
VTRANS RAIL BRIDGE MANAGEMENT PROGRAM

prepared for the
HOUSE TRANSPORTATION COMMITTEE

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RAIL BRIDGE MANAGEMENT PROGRAM

The FRA established Federal safety requirements for railroad bridges in 2010 under 49 CFR Part 237. VTrans established a Rail Bridge Management Program in September 2012 in accordance with these regulations. The program is responsible for collecting and maintaining an inventory of rail bridges, their condition, and making recommendations on repairs, strengthening or replacement of components or entire structures. These regulations also mandate that annual safety inspections are performed for each bridge, and that all bridges have an initial determination of load capacity completed by September 2017.

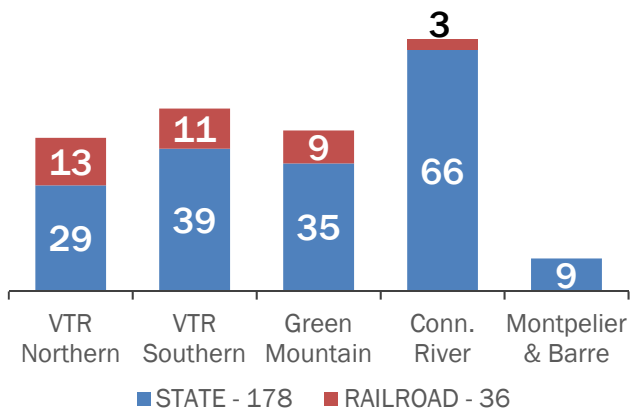
There are 214 rail bridges on State-owned property. The State is responsible for 178 of those bridges, with the railroad operator responsible for the remaining 36 bridges through existing lease agreements.

STATEWIDE BRIDGE INVENTORY

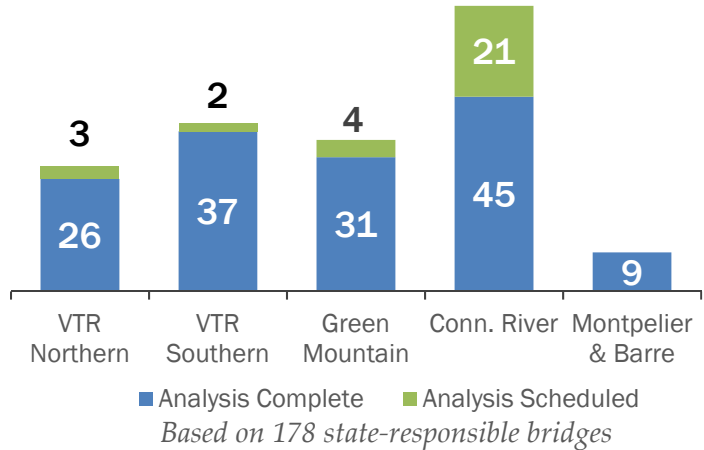
Summary:

| # Spans | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | Total |
|-----------|-----|----|---|---|---|---|---|---|---|----|----|-------|
| # Bridges | 170 | 26 | 9 | 3 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 214 |

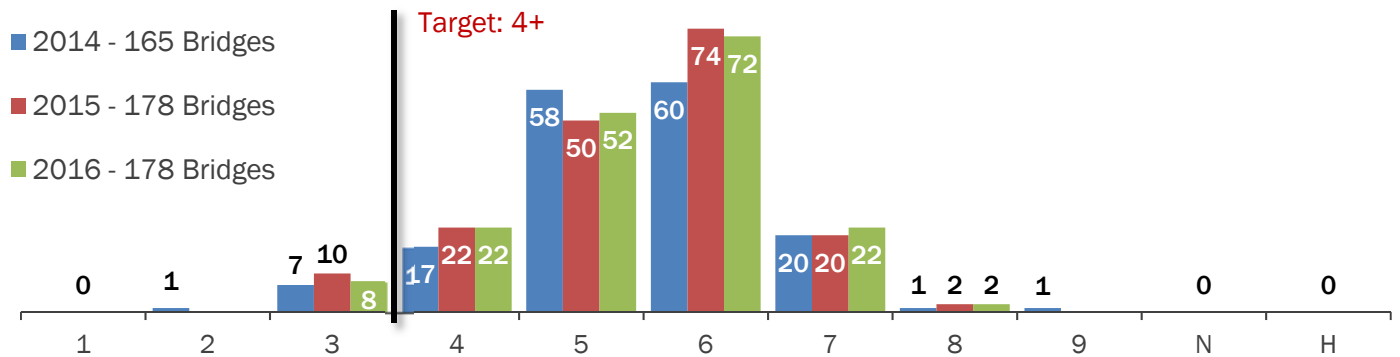
Bridge Responsibility



State Bridge Load Capacity

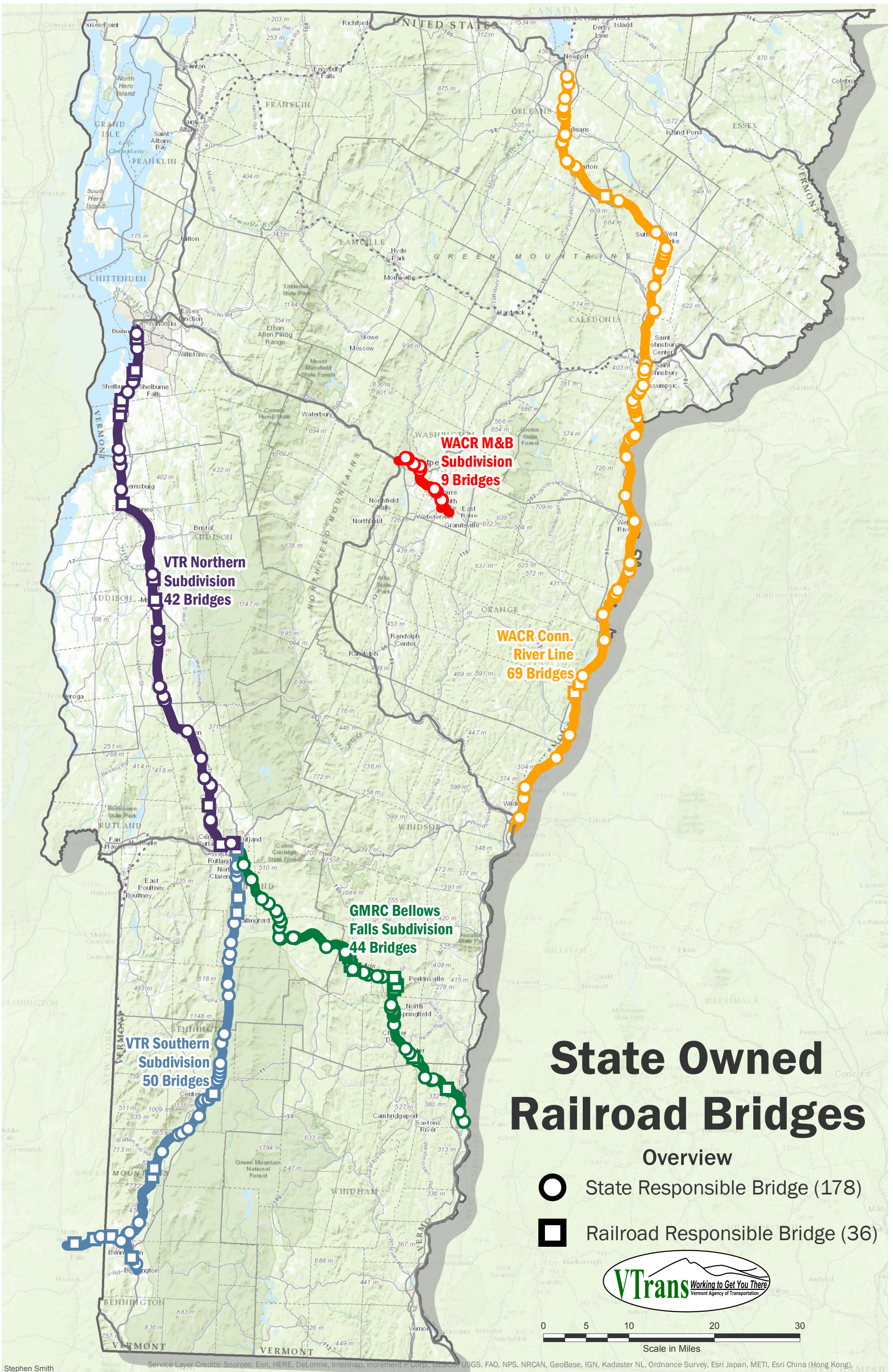


STATEWIDE INSPECTION CONDITION RATING



Key:

| | | | | | | | | | | |
|------------------|----------|---------|------|------|--------------|------|-----------|-----------|----------------|--------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | N | H |
| Failure Imminent | Critical | Serious | Poor | Fair | Satisfactory | Good | Very Good | Excellent | Not Applicable | Hidden |



VERMONT RAILWAY – NORTHERN

There are 42 Bridges on this line, 29 of which are the responsibility of the State.

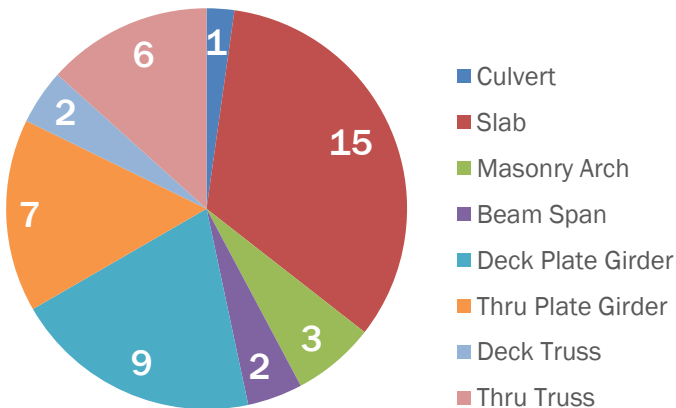
- All 29 bridges had an Annual Inspection during 2016.
- 3 Load Capacity Analyses remain to be completed by September 2017.
 - 1 is under contract to be completed by September 2017.
 - 2 will be finalized when the programmed projects are constructed.

INVENTORY

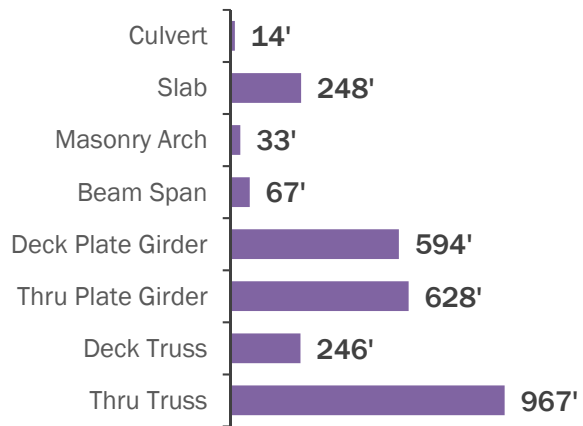
Summary:

| # Spans | 1 | 2 | 3 | 4 | Total |
|-----------|----|---|---|---|-------|
| # Bridges | 18 | 7 | 3 | 1 | 29 |

Span Superstructure Types

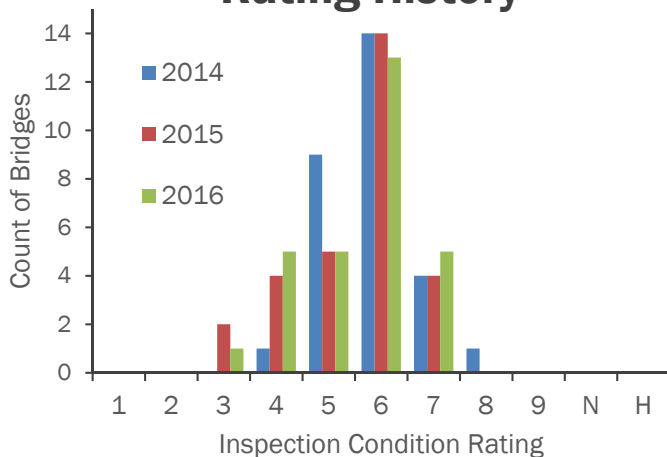


Superstructure Length

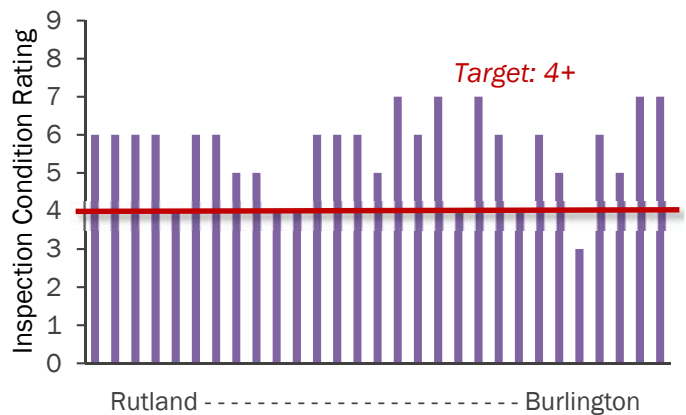


INSPECTION CONDITION RATING

Rating History



Rating by Bridge



VERMONT RAILWAY – SOUTHERN

The VTR “Southern” is a combination of the B&R and Hoosick Subdivisions and the Bennington Branch.

There are 50 Bridges on this line, 39 of which are the responsibility of the State.

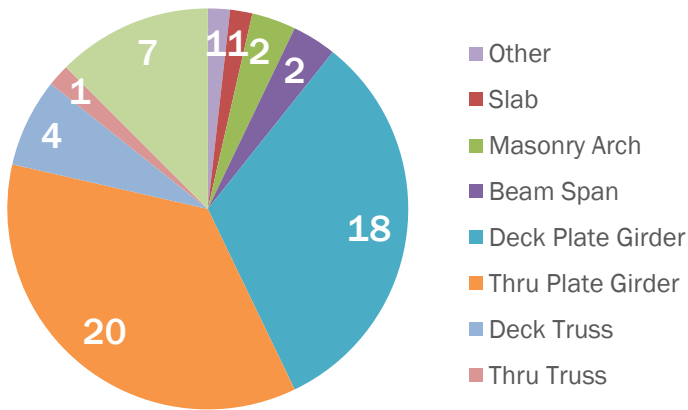
- All 39 bridges had an Annual Inspection during 2016.
- 2 Load Capacity Analyses remain to be completed by September 2017.
 - 2 will be finalized when the programmed projects are constructed.

INVENTORY

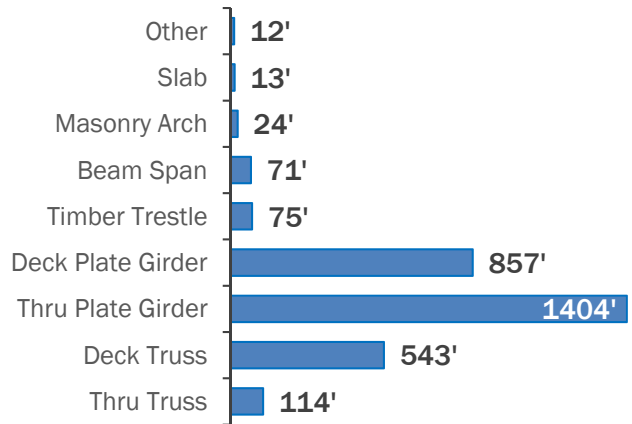
Summary:

| # Spans | 1 | 2 | 3 | 4 | 5 | 6 | Total |
|-----------|----|---|---|---|---|---|-------|
| # Bridges | 31 | 5 | 1 | 0 | 0 | 2 | 39 |

Span Superstructure Types

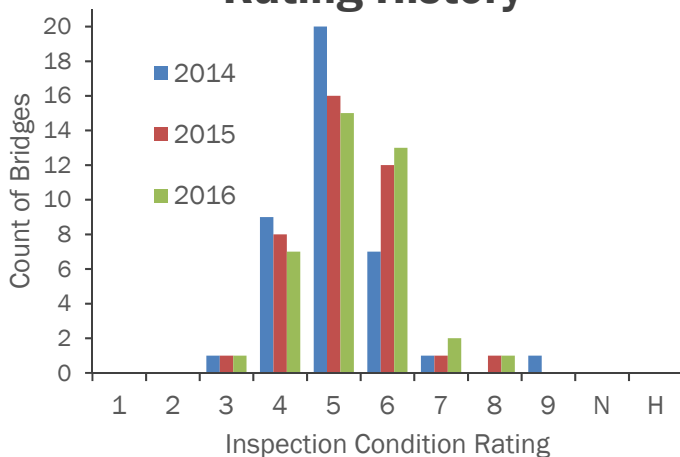


Superstructure Length

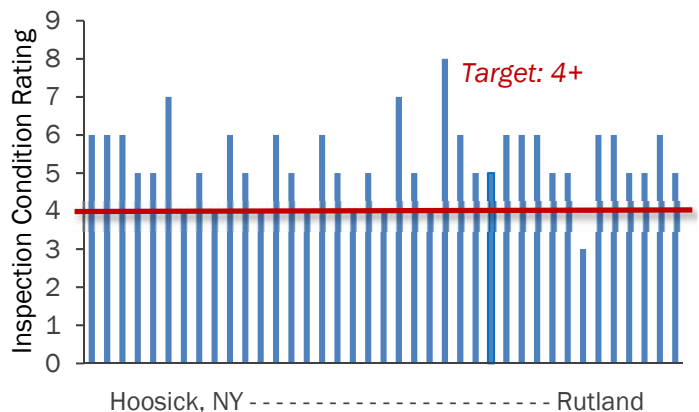


INSPECTION CONDITION RATING

Rating History



Rating by Bridge



GREEN MOUNTAIN

There are 44 Bridges on this line, 35 of which are the responsibility of the State.

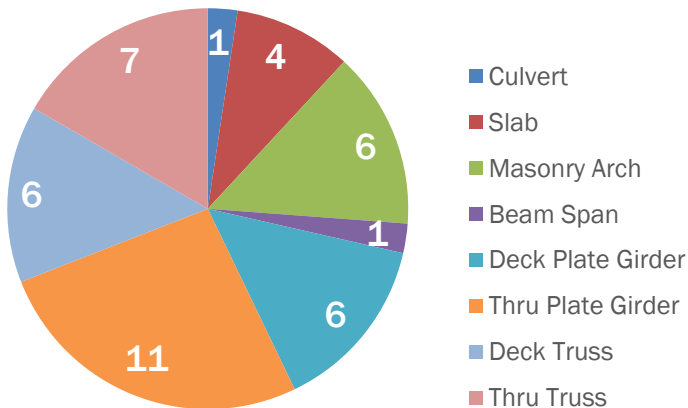
- All 35 bridges had an Annual Inspection during 2016.
- 4 Load Capacity Analyses remain to be completed by September 2017.
 - 1 is scheduled to be complete by September 2017.
 - 4 will be finalized when the programmed projects are constructed.

INVENTORY

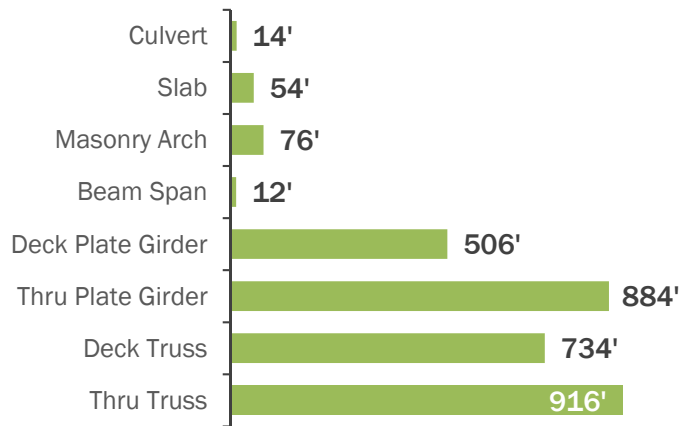
Summary:

| # Spans | 1 | 2 | 3 | 4 | Total |
|-----------|----|---|---|---|-------|
| # Bridges | 29 | 5 | 0 | 1 | 35 |

Span Superstructure Types

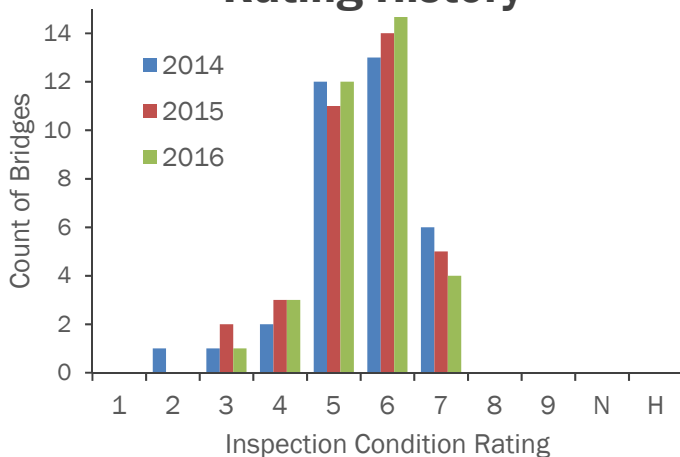


Superstructure Length

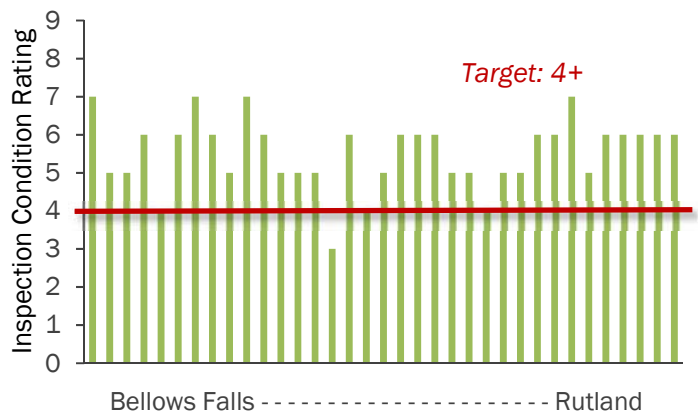


INSPECTION CONDITION RATING

Rating History



Rating by Bridge



WACR – CONNECTICUT RIVER

There are 69 Bridges on this line, 66 of which are the responsibility of the State¹.

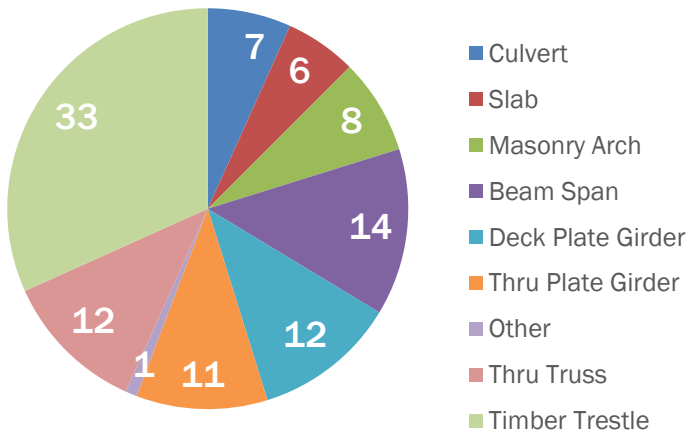
- All 66 bridges had an Annual Inspection during 2016.
- 21 Load Capacity Analyses are scheduled to be complete by September 2017.

INVENTORY

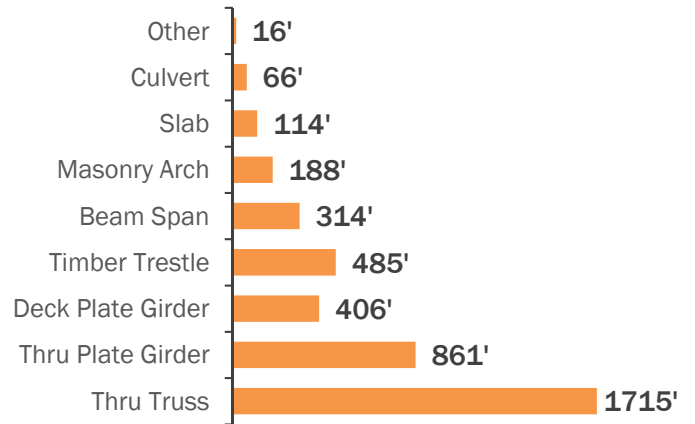
Summary:

| # Spans | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | Total |
|-----------|----|---|---|---|---|---|---|---|---|----|----|-------|
| # Bridges | 54 | 6 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 66 |

Span Superstructure Types

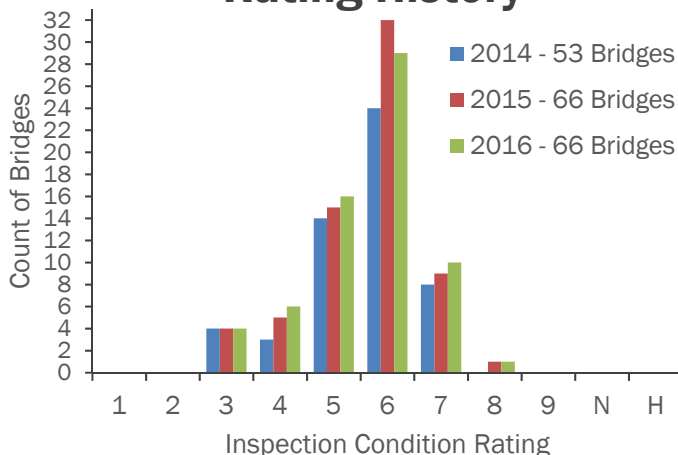


Superstructure Length

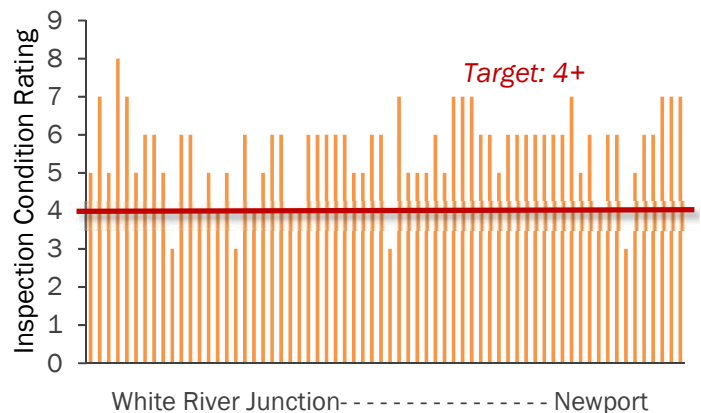


INSPECTION CONDITION RATING

Rating History¹



Rating by Bridge



¹ 13 Bridges were transferred to the State's Responsibility in 2015, resulting in 66 total WACR-CRL State bridges vs the 53 shown in 2014.

WACR – MONTPELIER & BARRE

There are 9 Bridges on the WACR – Montpelier & Barre Line, all of which are the responsibility of the State.

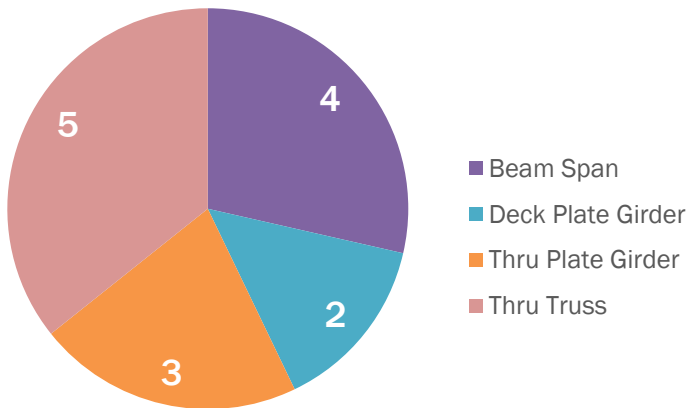
- All 9 Bridges had an Annual Inspection completed during 2016.
- All 9 Load Capacity Analyses have been completed.

INVENTORY

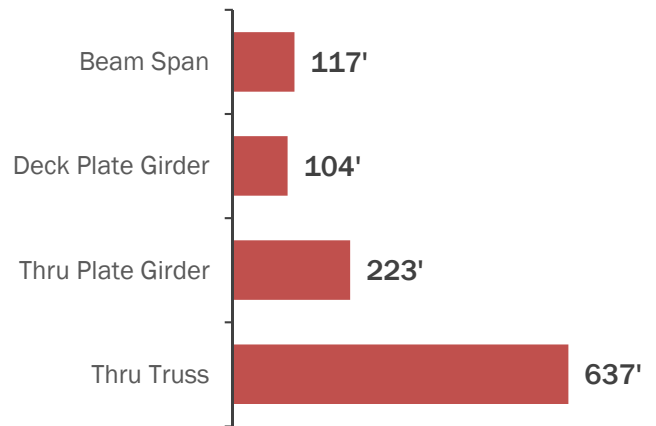
Summary:

| # Spans | 1 | 2 | 3 | Total |
|-----------|---|---|---|-------|
| # Bridges | 6 | 1 | 2 | 9 |

Span Superstructure Types

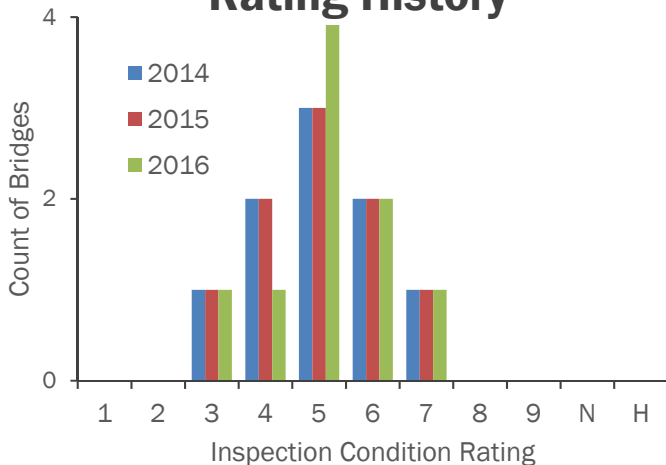


Superstructure Length

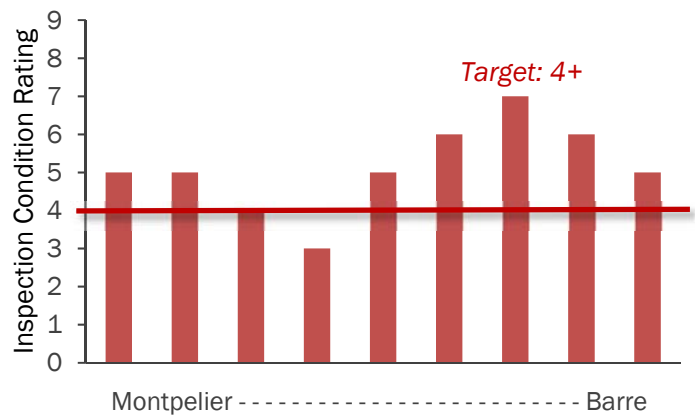


INSPECTION CONDITION RATING

Rating History



Rating by Bridge



STATEWIDE LOAD CAPACITY

Load Capacity Analyses have been performed on 148 out of 178 of our bridges.

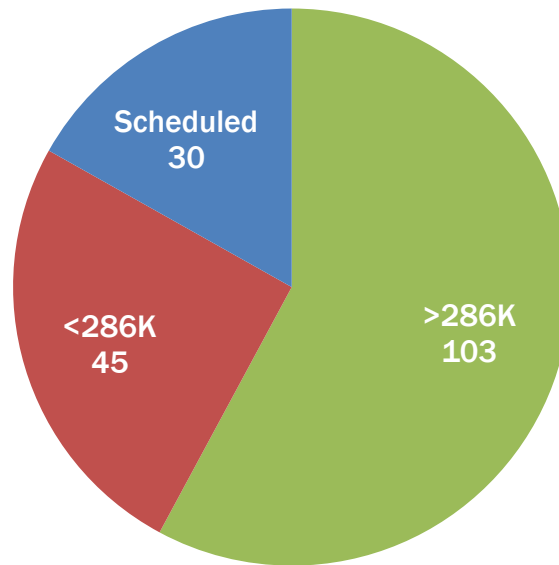
The remaining 30 bridges have Load Capacity Analyses scheduled to be completed by September 2017.

Of those 30 bridges, 23 will be completed through the Bridge Management Unit and an additional 7 will be completed through the Project Management Unit when construction of the programmed bridge project is complete.

Results from Annual Safety Inspections, or In-Depth Inspections, may require updated Load Capacity Analyses be performed as prescribed by a Railroad Bridge Engineer.

LOAD CAPACITY ANALYSIS

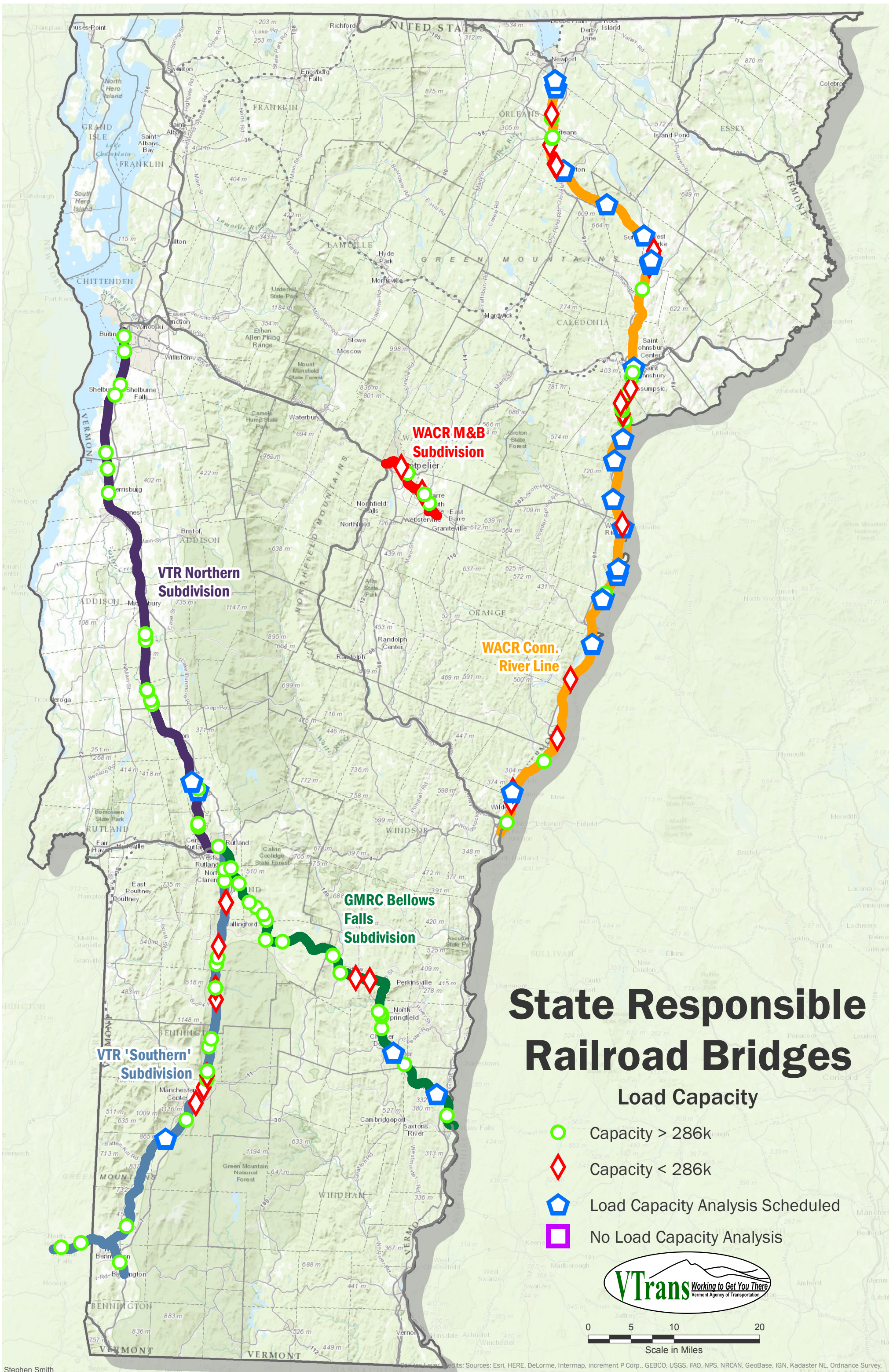
Corresponds to map on the next page



LOOKING AHEAD

Estimated yearly activities:

| Task | Historic | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 - 28 |
|---------------------------------|----------|---|------|------|------|------|------|-----------|
| Initial Load Capacity Analysis | 148 | 30 | 0 | 0 | 0 | 0 | 0 | 0 |
| Updated Load Capacity Analysis | | 0 | 25 | 25 | 12 | 12 | 12 | 12 |
| Annual Inspection | | 178 | 178 | 178 | 178 | 178 | 178 | 178 |
| Detailed Inspection* | | 30 | 31 | 31 | 18 | 18 | 18 | 18 |
| Underwater Inspection* | | 4 | 5 | 5 | 5 | 5 | 5 | 5 |
| Bridge Maintenance | | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Data Maintenance | | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| <i>*Estimated 10-year cycle</i> | | <i>Scheduled to be complete by end of CY 2017</i> | | | | | | |



**WACR M&B
Subdivision**

**VTR Northern
Subdivision**

**WACR Conn.
River Line**

**GMRC Bellows
Falls
Subdivision**

**VTR 'Southern'
Subdivision**

State Responsible Railroad Bridges

Load Capacity

- Capacity > 286k
- ◇ Capacity < 286k
- ⬠ Load Capacity Analysis Scheduled
- No Load Capacity Analysis

