expressway → 12-Other Freeways and Expressways 02-R. Other Principal Arterial → 13-Other Principal Arterial 06-R. Minor Arterial → 16-Minor Arterial 16-U. Minor Arterial → 16-Minor Arterial 07-R. Major Collector → 17-Major Collector 17-U. Major Collector → 17-Major Collector 08-R. Minor Collector → 18-Minor Collector 09-R. Local → 19-Local 19-U. Local → 19-Local

Appendix E: HSR Corridor ID

HIGH-SPEED RAIL CORRIDOR DESIGNATIONS AND CODES		
CODE	**CORRIDOR**	**ROUTE**
CAC	CALIFORNIA	LOS ANGELES - BAY AREA - SACRAMENTO
CAV	CALIFORNIA	SAN DIEGO - LOS ANGELES - STOCKTON - SACRAMENTO/BAY AREA
CCC	OHIO 3 C'S	CLEVELAND - COLUMBUS - CINCINNATI
CIC	CHICAGO HUB	CHICAGO - INDIANAPOLIS - CINCINNATI
CIL	CHICAGO HUB	INDIANA EXTENSION: INDIANAPOLIS - LOUISVILLE
CKD	CHICAGO HUB	CHICAGO - KALAMAZOO - DETROIT
CLL	CALIFORNIA	LOS ANGELES - LAS VEGAS
CMM	CHICAGO HUB	CHICAGO - MILWAUKEE - MINNEAPOLIS
CSK	CHICAGO HUB	CHICAGO - SPRINGFIELD - ST.LOUIS - KANSAS CITY
CTC	CHICAGO HUB	CHICAGO - TOLEDO - CLEVELAND
EMP	EMPIRE	NEW YORK - ALBANY - BUFFALO
FLX	FLORIDA	MIAMI - ORLANDO -TAMPA
GCA	GULF COAST	ATLANTA - BRIMINGHAM - MERIDIAN - NEW ORLEANS
GCB	GULF COAST	MOBILE - BILOXI - NEW ORLEANS - HOUSTON
KEY	KEYSTONE	PHILADELPHIA - HARRISBURG - PITTSBURGH
NEC	NORTHEAST CORRIDOR	WASHINGTON - BALTIMORE - PHILADELPHIA - NEW YORK - NEW HAVEN -BOSTON
NEM	NORTHERN NEW ENGLAND	BOSTON - MONTREAL
NEP	NORTHERN NEW ENGLAND	BOSTON - PORTLAND
NEW	NORTHERN NEW ENGLAND	BOSTON - ALBANY
NHS	SOUTHERN NEW ENGLAND	NEW HAVEN - HARTFORD - SPRINGFIELD
PNW	PACIFIC NORTHWEST	VANCOVER - SEATTLE - PORTLAND - EUGENE
SCA	SOUTH CENTRAL	DALLAS/FT WORTH - AUSTIN - SAN ANTONIA
SCO	SOUTH CENTRAL	DALLAS/FT WORTH - OKLAHOMA CITY - TULSA

HIGH-SPEED RAIL CORRIDOR DESIGNATIONS AND CODES		
CODE	**CORRIDOR**	**ROUTE**
SCT	SOUTH CENTRAL	DALLAS/FT WORTH - TEXARKANA - LITTELE ROCK
SEC	SOUTHEAST	RALEIGH - DURHAM - GREENSBORO - CHARLOTTE - GREENVILLE - ATLANTA - MACON
SEG	SOUTHEAST	GEORGIA CONNECTION: MACON -JESUP
SER	SOUTHEAST	WASHINGTON - RICHMOND - RALEIGH
SES	SOUTHEAST	RALEIGH - COLUMBIA - SAVANNA - JESUP - JACKSONVILLE
SEV	SOUTHEAST	VIRGINA EXTENSION: RICHMOND - HAMPTON ROADS