

Rail GIS: Delivering Value

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Value for Vermont

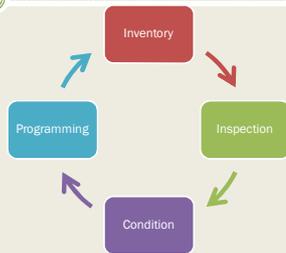
Turning expert knowledge
into usable **data**

Project Engineering Property Management Bridge Management Operating Railroad

Asset Management Concept

Applicable to

- Project Engineering
 - Bridges
 - Crossings
 - Culverts
 - Track
 - Switches
- Property Management
 - Rail Trails
 - Buildings
 - Excess Property
 - License Agreements



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- Inventory
- Inspection
- Condition
- Programming

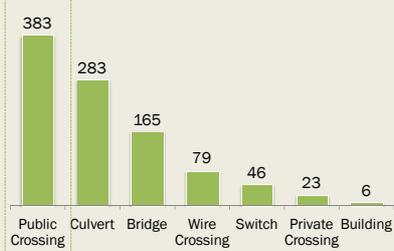
Crossing Number	Feature Crossed	Railroad Mile Post	Line Name	Town	State	Highway Highway System Class	Highway Class
837-102H	College St	121.9	VTR	Burlington	No	Non-Federal Aid	Urban Local

Surface Material	Surface Condition 2012	Surface Condition 2013	Warning Sign	Reflective?	Road Marking
Rubber	Good	Good	W10-3	Yes	Stop Line (Westbound)

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- Inventory
- Inspection
- Condition
- Programming

Assets Inspected in 2013



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- Inventory
- Inspection
- Condition
- Programming

Crossing Surface Condition



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- Inventory
- Inspection
- Condition
- Programming

- Programming prioritization is based on
 - Data
 - ✦ Inventory, inspection, and condition
 - Policy & Planning
 - ✦ State rail program
 - ✦ Railroad operator needs
 - ✦ RPC & Town needs
 - ✦ Budget constraints
- For Example:
 - After inspecting a crossing, it could become:
 - ✦ A major project
 - ✦ A maintenance project
 - ✦ Or nothing

Delivering the Value

Making the data easily **accessible** for our **customers**

Rail Section	Internal	External	Public
Project Engineering	Executive Staff	Operating Railroad	Legislature
Property Management	Environmental	Amtrak	Abutting Land Owners
Bridge Management	Right of Way	Utilities Companies	Businesses

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Public Web Maps

<http://rail.vermont.gov>

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Internal Web Maps

vtrans.maps.arcgis.com

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Mobile Maps

Web maps can be loaded on your mobile device.

You can also collect data in the field.

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Live Performance Measures

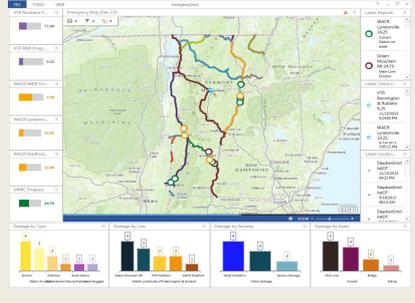
Annual Crossing Inspection

Line	Progress
VT1	100%
VT2	80%
VT3	60%
VT4	40%
VT5	20%
VT6	10%
VT7	5%

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Other Uses of GIS

Emergency Response

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Statewide Recognition



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National Recognition



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Thank You

Questions?

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Rail Bridge Management Program

Dan Delabruere
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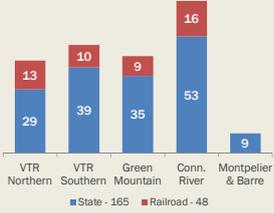
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Statewide Information

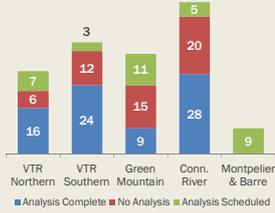
Statewide Bridge Inventory

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Bridge Responsibility



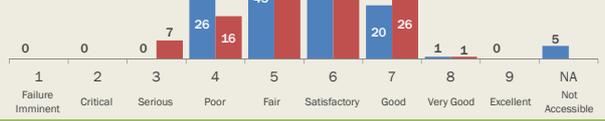
State Bridge Load Capacity



Statewide Inspection Condition Rating

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2010 Inspection(NBIS)
2013 Inspection(FRA)



Bridge Inspection Form

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VtRailroad Bridge Management Program

Rating Code Definitions

The purpose of the rating system is to ensure consistency in classifying structures with an appropriate code and to provide a corrective reaction for the identified condition. The rating system attempts to provide an overall understanding of a structure's condition and is based on an inspector applying appropriate condition rating codes. The following summarizes the relationship.

Condition Rating	Condition Description	Inspected Structure	Next
0	Not Inspected	NA	NA
1	Failure Imminent	AA	AA
2	Critical	AA	AA
3	Serious	AA	AA
4	Poor	BB	BB
5	Fair	CC	CC
6	Satisfactory	DD	DD
7	Good	EE	EE
8	Very Good	FF	FF
9	Excellent	GG	GG
10	Not Accessible	HH	HH

Key - Evaluation of Double Letter Codes:

- AA - Continue to inspect structure on a one year cycle.
- BB - No rehabilitative measures are required for the next time the structure is to be inspected.
- CC - Structure's component(s) can be treated effectively or improved with accelerated maintenance procedures and/or replacement of structural components in a next periodic life.
- DD - Structure listed in long term rehabilitation program for rehabilitation within the next five to ten year period.
- EE - Structure listed in intermediate term rehabilitation program for rehabilitation within the next two to five year period.
- FF - Structure listed in short term rehabilitation program for rehabilitation within the next two year period. Requires periodic monitoring of identified structural concerns.
- GG - Immediate rehabilitation necessary.
- HH - Structure has failed and is to remain out of service pending reconstruction.

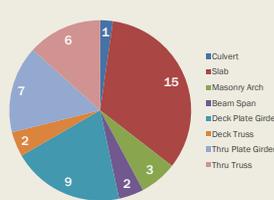
VTR Northern

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VTR Northern Inventory

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Span Superstructure Types



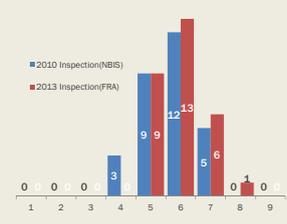
Superstructure Lengths



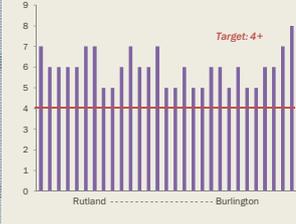
VTR Northern Inspection Condition Rating

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Rating History



Rating by Bridge



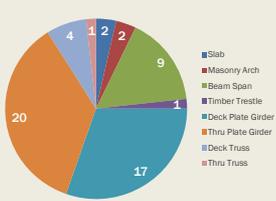
VTR Southern

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VTR Southern Inventory

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Span Superstructure Types



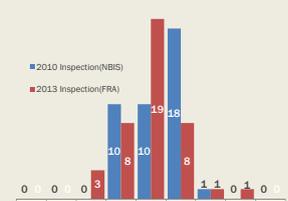
Superstructure Lengths



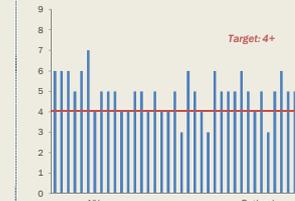
VTR Southern Inspection Condition Rating

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Rating History



Rating by Bridge



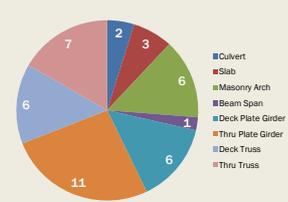
GMRC

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GMRC Inventory

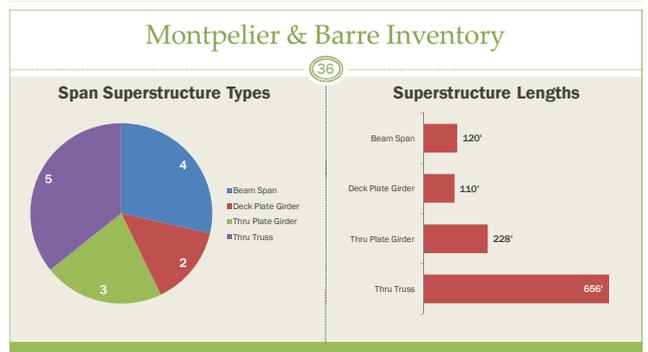
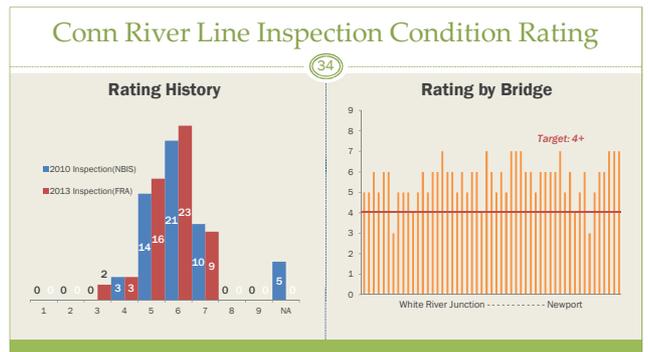
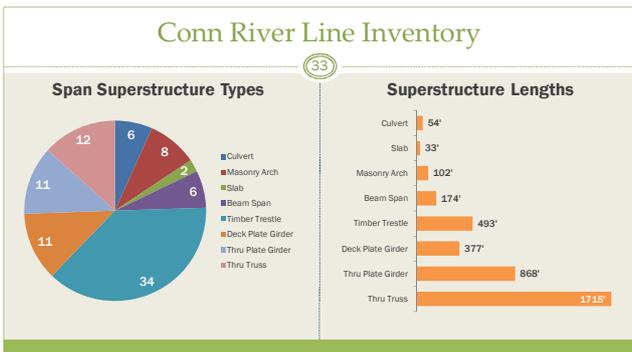
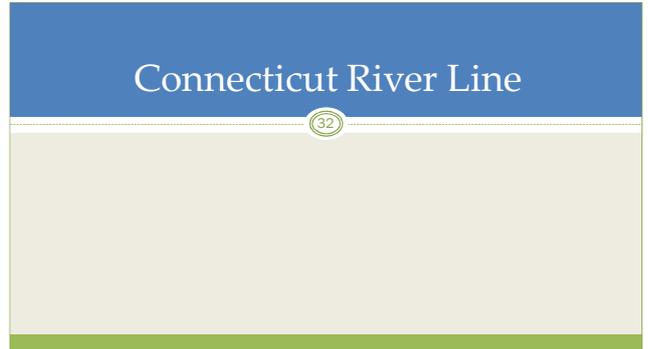
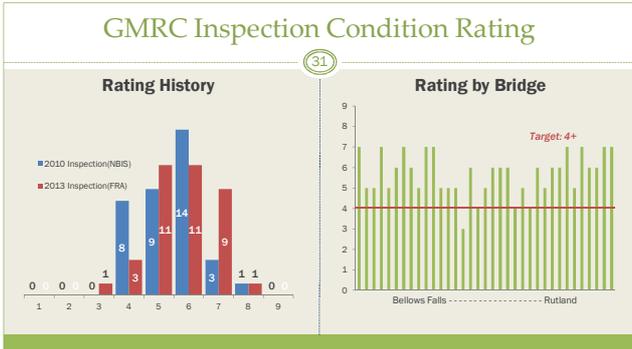
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Span Superstructure Types



Superstructure Lengths

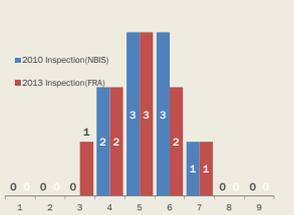




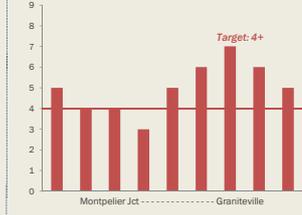
Montpelier & Barre Inspection Condition Rating

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Rating History



Rating by Bridge

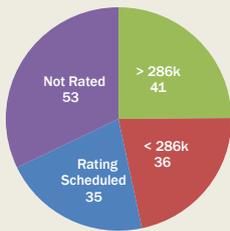


Load Capacity Analysis

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Statewide Load Capacity

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Thank you!

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QUESTIONS?