



# VERMONT AGENCY OF TRANSPORTATION

## FY2024 Budget Presentation

*Carolyn Cota, P.E. Structures  
Program Manager*

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- Funding splits for Structures
- Funding source distribution
- Structures SFY 2024 Budget
  - Interstate Bridge
  - State Highway Bridge
  - Town Highway Bridge
- Accelerated Bridge Program
- Completed Projects (Before/After)
- Future Funding and Risks



# 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.

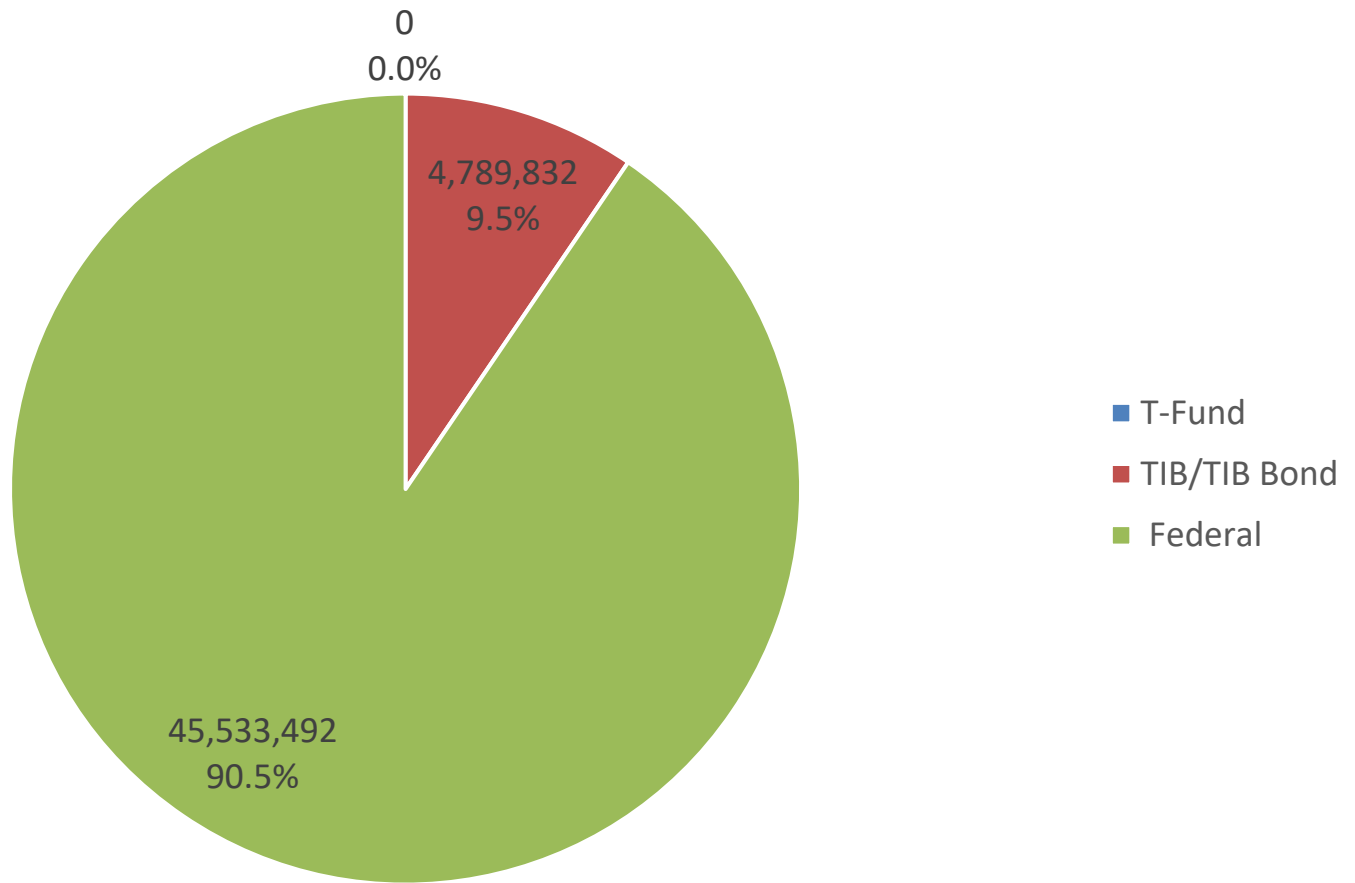
- Shared funding – 80% Federal and 20% State

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

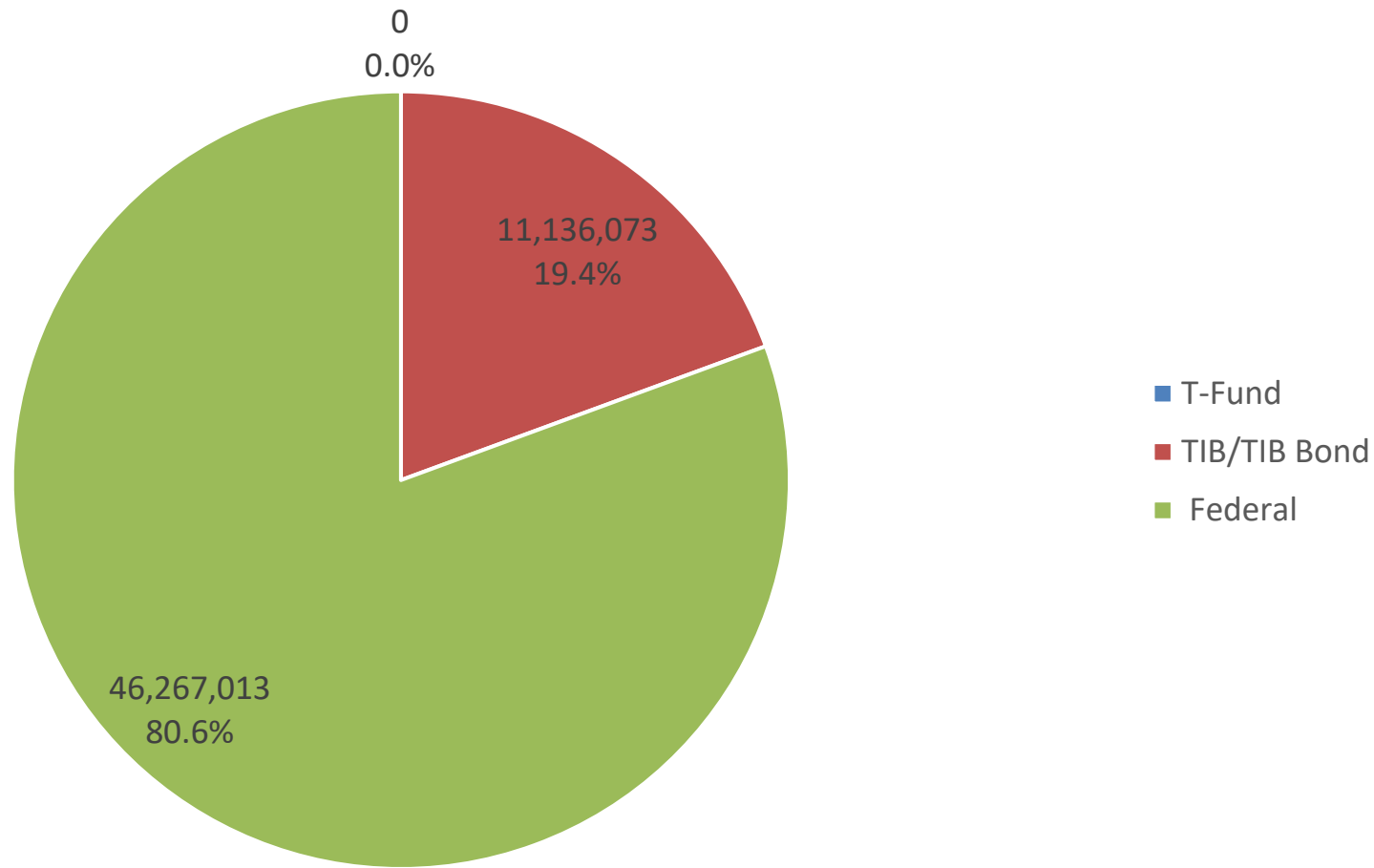
- Shared funding – 80% Federal, 10%+ State, and 10%- Local
- IIJA Projects – 100% Federal for construction phase

Bridge Programs Funded

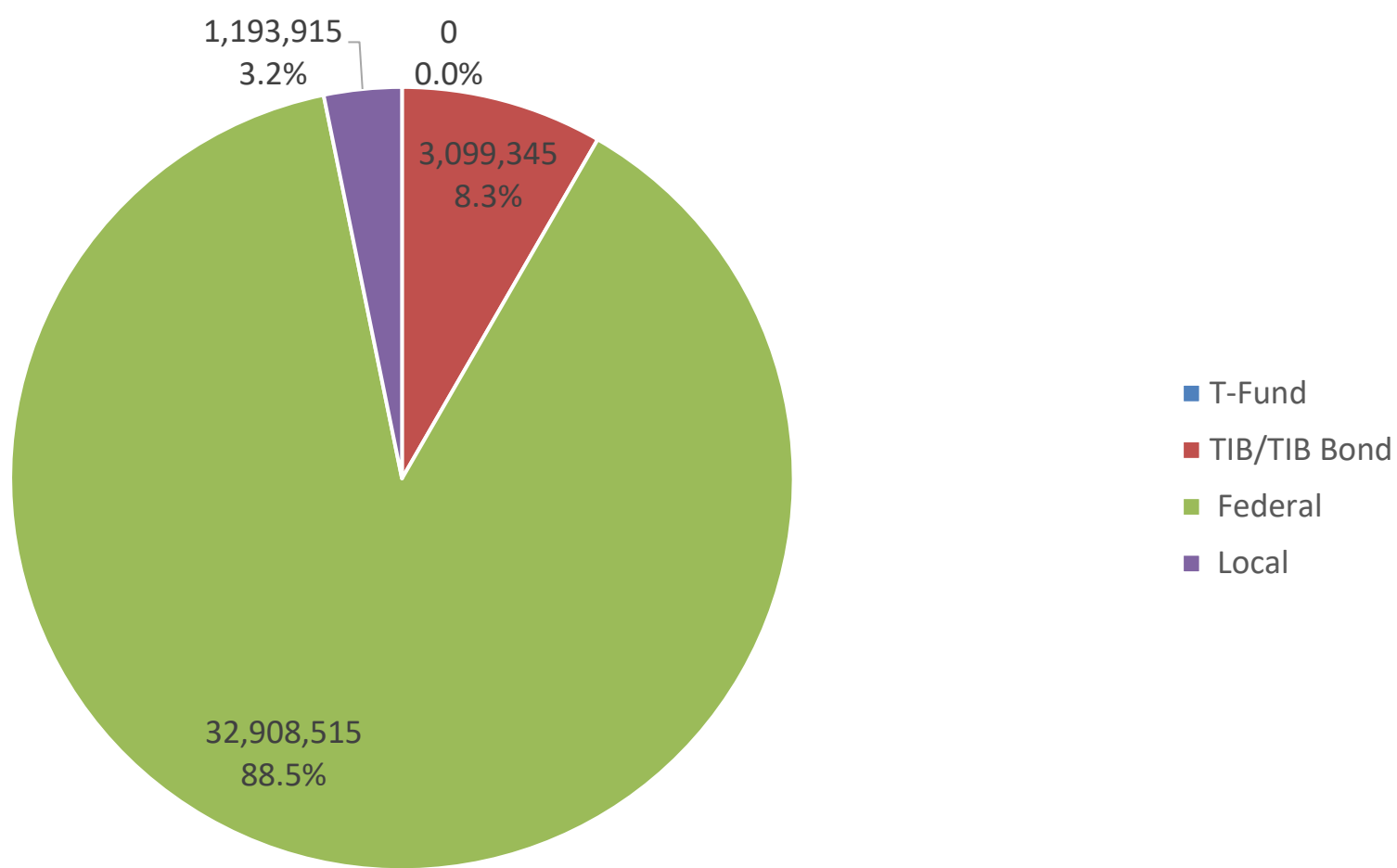




# FY2024 Budget for the Interstate Bridge Program by Funding Source



# FY2024 Budget for the State Highway Bridge Program by Funding Source



# FY2024 Budget for Town Highway Bridge Program by Funding Source



# Structures Program Budget FY2024

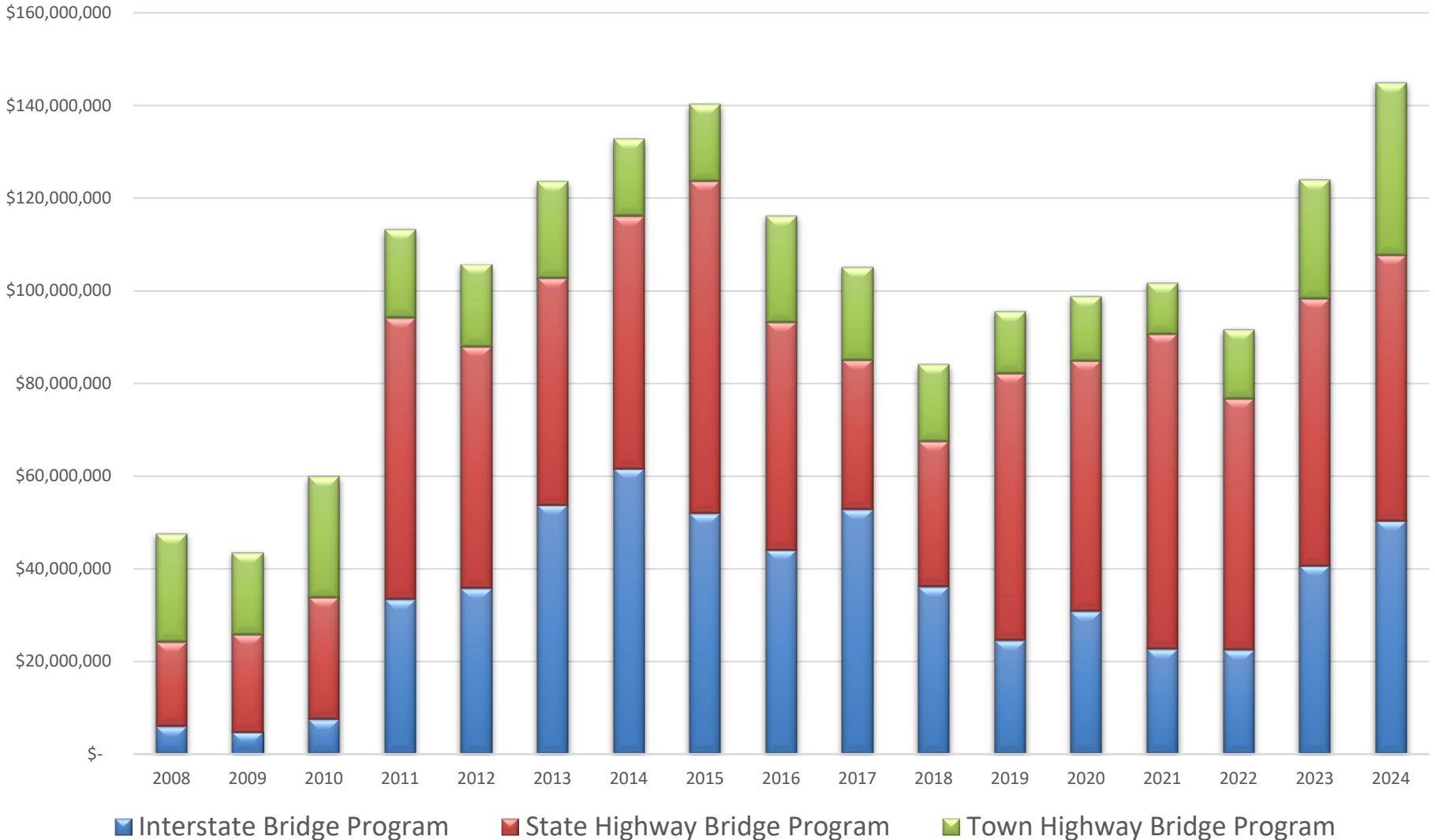
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- \$144.9 million for bridges:
- 106 Projects Funded
- 41 Projects Funded for Construction
- Spending increased \$20.1M from SFY 2023 (+16%)



# Program Funding Trends

Program Funding History





# Interstate Bridge Program FY2024

**\$50.3 Million**

23	Projects funded
8	Projects funded for Construction (1 Bi-State Project Vermont/New Hampshire on I-89)
2	Bridge Maintenance and Preservation projects

## Interstate Bridge Program Summary:

- Spending is up \$9.7 Million (+19%) from last year
- Rehabilitation of Bridges 26 N&S on I 89 in Royalton over VT 107, NECR, and the White River to spend \$11.9M in FY24
- Rehabilitation of Bridges 21 N&S on I 91 in Westminster to spend \$9.4M in FY24
- Replacement of Bridge 29 in Richmond on US 2 over I 89 will spend \$5M in FY24
- Several bridges between Fairlee & St. Johnsbury are bundled in a preventative maintenance contract which will spend \$6M in FY24
- Lebanon NH – Hartford VT bridge on I-89 at exit 20 continues and will account for \$3M in spending in FY24
- Replacement of Bridge 18 over I89 and intersection improvements at Exit 17 will be advertised this fall and will spend \$2M in FY 24 (Total Const. Est is \$25M)

# Richmond Culvert I89



## Highlights

- \$15M emergency culvert replacement
- Culvert Failed May 2022
- Crossover installed to remove traffic from I89 southbound
- Existing culvert located 50 ft below the interstate
- Construction of crossover and new culvert completed in less than 6 months.
- Traffic restored to southbound lanes of Interstate 89 onn October 30<sup>th</sup> 2022

# Interstate Bridge 10G New Projects

- Montpelier IM CULV(89)
  - Culvert rehabilitation or replacement of Bridge 42-1 on I-89
- Waterbury IM CULV(109)
  - Culvert replacement on I-89 – Wildlife Crossing Project
- Berlin-Highgate IM BPNT(18)
  - Cleaning and painting on various bridges on I-89 from MM 46.257 to MM 128.75.

# Interstate Bridge 10G Completed Projects

- Sharon IM 089-1(64) – Rehabilitation of Bridges 17 N&S on I89
- Weathersfield IM 091-1(69) – Replaced decks on Bridge 30 N&S on I-91
- Richmond IM 089-2(57)
  - Culvert Rehabilitation of Bridge 55-1 on I-89

# Interstate Bridge 10G Expanded Costs

- **Fairlee-St. Johnsbury IM 091-2(88)**
  - Original scope was for membrane and pave only on several bridges. Decision was made to include deck replacement due to deteriorating concrete throughout some of the selected bridges.
- **Springfield IM 091-1(83) Bridges 25, 26, 27 and 28 N & S**
  - Original project was for bridges 28 N & S over Route 5. Now the project includes bridges 25 N & S, 26 N & S and 27 N & S. Maintenance of traffic will use a crossover which provides access to work on all these bridges which gains economy. The Interchange will be reconfigured to eliminate the cloverleaf which results in vehicles weaving to get on or off the interstate. We have determined that we will utilize the Construction Manager/General Contractor project delivery method to deliver this project.

# Interstate Bridge 10G Expanded Costs

- **Westminster IM 091-1(70) Bridges 21 N&S**

- The low bid for this project was approximately 61% over our estimate. However, due to the condition of the existing bridge it was deemed necessary to award the project. After the project was awarded, the contractor and VTrans staff realized additional work would need to be done as the condition of the pier caps worsened and now needed replacement. The project estimate has now increased another \$6M

## **Westminster BM20203 Rehab BR 19 & 19D**

Initial estimate was low and programmed 3 years ago. The actual estimate for the repair was reasonable. Increase in estimate reflects current prices for materials and labor.

# State Highway Bridge Program FY2024

## \$57.4 Million

60	Projects Funded
23	Projects funded for Construction
3	Bridge Preservation/Maintenance
3	VT-NH Connecticut River Bridges

### State Highway Bridge Program Summary:

- Spending is Down \$400,000 (<1%) from last year
- Rehabilitation of Bridge 5 on US 2 between North Hero and Alburgh spending \$9.0 Million in SFY24
- North Hero-Grand Isle draw bridge project spending \$6.5 Million in SFY24
- Rehabilitation of Hartford Quechee Gorge Bridge to spend \$5 Million in SFY24 Project Advertised in the fall of 22, but we had one bid, and the estimate was too high. We are re-advertising the project with some changes in the contract to entice more contractors to bid and create more competition
- Royalton Bridge 24 replacement, NECR over VT 114 project spending \$4 Million in SFY24
- Replace Bridge 3 on US 302 in Berlin
- Replace Bridge 21 on VT 110 in Barre Town
- Replace large Culvert (#30) on US 4 in Killington



# North Hero – Grand Isle Construction Update

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- \$86 million Construction project
- New Bridge is mostly complete and was open to traffic on 11/7/22
- The Contractor continues demolition of the temporary bridge.
- Contract Completion Date is July 1, 2023





# North Hero/Grand Isle Project Update



# State Highway Bridge 10G New Projects

- Claremont, NH-Weathersfield BF A004(642)
  - Rehabilitation of Connecticut River Bridge, BR 67 on VT 12 (Truss Bridge)
- Cambridge BM 22802
  - Rehabilitation of Bridge 17 on VT 108
- Wolcott BM 23603
  - Bridge maintenance for Bridge 188
- Norton BF 0321(21)
  - Replacement of Bridge 41 on VT 114
- Bradford BF 0113(89)
  - Rehabilitation of Bridge 91 on US 5
- Dorset BF 019-2(25)
  - Deck Replacement for Bridge 52 on US 7
- Ferrisburgh BF 019-4(35)
  - Replacement of Bridge 139 on US 7
- Glover BF 037-3(9)
  - Deck Replacement for Bridge 18 on VT 16
- Hartford BF 0113(90)
  - Replacement of Bridge 73 on US 5
- Hartland BF 020-2(54)
  - Rehabilitation of Bridge 57 on US 4
- Wilmington BF 010-1(58)
  - Rehabilitation of Bridge 31 on VT 9
- West Rutland BF 020-1(25)/(26)
  - Replacement of decks for Bridges 13 E&W and Bridges 14 E&W

# State Highway Bridge 10G Completed Projects

- Addison BF 0172(9)
  - Replaced BR 1 on VT 125
- Braintree BF 0241(51)
  - Replaced superstructure on BR 47 on VT 12
- Calais BHF 037(11)
  - Replaced BR 82 on VT 14
- Calais BHF 037(12)
  - Replaced BR 77 on VT 14
- Chester BF 025-1(46)
  - Rehabilitated Br 16 on VT 103
- Middlebury WCRS(23)
  - Replaced Bridges over VTR
- Montgomery STP DECK(40)C/2
  - Replaced deck on Br 19 on VT 118
- Montgomery STP DECK(47)
  - Replaced deck on Br 20 on VT 118
- Norton BM 20904
  - Rehabilitated Br 44 on VT 114
- Williston BF 5500(19)
  - Replaced Br 23 (large culvert) on US 2

# State Highway Bridge 10G Expanded Costs

- Berlin BM 20701 – Rehab Br 64
  - Initial estimate was low and programmed 3 years ago. The actual estimate for the repair was reasonable. Increase in estimate reflects current prices for materials and labor.
- Chester BF 025-1(45) – Replace Br 14 on VT 103
  - This project is a complex project. The estimate has been revised to reflect current bid prices and risk for construction of this project over the Green Mountain Railroad and Williams River
- Hanover, NH-Norwich, VT BF A004(800) – Rehabilitation of Conn River Bridge
  - Project responsibility is NH. Low bid estimate was 100% over NH's estimate. NH awarded the project.

# State Highway Bridge 10G Expanded Costs

- Norton BM 20904 – Rehabilitation of Br 44
  - Project programmed in 2020 at a low construction estimate. It is a maintenance project that was constructed this past summer. Increase in estimate reflects current prices for materials and labor.
- Readsboro BF 0102(16) – Replace Br 25 on VT 100
  - Project advertised in March of 22. There was one bid and the estimate was 51.4% over our estimate. We did not award the project. We are re-designing the project to eliminate the risk in the construction of this \$25M project. Project is programmed for construction in FY25.
- Rockingham BM 20204 – Rehabilitation of Br 41
  - Project programmed in 2020 at a low construction estimate. It is a maintenance project that will be advertised this spring for construction this summer. Increase in estimate reflects current prices for materials and labor.



# State Highway Bridge 10G Expanded Costs

- Springfield BM19201 – Repair culvert invert (Liner)
  - Project was not deemed acceptable by Agency of Natural Resources. Project was brought into Structures to scope and determine the benefit of a full replacement. Estimate expanded assuming a full replacement would be the acceptable solution for this culvert structure.
- Sunderland BM 20102 – Repair culvert invert (Liner)
  - Project was not deemed acceptable by Agency of Natural Resources. Project was brought into Structures to scope and determine the benefit of a full replacement. Estimate expanded assuming a full replacement would be the acceptable solution for this culvert structure.

# Town Highway Bridge Program FY2024

**\$37.2 Million**

<b>56</b>	Projects funded
<b>7</b>	Projects funded for Construction
<b>1</b>	VT-NH Connecticut River Bridges funded for Construction

## Town Highway Bridge Program Summary:

- Up \$7M (+19%) from last year
- 31 projects added to the program for engineering/scoping
- Brattleboro – Hinsdale to spend \$8M this summer on the replacement of the existing twin truss bridges on NH 119, over the Connecticut River with a new structure approximately 1800-feet long
- Construction funding for bridges in several towns:
  - Ludlow Village – Replacement of BR 57 on Mill Street over the Black River. (Bridge currently closed to traffic, replacing with a pedestrian bridge.)
  - Springfield – Replacement of Br 61 on VT 11
  - Brattleboro-Hinsdale, NH – NH lead project with Vermont share
  - Grafton – Replacement of Br 20 on FAS 125 over the Saxtons River
  - Hartford – Replacement of Br 7 on TH 6 on a new alignment
  - Poultney – Replacement of Br 7 on TH 6 over the Poultney River
  - Clarendon – Rehabilitation of Br 28 (Kingsley town lattice covered bridge) on TH 39 over Mill River

# Brattleboro – Hinsdale Construction Update

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- New 1,800-foot bridge will span over the Railroad, Barrows & Fisher tank farm, and the Connecticut River connecting VT-142 to NH-119
- \$61.2 million Construction project: Cost Split (VT 20%/NH 80%)
- Project final completion date is **October 25, 2024**
- Construction of VT abutment currently underway
- Construct VT Pier, spring 2023
- 90 Day Road Closure planned for the Summer of 23 to construct VT-142 bridge approach
- Set superstructure steel summer/fall 2023
- VT Pier situated at the center Barrows & Fisher property: Tank relocation cost of \$5.2 million. Renaud Bros. is the general contractor for this work.
- **Brattleboro – Hinsdale BF 2000(34)** project has been programmed for engineering to rehabilitate the existing Anna Marsh Bridge and Charles Dana Bridge for bicycle and pedestrian traffic (2025 – 2026)





Brattleboro – Hinsdale





# Town Highway Bridge 10G New Projects

- Brattleboro-Hinsdale BF 2000(34)
  - Rehab Conn River Bridge
- Hartland BO CVBR(2)
  - Covered Bridge Rehabilitation
- Lyndon BO CVBR(3)
  - Covered Bridge Rehabilitation
- Northfield BO CVBR(4)
  - Covered Bridge Rehabilitation
- Sheldon BO 1448(47)
  - Truss Bridge Rehabilitation
- Chelsea BO 1444(62)
  - Truss Bridge Rehabilitation
- Walpole-Rockingham BO 1442(43)
  - Conn River Bridge
- Burlington-Winooski BF RAIZ(2)
  - Replace Br 150 on US 7
- Barton BO 1449(35)
  - Rehab Br 55 on TH 5
- Montpelier BF 6400(46)
  - Rehabilitation of Br B2-1 on BR US 2
- Morristown BF 0239(4)
  - Rehabilitation of Br 8 on FAS Route 239
- Rutland City BF 3000(24)
  - Deck Replacement on Br 27 on River Street
- Springfield BF 025-1(51)
  - Replacement of Br 62 on VT 11
- Swanton BF 036-1(16)
  - Rehabilitation of Br 6 on VT 78

# Town Highway Bridge 10G New Projects

- Vergennes BF 017 1(19)
  - Replacement of Br 27 on VT 22A
- Windsor BF 0113(88) Deck
  - Replacement on Br 55 on TH 5
- Belvidere BO CVBR(5)
  - Covered Bridge Rehabilitation, Br 12 on TH 3
- Berlin BO TRUS(4)
  - Truss Rehabilitation, Br 27 on TH 61
- Bridgewater BO TRUS(5)
  - Truss Rehabilitation, Br 26 on TH 34
- Charlotte BO CVBR(6)
  - Covered Bridge Rehabilitation, Br 27 on TH 9
- Enosburg BO TRUS(6)
  - Truss Rehabilitation, Br 45 on TH 42
- Lincoln BO TRUS(7)
  - Truss Rehabilitation, Br 46 on TH 6
- Moretown BO TRUS(8)
  - Truss Rehabilitation, Br 42 on TH 39
- Newfane BO TRUS(9)
  - Truss Rehabilitation, Br 49 on TH 26
- Northfield BO CVBR(7)
  - Covered Bridge Rehabilitation, Br 10 on TH 3
- Northfield BO CVBR(8)
  - Covered Bridge Rehabilitation, Br 11 on TH 3
- Northfield BO CVBR(9)
  - Covered Bridge Rehabilitation, Br 15 on TH 3
- Royalton BO TRUS(10)
  - Truss Rehabilitation, Br 30 on TH 6



# Town Highway Bridge 10G New Projects

- Troy BO CVBR(10)
  - Covered Bridge Rehabilitation, Br 8 on TH 12
- Weathersfield BO CVBR(11)
  - Covered Bridge Rehabilitation, Br 83 on TH 65
- Sheldon BO TRUS(11)
  - Truss Rehabilitation, Br 11 on Church Street

# Town Highway Bridge 10G Completed Projects

- Andover BF 0132(14)
  - Replaced BR 9 on FAS Route 132
- Huntington BO 1445(38)
  - Replaced BR 32 on TH 22
- Leicester BO 1445(37)
  - Replaced BR 4 on VT 12
- Ludlow Village NH DECK(49)
  - Replaced deck on BR 26
- Montpelier-Berlin NH DECK(48)
  - Replaced deck on BR 64
- Newfane BF 0106(6)
  - Replaced Br 12 on FAS Route 106

# Town Highway Bridge 10G Expanded Costs

- Salisbury-Cornwall BO 1445(39) – Replacement of Br 8 on TH 1
  - Project has been scoped and moving towards design. The towns want a new conventional bridge to cross the Otter Creek. They have indicated they may want to have it “covered” but with timber. The new estimate reflects a full bridge estimate.
- Westminster BF 0126(13) – Rehabilitation of Br 5 on FAS 126
  - Project was advertised and awarded to Renaud Brothers this past year. As the contractor began mobilizing and preparing to start work prior to the planned closure; it was discovered that the existing structural steel was in poor condition and could not support a new deck. We cancelled our contract with Renaud Bros. and are now designing a new bridge utilizing. This will increase our engineering and the future construction costs.

# Accelerated Bridge Program



**110 ABC projects**

Delivered since 2012

**39% of all Projects**

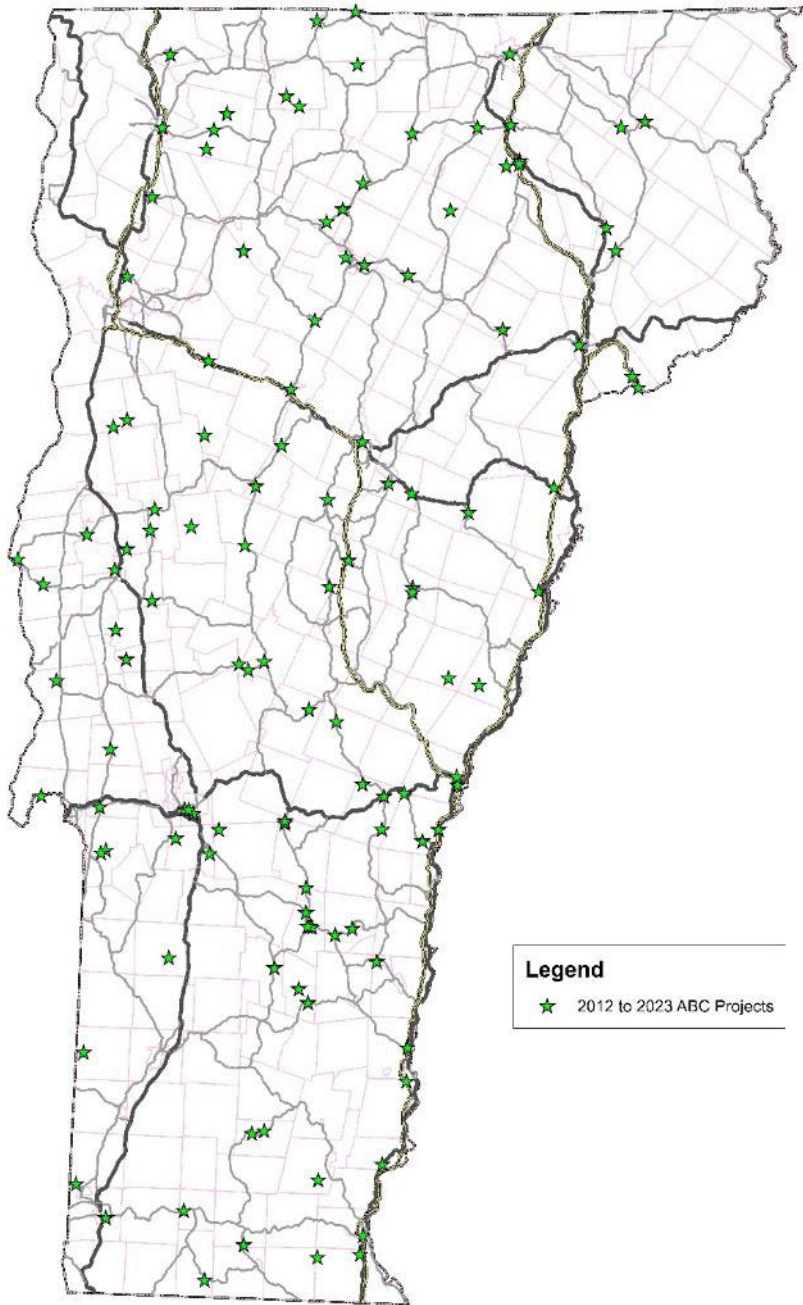
In the Structures Program

**\$215 Million**

In construction costs since 2012

**95% on time**

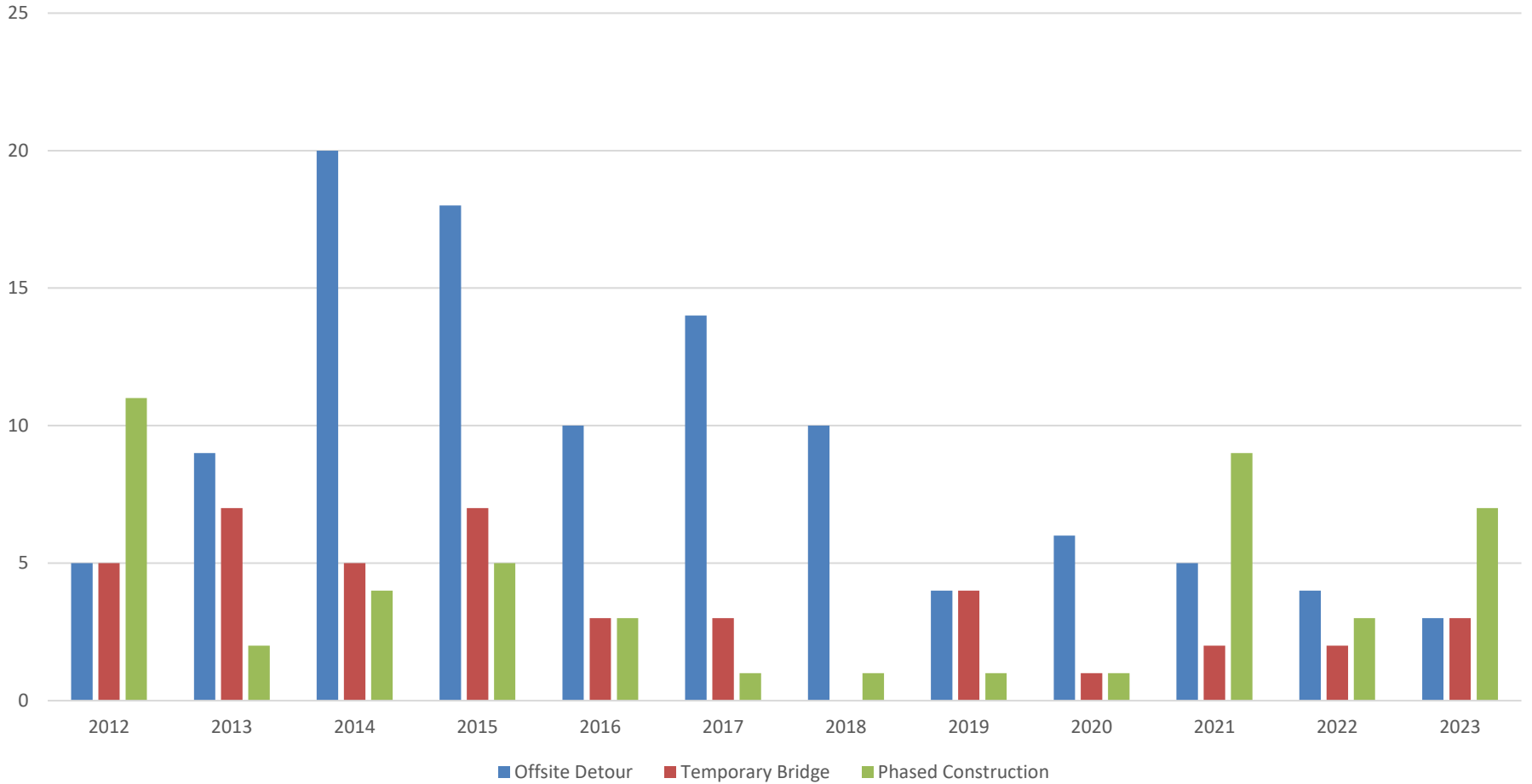
Bridge openings (Plymouth VT 100 Delayed)



# ABC Project Map

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# Road Closures Summer 2023



	PROJECT NAME	PROJECT NUMBER	ROUTE	Construction	Duration	Scope
2023	CLARENDON	BO 1443(55)	TH 39	Conventional	320 days	Bridge Rehabilitation
2023	BARRE TOWN	BF 0169(12)	VT Route 110	Accelerated	60 days	Full Bridge Replacement
2023	POULTNEY	BO 1443(53)	TH 6	Conventional	Closed	Full Bridge Replacement



# Braintree BF 0241(51)

Before

## Background

- Bridge 47 on VT 12 includes a superstructure replacement of the existing 1928 T-beam next to a steel arch.
- Given the age of the structure, site constraints and current conditions, the engineering study recommended a partial superstructure replacement with traffic maintained on an offsite detour.



Deck forms



## Design/Construction

- A cast-in-place concrete deck slab was chosen to match into adjacent steel arch constructed in 1969.
- The unique bridge required careful demolition, strategic falsework, and concrete deck slab construction in a 28-day closure period.



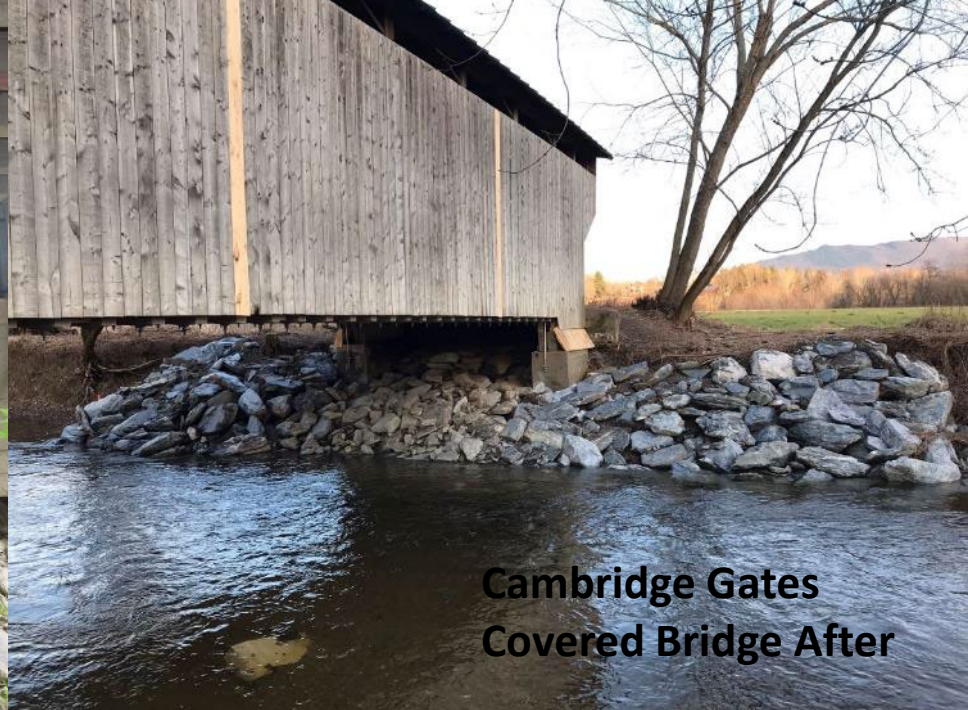
Completed work







**Cambridge Gates Covered  
Bridge Before**



**Cambridge Gates  
Covered Bridge After**



**Leicester BR 4 Before**



**Leicester BR 4 After**





Chester BR 16 Before

04/12/2021



Chester BR 16 After



Ludlow BR 26 Before

229VF108 Exit Street View



Ludlow BR 26 After

Google Earth





Calais BR Before

04/22/2020



Calais BR After



Calais BR Before

04/06/20



Calais BR After



Middlesex I89 Culvert Before



Middlesex I 89 Culvert After



Sharon I89 BR 17 Before

06/16/2020



Sharon I89 Bridge 17 After



# Newfane BR Before





# Newfane After





# Program Delivery Risk Registry

- Supply Chain

- Currently in a nationwide driver shortage for Trucking
- Was informed this was a problem for some projects this past summer

- Fabrication

- Fabricators who build our girders are booked out to the first quarter of next year
- Labor shortage to the extent shops cannot staff a second shift

- Contractors

- Nationwide shortage of Laborers
- Vermont Contractors are spread thin

- Designers

- Design firms including VTrans have difficulty hiring engineering staff
- Vermont just reclassified the Civil Engineering series but we have to get young people into the profession – Recruit at the Primary school level.

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Questions?

