

Geographic Roadway Inventory Tool Construction Planning

WDEA RoundTable
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GRIT - <https://www.ugpti.org/resources/asset-inventory/>

The screenshot shows a web browser displaying the GRIT website. The URL in the address bar is <https://www.ugpti.org/resources/asset-inventory/>. The page header features the NDSU Upper Great Plains Transportation Institute logo and navigation links for 'browse by PROGRAMS', 'ABOUT US', 'international PARTNERS', 'RESOURCES', 'RESEARCH', 'EDUCATION', and 'TRAINING & OUTREACH'. A search bar with 'Google Custom Search' and a 'FOLLOW US' button are also present.

RESOURCES

- Research Reports
- Asset Inventory Toolkit**
- Event Proceedings
- Staff Presentations
- Other Resources (*Surface Selection Tool, Grain Industry Data, etc.*)

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Asset Inventory Toolkit

Development of the Asset Inventory Toolkit is a team effort, led by UGPTI. A steering committee comprised of ten county transportation leaders, NDDOT representative, and NDACo representatives are providing guidance for the UGPTI's Inventory footprint development.

GRIT Help Videos

- [Overview and Navigation](#)
- [Editing Locations](#)
- [Construction History Layer](#)
- [Load Restrictions Layer](#)
- [Minor Structures Layer](#)
- [Construction Planning Layer](#)
- [Maintenance Layer](#)

Presentations

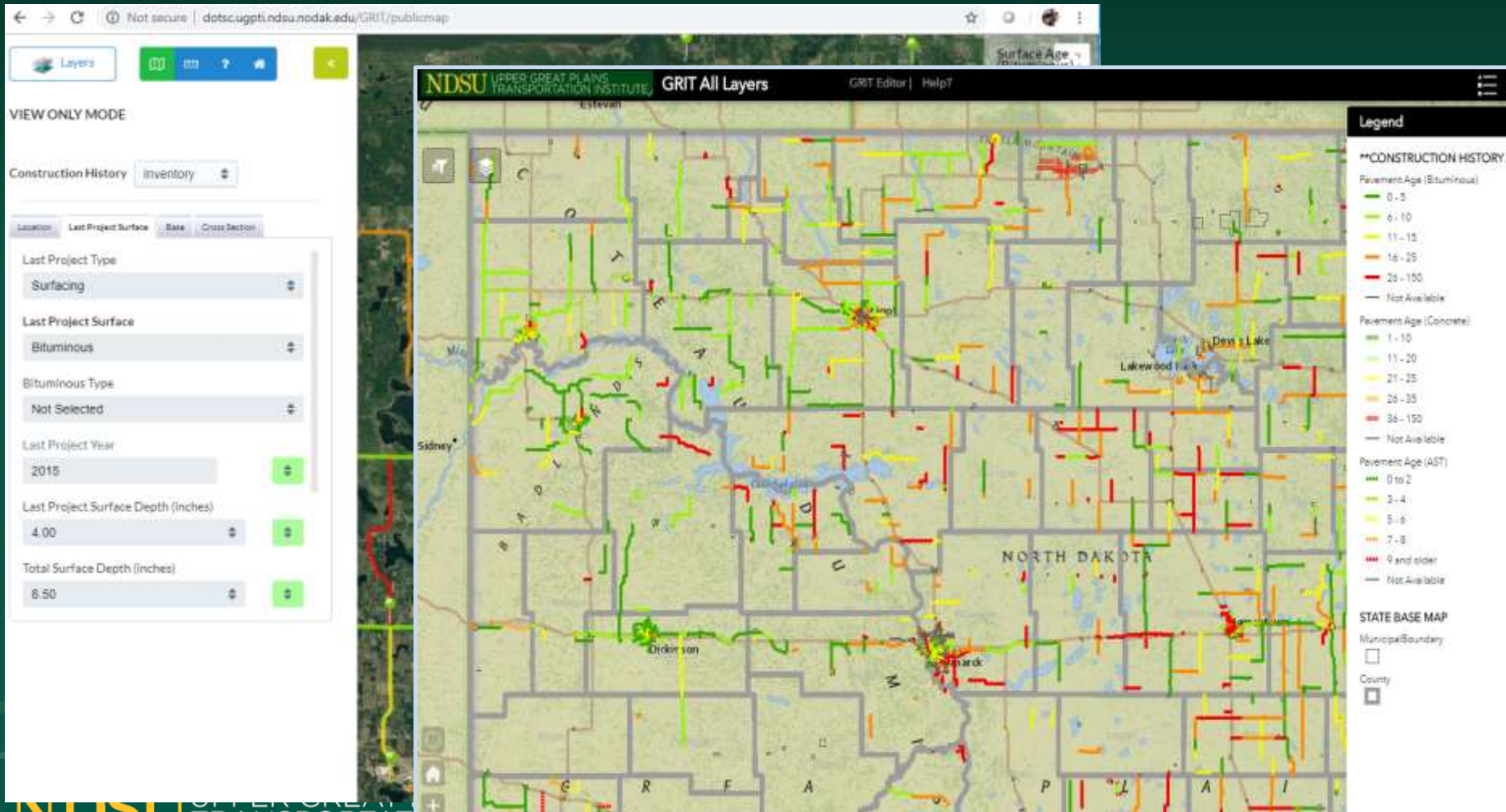
- [May 16, 2018 Webinar: GRIT 2.0 New Layout](#)
- [Jan. 11, 2018 Webinar: GRIT Photo Logging](#)
- [Oct. 11, 2017 Webinar: GRIT Highlights and Enhancements](#)
- [Aug. 8, 2016 Webinar: GRIT Construction Layer](#)
- [Mar. 21, 2016 Webinar: GRIT Viewer Release](#)
- [Dec. 9, 2015 Statewide Rollout Webinar: GRIT 1.0](#)

Related Links

- [Geographic Roadway Inventory Tool \(GRIT\)](#)
- [GRIT Map Viewers](#)
- [Steering Committee](#)

Geographic Roadway Inventory Tool (GRIT)

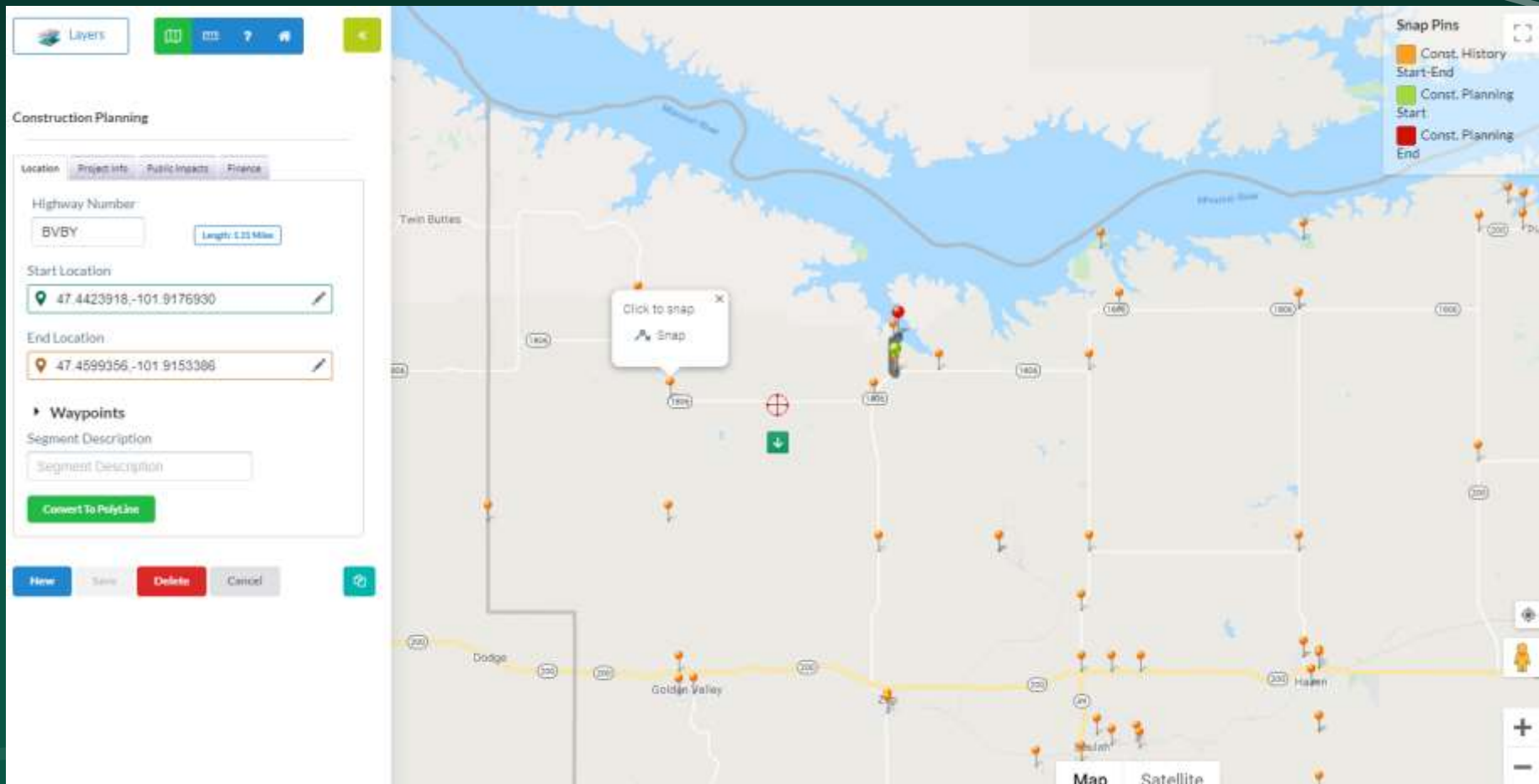
- Developed by UGPTI for ND Needs Study
- Custom web application with map viewers
- All ND counties have roadway data entered in GRIT



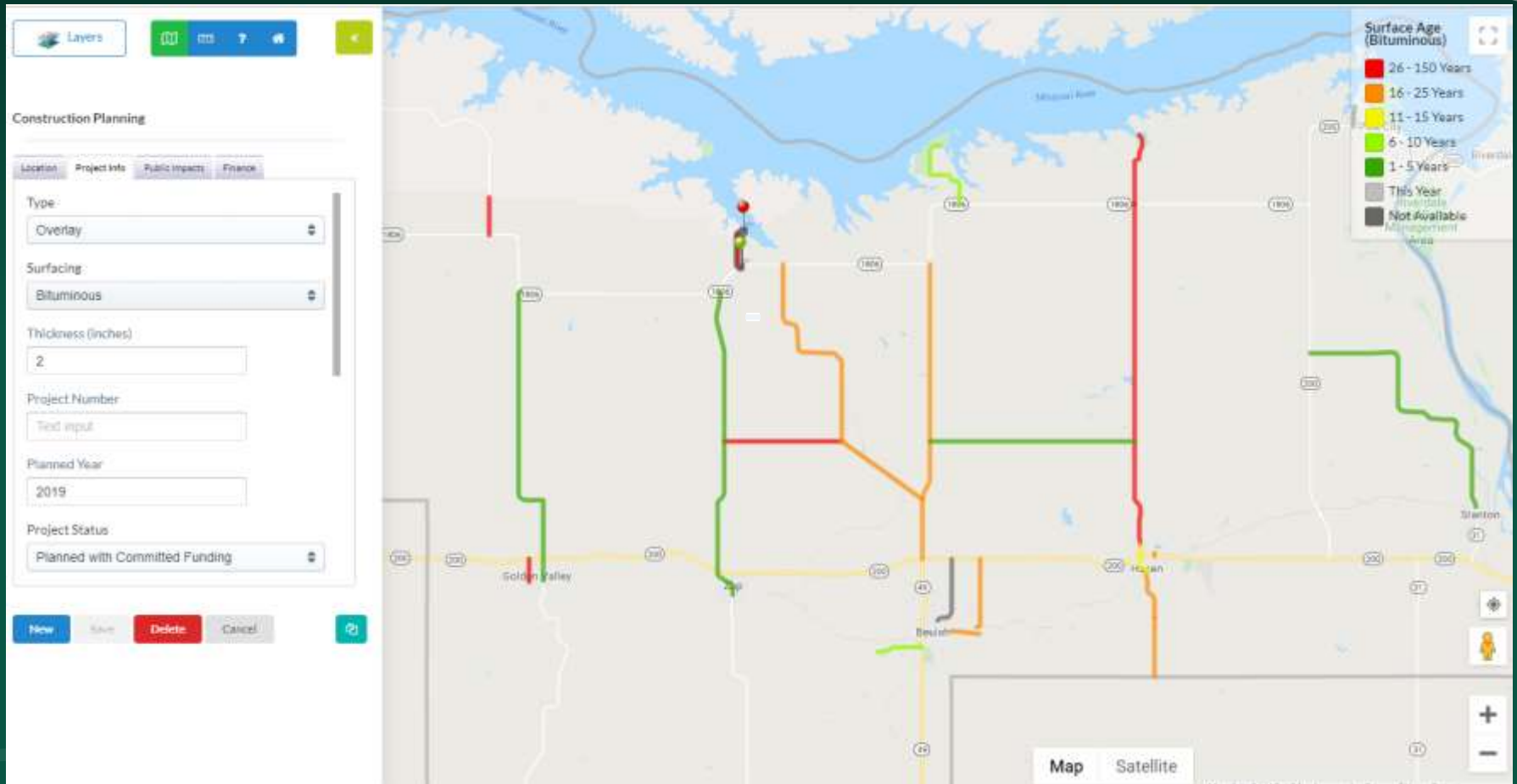
- **Geographic Roadway Inventory Tool (GRIT)**
 - Currently 4 Layers of Data

Construction History	Construction Planning	Bridges	Load Restrictions	Maintenance
Location	Location	Location	Location	Const History
Highway	Highway	Highway	Highway	Segments
Surface Type	Project Type	Type	Owner	Bituminous
Proj Type	Project #	Material	Func. Class	Seal Coat
LP Year	Planned Year	Span	Maintenance	Crack Seal
LP Depth	Status	Cell Diameter	Road Type	Patching
Total Depth	Bid Open Date	Cell Width	Seas. Load Limit	Striping
Base Type	Cost	Cell Height	Seas. Gross Lmt	Year
Base Depth	Start Date	Length	Yr Rnd Limit	Cost
Base Year	Public Impact	Year Installed	Yr Rnd Gross	Gravel
Base Treatment	Restrictions	Cover Depth		Blading
SubGrd Strength	Detour	Replace Cost		Regravel
Treatment	Comments	Condition		Reshape
Lane Width	Funding Srce	Rating Date		Spot Repair
Shoulder Width	Funding Splits	GVW Limit		Dust Control
Grade Year	Fund Commit	Axle Limit		Frequency
Striping				Cost
Rumble Strips				Concrete
Curbs				Cracks
Inslope				CPR
ROW				Cost
Owner				

- **GRIT - Construction Planning (5 Yr Plan)**
 - Start with the location Tab
 - Insert a begin and end point - easy



- GRIT - Construction Planning (5 Yr Plan)
 - Background layers like age to help select projects
 - Fill in dropdowns like type and age



- GRIT - Construction Planning (5 Yr Plan)
 - Scroll down for other items such as costs

Construction Planning

Location: Project Info Public Impacts Finance

Project Status Update
2019-06-17

Bid Opening Date
2019-05-02

Estimated Total Cost
0

Final Total Cost
0

Length
0

Owner
County

Map Satellite

Surface Age (Bituminous)

- 26 - 150 Years
- 16 - 25 Years
- 11 - 15 Years
- 6 - 10 Years
- 1 - 5 Years
- This Year
- Not Available

- GRIT - Construction Planning (5 Yr Plan)
 - Next tab - public impacts
 - Dropdowns such as road closed

The screenshot displays a web-based interface for construction planning. On the left, a sidebar titled "Construction Planning" contains several input fields and a dropdown menu. The "Actual Construction Start" and "Actual Construction End" fields are set to "YYYY-MM-DD". The "Public Impact" dropdown menu is open, showing options: "Reduced Speeds" (selected), "Not Selected", "None", "Road Closed", "Reduced Speeds", "Detour In Place", "Construction Not Started", and "Pilot Car/One Lane". Below this, the "Detour Length (miles)" is set to "Not Selected". At the bottom of the sidebar are buttons for "New", "Save", "Delete", and "Cancel".

The main area is a map showing a network of roads. The roads are color-coded according to their surface age, as indicated by the legend on the right. The legend, titled "Surface Age (Bituminous)", includes the following categories:

- 26 - 150 Years (Red)
- 16 - 25 Years (Orange)
- 11 - 15 Years (Yellow)
- 6 - 10 Years (Light Green)
- 1 - 5 Years (Dark Green)
- This Year (Grey)
- Not Available (Black)

The map shows a network of roads with various public impact settings applied. A red dot is visible on the map, and a red line segment is highlighted. The map also shows a large body of water, likely a reservoir, and several road labels such as "Borden Valley", "Beulah", and "Hazen".

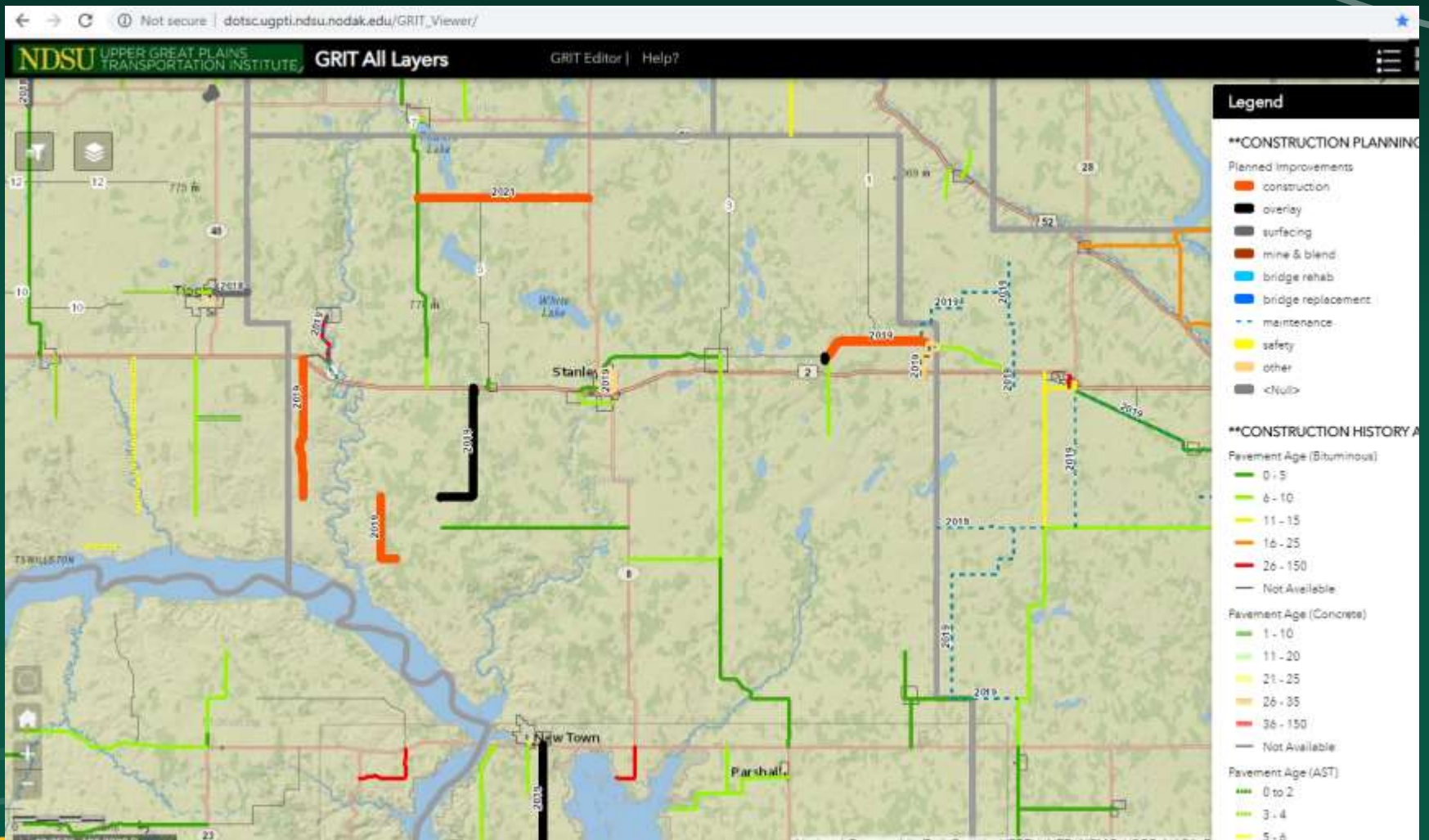
- GRIT - Construction Planning (5 Yr Plan)
 - Next tab - Finance
 - Funding source and % of costs

The screenshot displays a GIS application interface for Construction Planning. On the left, a sidebar titled "Construction Planning" is open to the "Finance" tab. Under "Source 1", the "Funding Source" dropdown menu is expanded, showing options: "Not Selected", "County", "Federal", "State", "Legislative", "City", "Township", "Private", and "Specials". Below this, there is a "Funding Source" dropdown set to "Not Selected" and a "%" input field. At the bottom of the sidebar are buttons for "New", "Save", "Delete", and "Cancel". The main map area shows a network of roads color-coded by "Surface Age (Bituminous)". A legend on the right lists the age ranges: 26-150 Years (red), 16-25 Years (orange), 11-15 Years (yellow), 6-10 Years (light green), 1-5 Years (dark green), This Year (grey), and Not Available (black). The map includes labels for Golden Valley, Beulah, and Huston, and shows major roads like 1800, 1850, 1900, 200, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000.

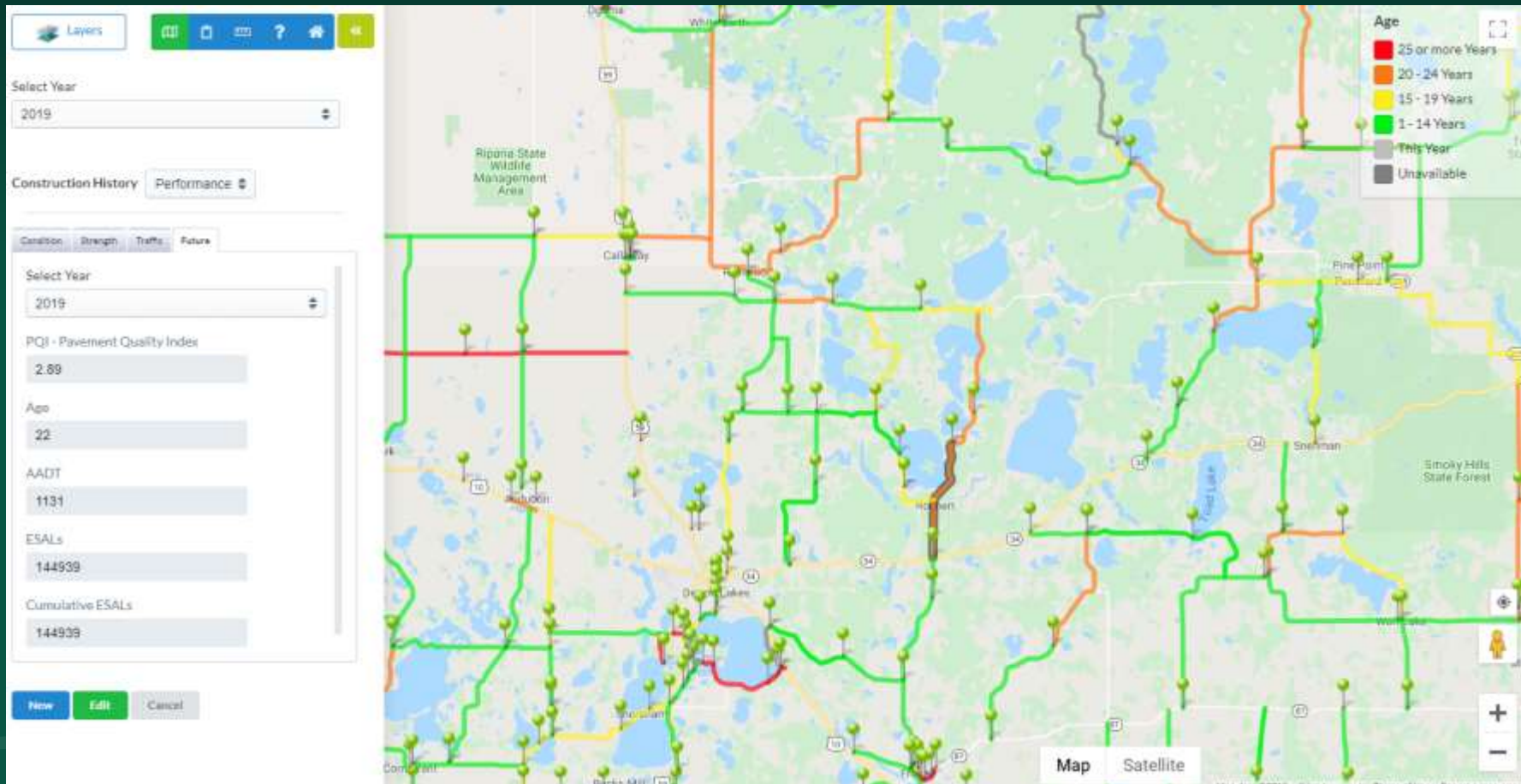
- GRIT- Webmap Viewer
 - Easy access to all data items
 - Showing pavement age and condition together



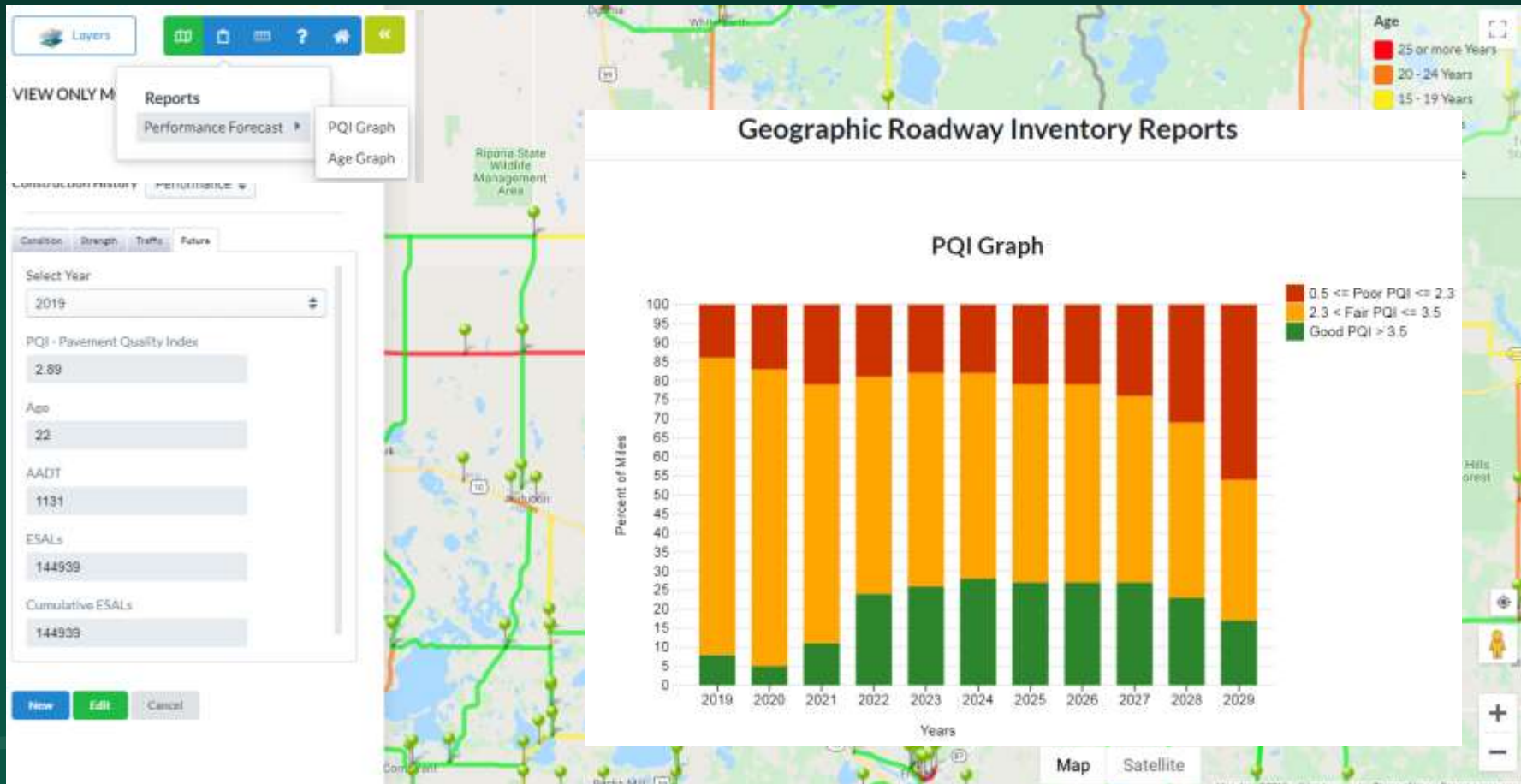
- GRIT- Webmap Viewer
 - Easy access to all data items
 - Showing pavement age and condition together



- **GRIT- Condition Forecasting - coming soon!**
 - Needs Study Model to predict condition
 - Select Year to see future condition data and map.



- GRIT- Condition Forecasting - coming soon!
 - System performance reports
 - % miles in good fair poor based on your planning layer



Items to Consider

- Update Construction History for the Needs Study
 - Any projects since 2015
 - Just edit existing segments - no overlaps
 - Update other items such as pavement and base info
- Update Construction Planning
 - With dedicated funding - build out a 5 to 10 year plan
 - Webmaps with construction status
 - Show where legislative funding will be used
- Pavement Condition Forecasting coming...
 - Will probably be available at conclusion of Needs Study

More Information/Resources

- See the UGPTI Website at
 - <https://www.ugpti.org/>
 - Resources/Asset Inventory
- Email Contacts
 - Bradley.wentz@ndsu.edu