



Town Council Agenda Report

Date: January 28, 2020 Item No. 6

To: Honorable Mayor and Town Council

Subject: INTRODUCE ORDINANCE NO. 526 "AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF APPLE VALLEY, CALIFORNIA, AMENDING CHAPTER 12.20., ENTITLED "SPECIAL SPEED LIMITS" OF TITLE 12 OF THE TOWN OF APPLE VALLEY MUNICIPAL CODE"

From: Douglas Robertson, Town Manager

Submitted by: Brad Miller, Town Engineer
Engineering Department

Budgeted Item: Yes No N/A

RECOMMENDED ACTION

- A. Move to waive the reading of Ordinance No. 526 in its entirety and read by title only.
- B. Move to Introduce No. 526 "An Ordinance of the Town Council of the Town of Apple Valley, California, amending Chapter 12.20., entitled "special speed limits" of Title 12 of the Town of Apple Valley Municipal Code."

BACKGROUND

In order to enforce speed zones with radar, the California Vehicle Code (CVC) requires that speed zones be established by Engineering and Traffic Surveys. The Vehicle Code allows the local authorities the ability, based on these Engineering and Traffic Surveys, to determine the prima facie speed limits to "facilitate the orderly movement of vehicular traffic to that which is reasonable and safe." The proposed ammendment will adjust the existing speed limit on one segment of Flathead Road, between State Highway 18 and Ramona Avenue.

ANALYSIS

The Engineering and Traffic Survey was completed on the identified street segment, and the proposed speed limit complies with the guidelines of the California Manual on Uniform

Traffic Control Devices (CA MUTCD) for the establishment of speed limits. Speed limits should be set preferably at or near the 85th percentile speed, which is defined as that speed at or below which 85 percent of the traffic is moving.

Considering CA MUTCD guidelines for establishing speed limits based on the prevailing speed of traffic and the justifications outlined in the attached Engineering and Traffic Survey, it is appropriate to apply a 5 mph reduction to the nearest 5 mph increment of the 85th percentile speed.

<u>Name of Street</u>	<u>Portion Affected</u>	<u>Declared Speed Limit (in miles per hour)</u>
Flathead Road	Highway 18 to Ramona Avenue	45

FISCAL IMPACT

To facilitate the change of speed limit the new signs will come from our sign inventory, and the current signs will go back into the sign inventory. Other than the staff time required to make the change, there is no fiscal impact to make the adjustment.

ORDINANCE NO. 526

**AN ORDINANCE OF THE TOWN COUNCIL OF THE
TOWN OF APPLE VALLEY, CALIFORNIA,
AMENDING CHAPTER 12.20, ENTITLED "SPECIAL
SPEED LIMITS" OF TITLE 12 OF THE TOWN OF
APPLE VALLEY MUNICIPAL CODE**

The Town Council of the Town of Apple Valley does ordain as follows:

Section 1. Chapter 12.20 entitled "SPECIAL SPEED LIMITS" of Title 12 of the Town of Apple Valley Municipal Code is hereby amended to read as follows:

"Chapter 12.20
SPECIAL SPEED LIMITS

12.20.010 Basis Of Change Or Determination..... The prima facie speed limit declared for each street or portion thereof designated in section 12.20.020 is a speed limit which is either an increase from the prima facie speed limit or a decrease from the maximum speed limit otherwise applicable to such street or portion thereof pursuant to Chapter 7 of Division 11 of the Vehicle Code of the State (commencing at section 22348 thereof). The increase or decrease has been determined upon the basis of an engineering and traffic survey. For each street or portion thereof upon which an increase in the prima facie speed limit (otherwise applicable) has been declared, a determination has been made that the increased declared prima facie speed limit is the most appropriate to facilitate the orderly movement of traffic and is reasonable and safe. For each street or portion thereof upon which a decrease from the maximum speed limit (otherwise applicable) has been made and a lower speed limit declared as the prima facie speed limit, a determination has been made that the maximum speed limit (otherwise applicable) is more than is reasonable or safe, and that the declared prima facie speed limit is most appropriate to facilitate the orderly movement of traffic and is reasonable and safe.

12.20.020 Changes In State Law Speed Limits..... The prima facie speed limit declared in this section for each street or portion of a street designated shall be effective from and after the posting of appropriate signs giving notice thereof. The names of the streets upon which special prima facie speed limits are hereby declared, the portion of such streets affected by the declaration, and the declared prima facie speed limits therefor is as follows:

<u>Name of Street</u>	<u>Portion Affected</u>	<u>Declared Prima Facie Speed Limit (in miles per hour)</u>
Algonquin Road	From Bear Valley Road to Sitting Bull Road	35
Apple Valley Road	From Bear Valley Road to Town Center Drive	50
Apple Valley Road	From Bear Valley Road to Pimlico Road	50
Apple Valley Road	From Pimlico Road to Yucca Loma Road	55
Apple Valley Road	From Yucca Loma Road To State Hwy 18	55
Apple Valley Road	From Town Center Drive To Arroyo Mesa Lane	45
Bear Valley Road	From the Western Town Limits to the Lowe's Entrance Signal	50
Bear Valley Road	From the Lowe's Entrance Signal to Kiowa Road	55
Bear Valley Road	From Kiowa Road To Navajo Road	55
Bear Valley Road	From Navajo Road To Eastern Town Limits	55
Central Road	From Bear Valley Road to Highway 18	55
Dale Evans Pkwy	From Highway 18 to Thunderbird Road	45
Del Oro Road	From Apple Valley Road to Deep Creek Road	45
Flathead Road	Tonawanda Road to Highway 18	45
Flathead Road	Highway 18 to Ramona Avenue	45

Iroquois Road	From Pah-Ute Road to Rancherias Road	35
Jess Ranch Parkway	From Town Center Drive to Bear Valley Road	35
Kamana Road	From Apple Valley Road to Tao Road	45
Kiowa Road	From Bear Valley Road to State Highway 18	45
Kiowa Road	From Highway 18 to Navajo Road	45
Kiowa Road	From Bear Valley Road to Tussing Ranch Road	50
Mohawk Road	Tussing Ranch Road to Bear Valley Road	50
Mondamon Road	From Highway 18 to Apple Valley Road	45
Navajo Road	From State Highway 18 to Ottawa Road	40
Navajo Road	From Bear Valley Road to Ottawa Road	50
Navajo Road	From State Highway 18 to 300'- North of Pineridge Road	45
Navajo Road	300'- North of Pineridge Road to Thunderbird Road	50
Otoe Road	From Rancherias Road to Dale Evans Parkway	50
Ottawa Road	From Rincon Road to Kiowa Road	40
Ottawa Road	From Kiowa Road to Navajo Road	45
Powhatan Road	From Navajo Road to Central	45

	Road	
Ramona Road	From Navajo Road to Central Road	45
Rancherias Road	From Highway 18 to Tomahawk Road	45
Rancherias Road	From Tomahawk Road to Erie Road	35
Rancherias Road	From Erie Road to Yucca Loma Road	45
Rimrock Road East	From Highway 18 to Rancherias Road	45
Rincon Road	From Sitting Bull Road to Rancherias Road	45
Riverside Drive	From Sahale Lane to Branding Iron Road	40
Seneca Road	From Apple Valley Road to Rancherias Road	45
Shoshonee Road	From Apple Valley Road to Seminole Road	45
Sitting Bull Road	From Apple Valley Road to Valley View Court	45
Sitting Bull Road	From Valley View Court to Kiowa Road	45
Sitting Bull Road	From Kiowa Road to Navajo Road	45
South Road	From Central Road to Mesquite Road	50
Standing Rock Ave	From Outer Highway 18 to Navajo Road	50
Thunderbird Road	From Dale Evans Parkway to Navajo Road	50

Thunderbird Road	From Rancherias Road to Dale Evans Parkway	45
Tomahawk Road	From Rancherias Road to Mandan Road	45
Tuscola Road	From Apple Valley Road to Nokomis Road	45
Yucca Loma Road	From Apple Valley Road to Kiowa Road	45
Yucca Loma Road	From Kiowa Road to Navajo Road	45
Zuni Road	From Rancherias Road to Dale Evans Pkwy	45
Spring Valley Lake Equestrian Area	For the area bound by: North of Bear Valley Road, east of West Town limits, south of Ottawa Road, west of Apple Valley Road	35
Area north of Bear Valley at Multnomah Road	For the area of: Multnomah Road, Caddo Road and Klamath Road	30
Area south of Bear Valley Road at Laguna Road	For the area of: Bear Valley Road on the north, Kiowa Road on the West, Sandia Road on the south, and Mohawk Road on the east”	35

SECTION 2. Effective Date. This ordinance shall become effective thirty days from and after its adoption.

SECTION 3. Notice of Adoption. The Town Clerk of the Town of Apple Valley shall certify to the adoption of this ordinance and shall cause publication to occur in a newspaper of general circulation and published and circulated in the Town in a manner permitted under section 36933 of the Government Code.

APPROVED and **ADOPTED** by the Town Council of the Town of Apple Valley and signed by the Mayor and attested by the Town Clerk this 11th , 2020.

Scott Nassif, Mayor

ATTEST:

La Vonda M-Pearson, Town Clerk

APPROVED AS TO FORM:

APPROVED AS TO CONTENT:

Thomas Rice, Town Attorney

Douglas B Robertson, Town Manager

ENGINEERING AND TRAFFIC SURVEY
FLATHEAD ROAD
STATE ROUTE 18 TO RAMONA AVENUE



**TOWN OF APPLE VALLEY
ENGINEERING DEPARTMENT**

JANUARY 2020

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AFFIDAVIT OF COMPLIANCE

I certify that the Engineering and Traffic Survey for Flathead Road from State Route 18 to Ramona Avenue meets the criteria of California Vehicle Code Section 627 which defines an engineering and traffic survey and also the methodology established in the 2014 California Manual on Uniform Traffic Control Devices, Revision 4 edition. I certify all measurements and calculations were under my direction.



Norman B. Miller, P.E.
Town Engineer



ENGINEERING AND TRAFFIC SURVEY (CVC SEC. 627)

Flathead Road – State Route 18 to Ramona Avenue

Year of Survey	2019
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PART I: PREVAILING SPEED MEASUREMENT

Location of Survey		14675 Flathead Road	
Date of Survey	Conducted By	11/07/2019	B. Morgan and K. Bailey
50%ile	85%ile	44 mph	51 mph
10 mph pace (% of vehicle)		40 – 49 mph (62%)	
Posted Speed Limit		50 mph	

PART II: ACCIDENT RECORDS

Time Period Covered	1/1/2017 to 12/31/2018
Number of Mid-block Accidents	1
Mid-Block Accident Rate per Million Vehicle Miles	0.87 acc/mvm
Expected Mid-Block Accident Rate	1.18 acc/mvm

PART III: HIGHWAY, TRAFFIC, AND ROADSIDE CHARACTERISTICS NOT READILY APPARENT

Date Observations Made	11/07/2019
HIGHWAY: Geometric, access (driveways, intersections, other).	<ul style="list-style-type: none"> - This segment is relatively straight, with a minor reverse horizontal curve at Outer Highway 18 North. - Vertical alignment throughout the segment is flat. - Segment length = 0.6 mi. - ADT = 2634 vehicles per day (2015 average daily traffic). - One travel lane in each direction with no centerline striping between Ramona Avenue and Pine Ridge Avenue. One travel lane in each direction with double yellow centerline between Pine Ridge Avenue and State Route 18. - 24' wide roadway. - No current bike facilities. - Not identified as a bike route in the Town of Apple Valley General Plan. - All driveways serving single family residences. - Two-way stop controls with stop signs (R1-1), "STOP" pavement markings, and limit lines on Flathead Road at Ramona Ave. - Signalized intersection at Highway 18. - No street lighting within segment. - 50 mph speed limit sign (R2-1 (50)), installed approximately 150 feet west of the Ramona Avenue, facing westbound traffic. - 50 mph speed limit sign (R2-1 (50)), installed approximately 245 feet east of the Outer Highway 18 North intersection, facing eastbound traffic. - Dirt shoulders exist along segment, on both sides of the roadway.

<p>TRAFFIC: Pedestrians, parking turnover, school crossings.</p>	<ul style="list-style-type: none"> - Parking allowed on dirt shoulders. - Marked white crosswalk on the north leg of State Route 18 at Flathead Road.
<p>ROADSIDE: Land uses not apparent (park, school, etc.) other conditions.</p>	<ul style="list-style-type: none"> - All frontage is single family residential.

PART IV: ADDITIONAL REMARKS

Flathead Road, between State Route 18 and Ramona Avenue is classified as a major collector on the current California Road System (CRS) map Functional Classification System maps (CRS maps 15U13 and 15U14) submitted to the Federal Highway Administration for the Town of Apple Valley. Due to its classification, Sections 22358 and 40802 of the California Vehicle Code require that an Engineering and Traffic Survey be conducted based on the methodology mandated by the California Department of Transportation to establish a legal speed limit that can be enforced by radar or other electronic means.

Flathead Road, between Ramona Avenue and Pine Ridge Avenue is characterized by one travel lane in each direction with no centerline striping. Flathead Road, between Pine Ridge Avenue and State Route 18 is characterized by one travel lane in each direction, separated by a double yellow centerline. Parking is generally allowed within the dirt shoulders. Within the study segment, there are two-way stop controls on Flathead Road at Ramona Avenue and a signalized intersection at State Route 18. The fronting development is single family residential.

This segment of Flathead Road is approximately 0.6 miles in length and has a general roadway width of 24 feet. The only curb, gutter and sidewalk improvements are on both sides, between Outer Highway 18 North and State Highway 18. There is a slight reverse horizontal curve between Outer Highway 18 North and Pine Ridge Avenue. The vertical profile in the section is flat. The posted speed limit is 50 mph.

A review of the reported accident history on Flathead Road between State Highway 18 and Ramona Avenue revealed 1 midblock accident during the two-year period ending December 31, 2018, resulting in a midblock accident rate of 0.87 accidents per million vehicle miles (acc/mvm). The expected accident rate is 1.18 acc/mvm for similar type urban roadways within Caltrans District 8.

The California Manual on Uniform Traffic Control Devices (CA MUTCD), which is authorized by the California Vehicle Code (CVC) as the legal procedure for establishing speed zones, provides the following guidance on obtaining prevailing speeds (Section 2B.13, page 136):

"A location should be selected where prevailing speeds are representative of the entire speed zone section. If speeds vary on a given route, more than one speed zone section may be required, with separate measurements for each section. Locations for measurements should be chosen so as to minimize the effects of traffic signals or stop signs."

The CA MUTCD also states that speed zones less than 0.5 miles in length should be avoided and speed zone changes should be coordinated with changes in roadway conditions or roadside. Considering the distance between State Highway 18 and Ramona Avenue is 0.6 miles, the speed zone condition is satisfied. Based on the location of existing traffic controls on Flathead Road, fronting development and roadway geometrics, the radar speed data collected at 14675 Flathead Road is adequate to produce an appropriate speed zone for the entire segment.

The radar speed measurements resulted in an 85th-percentile speed of 51 mph and a 10 mph pace of 40-49 mph, with 62% of the vehicles within that pace.

The CA MUTCD states the following on page 134:

PART IV: ADDITIONAL REMARKS (CONTINUED)

"When a speed limit is to be posted, it shall be established at the nearest 5 mph increment of the 85th-percentile speed of free-flowing traffic, except as shown in the two Options below.

Option 1: The posted speed may be reduced by 5 mph from the nearest 5 mph increment of the 85th-percentile speed, in compliance with CVC Sections 627 and 22358.5. See Standard below for documentation requirements.

Option 2: For cases in which the nearest 5 mph increment of the 85th-percentile speed would require a rounding up, then the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed, if no further reduction is used."

The "standard" identified in Option 1 above is as follows on page 134:

"If the speed limit to be posted has had the 5 mph reduction applied, then an E&TS shall document in writing the conditions and justification for the lower speed limit and be approved by a registered Civil or Traffic Engineer. The reasons for the lower speed limit shall be in compliance with CVC Sections 627 and 22358.5."

Factors that may justify application of a 5 mph reduction from the nearest 5 mph increment of the 85th percentile speed are discussed in the CA MUTCD and include:

- Road characteristics, shoulder condition, grade, alignment, and sight distance not readily apparent to motorists;
- The pace;
- Roadside development and environment;
- Parking practices and pedestrian activity;
- Reported crash experience for at least a 12-month period;
- Residential density; and,
- Pedestrian and bicyclist safety.

The speed measurements indicate that the closest 5 mph increment to the 85th percentile speed is 50 mph. However, the following conditions suggest that a 5 mph reduction would be appropriate:

- The 10-mile pace is 40-49 mph. Establishing a speed limit at 45 mph would be within the speed range where the majority of motorists are travelling, thus making it a reasonable speed limit.
- The residential fronting development and driveways create frequent parking movements, resulting in numerous entries and exits to the through traffic flow on Flathead Road. These movements, combined with pedestrian activity along the roadway, requires greater attention from motorists and increased reaction time to avoid collisions.

- The roadway is fairly narrow and has soft shoulders on both sides with no sidewalks. This forces pedestrians to walk in close proximity to vehicles, creating the potential for significant conflict.
- Between Pine Ridge Road and Ramona Avenue, the residential density is sufficient to satisfy CA MUTCD minimum thresholds for consideration as a speed reduction factor (16 properties within 0.25 miles).

Considering the previously discussed CA MUTCD guidelines for establishing speed limits based on the prevailing speed of traffic and the justifications outlined above, it is appropriate to apply a 5 mph reduction to the nearest 5 mph increment of the 85th percentile speed. Therefore, it is recommended that a 45 mph speed zone be established on Flathead Road between Highway 18 and Ramona Avenue to provide a reasonable and safe speed limit.



RECOMMENDATION	Establish a 45 mph speed limit
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Town of Apple Valley Speed Zone Survey

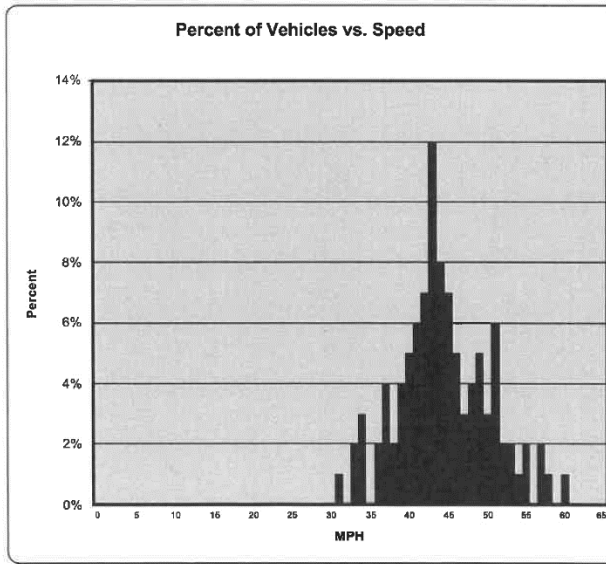
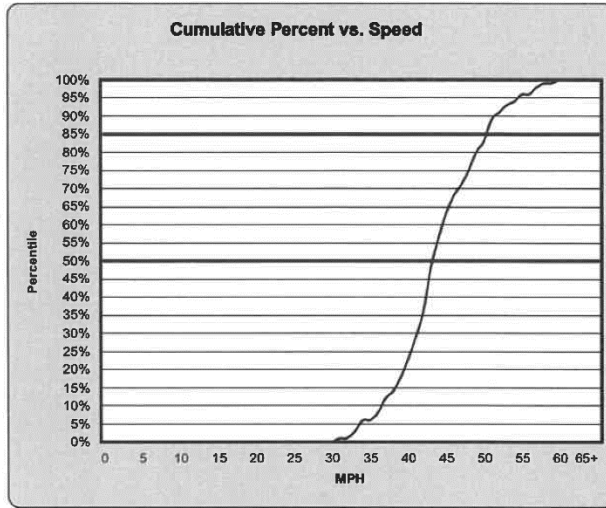
Count Location: Flathead Road 14675 Fallhead Road

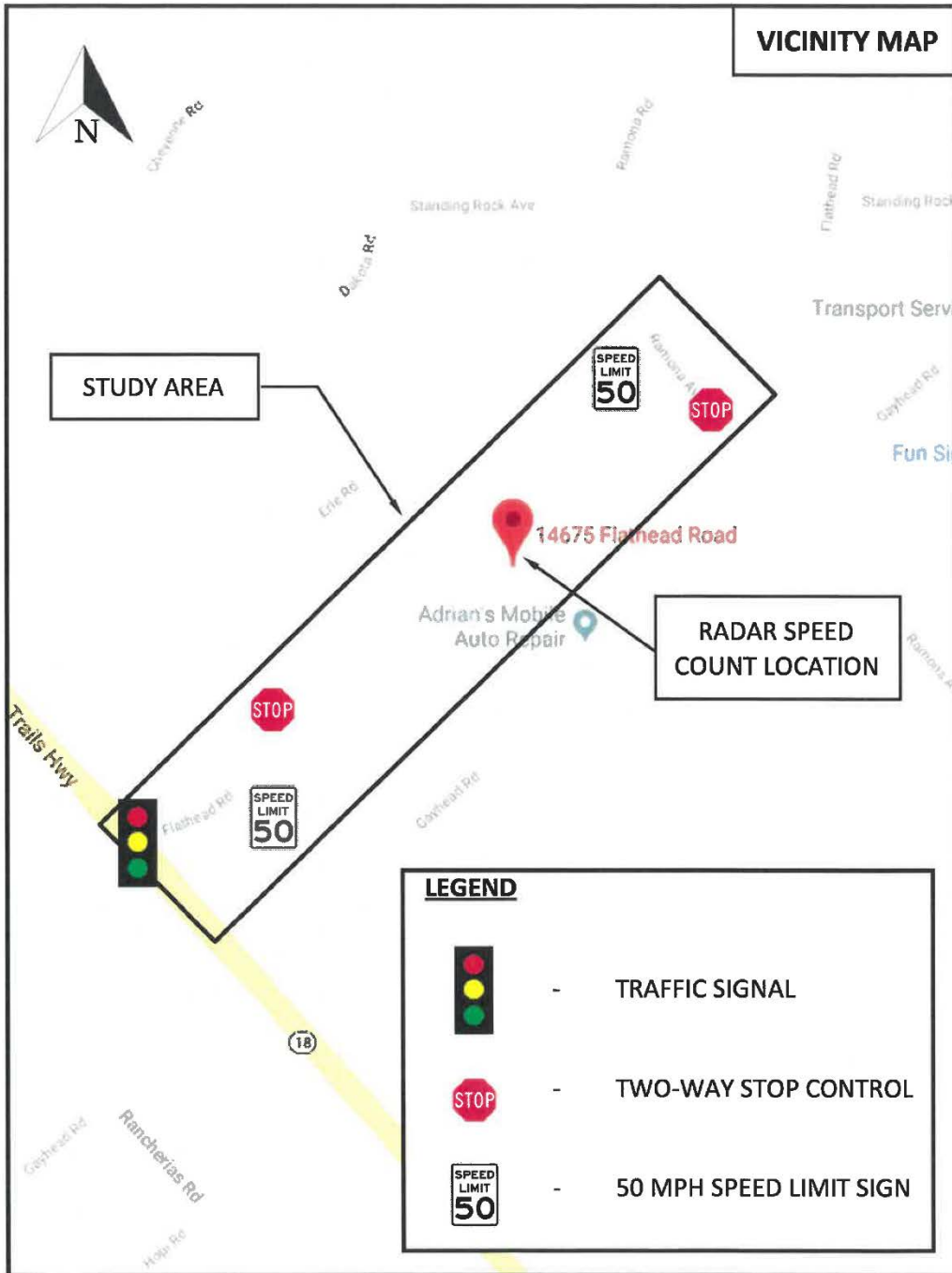
Date of Count: 11/7/19
 Beginning Time: 02:05 p.m.
 Direction Counted: both
 Posted Speed Limit: 50 mph
 Observer: BM & KB

50th Percentile Speed: 44 mph
 85th Percentile Speed: 51 mph
 Average Speed: 44.4 mph
 Range of Speeds Observed: 31 - 60 mph
 Number of Vehicles Observed: 100

10 MPH Pace: 40 - 49 mph
 Percent Within Pace: 62.0%
 Percent Over Pace Speed: 20.0%
 Percent Under Pace Speed: 18.0%

MPH	Number of Vehicles	Percent of Count	Cumulative Percent of Count
0	0	0.0%	0.0%
1	0	0.0%	0.0%
2	0	0.0%	0.0%
3	0	0.0%	0.0%
4	0	0.0%	0.0%
5	0	0.0%	0.0%
6	0	0.0%	0.0%
7	0	0.0%	0.0%
8	0	0.0%	0.0%
9	0	0.0%	0.0%
10	0	0.0%	0.0%
11	0	0.0%	0.0%
12	0	0.0%	0.0%
13	0	0.0%	0.0%
14	0	0.0%	0.0%
15	0	0.0%	0.0%
16	0	0.0%	0.0%
17	0	0.0%	0.0%
18	0	0.0%	0.0%
19	0	0.0%	0.0%
20	0	0.0%	0.0%
21	0	0.0%	0.0%
22	0	0.0%	0.0%
23	0	0.0%	0.0%
24	0	0.0%	0.0%
25	0	0.0%	0.0%
26	0	0.0%	0.0%
27	0	0.0%	0.0%
28	0	0.0%	0.0%
29	0	0.0%	0.0%
30	0	0.0%	0.0%
31	1	1.0%	1.0%
32	0	0.0%	1.0%
33	2	2.0%	3.0%
34	3	3.0%	6.0%
35	0	0.0%	6.0%
36	2	2.0%	8.0%
37	4	4.0%	12.0%
38	2	2.0%	14.0%
39	4	4.0%	18.0%
40	5	5.0%	23.0%
41	6	6.0%	29.0%
42	7	7.0%	36.0%
43	12	12.0%	48.0%
44	8	8.0%	56.0%
45	7	7.0%	63.0%
46	5	5.0%	68.0%
47	3	3.0%	71.0%
48	4	4.0%	75.0%
49	5	5.0%	80.0%
50	3	3.0%	83.0%
51	6	6.0%	89.0%
52	2	2.0%	91.0%
53	2	2.0%	93.0%
54	1	1.0%	94.0%
55	2	2.0%	96.0%
56	0	0.0%	96.0%
57	2	2.0%	98.0%
58	1	1.0%	99.0%
59	0	0.0%	99.0%
60	1	1.0%	100.0%
61	0	0.0%	100.0%
62	0	0.0%	100.0%
63	0	0.0%	100.0%
64	0	0.0%	100.0%
65+	0	0.0%	100.0%





**Accident Summary - Overall Summary by District
FOR 2016 PREPARED 10/14/2018**

LANE TYPE	ROAD MILES	TRAVEL (MVM)	TOTAL	ACCIDENTS			VICTIMS			RATES			FATALITIES /100 MVM
				PDO	INJURY	FATAL	KILLED	INJURED	ACCMVM	F+I/MVM			
RURAL AREAS													
2 AND 3 LN	702.6	1,174.8	1,177	596	549	32	38	881	1.00	0.49	3.23		
4+ UND	6.2	26.6	40	27	11	2	2	17	1.50	0.49	7.51		
4+ DIV	29.3	215.6	228	127	94	7	7	146	1.06	0.47	3.25		
SUBTOTAL	798.1	1,417.0	1,445	750	654	41	47	1,044	1.02	0.49	3.32		
2 AND 3 LN EXP	36.1	85.0	105	49	54	2	2	84	1.24	0.66	2.35		
4+ DIV EXP	44.1	264.5	199	110	84	5	5	134	0.75	0.34	1.89		
NON FWY	818.3	1,766.5	1,749	909	792	48	54	1,262	0.99	0.48	3.06		
FREEWAY	413.0	5,585.7	3,053	1,986	1,007	60	77	1,668	0.55	0.19	1.38		
TOTAL	1,231.3	7,382.2	4,802	2,895	1,799	108	131	2,930	0.65	0.26	1.78		
URBAN AREAS													
2 AND 3 LN	130.3	440.0	521	292	219	10	11	331	1.18	0.52	2.50		
4+ UND	18.0	150.0	153	77	72	4	6	114	1.02	0.51	4.00		
4+ DIV	73.5	636.7	942	454	469	19	21	721	1.48	0.77	3.30		
SUBTOTAL	221.8	1,226.6	1,616	823	760	33	38	1,166	1.32	0.65	3.10		
2 AND 3 LN EXP	13.9	71.5	103	63	40	0	0	74	1.44	0.56	0.00		
4+ DIV EXP	20.3	265.8	164	98	64	2	2	110	0.62	0.25	0.75		
NON FWY	266.0	1,583.9	1,883	984	864	35	40	1,350	1.20	0.57	2.56		
FREEWAY	337.9	15,867.6	15,571	10,336	5,153	82	88	7,533	0.98	0.33	0.55		
TOTAL	593.9	17,431.5	17,454	11,320	6,017	117	128	8,983	1.00	0.35	0.73		
D/DISTRICT/WIDE													
2 AND 3 LN	832.9	1,614.8	1,698	888	768	42	49	1,212	1.05	0.50	3.03		
4+ UND	24.2	176.6	193	104	83	6	8	131	1.09	0.50	4.53		
4+ DIV	102.8	862.3	1,170	581	563	26	28	867	1.37	0.69	3.29		
SUBTOTAL	959.9	2,643.6	3,061	1,573	1,414	74	85	2,210	1.16	0.56	3.22		
2 AND 3 LN EXP	50.0	196.5	208	112	94	2	2	158	1.33	0.61	1.28		
4+ DIV EXP	64.4	3,330.4	363	208	148	7	7	244	0.68	0.29	1.32		
NON FWY	1,074.3	5,330.4	3,632	1,893	1,556	83	94	2,612	1.09	0.52	2.82		
FREEWAY	790.9	21,453.3	18,624	12,322	6,160	142	165	9,201	0.87	0.29	0.77		
TOTAL	1,825.2	24,783.7	22,256	14,215	7,816	225	259	11,813	0.90	0.32	1.05		