

CONTINUOUS TRAFFIC COUNTER REPORT  
(The Redbook)  
Based on 2021 Traffic Data

VERMONT AGENCY OF TRANSPORTATION  
Highway Division  
Traffic Data and Analysis  
May 2022

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**Continuous Traffic Counter  
Seasonal Adjustment Factor Grouping Study  
& Traffic Growth Analysis  
Based on 2021 Traffic Data**

**The various data provided in this report should not be construed as a standard. Any traffic analysis should be performed using all available information specifically describing the location under study, supplemented with the information provided in this and other pertinent sources and tempered with good engineering judgment. Experience in the traffic-planning field and familiarity with the cost effectiveness of associated analyses is judged necessary for meaningful use of the data in this report.**

## SEASONAL ADJUSTMENT FACTOR GROUPING STUDY

The Grouping Study's primary purpose is to supply monthly day of week adjustment factors for the conversion of short term traffic counts to Annual Average Daily Traffic (AADT) values. These factors are important because of the seasonal variation in traffic volumes.

The seasonal factors are calculated for each Continuous Traffic Counter (CTC) using the AASHTO Method as follows:

1. Calculate the average volume for each month/day of week pairing, such as:  
Sundays/January  
Mondays/January  
...  
Friday/December  
Saturdays/December  
This generates 84 values (7 day x 12 months).
2. Divide the AADT by each of the 84 month/day values to get a seasonal factor for each month/day of week pair. The result is a 7x12 matrix.
3. Average all seasonal factors for the same group/month/day of week to get the group's final seasonal factors.

The monthly day of week factors for each CTC station are grouped by similar seasonal traffic patterns, established by FHWA guidelines<sup>1</sup>. The results reveal six (6) generally "definable" groups for Vermont. These groups (both with and without weekend influence) are best described as:

- 1 Rural Interstate: most of this state's interstate system is classed as rural in nature.
- 2 Rural Non-Interstate: Based on an administrative recommendation by the FHWA, Interstates and non-interstate highways are divided into separate "Rural" groups.
- 3 Urban: a more stable year round traffic pattern, primarily due to the large portion of commuter travel and typical urban activities; this group includes interstate that does not fit into the Rural Interstate group.
- 4 Summer Recreational: areas which may normally be considered "Rural" in nature, but with a distinct summer recreational influence, e.g. camping areas, lake/beach resort areas, historical and sight-seeing areas.
- 5 Summer/Winter Recreational (US/VT Routes): similar to "Summer Recreational"

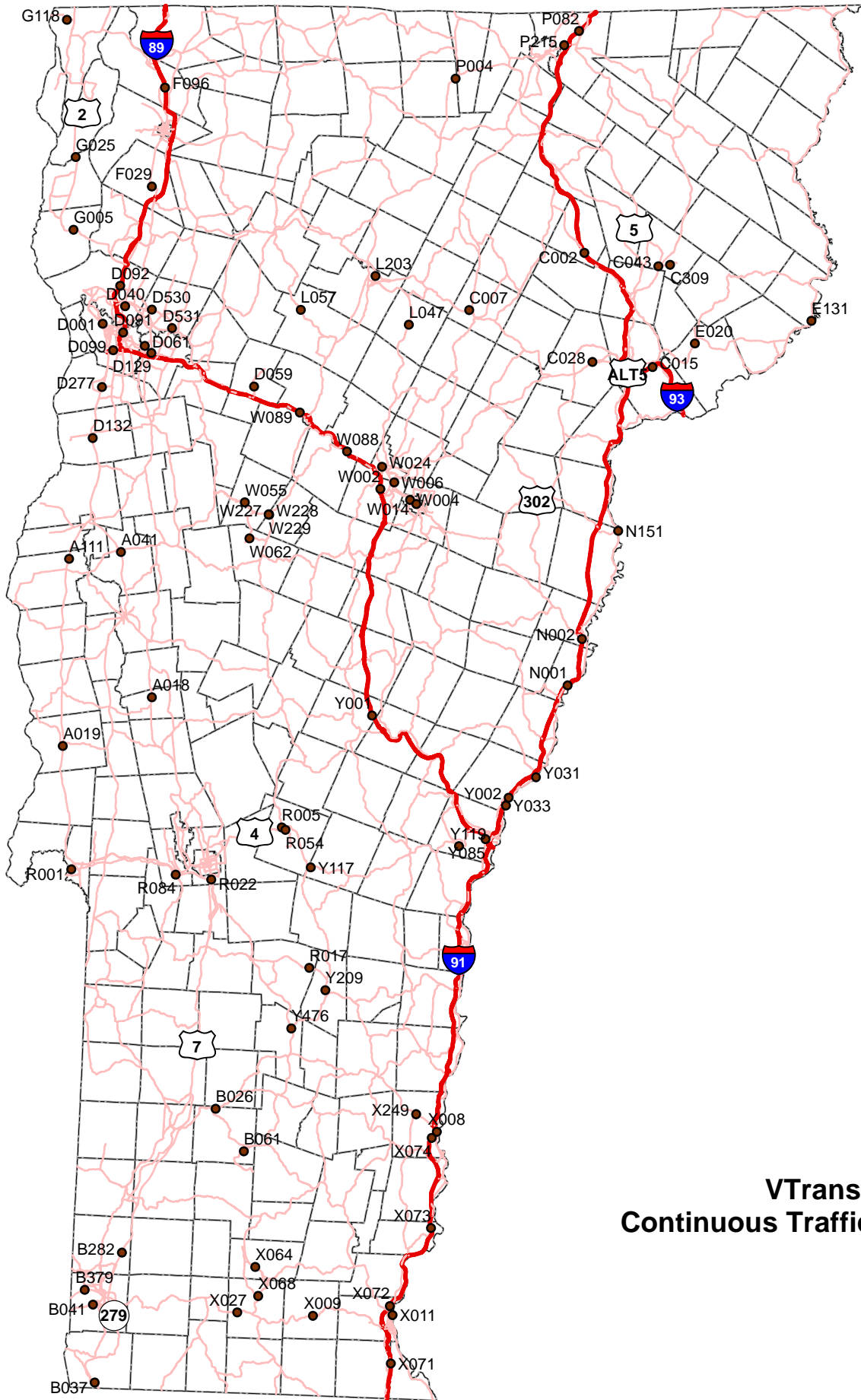
<sup>1</sup> [Traffic Monitoring Guide](#), October 2016, U.S. Dept. of Transportation, FHWA, Office of Highway Policy Information

but with additional winter recreational activities. This is in recognition that many main routes are significantly impacted by seasonal recreational traffic.

- 6 Summer/Winter Recreational (Town Highways): similar to Group 5 (US/VT Routes). These local roads are impacted to an even higher degree due to their proximity to resort areas.

Determining which group, if any, best describes a specific highway location, should be tempered with engineering judgment and knowledge of local traffic patterns, including the direct use of "nearby" CTC stations where applicable. This is especially true in the vicinity of the larger urban areas and in the urban-like areas.

This edition of the Redbook also includes monthly day of week adjustment factors for the conversion of short-term traffic counts to Annual Average Weekday Traffic (AAWDT) values. These are calculated similarly to the AADT factors, except the AAWDT is used instead of the AADT.



**VTrans  
Continuous Traffic Counters**

## CONTINUOUS TRAFFIC COUNTER SUMMARY DEFINITIONS

AADT (Annual Average Daily Traffic)	VTrans uses the AASHTO Method for computing the AADT. This method computes an average day of week for each month, and then computes an annual average value from those monthly averages, before finally computing a single annual average daily value.
AAWDT (Annual Average Weekday Traffic)	This value is calculated similarly to the AADT; but with weekday traffic only (Monday through Friday).
#1 HH (High Hour)	The highest volume hour that occurred at that station in the report year.
DHV (Design Hourly Volume) #30 HH (High Hour)	Traffic volume for the design hour (typically the 30 <sup>th</sup> highest hour of the year)
%k (Percent "k")	Ratio of the Design Hourly Volume to the AADT, expressed as a percent.
Date	Date on which the 30 <sup>th</sup> highest hourly volume occurred.
Day of Week	Day of week on which the 30 <sup>th</sup> highest hourly volume occurred.
Hour	Hour during which the 30 <sup>th</sup> highest hourly volume occurred.
Peak Direction	The heavier traveled direction during the 30 <sup>th</sup> highest hour.
Directional Distribution	The percent of traffic traveling in the more heavily traveled direction during the 30 <sup>th</sup> highest hour.

## 2021 CONTINUOUS TRAFFIC COUNTER (CTC) SUMMARY

The CTCs listed in the summary below are those that ran for at least one of each day of the week, for at least 10 months of the year.

CTC	Seasonal							DHV			Day of Week	Hour	Peak Direction	Directional Distribution
	Location ID	Route	Town	Factor Group	Growth Group	AADT	AAWDT	#1 HH	#30 HH	%K				
A018	US7	LEICESTER	2	1	6069	6498	729	661	10.9	07/23/2021	Friday	4pm-5pm	SB	56
A019	VT22A	ORWELL	2	1	3672	3643	587	458	12.5	06/13/2021	Sunday	1pm-2pm	SB	52
B026	VT11	WINHALL	5	1	4745	4801	889	695	14.6	10/01/2021	Friday	3pm-4pm	EB	54
B037	US7	POWNAL	2	1	6728	7002	882	763	11.3	10/07/2021	Thursday	3pm-4pm	NB	52
B041	VT9	BENNINGTON	2	2	3748	4021	545	428	11.4	09/02/2021	Thursday	3pm-4pm	WB	59
B479	VT279	BENNINGTON	2	1	7929	7761	1297	1083	13.7	07/25/2021	Sunday	11am-12pm	WB	64
C002	I91	SHEFFIELD	4	3	3895	4246	544	445	11.4	08/25/2021	Wednesday	3pm-4pm	NB	58
C007	VT15	HARDWICK	2	1	4778	5095	685	558	11.7	02/26/2021	Friday	4pm-5pm	EB	59
C028	US2	Danville	2	1	7044	7426	2264	862	12.2	09/10/2021	Friday	3pm-4pm	WB	52
C043	VT114	BURKE	5	1	3801	3816	523	464	12.2	09/25/2021	Saturday	12pm-1pm	NB	60
C309	MC0268	BURKE	6	4	1268	1201	343	264	20.8	02/13/2021	Saturday	4pm-5pm	WB	71
D001	VT127	BURLINGTON	3	2	13517	14539	1598	1463	10.8	06/30/2021	Wednesday	4pm-5pm	NB	58
D040	US7	COLCHESTER	3	2	14449	15602	1756	1605	11.1	08/30/2021	Monday	4pm-5pm	NB	69
D059	MC0223	BOLTON	6	4	1293	1231	569	405	31.3	02/03/2021	Wednesday	5pm-6pm	NB	61
D061	US2	WILLISTON	3	2	10938	11907	1357	1257	11.5	09/24/2021	Friday	12pm-1pm	EB	50
D091	I89	SOUTH BURLINGTON	3	3	49884	54207	10067	5540	11.1	10/13/2021	Wednesday	4pm-5pm	NB	61
D099	I189	SOUTH BURLINGTON	3	3	36618	39621	4083	3846	10.5	09/23/2021	Thursday	4pm-5pm	EB	56
D129	VT2A	WILLISTON	3	2	15059	15908	1634	1557	10.3	12/01/2021	Wednesday	4pm-5pm	SB	55
D277	US7	SHELBURNE	3	2	15964	16623	1607	1534	9.6	08/13/2021	Friday	3pm-4pm	SB	52
D530	VT289	ESSEX	3	2	16037	17200	1885	1780	11.1	09/30/2021	Thursday	4pm-5pm	EB	57
D531	VT289	ESSEX	3	2	5195	5562	688	632	12.2	12/17/2021	Friday	4pm-5pm	WB	54
F029	US7	GEORGIA	2	1	3424	3689	503	440	12.9	09/22/2021	Wednesday	7am-8am	SB	65
F096	I89	SWANTON	1	3	8333	9140	999	913	11.0	05/14/2021	Friday	3pm-4pm	NB	56
G005	US2	SOUTH HERO	4	1	9156	9468	1507	1079	11.8	08/06/2021	Friday	4pm-5pm	WB	62
G025	US2	GRAND ISLE	4	1	2827	2849	704	461	16.3	08/07/2021	Saturday	3pm-4pm	WB	57
G402	US2	ALBURGH	4	1	4000	4047	833	460	11.5	09/10/2021	Friday	4pm-5pm	WB	55
L047	VT12	ELMORE	4	1	911	949	271	137	15.0	09/17/2021	Friday	4pm-5pm	SB	53
L057	VT108	STOWE	6	1	4635	4408	1179	907	19.6	10/09/2021	Saturday	4pm-5pm	SB	52
L203	VTA100	MORRISTOWN	2	1	6987	7575	871	783	11.2	04/12/2021	Monday	3pm-4pm	SB	60
N002	I91	BRADFORD	1	3	7965	8398	1150	1006	12.6	08/08/2021	Sunday	12pm-1pm	SB	67
N151	US302	NEWBURY	2	1	6918	7151	834	778	11.2	09/03/2021	Friday	2pm-3pm	EB	50
N451	US302	NEWBURY	2	1	6918	7116	933	796	11.5	05/28/2021	Friday	3pm-4pm	EB	50
P004	VT100	WESTFIELD	2	1	2040	2085	422	240	11.8	10/09/2021	Saturday	3pm-4pm	SB	53



## 2021 CONTINUOUS TRAFFIC COUNTER (CTC) SUMMARY

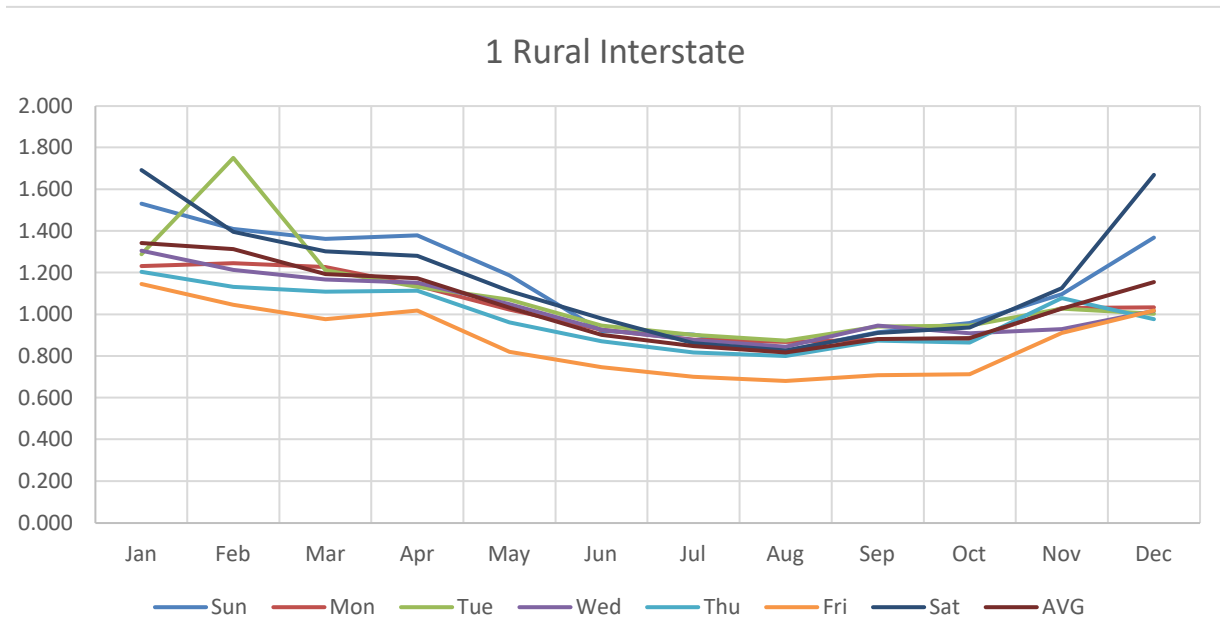
The CTCs listed in the summary below are those that ran for at least one of each day of the week, for at least 10 months of the year.

CTC			Seasonal					DHV			Day of	Peak	Directional	
Location ID	Route	Town	Factor Group	Growth Group	AADT	AAWDT	#1 HH	#30 HH	%K	DHV Date	Week	Hour	Direction	Distribution
P082	I91	DERBY	4	3	2088	2350	271	248	11.9	06/10/2021	Thursday	4pm-5pm	NB	59
P215	US5	DERBY	2	1	10711	11554	1334	1193	11.1	05/14/2021	Friday	3pm-4pm	NB	53
R005	US4	KILLINGTON	5	1	8938	9004	1295	1069	12.0	10/07/2021	Thursday	3pm-4pm	WB	57
R017	VT103	MOUNT HOLLY	2	1	4603	4715	604	523	11.4	08/21/2021	Saturday	12pm-1pm	SB	52
R022	US7	RUTLAND TOWN	3	2	19551	21270	2276	1989	10.2	04/02/2021	Friday	3pm-4pm	SB	52
R054	MC0159	KILLINGTON	6	4	4582	4438	1024	738	16.1	12/29/2021	Wednesday	9am-10am	SB	83
W004	VT62	BARRE CITY	3	2	9461	10356	2767	1039	11.0	12/22/2021	Wednesday	4pm-5pm	EB	62
W006	US302	BERLIN	3	2	13475	14631	1559	1451	10.8	05/07/2021	Friday	3pm-4pm	WB	50
W024	US2	MONTPELIER	3	2	9580	10272	3338	1111	11.6	08/13/2021	Friday	3pm-4pm	EB	53
W055	VT17	FAYSTON	5	4	1163	1087	368	249	21.4	02/14/2021	Sunday	3pm-4pm	EB	57
W062	MC0203	WARREN	6	4	2380	2316	720	584	24.5	12/29/2021	Wednesday	9am-10am	WB	67
W089	I89	WATERBURY	1	3	23816	24390	3335	2858	12.0	10/15/2021	Friday	3pm-4pm	NB	50
X008	US5	ROCKINGHAM	2	1	6060	6585	925	797	13.2	09/07/2021	Tuesday	4pm-5pm	SB	55
X009	VT9	MARLBORO	5	1	4519	4470	772	668	14.8	08/14/2021	Saturday	11am-12pm	WB	50
X011	US5	BRATTLEBORO	3	2	12949	13850	1494	1332	10.3	09/10/2021	Friday	3pm-4pm	NB	50
X027	VT9	WILMINGTON	4	1	4282	4118	803	664	15.5	06/27/2021	Sunday	2pm-3pm	WB	56
X064	VT100	DOVER	5	1	4716	4573	1234	890	18.9	01/30/2021	Saturday	4pm-5pm	SB	68
X068	MC0115	WILMINGTON	6	4	1050	1076	287	203	19.3	01/18/2021	Monday	4pm-5pm	SB	78
X074	I91	ROCKINGHAM	1	3	12805	12618	2188	1957	15.3	07/25/2021	Sunday	12pm-1pm	SB	64
X443	VT123	WESTMINSTER	2	1	6440	6636	1026	789	12.3	10/22/2021	Friday	2pm-3pm	EB	51
Y002	I91	NORWICH	1	3	11649	12444	1647	1405	12.1	10/11/2021	Monday	3pm-4pm	NB	52
Y005	VT12	Weathersfield	2	1	9171	9605	1056	1000	10.9	09/29/2021	Wednesday	4pm-5pm	SB	55
Y006	US4	HARTFORD	3	2	11189	11971	1365	1245	11.1	05/13/2021	Thursday	4pm-5pm	WB	53
Y031	US5	NORWICH	2	1	1255	1342	197	163	13.0	09/13/2021	Monday	4pm-5pm	NB	61
Y033	VT10A	NORWICH	3	2	11460	12874	1407	1332	11.6	09/14/2021	Tuesday	3pm-4pm	WB	63
Y119	US4	HARTFORD	2	1	8535	8735	1148	1057	12.4	09/06/2021	Monday	1pm-2pm	EB	56
Y209	MC0189	LUDLOW	6	4	1906	1782	858	673	35.3	01/30/2021	Saturday	3pm-4pm	EB	78
Y476	VT100	WESTON	5	1	1307	1281	346	237	18.1	10/11/2021	Monday	1pm-2pm	NB	51

## 2021 SEASONAL ADJUSTMENT FACTORS: AADT

The factors in the table below are the product of the Monthly Average Daily Traffic Factor and the Day of Week Factor (MADT x DOW). These combined factors are used to adjust short-term counts to an AADT.

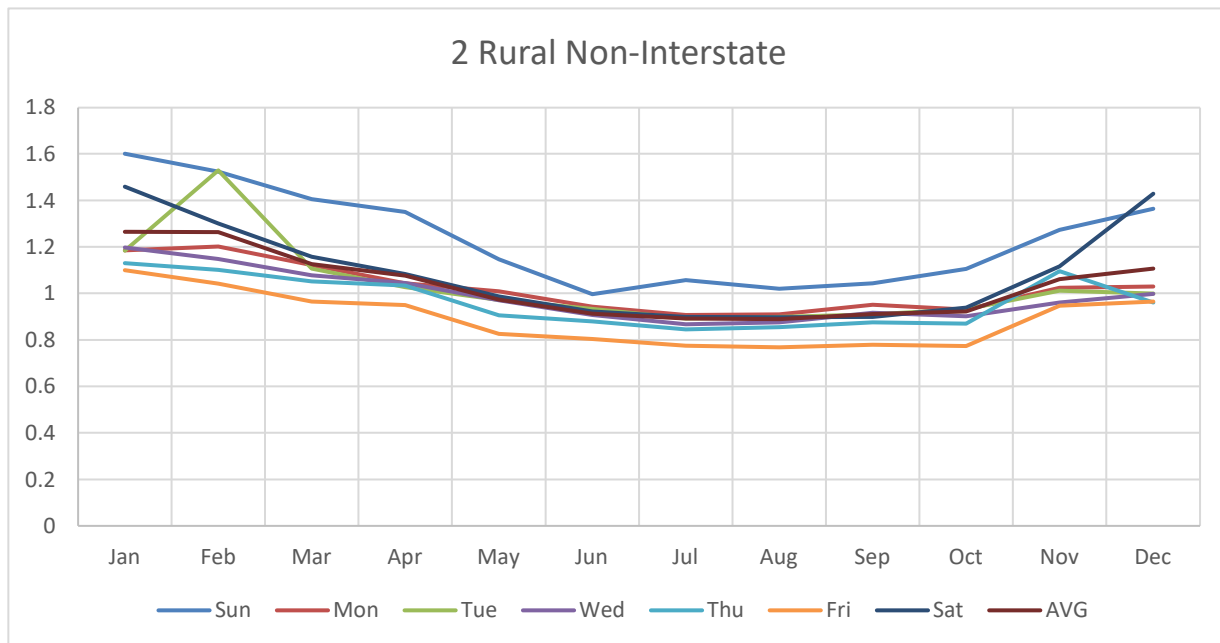
Monthly DOW Factors								
Group	1 Rural Interstate							
From Year:	2021			To Year:	2021			
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	AVG
Jan	1.531	1.231	1.288	1.306	1.204	1.146	1.692	1.343
Feb	1.409	1.245	1.751	1.213	1.131	1.046	1.396	1.313
Mar	1.361	1.226	1.211	1.167	1.108	0.976	1.301	1.193
Apr	1.378	1.138	1.131	1.151	1.113	1.018	1.280	1.173
May	1.186	1.022	1.070	1.048	0.961	0.819	1.112	1.031
Jun	0.919	0.926	0.945	0.926	0.870	0.746	0.980	0.902
Jul	0.902	0.878	0.901	0.876	0.817	0.700	0.861	0.848
Aug	0.825	0.868	0.874	0.845	0.801	0.681	0.826	0.817
Sep	0.914	0.878	0.941	0.946	0.873	0.707	0.910	0.881
Oct	0.958	0.880	0.946	0.909	0.864	0.712	0.936	0.886
Nov	1.096	1.030	1.027	0.929	1.077	0.910	1.125	1.028
Dec	1.367	1.033	1.003	1.016	0.976	1.018	1.669	1.155



## 2021 SEASONAL ADJUSTMENT FACTORS: AADT

The factors in the table below are the product of the Monthly Average Daily Traffic Factor and the Day of Week Factor (MADT x DOW). These combined factors are used to adjust short-term counts to an AADT.

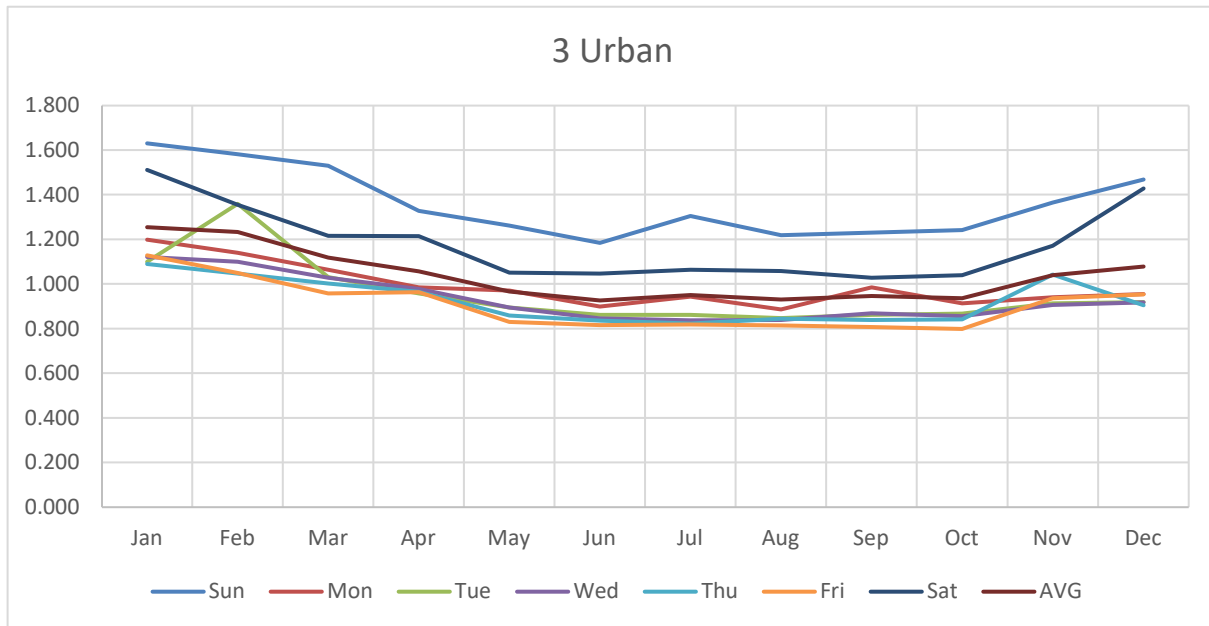
Monthly DOW Factors								
Group	2 Rural Non-Interstate							
From Year:	2021		To Year:		2021			
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	AVG
Jan	1.601	1.185	1.183	1.198	1.131	1.1	1.459	1.265
Feb	1.524	1.202	1.53	1.147	1.101	1.042	1.301	1.264
Mar	1.405	1.121	1.107	1.077	1.051	0.964	1.158	1.126
Apr	1.35	1.043	1.026	1.045	1.034	0.95	1.083	1.076
May	1.146	1.008	0.972	0.97	0.906	0.825	0.986	0.973
Jun	0.997	0.943	0.933	0.907	0.879	0.803	0.922	0.912
Jul	1.057	0.907	0.892	0.867	0.845	0.775	0.899	0.892
Aug	1.019	0.909	0.899	0.875	0.855	0.768	0.898	0.889
Sep	1.043	0.951	0.909	0.917	0.875	0.779	0.899	0.910
Oct	1.105	0.93	0.932	0.901	0.87	0.773	0.939	0.921
Nov	1.273	1.024	1.011	0.961	1.096	0.947	1.116	1.061
Dec	1.364	1.029	0.999	0.998	0.96	0.964	1.429	1.106



## 2021 SEASONAL ADJUSTMENT FACTORS: AADT

The factors in the table below are the product of the Monthly Average Daily Traffic Factor and the Day of Week Factor (MADT x DOW). These combined factors are used to adjust short-term counts to an AADT.

Monthly DOW Factors								
Group	3 Urban							
From Year:	2021	To Year:			2021			
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	AVG
Jan	1.630	1.199	1.099	1.121	1.090	1.129	1.512	1.254
Feb	1.581	1.139	1.359	1.099	1.046	1.049	1.354	1.232
Mar	1.530	1.064	1.031	1.028	1.002	0.957	1.216	1.118
Apr	1.328	0.985	0.958	0.977	0.965	0.963	1.214	1.056
May	1.261	0.971	0.894	0.894	0.859	0.830	1.050	0.966
Jun	1.185	0.898	0.861	0.845	0.836	0.816	1.046	0.927
Jul	1.304	0.943	0.862	0.838	0.824	0.819	1.064	0.951
Aug	1.218	0.886	0.848	0.839	0.844	0.814	1.058	0.930
Sep	1.230	0.984	0.862	0.869	0.839	0.807	1.029	0.946
Oct	1.241	0.913	0.867	0.855	0.842	0.799	1.039	0.937
Nov	1.364	0.940	0.913	0.906	1.042	0.936	1.171	1.039
Dec	1.468	0.954	0.919	0.918	0.904	0.953	1.427	1.078

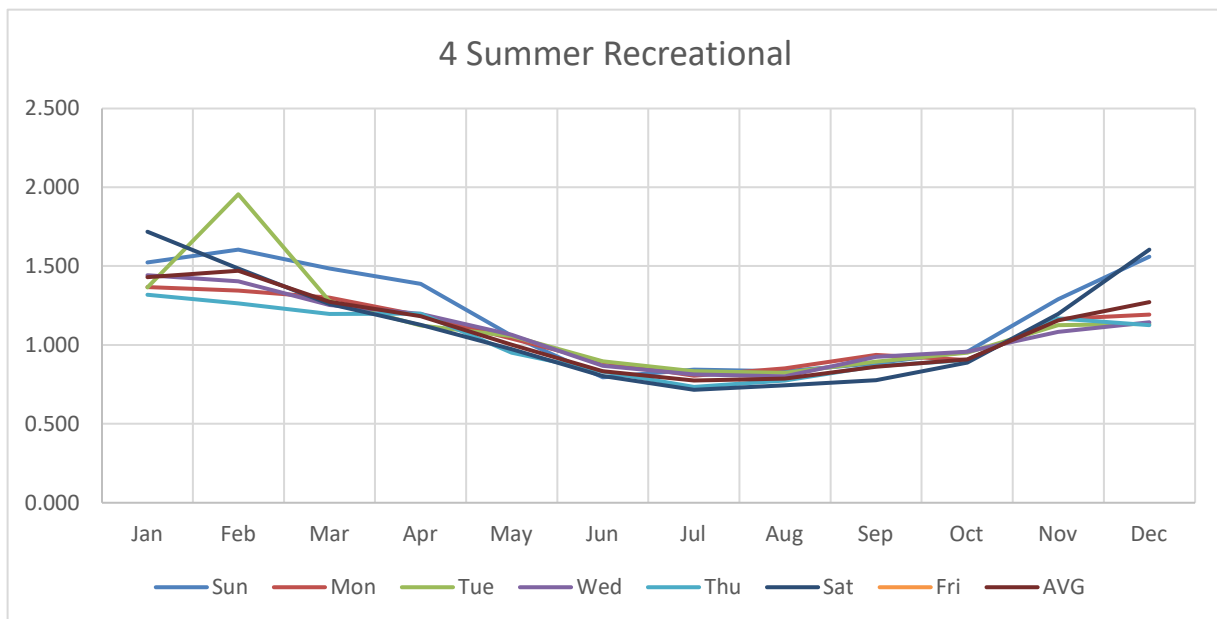


## 2021 SEASONAL ADJUSTMENT FACTORS: AADT

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Monthly DOW Factors								
Group	4 Summer Recreational							
From Year:	2021		To Year:			2021		
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	AVG
Jan	1.523	1.368	1.365	1.443	1.319	1.267	1.718	1.429
Feb	1.605	1.344	1.955	1.403	1.263	1.247	1.484	1.472
Mar	1.485	1.299	1.277	1.254	1.196	1.138	1.260	1.273
Apr	1.387	1.187	1.124	1.197	1.199	1.055	1.127	1.182
May	1.058	1.041	1.057	1.065	0.950	0.860	0.973	1.001
Jun	0.796	0.891	0.897	0.867	0.832	0.750	0.803	0.834
Jul	0.843	0.805	0.833	0.812	0.734	0.681	0.716	0.775
Aug	0.833	0.851	0.823	0.802	0.775	0.679	0.743	0.787
Sep	0.883	0.937	0.893	0.924	0.865	0.758	0.776	0.862
Oct	0.956	0.905	0.951	0.956	0.904	0.796	0.887	0.908
Nov	1.289	1.164	1.125	1.082	1.168	1.067	1.196	1.156
Dec	1.560	1.193	1.134	1.143	1.126	1.143	1.605	1.272

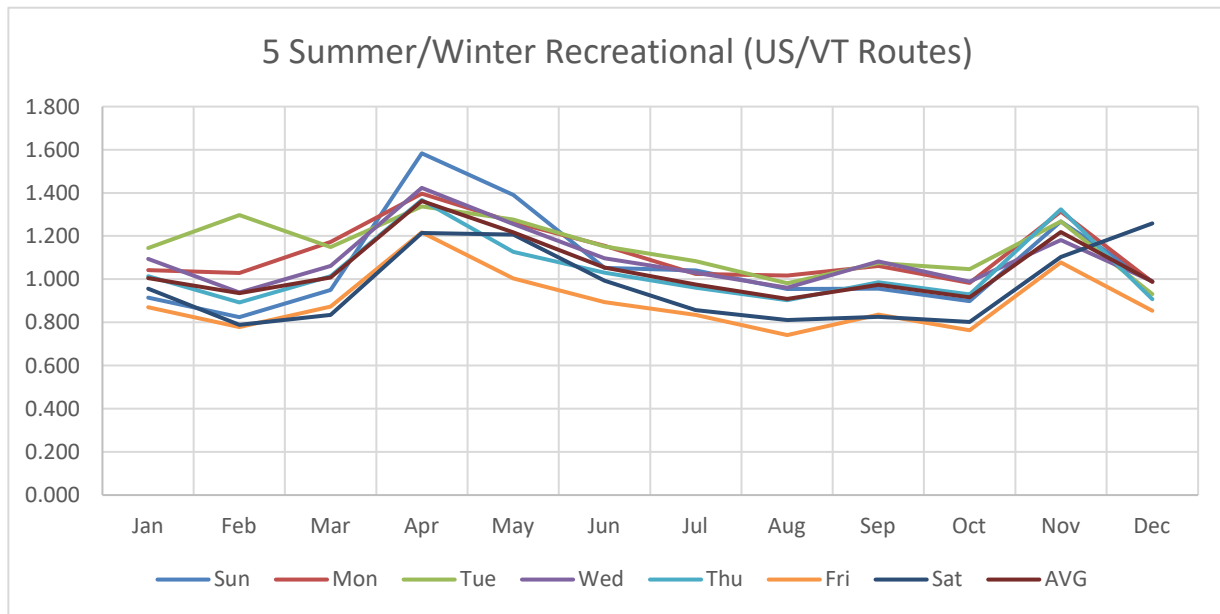
\* Low volumes due to bad weather generated high factor value of 4.068. Removed from graph to better display other factors.



## 2021 SEASONAL ADJUSTMENT FACTORS: AADT

The factors in the table below are the product of the Monthly Average Daily Traffic Factor and the Day of Week Factor (MADT x DOW). These combined factors are used to adjust short-term counts to an AADT.

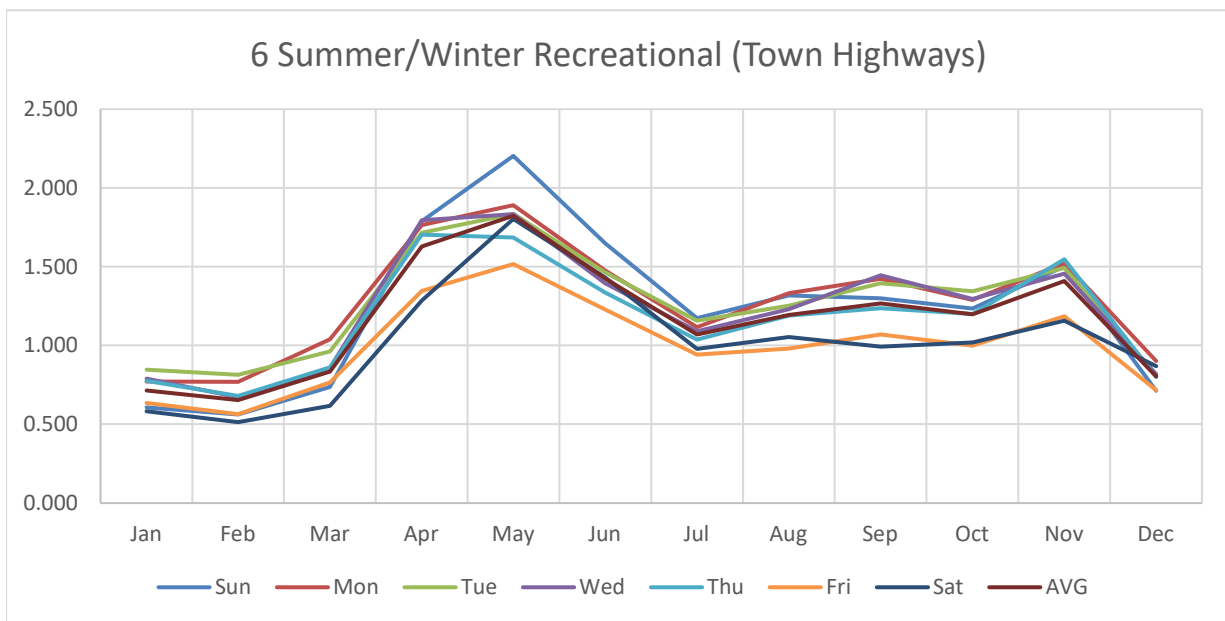
Monthly DOW Factors								
Group	5 Summer/Winter Recreational (US/VT Routes)							
From Year:	2021		To Year:			2021		
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	AVG
Jan	0.915	1.042	1.144	1.094	1.014	0.870	0.956	1.005
Feb	0.825	1.028	1.297	0.938	0.892	0.778	0.789	0.935
Mar	0.950	1.173	1.148	1.061	1.014	0.873	0.834	1.008
Apr	1.584	1.397	1.337	1.424	1.368	1.217	1.214	1.363
May	1.390	1.265	1.276	1.255	1.127	1.003	1.206	1.217
Jun	1.052	1.155	1.151	1.097	1.030	0.894	0.993	1.053
Jul	1.041	1.024	1.083	1.030	0.961	0.834	0.856	0.976
Aug	0.954	1.017	0.981	0.960	0.902	0.742	0.810	0.909
Sep	0.956	1.061	1.075	1.082	0.985	0.836	0.825	0.974
Oct	0.898	0.983	1.046	0.988	0.929	0.763	0.802	0.916
Nov	1.268	1.313	1.268	1.181	1.323	1.078	1.102	1.219
Dec	0.988	0.987	0.932	0.990	0.907	0.854	1.259	0.988



## 2021 SEASONAL ADJUSTMENT FACTORS: AADT

The factors in the table below are the product of the Monthly Average Daily Traffic Factor and the Day of Week Factor (MADT x DOW). These combined factors are used to adjust short-term counts to an AADT.

Monthly DOW Factors								
Group	6 Summer/Winter Recreational (Town Highways)							
From Year:	2021		To Year:		2021			
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	AVG
Jan	0.606	0.771	0.845	0.789	0.774	0.634	0.582	0.714
Feb	0.563	0.769	0.814	0.673	0.681	0.565	0.513	0.654
Mar	0.737	1.038	0.962	0.858	0.860	0.765	0.616	0.834
Apr	1.789	1.765	1.715	1.794	1.705	1.345	1.284	1.628
May	2.203	1.891	1.836	1.835	1.684	1.518	1.804	1.824
Jun	1.648	1.476	1.464	1.395	1.336	1.227	1.430	1.425
Jul	1.172	1.117	1.156	1.089	1.037	0.942	0.977	1.070
Aug	1.318	1.331	1.252	1.229	1.189	0.980	1.053	1.193
Sep	1.299	1.422	1.394	1.446	1.235	1.070	0.992	1.265
Oct	1.234	1.289	1.344	1.294	1.199	0.998	1.018	1.197
Nov	1.502	1.522	1.491	1.455	1.546	1.185	1.157	1.408
Dec	0.712	0.901	0.813	0.817	0.800	0.716	0.868	0.804



## 2021 SEASONAL ADJUSTMENT FACTORS: AAWDT

The factors in the table below are the product of the Monthly Average Weekday Traffic Factor and the Day of Week Factor (MAWDT x DOW). These combined factors are used to adjust short-term counts to an AAWDT.

Monthly Weekday DOW Factors						
Group	1 Rural Interstate					
From Year:	2021	To Year:			2021	
	Mon	Tue	Wed	Thu	Fri	AVG
Jan	1.272	1.327	1.347	1.243	1.185	1.275
Feb	1.286	1.807	1.253	1.169	1.083	1.320
Mar	1.265	1.249	1.204	1.143	1.010	1.174
Apr	1.174	1.165	1.187	1.148	1.052	1.145
May	1.055	1.102	1.081	0.991	0.846	1.015
Jun	0.956	0.974	0.955	0.898	0.770	0.911
Jul	0.906	0.929	0.904	0.842	0.724	0.861
Aug	0.896	0.902	0.872	0.828	0.705	0.840
Sep	0.908	0.970	0.976	0.900	0.731	0.897
Oct	0.909	0.975	0.937	0.892	0.736	0.890
Nov	1.064	1.059	0.959	1.113	0.942	1.027
Dec	1.127	1.054	1.039	1.008	1.014	1.048

Monthly DOW Factors						
Group	2 Rural Non-Interstate					
From Year:	2021	To Year:			2021	
	Mon	Tue	Wed	Thu	Fri	AVG
Jan	1.233	1.229	1.245	1.176	1.146	1.206
Feb	1.252	1.546	1.184	1.145	1.081	1.242
Mar	1.165	1.151	1.120	1.093	1.004	1.107
Apr	1.085	1.066	1.086	1.075	0.988	1.060
May	1.048	1.009	1.007	0.941	0.858	0.972
Jun	0.982	0.970	0.943	0.915	0.837	0.929
Jul	0.945	0.928	0.902	0.880	0.808	0.893
Aug	0.946	0.935	0.911	0.890	0.800	0.896
Sep	0.990	0.945	0.953	0.910	0.811	0.922
Oct	0.968	0.970	0.937	0.905	0.806	0.917
Nov	1.065	1.052	1.000	1.140	0.987	1.049
Dec	1.071	1.039	1.039	1.000	1.005	1.031



## 2021 SEASONAL ADJUSTMENT FACTORS: AAWDT

The factors in the table below are the product of the Monthly Average Weekday Traffic Factor and the Day of Week Factor (MAWDT x DOW). These combined factors are used to adjust short-term counts to an AAWDT.

Monthly DOW Factors						
Group		3 Urban				
From Year:		2021	To Year:		2021	
	Mon	Tue	Wed	Thu	Fri	AVG
Jan	1.292	1.184	1.207	1.174	1.217	1.215
Feb	1.228	1.464	1.184	1.127	1.130	1.227
Mar	1.147	1.112	1.109	1.083	1.034	1.097
Apr	1.062	1.032	1.053	1.040	1.038	1.045
May	1.045	0.962	0.962	0.925	0.893	0.957
Jun	0.967	0.928	0.911	0.901	0.879	0.917
Jul	1.023	0.927	0.904	0.887	0.882	0.924
Aug	0.955	0.913	0.905	0.909	0.877	0.912
Sep	1.061	0.929	0.936	0.904	0.869	0.940
Oct	0.983	0.933	0.920	0.907	0.860	0.921
Nov	1.013	0.983	0.976	1.110	1.008	1.018
Dec	1.028	0.991	0.990	0.974	1.028	1.002

Monthly DOW Factors						
Group		4 Summer Recreational				
From Year:		2021	To Year:		2021	
	Mon	Tue	Wed	Thu	Fri	AVG
Jan	1.376	1.371	1.449	1.326	1.276	1.360
Feb	1.357	1.975	1.420	1.278	1.264	1.459
Mar	1.305	1.283	1.260	1.203	1.147	1.239
Apr	1.200	1.135	1.210	1.213	1.067	1.165
May	1.053	1.068	1.075	0.961	0.870	1.006
Jun	0.902	0.907	0.877	0.842	0.760	0.857
Jul	0.815	0.843	0.821	0.742	0.691	0.782
Aug	0.861	0.832	0.811	0.784	0.688	0.795
Sep	0.949	0.902	0.933	0.875	0.768	0.885
Oct	0.915	0.961	0.966	0.915	0.807	0.913
Nov	1.167	1.090	1.064	1.145	1.071	1.107
Dec	1.208	1.147	1.156	1.141	1.159	1.162

## 2021 SEASONAL ADJUSTMENT FACTORS: AAWDT

The factors in the table below are the product of the Monthly Average Weekday Traffic Factor and the Day of Week Factor (MAWDT x DOW). These combined factors are used to adjust short-term counts to an AAWDT.

Monthly DOW Factors						
Group	5 Summer/Winter Recreational (US/VT Routes)					
From Year:	2021	To Year:			2021	
	Mon	Tue	Wed	Thu	Fri	AVG
Jan	1.029	1.129	1.081	1.001	0.860	1.020
Feb	1.016	1.284	0.927	0.881	0.769	0.975
Mar	1.157	1.133	1.047	1.001	0.861	1.040
Apr	1.373	1.315	1.399	1.344	1.196	1.325
May	1.305	1.267	1.246	1.110	0.985	1.183
Jun	1.133	1.129	1.076	1.012	0.878	1.045
Jul	0.949	1.011	1.004	0.937	0.792	0.939
Aug	0.999	0.964	0.943	0.886	0.729	0.904
Sep	1.043	1.057	1.063	0.968	0.822	0.990
Oct	0.973	1.017	0.957	0.910	0.741	0.920
Nov	1.290	1.246	1.161	1.300	1.058	1.211
Dec	0.971	0.917	0.976	0.893	0.842	0.920

Monthly DOW Factors						
Group	6 Summer/Winter Recreational (Town Highways)					
From Year:	2021	To Year:			2021	
	Mon	Tue	Wed	Thu	Fri	AVG
Jan	0.745	0.817	0.763	0.748	0.613	0.737
Feb	0.744	0.789	0.652	0.659	0.547	0.678
Mar	1.007	0.934	0.835	0.898	0.775	0.890
Apr	1.692	1.643	1.719	1.634	1.293	1.596
May	1.814	1.759	1.760	1.614	1.457	1.681
Jun	1.414	1.403	1.337	1.281	1.178	1.323
Jul	1.120	1.167	1.119	1.002	0.963	1.074
Aug	1.277	1.200	1.178	1.141	0.940	1.147
Sep	1.366	1.337	1.386	1.186	1.027	1.261
Oct	1.239	1.289	1.242	1.153	0.960	1.177
Nov	1.460	1.430	1.396	1.484	1.138	1.382
Dec	0.867	0.783	0.787	0.770	0.690	0.779

## VTRANS AXLE CORRECTION FACTORS

Axle correction factors are derived from continuous and short term vehicle classification counts. For short-term counts that are per axle, rather than per vehicle, axle correction factors are applied in addition to the seasonal adjustment factors to estimate AADTs.

Axle correction factors are grouped by Functional Class and Urban/Rural designation

### 2021 Summary

FC	Description	ACF
R1	Rural Interstate	0.939
R3	Rural Principal Arterial - Other	0.947
R4	Rural Minor Arterial	0.963
R5	Rural Major Collector	0.985
R6	Rural Minor Collector	0.978
R7	Rural Local	0.988
U1	Urban Interstate	0.940
U2	Urban Principal Arterial - Other Freeways and Expressways	0.991
U3	Urban Principal Arterial - Other	0.968
U4	Urban Minor Arterial	0.983
U5	Urban Major Collector	0.989
U6	Urban Minor Collector	0.986
U7	Urban Local	0.993

## 2016 TO 2021 GROWTH FACTORS

The 5-year growth factors shown in the tables below are based on AADTs from VTrans Continuous Traffic Counters (CTC). Each CTC is assigned to a Growth Factor Group and the factors for each group are calculated based on the average ratio of the AADT to the prior year AADT. Due to rounding, the Grown AADTs shown in MS2 may not agree exactly with AADTs calculated using the factors below.

Growth Factor Group 1: Rural - This is the default group if a location does not fit another group -						
To \ From	2016	2017	2018	2019	2020	2021
2017	1.010					
2018	0.997	0.987				
2019	0.997	0.987	1.001			
2020	0.845	0.837	0.848	0.847		
2021	0.958	0.948	0.961	0.960	1.133	

Growth Factor Group 2: Urban - For locations within a designated federal aid urban (FAU) area -						
To \ From	2016	2017	2018	2019	2020	2021
2017	0.999					
2018	0.996	0.997				
2019	0.988	0.989	0.992			
2020	0.814	0.814	0.817	0.823		
2021	0.912	0.913	0.915	0.923	1.121	

Growth Factor Group 3: Interstate - For locations on I-89, I-91 or I-93 -						
To \ From	2016	2017	2018	2019	2020	2021
2017	1.016					
2018	1.010	0.994				
2019	1.034	1.018	1.024			
2020	0.776	0.763	0.768	0.750		
2021	0.876	0.862	0.867	0.846	1.129	

Growth Factor Group 4: Ski - For locations on ski access roads -						
To \ From	2016	2017	2018	2019	2020	2021
2017	1.072					
2018	1.084	1.011				
2019	1.087	1.014	1.003			
2020	0.943	0.879	0.870	0.867		
2021	1.080	1.007	0.997	0.993	1.146	

<p>Example: Project the 2016 AADT at A016 on VT 22A to Year 2021</p> <p>2016 AADT = 3,913</p> <p><math>GF_1(2016 \rightarrow 2021) = 0.958</math></p> <p>2021 AADT = <math>3,913 \times 0.958 = 3,749</math></p>
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**Vermont Agency of Transportation  
Traffic Research  
20-YEAR Growth Factor Table**

The 2021 to 2041 AADT growth factor is 1.10 for all Vermont locations.

For projecting current year AADTs to a future year, use the table below:

TO FUTURE YEAR	FROM CURRENT YEAR	
	2021	2022
2021	1.000	
2022	1.005	1.000
2023	1.010	1.005
2024	1.015	1.010
2025	1.020	1.015
2026	1.025	1.020
2027	1.030	1.025
2028	1.035	1.030
2029	1.040	1.035
2030	1.045	1.040
2031	1.050	1.045
2032	1.055	1.050
2033	1.060	1.055
2034	1.065	1.060
2035	1.070	1.065
2036	1.075	1.070
2037	1.080	1.075
2038	1.085	1.080
2039	1.090	1.085
2040	1.095	1.090
2041	1.100	1.095
2042	1.105	1.100
2043	1.110	1.105
2044	1.115	1.110
2045	1.120	1.115
2046	1.125	1.120

## ESTIMATING DESIGN HOUR VOLUMES

To determine the Design Hour Volume (DHV), normally the 30<sup>th</sup> highest hourly volume of the year, consider using one of the methods described below. No one method fits every location, so it can be helpful to estimate the DHV using several methods and then compare the results with each other and with any available raw hourly data to gauge whether the value is likely in the neighborhood of the 30<sup>th</sup> highest hour of the year.

1. If the project is located in the vicinity of a VTrans Continuous Traffic Counter (CTC), apply the %K value from a VTrans Continuous Traffic Counter to the AADT. The %K values are listed on the CTC Summary page of the Redbook.
2. For projects not located near a CTC site, use the DHV Chart on the following pages to select the predicted DHV from an AADT based on the seasonal factor group. The seasonal factor groups are defined at the beginning of the Redbook. For any particular traffic counter, the seasonal factor group (SF Group) is shown in the VTrans Traffic Data Management System. Refer to the [VTrans Traffic Data](#) webpage for a link to the system and guidance on navigating the system.
3. If VTrans has conducted a short-term count in the project area, consider using the #1 high hour of the count as the DHV. This is the value that appears in the VTrans Traffic Data Management System's DHV-30 field for count locations not designated as permanent. (This value is only shown for counts done since 2015.) The highest hour may or may not be a reasonable DHV estimate depending on when the short-count was done.

For Locations designated as Permanent (Continuous Traffic Counters), the DHV-30 value is the 30<sup>th</sup> highest hourly volume recorded for the year. This should agree with the DHV listed in the Redbook. However, if the counter did not run for most of an entire year, the DHV will not be in the Redbook and the DHV-30 value may or may not be a good DHV estimate, depending on when the counter was running.

4. Depending on when the count was done, the peak hour volume from a turning movement count may be a reasonable DHV estimate.

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate	Rural Non-Interstate	Urban	Summer Recreational	Summer/Winter Recreational	Summer/Winter Recreational TH
AADT	SF1	SF2	SF3	SF4	SF5	SF6
0	0	0	0	0	0	0
5	1	1	1	1	1	3
10	1	2	1	1	3	5
15	2	2	2	2	4	8
20	3	3	2	3	5	10
25	4	4	3	4	7	15
30	4	5	4	4	8	15
35	5	6	4	5	9	20
40	6	6	5	6	10	20
45	6	7	6	7	10	25
50	7	8	6	7	15	25
55	8	9	7	8	15	30
60	8	9	7	9	15	30
65	9	10	8	10	15	35
70	10	10	9	10	20	35
75	10	10	9	10	20	40
80	10	15	10	10	20	40
85	10	15	10	10	25	45
90	15	15	10	15	25	45
95	15	15	10	15	25	50
100	15	15	10	15	25	50
110	15	15	15	15	30	60
120	15	20	15	20	30	65
130	20	20	15	20	35	70
140	20	20	15	20	35	75
150	20	25	20	20	40	80
160	25	25	20	25	45	85
170	25	25	20	25	45	90
180	25	30	20	25	50	95
190	25	30	25	30	50	100
200	30	30	25	30	55	100
210	30	35	25	30	55	110
220	30	35	25	30	60	120
230	35	35	30	35	60	120
240	35	40	30	35	65	130
250	35	40	30	35	65	130
260	35	40	30	40	70	140
270	40	45	35	40	70	140
280	40	45	35	40	75	150
290	40	45	35	40	75	150
300	40	45	35	45	80	160
310	45	50	40	45	80	160

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate	Rural Non-Interstate	Urban	Summer Recreational	Summer/Winter Recreational	Summer/Winter Recreational TH
AADT	SF1	SF2	SF3	SF4	SF5	SF6
320	45	50	40	45	85	170
330	45	50	40	50	90	170
340	50	55	40	50	90	180
350	50	55	45	50	95	180
360	50	55	45	55	95	190
370	50	60	45	55	100	190
380	55	60	45	55	100	200
390	55	60	50	55	100	200
400	55	65	50	60	110	210
410	60	65	50	60	110	210
420	60	65	50	60	110	210
430	60	70	55	65	110	210
440	60	70	55	65	120	210
450	65	70	55	65	120	210
460	65	75	55	65	120	210
470	65	75	60	70	120	210
480	70	75	60	70	130	220
490	70	75	60	70	130	220
500	70	80	60	75	130	220
510	70	80	65	75	140	220
520	75	80	65	75	140	220
530	75	85	65	75	140	220
540	75	85	65	80	140	220
550	80	85	70	80	150	220
560	80	90	70	80	150	220
570	80	90	70	85	150	220
580	80	90	70	85	150	220
590	85	95	75	85	160	220
600	85	95	75	90	160	220
610	85	95	75	90	160	220
620	90	100	75	90	160	230
630	90	100	80	90	170	230
640	90	100	80	95	170	230
650	90	100	80	95	170	230
660	95	100	80	95	180	230
670	95	110	85	100	180	230
680	95	110	85	100	180	230
690	100	110	85	100	180	230
700	100	110	85	100	190	230
710	100	110	90	100	190	230
720	100	110	90	110	190	230
730	100	110	90	110	190	230



**2021 Redbook DHV Chart**

Predicted DHV by Seasonal Factor Group by AADT						
	Rural Interstate	Rural Non-Interstate	Urban	Summer Recreational	Summer/Winter Recreational	Summer/Winter Recreational TH
AADT	SF1	SF2	SF3	SF4	SF5	SF6
740	100	110	90	110	200	230
750	110	110	90	110	200	240
760	110	120	95	110	200	240
770	110	120	95	110	200	240
780	110	120	95	110	210	240
790	110	120	95	120	210	240
800	110	120	100	120	210	240
810	110	120	100	120	210	240
820	120	120	100	120	210	240
830	120	120	100	120	210	240
840	120	120	100	120	210	240
850	120	120	100	130	210	240
860	120	120	110	130	220	250
870	120	130	110	130	220	250
880	120	130	110	130	220	250
890	130	130	110	130	220	250
900	130	130	110	130	220	250
910	130	130	110	130	220	250
920	130	130	110	140	220	250
930	130	130	110	140	220	250
940	130	130	120	140	220	260
950	130	130	120	140	220	260
960	140	130	120	140	230	260
970	140	130	120	140	230	260
980	140	140	120	150	230	260
990	140	140	120	150	230	260
1000	140	140	120	150	230	270
1100	160	150	140	160	240	280
1200	170	160	150	180	250	310
1300	180	160	160	200	260	340
1400	200	170	170	210	270	370
1500	210	180	180	230	290	400
1600	230	190	200	250	300	440
1700	240	200	210	260	310	480
1800	250	210	220	280	330	520
1900	270	220	230	300	340	560
2000	280	230	250	310	350	590
2100	300	240	260	330	370	620
2200	310	250	270	340	380	650
2300	330	260	280	360	390	670
2400	340	270	300	370	400	690
2500	350	290	310	380	410	710

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate	Rural Non-Interstate	Urban	Summer Recreational	Summer/Winter Recreational	Summer/Winter Recreational TH
AADT	SF1	SF2	SF3	SF4	SF5	SF6
2600	370	300	320	390	420	730
2700	380	310	330	400	430	750
2800	400	320	350	410	440	770
2900	410	340	360	420	440	790
3000	420	350	370	430	450	810
3100	440	360	380	440	460	820
3200	450	380	390	450	470	840
3300	470	390	410	460	480	850
3400	480	400	420	480	490	860
3500	500	410	430	490	510	860
3600	510	420	440	510	520	870
3700	520	440	460	530	540	870
3800	540	450	470	550	550	880
3900	550	460	480	570	570	880
4000	570	470	490	580	590	880
4100	580	480	500	600	600	890
4200	590	490	520	600	620	890
4300	590	500	530	610	630	900
4400	600	510	540	620	650	900
4500	610	520	550	630	670	910
4600	620	530	560	640	690	920
4700	630	540	580	650	710	930
4800	640	550	590	660	730	950
4900	650	560	600	670	750	960
5000	660	570	610	690	770	980
5100	670	590	620	700	790	990
5200	680	600	630	720	810	1000
5300	690	610	650	740	820	1000
5400	700	630	660	760	830	1100
5500	710	640	670	780	850	1100
5600	720	650	680	790	860	1100
5700	720	660	690	810	870	1100
5800	730	670	700	830	890	1100
5900	740	680	710	850	900	1200
6000	750	690	720	870	920	1200
6100	760	700	730	890	940	1200
6200	770	710	750	900	960	1200
6300	780	710	760	920	980	1200
6400	790	720	770	930	990	1300
6500	800	730	780	940	1000	1300
6600	810	740	790	940	1000	1300
6700	820	740	800	950	1000	1300

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate	Rural Non-Interstate	Urban	Summer Recreational	Summer/Winter Recreational	Summer/Winter Recreational TH
AADT	SF1	SF2	SF3	SF4	SF5	SF6
6800	830	750	810	950	1000	1300
6900	840	760	820	960	1000	
7000	850	770	830	960	1100	
7100	860	790	840	960	1100	
7200	870	800	850	960	1100	
7300	870	810	860	970	1100	
7400	880	820	870	970	1100	
7500	890	840	880	970	1100	
7600	900	850	890	970	1100	
7700	910	860	900	970	1100	
7800	920	880	910	970	1100	
7900	930	890	920	980	1100	
8000	940	900	930	980	1100	
8100	950	920	940	990	1100	
8200	960	930	950	990	1100	
8300	970	950	960	1000	1100	
8400	980	960	970	1000	1100	
8500	990	980	980	1000	1100	
8600	1000	990	990	1000	1100	
8700	1000	1000	1000	1000	1100	
8800	1000	1000	1000	1000	1100	
8900	1000	1000	1000	1100	1100	
9000	1000	1000	1000	1100	1100	
9100	1100	1100	1000	1100	1100	
9200	1100	1100	1100	1100	1100	
9300	1100	1100	1100	1100	1100	
9400	1100	1100	1100	1100	1200	
9500	1100	1100	1100	1100	1200	
9600	1100	1100	1100	1100	1200	
9700	1100	1100	1100	1100	1200	
9800	1100	1100	1100	1100	1200	
9900	1200	1100	1100	1100	1200	
10000	1200	1200	1100	1200	1200	
10100	1200	1200	1100	1200	1300	
10200	1200	1200	1200		1300	
10300	1200	1200	1200		1300	
10400	1200	1200	1200		1300	
10500	1200	1200	1200		1300	
10600	1300	1200	1200		1300	
10700	1300	1200	1200		1400	
10800	1300	1200	1200		1400	
10900	1300	1200	1200		1400	

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate	Rural Non-Interstate	Urban	Summer Recreational	Summer/Winter Recreational	Summer/Winter Recreational TH
AADT	SF1	SF2	SF3	SF4	SF5	SF6
11000	1300	1200	1200		1400	
11100	1300	1200	1200		1400	
11200	1400	1200	1300		1400	
11300	1400	1200	1300		1500	
11400	1400	1200	1300		1500	
11500	1400	1200	1300		1500	
11600	1400	1200	1300		1500	
11700	1400	1200	1300		1500	
11800	1500	1200	1300		1500	
11900	1500	1200	1300		1500	
12000	1500	1300	1300		1600	
12100	1500	1300	1300		1600	
12200	1500	1300	1400			
12300	1500	1300	1400			
12400	1600	1300	1400			
12500	1600	1300	1400			
12600	1600	1300	1400			
12700	1600	1300	1400			
12800	1600	1300	1400			
12900	1600	1300	1400			
13000	1700	1300	1400			
13100	1700	1400	1400			
13200	1700	1400	1500			
13300	1700	1400	1500			
13400	1700	1400	1500			
13500	1700	1400	1500			
13600	1800		1500			
13700	1800		1500			
13800	1800		1500			
13900	1800		1500			
14000	1800		1500			
14100	1900		1500			
14200	1900		1500			
14300	1900		1600			
14400	1900		1600			
14500	1900		1600			
14600	2000		1600			
14700	2000		1600			
14800	2000		1600			
14900	2000		1600			
15000	2000		1600			
15100	2100		1600			

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate SF1	Rural Non-Interstate SF2	Urban SF3	Summer Recreational SF4	Summer/Winter Recreational SF5	Summer/Winter Recreational TH SF6
<b>AADT</b>						
15200	2100		1600			
15300	2100		1600			
15400	2100		1600			
15500	2100		1600			
15600	2200		1600			
15700	2200		1600			
15800	2200		1600			
15900	2200		1700			
16000	2300		1700			
16100	2300		1700			
16200	2300		1700			
16300	2300		1700			
16400	2300		1700			
16500	2300		1700			
16600	2400		1700			
16700	2400		1700			
16800	2400		1700			
16900	2400		1700			
17000	2400		1700			
17100	2500		1700			
17200	2500		1700			
17300	2500		1700			
17400	2500		1700			
17500	2500		1700			
17600	2500		1700			
17700	2500		1700			
17800	2500		1700			
17900	2600		1800			
18000	2600		1800			
18100	2600		1800			
18200	2600		1800			
18300	2600		1800			
18400	2600		1800			
18500	2600		1800			
18600	2600		1800			
18700	2600		1800			
18800	2600		1800			
18900	2600		1800			
19000	2600		1800			
19100	2600		1900			
19200	2600		1900			
19300	2600		1900			

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate SF1	Rural Non-Interstate SF2	Urban SF3	Summer Recreational SF4	Summer/Winter Recreational SF5	Summer/Winter Recreational TH SF6
<b>AADT</b>	<b>SF1</b>	<b>SF2</b>	<b>SF3</b>	<b>SF4</b>	<b>SF5</b>	<b>SF6</b>
19400	2600		1900			
19500	2700		1900			
19600	2700		1900			
19700	2700		1900			
19800	2700		1900			
19900	2700		1900			
20000	2700		1900			
20100	2700		2000			
20200	2700		2000			
20300	2700		2000			
20400	2700		2000			
20500	2700		2000			
20600	2700		2000			
20700	2700		2000			
20800	2700		2000			
20900	2700		2100			
21000	2700		2100			
21100	2700		2100			
21200	2700		2100			
21300	2700		2100			
21400	2700		2100			
21500	2700		2100			
21600	2700		2200			
21700	2700		2200			
21800	2700		2200			
21900	2700		2200			
22000	2700		2200			
22100	2700		2200			
22200	2700		2200			
22300	2700		2300			
22400	2700		2300			
22500	2700		2300			
22600	2700		2300			
22700	2700		2300			
22800	2700		2300			
22900	2800		2300			
23000	2800		2400			
23100	2800		2400			
23200	2800		2400			
23300	2800		2400			
23400	2800		2400			
23500	2800		2400			

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate SF1	Rural Non-Interstate SF2	Urban SF3	Summer Recreational SF4	Summer/Winter Recreational SF5	Summer/Winter Recreational TH SF6
<b>AADT</b>						
23600	2800		2500			
23700	2800		2500			
23800	2800		2500			
23900	2800		2500			
24000	2800		2500			
24100	2900		2500			
24200	2900		2500			
24300	2900		2600			
24400	2900		2600			
24500	2900		2600			
24600	2900		2600			
24700	2900		2600			
24800	2900		2600			
24900	2900		2700			
25000	2900		2700			
25100	2900		2700			
25200	3000		2700			
25300	3000		2700			
25400	3000		2700			
25500	3000		2800			
25600	3000		2800			
25700	3000		2800			
25800	3000		2800			
25900	3000		2800			
26000	3000		2800			
26100	3000		2900			
26200	3100		2900			
26300	3100		2900			
26400	3100		2900			
26500	3100		2900			
26600	3100		2900			
26700	3100		3000			
26800	3100		3000			
26900	3100		3000			
27000	3100		3000			
27100	3100		3000			
27200	3100		3000			
27300	3200		3100			
27400	3200		3100			
27500	3200		3100			
27600	3200		3100			
27700	3200		3100			

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate SF1	Rural Non-Interstate SF2	Urban SF3	Summer Recreational SF4	Summer/Winter Recreational SF5	Summer/Winter Recreational TH SF6
27800	3200		3100			
27900	3200		3100			
28000	3200		3200			
28100	3200		3200			
28200	3200		3200			
28300	3300		3200			
28400	3300		3200			
28500	3300		3200			
28600	3300		3200			
28700	3300		3300			
28800	3300		3300			
28900	3300		3300			
29000	3300		3300			
29100	3300		3300			
29200	3300		3300			
29300	3400		3300			
29400	3400		3400			
29500	3400		3400			
29600	3400		3400			
29700	3400		3400			
29800	3400		3400			
29900	3400		3400			
30000	3400		3400			
30100	3400		3400			
30200	3400		3500			
30300	3400		3500			
30400	3500		3500			
30500	3500		3500			
30600	3500		3500			
30700	3500		3500			
30800	3500		3500			
30900	3500		3500			
31000	3500		3500			
31100			3600			
31200			3600			
31300			3600			
31400			3600			
31500			3600			
31600			3600			
31700			3600			
31800			3600			
31900			3600			



**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate SF1	Rural Non-Interstate SF2	Urban SF3	Summer Recreational SF4	Summer/Winter Recreational SF5	Summer/Winter Recreational TH SF6
AADT						
32000			3600			
32100			3600			
32200			3700			
32300			3700			
32400			3700			
32500			3700			
32600			3700			
32700			3700			
32800			3700			
32900			3700			
33000			3700			
33100			3700			
33200			3700			
33300			3700			
33400			3800			
33500			3800			
33600			3800			
33700			3800			
33800			3800			
33900			3800			
34000			3800			
34100			3800			
34200			3800			
34300			3800			
34400			3800			
34500			3800			
34600			3800			
34700			3800			
34800			3800			
34900			3900			
35000			3900			
35100			3900			
35200			3900			
35300			3900			
35400			3900			
35500			3900			
35600			3900			
35700			3900			
35800			3900			
35900			3900			
36000			3900			
36100			3900			

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate SF1	Rural Non-Interstate SF2	Urban SF3	Summer Recreational SF4	Summer/Winter Recreational SF5	Summer/Winter Recreational TH SF6
AADT						
36200			3900			
36300			3900			
36400			3900			
36500			4000			
36600			4000			
36700			4000			
36800			4000			
36900			4000			
37000			4000			
37100			4000			
37200			4000			
37300			4000			
37400			4000			
37500			4000			
37600			4000			
37700			4000			
37800			4000			
37900			4000			
38000			4100			
38100			4100			
38200			4100			
38300			4100			
38400			4100			
38500			4100			
38600			4100			
38700			4100			
38800			4100			
38900			4100			
39000			4100			
39100			4100			
39200			4100			
39300			4200			
39400			4200			
39500			4200			
39600			4200			
39700			4200			
39800			4200			
39900			4200			
40000			4200			
40100			4200			
40200			4200			
40300			4200			

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate SF1	Rural Non-Interstate SF2	Urban SF3	Summer Recreational SF4	Summer/Winter Recreational SF5	Summer/Winter Recreational TH SF6
AADT						
40400			4200			
40500			4300			
40600			4300			
40700			4300			
40800			4300			
40900			4300			
41000			4300			
41100			4300			
41200			4300			
41300			4300			
41400			4300			
41500			4400			
41600			4400			
41700			4400			
41800			4400			
41900			4400			
42000			4400			
42100			4400			
42200			4400			
42300			4400			
42400			4400			
42500			4400			
42600			4500			
42700			4500			
42800			4500			
42900			4500			
43000			4500			
43100			4500			
43200			4500			
43300			4500			
43400			4500			
43500			4500			
43600			4600			
43700			4600			
43800			4600			
43900			4600			
44000			4600			
44100			4600			
44200			4600			
44300			4600			
44400			4600			
44500			4700			

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate SF1	Rural Non-Interstate SF2	Urban SF3	Summer Recreational SF4	Summer/Winter Recreational SF5	Summer/Winter Recreational TH SF6
AADT						
44600			4700			
44700			4700			
44800			4700			
44900			4700			
45000			4700			
45100			4700			
45200			4700			
45300			4700			
45400			4700			
45500			4800			
45600			4800			
45700			4800			
45800			4800			
45900			4800			
46000			4800			
46100			4800			
46200			4800			
46300			4800			
46400			4900			
46500			4900			
46600			4900			
46700			4900			
46800			4900			
46900			4900			
47000			4900			
47100			4900			
47200			5000			
47300			5000			
47400			5000			
47500			5000			
47600			5000			
47700			5000			
47800			5000			
47900			5000			
48000			5000			
48100			5100			
48200			5100			
48300			5100			
48400			5100			
48500			5100			
48600			5100			
48700			5100			

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate SF1	Rural Non-Interstate SF2	Urban SF3	Summer Recreational SF4	Summer/Winter Recreational SF5	Summer/Winter Recreational TH SF6
AADT						
48800			5100			
48900			5200			
49000			5200			
49100			5200			
49200			5200			
49300			5200			
49400			5200			
49500			5200			
49600			5200			
49700			5300			
49800			5300			
49900			5300			
50000			5300			
50100			5300			
50200			5300			
50300			5300			
50400			5300			
50500			5300			
50600			5400			
50700			5400			
50800			5400			
50900			5400			
51000			5400			
51100			5400			
51200			5400			
51300			5400			
51400			5500			
51500			5500			
51600			5500			
51700			5500			
51800			5500			
51900			5500			
52000			5500			
52100			5500			
52200			5600			
52300			5600			
52400			5600			
52500			5600			
52600			5600			
52700			5600			
52800			5600			
52900			5600			

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate SF1	Rural Non-Interstate SF2	Urban SF3	Summer Recreational SF4	Summer/Winter Recreational SF5	Summer/Winter Recreational TH SF6
AADT						
53000			5600			
53100			5700			
53200			5700			
53300			5700			
53400			5700			
53500			5700			
53600			5700			
53700			5700			
53800			5700			
53900			5700			
54000			5800			
54100			5800			
54200			5800			
54300			5800			
54400			5800			
54500			5800			
54600			5800			
54700			5800			
54800			5800			
54900			5900			
55000			5900			
55100			5900			
55200			5900			
55300			5900			
55400			5900			
55500			5900			
55600			5900			
55700			5900			
55800			5900			
55900			6000			
56000			6000			
56100			6000			
56200			6000			
56300			6000			
56400			6000			
56500			6000			
56600			6000			
56700			6000			
56800			6000			
56900			6100			
57000			6100			
57100			6100			

**2021 Redbook DHV Chart**

<b>Predicted DHV by Seasonal Factor Group by AADT</b>						
	Rural Interstate SF1	Rural Non-Interstate SF2	Urban SF3	Summer Recreational SF4	Summer/Winter Recreational SF5	Summer/Winter Recreational TH SF6
AADT						
57200			6100			
57300			6100			
57400			6100			
57500			6100			
57600			6100			
57700			6100			
57800			6100			
57900			6200			
58000			6200			
58100			6200			
58200			6200			
58300			6200			
58400			6200			
58500			6200			
58600			6200			
58700			6200			
58800			6300			
58900			6300			
59000			6300			
59100			6300			
59200			6300			
59300			6300			
59400			6300			
59500			6300			
59600			6300			
59700			6300			
59800			6400			
59900			6400			
60000			6400			
60100			6400			
60200			6400			
60300			6400			
60400			6400			
60500			6400			
60600			6400			
60700			6400			
60800			6500			
60900			6500			
61000			6500			