2020
FEBRUARY

Engineering and Traffic Survey

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February 14, 2020

Mr. Ahsan Kazmi, PE
Senior Traffic Engineer
County of Napa
1195 Third Street, Suite 101
Napa, CA 94559

Subject: 2020 Engineering and Traffic Survey

Dear Mr. Kazmi:

As requested, Willdan has completed an Engineering and Traffic (E&T) Survey to justify and update the posted speed limits along 45 street segments in the County of Napa. These segments were last surveyed between 2002 and 2013 and require an update to comply with the 7-year limitation set forth in the California Vehicle Code (CVC).

We are pleased to submit the enclosed Report that describes the E&T survey procedures and contains recommendations for posted speed limits on the County's arterial and collector street system. A summary of these recommendations is included in the Analysis. Supporting documentation for each speed zone recommendation is provided in the Appendices.

The Report was conducted in accordance with applicable provisions of the CVC, following procedures outlined in the California Manual on Uniform Traffic Control Devices (California MUTCD) dated November 2014, and as required by Section 627 of the CVC. The Report is intended to satisfy the requirements of Section 40802 of the CVC to enable the continued use of radar for traffic speed enforcement.

We appreciate the opportunity to serve the County of Napa and the assistance and cooperation afforded to us during the course of this study.

Very truly yours,

WILLDAN

Farhad Iranitalab, P.E., T.E.
Traffic Engineer

Enclosure

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INTRODUCTION

This Engineering and Traffic (E&T) Survey is intended to be the basis for the establishment, revision, and enforcement of speed limits for selected streets within the County of Napa. This E&T Survey presents recommended speed limits for 45 street segments in the County of Napa. E&T Surveys are required by the State of California to establish intermediate speed limits on local streets and to enforce those limits using radar or other speed measuring devices. These surveys must be updated every 5 or 7 years to ensure the speeds reflect current conditions as dictated by the California Vehicle Code (CVC). The CVC also requires that the surveys be conducted based on the methodology required by The California Manual on Uniform Traffic Control Devices (California MUTCD) dated November 2014.

The survey was requested by the County for the proper posting of speed limits and to enable the Sheriff's Department to utilize radar or other electronic speed measuring devices for speed enforcement. CVC Sections 40801 and 40802 require E&T Surveys that verify the prima facie speed limit before enforcement by such a device is legal. The law further specifies that these surveys be conducted every 5 years. The surveys can be extended to 7 years provided the County's Sheriff Department officer (s) have completed a 24-hour radar operator course [CVC 40802(c)(2)(B)(i)(I)]. Additionally, some surveys may be extended to 10 years if a traffic engineer certifies that no changes in roadway or traffic conditions have occurred [CVC 40802 (c)(2)(B)(i)(II)]. These provisions assure that posted speed limits are kept reasonably current.

The E&T Surveys for the County were conducted in accordance with procedures outlined in the California Manual on Uniform Traffic Control Devices (California MUTCD) dated November 2014 and as required by Section 627 of the CVC. The Code further describes three elements of an E&T Survey:

1. Measurement of prevailing speed;
2. Accident history; and
3. Roadway characteristics <u>not</u> readily apparent to the motorist.

Posted speed limits are established primarily to protect the general public from the reckless and unpredictable behavior of dangerous drivers. They provide law enforcement with a clearly understood method to identify and apprehend violators of the basic speed law (CVC Section 22350). This law states that "No person shall drive a vehicle on a highway at a speed greater than is reasonable or prudent having due regard for weather, visibility, the traffic on, and the surface and width of the highway, and in no event at a speed which endangers the safety of persons or property." The posted speed limit gives motorists a clear warning of the maximum speed that is reasonable and prudent under typical driving conditions.

The basic fundamentals for establishing speed limits recognize that the majority of drivers behave in a safe and reasonable manner, and therefore, the normally careful and competent actions of a reasonable driver should be considered legal. Speed limits established on these fundamentals conform to the consensus that those who drive the highway determine what speed is reasonable and safe, not on the judgment of one or a few individuals. A radar speed study is usually used to record the prevailing speed of reasonable drivers.

Speed limits are also established to advise drivers of conditions which may not be readily apparent to a reasonable driver. For this reason, accident history, roadway conditions, traffic characteristics, and land use must also be analyzed before determining speed limits. Speed limit changes are usually made in coordination with physical changes in roadway conditions or roadside developments. Unusually short zones of less than one-half mile in length should be avoided to reduce driver confusion.

Additionally, it is generally accepted that speed limits cannot be successfully enforced without voluntary compliance by a majority of drivers. Consequently, only the driver whose behavior is clearly out of line with the normal flow of traffic is usually targeted for enforcement.

ELEMENTS OF THE ENGINEERING AND TRAFFIC SURVEY

The California Manual on Uniform Traffic Control Devices (California MUTCD) dated November 2014 specifies the methodology to be used for completing E&T Surveys. This methodology includes an evaluation of current vehicle speeds, accident history and conditions not readily apparent to motorists. The basic elements of the E&T Survey are discussed in more detail as follows:

Speed Sampling

Existing vehicle speeds are surveyed by a certified radar operator with a calibrated radar unit in an unmarked vehicle. Speed samples are taken for each segment representing a statistically significant sample of current traffic. This data is then evaluated to identify the distribution of speeds. A key element in the evaluation is the identification of the 85th percentile speed. The 85th percentile speed is the speed at or below which 85 percent of the traffic travels. This threshold represents what is historically found to be a safe and reasonable speed for most drivers based on common roadway conditions. Therefore, a speed limit is established at the nearest 5-mile per hour (mph) increment to the 85th percentile speed, except as shown in the two options below.

Options:

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 Section 627 and 22358.5.
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. Refer to CVC Section 21400(b).

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. The reasons for the lower speed limit shall be in compliance with CVC Section 627 and 22358.5

The following examples are provided to explain the application of these speed limit criteria:

A. Using Option 1 above and first step is to round down: If the 85th percentile speed in a speed survey for a location was 37 mph, then the speed limit would be established at 35 mph since it is the closest 5 mph increment to the 37 mph speed. As indicated by the option, this 35 mph established speed limit could be reduced by 5 mph to 30 mph if conditions and justification for using this lower speed limit are documented in the E&TS.
B. Using Option 1 above and first step is to round up: If the 85th percentile speed in a speed survey for a location was 33 mph, then the speed limit would be established at 35 mph since it is the closest 5 mph increment to the 33 mph speed. As indicated by the option, this 35 mph speed limit could be reduced by 5 mph to 30 mph if the conditions and justification for using this lower speed limit are documented in the E&TS.
C. Using Option 2 above and first step is to round up: If the 85th percentile speed in a speed survey for a location was 33 mph, instead of rounding up to 35 mph, the speed limit can be established at 30 mph, but no further reduction can be applied.

Collision History

Reported collisions are reviewed for each street segment to determine if there is a higher than average rate of collisions. A segment that has an above-average collision rate typically suggests conditions that are not readily apparent to motorists.

A summary of the collision rates for the 45 surveyed street segments is provided in Table 2.

Conditions Not Readily Apparent to Motorists

Each street segment is field inspected to identify roadway conditions that may not be readily apparent to motorists. A determination is made whether any conditions are significant and warrant the recommendation of the speed limit 5 mph or more below the basic speed limit. It is important to note that The California Manual on Uniform Traffic Control Devices (California MUTCD) dated November 2014 recommends exercising great care when establishing speed limits 5 mph or more below the basic speed limit.

SURVEY CONDITIONS

SURVEY LOCATIONS

The procedures described below describe the criteria and methods used to survey selected streets within the County of Napa. The specific location of the radar speed survey for each street segment was selected after considering the following:

1. Minimum stop signs and traffic signal influence.
2. Minimum visibility restrictions.
3. Non-congested traffic flow away from intersections and driveways.
4. Minimum influence from curves or other roadway conditions that would affect the normal operation of a vehicle.

DATA COLLECTION

Data of existing conditions was obtained including prevailing speed of vehicles, traffic collisions, visibility restrictions, and roadway conditions within the community. Speed data and field reviews were conducted at 45 locations during the months of September, October, and November 2019.

Speed Data

Radar speed measurements were conducted at 45 locations during the months of October and November 2019. The radar speed distribution forms are in Attachment B. All surveys were conducted in good weather conditions, during off-peak hours on weekdays. The radar unit was operated from an unmarked vehicle to minimize any influence on driver behavior. Typically, a minimum sample size of 100 vehicles or the total samples during a maximum period of 2 hours were obtained for each segment. Traffic speeds in both directions were recorded for individual segments.

Collision Data

Collision data was obtained from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) electronic collision database. For this study, collision data was used from the latest 3 years of reported accidents from January 1, 2016 to December 31, 2018. The collision rates for the 45 segments are expressed in accidents per million vehicle miles (A/MVM). To calculate these rates, 24-hour traffic volumes were collected for each street segment. This information was then entered into the following formula to determine the collision rate:

$$R = \frac{Ax1{,}000{,}000}{tx365\frac{days}{year}xlxv}$$

A = Number of midblock collisions over time period
R = Collision Rate (accidents/million vehicle miles)
t = Time Period Covered (in years)
l = Length of Segment (miles)
v = Traffic Volume (average daily traffic)

The segment collision rate was then compared to the average statewide collision rate. The average statewide collision rates were obtained from 2014 Collision Data on California State Highways published by Caltrans.

Field Review Data

A field review was conducted for each of the selected street segments in the County with consideration for the following factors:

1. Street width and alignment (design speed);
2. Pedestrian activity and traffic flow characteristics;
3. Number of lanes and other channelization and striping patterns;
4. Frequency of intersections, driveways, and on-street parking;
5. Location of stop signs and other regulatory traffic control devices;
6. Visibility obstructions;
7. Land use and proximity to schools;
8. Pedestrian and bicycle usage;
9. Uniformity with existing speed zones and those in adjacent jurisdictions; and
10. Any other unusual condition not readily apparent to the driver.

ANALYSIS

CRITERIA

Survey data was compiled and analyzed to determine the recommended speed limit in accordance with several criteria contained in The California Manual on Uniform Traffic Control Devices (California MUTCD) dated November 2014. Some of the criteria used are:

A. The critical speed or 85th percentile speed is that speed at or below which 85 percent of the traffic is moving. This speed is the baseline value in determining what the majority of drivers believe is safe and reasonable. Speed limits set higher than the critical speed are not considered reasonable and safe. Speed limits set lower than the critical speed make a large number of reasonable drivers "unlawful," and do not facilitate the orderly flow of traffic. The “basic speed limit” is the nearest 5 mph increment to the 85th percentile speed.

B. The 10 mile per hour (mph) pace speed is the 10 mph increment that contains the highest percentage of vehicles. It is a measure of the dispersion of speeds across the range of the samples surveyed. An accepted practice is to keep the speed limit within the 10 mph pace while considering the critical speed and other factors that might require a speed lower than the critical speed.

C. The collision rate for each street segment is compared to average collision rates that can be reasonably expected to occur on streets and highways in other jurisdictions, in proportion to the volume of traffic per lane mile. These average collision rates have been developed by the State of California and are considered reasonable for use in the County of Napa.

RESULTS AND RECOMMENDATIONS

The Engineering and Traffic Survey Forms, presented in Appendix A, illustrate results of a thorough evaluation of the available data and recommend a speed limit for each street segment surveyed. A complete summary of all recommendations is shown in Table 2. In each case, the recommended speed limit was consistent with the prevailing behavior as demonstrated by the radar speed measurements. Typically, a speed limit in the upper range of the 10-mile pace was selected unless a collision rate significantly higher than expected was discovered or roadway conditions not readily apparent to the driver were identified. Any segments with recommended speed limits 5 mph or more below the basic speed limit are fully explained later in this report.

The Legislature, in adopting Section 22358.5 of the CVC, has made it clear that physical conditions, such as width, curvature, grade and surface conditions, or any other condition readily apparent to a driver, in the absence of other factors, would not be the basis for special downward speed zoning. In these cases, the basic speed law (CVC Section 22350) is sufficient to regulate such conditions.

The recommendations contained in this Report are intended to establish prima facie speed limits. They are not intended to be absolute for all prevailing conditions. All prima facie

speed violations are actually violations of the basic speed law (Section 22350 of CVC). This statute states that a person shall not drive a vehicle at a speed greater than is safe having regard for traffic, roadway, and weather conditions. A prima facie limit is intended to establish a maximum safe speed under normal conditions.

Table 1 identifies the street segments with recommended changes in posted speed limits and Table 2 summarizes the recommendations for all surveyed segments.

TABLE 1 STREET SEGMENTS WITH RECOMMENDED SPEED CHANGES						
No.	Street	From	To	Existing	New	Change
5	Buhman Avenue	Congress Valley Road	Napa City Limit	45	40	- 5
8	Cold Springs Road	Los Posados Road	End	35	25	- 10
12	Coombsville Road	Napa City Limit	Wild Horse Valley Road	40	45	+ 5
13	Cuttings Wharf Road	SR 121	Las Amigas Road	Not Posted	50	Post Limit
14	Devlin Road	Sheehy Court	Airport Boulevard	45	40	- 5
15	El Centro Avenue	Big Ranch Road	100' E/Solomon Avenue	35	40	+ 5
20	Los Carneros Avenue	SR 121	South Avenue	45	40	- 5
26	Orchard Avenue	2900' W/O Napa City Limit	Dry Creek Road	35	40	+ 5
30	Redwood Road	400' W/O West Pueblo Avenue	500' E/O Browns Valley Road	30	40	+ 10
37	Third Avenue	Hagen Road	0.3 mi W/O Hagen Road	35/40	40	Post Limit
41	Tower Road	SR 29	End	25	30	+ 5

TABLE 2													
SUMMARY OF RECOMMENDATIONS													
No.	Street	From	To	Dist. (mi.)	ADT	Crash Rate*** Exp.	Act.	Posted Speed Limit	85% Speed	10 mi. Pace	% in Pace	Rec. Speed Limit	Comments
1	Atlas Peak Road	SR 121	Hardman Avenue	0.93	5,062	2.39	0.58	40	47	38-47	77 %	40	*
2	Bale Lane	SR 29	Silverado Trail	0.67	1,082	2.39	0.00	45	47	39-48	86 %	45	Closest to 85th Speed
3	Berryessa Knoxville Road	SR 128	0.75 mi S/O Mulford Drive	3.73	505	1.32	1.45	45	50	38-47	77 %	45	*
4	Buchli Station Road	Las Amigas Road	0.5 mi S/O Las Amigas Road	0.5	562	2.39	0.00	35	33	17-26	61 %	35	Closest to 85th Speed
5	Buhman Avenue	Congress Valley Road	Napa City Limit	0.65	3,194	1.32	1.32	45	44	35-44	80 %	40	California MUTCD Option 2
6	Buhman Avenue	Congress Valley Road	Old Sonoma Road	1.26	2,193	1.32	1.32	45	52	44-53	77 %	45	*
7	Cold Springs Road	Howell Mountain Road	Cold Springs Road	0.24	1,239	2.39	0.00	25 **	39	29-38	79 %	25 **	*
8	Cold Springs Road	Los Posados Road	End	0.85	313	2.39	0.00	35	27	20-29	77 %	25	Closest to 85th Speed
9	College Avenue	Howell Mountain Road	1700' W/O Howell Mountain Road	0.32	2,161	2.39	2.64	35	41	30-39	76 %	35	*
10	College Avenue	1700' W/O Howell Mountain Road	White Cottage Road	0.48	1,200	2.39	1.59	25	31	22-31	86 %	25	*

* See "Segments with Special Conditions" Section for Comments

** 25 mph when children are present

*** Crash rate units: Collisions per One Million Vehicle Miles

Exp.= Expected Crash Rate per the 2014 Caltrans Average Crash Rate Act.= Acutal Crash Rate

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No.	Street	From	To	Dist. (mi.)	ADT	Crash Rate*** Exp.	Act.	Posted Speed Limit	85% Speed	10 mi. Pace	% in Pace	Rec. Speed Limit	Comments
11	Congress Valley Road	Old Sonoma Road	Buhman Avenue	0.94	1,312	2.39	1.48	40	44	35-44	69 %	40	California MUTCD Option 2
12	Coombsville Road	Napa City Limit	Wild Horse Valley Road	1.38	1,025	2.39	1.29	40 **	48	37-46	58 %	45 **	California MUTCD Option 2
13	Cuttings Wharf Road	SR 121	Las Amigas Road	1.75	2,479	1.32	0.42	NP	57	43-52	58 %	50	*
14	Devlin Road	Sheehy Court	Airport Boulevard	0.3	10,157	1.44	0.00	45	38	27-36	60 %	40	Closest to 85th Speed
15	El Centro Avenue	Big Ranch Road	100' E/Solomon Avenue	0.6	4,086	2.39	0.75	35	43	32-41	73 %	40	California MUTCD Option 2
16	Hagen Road	Napa City Limit	0.15 mi E/O Napa City Limit	0.6	5,112	2.39	1.19	35	42	33-42	87 %	35	*
17	Hagen Road	0.53 mi E/O Napa City Limit	Third Avenue	1	1,408	2.39	0.00	35	37	28-37	70 %	35	Closest to 85th Speed
18	Hagen Road	0.15 mi E/O Napa City Limit	0.53 mi E/O Napa City Limit	0.36	4,907	1.32	0.52	45	46	38-47	84 %	45	Closest to 85th Speed
19	Hillcrest Drive	Atlas Peak Road	Westgate Drive	1.05	2,460	2.39	0.00	35	40	33-42	82 %	35	*
20	Los Carneros Avenue	SR 121	South Avenue	1.13	902	1.32	0.90	45 **	41	32-41	65 %	40 **	Closest to 85th Speed

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21	Las Posadas Road	Cold Springs Road	.9 mi E/O Cold Springs Road	0.9	409	2.39	0.00	25	25	17-26	85 %	25	Closest to 85th Speed
22	Meadowwood Lane	Howell Mountain Road	End	0.53	191	2.39	0.00	25 **	28	19-28	90 %	25 **	California MUTCD Option 2
23	North Avenue	First Avenue	Third Avenue	0.89	1,076	2.39	0.00	40	47	33-42	59 %	40	*
24	Oak Knoll Road	SR 29	Big Ranch Road	1.2	6,164	1.32	0.86	45	52	42-51	75 %	45	*
25	Oak Knoll Road	Big Ranch Road	Silverado Trail	0.8	4,494	2.39	1.27	45	52	42-51	69 %	45	*
26	Orchard Avenue	2900' W/O Napa City Limit	Dry Creek Road	0.41	1,406	2.39	4.75	35	43	32-41	65 %	40	California MUTCD Option 2
27	Orchard Avenue	Napa City Limit	2900' W/O Napa City Limit	0.56	1,551	1.32	2.10	45	46	36-45	67 %	45	Closest to 85th Speed
28	Partrick Road	Napa City Limit	End	4.04	312	2.39	2.90	30	33	24-33	73 %	30	California MUTCD Option 2
29	Penny Lane	Imola Avenue	End	0.35	267	2.39	0.00	30 **	31	22-31	75 %	30 **	Closest to 85th Speed
30	Redwood Road	400' W/O West Pueblo Avenue	500' E/O Browns Valley Road	0.6	4,109	2.39	0.37	30	44	35-44	74 %	40	California MUTCD Option 2

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No.	Street	From	To	Dist. (mi.)	ADT	Crash Rate*** Exp.	Act.	Posted Speed Limit	85% Speed	10 mi. Pace	% in Pace	Rec. Speed Limit	Comments
31	Second Avenue	North Avenue	Coombsville Road	0.61	688	2.39	0.00	40 **	40	28-37	62 %	40 **	Closest to 85th Speed
32	Silverado Trail	Trancas Street	SR 128	13.5	14,948	1.32	0.48	55	61	53-62	75 %	55	*
33	Silverado Trail	SR 128	Deer Park Road	5	12,010	1.32	0.64	55	60	50-59	66 %	55	*
34	Soda Canyon Road	Silverado Trail	Loma Vista Drive	1.5	1,545	1.32	1.18	45	44	33-42	62 %	45	Closest to 85th Speed
35	Solano Avenue	Napa City Limit	1500' N/O Carrell Lane	1.52	1,997	1.32	1.20	50	52	43-52	66 %	50	Closest to 85th Speed
36	Sunset Road	Congress Valley Road	End	0.36	132	2.39	0.00	30	35	26-35	82 %	30	*
37	Third Avenue	Hagen Road	0.3 mi W/O Hagen Road	0.26	633	2.39	5.55	35/40	39	29-38	58 %	40	Closest to 85th Speed
38	Third Avenue	0.3 mi W/O Hagen Road	Barrow Lane	1.17	585	2.39	0.00	40	41	32-41	64 %	40	Closest to 85th Speed
39	Third Avenue	Coombsville Road	North Avenue	0.7	873	2.39	1.49	40	43	34-43	79 %	40	California MUTCD Option 2
40	Third Avenue	North Avenue	Barrow Lane	0.36	596	2.39	4.26	40	39	28-37	65 %	40	Closest to 85th Speed

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41	Tower Road	SR 29	End	0.51	1,385	2.39	1.29	25	33	22-31	65 %	30	California MUTCD Option 2
42	Vichy Avenue	Monticello Road	La Grande Avenue	0.59	2,398	2.39	1.29	35 **	37	26-35	75 %	35 **	Closest to 85th Speed
43	Vichy Avenue	La Grande Avenue	Hagen Road	0.58	2,251	2.39	1.40	40	44	35-44	75 %	40	California MUTCD Option 2
44	Westgate Drive	Atlas Peak Road	Hillcrest Drive	1	810	2.39	0.00	35	40	30-39	78 %	35	*
45	Wild Horse Valley Road	Coombsville Road	Shady Brook Lane	0.69	906	2.39	1.46	40	45	32-41	57 %	40	*

* See "Segments with Special Conditions" Section for Comments
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*** Crash rate units: Collisions per One Million Vehicle Miles
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SEGMENTS WITH SPECIAL CONDITIONS

The following segments surveyed had recommended speed limits that were 5 miles per hour (mph) or more below the critical speed due to conditions not readily apparent to the driver. Each segment is discussed below.

Segment #1 – Atlas Peak Road – SR 121 to Hardman Avenue

This segment is currently posted at 40 mph and has 1 through lane in each direction with an ADT of 5,062 vehicles per day. The adjacent land use is residential and golf course. The critical speed is 47 mph and would normally justify a 45-mph posted speed limit. However, due to the roadway curvature, residential nature and presence of pedestrians with no sidewalks, a lower speed limit is prudent. It is recommended that the speed limit remain at 40 mph for the above reasons.

Segment #3 – Berryessa Knoxville Road – SR 128 to 0.75 Miles South of Mulford Drive

This segment is currently posted at 45 mph and has 1 through lane in each direction with an ADT of 505 vehicles per day. The adjacent land use is vacant. The critical speed is 50 mph and would normally justify a 50-mph posted speed limit. However, due to a higher than expected collision rate, a lower speed limit is prudent. It is recommended that the speed limit remain at 45 mph for the above reasons.

Segment #6 – Buhman Avenue – Congress Valley Road to Old Sonoma Road

This segment is currently posted at 45 mph and has 1 through lane in each direction with an ADT of 2,193 vehicles per day. The adjacent land use is farmland. The critical speed is 52 mph and would normally justify a 50-mph posted speed limit. However, due to a higher than expected collision rate, and roadway curvature, a lower speed limit is prudent. It is recommended that the speed limit remain at 45 mph for the above reasons.

Segment #7 – Cold Springs Road – Howell Mountain Road to Cold Springs Road

This segment is currently posted at 25 mph and has 1 through lane in each direction with an ADT of 1,239 vehicles per day. The adjacent land use is residential with a school. The critical speed is 39 mph and would normally justify a 40-mph posted speed limit. However, due to road geometry and school crossings, the City wishes to keep the posted speed limit at 25 mph. It is understood that this speed limit will not be enforceable by radar on this segment.

Segment #9 – College Avenue – Howell Mountain Road to 1700' West of Howell Mountain Road

This segment is currently posted at 35 mph and has 1 through lane in each direction with an ADT of 2,161 vehicles per day. The adjacent land use is vacant with a fire station. The critical speed is 41 mph and would normally justify a 40-mph posted speed limit. However, due to a higher than expected collision rate, a lower speed limit is prudent. It is recommended that the speed limit remain at 35 mph for the above reasons.

Segment #10 – College Avenue – 1700' West of Howell Mountain Road to White Cottage Road

This segment is currently posted at 25 mph and has 1 through lane in each direction with an ADT of 1,200 vehicles per day. The adjacent land use is residential with a fire station. The critical speed is 31 mph and would normally justify a 30-mph posted speed limit. However, due to a moderate pedestrian use with no sidewalks that may not be apparent to unfamiliar drivers, horizontal and vertical curvature, a lower speed limit is prudent. It is recommended that the speed limit remain at 25 mph for the above reasons.

Segment #13 – Cuttings Wharf Road – SR 121 to Las Amigas Road

This segment does not currently have a posted speed limit and has 1 through lane in each direction with an ADT of 2,479 vehicles per day. The adjacent land use is residential and farmland. The critical speed is 57 mph and would normally justify a 55-mph posted speed limit. However, due to moderate pedestrian and bicycle traffic with no sidewalks that may not be apparent to unfamiliar drivers, and horizontal and vertical curves, a lower speed limit is prudent. It is recommended that the speed limit be posted at 50-mph for the above reasons.

Segment #16 – Hagen Road – Napa City Limit to 0.15 Miles East of Napa City Limit

This segment is currently posted at 35 mph and has 1 through lane in each direction with an ADT of 5,112 vehicles per day. The adjacent land use is farmland. The critical speed is 42 mph and would normally justify a 40-mph posted speed limit. However, due to a higher than expected collision rate, a lower speed limit is prudent. It is recommended that the speed limit remain at 35 mph for the above reasons.

Segment #19 – Hillcrest Drive – Atlas Peak Road to Westgate Drive

This segment is currently posted at 35 mph and has 1 through lane in each direction with an ADT of 2,460 vehicles per day. The adjacent land use is golf and residential. The critical speed is 40 mph and would normally justify a 40-mph posted speed limit. However, due to a moderate pedestrian use with no sidewalks that may not be apparent to unfamiliar drivers, horizontal and vertical curvature, a lower speed limit is prudent. It is recommended that the speed limit remain at 35 mph for the above reasons.

Segment #23 – North Avenue – First Avenue to Third Avenue

This segment is currently posted at 40 mph and has 1 through lane in each direction with an ADT of 1,076 vehicles per day. The adjacent land use is farmland and residential. The critical speed is 47 mph and would normally justify a 45-mph posted speed limit. However, due to a moderate pedestrian use with no sidewalks that may not be apparent to unfamiliar drivers, horizontal and vertical curvature, a lower speed limit is prudent. It is recommended that the speed limit remain at 40 mph for the above reasons.

Segment #24 – Oak Knoll Road – SR 29 to Big Ranch Road

This segment is currently posted at 45 mph and has 1 through lane in each direction with an ADT of 6,164 vehicles per day. The adjacent land use is farmland. The critical speed is 52 mph and would normally justify a 50-mph posted speed limit. However, due to a higher than expected collision rate, a lower speed limit is prudent. It is recommended that the speed limit remain at 45 mph for the above reasons.

Segment #25 – Oak Knoll Road – Big Ranch Road to Silverado Trail

This segment is currently posted at 45 mph and has 1 through lane in each direction with an ADT of 4,494 vehicles per day. The adjacent land use is farmland. The critical speed is 52 mph and would normally justify a 50 mph posted speed limit. However, due to a higher than expected collision rate, a lower speed limit is prudent. It is recommended that the speed limit remain at 45 mph for the above reasons.

Segment #32 – Silverado Trail – Trancas Street to SR 128

This segment is currently posted at 55 mph and has 1 through lane in each direction with an ADT of 14,948 vehicles per day. The adjacent land use is residential and farmland. The critical speed is 61 mph and would normally justify a 60 mph posted speed limit. However, due to CVC 22349(B), the maximum speed limit on a highway should be posted at 55 mph. It is recommended that the speed limit remain at 55 mph for the above reasons.

Segment #33 – Silverado Trail – SR 128 to Deer Park Road

This segment is currently posted at 55 mph and has 1 through lane in each direction with an ADT of 12,010 vehicles per day. The adjacent land use is residential and farmland. The critical speed is 60 mph and would normally justify a 60 mph posted speed limit. However, due to CVC 22349(B), the maximum speed limit on a highway should be posted at 55 mph. It is recommended that the speed limit remain at 55 mph for the above reasons.

Segment #36 – Sunset Road – Congress Valley Road to End

This segment is currently posted at 30 mph and has 1 through lane in each direction with an ADT of 132 vehicles per day. The adjacent land use is residential and farmland. The critical speed is 35 mph and would normally justify a 35 mph posted speed limit. However, a tight horizontal curve that restricts visibility, a lower speed limit is prudent. It is recommended that the speed limit remain at 30 mph for the above reasons.

Segment #44 – Westgate Drive – Atlas Peak Road to Hillcrest Drive

This segment is currently posted at 35 mph and has 1 through lane in each direction with an ADT of 810 vehicles per day. The adjacent land use is golf and residential. The critical speed is 40 mph and would normally justify a 40 mph posted speed limit. However, due to heavy pedestrian use and hidden driveways that may not be apparent to unfamiliar drivers, a lower speed limit is prudent. It is recommended that the speed limit remain at 35 mph for the above reasons.

Segment #45 – Wild Horse Valley Road – Shady Brook Lane

This segment is currently posted at 40 mph and has 1 through lane in each direction with an ADT of 906 vehicles per day. The adjacent land use is residential and farmland. The critical speed is 45 mph and would normally justify a 45 mph posted speed limit. However, due to moderate pedestrian use with no sidewalks that may not be apparent to unfamiliar drivers, a lower speed limit is prudent. It is recommended that the speed limit remain at 40 mph for the above reasons.

LEGISLATIVE REFERENCES

APPLICABLE SECTIONS OF CALIFORNIA VEHICLE CODE

SECTION 1. Section 627 of the Vehicle Code:

Section 627.

(a) *"Engineering and traffic survey,"* as used in this code, means a survey of highway and traffic conditions in accordance with methods determined by the Department of Transportation for use by state and local authorities.

(b) An engineering and traffic survey shall include, among other requirements deemed necessary by the department, consideration of all of the following:

(1) Prevailing speeds as determined by traffic engineering measurements.
(2) Accident records.
(3) Highway, traffic, and roadside conditions not readily apparent to the driver.

(c) When conducting an engineering and traffic survey, local authorities, in addition to the factors set forth in paragraphs (1) to (3), inclusive, of subdivision (b) may consider all of the following:

(1) Residential density, if any of the following conditions exist on the particular portion of highway and the property contiguous thereto, other than a business district:
   a. Upon one side of the highway, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 13 or more separate dwelling houses of business structures.
   b. Upon both sides of the highway, collectively, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 16 or more separate dwelling houses or business structures.
   c. The portion of highway is longer than one-quarter of a mile but has the ratio of separate dwelling houses or business structures to the length of the highway described in either subparagraph (A) or (B).
(2) Pedestrian and bicyclist safety.

Section 21400.

(b) The Department of Transportation shall revise the California Manual on Uniform Traffic Control Devices, as it read on January 1, 2012, to require the Department of Transportation or a local authority to round speed limits to the nearest five miles per hour of the 85th percentile of the free-flowing traffic. However, in cases in which the speed limit needs to be rounded up to the nearest five miles per hour increment of the 85th-percentile speed, the Department of Transportation or a local authority may decide to instead round down the speed limit to the lower five miles per hour increment, but then the Department of Transportation or a local authority shall not reduce the speed limit any further for any reason.

Basic Speed Law

22350. No person shall drive a vehicle upon a highway at a speed greater than is reasonable or prudent having due regard for weather, visibility, the traffic on, and the surface and width of, the highway, and in no event at a speed which endangers the safety of persons or property.

Speed Law Violations

Section 22351.

(a) The speed of any vehicle upon a highway not in excess of the limits specified in Section 22352 or established as authorized in this code is lawful unless clearly proved to be in violation of the basic speed law.

(b) The speed of any vehicle upon a highway in excess of the prima facie speed limits in Section 22352 or established as authorized in this code is prima facie unlawful unless the defendant establishes by competent evidence that the speed in excess of said limits did not constitute a violation of the basic speed law at the time, place and under the conditions then existing.

Prima Facie Speed Limits

Section 22352.

The prima facie limits are as follows and shall be applicable unless changed as authorized in this code and, if so changed, only when signs have been erected giving notice thereof:

(a) Fifteen miles per hour:

(1) When traversing a railway grade crossing, if during the last 100 feet of the approach to the crossing the driver does not have a clear and unobstructed view of the crossing and of any traffic on the railway for a distance of 400 feet in both directions along such railway. This subdivision does not apply in the case of any railway grade crossing where a human flagman is on duty or a clearly visible electrical or mechanical railway crossing signal device is installed but does not then indicate the immediate approach of a railway train or car.

(2) When traversing any intersection of highways, if during the last 100 feet of the driver's approach to the intersection, the driver does not have a clear and unobstructed view of the intersection and of any traffic upon all of the highways entering the intersection for a distance of 100 feet along all those highways, except at an intersection protected by stop signs or yield right-of-way signs or controlled by official traffic control signals.

(3) On any alley.

(b) Twenty-five miles per hour:

(1) On any highway other than a state highway, in any business or residence district unless a different speed is determined by local authority under procedures set forth in this code.

(2) When approaching or passing a school building or the grounds thereof, contiguous to a highway and posted with a standard "SCHOOL" warning sign, while children are going to or leaving the school either during school hours or during the noon recess period. The prima facie limit shall also apply when approaching or passing any school grounds which are not separated from the highway by a fence, gate or other physical barrier while the grounds are in use by children and the highway is posted with a standard "SCHOOL" warning sign. For purposes of this

subparagraph, standard "SCHOOL" warning signs may be placed at any distance up to 500 feet away from school grounds.

(3) When passing a senior center or other facility primarily used by senior citizens, contiguous to a street other than a state highway and posted with a standard "SENIOR" warning sign. A local authority may erect a sign pursuant to this paragraph when the local agency makes a determination that the proposed signing should be implemented. A local authority may request grant funding from the Pedestrian Safety Account pursuant to Section 894.7 of the Streets and Highways Code, or any other grant funding available to it, and use that grant funding to pay for the erection of those signs, or may utilize any other funds available to it to pay for the erection of those signs, including, but not limited to, donations from private sources.

Increase of Local Speed Limits to 65 Miles Per Hour

Section 22357.

(a) Whenever a local authority determines upon the basis of an engineering and traffic survey that a speed greater than 25 miles per hour would facilitate the orderly movement of vehicular traffic and would be reasonable and safe upon any street other than a state highway otherwise subject to a prima facie limit of 25 miles per hour, the local authority may by ordinance determine and declare a prima facie speed limit of 30, 35, 40, 45, 50, 55 or 60 miles per hour or a maximum speed limit of 65 miles per hour, whichever is found most appropriate to facilitate the orderly movement of traffic and is reasonable and safe. The declared prima facie or maximum speed limit shall be effective when appropriate signs giving notice thereof are erected upon the street and shall not thereafter be revised except upon the basis of an engineering and traffic survey. This section does not apply to any 25 mile per hour prima facie limit, which is applicable when passing a school building or the grounds thereof or when passing a senior center or other facility primarily used by senior citizens.

(b) This section shall become operative on the date specified in subdivision (c) of Section 22366.

Downward Speed Zoning

Section 22358.5.

It is the intent of the Legislature that physical conditions such as width, curvature, grade and surface conditions, or any other condition readily apparent to a driver, in the absence of other factors, would not require special downward speed zoning, as the basic rule of Section 22350 is sufficient regulation as to such conditions.

Boundary Line Streets

Section 22359.

With respect to boundary line streets and highways where portions thereof are within different jurisdictions, no ordinance adopted under Sections 22357 and 22358 shall be effective as to any such portion until all authorities having jurisdiction of the portions of the street concerned have approved the same. This section shall not apply in the case of boundary line streets consisting of separate roadways within different jurisdictions.

Speed Trap Prohibition

Section 40801.

No peace officer or other person shall use a speed trap in arresting, or participating or assisting in the arrest of, any person for any alleged violation of this code nor shall any speed trap be used in securing evidence as to the speed of any vehicle for the purpose of an arrest or prosecution under this code.

Speed Trap

Section 40802.

(a) A "speed trap" is either of the following:

(1) A particular section of a highway measured as to distance and with boundaries marked, designated, or otherwise determined in order that the speed of a vehicle may be calculated by securing the time it takes the vehicle to travel the known distance.

(2) A particular section of a highway with a prima facie speed limit that is provided by this code or by local ordinance under subparagraph (A) of paragraph (2) of subdivision (a) of Section 22352, or established under Section 22354, 22357, 22358, or 22358.3, if that prima facie speed limit is not justified by an engineering and traffic survey conducted within five years prior to the date of the alleged violation, and enforcement of the speed limit involves the use of radar or any other electronic device that measures the speed of moving object. This paragraph does not apply to a local street, road, or school zone.

(b)(1) For purposes of this section, a local street or road is one that is functionally classified as "local" on the "California Road System Maps," that are approved by the Federal Highway Administration and maintained by the Department of Transportation. When a street or road does not appear on the "California Road System Maps," it may be defined as a "local street or road" if it primarily provides access to abutting residential property and meets the following three conditions:

(A) Roadway width of not more than 40 feet.

(B) Not more than one-half of a mile of uninterrupted length. Interruptions shall include official traffic control signals as defined in Section 445.

(C) Not more than one traffic lane in each direction.

(2) For purposes of this section "school zone" means that area approaching or passing a school building or the grounds thereof that is contiguous to a highway and on which is posted a standard "SCHOOL" warning sign, while children are going to or leaving the school either during school hours or during the noon recess period. "School zone" also includes the area approaching or passing any school grounds that are not separated from the highway by a fence, gate, or other physical barrier while the grounds are in use by children if that highway is posted with a standard "SCHOOL" warning sign.

(c)(1) When all the following criteria are met, paragraph (2) of this subdivision shall be applicable and subdivision (a) shall not be applicable:

(A) When radar is used, the arresting officer has successfully completed a radar operator course of not less than 24 hours on the use of police traffic radar, and the

course was approved and certified by the Commission on Peace Officer Standards and Training.

(B) When laser or any other electronic device is used to measure the speed of moving objects, the arresting officer has successfully completed the training required in subparagraph (A) and an additional training course of not less than two hours approved and certified by the Commission on Peace Officer Standards and Training.

(C)(i) The prosecution proved that the arresting officer complied with subparagraphs (A) and (B) and that an engineering and traffic survey has been conducted in accordance with subparagraph (B) of paragraph (2). The prosecution proved that, prior to the officer issuing the notice to appear, the arresting officer established that the radar, laser, or other electronic device conformed to the requirements of subparagraph (D).

(ii) The prosecution proved the speed of the accused was unsafe for the conditions present at the time of alleged violation unless the citation was for a violation of Section 22349, 22356, or 22406.

(D) The radar, laser, or other electronic device used to measure the speed of the accused meets or exceeds the minimal operational standards of the National Traffic Highway Safety Administration, and has been calibrated within the three years prior to the date of the alleged violation by an independent certified laser or radar repair and testing or calibration facility.

(2) A "speed trap" is either of the following:

(A) A particular section of a highway measured as to distance and with boundaries marked, designated, or otherwise determined in order that the speed of a vehicle may be calculated by securing the time it takes the vehicle to travel the known distance.

(B)(i) A particular section of a highway or state highway with a prima facie speed limit that is provided by this code or by local ordinance under subparagraph (A) of paragraph (2) of subdivision (a) of Section 22352, or established under Section 22354, 22357, 22358, or 22358.3, if that prima facie speed limit is not justified by an engineering and traffic survey conducted within one of the following time periods, prior to the date of the alleged violation, and enforcement of speed limit involves the use of radar or any other electronic device that measures the speed of moving objects:

(I) Except as specified in subclause (II), seven years.

(II) If an engineering and traffic survey was conducted more than seven years prior to the date of the alleged violation, and a registered engineer evaluates the section of the highway and determines that no significant changes in roadway or traffic conditions have occurred including, but not limited to, changes in adjoining property or land use, roadway width, or traffic volume, 10 years.

(ii) This subparagraph does not apply to a local street, road, or school zone.

Speed Trap Evidence

Section 40803.

(a) No evidence as to the speed of a vehicle upon a highway shall be admitted in any court upon the trial of any person in any prosecution under this code upon a charge involving the speed of a vehicle when the evidence is based upon or obtained from or by the maintenance or use of a speed trap.

(b) In any prosecution under this code of a charge involving the speed of a vehicle, where enforcement involves the use of radar or other electronic devices which measure the speed of moving objects, the prosecution shall establish, as part of its prima facie case, that the evidence or testimony presented is not based upon a speed trap as defined in paragraph (2) of subdivision (a) of Section 40802.

(c) When a traffic and engineering survey is required pursuant to paragraph (2) of subdivision (a) of Section 40802, evidence that a traffic and engineering survey has been conducted within five years of the date of the alleged violation or evidence that the offense was committed on a local street or road as defined in paragraph (2) of subdivision (a) of Section 40802 shall constitute a prima facie case that the evidence or testimony is not based upon a speed trap as defined in paragraph (2) subdivision (a) of Section 40802.

APPENDIX A
Street Segment Data

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

1

STREET Atlas Peak Road **CERTIFICATION DATE** 2/14/2020

FROM SR 121 **TO** Hardman Avenue

SPEED FACTORS

Date of Speed Survey	10/23/2019	**Posted Speed Limit**	40 mph
Time of Speed Survey	13:10	**Speed Justification**	
50th Percentile Speed (Mean Speed)	42 mph	HEAVY PED USE, NO SIDEWALKS, CREST CURVES, HORIZONTAL CURVES	
85th Percentile Speed	47 mph		
Average Speed	42 mph		
10 mph Pace Speed	38-47		
Percentage of Vehicles in Pace	77	**Recommended Speed Limit**	40 mph
Number of Survey Samples	203		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	3
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.58 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	5,062	**Date Counted**	10/24/2019
Number of Lanes	2		
Type of Traffic Control	SIGNAL At SR 121 AND CLUB HOUSE DR		
Crosswalks?	AT CLUB HOUSE DR		
Pedestrian Traffic	HEAVY		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.930 miles
Width	35 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	GOOD
Lighting	AT INTERSECTIONS
Adjacent Land Use	GOLF/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

2

STREET Bale Lane **CERTIFICATION DATE** 2/14/2020

FROM SR 29 **TO** Silverado Trail

SPEED FACTORS

Date of Speed Survey	11/8/2019	**Posted Speed Limit**	45 mph
Time of Speed Survey	10:05	**Speed Justification**	
50th Percentile Speed (Mean Speed)	45 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	47 mph		
Average Speed	45 mph		
10 mph Pace Speed	39-48		
Percentage of Vehicles in Pace	86	**Recommended Speed Limit**	45 mph
Number of Survey Samples	109		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,082	**Date Counted**	10/23/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT SR 29 AND SILVERADO TRAIL		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES, SOME		

ROADWAY FACTORS

Length of Segment	0.670 miles
Width	feet
Vertical Curve?	NO
Horizontal Curve?	YES
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | Date | State Registration Number

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

3

STREET Berryessa Knoxville Road **CERTIFICATION DATE** 2/14/2020

FROM SR 128 **TO** 0.75 mi S/O Mulford Drive

SPEED FACTORS

Date of Speed Survey	11/6/2019	**Posted Speed Limit**	45 mph
Time of Speed Survey	9:15	**Speed Justification**	
50th Percentile Speed (Mean Speed)	45 mph	HIGHER THAN EXPECTED COLLISION RATE	
85th Percentile Speed	50 mph		
Average Speed	45 mph		
10 mph Pace Speed	38-47		
Percentage of Vehicles in Pace	77	**Recommended Speed Limit**	45 mph
Number of Survey Samples	60		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	3
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	1.45 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	505	**Date Counted**	10/23/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT SR 128		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES, FEW		

ROADWAY FACTORS

Length of Segment	3.730 miles
Width	28 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FOREST/ LAKE

Field Study By MH **Checked By** NS

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Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Buchli Station Road **CERTIFICATION DATE** 2/14/2020

FROM Las Amigas Road **TO** 0.5 mi S/O Las Amigas Road

SPEED FACTORS

Date of Speed Survey	11/5/2019	**Posted Speed Limit**	35 mph
Time of Speed Survey	10:50	**Speed Justification**	
50th Percentile Speed (Mean Speed)	23 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	33 mph		
Average Speed	28 mph		
10 mph Pace Speed	17-26		
Percentage of Vehicles in Pace	61	**Recommended Speed Limit**	35 mph
Number of Survey Samples	33		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	562	**Date Counted**	10/23/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT LAS AMIGAS RD		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.500 miles
Width	20 feet
Vertical Curve?	NO
Horizontal Curve?	NO
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab	2/14/2020	TE 1695
Farhad Iranitalab	**Date**	**State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

5

STREET Buhman Avenue **CERTIFICATION DATE** 2/14/2020

FROM Congress Valley Road **TO** Napa City Limit

SPEED FACTORS

Date of Speed Survey	10/24/2019	**Posted Speed Limit**	45 mph
Time of Speed Survey	13:25	**Speed Justification**	
50th Percentile Speed (Mean Speed)	39 mph	CALIFORNIA MUTCD OPTION 2	
85th Percentile Speed	44 mph		
Average Speed	39 mph		
10 mph Pace Speed	35-44		
Percentage of Vehicles in Pace	80	**Recommended Speed Limit**	40 mph
Number of Survey Samples	204		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	3
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	1.32 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	3,194	**Date Counted**	11/5/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT CONGRESS VALLEY RD		
Crosswalks?	NONE		
Pedestrian Traffic	MODERATE (BIKE TRAFFIC)		
Truck Traffic	HEAVY		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES, FEW		

ROADWAY FACTORS

Length of Segment	0.650 miles
Width	25 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	GOOD
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

6

STREET Buhman Avenue **CERTIFICATION DATE** 2/14/2020

FROM Congress Valley Road **TO** Old Sonoma Road

SPEED FACTORS

Date of Speed Survey	10/25/2019	**Posted Speed Limit**	45 mph
Time of Speed Survey	13:45	**Speed Justification**	
50th Percentile Speed (Mean Speed)	48 mph	High Collision Rate, Horizontal Curves	
85th Percentile Speed	52 mph		
Average Speed	48 mph		
10 mph Pace Speed	44-53		
Percentage of Vehicles in Pace	77	**Recommended Speed Limit**	45 mph
Number of Survey Samples	212		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	4
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	1.32 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	2,193	**Date Counted**	11/5/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT CONGRESS VALLEY RD AND OLD SONOMA RD		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	HEAVY		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES, FEW		

ROADWAY FACTORS

Length of Segment	1.260 miles
Width	25 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	GOOD
Roadway Conditions	GOOD
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

7

STREET Cold Springs Road **CERTIFICATION DATE** 2/14/2020

FROM Howell Mountain Road **TO** Cold Springs Road

SPEED FACTORS

Date of Speed Survey	11/6/2019	**Posted Speed Limit**	25 mph
Time of Speed Survey	14:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	35 mph	ROAD GEOMETRY, SCHOOL XING, UNENFORCED RADAR	
85th Percentile Speed	39 mph		
Average Speed	35 mph		
10 mph Pace Speed	29-38		
Percentage of Vehicles in Pace	79	**Recommended Speed Limit**	25 mph
Number of Survey Samples	178		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,239	**Date Counted**	10/23/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT COLD SPRINGS, NEILSEN CT(SOUTHBOUND ONLY), AND HOWELL MTN RD		
Crosswalks?	AT NEILSEN CT		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.240 miles
Width	24 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	POOR
Lighting	NONE
Adjacent Land Use	RESIDENTIAL, SCHOOL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | Date | State Registration Number

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Cold Springs Road **CERTIFICATION DATE** 2/14/2020

FROM Los Posados Road **TO** End

SPEED FACTORS

Date of Speed Survey	11/6/2019	**Posted Speed Limit**	35 mph
Time of Speed Survey	13:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	23 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	27 mph		
Average Speed	23 mph		
10 mph Pace Speed	20-29		
Percentage of Vehicles in Pace	77	**Recommended Speed Limit**	25 mph
Number of Survey Samples	47		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	313	**Date Counted**	10/23/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT LAS POSADAS RD		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.850 miles
Width	24 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	POOR
Lighting	NONE
Adjacent Land Use	FARMING/RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET College Avenue **CERTIFICATION DATE** 2/14/2020

FROM Howell Mountain Road **TO** 1700' W/O Howell Mountain Road

SPEED FACTORS

Date of Speed Survey	11/7/2019	**Posted Speed Limit**	35 mph
Time of Speed Survey	10:15	**Speed Justification**	
50th Percentile Speed (Mean Speed)	35 mph	HIGHER THAN EXPECTED COLLISION RATE	
85th Percentile Speed	41 mph		
Average Speed	35 mph		
10 mph Pace Speed	30-39		
Percentage of Vehicles in Pace	76	**Recommended Speed Limit**	35 mph
Number of Survey Samples	153		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	2
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	2.64 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	2,161	**Date Counted**	10/23/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT HOWELL MTN RD		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.320 miles
Width	30 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	UNUSED/ FOREST/ FIRESTATION AT 1700' W/ HOWELL MTN RD

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

10

STREET College Avenue **CERTIFICATION DATE** 2/14/2020

FROM 1700' W/O Howell Mountain Roa **TO** White Cottage Road

SPEED FACTORS

Date of Speed Survey	11/7/2019	**Posted Speed Limit**	25 mph
Time of Speed Survey	12:30	**Speed Justification**	
50th Percentile Speed (Mean Speed)	27 mph	MODERATE PED USE, NO SIDEWALKS, HORIZONTAL & VERTICAL CURVES	
85th Percentile Speed	31 mph		
Average Speed	27 mph		
10 mph Pace Speed	22-31		
Percentage of Vehicles in Pace	86	**Recommended Speed Limit**	25 mph
Number of Survey Samples	120		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	1
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	1.59 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,200	**Date Counted**	10/23/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT CLARK WAY AND WHITE COTTAGE RD		
Crosswalks?	YES, AT WHITE COTTAGE RD		
Pedestrian Traffic	MODERATE		
Truck Traffic	LIGHT		
On-Street Parking	YES		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.480 miles
Width	30 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	RESIDENTIAL/ FIRESTATION AT 1700' W/ HOWELL MTN RD

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

11

STREET Congress Valley Road **CERTIFICATION DATE** 2/14/2020

FROM Old Sonoma Road **TO** Buhman Avenue

SPEED FACTORS

Date of Speed Survey	10/25/2019	**Posted Speed Limit**	40 mph
Time of Speed Survey	11:20	**Speed Justification**	
50th Percentile Speed (Mean Speed)	39 mph	CALIFORNIA MUTCD OPTION 2	
85th Percentile Speed	44 mph		
Average Speed	39 mph		
10 mph Pace Speed	35-44		
Percentage of Vehicles in Pace	69	**Recommended Speed Limit**	40 mph
Number of Survey Samples	169		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	2
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	1.48 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,312	**Date Counted**	11/5/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT BUHMAN AVE, THOMPSON AVE, AND OLD SONOMA RD		
Crosswalks?	NONE		
Pedestrian Traffic	MODERATE		
Truck Traffic	MODERATE		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.940 miles
Width	25 feet
Vertical Curve?	NO
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	GOOD
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Coombsville Road **CERTIFICATION DATE** 2/14/2020

FROM Napa City Limit **TO** Wild Horse Valley Road

SPEED FACTORS

Date of Speed Survey	10/23/2019	**Posted Speed Limit**	40 mph
Time of Speed Survey	9:20	**Speed Justification**	
50th Percentile Speed (Mean Speed)	41 mph	CALIFORNIA MUTCD OPTION 2	
85th Percentile Speed	48 mph		
Average Speed	41 mph		
10 mph Pace Speed	37-46		
Percentage of Vehicles in Pace	58	**Recommended Speed Limit**	45 mph
Number of Survey Samples	118		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	2
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	1.29 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,025	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	NONE		
Crosswalks?	AT 3RD, 2ND, AND 1ST ST		
Pedestrian Traffic	HEAVY		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	1.380 miles
Width	28 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENITAL/ SCHOOL

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

13

STREET Cuttings Wharf Road **CERTIFICATION DATE** 2/14/2020

FROM SR 121 **TO** Las Amigas Road

SPEED FACTORS

Date of Speed Survey	11/6/2019	**Posted Speed Limit**	NP mph
Time of Speed Survey	9:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	50 mph	MODERATE PED & BIKE TRAFFIC, NO SIDEWALKS, HORIZONTAL & VERTICAL CURVES	
85th Percentile Speed	57 mph		
Average Speed	50 mph		
10 mph Pace Speed	43-52		
Percentage of Vehicles in Pace	58	**Recommended Speed Limit**	50 mph
Number of Survey Samples	230		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	2
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	0.42 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	2,479	**Date Counted**	10/23/2019
Number of Lanes	2, BIKE LANE ON EAST SIDE		
Type of Traffic Control	STOP AT SR 121		
Crosswalks?	NONE		
Pedestrian Traffic	MODERATE		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	1.750 miles
Width	30 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	GOOD
Roadway Conditions	GOOD
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | Date | State Registration Number

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Devlin Road **CERTIFICATION DATE** 2/14/2020

FROM Sheehy Court **TO** Airport Boulevard

SPEED FACTORS

Date of Speed Survey	11/5/2019	**Posted Speed Limit**	45 mph
Time of Speed Survey	13:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	32 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	38 mph		
Average Speed	32 mph		
10 mph Pace Speed	27-36		
Percentage of Vehicles in Pace	60	**Recommended Speed Limit**	40 mph
Number of Survey Samples	254		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	1.44 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	10,157	**Date Counted**	10/23/2019
Number of Lanes	4, BIKE LANES, RAISED MEDIANS		
Type of Traffic Control	SIGNAL AT AIRPORT BLVD		
Crosswalks?	AT SIGNAL		
Pedestrian Traffic	MODERATE		
Truck Traffic	HEAVY		
On-Street Parking	NONE		
Sidewalks?	YES (PARTIAL)		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.300 miles
Width	60 feet
Vertical Curve?	NO
Horizontal Curve?	YES
Visibility	GOOD
Roadway Conditions	GOOD
Lighting	AT INTERSECTION
Adjacent Land Use	COMMERCIAL

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET El Centro Avenue **CERTIFICATION DATE** 2/14/2020

FROM Big Ranch Road **TO** 100' E/Solomon Avenue

SPEED FACTORS

Date of Speed Survey	11/5/2019	**Posted Speed Limit**	35 mph
Time of Speed Survey	13:30	**Speed Justification**	
50th Percentile Speed (Mean Speed)	38 mph	CALIFORNIA MUTCD OPTION 2	
85th Percentile Speed	43 mph		
Average Speed	38 mph		
10 mph Pace Speed	32-41		
Percentage of Vehicles in Pace	73	**Recommended Speed Limit**	40 mph
Number of Survey Samples	220		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	2
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.75 Collisions/MVM

TRAFFIC FACTORS

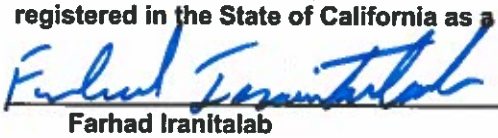
Average Daily Traffic	4,086	**Date Counted**	10/24/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT BIG RANCH RD		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.600 miles
Width	25 feet
Vertical Curve?	NO
Horizontal Curve?	NO
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).



Farhad Iranitalab	2/14/2020	TE 1695
	Date	**State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Hagen Road **CERTIFICATION DATE** 2/14/2020

FROM Napa City Limit **TO** 0.15 mi E/O Napa City Limit

SPEED FACTORS

Date of Speed Survey	10/24/2019	**Posted Speed Limit**	35 mph
Time of Speed Survey	11:20	**Speed Justification**	
50th Percentile Speed (Mean Speed)	38 mph	HIGH COLLISION RATE	
85th Percentile Speed	42 mph		
Average Speed	38 mph		
10 mph Pace Speed	33-42		
Percentage of Vehicles in Pace	87	**Recommended Speed Limit**	35 mph
Number of Survey Samples	202		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	4
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	1.19 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	5,112	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	NONE		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.600 miles
Width	24 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	GOOD
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Hagen Road **CERTIFICATION DATE** 2/14/2020

FROM 0.53 mi E/O Napa City Limit **TO** Third Avenue

SPEED FACTORS

Date of Speed Survey	10/22/2019	**Posted Speed Limit**	35 mph
Time of Speed Survey	11:40	**Speed Justification**	
50th Percentile Speed (Mean Speed)	32 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	37 mph		
Average Speed	32 mph		
10 mph Pace Speed	28-37		
Percentage of Vehicles in Pace	70	**Recommended Speed Limit**	35 mph
Number of Survey Samples	116		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,408	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	NONE		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	1.000 miles
Width	25 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Hagen Road **CERTIFICATION DATE** 2/14/2020

FROM 0.15 mi E/O Napa City Limit **TO** 0.53 mi E/O Napa City Limit

SPEED FACTORS

Date of Speed Survey	10/22/2019	**Posted Speed Limit**	45 mph
Time of Speed Survey	14:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	42 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	46 mph		
Average Speed	42 mph		
10 mph Pace Speed	38-47		
Percentage of Vehicles in Pace	84	**Recommended Speed Limit**	45 mph
Number of Survey Samples	204		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	1
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	0.52 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	4,907	**Date Counted**	11/5/2019
Number of Lanes	2		
Type of Traffic Control	NONE		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.360 miles
Width	35 feet
Vertical Curve?	NO
Horizontal Curve?	NO
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

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Farhad Iranitalab	2/14/2020	TE 1695
Farhad Iranitalab	**Date**	**State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Hillcrest Drive **CERTIFICATION DATE** 2/14/2020

FROM Atlas Peak Road **TO** Westgate Drive

SPEED FACTORS

Date of Speed Survey	10/24/2019	**Posted Speed Limit**	35 mph
Time of Speed Survey	9:10	**Speed Justification**	
50th Percentile Speed (Mean Speed)	36 mph	HEAVY PED TRAFFIC, NO SIDEWALKS, HORIZONTAL & VERTICAL CURVES	
85th Percentile Speed	40 mph		
Average Speed	36 mph		
10 mph Pace Speed	33-42		
Percentage of Vehicles in Pace	82	**Recommended Speed Limit**	35 mph
Number of Survey Samples	217		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	2,460	**Date Counted**	10/24/2019
Number of Lanes	2, RAISED MEDIANS		
Type of Traffic Control	STOP AT ATLAS PEAK RD AND WESTGATE DR		
Crosswalks?	NONE		
Pedestrian Traffic	HEAVY		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	EAST SIDE ONLY		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	1.050 miles
Width	40 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	GOOD
Lighting	YES
Adjacent Land Use	GOLF/ RESIDENTIAL

Field Study By MH **Checked By** NS

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Farhad Iranitalab	2/14/2020	TE 1695
Farhad Iranitalab	**Date**	**State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

20

STREET Los Carneros Avenue **CERTIFICATION DATE** 2/14/2020

FROM SR 121 **TO** South Avenue

SPEED FACTORS

Date of Speed Survey	11/6/2019	**Posted Speed Limit**	45 mph
Time of Speed Survey	11:15	**Speed Justification**	
50th Percentile Speed (Mean Speed)	37 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	41 mph		
Average Speed	37 mph		
10 mph Pace Speed	32-41		
Percentage of Vehicles in Pace	65	**Recommended Speed Limit**	40 mph
Number of Survey Samples	62		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	1
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	0.90 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	902	**Date Counted**	10/23/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT SR 121		
Crosswalks?	2 UNCONTROLLED (NEAR SCHOOL PARKING LOT)		
Pedestrian Traffic	MODERATE		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	1.130 miles
Width	28 feet
Vertical Curve?	YES
Horizontal Curve?	NO
Visibility	GOOD
Roadway Conditions	GOOD
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Las Posadas Road **CERTIFICATION DATE** 2/14/2020

FROM Cold Springs Road **TO** .9 mi E/O Cold Springs Road

SPEED FACTORS

Date of Speed Survey	11/7/2019	**Posted Speed Limit**	25 mph
Time of Speed Survey	14:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	20 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	25 mph		
Average Speed	20 mph		
10 mph Pace Speed	17-26		
Percentage of Vehicles in Pace	85	**Recommended Speed Limit**	25 mph
Number of Survey Samples	27		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	409	**Date Counted**	10/23/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT COLD SPRINGS RD		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.900 miles
Width	24 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	POOR
Roadway Conditions	POOR
Lighting	NONE
Adjacent Land Use	FARMING/ UNSUED LAND

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | Date | State Registration Number

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Meadowwood Lane **CERTIFICATION DATE** 2/14/2020

FROM Howell Mountain Road **TO** End

SPEED FACTORS

Date of Speed Survey	11/5/2019	**Posted Speed Limit**	25 mph
Time of Speed Survey	14:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	25 mph	CALIFORNIA MUTCD OPTION 2	
85th Percentile Speed	28 mph		
Average Speed	25 mph		
10 mph Pace Speed	19-28		
Percentage of Vehicles in Pace	90	**Recommended Speed Limit**	25 mph
Number of Survey Samples	40		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	191	**Date Counted**	10/23/2019
Number of Lanes	2		
Type of Traffic Control	STOPS AT HOWELL MTN RD AND MEADOWOOD LN		
Crosswalks?	NONE		
Pedestrian Traffic	MODERATE		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.530 miles
Width	20 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	POOR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

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Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET North Avenue **CERTIFICATION DATE** 2/14/2020

FROM First Avenue **TO** Third Avenue

SPEED FACTORS

Date of Speed Survey	10/24/2019	**Posted Speed Limit**	40 mph
Time of Speed Survey	13:30	**Speed Justification**	
50th Percentile Speed (Mean Speed)	39 mph	MODERATE PED TRAFFIC W/ NO SIDEWALKS, HORIZONTAL & VERTICAL CURVES	
85th Percentile Speed	47 mph		
Average Speed	39 mph		
10 mph Pace Speed	33-42		
Percentage of Vehicles in Pace	59	**Recommended Speed Limit**	40 mph
Number of Survey Samples	124		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,076	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT 1ST ST		
Crosswalks?	NONE		
Pedestrian Traffic	MODERATE		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.890 miles
Width	22 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab	2/14/2020	TE 1695
Farhad Iranitalab	**Date**	**State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Oak Knoll Road **CERTIFICATION DATE** 2/14/2020

FROM SR 29 **TO** Big Ranch Road

SPEED FACTORS

Date of Speed Survey	10/24/2019	**Posted Speed Limit**	45 mph
Time of Speed Survey	12:35	**Speed Justification**	
50th Percentile Speed (Mean Speed)	48 mph	HIGH COLLISION RATE	
85th Percentile Speed	52 mph		
Average Speed	48 mph		
10 mph Pace Speed	42-51		
Percentage of Vehicles in Pace	75	**Recommended Speed Limit**	45 mph
Number of Survey Samples	207		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	7
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	0.86 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	6,164	**Date Counted**	10/24/2019
Number of Lanes	2		
Type of Traffic Control	SIGNAL AT SR 29, STOP AT BIG RANCH RD		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	1.200 miles
Width	24 feet
Vertical Curve?	NO
Horizontal Curve?	YES
Visibility	GOOD
Roadway Conditions	GOOD
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Oak Knoll Road **CERTIFICATION DATE** 2/14/2020

FROM Big Ranch Road **TO** Silverado Trail

SPEED FACTORS

Date of Speed Survey	11/7/2019	**Posted Speed Limit**	45 mph
Time of Speed Survey	9:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	46 mph	HIGH COLLISION RATE	
85th Percentile Speed	52 mph		
Average Speed	46 mph		
10 mph Pace Speed	42-51		
Percentage of Vehicles in Pace	69	**Recommended Speed Limit**	45 mph
Number of Survey Samples	230		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	5
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	1.27 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	4,494	**Date Counted**	11/5/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT BIG RANCH RD AND SILVERADO TRIAL		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.800 miles
Width	24 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR, POOR AROUND BRIGDE
Roadway Conditions	GOOD
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Orchard Avenue **CERTIFICATION DATE** 2/14/2020

FROM 2900' W/O Napa City Limit **TO** Dry Creek Road

SPEED FACTORS

Date of Speed Survey	11/6/2019	**Posted Speed Limit**	35 mph
Time of Speed Survey	9:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	37 mph	CALIFORNIA MUTCD OPTION 2	
85th Percentile Speed	43 mph		
Average Speed	37 mph		
10 mph Pace Speed	32-41		
Percentage of Vehicles in Pace	65	**Recommended Speed Limit**	40 mph
Number of Survey Samples	113		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	3
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	4.75 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,406	**Date Counted**	11/5/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT DRY CREEK RD		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.410 miles
Width	25 feet
Vertical Curve?	NO
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 (Date) — TE 1695 (State Registration Number)

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Orchard Avenue **CERTIFICATION DATE** 2/14/2020

FROM Napa City Limit **TO** 2900' W/O Napa City Limit

SPEED FACTORS

Date of Speed Survey	11/6/2019	**Posted Speed Limit**	45 mph
Time of Speed Survey	11:10	**Speed Justification**	
50th Percentile Speed (Mean Speed)	40 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	46 mph		
Average Speed	40 mph		
10 mph Pace Speed	36-45		
Percentage of Vehicles in Pace	67	**Recommended Speed Limit**	45 mph
Number of Survey Samples	136		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	2
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	2.10 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,551	**Date Counted**	11/5/2019
Number of Lanes	2		
Type of Traffic Control	NONE		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.560 miles
Width	25 feet
Vertical Curve?	NO
Horizontal Curve?	NO
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab 2/14/2020 TE 1695

Farhad Iranitalab **Date** **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Partrick Road **CERTIFICATION DATE** 2/14/2020

FROM Napa City Limit **TO** End

SPEED FACTORS

Date of Speed Survey	10/25/2019	**Posted Speed Limit**	30 mph
Time of Speed Survey	13:45	**Speed Justification**	
50th Percentile Speed (Mean Speed)	29 mph	CALIFORNIA MUTCD OPTION 2	
85th Percentile Speed	33 mph		
Average Speed	29 mph		
10 mph Pace Speed	24-33		
Percentage of Vehicles in Pace	73	**Recommended Speed Limit**	30 mph
Number of Survey Samples	64		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	4
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	2.90 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	312	**Date Counted**	11/12/2019
Number of Lanes	2, (NO STRIPING AFTER APPROX. 2 MI)		
Type of Traffic Control	NONE		
Crosswalks?	NONE		
Pedestrian Traffic	MODERATE (BIKE TRAFFIC)		
Truck Traffic	MODERATE		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	4.040 miles
Width	25 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	POOR
Roadway Conditions	POOR
Lighting	NONE
Adjacent Land Use	FOREST/ FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | Date | State Registration Number

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Penny Lane **CERTIFICATION DATE** 2/14/2020

FROM Imola Avenue **TO** End

SPEED FACTORS

Date of Speed Survey	11/7/2019	**Posted Speed Limit**	30 mph
Time of Speed Survey	11:50	**Speed Justification**	
50th Percentile Speed (Mean Speed)	26 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	31 mph		
Average Speed	26 mph		
10 mph Pace Speed	22-31		
Percentage of Vehicles in Pace	75	**Recommended Speed Limit**	30 mph
Number of Survey Samples	44		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	267	**Date Counted**	11/5/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT E IMOLA AVE		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	VEHICLES PARKED ON SHOULDER		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.350 miles
Width	25 feet
Vertical Curve?	YES
Horizontal Curve?	NO
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

30

STREET Redwood Road **CERTIFICATION DATE** 2/14/2020

FROM 400' W/O West Pueblo Avenue **TO** 500' E/O Browns Valley Road

SPEED FACTORS

Date of Speed Survey	10/25/2019	**Posted Speed Limit**	30 mph
Time of Speed Survey	9:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	40 mph	CALIFORNIA MUTCD OPTION 2	
85th Percentile Speed	44 mph		
Average Speed	40 mph		
10 mph Pace Speed	35-44		
Percentage of Vehicles in Pace	74	**Recommended Speed Limit**	40 mph
Number of Survey Samples	198		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	1
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.37 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	4,109	**Date Counted**	11/5/2019
Number of Lanes	2		
Type of Traffic Control	NONE		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	MODERATE		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.600 miles
Width	30 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab **Date** **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Second Avenue **CERTIFICATION DATE** 2/14/2020

FROM North Avenue **TO** Coombsville Road

SPEED FACTORS

Date of Speed Survey	10/23/2019	**Posted Speed Limit**	40 mph
Time of Speed Survey	13:30	**Speed Justification**	
50th Percentile Speed (Mean Speed)	34 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	40 mph		
Average Speed	34 mph		
10 mph Pace Speed	28-37		
Percentage of Vehicles in Pace	62	**Recommended Speed Limit**	40 mph
Number of Survey Samples	82		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	688	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT NORTH AVE AND COOMBSVILLE RD		
Crosswalks?	2 IN FRONT OF MT GEORGE ELEMENTARY		
Pedestrian Traffic	HEAVY		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.610 miles
Width	25 feet
Vertical Curve?	YES
Horizontal Curve?	NO
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Silverado Trail **CERTIFICATION DATE** 2/14/2020

FROM Trancas Street **TO** SR 128

SPEED FACTORS

Date of Speed Survey	11/5/2019	**Posted Speed Limit**	55 mph
Time of Speed Survey	11:10	**Speed Justification**	
50th Percentile Speed (Mean Speed)	57 mph	CVC 22349(B) MAXIMUM SPEED LIMIT	
85th Percentile Speed	61 mph		
Average Speed	57 mph		
10 mph Pace Speed	53-62		
Percentage of Vehicles in Pace	75	**Recommended Speed Limit**	55 mph
Number of Survey Samples	277		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	106
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	0.48 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	14,948	**Date Counted**	10/23/2019
Number of Lanes	2, BIKE LANES, SOME LEFT TURN POCKETS		
Type of Traffic Control	SIGNAL AT TRANCAS		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	HEAVY		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	13.500 miles
Width	40 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	GOOD
Roadway Conditions	GOOD
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Silverado Trail **CERTIFICATION DATE** 2/14/2020

FROM SR 128 **TO** Deer Park Road

SPEED FACTORS

Date of Speed Survey	11/5/2019	**Posted Speed Limit**	55 mph
Time of Speed Survey	13:25	**Speed Justification**	
50th Percentile Speed (Mean Speed)	55 mph	CVC 22349(B) MAXIMUM SPEED LIMIT	
85th Percentile Speed	60 mph		
Average Speed	55 mph		
10 mph Pace Speed	50-59		
Percentage of Vehicles in Pace	66	**Recommended Speed Limit**	55 mph
Number of Survey Samples	274		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	42
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	0.64 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	12,010	**Date Counted**	10/23/2019
Number of Lanes	2, BIKE LANES, SOME LEFT TURN POCKETS		
Type of Traffic Control	SIGNAL AT DEER PARK RD, STOP ON SR128, ZINFANDEL LN, TAPLIN RD, HOWELL MTN RD, POPE ST, MEADOWOOD RD,& FAWN PARK RD		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	HEAVY		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	5.000 miles
Width	40 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	GOOD
Lighting	NONE
Adjacent Land Use	FARMING/RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab	**Date** 2/14/2020	**State Registration Number** TE 1695

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Soda Canyon Road **CERTIFICATION DATE** 2/14/2020

FROM Silverado Trail **TO** Loma Vista Drive

SPEED FACTORS

Date of Speed Survey	11/7/2019	**Posted Speed Limit**	45 mph
Time of Speed Survey	11:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	39 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	44 mph		
Average Speed	39 mph		
10 mph Pace Speed	33-42		
Percentage of Vehicles in Pace	62	**Recommended Speed Limit**	45 mph
Number of Survey Samples	122		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	3
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	1.18 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,545	**Date Counted**	10/24/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT SILVERADO TRAIL		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	1.500 miles
Width	24 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | Date | State Registration Number

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Solano Avenue **CERTIFICATION DATE** 2/14/2020

FROM Napa City Limit **TO** 1500' N/O Carrell Lane

SPEED FACTORS

Date of Speed Survey	11/6/2019	**Posted Speed Limit**	50 mph
Time of Speed Survey	13:25	**Speed Justification**	
50th Percentile Speed (Mean Speed)	47 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	52 mph		
Average Speed	47 mph		
10 mph Pace Speed	43-52		
Percentage of Vehicles in Pace	66	**Recommended Speed Limit**	50 mph
Number of Survey Samples	196		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	4
Statewide Average Collision Rate	1.32 Collisions/MVM
Collisions per Million Vehicle Miles	1.20 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,997	**Date Counted**	11/5/2019
Number of Lanes	2, BIKE LANES		
Type of Traffic Control	STOP AT OAK KNOLL RD		
Crosswalks?	NONE		
Pedestrian Traffic	HEAVY (BIKE TRAFFIC)		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	1.520 miles
Width	32 feet
Vertical Curve?	NO
Horizontal Curve?	YES
Visibility	GOOD
Roadway Conditions	GOOD
Lighting	NONE
Adjacent Land Use	FARMING

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | Date | State Registration Number

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

36

STREET Sunset Road **CERTIFICATION DATE** 2/14/2020

FROM Congress Valley Road **TO** End

SPEED FACTORS

Date of Speed Survey	11/7/2019	**Posted Speed Limit**	30 mph
Time of Speed Survey	9:50	**Speed Justification**	
50th Percentile Speed (Mean Speed)	31 mph	TIGHT HORIZONTAL CURVE RESTRICTS VISIBILITY	
85th Percentile Speed	35 mph		
Average Speed	31 mph		
10 mph Pace Speed	26-35		
Percentage of Vehicles in Pace	82	**Recommended Speed Limit**	30 mph
Number of Survey Samples	22		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	132	**Date Counted**	11/5/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT CONGRESS VALLEY RD		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.360 miles
Width	16 feet
Vertical Curve?	NO
Horizontal Curve?	YES
Visibility	FAIR, POOR ON TURN
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab	2/14/2020	TE 1695
Farhad Iranitalab	**Date**	**State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Third Avenue **CERTIFICATION DATE** 2/14/2020

FROM Hagen Road **TO** 0.3 mi W/O Hagen Road

SPEED FACTORS

Date of Speed Survey	10/22/2019	**Posted Speed Limit**	35/40 mph
Time of Speed Survey	9:30	**Speed Justification**	
50th Percentile Speed (Mean Speed)	32 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	39 mph		
Average Speed	32 mph		
10 mph Pace Speed	29-38		
Percentage of Vehicles in Pace	58	**Recommended Speed Limit**	40 mph
Number of Survey Samples	85		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	1
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	5.55 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	633	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	NONE		
Crosswalks?	NONE		
Pedestrian Traffic	MODERATE		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.260 miles
Width	25 feet
Vertical Curve?	NO
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	GOLF/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab	**Date** 2/14/2020	**State Registration Number** TE 1695

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Third Avenue **CERTIFICATION DATE** 2/14/2020

FROM 0.3 mi W/O Hagen Road **TO** Barrow Lane

SPEED FACTORS

Date of Speed Survey	10/23/2019	**Posted Speed Limit**	40 mph
Time of Speed Survey	11:25	**Speed Justification**	
50th Percentile Speed (Mean Speed)	35 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	41 mph		
Average Speed	35 mph		
10 mph Pace Speed	32-41		
Percentage of Vehicles in Pace	64	**Recommended Speed Limit**	40 mph
Number of Survey Samples	64		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	585	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	NONE		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	1.170 miles
Width	25 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab	2/14/2020	TE 1695
	Date	**State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Third Avenue **CERTIFICATION DATE** 2/14/2020

FROM Coombsville Road **TO** North Avenue

SPEED FACTORS

Date of Speed Survey	10/24/2019	**Posted Speed Limit**	40 mph
Time of Speed Survey	10:25	**Speed Justification**	
50th Percentile Speed (Mean Speed)	38 mph	CALIFORNIA MUTCD OPTION 2	
85th Percentile Speed	43 mph		
Average Speed	38 mph		
10 mph Pace Speed	34-43		
Percentage of Vehicles in Pace	79	**Recommended Speed Limit**	40 mph
Number of Survey Samples	89		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	1
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	1.49 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	873	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT NORTH AVE AND COOMBSVILLE RD		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.700 miles
Width	34 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | **Date** | **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

40

STREET Third Avenue **CERTIFICATION DATE** 2/14/2020

FROM North Avenue **TO** Barrow Lane

SPEED FACTORS

Date of Speed Survey	10/25/2019	**Posted Speed Limit**	40 mph
Time of Speed Survey	10:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	33 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	39 mph		
Average Speed	33 mph		
10 mph Pace Speed	28-37		
Percentage of Vehicles in Pace	65	**Recommended Speed Limit**	40 mph
Number of Survey Samples	91		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	1
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	4.26 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	596	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	NONE		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.360 miles
Width	25 feet
Vertical Curve?	NO
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | Date | State Registration Number

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Tower Road **CERTIFICATION DATE** 2/14/2020

FROM SR 29 **TO** End

SPEED FACTORS

Date of Speed Survey	11/5/2019	**Posted Speed Limit**	25 mph
Time of Speed Survey	13:57	**Speed Justification**	
50th Percentile Speed (Mean Speed)	27 mph	CALIFORNIA MUTCD OPTION 2	
85th Percentile Speed	33 mph		
Average Speed	27 mph		
10 mph Pace Speed	22-31		
Percentage of Vehicles in Pace	65	**Recommended Speed Limit**	30 mph
Number of Survey Samples	193		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	1
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	1.29 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	1,385	**Date Counted**	10/23/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT HWY 29		
Crosswalks?	UNCONTROLLED AT RINKER MATERIALS HYDRO CONDUIT		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	YES, BOTH SIDES		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.510 miles
Width	40 feet
Vertical Curve?	YES
Horizontal Curve?	NO
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	INDUSTRIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab	2/14/2020	TE 1695
Farhad Iranitalab	**Date**	**State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Vichy Avenue **CERTIFICATION DATE** 2/14/2020

FROM Monticello Road **TO** La Grande Avenue

SPEED FACTORS

Date of Speed Survey	10/23/2019	**Posted Speed Limit**	35 mph
Time of Speed Survey	11:05	**Speed Justification**	
50th Percentile Speed (Mean Speed)	32 mph	CLOSEST TO 85TH SPEED	
85th Percentile Speed	37 mph		
Average Speed	32 mph		
10 mph Pace Speed	26-35		
Percentage of Vehicles in Pace	75	**Recommended Speed Limit**	35 mph
Number of Survey Samples	199		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	2
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	1.29 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	2,398	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT MONICELLO RD		
Crosswalks?	2 UNCONTROLLED CROSSWALKS, 200' APART, AT VICHY ELEMENTAR		
Pedestrian Traffic	MODERATE		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.590 miles
Width	30 feet
Vertical Curve?	YES
Horizontal Curve?	NO
Visibility	GOOD, POOR AT LA GRANDE AVE
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL/ SCHOOL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

2/14/2020

Farhad Iranitalab **Date** **TE 1695** **State Registration Number**

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Vichy Avenue **CERTIFICATION DATE** 2/14/2020

FROM La Grande Avenue **TO** Hagen Road

SPEED FACTORS

Date of Speed Survey	10/23/2019	**Posted Speed Limit**	40 mph
Time of Speed Survey	9:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	40 mph	CALIFORNIA MUTCD OPTION 2	
85th Percentile Speed	44 mph		
Average Speed	40 mph		
10 mph Pace Speed	35-44		
Percentage of Vehicles in Pace	75	**Recommended Speed Limit**	40 mph
Number of Survey Samples	184		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	2
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	1.40 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	2,251	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	NONE		
Crosswalks?	NONE		
Pedestrian Traffic	LIGHT		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.580 miles
Width	30 feet
Vertical Curve?	YES
Horizontal Curve?	NO
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | Date | State Registration Number

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Westgate Drive **CERTIFICATION DATE** 2/14/2020

FROM Atlas Peak Road **TO** Hillcrest Drive

SPEED FACTORS

Date of Speed Survey	11/7/2019	**Posted Speed Limit**	35 mph
Time of Speed Survey	13:30	**Speed Justification**	
50th Percentile Speed (Mean Speed)	36 mph	HIDDEN DRIVEWAYS, HEAVY PED USE	
85th Percentile Speed	40 mph		
Average Speed	36 mph		
10 mph Pace Speed	30-39		
Percentage of Vehicles in Pace	78	**Recommended Speed Limit**	35 mph
Number of Survey Samples	98		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	0
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	0.00 Collisions/MVM

TRAFFIC FACTORS

Average Daily Traffic	810	**Date Counted**	10/24/2019
Number of Lanes	2		
Type of Traffic Control	STOP AT HILLCREST DR AND ATLAS PEAK RD		
Crosswalks?	NONE		
Pedestrian Traffic	HEAVY		
Truck Traffic	MODERATE		
On-Street Parking	YES		
Sidewalks?	EAST SIDE ONLY		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	1.000 miles
Width	40 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	FAIR
Roadway Conditions	FAIR
Lighting	STREET LIGHTING
Adjacent Land Use	GOLF/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).

Farhad Iranitalab — 2/14/2020 — TE 1695

Farhad Iranitalab | Date | State Registration Number

COUNTY OF NAPA
ENGINEERING AND TRAFFIC SURVEY

STREET Wild Horse Valley Road **CERTIFICATION DATE** 2/14/2020

FROM Coombsville Road **TO** Shady Brook Lane

SPEED FACTORS

Date of Speed Survey	10/22/2019	**Posted Speed Limit**	40 mph
Time of Speed Survey	14:00	**Speed Justification**	
50th Percentile Speed (Mean Speed)	38 mph	MODERATE PED USE, NO SIDEWALKS	
85th Percentile Speed	45 mph		
Average Speed	38 mph		
10 mph Pace Speed	32-41		
Percentage of Vehicles in Pace	57	**Recommended Speed Limit**	40 mph
Number of Survey Samples	105		

COLLISION HISTORY

Number of Years Studied	3 years
Total Collisions	1
Statewide Average Collision Rate	2.39 Collisions/MVM
Collisions per Million Vehicle Miles	1.46 Collisions/MVM

TRAFFIC FACTORS

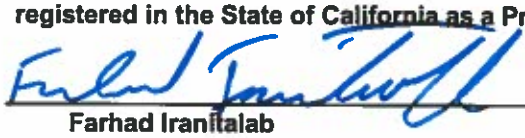
Average Daily Traffic	906	**Date Counted**	10/22/2019
Number of Lanes	2		
Type of Traffic Control	NONE		
Crosswalks?	NONE		
Pedestrian Traffic	MODERATE		
Truck Traffic	LIGHT		
On-Street Parking	NONE		
Sidewalks?	NONE		
Driveways?	YES		

ROADWAY FACTORS

Length of Segment	0.690 miles
Width	28 feet
Vertical Curve?	YES
Horizontal Curve?	YES
Visibility	GOOD
Roadway Conditions	FAIR
Lighting	NONE
Adjacent Land Use	FARMING/ RESIDENTIAL

Field Study By MH **Checked By** NS

CERTIFICATION: I, Farhad Iranitalab, do hereby certify that this Engineering and Traffic Survey within the County of Napa was performed under my supervision and is accurate and complete. I am duly registered in the State of California as a Professional Engineer (Traffic).



Farhad Iranitalab	2/14/2020	TE 1695
	Date	**State Registration Number**

APPENDIX B

Radar Speed Distribution Forms

Spot Speed Study

Prepared by: National Data & Surveying Services

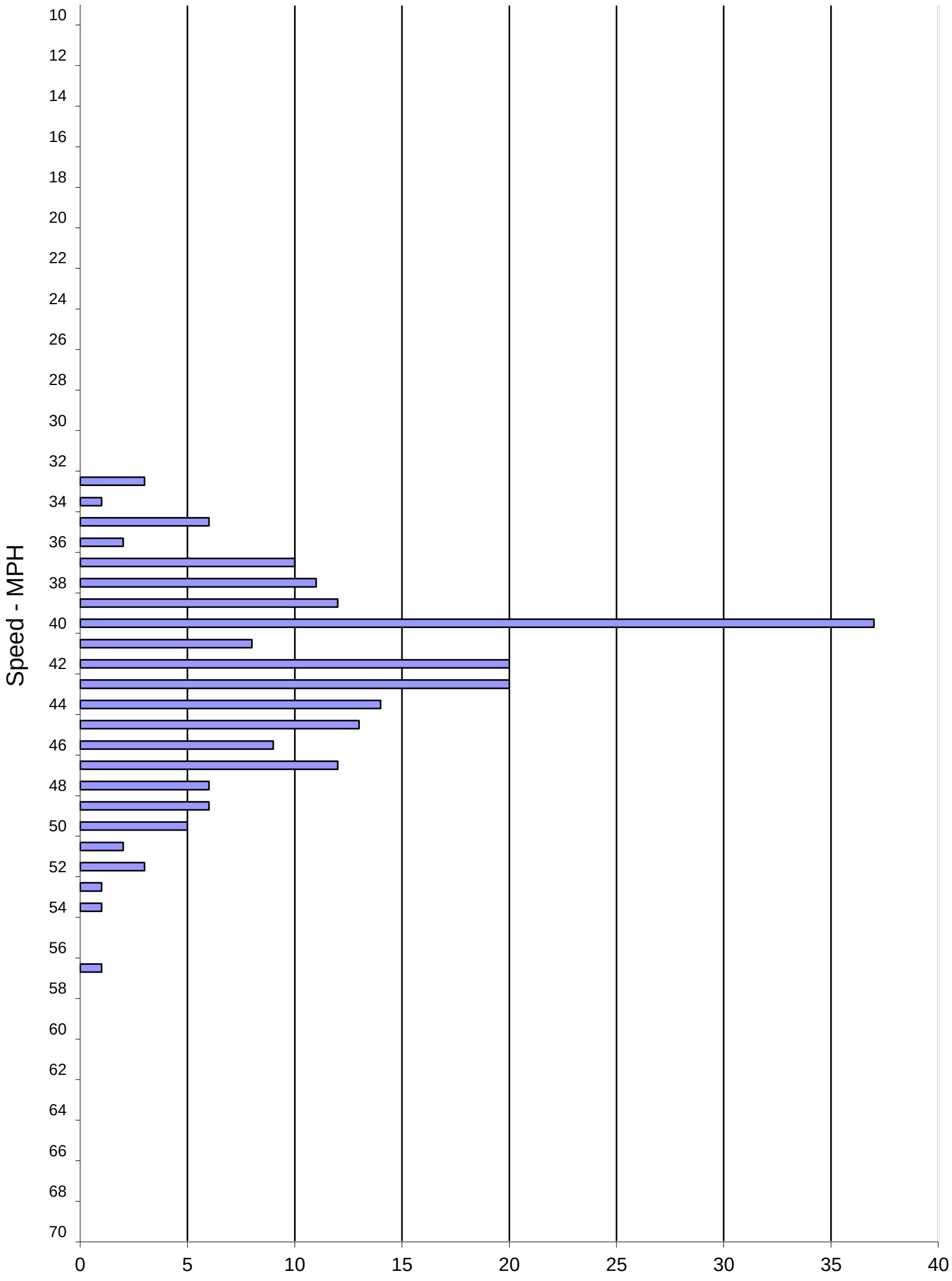
City of Napa

DATE: 10/23/2019 **Location:** Atlas Peak Rd 700' N/O Hillcrest Dr

TIME: 13:10-14:10 **Posted Speed:** 40 MPH Clear/Dry **Project #: 19-8545-001**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	**3**
34	**1**
35	**6**
36	**2**
37	**10**
38	**11**
39	**12**
40	**37**
41	**8**
42	**20**
43	**20**
44	**14**
45	**13**
46	**9**
47	**12**
48	**6**
49	**6**
50	**5**
51	**2**
52	**3**
53	**1**
54	**1**
55	
56	
57	**1**
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	203	33 - 57	42 mph	47 mph	38 - 47	156	77%	10% / 22	13% / 25

Spot Speed Study

Prepared by: National Data & Surveying Services

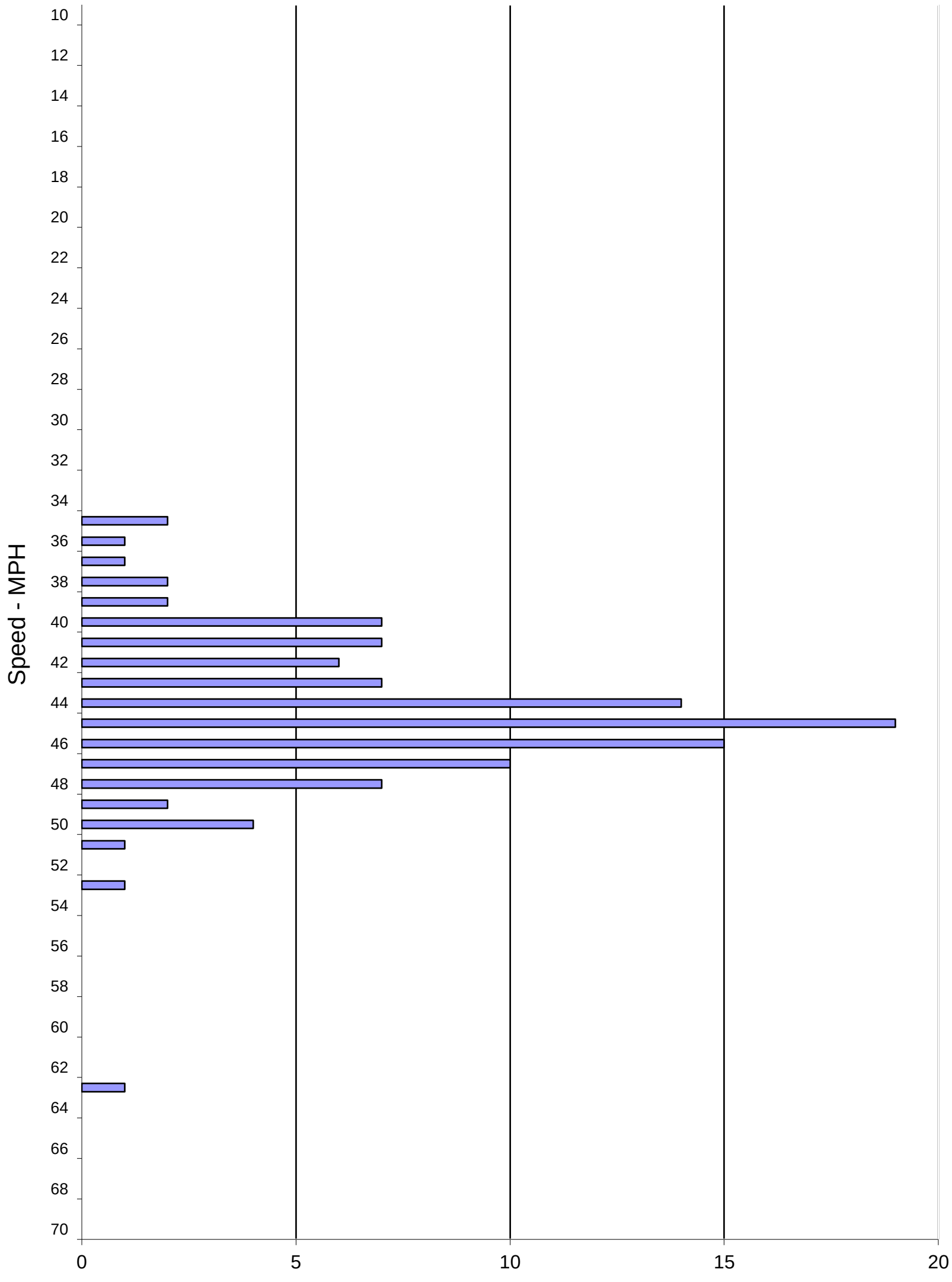
City of Calistoga

DATE: 11/8/2019 **Location:** Bale Ln 50' E/O 1110 Bale Ln

TIME: 10:05-12:05 **Posted Speed:** 45 MPH Clear/Dry **Project #: 19-8545-002**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	**2**
36	**1**
37	**1**
38	**2**
39	**2**
40	**7**
41	**7**
42	**6**
43	**7**
44	**14**
45	**19**
46	**15**
47	**10**
48	**7**
49	**2**
50	**4**
51	**1**
52	
53	**1**
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	**1**
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	109	35 - 63	45 mph	47 mph	39 - 48	94	86%	5% / 6	9% / 9

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/6/2019 **Location:** Berryessa Knoxville Rd @ Olive Orchard Day Use Area
TIME: 09:15-11:15 **Posted Speed:** 45 MPH Clear/Dry **Project #: 19-8545-003**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	**1**
37	
38	**1**
39	**1**
40	**5**
41	**2**
42	**6**
43	**4**
44	**4**
45	**12**
46	**5**
47	**6**
48	**1**
49	**1**
50	**4**
51	**1**
52	**2**
53	
54	
55	**1**
56	**1**
57	**1**
58	
59	**1**
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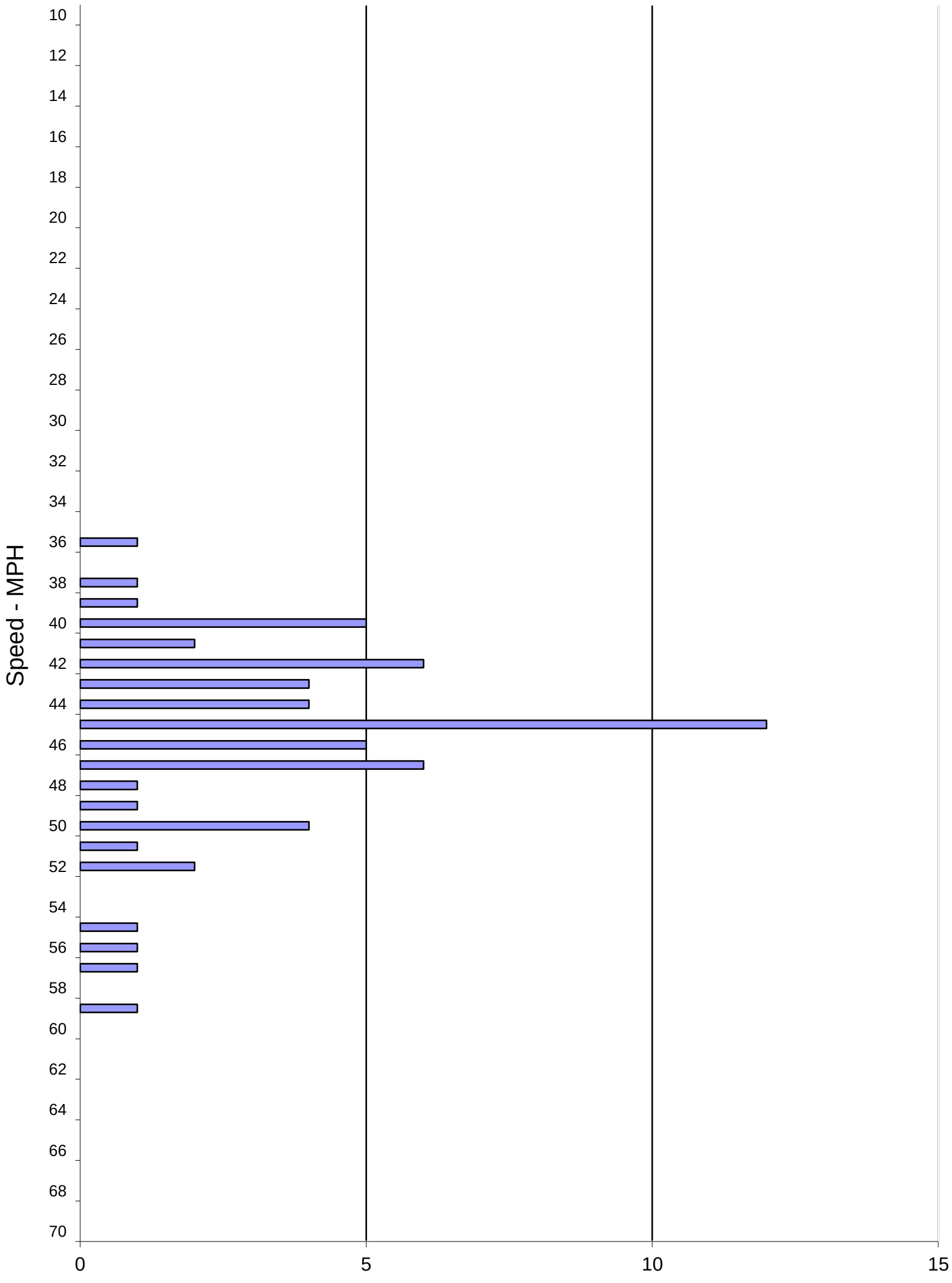
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	60	36 - 59	45 mph	50 mph	38 - 47	46	77%	1% / 1	22% / 13

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/5/2019 **Location:** 1075 Buchli Station Rd

TIME: 10:50-12:50 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-004**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	**2**
14	**1**
15	
16	
17	**3**
18	
19	**1**
20	**4**
21	**4**
22	**1**
23	**2**
24	**2**
25	
26	**3**
27	**1**
28	**2**
29	**1**
30	**1**
31	
32	
33	**1**
34	**2**
35	**1**
36	
37	
38	**1**
39	
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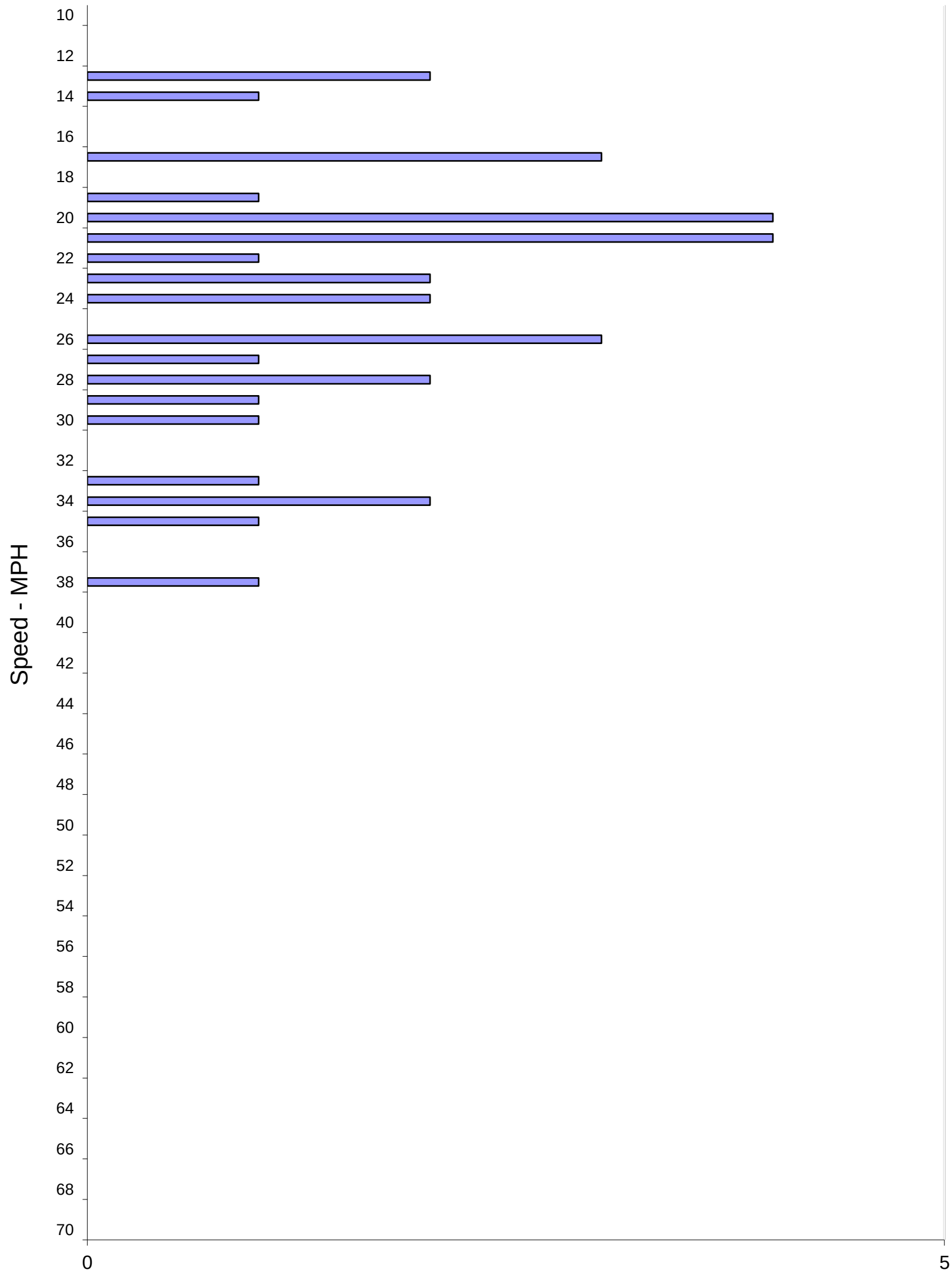

SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	33	13 - 38	23 mph	33 mph	17 - 26	20	61%	9% / 3	31% / 10

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/24/2019 **Location:** Buhman Ave 400' S/O City Limit
TIME: 13:25-15:05 **Posted Speed:** 45 MPH Clear/Dry **Project #: 19-8545-005**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	**1**
29	
30	**1**
31	**2**
32	**2**
33	**4**
34	**8**
35	**16**
36	**19**
37	**18**
38	**18**
39	**20**
40	**16**
41	**20**
42	**14**
43	**11**
44	**11**
45	**11**
46	**5**
47	**4**
48	**1**
49	**1**
50	**1**
51	
52	
53	
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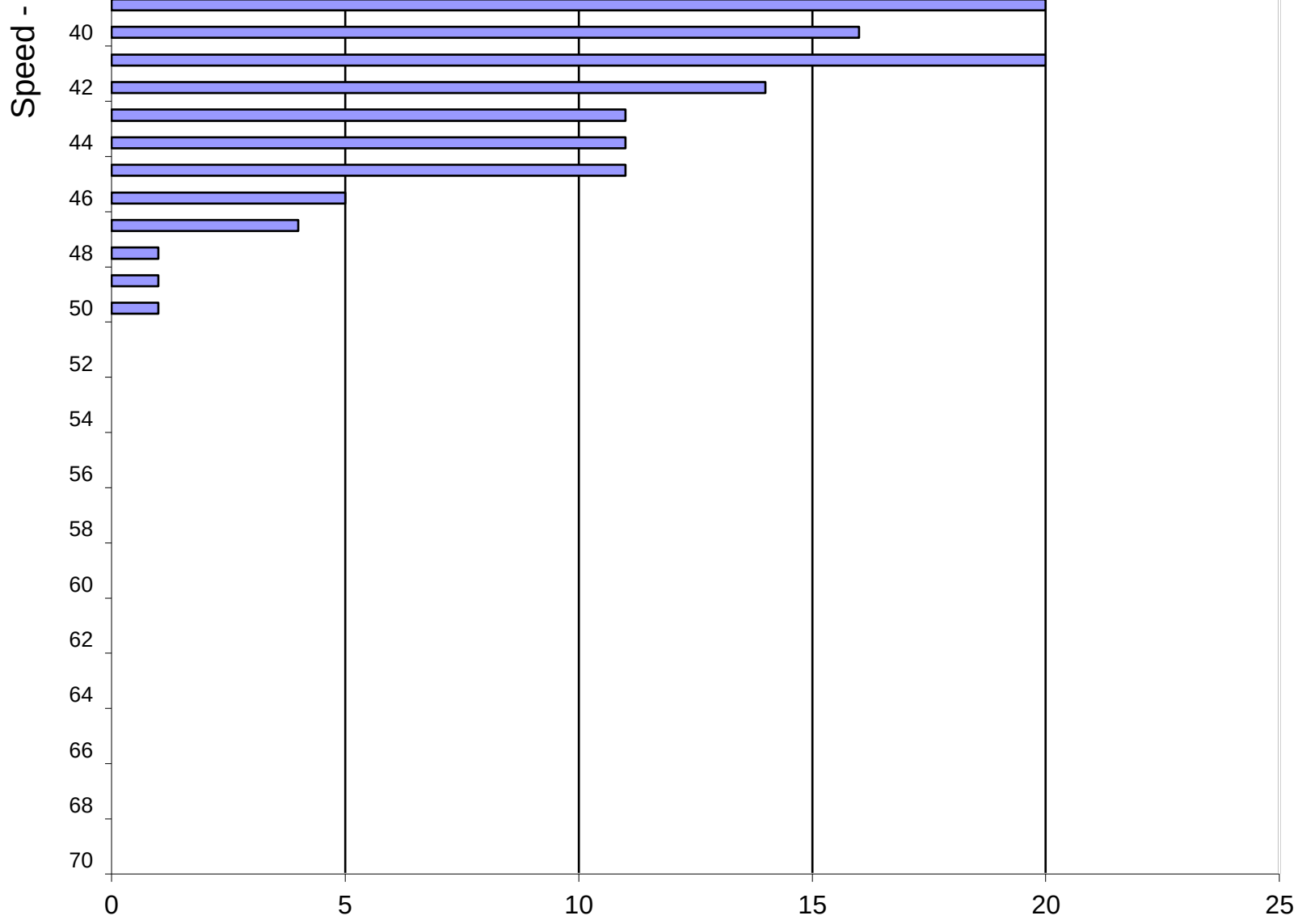
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	204	28 - 50	39 mph	44 mph	35 - 44	163	80%	8% / 18	12% / 23

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/25/2019 **Location:** Buhman Ave 200' S/O 2121 Buhman Ave
TIME: 13:45-15:45 **Posted Speed:** 45 MPH Clear/Dry **Project #:** 19-8545-006

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	1
35	
36	1
37	
38	2
39	
40	4
41	6
42	7
43	9
44	16
45	13
46	24
47	20
48	20
49	15
50	15
51	14
52	17
53	10
54	8
55	3
56	2
57	1
58	2
59	
60	
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62	2
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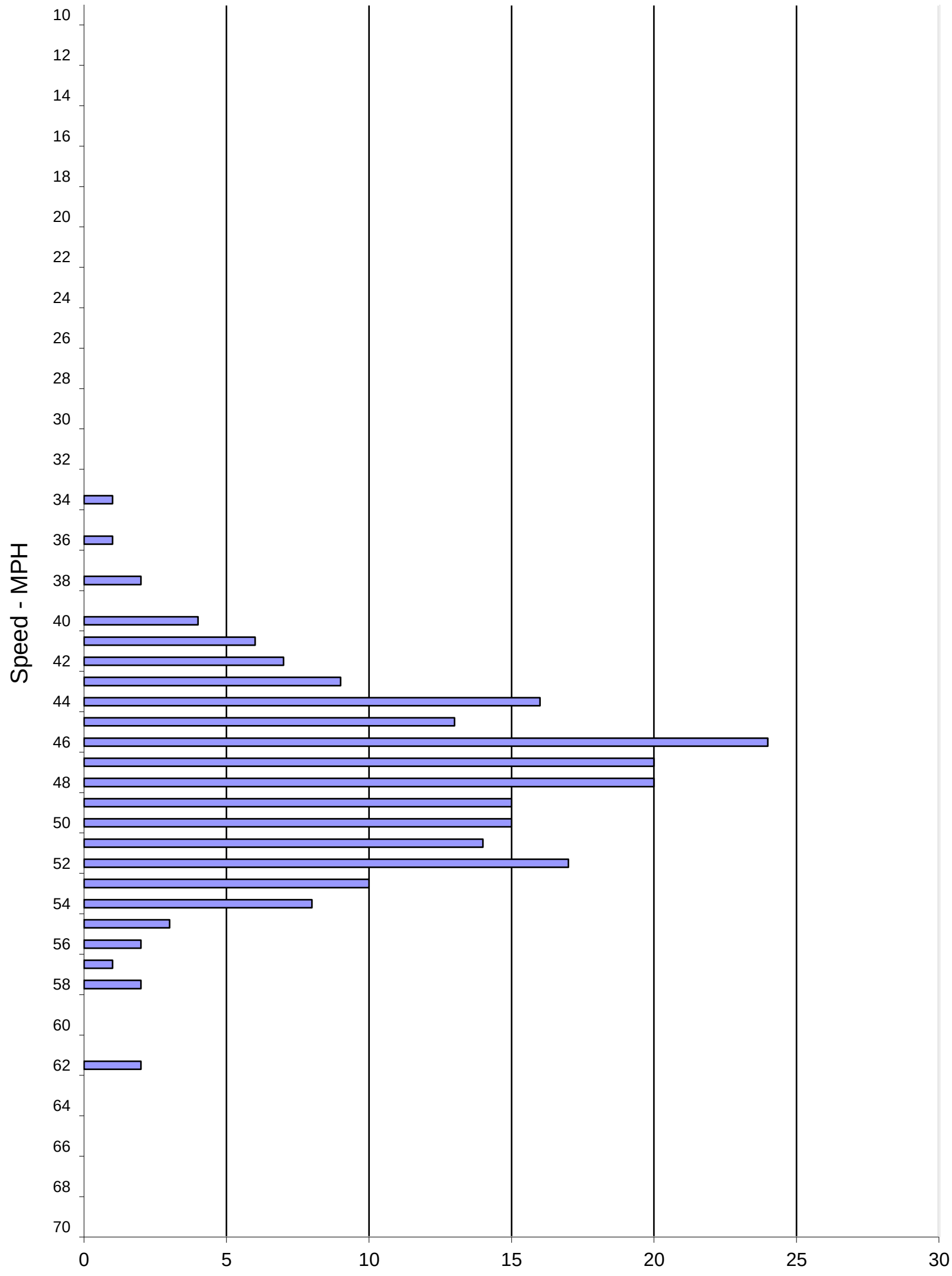
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	212	34 - 62	48 mph	52 mph	44 - 53	164	77%	14% / 30	9% / 18

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Angwin

DATE: 11/6/2019 **Location:** 65 Cold Springs Rd
TIME: 14:00-16:00 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-007**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	**1**
24	
25	
26	**1**
27	**1**
28	**4**
29	**8**
30	**14**
31	**11**
32	**13**
33	**13**
34	**21**
35	**17**
36	**20**
37	**11**
38	**12**
39	**6**
40	**9**
41	**5**
42	**3**
43	**3**
44	
45	**2**
46	**1**
47	
48	**2**
49	
50	
51	
52	
53	
54	
55	
56	
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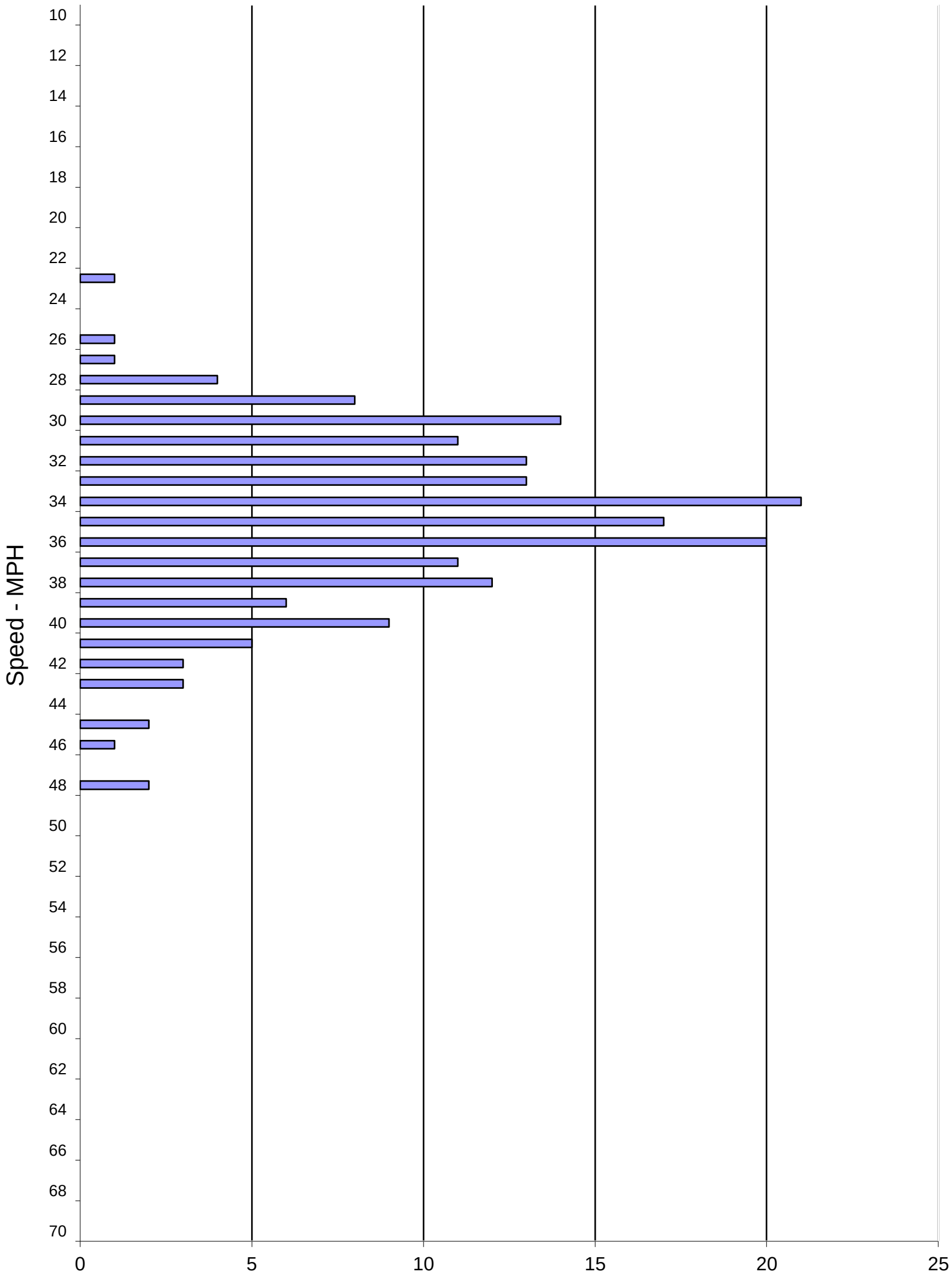
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	178	23 - 48	35 mph	39 mph	29 - 38	140	79%	3% / 7	18% / 31

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Angwin

DATE: 11/6/2019 **Location:** 160 Cold Springs Rd
TIME: 13:00-15:00 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-008**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	2
13	
14	
15	
16	3
17	1
18	2
19	
20	5
21	4
22	6
23	3
24	4
25	2
26	3
27	5
28	2
29	2
30	3
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
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51	
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53	
54	
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61	
62	
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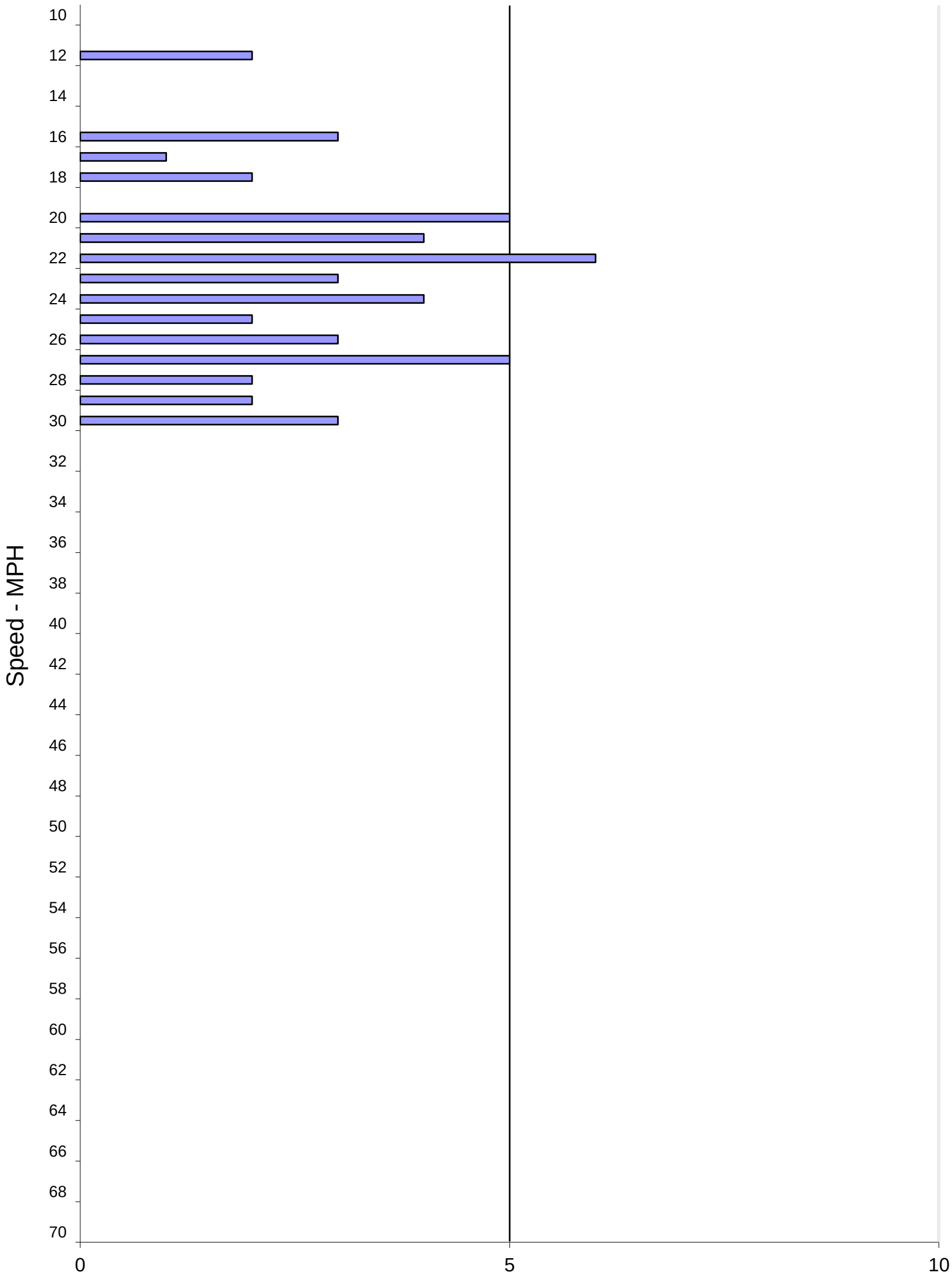
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	47	12 - 30	23 mph	27 mph	20 - 29	36	77%	17% / 8	7% / 3

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Angwin

DATE: 11/7/2019 **Location:** 275 College Ave

TIME: 10:15-12:15 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-009**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	**1**
29	**3**
30	**10**
31	**9**
32	**10**
33	**7**
34	**16**
35	**23**
36	**21**
37	**12**
38	**4**
39	**4**
40	**9**
41	**5**
42	**2**
43	**1**
44	**4**
45	**9**
46	**2**
47	**1**
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
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59	
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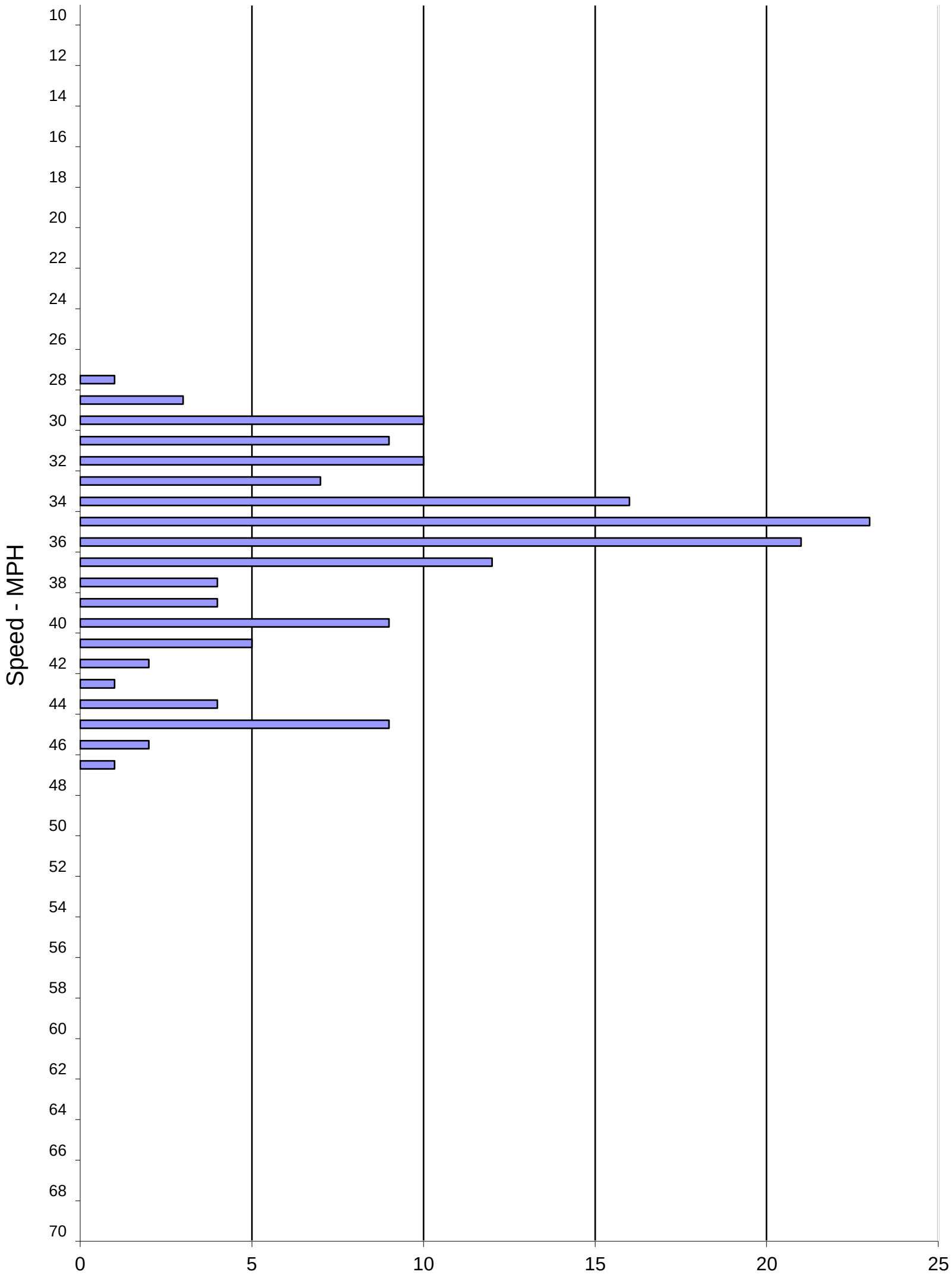
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	153	28 - 47	35 mph	41 mph	30 - 39	116	76%	2% / 4	22% / 33

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Angwin

DATE: 11/7/2019 **Location:** 410 College Ave

TIME: 12:30-14:30 **Posted Speed:** 25 MPH Clear/Dry **Project #: 19-8545-010**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	**3**
23	**5**
24	**13**
25	**18**
26	**15**
27	**16**
28	**11**
29	**4**
30	**12**
31	**6**
32	**1**
33	**4**
34	**2**
35	**7**
36	**3**
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
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62	
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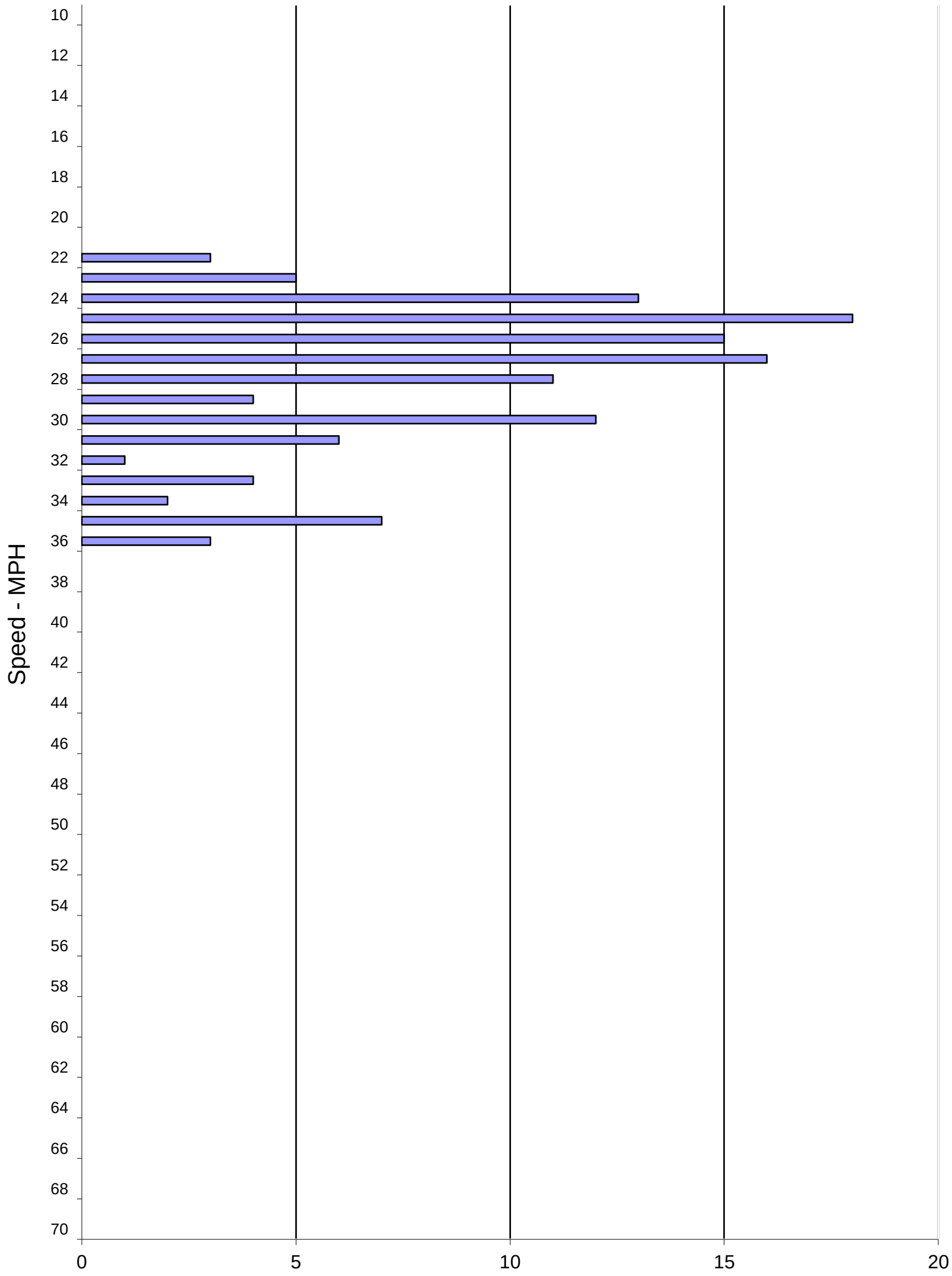
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	120	22 - 36	27 mph	31 mph	22 - 31	103	86%	0% / 0	15% / 17

Spot Speed Study

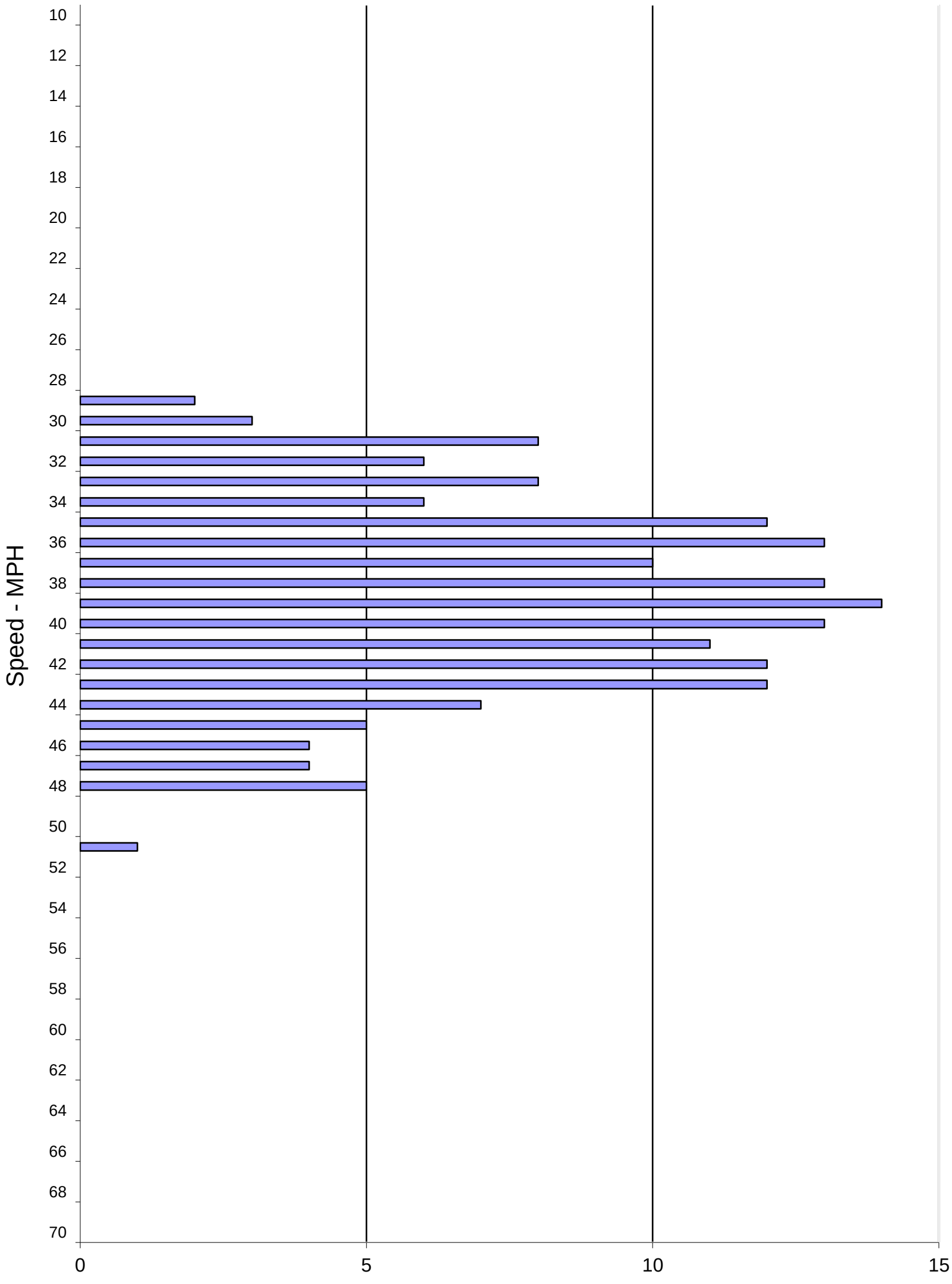
Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/25/2019 **Location:** Congress Valley Rd 200' E/O 1246 Congress Valley Rd
TIME: 11:20-13:20 **Posted Speed:** 40 MPH Clear/Dry **Project #: 19-8545-011**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	**2**
30	**3**
31	**8**
32	**6**
33	**8**
34	**6**
35	**12**
36	**13**
37	**10**
38	**13**
39	**14**
40	**13**
41	**11**
42	**12**
43	**12**
44	**7**
45	**5**
46	**4**
47	**4**
48	**5**
49	
50	
51	**1**
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	169	29 - 51	39 mph	44 mph	35 - 44	117	69%	19% / 33	12% / 19

Spot Speed Study

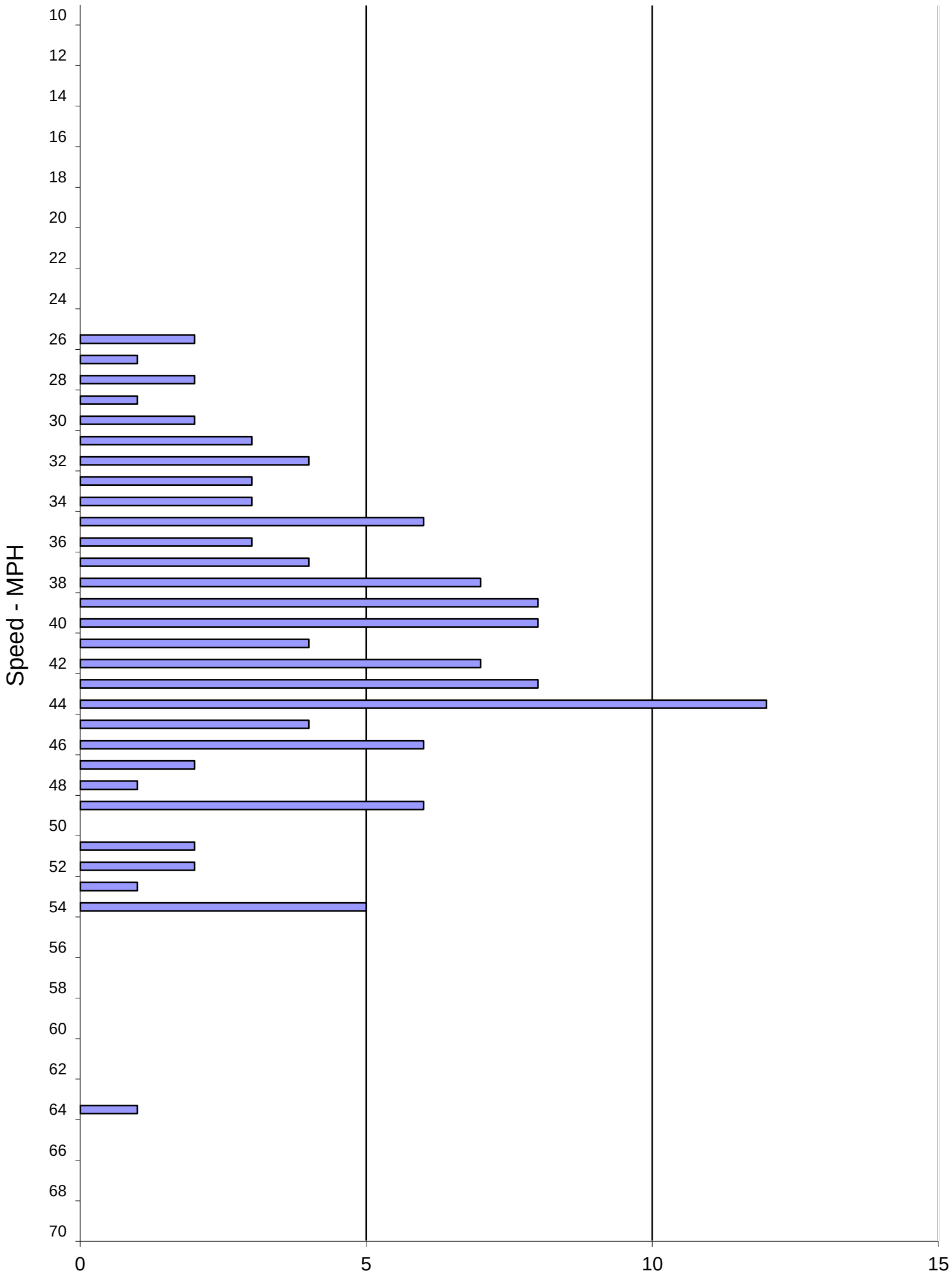
Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/23/2019 **Location:** 5090 Coombsville Rd
TIME: 09:20-11:20 **Posted Speed:** 40 MPH Clear/Dry **Project #: 19-8545-012**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	**2**
27	**1**
28	**2**
29	**1**
30	**2**
31	**3**
32	**4**
33	**3**
34	**3**
35	**6**
36	**3**
37	**4**
38	**7**
39	**8**
40	**8**
41	**4**
42	**7**
43	**8**
44	**12**
45	**4**
46	**6**
47	**2**
48	**1**
49	**6**
50	
51	**2**
52	**2**
53	**1**
54	**5**
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	**1**
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	118	26 - 64	41 mph	48 mph	37 - 46	68	58%	25% / 30	17% / 20

Spot Speed Study

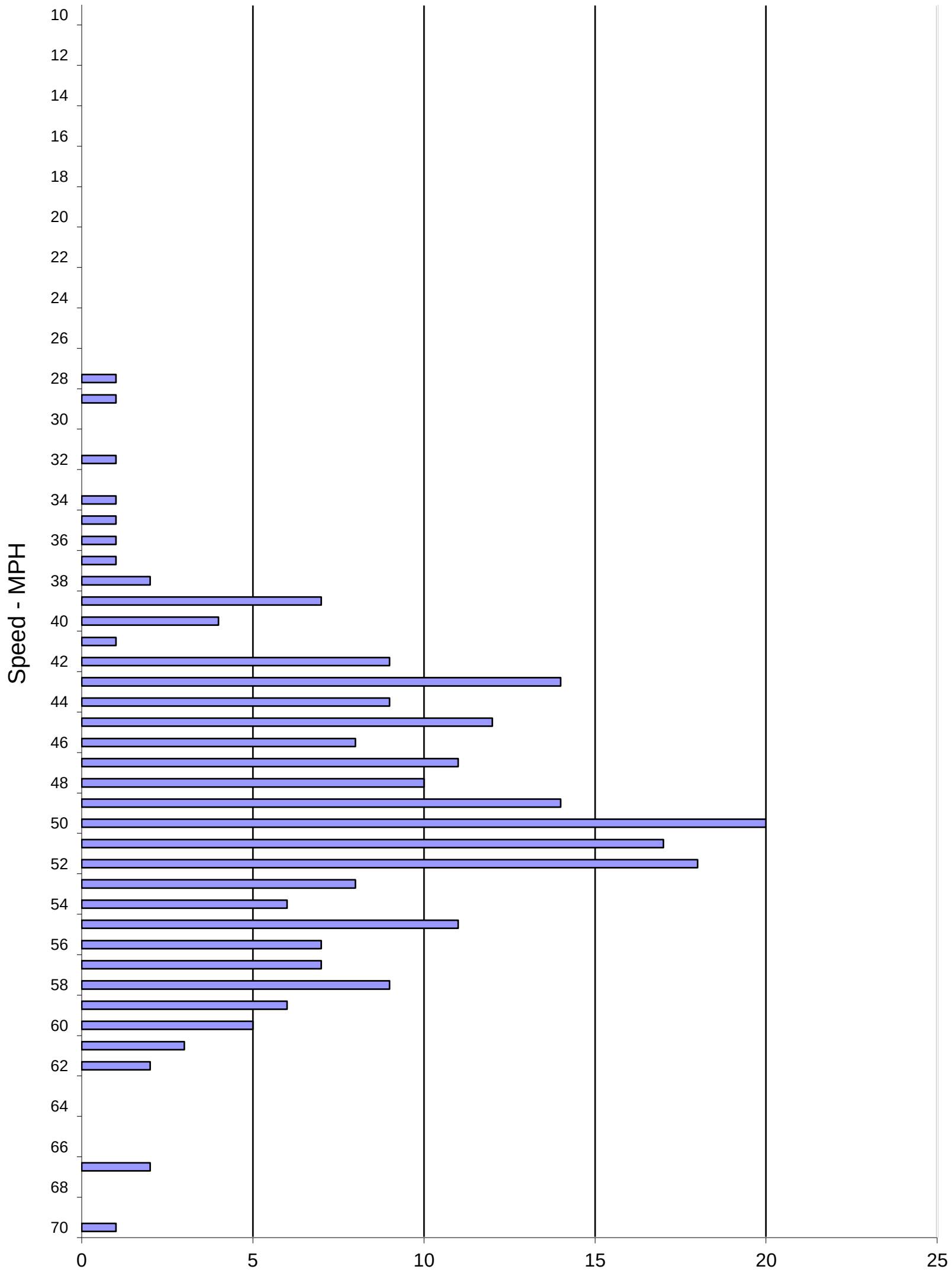
Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/6/2019 **Location:** 1195 Cuttings Wharf Rd
TIME: 09:00-10:55 **Posted Speed:** None Clear/Dry **Project #: 19-8545-013**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	**1**
29	**1**
30	
31	
32	**1**
33	
34	**1**
35	**1**
36	**1**
37	**1**
38	**2**
39	**7**
40	**4**
41	**1**
42	**9**
43	**14**
44	**9**
45	**12**
46	**8**
47	**11**
48	**10**
49	**14**
50	**20**
51	**17**
52	**18**
53	**8**
54	**6**
55	**11**
56	**7**
57	**7**
58	**9**
59	**6**
60	**5**
61	**3**
62	**2**
63	
64	
65	
66	
67	**2**
68	
69	
>=70	**1**



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	230	28 - 67	50 mph	57 mph	43 - 52	133	58%	13% / 30	30% / 67

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/5/2019 **Location:** Gateway Rd E @ Devlin Rd
TIME: 13:00-13:45 **Posted Speed:** 45 MPH Clear/Dry **Project #: 19-8545-014**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	**5**
22	**2**
23	**8**
24	**9**
25	**12**
26	**9**
27	**13**
28	**14**
29	**16**
30	**13**
31	**20**
32	**17**
33	**16**
34	**14**
35	**16**
36	**13**
37	**10**
38	**12**
39	**11**
40	**8**
41	**7**
42	**6**
43	**3**
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
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57	
58	
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60	
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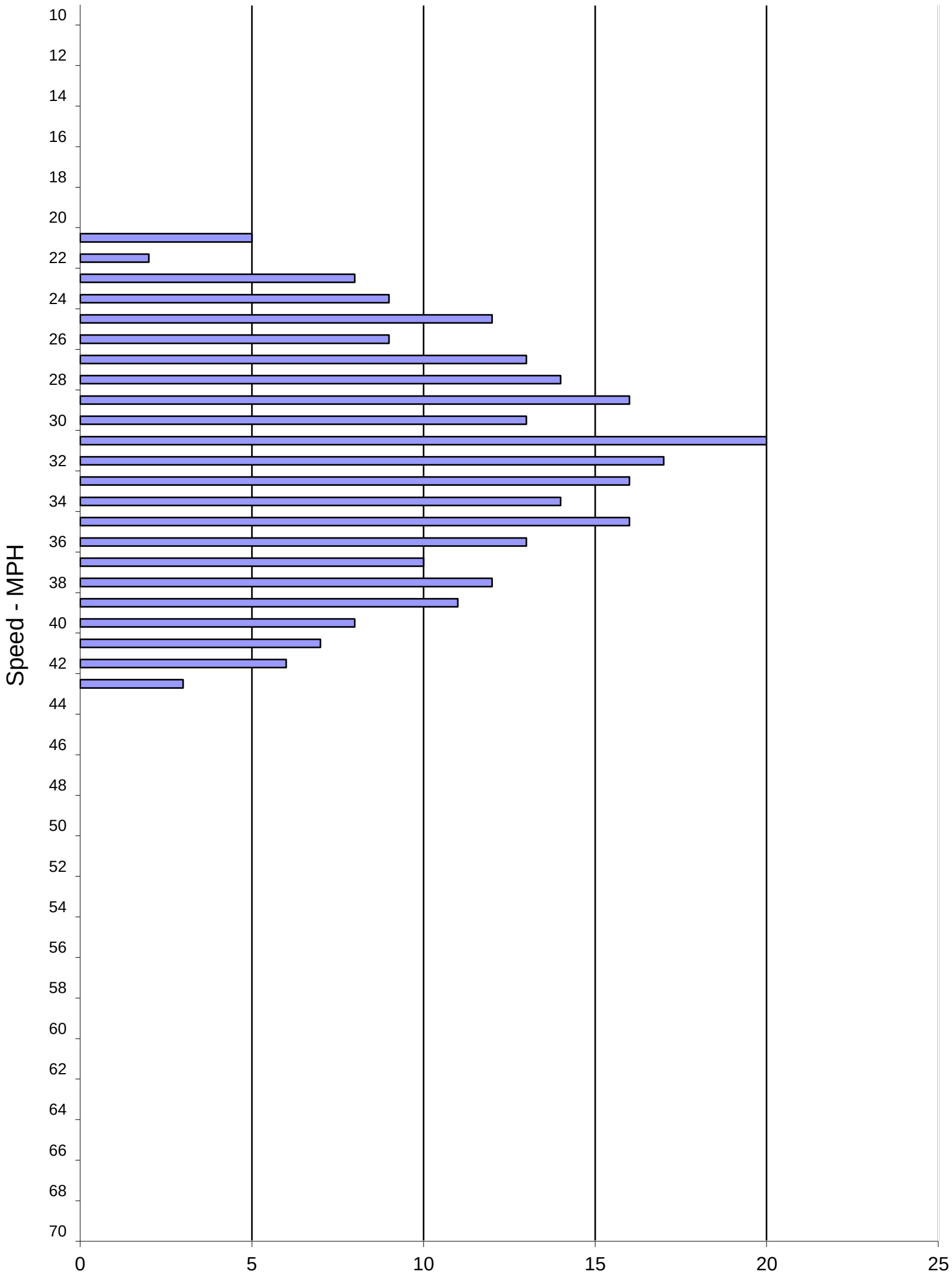
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	254	21 - 43	32 mph	38 mph	27 - 36	152	60%	17% / 45	23% / 57

Spot Speed Study

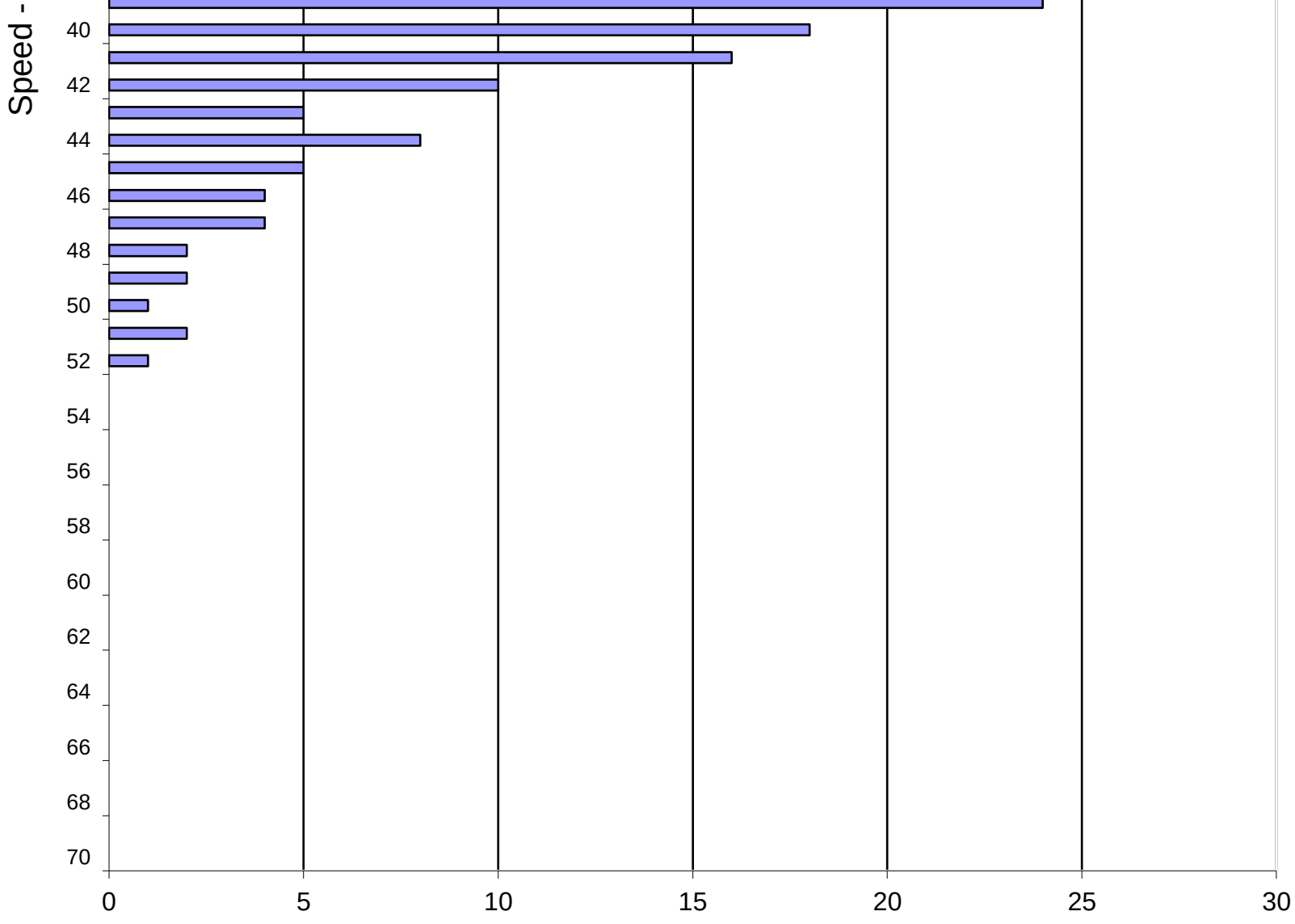
Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/5/2019 **Location:** 986 El Centro Ave
TIME: 13:30-15:20 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-015**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	**1**
27	
28	**1**
29	**1**
30	**5**
31	**7**
32	**12**
33	**8**
34	**10**
35	**15**
36	**22**
37	**22**
38	**14**
39	**24**
40	**18**
41	**16**
42	**10**
43	**5**
44	**8**
45	**5**
46	**4**
47	**4**
48	**2**
49	**2**
50	**1**
51	**2**
52	**1**
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	220	26 - 52	38 mph	43 mph	32 - 41	161	73%	6% / 15	20% / 44

Spot Speed Study

Prepared by: National Data & Surveying Services

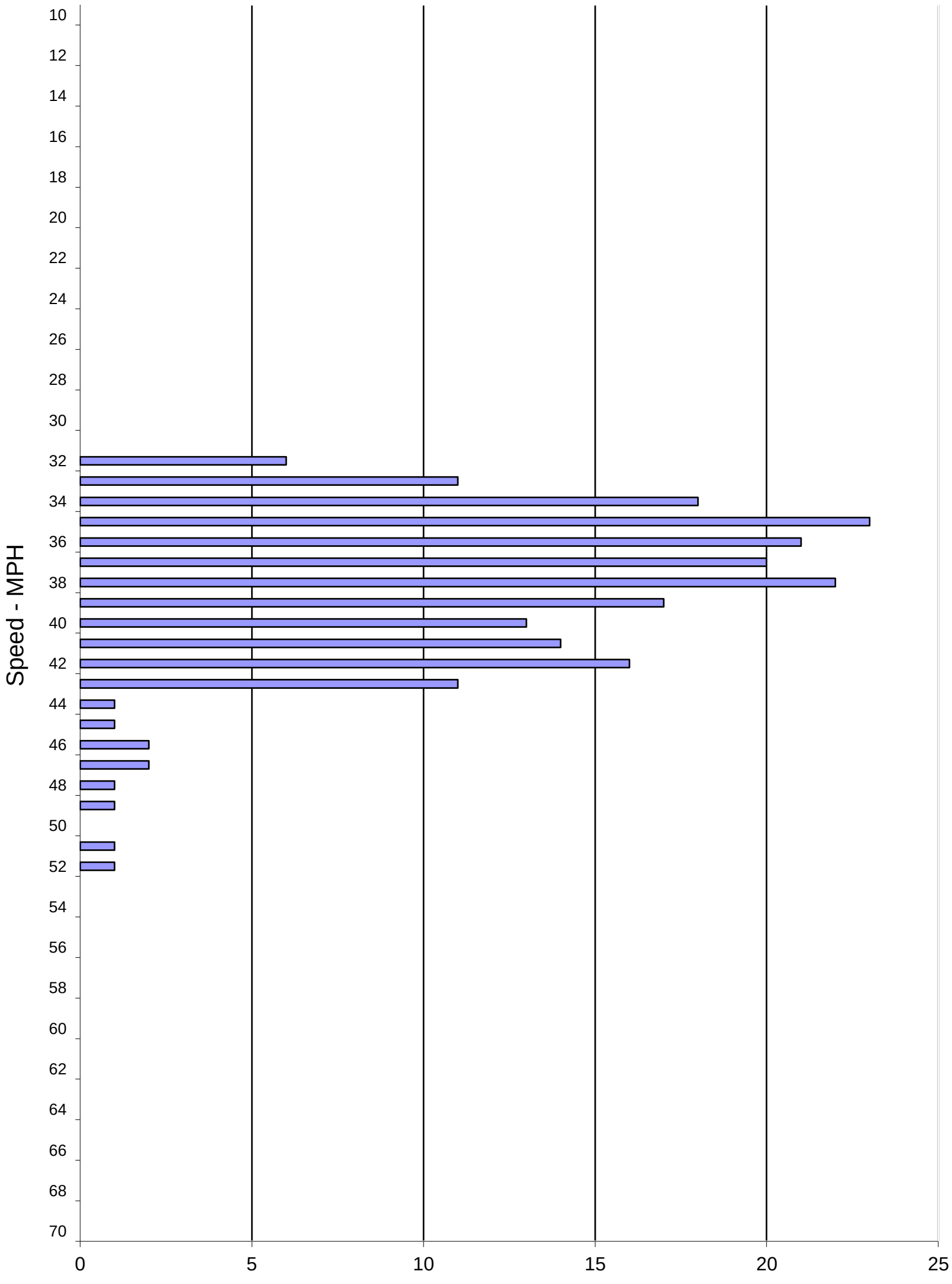
City of Napa

DATE: 10/24/2019 **Location:** 1180 Hagen Rd

TIME: 11:20-12:20 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-016**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	**6**
33	**11**
34	**18**
35	**23**
36	**21**
37	**20**
38	**22**
39	**17**
40	**13**
41	**14**
42	**16**
43	**11**
44	**1**
45	**1**
46	**2**
47	**2**
48	**1**
49	**1**
50	
51	**1**
52	**1**
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	202	32 - 52	38 mph	42 mph	33 - 42	175	87%	2% / 6	11% / 21

Spot Speed Study

Prepared by: National Data & Surveying Services

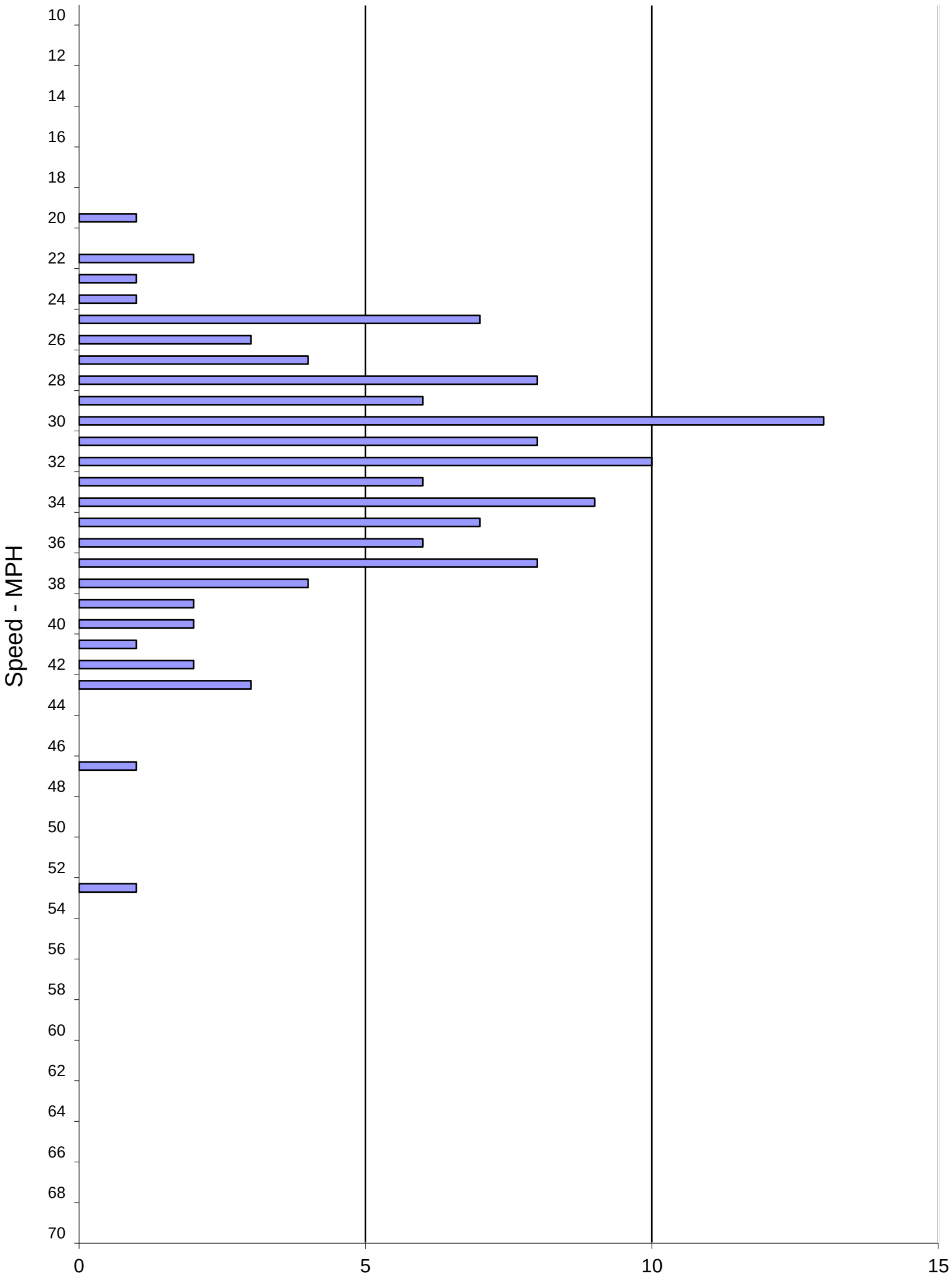
City of Napa

DATE: 10/22/2019 **Location:** 3560 Hagen Rd

TIME: 11:40-13:40 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-017**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	**1**
21	
22	**2**
23	**1**
24	**1**
25	**7**
26	**3**
27	**4**
28	**8**
29	**6**
30	**13**
31	**8**
32	**10**
33	**6**
34	**9**
35	**7**
36	**6**
37	**8**
38	**4**
39	**2**
40	**2**
41	**1**
42	**2**
43	**3**
44	
45	
46	
47	**1**
48	
49	
50	
51	
52	
53	**1**
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	116	20 - 53	32 mph	37 mph	28 - 37	81	70%	16% / 19	14% / 16

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/22/2019 **Location:** 1243 Hagen Rd

TIME: 14:00-15:40 **Posted Speed:** 45 MPH Clear/Dry **Project #: 19-8545-018**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	**1**
30	
31	
32	**1**
33	**3**
34	**1**
35	**2**
36	**5**
37	**4**
38	**10**
39	**15**
40	**28**
41	**15**
42	**23**
43	**26**
44	**19**
45	**19**
46	**7**
47	**9**
48	**7**
49	**2**
50	**2**
51	**3**
52	**1**
53	
54	**1**
55	
56	
57	
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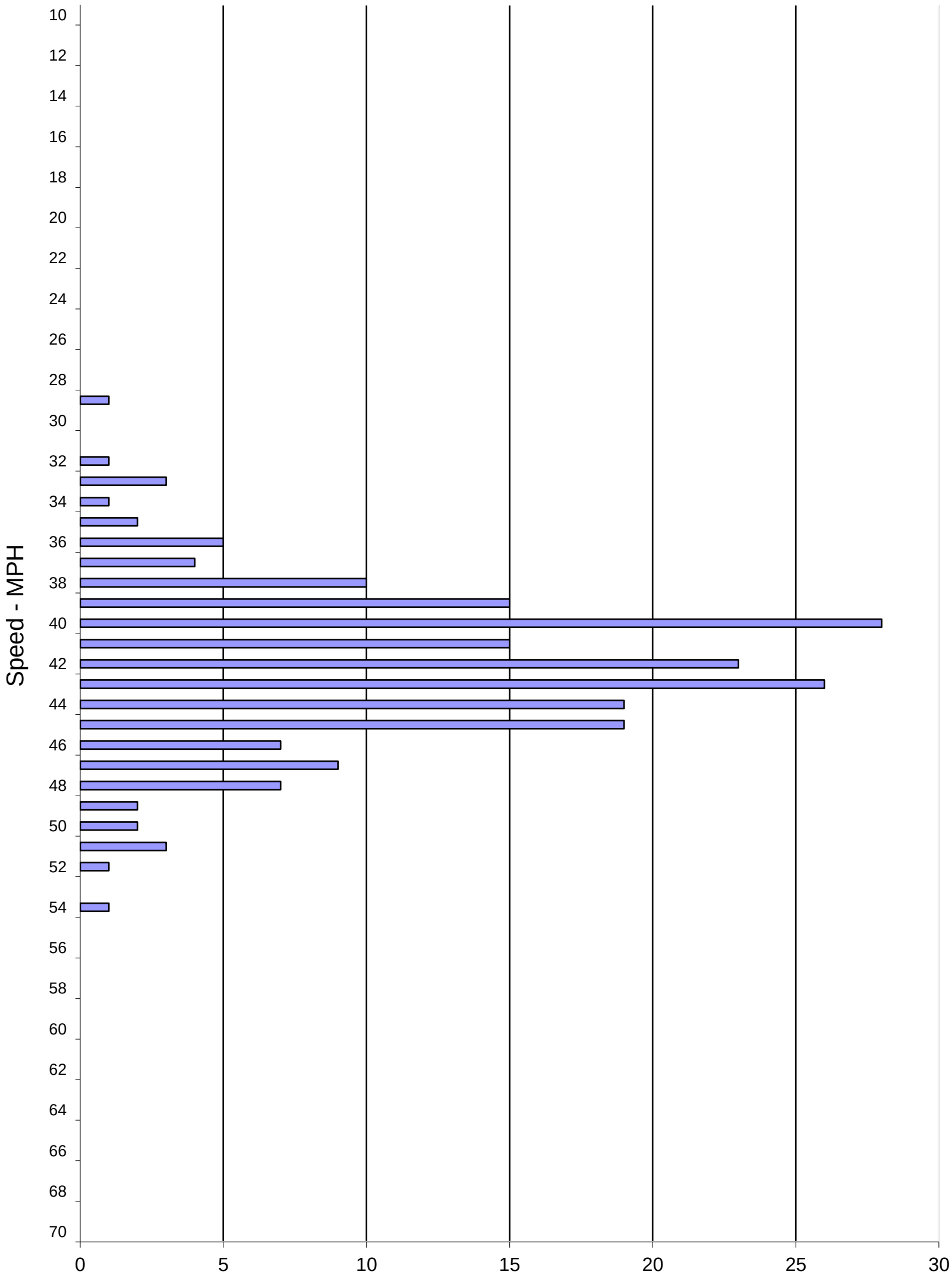
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	204	29 - 54	42 mph	46 mph	38 - 47	171	84%	8% / 17	8% / 16

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/24/2019 **Location:** Hillcrest Dr 350' S/O Prestwick Dr
TIME: 09:10-11:10 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-019**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	**1**
26	**2**
27	**2**
28	**2**
29	**1**
30	**9**
31	**8**
32	**2**
33	**14**
34	**11**
35	**28**
36	**33**
37	**21**
38	**20**
39	**21**
40	**12**
41	**7**
42	**11**
43	**8**
44	**1**
45	**1**
46	**1**
47	**1**
48	
49	
50	
51	
52	
53	
54	
55	
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62	
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64	
65	
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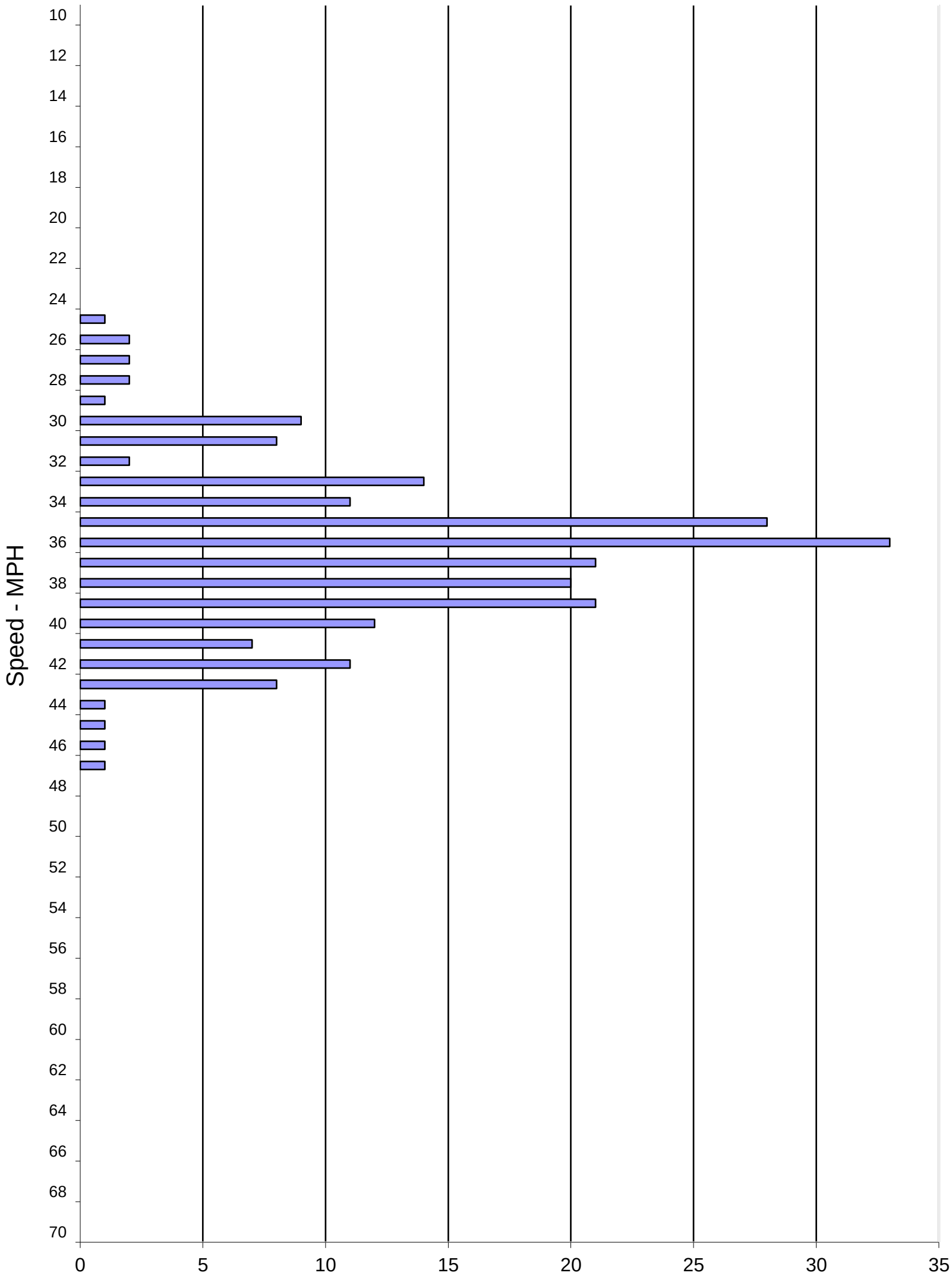
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	217	25 - 47	36 mph	40 mph	33 - 42	178	82%	12% / 27	6% / 12

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/6/2019 **Location:** Los Carneros Ave 1300' S/O Mckinnon Rd
TIME: 11:15-13:15 **Posted Speed:** 45 MPH Clear/Dry **Project #: 19-8545-020**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	**1**
17	**1**
18	
19	
20	**1**
21	
22	**1**
23	
24	**1**
25	
26	
27	**1**
28	
29	**2**
30	**4**
31	**2**
32	**1**
33	**3**
34	**4**
35	**4**
36	**2**
37	**4**
38	**5**
39	**1**
40	**10**
41	**6**
42	
43	
44	**3**
45	
46	
47	**2**
48	
49	
50	**1**
51	**2**
52	
53	
54	
55	
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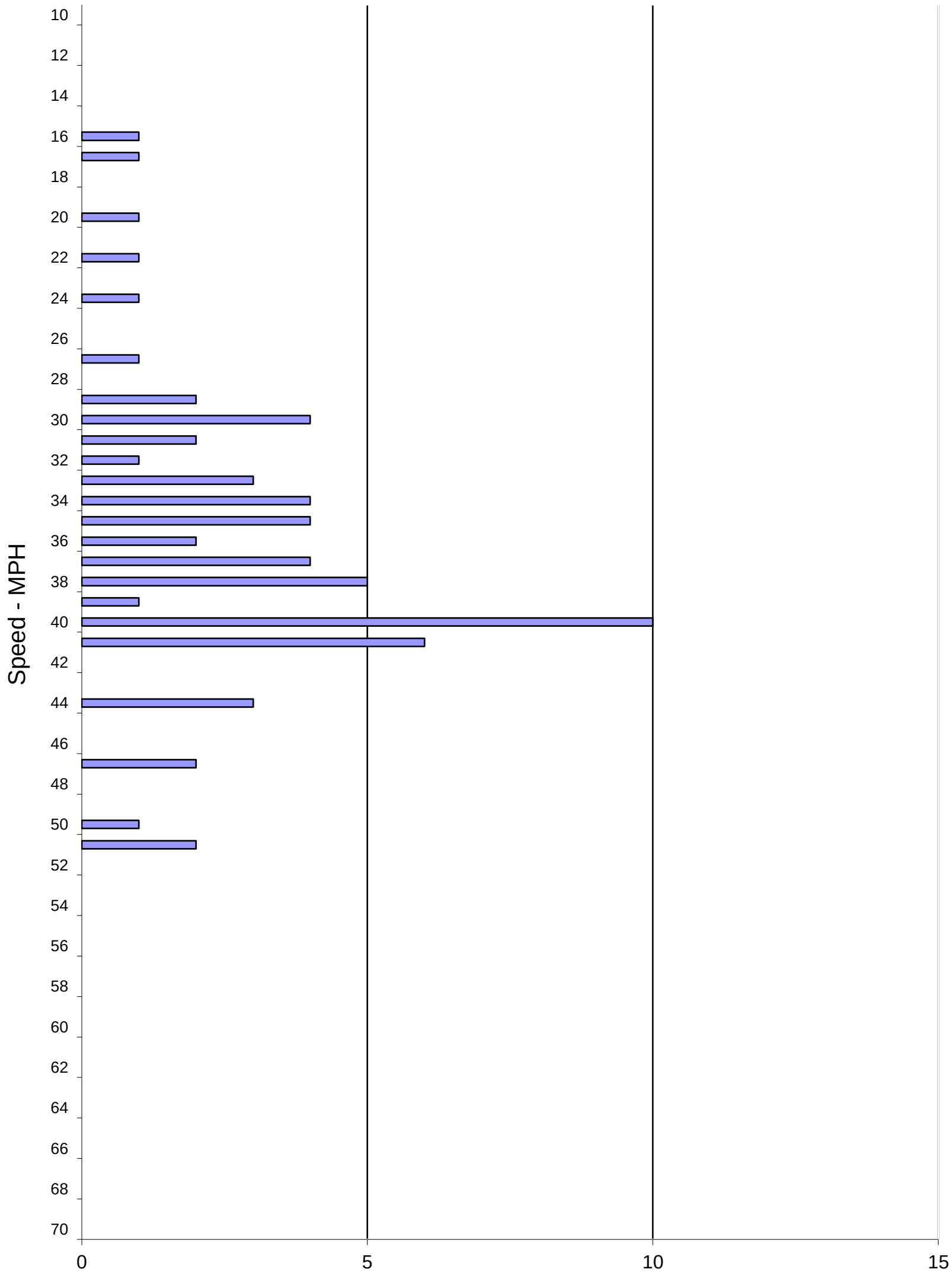
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	62	16 - 51	37 mph	41 mph	32 - 41	40	65%	22% / 14	13% / 8

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Angwin

DATE: 11/7/2019 **Location:** 200 Las Posadas Rd
TIME: 14:00-16:00 **Posted Speed:** 25 MPH Clear/Dry **Project #: 19-8545-021**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	**2**
16	**1**
17	
18	**2**
19	**5**
20	**5**
21	**2**
22	**2**
23	
24	**2**
25	**3**
26	**2**
27	
28	**1**
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
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53	
54	
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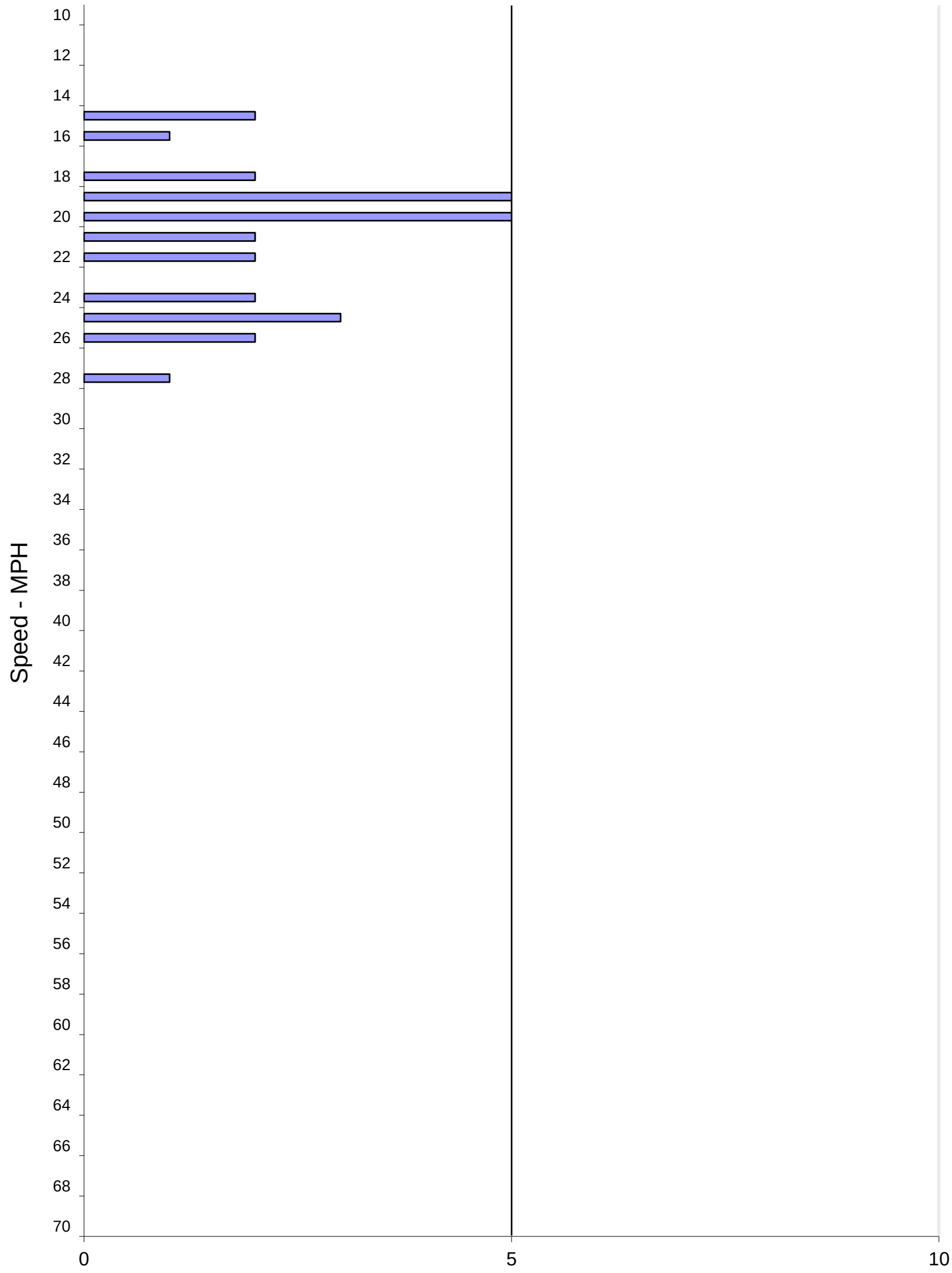
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	27	15 - 28	20 mph	25 mph	17 - 26	23	85%	11% / 3	4% / 1

Spot Speed Study

Prepared by: National Data & Surveying Services

City of St Helena

DATE: 11/5/2019 **Location:** 520 Meadowood Ln

TIME: 14:00-16:00 **Posted Speed:** 25 MPH Clear/Dry **Project #: 19-8545-022**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	1
17	
18	1
19	4
20	2
21	
22	2
23	2
24	3
25	8
26	7
27	3
28	5
29	
30	2
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
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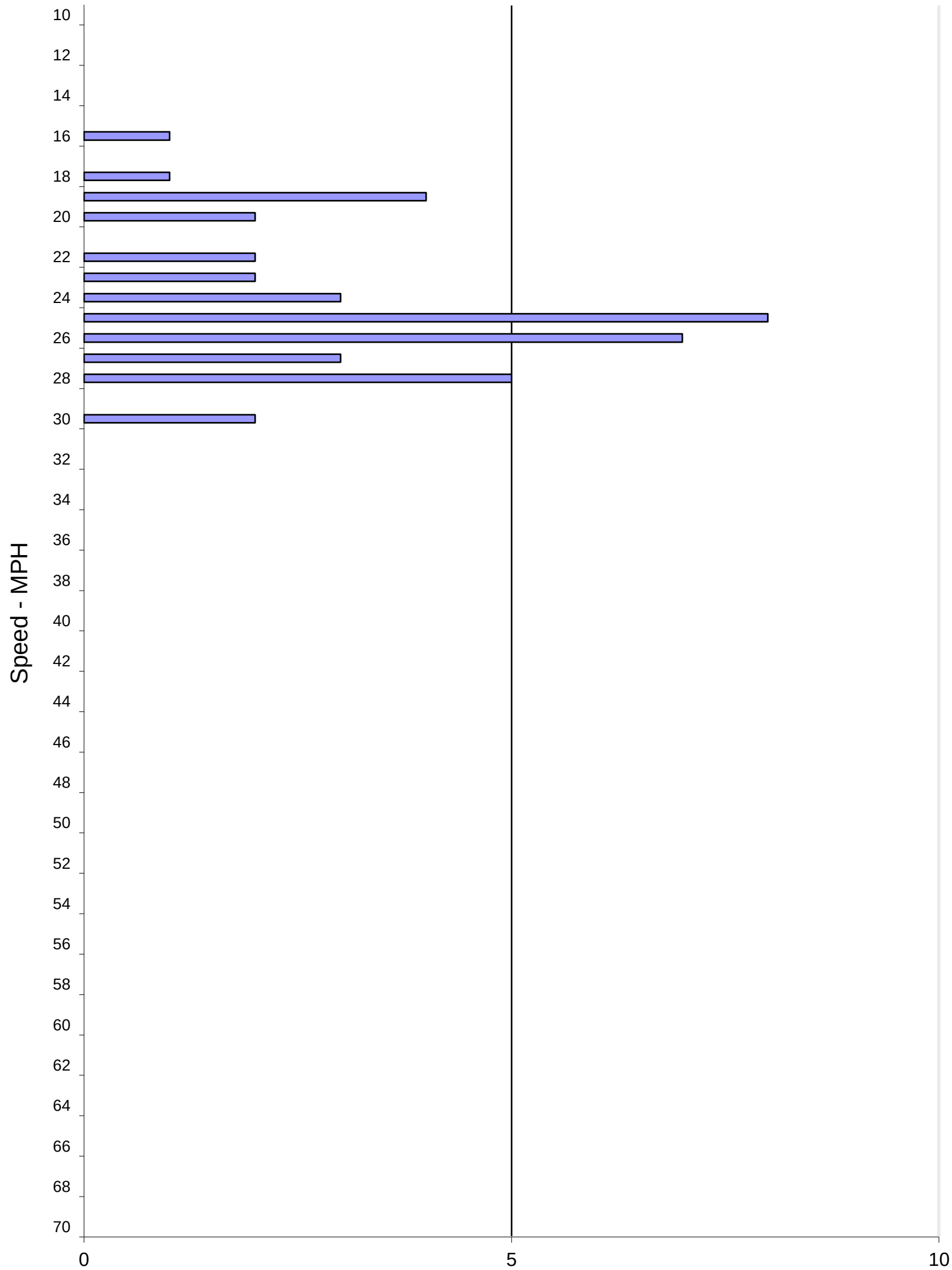
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	40	16 - 30	25 mph	28 mph	19 - 28	36	90%	5% / 2	5% / 2

Spot Speed Study

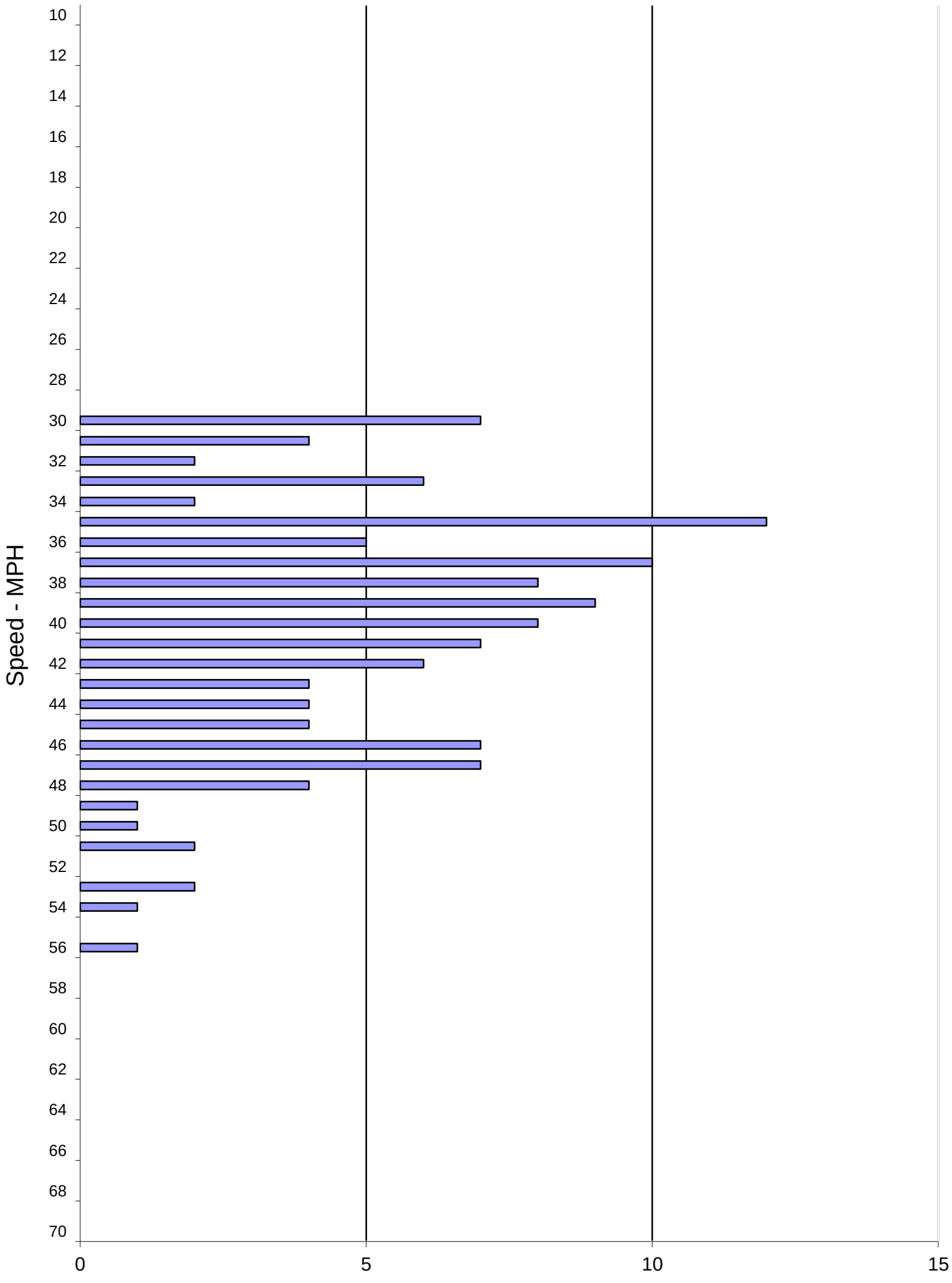
Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/24/2019 **Location:** 2105 North Ave
TIME: 13:30-15:30 **Posted Speed:** 40 MPH Clear/Dry **Project #: 19-8545-023**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	**7**
31	**4**
32	**2**
33	**6**
34	**2**
35	**12**
36	**5**
37	**10**
38	**8**
39	**9**
40	**8**
41	**7**
42	**6**
43	**4**
44	**4**
45	**4**
46	**7**
47	**7**
48	**4**
49	**1**
50	**1**
51	**2**
52	
53	**2**
54	**1**
55	
56	**1**
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	124	30 - 56	39 mph	47 mph	33 - 42	73	59%	10% / 13	31% / 38

Spot Speed Study

Prepared by: National Data & Surveying Services

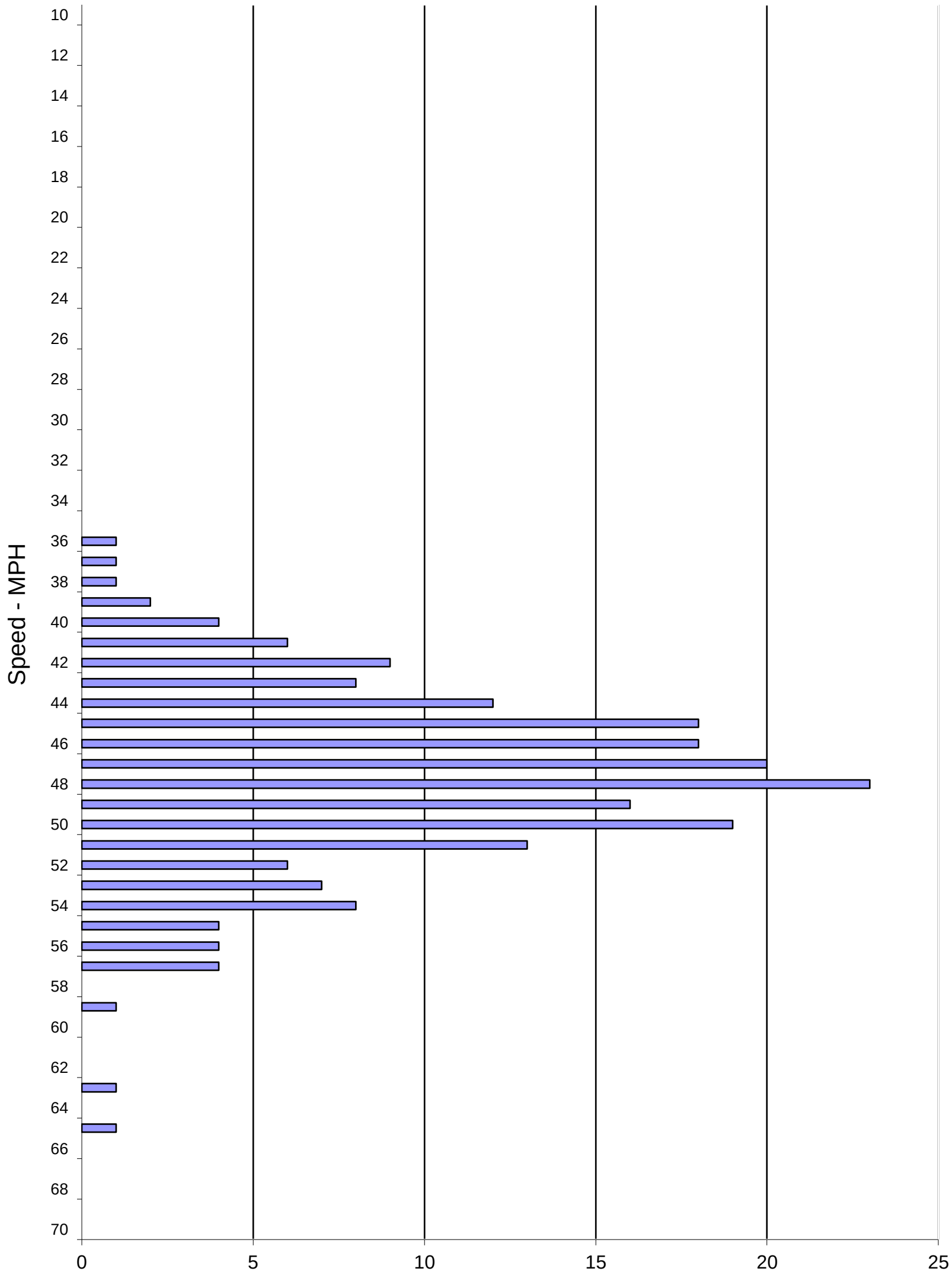
City of Napa

DATE: 10/24/2019 **Location:** Oak Knoll Ave 500' E/O SR 29

TIME: 12:35-13:35 **Posted Speed:** 45 MPH Clear/Dry **Project #: 19-8545-024**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	**1**
37	**1**
38	**1**
39	**2**
40	**4**
41	**6**
42	**9**
43	**8**
44	**12**
45	**18**
46	**18**
47	**20**
48	**23**
49	**16**
50	**19**
51	**13**
52	**6**
53	**7**
54	**8**
55	**4**
56	**4**
57	**4**
58	
59	**1**
60	
61	
62	
63	**1**
64	
65	**1**
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	207	36 - 65	48 mph	52 mph	42 - 51	156	75%	7% / 15	18% / 36

Spot Speed Study

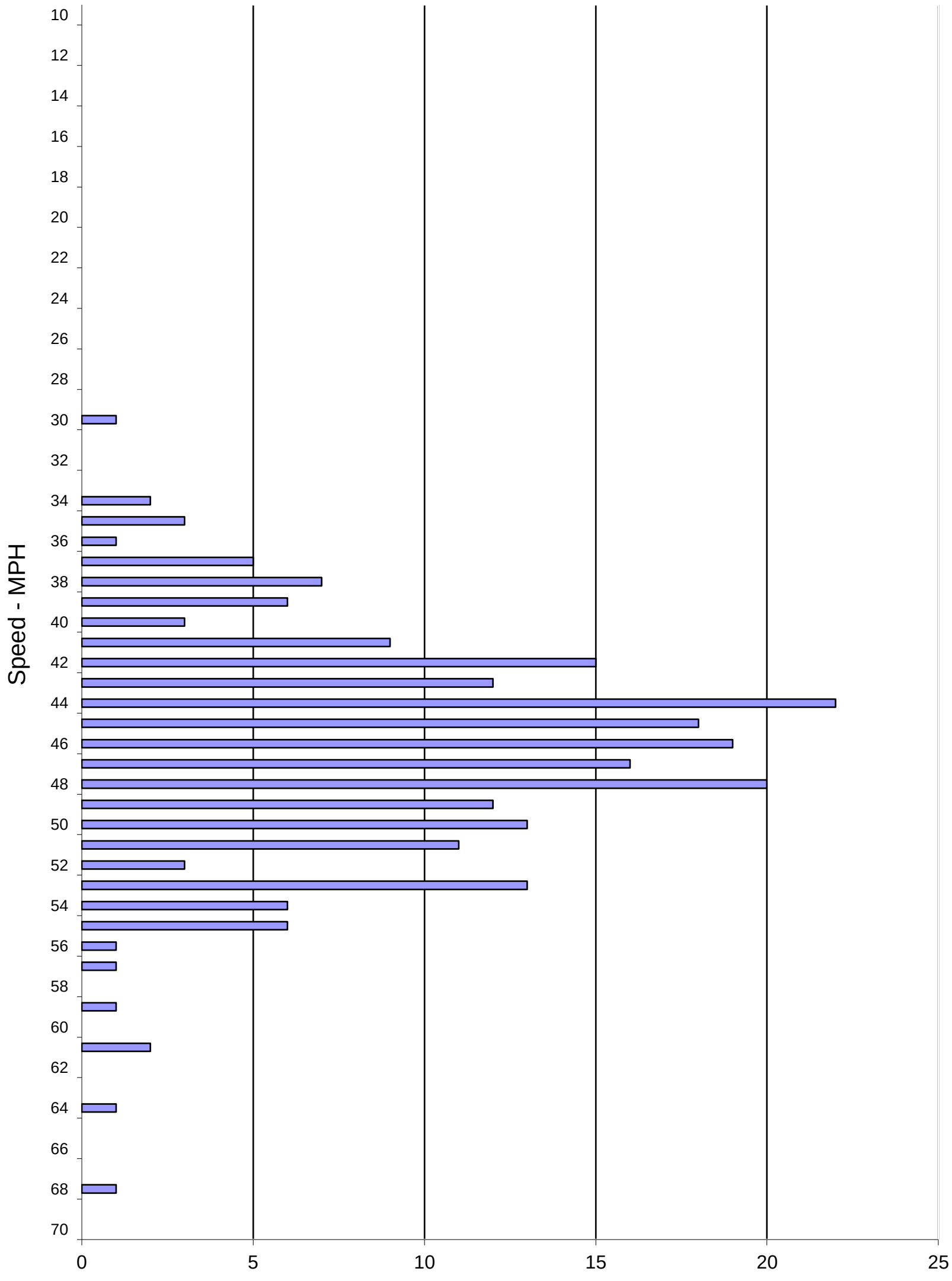
Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/7/2019 **Location:** 2180 Oak Knoll Rd
TIME: 09:00-10:40 **Posted Speed:** None Clear/Dry **Project #: 19-8545-025**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	**1**
31	
32	
33	
34	**2**
35	**3**
36	**1**
37	**5**
38	**7**
39	**6**
40	**3**
41	**9**
42	**15**
43	**12**
44	**22**
45	**18**
46	**19**
47	**16**
48	**20**
49	**12**
50	**13**
51	**11**
52	**3**
53	**13**
54	**6**
55	**6**
56	**1**
57	**1**
58	
59	**1**
60	
61	**2**
62	
63	
64	**1**
65	
66	
67	
68	**1**
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	230	30 - 68	46 mph	52 mph	42 - 51	158	69%	16% / 37	16% / 35

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/6/2019 **Location:** 1372 Orchard Ave
TIME: 09:00-11:00 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-026**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	**2**
26	
27	**2**
28	**1**
29	**3**
30	**5**
31	**4**
32	**5**
33	**5**
34	**10**
35	**8**
36	**6**
37	**9**
38	**6**
39	**7**
40	**9**
41	**8**
42	**3**
43	**5**
44	**5**
45	**2**
46	
47	**2**
48	**1**
49	**1**
50	**1**
51	**1**
52	**2**
53	
54	
55	
56	
57	
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59	
60	
61	
62	
63	
64	
65	
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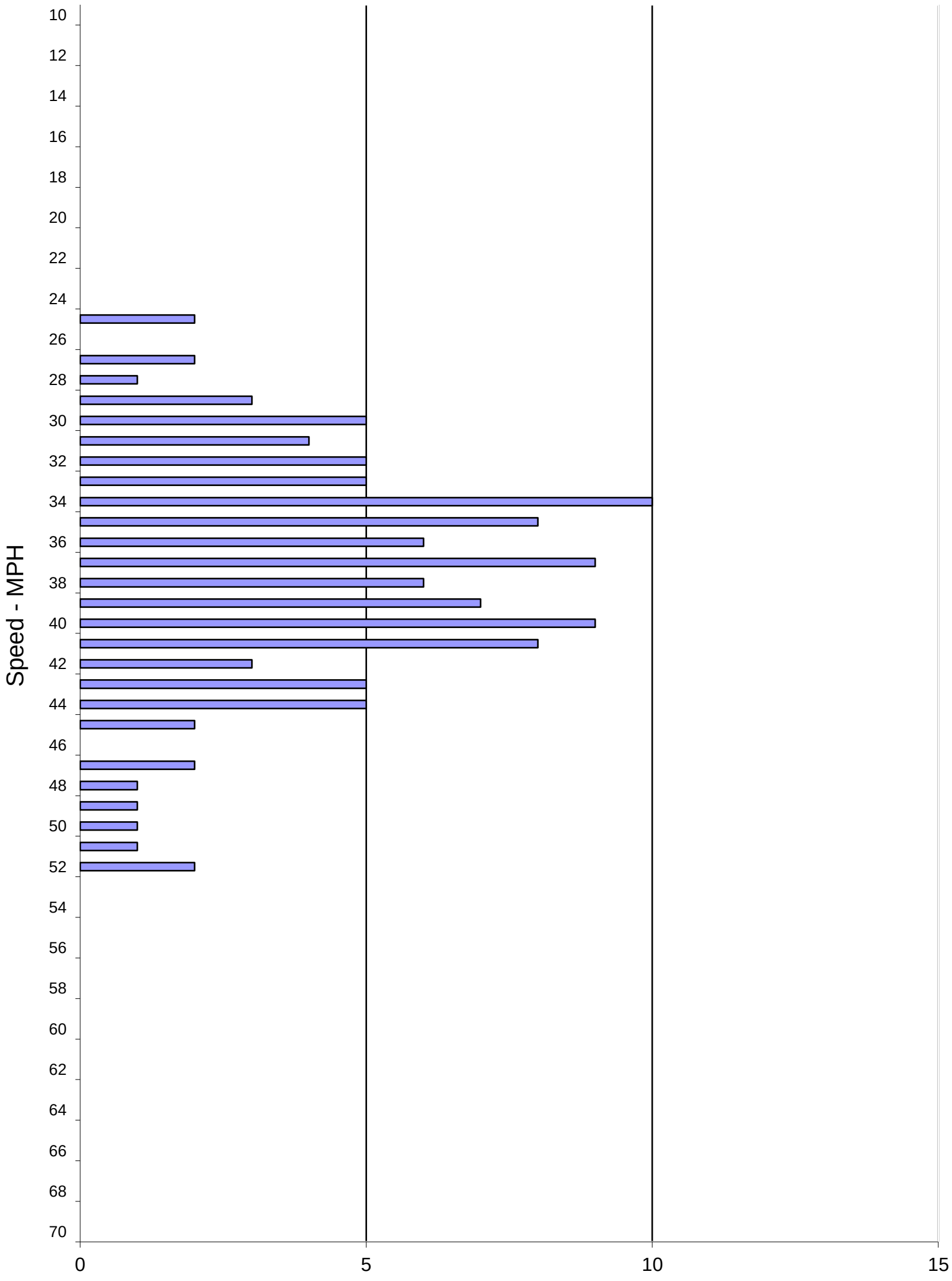
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	113	25 - 52	37 mph	43 mph	32 - 41	73	65%	15% / 17	21% / 23

Spot Speed Study

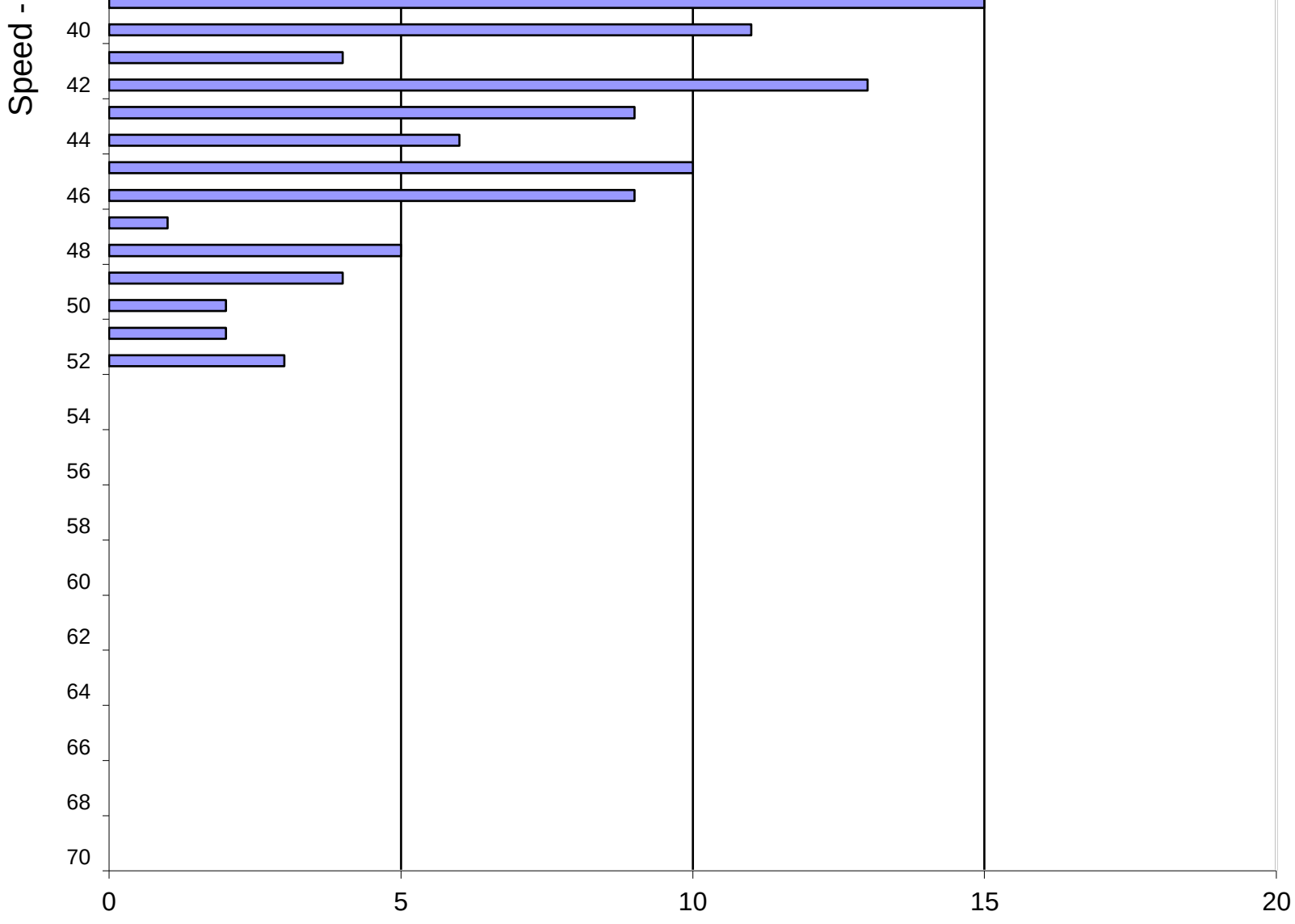
Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/6/2019 **Location:** 1138 Orchard Ave
TIME: 11:10-13:10 **Posted Speed:** 45 MPH Clear/Dry **Project #: 19-8545-027**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	**2**
28	**1**
29	**1**
30	
31	**3**
32	**1**
33	**5**
34	**2**
35	**4**
36	**9**
37	**6**
38	**8**
39	**15**
40	**11**
41	**4**
42	**13**
43	**9**
44	**6**
45	**10**
46	**9**
47	**1**
48	**5**
49	**4**
50	**2**
51	**2**
52	**3**
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	136	27 - 52	40 mph	46 mph	36 - 45	91	67%	13% / 19	20% / 26

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/25/2019 **Location:** 1225 Partrick Rd

TIME: 13:45-15:45 **Posted Speed:** 30 MPH Clear/Dry **Project #: 19-8545-028**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	1
18	
19	2
20	3
21	
22	1
23	1
24	2
25	4
26	5
27	7
28	3
29	7
30	3
31	5
32	5
33	6
34	2
35	2
36	2
37	3
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
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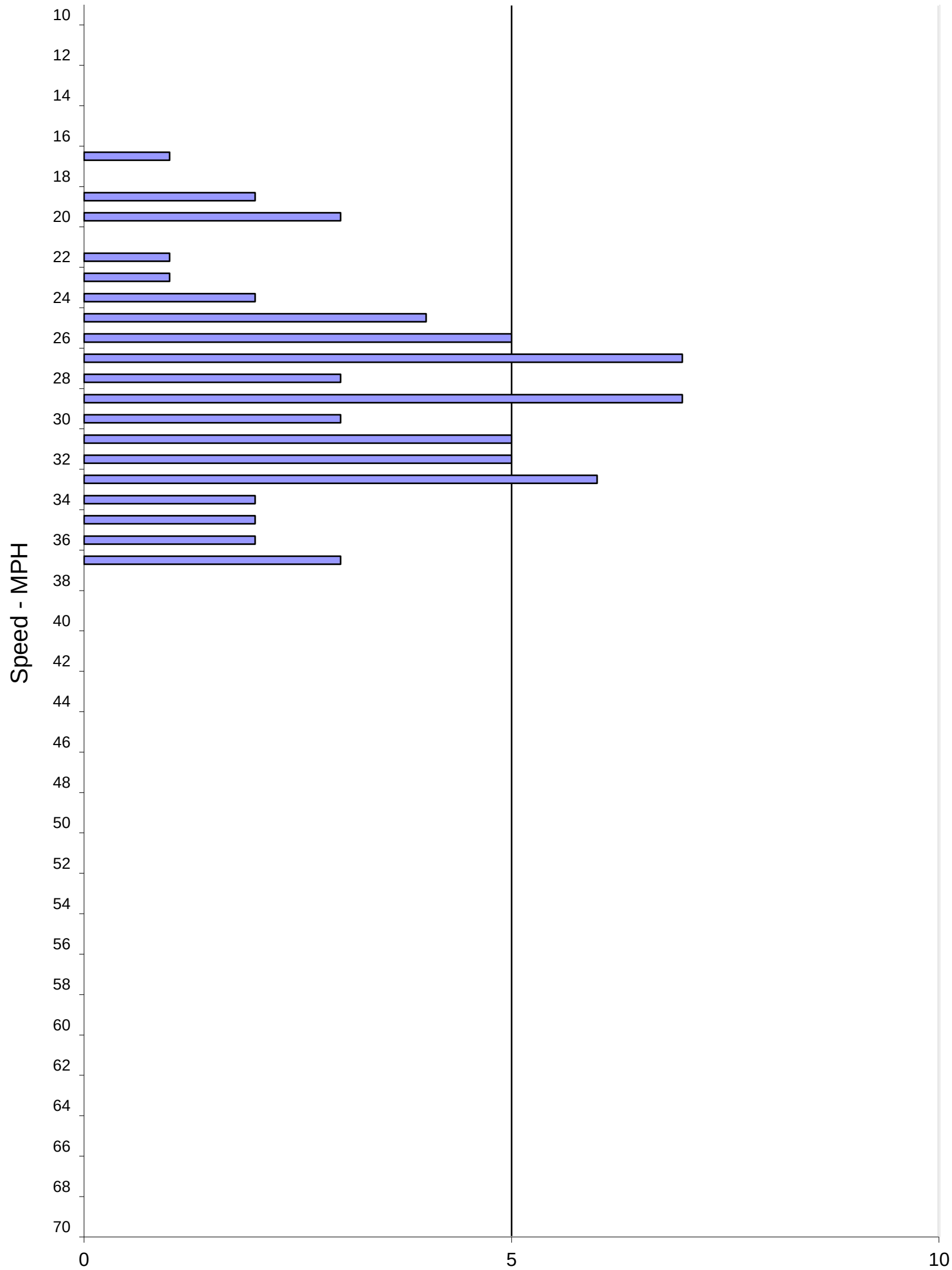
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	64	17 - 37	29 mph	33 mph	24 - 33	47	73%	12% / 8	15% / 9

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/7/2019 **Location:** Penny Ln 35 Yards N/O E Imola Ave
TIME: 11:50-13:50 **Posted Speed:** 30 MPH Clear/Dry **Project #: 19-8545-029**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	**1**
17	**1**
18	**3**
19	
20	**1**
21	**1**
22	**3**
23	**2**
24	**3**
25	**5**
26	**4**
27	**5**
28	**5**
29	**2**
30	**1**
31	**3**
32	**2**
33	
34	
35	**1**
36	
37	**1**
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
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58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	

SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	44	16 - 37	26 mph	31 mph	22 - 31	33	75%	15% / 7	10% / 4

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/25/2019 **Location:** 2835 Redwood Rd
TIME: 09:00-10:00 **Posted Speed:** 30 MPH Clear/Dry **Project #: 19-8545-030**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	**1**
30	
31	**3**
32	**5**
33	**7**
34	**6**
35	**9**
36	**17**
37	**14**
38	**15**
39	**18**
40	**23**
41	**22**
42	**12**
43	**9**
44	**8**
45	**8**
46	**7**
47	**5**
48	**3**
49	
50	**2**
51	**1**
52	**2**
53	
54	**1**
55	
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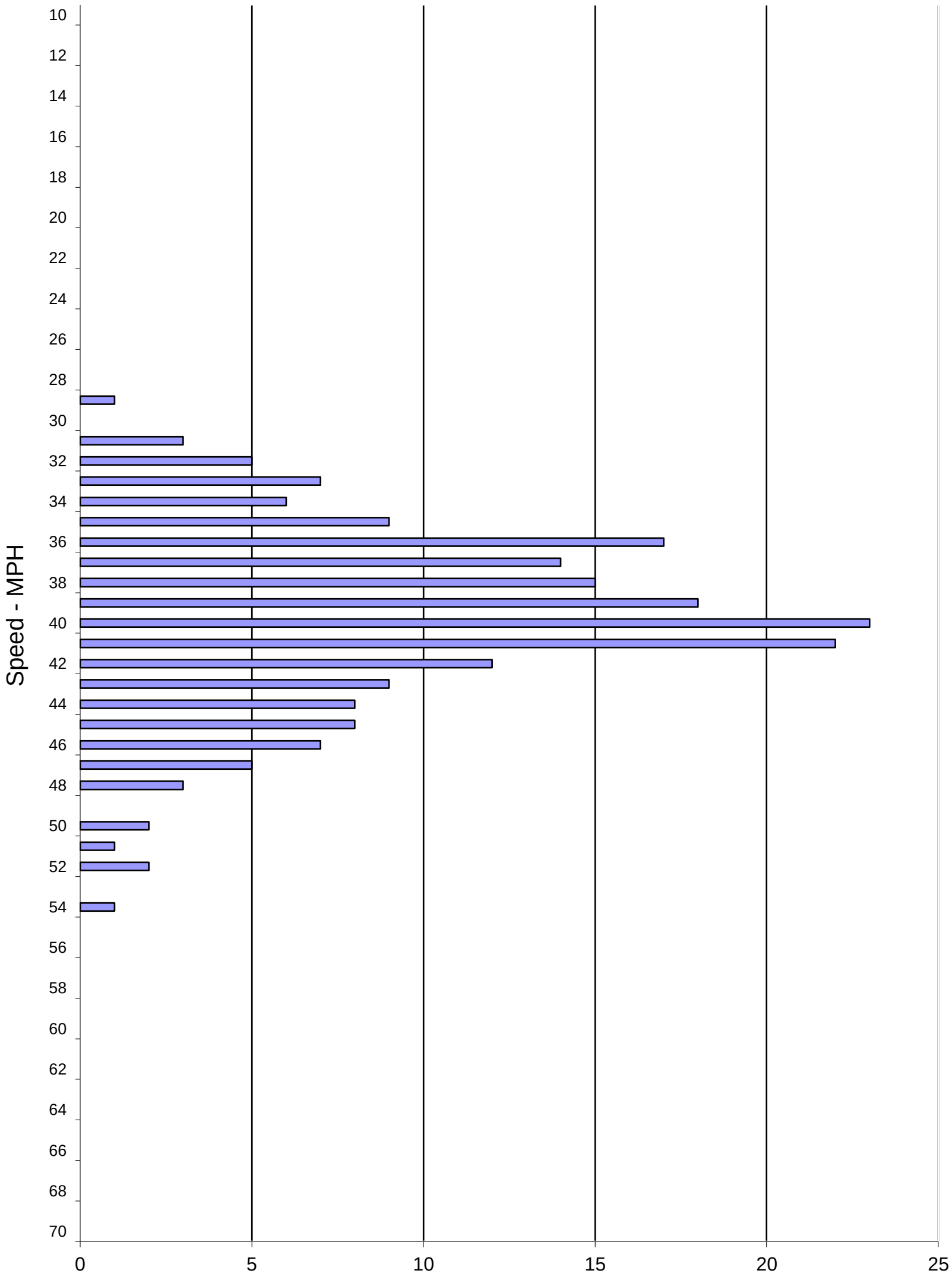
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	198	29 - 54	40 mph	44 mph	35 - 44	147	74%	11% / 22	15% / 29

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/23/2019 **Location:** 1153 2nd Ave
TIME: 13:30-15:30 **Posted Speed:** 40 MPH Clear/Dry **Project #: 19-8545-031**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	1
23	
24	1
25	4
26	2
27	3
28	5
29	4
30	7
31	4
32	6
33	3
34	8
35	3
36	6
37	5
38	4
39	3
40	4
41	4
42	3
43	
44	1
45	1
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
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64	
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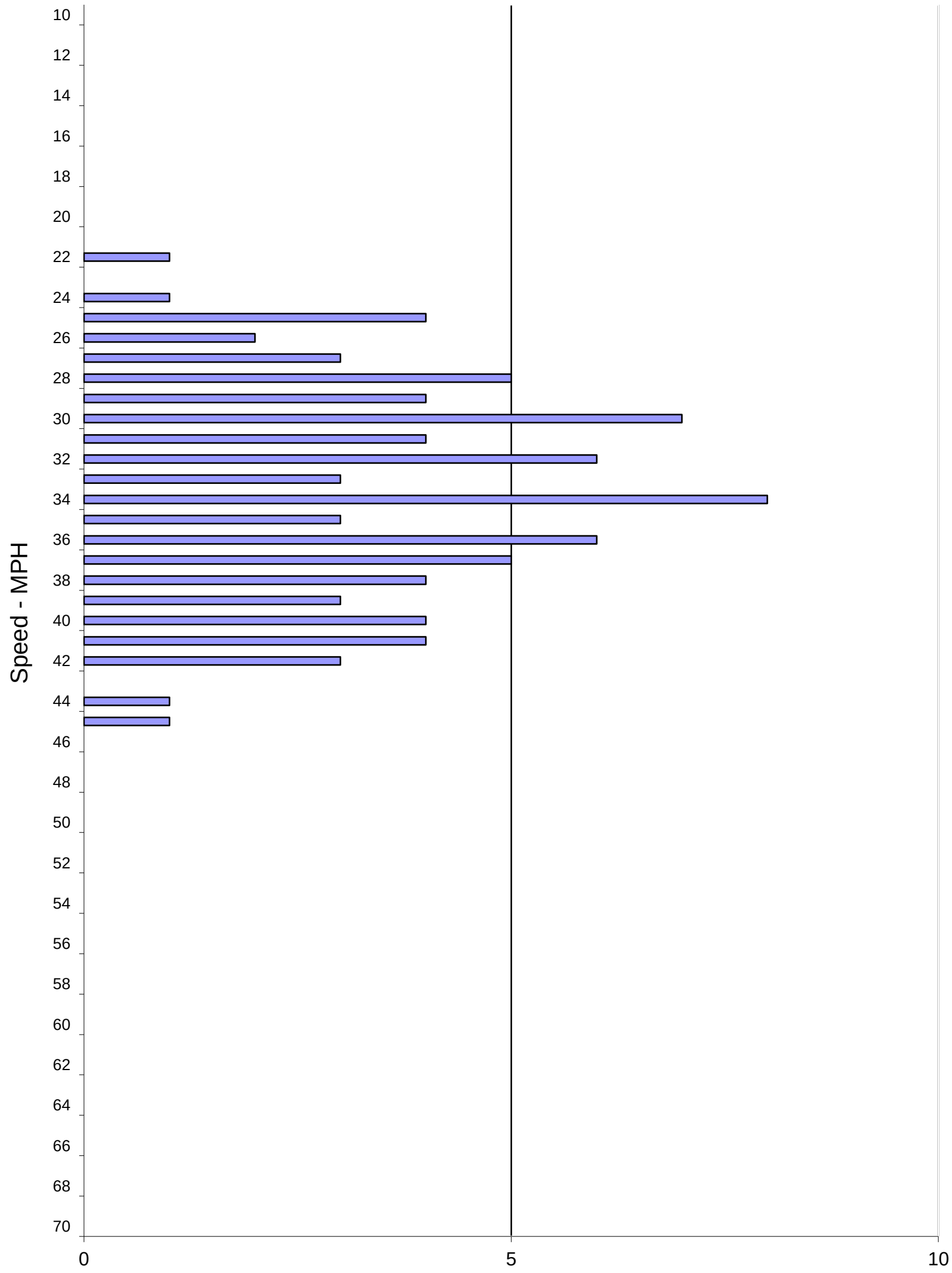
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	82	22 - 45	34 mph	40 mph	28 - 37	51	62%	13% / 11	25% / 20

Spot Speed Study

Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/5/2019 **Location:** 8383 Silverado Trail
TIME: 11:10-12:35 **Posted Speed:** 55 MPH Clear/Dry **Project #: 19-8545-032**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
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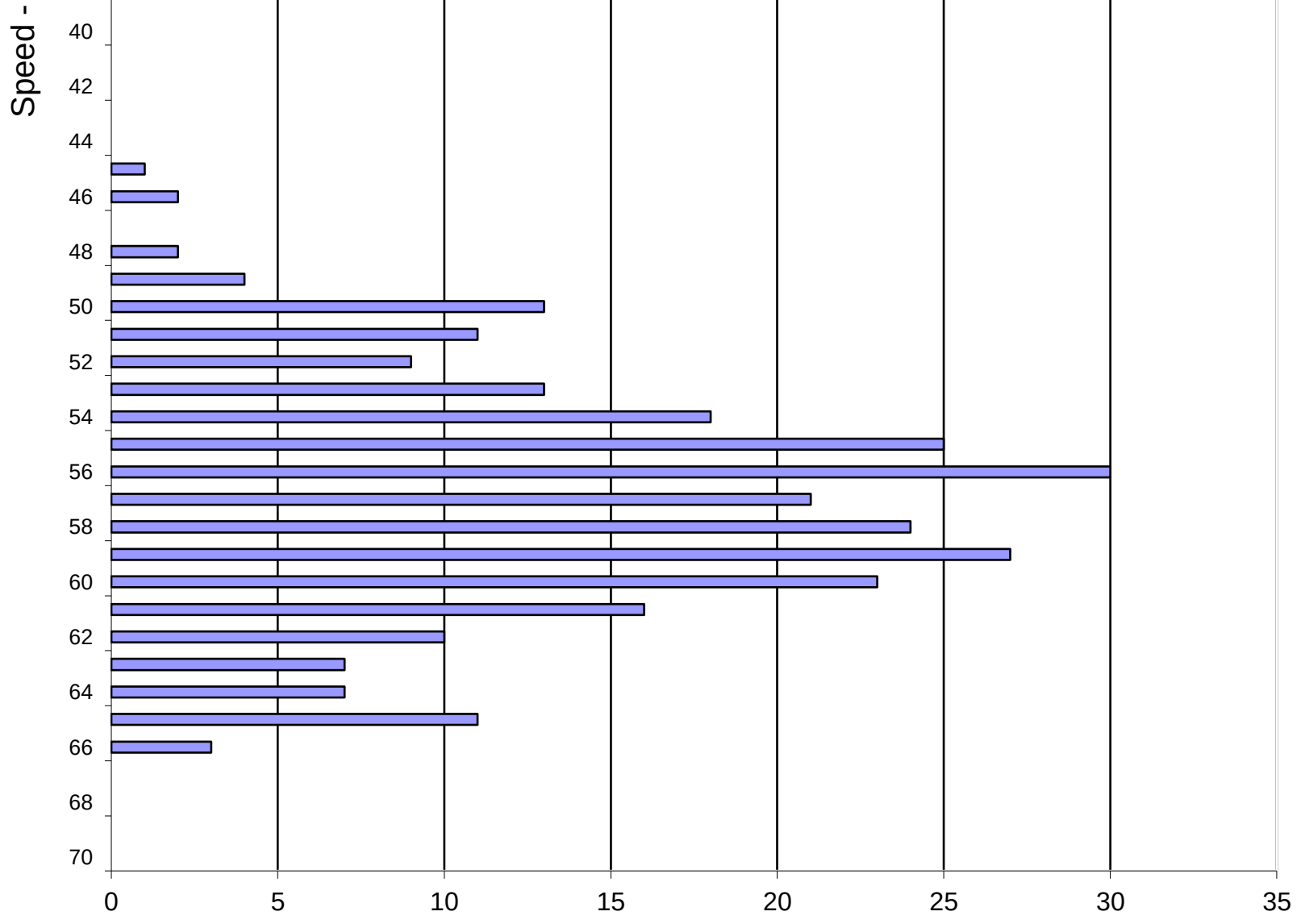
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	**1**
46	**2**
47	
48	**2**
49	**4**
50	**13**
51	**11**
52	**9**
53	**13**
54	**18**
55	**25**
56	**30**
57	**21**
58	**24**
59	**27**
60	**23**
61	**16**
62	**10**
63	**7**
64	**7**
65	**11**
66	**3**
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	277	45 - 66	57 mph	61 mph	53 - 62	207	75%	15% / 42	11% / 28

Spot Speed Study

Prepared by: National Data & Surveying Services

City of St Helena

DATE: 11/5/2019 **Location:** 1001 Silverado Trail S

TIME: 13:25-15:05 **Posted Speed:** 55 MPH Clear/Dry **Project #: 19-8545-033**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
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19	
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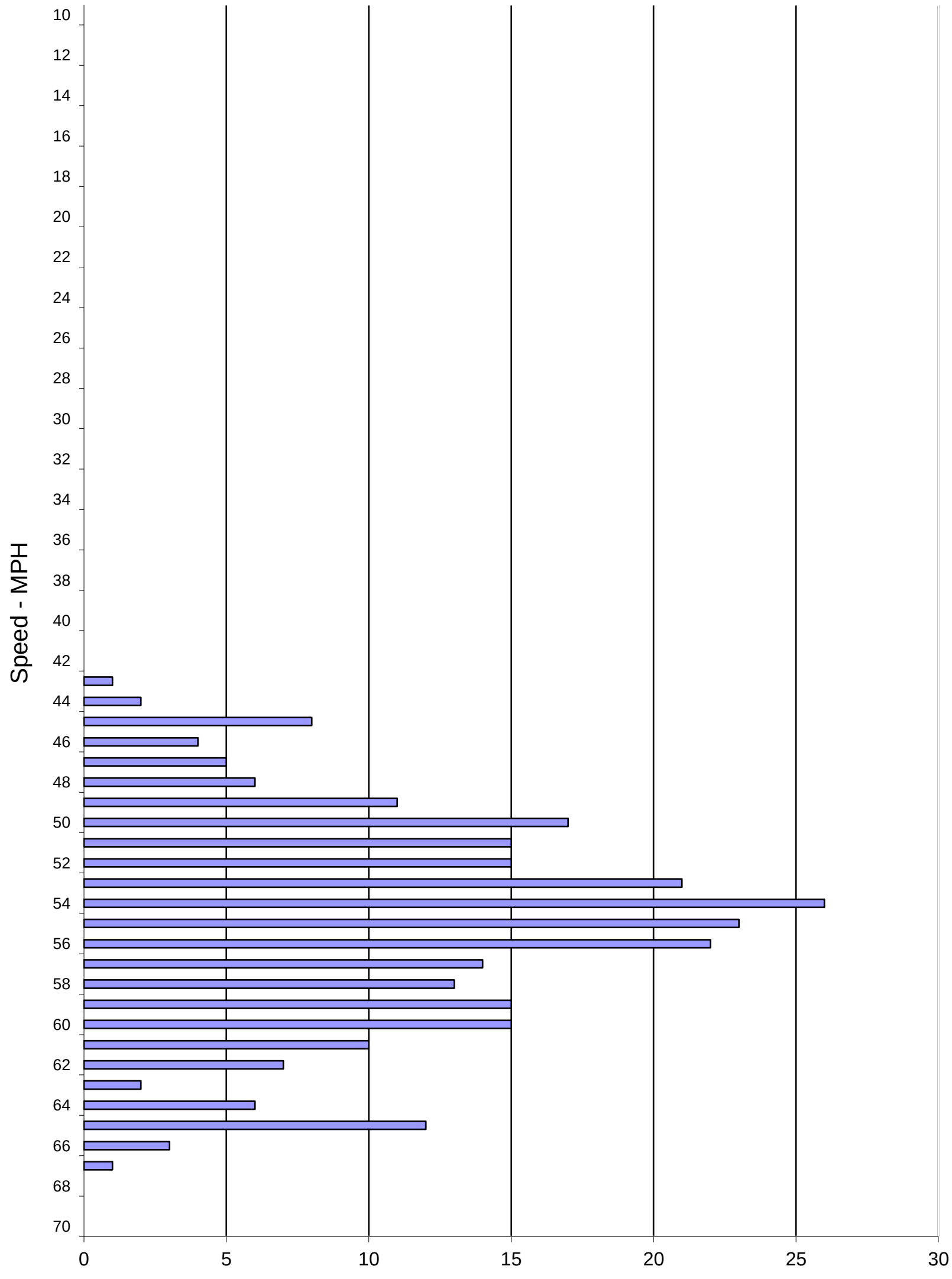
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	**1**
44	**2**
45	**8**
46	**4**
47	**5**
48	**6**
49	**11**
50	**17**
51	**15**
52	**15**
53	**21**
54	**26**
55	**23**
56	**22**
57	**14**
58	**13**
59	**15**
60	**15**
61	**10**
62	**7**
63	**2**
64	**6**
65	**12**
66	**3**
67	**1**
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	274	43 - 67	55 mph	60 mph	50 - 59	181	66%	13% / 37	21% / 56

Spot Speed Study

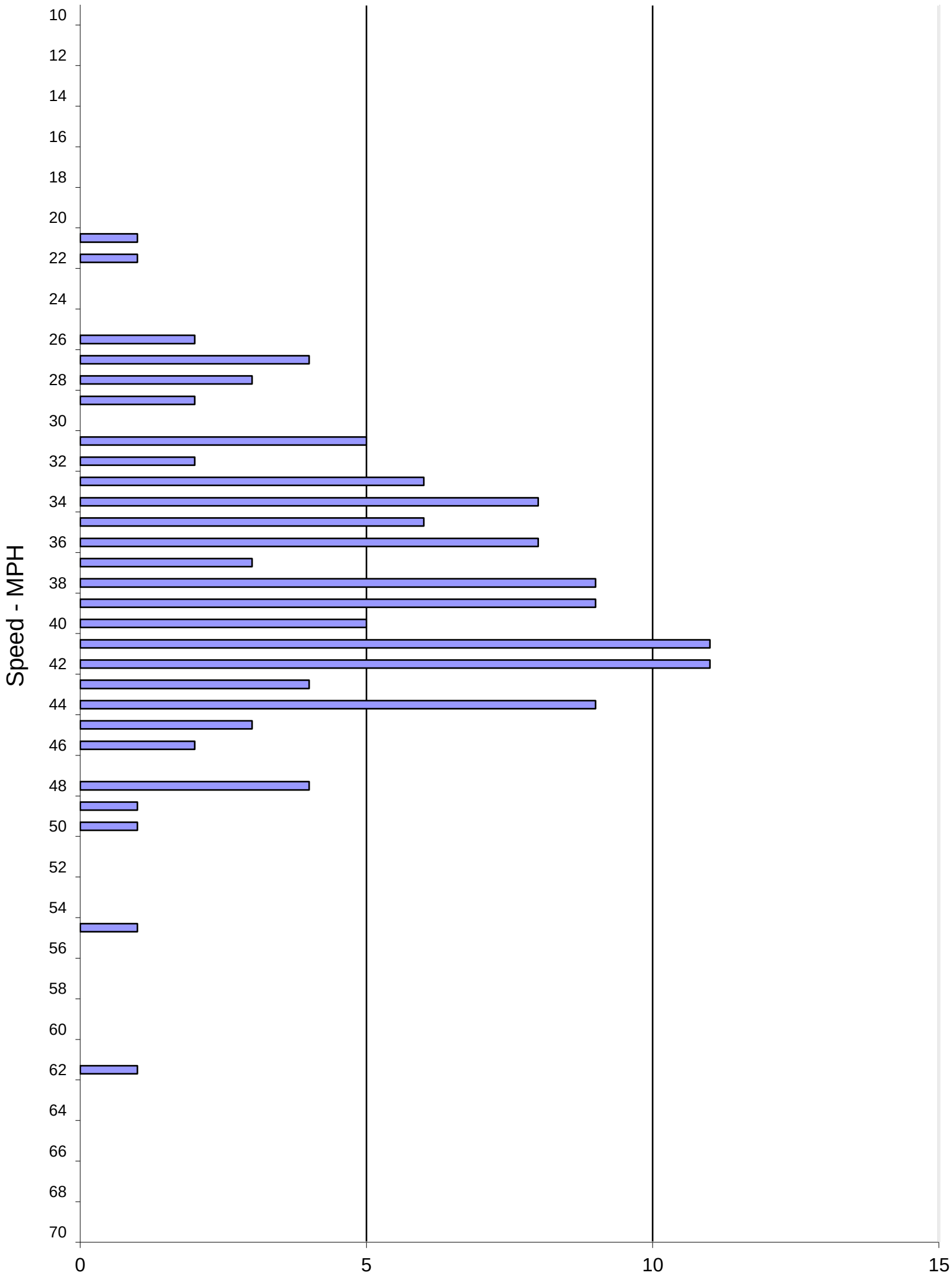
Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/7/2019 **Location:** 1160 Soda Canyon Rd
TIME: 11:00-13:00 **Posted Speed:** 45 MPH Clear/Dry **Project #: 19-8545-034**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	**1**
22	**1**
23	
24	
25	
26	**2**
27	**4**
28	**3**
29	**2**
30	
31	**5**
32	**2**
33	**6**
34	**8**
35	**6**
36	**8**
37	**3**
38	**9**
39	**9**
40	**5**
41	**11**
42	**11**
43	**4**
44	**9**
45	**3**
46	**2**
47	
48	**4**
49	**1**
50	**1**
51	
52	
53	
54	
55	**1**
56	
57	
58	
59	
60	
61	
62	**1**
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	122	21 - 62	39 mph	44 mph	33 - 42	76	62%	16% / 20	22% / 26

Spot Speed Study

Prepared by: National Data & Surveying Services

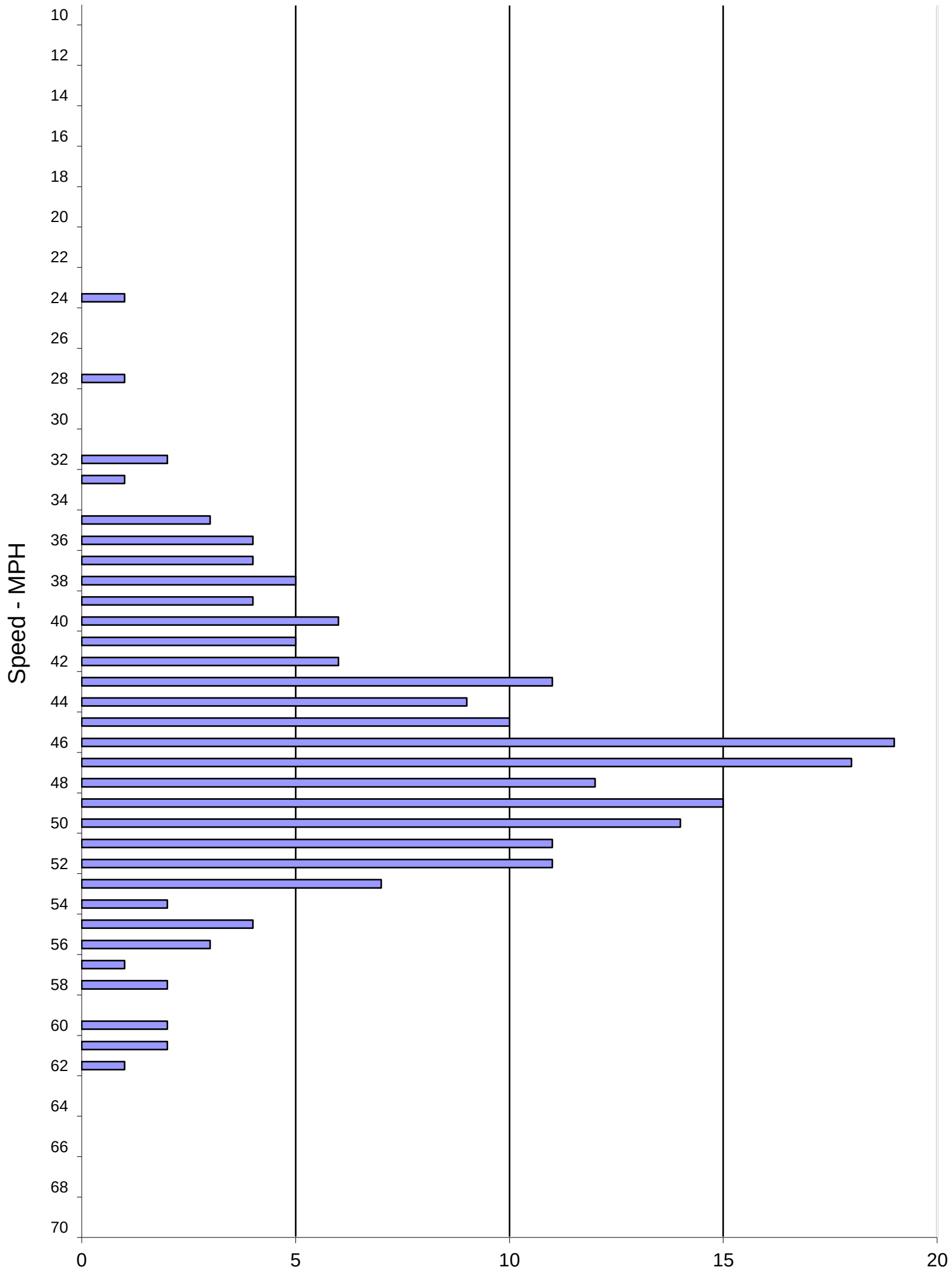
City of Napa

DATE: 11/6/2019 **Location:** 5129 Solano Ave

TIME: 13:25-15:25 **Posted Speed:** 50 MPH Clear/Dry **Project #: 19-8545-035**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	**1**
25	
26	
27	
28	**1**
29	
30	
31	
32	**2**
33	**1**
34	
35	**3**
36	**4**
37	**4**
38	**5**
39	**4**
40	**6**
41	**5**
42	**6**
43	**11**
44	**9**
45	**10**
46	**19**
47	**18**
48	**12**
49	**15**
50	**14**
51	**11**
52	**11**
53	**7**
54	**2**
55	**4**
56	**3**
57	**1**
58	**2**
59	
60	**2**
61	**2**
62	**1**
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	196	24 - 62	47 mph	52 mph	43 - 52	130	66%	21% / 42	13% / 24

Spot Speed Study

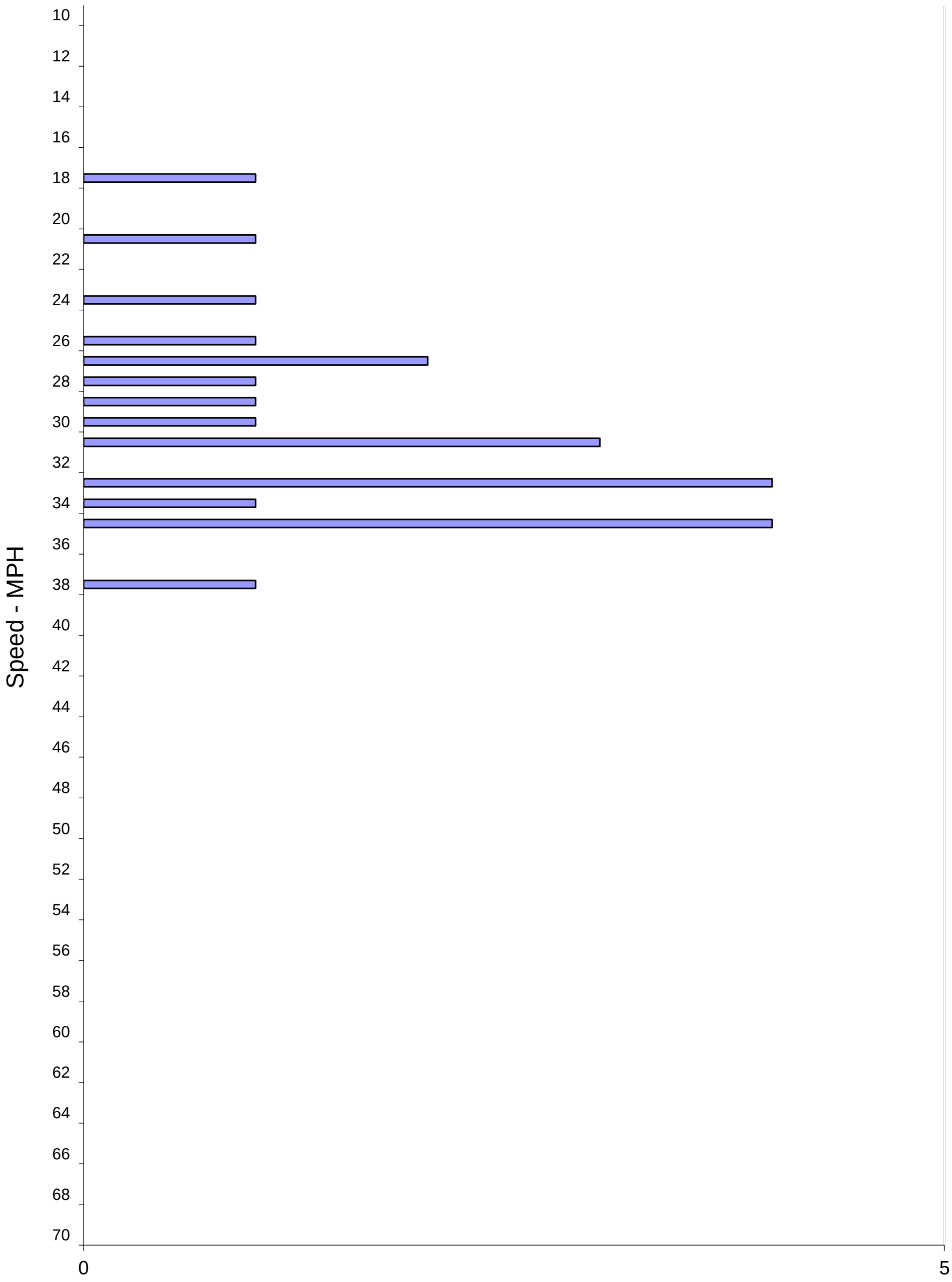
Prepared by: National Data & Surveying Services

City of Napa

DATE: 11/7/2019 **Location:** 1012 Sunset Rd
TIME: 09:50-11:50 **Posted Speed:** 40 MPH Clear/Dry **Project #: 19-8545-036**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	1
19	
20	
21	1
22	
23	
24	1
25	
26	1
27	2
28	1
29	1
30	1
31	3
32	
33	4
34	1
35	4
36	
37	
38	1
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	22	18 - 38	31 mph	35 mph	26 - 35	18	82%	13% / 3	5% / 1

Spot Speed Study

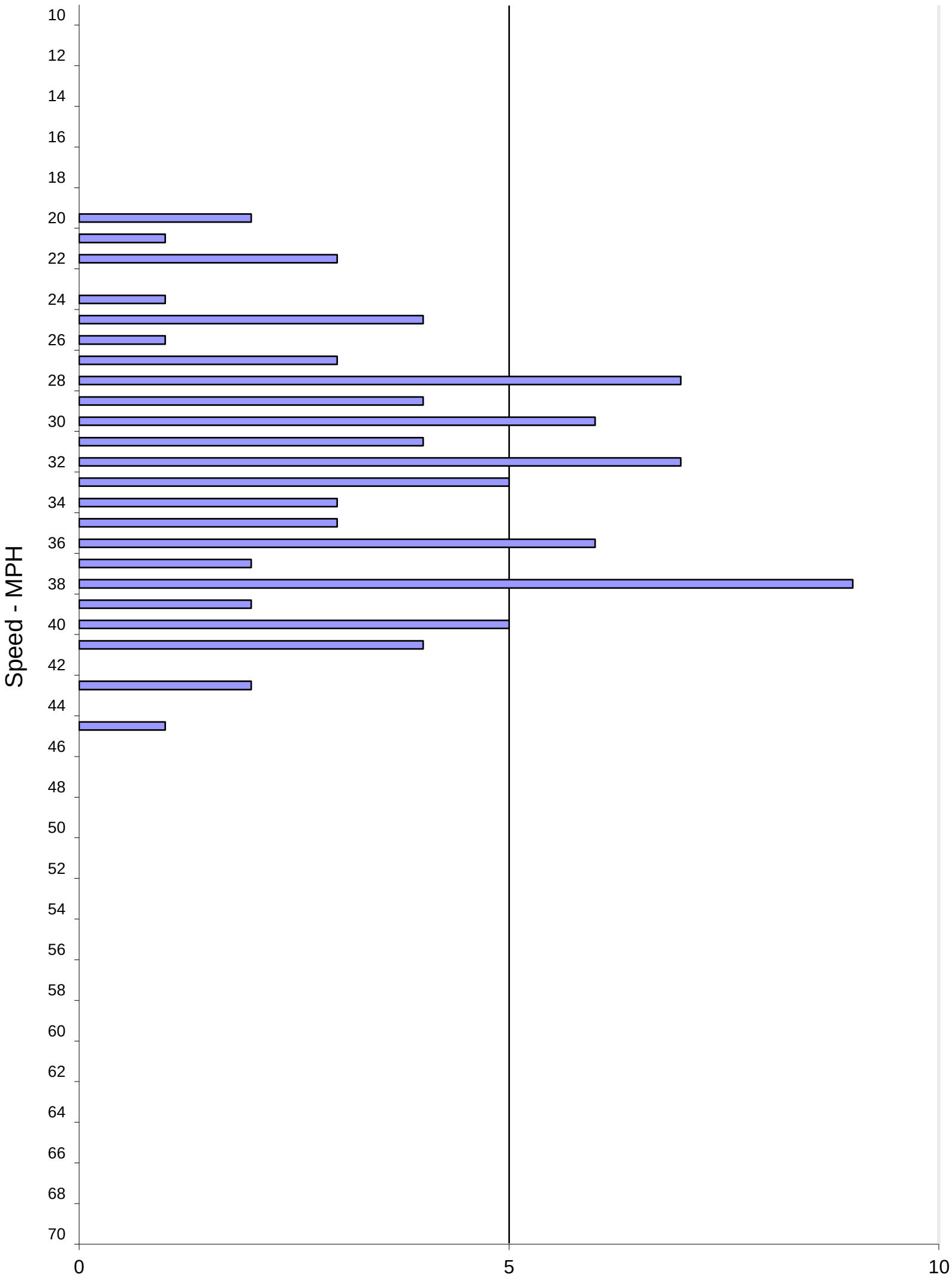
Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/22/2019 **Location:** 3rd Ave 600' S/O Hagen Rd
TIME: 09:30-11:30 **Posted Speed:** 40 MPH Clear/Dry **Project #: 19-8545-037**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	**2**
21	**1**
22	**3**
23	
24	**1**
25	**4**
26	**1**
27	**3**
28	**7**
29	**4**
30	**6**
31	**4**
32	**7**
33	**5**
34	**3**
35	**3**
36	**6**
37	**2**
38	**9**
39	**2**
40	**5**
41	**4**
42	
43	**2**
44	
45	**1**
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	85	20 - 45	32 mph	39 mph	29 - 38	49	58%	25% / 22	17% / 14

Spot Speed Study

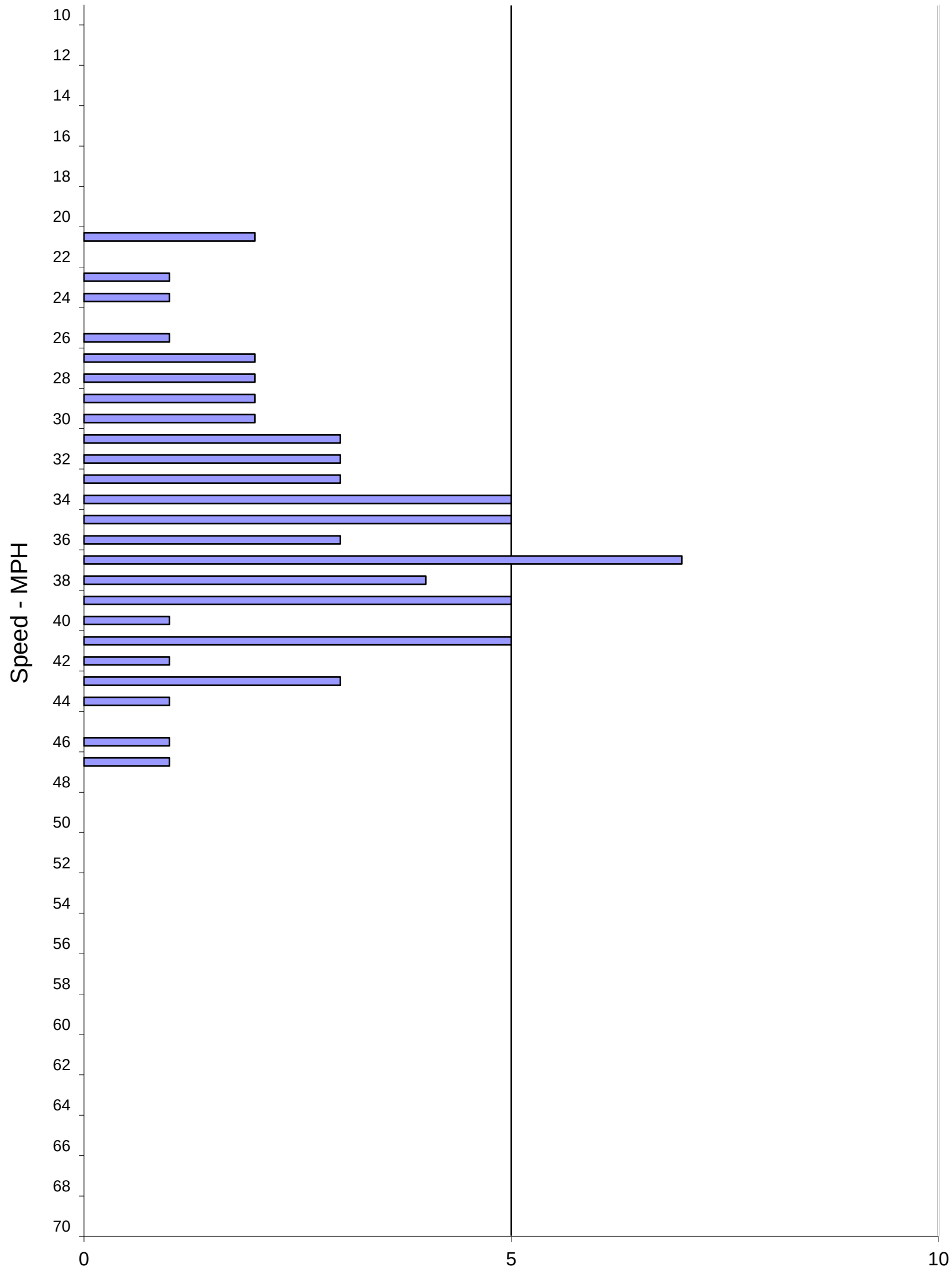
Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/23/2019 **Location:** 2222 3rd Ave
TIME: 11:25-13:25 **Posted Speed:** 40 MPH Clear/Dry **Project #: 19-8545-038**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	2
22	
23	1
24	1
25	
26	1
27	2
28	2
29	2
30	2
31	3
32	3
33	3
34	5
35	5
36	3
37	7
38	4
39	5
40	1
41	5
42	1
43	3
44	1
45	
46	1
47	1
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	64	21 - 47	35 mph	41 mph	32 - 41	41	64%	25% / 16	11% / 7

Spot Speed Study

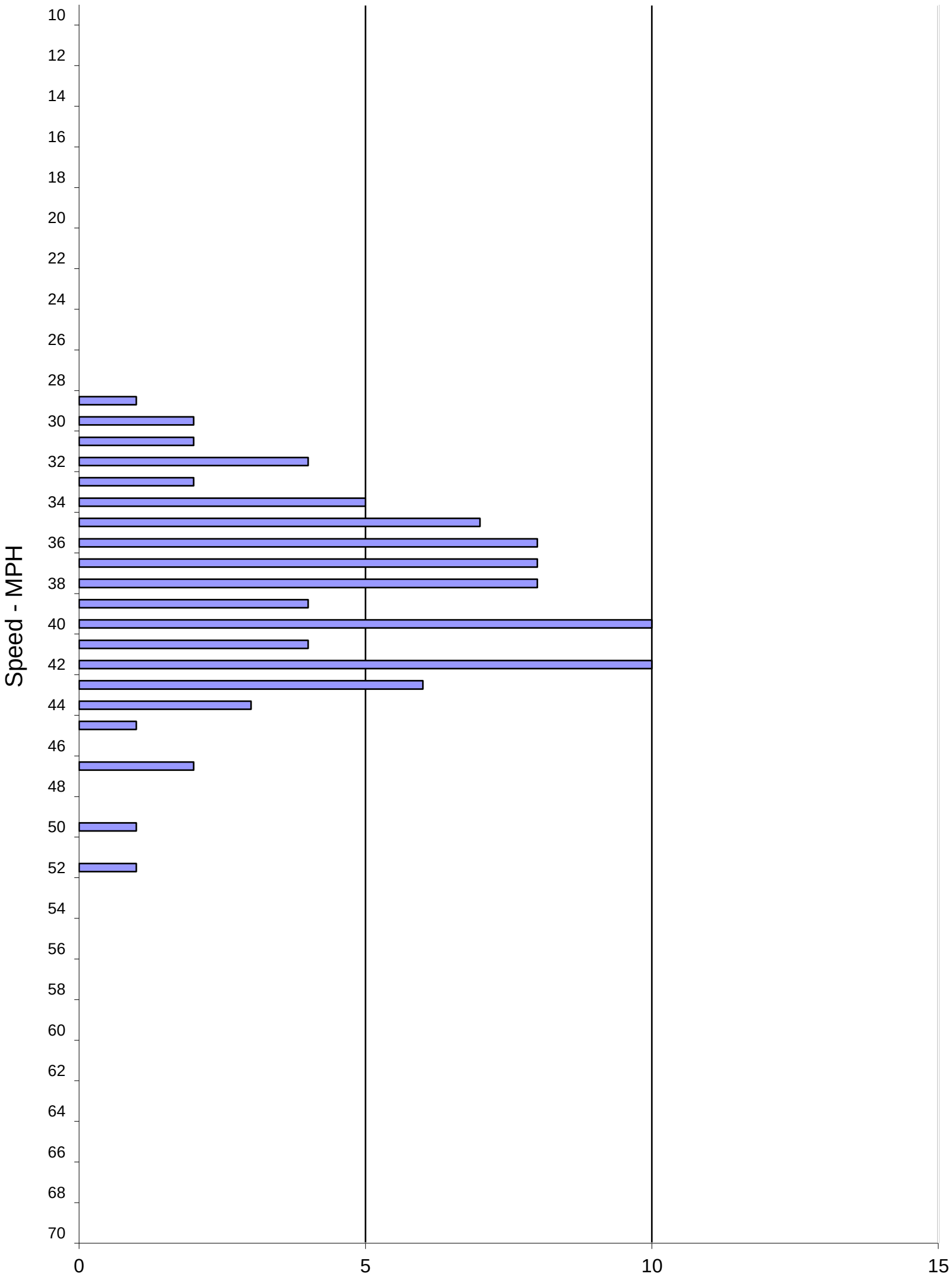
Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/24/2019 **Location:** 1168 3rd Ave
TIME: 10:25-12:25 **Posted Speed:** 40 MPH Clear/Dry **Project #: 19-8545-039**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	**1**
30	**2**
31	**2**
32	**4**
33	**2**
34	**5**
35	**7**
36	**8**
37	**8**
38	**8**
39	**4**
40	**10**
41	**4**
42	**10**
43	**6**
44	**3**
45	**1**
46	
47	**2**
48	
49	
50	**1**
51	
52	**1**
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	89	29 - 52	38 mph	43 mph	34 - 43	70	79%	12% / 11	9% / 8

Spot Speed Study

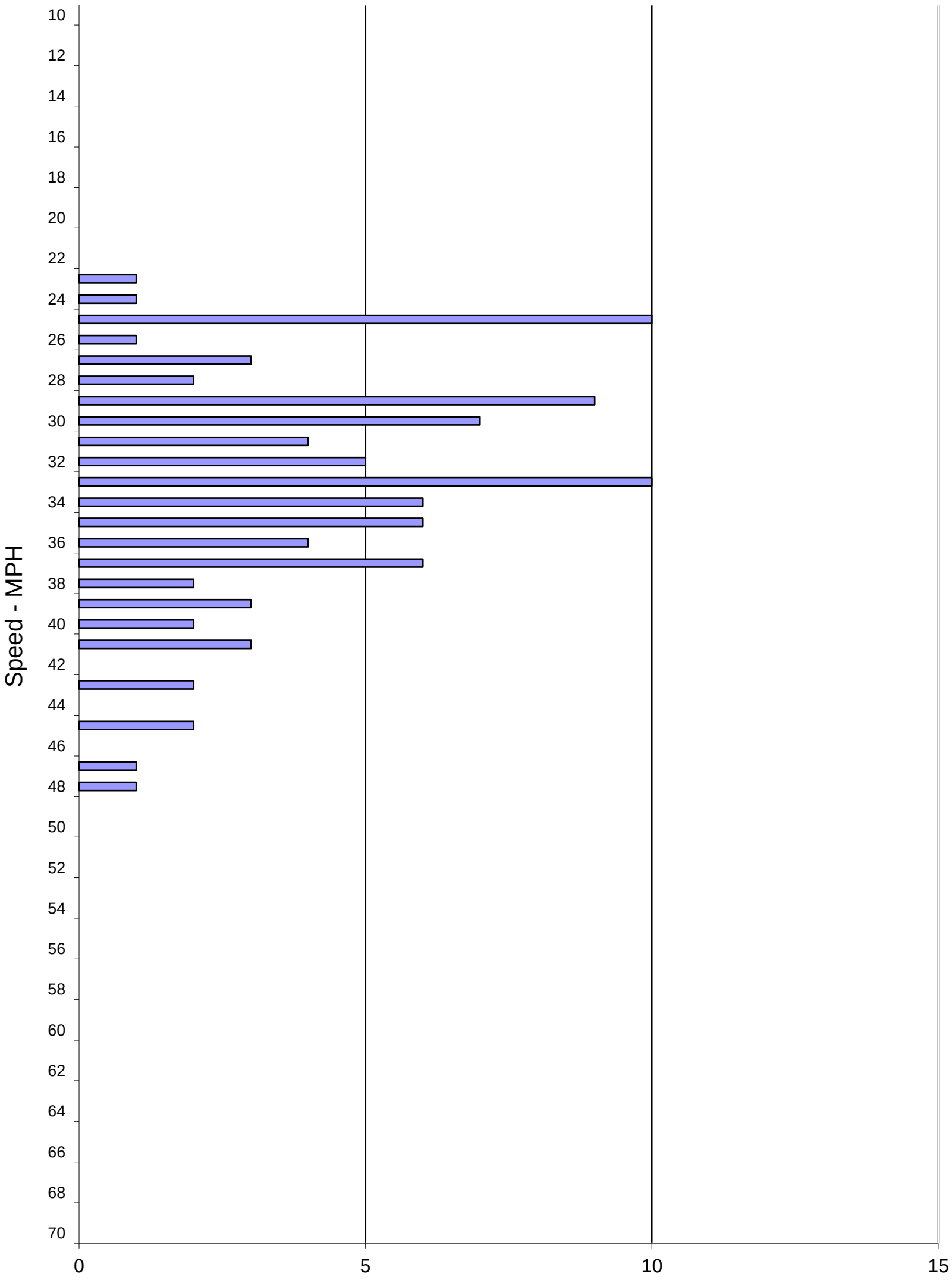
Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/25/2019 **Location:** 2010 3rd Ave
TIME: 10:00-12:00 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-040**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	**1**
24	**1**
25	**10**
26	**1**
27	**3**
28	**2**
29	**9**
30	**7**
31	**4**
32	**5**
33	**10**
34	**6**
35	**6**
36	**4**
37	**6**
38	**2**
39	**3**
40	**2**
41	**3**
42	
43	**2**
44	
45	**2**
46	
47	**1**
48	**1**
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	91	23 - 48	33 mph	39 mph	28 - 37	59	65%	17% / 16	18% / 16

Spot Speed Study

Prepared by: National Data & Surveying Services

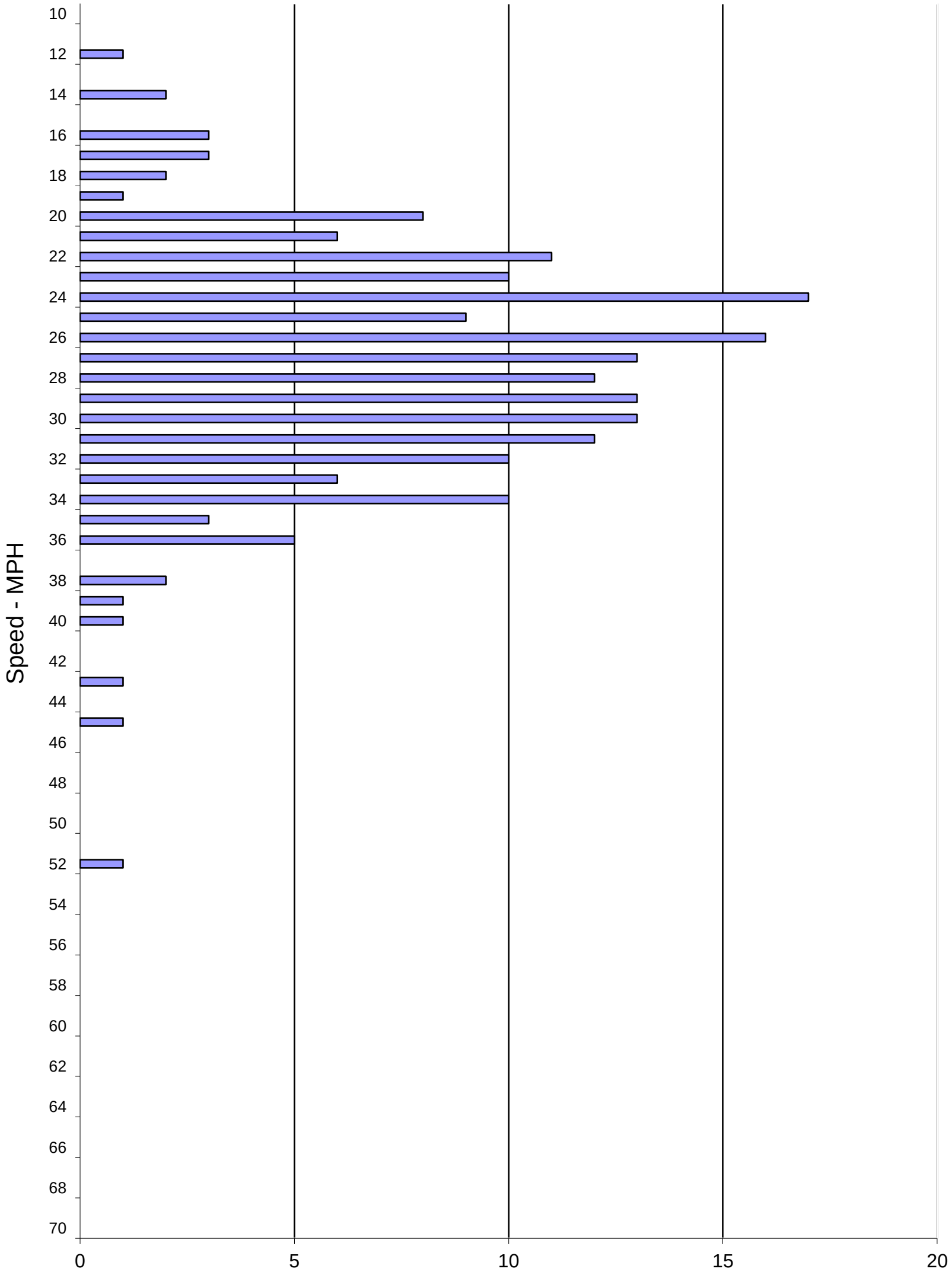
City of Napa

DATE: 11/5/2019 **Location:** 241 Tower Rd

TIME: 13:57-16:00 **Posted Speed:** 25 MPH Clear/Dry **Project #: 19-8545-041**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	1
13	
14	2
15	
16	3
17	3
18	2
19	1
20	8
21	6
22	11
23	10
24	17
25	9
26	16
27	13
28	12
29	13
30	13
31	12
32	10
33	6
34	10
35	3
36	5
37	
38	2
39	1
40	1
41	
42	
43	1
44	
45	1
46	
47	
48	
49	
50	
51	
52	1
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	193	12 - 52	27 mph	33 mph	22 - 31	126	65%	13% / 26	22% / 41

Spot Speed Study

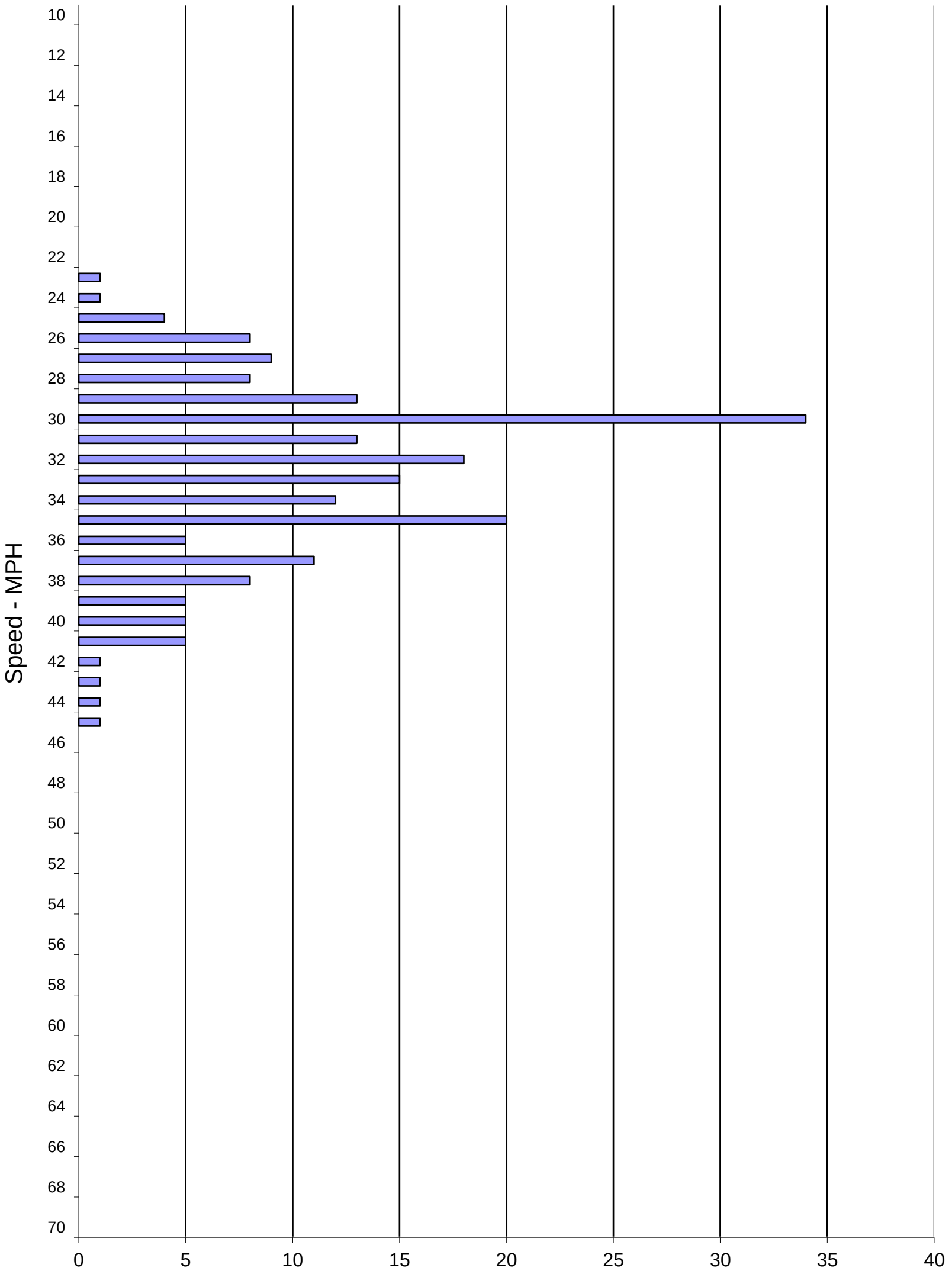
Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/23/2019 **Location:** 3220 Vichy Ave
TIME: 11:05-13:05 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-042**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	**1**
24	**1**
25	**4**
26	**8**
27	**9**
28	**8**
29	**13**
30	**34**
31	**13**
32	**18**
33	**15**
34	**12**
35	**20**
36	**5**
37	**11**
38	**8**
39	**5**
40	**5**
41	**5**
42	**1**
43	**1**
44	**1**
45	**1**
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	199	23 - 45	32 mph	37 mph	26 - 35	150	75%	3% / 6	22% / 43

Spot Speed Study

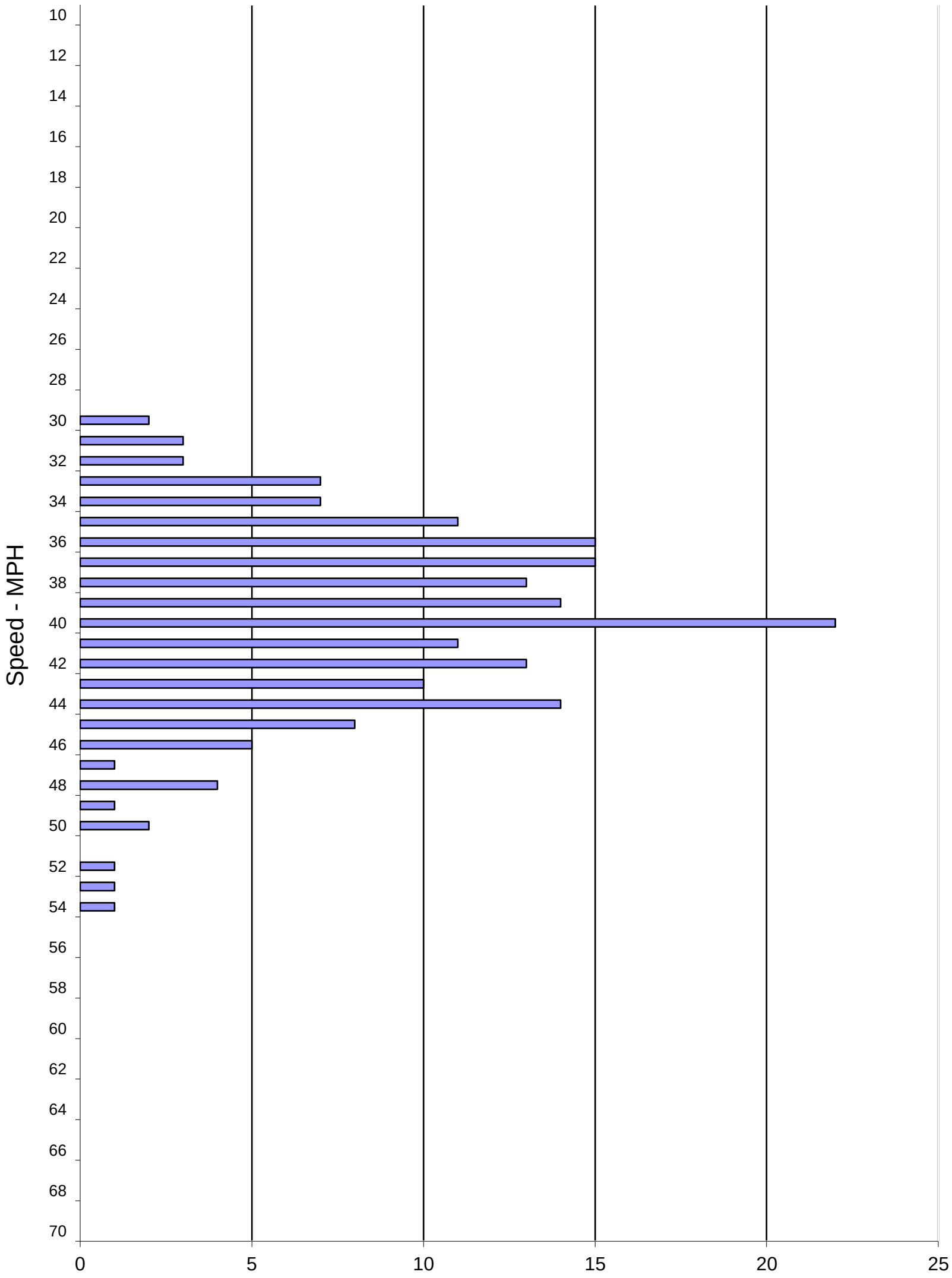
Prepared by: National Data & Surveying Services

City of Napa

DATE: 10/23/2019 **Location:** 3124 Vichy Ave
TIME: 09:00-11:00 **Posted Speed:** 40 MPH Clear/Dry **Project #: 19-8545-043**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	**2**
31	**3**
32	**3**
33	**7**
34	**7**
35	**11**
36	**15**
37	**15**
38	**13**
39	**14**
40	**22**
41	**11**
42	**13**
43	**10**
44	**14**
45	**8**
46	**5**
47	**1**
48	**4**
49	**1**
50	**2**
51	
52	**1**
53	**1**
54	**1**
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	184	30 - 54	40 mph	44 mph	35 - 44	138	75%	11% / 22	14% / 24

Spot Speed Study

Prepared by: National Data & Surveying Services

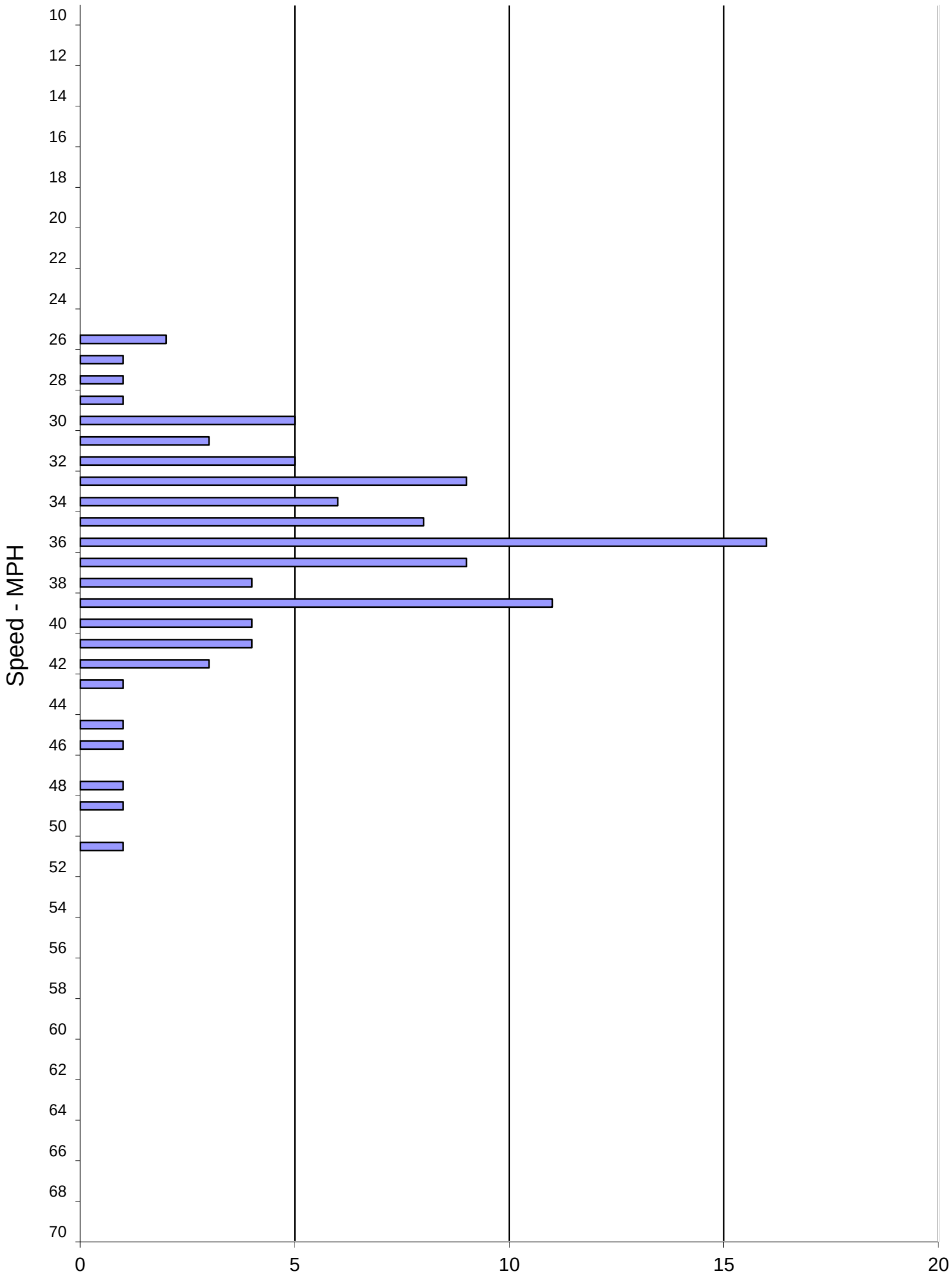
City of Napa

DATE: 11/7/2019 **Location:** Westgate Dr 200' N/O Castle Oaks Dr

TIME: 13:30-15:30 **Posted Speed:** 35 MPH Clear/Dry **Project #: 19-8545-044**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	**2**
27	**1**
28	**1**
29	**1**
30	**5**
31	**3**
32	**5**
33	**9**
34	**6**
35	**8**
36	**16**
37	**9**
38	**4**
39	**11**
40	**4**
41	**4**
42	**3**
43	**1**
44	
45	**1**
46	**1**
47	
48	**1**
49	**1**
50	
51	**1**
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	**Count**	**Range**	**50th Percentile**	**85th Percentile**	**10 MPH Pace**	**# in Pace**	**Percent in Pace**	**% / # Below Pace**	**% / # Above Pace**
ALL	98	26 - 51	36 mph	40 mph	30 - 39	76	78%	5% / 5	18% / 17

Spot Speed Study

Prepared by: National Data & Surveying Services

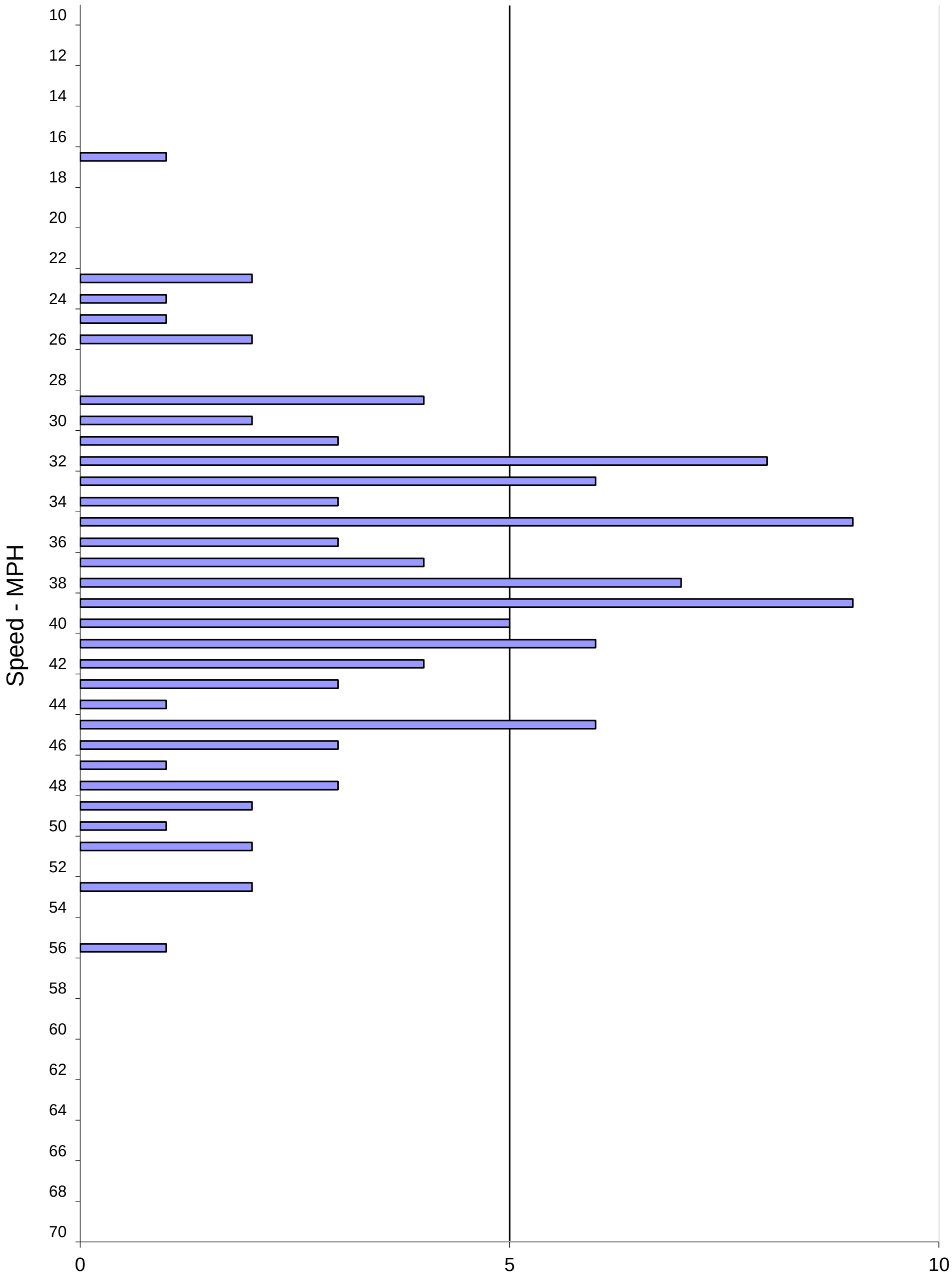
City of Napa

DATE: 10/22/2019 **Location:** Wild Horse Valley Rd 50' W/O Green Valley Rd

TIME: 14:00-16:00 **Posted Speed:** 40 MPH Clear/Dry **Project #: 19-8545-045**

Eastbound & Westbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	1
18	
19	
20	
21	
22	
23	2
24	1
25	1
26	2
27	
28	
29	4
30	2
31	3
32	8
33	6
34	3
35	9
36	3
37	4
38	7
39	9
40	5
41	6
42	4
43	3
44	1
45	6
46	3
47	1
48	3
49	2
50	1
51	2
52	
53	2
54	
55	
56	1
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	105	17 - 56	38 mph	45 mph	32 - 41	60	57%	15% / 16	28% / 29

APPENDIX C
Survey Equipment

SURVEY EQUIPMENT USED

The radar equipment used by National Data & Surveying Services to collect speed measurements for this survey was a Stalker Solo-III Model Hand-Held Traffic Radar and a Astro Products Phantom-III Model Hand-Held Traffic Radar manufactured by Applied Concepts of Plano, Texas and US Radar, Inc of Decatur, Illinois respectively. The calibration of each unit was checked before each series of measurements were taken. Tests of the units were conducted in accordance with the manufacturer's specifications. The Stalker Solo-III Hand-Held Traffic Radar and Astro Products Phantom-III Model Hand-Held Traffic Radar were last calibrated on September 12, 2016 by RHF Inc and December 16, 2013 respectively.

RHF Inc.
Radar Repair

16202 Keats Circle
Westminster, Calif. 92683

TRAFFIC RADAR CERTIFICATION

TESTED TO NHTSA SPECIFICATIONS / IACP CRITICAL PERFORMANCE STANDARDS
(NHTSA) National Highway and Traffic Safety Administration.
(IACP) International Association of Chiefs of Police.

R.H.F. is a certified independent testing and repair facility.

1	TEST ID	Date Received 12-16-13		Certification Number 65948					
2	DEVICE ID	Manufacturer ASTRO PRODUCTS		Model: PHANTOM		Type (1-IV) III	Directional radar ☐ Yes ☑ No	Same direction ☐ Yes ☑ No	
		Counting unit S/N 1619		Antenna-1 S/N N/A			Antenna-2 S/N N/A		
3	§ 2.4 / § 5.4 TUNING FORK CALIBRATION	Low speed fork S/N	Last date calib.	Freq. (Hz)	Speed (mph)	Measured (Hz)	PASS	FAIL	
		High speed fork S/N 1619TF	Last date calib.	Freq. (Hz)	Speed (mph) 55	Measured (Hz) 3979			
4	§ 2.5 / § 5.5 RADAR DEVICE TUNING FORK TESTS			Lo fork	High fork				
		Stationary mode	Fork speed (mph)	35	65				
			Disp. Speed (mph)	35	65		PASS	FAIL	
		Moving mode Opposite Direction	TARGET SPEED (Hi fork – Lo fork)	Expected. (mph) N/A	Displayed. (mph) N/A				
		Moving mode Same Direction	TARGET SPEED Hi fork + Lo fork Ho fork - Lo fork	Expected. (mph) N/A	Displayed. (mph) N/A				
5	§ 2.6.1. / § 5.6.1 TRANSMISSION FREQUENCY STABILITY	Standard supply Voltage (V) 13.6 V	Antenna 1 Freq. GHz 24.163	Antenna 2 Freq. GHz N/A					
		Standard supply Voltage – 20% (V) 10.8 V	Antenna 1 Freq. GHz 24.163	Antenna 2 Freq. GHz N/A			PASS	FAIL	
		Standard supply voltage + 20% (V) 16.3 V	Antenna 1 Freq. GHz 24.163	Antenna 2 Freq. GHz N/A					
6	§ 2.6.5 / § 5.6.5 POWER DENSITY	Mfg. Spec. (max mW/cm) ≤ 5	Antenna 1 Power (mW/cm) .4	Antenna 2 Power (mW/cm) N/A			PASS	FAIL	
7	§ 2.8 / § 5.8 LOW VOLTAGE	Mfg. spec. (V) ≤ 10.8V	LVA activates (V) 7.9	LVA deactivates (V) 8.5			PASS	FAIL	
8	§ 2.9.1 / § 5.9.1 DOPPLER AUDIO	A. Audio tone correlates with received Doppler signal ☑ Yes ☐ No					PASS	FAIL	
		B. Functioning audio volume-adjustment control ☑ Yes ☐ No							
9	§ 2.12.4 / § 5.12.4 INTERNAL CIRCUIT	Mfg. Spec. 60	Test results 60				PASS	FAIL	
10	§ 2.12.6.5 / § 5.12.6.5 DIRECTIONAL	A. Selects only targets moving towards radar ☐ Yes ☐ No ☑ N.A.					PASS	FAIL	
		B. Selects only targets moving away from radar ☐ Yes ☐ No ☑ N.A.							
11	§ 2.12.7 / § 2.12.8 / 5.12.7 / 5.12.8 LOW AND HIGH SPEED DISPLAY TEST	Stationary mode: target channel (mph)	Low speed spec. 20	Lo speed disp. 20			PASS	FAIL	
			Hi speed spec. 199	Hi speed disp. 199					
		Moving Mode target channel (mph)	Low speed spec. N/A	Lo speed disp. N/A					
			Hi speed spec. N/A	Hi speed disp. N/A					
		Moving Mode: patrol channel (mph)	Low speed spec. N/A	Lo speed disp. N/A					
			Hi speed spec. N/A	Hi speed disp. N/A					
12	§ 2.13 / § 5.13 RFI TEST						PASS	FAIL	
13	LABORATORY COMMENTS								
14	NHTSA/IACP CERTIFICATION	***This radar device meets or exceeds the minimal operational standards of the National Traffic Highway Safety Administration. California Vehicle Code Section 40802*** ☑ PASS ☐ FAIL							
		Certified by: Fred T Baumann				**Date:** 12-16-13			
15	INVENTORY	☐ Fork Cert ☐ Manual ☐ 2nd Ant. ☐ Remote ☐ Bat. ☐ Carrying Case Other: (please list)							

RHF Inc.
Radar Repair

16202 Keats Circle
Westminster, Calif. 92683

TRAFFIC RADAR CERTIFICATION

TESTED TO NHTSA SPECIFICATIONS / IACP CRITICAL PERFORMANCE STANDARDS
(NHTSA) National Highway and Traffic Safety Administration.
(IACP) International Association of Chiefs of Police.

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1	TEST ID	Date Received 12-16-13	Certification Number 65947						
2	DEVICE ID	Manufacturer ASTRO PRODUCTS	Model: PHANTOM	Type (I-IV) III	Directional radar ☐ Yes ☑ No	Same direction ☐ Yes ☑ No			
		Counting unit S/N 1618	Antenna-1 S/N N/A		Antenna-2 S/N N/A				
3	§ 2.4 / § 5.4 TUNING FORK CALIBRATION	Low speed fork S/N	Last date calib.	Freq. (Hz)	Speed (mph)	Measured (Hz)	PASS	FAIL	
		High speed fork S/N 1618 TF	Last date calib.	Freq. (Hz)	Speed (mph) 55	Measured (Hz) 3982			
4	§ 2.5 / § 5.5 RADAR DEVICE TUNING FORK TESTS			Lo fork	High fork		PASS	FAIL	
		Stationary mode	Fork speed (mph)	35	65				
			Disp. Speed (mph)	35	65				
		Moving mode Opposite Direction	TARGET SPEED (Hi fork – Lo fork)	Expected. (mph) N/A	Displayed. (mph) N/A				
		Moving mode Same Direction	TARGET SPEED Hi fork + Lo fork Ho fork - Lo fork	Expected. (mph) N/A	Displayed. (mph) N/A				
5	§ 2.6.1. / § 5.6.1 TRANSMISSION FREQUENCY STABILITY	Standard supply Voltage (V) 13.6 V	Antenna 1 Freq. GHz 24.154	Antenna 2 Freq. GHz N/A			PASS	FAIL	
		Standard supply Voltage – 20% (V) 10.8 V	Antenna 1 Freq. GHz 24.154	Antenna 2 Freq. GHz N/A					
		Standard supply voltage + 20% (V) 16.3 V	Antenna 1 Freq. GHz 24.154	Antenna 2 Freq. GHz N/A					
6	§ 2.6.5 / § 5.6.5 POWER DENSITY	Mfg. Spec. (max mW/cm) ≤ 5	Antenna 1 Power (mW/cm) .5	Antenna 2 Power (mW/cm) N/A			PASS	FAIL	
7	§ 2.8 / § 5.8 LOW VOLTAGE	Mfg. spec. (V) ≤ 10.8V	LVA activates (V) 7.5	LVA deactivates (V) 8.2			PASS	FAIL	
8	§ 2.9.1 / § 5.9.1 DOPPLER AUDIO	A. Audio tone correlates with received Doppler signal ☑ Yes ☐ No					PASS	FAIL	
		B. Functioning audio volume-adjustment control ☑ Yes ☐ No							
9	§ 2.12.4 / § 5.12.4 INTERNAL CIRCUIT	Mfg. Spec. 60	Test results 60				PASS	FAIL	
10	§ 2.12.6.5 / § 5.12.6.5 DIRECTIONAL	A. Selects only targets moving towards radar ☐ Yes ☐ No ☑ N.A.					PASS	FAIL	
		B. Selects only targets moving away from radar ☐ Yes ☐ No ☑ N.A.							
11	§ 2.12.7 / § 2.12.8 / 5.12.7 / 5.12.8 LOW AND HIGH SPEED DISPLAY TEST	Stationary mode: target channel (mph)	Low speed spec. 20	Lo speed disp. 20			PASS	FAIL	
			Hi speed spec. 199	Hi speed disp. 199					
		Moving Mode target channel (mph)	Low speed spec. N/A	Lo speed disp. N/A					
			Hi speed spec. N/A	Hi speed disp. N/A					
		Moving Mode: patrol channel (mph)	Low speed spec. N/A	Lo speed disp. N/A					
			Hi speed spec. N/A	Hi speed disp. N/A					
12	§ 2.13 / § 5.13 RFI TEST						PASS	FAIL	
13	LABORATORY COMMENTS								
14	NHTSA/IACP CERTIFICATION	***This radar device meets or exceeds the minimal operational standards of the National Traffic Highway Safety Administration. California Vehicle Code Section 40802*** ☑ PASS ☐ FAIL							
		Certified by: Ford T Bauman **Date:** 12-16-13							
15	INVENTORY	☐ Fork Cert ☐ Manual ☐ 2nd Ant. ☐ Remote ☐ Bat. ☐ Carrying Case Other: (please list)							

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TRAFFIC RADAR CERTIFICATION

TESTED TO NHTSA SPECIFICATIONS / IACP CRITICAL PERFORMANCE STANDARDS
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1	TEST ID	Date Received 9-12-16		Certification Number 70958						
2	DEVICE ID	Manufacturer STALKER		Model: SOLO		Type (1-IV) III		Directional radar ☐ Yes ☑ No	Same direction ☐ Yes ☑ No	
		Counting unit S/N 24702		Antenna-1 S/N N/A				Antenna-2 S/N N/A		
3	§ 2.4 / § 5.4 TUNING FORK CALIBRATION	Low speed fork S/N	Last date calib.	Freq. (Hz)	Speed (mph)	Measured (Hz)		PASS	FAIL	
		High speed fork S/N	Last date calib.	Freq. (Hz)	Speed (mph)	Measured (Hz)				
4	§ 2.5 / § 5.5 RADAR DEVICE TUNING FORK TESTS			Lo fork		High fork		PASS	FAIL	
		Stationary mode	Fork speed (mph)	35		65				
			Disp. Speed (mph)	35		65				
		Moving mode Opposite Direction	TARGET SPEED (Hi fork – Lo fork)	Expected. (mph) N/A		Displayed. (mph) N/A				
		~~Moving mode~~ Same Direction	TARGET SPEED Hi fork + Lo fork Ho fork - Lo fork	Expected. (mph) N/A		Displayed. (mph) N/A				
5	§ 2.6.1. / § 5.6.1 TRANSMISSION FREQUENCY STABILITY	Standard supply Voltage (V) 13.6 V		Antenna 1 Freq. GHz 24.143		Antenna 2 Freq. GHz N/A		PASS	FAIL	
		Standard supply Voltage – 20% (V) 10.8 V		Antenna 1 Freq. GHz 24.143		Antenna 2 Freq. GHz N/A				
		Standard supply voltage + 20% (V) 16.3 V		Antenna 1 Freq. GHz 24.143		Antenna 2 Freq. GHz N/A				
6	§ 2.6.5 / § 5.6.5 POWER DENSITY	Mfg. Spec. (max mW/cm) ≤ 5		Antenna 1 Power (mW/cm) .41		Antenna 2 Power (mW/cm) N/A		PASS	FAIL	
7	§ 2.8 / § 5.8 LOW VOLTAGE	Mfg. spec. (V) ≤ 10.8V		LVA activates (V) 4.9		LVA deactivates (V) N/A		PASS	FAIL	
8	§ 2.9.1 / § 5.9.1 DOPPLER AUDIO	A. Audio tone correlates with received Doppler signal ☐ Yes ☐ No B. Functioning audio volume-adjustment control ☐ Yes ☐ No N/A						PASS	FAIL	
9	§ 2.12.4 / § 5.12.4 INTERNAL CIRCUIT	Mfg. Spec. SOLO		Test results SOLO				PASS	FAIL	
10	§ 2.12.6.5 / § 5.12.6.5 DIRECTIONAL	A. Selects only targets moving towards radar ☐ Yes ☐ No ☑ N.A. B. Selects only targets moving away from radar ☐ Yes ☐ No ☑ N.A.						PASS	FAIL	
11	§ 2.12.7 / § 2.12.8 / 5.12.7 / 5.12.8 LOW AND HIGH SPEED DISPLAY TEST	Stationary mode: target channel (mph)	Low speed spec. 20		Lo speed disp. 20			PASS	FAIL	
			Hi speed spec. 199		Hi speed disp. 199					
		Moving Mode target channel (mph)	Low speed spec. N/A		Lo speed disp. N/A					
			Hi speed spec. N/A		~~Hi speed disp.~~ N/A					
		Moving Mode: patrol channel (mph)	Low speed spec. N/A		Lo speed disp. N/A					
			Hi speed spec. N/A		Hi speed disp. N/A					
12	§ 2.13 / § 5.13 RFI TEST	N/A						PASS	FAIL	
13	LABORATORY COMMENTS									
14	NHTSA/IACP CERTIFICATION	***This radar device meets or exceeds the minimal operational standards of the National Traffic Highway Safety Administration. California Vehicle Code Section 40802*** ☑ **PASS** ☐ **FAIL** **Certified by:** Fred Bauman **Date:** 9-12-16								
15	INVENTORY	☐ Fork Cert ☐ Manual ☐ 2nd Ant. ☐ Remote ☐ Bat. ☐ Carrying Case ☐ Other: (please list)								

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