A cover of a book

Description automatically generated

 Esri, 2023

Copyright © 2023 Esri

All rights reserved.

Printed in the United States of America.

The information contained in this document is the intellectual property of Esri. This work is protected under United States copyright law and other international copyright treaties and conventions and is licensed the recipient to use under the terms and conditions set forth in the Creative Commons Attribution 4.0 International license. To view a copy of this license, visit http://creativecommons.org/licenses/by/4.0/legalcode.

US Government Restricted/Limited Rights

Any software, documentation, and/or data delivered hereunder is subject to the terms of the License Agreement. The commercial license rights in the License Agreement strictly govern Licensee’s use, reproduction, or disclosure of the software, data, and documentation. In no event shall the US Government acquire greater than RESTRICTED/LIMITED RIGHTS. At a minimum, use, duplication, or disclosure by the US Government is subject to restrictions as set forth in FAR §52.227-14 Alternates I, II, and III (DEC 2007); FAR §52.227-19(b) (DEC 2007) and/or FAR §12.211/12.212 (Commercial Technical Data/Computer Software); and DFARS §252.227-7015 (DEC 2011) (Technical Data – Commercial Items) and/or DFARS §227.7202 (Commercial Computer Software and Commercial Computer Software Documentation), as applicable. Contractor/Manufacturer is Esri, 380 New York Street, Redlands, CA 92373-8100, USA.

Esri Trademarks

@esri.com, 3D Analyst, ACORN, Address Coder, ADF, AML, ArcAtlas, ArcCAD, ArcCatalog, ArcCOGO, ArcData, ArcDoc, ArcEdit, ArcEditor, ArcEurope, ArcExplorer, ArcExpress, ArcGIS, arcgis.com, ArcGlobe, ArcGrid, ArcIMS, ARC/INFO, ArcInfo, ArcInfo Librarian, ArcLessons, ArcLocation, ArcLogistics, ArcMap, ArcNetwork, *ArcNews*, ArcObjects, ArcOpen, ArcPad, ArcPlot, ArcPress, ArcPy, ArcQuest, ArcReader, ArcScan, ArcScene, ArcSchool, ArcScripts, ArcSDE, ArcSdl, ArcSketch, ArcStorm, ArcSurvey, ArcTIN, ArcToolbox, ArcTools, ArcUSA, *ArcUser*, ArcView, ArcVoyager, *ArcWatch*, ArcWeb, ArcWorld, ArcXML, Atlas GIS, AtlasWare, Avenue, BAO, Business Analyst, Business Analyst Online, BusinessMAP, CityEngine, Community, Community Analyst, CommunityInfo, Community Maps, Database Integrator, DBI Kit, EDN, Esri, esri.com, Esri—Team GIS, Esri—*The GIS Company*, Esri—The GIS People, Esri—The GIS Software Leader, FormEdit, GeoCollector, GeoEnrichment, GeoEvent, Geographic Design System, Geography Matters, Geography Network, geographynetwork.com, Geoloqi, GeoPlanner, Geoportal, Geotrigger, GIS by Esri, gis.com, GISData Server, GIS Day, gisday.com, GIS for Everyone, Insights, JTX, MapIt, Maplex, MapObjects, MapStudio, ModelBuilder, MOLE, MPS—Atlas, PLTS, Rent-a-Tech, SDE, SML, Sourcebook·America, SpatiaLABS, Spatial Database Engine, Story Map Countdown, Story Map Journal, Story Map Playlist, Story Map Shortlist, Story Map Spyglass, Story Map Swipe, Story Map Tabbed, Story Map Tour, StreetMap, Tapestry, the ARC/INFO logo, the ArcGIS Explorer logo, the ArcGIS logo, the ArcPad logo, the Esri globe logo, the Esri Press logo, The Geographic Advantage, The Geographic Approach, the GIS Day logo, the MapIt logo, The World’s Leading Desktop GIS, *Water Writes*, and Your Personal Geographic Information System are trademarks, service marks, or registered marks of Esri in the United States, the European Community, or certain other jurisdictions. CityEngine is a registered trademark of Procedural AG and is distributed under license by Esri.

Attribution and Other Trademarks

The Esri Railroad Data Model is based on industry input and standards, including RIGIS™ by Railinc. RIGIS™ is a trademark of Railinc Corp. (<https://public.railinc.com/>)

PTC data specifiations sourced from Federal Railroad Administration, US Department of Transportation (<https://railroads.dot.gov/research-development/program-areas/train-control/ptc/positive-train-control-ptc>)

NARN data specifications sourced from Federal Railroad Administration, US Department of Transportation

(<https://railroads.dot.gov/elibrary/fras-north-american-rail-network>)

Other companies and products or services mentioned herein may be trademarks, service marks, or registered marks of their respective mark owners.

# Contents

Esri geodata

# Esri geodatabase data model templates

The availability of a practical and up-to-date data model template, tailored to the unique needs of an industry, is one of the keys to GIS project success at companies, whether their use of Esri software is new or long-standing. For this reason, Esri collaborates with industry and academic leaders to continually evolve a range of geodatabase data model templates. The intent of Esri data model templates is to provide users with a best practice, industry-specific starting point. Most users start with these data model templates; then they refine and extend them to meet their specific needs and requirements. Esri data model templates just work with the ArcGIS platform and reflect Esri’s view of best data model practice.

The Railroads Data Model is a geodatabase data model template for organizations that operate in the railroad industry, or in industries that operate with railroad-based operations and assets. The Railroads Data Model is a moderately normalized data model that is intended to digitally represent physical and non-physical aspects of railroad operations.

Esri thanks all those professionals and organizations who contributed their time and talents to the creation and improvement of the Esri Railroad Data Model for the good of the community and of all Esri users in the Railroad industries.

# 

# Goal of the Esri Railroads Data Model

The goal of the Esri Railroads Data Model is to make it easier, quicker, and more cost-effective for Railroad organizations to implement the ArcGIS platform. The Esri provided data model template accomplishes this by freely providing a data model that takes full advantage of the capabilities of the geodatabase. The data model is created and tested with ArcGIS products to ensure that it works. This significantly reduces the complexity, time, and cost to implement a spatially enabled Railroads data repository.

Keeping up with the advancements of the geodatabase is an ongoing activity. Esri software development staff continue to enhance and evolve the capabilities of the geodatabase. In addition to the data model representing a best practice on how to leverage the geodatabase, the data model also represents a repository of industry knowledge. Much of the structure and content of this data model is based on feedback from Esri’s users as well as lessons learned from the large number of implementations of ArcGIS in the railroads industries.

Because the Esri Railroads Data Model is built specifically for the ArcGIS family of products, it can be implemented as-is, without modification to ArcGIS products.

# Audience

At this version of the data model, the primary target audience are freight railroad organizations across North America.

Passenger rail organizations in North America, as well as all kinds of rail organizations in the world outside of North America have many significant differences in their assets, operations, as well as requirements and constraints that are specific to different countries and regions. That isn’t to say that for those other organizations this data model would be useless. These other kinds of rail organizations may find valuable use from this data model as a starting point, or as a resource for enhancing their own database design.

It is simply important to recognize that for organizations other than North American railroads, this version of the data model has not comprehensively considered their needs. We welcome partners and other organizations would would like to collaborate with Esri for improving and extending this data model further, to broaded its scope for future versions.

# Design Considerations

The Railroads Data Model has two sets of design considerations:

1. INDUSTRY COMPATIBILITY -- The Esri Railroads Data Model needs to be fully compatible with other industry standard data models that already exist and are in productive use across the railroad industry. This is important for both interoperability purposes as well as making data exchange and translation easier. To that end, this Esri Railroad Data Model includes elements of, and is fully compatible with:
   1. North American Rail Network (NARN) database model: Maintained and published by the US Department of Transportation’s Federal Railroad Administration.
   2. Positive Train Control (PTC) database model: This is a set of technologies implemented to prevent some of the most major human-error incidents such as train-to-train collisions, over-speed derailments, incursions into established work zone limits, and the movement of trains thru a mainline switch left in the wrong position. PTC accomplishes these objectives in part with a database model for storing and updating data (including spatial data) in a standard and useful way. This database model is also governed by the US Department of Transportation’s Federal Rail Administration.
   3. Rail Industry Geographic Information System (RIGIS™) database model: Maintained and published by Railinc, which is a wholly owned, for profit subsidiary of the Association of American Railroads (AAR). Railinc is a resource for technology solutions used by railroads across North America. RIGIS™ is the data model used by these railroads when sharing data with other railroads or updating their data with Railinc/AAR to support a wide variety of collective uses.
2. GIS CAPABILITIES -- The Esri Railroads Data Model needs to contain design elements that allow railroad data to fully exploit the capabilities of the ArcGIS system, to include:
   1. Linear Referencing--specifically using ArcGIS Location Referencing tools.
   2. Network datasets--for solving best paths, service areas, and other network analysis capabilities.
   3. Trace Networks--for topological validation and all types of network tracing functions.
   4. Network Diagrams--for schematic mapping, and supporting track chart creation and update.
   5. Straight-Line Diagrams--for mapping point and span data of assets and phenomena.
   6. Field Mobility--for asset inspection, incident reporting, maintenance of way operations, and more.
   7. Real-Time mapping--of vehicles, personnel, and stationary sensors.
   8. Parcel maintenance--as a base for managing real estate property, structures, and other assets.
   9. Artificial Intelligence--for building and using deep learning models for automating data collection.

# The Railroad 2023 Edition Geodatabase

The feature classes and tables that comprise the Railroad 2023 Edition Geodatabase are listed below.

## TrackSegment

**Purpose:** Each segment represent a pair of steel rails constituting one track.

**Feature Class Schema**

This is the schema for the *TrackSegment* feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PolylineZM | 0 | 0 | 0 |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| Guid | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 |  |
| DIVISION | Division | string | 50 | 0 | 0 |  |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| NetAttribs | Network Attributes | short | 0 | 4 | 0 |  |
| TimetableOrientation | Timetable Orientation | string | 1 | 0 | 0 |  |
| TrackName | Track Name | string | 32 | 0 | 0 |  |
| TrackQualifier | Track Qualifier | string | 50 | 0 | 0 |  |
| RouteName | Route Name | string | 100 | 0 | 0 |  |
| RouteId | Route ID | Guid | 38 | 0 | 0 |  |
| Prefix | Milepost Prefix | string | 5 | 0 | 0 |  |
| Suffix | Milepost Suffix | string | 5 | 0 | 0 |  |
| BeginNodeId | Begin Node ID | string | 50 | 0 | 0 |  |
| BeginNodeSCAC | Begin Node SCAC | string | 4 | 0 | 0 |  |
| BeginNodeType | Begin Node Type | string | 25 | 0 | 0 | NodeType |
| BeginBoundaryType | Begin Boundary Type | string | 25 | 0 | 0 | BoundaryType |
| FromMilepostPrefix | From Milepost Prefix | string | 5 | 0 | 0 |  |
| BeginMilepost | Begin Milepost | double | 0 | 10 | 4 |  |
| FromMilepostSuffix | From Milepost Suffix | string | 5 | 0 | 0 |  |
| EndNodeId | End Node ID | string | 50 | 0 | 0 |  |
| EndNodeSCAC | End Node SCAC | string | 4 | 0 | 0 |  |
| EndNodeType | End Node Type | string | 25 | 0 | 0 | NodeType |
| EndBoundaryType | End Boundary Type | string | 25 | 0 | 0 | BoundaryType |
| ToMilepostPrefix | To Milepost Prefix | string | 5 | 0 | 0 |  |
| EndMilepost | End Milepost | double | 0 | 10 | 4 |  |
| ToMilepostSuffix | To Milepost Suffix | string | 5 | 0 | 0 |  |
| CrossoverFlag | Crossover Flag | string | 1 | 0 | 0 | CrossoverFlag |
| FRAARCID | FRA Arc ID | long | 0 | 10 | 0 |  |
| FRFRANODE | From FRA Node | long | 0 | 10 | 0 |  |
| TOFRANODE | To FRA Node | long | 0 | 10 | 0 |  |
| STFIPS | State FIPS | string | 2 | 0 | 0 |  |
| CNTYFIPS | County FIPS | string | 3 | 0 | 0 |  |
| STCNTYFIPS | State County FIPS | string | 5 | 0 | 0 |  |
| STATEAB | State Abbr | string | 2 | 0 | 0 | StateAbbr |
| COUNTRY | Country | string | 2 | 0 | 0 | CountryCode |
| FRADISTRICT | FRA District | string | 2 | 0 | 0 | FraDistrictCode |
| RROWNER1 | RR Owner 1 | string | 4 | 0 | 0 |  |
| RROWNER2 | RR Owner 2 | string | 4 | 0 | 0 |  |
| RROWNER3 | RR Owner 3 | string | 4 | 0 | 0 |  |
| TRKRGHTS1 | Track Rights 1 | string | 4 | 0 | 0 |  |
| TRKRGHTS2 | Track Rights 2 | string | 4 | 0 | 0 |  |
| TRKRGHTS3 | Track Rights 3 | string | 4 | 0 | 0 |  |
| TRKRGHTS4 | Track Rights 4 | string | 4 | 0 | 0 |  |
| TRKRGHTS5 | Track Rights 5 | string | 4 | 0 | 0 |  |
| TRKRGHTS6 | Track Rights 6 | string | 4 | 0 | 0 |  |
| TRKRGHTS7 | Track Rights 7 | string | 4 | 0 | 0 |  |
| TRKRGHTS8 | Track Rights 8 | string | 4 | 0 | 0 |  |
| TRKRGHTS9 | Track Rights 9 | string | 4 | 0 | 0 |  |
| BRANCH | Branch | string | 50 | 0 | 0 |  |
| YARDNAME | Yard Name | string | 50 | 0 | 0 |  |
| PASSNGR | Passenger | string | 1 | 0 | 0 | PassengerCode |
| STRACNET | Strac NET | string | 1 | 0 | 0 | StracNetType |
| NET | NET Track Type | string | 1 | 0 | 0 | NetTrackType |
| TrackStatus | Track Status | string | 10 | 0 | 0 | TrackStatusCode |
| MILES | Miles | double | 0 | 12 | 6 |  |
| KM | Kilometers | double | 0 | 12 | 6 |  |
| TIMEZONE | Time Zone | string | 1 | 0 | 0 | TimeZoneCode |
| ShapeSTLength | Shape Length Meters | double | 0 | 12 | 6 |  |
| Shape\_Length | Shape Length DD | double | 0 | 12 | 6 |  |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM with M values that increase in the digitized direction. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*Guid* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN, RIGIS)

*DIVISION* – Division in which this segment resides. (NARN)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*SegmentId* – 9-digit segment ID unique within the subdivision. (PTC)

*NetAttribs* – Network attributes for supporting network diagramming and schematic mapping. (GIS)

*TimetableOrientation* – Direction of milepost increase: N S E W. (PTC)

*TrackName* – Describes which track this segment contains. (PTC, RIGIS)

*TrackQualifier* – Element that makes the route\_name unique. (RIGIS)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS, RIGIS)

*RouteId* – Guid of the route of which this segment is a part, to support LRS. (GIS)

*Prefix* – Milepost modifiers, if they exist. (PTC)

*Suffix* – Milepost modifiers, if they exist. (PTC)

*BeginNodeId* – Node Id connected to the low MP end of the segment. (PTC)

*BeginNodeSCAC* – SCAC corresponding to the begin node. (PTC)

*BeingNodeType* – Type of node connected to the start of the segment. (PTC)

*BeginBoundaryType* – Type of boundary at the start of the segment. (PTC)

*FromMilepostPrefix* – Milepost modifiers for all mileposts in the segment, else blank. (RIGIS)

*BeginMilepost* – Milepost value at the start of the segment. (PTC)

*FromMilepostSuffix* – Milepost modifiers for all mileposts in the segment, else blank. (RIGIS)

*EndNodeId* – Node Id connected to the high MP end of the segment. (PTC)

*EndNodeSCAC* – SCAC corresponding to the end node. (PTC)

*EndNodeType* – Type of node connected to the end of the segment. (PTC)

*EndBoundaryType* – Type of boundary at the end of the segment. (PTC)

*ToMilepostPrefix* – Milepost modifiers for all mileposts in the segment, else blank. (RIGIS)

*EndMilepost* – Milepost value at the end of the segment. (PTC)

*ToMilepostSuffix* – Milepost modifiers for all mileposts in the segment, else blank. (RIGIS)

*CrossoverFlag* – Indicates whether or not this segment is a crossover piece of track: Y or N. (PTC)

*FRAARCID* – FRA-assigned primary key of the segment as stored in the NARN. (NARN)

*FRFRANODE* – Id of the from node as stored in the NARN. (NARN)

*TOFRANODE* – Id of the to node as stored in the NARN. (NARN)

*STFIPS* – Fips code of the US state the segment resides in. (NARN)

*CNTYFIPS* – Fips code of the US country the segment resides in. (NARN)

*STCNTYFIPS* – Concat of the STFIPS and CNTYFIPS values. (NARN)

*STATEAB* – Two character abbreviation of the US state the is segment resides in. (NARN)

*COUNTRY* – Two character abbreviation of the country the segment resides in. (NARN)

*FRADISTRICT* – FRA district in which the segment resides: 1-8 for US, and 99 outside US. (NARN)

*RROWNER1* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad that owns the track. (NARN)

*RROWNER2* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad track co-owner. (NARN)

*RROWNER3* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad track co-owner. (NARN)

*TRKRIGHTS1* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad that has track rights. (NARN)

*TRKRIGHTS2* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad that has track rights. (NARN)

*TRKRIGHTS3* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad that has track rights. (NARN)

*TRKRIGHTS4* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad that has track rights. (NARN)

*TRKRIGHTS5* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad that has track rights. (NARN)

*TRKRIGHTS6* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad that has track rights. (NARN)

*TRKRIGHTS7* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad that has track rights. (NARN)

*TRKRIGHTS8* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad that has track rights. (NARN)

*TRKRIGHTS9* – 2-4 character Standard Carrier Alpha Code (SCAC) for the railroad that has track rights. (NARN)

*BRANCH* – Branch name if it exists. (NARN)

*YARDNAME* – Yard name if it exists. (NARN)

*PASSNGR* – The type of passenger service on the segment. (NARN)

*STRACNET* – Strategic rail corridor. (NARN)

*NET* – Type of track using the NetTrackType domain. (NARN, RIGIS)

*TrackStatus* – Identifies if the track segment is active or otherwise. (NARN)

*MILES* – Length of the segment in miles. (NARN)

*KM* – Length of the segment in kilometers. (NARN)

*TIMEZONE* – Time zone that the track segment resides within: E, C, M, P, K, H, Z. (NARN)

*ShapeSTLength* – Length of the segment in meters. (NARN)

*Shape\_Length* – Length in spatial reference units (for NARN is decimal degrees). (NARN)

## TrackNode

**Purpose:** Track Nodes are point features that represent the start and end nodes of each track segment. Each track segment must start and end with a node, and nodes may not appear anywhere else within or outside of a track segment line.

**Feature Class Schema**

This is the schema for the *TrackNode* feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| Guid | Guid | Guid | 38 | 0 | 0 |  |
| NodeId | Node ID | string | 50 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 |  |
| DIVISION | Division | string | 50 | 0 | 0 |  |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| NodeType | Node Type | string | 25 | 0 | 0 | NodeTypeCode |
| Latitude | Latitude | double | 0 | 12 | 8 |  |
| Longitude | Longitude | double | 0 | 12 | 8 |  |
| Elevation | Elevation | double | 0 | 12 | 8 |  |
| Description | Node Description | string | 100 | 0 | 0 |  |
| FacingSCAC | Facing SCAC | string | 4 | 0 | 0 |  |
| FacingSubdivisionId | Facing Subdivision ID | short | 0 | 4 | 0 |  |
| FacingSegmentId | Facing Segment ID | long | 0 | 9 | 0 |  |
| NormalSCAC | Normal SCAC | string | 4 | 0 | 0 |  |
| NormalSubdivisionId | Normal Subdivision ID | short | 0 | 4 | 0 |  |
| NormalSegmentId | Normal Segment ID | long | 0 | 9 | 0 |  |
| ReverseSCAC | Reverse SCAC | string | 4 | 0 | 0 |  |
| ReverseSubdivisionId | Reverse Subdivision ID | short | 0 | 4 | 0 |  |
| ReverseSegmentId | Reverse Segment ID | long | 0 | 9 | 0 |  |
| FRANODEID | FRA Node ID | long | 0 | 9 | 0 |  |
| COUNTRY | Country Abbreviation | string | 2 | 0 | 0 |  |
| STATE | State Abbreviation | string | 2 | 0 | 0 |  |
| STFIPS | State FIPS | string | 2 | 0 | 0 |  |
| CTYFIPS | County FIPS | string | 3 | 0 | 0 |  |
| STCYFIPS | State and County FIPS | string | 5 | 0 | 0 |  |
| FRADISTRICT | FRA District | long | 0 | 9 | 0 |  |
| PASSNGR | Passenger Code | string | 1 | 0 | 0 | PassengerCode |
| PASSNGRSTN | Passenger Station | string | 50 | 0 | 0 |  |
| BNDRY | Boundary | short | 0 | 1 | 0 | BoundaryCode |

**GeometryType:** Point ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PointZM. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*Guid* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN, RIGIS)

*DIVISION* – Division in which this segment resides. (NARN)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*NodeType –* The reason for the addition of the node.

*SegmentId* – 9-digit segment ID unique within the subdivision. (PTC)

*NetAttribs* – Network attributes for supporting network diagramming and schematic mapping. (PTC)

*TimetableOrientation* – Direction of milepost increase: N S E W. (PTC)

*TrackName* – Describes which track this segment contains. (PTC, RIGIS)

*Latitude* – Latitudinal location of the node, WGS 1984. (PTC)

*Longitude* – Longitudinal location of the node, WGS 1984. (PTC)

*Elevation* – Elevation in feet above mean sea level at the node’s location. (PTC)

*Description* – Human readable description of the node. (PTC)

*FacingSCAC* – Railroad ID of the facing segment. (PTC)

*FacingSubdivisionId* – Subdivision ID of the facing segment. (PTC)

*FacingSegmentId* – Segment ID of the facing segment. (PTC)

*NormalSCAC* – Railroad ID of the normal segment. (PTC)

*NormalSubdivisionId* – Subdivision ID of the normal segment. (PTC)

*NormalSegmentId* – Segment ID of the normal segment. (PTC)

*ReverseSCAC* – Railroad ID of the reverse segment. (PTC)

*ReverseSubdivisionId* – Subdivision ID of the reverse segment. (PTC)

*ReverseSegmentId* – Segment ID of the reverse segment. (PTC)

FRANODEID – ID of the node as stored in the NARN. (NARN)

COUNTRY – Two character abbreviation of the country in which the node resides. (NARN)

STATE – Two character abbreviation of the state in which the node resides. (NARN)

STATEFIPS – State FIPS code for the state in which the node resides. (NARN)

CNTYFIPS – County FIPS code for the county in which the node resides. (NARN)

STCYFIPS – State and County FIPS for the county in which the node resides. (NARN)

FRADISTRICT – FRA District in which the node resides. (NARN)

PASSNGR – Passenger code. (NARN)

PASSNGRSTA – Passenger station description (NARN)

BNDRY – Unknown, but domain values are 0, 1, 2, 3 (NARN)

## Switches

**Purpose:** Switches are devices that allow trains to be guided from one track to another, for example, when a train traveling on a single track approaches a switch where the single line splits into two tracks, and the train can be guided onto one or the other. Some switches are more complex than that, allowing for one or more inputs and one or more outputs.

**Feature Class Schema**

This is the schema for the *Switches* feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| Guid | Guid | Guid | 38 | 0 | 0 |  |
| NodeId | Node ID | string | 50 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SwitchDirection | Switch Direction | string | 4 | 0 | 0 | SwitchDirectionCode |
| SwitchName | Switch Name | string | 50 | 0 | 0 |  |
| SiteName | Site Name | short | 40 | 0 | 0 |  |
| SiteDeviceId | Site Device ID | string | 40 | 0 | 0 |  |
| WIUAddress | WIU Address | string | 64 | 0 | 0 |  |
| WIUStatusIndex | WIU Status Index | short | 0 | 5 | 0 |  |
| SpringSwitchType | Spring Switch Type | string | 20 | 0 | 0 | SpringSwitchTypeCode |
| MonitoredStatus | Monitored Status | string | 15 | 0 | 0 | MonitoredStatusCode |
| FacingSwitchProtection | Facing Switch Protection | string | 37 | 0 | 0 | SwitchProtectionCode |
| NormalSwitchProtection | Normal Switch Protection | string | 37 | 0 | 0 | SwitchProtectionCode |
| ReverseSwitchProtection | Reverse Switch Protection | string | 37 | 0 | 0 | SwitchProtectionCode |
| RouteNameFacing | Route Name Facing | string | 100 | 0 | 0 |  |
| RouteNameNormal | Route Name Normal | string | 100 | 0 | 0 |  |
| RouteNameReverse | Route Name Reverse | string | 100 | 0 | 0 |  |
| MilepostPrefixFacing | Milepost Prefix Facing | string | 5 | 0 | 0 |  |
| MilepostNumberFacing | Milepost Number Facing | string | 15 | 0 | 0 |  |
| MilepostSuffixFacing | Milepost Suffix Facing | string | 5 | 0 | 0 |  |
| MilepostPrefixNormal | Milepost Prefix Normal | string | 5 | 0 | 0 |  |
| MilepostNumberNormal | Milepost Number Normal | string | 15 | 0 | 0 |  |
| MilepostSuffixNormal | Milepost Suffix Normal | string | 5 | 0 | 0 |  |
| MilepostPrefixReverse | Milepost Prefix Reverse | string | 5 | 0 | 0 |  |
| MilepostNumberReverse | Milepost Number Reverse | string | 15 | 0 | 0 |  |
| MilepostSuffixReverse | Milepost Suffix Reverse | string | 6 | 0 | 0 |  |
| TurnoutDirectionReverse | Turnout Direction Reverse | string | 50 | 0 | 0 | SwitchOrientationCode |
| CalibrationPointFlag | Calibration Point Flag | string | 5 | 0 | 0 | CalibrationPointFlagCode |
| SubdivisionId | RR Subdivision ID | string | 50 | 0 | 0 |  |
| Latitude | Latitude | double | 0 | 12 | 8 |  |
| Longitude | Longitude | double | 0 | 12 | 8 |  |
| Elevation | Elevation | double | 0 | 12 | 8 |  |

**GeometryType:** Point ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PointZM. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*Guid* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN, RIGIS)

*SwitchDirection* – Orientation of the switch: left face, right face, left rear, right rear (PTC, RIGIS)

*SwitchName* – User-readable name assigned to the switch. (PTC)

*SiteName* – The site to which the switch belongs. (PTC)

*SiteDeviceId* – The device ID of the switch as it is identified with respect to the specified site. (PTC)

*WIUAddress* – The WIU used to get the status of the switch. (PTC)

*WIUStatusIndex* – The location of the switch data in the status message. (PTC)

*SpringSwitchType* – If it’s a spring switch, what kind and in what direction, or if it’s a non-spring switch. (PTC)

*MonitoredStatus* – Whether or not the switch is monitored by some kind of active communication. (PTC)

*FacingSwitchProtection* – Whether or not the switch has protection, and if so, which kind. (PTC)

*NormalSwitchProtection* – Whether or not the switch has protection, and if so, which kind. (PTC)

*ReverseSwitchProtection* – Whether or not the switch has protection, and if so, which kind. (PTC)

*RouteNameFacing* – Route name of the track facing into the switch.

*RouteNameNormal* – Route name of the track the switch moves toward in normal position.

*RouteNameReverse* – Route name of the track the switch moves toward in reverse position.

*MilepostPrefixFacing* – If the facing milepost has a prefix.

*MilepostNumberFacing* – Milepost of the switch on the facing track leading into the switch.

*MilepostSuffixFacing* – If the facing milepost has a suffix.

*MilepostPrefixNormal* – If the normal milepost has a prefix.

*MilepostNumberNormal* – Milepost of the switch on the normal track thru the switch.

*MilepostSuffixNormal* – If the normal milepost has a suffix.

*MilepostPrefixReverse* – If the reverse milepost has a prefix.

*MilepostNumberReverse* – Milepost of the switch on the reverse track thru the switch.

*MilepostSuffixReverse* – if the reverse milepost has a suffix.

*TurnoutDirectionReverse* – The position of the reverse track relative to the increasing milepost direction, left or right.

*CalibrationPointFlag* – Y/N flag indicates whether or not a switch point is also a calibration point for LRS.

*SubdivisionId* – The subdivision ID in which the switch resides.

*Latitude* – Latitude in decimal degrees, WGS 1984, where the switch is located.

*Longitude* – Longitude in decimal degrees, WGS 1984, where the switch is located.

*Elevation* – Elevation in feet above mean sea level, at which the switch is located.

## TrackRoutes

**Purpose:** Track routes consist of groups of TrackSegment features, where each route feature consists of all segments that share the same RouteName/RouteId. This TrackRoutes feature class forms the basis of the Centerlines feature class created as part of a linear referencing system.

**Feature Class Schema**

This is the schema for the *TrackCenterline* feature class.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain | |
| Shape | Shape | PointZM |  |  |  |  | |
| ObjectId | Object ID | long | 0 | 10 | 0 |  | |
| Guid | Guid | guid | 38 | 0 | 0 |  | |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode | |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  | |
| RouteName | Route Name | string | 100 | 0 | 0 |  | |
| RouteId | Route ID | Guid | 38 | 0 | 0 |  | |
| TrackName | Track Name | string | 255 | 0 | 0 |  | |
| TrackQualifier | Track Qualifier | string | 50 | 0 | 0 |  | |
| TrackType | Track Type | string | 4 | 0 | 0 | TrackTypeCode | |
| FromMilepostPrefix | From Milepost Prefix | string | 5 | 0 | 0 |  |
| BeginMilepost | Begin Milepost | double | 0 | 10 | 4 |  |
| FromMilepostSuffix | From Milepost Suffix | string | 5 | 0 | 0 |  |
| ToMilepostPrefix | To Milepost Prefix | string | 5 | 0 | 0 |  |
| EndMilepost | End Milepost | double | 0 | 10 | 4 |  |
| ToMilepostSuffix | To Milepost Suffix | string | 5 | 0 | 0 |  |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM with M values that increase in the digitized direction. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*Guid* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN, RIGIS)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS, RIGIS)

*RouteId* – Guid of the route of which this segment is a part, to support LRS. (GIS)

*TrackName* – Describes which track this segment contains. (PTC, RIGIS)

*TrackQualifier* – Element that makes the route\_name unique. (RIGIS)

*TrackType* – The route’s track function (main, siding, yard, etc) (RIGIS)

*FromMilepostPrefix* – Milepost modifiers for all mileposts in the segment, else blank. (RIGIS)

*BeginMilepost* – Milepost value at the start of the segment. (PTC)

*FromMilepostSuffix* – Milepost modifiers for all mileposts in the segment, else blank. (RIGIS)

*ToMilepostPrefix* – Milepost modifiers for all mileposts in the segment, else blank. (RIGIS)

*EndMilepost* – Milepost value at the end of the segment. (PTC)

*ToMilepostSuffix* – Milepost modifiers for all mileposts in the segment, else blank. (RIGIS)

## Signal

**Purpose:** Signals visible to train operators that direct movement options.

**Feature Class Schema**

This is the schema for the *Signal* feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| Guid | Guid | guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 |  |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long |  |  |  |  |
| Latitude | Latitude | double | 0 | 12 | 8 |  |
| Longitude | Longitude | double | 0 | 12 | 8 |  |
| Elevation | Elevation | double | 0 | 12 | 8 |  |
| GraphicType | Graphic Type | string | 20 | 0 | 0 | GraphicTypeCode |
| Milepost | Milepost | double | 0 | 10 | 4 |  |
| SignalType | Signal Type | string | 30 | 0 | 0 | SignalTypeCode |
| SignalDirection | Signal Direction | string | 10 | 0 | 0 |  |
| SiteName | Site Name | string | 40 | 0 | 0 |  |
| SiteDeviceId | Site Device ID | string | 40 | 0 | 0 |  |
| WIUAddress | WIU Address | string | 64 | 0 | 0 |  |
| WIUStatusIndex | WIU Status Index | long | 0 | 5 | 0 |  |
| MonitoredStatus | Monitored Status | string | 15 | 0 | 0 | MonitoredStatusCode |
| SignalName | Signal Name | string | 50 | 0 | 0 |  |
| PromptEnable | Prompt Enable | string | 1 | 0 | 0 |  |
| PromptTime | Prompt Time | short | 0 | 4 | 0 |  |

**GeometryType:** Point ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PointZM. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*Guid* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN, RIGIS)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*SegmentId* – 9-digit segment ID unique within the subdivision that the signal belongs. (PTC)

*Latitude* – Latitude in decimal degrees, WGS 1984, where the switch is located. (PTC)

*Longitude* – Longitude in decimal degrees, WGS 1984, where the switch is located. (PTC)

*Elevation* – Elevation in feet above mean sea level, at which the switch is located. (PTC)

*GraphicType* – Identifies which side of the track the signal is on, relative to increasing milepost. (PTC)

*Milepost* – The milepost location of the signal. (PTC)

*SignalType* – Defines the type of signal. (PTC)

*SignalDirection* – Defines whether the signal is visible to traffic in the direction of increasing milepost. (PTC)

*SiteName* – The site to which the signal belongs. (PTC)

*SiteDeviceId* – The device ID of the signal, as identified within its site. (PTC)

*WIUAddress* – The WIU used to get the status of the signal. (PTC)

*WIUStatusIndex* – The location of the signal data in the status message. (PTC)

*MonitoredStatus* – Defines whether the signal is monitored via peer-to-peer or office communication. (PTC)

*SignalName* – Unique name for the signal. (PTC)

*PromptEnable* – Defines whether prompting for authority to pass this signal at stop is enabled. (PTC)

*PromptTime* – Delay in seconds before on-board display displays a prompt to pass a signal at stop, and allows train to proceed in lieu of lock. (PTC)

## MilepostMarker

**Purpose:** Physical markers that display milepost values

**Feature Class Schema**

This is the schema for the *MilepostMarker* feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| Guid | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long |  |  |  |  |
| Latitude | Latitude | double | 0 | 12 | 8 |  |
| Longitude | Longitude | double | 0 | 12 | 8 |  |
| Elevation | Elevation | double | 0 | 12 | 8 |  |
| MilepostMeasure | Milepost Measure | double | 0 | 12 | 4 |  |
| MilepostPrefix | Milepost Prefix | string | 50 | 0 | 4 |  |
| MilepostLabel | Milepost Label | string | 15 | 0 | 0 |  |
| MilepostSuffix | Milepost Suffix | string | 5 | 0 | 0 |  |
| MilepostType | Milepost Type | string | 15 | 0 | 0 | MilepostTypeCode |
| CalibrationPointFlag | Milepost Type | string | 5 | 0 | 0 | CalibrationPointFlagCode |

**GeometryType:** Point ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PointZM. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*Guid* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN, RIGIS)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*SegmentId* – 9-digit segment ID unique within the subdivision that the signal belongs. (PTC)

*Latitude* – Latitude in decimal degrees, WGS 1984, where the switch is located. (PTC, RIGIS)

*Longitude* – Longitude in decimal degrees, WGS 1984, where the switch is located. (PTC, RIGIS)

*Elevation* – Elevation in feet above mean sea level, at which the switch is located. (PTC, RIGIS)

*MilepostMeasure* – The numeric milepost measured location that the marker represents. (PTC, RIGIS)

*MilepostPrefix* – The milepost prefix if any. (RIGIS)

*MilepostLabel* – The milepost’s measured label displayed on the marker. (RIGIS)

*MilepostSuffix* – The milepost suffix if any. (RIGIS)

*MilepostType* – The type of the milepost. (RIGIS)

## MilepostHelper

**Purpose:** This feature allows for a milepost value to be linked to a location on the track where a MilepostMarker feature does not physically exist.

**Feature Class Schema**

This is the schema for the *MilepostHelper* feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| Guid | Guid | Guid | 38 | 0 | 0 |  |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long |  |  |  |  |
| Latitude | Latitude | double | 0 | 12 | 8 |  |
| Longitude | Longitude | double | 0 | 12 | 8 |  |
| Elevation | Elevation | double | 0 | 12 | 8 |  |
| MilepostMeasure | Milepost Measure | double | 0 | 12 | 4 |  |

**GeometryType:** Point ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PointZM. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*Guid* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN, RIGIS)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*SegmentId* – 9-digit segment ID unique within the subdivision that the signal belongs. (PTC)

*Latitude* – Latitude in decimal degrees, WGS 1984, where the switch is located. (PTC, RIGIS)

*Longitude* – Longitude in decimal degrees, WGS 1984, where the switch is located. (PTC, RIGIS)

*Elevation* – Elevation in feet above mean sea level, at which the switch is located. (PTC, RIGIS)

*MilepostMeasure* – The numeric milepost measured location that the marker represents. (PTC, RIGIS)

## RoadCrossingsAtGrade

**Purpose:** Locations where rail lines intersect wheeled vehicle roads at-grade. (ie, not over- or under-passes)

**Feature Class Schema**

This is the schema for the *RoadCrossingsAtGrade* feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| Guid | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 |  |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| StreetName | Street Name | string | 32 | 0 | 0 |  |
| DOTNum | DOT Number | string | 8 | 0 | 0 |  |
| BeginMilepost | Begin Milepost | double | 0 | 10 | 4 |  |
| EndMilepost | End Milepost | double | 0 | 15 | 8 |  |
| BeginLatitude | Begin Latitude | double | 0 | 15 | 8 |  |
| BeginLongitude | Begin Longitude | double | 0 | 15 | 8 |  |
| BeginElevation | Begin Elevation | double | 0 | 15 | 8 |  |
| EndLatitude | End Latitude | double | 0 | 15 | 8 |  |
| EndElevation | End Elevation | double | 0 | 15 | 8 |  |
| CrossingType | Crossing Type | string | 16 | 0 | 0 | CrossingTypeCode |
| HornDisable | Horn Disable | string | 1 | 0 | 0 | HornDisableCode |

**GeometryType:** Point ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PointZM. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*Guid* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN, RIGIS)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*SegmentId* – 9-digit segment ID unique within the subdivision that the signal belongs. (PTC)

*StreetName* – The name of the street that crosses the rail line. (PTC)

*DOTNum* – Identification number assigned to the cross-street by DOT, if any. (PTC)

*BeginMilepostMeasure* – The numeric milepost measured location at tbe beginning of the width of the crossing. (PTC)

*EndMilepostMeasure* – The numeric milepost measured location at the end of the width of the crossing. (PTC)

*BeginLatitude* – Latitude in decimal degrees, WGS 1984, where the crossing begins. (PTC)

*BeginLongitude* – Longitude in decimal degrees, WGS 1984, where the crossing begins. (PTC)

*BeginElevation* – Elevation in feet above mean sea level, at where the crossing begins. (PTC)

*EndLatitude* – Latitude in decimal degrees, WGS 1984, where the crossing ends. (PTC)

*EndLongitude* – Longitude in decimal degrees, WGS 1984, where the crossing ends. (PTC)

*EndElevation* – Elevation in feet above mean sea level, at where the crossing ends. (PTC)

*CrossingType* – Type of the at-grade crossing (ie, public, private, pedestrian). (PTC)

*HornDisable* – ‘Y’ if horn is not to be used at this at-grade crossing, else ‘N’. (PTC)

## ClearancePoint

**Purpose:** Location after the trailing leg of a switch that represents the point of clearance for traversing through the switch device.

**Feature Class Schema**

This is the schema for the *ClearancePoint* feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| Guid | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | string | 50 | 0 | 0 |  |
| NodeId | Node ID | string | 50 | 0 | 0 |  |
| NodeSCAC | Node SCAC | string | 4 | 0 | 0 | SCACCode |
| NormalReverseType | Normal Reverse Type | string | 1 | 0 | 0 |  |
| ClearingType | Clearing Type | string | 30 | 0 | 0 |  |
| Latitude | Latitude | double | 0 | 12 | 8 |  |
| Longitude | Longitude | double | 0 | 12 | 8 |  |
| Elevation | Elevation | double | 0 | 12 | 8 |  |
| ClearanceName | Clearance Name | string | 50 | 0 | 0 |  |

**GeometryType:** Point ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PointZM. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*Guid* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN, RIGIS)

*SubdivisionId* – The subdivision ID in which the switch resides. (PTC)

*NodeId – The node linked to the switch associated with this clearance point.* (PTC)

*NodeSCAC – The SCAC railroad that owns the node that this clearance point is linked to.* (PTC)

*NormalReverseType – Which side of the switch, increasing measure direction, the clearance point is on.* (PTC)

*ClearingType – Type of clearing.* (PTC)

*Latitude* – Latitude in decimal degrees, WGS 1984, where the switch is located. (GIS, PTC)

*Longitude* – Longitude in decimal degrees, WGS 1984, where the switch is located. (GIS, PTC)

*Elevation* – Elevation in feet above mean sea level, at which the switch is located. (GIS, PTC)

ClearanceName – Unique name given to this clearance point. (PTC)

## **LRS Event Layers**

## Calibration\_Point

**Purpose:** Points with measures that are used by the LRS to calibrate those measures onto the LRS Centerline features. This layer is created by the ArcGIS “Create LRS” tool. Fields below marked with asterisks (\*) are created when this feature class is created. The other fields, you can add yourself if you want them.

**Feature Class Schema**

This is the schema for the *MaxSpeed* event layer feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape\* | Shape | PointZM |  |  |  |  |
| ObjectId\* | Object ID | long | 0 | 10 | 0 |  |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| Measure\* | Measure | double | 0 | 15 | 8 |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| RouteId\* | RouteId | string | 255 | 0 | 0 |  |
| GlobalID\* | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 |  |
| SubdivisionId | Subdivision ID | long | 0 | 4 | 0 |  |
| CalibrationPointType | Calibration Point Type | string | 25 | 0 | 0 | CalibrationPointType |
| RouteName | Route Name | string | 255 | 0 | 0 |  |
| Latitude | Latitude | double | 0 | 15 | 8 |  |
| Longitude | Longitude | double | 0 | 15 | 8 |  |
| Elevation | Elevation | double | 0 | 15 | 8 |  |

**GeometryType:** Point ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PointZM. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*FromDate* – Date at which this calibration point became valid. (GIS)

*ToDate* – Date at which this calibration point was retired. (GIS)

*NetworkId* – ID value of the LRS Network that this calibration point applies to. (GIS)

*RouteId* – ID value of the route that this point will be used to calibrate measures. (GIS)

*Measure* – Route measure at this calibration point. (GIS, RIGIS)

*Guid* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN, RIGIS)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*CalibrationPointType* – Type of calibration point (ie., milepost, switch, etc.)

*RouteName* – Unique name of the route. (GIS, RIGIS)

*Latitude* – Latitude of calibration point. (GIS, RIGIS)

*Longitude* – Longitude of calibration point location. (GIS, RIGIS)

*Elevation* – Elevation of calibration point location. (RIGIS)

## MaxPermissableSpeed

**Purpose:** Linear event features which store time-bound line events that represent the maximum operational speed of railed vehicles. These max speed areas exclude permanent or temporary speed restrictions. Those are managed in the SpeedRestrictions layer. Fields below marked with asterisks (\*) are created when this feature class is created. The other fields, you can add yourself if you want them.

**Feature Class Schema**

This is the schema for the *MaxPermissableSpeed* event layer feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| FromMeasure\* | From Measure | double | 0 | 15 | 8 |  |
| ToMeasure\* | To Measure | double | 0 | 15 | 8 |  |
| RouteId\* | RouteId | string | 255 | 0 | 0 |  |
| GlobalID\* | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| RouteName | Route Name | string | 100 | 0 | 0 |  |
| TrainType | Train Type | string | 20 | 0 | 0 |  |
| Direction | Direction | string | 16 | 0 | 0 | DirectionCode |
| Speed | Speed | short | 0 | 3 | 0 |  |
| BeginLatitude | Begin Latitude | double | 0 | 15 | 8 |  |
| BeginLongitude | Begin Longitude | double | 0 | 15 | 8 |  |
| BeginElevation | Begin Elevation | double | 0 | 15 | 8 |  |
| EndLatitude | End Latitude | double | 0 | 15 | 8 |  |
| EndLongitude | End Longitude | double | 0 | 15 | 8 |  |
| EndElevation | End Elevation | double | 0 | 15 | 8 |  |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM, LRS-managed line event feature. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*FromDate* – Date at which this max speed became valid. (GIS)

*ToDate* – Date at which this max speed was retired. (GIS)

*NetworkId* – ID value of the LRS Network that this max speed applies to. (GIS)

*RouteId* – ID value of the route that this max speed applies to. (GIS)

*FromMeasure* – Route measure of the start of the max speed zone. (GIS)

*ToMeasure –* Route measure of the end of the max speed zone. (GIS)

*GlobalId* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*SegmentId* – 9-digit segment ID unique within the subdivision that the max speed belongs. (PTC)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS)

*TrainType* – Type of train that the max speed applies. (GIS, PTC)

*Direction* – Direction that the max speed applies, relative to increasing mileposts. (GIS, PTC)

*Speed* – The maximum speed in mph. (GIS, PTC)

*BeginLatitude* – Latitude in decimal degrees, WGS 1984, where the max speed begins. (PTC)

*BeginLongitude* – Longitude in decimal degrees, WGS 1984, where the max speed begins. (PTC)

*BeginElevation* – Elevation in feet above mean sea level, at where the max speed begins. (PTC)

*EndLatitude* – Latitude in decimal degrees, WGS 1984, where the max speed ends. (PTC)

*EndLongitude* – Longitude in decimal degrees, WGS 1984, where the max speed ends. (PTC)

*EndElevation* – Elevation in feet above mean sea level, at where the max speed ends. (PTC)

## SpeedRestriction

**Purpose:** A line event layer that indicates the start and end spans of speed restrictions, that are exceptions to the maximum speed limit. Fields below marked with asterisks (\*) are created when this feature class is created. The other fields, you can add yourself if you want them.

**Feature Class Schema**

This is the schema for the *SpeedRestriction* event layer feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| FromMeasure\* | From Measure | double | 0 | 15 | 8 |  |
| ToMeasure\* | To Measure | double | 0 | 15 | 8 |  |
| RouteId\* | RouteId | string | 255 | 0 | 0 |  |
| GlobalID\* | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| RouteName | Route Name | string | 100 | 0 | 0 |  |
| TrainType | Train Type | string | 20 | 0 | 0 |  |
| Direction | Direction | string | 16 | 0 | 0 | DirectionCode |
| Speed | Speed | short | 0 | 3 | 0 |  |
| BeginLatitude | Begin Latitude | double | 0 | 15 | 8 |  |
| BeginLongitude | Begin Longitude | double | 0 | 15 | 8 |  |
| BeginElevation | Begin Elevation | double | 0 | 15 | 8 |  |
| EndLatitude | End Latitude | double | 0 | 15 | 8 |  |
| EndLongitude | End Longitude | double | 0 | 15 | 8 |  |
| EndElevation | End Elevation | double | 0 | 15 | 8 |  |
| QualifierType | Qualifier Type | string | 15 | 0 | 0 | QualifierTypeCode |
| RestrictionType | Restriction Type | string | 20 | 0 | 0 | RestrictionTypeCode |
| RestrictionParameter | Restriction Parameter | long | 0 | 5 | 0 |  |
| Operator | Operator | string | 2 | 0 | 0 | OperatorTypeCode |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM, LRS-managed line event feature. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*FromDate* – Date at which this speed restriction became valid. (GIS)

*ToDate* – Date at which this speed restriction was retired. (GIS)

*NetworkId* – ID value of the LRS Network that this speed restriction applies to. (GIS)

*FromMeasure* – Route measure of the start of the speed restriction zone. (GIS)

*ToMeasure –* Route measure of the end of the speed restriction zone. (GIS)

*RouteId* – ID value of the route that this speed restriction applies to. (GIS)

*GlobalId* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*SegmentId* – 9-digit segment ID unique within the subdivision that the speed restriction belongs. (PTC)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS)

*TrainType* – Type of train that the speed restriction applies. (GIS, PTC)

*Direction* – Direction that the speed restriction applies, relative to increasing mileposts. (GIS, PTC)

*Speed* – The speed restriction in mph. (GIS, PTC)

*BeginLatitude* – Latitude in decimal degrees, WGS 1984, where the speed restriction begins. (PTC)

*BeginLongitude* – Longitude in decimal degrees, WGS 1984, where the speed restriction begins. (PTC)

*BeginElevation* – Elevation in feet above mean sea level, at where the speed restriction begins. (PTC)

*EndLatitude* – Latitude in decimal degrees, WGS 1984, where the speed restriction ends. (PTC)

*EndLongitude* – Longitude in decimal degrees, WGS 1984, where the speed restriction ends. (PTC)

*EndElevation* – Elevation in feet above mean sea level, at where the speed restriction ends. (PTC)

*QualifierType* – Whether the restriction is “head-end”, “restricted speed”, or “none” . (PTC)

*RestrictionType* – Whether the restriction applies generically, or based on tonnage or axle count. (PTC)

*RestrictionParameter* – Whatever the restriction type is, this value is the restriction measure (ie., tonnage, axle count). (PTC)

*Operator* – Comparison operator value to apply to the speed (ie., <, >, =, etc). (PTC)

## TrackRule

**Purpose:** Linear events for assigning and storing operating rules over defined sections of track. Fields below marked with asterisks (\*) are created when this feature class is created. The other fields, you can add yourself if you want them.

**Feature Class Schema**

This is the schema for the *TrackRule* event layer feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| FromMeasure\* | From Measure | double | 0 | 15 | 8 |  |
| ToMeasure\* | To Measure | double | 0 | 15 | 8 |  |
| RouteId\* | RouteId | string | 255 | 0 | 0 |  |
| GlobalID\* | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| RouteName | Route Name | string | 100 | 0 | 0 |  |
| BeginLatitude | Begin Latitude | double | 0 | 15 | 8 |  |
| BeginLongitude | Begin Longitude | double | 0 | 15 | 8 |  |
| BeginElevation | Begin Elevation | double | 0 | 15 | 8 |  |
| EndLatitude | End Latitude | double | 0 | 15 | 8 |  |
| EndLongitude | End Longitude | double | 0 | 15 | 8 |  |
| EndElevation | End Elevation | double | 0 | 15 | 8 |  |
| SignalAuthorityType | Qualifier Type | string | 15 | 0 | 0 | SignalAuthorityTypeCode |
| FBARDirection | Restriction Type | string | 20 | 0 | 0 | FBARDirectionCode |
| CabSignalType | Restriction Parameter | long | 0 | 5 | 0 | CabSignalTypeCode |
| YardLimits | Operator | string | 2 | 0 | 0 | YardLimitsCode |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM, LRS-managed line event feature. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*FromDate* – Date at which this track rule became valid. (GIS)

*ToDate* – Date at which this track rule was retired. (GIS)

*NetworkId* – ID value of the LRS Network that this track rule applies to. (GIS)

*FromMeasure* – Route measure of the start of the track rule. (GIS)

*ToMeasure –* Route measure of the end of the track rule. (GIS)

*RouteId* – ID value of the route that this track rule applies to. (GIS)

*GlobalId* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*SegmentId* – 9-digit segment ID unique within the subdivision that the track rule belongs. (PTC)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS)

*BeginLatitude* – Latitude in decimal degrees, WGS 1984, where the track rule begins. (PTC)

*BeginLongitude* – Longitude in decimal degrees, WGS 1984, where the track rule begins. (PTC)

*BeginElevation* – Elevation in feet above mean sea level, at where the track rule begins. (PTC)

*EndLatitude* – Latitude in decimal degrees, WGS 1984, where the track rule ends. (PTC)

*EndLongitude* – Longitude in decimal degrees, WGS 1984, where the track rule ends. (PTC)

*EndElevation* – Elevation in feet above mean sea level, at where the track rule ends. (PTC)

*SignalAuthorityType* – Whether the restriction is “head-end”, “restricted speed”, or “none” . (PTC)

*FBARDirection* – Whether the restriction applies generically, or based on tonnage or axle count. (PTC)

*CabSignalType* – Whatever the restriction type is, this value is the restriction measure (ie., tonnage, axle count). (PTC)

*YardLimits* – Comparison operator value to apply to the speed (ie., <, >, =, etc). (PTC)

## CABSignalDropout

**Purpose:** Linear events that map out areas where cab signal indication is unavailable. Fields below marked with asterisks (\*) are created when this feature class is created. The other fields, you can add yourself if you want them.

**Feature Class Schema**

This is the schema for the *CADSignalDropout* event layer feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| FromMeasure\* | From Measure | double | 0 | 15 | 8 |  |
| ToMeasure\* | To Measure | double | 0 | 15 | 8 |  |
| RouteId\* | RouteId | string | 255 | 0 | 0 |  |
| GlobalID\* | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| RouteName | Route Name | string | 100 | 0 | 0 |  |
| BeginLatitude | Begin Latitude | double | 0 | 15 | 8 |  |
| BeginLongitude | Begin Longitude | double | 0 | 15 | 8 |  |
| BeginElevation | Begin Elevation | double | 0 | 15 | 8 |  |
| EndLatitude | End Latitude | double | 0 | 15 | 8 |  |
| EndLongitude | End Longitude | double | 0 | 15 | 8 |  |
| EndElevation | End Elevation | double | 0 | 15 | 8 |  |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM, LRS-managed line event feature. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*FromDate* – Date at which this known cab indication area is known to exist. (GIS)

*ToDate* – Date at which this cab indication limitation was retired. (GIS)

*NetworkId* – ID value of the LRS Network that this cab signal unavailability applies to. (GIS)

*FromMeasure* – Route measure of the start of cab signal unavailability. (GIS)

*ToMeasure –* Route measure of the end of cab signal unavailability. (GIS)

*RouteId* – ID value of the route that this cab signal unavailability applies to. (GIS)

*GlobalId* - Globally unique identifier, 128-bits (16 bytes). (GIS, RIGIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (PTC, NARN)

*SubdivisionId* – Id of the subdivision containing the segment. (PTC, RIGIS)

*SegmentId* – 9-digit segment ID unique within the subdivision that the cab signal unavailability belongs. (PTC)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS)

*BeginLatitude* – Latitude in decimal degrees, WGS 1984, where the cab signal unavailability begins. (PTC)

*BeginLongitude* – Longitude in decimal degrees, WGS 1984, where the cab signal unavailability begins. (PTC)

*BeginElevation* – Elevation in feet above mean sea level, at where the cab signal unavailability begins. (PTC)

*EndLatitude* – Latitude in decimal degrees, WGS 1984, where the cab signal unavailability ends. (PTC)

*EndLongitude* – Longitude in decimal degrees, WGS 1984, where the cab signal unavailability ends. (PTC)

*EndElevation* – Elevation in feet above mean sea level, at where the cab signal unavailability ends. (PTC)

## TieType

**Purpose:** Linear events that map out sections of railroad that have various types of ties installed. Fields below marked with asterisks (\*) are created when this feature class is created. The other fields, you can add yourself if you want them.

**Feature Class Schema**

This is the schema for the *TieType* event layer feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| FromMeasure\* | From Measure | double | 0 | 15 | 8 |  |
| ToMeasure\* | To Measure | double | 0 | 15 | 8 |  |
| RouteId\* | RouteId | string | 255 | 0 | 0 |  |
| GlobalID\* | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| RouteName | Route Name | string | 100 | 0 | 0 |  |
| BeginLatitude | Begin Latitude | double | 0 | 15 | 8 |  |
| BeginLongitude | Begin Longitude | double | 0 | 15 | 8 |  |
| BeginElevation | Begin Elevation | double | 0 | 15 | 8 |  |
| EndLatitude | End Latitude | double | 0 | 15 | 8 |  |
| EndLongitude | End Longitude | double | 0 | 15 | 8 |  |
| EndElevation | End Elevation | double | 0 | 15 | 8 |  |
| TieType | Tie Type | string | 50 | 0 | 0 | TieTypeCode |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM, LRS-managed line event feature. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*FromDate* – Date at which ties of this type were inspected or known to have been installed. (GIS)

*ToDate* – Date at which this type of tie was retired. (GIS)

*NetworkId* – ID value of the LRS Network that use this type of tie. (GIS)

*FromMeasure* – Route measure of the start of this type of tie. (GIS)

*ToMeasure –* Route measure of the end of this type of tie. (GIS)

*RouteId* – ID value of the route that this type of tie applies to. (GIS)

*GlobalId* - Globally unique identifier, 128-bits (16 bytes). (GIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (GIS)

*SubdivisionId* – Id of the subdivision containing this type of tie. (GIS)

*SegmentId* – 9-digit segment ID unique within the subdivision where this type of tie exists. (GIS)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS)

*BeginLatitude* – Latitude in decimal degrees, WGS 1984, where this type of tie exists. (GIS)

*BeginLongitude* – Longitude in decimal degrees, WGS 1984, where this type of tie exists. (GIS)

*BeginElevation* – Elevation in feet above mean sea level, at where this type of tie exists. (GIS)

*EndLatitude* – Latitude in decimal degrees, WGS 1984, where this type of tie exists. (GIS)

*EndLongitude* – Longitude in decimal degrees, WGS 1984, where this type of tie exists. (GIS)

*EndElevation* – Elevation in feet above mean sea level, where this type of tie exists. (GIS)

*TieType* – Type of railroad ties used along this length, between FromDate and ToDate. (GIS)

## BallastType

**Purpose:** Linear events that map out sections of railroad where the rails are secured using different types of ballast anchoring foundation. Fields below marked with asterisks (\*) are created when this feature class is created. The other fields, you can add yourself if you want them.

**Feature Class Schema**

This is the schema for the *BallastType* event layer feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| FromMeasure\* | From Measure | double | 0 | 15 | 8 |  |
| ToMeasure\* | To Measure | double | 0 | 15 | 8 |  |
| RouteId\* | RouteId | string | 255 | 0 | 0 |  |
| GlobalID\* | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| RouteName | Route Name | string | 100 | 0 | 0 |  |
| BeginLatitude | Begin Latitude | double | 0 | 15 | 8 |  |
| BeginLongitude | Begin Longitude | double | 0 | 15 | 8 |  |
| BeginElevation | Begin Elevation | double | 0 | 15 | 8 |  |
| EndLatitude | End Latitude | double | 0 | 15 | 8 |  |
| EndLongitude | End Longitude | double | 0 | 15 | 8 |  |
| EndElevation | End Elevation | double | 0 | 15 | 8 |  |
| BallastType | Tie Type | string | 50 | 0 | 0 | BallastTypeCode |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM, LRS-managed line event feature. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*FromDate* – Date at which ballast of this type were inspected or known to have been installed. (GIS)

*ToDate* – Date at which this type of ballast was retired. (GIS)

*NetworkId* – ID value of the LRS Network that use this type of ballast. (GIS)

*FromMeasure* – Route measure of the start of this type of ballast. (GIS)

*ToMeasure –* Route measure of the end of this type of ballast. (GIS)

*RouteId* – ID value of the route that this type of ballast applies to. (GIS)

*GlobalId* - Globally unique identifier, 128-bits (16 bytes). (GIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (GIS)

*SubdivisionId* – Id of the subdivision containing this type of ballast. (GIS)

*SegmentId* – 9-digit segment ID unique within the subdivision where this type of ballast exists. (GIS)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS)

*BeginLatitude* – Latitude in decimal degrees, WGS 1984, where this type of ballast exists. (GIS)

*BeginLongitude* – Longitude in decimal degrees, WGS 1984, where this type of ballast exists. (GIS)

*BeginElevation* – Elevation in feet above mean sea level, at where this type of ballast exists. (GIS)

*EndLatitude* – Latitude in decimal degrees, WGS 1984, where this type of ballast exists. (GIS)

*EndLongitude* – Longitude in decimal degrees, WGS 1984, where this type of ballast exists. (GIS)

*EndElevation* – Elevation in feet above mean sea level, where this type of ballast exists. (GIS)

*BallastType* – Type of railroad ballast used along this length, between FromDate and ToDate. (GIS)

## Curvature

**Purpose:** Linear events that map out sections of railroad that have certain measured curvature. Curvature is measured as the angle created by the point at the FromMeasure, the point at the ToMeasure, and the point along the centerline of the track halfway between the FromMeasure and ToMeasure. Fields below marked with asterisks (\*) are created when this feature class is created. The other fields, you can add yourself if you want them.

**Feature Class Schema**

This is the schema for the *Curvature* event layer feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| FromMeasure\* | From Measure | double | 0 | 15 | 8 |  |
| ToMeasure\* | To Measure | double | 0 | 15 | 8 |  |
| RouteId\* | RouteId | string | 255 | 0 | 0 |  |
| GlobalID\* | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| RouteName | Route Name | string | 100 | 0 | 0 |  |
| BeginLatitude | Begin Latitude | double | 0 | 15 | 8 |  |
| BeginLongitude | Begin Longitude | double | 0 | 15 | 8 |  |
| BeginElevation | Begin Elevation | double | 0 | 15 | 8 |  |
| EndLatitude | End Latitude | double | 0 | 15 | 8 |  |
| EndLongitude | End Longitude | double | 0 | 15 | 8 |  |
| EndElevation | End Elevation | double | 0 | 15 | 8 |  |
| Curvature | Curvature | double | 0 | 15 | 8 |  |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM, LRS-managed line event feature. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*FromDate* – Date at which this curvature was first measured or recorded. (GIS)

*ToDate* – Date at which this curvature is no longer valid. (GIS)

*NetworkId* – ID value of the LRS Network where this curvature is being measured. (GIS)

*FromMeasure* – Route measure of the start of the chord of the curvature measurement. (GIS)

*ToMeasure –* Route measure of the end of the chord of the curvature measurement. (GIS)

*RouteId* – ID value of the route where this curvature is being measured. (GIS)

*GlobalId* - Globally unique identifier, 128-bits (16 bytes). (GIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (GIS)

*SubdivisionId* – Id of the subdivision where this curvature is being measured. (GIS)

*SegmentId* – 9-digit segment ID unique within the subdivision where curvature is being measured. (GIS)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS)

*BeginLatitude* – Latitude in decimal degrees, WGS 1984, where the curvature chord begins. (GIS)

*BeginLongitude* – Longitude in decimal degrees, WGS 1984, where the curvature chord begins. (GIS)

*BeginElevation* – Elevation in feet above mean sea level, at where the curvature chord begins. (GIS)

*EndLatitude* – Latitude in decimal degrees, WGS 1984, where the curvature chord ends. (GIS)

*EndLongitude* – Longitude in decimal degrees, WGS 1984, where the curvature chord ends. (GIS)

*EndElevation* – Elevation in feet above mean sea level, where the curvature chord ends. (GIS)

*Curvature* – The measure if the angle, in degrees, created by the FromMeasure point, ToMeasure point, and Centerpoint of the linear event length. (GIS)

## Grade

**Purpose:** Linear events that map out sections of railroad that have certain measured grade. Fields below marked with asterisks (\*) are created when this feature class is created. The other fields, you can add yourself if you want them.

**Feature Class Schema**

This is the schema for the *Grade* event layer feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| FromMeasure\* | From Measure | double | 0 | 15 | 8 |  |
| ToMeasure\* | To Measure | double | 0 | 15 | 8 |  |
| RouteId\* | RouteId | string | 255 | 0 | 0 |  |
| GlobalID\* | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| RouteName | Route Name | string | 100 | 0 | 0 |  |
| BeginLatitude | Begin Latitude | double | 0 | 15 | 8 |  |
| BeginLongitude | Begin Longitude | double | 0 | 15 | 8 |  |
| BeginElevation | Begin Elevation | double | 0 | 15 | 8 |  |
| EndLatitude | End Latitude | double | 0 | 15 | 8 |  |
| EndLongitude | End Longitude | double | 0 | 15 | 8 |  |
| EndElevation | End Elevation | double | 0 | 15 | 8 |  |
| Grade | Grade | double | 0 | 15 | 8 |  |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM, LRS-managed line event feature. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*FromDate* – Date at which this curvature was first measured or recorded. (GIS)

*ToDate* – Date at which this curvature is no longer valid. (GIS)

*NetworkId* – ID value of the LRS Network where this curvature is being measured. (GIS)

*FromMeasure* – Route measure of the start of the chord of the curvature measurement. (GIS)

*ToMeasure –* Route measure of the end of the chord of the curvature measurement. (GIS)

*RouteId* – ID value of the route where this curvature is being measured. (GIS)

*GlobalId* - Globally unique identifier, 128-bits (16 bytes). (GIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (GIS)

*SubdivisionId* – Id of the subdivision where this curvature is being measured. (GIS)

*SegmentId* – 9-digit segment ID unique within the subdivision where curvature is being measured. (GIS)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS)

*BeginLatitude* – Latitude in decimal degrees, WGS 1984, where the curvature chord begins. (GIS)

*BeginLongitude* – Longitude in decimal degrees, WGS 1984, where the curvature chord begins. (GIS)

*BeginElevation* – Elevation in feet above mean sea level, at where the curvature chord begins. (GIS)

*EndLatitude* – Latitude in decimal degrees, WGS 1984, where the curvature chord ends. (GIS)

*EndLongitude* – Longitude in decimal degrees, WGS 1984, where the curvature chord ends. (GIS)

*EndElevation* – Elevation in feet above mean sea level, where the curvature chord ends. (GIS)

*Curvature* – The measure if the angle, in degrees, created by the FromMeasure point, ToMeasure point, and Centerpoint of the linear event length. (GIS)

## TrackOutage

**Purpose:** Linear events that map out sections of railroad that are experiencing outage for some reason, such as planned or unplanned maintenance, inspection, or other conditions or phenomena where it is directed that this defined section of track is out of service. Fields below marked with asterisks (\*) are created when this feature class is created. The other fields, you can add yourself if you want them.

**Feature Class Schema**

This is the schema for the *TrackOutage* event layer feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| FromMeasure\* | From Measure | double | 0 | 15 | 8 |  |
| ToMeasure\* | To Measure | double | 0 | 15 | 8 |  |
| RouteId\* | RouteId | string | 255 | 0 | 0 |  |
| GlobalID\* | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| RouteName | Route Name | string | 100 | 0 | 0 |  |
| BeginLatitude | Begin Latitude | double | 0 | 15 | 8 |  |
| BeginLongitude | Begin Longitude | double | 0 | 15 | 8 |  |
| BeginElevation | Begin Elevation | double | 0 | 15 | 8 |  |
| EndLatitude | End Latitude | double | 0 | 15 | 8 |  |
| EndLongitude | End Longitude | double | 0 | 15 | 8 |  |
| EndElevation | End Elevation | double | 0 | 15 | 8 |  |
| OutageType | Outage Type | string | 50 | 0 | 0 |  |
| OutageNotes | Outage Notes | string | 255 | 0 | 0 |  |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM, LRS-managed line event feature. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*FromDate* – Date at which the track was put out of service. (GIS)

*ToDate* – Date at which the track was put back in service. (GIS)

*NetworkId* – ID value of the LRS Network where this outage occurs. (GIS)

*FromMeasure* – Route measure of the start of the outage area. (GIS)

*ToMeasure –* Route measure of the end of the outage area. (GIS)

*RouteId* – ID value of the route where this outage occurs. (GIS)

*GlobalId* - Globally unique identifier, 128-bits (16 bytes). (GIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (GIS)

*SubdivisionId* – Id of the subdivision where this outage occurs. (GIS)

*SegmentId* – 9-digit segment ID unique within the subdivision where this outage occurs. (GIS)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS)

*BeginLatitude* – Latitude in decimal degrees, WGS 1984, where the outage begins. (GIS)

*BeginLongitude* – Longitude in decimal degrees, WGS 1984, where the outage begins. (GIS)

*BeginElevation* – Elevation in feet above mean sea level, at where the outage begins. (GIS)

*EndLatitude* – Latitude in decimal degrees, WGS 1984, where the outage ends. (GIS)

*EndLongitude* – Longitude in decimal degrees, WGS 1984, where the outage ends. (GIS)

*EndElevation* – Elevation in feet above mean sea level, where the outage ends. (GIS)

*OutageType* – The type of outage (ie., planned maint, unplanned maint, inspection, etc.) (GIS)

*OutageNotes* – Free text area for recording extra notes about the outage. (GIS)

## TrackSignage

**Purpose:** Point events that map out the positions and attributes of signage along the railroad right of way. Fields below marked with asterisks (\*) are created when this feature class is created. The other fields, you can add yourself if you want them.

**Feature Class Schema**

This is the schema for the *TrackSignage* event layer feature class.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Field Alias | Type | Length | Precision | Scale | Domain |
| Shape | Shape | PointZM |  |  |  |  |
| ObjectId | Object ID | long | 0 | 10 | 0 |  |
| FromDate\* | FromDate | date |  |  |  |  |
| ToDate\* | ToDate | date |  |  |  |  |
| NetworkId\* | NetworkId | short | 0 | 4 | 0 | dLRSNetworks |
| Measure\* | From Measure | double | 0 | 15 | 8 |  |
| RouteId\* | RouteId | string | 255 | 0 | 0 |  |
| GlobalID\* | Guid | Guid | 38 | 0 | 0 |  |
| SCAC | Owner SCAC | string | 4 | 0 | 0 | SCACCode |
| SubdivisionId | Subdivision ID | short | 0 | 4 | 0 |  |
| SegmentId | Segment ID | long | 0 | 9 | 0 |  |
| RouteName | Route Name | string | 100 | 0 | 0 |  |
| Latitude | Begin Latitude | double | 0 | 15 | 8 |  |
| Longitude | Begin Longitude | double | 0 | 15 | 8 |  |
| Elevation | Begin Elevation | double | 0 | 15 | 8 |  |
| SignType | Sign Type | string | 50 | 0 | 0 | SignTypeCode |
| SignWidth | Sign Width | short | 0 | 4 | 0 |  |
| SignHeight | Sign Height | short | 0 | 4 | 0 |  |
| SignPosition | Sign Position | string | 255 | 0 | 0 |  |
| SignContents | Sign Contents | string | 255 | 0 | 0 |  |

**GeometryType:** Polyline ZM

**Relationships:** None

**Attachments:** No

**Editor Tracking:** Yes

|  |  |
| --- | --- |
| Editor Tracking Value | Attribute Name |
| Creator Field | created\_user |
| Create Date Field | created\_date |
| Update Editor Field | last\_edited\_user |
| Update Edit Date Field | last\_edited\_date |

**Attributes:**

*Field Name – Field description (source compatibility)*

*Shape -* A single-part PolylineZM, LRS-managed line event feature. (GIS)

*OBJECTID* - Assigned by the GIS. (GIS)

*FromDate* – Date at which the track was put out of service. (GIS)

*ToDate* – Date at which the track was put back in service. (GIS)

*NetworkId* – ID value of the LRS Network where this outage occurs. (GIS)

*Measure* – Route measure of the start of the outage area. (GIS)

*RouteId* – ID value of the route where this outage occurs. (GIS)

*GlobalId* - Globally unique identifier, 128-bits (16 bytes). (GIS)

*SCAC* – SCAC (Standard Carrier Alpha Code) for owner railroad. (GIS)

*SubdivisionId* – Id of the subdivision where this outage occurs. (GIS)

*SegmentId* – 9-digit segment ID unique within the subdivision where this outage occurs. (GIS)

*RouteName* – Name of the route of which this segment is a part, to support LRS. (GIS)

*Latitude* – Latitude in decimal degrees, WGS 1984, where the outage begins. (GIS)

*Longitude* – Longitude in decimal degrees, WGS 1984, where the outage begins. (GIS)

*Elevation* – Elevation in feet above mean sea level, at where the outage begins. (GIS)

*OutageType* – The type of outage (ie., planned maint, unplanned maint, inspection, etc.) (GIS)

*OutageNotes* – Free text area for recording extra notes about the outage. (GIS)

SignType – Type of sign.

SignWidth – Width in inches of the sign itself.

SignHeight – Height in inches of the sign itself.

SignPosition – Position of the sign relative to the track.

SignContents – Description of what the sign says.

## **Field Value Domains**

BalastTypeCode

Broken stone

Sand

Gravel

Moorum

Coal Ash

Cinder

Brickbat

Other

BoundaryCode

BoundaryType

CalibrationPointFlagCode

CountryCode

CrossingTypeCode

CrossoverFlag

DirectionCode

FraDistrictCode

GraphicTypeCode

HornDisableCode

MilepostTypeCode

MonitoredStatusCode

NetTrackType

NodeTypeCode

TieTypeCode

Wood

Concrete

Steel

Plastic

Other

TimeZoneCode

TrackStatusCode

TrackTypeCode

PassengerCode

SCACCode

SignalTypeCode

SpringSwitchTypeCode

StateAbbr

StracNetType

SwitchDirectionCode

SwitchProtectionCode

SwitchOrientationCode