



VERMONT AGENCY OF TRANSPORTATION

FY2022 Budget Presentation

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- Funding splits for Structures
- Funding source distribution
- Structure asset population
- Asset condition
- Structures SFY 2022 Budget
 - Interstate Bridge
 - State Highway Bridge
 - Town Highway Bridge
- Accelerated Bridge Program
- Emergency Response projects
- Completed Projects (before/After)



Presentation Overview



Interstate Bridge Program – Funds structures within Vermont’s Interstate corridor including bridges crossing over the interstate.

- Shared funding – 90% Federal and 10% State

State Highway Bridge Program – Funds bridges, large culverts, and retaining walls on Vermont’s State Highway system.

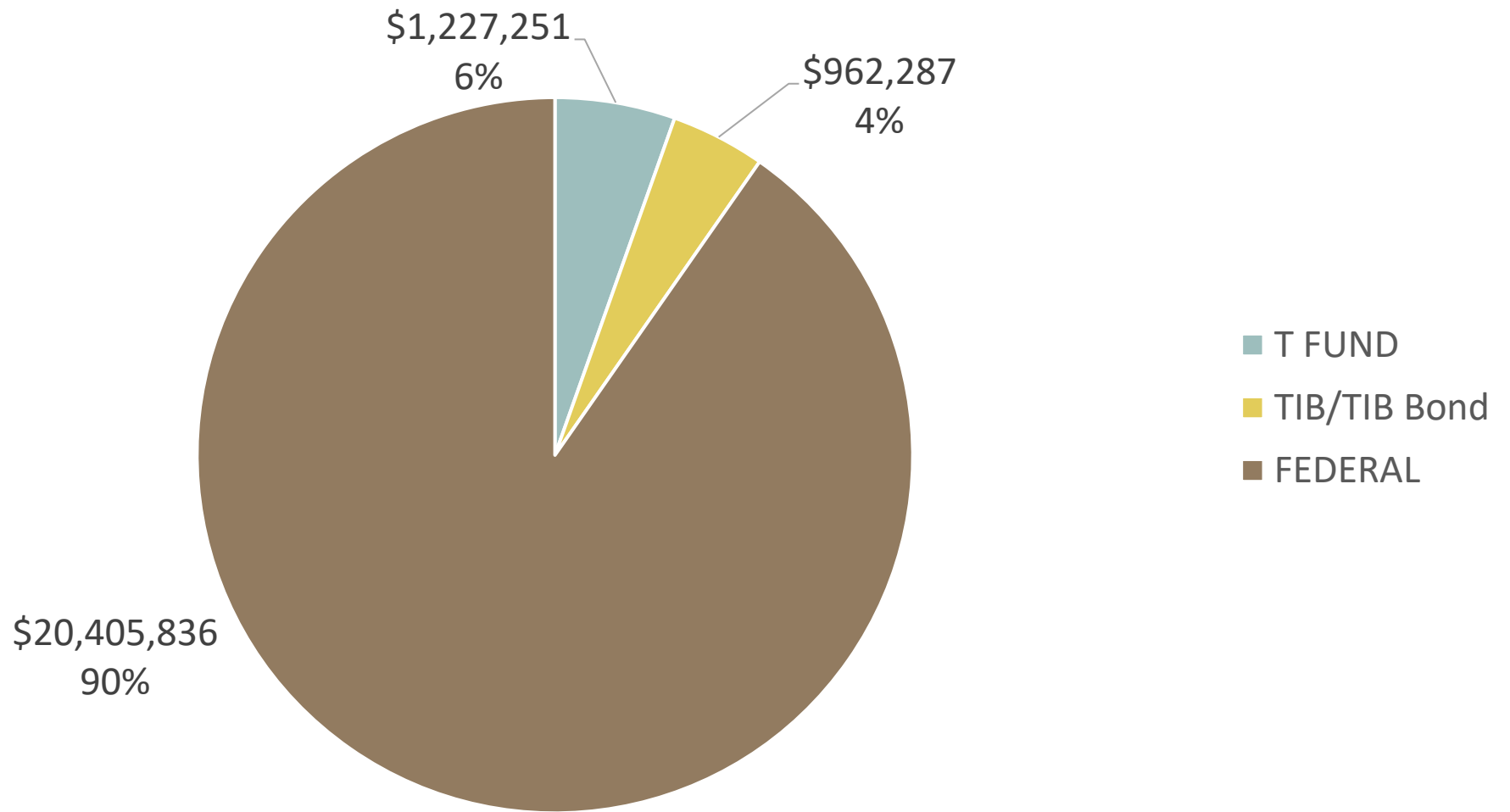
- Shared funding – 80% Federal and 20% State

Town Highway Bridge Program – Funds federally-eligible bridges on Class 1, 2, and 3 Town Highways.

- Shared funding – 80% Federal, 10%+ State, and 10%- Local

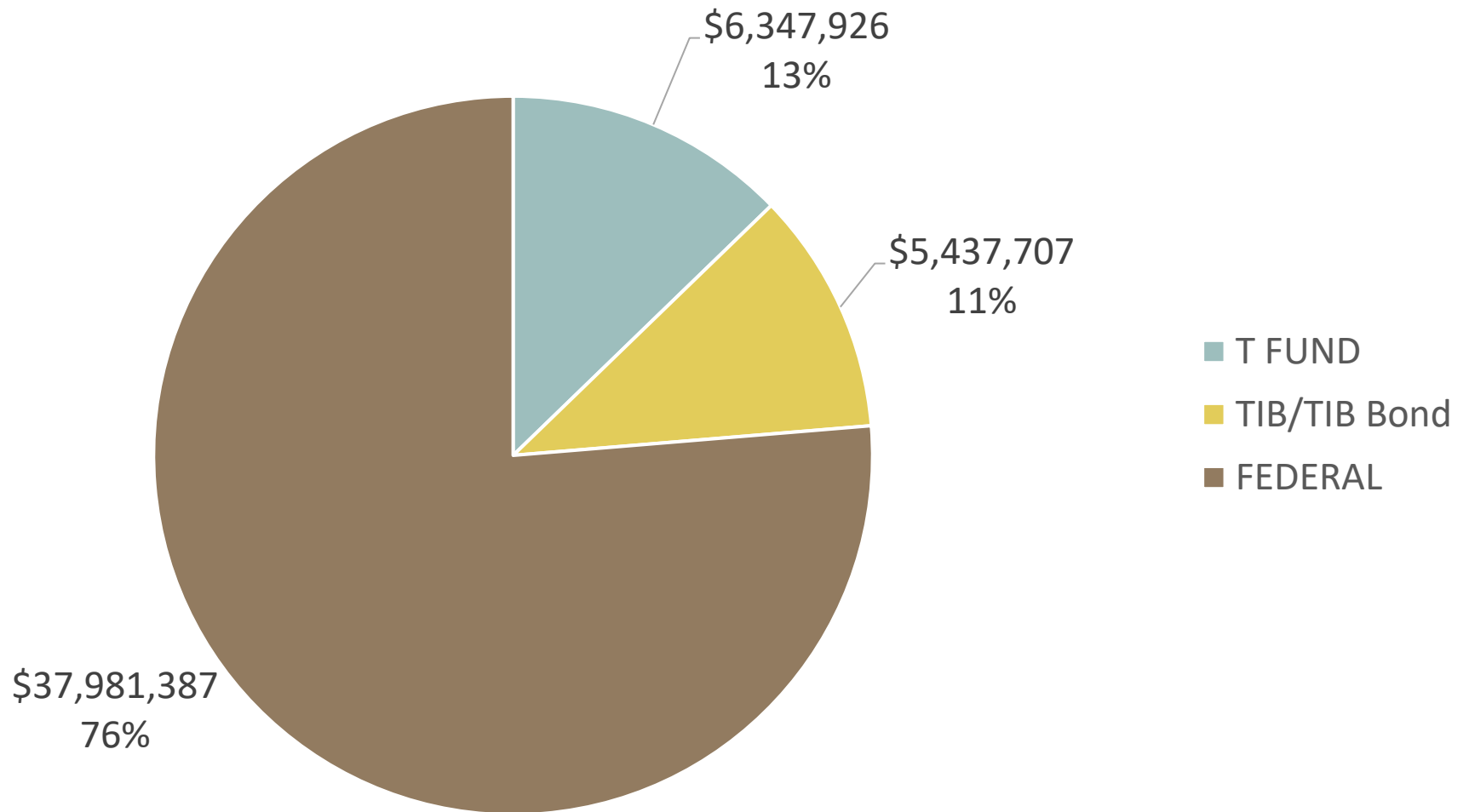
Bridge Programs Funded



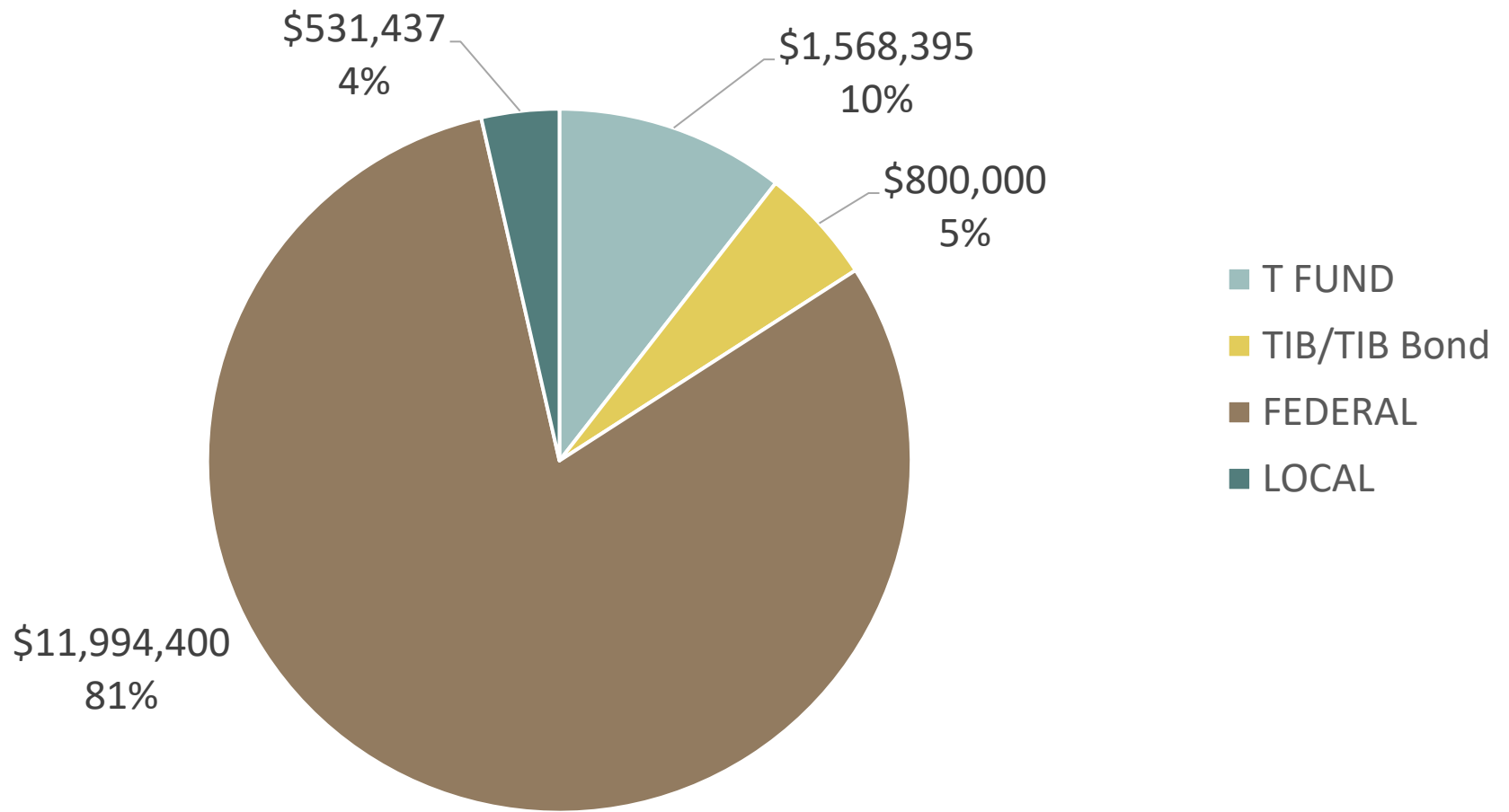


FY2022 Budget for the Interstate Bridge Program by Funding Source





FY2022 Budget for the State Highway Bridge Program by Funding Source



FY2022 Budget for Town Highway Bridge Program by Funding Source

Structure Type	Interstate State-Owned	State Highway Non-Interstate State-Owned	Town Highway Municipally-Owned	Other Private or Rail-Owned	Total All Owners
Long Structures (span length greater than 20 feet)	314	810	1,659	7	2,790
Poor	6	32	34	1	73
Fair	178	383	691	2	1,254
Good	130	395	934	4	1,463
Short Structures (span length greater than 6 feet to 20 feet)	204	1,056	*	*	1,260
Poor	10	46	*	*	56
Fair	91	578	*	*	669
Good	103	432	*	*	535
Total Structures	518	1,866	1,659	7	4,050

* VTrans does not maintain an inventory or perform safety inspections of town highway shorts

2020 Structure Asset Population and Condition Classification



Good (G), Fair (F), Poor(P) – Bridge condition is determined by the lowest rating of National Bridge Inventory (NBI) component condition ratings (deck, superstructure, substructure, or culvert).

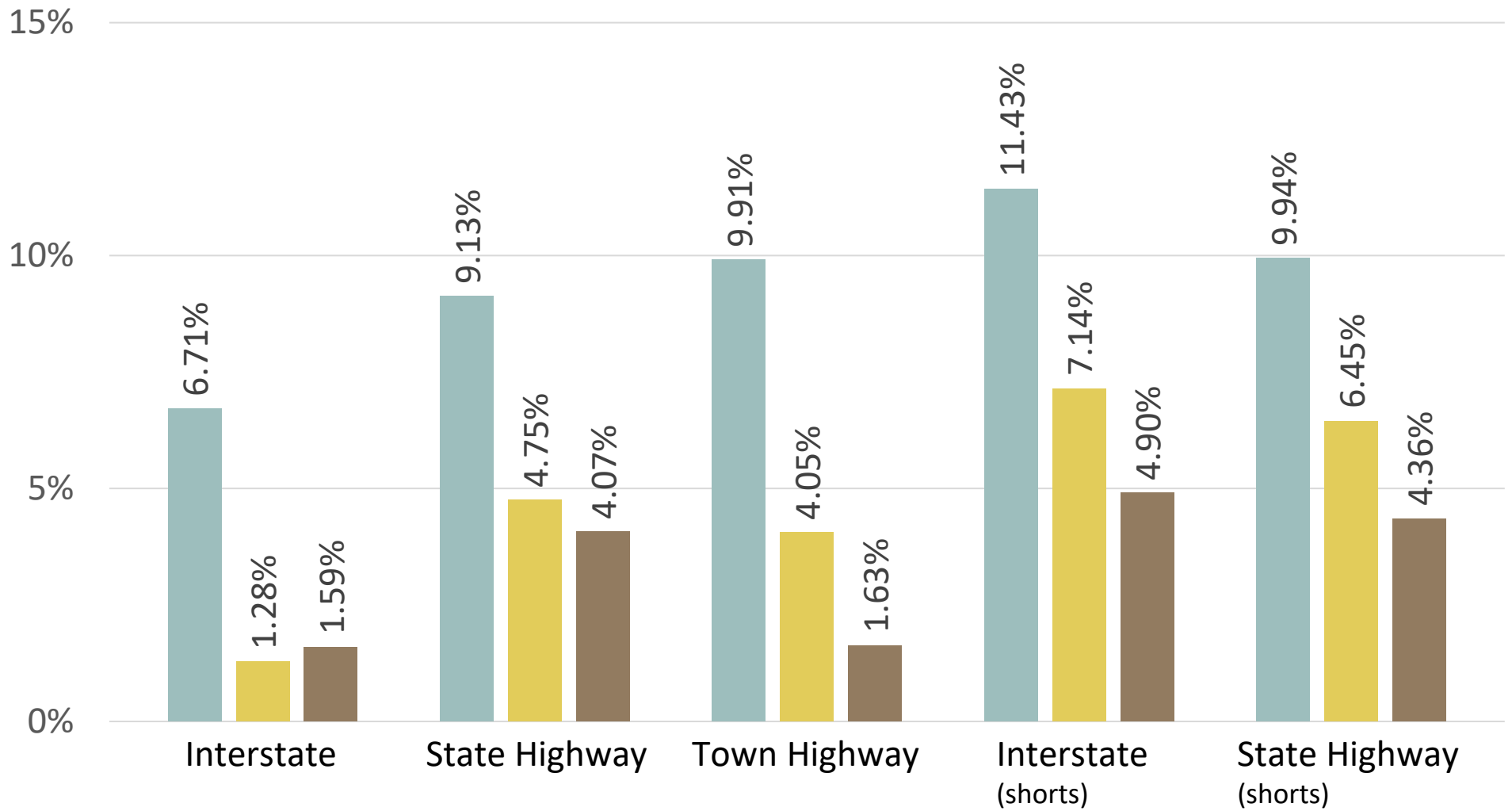
- If the lowest rating is greater than or equal to 7, the bridge is classified as Good; if it is less than or equal to 4, the classification is Poor. Bridges rated 5 or 6 are classified as Fair.

Structurally Deficient – Defined as a classification given to a bridge which has any component in Poor or worse condition.

- Previously defined as having a component condition rating of 4 or less (deck, superstructure, substructure, or culvert), OR having an appraisal rating of 2 or less for structural condition or waterway adequacy.

Bridge Definitions /Changes

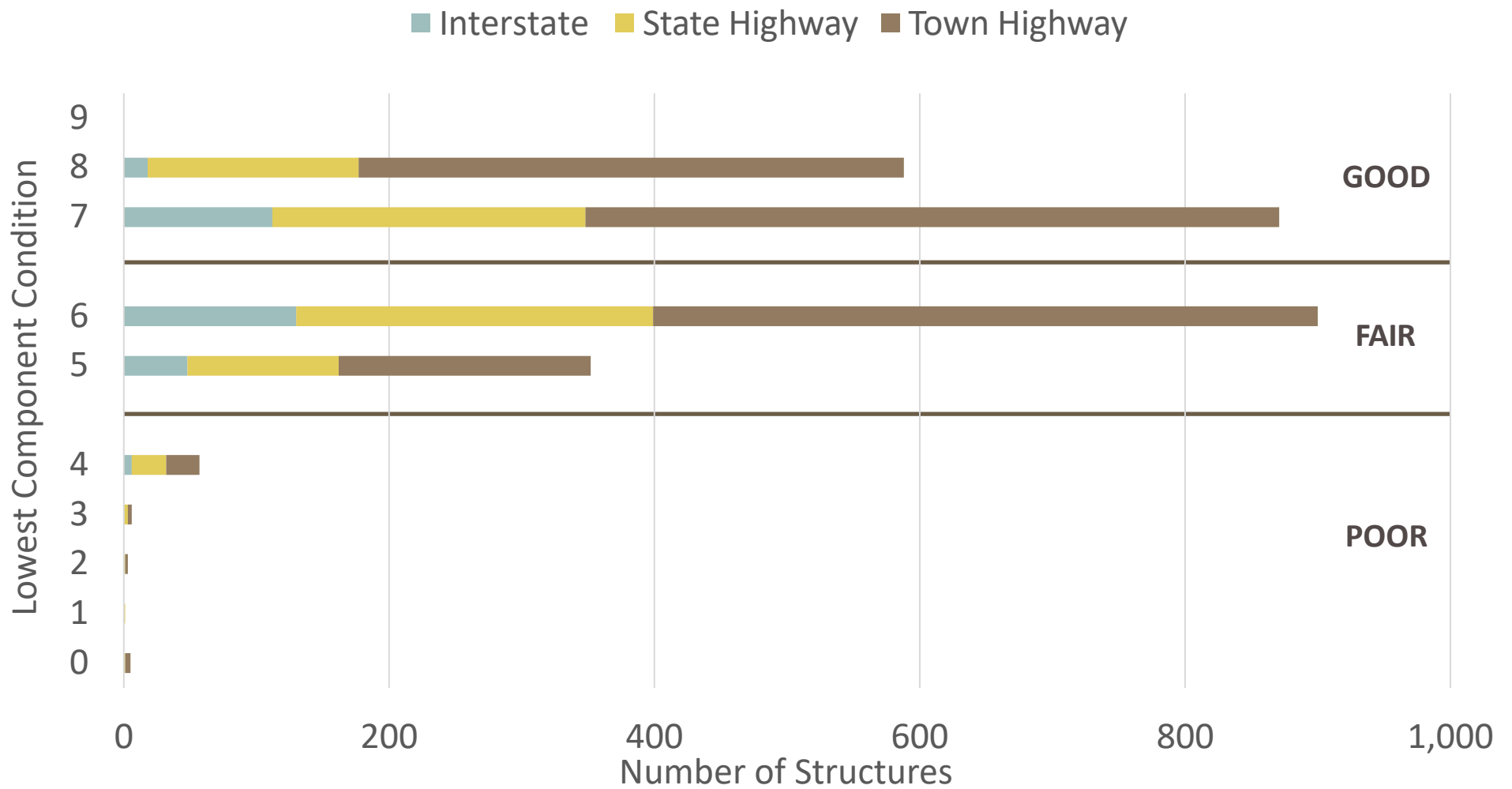




Structural Deficiency 10 Year Trend by Program

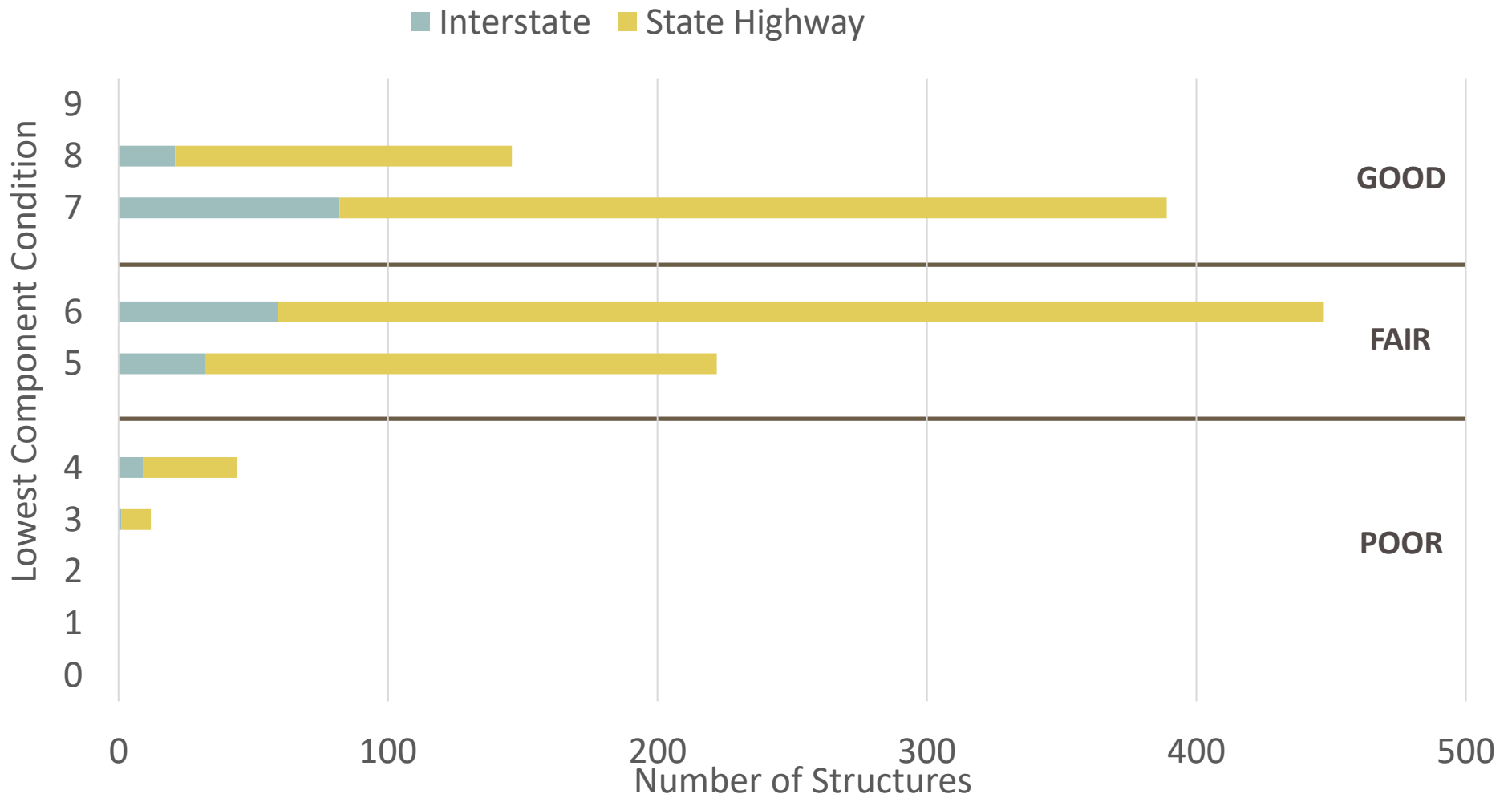
- = 2010 data from federal submittals
- = 2015 data from federal submittals
- = 2020 data from federal submittals





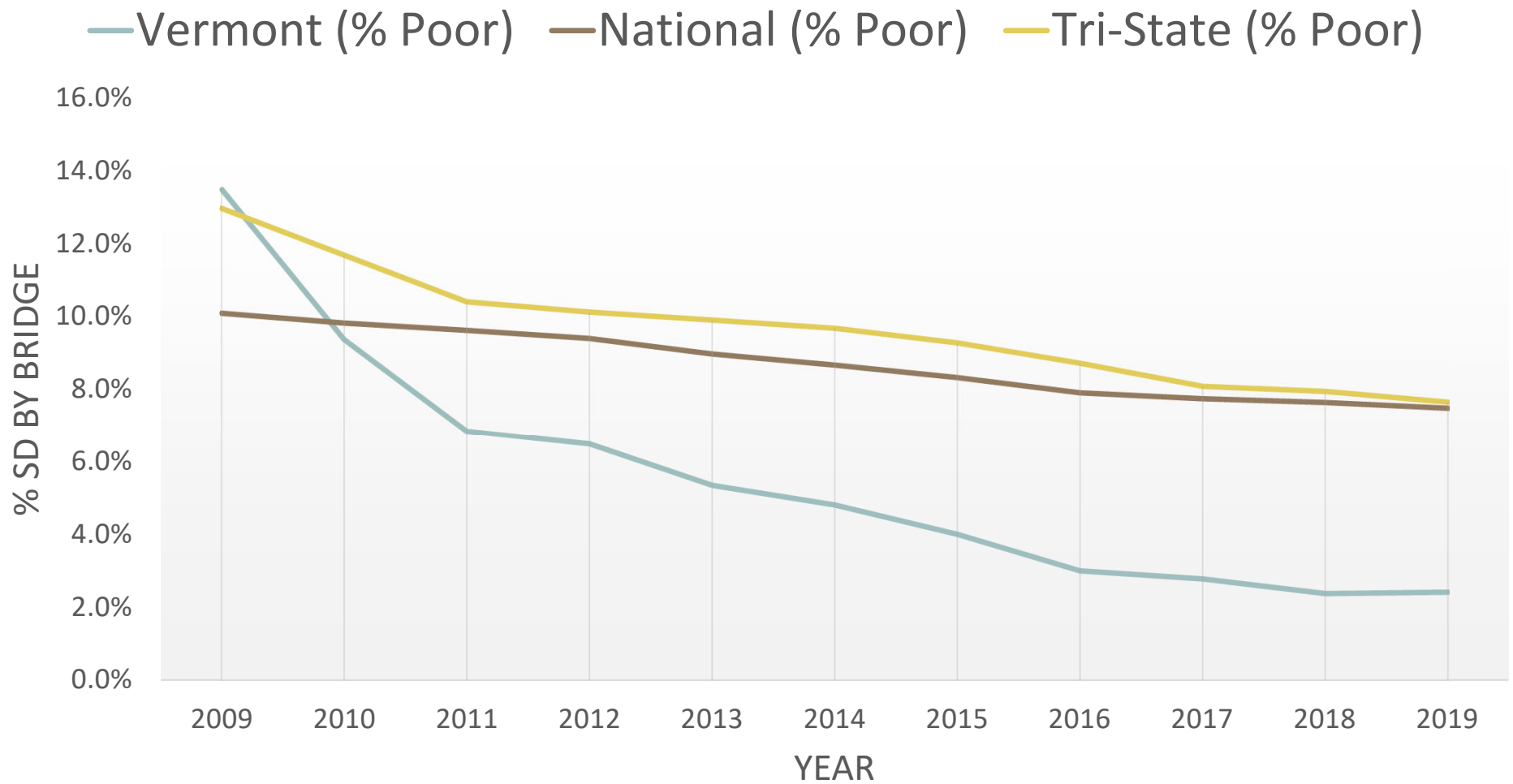
Long Structures – Current Condition





Short Structures – Current Condition





Structural Deficiency Trends

*data from FHWA which includes all federal bridges



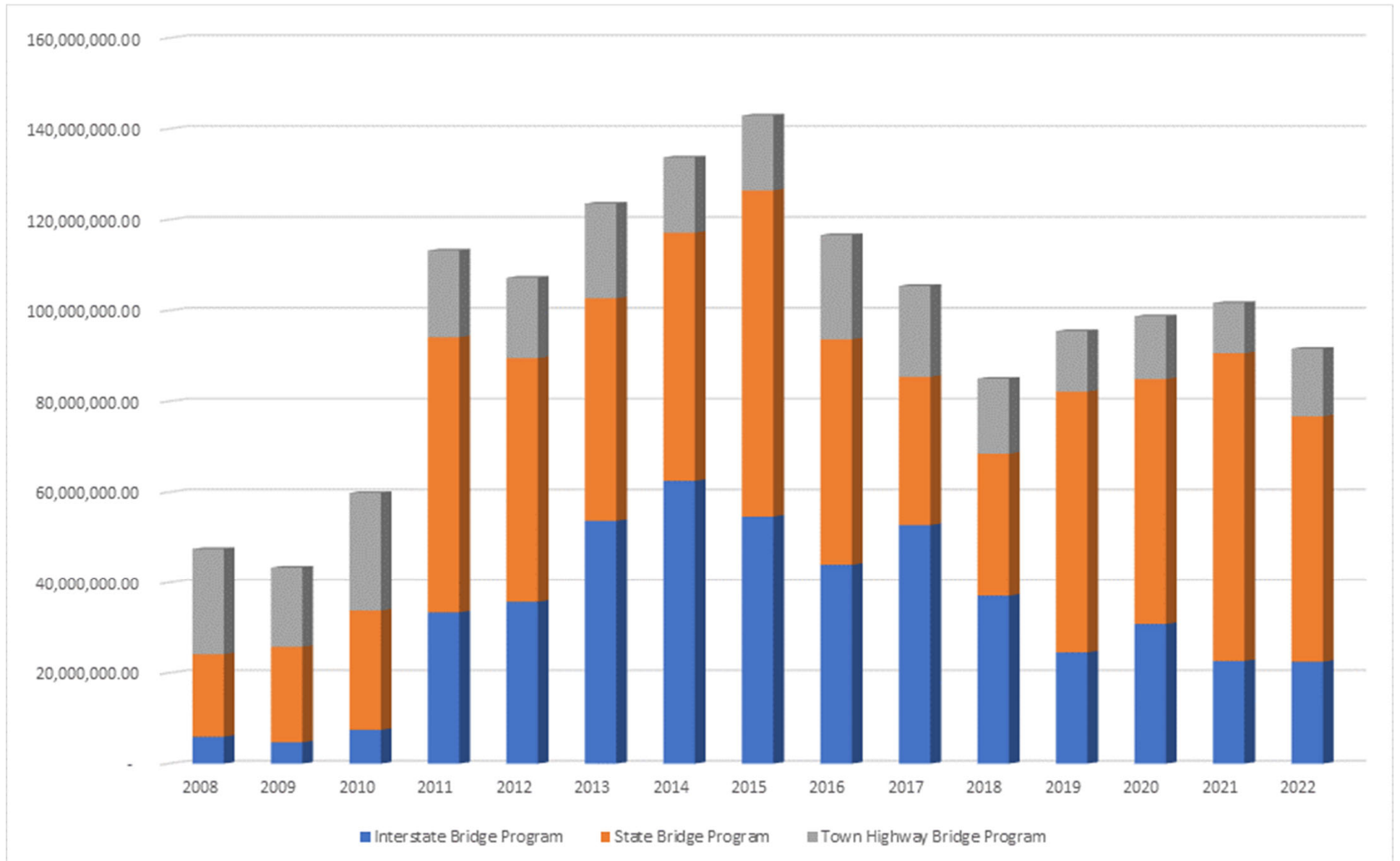
Structures Program Budget FY2022

\$87.26 million for bridges:

- 119 Projects Funded
- 65 Projects Funded for Construction
- Spending decreased \$16.4M from SFY 2021 (16%)



Program Funding Trends



Interstate Bridge Program FY2022

\$ 22.6 Million

21	Projects funded
15	Projects funded for Construction
1	Design Build project in progress – Rockingham
4	Bridge Maintenance/Preservation projects using Federal Funds (90/10)

Interstate Bridge Program Summary:

- Spending down \$58.5 thousand (-0.3%) from last year
- Rockingham Design Build to spend \$1.7M in FY22 to complete the project by fall of 2021
- Four bridge deck replacements on I-89 in Berlin will be complete this summer
- Bridge deck rehabilitation project starting construction on I-89 in Sharon (N&S)
- Lebanon NH – Hartford VT bridge on I-89 at exit 20 is under construction and will account for \$17M in spending over the next three years
- Bridge deck replacement project starting construction on I-91 in the town of Weathersfield (N&S)

Rockingham IM091-1(66) Design Build - Update

Project Spending:

- Through 2021 = \$49.3 Million
- Projected 2022 = \$1.7 Million

- Total Costs = \$51 Million

Project Progress:

- Southbound Bridge will be opened to traffic in June 2021
 - Bridge Deck is poured. F-Shape Rail Barrier, membrane, pavement, line striping and signs to be completed between now and June.
- Temporary cross-overs and temporary fill to be removed and restored to final grades.
- Final Completion of project scheduled to be complete in September of 2021.



Interstate Bridge 10G New Projects

- Bradford IM091-2(88) C/2
 - Preservation/Maintenance of 8 bridges on I-91. Originally included in the Fairlee – St. Johnsbury bundled preservation project for 16 bridges programmed last year. 8 bridges broken out as a separate project due to type of work. Now both projects include 8 bridges.

Interstate Bridge 10G Closed (Completed) Projects

- Bolton IM089-2(45) Rehab box culvert under I89
- Colchester IM 089-3(69) – Rapid replacement 4 bridge decks
- Brattleboro BM19203 – Bridge maintenance bridge deck
- Georgia BM20801 – Bridge maintenance
- Sharon BM20401 – Bridge maintenance
- Springfield BM19204 – Bridge maintenance

Interstate Bridge 10G Expanded Costs

- **Brattleboro BM 19203**

- Preservation Maintenance of Deteriorated bridge deck on VT9 over I-91 in Brattleboro. \$255,000.00 estimate when programmed but decision was made to remove more of the bridge deck due to deteriorated concrete. Final cost was \$763,750.00

- **Springfield BM 19204**

- The scope was for replacing four expansion joints and repair concrete in the Deck and abutments. The states estimate was \$350,000 but all bids were considerably higher. Furthermore, there was more repair necessary once concrete was exposed bringing the final cost to \$792,133.

State Highway Bridge Program FY2022

\$49.8 Million

67	Projects Funded
36	Projects funded for Construction (9 Large Culverts)
13	Large Culverts funded for development and Evaluated
15	Bridge Preservation/Maintenance Leveraging Federal Funds (80/20)
2	VT-NH Connecticut River Bridges

State Highway Bridge Program Summary:

- Down \$18.2 million (-26.8%) from last year
- North Hero-Grand Isle draw bridge project spending \$20.2 Million in SFY22
- Middlebury Tunnel is completing in FY22 with \$3.7M planned for spending
- Proctor Bridge 3 over VTR - Construction this summer spending \$2.6M
- Essex Bridge 2 on VT 117 – Construction this summer spending \$1.2M
- 2 Large culverts on Rt 100 in Plymouth under construction this summer
- \$2.6M Construction Funding for Maintenance/Preservation projects
- Projects ready for construction but delayed for lack of funding for FY22
 - Montgomery BR19 and BR20 on VT 118 – Bridge Deck Replacement
 - Hartford BR61 (Quechee Gorge) on US 2 – Major Rehabilitation
 - Killington BR33 on US4 – Bridge Replacement

North Hero – Grand Isle Construction Update

- \$84 million Construction project
- Temporary Bridge completed May 2019
- Existing bridge completely removed Fall of 2020
- Construction of first permanent components of the bridge in winter 2020 (sub-footings under water)
- Construction of new bridge piers through Winter/Spring/Summer of 2021
- New bridge opening delayed one year to June 2022 (due to hazardous contaminant management and COVID)



Middlebury Tunnel Project Update

- Completed excavation of approximately 26,000 CY or roughly 2,600 truck trips. Maximum excavation depth 40'
- Installed the precast tunnel, U-Walls, and upper wall panels, totaling 422 pieces of precast.



Middlebury Tunnel Project Update

- Completed construction of the rail corridor.
- Completed sidewalks adjacent to buildings, paving, temporary striping, granite curbing, street lighting, and some landscaping.



10 Week Rail and Roadway Closure

- Opened 2 days ahead of schedule on September 18th
- Railroad opened first with train through tunnel
- Roadways opened second after Joe Flynn and Brian Carpenter cut the ribbon on Main Street
- Cast in place cap wall, final grading, final paving, and final landscaping remain for 2021 construction season.





Middlebury WCRS(23) – Complete Fall 2021 (Rendering of Final Condition)

State Highway Bridge 10G New Projects

- Richford ER P20-1(806)
 - Permanent Project to address damaged culvert
- Stowe ER P20-1(803)
 - Permanent Project to address damaged culvert
- Middlebury ER P20-1(403)
 - Permanent Project to address damaged culvert
- Haverhill NH – Newbury VT – VT/NH Preservation Maintenance
- Dalton NH – Lunenburg VT – VT/NH Preservation Maintenance
- 15 New Bridge Preservation/Maintenance projects programmed

State Highway Bridge 10G Expanded Costs

- Bennington BM 20101 – Pier Strengthening and Evaluation
 - More refined estimate for strengthening the Pier resulted in increased costs from \$155,000 to \$311,250

State Highway Bridge 10G Closed (Completed) Projects

- Bethel BHF 0241(38)
 - Replace BR38 on VT 12 Gilead Brook
- Dover BHF 013 -1(20)
 - Replace BR59 on VT 100 over
- Georgia BF 023-1(7)
 - Replace BR1 on VT 104A over Arrowhead Lake
- Moretown BF 0167(16)
 - Replace BR2 on VT 100B over Dog River
- MT. Holly BF 0133(12)
 - Replace BR7 on VT 155 over the Mill River
- Putney STP DECK(38)
 - Replace Deck on BR15 on US 5 over Sacketts Brook
- Orange BF0241(45)
 - Rehabilitate BR18 on US 302 (Culvert)
- Fairhaven BM19301
 - Bridge Maintenance BR3 E & W on US4
- Weathersfield BM20201
 - Bridge Maintenance BR8 on VT 106

Town Highway Bridge Program FY2022

\$14.9 Million

31	Projects funded
14	Projects funded for Construction
3	VT-NH Connecticut River Bridges funded for Construction
2	Covered Bridge Projects in development (Clarendon and Salisbury/Cornwall)

Town Highway Bridge Program Summary:

- Up \$1.8 million (+13.9%) from last year
- Brattleboro – Hinsdale is advertising this winter and will spend millions over the next three years. Construction Estimate = \$57.5 M with VT share at \$16 M
- Construction funding for bridges in several towns:
 - Newbury – BR #15 on Boltonville Road over the Wells River
 - Burke – BR #35 on Hayden Crossing Road over the West Branch of the Passumpsic River
 - Enosburg – BR #50 on E. Bakersfield Road over the Tyler Branch. Bridge was closed this year
 - Newfane (Arch Bridge) – BR #12 on Depot Road over the Rock River – Advertising this summer. Bridge closure occurring in Calendar year 2022.
 - Poultney BR #7 on The Green over the Poultney River. Advertising fall of 2021.

HINSDALE-BRATTLEBORO
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A004(152)



Town Highway Bridge 10G New Projects

- No new projects added

Town Highway Bridge 10G Expanded Costs

- No projects with substantial cost increase

Town Highway Bridge 10G Closed (Completed) Projects

- Eden BO 1448(44)
 - Replaced BR23 on Knowles Flat Road over the White Branch of the Gihon River
- Orleans Village BF 0310(7)
 - Replaced BR10 on VT 58 (Barton St.) over the Barton River

Accelerated Bridge Program



98 ABC projects

Delivered since 2012

44% of all Projects

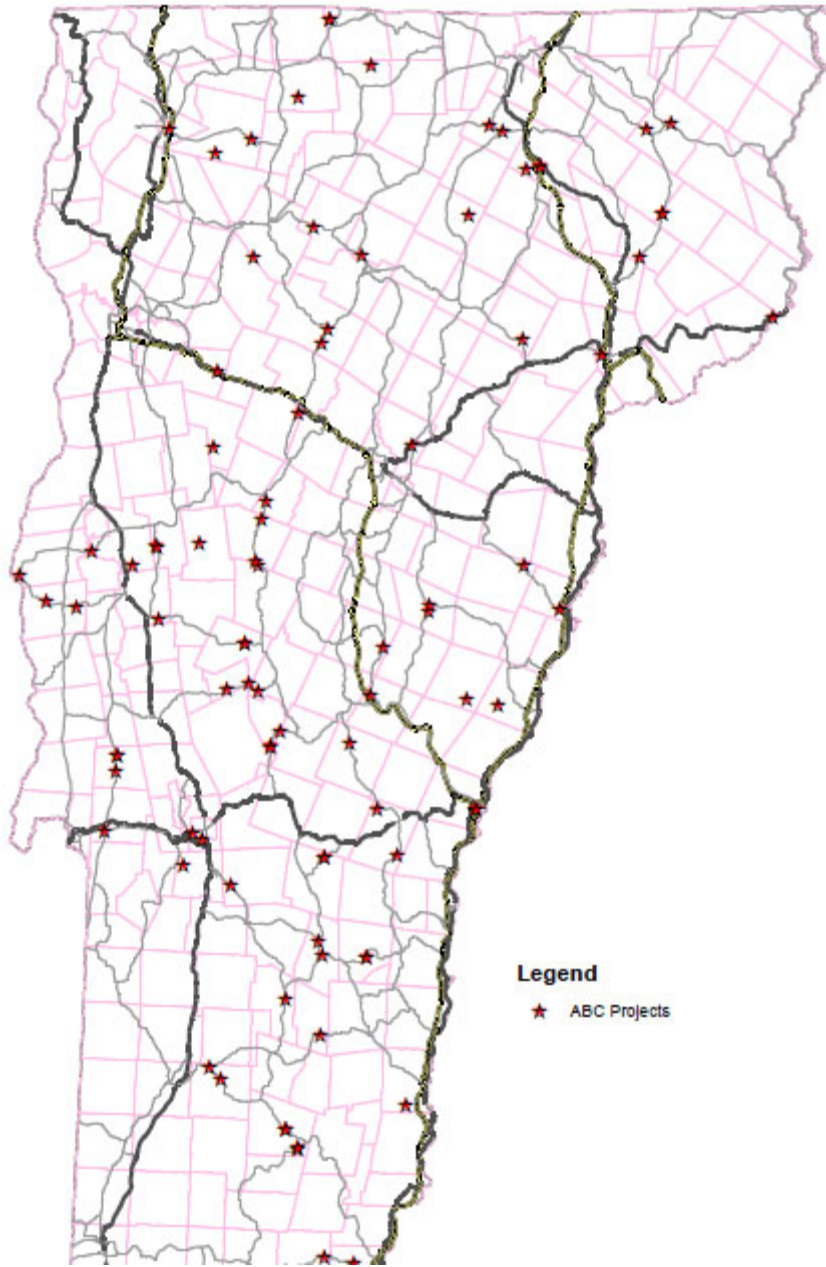
In the Structures Program

\$212 Million

In construction costs since 2012

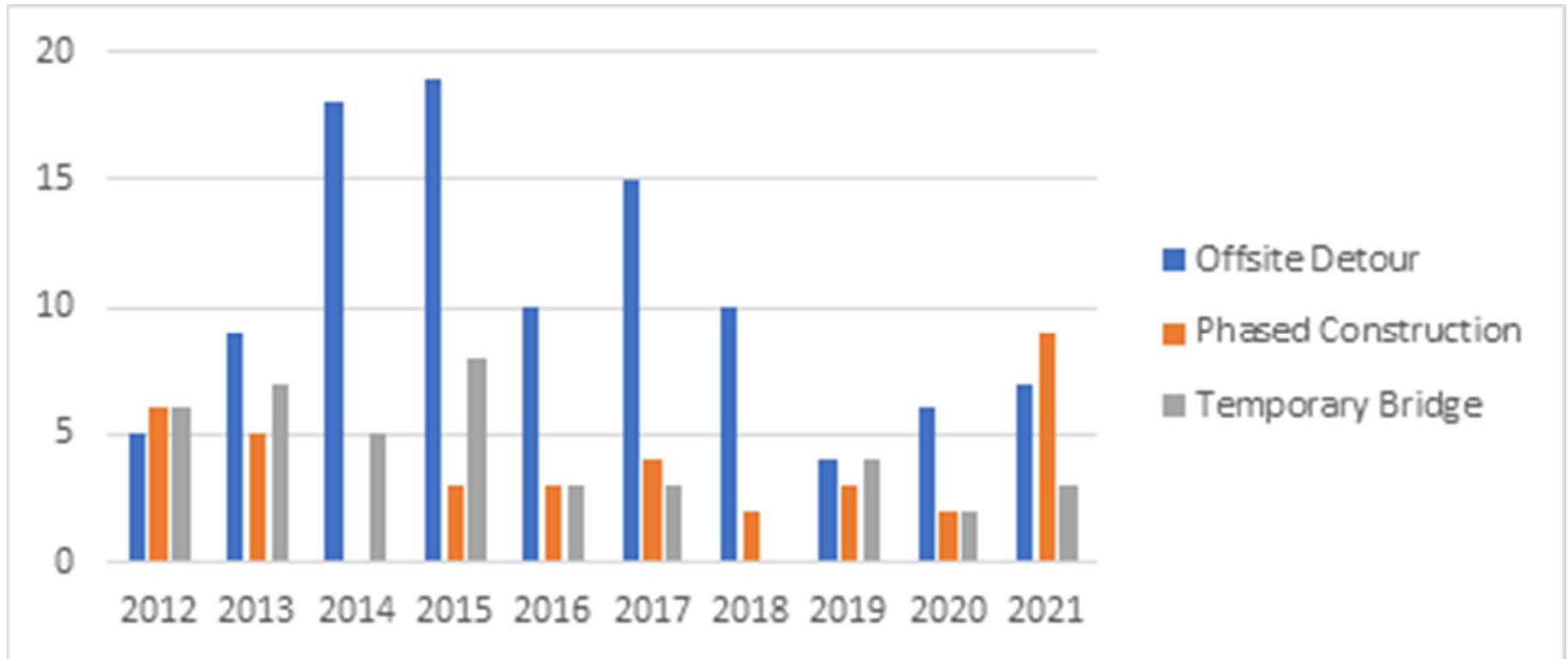
96% on time

Bridge openings



ABC Project Map

Short Term Road Closures Summer 2021



	PROJECT NAME	PROJECT NUMBER	ROUTE	Construction	Duration	Scope
2021	ADDISON	BF 0172(9)	VT-125	Accelerated	14 days	Culvert Replacement
2021	BURKE	BO 1447(31)	Haydon Crossing	Conventional	Closed	Full Bridge Replacement
2021	ENOSBURGH	BO 1448(45)	Bakersfield Rd	Conventional	Closed	Full Bridge Replacement
2021	NEWBURY	BO 1447(32)	Boltonville Rd	Accelerated	36 days	Superstructure Replacement
2021	PLYMOUTH	BF 013-3(13)	VT-100	Accelerated	21 days	Culvert Replacement
2021	PLYMOUTH	BF 013-3(17)	VT-100	Accelerated	7 days	Culvert Replacememnt
2021	PROCTOR	BO 1443(54)	North Street	Accelerated	90 days	Full Bridge Replacement



Emergency Response

Georgia I-89 and Skunk Hill Rd

- Culvert liner with innovative injection grouting to fill and stabilize voids. Baffles and downstream channel work will improve AOP.
- Structures Project Manger/Hydraulics Engineer Nick Wark oversaw plan development and worked with Contractor to negotiate fair price for complete replacement
- Construction Resident Engineer Chris Lavalette managed the 24/7 oversite to complete construction on July 22, 2021
- Total construction costs = \$6 Million (\$170,000 State Funds)

Duxbury STP CULV(67)

- Permanent Replacement Pipe sized, laid out and contracted in 14 days
- All permits and ROW were acquired
- Structures Project Manager Rob Young worked with Bridge Maintenance utilizing ID/IQ contracting to quickly install this culvert
- Bridge Maintenance Project Manager Jeremy Salvatori over saw Construction.
- Total construction costs = \$190K (80% Federal Funded)







Bolton Before



Bolton After



Eden Before



Eden After



Mt Holly Before



Mt Holly After



Putney Before



Putney After





Bethel Before



Bethel After



Dover Before



Dover After

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Questions?

