

North Carolina Rail Crossings – 2nd Quarter 2026 - North Carolina Department of Transportation Geodatabase Feature Class



Tags NC, North Carolina, NCDOT, Official NCDOT, Transportation, Railroad, Rail, Crossing, Railway

Summary

This dataset is made available to provide a representation of state maintained railroad crossings for mapping, planning and modeling purposes. Locations are approximate and data is not guaranteed to be complete.

Description

The dataset provided includes point data for use in GIS that represents public crossings and private crossings with public access in North Carolina. Only open and inactive crossings are included; closed crossings have been omitted. Attributes for each crossing include the crossing's FRA identification number and the latitude and longitude of the crossing. Crossing location and status were verified by cross-referencing Federal Railroad Administration public crossing database with North Carolina Department of Transportation Rail Division's crossing database, railroad company track charts and aerial imagery. Where in doubt, crossing status has been investigated by contacting the rail company, land owner, or municipality within whose jurisdiction the crossing falls. The attributes are derived directly from NCDOT's Statewide Authoritative Railroad and Highway (SARAH) database.

Credits

North Carolina Department of Transportation Rail Division, Moffatt & Nichol Engineers, WGI

Use limitations

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

Extent

West -84.124533
East -76.090847
North 36.572504
South 33.846568

Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:625,000

Topics and Keywords

Themes or categories of the resource Transportation

Content type Downloadable Data

Export to FGDC CSDGM XML format as Resource Description No

Theme keywords Transportation, Railways, Rail Crossings

Citation

Title North Carolina Rail Crossings – 2nd Quarter 2026 - North Carolina Department of Transportation

Publication date 2026-08-03 00:00:00

Creation date 2013-08-01 00:00:00

Revision date 2026-07-07 00:00:00

Presentation formats digital map

Citation Contacts

Responsible party - custodian

Individual's name Todd Meyer

Organization's name NCDOT Rail Division

Contact's position Inventory & Data Analysis Manager

Contact information

Phone

Voice 9197074121

Address

Type postal

Delivery point 1556 Mail Service Center

City Raleigh

Administrative area NC

Postal code 27699

Country US

e-mail address tmeyer@ncdot.gov

Resource Details

Dataset languages English (UNITED STATES)

Dataset character set utf8 - 8 bit UCS Transfer Format

Status on-going

Spatial representation type vector

Processing environment Version 6.2 (Build 9200) ; Esri ArcGIS 10.8.1.14362

Credits

North Carolina Department of Transportation Rail Division, Moffatt & Nichol Engineers, WGI

ArcGIS item properties

Name RailroadCrossings

Location file:///\\DOT\DFSROOT01\GROUPS-GISCC\GIS-SpatialDataMgmt\Maintenance\QuarterlyDataRefresh\Rail\2026Q2\2026Q2Final\NC_RailLayers.gdb
Access protocol Local Area Network

Extents

Extent

Description

Date data was obtained from State Authoritative Rail and Highway (SARAH) database.

Temporal extent

Date and time 2026-04-17 00:00:00

Extent

Geographic extent

Bounding rectangle

Extent type

Extent used for searching

West longitude -84.124533

East longitude -76.090847

North latitude 36.572504

South latitude 33.846568

Extent contains the resource Yes

Extent in the item's coordinate system

westBL 493586.790479

eastBL 2854662.538463

southBL 72807.773870

northBL 1027329.782473

exTypeCode Yes

Resource Points of Contact

Point of contact - custodian

Individual's name Todd Meyer

Organization's name NCDOT Rail Division

Contact's position Inventory & Data Analysis Manager

Contact information

Phone

Voice 9197074121

Address

Type postal

Delivery point 1556 Mail Service Center

City Raleigh

Administrative area NC

Postal code 27699

Country US

e-mail address tmeyer@ncdot.gov

Resource Maintenance

Resource maintenance

Date of next update 2026-10-01 00:00:00

Update frequency quarterly

Resource Constraints

Constraints

Limitations of use

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

Legal constraints

Limitations of use

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

Security constraints

Classification unclassified

Classification system None

Additional restrictions

None

Limitations of use

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

Spatial Reference

ArcGIS coordinate system

Type Projected

Geographic coordinate reference GCS_North_American_1983

Projection NAD_1983_StatePlane_North_Carolina_FIPS_3200_Feet

Coordinate reference details

ProjectedCoordinateSystem

WKID 102719

XOrigin -121841900

YOrigin -93659000

XYScale 3048.0060960121928

ZOrigin -100000

ZScale 10000

MOrigin -100000
MScale 10000
XYTolerance 0.0032808333333333331
ZTolerance 0.001
MTolerance 0.001
HighPrecision true
LatestWKID 2264
WKT
PROJCS["NAD_1983_StatePlane_North_Carolina_FIPS_3200_Feet",GEOGCS["GCS_North_American_1983",DATUM["D_North_American_1983",SPHEROID["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert_Conformal_Conic"],PARAMETER["False_Easting",2000000.002616666],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",-79.0],PARAMETER["Standard_Parallel_1",34.33333333333334],PARAMETER["Standard_Parallel_2",36.16666666666666],PARAMETER["Latitude_Of_Origin",33.75],UNIT["Foot_US",0.3048006096012192],AUTHORITY["EPSG",2264]]

Reference system identifier

Dimension horizontal
Value SR-ORG:12
Codespace EPSG
Version 6.12(9.0.0)

Spatial Data Properties

Vector

Level of topology for this dataset geometry only

Geometric objects

Feature class name RailroadCrossings
Object type point
Object count 5155

ArcGIS Feature Class Properties

Feature class name RailroadCrossings
Feature type Simple
Geometry type Point
Has topology FALSE
Feature count 5155
Spatial index TRUE
Linear referencing FALSE

Data Quality

Scope of quality information

Resource level dataset

Data quality report - Conceptual consistency

Data quality measure reference
Measure description

There are no measurement, precision, or spatial standards assigned to this data set.

Quantitative test results

Value Shape_Length

Units

Symbol [ft_us]

Data quality report - Completeness omission

Data quality measure reference

Measure description

There are no measurement, precision, or spatial standards assigned to this data set.

Conformance test results

Test passed Yes

Result explanation

Complies with SARAH data.

Data quality report - Absolute external positional accuracy dimension horizontal

Data quality measure reference

Measure description

Various sources with varying degree of accuracy have been used over time to create/update this dataset. NCDOT used best available information at the time of editing.

Conformance test results

Test passed Yes

Result explanation

Complies with current SARAH data.

Lineage

Lineage statement

Moffatt & Nichol Engineers initially performed analysis to verify the location of every open public crossing in the state of North Carolina. Subsequent updates added all pedestrian and inactive crossings to the dataset. Dataset is updated by NCDOT Rail Division and offered as an online resource by the NCDIT-Transportation GIS Unit.

Crossing locations from several sources were compared and the probable location of each crossing was determined. Sources include NCDOT Rail Division's Statewide Authoritative Rail and Highway (SARAH) database, Federal Railroad Administration's crossing database, NCDOT State Route LRS dataset. Where study of these resources was unable to positively locate a crossing, each crossing was individually investigated by contacting the land owner, controlling municipality, or the relevant railroad company.

Additional crossing attributes have been ported from the NCDOT SARAH Database by WGI. These attributes are maintained as a separate data source and have been imported without any additional processing or analysis.

Process step

When the process occurred 2019-10-10 00:00:00

Description

Review Metadata and process for publication.

Process contact - distributor

Organization's name North Carolina Department of Transportation Geographic Information Systems
Unit

Contact's position GIS Help Desk

Contact information

Phone

Voice 919.707.2165

Fax 919.707.2210

Address

Type both

Delivery point 4101 Capital Boulevard

City Raleigh

Administrative area North Carolina

Postal code 27604

Country US

e-mail address gishelp@ncdot.gov

Hours of service

8am to 5pm, M-F

Contact instructions

phone or email

Distribution

Distributor

Contact information - distributor

Organization's name North Carolina Department of Transportation Geographic Information Systems
Unit

Contact's position GIS Help Desk

Contact information

Phone

Voice 919.707.2165

Fax 919.707.2210

Address

Type both

Delivery point 4101 Capital Boulevard

City Raleigh

Administrative area North Carolina

Postal code 27604

Country US

e-mail address gishelp@ncdot.gov

Hours of service

8am to 5pm, M-F

Contact instructions

phone or email

Distribution format

Version 10.5

Name File Geodatabase Feature Class

Transfer options

Online source

Online location (URL) <https://connect.ncdot.gov/resources/gis/Pages/GIS-Data-Layers.aspx>

Fields

Details for object RailroadCrossings

Type Feature Class

Row count 5155

Definition

Point data representing all open/inactive, public crossing points in North Carolina

Definition source

NCDOT

Field OBJECTID

Alias OBJECTID

Data type OID

Width 4

Precision 0

Scale 0

Field description

Internal feature number.

Description source

Esri

Description of values

Sequential unique whole numbers that are automatically generated

Field Shape

Alias Shape

Data type Geometry

Width 0

Precision 0

Scale 0

Field description

Feature geometry.

Description source

Esri

Description of values

Coordinates defining the features

Field CrossingId

Alias Crossing ID

Data type String

Width 100

Precision 0

Scale 0

Field description

The US DOT Crossing Inventory Number contains six digits followed by an alpha check character. The alpha character is a check to ensure that the number is valid and provides a unique identifying number which was designed to prevent the possibility of error by ensuring that the crossing information is recorded for the correct location.

Description source

U.S. DOT - FRA

Description of values

Six digits followed by an alpha check character

Field PrfxMilePost

Alias Milepost Prefix

Data type String

Width 100

Precision 0

Scale 0

Field description

Prefix to the railroad milepost.

Description source

NCDOT Rail Division

Description of values

3 digit-maximum code chosen by the operating railroad company

Field PosXing

Alias Crossing Position

Data type String

Width 100
Precision 0
Scale 0

Field description

Position of the railroad relative to the crossing.

Description source

NCDOT

List of values

Value AT GRADE

Description Railroad intersects roadway

Enumerated domain value definition source NCDOT

Value RR OVER

Description Railroad is grade separated over roadway

Enumerated domain value definition source NCDOT

Value RR UNDER

Description Railroad is grade separated under roadway

Enumerated domain value definition source NCDOT

Field XPurpose

Alias Crossing Purpose

Data type String

Width 100

Precision 0

Scale 0

Field description

Purpose of the crossing.

Description source

NCDOT Rail Division

List of values

Value HIGHWAY

Description Highway use

Enumerated domain value definition source NCDOT

Value PATHWAY, PED.

Description Pedestrian use, not within a passenger station

Enumerated domain value definition source NCDOT

Value STATION, PED.

Description Pedestrian use within a passenger station

Enumerated domain value definition source NCDOT

Field SfxMilePost

Alias Milepost Suffix

Data type String

Width 10

Precision 0

Scale 0

Field description

Suffix to the railroad milepost.

Description source

NCDOT Rail Division

Description of values

3 digit-maximum code chosen by the operating railroad company

Field TypeXing

Alias Crossing Type

Data type String

Width 10

Precision 0

Scale 0

Field description

The type of crossing. Based on the maintainer of crossing or roadway.

Description source

FRA

List of values

Value PUBLIC

Description The crossing is located where a public highway, road, or street crosses one or more railroad tracks either at grade or grade-separated. The crossing is a public pathway explicitly authorized by a public authority that is dedicated for the use of non-vehicular traffic, including pedestrians, bicyclists, and others, which is not associated with a public highway, road, or street. The crossing is a pathway explicitly authorized by a public authority or a railroad carrier that is dedicated for the use of non-vehicular traffic and is located within a railway station.

Enumerated domain value definition source FRA

Value PRIVATE

Description The crossing is a location where a private roadway crosses one or more railroad tracks either at grade or grade-separated. The crossing is a private pathway, either at grade or grade-separated, explicitly authorized by a railroad carrier that is dedicated for the use of non-vehicular traffic, including pedestrians, bicyclists, and others, which is not associated with a private roadway.

Enumerated domain value definition source FRA

Field Street

Alias Street

Data type String

Width 255

Precision 0

Scale 0

Field description

Values represent the name of the highway or street. If multiple street names exist at a crossing then each is separated by a slash “ / ”.

Description source

NCDOT

Description of values

Street name spelled without abbreviations.

Field Nearest

Alias In or Near

Data type String

Width 25

Precision 0

Scale 0

Field description

In or Near municipal boundaries.

Description source

NCDOT

List of values

Value In

Description Crossing falls within municipal boundaries

Enumerated domain value definition source NCDOT

Value Near

Description Crossing does not fall within any municipal boundaries

Enumerated domain value definition source NCDOT

Field Highway

Alias Highway

Data type String

Width 15

Precision 0

Scale 0

Field description

The Highway Type, Number and Designation.

Description source

NCDOT

List of values

Value US

Description US Route

Enumerated domain value definition source NCDOT

Value NC

Description NC Route

Enumerated domain value definition source NCDOT

Value I

Description Interstate

Enumerated domain value definition source NCDOT

Value SR

Description Secondary Route

Enumerated domain value definition source NCDOT

Value LS

Description Local Street

Enumerated domain value definition source NCDOT

Value NON

Description Pedestrian Path, not a roadway

Enumerated domain value definition source NCDOT

Value BYP

Description Bypass

Enumerated domain value definition source NCDOT

Value BUS

Description Business

Enumerated domain value definition source NCDOT

Value ALT

Description Alternate

Enumerated domain value definition source NCDOT

Field CityCD

Alias City

Data type String

Width 255

Precision 0

Scale 0

Field description

Values represent the name of the city, town, or village where the crossing is located (maximum of 32 characters) which must be a valid location within the state.

Description source

NCDOT

Description of values

The City name must be recognized on the Geographic Locator Code list for North Carolina. The Geographic Locator Codes with updated city names and codes are available at <https://www.gsa.gov/reference/geographic-locator-codes-glcs-overview>.

Field CntyCD

Alias County

Data type String

Width 50

Precision 0

Scale 0

Field description

Values represent the county where the crossing is located. When a crossing is located on a county line, it is suggested that the crossing be inventoried in the county that is south or east geographically.

Description source

NCDOT

Description of values

North Carolina Counties

Field Railroad

Alias Railroad

Data type String

Width 100

Precision 0

Scale 0

Field description

Values represent the valid railroad code (up to 4 letters) for the "Primary Operating Railroad" company, i.e., the railroad that operates train movements over the crossing. The primary operating railroad will normally be the reporting railroad, but may or may not own and maintain the roadbed, tracks, and signal system controlling the crossing.

Description source

NCDOT

Description of values

See FRA accepted RR codes

Field MilePost

Alias Milepost

Data type Double

Width 8

Precision 0

Scale 0

Field description

Values represent the railroad milepost number in miles and thousandths of miles.

Description source

NCDOT

Range of values

Minimum value 0

Maximum value 999

Field DIVISION

Alias NCDOT Division

Data type SmallInteger

Width 2

Precision 0

Scale 0

Field description

The NCDOT Division number the crossing is in.

Description source

NCDOT

Range of values

Minimum value 1

Maximum value 14

Field Latitude

Alias Latitude

Data type Double

Width 8

Precision 0

Scale 0

Field description

Latitude coordinate of the crossing

Description source

NCDOT

Range of values

Minimum value 33.945853

Maximum value 36.540988

Units of measure Decimal Degrees

Field Photo_N

Alias Photo North

Data type String

Width 200

Precision 0

Scale 0

Field description

Link to a picture of the crossing, facing North

Description source

NCDOT

Description of values

Uniform Resource Locator for Crossing photos

Field Photo_S

Alias Photo South

Data type String

Width 200

Precision 0

Scale 0

Field description

Link to a picture of the crossing, facing South

Description source

NCDOT

Description of values

Uniform Resource Locator for Crossing photos

Field Photo_E

Alias Photo East

Data type String

Width 200

Precision 0

Scale 0

Field description

Link to a picture of the crossing, facing East

Description source

NCDOT

Description of values

Uniform Resource Locator for Crossing photos

Field Photo_W

Alias Photo West

Data type String

Width 200

Precision 0

Scale 0

Field description

Link to a picture of the crossing, facing West

Description source

NCDOT

Description of values

Uniform Resource Locator for Crossing photos

Field Longitude

Alias Longitude

Data type Double

Width 8

Precision 0

Scale 0

Field description

Longitude coordinate of the crossing

Description source

NCDOT

Range of values

Minimum value -84.038128

Maximum value -76.095401

Units of measure Decimal Degrees

Field PolCont

Alias Emergency Contact

Data type String

Width 100

Precision 0

Scale 0

Field description

Value represents the telephone number (area code and phone number) for the Emergency Notification System Contact (e.g., Law Enforcement, Railroad Emergency Contact or State Emergency Contact) associated with the crossing. Normally, this will be the ENS telephone number posted at the crossing or along the railroad branch line. This should be a 24-hour number that can be called to speak with an Emergency Notification Center who can send emergency responder(s) to the crossing in the event of problems, signal malfunctions, or other emergencies at the crossing. Note: 911 cannot be used as the Emergency Notification Telephone No.

Description source

NCDOT

Description of values

Any 10-digit phone number

Field WARNING_TYPE

Alias Warning Type

Data type String

Width 50

Precision 0

Scale 0

Field description

The type of device installed at the railroad crossing which provides the highest level of warning regarding possible rail activity to a highway user.

Description source

NCDOT

List of values

Value 00 - NONE

Description No warning devices installed at crossing

Enumerated domain value definition source NCDOT

Value 01 - CROSSBUCKS

Description Crossbuck signs (MUTCD R15-1) installed at crossing

Enumerated domain value definition source NCDOT

Value 02 - TRAFFIC SIGNAL

Description Highway traffic signal installed at nearby highway intersection which controls traffic over crossing but does not detect approaching trains, with no other rail-related warning devices present

Enumerated domain value definition source NCDOT

Value 03 - T. SIGNAL PRE.

Description Highway traffic signal installed at nearby highway intersection which controls traffic over crossing and does detect approaching trains, reacting to preempt normal operations and clear highway

traffic off the crossing; might include train activated blank-out signs with the highway traffic signals, but no other train-activated warning devices present.

Enumerated domain value definition source NCDOT

Value 04 - FLASHERS

Description Train activated flashing lights and bells installed at crossing on a vertical mast, with no crossing gate arms present.

Enumerated domain value definition source NCDOT

Value 05 - CANTILEVERS

Description Train activated flashing lights and bells installed on a cantilevered structure over the traffic lanes, with no crossing gate arms present.

Enumerated domain value definition source NCDOT

Value 06 - GATES

Description Train activated flashing lights, bells, and crossing gate arms installed along the highway approaches to a crossing ("entrance gates" only) on a vertical mast.

Enumerated domain value definition source NCDOT

Value 07 - GATES AND CANT.

Description Train activated flashing lights, bells, and crossing gate arms installed along the highway approaches to a crossing ("entrance gates" only) on, or accompanying a cantilevered structure over the traffic lanes.

Enumerated domain value definition source NCDOT

Value 08 - 4-QUAD GATES

Description Train activated flashing lights, bells, and crossing gate arms installed along the highway approaches to, and departures from a crossing ("entrance gates" and "exit gates"). The equipment can be installed on vertical masts or cantilevered structures over the traffic lanes.

Enumerated domain value definition source NCDOT

Value 09 - VEHICLE DETECTION

Description 4-Quad Gates assembly with an additional vehicle detection system installed at the crossing which is capable of detecting and reporting in real-time the presence of a vehicle on the crossing and may adjust the lowering of the crossing "exit gates" as necessary to allow vehicles to clear the crossing.

Enumerated domain value definition source NCDOT

Field LrsRouteid

Alias LRS Route ID

Data type String

Width 20

Precision 0

Scale 0

Field description

The Route ID of the dominant route the crossing is located on, as defined by the Linear Referencing System (LRS) maintained by NCDIT-T's GIS Unit. When a route is represented by multiple lines (e.g. Divided Highways), the Route ID and Milepost are taken from the Highway Inventory Route (e.g. Northbound or Eastbound route) if the crossing number covers both travel directions.

Description source

NCDOT

Description of values

Positive 11-digit numbers (text field) used as a unique identifier for routes across the state.

Field LrsMilePost

Alias LRS Milepost

Data type Double

Width 8

Precision 0

Scale 0

Field description

The milepost the crossing is located on the dominant route of the Linear Referencing System (LRS) maintained by NCDOT's GIS Unit. When a route is represented by multiple lines (e.g. Divided Highways), the Route ID and Milepost are taken from the Highway Inventory Route (e.g. Northbound or Eastbound route) if the crossing number covers both travel directions.

Description source

NCDOT

Range of values

Minimum value 0

Maximum value 999

Field Low_GrndSigns

Alias Low Ground Clearance Sign (Count)

Data type SmallInteger

Width 2

Precision 0

Scale 0

Field description

The number of Low Ground Clearance Signs (W10-5) present on all approaches to the crossing.

Description source

NCDOT

Range of values

Minimum value 0

Maximum value 10

Field Low_Grnd

Alias Low Ground Clearance Sign (W10-5)

Data type String

Width 5
Precision 0
Scale 0

Field description

Indication of whether Low Ground Clearance Signs (W10-5) are present on any approach to the crossing.

Description source

NCDOT

List of values

Value YES
Description Low Ground Clearance Signs are present
Enumerated domain value definition source NCDOT

Value NO
Description Low Ground Clearance Signs are not present
Enumerated domain value definition source NCDOT

Metadata Details

Metadata language English (UNITED STATES)
Metadata character set utf8 - 8 bit UCS Transfer Format

Scope of the data described by the metadata dataset
Scope name dataset

Last update 2026-07-07

ArcGIS metadata properties

Metadata format ArcGIS 1.0
Metadata style FGDC CSDGM Metadata
Standard or profile used to edit metadata ISO19139

Created in ArcGIS for the item 2026-07-10 12:10:10
Last modified in ArcGIS for the item 2026-07-20 17:07:08

Automatic updates

Have been performed Yes
Last update 2026-07-20 17:07:08

Metadata Contacts

Metadata contact - custodian

Individual's name Todd Meyer
Organization's name NCDOT Rail Division
Contact's position Inventory & Data Analysis Manager

Contact information

Phone

Voice 9197074121

Address

Type postal

Delivery point 1556 Mail Service Center

City Raleigh

Administrative area NC

Postal code 27699

Country US

e-mail address tmeyer@ncdot.gov

Metadata Maintenance

Maintenance

Date of next update 2026-10-01 01:00:00

Update frequency quarterly

Metadata Constraints

Constraints

Limitations of use

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

Legal constraints

Limitations of use

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

Security constraints

Classification unclassified

Classification system None

Additional restrictions

None

Limitations of use

The North Carolina Department of Transportation shall not be held liable for any errors in this data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. This data cannot be construed to be a legal document. Primary sources from which this data was compiled must be consulted for verification of information contained in this data.

Thumbnail and Enclosures

Thumbnail

Thumbnail type

Image file

