

VT Agency of Transportation: Highway Safety & Design Section FY 2024 Roadway Program Budget

Senate Transportation Committee – January 26, 2023

Presented by: Jesse Devlin, Highway Safety & Design Program Manager



RIPTON ER STP 0174(19)
VT ROUTE 125



Roadway Program General Overview

JANUARY 26, 2023

VT AGENCY OF TRANSPORTATION – HIGHWAY SAFETY & DESIGN SECTION
FY2024 ROADWAY PROGRAM BUDGET



VTrans' mission is through excellent customer service, provide for the safe and efficient movement of people and goods in a socially, economically, and environmentally sustainable manner:

- The roadway design group is responsible for the development and delivery of plans, specifications, and estimates for a wide range and wide scope of projects.
- The projects contained within the Roadway Program address safety, mobility, and asset condition, which directly contributes to meeting our mission.

The roadway design group consists of ten team members; comprised of project managers, engineers, and technicians.

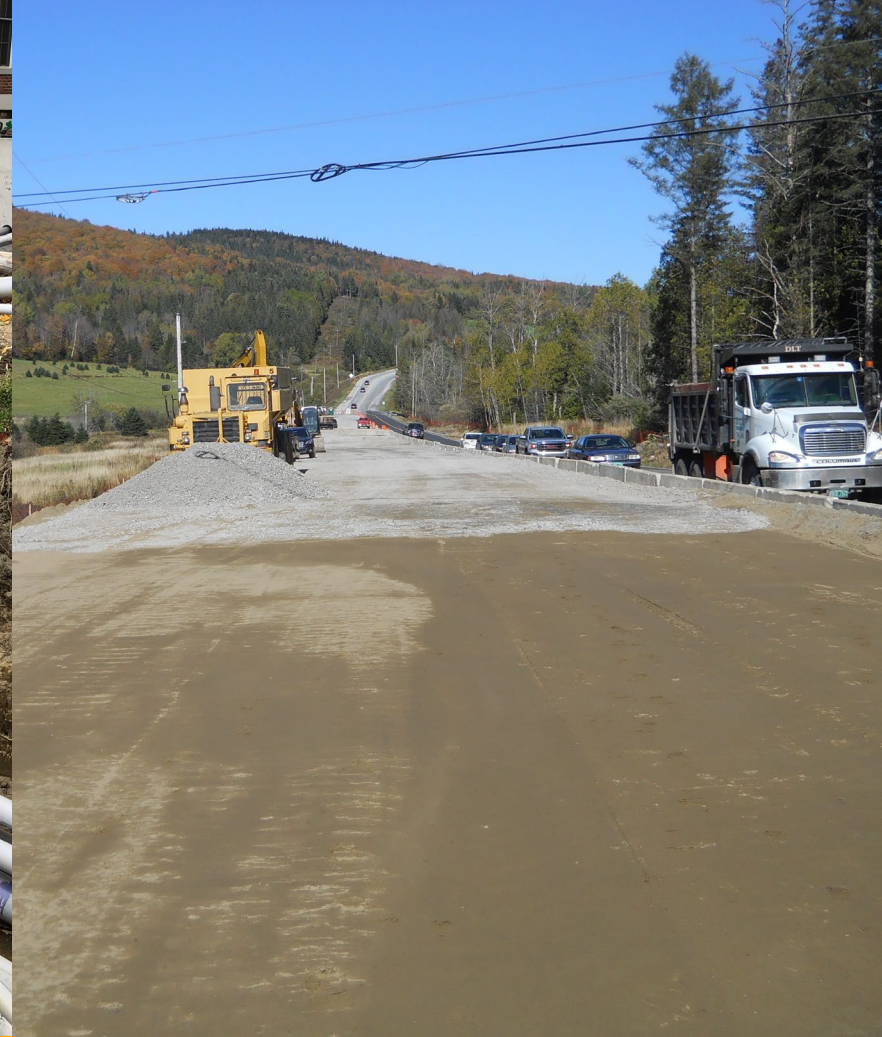
In addition to the development of projects, the team has a great deal of responsibility including but not limited to:

- **Fiscal responsibility:** *oversight of individual project and program budgets*
- **Customer Service:** *point of contact throughout a project's development*
- **Quality:** *ensure that the design meet's the intent of the project*
- **Schedule:** *on time delivery of a project*

2022 ROADWAY PROGRAM ACCOMPLISHMENTS

- There were 10 projects advertised for construction within the Roadway Program
- Of the projects anticipated to be advertised in 2022, 100% were advertised within 30 days of their targeted advertisement date





ROADWAY RECONSTRUCTION PROJECTS

JANUARY 26, 2023

VT AGENCY OF TRANSPORTATION – HIGHWAY SAFETY & DESIGN SECTION
FY2024 ROADWAY PROGRAM BUDGET





CULVERT REPLACEMENT / REHABILITATION PROJECTS

JANUARY 26, 2023

VT AGENCY OF TRANSPORTATION – HIGHWAY SAFETY & DESIGN SECTION
FY2024 ROADWAY PROGRAM BUDGET





SLOPE / LEDGE STABILIZATION PROJECTS

JANUARY 26, 2023

VT AGENCY OF TRANSPORTATION – HIGHWAY SAFETY & DESIGN SECTION
FY2024 ROADWAY PROGRAM BUDGET



Scope: This project included slope reconstruction consisting of the placement of select materials as well as the placement of stone fill. The design also included the installation of underdrain and cross lateral drains.

Construction Cost Est: \$1.3 Million

Completion Date: Construction of this project was substantially completed and the roadway back open to through traffic in June of 2022.



ADDISON STP 032-1(20) – VT ROUTE 125 EMERGENCY ROADWAY/SLOPE RECONSTRUCTION PROJECT



SLOPE/ROADWAY FAILURE



SLOPE/ROADWAY CONSTRUCTION



FINAL CONDITION

ADDISON STP 032-1(20) – VT ROUTE 125 EMERGENCY ROADWAY/SLOPE RECONSTRUCTION PROJECT



FY 2024 ROADWAY PROGRAM

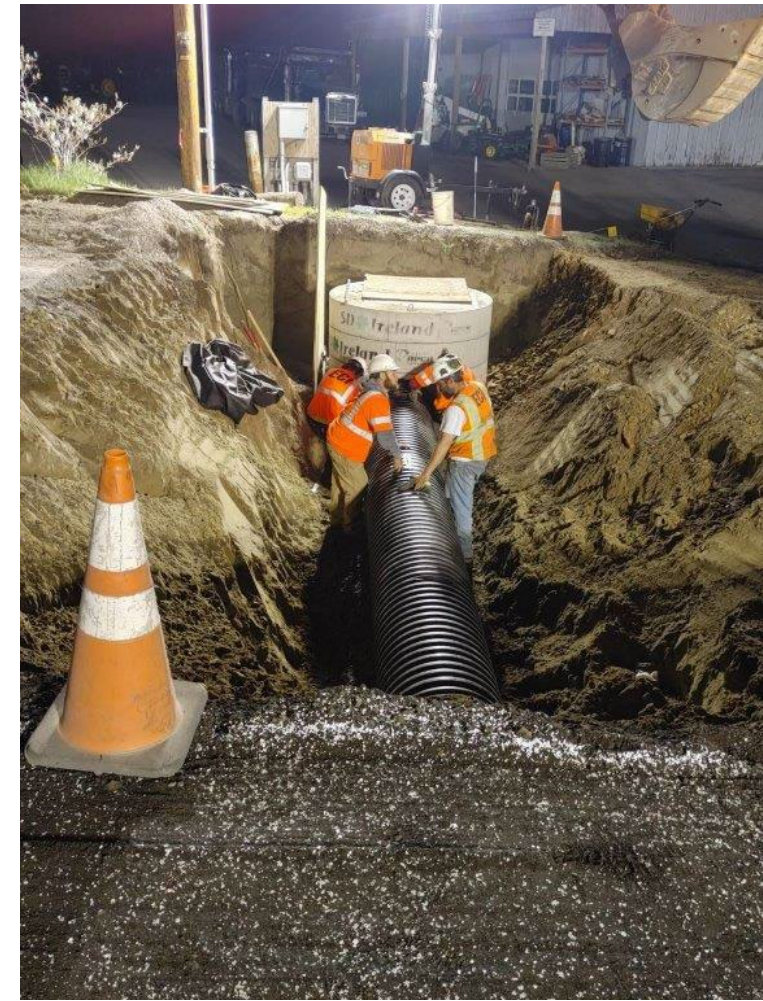
- Appropriation of \$53.85 million
- Increase of \$2.5 million compared to the FY 2023 Roadway Program budget
- Includes three primary project phases
 - Preliminary Engineering (design activities)
 - Right-of-Way (acquisition of property and/or easements)
 - Construction
- Budget will fund construction of 25 projects, and will fund the preliminary engineering and/or right-of-way acquisition on an additional 54 projects

37	Number of standard roadway/intersection improvement projects – 5 with FY24 construction funding
20	Number of small culvert rehabilitation/replacement, stormwater projects – 11 with FY24 construction funding
15	Number of ledge removal/slope stabilization projects – 7 with FY24 construction funding
7	Number of miscellaneous projects – 2 with FY24 construction funding

Scope: Intersection and roadway reconstruction project to improve the safety and mobility, for all users, through the US Route 2 and Industrial Avenue intersection in Williston. Work includes roadway widening, new drainage, sidewalks, bus pull off, and utility relocation.

Construction Cost Est: \$7.5 Million

Project Status: Construction began on this project in Spring of 2021 and is anticipated to be completed in Fall of 2023.



WILLISTON STP M 5500(7)S – US ROUTE 2/INDUSTRIAL AVE.

19 V.S.A. 10g(g)(1) Report compiles projects that have been added to the program subsequent to the FY23 program

These projects were primarily programmed due to the age and/or current condition of the asset

- BARRE TOWN-ORANGE – Culvert Project – US Route 302
- BROOKFIELD STP CULV(105) – Culvert Project – VT Route 65
- CANAAN STP CULV(117) – Culvert Project – VT Route 114
- CHARLESTON STP CULV(113) – Culvert Project – VT Route 5A
- CHESTER STP CULV(60) C/2 – Culvert Project – VT Route 10
- FAIRFAX-ST. ALBANS TOWN STP CULV(98) – Culvert Project – VT Route 104
- FARLEE IM 091-2(93) – Slope/Ledge Project – Interstate 91 SB
- FAYSTON STP CULV(112) – Culvert Project – VT Route 17
- GROTON STP CULV(119) – Culvert Project – VT Route 232
- LONDONDERRY STP CULV(114) – Culvert Project – VT Route 11
- NORTHFIELD-WILLIAMSTOWN STP CULV(104) – Culvert Project – VT Route 64
- NORTON STP CULV(118) – Culvert Project – VT Route 114
- POWNAL-BENNINGTON NH CULV(101) – Culvert Project – US Route 7
- ROCHESTER STP CULV(115) – Culvert Project – VT Route 73
- ST. ALBANS CITY RAIZ(3) – Roadway Reconstruction – US Route 7
- ST. ALBANS TOWN-SHELDON STP CULV(107) – Culvert Project – VT Route 105
- STOCKBRIDGE-BETHEL STP CULV(103) – Culvert Project – VT Route 107
- STOWE ST 0235(26) – FEMA Project – VT Route 108
- WARDSBORO-JAMAICA STP CULV(102) – Culvert Project – VT Route 100
- WILLISTON NH CULV(110) – Culvert Project – US Route 2

19 V.S.A. 10g(g)(1) REPORT SUMMARY

19 V.S.A. 10g(g)(2) Report compiles projects that have increased by more than \$8,000,000 or by more than 100% compared to the FY23 estimate

- BENSON STP 017-1(17) – VT Route 22A – Increase by more than 100% (\$12,078,125 - \$27,442,570) – This project will consist of shoulder widening and reconstruction, as well as reclaiming with stabilized based. This project is close to five miles in length and the initial estimate was significantly underestimated based on project scope and length and has been updated as conceptual plan were finalized.
- BURLINGTON MEGC M 5000(1) – Champlain Parkway – Increase by more than 100% (\$44,246,056 - \$69,246,056) – The value contained in the budget includes the contract currently under construction as well as an additional contract that will be advertised upon completion. The low bid for the initial contract was significantly higher than anticipated and the current estimate is based upon the accepted low bid as well as a revised estimate for the final contract.
- RYEGATE IM 091-2(83) – Increase by more than 100% (\$1,147,848 - \$2,321,248) - This project consists of remediation of ledge on Interstate 91 NB in Ryegate. The estimate included in previous budgets was representative of the initial estimate. The construction estimate of this project is being refined as the design progresses.
- WEST RUTLAND NH 020-1(23) – Increase by more than 100% (\$1,033,765 - \$2,965,000) – This project consists of remediation of ledge on US Route 4 in West Rutland. The construction estimate of this project is being refined as the design progresses.

19 V.S.A. 10g(g)(2) REPORT SUMMARY

19 V.S.A. 10g(g)(3) Report compiles projects that were funded for construction in the FY23 program and are no longer funded for construction in the FY24 program

All projects that are listed on this report have completed construction or will be complete by the end of the current fiscal year.

- ADDISON STP 032-1(20) – Slope/Ledge Project – VT Route 125
- BRATTLEBORO-NEWFANE STP CULV(80) – Culvert Project – VT Route 30
- BROOKFIELD STP 0241(49) – Slope/Ledge Project – VT Route 12
- CHARLOTTE-SOUTH BURLINGTON NH CULV(82) – Culvert Project – US Route 7
- ELMORE ER P20-1(808) – Culvert Project – VT Route 12
- ESSEX JCT. STP 5300(14) – Multimodal – VT Route 15
- HARDWICK STP 037-3(7) – Slope/Ledge Project – VT Route 16
- KILLINGTON-STOCKBRIDGE STP CULV(88) – Culvert Project – VT Route 100
- RICHFORD STP CULV(59) – Culvert Project – VT Route 105
- RICHMOND-BOLTON STP CULV(86) – Culvert Project – US Route 2
- ROCKINGHAM IM 091-1(76) – Slope/Ledge Project – Interstate 91
- ROCKINGHAM IM 091-1(77) – Slope/Ledge Project – Interstate 91
- ST. ALBANS IM SWFR(2) – Stormwater Project – Interstate 89
- STOCKBRIDGE-ROCHESTER STP CULV(85) C/2 – Culvert Project – VT Route 100
- WALDEN STP SCR(27) – Culvert Project – VT Route 15

- WILLISTON NH 5500(18) – Shared Use Path Project – VT Route 2A
- WOODFORD NH 010-1(51) – Slope/Ledge Project – VT Route 9

* Note that CHESTER STP CULV(60) and FAYSTON ER P20-1(514) are listed on the 19 V.S.A. 10g(g)(3) report. Construction of these culverts will occur under different projects listed in the Front of Book, CHESTER STP CULV(60) C/2 and FAYSTON STP CULV(112), respectively.

19 V.S.A. 10g(g)(3) REPORT SUMMARY

VT Agency of Transportation: Highway Safety & Design Section FY 2024 Traffic & Safety Program Budget

Senate Transportation Committee – January 26, 2023

Presented by: Jesse Devlin, Highway Safety & Design Program Manager



**COLCHESTER HES NH 5600(14)
US ROUTE 7**



Traffic & Safety Program General Overview

JANUARY 26, 2023

VT AGENCY OF TRANSPORTATION – HIGHWAY SAFETY & DESIGN SECTION
FY2024 TRAFFIC & SAFETY PROGRAM BUDGET



VTrans' mission is through excellent customer service, provide for the safe and efficient movement of people and goods in a socially, economically, and environmentally sustainable manner:

- The traffic design group is responsible for the development and delivery of plans, specifications, and estimates for projects that focus on safety and mobility.
- The projects contained within the Traffic & Safety Program address safety, mobility, and asset condition, which directly contributes to meeting our mission.

The traffic design group consists of nine team members; comprised of project managers and engineers.

In addition to the development of projects, the team has a great deal of responsibility including but not limited to:

- **Fiscal responsibility:** *oversight of individual project and program budgets*
- **Customer Service:** *point of contact throughout a project's development*
- **Quality:** *ensure that the design meet's the intent of the project*
- **Schedule:** *on time delivery of a project*

2022 TRAFFIC & SAFETY PROGRAM ACCOMPLISHMENTS

- The traffic design group advertised seven projects for construction
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- Of the projects anticipated to be advertised in 2022, 100% were advertised within 30 days of their targeted advertisement date

Scope: Project included construction of a single-lane roundabout at the intersection of US Route 7, US ALT Route 7, Ledge Road and Locust Street., utility relocation, and the installation of shared-use facilities.

Construction Cost Est: \$10.1 Million

Completion Date: Project was substantially complete in Fall of 2022, approximately seven months ahead of schedule.



BURLINGTON HES 5000(18) – US ROUTE 7 / LEDGE RD. / LOCUST ST.



BURLINGTON HES 5000(18) – US ROUTE 7 / LEDGE RD. / LOCUST ST.

JANUARY 26, 2023

VT AGENCY OF TRANSPORTATION – HIGHWAY SAFETY & DESIGN SECTION
FY2024 TRAFFIC & SAFETY PROGRAM BUDGET



FY 2024 TRAFFIC & SAFETY PROGRAM

- Appropriation of \$46.58 million
- Increase of \$932,142 compared to the FY 2023 Traffic & Safety Program budget
- Includes three primary project phases
 - Preliminary Engineering (design activities)
 - Right-of-Way (acquisition of property and/or easements)
 - Construction
- Budget will fund construction of 24 projects, and will fund the preliminary engineering and/or right-of-way acquisition on an additional 42 projects

55	Number of intersection improvement projects – 15 with FY24 construction funding
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6	Number of sign replacement projects – 5 with FY24 construction funding
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4	Number of pavement marking projects * – 4 with FY24 construction funding
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* Restriping on all Interstate, State, Class I TH, and Class II TH roads	
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1	Number of miscellaneous projects
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Scope: Project will include construction of a diverging diamond interchange, roadway widening, new traffic signals, sidewalks, and shared-use paths along approximately 1 mile of US Route 7 in Colchester. Contract 1 will include subsurface utility relocation and retaining wall construction.

Total Project Cost Est: \$9.7 Million (Contract 1)

Project Status: Project was advertised in Summer of 2022, and the contractor is anticipating beginning work at the end of January 2023. Construction of Contract 1 is anticipated to be completed in Fall of 2023. The second contract is progressing through the final ROW phase and is anticipated to be advertised to follow construction of Contract 1.

Project Website:

<http://www.exit16ddi.vtransprojects.Vermont.gov>



COLCHESTER HES NH 5600(14) C/1 – US ROUTE 7

19 V.S.A. 10g(g)(1) Report compiles projects that have been added to the program subsequent to the FY23 program

These projects were primarily programmed due to the age and current condition of the asset

- BRATTLEBORO STPG SGNL(67) – SIGNAL IMPROVEMENTS – US ROUTE 5 / OLD FERRY ROAD

19 V.S.A. 10g(g)(1) REPORT SUMMARY

19 V.S.A. 10g(g)(2) Report compiles projects that have increased by more than \$8,000,000 or by more than 100% compared to the FY23 estimate

- COLCHESTER HES NH 5600(14) C/1 – US ROUTE 7 - Increase by more than 100% (\$2,381,379 - \$9,699,223) – This project will include subsurface utility relocation and retaining wall construction as the initial phase of the diverging diamond interchange construction. The previous construction estimate for this project was underestimated based on the complexities, risks, and supply chain challenges associated with the project.

19 V.S.A. 10g(g)(2) REPORT SUMMARY

19 V.S.A. 10g(g)(3) Report compiles projects that were funded for construction in the FY23 program and are no longer funded for construction in the FY24 program

All projects that are listed on this report have completed construction or will be complete by the end of the current fiscal year.

- BURLINGTON HES 5000(18) – US ROUTE 7 – ROUNDABOUT CONSTRUCTION
- CLARENDON-RUTLAND TOWN NHG SGNL(56) – US ROUTE 7 – SIGNAL REPLACEMENT/MODERNIZATION
- FAIR HAVE-RUTLAND TOWN NHG SIGN(70) – US ROUTE 4 – SIGN REPLACEMENT
- SOUTH HERO STP HES 028-1(22) – US ROUTE 2 / VT ROUTE 314 – INTERSECTION IMPROVEMENTS

19 V.S.A. 10g(g)(3) REPORT SUMMARY

VT Agency of Transportation: Highway Safety & Design Section FY 2024 Paving Program Budget

Senate Transportation Committee – January 26, 2023

Presented by: Jesse Devlin, Highway Safety & Design Program Manager



**WILMINGTON-BRATTLEBORO NH 2971(1)
VT ROUTE 9**



Paving Program General Overview

JANUARY 26, 2023

VT AGENCY OF TRANSPORTATION – HIGHWAY SAFETY & DESIGN SECTION
FY2024 PAVING PROGRAM BUDGET



VTrans' mission is through excellent customer service, provide for the safe and efficient movement of people and goods in a socially, economically, and environmentally sustainable manner:

- The pavement design group is responsible for the development and delivery of plans, specifications, and estimates for projects that are focused on preserving and improving our roadway surfaces.
- The projects contained within the Paving Program address safety, mobility, and asset condition, which directly contributes to meeting our mission.

The pavement design group consists of six team members; comprised of project managers, engineers, and technicians.

In addition to the development of projects, the team has a great deal of responsibility including but not limited to:

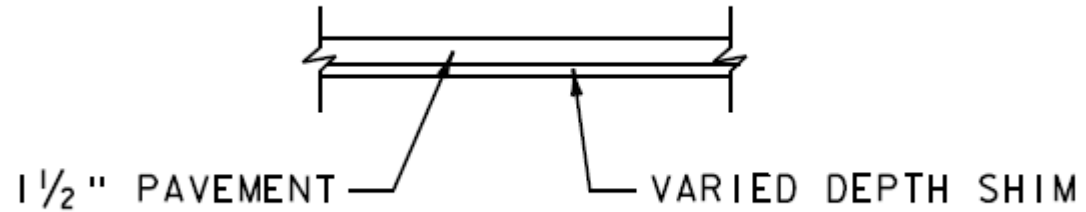
- **Fiscal responsibility:** *oversight of individual project and program budgets*
- **Customer Service:** *point of contact throughout a project's development*
- **Quality:** *ensure that the design meet's the intent of the project*
- **Schedule:** *on time delivery of a project*

2022 PAVING PROGRAM ACCOMPLISHMENTS

- The pavement design group advertised 27 projects for construction
- Of the projects anticipated to be advertised in 2022, 79% were advertised within 30 days of their targeted advertisement date

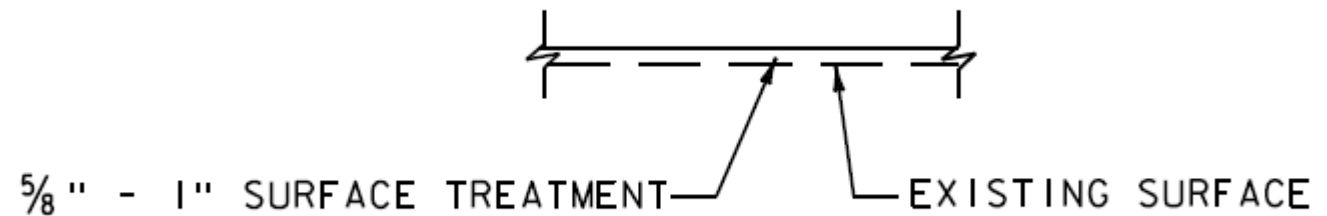


PAVEMENT TREATMENTS



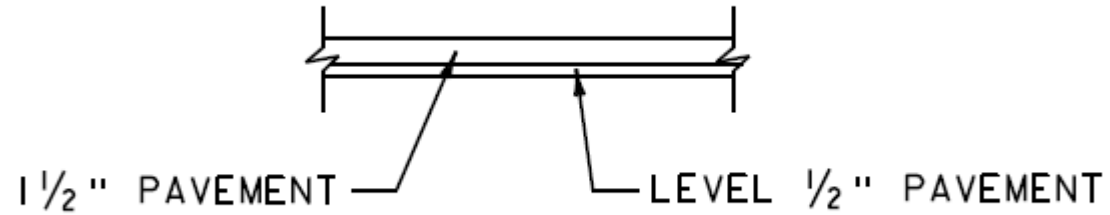
District Leveling: \$150,000 - \$200,000 per mile

Federal Leveling: \$250,000 - \$350,000 per mile

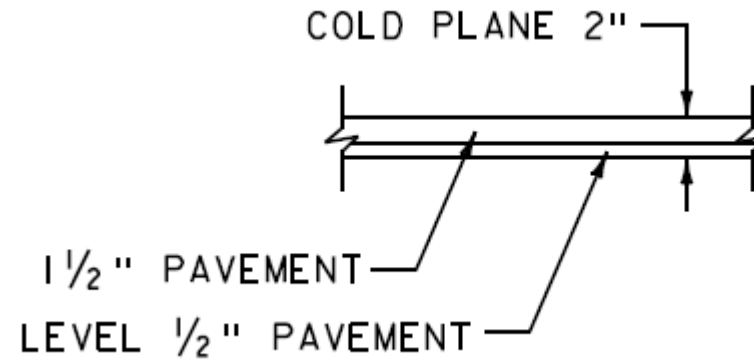


Preventative Maintenance: \$250,000 - \$375,000 per mile

PAVEMENT TREATMENTS



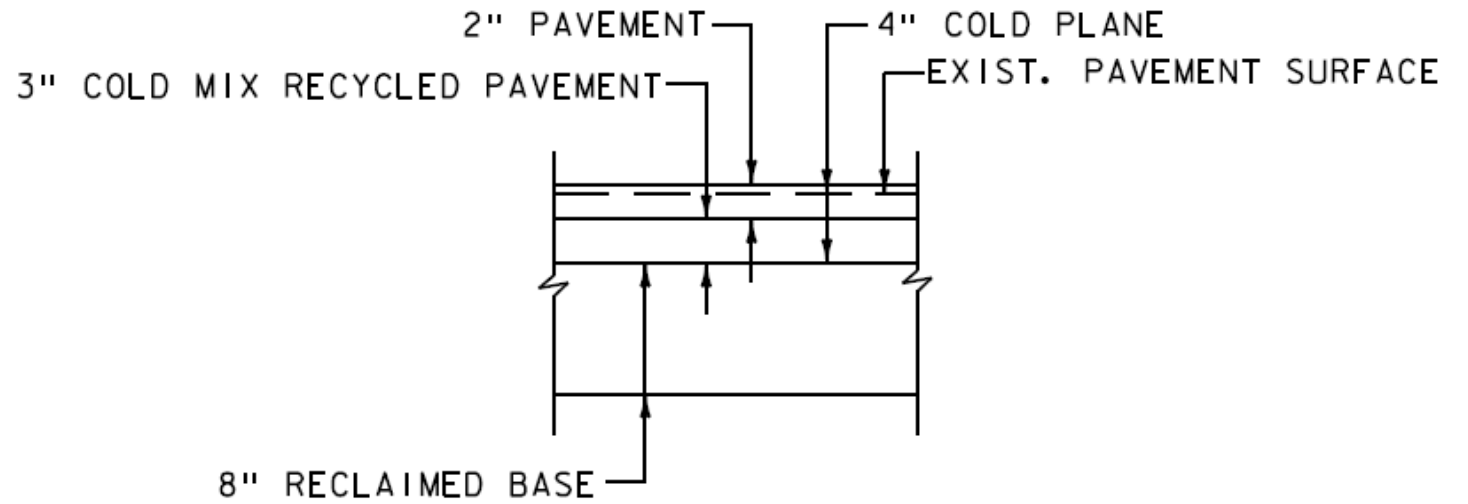
Level & Overlay: \$400,000 - \$500,000 per mile



Mill & Fill (State System): \$500,000 - \$700,000 per mile

Mill & Fill (Class I TH): \$1,250,000 - \$2,000,000 per mile

PAVEMENT TREATMENTS



Reclaim: \$1,250,000 - \$2,000,000 per mile

Assets are the physical elements of the transportation system, such as pavements, bridges, culverts, guardrail, signs, and traffic signals. VTrans works to keep assets in a state of good repair, and balancing the costs associated with doing so, across various asset types.

Regarding pavement condition, VTrans collects updated network level pavement data, the condition of the roadway is rated based on rutting, cracking, and roughness. This information is utilized, considering budget and traffic volumes, to identify projects and pavement treatments that serve to improve the condition of the network as a whole.

PROJECT SCOPE DEFINITION



- Culvert replacement
- Shoulder widening
- Pavement markings
- Pedestrian crossings
- Slope stabilization
- Guardrail improvements
- Centerline rumble stripe installation
- Intersection layout improvements
- Signage updates and/or improvements

ASSET & SAFETY IMPROVEMENTS

Scope: This project is a 2.03 mile Class 1 Town Highway mill and fill project on VT Route 15 and VT Route 14 in Hardwick. In addition to improving the roadway surface, work included the installation of pedestrian/bicycle features and upgraded signage.

Construction Cost Est: \$2.75 Million

Project Status: Construction of this project was completed in Fall of 2022.



HARDWICK STP PC23(1) – CLASS 1 – VT ROUTE 15 & 14

FY 2024 PAVING PROGRAM

- Appropriation of \$141.64 million
- Decrease of \$17.2 million compared to the FY 2023 Paving Program budget
- Includes three primary project phases
 - Preliminary Engineering (design activities)
 - Right-of-Way (acquisition of property and/or easements)
 - Construction
- Budget will fund construction of 49 paving projects, and will fund the preliminary engineering and/or right-of-way acquisition on an additional 38 projects

175 Miles to be paved on the Interstate, State, and Class I system

73	Miles to be paved under Federal and District leveling mill and fill on the State system
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*Anticipated mileage noted above is associated with calendar year 2023

19 V.S.A. 10g(g)(1) Report compiles projects that have been added to the program subsequent to the FY23 program

These projects were primarily programmed due to the current condition of the asset

- BARRE-EAST MONTPELIER STP FPAV(73) – VT ROUTE 14
- BRADFORD-ORANGE STP PS26(2) – VT ROUTE 25
- BRATTLEBORO-PUTNEY STP PS25(11) – US ROUTE 5 / VT ROUTE 9
- BRIGHTON-FERDINAND STP FPAV(81) – VT ROUTE 105
- COLCHESTER-MILTON STP PS26(4) – US ROUTE 7
- FAIR HAVEN-WEST RUTLAND STP PS27(2) – VT ROUTE 4A
- GEORGIA-FAIRFAX STP PS26(6) – VT ROUTE 2A
- HARTFORD-SHARON STP FPAV(72) – VT ROUTE 14
- MONTPELIER NH PS24(12) – MONTPELIER STATE HIGHWAY
- ST. GEORGE-WILLISTON STP PS26(7) – VT ROUTE 2A

19 V.S.A. 10g(g)(1) REPORT SUMMARY

19 V.S.A. 10g(g)(2) Report compiles projects that have increased by more than \$8,000,000 or by more than 100% compared to the FY23 estimate

- BRATTLEBORO-NEWFANE STP 2940(1) – VT ROUTE 30 – Increase by more than \$8 million (\$19,466,891 - \$28,583,358) – Project is a ten-mile reclaim project, with wide shoulders, a project category that experienced large price variations. The low bid for this project came in higher than the estimate.
- BURLINGTON NH PC22(1) – CLASS 1 TH – Increase by more than 100% (\$8,529,665 - \$17,443,104) – Project is a seven-mile Class I Town Highway project through an urban area, requiring night work. The low bid for this project came in higher than the estimate.
- CAMBRIDGE-JOHNSON STP 2925(1) – VT ROUTE 15 – Increase by more than \$8 million (\$11,525,703 - \$21,205,934)– Project is a nine-mile reclaim project. Based on the price variation on this project type the project construction cost estimate has been updated to reflect current trends.
- HARTFORD STP PS24(2) – US ROUTE 15 – Increase by more than 100% (\$5,334,203 - \$11,431,297) – Project is a four-mile concrete slab removal project. This is a similar project type as reclaim, and the project construction cost estimate has been updated to reflect current trends.
- MARSHFIELD-DANVILLE NH PS19(1) – US ROUTE 2 – Increase by more than \$8 million (\$15,724,373 - \$29,990,867) – Project is a sixteen-mile reclaim project, a project category that experienced large price variations. The low bid for this project came in higher than the estimate.
- POWNAL-BENNINGTON NH SURF(72) – US ROUTE 7 – Increase by more than 100% (\$734,301 - \$3,935,783) – Project is a ten-mile preventative maintenance project. This initial estimate contained in the FY23 budget was underestimated for this project type and length.

19 V.S.A. 10g(g)(2) REPORT SUMMARY

19 V.S.A. 10g(g)(3) Report compiles projects that were funded for construction in the FY23 program and are no longer funded for construction in the FY24 program

All projects that are listed on this report have completed construction or will be complete by the end of the current fiscal year.

- ALBURGH NH FPAV(59) – US ROUTE 2
- BRATTLEBORO-WESTMINSTER IM SURF(69) – INTERSTATE 91
- BROOKFIELD-MONTPELIER IM SURF(67) – INTERSTATE 89
- CHELSEA-THETFORD STP 2955(1) – VT ROUTE 113
- CHESTER-SPRINGFIELD STP PS19(4) – VT ROUTE 11
- ESSEX-COLCHESTER STP 0207(4) – VT ROUTE 2A
- FAIR HAVEN-ORWELL STP FPAV(61) – VT ROUTE 22A
- HARDWICK STP PC23(1) – VT ROUTE 15 / VT ROUTE 14 CLASS I TH
- HARTLAND-NORWICH IM 091-1(84) – INTERSTATE 91
- JOHNSON-MORRISTOWN STP 2919(1) – VT ROUTE 15
- LUDLOW-BRIDGEGWATER STP FPAV(46) – VT ROUTE 100
- LYNDON STP FPAV(55) – VT ROUTE 122
- MORETOWN-MIDDLESEX STP FPAV(57) – US ROUTE 2
- PITTSFORD-BRANDON NH FPAV(49) – US ROUTE 7
- RANDOLPH-NORTHFIELD STP SURF(73) – VT ROUTE 12A
- RYEGATE-ST. JOHNSBURY IM SURF(70) – INTERSTATE 91
- SHAFTSBURY STP FPAV(54) – VT ROUTE 7A
- SPRINGFIELD-WINDSOR STP FPAV(48) C/2 – US ROUTE 5
- STOCKBRIDGE-ROCHESTER STP FPAV(42) – VT ROUTE 100
- SWANTON NH FPAV(58) – VT ROUTE 78
- SWANTON-HIGHGATE STP PS22(3) – US ROUTE 7
- WEATHERSFIELD STP SURF(80) – VT ROUTE 131
- WEATHERSFIELD NH SURF(85) – VT ROUTE 131 / VT ROUTE 12
- WOODSTOCK-HARTLAND NH FPAV(50) – US ROUTE 4

19 V.S.A. 10g(g)(3) REPORT SUMMARY