



NORTH CAROLINA
Department of Transportation



NCDOT – Inventory Updates

Todd Meyer, Data Analysis and Inventory Manager – Rail Division

April 8, 2026

Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

Data Analysis & Inventory Unit

Incident tracking

Amtrak passenger data

Mapping and geospatial Analysis

Data collection and geospatial data management support



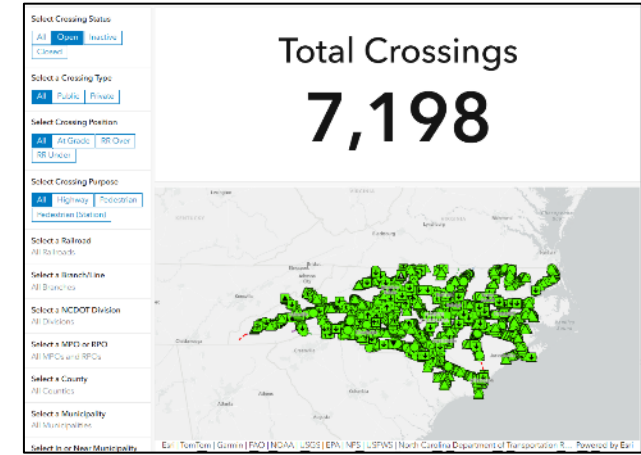
Crossing Inventory Stats

Almost 7200 Crossings in North Carolina

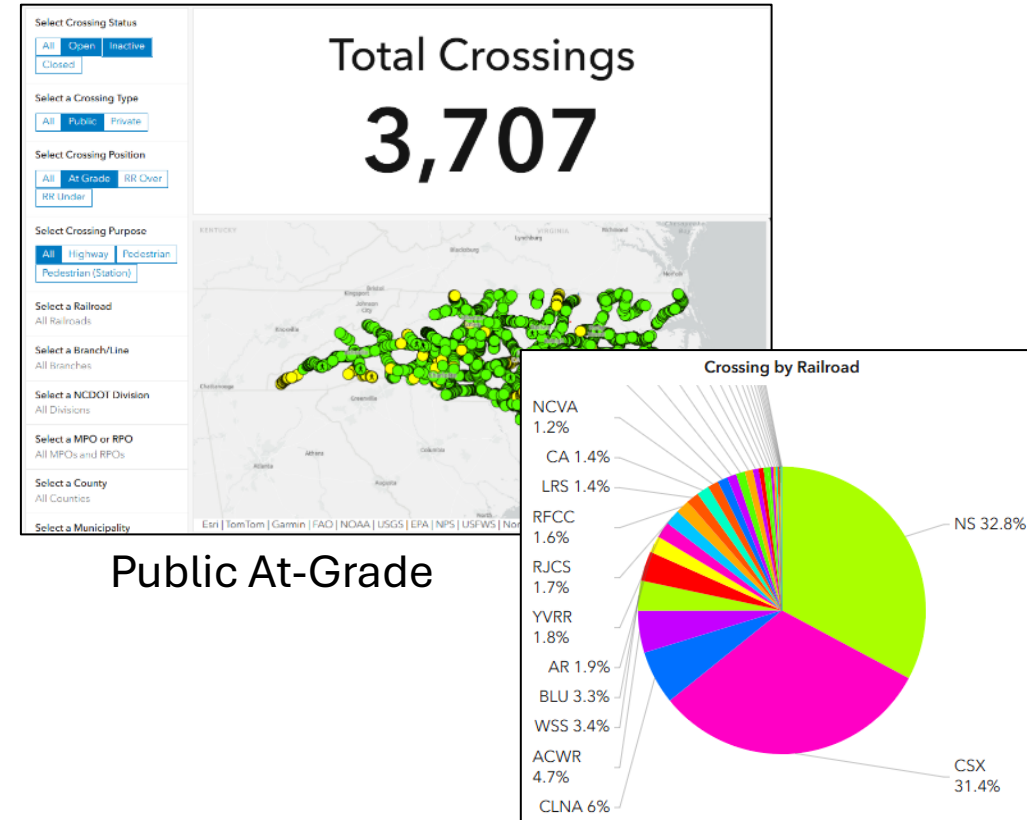
Over 3700 Public at Grade Crossings to Inventory

Three cycles of 1200-1300 to complete field inventory assessments

Each cycle is geographically separated across the state



All Open Crossings



Public At-Grade

Inventory Applications and Digital Resources

SARAH (State Authoritative Rail And Highway system)

Authoritative data source of crossing and safety project data

ArcGIS Online / ArcGIS Pro

Web based and desktop applications to support inventory and data sharing within Rail Division

Field Maps

Use to access maps on a mobile device allowing us to replace our legacy equipment (GPS, cameras, and paper inventory forms).

Survey 123

Use to photograph crossings and trigger workflows



ArcGIS Online



Field Maps



Survey123

Field Data Collection

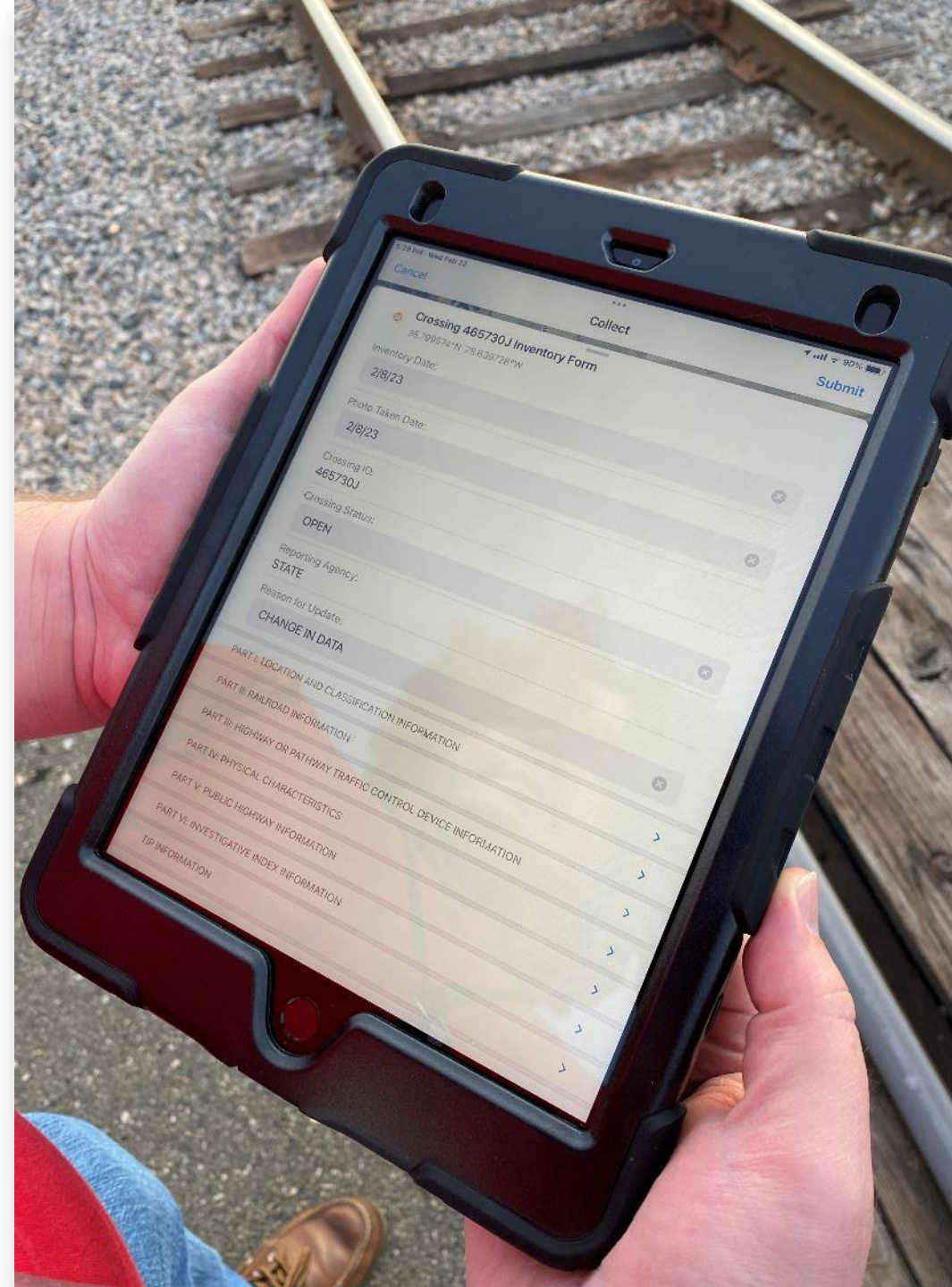
Navigate to crossing

Update inventory assessment record

Collect Crossing photos

Automated Notifications

Photo Storage and Crossing Record QA/QC





Office Data Entry

Complete data entry of inventory assessment into SARAH

QA/QC Inventory record data

Revise crossing record date

Move photos to published location

Monthly GCIS upload

Inventory Crossing

Double-click on label for help info.

A. Revision Date: 7/7/2025 | B. Reporting Agency: STATE | C. Reason for Update: CHANGE IN DATA | D. DOT Crossing: 465730J | E. Crossing Status: OPEN

P-I: Location | P-II: Railroad | P-III: Traffic | P-IV: Physical | P-V: Highway | P-VI: Index

Part I: Location and Classification Information

1. Primary Operating Railroad	NS - Norfolk Southern Railway Company
2. State	NORTH CAROLINA
3. County	WAKE
State Division	5
State District	1
State Traffic Region	3-CAPITAL
4. City / Municipality	RALEIGH
In or Near	IN
5. Street/Road Name	FAIRVIEW ROAD
Block Number	1300
6. HighwayType & No.	
Type	SR
Number	1800
Designation	
7. Do Other Railroads Operate a Separate Track at Crossing?	NO
If Yes, Specify RR1	
Specify RR2	
Specify RR3	
Specify RR4	
8. Do Other Railroads Operate Over Your Track at Crossing?	YES
If Yes, Specify RR1	RFCC
Specify RR2	
Specify RR3	
Specify RR4	
9. Railroad Division or Region	BLUE RIDGE
10. Railroad Subdivision or District	RALEIGH
11. Branch or Line Name	NS

1 of 1 | Sketch | Traffic Count | Images | Save | Print

Rail Explorer Web Experience

Easily access feature layers

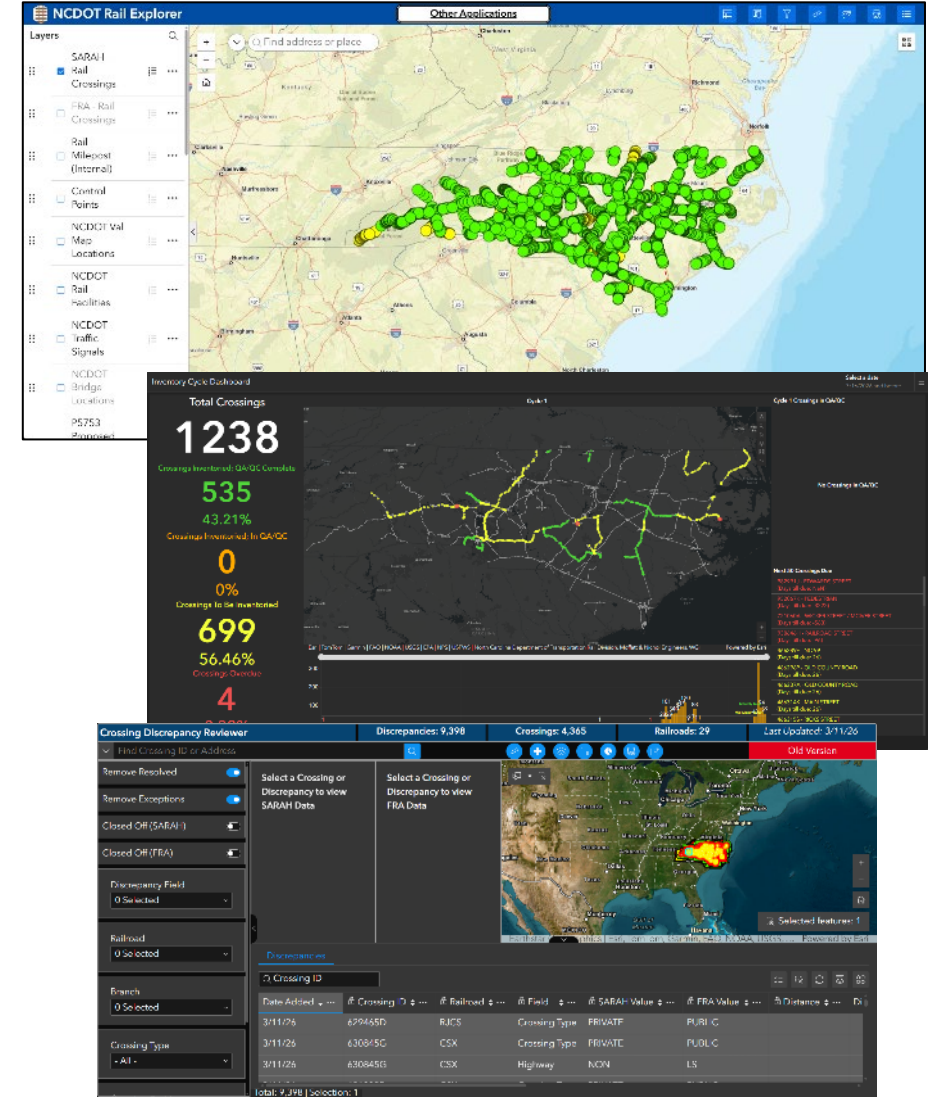
Comprehensive search functions

Standard and customizable filters


Quick links to additional web experiences


Inventory Dashboard


Discrepancy Reviewer




ArcGIS Experience Builder wants to access your ArcGIS Online account information ?





Sign in 

ArcGIS login 

Your ArcGIS organization's URL 



[Enter another organization](#)

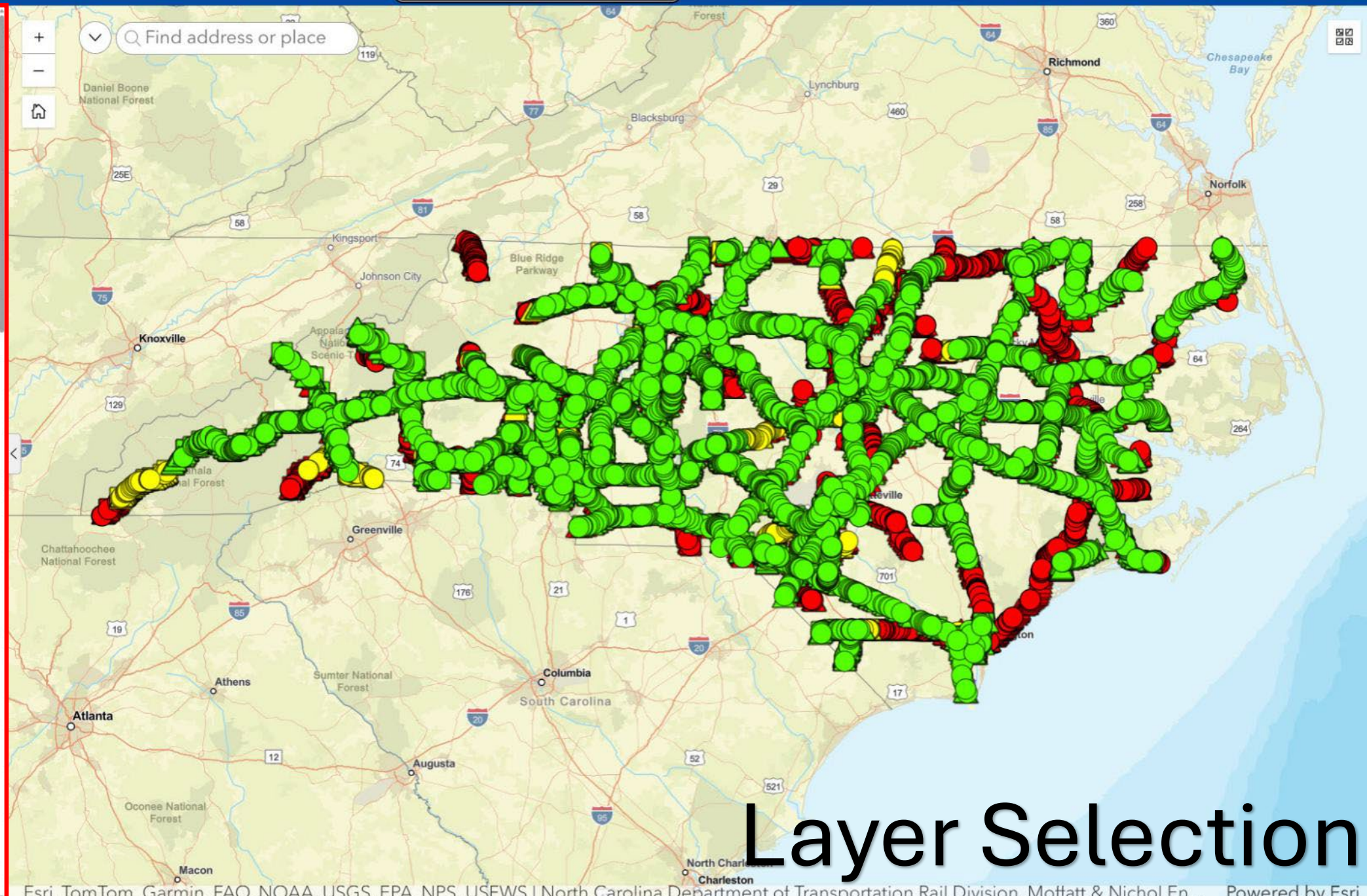
No account? [Create an account](#)

[Privacy](#)

Authentication

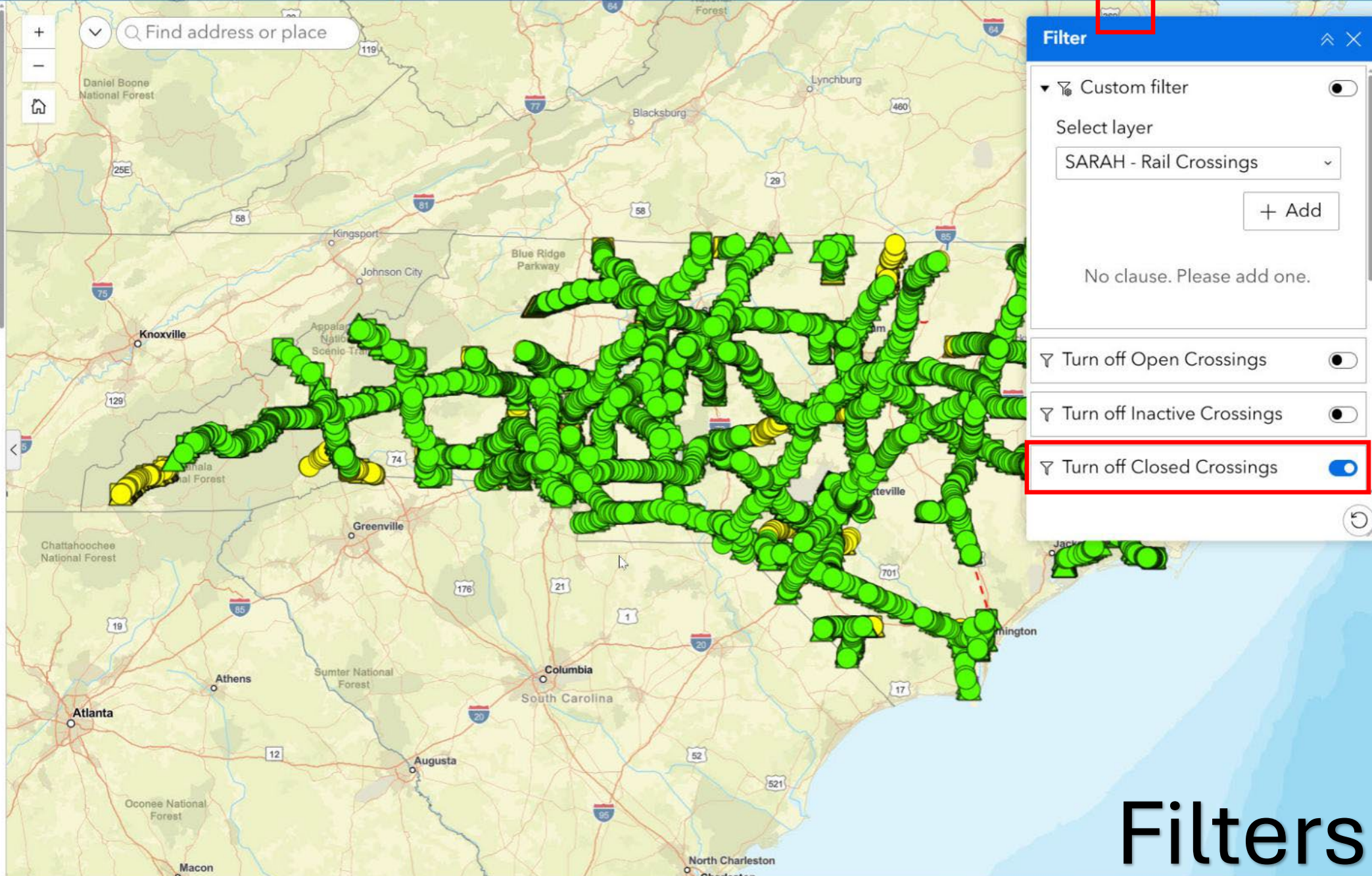
Layers

- SARAH - Rail Crossings
- FRA - Rail Crossings
- Rail Milepost (Internal)
- Control Points
- NCDOT Val Map Locations
- NCDOT Rail Facilities
- NCDOT Traffic Signals
- NCDOT Bridge Locations
- P5753 Proposed Horizontal Alignment (S-Line)
- NCDOT



Layer Selection

- Layers
- SARAH - Rail Crossings
 - FRA - Rail Crossings
 - Rail Milepost (Internal)
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Filter

Custom filter

Select layer

SARAH - Rail Crossings

+ Add

No clause. Please add one.

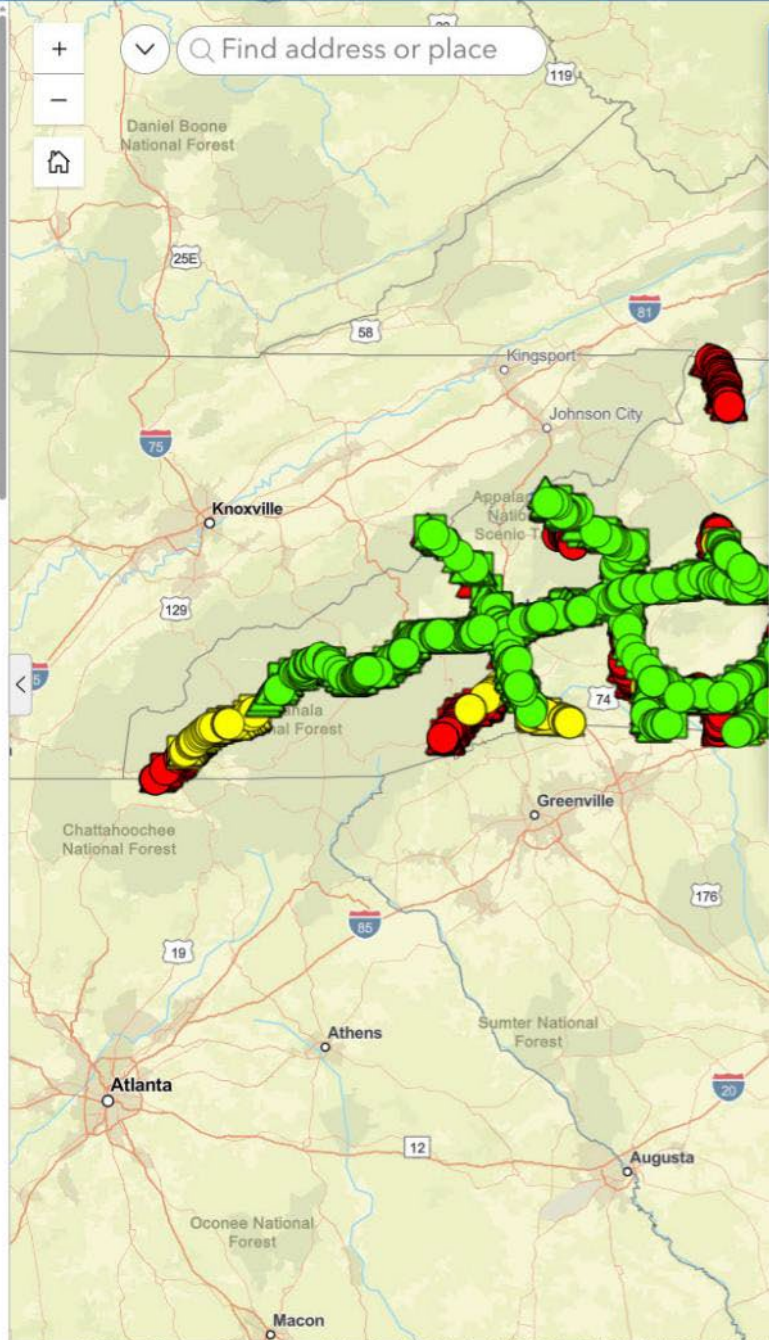
Turn off Open Crossings

Turn off Inactive Crossings

Turn off Closed Crossings

Filters

- SARAH - Rail Crossings
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SARAH Crossing Table

Crossing ID	Last Saved Date	Last Saved by
243965F	2/22/17	RMMUECK
243973X	5/2/18	LDSANDERS1
243976T	5/2/18	LDSANDERS1
243979N	10/3/16	
244049J	10/3/16	
244112Y	11/6/25	
244113F	10/3/16	
244130W	3/16/23	

Total: 12,958 | Selection: 0

Export menu options:

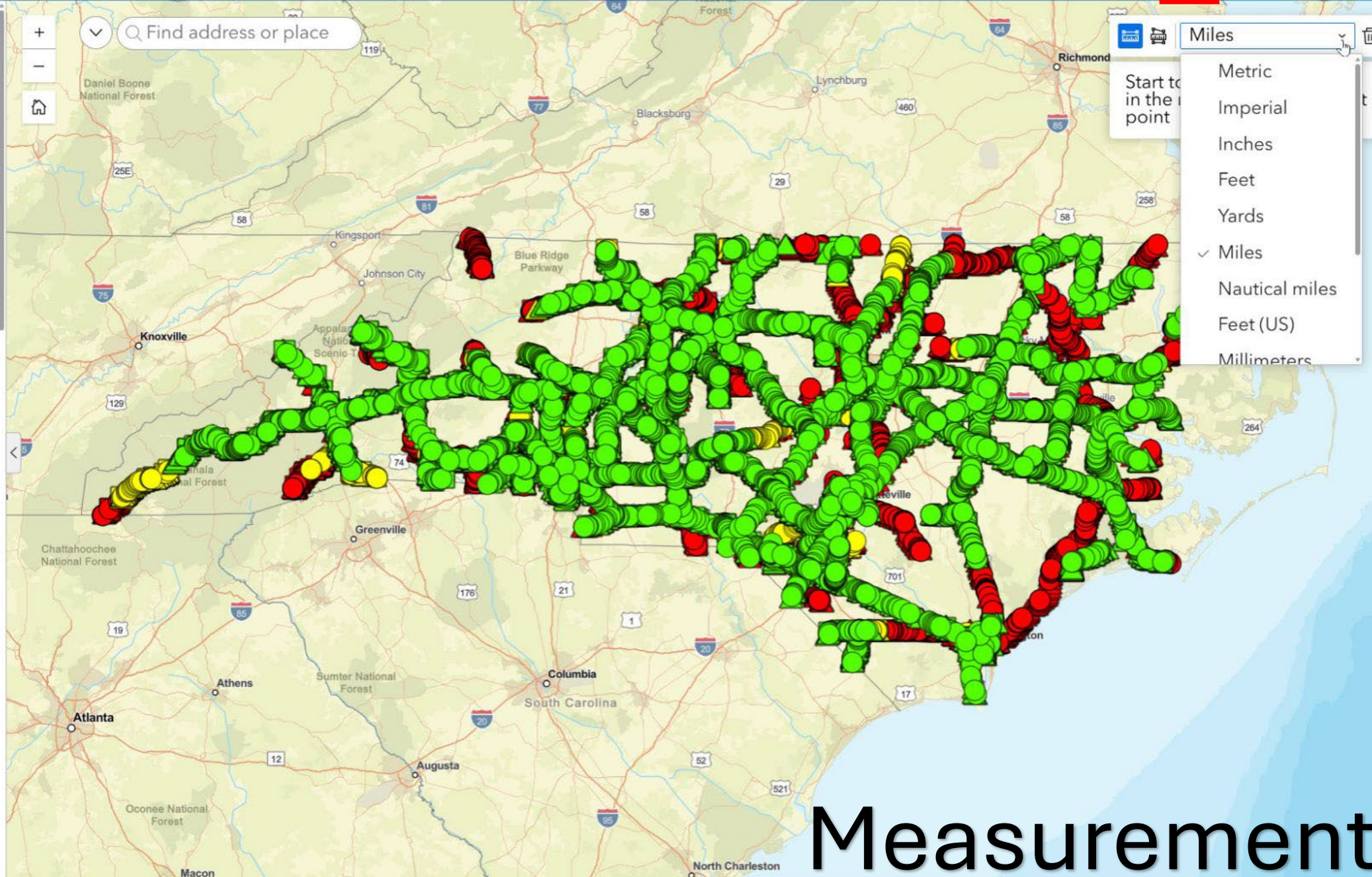
- Export to JSON
- Export to CSV
- Export to GeoJSON
- Export to Shapefile
- Export to FGDB
- Export to KML

Summary table:

Export	Date
Export	5/1/96
	11/6/25
	10/3/16
	3/28/19

Export

- Layers
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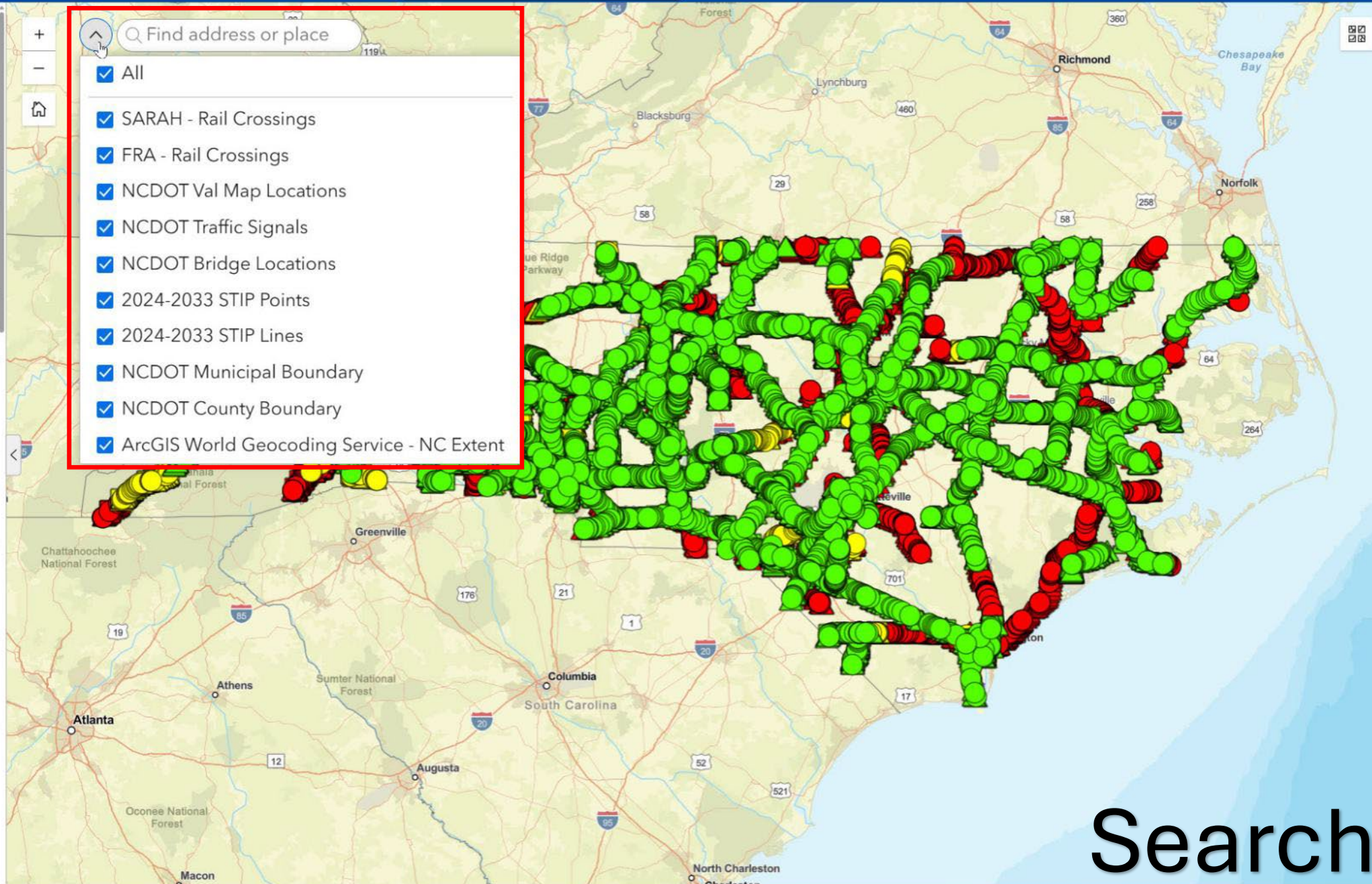


Measurement

- Layers
- SARAH - Rail Crossings
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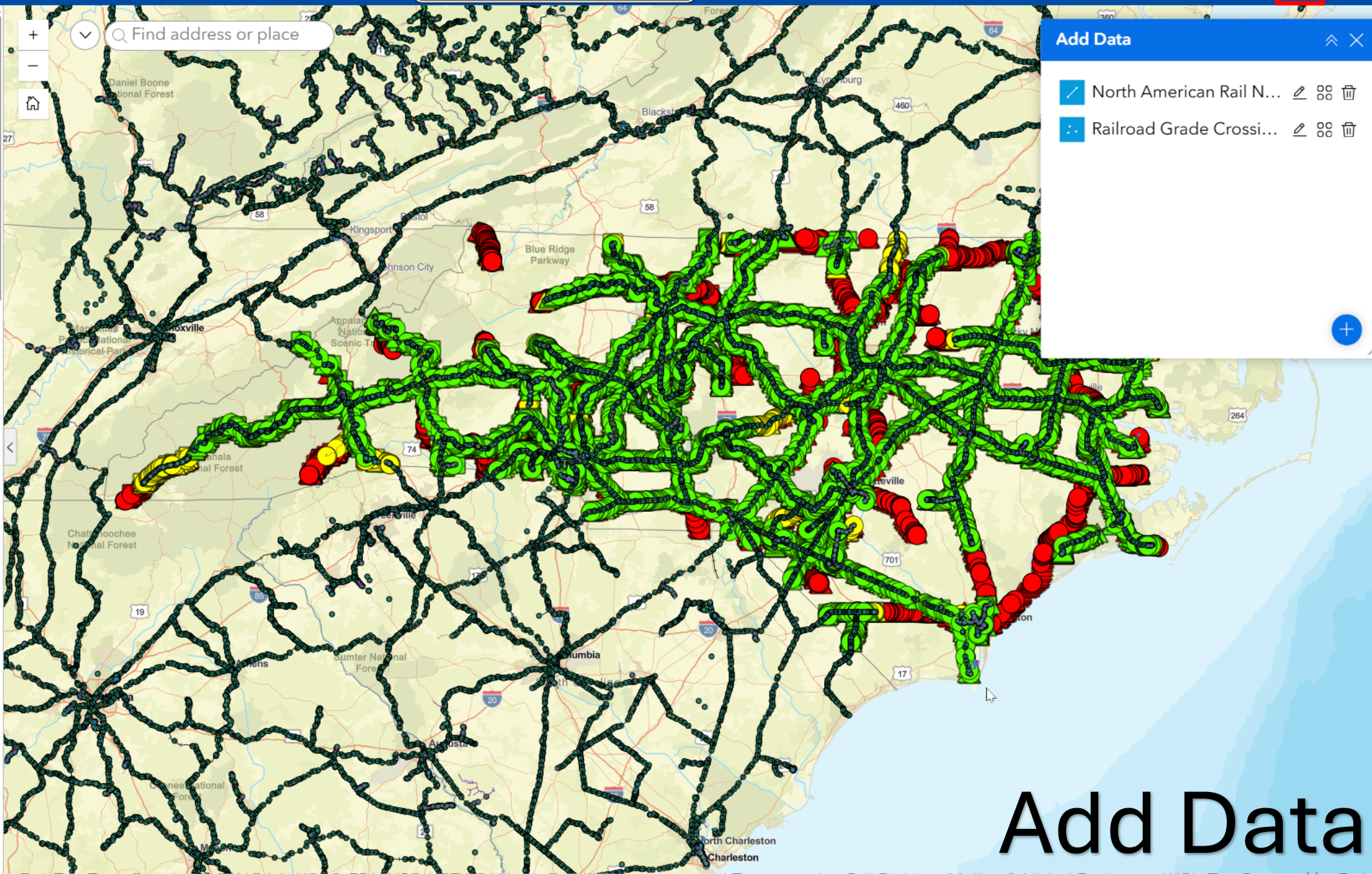
Q Find address or place

- All
- SARAH - Rail Crossings
- FRA - Rail Crossings
- NCDOT Val Map Locations
- NCDOT Traffic Signals
- NCDOT Bridge Locations
- 2024-2033 STIP Points
- 2024-2033 STIP Lines
- NCDOT Municipal Boundary
- NCDOT County Boundary
- ArcGIS World Geocoding Service - NC Extent



Search

- Layers
- North American Rail Network Lines
 - Rail Grade Crossings
 - SARAH - Rail Crossings
 - FRA - Rail Crossings
 - Rail Milepost (Internal)
 - Control Points
 - NCDOT Val Map Locations
 - NCDOT Rail Facilities
 - NCDOT Traffic Signals
 - NCDOT Bridge Locations

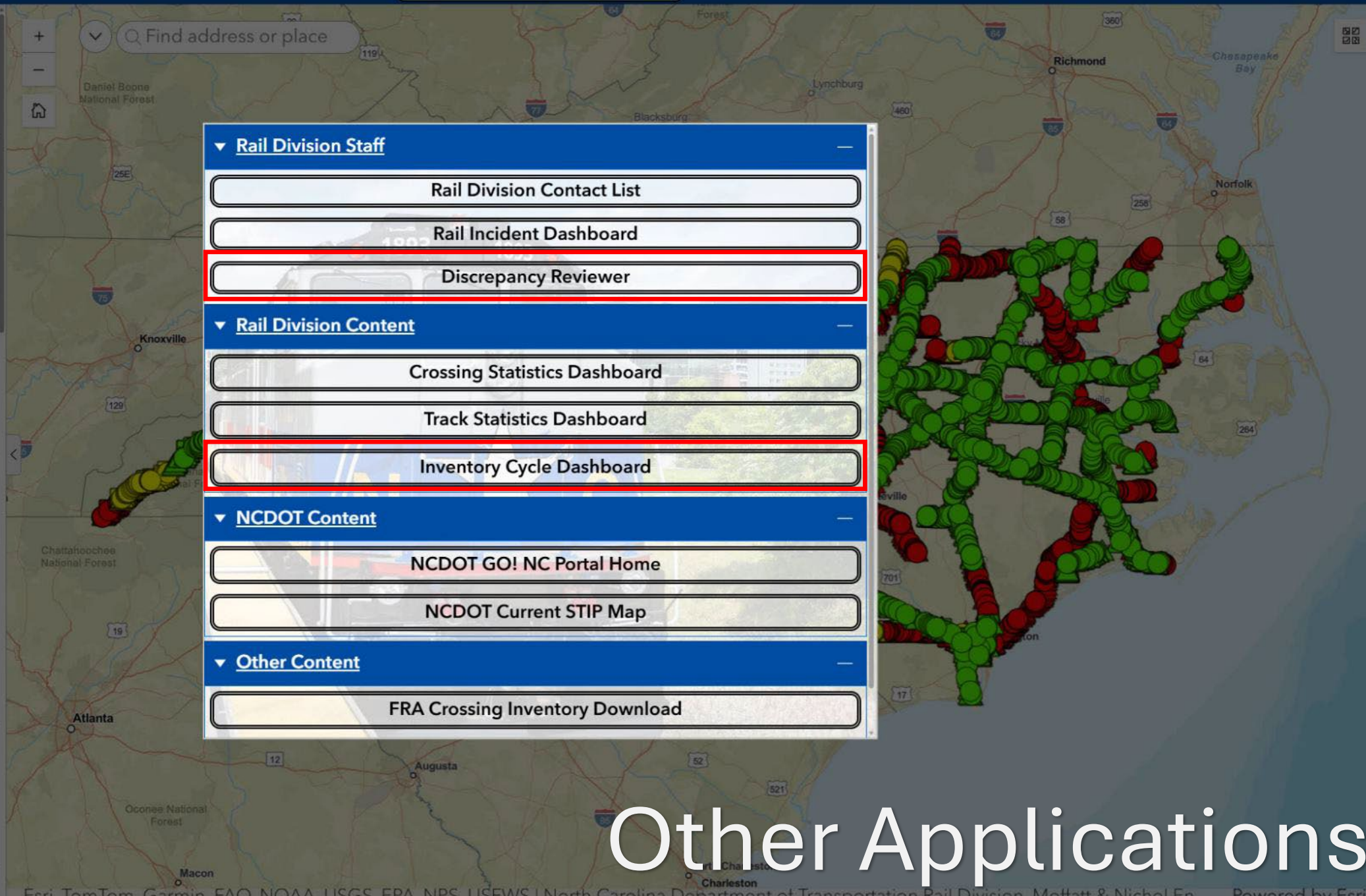


Add Data

- North American Rail N...
- Railroad Grade Crossi...

Add Data

- Layers
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- ▼ Rail Division Staff**
 - Rail Division Contact List
 - Rail Incident Dashboard
 - Discrepancy Reviewer**
- ▼ Rail Division Content**
 - Crossing Statistics Dashboard
 - Track Statistics Dashboard
 - Inventory Cycle Dashboard**
- ▼ NCDOT Content**
 - NCDOT GO! NC Portal Home
 - NCDOT Current STIP Map
- ▼ Other Content**
 - FRA Crossing Inventory Download

Other Applications

Total Crossings

1238

Crossings Inventoried; QA/QC Complete

535

43.21%

Crossings Inventoried; In QA/QC

0

0%

Crossings To Be Inventoried

699

56.46%

Crossings Overdue

4

0.32%

Cycle 1

Cycle 1 Crossings in QA/QC

Inventory Dashboard



No Crossings in QA/QC

Next 50 Crossings Due

982991J - EDWARDS STREET (Days till due: NaN)
952067K - PEDESTRIAN (Days till due: -3229)
721060A - WICKER STREET / MCIVER STREET (Days till due: -570)
930646H - RAILROAD STREET (Days till due: -103)
466289E - NC 99 (Days till due: 19)
466296P - OLD COUNTY ROAD (Days till due: 19)
466307A - OLD COUNTY ROAD (Days till due: 19)
466314K - MAIN STREET (Days till due: 19)
466315S - RICKS STREET (Days till due: 19)
466317F - LATHAM STREET (Days till due: 19)
466320N - PUNGO ROAD (Days till due: 19)

Esri | TomTom | Garmin | FAO | NOAA | USGS | EPA | NPS | USFWS | North Carolina Department of Transportation Rail Division, Moffatt & Nichol Engineers, WGI | Powered by Esri





Current Fiscal Year

Inventory Metrics

Fiscal Year 2025-2026

1131
89.76%

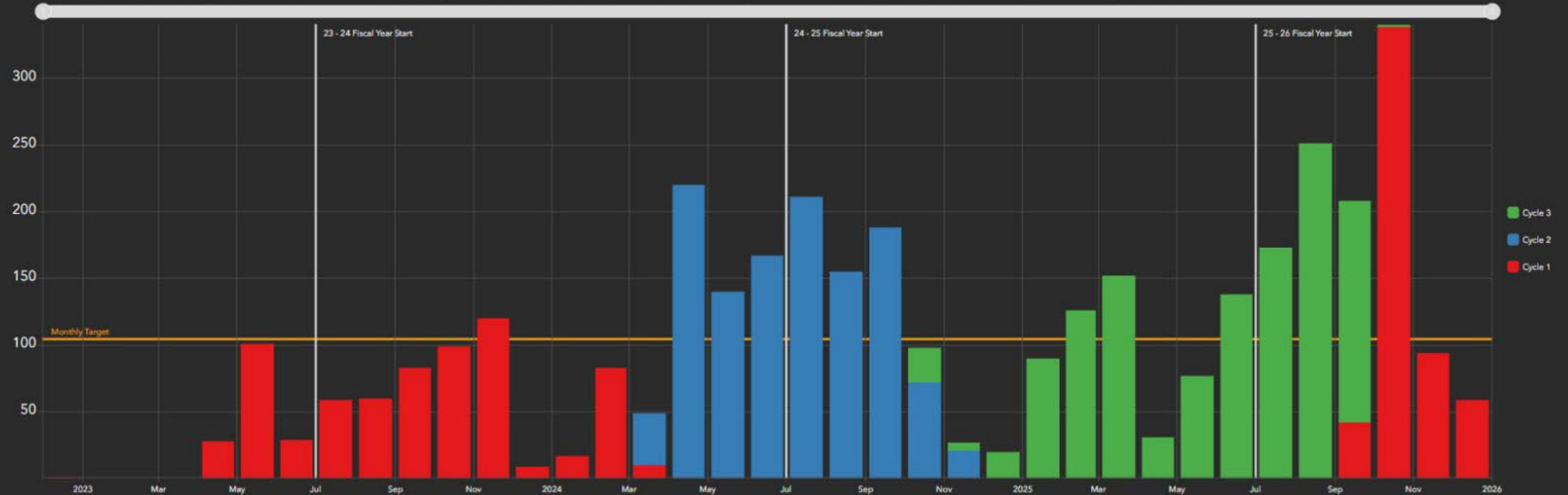


Cabarrus County Government | Esri | TomTom | Garmin | FAO | NOAA | USGS | EPA | NPS | USFWS | North Carolina Department of Transportation Rail Division, Moffatt & Nichol Engineers, WGI

Powered by Esri

Fiscal Year 2024-2025

1296



Find Crossing ID or Address



Old Version

Remove Resolved

Remove Exceptions

Closed Off (SARAH)

Closed Off (FRA)

Discrepancy Field
0 Selected

Railroad
0 Selected

Branch
0 Selected

Crossing Type
- All -

Crossing Position
- All -

Discrepancy Fix
- All -

Select a Crossing or Discrepancy to view SARAH Data

Select a Crossing or Discrepancy to view FRA Data



Discrepancies

Q Crossing ID

Date Added	Crossing ID	Railroad	Field	SARAH Value	FRA Value	Distance	Discrepancy
3/18/26	244156Y	CSX	Total Day Thru Trains	0	1		
3/18/26	623984K	CSX	Total Day Thru Trains	0	1		
3/18/26	628812U	CSX	Total Day Thru Trains	0	1		

Total: 9,293 | Selection: 0

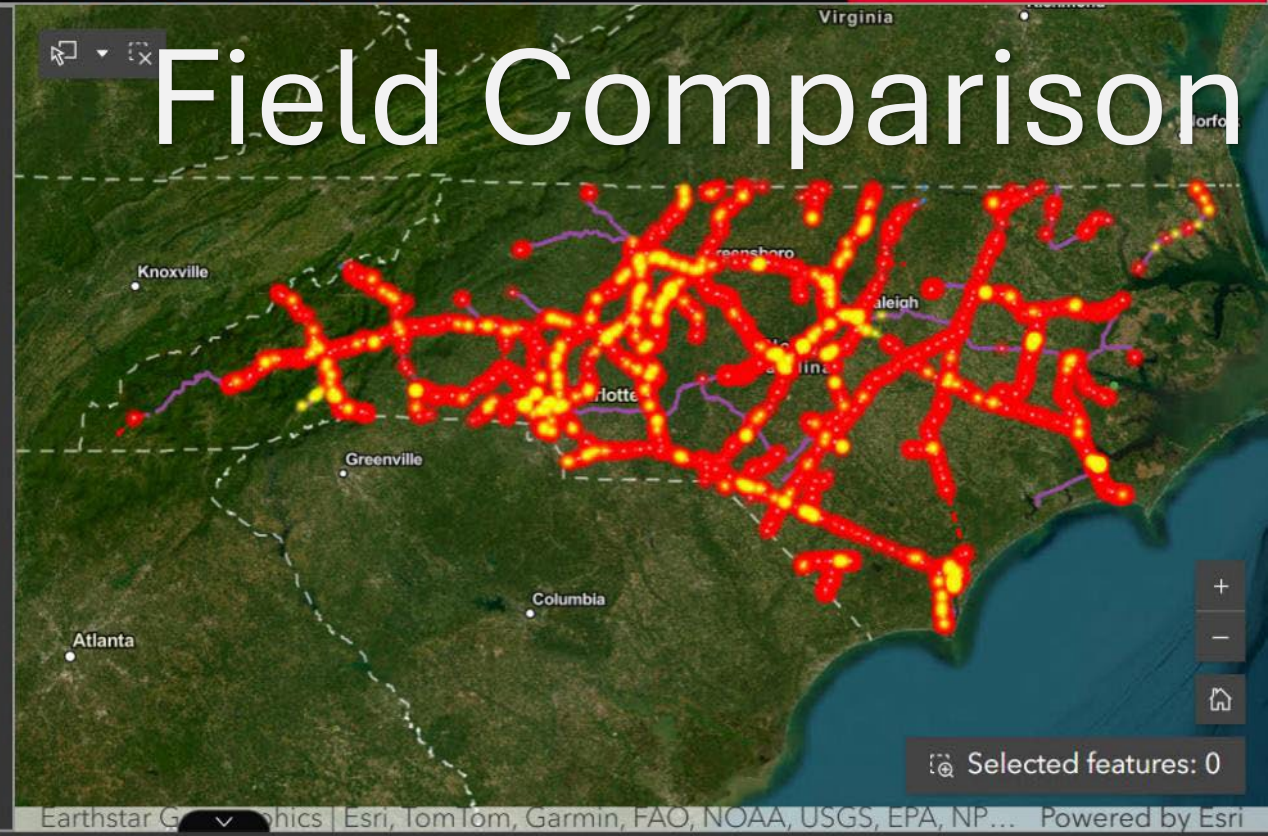
Find Crossing ID or Address

Old Version

- Remove Resolved
- Remove Exceptions
- Closed Off (SARAH)
- Closed Off (FRA)

Select a Crossing or Discrepancy to view SARAH Data

Select a Crossing or Discrepancy to view FRA Data



Discrepancy Field

0 Selected

Search

- W10-1 (Count)
- Bells (Count)
- Back Lights Included
- Cantilevered (or Bridged) Flashing Light Structure Type
- City
- Crossing missing in FRA

- All -
- Crossing Position
- All -
- Discrepancy Fix
- All -

Crossing ID

Date Added	Crossing ID	Railroad	Field	SARAH Value	FRA Value	Distance	Discrepancy
3/18/26	244156Y	CSX	Total Day Thru Trains	0	1		
3/18/26	623984K	CSX	Total Day Thru Trains	0	1		
3/18/26	628812U	CSX	Total Day Thru Trains	0	1		

Total: 9,293 | Selection: 0

Planned Improvements

Fully implement mobile data collection and QA/QC solution

Implement a crossing history table and digitize historical inventory record.

Integrate SARAH with GCIS API

Expand SARAH GIS integrations





NORTH CAROLINA
Department of Transportation

Contact Info



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Be Rail Safe!



Rail System Map



Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina