

# Foxstand Bridge

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CLOSURE – ROYALTON, VERMONT

Gidget Lyman

RESIDENT – ROYALTON HILL ROAD

Contributors -

# Foxstand Bridge Closure – Royalton, Vermont

## Key Points

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### Royalton Hill Road – Primary Impact Area

- **Class 2 Road (see town road map)**
- State did not inspect bridge during COVID
- The bridge was **abruptly closed on April 9, 2024**, following an inspection.
- Communication to residents was that we would have a temporary bridge by Fall 2025
- Selectboard voted on 6/25/2025 to not move forward with a temporary bridge and proceed directly to the permanent bridge project
- Bridge rehabilitation based on FAQ from the town was deemed not a viable option due to the cost of the repairs that would only temporarily extend the life of the bridge
- Per town FAQ, AOT calculated the estimated cost to the community at approximately \$587,394.50 per year due to the bridge closure
- A major roadway serving not only residents of Royalton Hill Road, but also those from Bethel, Barnard, and East Bethel.
- The closure has negatively impacted local businesses.
- Residents are experiencing **increased expenses**, including:
  - Additional mileage and fuel costs
  - Vehicle wear and repair costs due to poorer road conditions
- For most residents, the closure has added **at least 10 minutes** to daily commutes.
- The extended detour and road conditions have **discouraged visits from friends and family**.
- Residents may be at a **disadvantage in receiving timely emergency services** due to increased travel times and limited access.
- VT Parcel Map - [VT Parcel Viewer App - PRD v4.0.2](#) – (see maps page 4-6)
  - Estimated affected properties (approximately 133)
    - Gilman Road – 32
    - Royalton Hill Road/Tortolano Road – 37
    - Sewall Brook Road – 10
    - Back River Road (partial)/Satellite Lane – 10
    - Upper part of Royalton Hill Road/Johnson Hill Road/Fisher Road – 24
    - Davis Road - 20

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## Back River Road – Primary Detour Route

- **Class 3 Road**
- Not designed to handle current traffic volumes associated with the detour.
- Road conditions present **significant safety concerns**, including:
  - Narrow width, with **single-lane sections**
  - **Blind corners**
  - Lack of guardrails or poorly maintained guardrails
- The road is actively used by **horse riders, pedestrians, and bicyclists**, increasing risk with higher traffic volumes.
- There have been **multiple accidents**.
- Serves as a **school bus route**, further elevating safety concerns.
- The **Bridge Street connection to Route 14** includes:
  - A **single-lane bridge with a wooden deck**
  - A structure that has undergone recent repairs in 2024
- The road is **not suitable for emergency response vehicles**, as narrow conditions and oncoming traffic can cause delays, impacting residents on Royalton Hill Road and surrounding areas.

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## Gilman Road – Secondary Detour Route

- **Class 3 Road**
- Requires **installation or maintenance of guardrails** to improve safety.
- Increased traffic is impacting a **residential neighborhood on the Bethel side**, particularly near Royalton Hill Road.

## Conclusion & Request for Action

The closure of the Foxstand Bridge has created a situation that extends well beyond inconvenience—it has introduced ongoing safety risks, economic strain, and reduced accessibility for multiple communities that rely on Royalton Hill Road as a primary route.

The current detours along Back River Road and Gilman Road are not designed or equipped to handle sustained increases in traffic volume. Their physical limitations—including narrow widths, insufficient guardrails, and shared use with pedestrians, cyclists, and equestrians—pose clear and documented hazards. These conditions are further compounded by their role as school bus routes and the potential delays they introduce for emergency response services.

Residents, businesses, and visitors are bearing the cumulative burden of this closure through increased travel time, higher transportation costs, vehicle damage, and reduced connectivity. The longer this situation persists, the greater the impact on public safety, local economies, and overall quality of life.

### We respectfully urge the State Transportation Committee to:

- Prioritize the **repair or replacement of the Foxstand Bridge** with an expedited timeline
- Conduct a **comprehensive safety assessment** of the designated detour routes
- Implement **immediate safety improvements**, including guardrail installation and road condition upgrades on Back River Road and Gilman Road
- Evaluate and support **measures to ensure reliable emergency access** for affected residents

Timely and decisive action is critical. Restoring safe, efficient access along this corridor is not only a matter of infrastructure—it is essential to protecting the well-being and safety of the communities it serves.

# Potentially Affected Properties

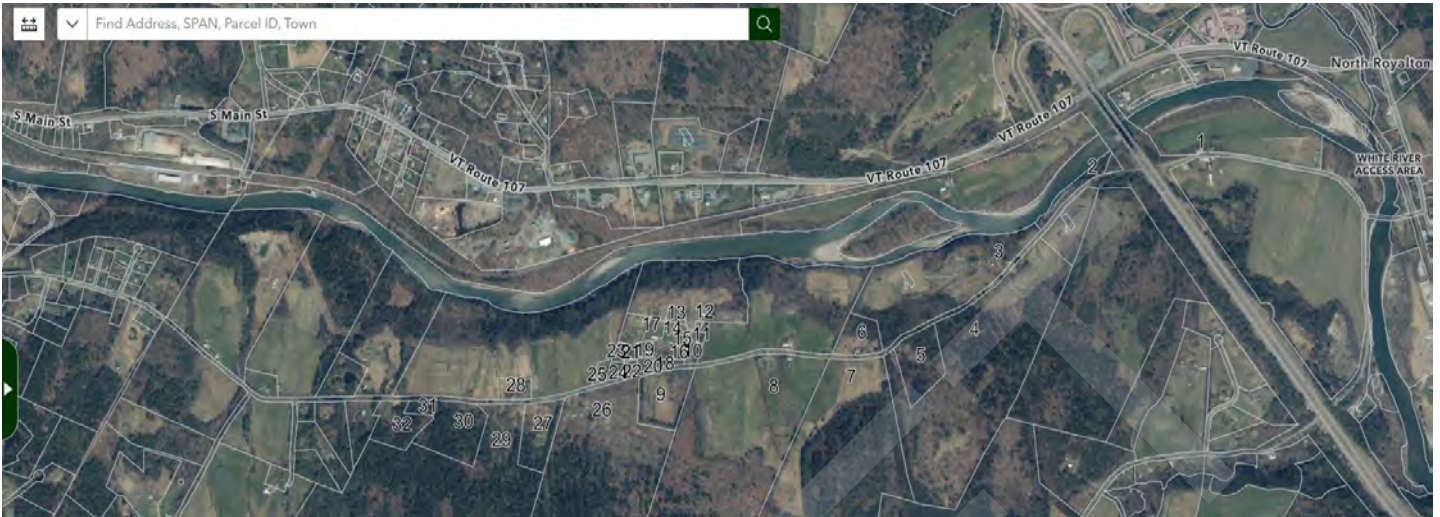
(Based on my assumption on distance to other outlets)

Maps from - <https://experience.arcgis.com/experience/b5a5cc7663c84761a305f70b913e1a60>

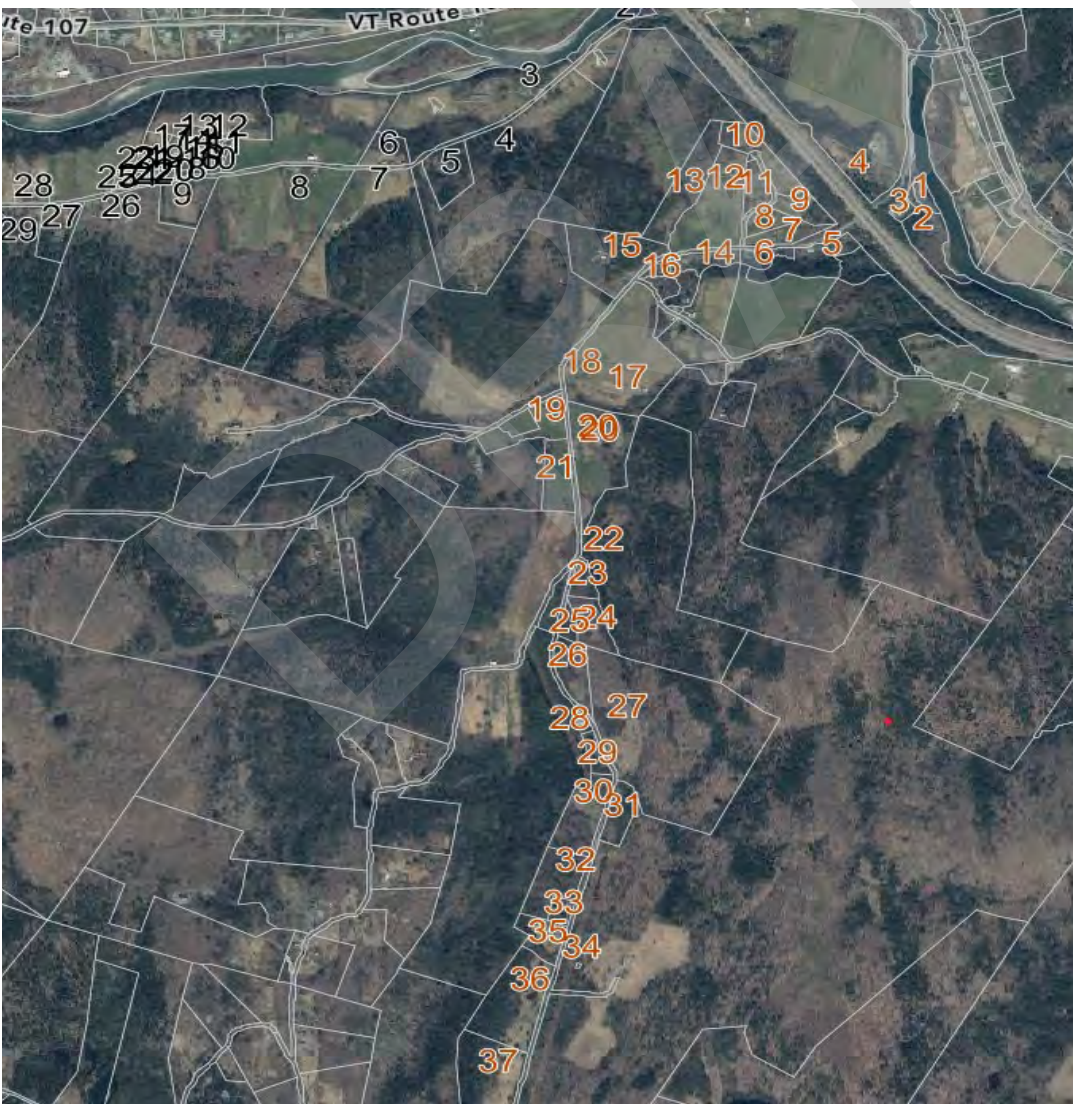
# Maps

(estimates, I did not include full roads on all and used my judgement on which residents are affected)

**Gilman Road – estimated 32 properties affected.**



**Royalton Hill Road/Tortolano Road – estimated 37 Properties.**



Sewall Brook Road/Waldo Road – estimated 10 properties.



Back River Road/Satellite Lane – estimated 10 properties



Upper part of Royalton Hill Road/Johnson Hill Road & Fisher Road – estimated 24 properties.



Davis Road – estimated 20 properties.




Royalton Hill Road

Back River Road

Gilman Road

Traffic Studies

# Royalton Hill Road – Traffic Count – 10/18/2023 – 10/21/2023



**VERMONT**  
AGENCY OF TRANSPORTATION

## Traffic Count (TCDS)

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List View

Location ID	YXCA	MPO ID	
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	No
LRS ID	-	LRS Loc Pt.	
SF Group	2 (2025)	Route Type	
AF Group	R7 (2025)	Route	
GF Group	1 (2025)	Active	Yes
Class Dist Grp		Category	Special
Seas Class Grp			
WIM Group			
QC Group	Default		
Funct'l Class	Local - 7	Milepost	
Located On	Royalton Hill Rd		
Loc On Alias			
NEAR	White River		

More Detail

**STATION DATA**

Directions: **2-WAY**

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2025	603 <sup>3</sup>		14	74	548 (91%)	55 (9%)	Grown from 2024
2024	602 <sup>3</sup>		14	74	546 (91%)	56 (9%)	Grown from 2023
2023	596	82	14	74	541 (91%)	55 (9%)	

**VOLUME COUNT**

Date	Int	Total
Sat 10/21/2023	15	516
Fri 10/20/2023	15	504
Thu 10/19/2023	15	733
Wed 10/18/2023	15	775

**VOLUME TREND**


Year	Annual Growth
2025	0%
2024	1%

**SPEED**

Date	Int	Pace	85th	Total
Sat 10/21/2023	15	0 - 20	25	516
Fri 10/20/2023	15	0 - 20	30	504
Thu 10/19/2023	15	20 - 30	30	733
Wed 10/18/2023	15	20 - 30	26	775

**CLASSIFICATION**

Date	Int	Total
Sat 10/21/2023	15	516
Fri 10/20/2023	15	504
Thu 10/19/2023	15	733
Wed 10/18/2023	15	775



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## Volume Count Report

LOCATION INFO	
Location ID	YXCA
Type	SPOT
Funct'l Class	7
Located On	Royalton Hill Rd
Loc On Alias	
NEAR	White River
Direction	2-WAY
County	Windsor
Community	Royalton
MPO ID	
HPMS ID	
Agency	Vermont AOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Wed 10/18/2023
End Date	Thu 10/19/2023
Start Time	6:00:00 PM
End Time	6:00:00 PM
Direction	2-WAY
Station	YXCA_WB
Study	
Speed Limit	
Description	
Sensor Type	NA
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:15-MIN					
Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	0	0	0	0	0
1:00-2:00	0	1	0	0	1
2:00-3:00	0	0	0	3	3
3:00-4:00	1	0	0	0	1
4:00-5:00	1	0	1	3	5
5:00-6:00	1	2	3	5	11
6:00-7:00	2	13	9	16	40
7:00-8:00	12	19	24	27	82
8:00-9:00	17	11	12	9	49
9:00-10:00	7	8	9	8	32
10:00-11:00	9	8	9	7	33
11:00-12:00	16	13	14	13	56
12:00-13:00	14	12	11	12	49
13:00-14:00	5	8	10	14	37
14:00-15:00	7	12	15	15	49
15:00-16:00	18	15	18	20	71
16:00-17:00	22	16	19	22	79
17:00-18:00	29	12	12	20	73
18:00-19:00	15	12	12	10	49
19:00-20:00	10	0	3	5	18
20:00-21:00	4	8	6	2	20
21:00-22:00	2	2	2	2	8
22:00-23:00	0	1	4	1	6
23:00-24:00	1	0	0	2	3
<b>Total</b>					775
<b>AADT</b>					678
<b>AM Peak</b>	07:15-08:15				87
<b>PM Peak</b>	16:15-17:15				86

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Loc On Alias	
NEAR	White River
Direction	2-WAY
County	Windsor
Community	Royalton
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HPMS ID	
Agency	Vermont AOT

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Station	YXCA_WB
Study	
Speed Limit	
Description	
Sensor Type	NA
Source	CombineVolumeCountsIncremental
Latitude, Longitude	

INTERVAL:15-MIN					
Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	1	0	1	0	2
1:00-2:00	2	0	1	0	3
2:00-3:00	0	0	1	4	5
3:00-4:00	0	1	1	0	2
4:00-5:00	1	0	0	0	1
5:00-6:00	1	2	1	4	8
6:00-7:00	5	11	13	12	41
7:00-8:00	10	17	25	22	74
8:00-9:00	8	5	7	13	33
9:00-10:00	11	8	15	7	41
10:00-11:00	11	8	10	8	37
11:00-12:00	12	9	8	12	41
12:00-13:00	13	9	17	12	51
13:00-14:00	22	10	8	6	46
14:00-15:00	13	8	12	9	42
15:00-16:00	10	18	11	17	56
16:00-17:00	15	12	29	20	76
17:00-18:00	11	13	17	15	56
18:00-19:00	11	12	13	8	44
19:00-20:00	10	4	9	7	30
20:00-21:00	4	5	6	0	15
21:00-22:00	3	5	2	0	10
22:00-23:00	1	4	5	2	12
23:00-24:00	2	0	2	3	7
<b>Total</b>					733
<b>AADT</b>					610
<b>AM Peak</b>					07:00-08:00 74
<b>PM Peak</b>					16:00-17:00 76

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Loc On Alias	
NEAR	White River
Direction	2-WAY
County	Windsor
Community	Royalton
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HPMS ID	
Agency	Vermont AOT

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End Time	6:00:00 PM
Direction	2-WAY
Station	YXCA_WB
Study	
Speed Limit	
Description	
Sensor Type	NA
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:15-MIN					
Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	2	1	0	3	6
1:00-2:00	0	0	0	0	0
2:00-3:00	0	1	0	1	2
3:00-4:00	0	0	1	0	1
4:00-5:00	0	0	0	0	0
5:00-6:00	0	2	1	1	4
6:00-7:00	2	2	8	1	13
7:00-8:00	1	1	1	3	6
8:00-9:00	5	4	6	7	22
9:00-10:00	12	11	8	11	42
10:00-11:00	6	5	8	8	27
11:00-12:00	12	9	18	14	53
12:00-13:00	10	8	11	15	44
13:00-14:00	10	16	9	12	47
14:00-15:00	9	7	8	9	33
15:00-16:00	8	13	7	9	37
16:00-17:00	10	8	9	7	34
17:00-18:00	10	12	5	7	34
18:00-19:00	10	9	8	4	31
19:00-20:00	9	6	3	6	24
20:00-21:00	3	1	8	4	16
21:00-22:00	7	4	2	4	17
22:00-23:00	2	3	1	3	9
23:00-24:00	0	1	0	1	2
<b>Total</b>					504
<b>AADT</b>					502
<b>AM Peak</b>					11:00-12:00 53
<b>PM Peak</b>					12:30-13:30 52

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Funct'l Class	7
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Loc On Alias	
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County	Windsor
Community	Royalton
MPO ID	
HPMS ID	
Agency	Vermont AOT

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Holiday	No
Start Date	Sat 10/21/2023
End Date	Sun 10/22/2023
Start Time	6:00:00 PM
End Time	6:00:00 PM
Direction	2-WAY
Station	YXCA_WB
Study	
Speed Limit	
Description	
Sensor Type	NA
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:15-MIN					
Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	1	2	0	2	5
1:00-2:00	1	0	1	1	3
2:00-3:00	0	0	0	0	0
3:00-4:00	0	0	2	0	2
4:00-5:00	2	0	1	0	3
5:00-6:00	1	1	1	0	3
6:00-7:00	2	1	2	0	5
7:00-8:00	5	1	2	4	12
8:00-9:00	6	5	5	11	27
9:00-10:00	9	3	7	10	29
10:00-11:00	13	6	18	14	51
11:00-12:00	11	15	10	14	50
12:00-13:00	13	17	11	8	49
13:00-14:00	16	11	12	11	50
14:00-15:00	13	10	11	8	42
15:00-16:00	13	7	15	9	44
16:00-17:00	10	10	10	7	37
17:00-18:00	6	5	4	8	23
18:00-19:00	10	9	6	8	33
19:00-20:00	5	3	3	2	13
20:00-21:00	4	4	3	1	12
21:00-22:00	2	0	2	3	7
22:00-23:00	5	3	2	1	11
23:00-24:00	3	0	2	0	5
<b>Total</b>					516
<b>AADT</b>					592
<b>AM Peak</b>					10:30-11:30 58
<b>PM Peak</b>					12:15-13:15 52

# Back River Road – Traffic Count – 5/7/2021-5/10/2021 & 9/27/2017-10/2/2017

Home
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Auto-Locate:

List View All DIRs

Record 40 of 50 Goto Record  go

On NHS	No	On HPMS	No
LRS ID		LRS Loc Pt.	
SF Group	2 (2025)	Route Type	
AF Group	R7 (2025)	Route	
GF Group	1 (2025)	Active	Yes
Class Dist Grp		Category	LOCAL 1
Seas Class Grp	R7 (2016)		
WIM Group			
QC Group	Default		
Fnc'l Class	Local - 7	Milepost	
Located On	BACK RIVER RD		
Loc On Alias	TH5		
NORTH OF	BRIDGE ST		

More Detail ▶

**STATION DATA**

Directions: 2-WAY EB WB ?

**AADT** ?

	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2024	329 <sup>3</sup>		19				Grown from 2023
	2023	326 <sup>3</sup>		19				Grown from 2022
	2022	323 <sup>3</sup>		19				Grown from 2021
	2021	320 <sup>3</sup>		19				Grown from 2020
	2020	282 <sup>3</sup>		19				Grown from 2019

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**VOLUME COUNT**

	Date	Int	Total
👁	Mon 10/2/2017	60	391
👁	Sun 10/1/2017	60	272
👁	Sat 9/30/2017	60	297
👁	Fri 9/29/2017	60	394
👁	Thu 9/28/2017	60	435
👁	Wed 9/27/2017	60	399
👁	Tue 5/10/2011	60	342
👁	Mon 5/9/2011	60	310
👁	Sun 5/8/2011	60	191
👁	Sat 5/7/2011	60	233

**VOLUME TREND** ?

Year	Annual Growth
2024	1%
2023	1%
2022	1%
2021	13%
2020	-15%
2019	0%
2018	-1%
2017	4%

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To Date

# Gilman Road – Traffic Count – 5/8/2011-5/10/2011 & 9/19/2017-9/25/2017

Home
Locate
Locate All
Email This
Auto-Locate:

List View
All DIRs

Record
◀◀
◀
41
▶
▶▶
of 50
Goto Record

go

Location ID	YXQS	MPO ID	
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	No
LRS ID		LRS Loc Pt.	
SF Group	2 (2025)	Route Type	
AF Group	R7 (2025)	Route	
GF Group	1 (2025)	Active	Yes
Class Dist Grp		Category	LOCAL 1
Seas Class Grp	R7 (2016)		
WIM Group			
QC Group	Default		
Funct'l Class	Local - 7	Milepost	
Located On	ROYALTON HILL RD		
Loc On Alias	TH6		
SOUTH OF	GILMAN RD		

More Detail ▶

**STATION DATA**

Directions: 2-WAY NB SB ?

**AADT** ?

	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2024	520 <sup>3</sup>		13				Grown from 2023
	2023	515 <sup>3</sup>		13				Grown from 2022
	2022	510 <sup>3</sup>		13				Grown from 2021
	2021	506 <sup>3</sup>		13				Grown from 2020
	2020	447 <sup>3</sup>		13				Grown from 2019

|<<| <| >| >>| 1-5 of 9

**VOLUME COUNT**

	Date	Int	Total
☁	Mon 9/25/2017	60	595
☁	Sun 9/24/2017	60	485
☁	Sat 9/23/2017	60	589
☁	Fri 9/22/2017	60	583
☁	Thu 9/21/2017	60	608
☁	Wed 9/20/2017	60	550
☁	Tue 9/19/2017	60	609
☁	Tue 5/10/2011	60	485
☁	Mon 5/9/2011	60	418
☁	Sun 5/8/2011	60	440

|<<| <| >| >>| 1-10 of 12

mm/dd/yyyy  To Date

**VOLUME TREND** ?

Year	Annual Growth
2024	1%
2023	1%
2022	1%
2021	13%
2020	-15%
2019	0%
2018	-1%
2017	3%

# Foxstand Bridge Inspections

Inspection Reports from:

2024

2020



Town: 187 - ROYALTON

District 4, 27 - WINDSOR County

Owner: 3 - Town or Township Highway Agency

Maintenance Responsibility: 3 - Town or Township Highway Agency

Team Lead: Jeremy Spooner, Inspection Date: 08/28/2024



43.82256, -72.56606

IDENTIFICATION	
(1) State Names	50 - Vermont
(8) Structure Number	101416003014161
(5) Inventory Route	1
(2) Highway Agency District	4 - District 4
(3) County Code	27 - WINDSOR
(4) Place Code	60850
(6) Features Intersected	WHITE RIVER
(7) Facility Carried	C2006
(9) Location	0.15 MI TO JCT W VT14
(11) Mile Point	0 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	
(16) Latitude	43.8225638888889
(17) Longitude	-72.5660555555556
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	310
Material	3 - Steel
Type	10 - Truss - Thru
(44) Approach Structure Type	00
Material	0 - Other
Type	0 - Other
(45) No. of Spans in Main Unit	1
(46) No. of Approach Spans	0
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	6 - Bituminous
Type of Membrane	0 - None
Type of Deck Protection	0 - None
AGE AND SERVICE	
(27) Year Built	1928
(106) Year Reconstructed	2007
(42) Type of Service	15
On	1 - Highway
Under	5 - Waterway
(28) Lane	
On	2
Under	0
(29) Average Daily Traffic	500
(30) Year of ADT	2019
(109) Truck ADT	2 %
(19) Bypass, Detour Length	5 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	160 ft
(49) Structure Length	165 ft
(50) Curb or Sidewalk Width	
Left	0.6 ft
Right	0.6 ft
(51) Bridge Roadway Width Curb to Curb	16.9 ft
(52) Deck Width Out to Out	17.5 ft
(32) Approach Roadway Width (W/Shoulders)	17 ft
(33) Bridge Median	0 - No median
(34) Skew	0 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	14.67 ft
(47) Inventory Route Total Horiz Clear	16.9 ft
(53) Min Vert Clear Over Bridge Rdwy	14.67 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	0 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	0 - No navigation control on w
(111) Pier Protection	
(39) Navigation Vertical Clearance	0 ft
(116) Vert-Lift Bridge Nav Min Vert Clear	0 ft
(40) Navigation Horizontal Clearance	0 ft

CLASSIFICATION	
(112) NBIS Bridge Length	Y
(104) Highway System	0
(26) Functional Class	9 - Rural Local
(100) Defense Highway	0 - The inventory route is not
(101) Parallel Structure	N - No parallel structure exists
(102) Direction of Traffic	2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0 - N/A
(110) Designated National Network	0 - The inventory route is not
(20) Toll	3 - On free road. The structure
(21) Maintain	3 - Town or Township Highway A
(22) Owner	3 - Town or Township Highway A
(37) Historical Significance	5 - Bridge is not eligible for
CONDITION	
(58) Deck	7
(59) Superstructure	3
(60) Substructure	5
(61) Channel & Channel Protection	8
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	1 - M9 / H10
(63) Operating Rating Method	2
(64) Operating Rating	
Type	2 - Allowable Stress(AS)
Rating	0
(65) Inventory Rating Method	2 - Allowable Stress(AS)
(66) Inventory Rating	
Type	
Rating	0
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Open/Posted/Closed	K - Bridge closed to all traffic
APPRAISAL	
(67) Structural Evaluation	0
(68) Deck Geometry	0
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	0
(72) Approach Roadway Alignment	5
(36A) Bridge Railings	0 - Inspected feature does not meet
(36B) Transitions	0 - Inspected feature does not meet
(36C) Approach Guardrail	0 - Inspected feature does not meet
(36D) Approach Guardrail Ends	0 - Inspected feature does not meet
(113) Scour Critical Bridges	3 - Bridge is scour critical; bridge
PROPOSED IMPROVEMENTS	
(75) Type of Work	31 - Replacement of bridge or
(76) Length of Structure Improvement	198 ft
(94) Bridge Improvement Cost (Multiply value by 1000)	\$ 1161
(95) Roadway Improvement Cost (Multiply value by 1000)	\$ 150
(96) Total Project Cost (Multiply value by 1000)	\$ 1311
(97) Year of Improvement Cost Estimate	2020
(114) Future ADT	525
(115) Year of Future ADT	2029

INSPECTIONS *			
(90) Inspection Date			08/28/2024
(91) Frequency			24
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	Yes	24	08/28/2024
B: Underwater Inspection	No		
C: Other Special Inspection			

\* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.

**Maintenance Needs**

**Date Reported:** 08/09/2022

**Priority:** 4 - Maintenance Finding - Next Inspection Cycle

**Status:** Open

**Type of Work:** 1 - General - Maintenance/preservation work

**Component:** General

---

**Deficiency Description**

Steel superstructure has areas of pitting section loss in what can be seen as staging is being schedule later this fall to gain full access. The cross bracing has heavy section loss and connection plates are rust off in places. Abutments have deep heavy scaling and repairs should be made. Further in depth inspection to be done with staging contract in near future

**Remarks**

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**Maintenance Needs****Date Reported:** 04/09/2024**Priority:** 5 - Cyclical Activity - Per Policy**Status:** Open**Type of Work:** 2 - General - Major rehabilitation project**Component:** General

---

**Deficiency Description**

Heavy section loss along couple of gusset plates have advance deterioration progression along fracture critical members have warranted structure closure.

**Remarks**

Advance deterioration found during consultant inspection in which they access using staging. Staging inspection has been delayed for a couple of years now due to unseen issues that has come up in last couple years beyond inspectors control. Structure is in need of major rehab along superstructure and substructure.

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Team Lead: Jeremy Spooner, Inspection Date: 08/28/2024

### Deck

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	2870	2870	0	0	0
510	Wearing Surfaces	SF	2789	2789	0	0	0
330	Metal Bridge Railing	LF	330	145	20	165	0
1000	Corrosion	LF	165	0	0	165	0
7000	Damage	LF	20	0	20	0	0
804	Concrete Fascia	LF	330	326	0	4	0
1190	Abrasion/Wear (PSC/RC)	LF	4	0	0	4	0

**58 - Deck (7 - GOOD CONDITION - some minor problems.)**

Fine transverse cracks along soffit

**200 - Existing Wearing Surface Depth (3.5")**

**A21 - Deck Wearing Surface Condition (Good)**

Asphalt

**A24 - Deck Curb Condition (Satisfactory)**

Concrete cracked through northeast corner

**A38 - Deck Drain Condition (Good)**

Steel downspouts are open

**A39 - Deck Fascia Condition (Good)**

**B.C.05 Bridge Railing Condition Rating**

Angles and lattice work with rusting attached to truss members.

### APPROACH

**72 - Approach Roadway Alignment (5 - Somewhat better than minimum adequacy to tolerate being left in place as is)**

**A13 - Approach Rail Condition (Satisfactory)**

Galvanized W beams with minor bends and tears

**A16 - Approach Post Condition (Good)**

Galvanized I beams

**A18 - Approach Erosion/Settlement**

Heavy pavement cracking along approach

**B.C.06 Bridge Railing Transitions Condition Rating (SATISFACTORY - Widespread minor or isolated moderate defects.)**

Galvanized W beams minor bends and scrapes

**Superstructure**

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
113	Steel Stringer	LF	644	0	644	0	0
1000	Corrosion	LF	644	0	644	0	0
515	Steel Protective Coating	SF	2683	1143	0	320	1220
3420	Peeling/Bubbling/Cracking	LF	1540	0	0	320	1220
120	Steel Truss	LF	322	42	280	0	0
1000	Corrosion	LF	280	0	280	0	0
515	Steel Protective Coating	SF	2335	1257	0	0	1078
3420	Peeling/Bubbling/Cracking	LF	1078	0	0	0	1078
152	Steel Floor Beam	LF	162	0	162	0	0
1000	Corrosion	LF	162	0	162	0	0
515	Steel Protective Coating	SF	905	905	0	0	0
311	Movable Bearing	EA	2	0	2	0	0
1000	Corrosion	EA	2	0	2	0	0
313	Fixed Bearing	EA	2	0	2	0	0
1000	Corrosion	EA	2	0	2	0	0

**59 - Superstructure** (3 - SERIOUS CONDITION - loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.)

**A50 - Super Verticals/Diagonals Condition** (Satisfactory)

Areas of rust scaling and pitting along lower portion due to debris buildup in gusset connection

**A51 - Top Chords Condition** (Satisfactory)

Looks relatively good in what can be seen

**A52 - Bot. Chords Condition** (Satisfactory)

Pitting along gusset connection and top keeper plating has pitting and chord has minor bends

**A53 - Gusset Condition** (Poor)

04/2024 Gusset rusted through along upstream side at panel point 3 and along downstream side panel point 5 with heavy section loss. Panel points accessed by consultant with proper staging.

Areas of rusting and packed with debris and some bending

**A55 - Lateral Bracing Condition** (Satisfactory)

X bracing with heavy rust along connection plates and some areas rusted off

**A56 - Floor Beams Condition** (Satisfactory)

Areas of pitting with section loss that can be seen, staging needed for full view. Floor beam over west abutment has hole along outer flange edge and thinning along floor beam at east abutment

**A58 - Stringer Condition** (Satisfactory)

4 stringers with thinning below deck drains and holes can be seen along lower web of northwest fascia stringer beam end.

**B.C.07 Bridge Bearings Condition Rating** (POOR - Widespread moderate or isolated major defects; strength and/or performance of the component is affected. )

The rocker bearings west end are way over extended

**B.C.14 NSTM Inspection Condition** (SERIOUS - Major defects; strength and/or performance of the component is seriously affected. Condition typically necessitates more frequent monitoring, load restrictions, and/or corrective actions.)

Advanced deterioration along gusset plate panel point 3 upstream and panel point 5 downstream along lower chord.

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### Substructure

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
<b>215</b>	Reinforced Concrete Abutment	LF	64	0	13	51	0
<b>1120</b>	Efflorescence/Rust Staining	LF	13	0	13	0	0
<b>1190</b>	Abrasion/Wear (PSC/RC)	LF	51	0	0	51	0
<b>800</b>	Reinforced Concrete Wing/Retaining Wall	EA	4	4	0	0	0

**60 - Substructure** (5 - FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.)

Both abutments have heavy and deep scaling along the concrete facing with east abutment more severe

**A71 - Abutment End Walls Condition** (Fair)

West abutment backwall is cracked through in 3 location and northwest corner of wall has translation

**A77 - Retaining/Wingwall Condition** (Fair)

Heavy scaling along wings and extended retaining wall added after Irene northeast end

**A78 - Abutment Footings Condition** (Fair)

Heavy spalling/scaling and on ledge

### CHANNEL

**61 - Channel Condition** (8 - Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition.)

Ledge throughout

**B.C.10 Channel Protection Condition Rating** (GOOD - Some minor defects.)

**B.C.11 Scour Condition Rating** (Insignificant scour. )

### GENERAL OBSERVATION

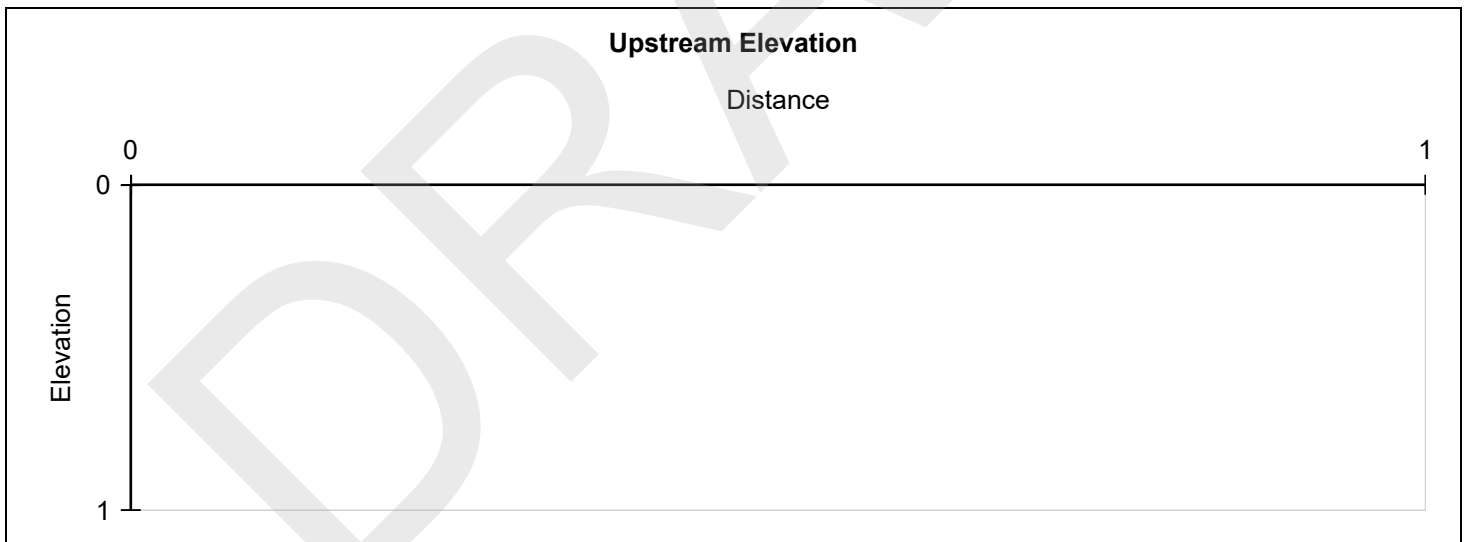
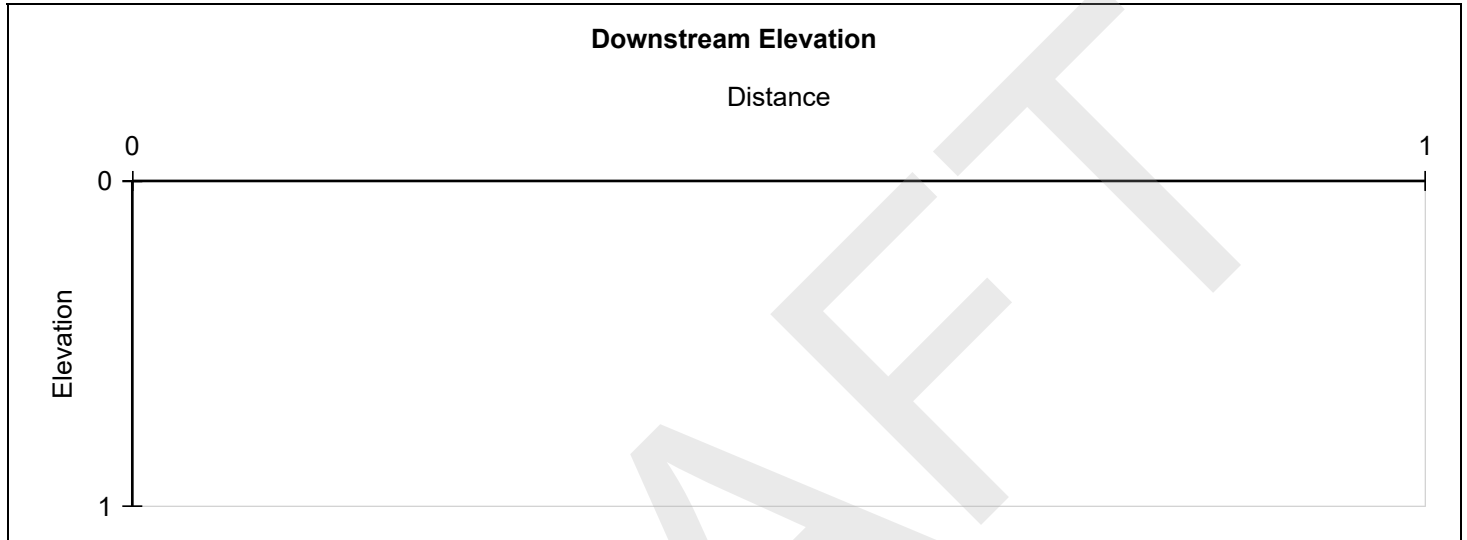
Structure was closed due to gusset deterioration, consultant were doing in-depth inspection with staging and able to gain access to panel points and discovered advance deterioration progression .

**Team Lead:** Jeremy Spooner, **Inspection Date:** 08/28/2024

**Channel Profile**

Waterway Flow:	Top of Water:
Origin:	Bottom of Beam:

Station	Distance	Downstream	Upstream
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Bridge remains closed



Bridge remains closed

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# STRUCTURE INSPECTION, INVENTORY and APPRAISAL SHEET

Vermont Agency of Transportation – Structures Section – Bridge Management and Inspection Unit

Inspection Report for: ROYALTON  
Located on: C2006 over WHITE RIVER

Bridge No.: 00030  
approximately 0.15 MI TO JCT W VT14

District: 4  
Owner: TOWN-OWNED

## CONDITION

Deck Rating: 8 VERY GOOD  
Superstructure Rating: 6 SATISFACTORY  
Substructure Rating: 5 FAIR  
Channel Rating: 8 VERY GOOD  
Culvert Rating: N NOT APPLICABLE  
Federal Str. Number: 101416003014161  
Federal Sufficiency Rating: 44.4  
Deficiency Status of Structure: FD

## AGE and SERVICE

Year Built: 1928 Year Reconstructed: 2007  
Service On: 1 HIGHWAY  
Service Under: 5 WATERWAY  
Lanes On the Structure: 02  
Lanes Under the Structure: 00  
Bypass, Detour Length (miles): 05  
ADT: 000500 % Truck ADT: 02  
Year of ADT: 2019

## GEOMETRIC DATA

Length of Maximum Span (ft): 0160  
Structure Length (ft): 000165  
Lt Curb/Sidewalk Width (ft): 0  
Rt Curb/Sidewalk Width (ft): 0.6  
Bridge Rdwy Width Curb-to-Curb (ft): 16.9  
Deck Width Out-to-Out (ft): 17  
Appr. Roadway Width (ft): 017  
Skew: 00  
Bridge Median: 0 NO MEDIAN  
Min Vertical Clr Over (ft): 14 FT 08 IN  
Feature Under: FEATURE NOT A HIGHWAY OR RAILROAD  
Min Vertical Underclr (ft): 00 FT 00 IN

## STRUCTURE TYPE and MATERIALS

Bridge Type: STEEL THRU TRUSS  
Number of Approach Spans: 0000 Number of Main Spans: 001  
Kind of Material and/or Design: 3 STEEL  
Deck Structure Type: 1 CONCRETE CIP  
Type of Wearing Surface: 6 BITUMINOUS  
Type of Membrane: 0 NONE  
Deck Protection: 0 NONE

## APPRAISAL \*AS COMPARED TO FEDERAL STANDARDS

Bridge Railings: 0 DOES NOT MEET CURRENT STANDARD  
Transitions: 0 DOES NOT MEET CURRENT STANDARD  
Approach Guardrail: 0 DOES NOT MEET CURRENT STANDARD  
Approach Guardrail Ends: 0 DOES NOT MEET CURRENT STANDARD  
Structural Evaluation: 5 BETTER THAN MINIMUM TOLERABLE  
Deck Geometry: 2 INTOLERABLE REPLACEMENT NEEDED  
Underclearances Vertical and Horizontal: N NOT APPLICABLE  
Waterway Adequacy: 7 SLIGHT CHANCE OF OVERTOPPING BRIDGE & ROADWAY  
Approach Roadway Alignment: 5 BETTER THAN MINIMUM TOLERABLE CRITERIA  
Scour Critical Bridges: 3 SCOUR CRITICAL

## DESIGN VEHICLE, RATING and POSTING

Load Rating Method (Inv): 2 ALLOWABLE STRESS(AS)  
Posting Status: P POSTED FOR LOAD  
Bridge Posting: 5 NO POSTING REQUIRED  
Load Posting: 07 END OF ROAD IS POSTED WITHIN SIGHT OF BRIDGE  
Posted Vehicle: 1 2 AXLE STRAIGHT TRUCK  
Posted Weight (tnns): 16  
Design Load: 1 H 10

## INSPECTION

Insp. Date: 082020 Insp. Freq. (months): 24 X-Ref. Route:  
X-Ref. Br/Num:

## INSPECTION SUMMARY and NEEDS

08/11/2020 Steel superstructure has areas of pitting and section loss. Most notable at this time along stringer fascia beams where deck drains spill on to them. Heavy rusting and section loss along lower cross bracing connection and some pretty much rusted through. Repairs are needed. For more detailed inspection refer to 2016 staging report. MJK AC

08/31/2018 - Bridge needs steel repairs made along with substructure and painting project. The gusset plates are rusting free and cross bracing will soon break free and fall. JS/MC

09/26/2016 - Special Staging Inspection - Structure should be cleaned and painted soon. Rusted connection and keeper plates should be replaced due to the section loss. Floor beams with heavy rusting along the top and bottom flanges should be repaired or replaced. Rockers on abutment #1 should be reset soon. -FRE/ABC

08/11/2016 - Bridge superstructure needs extensive cleaning, and painting now, or will require extensive steel repair work within the next 10 years. Some strengthening of various corroded members could be done after sand blasting prep before painting; for instance repair of the rusting off lateral bracing components. The deck drains need to be either extended or eliminated, as they leak directly onto the exterior stringers causing corrosion. Each abutment could use extensive concrete repair work, and the west end of the bridge could be jacked, and the rocker bearings repositioned. The posting sign at the western approach which was washed away during TS Irene in 2011, should be replaced. Note: Bridge to be inspected later this year with special staging apparatus. - MJ

8/19/2014 Routine/Fracture Critical: This structure needs to have extensive cleaning and painting. With cleaning of the steel a few gusset plates will need some small steel repairs. The keeper plates for the lateral bracing will mostly all need to be replaced, as well as some cross angled lateral bracing. The rocker bearings at abutment 1 need to be reset. JWW/JDM

7/22/14 Routine/Fracture Critical: Fair condition rating are on only elements that were able to get hands on. Steel superstructure has areas of thinning along stringers and floorbeams flanges that will need attention in the next few years. Abutments need cleaning & patching. Abutment 1 downstream rocker bearing is maxed out and the 2 keeper bolts are sheared off. Numerous rivet heads have heavy pitting. MJK SP

07/10/2012 Steel truss is in need of full paint re-coat. Both abutment stemwalls and all wingwalls are in need of heavy concrete patching or rehab. Standard approach guardrails need to be added along both sides of approach No.2. Several scattered steel members throughout the structure are in need of added reinforcement or repairs due to holes, section loss, etc. PLB

02/06/12 Spoke with town clerk and verified that approach repairs were made and structure is open. MJK

## Royalton Selectboard Minutes regarding above report.

**Town of Royalton  
Royalton Selectboard Regular Meeting  
Tuesday January 8, 2019 at 7pm  
Town Office on Route 14**

**Royalton Selectboard:** Larry Trottier, Sandy Conrad, Gidget Lyman, Tim Dreisbach, Chris Noble

**Town Staff:** Town Administrator, Rose Hémond, Royalton Police Chief Loretta Stalnaker, Royalton Constable Marc Preston, Royalton Town Lister Jeff Barcelow

**Public:** Jojo Levasseur, Stuart Levasseur, John Dumville, Theresa Manning, Cynthia Dalrymple, Sarah Danly, Jeff Tucker, Lincoln and Louise Clark, Marianne Pysarchyk, Maria Lamson, Bomie Kenyon, Bob Slattery, Nell Gwin, Pam Levasseur, Tim Miller, James Northrop

**Chairman Larry Trottier opened the meeting at 7:00pm**

**Jeff Tucker**, President of Dubois and King Engineering, spoke to the Selectboard about the repair/replacement of the Fox Stand Bridge in Royalton. Jeff said back in 2014 when the Gilman Road project was being completed, the town and his firm discussed the useful life of this bridge which was less than 8 years at the time. The town was informed that the Fox Stand Bridge is currently ranked 6<sup>th</sup> on the pre-candidate town highway bridge list. It is within the top 10 town highway bridges regional priority to recommend to VTrans to become a project which means the project could qualify for grant funds. The Selectboard asked Jeff to consult with the Vermont Agency of Transportation and advise the Selectboard what should be done to repair/replace the bridge and the cost associated with it.

# Royalton Town Road Map

Road Classification

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TOWN HWY. No.	LENGTH IN MILES CLASS 3	LENGTH IN MILES CLASS 4	TOWN HWY. No.	LENGTH IN MILES CLASS 3	LENGTH IN MILES CLASS 4	TOWN HWY. No.	LENGTH IN MILES CLASS 3	LENGTH IN MILES CLASS 4	
5	3.81		41	0.71		73	0.10		
7	2.96		42	1.05		74	0.07		
8	0.40		43	0.41	(0.49)	75	0.20		
9	1.32		44	0.18		76	0.17		
10	0.46		45	0.80		77		(0.07)	
11	1.29		46	0.65	(1.30)	78	0.21		
12	2.33		47	2.33		80	0.11		
13	3.22		48	1.19		81	0.16		
14	1.28	(1.31)	49	2.40		82	0.36		
15	0.38		50	0.10		83	0.12		
16	0.66	(0.60)	51	0.42		84	0.08		
17	2.38		53	0.20	(0.59)	85	0.32		
18	0.80		54	0.31		86	0.21		
20	0.50		55	0.28		87	0.23		
21		(0.70)	56	0.60		88	0.11		
22	1.94		57	0.04		89	0.25		
23	1.45		58	0.03		92	0.04		
24	0.14		59	0.11		93	0.07		
25	0.83		60	0.06		94	0.05		
26	0.10		61	0.07		95	0.26		
27	0.15		62	0.41		96	0.10		
28	0.15		63	0.09		97	0.11		
29	0.51		64	0.05		98	0.20		
30	0.30		65	0.10		99	0.13		
32	0.44		66	0.12		100	0.18		
33	0.15		67	0.55		101			
34	0.24		68	0.21		102	0.16		
35	3.03		69	0.08	(0.44)	103		(0.06)	
36	2.36		70	0.05	(0.59)	104		(0.59)	
37	0.68	(1.31)	71	0.04	(1.21)	105		(1.21)	
38	3.57		72	0.06	(0.14)	106		(0.14)	
							<b>TOTAL</b>	<b>55.53</b>	<b>8.81</b>

**MILEAGE SUMMARY**

CLASS 2	LENGTH IN MILES	TOTAL CLASS 2	LENGTH IN MILES
TH-1	2.590	15.410	
TH-2	2.540		
TH-3	1.840		
TH-4	2.220		
TH-5	2.050		
TH-6	4.130		TH-6 - Royalton Hill Road
TH-7	0.040		
<b>TOTAL CLASS 2</b>		<b>15.410</b>	
<b>CLASS 3</b>		<b>40.120</b>	
<b>TOTAL CLASS 3</b>		<b>55.530</b>	
<b>TOTAL TOWN</b>		<b>70.940</b>	
<b>STATE HIGHWAY</b>			
VT-14	9.100		
VT-107	2.530		
VT-110	2.320		
<b>TOTAL STATE HIGHWAY</b>		<b>13.950</b>	
<b>INTERSTATE</b>			
I-89	7.720		
<b>TOTAL INTERSTATE</b>		<b>7.720</b>	
<b>INTERSTATE - Ramps</b>			
I-89	1.266		
<b>TOTAL INTERSTATE - Ramps</b>		<b>1.266</b>	
<b>TOTAL INTERSTATE</b>		<b>8.986</b>	
<b>TOTAL TRAVELED HIGHWAYS, FEB. 10, 2025:</b>		<b>93.876</b>	
<small>(Excludes Class 4 and Legal Trail Mileage)</small>			

TOWN HWY. No.	LENGTH IN MILES "NOT UP TO STANDARD"
37	(0.07)
46	(0.18)
67	(0.05)
<b>TOTAL</b>	<b>0.30</b>

\*The sections of the town highways listed above are legally Class 3, but have been deemed "Not Up To Standard" and are functionally Class 4 Town Highways

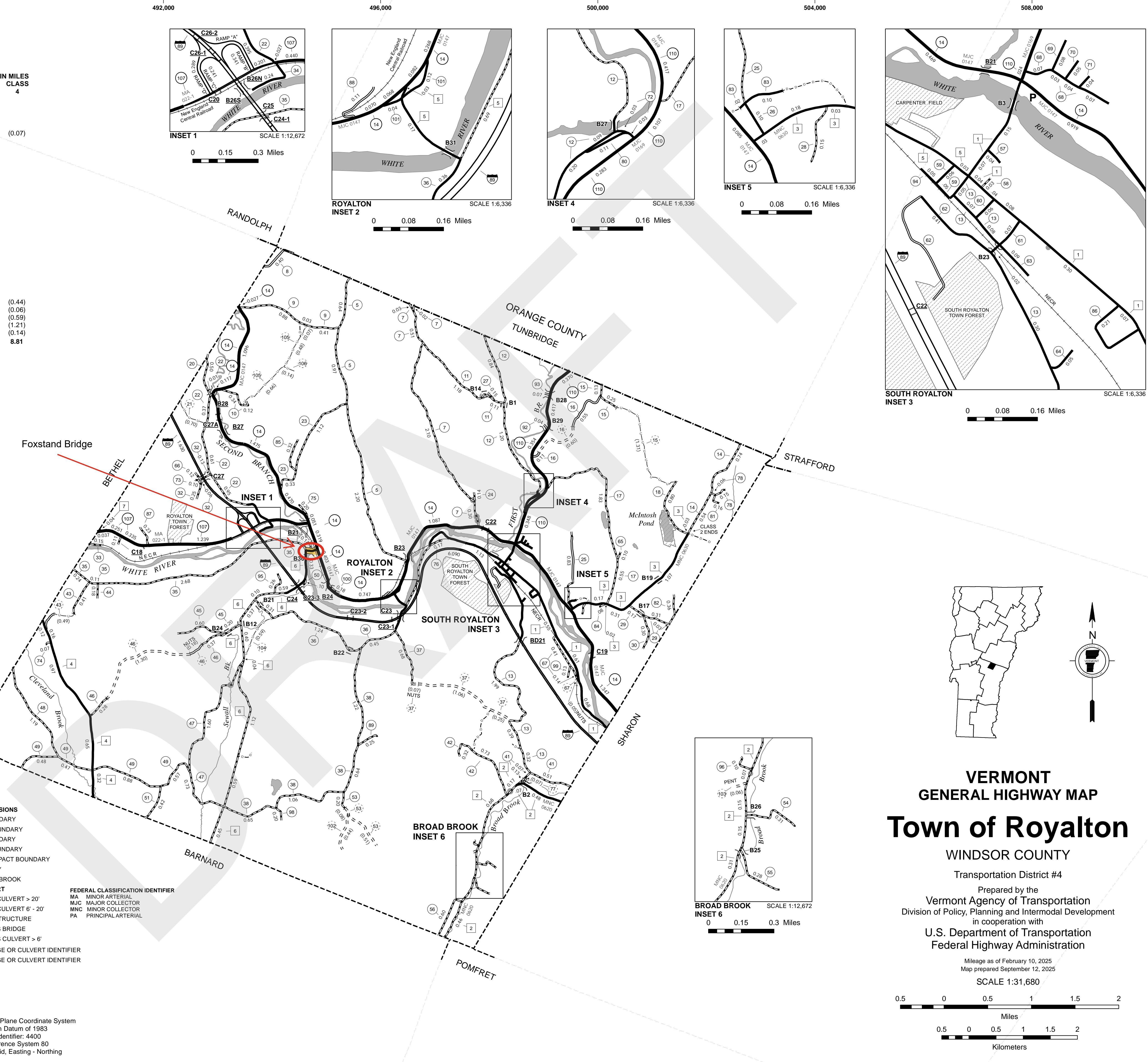
- HIGHWAYS**
- INTERSTATE OR DIVIDED HIGHWAY
  - STATE - HARD SURFACE OR PAVED
  - TOWN - HARD SURFACE OR PAVED
  - GRAVEL
  - SOIL OR GRADED AND DRAINED EARTH
  - UNIMPROVED OR PRIMITIVE
  - IMPASSABLE OR UNTRAVELED
  - LEGAL TRAIL
  - DISCONTINUED
  - HIGHWAY CLASS CHANGE
  - RAILROAD
  - INACTIVE RAILROAD
  - PUBLIC LAND - NATIONAL FOREST
  - PUBLIC LAND - STATE/MUNICIPAL
  - NFR NATIONAL FOREST ROAD
  - ACE ARMY CORPS OF ENGINEERS
  - USGH UNITED STATES GOV. HWY.

- POLITICAL SUBDIVISIONS**
- STATE BOUNDARY
  - COUNTY BOUNDARY
  - TOWN BOUNDARY
  - VILLAGE BOUNDARY
  - URBAN COMPACT BOUNDARY
  - WATER BODY
  - STREAM OR BROOK
- BRIDGE OR CULVERT**
- BRIDGE OR CULVERT > 20'
  - BRIDGE OR CULVERT 6' - 20'
  - BIKE PATH STRUCTURE
  - VT CULVERTS BRIDGE
  - VT CULVERTS CULVERT > 6'
- FEDERAL CLASSIFICATION IDENTIFIER**
- MA MINOR ARTERIAL
  - MJC MAJOR COLLECTOR
  - MNC MINOR COLLECTOR
  - PA PRINCIPAL ARTERIAL
- B34 / C34 STATE BRIDGE OR CULVERT IDENTIFIER**
- B34 / C34 TOWN BRIDGE OR CULVERT IDENTIFIER**

**DISCLAIMER:**  
The untraveled highways (laid-out town highways), discontinued highways, and legal trails herein are those of which the Agency of Transportation has record; others may exist.

Highway and bridge data by the Agency of Transportation. Town short structures drawn from the VTCULVERTS (formerly VOBCIT) online database. All other data from the Vermont Open Geodata Portal. Only named streams shown.

Vermont State Plane Coordinate System  
North American Datum of 1983  
SPCS\_Zone\_Identifier: 4400  
Geodetic Reference System 80  
4,000-meter grid, Easting - Northing



**VERMONT GENERAL HIGHWAY MAP**  
**Town of Royalton**  
WINDSOR COUNTY  
Transportation District #4  
Prepared by the Vermont Agency of Transportation  
Division of Policy, Planning and Intermodal Development  
in cooperation with  
U.S. Department of Transportation  
Federal Highway Administration  
Mileage as of February 10, 2025  
Map prepared September 12, 2025  
SCALE 1:31,680

0.5 0 0.5 1 1.5 2 Miles  
0.5 0 0.5 1 1.5 2 Kilometers

# Royalton Town Plan

## Transportation

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## **XII. Transportation**

### **A. Goals, Objectives, Policies and Recommendations**

#### **Goals:**

1. To maintain and improve the quality of Royalton's transportation and road systems in order to promote safety, and to preserve the scenic quality of roads wherever possible.
2. To minimize transportation energy consumption.
3. To ensure that people can travel to work, shopping and other destinations, safely and efficiently.
4. To mitigate the negative impacts of transportation to our businesses, homes, and the greater environment.

#### **Objectives:**

1. To reduce congestion in South Royalton Village.
2. To encourage ride sharing for commuters to neighboring employment areas.
3. To provide alternatives to the heavy reliance on individual automobiles.
4. To encourage speed and traffic law enforcement.
5. To create commuter parking lot at I-89, Exit 3.
6. To seek establishment of a regular Amtrak stop in South Royalton.
7. To support transportation of the Elderly & Disabled.
8. To support access management initiatives to preserve the safe flow of traffic.

#### **Recommendations:**

1. Develop creative solutions to the parking problems being experienced in South Royalton Village. The "South Royalton Downtown Parking, Traffic & Pedestrian Plan" should be considered in the development of solutions.
2. Review the Town highway policy and access ordinance and revise as necessary.
3. In keeping with the Town's desire to maintain its rural and scenic character (see Chapter III), the Town should investigate the feasibility of conducting an objective scenic road survey and designate any such roadways as scenic in accordance with Vermont statutes.
4. The Town should actively support and participate in the Regional Transportation Planning Initiative at TRORC, and stay in close contact with state agencies involved in transportation planning and private sector service providers.
5. Enforce existing parking by-laws, speed limits and other traffic laws.
6. The Town should encourage development and maintenance of safe walkways and bicycle paths to support pedestrian access to the downtown area.

#### **Policies:**

1. In considering major capital transportation projects, policy makers shall weigh reasonable alternatives focusing on environmental, energy, social and investment costs, and the extent to which each meets the goals and policies of this Plan.
2. It is in the public interest to maintain the Town's current highways, bridges, and related facilities as necessary to ensure an acceptable level of service.
3. The Town has no legal responsibility to maintain or improve Class 4 roads. Affected property owners seeking to improve Class 4 roads shall be responsible for meeting all costs incidental to their improvement.
4. An integral scenic element of the rural countryside is the Town's back roads and highway system. If improvements are needed to accommodate increased traffic, it is important to consider the relationship of the road to the surrounding features of the landscape.
5. Strip development is not considered an appropriate land use pattern. Such development occurs in a linear path along a right-of-way and often restricts visual and physical access to interior lands as well as highway access.
6. Developers shall be required to pay for all new roadways to access their developments and other infrastructure upgrades necessary to accommodate any traffic increases.
7. Highways, air, rail, and other means of transportation should be mutually supportive, balanced, and integrated.

## B. Public Highway System

Map 4 attached to this Plan shows transportation infrastructure in Royalton. The State uses four classification formulas to distribute financial aid to towns for road repair and maintenance. Classifications are jointly determined by the Vermont Agency of Transportation and the Selectboard. Criteria used for the classifications include traffic volumes, road conditions, and function. State aid to the Town decreases on a per mile basis from Class 1 to Class 3. No state aid is available for Class 4 roads. Total aid, therefore, depends on the number of miles of road a town has in each class.

Class of Roadway	Length in Class	Maintenance Jurisdiction
Class 2	15.41	Town
Class 3	55.59	Town
Class 4	8.81	Town
<b>TOWN TOTAL</b>	<b>79.81</b>	
State Highway	13.97	State
Interstate	8.99	State
<b>STATE TOTAL</b>	<b>22.96</b>	

Miles of Roads in Royalton  
(Source: VTrans)

Class 1 includes the most heavily traveled town roads usually located in densely settled areas. Class 1 roads are extensions of State Highways and are usually assigned a State number. There are no Class 1 roads in Royalton.

Class 2 includes those major town highways selected as the most important highways in town. Class 2 roads serve the purpose of linking towns and high traffic areas such as village settlements and State highways. Class 2 roads are generally paved. Class 2 roads include South Windsor/Chelsea Street, Broad Brook Road, Dairy Hill Road, the North Road, North Windsor Street, and the Stage Road or Royalton Hill Road. Class 2 roads total 15.41 miles.

Class 3 includes all town roads not Class 1 or 2 that can be driven under normal conditions all seasons of the year by a standard car. In Royalton, Class 3 roads include all other town roads such as Gee Hill Road, Happy Hollow Road, Johnson Hill Road, and Ducker Road. Class 3 roads amount to a total of 55.59 miles.

Class 4 highways represent the lowest order of importance to the Town. Public use is limited and as such the Town receives no financial aid from the State.

Apart from education costs, public roads have been and will continue to be Royalton's largest town asset requiring significant financial investments paid through municipal taxes. Transportation funding sources come from numerous combinations of the local tax base, state and federal gas tax receipts, state and federal allocations and registration fees. The most significant funding resource comes from the federal transportation bill which passes through the State of Vermont and is distributed to towns by the Agency of Transportation. The federal and state government pays a percentage of project costs and the community pays the remainder. This funding applies only to Class 1-3 roads. Maintenance of Class 4 roads is funded exclusively by the community. The Two Rivers-Ottawaquechee Regional Commission has compared programs throughout the region and recommends a program of early intervention using preventative maintenance, because such a program has proven to be 75-85% less costly than larger reconstruction work after significant deterioration has occurred. Such a program should be a part of an adopted Transportation Capital Budget and Transportation Program.

Proper and timely road and drainage systems maintenance can help protect these systems from most severe weather events. Maintaining a reliable and up-to-date inventory of existing culverts and structures, coupled with a short and long range plan for replacement and upsizing is essential. Replacing deficient culverts and bridges also helps protect water quality – installing appropriately scaled and designed structures that can handle flood events, stormwater runoff, promote fish passage, and minimize the discharge of road sediment. These upgraded culverts and bridges, operating in greater harmony with the natural environment, will also be less likely to fail during storm events.

### **C. Class 4 & Trails**

Class 4 roads and trails primarily offer access to Town and conservation resources and provide unique insights into a working landscape long abandoned. Many Class 4 roads have been incorporated into the natural landscape whereby very little development has occurred along these roads. Class 4 roads are not maintained except for some culvert and bridge work to ensure access for emergency vehicles. The town also does not plow these roads during the winter. Public utility services or other municipal infrastructure that typically accompany roads are nearly nonexistent. Often these roads are scenic travel corridors for hikers and bicyclists and provide limited access to hunting and conservation lands. The roads are also commonly used by logging trucks.

Trails are used exclusively for recreational purposes and are not intended for vehicle access, therefore they are not maintained. According to the Vermont Agency of Transportation in 2014, Royalton had no publicly owned trails.

#### **D. Transportation Access**

There are three state highways in Royalton: Route 14, Route 110, and Route 107. The Town is bisected by both the railroad tracks and Interstate 89. Both these roads and the rail line have had and will have a significant long-term impact on the Town's development patterns.

Interstate 89 is the major highway to and from the Town. Royalton has direct access to Interstate 89 (Exit 3) at its intersection with Route 107 on the west end of town. Indirect access is provided through Sharon to the east (Exit 2) from Route 14. The completion of the Interstate in the 1970's brought the White River Junction/ Lebanon/ Hanover area and the Montpelier/Barre employment area closer to Royalton in driving time.

Future development along Route 14 should be carried out in a way that does not result in increased truck traffic through Royalton village. Route 14 has two railroad overpasses that constrain truck traffic.

Driveways to access new developments shall incorporate loop roads whenever the drive will serve three or more housing or commercial units. Culs-de-sacs and hammerheads may not be used unless no other alternative exists. Dead end roads longer than 2,000 feet should be strongly discouraged.

#### **E. Route 107 Corridor**

The Route 107 corridor is significant for a number of reasons. It is a very heavily traveled arterial highway, and forms part of a major transportation corridor between I-89 and Rutland as well as other points west. Multi-modal planning, access management, speed reduction, and infrastructure improvements will have a role in preventing conflicts between land development and through-traffic that have impacted other communities.

**Existing Conditions** - Route 107 was built in the 1960s as a rural modern highway. The wide shoulders and lack of sharp curves allow cars and trucks to travel comfortably at high speeds. These high speeds are acceptable for roads with minimal development, but create unsafe and uncomfortable environments as more development occurs. The speed difference between vehicles already on the road and new vehicles entering the roadway may create traffic safety problems.

**Access Management** - Access management is essential for the Route 107 commercial area. This is an opportunity for planners to balance land use and traffic growth to maximize land development potential while preserving traffic safety and mobility. Before development occurs, a number of tools should be used which can help minimize this impact:

1. Limit the total size of the Commercial/Industrial Area by identifying portions of the Route 107 corridor that are priorities for agriculture or residential use. The actual commercial frontage along the highway can be limited. Intermodal/industrial uses can occur along the railroad corridor, limiting the number of access points onto Route 107.
2. At the time of subdivision, a single access point for the entire parcel shall be identified, at the safest location, promoting orderly traffic flow.
3. Identify locations for possible new roads, allowing for more integrated, orderly development of lands, and minimize curb cuts on Route 107.
4. Encourage driveways to be located opposite existing driveways, creating four-way intersections rather than offset intersections.
5. For adjacent developments, consider connections between sites, shared parking and shared access, wherever physically feasible.

**Speed Reduction** - As Route 107 becomes more developed, a lower speed limit and/or a center turn lane would be appropriate. As changes are made to the road, these should be designed to encourage lower speeds. Lower speeds would actually increase the capacity of the road because of reduced safe following distances. A speed reduction would also make the corridor safer for many of the road's users, especially traffic turning into and out of developments.

**Multi-modal Use on Corridor** - Facilities should be developed which encourage the use of multiple modes of transportation at appropriate locations, including public transit, ridesharing, bicycling, walking, and rail. Use of these modes may offset some growth in traffic demand, save energy, and could lessen the need for future road improvements.

**Infrastructure Improvements** - Despite efforts to manage traffic flow on this corridor through access management and speed limit reduction, there will always be a need to ensure the safety of the corridor's key intersections such as with Route 14, I-89, and Waterman Road. These improvements could take a number of forms, such as turning lanes.

## **F. Waterman Road**

The Waterman Road Industrial Area is an area with primary access to and egress from the intersection of Waterman Road and Route 107. The primary purpose of this area is to provide a location for light industrial development that has nearby access to Interstate 89. While it is the intent of this plan to encourage well-planned commercial/industrial growth in this area, it should be acknowledged that existing access to Route 107 is unsafe. The current alignment of this junction is poorly suited to the heavy truck traffic and may be unable to support further industrial development. Much of this traffic is due to the presence of the transfer station. As the amount of light industrial and commercial development in the Waterman Road Industrial Area increases, it will be necessary to modify the access to accommodate the greater amount of truck traffic.

## **G. Road and Culvert Management**

The town of Royalton inventoried and assessed every road mile and culvert in 2006. The culvert conditions in Royalton are consistent with, and in some cases better than, other towns in the region. The Road Surface Management System and culvert inventory gives the town a better local match rate on state grants and helps town officials manage their system. These are important assets of the local transportation system and should be maintained consistently with municipal policies.

## **H. Other Modes of Travel**

### **Bicycles and Pedestrians**

Many residents bike or walk on town roads in Royalton. The Town maintains a network of sidewalks within parts of the Village Area year-round to allow pedestrian travel to and from the core of the Village as well as to provide schoolchildren with a safe route to walk to school. Not all areas of the village are served by sidewalks. In the more rural areas of town bicycle and pedestrian travel is reasonably safe. Routes 110 and 107 are reasonably good locations for bicycle travel. In some areas, travel along Routes 14 and 107 is less safe due to higher traffic volume and speed, lack of available shoulders and poor pavement quality.

Additional recreational opportunities can be found using trails maintained by VAST, VASA, and RASTA.

### **Public Transportation**

Royalton is served by Stagecoach, Inc., a private non-profit organization that provides public transportation services to the elderly, persons with disabilities, and the general public in Orange and northern Windsor Counties of Vermont. In 2013 alone, Royalton residents utilized 874 one-way bus trips using Stagecoach services (not including the “89er” and “89er North” services that do not track town of residence for commuters). The 89er commuter route runs from Randolph Village to Dartmouth Hitchcock Medical Center and Dartmouth College and West Lebanon, stopping in Bethel. The Town of Royalton supports establishment of a stop in Royalton on both the 89er and the 89er North. Stagecoach also offers Elderly and Disabled service for residents who call and schedule rides. This E&D service is a growing need. The community should continue to support public transportation in the future, consistent with resident’s desire to “age in place.”

### **Rail Facilities**

Royalton is traversed by the New England Central railroad (NECR) which goes from New London, Connecticut, through White River Junction to East Alberg, VT. The NECR line serves both freight and Amtrak passenger traffic. There are passenger stations nearby in Randolph and White River Junction. There are numerous trains per day through Royalton, including passenger and freight

### **Air Facilities**

The closest airport offering regularly scheduled service is in Lebanon, NH, which is about a half hour drive. Burlington International Airport is about one hour and fifteen minutes north. Manchester, NH

airport is approximately two hours away, and Logan International Airport in Boston is located about two and a half hours away.

### **I. Park & Ride**

Private automobiles are still heavily depended upon by Royalton residents, as in most other Vermont communities. The development of carpools or vanpools, either by private arrangements or through Rideshare programs, would have the benefit of decreasing dependence on private autos. Currently, there is one commuter lot on Route 14 at the junction of Route 110 in South Royalton. A lot at Exit 3 has been approved with construction scheduled to begin in 2020. With increasing fuel costs, municipal officials and residents are concerned that people will not be able to afford their commutes to work. Demand for Park and Ride and Rideshare programs will likely increase for most Vermonters. The Town supports increased availability of Rideshare programs so that demand for parking does not outstrip availability.

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