

VTrans' Systemic Local Road Safety Program

Targeting Horizontal Curves with the Greatest Risks

Minimizing roadway lane departure has been identified by VTrans as one of the most critical highway safety concerns in Vermont. Lane departure crashes represent over 50% of fatal and serious injury crashes. More than 25% of the fatal and serious injury crashes in Vermont are happening on rural town-maintained roads. This is a substantial number of crashes that cannot be ignored.

What is a Rural Town-Maintained Road?

Rural town-maintained roads are the roads that are maintained by a municipality and that are outside the adjusted Urbanized Area and Small Urban Area boundaries, established in 2016 for transportation planning purposes by VTrans in conjunction with regional planning partners.

The Rural Road Safety Challenge

Crashes on rural town-maintained roads pose a challenge when it comes to figuring out how to eliminate them.

We know crashes are happening, we know where some happened in the past, but we cannot predict exactly where they are going to happen in the future.

If you look at your town's road system over a two-to-three year period, most likely you will observe that crashes occurred at different locations and that clusters of crashes were infrequent. This is because crashes on rural roads are random, and several crashes are not reported by motorists.

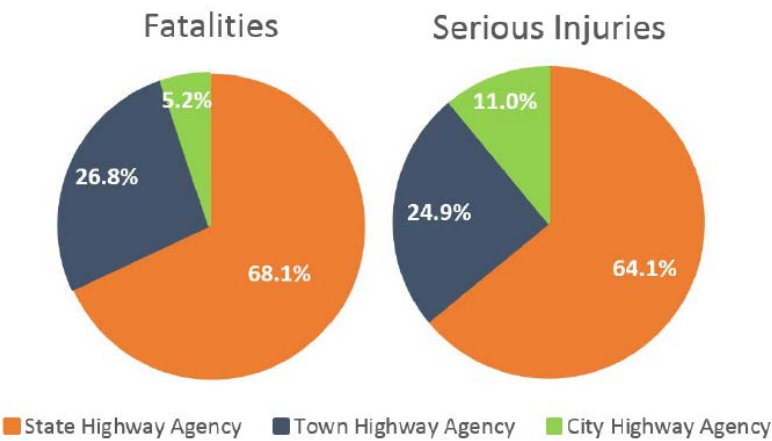
The unique characteristics of rural crashes requires that highway safety on rural town-maintained roads be done in a systemic manner.

The Systemic Approach

The systemic approach looks at the crash history on a systemwide basis in order to identify the way that most people crash (i.e., the manner of crash, for example, a rear-end crash) and then looks at the roadway characteristics (i.e., risks) that are common to these crashes.

A specific treatment that is known to be successful at eliminating the type of crash in question is then implemented across the road system at the locations that have these particular roadway characteristics. This way, all locations with the greatest risks on the entire network are treated to help deter crashes, eliminating the need to chase crashes, trying to fix one spot while crashes are happening at other locations.

To implement the systemic method, we need to first identify the predominant manner of crash (step 1) and the roadway characteristics or risks (step 2) associated with that manner of crash.



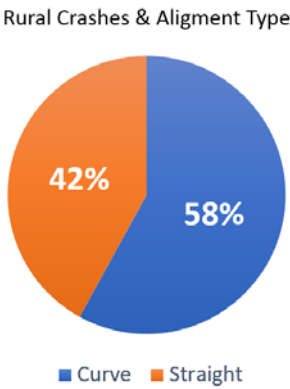
Step 1. What Manner of Crash Stands Out on Vermont Rural Town Roads?

Vermont data tell us that single vehicle crashes represent almost 60% of all crashes on rural town-maintained roads.

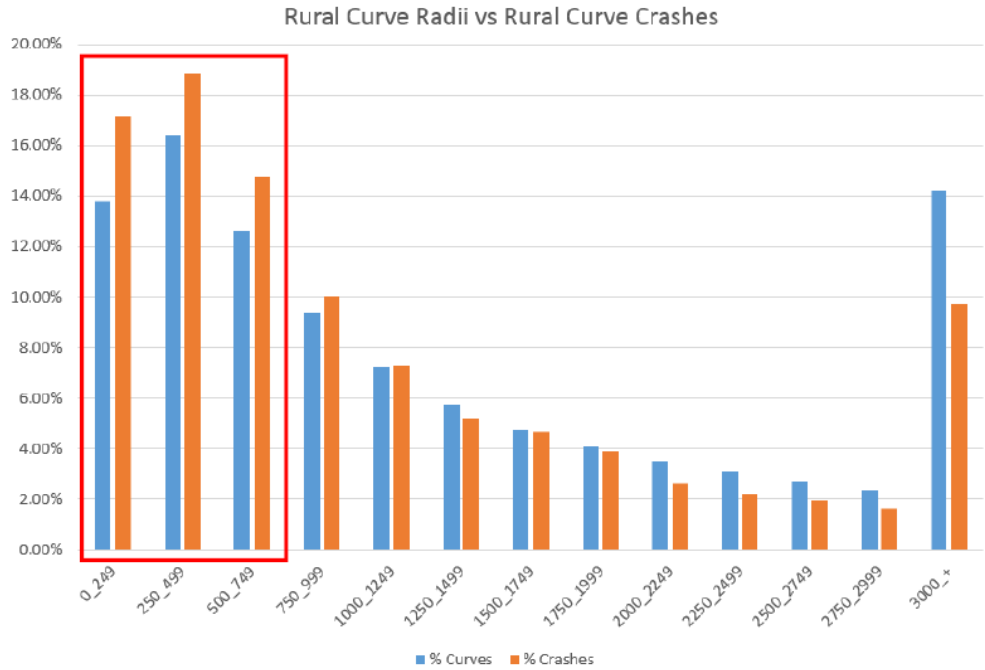
Step 2. What are the Risk Factors Associated with Single Vehicle Crashes?

Vermont data tell us that 58% of all single vehicle crashes on rural town-maintained roads happen on curve sections of roads.

Horizontal curve alignments are thus the primary risk factor on rural town-maintained roads. But are all horizontal curves equally at risk? The answer is no.



Vermont data tell us that crashes on curves with radii less than 750 feet are overrepresented. The data also tell us that crashes on curves with radii less than 750 feet that are also paved are overrepresented when compared to non-pave roads.



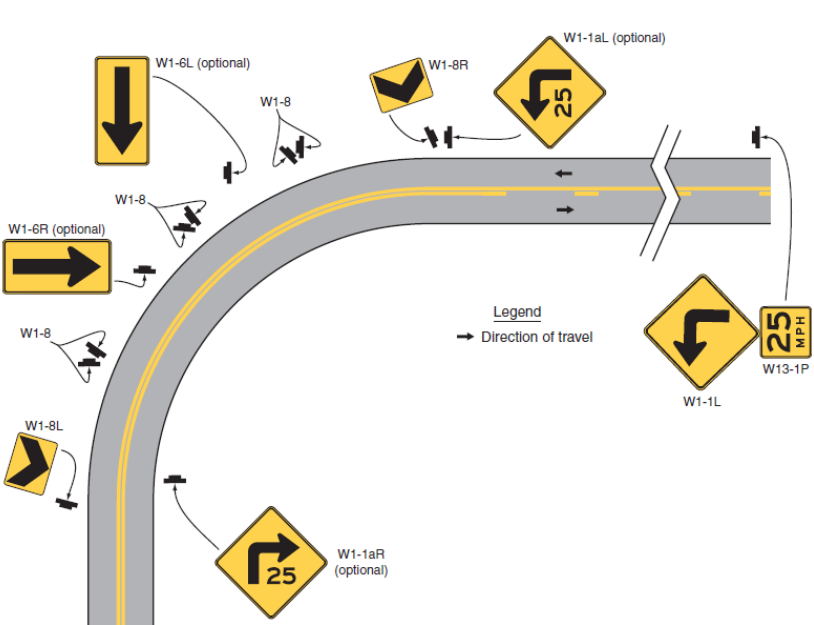
The type of curves that present the most risk to motorists on rural town-maintained roads are Paved Horizontal Curves with Radii less than 750 feet

Horizontal Curve Safety Toolbox

The final task to complete the systemic process is to implement a countermeasure that will greatly help reduce the occurrence of crashes at the horizontal curve that have the greatest risks.

The proven solution with the most potential to save lives and prevent injuries at horizontal curves is to install curve warning signs. Research has shown that this solution can reduce crashes by 18% to 44%.

Curve warning signs consist of advance warning signs, advisory speed plaques, chevrons, large arrows and delineators. Requirements for curve warning signs are based on the difference between the speed limit and the speed at which a curve can be safely driven. When the difference is 5 mph, an advance warning sign and an advisory speed plaque are used. In addition, chevrons or large arrows are used when the difference in speed is 10 mph or more. Delineators can be used around the curve when the difference in speed is less than 10 mph.



Example 1: Advance Warning Sign, Advisory Speed and Chevrons



Example 2 – Large Arrows



Example 3 – Delineators



Paved Roads with "Critical Curves"
- Addison County 2018 -

SumOfAOTMILES_S	Curve Miles	Density Curve p	Count of CurveID	# Crashes	TownName	FirstOfRTNAME	FirstOfFirstOfRDFLNAME	LastOfFirstOfRDFLNAME
7.27	0.720391805	0.099	20	2	LINCOLN	TH-1	W RIVER RD	W RIVER RD
7.27	0.720391805	0.099	20	2	LINCOLN	TH-2	LINCOLN GAP RD	LINCOLN GAP RD
7.27	0.720391805	0.099	20	2	LINCOLN	TH-3	LINCOLN RD	LINCOLN RD
2.91	0.471319046	0.162	13	1	GOSHEN	TH-1	HATHAWAY RD	CAPEN HILL RD
3.75	0.297734053	0.079	9	0	ORWELL	TH-2	MOUNT INDEPENDENCE RD	MOUNT INDEPENDENCE RD
5.79	0.236492571	0.041	9	1	FERRISBURGH	TH-14	SHELLHOUSE MOUNTAIN RD	SHELLHOUSE MOUNTAIN RD
5.22	0.124797548	0.024	8	0	LINCOLN	TH-1	RIPTON RD	RIPTON RD
1.68	0.234407022	0.140	7	0	SALISBURY	TH-9	LOWER PLAINS RD	LOWER PLAINS RD
2.95	0.21879908	0.074	7	1	SALISBURY	TH-1	MAPLE ST	MAPLE ST
2.95	0.21879908	0.074	7	1	SALISBURY	TH-4	WEST SHORE RD	WEST SHORE RD
3.44	0.200546167	0.058	7	0	BRISTOL	TH-23	LOWER NOTCH RD	LOWER NOTCH RD
4.47	0.207657108	0.046	7	0	LINCOLN	TH-3	DOWNINGSVILLE RD	DOWNINGSVILLE RD
5.57	0.189314899	0.034	7	1	GOSHEN	TH-2	GOSHEN RIPTON RD	CARLISLE HILL RD
0.63	0.174567278	0.277	6	0	FERRISBURGH	TH-18	QUAKER ST	QUAKER ST
3.24	0.194126511	0.060	6	0	WEYBRIDGE	TH-3	MORGAN HORSE FARM RD	HAMILTON RD
2.9	0.15082024	0.052	6	4	FERRISBURGH	TH-35	MIDDLEBROOK RD	MIDDLEBROOK RD
5.52	0.179438194	0.033	6	0	FERRISBURGH	TH-19	SAND RD	HAWKINS RD
4.25	0.123557258	0.029	6	0	SALISBURY	TH-1	W SALISBURY RD	W SALISBURY RD
0.5	0.105984308	0.212	5	1	BRISTOL	TH-22	LOVERS LN	LOVERS LN
1.1	0.183491812	0.167	5	1	BRISTOL	TH-3	LINCOLN RD	LINCOLN RD
1.64	0.144784869	0.088	5	0	WEYBRIDGE	TH-11	MORGAN HORSE FARM RD	MORGAN HORSE FARM RD
1.59	0.11280102	0.071	5	0	BRISTOL	TH-5	SOUTH ST	HEWITT RD
1.05	0.068580057	0.065	5	0	WEYBRIDGE	TH-14	CAVE RD	CAVE RD
3.2	0.194132505	0.061	5	1	SALISBURY	TH-5	UPPER PLAINS RD	UPPER PLAINS RD
2.05	0.121568872	0.059	5	0	WEYBRIDGE	TH-17	LEMON FAIR RD	LEMON FAIR RD
4.59	0.247172065	0.054	5	1	MONKTON	TH-1	MONKTON RD	OLD HOLLOW RD
4.59	0.247172065	0.054	5	1	MONKTON	TH-2	HOLLOW RD	HOLLOW RD
4.15	0.181380094	0.044	5	0	SALISBURY	TH-3	LAKE DUNMORE RD	LAKE DUNMORE RD
4.95	0.215582748	0.044	5	0	ORWELL	TH-2	VT ROUTE 73	VT ROUTE 73
4.95	0.215582748	0.044	5	0	ORWELL	TH-3	VT ROUTE 73	VT ROUTE 73
1.95	0.063790691	0.033	5	0	MIDDLEBURY	TH-35	N BRANCH RD	N BRANCH RD
4.51	0.14294471	0.032	5	5	PANTON	TH-1	LAKE RD	JERSEY ST
4.51	0.14294471	0.032	5	5	PANTON	TH-2	JERSEY ST	JERSEY ST
5.25	0.110062199	0.021	5	3	WEYBRIDGE	TH-2	QUAKER VILLAGE RD	JAMES RD
0.19	0.050062577	0.263	4	0	WEYBRIDGE	TH-21	PLEASANT VIEW TER	PLEASANT VIEW TER
0.2	0.040074296	0.200	4	0	VERGENNES	TH-128	NORTH ST	NORTH ST
1.07	0.09648122	0.090	4	0	BRISTOL	TH-24	BRIGGS HILL RD	BRIGGS HILL RD
2.02	0.137891771	0.068	4	0	BRISTOL	TH-11	MEEHAN RD	MEEHAN RD
4.2	0.138699849	0.033	4	1	NEW HAVEN	TH-6	SOUTH ST	SOUTH ST
4.72	0.130737888	0.028	4	1	NEW HAVEN	TH-2	RIVER RD	RIVER RD
6.6	0.097203478	0.015	4	0	WEYBRIDGE	TH-1	WEYBRIDGE RD	WEYBRIDGE RD
6.43	0.086219209	0.013	4	0	FERRISBURGH	TH-8	LITTLE CHICAGO RD	SAND RD

Paved Roads with "Critical Curves"
- Addison County 2018 -

0.08	0.032013741	0.400	3	0	VERGENNES	TH-13	DEPOT LN	DEPOT LN
0.22	0.061807941	0.281	3	0	VERGENNES	TH-116	HIGH ST	HIGH ST
0.14	0.033837688	0.242	3	0	VERGENNES	TH-124	MECHANICS ST	MECHANICS ST
1.68	0.329776195	0.196	3	0	STARKSBORO	TH-3	STATES PRISON HOLLOW RD	STATES PRISON HOLLOW RD
1.68	0.329776195	0.196	3	0	STARKSBORO	TH-4	STATES PRISON HOLLOW RD	STATES PRISON HOLLOW RD
0.61	0.105490113	0.173	3	0	MIDDLEBURY	TH-118	FOREST RIDGE DR	FOREST RIDGE DR
0.27	0.046622766	0.173	3	1	VERGENNES	TH-136	SUNSET DR	SUNSET DR
0.91	0.146177013	0.161	3	1	STARKSBORO	TH-4	GORE RD	GORE RD
0.42	0.054057474	0.129	3	0	VERGENNES	TH-138	THOMAS CIR	THOMAS CIR
1.13	0.135975692	0.120	3	1	NEW HAVEN	TH-26	CAMPGROUND RD	CAMPGROUND RD
0.56	0.058791826	0.105	3	0	FERRISBURGH	TH-57	BAY RD	LONG POINT RD
1.4	0.122311336	0.087	3	0	WALTHAM	TH-6	ROUTE 66	ROUTE 66
2.17	0.151315136	0.070	3	0	MONKTON	TH-6	TYLER BRIDGE RD	TYLER BRIDGE RD
2.12	0.14697372	0.069	3	2	MIDDLEBURY	TH-10	SHARD VILLA RD	THREE MILE BRIDGE RD
0.29	0.019446238	0.067	3	0	SHOREHAM	TH-31	CEMETERY HILL RD	CEMETERY HILL RD
3.4	0.186605646	0.055	3	2	ADDISON	TH-2	JERSEY ST S	JERSEY ST S
0.9	0.043641171	0.048	3	0	FERRISBURGH	TH-44	BOTSFORD RD	BOTSFORD RD
1.65	0.077960073	0.047	3	0	SHOREHAM	TH-3	N ORWELL RD	N ORWELL RD
3.16	0.139838352	0.044	3	0	LEICESTER	TH-1	LEICESTER WHITING RD	LEICESTER WHITING RD
3.22	0.136300988	0.042	3	0	RIPTON	TH-11	NATURAL TPKE	NATURAL TPKE
3.64	0.13668913	0.038	3	0	WHITING	TH-1	LEICESTER WHITING RD	LEICESTER-WHITING RD
3.72	0.104323137	0.028	3	3	NEW HAVEN	TH-6	NORTH ST	NORTH ST
3.45	0.070821733	0.021	3	0	CORNWALL	TH-4	WEST ST	WEST ST
4.05	0.069455797	0.017	3	1	ADDISON	TH-4	NORTONTOWN RD	NORTONTOWN RD
5.38	0.083997657	0.016	3	1	STARKSBORO	TH-5	BIG HOLLOW RD	BIG HOLLOW RD
4.9	0.061782572	0.013	3	0	RIPTON	TH-1	LINCOLN RD	LINCOLN RD
2.5	0.031508998	0.013	3	0	NEW HAVEN	TH-22	EAST ST	EAST ST
0.03	0.032355867	1.079	2	0	VERGENNES	TH-125	MOUNTAIN VIEW LN	MOUNTAIN VIEW LN
0.02	0.021259884	1.063	2	0	FERRISBURGH	TH-29	TOWN HWY 29	TOWN HWY 29
0.07	0.047632043	0.680	2	0	ADDISON	TH-30	TOWN HWY 30	TOWN HWY 30
0.1	0.055154432	0.552	2	0	MIDDLEBURY	TH-122	FRED JOHNSON CIR	FRED JOHNSON CIR
0.1	0.042384131	0.424	2	0	VERGENNES	TH-106	BOOSKA CT	BOOSKA CT
0.1	0.041198186	0.412	2	0	MIDDLEBURY	TH-33	GRIST MILL RD	GRIST MILL RD
0.21	0.050899583	0.242	2	0	BRISTOL	TH-346	LOWER MEADOW LN	LOWER MEADOW LN
0.47	0.10567227	0.225	2	0	VERGENNES	TH-107	BOOTH WOODS	BOOTH WOODS
0.07	0.015513081	0.222	2	0	VERGENNES	TH-129	PROSPECT ST	PROSPECT ST
0.15	0.03304763	0.220	2	0	VERGENNES	TH-145	COMMODORE DR	COMMODORE DR
0.05	0.010984996	0.220	2	0	SHOREHAM	TH-53	TOWN HWY 53	TOWN HWY 53
0.74	0.12847382	0.174	2	0	CORNWALL	TH-12	LEMON FAIR RD	LEMON FAIR RD
0.19	0.03248513	0.171	2	0	ADDISON	TH-33	TH 33	TH 33
0.43	0.072795392	0.169	2	1	BRISTOL	TH-2	RIVER RD	RIVER RD
0.18	0.028182743	0.157	2	0	VERGENNES	TH-109	CANAL ST	CANAL ST
0.15	0.019851177	0.132	2	0	VERGENNES	TH-139	UNION ST	UNION ST

Paved Roads with "Critical Curves"
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0.17	0.021473291	0.126	2	0	LEICESTER	TH-13	FERNVILLE RD	FERNVILLE RD
0.25	0.024307933	0.097	2	0	WEYBRIDGE	TH-25	ORCHARD LN	ORCHARD LN
0.2	0.01601562	0.080	2	0	ORWELL	TH-33	ROBERTS AVE	ROBERTS AVE
0.95	0.073881805	0.078	2	0	VERGENNES	TH-4	MACDONOUGH DR	MACDONOUGH DR
0.24	0.018553414	0.077	2	0	BRISTOL	TH-342	MOUNTAIN TER	MOUNTAIN TER
0.29	0.02169705	0.075	2	0	RIPTON	TH-14	PEDDLER BRIDGE RD	PEDDLER BRIDGE RD
0.64	0.046583428	0.073	2	0	SALISBURY	TH-15	KELLEY CROSS RD	KELLEY CROSS RD
0.8	0.056543075	0.071	2	0	MIDDLEBURY	TH-23	LOWER PLAINS RD	LOWER PLAINS RD
0.53	0.028116525	0.053	2	0	SALISBURY	TH-20	MAPLE ST	MAPLE ST
0.85	0.044920234	0.053	2	0	MIDDLEBURY	TH-111	BURNHAM DR	BURNHAM DR
0.48	0.025143869	0.052	2	0	SALISBURY	TH-10	ROGERS RD	ROGERS RD
2.9	0.138839713	0.048	2	0	MIDDLEBURY	TH-6	PAINTER RD	PAINTER RD
3.34	0.143449694	0.043	2	4	FERRISBURGH	TH-2	MONKTON RD	MONKTON RD
3.75	0.141223971	0.038	2	0	ADDISON	TH-1	LAKE ST	LAKE ST
0.76	0.028462858	0.037	2	0	LEICESTER	TH-5	MAPLE RUN RD	MAPLE RUN RD
1.86	0.059661941	0.032	2	2	NEW HAVEN	TH-5	DOG TEAM RD	DOG TEAM RD
1.72	0.051214005	0.030	2	8	FERRISBURGH	TH-1	OLD HOLLOW RD	OLD HOLLOW RD
1.35	0.039875436	0.030	2	0	WALTHAM	TH-5	S MIDDLEBROOK RD	S MIDDLEBROOK RD
0.23	0.006369055	0.028	2	0	VERGENNES	TH-125	MOUNTAIN VIEW LN	MOUNTAIN VIEW LN
1.1	0.029487661	0.027	2	0	SHOREHAM	TH-48	SHOREHAM DEPOT RD	SHOREHAM DEPOT RD
2.2	0.051862996	0.024	2	1	CORNWALL	TH-1	S BINGHAM ST	PARKHILL RD
3.68	0.072250208	0.020	2	0	BRISTOL	TH-4	MONKTON RD	MONKTON RD
0.79	0.014127498	0.018	2	0	BRISTOL	TH-338	MOUNTAIN ST	MOUNTAIN ST
4.8	0.084350018	0.018	2	0	SHOREHAM	TH-1	RICHVILLE RD	RICHVILLE RD
4.31	0.069161992	0.016	2	1	MONKTON	TH-1	MONKTON RD	MONKTON RD
4.31	0.069161992	0.016	2	1	MONKTON	TH-2	MONKTON RD	MONKTON RD
2.41	0.033891705	0.014	2	0	BRISTOL	TH-1	HARDSCRABBLE RD	HARDSCRABBLE RD
3.87	0.047155017	0.012	2	0	MONKTON	TH-11	ROTAX RD	ROTAX RD
3.67	0.043691941	0.012	2	0	BRISTOL	TH-8	UPPER NOTCH RD	UPPER NOTCH RD
2	0.023018662	0.012	2	0	MIDDLEBURY	TH-9	HALLADAY RD	HALLADAY RD
3.55	0.0139998	0.004	2	0	ORWELL	TH-1	N ORWELL RD	N ORWELL RD
5.88	0.01747843	0.003	2	0	BRIDPORT	TH-3	LAKE ST	LAKE ST
3.83	0.004782613	0.001	2	0	LEICESTER	TH-4	LAKE DUNMORE RD	LAKE DUNMORE RD
0.02	0.022247803	1.112	1	0	LEICESTER	TH-13	TOWN HWY 13	TOWN HWY 13
0.01	0.010449301	1.045	1	0	CORNWALL	TH-12	LEMON FAIR RD	LEMON FAIR RD
0.05	0.027486654	0.550	1	0	PANTON	TH-19	ARNOLD BAY RD	ARNOLD BAY RD
0.07	0.022343247	0.319	1	0	BRISTOL	TH-332	LAWRENCE LN	LAWRENCE LN
0.05	0.014508735	0.290	1	2	VERGENNES	TH-126	N GREEN ST	N GREEN ST
0.01	0.00289829	0.290	1	0	BRIDPORT	TH-26	BASIN HARBOR RD	BASIN HARBOR RD
0.07	0.019966015	0.285	1	0	VERGENNES	TH-104	BATTERY HL	BATTERY HL
0.1	0.024069503	0.241	1	0	LINCOLN	TH-10	CREAMERY ST	CREAMERY ST
0.13	0.030734796	0.236	1	0	FERRISBURGH	TH-11	CHAMPLIN HILL RD	CHAMPLIN HILL RD
0.05	0.010757628	0.215	1	0	MONKTON	TH-32	TOWN HWY 32	TOWN HWY 32

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0.06	0.010716713	0.179	1	0	NEW HAVEN	TH-36	DOG TEAM RD	DOG TEAM RD
0.08	0.013342605	0.167	1	0	LEICESTER	TH-20	SCHOOLHOUSE RD	SCHOOLHOUSE RD
0.11	0.018245436	0.166	1	0	BRISTOL	TH-325	MEADOW LN	MEADOW LN
0.14	0.02250466	0.161	1	0	VERGENNES	TH-117	HILLSIDE DR	HILLSIDE DR
0.09	0.013942867	0.155	1	0	SALISBURY	TH-24	TOWN HWY 24	TOWN HWY 24
0.03	0.004232807	0.141	1	0	VERGENNES	TH-66	CHURCH ST	CHURCH ST
0.06	0.007621717	0.127	1	0	VERGENNES	TH-114	ELM ST	ELM ST
0.03	0.003713157	0.124	1	0	BRIDPORT	TH-26	MIDDLE RD	MIDDLE RD
0.15	0.018320733	0.122	1	0	BRISTOL	TH-326	CRESCENT ST	CRESCENT ST
0.46	0.050813134	0.110	1	0	PANTON	TH-17	EAST RD	EAST RD
0.1	0.009403814	0.094	1	0	FERRISBURGH	TH-66	MEIGS RD	MEIGS RD
0.06	0.005558396	0.093	1	0	VERGENNES	TH-133	SCOVEL LN	SCOVEL LN
0.15	0.013136505	0.088	1	0	VERGENNES	TH-9	MEIGS RD	MEIGS RD
0.08	0.005752021	0.072	1	0	BRISTOL	TH-324	PARK PL	PARK PL
0.21	0.013381519	0.064	1	0	MIDDLEBURY	TH-117	BIRCH DR	BIRCH DR
0.05	0.003182603	0.064	1	0	VERGENNES	TH-105	BOMBARD PL	BOMBARD PL
0.43	0.026585816	0.062	1	0	VERGENNES	TH-131	S WATER ST	S WATER ST
0.11	0.006067746	0.055	1	0	CORNWALL	TH-24	SCHOOL RD	SCHOOL RD
1.34	0.069216227	0.052	1	0	PANTON	TH-1	PANTON RD	PANTON RD
1.34	0.069216227	0.052	1	0	PANTON	TH-3	BASIN HARBOR RD	BASIN HARBOR RD
0.15	0.007631397	0.051	1	0	MIDDLEBURY	TH-41	DREW LN	DREW LN
0.37	0.018817838	0.051	1	0	VERGENNES	TH-7	MONKTON RD	MONKTON RD
0.6	0.026576783	0.044	1	0	SALISBURY	TH-11	BEAVER POND RD	BEAVER POND RD
1.24	0.054119406	0.044	1	1	PANTON	TH-6	ARNOLD BAY RD	ARNOLD BAY RD
0.59	0.025577597	0.043	1	0	FERRISBURGH	TH-10	GREENBUSH RD	GREENBUSH RD
1	0.041035404	0.041	1	0	LEICESTER	TH-3	SWININGTON HILL RD	SWININGTON HILL RD
0.2	0.008097735	0.040	1	0	SALISBURY	TH-21	SCHOOLHOUSE RD	SCHOOLHOUSE RD
0.12	0.004789767	0.040	1	0	SHOREHAM	TH-52	INN RD	INN RD
0.39	0.014466587	0.037	1	0	FERRISBURGH	TH-49	PLANK RD	PLANK RD
0.15	0.005434529	0.036	1	1	BRISTOL	TH-327	DEVINO LN	DEVINO LN
0.15	0.00499477	0.033	1	0	BRISTOL	TH-330	SPRING ST	SPRING ST
0.49	0.016035482	0.033	1	0	VERGENNES	TH-118	HOPKINS RD	HOPKINS RD
0.32	0.008933961	0.028	1	0	MIDDLEBURY	TH-14	MEAD LN	MEAD LN
2.35	0.063388252	0.027	1	1	LEICESTER	TH-2	FERN LAKE RD	FERN LAKE RD
0.45	0.011918644	0.026	1	0	FERRISBURGH	TH-7	MOUNT PHILO RD	MOUNT PHILO RD
0.53	0.013026988	0.025	1	1	BRISTOL	TH-302	PINE ST	PINE ST
2.41	0.05834973	0.024	1	0	MONKTON	TH-5	HARDSCRABBLE RD	HARDSCRABBLE RD
1.41	0.032992001	0.023	1	1	NEW HAVEN	TH-25	TWITCHELL HILL RD	TWITCHELL HILL RD
1.9	0.044420277	0.023	1	1	CORNWALL	TH-3	SWAMP RD	SWAMP RD
1.2	0.027844549	0.023	1	0	WEYBRIDGE	TH-12	PRUNIER RD	PRUNIER RD
0.27	0.006126795	0.023	1	0	MIDDLEBURY	TH-39	BUTTERNUT RIDGE DR	BUTTERNUT RIDGE DR
4.15	0.093346213	0.022	1	0	SHOREHAM	TH-4	LAPHAM BAY RD	LAPHAM BAY RD
0.78	0.017016996	0.022	1	0	WALTHAM	TH-3	PLANK RD	PLANK RD

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2.25	0.0475837	0.021	1	0	SALISBURY	TH-2	SHARD VILLA RD	SHARD VILLA RD
2.6	0.054252023	0.021	1	0	PANTON	TH-5	HOPKINS RD	HOPKINS RD
0.78	0.015176454	0.019	1	1	LINCOLN	TH-26	S LINCOLN RD	S LINCOLN RD
2.4	0.045215598	0.019	1	0	BRIDPORT	TH-10	EAST ST	CROSS RD
2.15	0.040174729	0.019	1	0	BRIDPORT	TH-27	MIDDLE RD	MIDDLE RD
0.57	0.010288513	0.018	1	2	VERGENNES	TH-1	PANTON RD	PANTON RD
0.57	0.010288513	0.018	1	2	VERGENNES	TH-3	PANTON RD	PANTON RD
0.39	0.006844588	0.018	1	0	MIDDLEBURY	TH-91	ROLLING ACRES	ROLLING ACRES
0.39	0.006339919	0.016	1	0	VERGENNES	TH-108	BOWMAN RD	BOWMAN RD
3.21	0.049842251	0.016	1	0	WALTHAM	TH-2	MAPLE ST	MAPLE ST
0.25	0.003865824	0.015	1	0	VERGENNES	TH-113	EAST ST	EAST ST
2.88	0.037215342	0.013	1	0	MONKTON	TH-4	STATES PRISON HOLLOW RD	STATES PRISON HOLLOW RD
5.4	0.067078564	0.012	1	0	SHOREHAM	TH-5	LAKE ST	WATCH POINT RD
1.82	0.022191204	0.012	1	0	NEW HAVEN	TH-8	LIME KILN RD	LIME KILN RD
2.9	0.035295386	0.012	1	0	PANTON	TH-1	PANTON RD	PANTON RD
1.66	0.020000839	0.012	1	0	NEW HAVEN	TH-24	FIELD DAYS RD	FIELD DAYS RD
3.06	0.036250555	0.012	1	0	NEW HAVEN	TH-4	MUNGER ST	MUNGER ST
2.01	0.023060923	0.011	1	0	BRIDPORT	TH-26	MIDDLE RD	MIDDLE RD
2.16	0.024376252	0.011	1	0	MIDDLEBURY	TH-7	QUARRY RD	QUARRY RD
0.85	0.009196944	0.011	1	0	BRISTOL	TH-18	LOWER HARDSCRABBLE RD	LOWER HARDSCRABBLE RD
0.34	0.003636777	0.011	1	0	VERGENNES	TH-132	SCHOOL ST	SCHOOL ST
2.28	0.023019416	0.010	1	0	SALISBURY	TH-6	SMEAD RD	SMEAD RD
0.9	0.008887528	0.010	1	0	VERGENNES	TH-6	GREEN ST	GREEN ST
2	0.018505547	0.009	1	0	BRIDPORT	TH-40	HAPPY VALLEY RD	HAPPY VALLEY RD
0.88	0.008000946	0.009	1	0	LINCOLN	TH-8	FORGE HILL RD	FORGE HILL RD
1.95	0.017299784	0.009	1	0	SALISBURY	TH-17	MORGAN RD	MORGAN RD
1.2	0.010466445	0.009	1	0	ADDISON	TH-7	JERSEY ST	JERSEY ST
1.4	0.011941828	0.009	1	0	BRIDPORT	TH-2	BASIN HARBOR RD	BASIN HARBOR RD
1.5	0.012109302	0.008	1	0	GOSHEN	TH-5	FLORA WHITE RD	FLORA WHITE RD
0.9	0.007099997	0.008	1	0	SHOREHAM	TH-2	ROUTE 73	VT ROUTE 73
1.95	0.014894268	0.008	1	0	MIDDLEBURY	TH-27	MUNSON RD	MUNSON RD
3.59	0.026549932	0.007	1	0	SHOREHAM	TH-13	BUTTOLPH RD	BUTTOLPH RD
2.5	0.017706736	0.007	1	1	SALISBURY	TH-5	LELAND RD	LELAND RD
3.23	0.022441096	0.007	1	0	WALTHAM	TH-1	GREEN ST	GREEN ST
1.58	0.008981256	0.006	1	0	STARKSBORO	TH-1	JERUSALEM RD	JERUSALEM RD
1.58	0.008981256	0.006	1	0	STARKSBORO	TH-3	DOWNINGSVILLE RD	DOWNINGSVILLE RD
2.49	0.013123856	0.005	1	0	CORNWALL	TH-2	JAMES RD	CIDER MILL RD
4.19	0.020734349	0.005	1	0	NEW HAVEN	TH-9	PLANK RD	PLANK RD
2.25	0.01087666	0.005	1	0	ORWELL	TH-4	MOUNT INDEPENDENCE RD	MOUNT INDEPENDENCE RD
2.67	0.012766742	0.005	1	0	FERRISBURGH	TH-4	BUTTON BAY RD	BUTTON BAY RD
4.68	0.021406001	0.005	1	1	FERRISBURGH	TH-3	BASIN HARBOR RD	BASIN HARBOR RD
1.81	0.007244153	0.004	1	0	NEW HAVEN	TH-3	TOWN HILL RD	TOWN HILL RD
2.55	0.007326771	0.003	1	0	FERRISBURGH	TH-1	LONG POINT RD	STAGE RD

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6	0.016584941	0.003	1	0	BRIDPORT	TH-1	CROWN PT RD	CROWN POINT RD
1.68	0.00454446	0.003	1	0	RIPTON	TH-2	PEDDLER BRIDGE RD	MAIDEN LN
0.7	0.001132525	0.002	1	0	MIDDLEBURY	TH-11	UPPER PLAINS RD	UPPER PLAINS RD
7.09	0.006601137	0.001	1	0	MONKTON	TH-1	MONKTON RDG	SILVER ST
7.09	0.006601137	0.001	1	0	MONKTON	TH-3	BRISTOL RD	BRISTOL RD

High Priority Paved Roads in Addison County

SumOfAOTMILES_S	Curve Miles	density curve per mile	# Crashes	TownName	FirstOfRT NAME	FirstOfFirstOfRDFLNAME	LastOfFirstOfRDFLNAME
3.34	0.05984616	0.017918012	3	FERRISBURGH	TH-2	MONKTON RD	MONKTON RD
2.9	0.049524583	0.017077442	3	FERRISBURGH	TH-35	MIDDLEBROOK RD	MIDDLEBROOK RD
3.72	0.059049183	0.015873436	3	NEW HAVEN	TH-6	NORTH ST	NORTH ST
1.72	0.020676432	0.012021181	8	FERRISBURGH	TH-1	OLD HOLLOW RD	OLD HOLLOW RD
4.51	0.031992307	0.007093638	3	PANTON	TH-1	PEASE RD	LAKE RD
4.51	0.031992307	0.007093638	3	PANTON	TH-2	JERSEY ST	JERSEY ST
3.68	0.025104479	0.006821869	5	BRISTOL	TH-4	NORTH ST	MONKTON RD
5.25	0.033199616	0.006323736	3	WEYBRIDGE	TH-2	JAMES RD	QUAKER VILLAGE RD
7.09	0.007073985	0.000997741	3	MONKTON	TH-1	MONKTON RDG	SILVER ST
7.09	0.007073985	0.000997741	3	MONKTON	TH-3	BRISTOL RD	BRISTOL RD
7.27	0.006884232	0.000946937	3	LINCOLN	TH-1	W RIVER RD	E RIVER RD
7.27	0.006884232	0.000946937	3	LINCOLN	TH-2	LINCOLN GAP RD	LINCOLN GAP RD
7.27	0.006884232	0.000946937	3	LINCOLN	TH-3	LINCOLN RD	LINCOLN RD

2018 Systemic Local Road Safety Program (SLRS) Program Participation Form

The Vermont Agency of Transportation (VTrans) has developed a Systemic Local Road Safety program (SLRS) to help towns proactively prevent and reduce single vehicle crashes on their rural town-maintained roads.

VTrans has determined from Vermont data that curves with radii of less than 750 feet that were also on a paved road were more prone to single vehicle crashes (curves with these characteristics are called critical curves).

The towns that can take advantage of this program are the ones that have critical curves on their town highways and that were selected by their regional planning commission from a list of other eligible towns.

Your regional planning commission chose your town to partner with VTrans for this year's program.

Participation in the SLRS Program by a municipality involves the following:

1. Reviewing the VTrans handout titled "Targeting Horizontal Curves with the Greatest Risks"
2. Attendance to a site visit by the Road Foreman and another high ranking municipal official may be required
3. VTrans will review the critical curves in your municipality
4. A safety improvement project composed of signs, markings and/or beacons will be constructed
5. The improvement projects will be contracted by VTrans under regional umbrella construction projects and there will be no cost to your municipality
6. The signs, markings and/or beacons shall be in conformity with the current Manual on Uniform Traffic Control Devices
7. Signing, and returning to VTrans by the requested date, a Finance and Maintenance Agreement that will attest that the municipality has reviewed and approved the project plans, that the improvements will be done within the right-of-way of the municipality and that there will be no conflicts with utilities

We want to participate in the SLRS Program and partner with VTrans to reduce crash risks on our roads.

TOWN/CITY/VILLAGE OF _____

Official Name: _____

Signature: _____ **Date:** _____, 2018