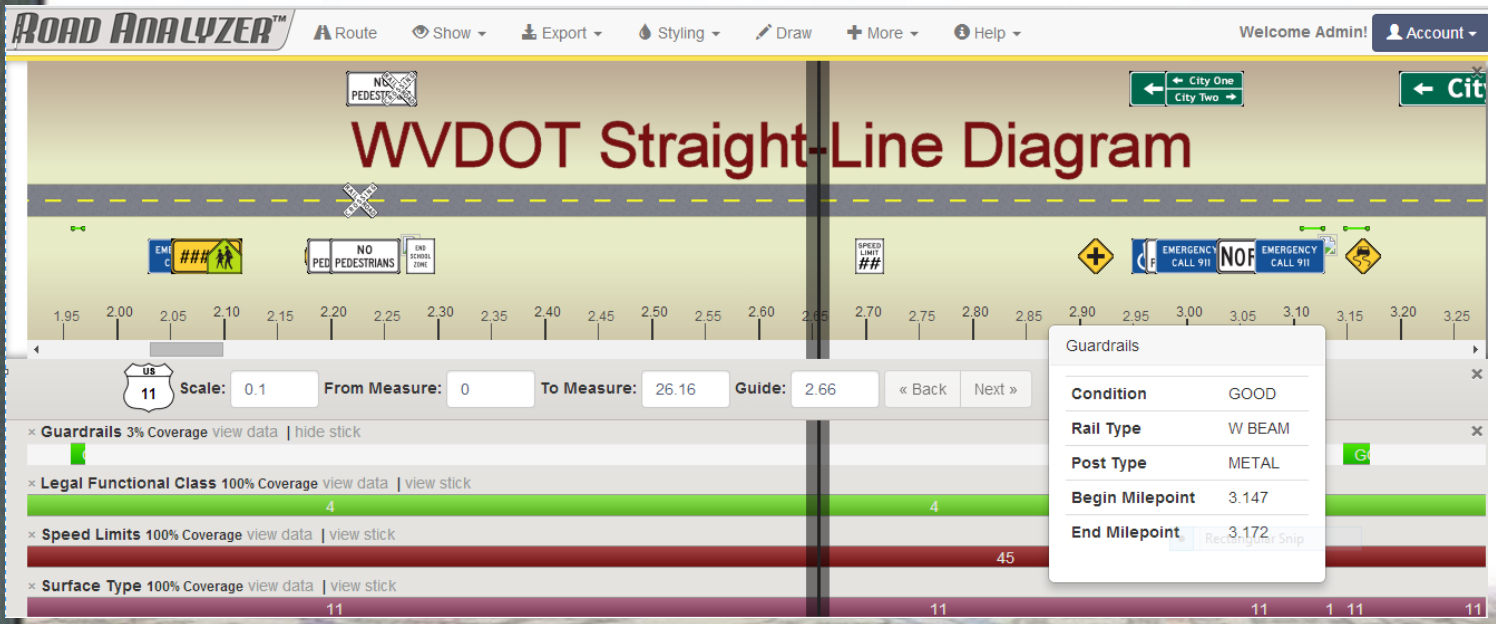
Visualizing Transportation Assets

presented by Hussein S Elkhansa



Why a new SLD at WVDOT?

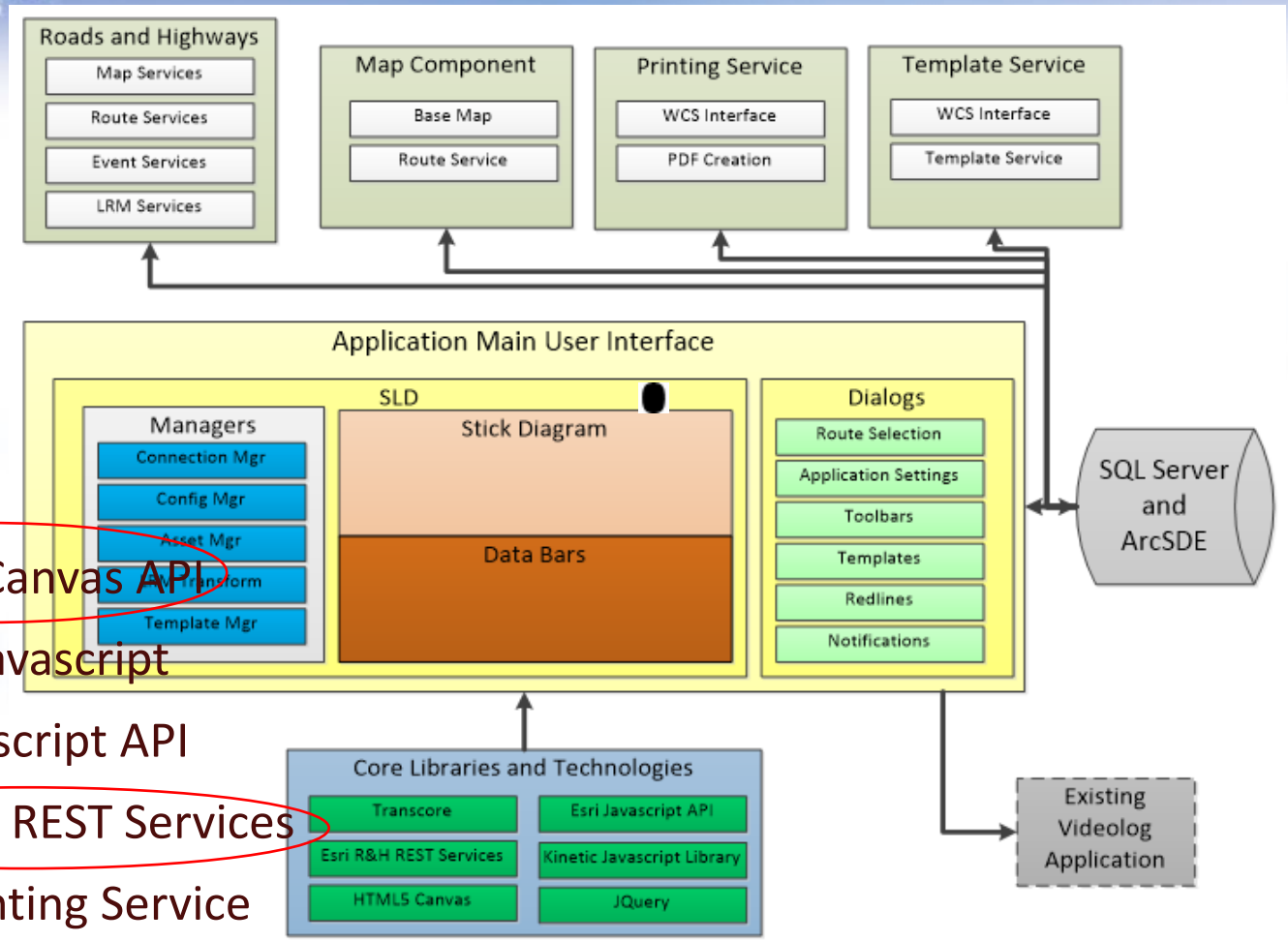
Project introduction

- Transition from a paper based SLD
- Replace Scalable Vector Graphics (SVG) with HTML5
- Take advantage of Roads and Highways services
- Become technology compatible agency-wide
- Apply a more sustainable technology set
- Integrate WVDOT VideoLog Viewer, iVision by Fugro
- Expand to mobile devices

What is Road Analyzer

- Database driven, dynamic web-based interactive **straight-line diagramming** environment
- Tool for viewing roadway assets and events by:
  - ✓Stick Diagram
  - ✓Data Bars
  - ✓Map
  - ✓Dashboard
  - ✓Drilldowns to Attribute Details
  - ✓VideoLog

What were the technology changes?



- ✓ HTML5 Canvas API
- ✓ jQuery javascript
- ✓ Esri Javascript API
- ✓ Esri R&H REST Services
- ✓ WCF Printing Service

Get started by Selecting a Route

Search by Geography

Latitude 40.2737

Longitude -76.884418

My Location | Find

Search by Hierarchy

Select a County

Select a Sign System

Select a Route Number

Select a Sub-Route

Select a Supplemental Code

Select a Direction

Clear | Apply Filter

Search with Query Builder

Layer: Grade Width

Fields:
- Counter_Peak_lanes
- Grade Width
- Direction
- Median Width

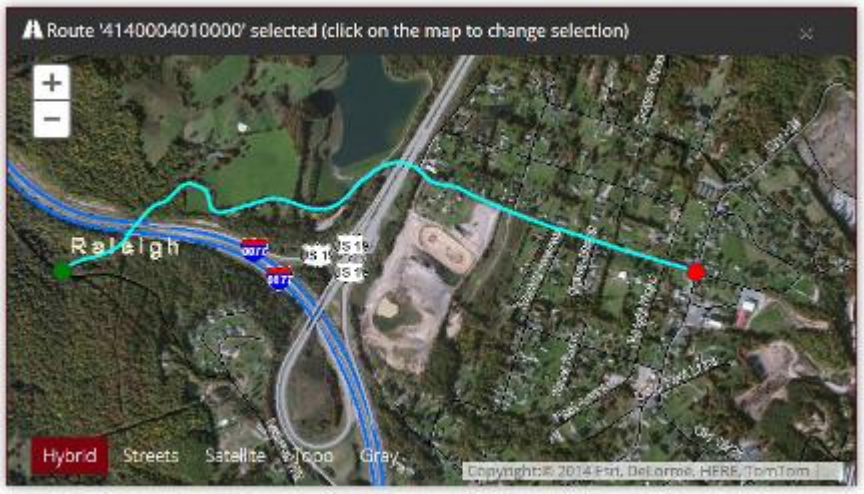
=	>	<	Is	Like	Not
<>	>=	<=	%	And	Or

Values: 23, 46, 29, 75 — Load

Select * From Grade Width Where

DGradeWidth > 50

Clear | Verify | Apply



After Route Selection, launch SLD

West Virginia Road Analyzer

Search by Hierarchy

- Berkeley
- Interstate
- 0081
- 00
- Not Applicable
- Northbound

✖ Clear | ✔ Apply Filter

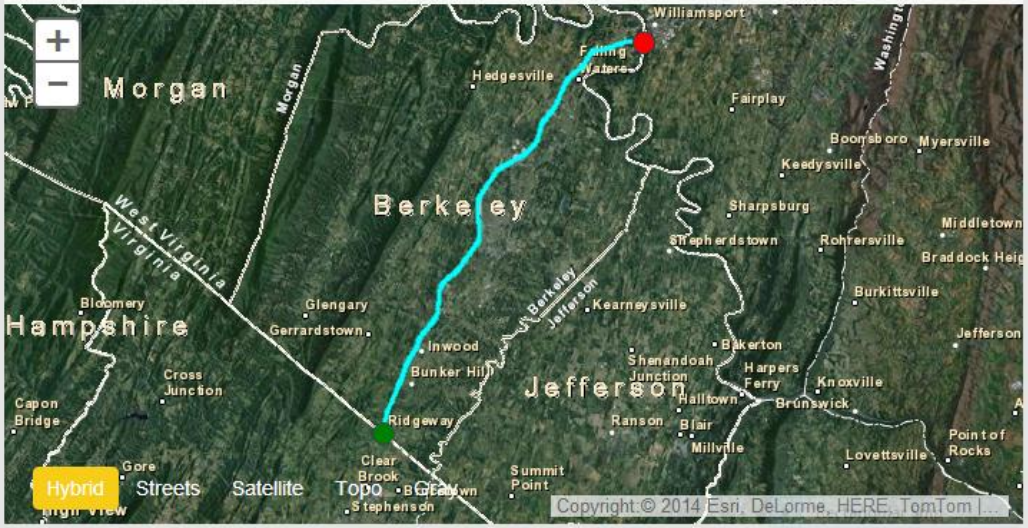
Route (total of 1)

I 81

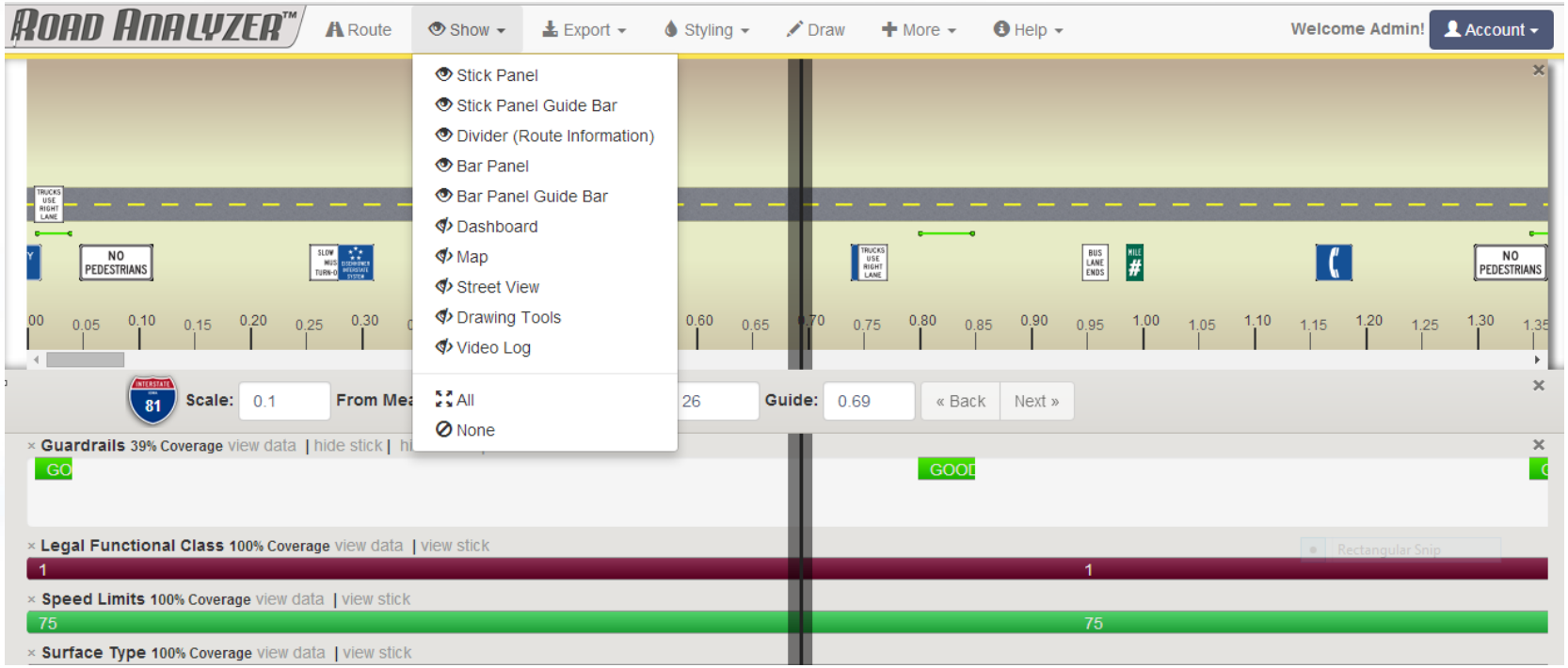
From Measure	To Measure
0	26

Recent ▾ | Analyze Route »

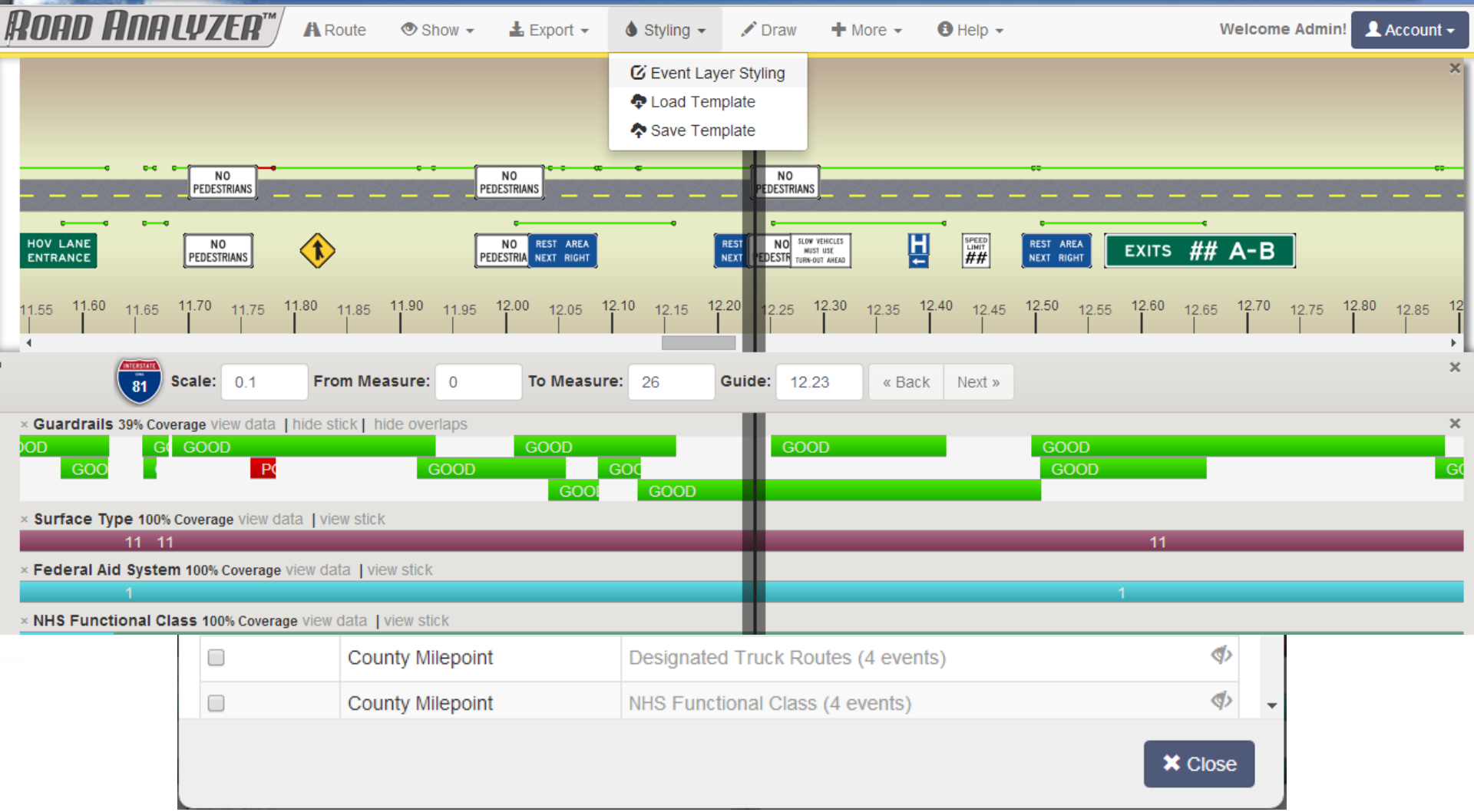
Route 'I 81' selected (click on the map to change selection) ×



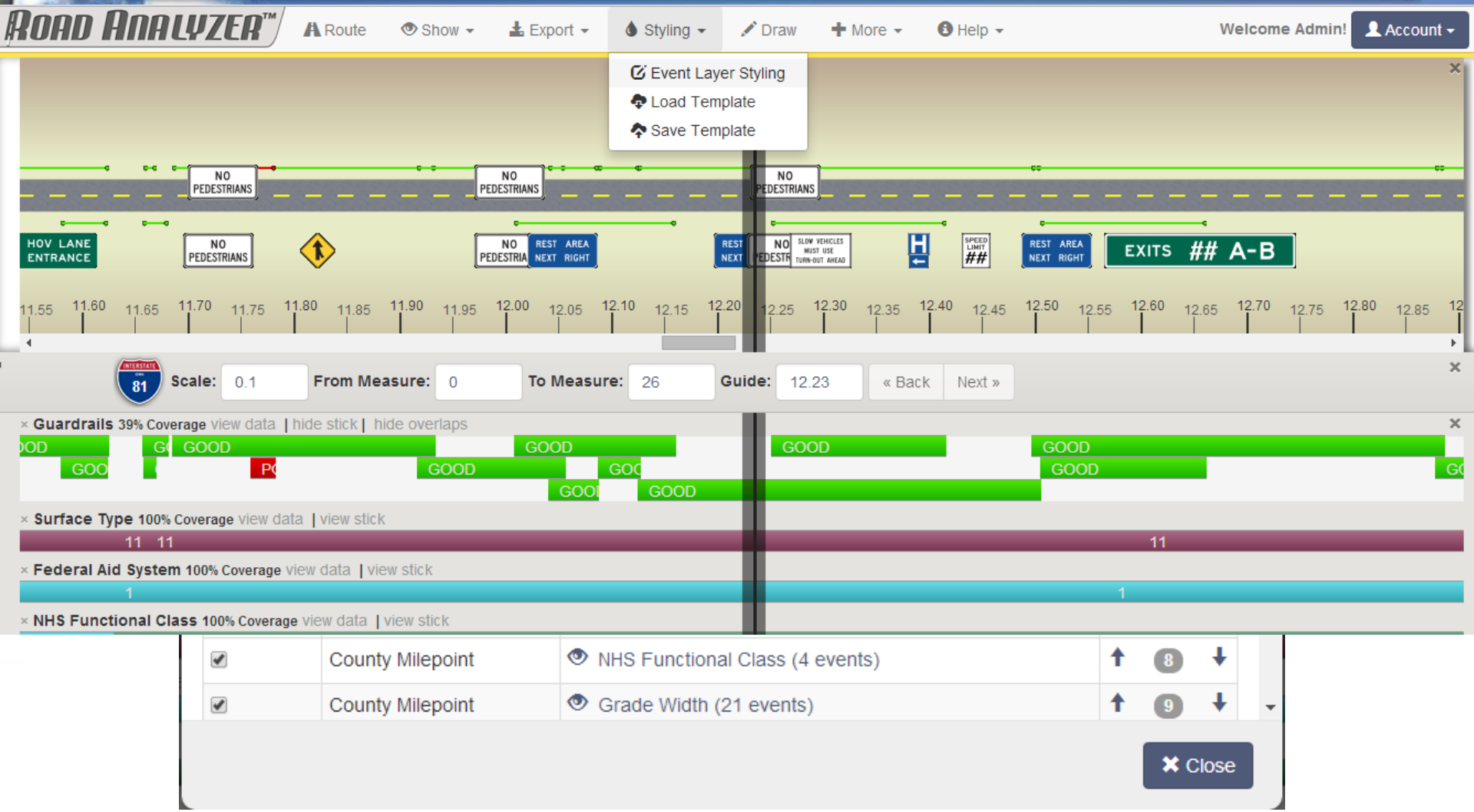
Get to know the User Interface



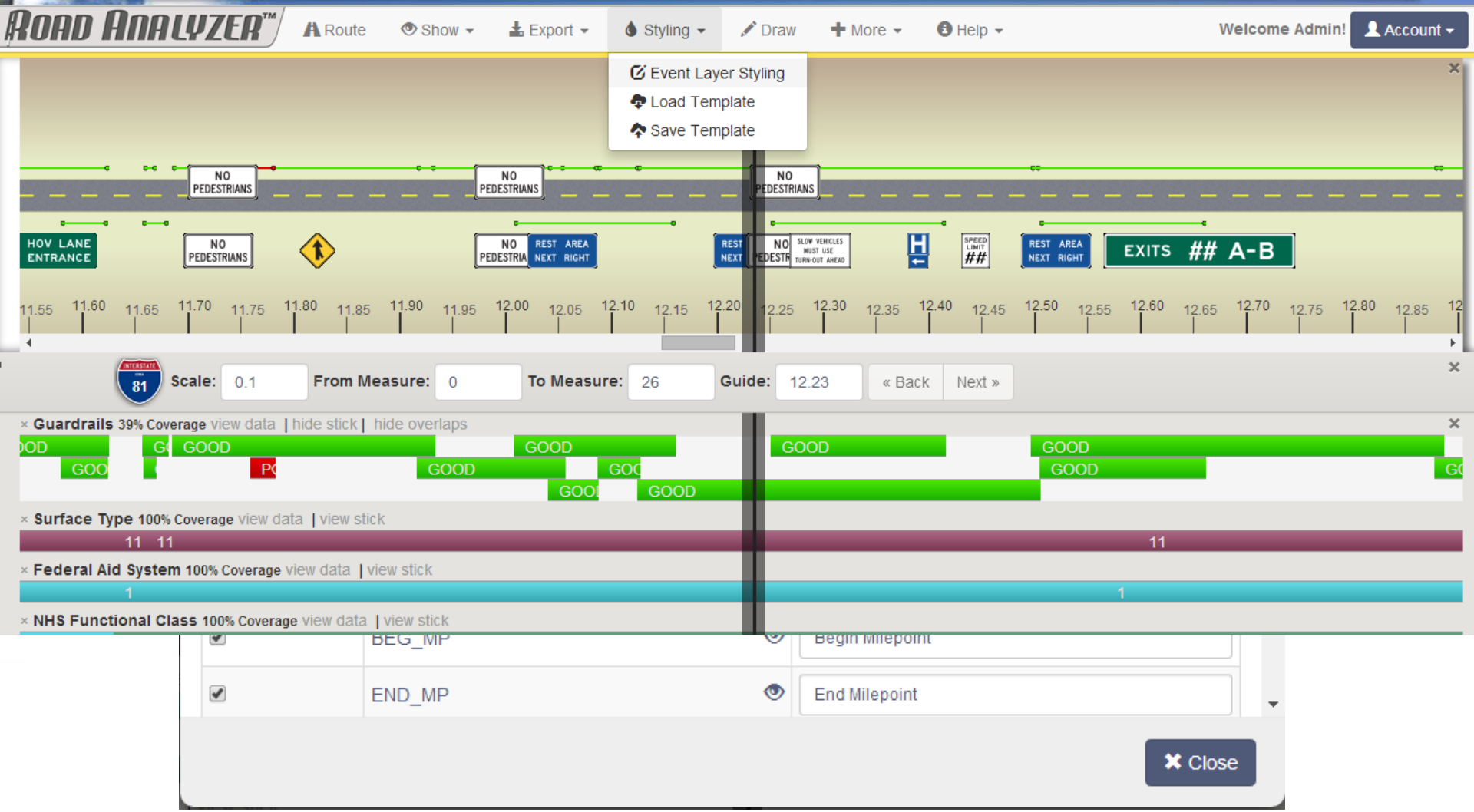
Event Layer Styling, Stick Visibility



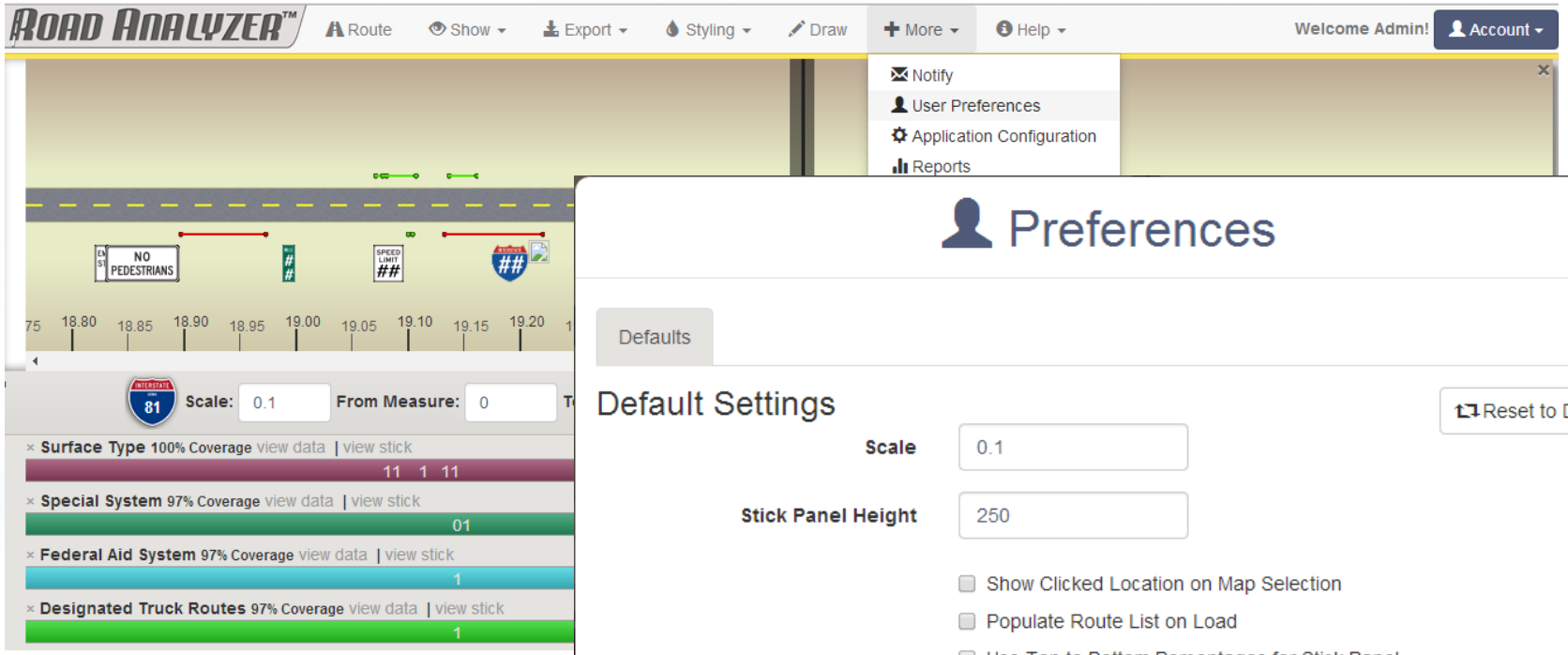
Event Layer Styling, Bar Visibility



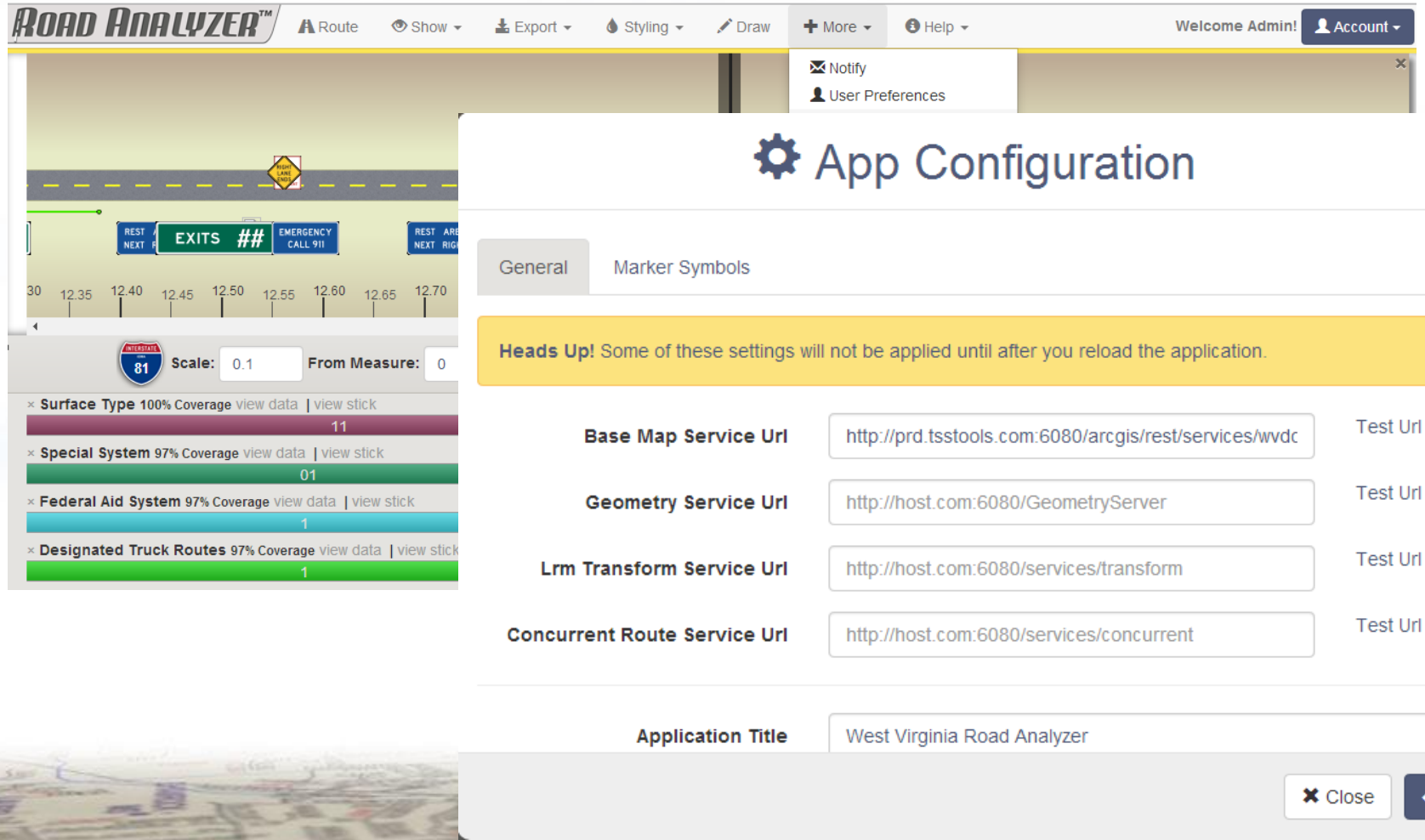
Event Layer Styling, Fields



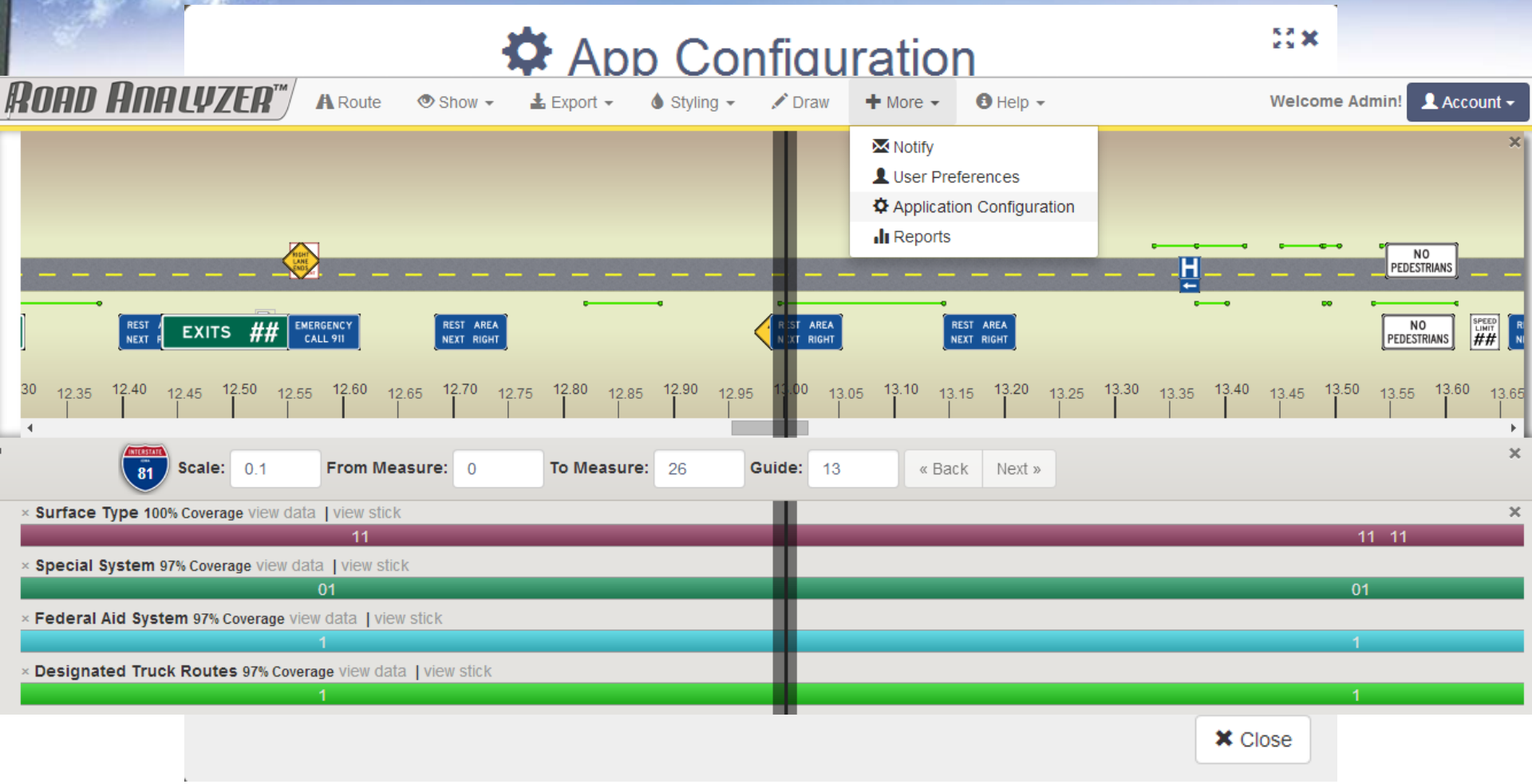
User Preferences, Default Settings



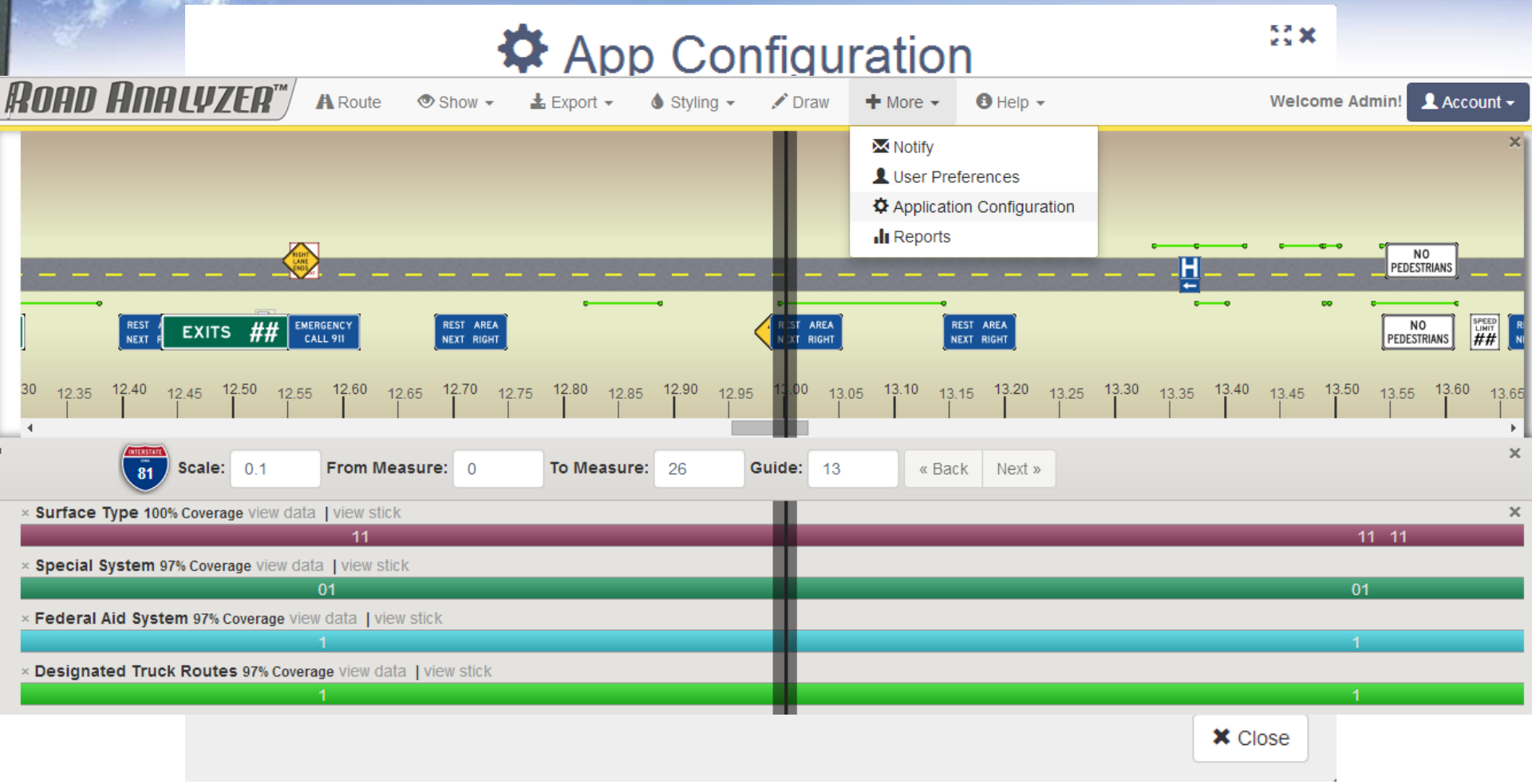
Application Configuration, General



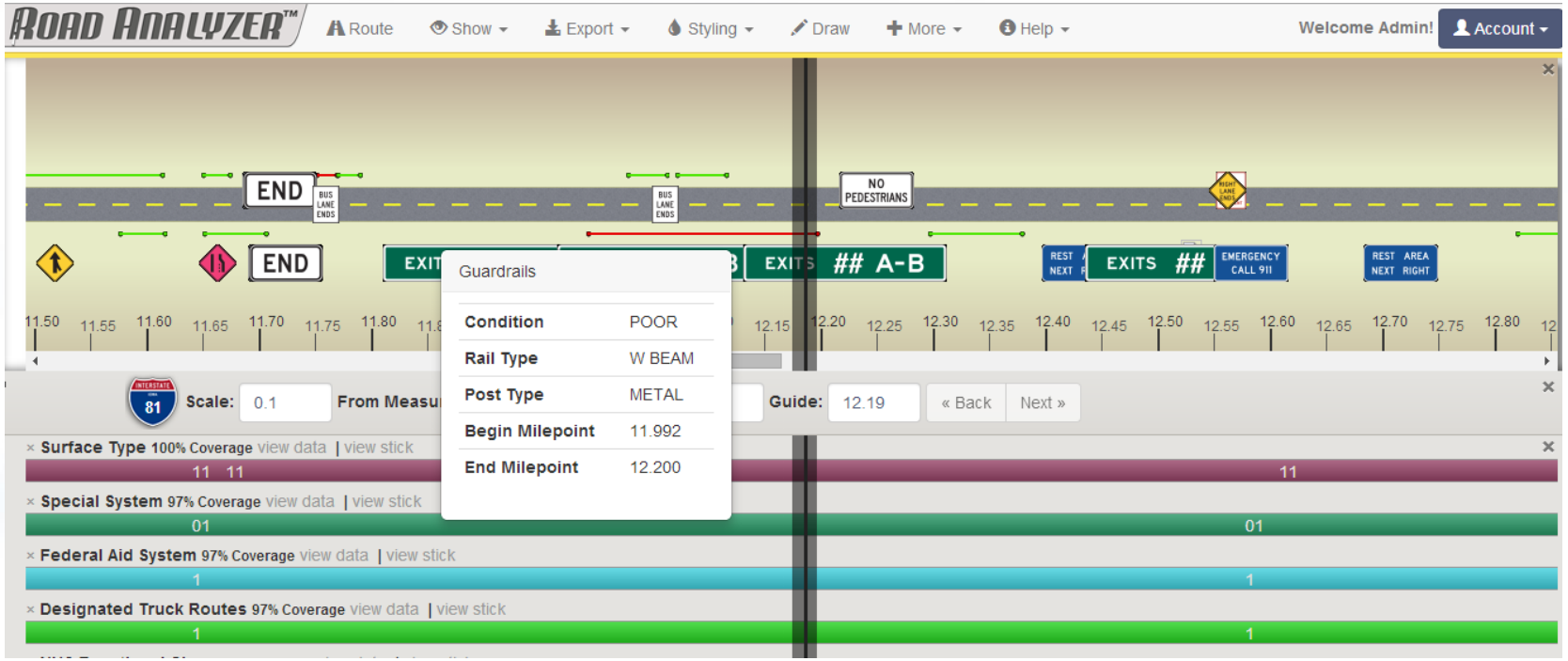
Application Configuration, Marker Symbols



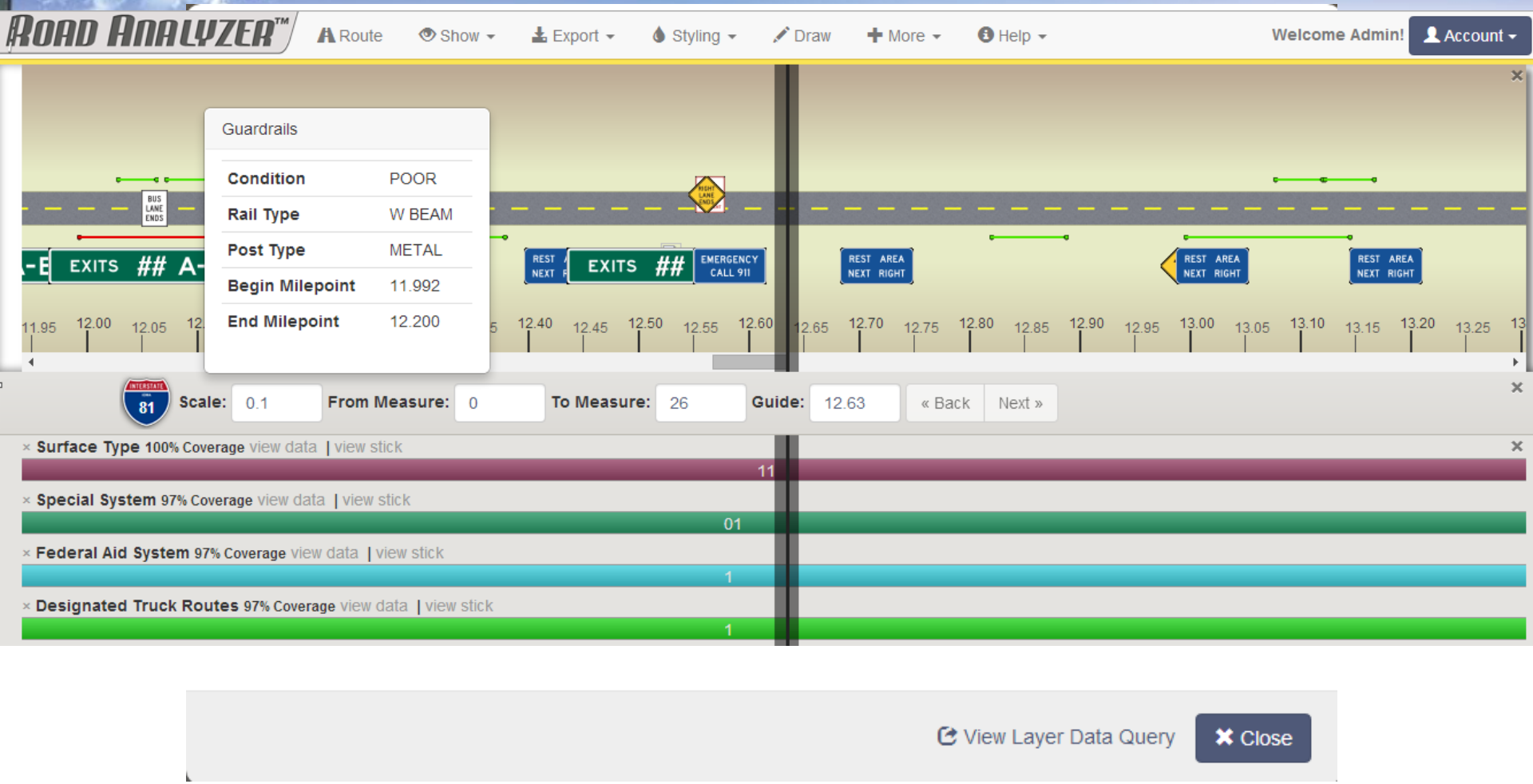
Application Configuration, Marker Symbols



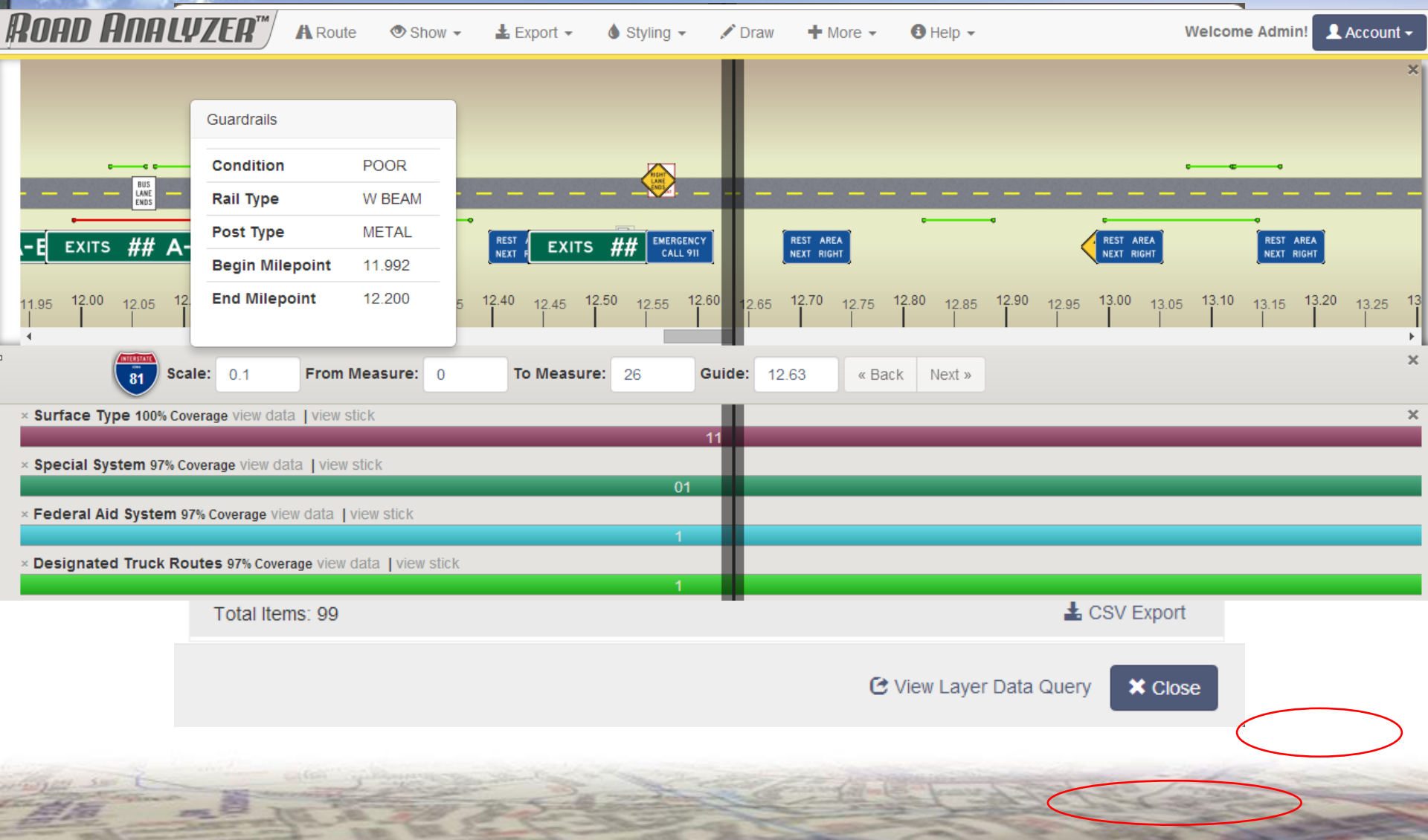
Event Layer Tooltips



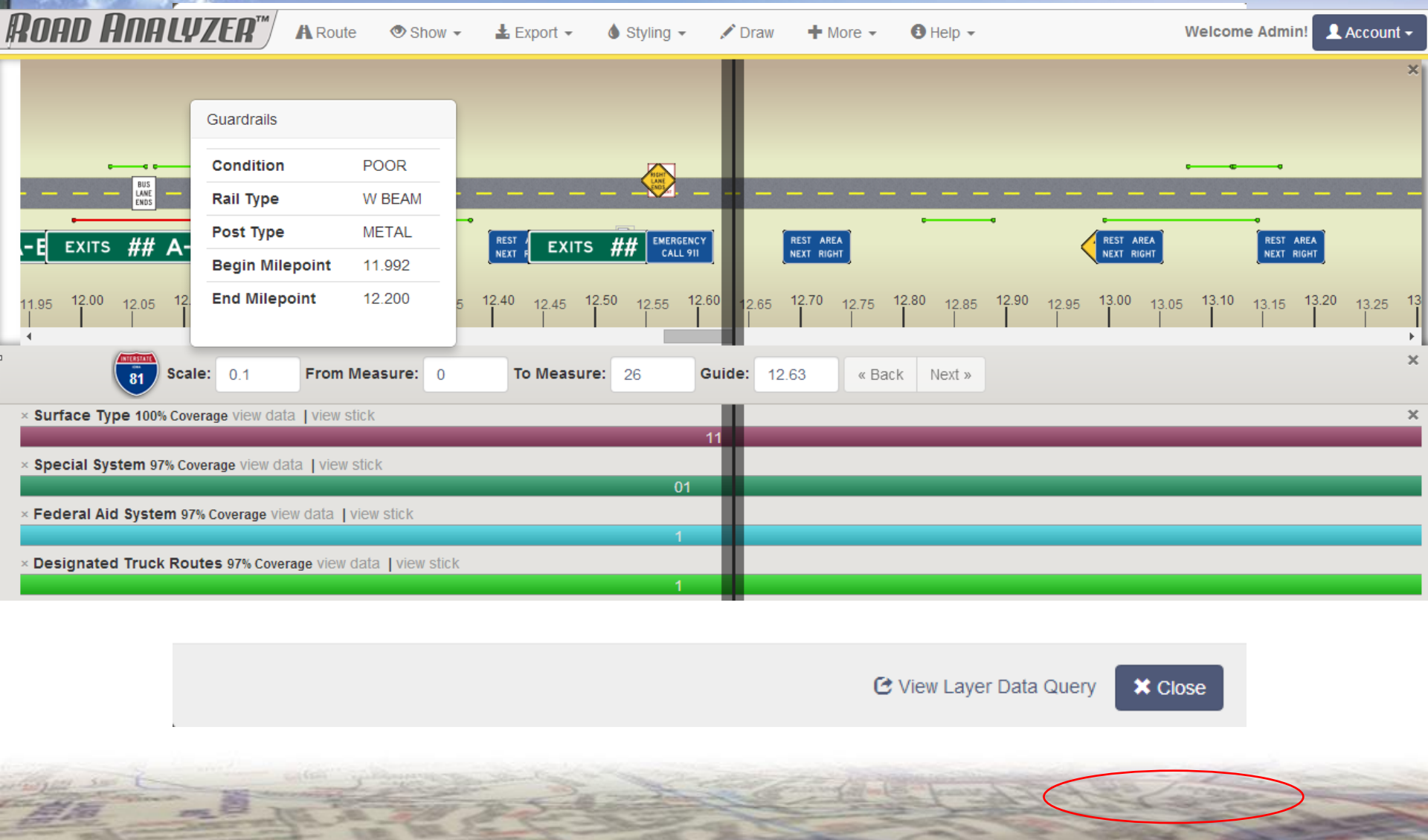
Drilldown, Layer Details



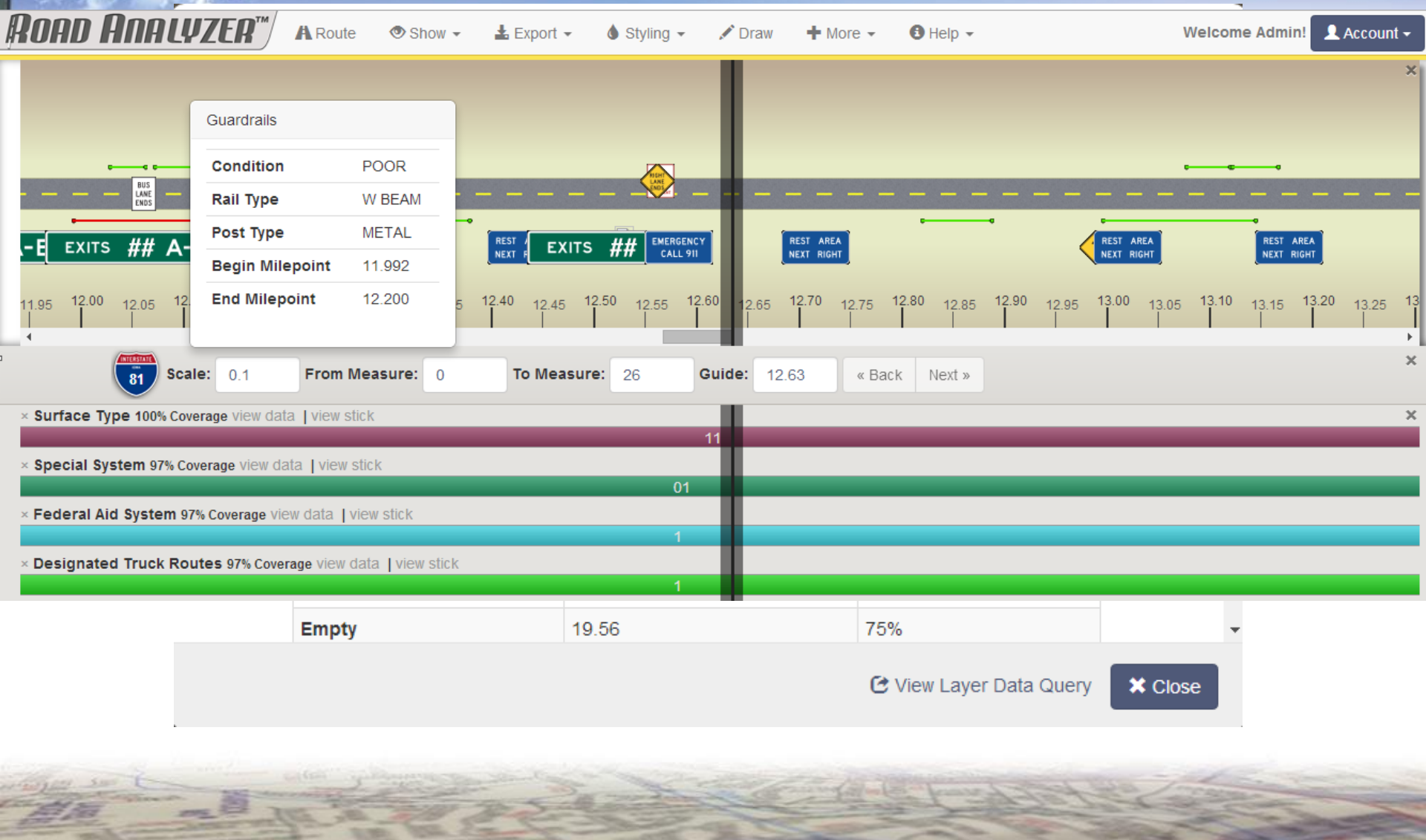
Drilldown, Layer Feature Grid



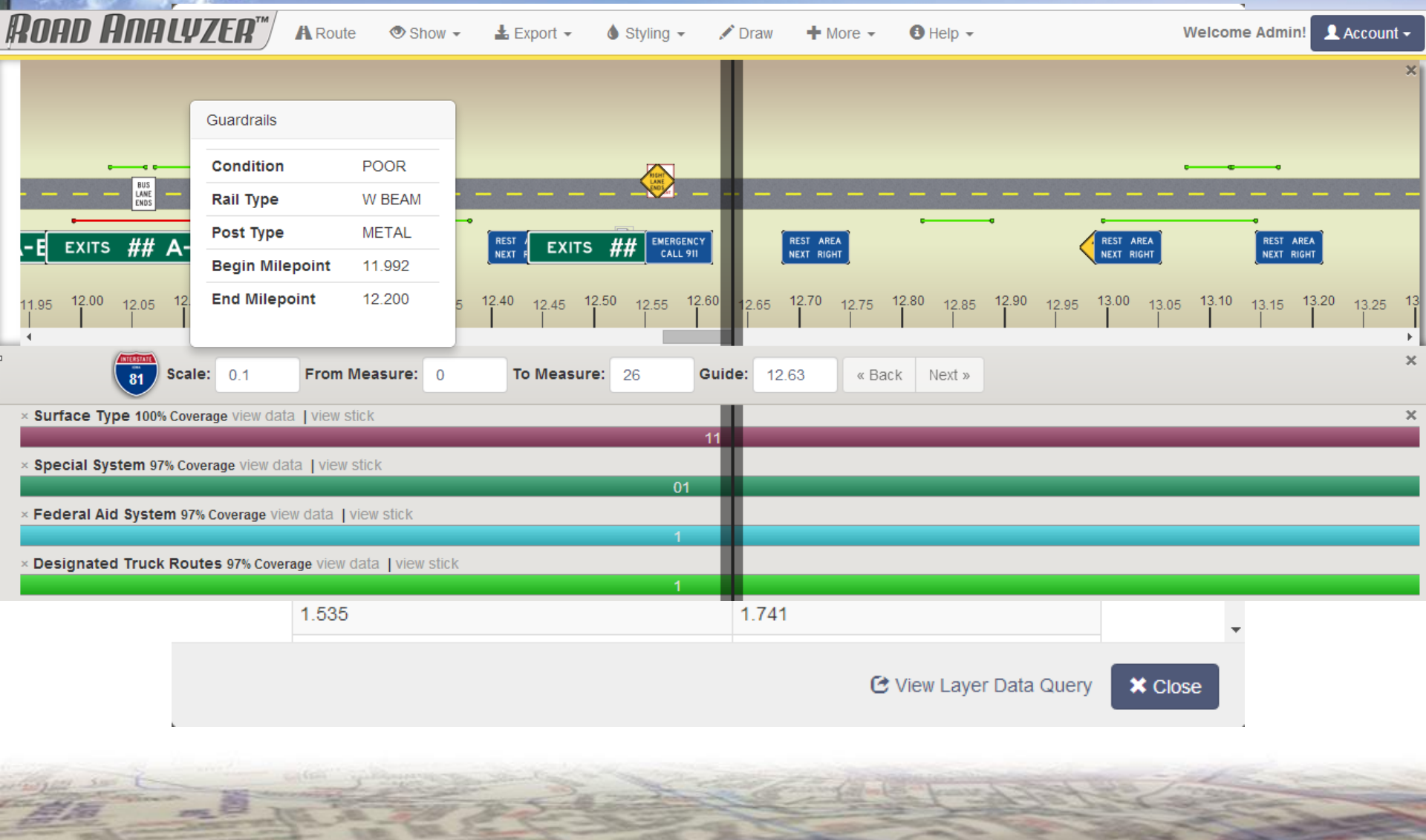
Drilldown, Layer Statistics



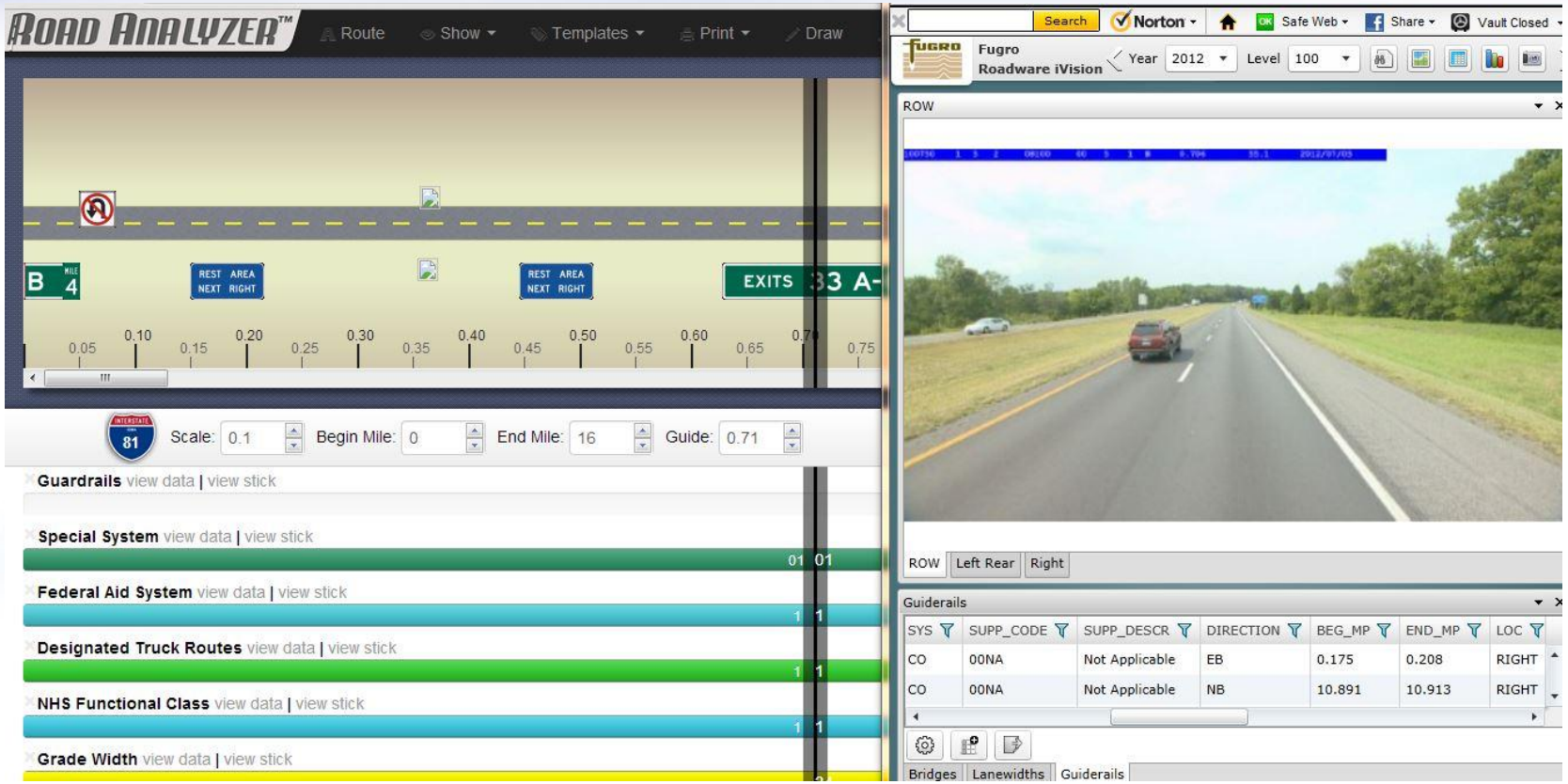
Drilldown, Layer Categories



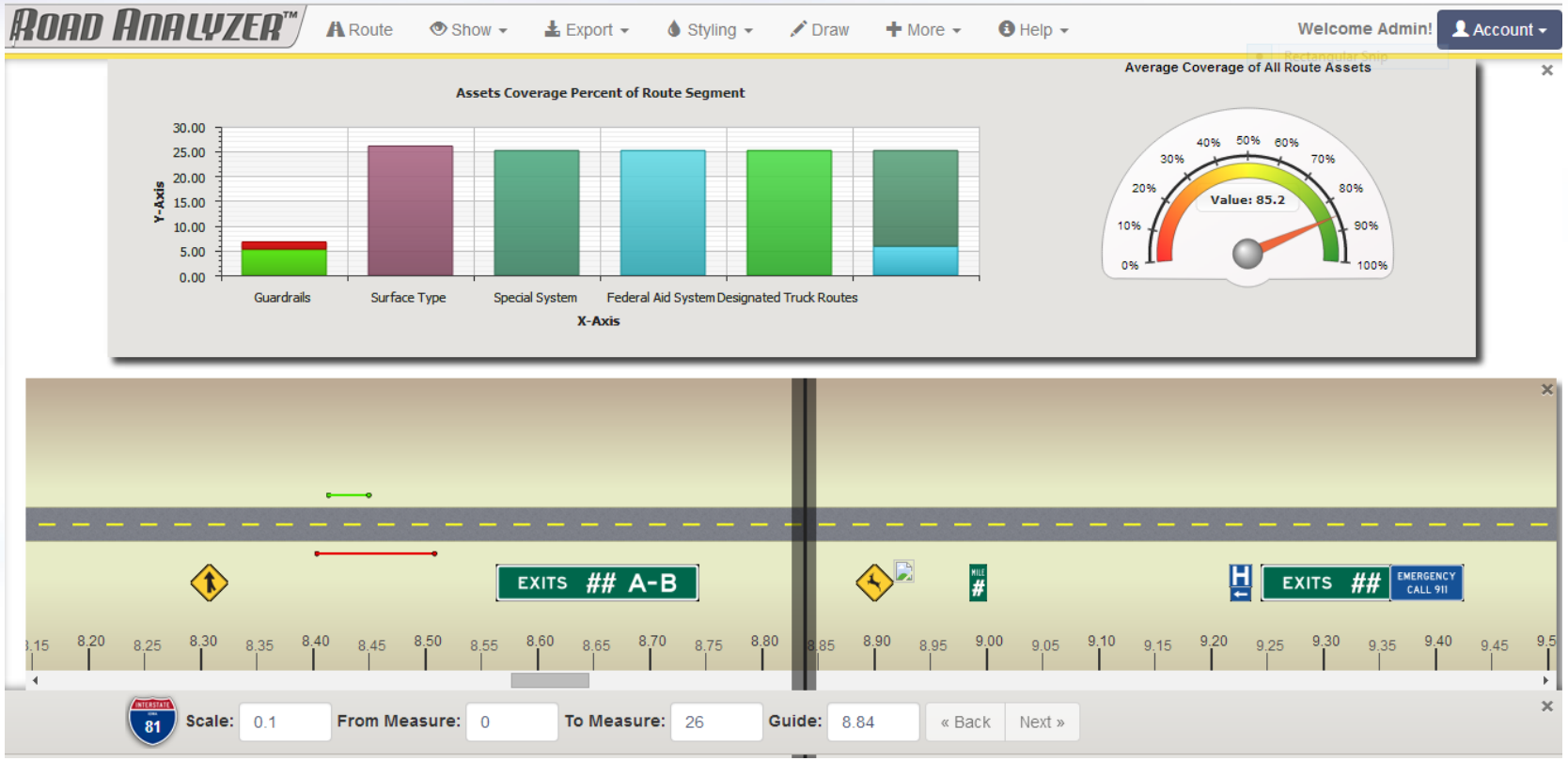
Drilldown, Layer Coverage



Integrated VideoLog, iVision



Dashboard


ROAD ANALYZER™
Route
Show
Export
Styling
Draw
More
Help
Welcome Admin!
Account
Assets Coverage Percent of Route Segment
Y-Axis
30.00
25.00
20.00
15.00
10.00
5.00
0.00
Guardrails
Surface Type
Special System
Federal Aid System
Designated Truck Routes
X-Axis
Average Coverage of All Route Assets
Value: 85.2
0%
10%
20%
30%
40%
50%
60%
70%
80%
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100%
EXITS ## A-B
EXITS ##
EMERGENCY CALL 911
Scale:
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To Measure:
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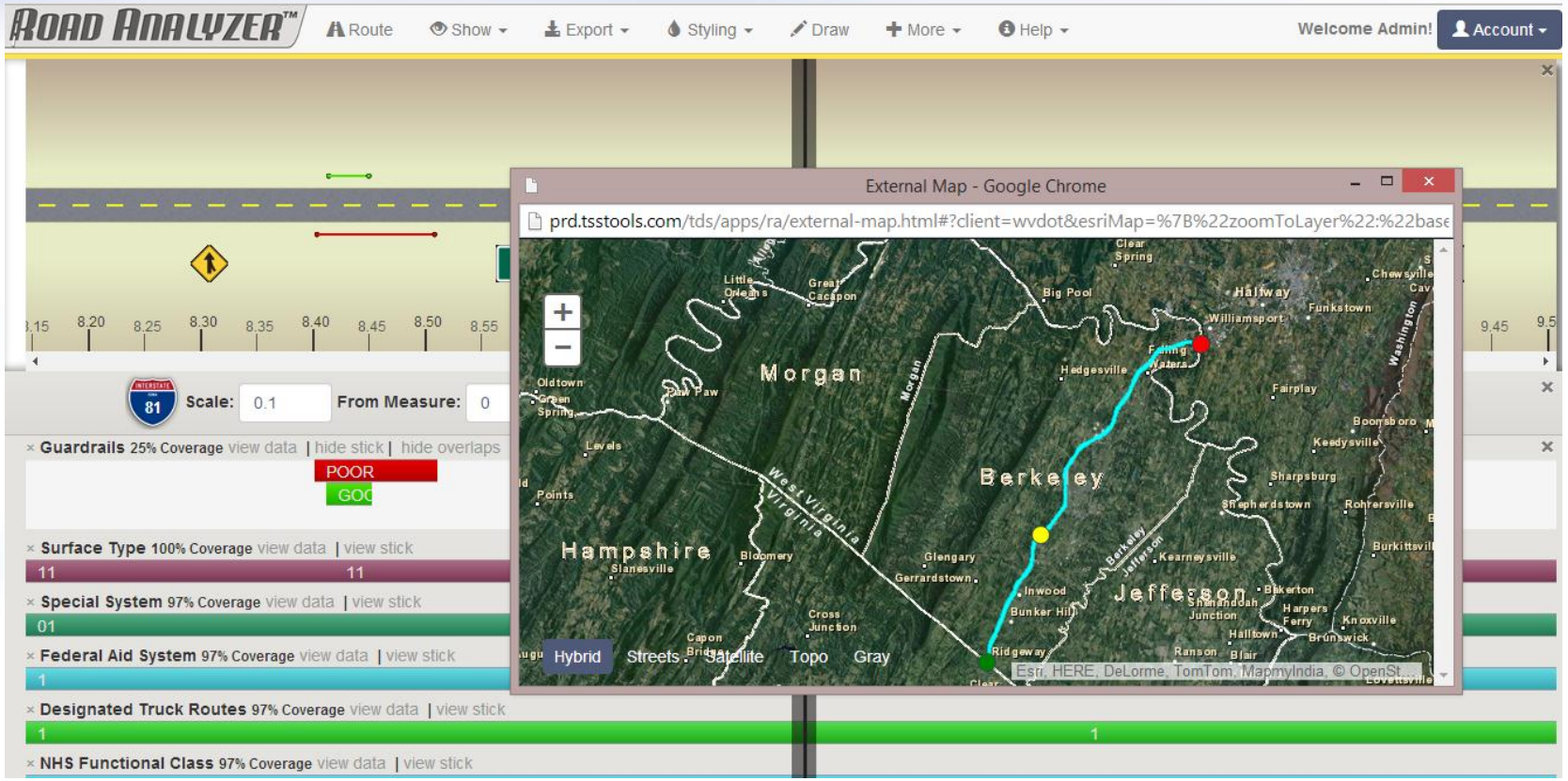
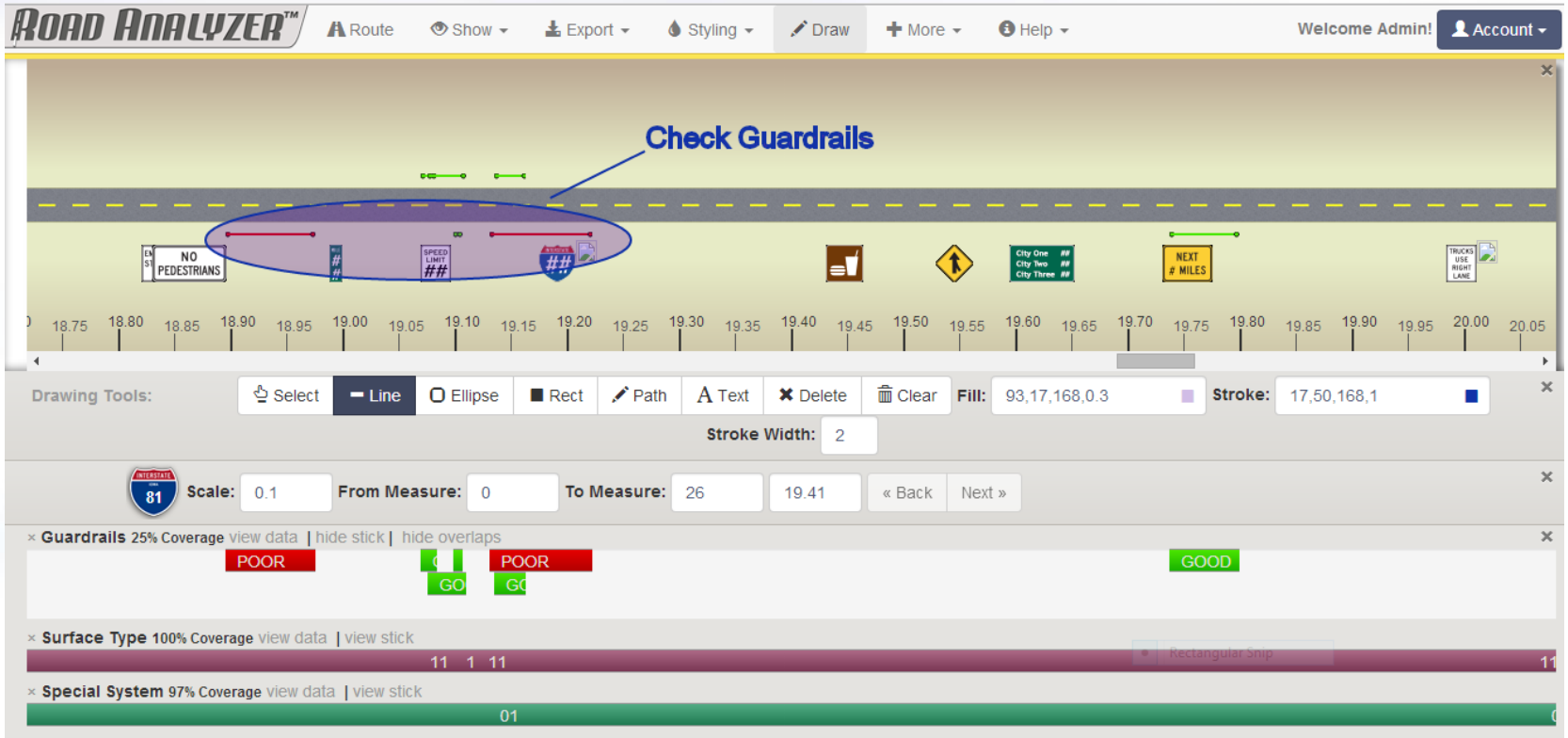
Guide:
8.84
« Back
Next »

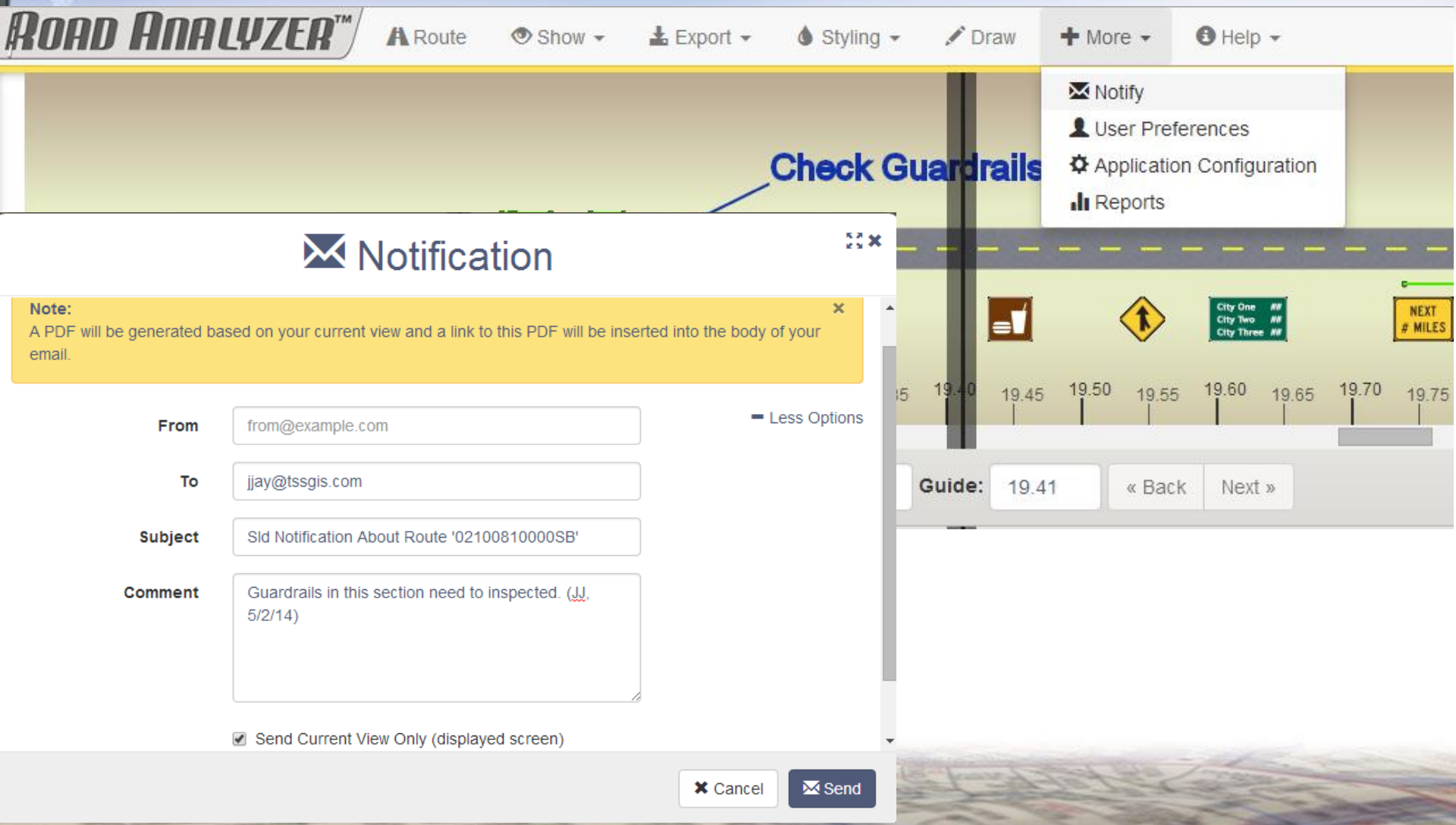
Integrated or Pop-out Map



Drawing or Annotation Tools



Notify Tool


ROAD ANALYZER™
Route
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More
Help
Notify
User Preferences
Application Configuration
Reports
Check Guardrails
Notification
Note:
A PDF will be generated based on your current view and a link to this PDF will be inserted into the body of your email.
From
from@example.com
Less Options
To
jjay@tssgis.com
Subject
Sld Notification About Route '02100810000SB'
Comment
Guardrails in this section need to inspected. (JJ, 5/2/14)
Send Current View Only (displayed screen)
Cancel
Send
Guide:
19.41
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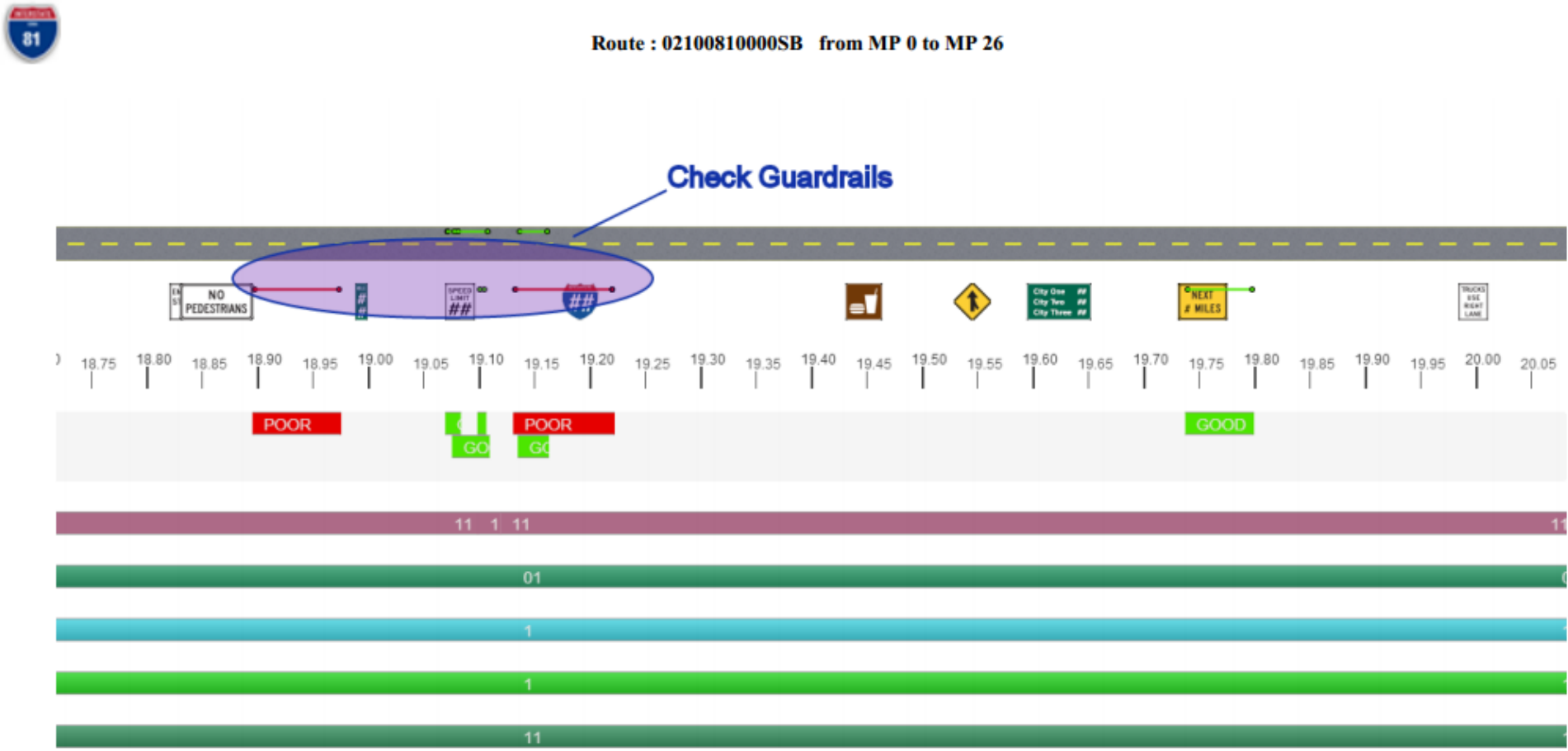
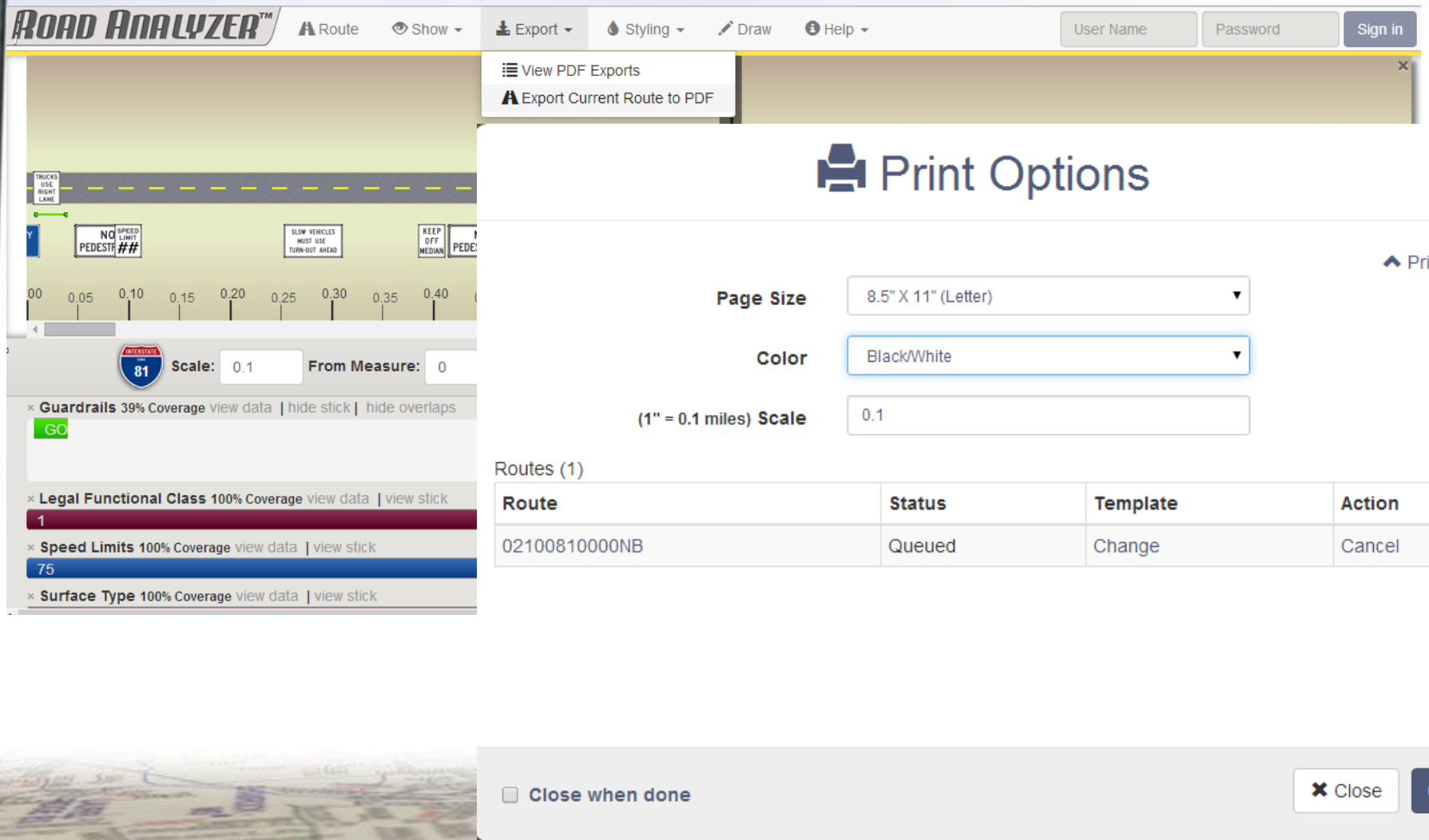
Next »

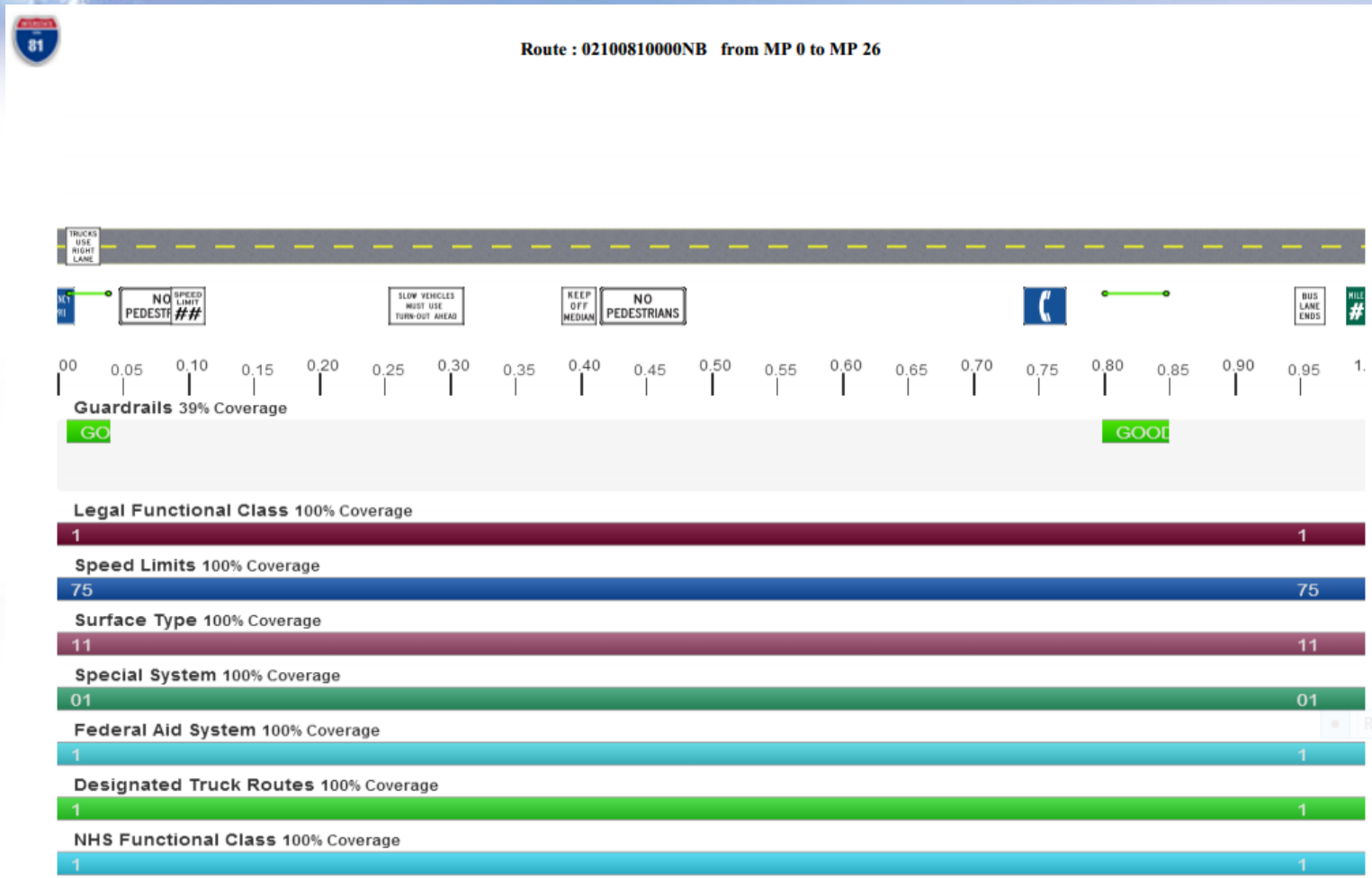
Resulting Notification



Export to PDF - Printing



PDF Output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TRUCKS USE RIGHT LANE
NO PEDESTR
SPEED LIMIT ##
SLOW VEHICLES MUST USE TURN-OUT AHEAD
KEEP OFF MEDIAN
NO PEDESTRIANS
BUS LANE ENDS
00 0.05 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.45 0.50 0.55 0.60 0.65 0.70 0.75 0.80 0.85 0.90 0.95
Guardrails 39% Coverage
GO
GOOD
Legal Functional Class 100% Coverage
1
1
Speed Limits 100% Coverage
75
75
Surface Type 100% Coverage
11
11
Special System 100% Coverage
01
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Federal Aid System 100% Coverage
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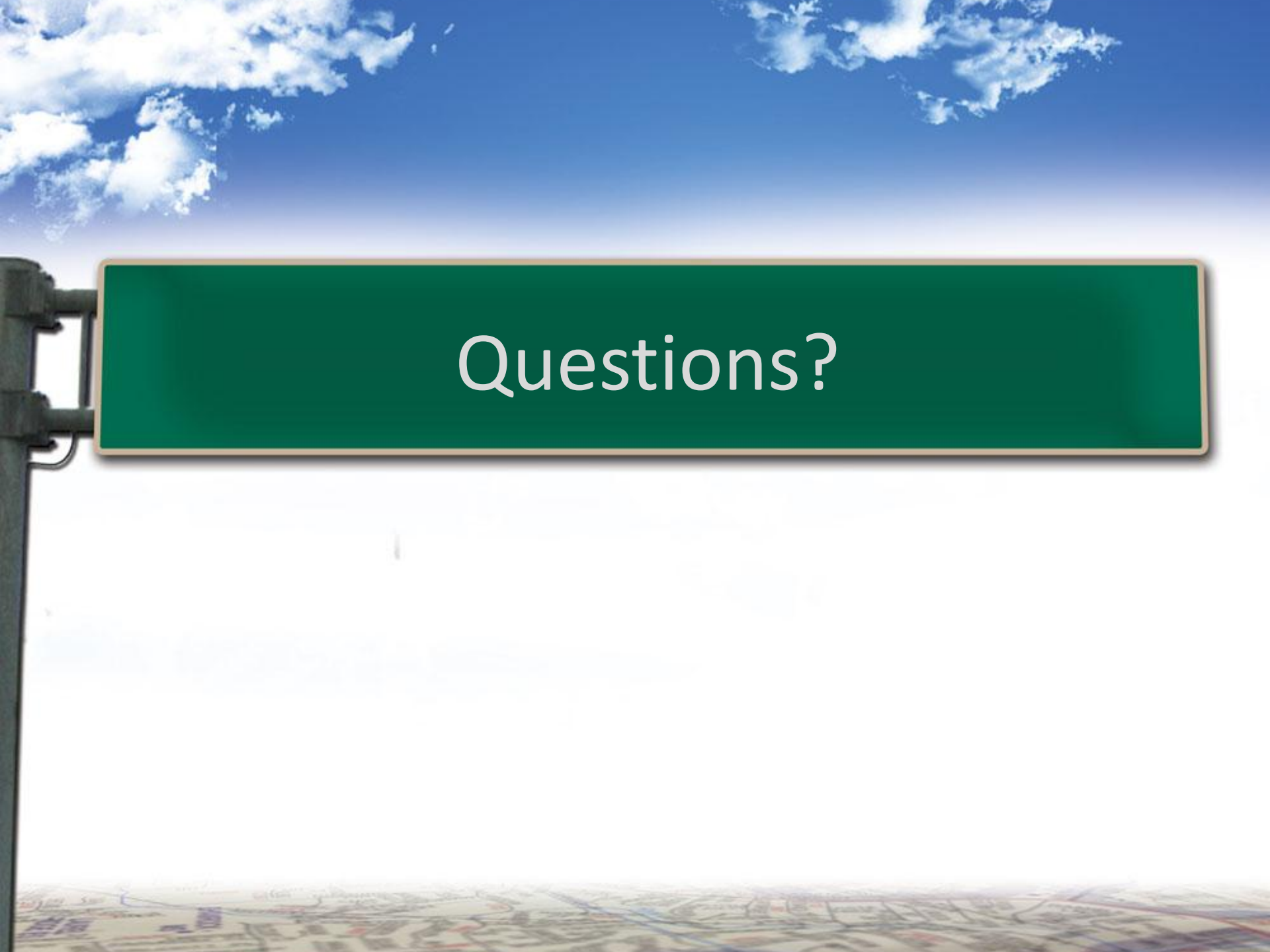
Designated Truck Routes 100% Coverage
1
1
NHS Functional Class 100% Coverage
1
1


Questions?