



ROADWAY PERFORMANCE AND PRIORITIZATION PLAN

December 9, 2013

PURPOSE: To evaluate and prioritize paving projects for its 19.18 miles of paved road, the Town created a Performance and Prioritization Plan, which outlines a 20 year capital paving program. The plan assumes a life of 20 years for Class 3 Roads and 12 years for Class Two Roads and East Mountain Road.

METHODOLOGY: The plan was developed using the Road Surface Management System (RSM) , provided by the Rutland Regional Planning Commission. The RSM includes a Pavement Condition Survey and a Manual for evaluating the Distresses for Pavements with Asphalt Concrete Surfaces. The roads were evaluated based on the criteria provided in the RSM and given a grade in order to prioritize each road.

GRADING SYSTEM: Each road was given a score based upon the numbers included in the survey. The survey evaluated the roads on the following criteria: Alligator Cracking; Longitudinal/Transverse Cracking; Edge Cracking; Roughness; Rutting; and Drainage (see attached photos). Scores were assigned for each criteria based upon severity of the condition and the extent of the roadway involved. The larger the number for each criteria, the poorer the condition of the road resulting in a higher priority for repair or replacement. The grades given are as follows:

Excellent	(1) Roadway does not require attention at this time.
Good	(2) Roadway requires some maintenance attention such as crack filling to extend its life.
Fair	(3) Roadway condition is beyond maintenance and will be in line for repaving or reconstruction after more severe roads are addressed.
Failed	(4) Roadway surface has failed from wear deterioration, and or sub-base material failure. Road must be repaved or reconstructed as soon as possible.

PRIORITIZATION: Priority for reconstruction of the road will take into account the condition of the road along with the amount of usage the road receives. For example, a class two road in fair condition may receive a higher priority than a very low volume road with few residents.

PAVED ROAD CONDITION AND EVALUATION

9-Dec-13

TH NUMBER	ROAD NAME	HWY CLASS	ROAD CONDITION	LENGTH PAVED (mi)	GRADE	COMMENTS
TH-1	RIVER ROAD	2	GOOD	1.48	2	needs crack filling
TH-2	KILLINGTON ROAD section 1	2	FAILED	1.08	4	ruts, severe cracks, rough
TH-2	KILLINGTON ROAD section 2	2	FAIR	1.2	3	cracks, ruts drainage
TH-2	KILLINGTON ROAD section 3	2	GOOD/FAIR	0.69	3	drainage, transverse cracks
TH-3	WEST HILL ROAD	2	FAILED	0.72	4	subbase fail, cracks, ruts, rough
TH-4	ELBOW ROAD	3 & 4	EXCELLENT	0.31	1	
TH-6	DOUBLEDAY HILL ROAD	3 & 4		0.08	0	
TH-10	THUNDERING BROOK ROAD	3	EXCELLENT	0.3	1	
TH-13	SCHOOL HOUSE ROAD	3	GOOD	0.62	2	needs crack filling
TH-15	EAST MOUNTAIN ROAD sect 1	3	EXCELLENT	1.4	1	
TH-15	EAST MOUNTAIN ROAD sect 2	3	GOOD	1.7	2	needs crack filling
TH-15	EAST MOUNTAIN ROAD sect 3	3	GOOD/FAIR	1.24	3	cracking, repair fail, crack fill
TH-32	COFFEE HOUSE & STAGE	3	GOOD	0.89	2	needs crack filling
TH-37	BUTLER ROAD	3		0.02	0	
TH-38	MISSION FARM ROAD	3	GOOD	0.82	2	cracking, some deflection
TH-39	JOHNSON ROAD	3	EXCELLENT	0.26	1	
TH-40	ROARING BROOK ROAD	3	GOOD	1.09	2	needs crack filling
TH-42	TANGLEWOOD DRIVE	3	FAILED	0.45	4	subbase fail, cracks, ruts, rough
TH-43	PRISCILLA LANE/BIGELOW DR	3		0.13	0	
TH-44	DEAN HILL ROAD	3	GOOD	0.94	2	needs crack filling
TH-45	McCLALLEN DRIVE	3	FAIR	0.04	3	extensive cracks, rough
TH-46	GEORGE ST & MERRILL DR	3		0.34	0	subbase fail, cracks, ruts, rough
TH-47	RIVER ROAD @ PO	3		0.09	0	
TH-49	TELEFON TRAIL	3	GOOD	0.46	2	needs crack filling
TH-50	BIG BOULDER ROAD	3		0.05	0	
TH-52	OLD ROUTE 4	4	FAIR	0.29	3	cracking, forst heaves, drainage
TH-53	SOUTH VIEW PATH	3	FAILED	0.03	4	subbase fail, cracks, ruts, rough
TH-58	BARTS HILL ROAD	3		0.02	0	
TH-62	OLD COACH ROAD	3	EXCELLENT	0.25	0	
TH-66	SPRING HILL ROAD	3		0.1	0	
TH-68	WEATHERVANE DRIVE	3		0.03	0	
TH-71	WOBBLY LANE	3	FAIR	0.12	3	extensive cracking, rough
TH-82	ALPINE DRIVE	3		0.25	2	cracking
TH-85	WINTERBERRY ROAD	3	GOOD/FAIR	0.38	3	heaving and cracks
TH-93	WEST PARK ROAD	3	FAILED	0.15	4	subbase fail, cracks, ruts, rough
TH-94	MILLER BROOK ROAD	3	EXCELLENT	0.05	1	
TH-96	INNSBRUCK LANE	3	FAILED	0.15	4	subbase fail, cracks, ruts, rough
TH-97	ROCKY RIDGE	3	FAILED	0.41	4	subbase fail, cracks, ruts, rough
TH-112	TRAILVIEW DRIVE	3	GOOD	0.21	2	
TH-113	HEMLOCK RIDGE ROAD	3	EXCELLENT	0.27	1	
TH-114	BARROWES-TOWNE ROAD	3	GOOD/FAIR	0.02	3	integrity good, extensive cracks

TOTAL MILES FAILED CONDITION	3.33
TOTAL MILES FAIR CONDITION	3.98
TOTAL MILES GOOD CONDITION	8.46
TOTAL MILES EXCELLENT CONDITION	2.84

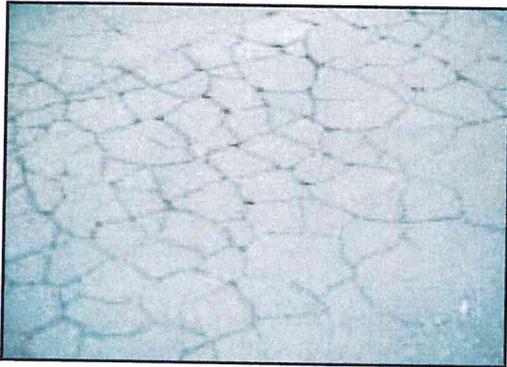


FIGURE 4
Distress Type ACP 1—Chicken Wire/Alligator
Pattern Cracking Typical in Fatigue Cracking



FIGURE 5
Distress Type ACP 1—Low Severity Fatigue Cracking

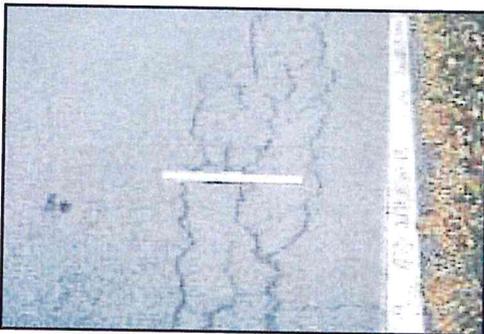


FIGURE 6
Distress Type ACP 1—Moderate
Severity Fatigue Cracking



FIGURE 7
Distress Type ACP 1—High
Severity Fatigue Cracking with
Spalled Interconnected Cracks

Cracking

BLOCK CRACKING

Description

A pattern of cracks that divides the pavement into approximately rectangular pieces. Rectangular blocks range in size from approximately 0.1 m² to 10 m².

Severity Levels

LOW

Cracks with a mean width ≤ 6 millimeters (mm); or sealed cracks with sealant material in good condition and with a width that cannot be determined.

MODERATE

Cracks with a mean width > 6 mm and ≤ 19 mm; or any crack with a mean width ≤ 19 mm and adjacent low severity random cracking.

HIGH

Cracks with a mean width > 19 mm; or any crack with a mean width ≤ 19 mm and adjacent moderate to high severity random cracking.

How to Measure

Record square meters of affected area at each severity level. If fatigue cracking exists within the block cracking area, the area of block cracking is reduced by the area of fatigue cracking.

Note: An occurrence should be at least 15 m long before rating as block cracking.

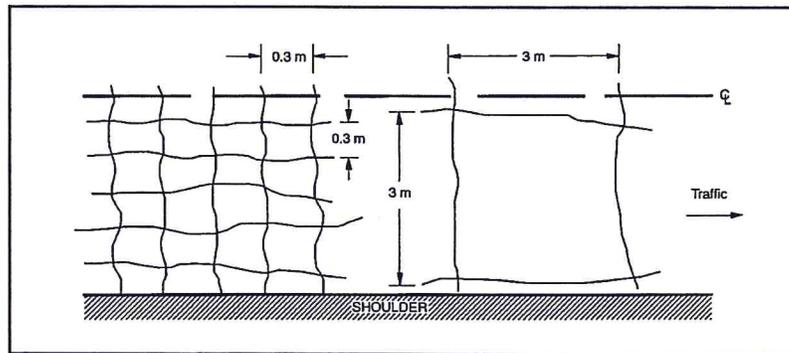


FIGURE 8
Distress Type ACP 2—Block Cracking



FIGURE 9
Distress Type ACP 2—Block Cracking with Fatigue Cracking in the Wheel Paths



FIGURE 10
Distress Type ACP 2—High Severity Block Cracking

EDGE CRACKING

Description

Applies only to pavements with unpaved shoulders. Crescent-shaped cracks or fairly continuous cracks which intersect the pavement edge and are located within 0.6 m of the pavement edge, adjacent to the shoulder. Includes longitudinal cracks outside of the wheel path and within 0.6 m of the pavement edge.

Severity Levels

LOW

Cracks with no breakup or loss of material.

MODERATE

Cracks with some breakup and loss of material for up to 10 percent of the length of the affected portion of the pavement.

HIGH

Cracks with considerable breakup and loss of material for more than 10 percent of the length of the affected portion of the pavement.

How to Measure

Record length in meters of pavement edge affected at each severity level. The combined quantity of edge cracking cannot exceed the length of the section.

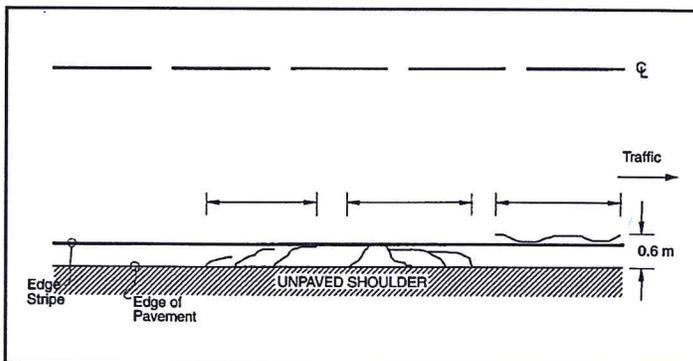


FIGURE 11
Distress Type ACP 3—Edge Cracking



FIGURE 12
Distress Type ACP 3—Low Severity Edge Cracking

LONGITUDINAL CRACKING

Description

Cracks predominantly parallel to pavement centerline. Location within the lane (wheel path versus non-wheel path) is significant.

Severity levels

LOW

A crack with a mean width ≤ 6 mm; or a sealed crack with sealant material in good condition and with a width that cannot be determined.

MODERATE

Any crack with a mean width > 6 mm and ≤ 19 mm; or any crack with a mean width ≤ 19 mm and adjacent low severity random cracking.

HIGH

Any crack with a mean width > 19 mm; or any crack with a mean width ≤ 19 mm and adjacent moderate to high severity random cracking.

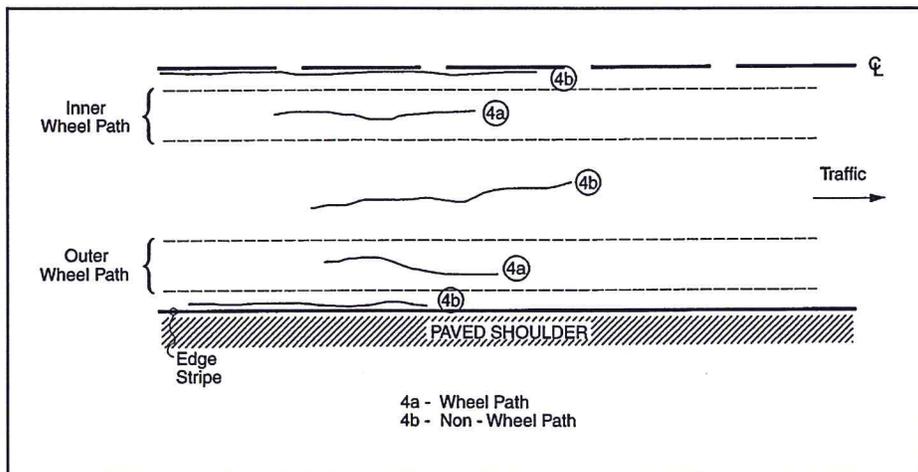


FIGURE 13
Distress Type ACP 4—Longitudinal Cracking

How to Measure

Record separately:

4A. WHEEL PATH LONGITUDINAL CRACKING

Record the length in meters of longitudinal cracking within the defined wheel paths at each severity level.

Record the length in meters of longitudinal cracking with sealant in good condition at each severity level.

Note: Any wheel path longitudinal crack that has associated random cracking is rated as fatigue cracking. Any wheel path longitudinal crack that meanders and has a quantifiable area is rated as fatigue cracking.

4B. NON-WHEEL PATH LONGITUDINAL CRACKING

Record the length in meters of longitudinal cracking not located in the defined wheel paths at each severity level.

Record the length in meters of longitudinal cracking with sealant in good condition at each severity level.



FIGURE 14
Distress Type ACP 4a—Moderate Severity
Longitudinal Cracking in the Wheel Path



FIGURE 15
Distress Type ACP 4b—High Severity Longitudinal
Cracking not in the Wheel Path

Cracking

TRANSVERSE CRACKING

Description

Cracks that are predominantly perpendicular to pavement centerline.

Severity Levels

LOW

An unsealed crack with a mean width ≤ 6 mm; or a sealed crack with sealant material in good condition and with a width that cannot be determined.

MODERATE

Any crack with a mean width > 6 mm and ≤ 19 mm; or any crack with a mean width ≤ 19 mm and adjacent low severity random cracking.

HIGH

Any crack with a mean width > 19 mm; or any crack with a mean width ≤ 19 mm and adjacent moderate to high severity random cracking.

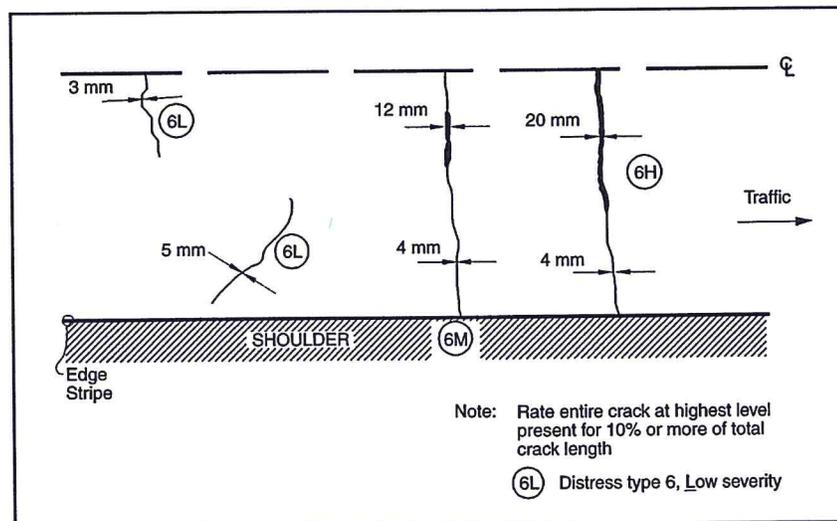


FIGURE 18
Distress Type ACP 6—Transverse Cracking Asphalt Concrete Surfaces

How to Measure

Record number and length of transverse cracks at each severity level. Rate the entire transverse crack at the highest severity level present for at least 10 percent of the total length of the crack. Length recorded, in meters, is the total length of the crack and is assigned to the highest severity level present for at least 10 percent of the total length of the crack.

Also record length in meters of transverse cracks with sealant in good condition at each severity level.

Note: The length recorded is the total length of the well-sealed crack and is assigned to the severity level of the crack. Record only when the sealant is in good condition for at least 90 percent of the length of the crack.

If the transverse crack extends through an area of fatigue cracking, the length of the crack within the fatigue area is not counted. The crack is treated as a single transverse crack, but at a reduced length.

Cracks less than 0.3 m in length are not recorded.

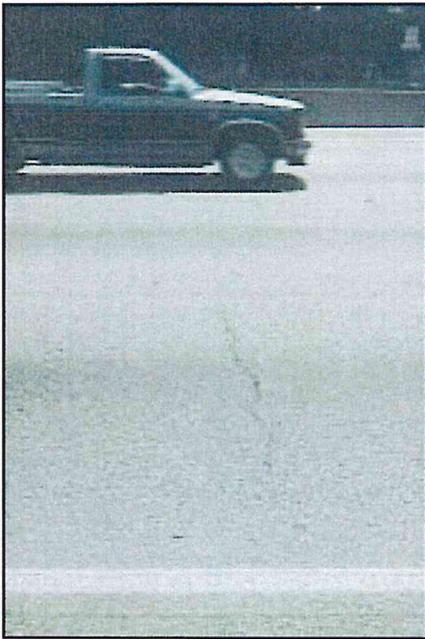


FIGURE 19
Distress Type ACP 6—Low Severity
Transverse Cracking



FIGURE 20
Distress Type ACP 6—Moderate
Severity Transverse Cracking



FIGURE 21
Distress Type ACP 6—High Severity Transverse
Cracking

Cracking

ROAD SURFACE MANAGEMENT SYSTEM

FLEXIBLE PAVEMENT CONDITION SURVEY

TOWN: _____ DATE: _____ CREW: _____ ROAD NAME: _____ SECTION #: _____	START LOCATION: _____ END LOCATION: _____ START MILEAGE: _____ END MILEAGE: _____ ROAD WIDTH: _____
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SEVERITY	ALLIGATOR CRACKING:	NONE	EXTENT			SEVERITY	
			LOW	MED	HIGH		
	LOW	1	2	3			
	MED	4	5	6			
HIGH	7	8	9				
						ROUGHNESS:	
						<ul style="list-style-type: none"> • Uneven Surface • Corrugations • Sags • Humps • Frost Heaves 	SMOOTH
							SOMEWHAT ROUGH
							ROUGH
							VERY ROUGH

SEVERITY	LONGITUDINAL/ TRANSVERSE CRACKING:	NONE	EXTENT			SEVERITY	
			LOW	MED	HIGH		
	LOW	1	2	3			
	MED	4	5	6			
HIGH	7	8	9				
						RUTTING:	
							0-1"
							1-2"
							>2"

SEVERITY	EDGE CRACKING:	NONE	EXTENT			SEVERITY	
			LOW	MED	HIGH		
	LOW	1	2	3			
	MED	4	5	6			
HIGH	7	8	9				
						DRAINAGE:	
							POOR
							FAIR
							GOOD
							EXCELLENT

PATCHING/POTHoles:	FIELD NOTES:								
<table border="1" style="margin: auto;"> <tr> <td style="width: 15%;"></td> <td style="text-align: center;">EXTENT</td> </tr> <tr> <td style="text-align: center;">NONE</td> <td style="text-align: center;">GOOD</td> </tr> <tr> <td></td> <td style="text-align: center;">FAIR</td> </tr> <tr> <td></td> <td style="text-align: center;">POOR</td> </tr> </table>		EXTENT	NONE	GOOD		FAIR		POOR	_____ _____ _____ _____ _____
	EXTENT								
NONE	GOOD								
	FAIR								
	POOR								

APPENDIX A
TOWN HIGHWAY INVENTORY
18-Jun-13

TH NUMBER	ROAD NAME	HWY CLASS	LENGTH GRAVEL (mi)	LENGTH PAVED (mi)	CLASS 4 ROADS (mi)
TH-1	RIVER ROAD	2	2.46	1.48	0
TH-2	KILLINGTON ROAD	2	0	2.97	0
TH-3	WEST HILL ROAD	2	0	0.72	0
TH-4	ELBOW ROAD	3 & 4	0	0.31	0.06
TH-5	NONE	4	0	0	0.15
TH-6	DOUBLEDAY HILL ROAD	3 & 4	0.11	0.08	0.31
TH-7	WOLF HILL ROAD	3 & 4	0.2	0	0.52
TH-8	STEINWAY ROAD	3	0.35	0	0
TH-9	ARCHIE BAKER ROAD	3	0.14	0	0
TH-10	THUNDERING BROOK ROAD	3	1.58	0.3	0
TH-12	OLD ROUTE 4	4	0	0	0.3
TH-13	SCHOOL HOUSE ROAD	3	0	0.62	0.15
TH-15	EAST MOUNTAIN ROAD	3	0	4.34	0
TH-16	LOMBARD HILL	3 & 4	0.46	0	1.14
TH-17	WARDWELL ROAD	3	0.12	0	0
TH-18	HOSIE HILL ROAD	4	0	0	0.13
TH-19	LITTLE SHERBURNE	4	0	0	0.97
TH-20	LITTLE SHERBURNE	4	0	0	0.06
TH-21	LITTLE SHERBURNE	4	0	0	0.55
TH-22	LITTLE SHERBURNE	4	0	0	1.5
TH-23	LITTLE SHERBURNE	4	0	0	1.5
TH-27	ARCHIE BAKER ROAD EXT	3	0.1	0	0
TH-28	RABECK ROAD	3	0.25	0	0
TH-29	ELBOW ROAD TO MENDON	4	0	0	0.18
TH-30	POST ROAD	3 & 4	0.05	0	0.51
TH-31	CURRIER & IVES	3	0.78	0	0
TH-32	COFFEE HOUSE & STAGE	3	0	0.89	0
TH-33	ESTABROOK ROAD	3	0.29	0	0
TH-37	BUTLER ROAD	3	0.19	0.02	0
TH-38	MISSION FARM ROAD	3	0	0.82	0
TH-39	JOHNSON ROAD	3	0	0.26	0
TH-40	ROARING BROOK ROAD	3	0.34	1.09	0
TH-41	BRAD MEAD DRIVE	3	0.33	0	0
TH-42	TANGLEWOOD DRIVE	3	0.26	0.45	0
TH-43	PRISCILLA LANE/BIGELOW DR	3	0.13	0.13	0
TH-44	DEAN HILL ROAD	3	0.18	0.94	0
TH-45	McCLALLEN DRIVE	3	0	0.04	0
TH-46	GEORGE ST & MERRILL DR	3	0	0.34	0
TH-47	RIVER ROAD @ PO	3	0	0.09	0
TH-49	TELEFON TRAIL	3	0	0.46	0
TH-50	BIG BOULDER ROAD	3	0.05	0.05	0
TH-52	OLD ROUTE 4	4	0	0.29	0
TH-53	SOUTH VIEW PATH	3	0.15	0.03	0
TH-54	MOUNTAIN VIEW DRIVE	3	0.2	0	0
TH-55	TIMBERLINE DRIVE	3	0.22	0	0
TH-56	RIDGE ROAD	3	0.09	0	0
TH-57	CURRIER ROAD END	3	0.09	0	0

TH-58	BARTS HILL ROAD	3	0.19	0.02	0
TH-59	WINDING WAY	3	0.51	0	0
TH-60	LAKEWOOD DRIVE	3	0.34	0	0
TH-61	ALRAN	3	0.23	0	0
TH-62	OLD COACH ROAD	3	0.44	0.25	0
TH-63	ROUND ROBIN ROAD	3	0.1	0	0
TH-64	MERRY MAPLE DRIVE	3	0.06	0	0
TH-65	FLORAL DRIVE	3	0.21	0	0
TH-66	SPRING HILL ROAD	3	0.2	0.1	0
TH-67	SPRING GLEN	3	0.1	0	0
TH-68	WEATHERVANE DRIVE	3	0.31	0.03	0
TH-69	CUBS CONCOURSE	3	0.36	0	0
TH-70	BEARLY HI WAY	3	0.08	0	0
TH-71	WOBBLY LANE	3	0.12	0	0
TH-72	PRIOR DRIVE	3	0.32	0	0
TH-73	RAVINE ROAD	3	0.35	0	0
TH-74	NONE	4	0	0	0.1
TH-75	RIM ROAD	3	0.8	0	0
TH-76	LEDGE END ROAD	3	0.44	0	0
TH-77	ROUNDAABOUT ROAD	3	0.73	0	0
TH-78	BEAR RUN	3	0.13	0	0
TH-79	DOWNABOUT ROAD	4	0	0	0.08
TH-80	COOLIDGE LANE	4	0	0	0.04
TH-81	FOSTERS FARM ROAD	4	0	0	0.13
TH-82	ALPINE DRIVE	3	0.63	0.25	0
TH-83	ROCKWELL ROAD	3	0.1	0	0
TH-84	BOOTH ROAD	4	0	0	0.02
TH-85	WINTERBERRY ROAD	3	0	0.38	0
TH-86	TRAILSIDE DRIVE	3	0.3	0	0
TH-87	BEECHNUT LANE	3	0.24	0	0
TH-88	OVERLOOK DRIVE	3	0.14	0	0
TH-89	BIG ROCK ROAD	3	0.18	0	0
TH-90	BROOKSIDE	3	0.08	0	0
TH-91	TERRACE DRIVE	3	0.36	0	0
TH-92	EAST LANE	3	0.09	0	0
TH-93	WEST PARK ROAD	3	0.32	0.15	0
TH-94	MILLER BROOK ROAD	3	0.12	0.05	0
TH-95	SCHOOL HOUSE ROAD EXT	3	0	0.17	0
TH-96	INNSBRUCK LANE	3	0	0.15	0
TH-97	ROCKY RIDGE	3	0	0.41	0
TH-99	RUSTIC DRIVE	3	0.62	0	0
TH-100	FERN LANE	3	0.07	0	0
TH-104	ALPINE COURT	3	0.04	0	0
TH-108	ALPINE TERRACE	3	0.12	0	0
TH-109	MINI DRIVE	3	0.05	0	0
TH-111	HADLEY HILL ROAD	3 & 4	0.31	0	0.27
TH-112	TRAILVIEW DRIVE	3	0.44	0.21	0
TH-113	HEMLOCK RIDGE ROAD	3	0	0.27	0
TH-114	BARROWES-TOWNE ROAD	3	0.9	0.02	0
TH-115	ANTHONY WAY	3	0.4	0	0
TH-116	ANTHONY WAY EXT	3	0.06	0	0
TH-117	KNOLL DRIVE	3	0.06	0	0

TH-118	CRICKET HILL	3	0.83	0	0
TH-119	OVERBROOK	3	0.16	0	0
TH-120	NORTHSIDE DRIVE	3	0.27	0	0
TH-121	TIMBERLINE ROAD EXT	3	0.11	0	0
TH-122	CLIFF ROAD	3	0.06	0	0
TH-123	MOON RIDGE ROAD	3	0.37	0	0
TH-124	ROUND ROBIN ROAD	3	0.2	0	0
TH-125	GOLF COURSE ROAD	3	0.34	0	0

TOTAL			23.11	19.18	8.67
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CLASS 3 TOTAL			20.65	14.01	
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CLASS 2 TOTAL			2.46	5.17	
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