

2019/2020



Engineering and Traffic Surveys



LIVERMORE
CALIFORNIA

LIVERMORE

CALIFORNIA

August 28, 2020

Commissioner Bentrish Satarzadeh
Commissioner Tamiza Hockenhull
East County Hall of Justice
5151 Gleason Drive
Dublin, CA 94568

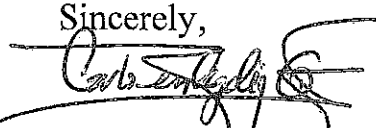
RE: 2019/2020 Engineering and Traffic Surveys

On August 24, 2020, the City of Livermore City Council adopted Resolution No. 2020-150, which established speed limits for 115 street segments in Livermore. These speed limits are justified based on the 2019/2020 Engineering and Traffic Surveys (E&TS) conducted on these streets. The 2019/2020 E&TS were completed in accordance with California Vehicle Code Section 627 and the California Manual on Uniform Traffic Control Devices.

I have enclosed a copy of the 2019/2020 Engineering and Traffic Surveys for your file.

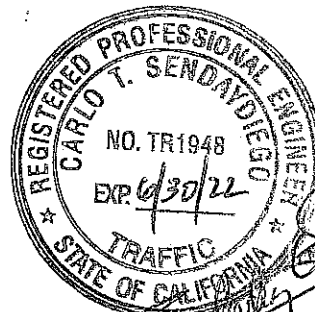
Please call me at (925) 960-4517 if you have any questions.

Sincerely,


Carlo T. Sendaydiego, TE
Traffic Engineer

Attachments

CC: Justin Lash, Livermore Police
Michael Trudeau, Livermore Police



IN THE CITY COUNCIL OF THE CITY OF LIVERMORE, CALIFORNIA

**A RESOLUTION TO ESTABLISH SPEED LIMITS AS RECOMMENDED
IN THE 2019/2020 ENGINEERING AND TRAFFIC SURVEYS REPORT**

The California Vehicle Code requires Engineering and Traffic Surveys to justify speed limits on roadways in order to enforce the speed limit by radar.

Without the adoption of an Engineering and Traffic Survey in accordance with Caltrans procedures, the use of radar is considered a speed trap and not allowed. Radar enforcement is the most cost-effective and practical method for enforcing speed limits.

Staff completed the 2019/2020 Engineering and Traffic Surveys and used them to justify the speed limits for 115 roadway segments throughout the City.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Livermore approves the speed limits on 115 road segments in the city of Livermore, as set forth on the attached Exhibits A and B which are incorporated by this reference, and supported by the 2019/2020 Engineering and Traffic Survey report, detailed copies of which are available at City Hall, Office of the City Engineer.

On motion of Council Member Coomber, seconded by Vice Mayor Woerner the foregoing resolution was passed and adopted on August 24, 2020, by the following vote:

AYES: Council Members Carling, Coomber, Munro, Vice Mayor Woerner,
Mayor Marchand

NOES: None

ABSENT: None

ABSTAIN: None

ATTEST

APPROVED AS TO FORM

 
Marie Weber
City Clerk


Tara Mazzanti
Assistant City Attorney

Date: August 26, 2020

Exhibit A – 2019/2020 Summary of Survey Results and Speed Limits
Exhibit B – Speed Limit Map

Exhibit A

2019/2020 SUMMARY OF SURVEY RESULTS AND SPEED LIMITS

| STREET NAME | | SEGMENT LIMITS | 85% Speed (MPH) | Speed Limit (MPH) | Survey Date |
|-------------|--------------------|---|-----------------------|-------------------------|----------------|
| 1 | AIRWAY BLVD | North Canyons Pkwy to Isabel Ave | 50 | 45 | 8/5/2019 |
| 2 | (E) AIRWAY BLVD | Isabel Ave to Portola Ave | 42 | 40 | 8/7/2019 |
| 3 | ALDEN LANE | Murdell Ln to Holmes St | 32 | 25 | 6/19/2020 |
| 4 | AMES ST | Dalton Ave to Raymond Rd | 42 | 35 | 9/19/2019 |
| 5 | ARROYO RD | L St to Concannon Blvd | 38 | 35 | 8/20/2019 |
| 6 | ARROYO RD | Concannon Blvd to Wetmore Rd | 44 | 40 | 8/20/2019 |
| 7 | BENNETT DR | Southfront Rd to Las Positas Rd | 39 | 35 | 12/26/2019 |
| 8 | BLUEBELL DR | Hartford Ave to Springtown Blvd | 32 | 25 | 10/24/2019 |
| 9 | BRISA ST | Vasco Rd to West end | 38 | 35 | 9/19/2019 |
| 10 | BRISA ST | Vasco Rd to East end | 41 | 35 | 9/19/2019 |
| 11 | BROADMOOR ST | Dalton Ave to Scenic Ave | 32 | 25 | 7/7/2020 |
| 12 | CAMPUS HILL DR | Portola Ave to Las Positas College | 42 | 40 | 12/16/2019 |
| 13 | CATALINA DR | Holmes St to El Caminito | 35 | 30 | 8/16/2019 |
| 14 | CENTRAL AVE | Scenic Ave to Northfront Rd | 34 | 30 | 9/30/2019 |
| 15 | CHARLOTTE WAY | MinesRd to East Ave | 33 | 30 | 11/12/2019 |
| 16 | CHESTNUT ST | P St to Junction Ave | 32 | 30 | 12/10/2019 |
| 17 | COLLEGE AVE | Fourth St to L St | 36 | 30 | 8/27/2019 |
| 18 | COLLEGE AVE | L St to Livermore Ave | 35 | 30 | 8/27/2019 |
| 19 | COLLIER CANYON RD | Constitution Dr to North City Limit | 37 | 35 | 8/5/2019 |
| 20 | CONCANNON BLVD | Isabel Ave to Holmes St | 42 | 35 | 8/3/2020 |
| 21 | CONCANNON BLVD | Holmes St to Arroyo Rd | 41 | 35 | 6/19/2020 |
| 22 | CONCANNON BLVD | Arroyo Rd to Livermore Ave | 42 | 35 | 8/26/2019 |
| 23 | CONSTITUTION DR | North Canyons Pkwy to Collier Canyon Rd | 37 | 30 | 8/6/2019 |
| 24 | DALTON AVE | Vasco Rd to Ames St | 44 | 40 | 10/1/2019 |
| 25 | EAST AVE | Livermore Ave to Loyola Way | 36 | 30 | 5/7/2020 |
| 26 | EAST AVE | Loyola Way to Vasco Rd | 44 | 40 | 11/14/2019 |
| 27 | EL CAMINITO | E. Stanley Blvd to Holmes St | 32 | 25 | 6/22/2020 |
| 28 | ENCINO DR | Murdell Lane to El Caminito | 32 | 25 | 5/13/2020 |
| 29 | FIRST ST | S St to L St | 30 | 25 | 11/15/2019 |
| 30 | FIRST ST | Maple St to Inman St | 42 | 35 | 11/15/2019 |
| 31 | FIRST ST | Inman St to Portola Ave | 42 | 35 | 7/14/2019 |
| 32 | FIRST ST | Portola Ave to 580 | 46 | 40 | 11/15/2019 |
| 33 | FOURTH ST | Holmes St to L St | 36 | 30 | 5/14/2020 |
| 34 | FOURTH ST | L St to Livermore Ave | 36 | 30 | 11/18/2019 |
| 35 | FOURTH ST | S. Livermore Ave to School St | 27 | 25 | 11/18/2019 |
| 36 | GARAVENTA RANCH RD | Vasco Rd to Scenic Ave | 35 | 30 | 7/15/2020 |
| 37 | GREENVILLE RD | I-580 to UPRR underpass | 47 | 45 | 12/23/2019 |
| 38 | GREENVILLE RD | UPRR to City Limits (S/O East Ave) | 49 | 45 | 12/11/2019 |
| 39 | HAGEMANN DR | E. Jack London Blvd to Olivina Ave | 36 | 30 | 5/14/2020 |
| 40 | HEATHER LN | Bluebell Dr to Scenic Ave | 32 | 25 | 7/9/2020 |
| 41 | HERMAN AVE | Scenic Ave to Northfront Rd | 36 | 30 | 7/15/2020 |
| 42 | HOLMES ST | Wetmore Rd to Alden Ln | 46 | 40 | 8/20/2019 |

Exhibit A

| | STREET NAME | SEGMENT LIMITS | 85% Speed (MPH) | Speed Limit (MPH) | Survey Date |
|----|---------------------|---|-----------------------|-------------------------|----------------|
| 43 | HOLMES ST | Alden Ln to El Caminito | 44 | 40 | 8/21/2019 |
| 44 | HOLMES ST | El Caminito to First St | 39 | 35 | 8/21/2019 |
| 45 | ISABEL AVE | I-580 to Portola Ave | 49 | 45 | 12/16/2019 |
| 46 | E. JACK LONDON BLVD | Isabel Ave to Murrieta Blvd | 40 | 35 | 7/14/2020 |
| 47 | W. JACK LONDON BLVD | El Charro Rd to Isabel Ave (SR 84) | 49 | 45 | 7/15/2020 |
| 48 | JUNCTION AVE | N. Livermore Ave to Old First St | 32 | 25 | 7/7/2020 |
| 49 | KITTY HAWK RD | Airway Blvd to Isabel Ave (SR 84) | 39 | 35 | 8/6/2019 |
| 50 | N. L ST | Portola Ave to Railroad Ave | 36 | 30 | 12/16/2019 |
| 51 | S. L ST | Railroad Ave to Fourth St | 27 | 25 | 12/6/2019 |
| 52 | S. L ST | Fourth St to Arroyo Rd | 31 | 25 | 9/3/2019 |
| 53 | LAS POSITAS RD | N. Livermore Ave to Las Colinas Rd | 47 | 40 | 12/16/2019 |
| 54 | LAS POSITAS RD | Las Colinas Rd to First St | 41 | 40 | 12/17/2019 |
| 55 | LAS POSITAS RD | First St to Bennett Dr | 41 | 35 | 9/20/2019 |
| 56 | LAS POSITAS RD | Bennett Dr to Vasco Rd | 49 | 45 | 9/19/2019 |
| 57 | LAS POSITAS RD | Vasco Rd to Greenville Rd | 45 | 40 | 9/20/2019 |
| 58 | LAUGHLIN RD | Northfront Rd to North City Limit | 43 | 40 | 10/7/2019 |
| 59 | LEXINGTON WAY | Holmes St to Superior Dr | 29 | 25 | 7/20/2020 |
| 60 | LINDBERGH AVE | Nissen Dr to Kitty Hawk Rd | 38 | 35 | 8/5/2019 |
| 61 | N. LIVERMORE AVE | I-580 to 600' north of Cromwell Way | 44 | 40 | 12/20/2019 |
| 62 | N. LIVERMORE AVE | 600' north of Cromwell Way to Portola Ave | 40 | 35 | 12/20/2019 |
| 63 | N. LIVERMORE AVE | Portola Ave to Railroad Ave | 34 | 30 | 12/12/2019 |
| 64 | S. LIVERMORE AVE | Railroad Ave to Fourth St | 26 | 25 | 11/21/2019 |
| 65 | S. LIVERMORE AVE | Fourth St to Palm Ave | 36 | 30 | 11/21/2019 |
| 66 | S. LIVERMORE AVE | Palm Ave to Chateau Way | 37 | 30 | 12/5/2019 |
| 67 | S. LIVERMORE AVE | Chateau Way to South City Limit | 41 | 35 | 9/5/2019 |
| 68 | MAPLE ST | Railroad Ave to East Ave | 30 | 25 | 12/9/2019 |
| 69 | MINES RD | Las Positas Rd to Highland St | 41 | 35 | 6/16/2020 |
| 70 | MINES RD | Highland St to First St | 36 | 30 | 12/5/2019 |
| 71 | MINES RD | First St to East Ave | 46 | 40 | 12/6/2019 |
| 72 | MURDELL LN | E. Stanley Blvd to Concannon Blvd | 32 | 25 | 5/13/2020 |
| 73 | MURDELL LN | Concannon Blvd to Alden Ln | 41 | 35 | 8/16/2019 |
| 74 | MURRIETA BLVD | Portola Ave to E. Stanley Blvd | 41 | 35 | 12/12/2019 |
| 75 | MURRIETA BLVD | E. Stanley Blvd to Holmes St | 39 | 35 | 12/19/2019 |
| 76 | NATIONAL DR | Brisa St to Greenville Rd | 39 | 35 | 12/9/2019 |
| 77 | NORTH CANYONS PKWY | Doolan Rd to Collier Canyon Rd | 43 | 40 | 8/5/2019 |
| 78 | NORTHFRONT RD | Central Ave to Vasco Rd | 40 | 35 | 9/30/2019 |
| 79 | NORTHFRONT RD | Vasco Rd to East City Limits | 40 | 40 | 10/7/2019 |
| 80 | OLIVINA AVE | Hagemann Dr to Murrieta Blvd | 35 | 30 | 5/14/2020 |
| 81 | OLIVINA AVE | Murrieta Bl to N. P St | 30 | 25 | 12/17/2019 |
| 82 | N. P ST | Portola Ave to Chestnut St | 34 | 30 | 12/19/2019 |
| 83 | P ST | Chestnut St to College Ave | 28 | 25 | 12/9/2019 |
| 84 | PATTERSON PASS RD | Mines Rd to Vasco Rd | 46 | 40 | 9/26/2019 |
| 85 | PATTERSON PASS RD | Vasco Rd to Greenville Rd | 48 | 45 | 9/26/2019 |
| 86 | PINE ST | Murrieta Blvd to Rincon Ave | 35 | 30 | 12/19/2019 |

Exhibit A

| STREET NAME | | SEGMENT LIMITS | 85% Speed (MPH) | Speed Limit (MPH) | Survey Date |
|-------------|-------------------|-------------------------------------|-----------------------|-------------------------|----------------|
| 87 | PINE ST | Rincon Ave to Junction Ave | 35 | 30 | 12/20/2019 |
| 88 | PORTOLA AVE | North Canyons Pkwy to Murrieta Blvd | 52 | 45 | 8/6/2019 |
| 89 | PORTOLA AVE | Murrieta Blvd to N. Livermore Ave | 39 | 35 | 12/20/2019 |
| 90 | PORTOLA AVE | N. Livermore Ave to First St | 42 | 35 | 7/14/2020 |
| 91 | PRESTON AVE | Vasco Rd to Las Positas Rd | 39 | 35 | 12/26/2019 |
| 92 | RAILROAD AVE | E. Stanley Blvd to S. L St | 36 | 30 | 12/19/2019 |
| 93 | RAILROAD AV | S. L St to Maple St | 32 | 25 | 12/19/2019 |
| 94 | RINCON AVE | Portola Ave to Pine St | 36 | 30 | 12/19/2019 |
| 95 | RINCON AVE | Pine St to Olivina Ave | 30 | 25 | 6/11/2020 |
| 96 | ROBERTSON PARK RD | Arroyo Rd to Concannon Blvd | 34 | 30 | 8/26/2019 |
| 97 | SCENIC AVE | Bluebell Dr to Vasco Rd | 34 | 30 | 10/1/2019 |
| 98 | SCENIC AVE | Vasco Rd to East End | 36 | 30 | 10/24/2019 |
| 99 | SECOND ST | Holmes St to S. L St | 26 | 25 | 11/14/2019 |
| 100 | SOUTHFRONT RD | First St to Preston Ave | 50 | 45 | 9/26/2019 |
| 101 | SOUTHFRONT RD | Preston Ave to Lawrence Dr | 44 | 40 | 9/26/2019 |
| 102 | SOUTHFRONT RD | Lawrence Dr to Greenville Rd | 39 | 35 | 9/26/2019 |
| 103 | SPRINGTOWN BL | Bluebell Dr to Galloway St | 43 | 40 | 10/24/2019 |
| 104 | E. STANLEY BLVD | Isabel Ave to Wall St | 49 | 45 | 8/13/2019 |
| 105 | E. STANLEY BLVD | Wall St to S. S St | 36 | 35 | 12/20/2019 |
| 106 | SUNFLOWER CT | Bluebell Dr to Central Ave | 36 | 30 | 10/7/2019 |
| 107 | SUPERIOR DR | Arroyo Rd to South End | 30 | 25 | 7/20/2020 |
| 108 | VALLECITOS ROAD | West City limits to Wetmore Rd | 52 | 45 | 8/19/2019 |
| 109 | VANCOUVER WAY | Holmes St to Arroyo Rd | 34 | 30 | 6/10/2020 |
| 110 | VASCO RD | Dalton Ave to I-580 | 51 | 45 | 10/7/2019 |
| 111 | VASCO RD | I-580 to Patterson Pass Rd | 46 | 45 | 9/19/2019 |
| 112 | VASCO RD | Patterson Pass Rd to East Ave | 49 | 45 | 9/19/2019 |
| 113 | VASCO RD | East Ave to Tesla Road | 46 | 40 | 12/26/2019 |
| 114 | WALL ST | E. Stanley Bl to El Caminito | 32 | 25 | 6/11/2020 |
| 115 | WETMORE RD | Vallecitos Rd to Arroyo Rd | 45 | 40 | 8/3/2020 |

CITY OF LIVERMORE

SPEED LIMITS
2019/2020

LEGEND

- 25 MPH
- 30 MPH
- 35 MPH
- 40 MPH
- 45 MPH
- 50 MPH
- 55 MPH
- CITY LIMIT

CITY OF LIVERMORE
SPEED LIMITS
2019/2020

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 - 2. Study Procedures**
 - 3. Setting Speed Limits**
 - 4. Summary Table of Speed Surveys and Recommendations**
 - 5. Map of Citywide Speed Limits**
 - 6. Engineering and Traffic Surveys, Discussions and Recommendations**
-

1. INTRODUCTION

This report presents the results of the 2019/2020 Engineering and Traffic Surveys in the City of Livermore. The surveys were conducted to establish safe and reasonable speed limits for 115 roadway segments throughout the City. The findings of this report will enable the City of Livermore to use radar to enforce speed limits on these streets, as required by Section 40802 “Speed Trap” of the California Vehicle Code (CVC).

The California Vehicle Code Section 627 defines an Engineering and Traffic Survey as a survey of streets and traffic conditions in accordance with methods determined by the State Department of Transportation. An Engineering and Traffic Survey should include consideration for prevailing speeds, collision history, and traffic and roadside conditions not readily apparent to motorists.

The study procedures, findings and recommendations of the Engineering and Traffic Surveys are discussed in subsequent sections of this report.

The speed limits recommended in this report were reviewed by the Police Department, and they concur with the recommendations.

2. STUDY PROCEDURE

The procedure set by the State Department of Transportation (CaMUTCD Section 2B.13, CVC 627, and CVC 40802) was followed in preparing the 2019/2020 Engineering and Traffic Surveys and in recommending speed limits consistent with State requirements. The principal elements in this study are highlighted below.

SPEED SURVEYS - Each roadway was divided into segments according to the roadway's differing characteristics that may affect speed of vehicles. The differences among the roadway segments may include street width, number of travel lanes, on-street parking, horizontal and vertical alignments, abutting land uses, collision frequency, traffic volumes and other significant geometric factors and constraints. Prevailing speeds were measured in each segment during non-commute hours or free-flow conditions. A minimum of 100 speed measurements were obtained for most street segments. However, on minor streets with very low traffic volumes where 100 speed measurements could not be obtained in a reasonable time period, speed measurements were collected for at least one hour with at least 50 speed measurements.

Calculations were performed on the speed data to obtain several key parameters required to determine the appropriate speed limit for each survey segment. These parameters are discussed below.

The **85th percentile speed** is the speed that 85 percent of motorists do not exceed under normal roadway conditions. California law presumes that 85 percent of all motorists will drive at speeds that are reasonable and prudent for the prevailing conditions. Therefore the **85th percentile speed** is a good indicator of the appropriate speed limit. However, speed limits should also take into consideration other factors such as collision history, traffic volumes, roadside features, and other conditions not readily apparent to motorists.

The **pace** is the 10 MPH range of speeds that contain the speeds of the highest number of motorists. Generally, the speed limit should be within the pace.

The **percent of vehicles within the pace** is an indication of the bunching of observed speeds. A high percentage of vehicles within the pace indicate that most vehicles are traveling at approximately the same speed, which means there is less potential for collisions.

COLLISION HISTORY REVIEW - A three-year collision history for each roadway segment was reviewed to identify any pattern of collisions. For this report, collisions that occurred between January 1, 2017 and December 31, 2019 were reviewed.

FIELD REVIEW - Each street segment was reviewed. The key elements noted were residential density, pedestrian and bicycle activity, proximity to parks, truck usage, driveways, parking, intersection and major driveway visibility and control, raised medians, and shoulder improvements where pedestrians are present. These elements, and other conditions that may not be readily apparent to motorists, were considered in the determination of a reasonable and safe speed limit.

3. SETTING SPEED LIMITS

A reasonable speed limit would be one that allows the easy identification of motorists who are exceeding the safe and reasonable speed for the given roadway condition. Speed limits that are set too high are neither reasonable nor safe. Speed limits that are set too low do not facilitate the orderly movement of traffic.

In general, under normal roadway conditions most motorists can be relied upon to travel at a reasonable and prudent speed that is appropriate for the prevailing driving conditions. Although the 85th percentile speed is an important part of setting speed limits, a reasonable speed limit requires sound engineering judgment. Engineering judgment considers roadway conditions that are not readily apparent to motorists.

Caltrans procedures require that the speed limit to be set at the nearest 5 mph increment either above or below the 85th percentile speed of free-flowing traffic, except as shown in the following two Options:

- A. The posted speed may be reduced by 5 mph from the nearest 5 mph increment of the 85th-percentile speed if there are conditions not readily apparent to motorists.
- B. 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.

Caltrans procedures allow reduction of 5 mph based on engineering judgment for the following conditions not readily apparent to motorists: (a) high collision rate, (b) high residential density fronting the street, (c) high pedestrian and bicycle activity, (d) design speed, (e) safe stopping sight distance, (f) shoulder conditions, (g) and pedestrian traffic in the roadway without sidewalks.

Examples of the application of these procedures is as follows:

- Example 1 - Using A: If the 85th percentile speed were 32 mph, the speed limit would have to be set at 30 mph, or optionally reduced to 25 mph, if there were conditions not readily apparent to motorists documented in the E&TS and approved by a registered Civil or Traffic Engineer
- Example 2 - Using A: If the 85th percentile speed were 33 mph, the speed limit would have to be set at 35 mph or optionally reduced to 30 mph, if there were conditions not readily apparent to motorists documented in the E&TS and approved by a registered Civil or Traffic Engineer.
- Example 3 - Using B: 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 reductions can be applied.

The recommendations in this report follow the procedures established by the CVC and CaMUTCD for setting speed limits. Based on the survey results, speed limits are recommended to be raised on six street segments, lowered on nine street segments, and remain the same on 100 street segments.

Spot Speed Study - City of Livermore

Airway Blvd

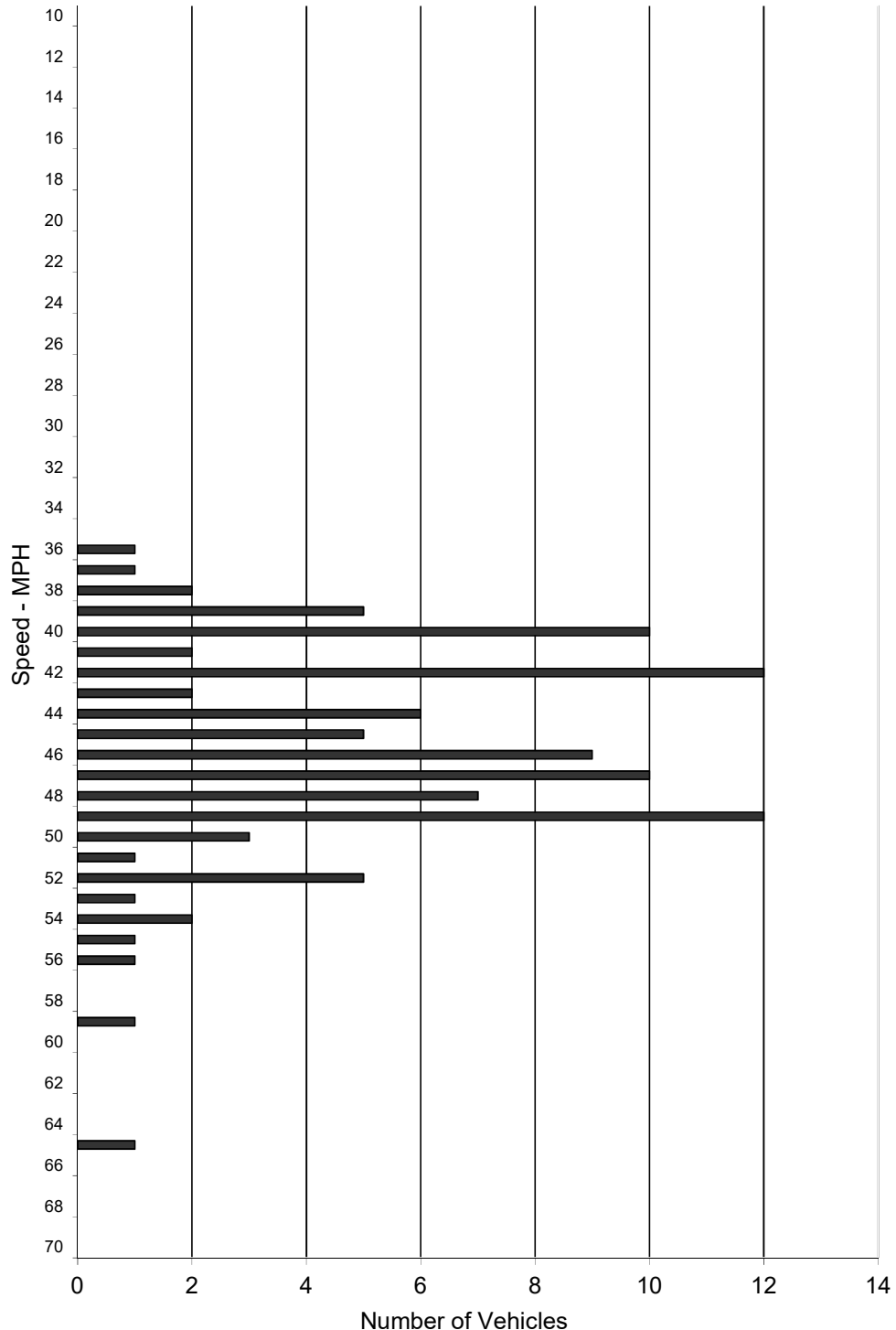
DATE: 8/5/2019
Start Time: 1:30 pm
DAY: Monday

Location: North Canyons Pkwy - SR84 (Isabel Ave)
End Time: 1:50 pm
Posted Speed: 45 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 45 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 0 |
| 32 | 0 |
| 33 | 0 |
| 34 | 0 |
| 35 | 0 |
| 36 | 1 |
| 37 | 1 |
| 38 | 2 |
| 39 | 5 |
| 40 | 10 |
| 41 | 2 |
| 42 | 12 |
| 43 | 2 |
| 44 | 6 |
| 45 | 5 |
| 46 | 9 |
| 47 | 10 |
| 48 | 7 |
| 49 | 12 |
| 50 | 3 |
| 51 | 1 |
| 52 | 5 |
| 53 | 1 |
| 54 | 2 |
| 55 | 1 |
| 56 | 1 |
| 57 | 0 |
| 58 | 0 |
| 59 | 1 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 1 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 45.7 | 36 - 65 | 46 mph | 50 mph | 40 - 49 | 75 | 75% | 9% / 9 | 16% / 16 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: AIRWAY BOULEVARD

Adjacent Land Use: INDUSTRIAL/COMMERC.

Limits: NORTH CANYONS PARKWAY TO ISABEL AVE No. of Lanes: 2 & 4

Roadway Description: A 2 lane major street with two-way left turn lane through most of the segment changing to 4 lanes towards the north end. The area is mostly developed industrial and commercial area. Buffered bike lanes are present along most of the segment. Livermore Community Airport is located along the southside and Arroyo Las Positas along the northside. The length of this segment is 0.95 miles.

Collision History: There were 19 reported collisions along this segment within the past three years. This equates to 2.04 collisions per million vehicle miles, which is higher than the statewide average of 1.41 for this type of roadway.

Other Considerations: Bicycling activities are noticeable along this roadway.

Recommendation: Based on the 85th percentile speed of 50 MPH, a speed limit of 50 MPH was considered. However, given the high collision rate and bicycling activities along this segment, conditions not readily apparent to motorists, a 5 mile per hour reduction is justified. Therefore, the existing 45 MPH speed limit remains in effect.

Spot Speed Study - City of Livermore

East Airway Blvd

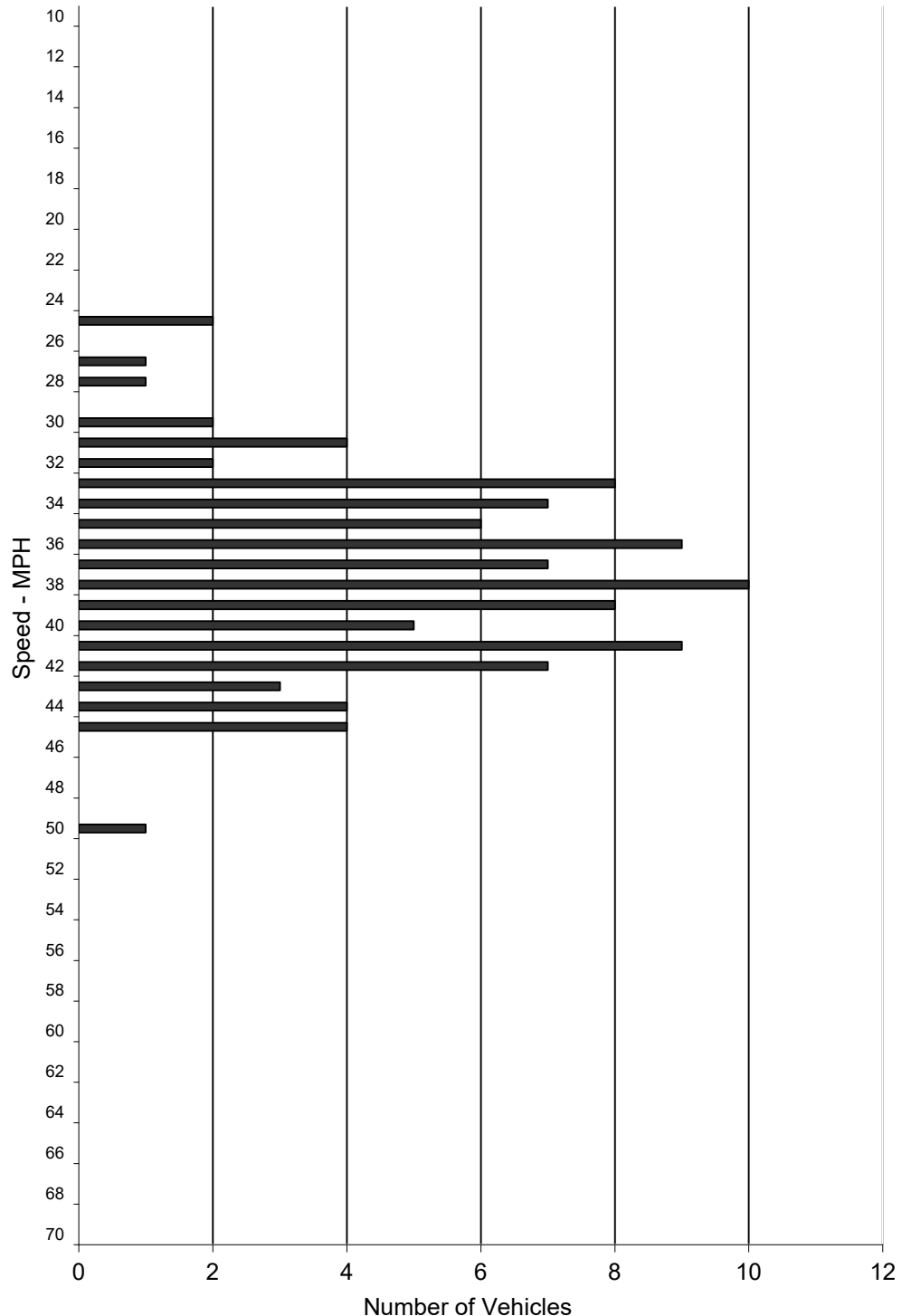
DATE: 8/7/2019
Start Time: 10:52 am
DAY: Wednesday

Location: SR-84 (Isabel Ave) to Portola Ave
End Time: 11:26 am
Posted Speed: 40 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 2 |
| 26 | 0 |
| 27 | 1 |
| 28 | 1 |
| 29 | 0 |
| 30 | 2 |
| 31 | 4 |
| 32 | 2 |
| 33 | 8 |
| 34 | 7 |
| 35 | 6 |
| 36 | 9 |
| 37 | 7 |
| 38 | 10 |
| 39 | 8 |
| 40 | 5 |
| 41 | 9 |
| 42 | 7 |
| 43 | 3 |
| 44 | 4 |
| 45 | 4 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 1 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 37.4 | 25 - 50 | 38 mph | 42 mph | 33 - 42 | 76 | 76% | 12% / 12 | 12% / 12 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: EAST AIRWAY BOULEVARD Adjacent Land Use: INDUSTRIAL/COMMERC.

Limits: ISABEL AVE TO PORTOLA AVE No. of Lanes: 2

Roadway Description: A 2-lane collector street through industrial and commercial area. G&M Farms, known for their pumpkin patch and corn maze, which can generate pedestrian activities during certain times of year is in this segment. Sidewalk improvements are intermittent. There are no bike lanes. There is mobile home park at the east end of this segment. The length of this segment is 1.33 miles.

Collision History: There have been 14 reported collisions along this segment within the past three years.

Other Considerations: Certain areas have unimproved shoulders with no sidewalks and no bike lanes. Pedestrians can be expected on the unimproved shoulders adjacent to the roadway. Joggers and bicyclists are observed along this segment.

Recommendation: Based on the 85th percentile speed of 42 MPH, a speed limit of 40 MPH was considered. However, pedestrian activities adjacent to the road, which is even more pronounced during certain times of the year, along with bicycling activities, conditions not readily apparent to motorists, a 5 mile per hour reduction is justified. Therefore, the existing 40 MPH speed limit is reduced to 35 MPH.

Spot Speed Study - City of Livermore

Alden Lane

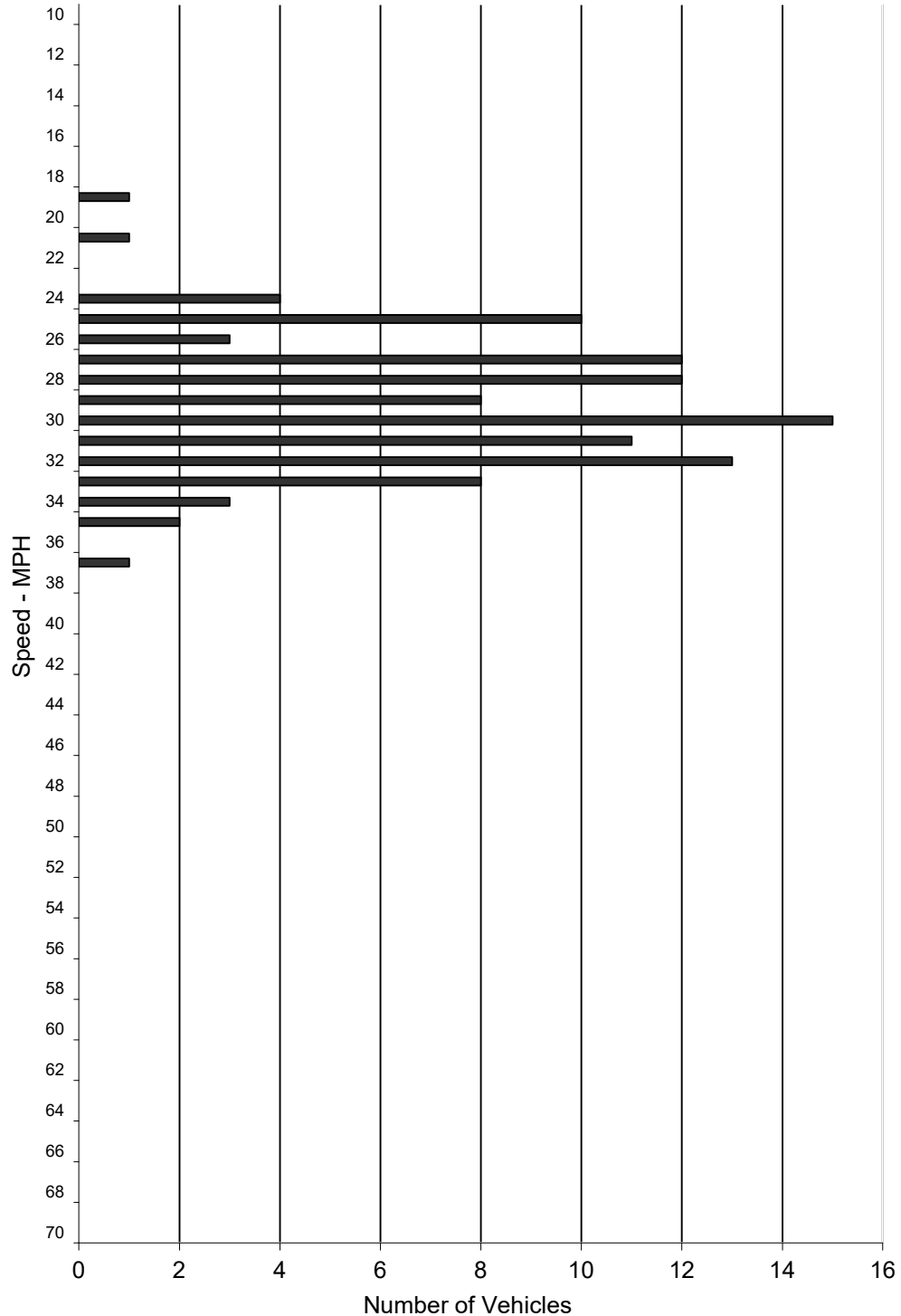
DATE: 6/19/2020
Start Time: 1:46 PM
DAY: Friday

Location: Murdell Lane to Holmes Street
End Time: 2:39 PM
Posted Speed: 25 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: CTS
Calibration: DONE
New Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 1 |
| 20 | 0 |
| 21 | 1 |
| 22 | 0 |
| 23 | 0 |
| 24 | 4 |
| 25 | 10 |
| 26 | 3 |
| 27 | 12 |
| 28 | 12 |
| 29 | 8 |
| 30 | 15 |
| 31 | 11 |
| 32 | 13 |
| 33 | 8 |
| 34 | 3 |
| 35 | 2 |
| 36 | 0 |
| 37 | 1 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 104 | 29.2 | 19 - 37 | 30 mph | 32 mph | 24 - 33 | 96 | 92% | 1% / 2 | 6% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: ALDEN LANE

Adjacent Land Use: RESIDENTIAL

Limits: MURDELL LANE TO HOLMES STREET

No. of Lanes: 2

Roadway Description: 2-lane residential collector street with on-street parking and bike lanes. Single-family homes face the street and there is a commercial nursery/garden at the east end near Holmes Street. The length of this segment is 0.84 miles.

Collision History: There have been 3 reported collisions along this segment within the past three years. This equates to 2.69 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, pedestrian and biking activities.

Recommendation: Based on the 85th percentile speed of 32 MPH, a speed limit of 30 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

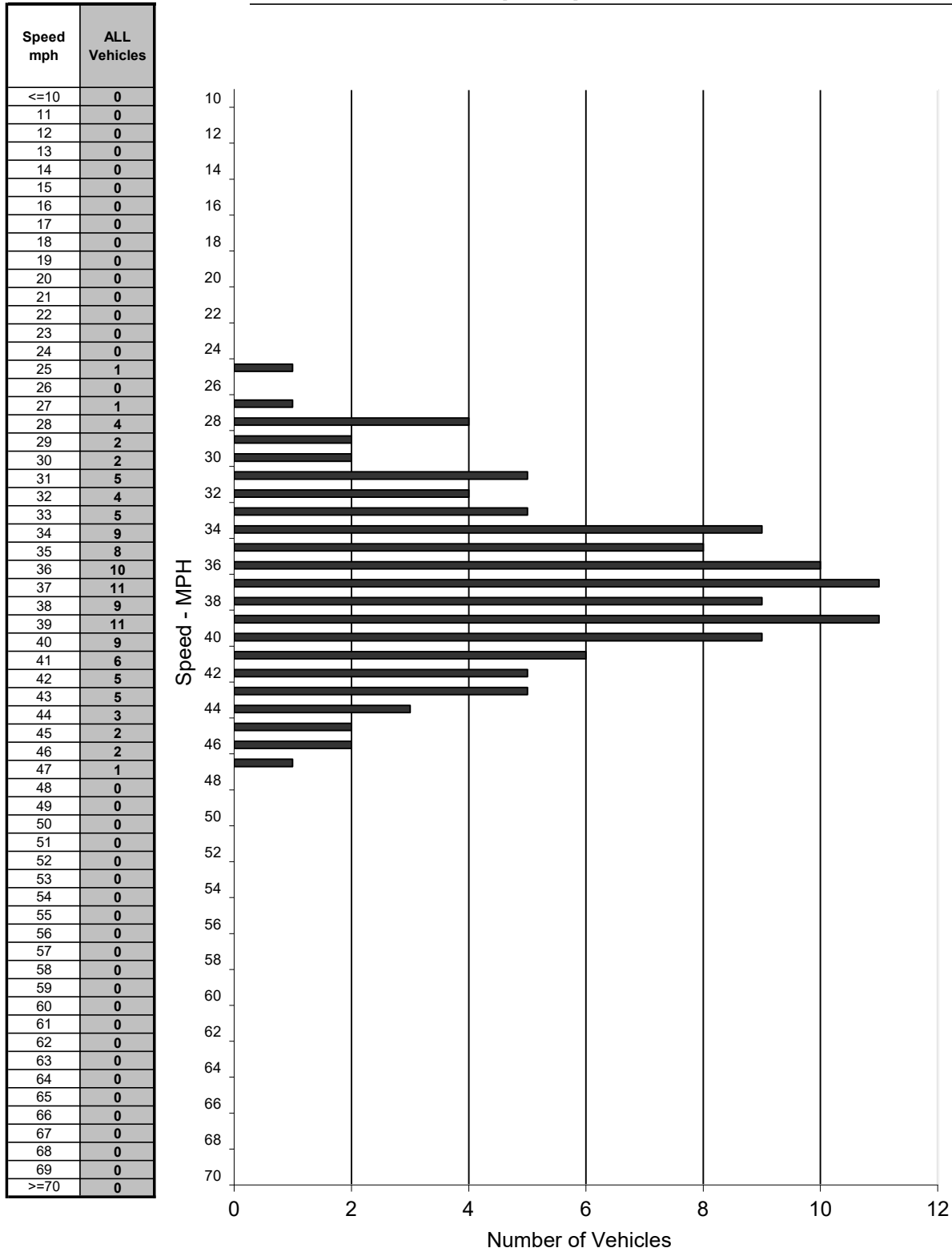
Ames Street

DATE: 9/19/2019
Start Time: 02:30 PM
DAY: THURSDAY

Location: Dalton Avenue to Raymond Road
End Time: 3:10 PM
(Before) Speed Limit: 35 MPH
Weather: Clear
Direction: NB & SB

Observer: HI
Calibration: DONE
NEW Speed Limit: 35 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 115 | 36.9 | 25 - 47 | 37 mph | 42 mph | 33 - 42 | 83 | 72% | 16% / 19 | 12% / 13 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: AMES STREET

Adjacent Land Use: RESIDENTIAL

Limits: DALTON AVE TO RAYMOND RD

No. of Lanes: 2

Roadway Description: 2-lane rural residential collector street with narrow lanes and unimproved shoulder on the west side. At each end of this segment there is 90 degree turn with 20 mph advisory speed signs. The length of this segment is 0.26 miles.

Collision History: There have been 3 reported collisions along this segment within the past three years. This equates to 2.15 collisions per million vehicle miles, which is higher than the statewide average of 1.80 for this type of roadway.

Other Considerations: This short segment has narrow lanes, unimproved shoulder on the west side, and sharp curves at both ends. Bicycle enthusiasts often use this roadway as part of their training route even though no official bike lanes exist.

Recommendation: Based on the 85th percentile speed of 42 MPH, a speed limit of 40 MPH was considered. However, given the high collision rate, bicycling activities, unimproved shoulder, conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit remains in effect.

Spot Speed Study - City of Livermore

Arroyo Road

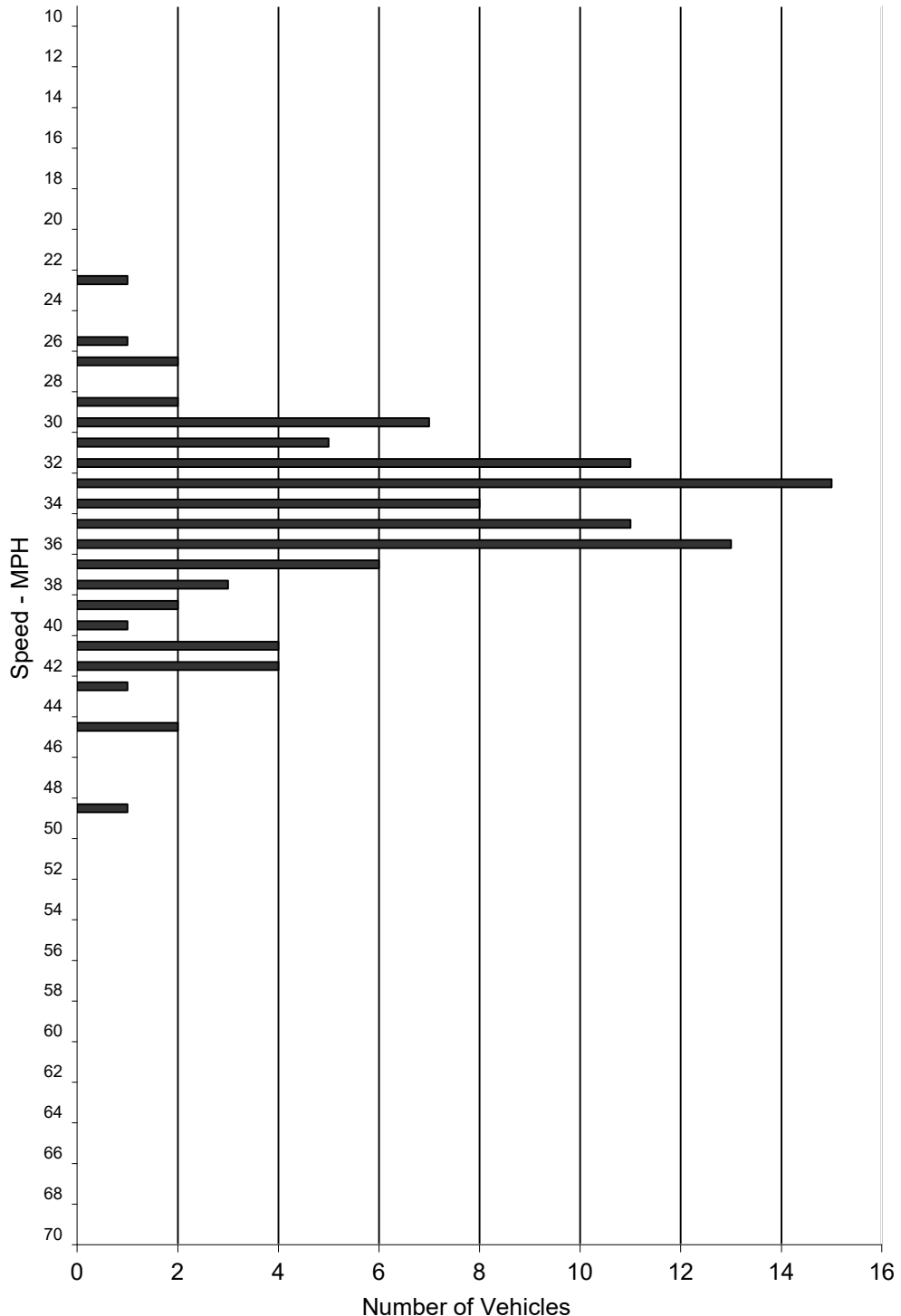
DATE: 8/20/2019
Start Time: 1:30 pm
DAY: Tuesday

Location: S. L St - Concannon Blvd
End Time: 1:54 pm
Posted Speed: 35 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: BMC
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 1 |
| 24 | 0 |
| 25 | 0 |
| 26 | 1 |
| 27 | 2 |
| 28 | 0 |
| 29 | 2 |
| 30 | 7 |
| 31 | 5 |
| 32 | 11 |
| 33 | 15 |
| 34 | 8 |
| 35 | 11 |
| 36 | 13 |
| 37 | 6 |
| 38 | 3 |
| 39 | 2 |
| 40 | 1 |
| 41 | 4 |
| 42 | 4 |
| 43 | 1 |
| 44 | 0 |
| 45 | 2 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 1 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 34.7 | 23 - 49 | 34 mph | 38 mph | 29 - 38 | 81 | 81% | 4% / 4 | 15% / 15 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: ARROYO ROAD
Limits: S. L STREET TO CONCANNON BLVD

Adjacent Land Use: RESIDENTIAL
No. of Lanes: 2

Roadway Description: 2-lane residential collector street with median turn lane, a few fronting homes, and on-street bike lane. The length of this segment is 0.78 miles.

Collision History: There have been 11 reported collisions along this segment within the past 3 years. This equates to 1.82 collisions per million vehicle miles.

Other Considerations: There is a high rate of turning movements in and out of many intersecting local streets. Some intersections have limited available safe stopping sight distance sufficient for a design speed of 35 MPH. A portion of the roadway has unimproved shoulder area along the easterly side where pedestrians may use the pavement area.

Recommendation: Based on the 85th percentile speed of 38 MPH, the existing 35 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Arroyo Road

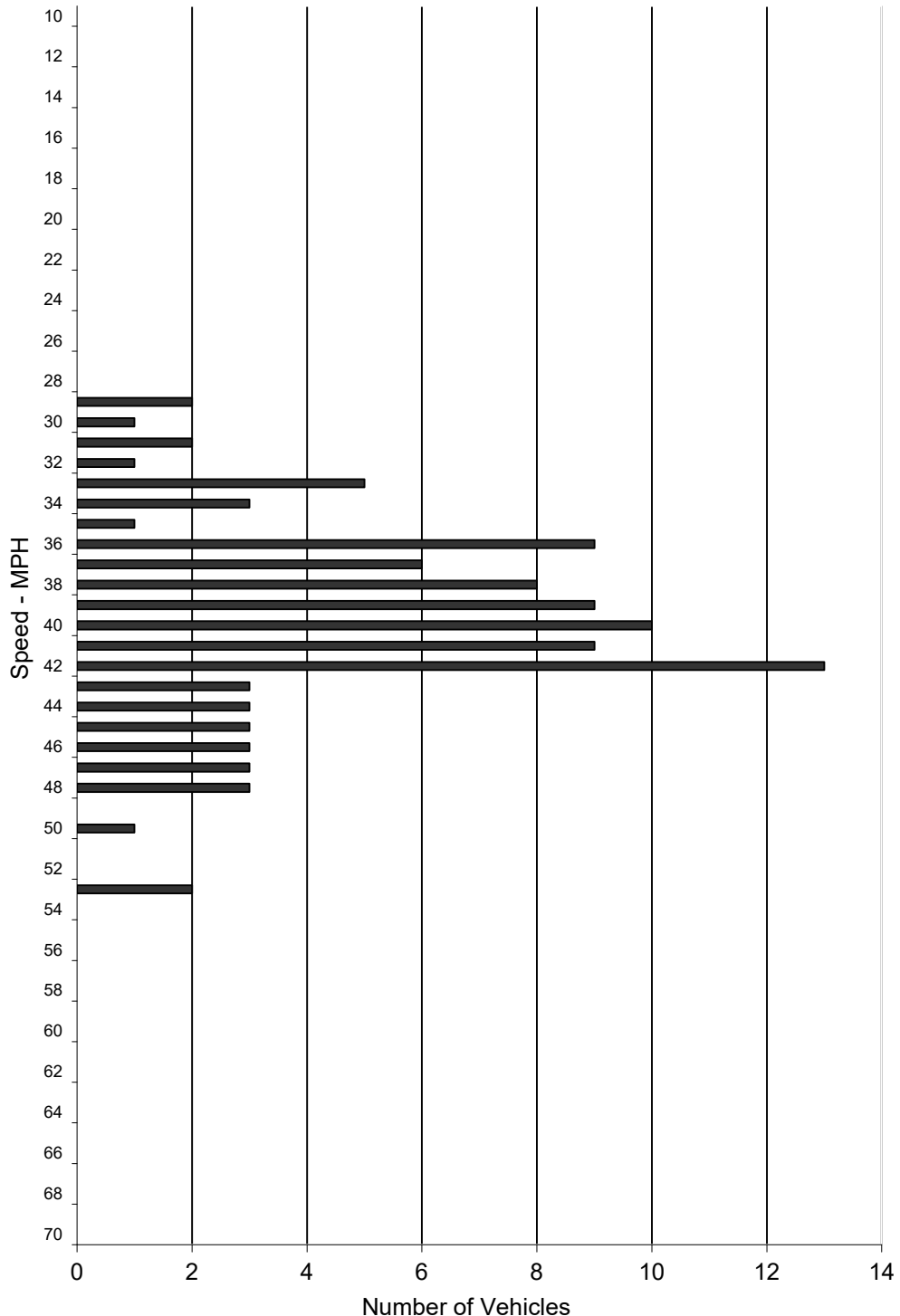
DATE: 8/20/2019
Start Time: 2:16 pm
DAY: Tuesday

Location: Concannon Blvd - Wetmore Rd
End Time: 2:42 pm
Posted Speed: 40 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: BMC
Calibration: DONE
New Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 2 |
| 30 | 1 |
| 31 | 2 |
| 32 | 1 |
| 33 | 5 |
| 34 | 3 |
| 35 | 1 |
| 36 | 9 |
| 37 | 6 |
| 38 | 8 |
| 39 | 9 |
| 40 | 10 |
| 41 | 9 |
| 42 | 13 |
| 43 | 3 |
| 44 | 3 |
| 45 | 3 |
| 46 | 3 |
| 47 | 3 |
| 48 | 3 |
| 49 | 0 |
| 50 | 1 |
| 51 | 0 |
| 52 | 0 |
| 53 | 2 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 39.8 | 29 - 53 | 40 mph | 44 mph | 33 - 42 | 73 | 73% | 6% / 6 | 21% / 21 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: ARROYO ROAD

Adjacent Land Use: RESIDENTIAL

Limits: CONCANNON BLVD TO WETMORE ROAD

No. of Lanes: 2

Roadway Description: 2-lane residential collector street, with a mixture of improved and unimproved frontages, and a school crosswalk. A church and a school are along this segment. Also along the segment are a mix of on street bike lanes and multi-use trail. The length of this segment is 1.08 miles.

Collision History: There have been 12 collisions along this segment within the past 3 years. This equates to 1.67 collisions per million vehicle miles.

Other Considerations: There is a high rate of turning movements in and out of many intersecting local streets. Some intersections have limited available safe stopping sight distance sufficient for a design speed of 40 MPH. School related crossings are also occurring. Portions of the roadway have unimproved shoulder area where pedestrians may use the pavement area.

Recommendation: Based on the 85th percentile speed of 44 MPH, the existing 40 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Bennett Drive

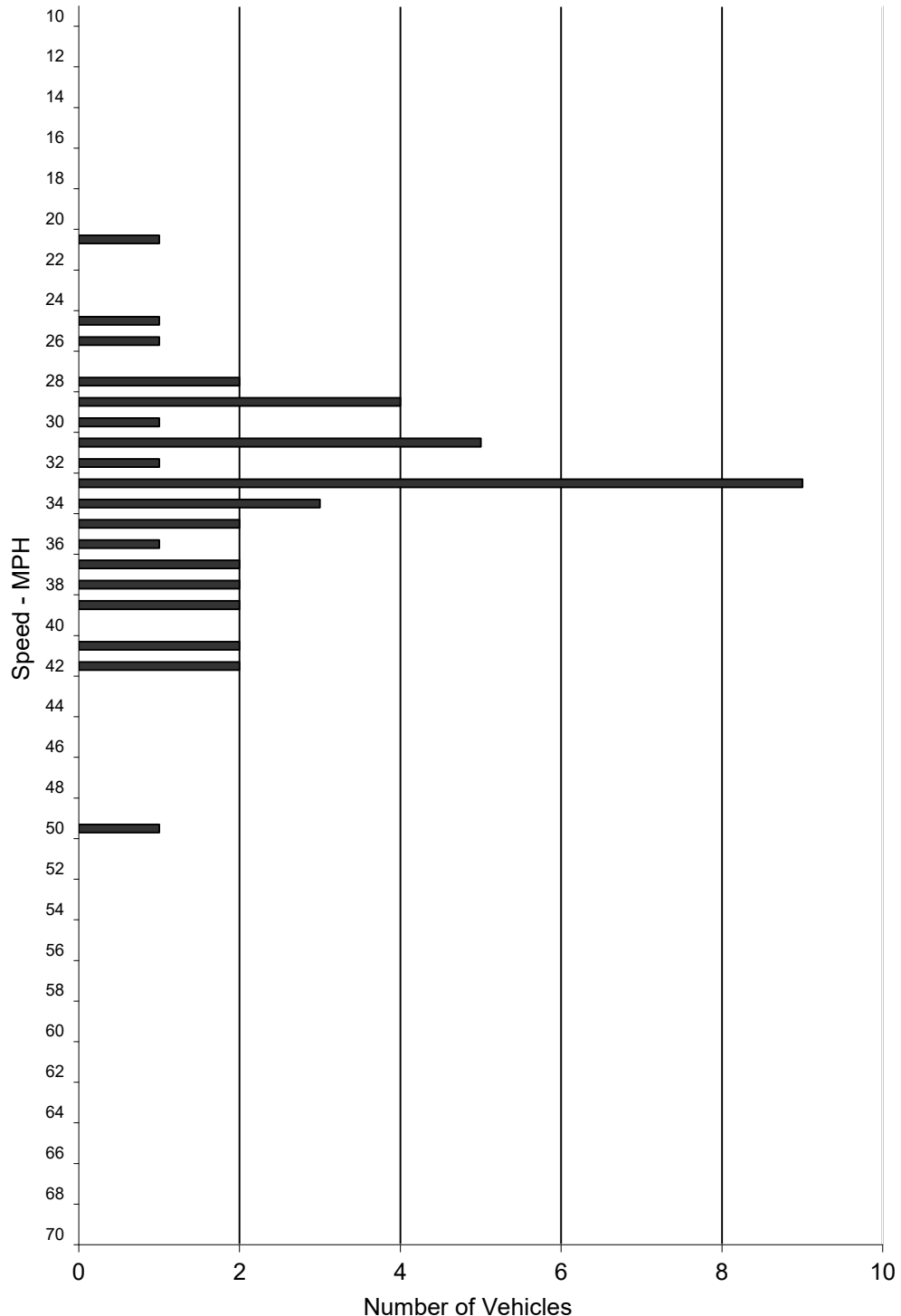
DATE: 12/26/2019
Start Time: 2:06 PM
DAY: Thursday

Location: Southfront Road to Las Positas Road
End Time: 3:06 PM
(Before) Speed Limit: 35 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 1 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 1 |
| 26 | 1 |
| 27 | 0 |
| 28 | 2 |
| 29 | 4 |
| 30 | 1 |
| 31 | 5 |
| 32 | 1 |
| 33 | 9 |
| 34 | 3 |
| 35 | 2 |
| 36 | 1 |
| 37 | 2 |
| 38 | 2 |
| 39 | 2 |
| 40 | 0 |
| 41 | 2 |
| 42 | 2 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 1 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 42 | 33.6 | 21 - 50 | 33 mph | 39 mph | 28 - 37 | 30 | 71% | 7% / 3 | 22% / 9 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: BENNETT DRIVE

Adjacent Land Use: INDUSTRIAL

Limits: SOUTHFRONT RD TO LAS POSITAS RD

No. of Lanes: 2

Roadway Description: 2-lane local industrial street with a horizontal “S” curve with 20 mph advisory speed signs. The length of this segment is 0.47 miles.

Collision History: There have been 2 reported collisions along this segment within the past 3 years.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 39 MPH, the existing 35 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Bluebell Drive

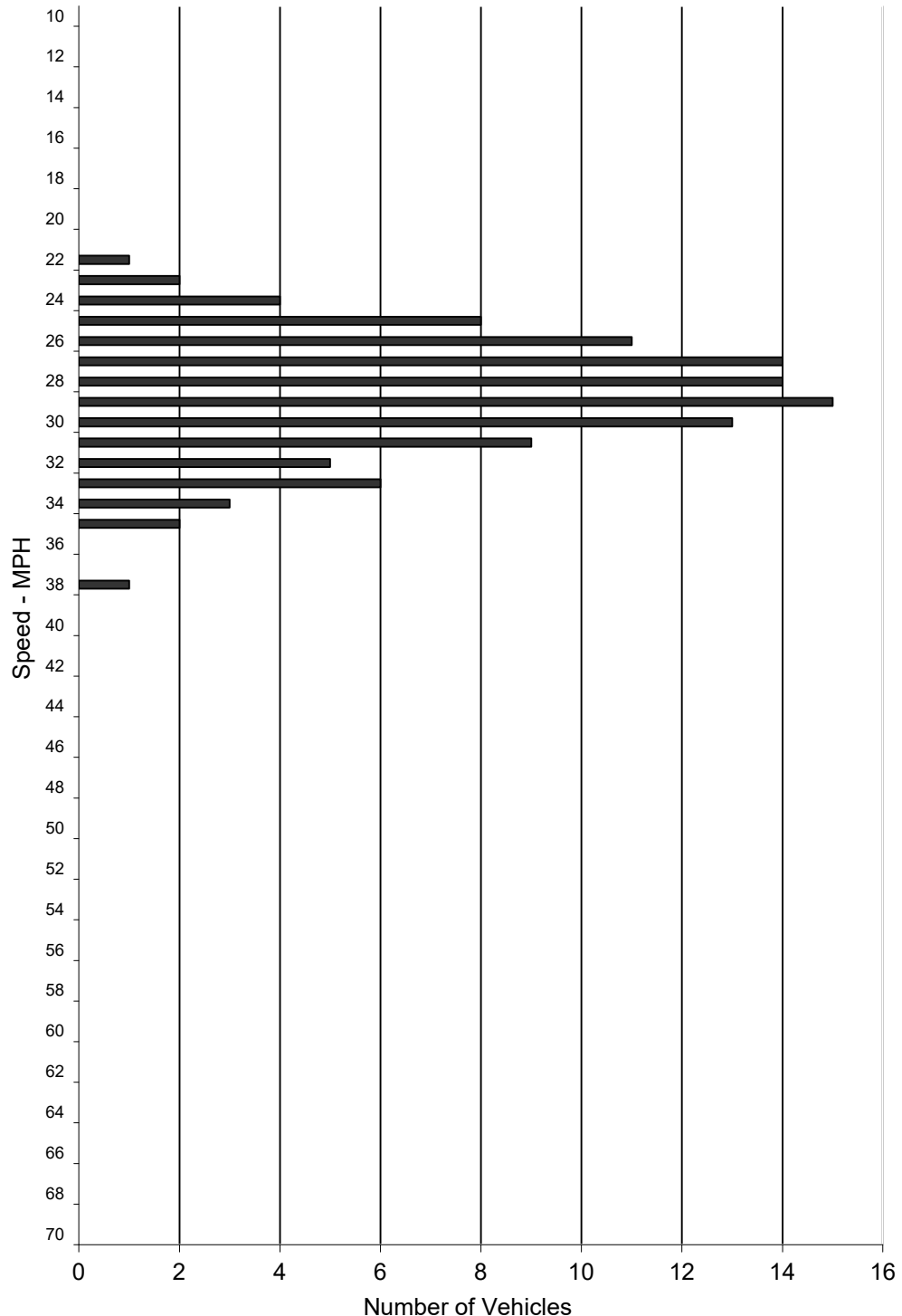
DATE: 10/24/2019
Start Time: 11:05 am
DAY: Thursday

Location: Hartford Avenue - Springtown Blvd
End Time: 11:20 am
Posted Speed: 25 MPH
Weather: Sunny
Direction: NB & SB

Observer: HI
Calibration: DONE
New Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 1 |
| 23 | 2 |
| 24 | 4 |
| 25 | 8 |
| 26 | 11 |
| 27 | 14 |
| 28 | 14 |
| 29 | 15 |
| 30 | 13 |
| 31 | 9 |
| 32 | 5 |
| 33 | 6 |
| 34 | 3 |
| 35 | 2 |
| 36 | 0 |
| 37 | 0 |
| 38 | 1 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 108 | 28.6 | 22 - 38 | 28 mph | 32 mph | 24 - 33 | 99 | 92% | 2% / 3 | 6% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: BLUEBELL DRIVE

Adjacent Land Use: RESIDENTIAL

Limits: HARTFORD AVE TO SPRINGTOWN BLVD

No. of Lanes: 2

Roadway Description: 2-lane residential collector street with a number of pedestrian and trail crossings, on-street parking and bike lanes from Springtown Boulevard to Scenic Avenue. A City park, city library, and a senior complex front this segment. The length of this segment is 1.70 miles.

Collision History: There have been 17 reported collisions along this segment within the past three years.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turning maneuvers. There is a mix of on-street parking maneuvers, bicycling activities, senior complex, and pedestrian activities. This is one of the popular bypass routes in the City.

Recommendation: Based on the 85th percentile speed of 32 MPH, a speed limit of 30 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

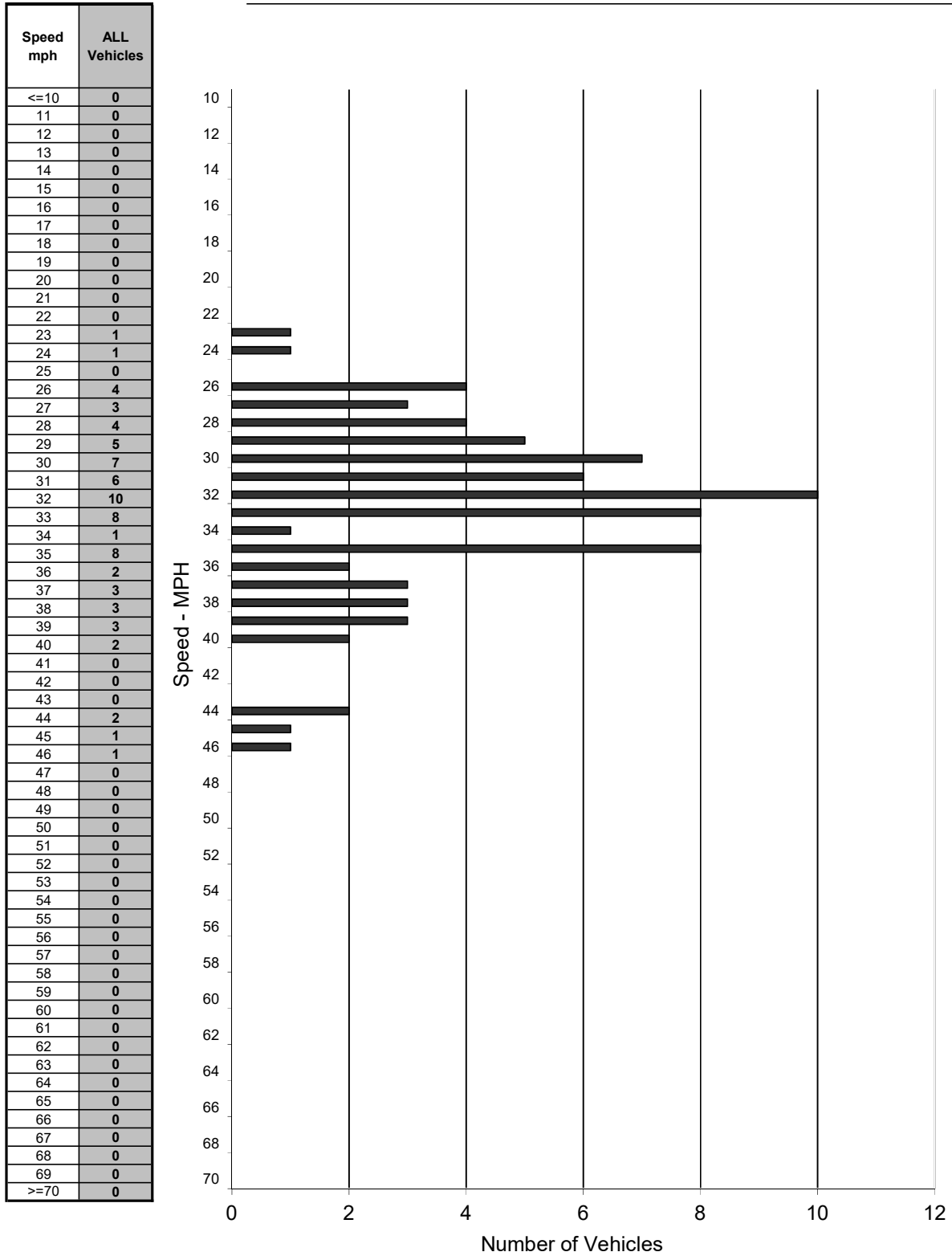
Brisa Street

DATE: 9/19/2019
Start Time: 1:58 PM
DAY: Thursday

Location: Vasco Road to West End
End Time: 2:58 PM
(Before) Speed Limit: 35 MPH
Weather: Dry
Direction: EB & WB

Observer: JL
Calibration: DONE
NEW Speed Limit: 35 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 75 | 32.7 | 23 - 46 | 32 mph | 38 mph | 26 - 35 | 56 | 75% | 2% / 2 | 23% / 17 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: BRISA STREET

Adjacent Land Use: INDUSTRIAL

Limits: VASCO RD TO WEST END

No. of Lanes: 2

Roadway Description: 2-lane industrial collector street with on-street parking and a horizontal "S" curve with 20 mph advisory speed signs. The length of this segment is 0.58 miles.

Collision History: There have been no reported collisions along this segment within the past three years.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 38 MPH, the existing 35 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

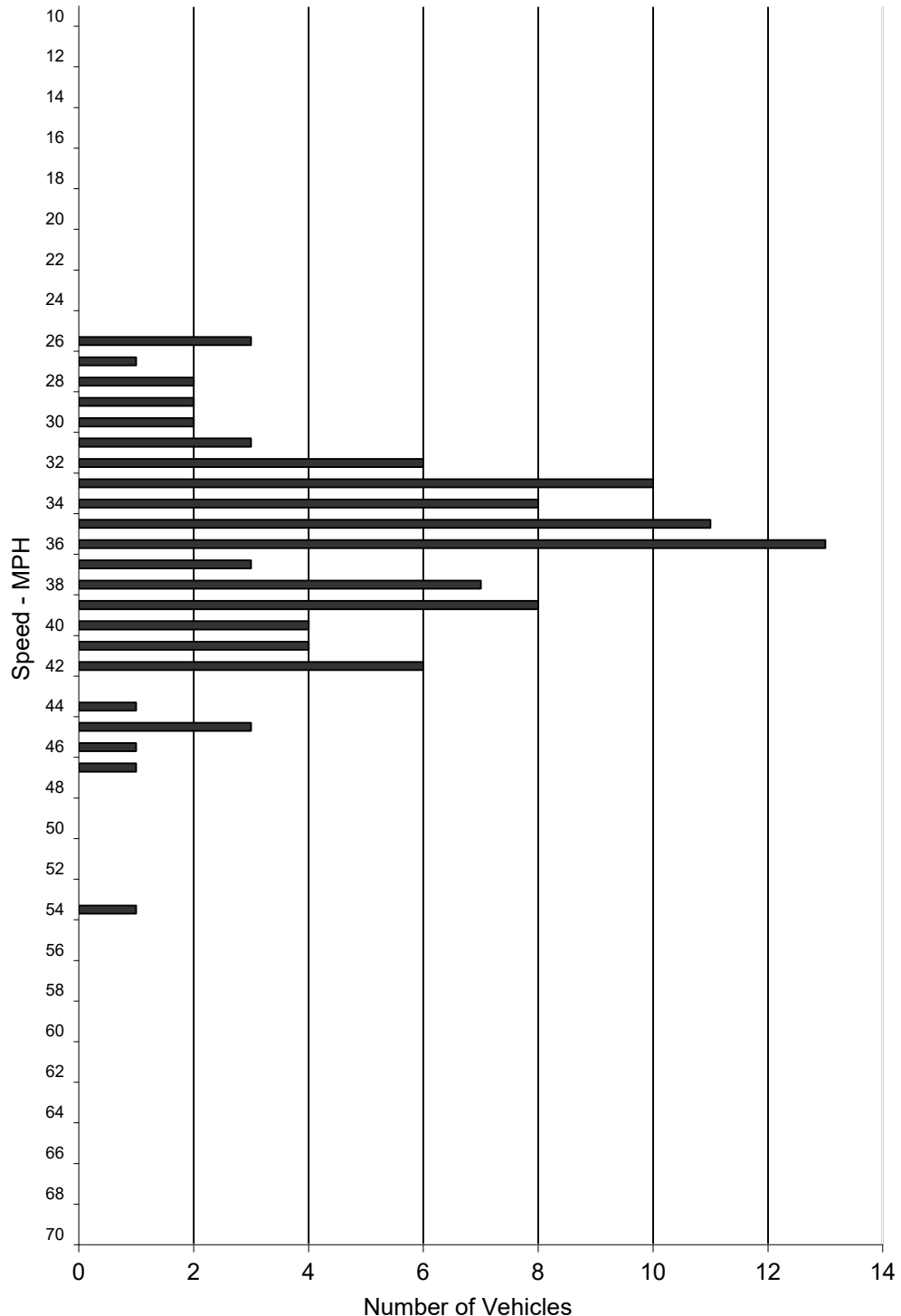
Brisa Street

DATE: 9/19/2019
Start Time: 1:09 PM
DAY: Thursday

Location: East End to Vasco Road
End Time: 1:53 PM
(Before) Speed Limit: 35 MPH
Weather: Sunny
Direction: EB & WB

Observer: JL
Calibration: DONE
NEW Speed Limit: 35 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 3 |
| 27 | 1 |
| 28 | 2 |
| 29 | 2 |
| 30 | 2 |
| 31 | 3 |
| 32 | 6 |
| 33 | 10 |
| 34 | 8 |
| 35 | 11 |
| 36 | 13 |
| 37 | 3 |
| 38 | 7 |
| 39 | 8 |
| 40 | 4 |
| 41 | 4 |
| 42 | 6 |
| 43 | 0 |
| 44 | 1 |
| 45 | 3 |
| 46 | 1 |
| 47 | 1 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 1 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 36.1 | 26 - 54 | 36 mph | 41 mph | 32 - 41 | 74 | 74% | 13% / 13 | 13% / 13 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: BRISA STREET

Adjacent Land Use: INDUSTRIAL/RESIDENTIAL

Limits: VASCO RD TO EAST END

No. of Lanes: 4 & 2

Roadway Description: Vasco Road to National Drive 4-lane divided collector street. National Drive to east end 2-lane street. New single-family homes face the street. Bike lanes are present with on-street parking prohibited through most of the segment. The length of this segment is 0.61 miles.

Collision History: There have been 8 reported collisions along this segment within the past three years. This equates to 1.56 collisions per million vehicle miles.

Other Considerations: The portion of this segment where majority of traffic travels is a Residence District as defined in the California Vehicle Code. There is a mix of bicycling and pedestrian activities.

Recommendation: Based on the 85th percentile speed of 41 MPH, the existing 40 MPH speed limit was considered. However, given the condition not readily apparent to motorists, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Broadmoor Street

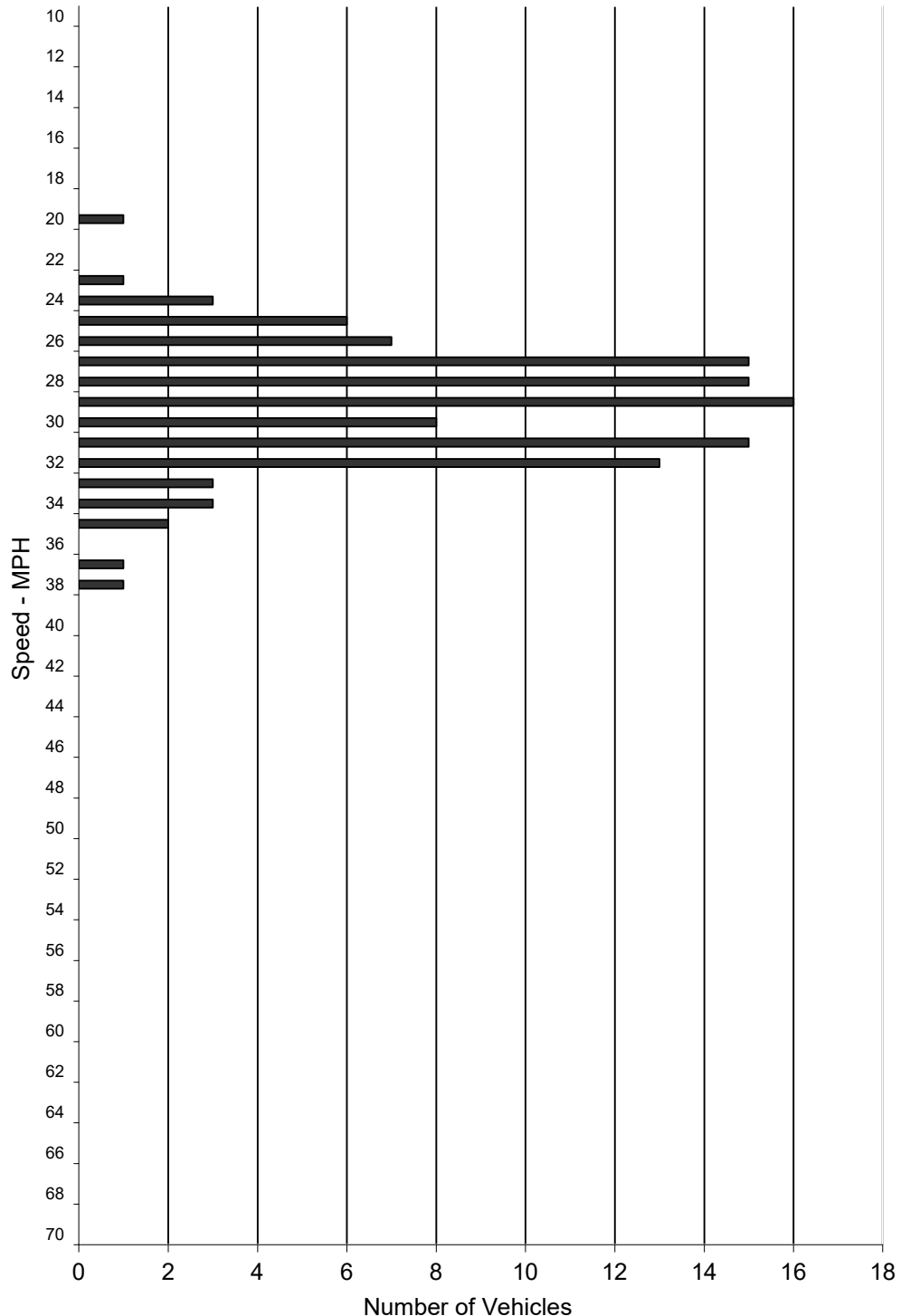
DATE: 7/7/2020
Start Time: 4:25 PM
DAY: Friday

Location: Dalton Avenue to Scenic Avenue
End Time: 5:13 PM
(Before) Speed Limit: 25 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: CTS
Calibration: DONE
NEW Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 1 |
| 21 | 0 |
| 22 | 0 |
| 23 | 1 |
| 24 | 3 |
| 25 | 6 |
| 26 | 7 |
| 27 | 15 |
| 28 | 15 |
| 29 | 16 |
| 30 | 8 |
| 31 | 15 |
| 32 | 13 |
| 33 | 3 |
| 34 | 3 |
| 35 | 2 |
| 36 | 0 |
| 37 | 1 |
| 38 | 1 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 110 | 29.1 | 20 - 38 | 29 mph | 32 mph | 24 - 33 | 101 | 92% | 1% / 2 | 7% / 7 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: BROADMOOR STREET

Adjacent Land Use: RESIDENTIAL

Limits: DALTON AVE TO SCENIC AVE

No. of Lanes: 2

Roadway Description: 2-lane residential collector street with on-street parking, bike lanes, and school crosswalks. The length of this segment is 0.68 miles.

Collision History: There have been 4 reported collisions along this segment within the past 3 years. This translates to 1.95 collisions per million vehicle miles.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turning maneuvers, on-street parking maneuvers, bicycling activities. An elementary school, a middle school and Christensen Park with soccer field are in proximity generating pedestrian and bicycling activities.

Recommendation: Based on the 85th percentile speed of 32 MPH, a speed limit of 30 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit remains in effect.

Spot Speed Study - City of Livermore

Campus Hill Drive

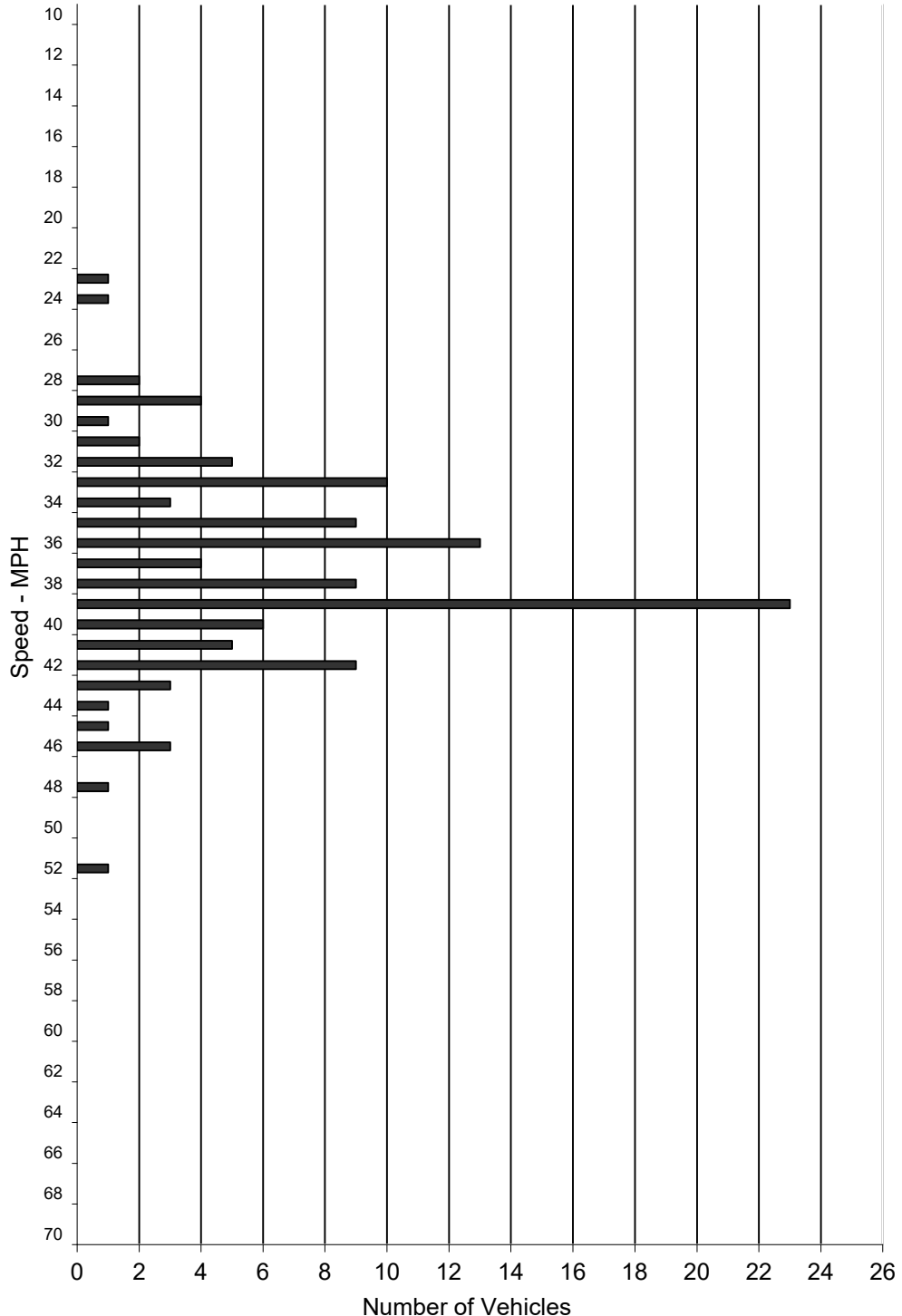
DATE: 12/16/2019
Start Time: 1:10 PM
DAY: Monday

Location: Portola Avenue - College Parking Lot
End Time: 1:31 PM
Posted Speed: 40 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: MD
Calibration: DONE
New Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 1 |
| 24 | 1 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 2 |
| 29 | 4 |
| 30 | 1 |
| 31 | 2 |
| 32 | 5 |
| 33 | 10 |
| 34 | 3 |
| 35 | 9 |
| 36 | 13 |
| 37 | 4 |
| 38 | 9 |
| 39 | 23 |
| 40 | 6 |
| 41 | 5 |
| 42 | 9 |
| 43 | 3 |
| 44 | 1 |
| 45 | 1 |
| 46 | 3 |
| 47 | 0 |
| 48 | 1 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 1 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 117 | 37.2 | 23 - 52 | 38 mph | 42 mph | 33 - 42 | 91 | 78% | 13% / 16 | 9% / 10 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: CAMPUS HILL DRIVE

Adjacent Land Use: RESIDENTIAL/VACANT

Limits: PORTOLA AVE TO COLLEGE PARKING LOT

No. of Lanes: 4

Roadway Description: 4-lane collector street with no on-street parking allowed. This roadway provides access to Las Positas College. The length of this segment is 0.30 miles.

Collision History: There have been 2 reported collisions along this segment within the past three years. This equates to 1.84 collisions per million vehicle miles.

Other Considerations: None

Recommendation: Based on the 85th percentile speed of 42 MPH, the existing 40 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Catalina Drive

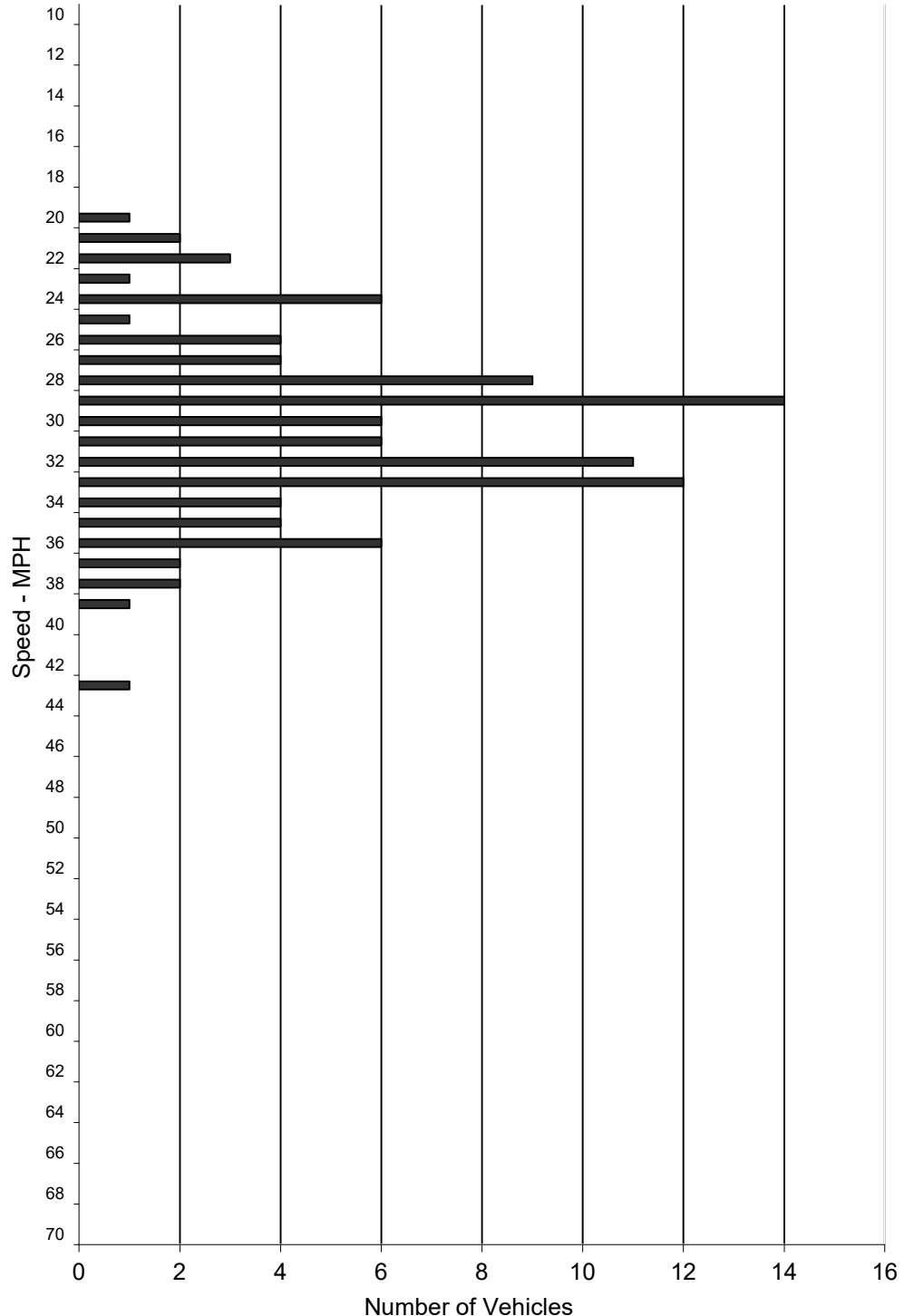
DATE: 8/16/2019
Start Time: 9:35 am
DAY: Friday

Location: El Caminito - Holmes Street
End Time: 10:32 am
Posted Speed: 30 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 1 |
| 21 | 2 |
| 22 | 3 |
| 23 | 1 |
| 24 | 6 |
| 25 | 1 |
| 26 | 4 |
| 27 | 4 |
| 28 | 9 |
| 29 | 14 |
| 30 | 6 |
| 31 | 6 |
| 32 | 11 |
| 33 | 12 |
| 34 | 4 |
| 35 | 4 |
| 36 | 6 |
| 37 | 2 |
| 38 | 2 |
| 39 | 1 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 1 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 30.3 | 20 - 43 | 30 mph | 35 mph | 27 - 36 | 76 | 76% | 18% / 18 | 6% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: CATALINA DRIVE

Adjacent Land Use: RESIDENTIAL

Limits: EL CAMINITO TO HOLMES ST

No. of Lanes: 2

Roadway Description: 2-lane residential collector street with on-street parking. There are multi-family residential and commercial uses along this segment near Holmes Street. The length of this segment is 0.78 miles.

Collision History: There have been 5 reported collisions along this segment within the past three years. This equates to 2.44 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: In addition to high collision rate, this segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, and pedestrian activity.

Recommendation: Based on the 85th percentile speed of 35 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Central Avenue

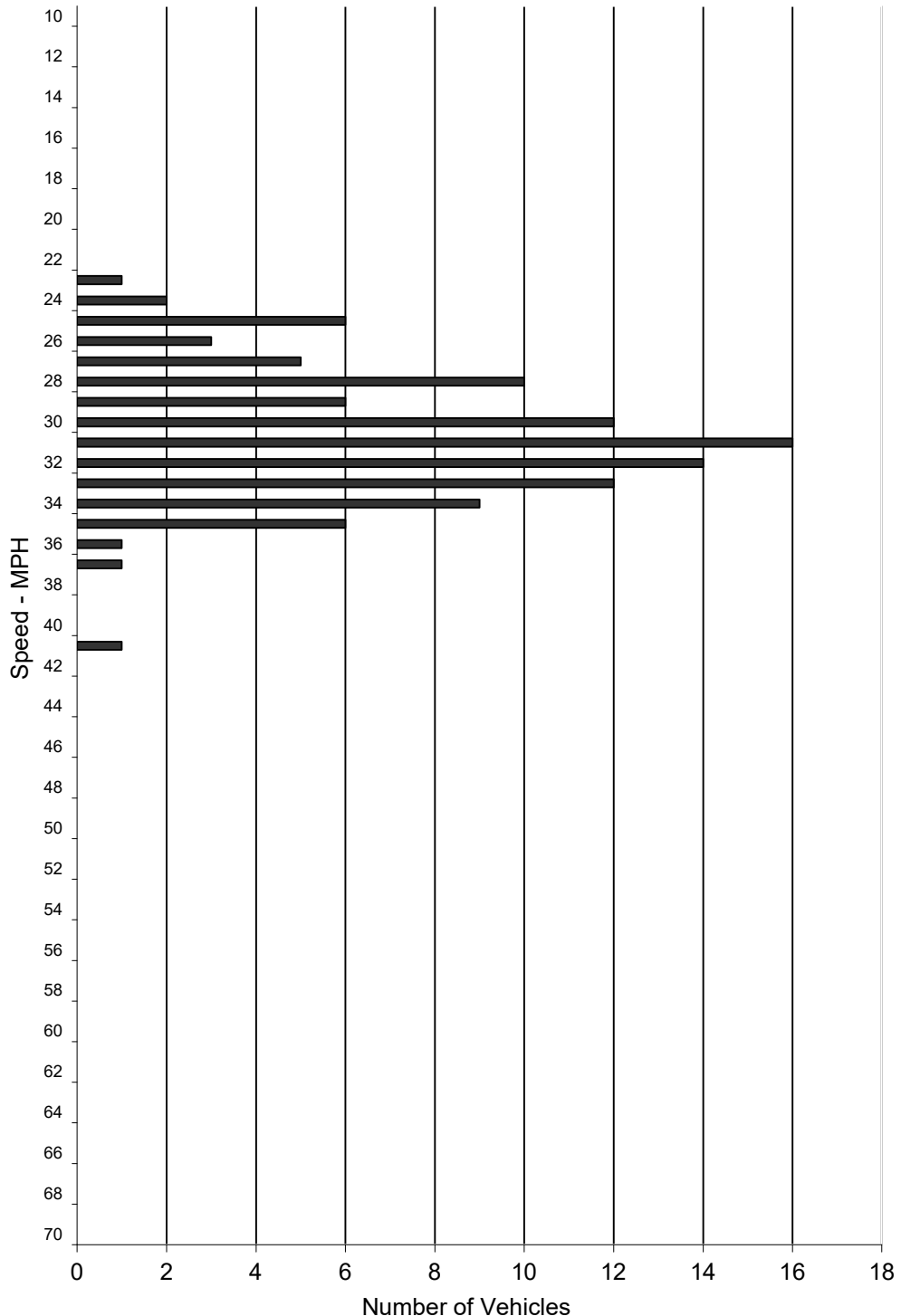
DATE: 9/30/2019
Start Time: 2:25 pm
DAY: Monday

Location: Scenic Avenue - Northfront Road
End Time: 2:55 pm
Posted Speed: 30 MPH
Weather: Sunny
Direction: NB & SB

Observer: HI
Calibration: DONE
New Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 1 |
| 24 | 2 |
| 25 | 6 |
| 26 | 3 |
| 27 | 5 |
| 28 | 10 |
| 29 | 6 |
| 30 | 12 |
| 31 | 16 |
| 32 | 14 |
| 33 | 12 |
| 34 | 9 |
| 35 | 6 |
| 36 | 1 |
| 37 | 1 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 1 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 105 | 30.6 | 23 - 41 | 31 mph | 34 mph | 25 - 34 | 93 | 89% | 2% / 3 | 9% / 9 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: CENTRAL AVENUE

Adjacent Land Use: RESIDENTIAL

Limits: SCENIC AVE TO NORTHFRONT RD

No. of Lanes: 2

Roadway Description: A 2-lane residential collector street with improved and unimproved shoulders and varying roadway widths. The length of this segment is 0.62 miles.

Collision History: There have been 2 reported collisions along this segment within the past three years. This equates to 1.63 collisions per million vehicle miles.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, and pedestrian activity.

Recommendation: Based on the 85th percentile speed of 34 MPH, the existing 30 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Charlotte Way

DATE: 11/12/2019
Start Time: 2:58 PM
DAY: Tuesday

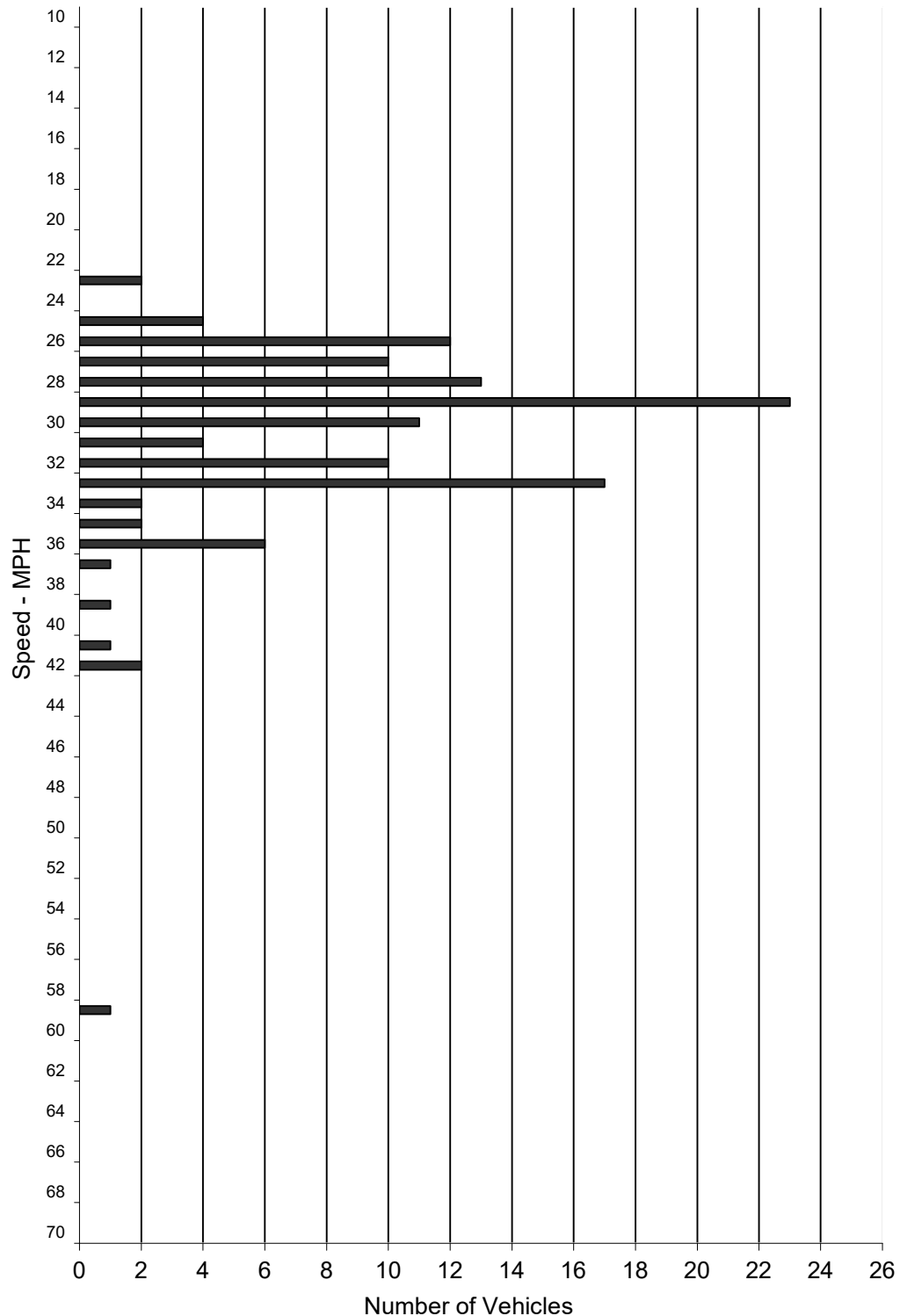
Location: Mines Road to East Avenue
End Time: 3:58 PM
(Before) Speed Limit: 30 MPH

Weather: Dry/Clear
Direction: EB & WB

Observer: Merav D
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 2 |
| 24 | 0 |
| 25 | 4 |
| 26 | 12 |
| 27 | 10 |
| 28 | 13 |
| 29 | 23 |
| 30 | 11 |
| 31 | 4 |
| 32 | 10 |
| 33 | 17 |
| 34 | 2 |
| 35 | 2 |
| 36 | 6 |
| 37 | 1 |
| 38 | 0 |
| 39 | 1 |
| 40 | 0 |
| 41 | 1 |
| 42 | 2 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 1 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 122 | 30.4 | 23 - 59 | 29 mph | 33 mph | 25 - 34 | 106 | 87% | 1% / 2 | 12% / 14 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: CHARLOTTE WAY

Adjacent Land Use: RESIDENTIAL

Limits: MINES RD TO EAST AVE

No. of Lanes: 2

Roadway Description: 2-lane residential collector street with on-street parking, bike lanes, and school crosswalks. A City park is along this segment. The length of this segment is 1.09 miles.

Collision History: There have been 4 reported collisions along this segment within the past three years.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, crosswalks on route to school, and pedestrian activity especially along the park frontage and the school nearby. Speed lumps were installed appropriate for residential roadway.

Recommendation: Based on the 85th percentile speed of 33 MPH, the existing 30 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Chestnut Street

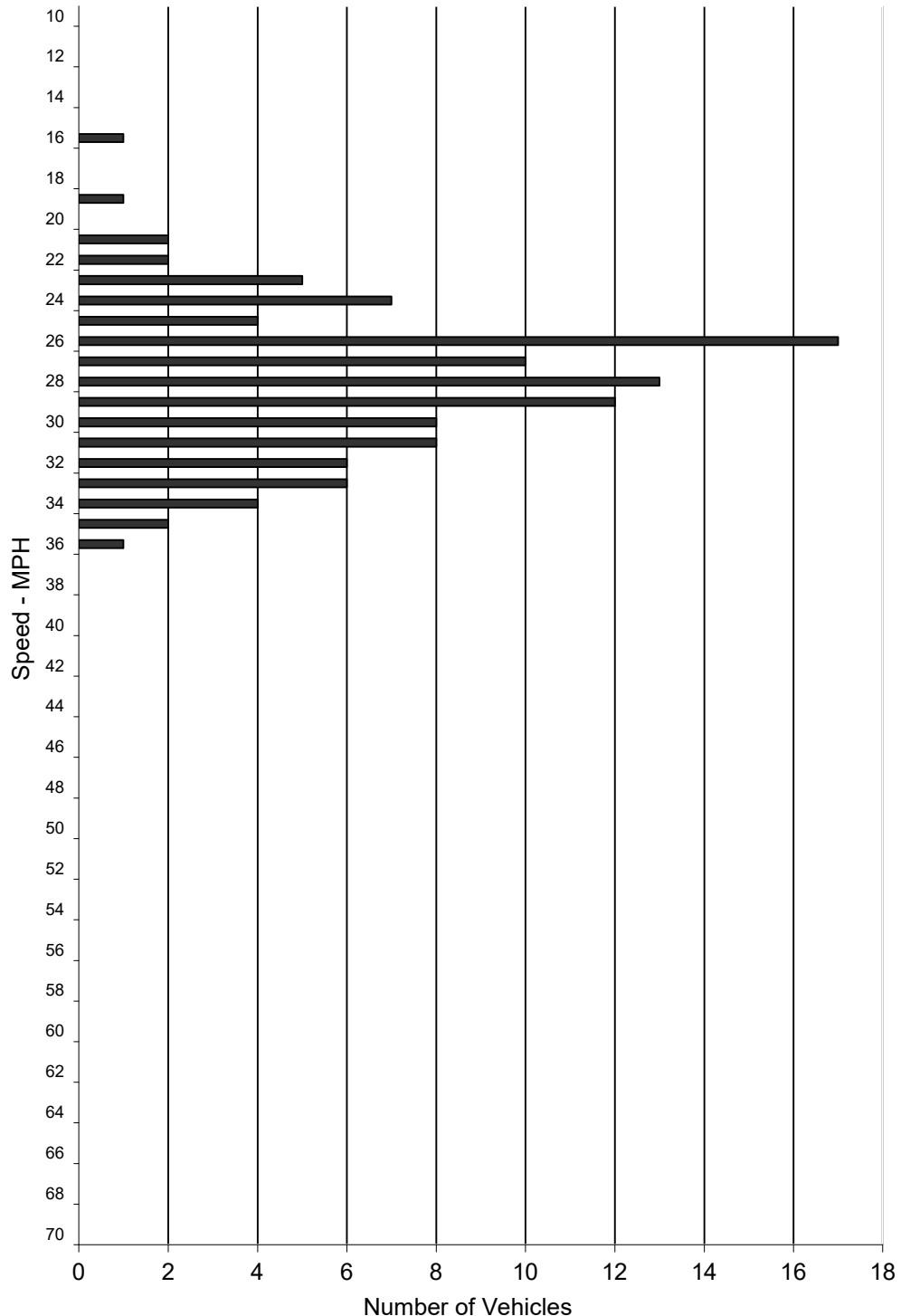
DATE: 12/10/2019
Start Time: 2:15 PM
DAY: Monday

Location: N. P Street to Junction Avenue
End Time: 2:55 PM
(Before) Speed Limit: 30 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 1 |
| 17 | 0 |
| 18 | 0 |
| 19 | 1 |
| 20 | 0 |
| 21 | 2 |
| 22 | 2 |
| 23 | 5 |
| 24 | 7 |
| 25 | 4 |
| 26 | 17 |
| 27 | 10 |
| 28 | 13 |
| 29 | 12 |
| 30 | 8 |
| 31 | 8 |
| 32 | 6 |
| 33 | 6 |
| 34 | 4 |
| 35 | 2 |
| 36 | 1 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 109 | 28.0 | 16 - 36 | 28 mph | 32 mph | 24 - 33 | 91 | 83% | 10% / 11 | 7% / 7 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: CHESTNUT STREET

Adjacent Land Use: RESIDENTIAL/COMMERCIAL

Limits: N. P ST TO JUNCTION AVE

No. of Lanes: 3

Roadway Description: This is a collector street in a residential area. This street segment has a 2-lane street with parking, bike lanes, and a two-way left turn lane. A mixture of residential and commercial development fronts this segment. The length of this segment is 0.65 miles.

Collision History: There have been 14 reported collisions along this segment within the past three years.

Other Considerations: This segment has a high rate of turning maneuvers with numerous residential and commercial driveways, on-street parking maneuvers, and pedestrian activity.

Recommendation: Based on the 85th percentile speed of 32 MPH, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

College Avenue

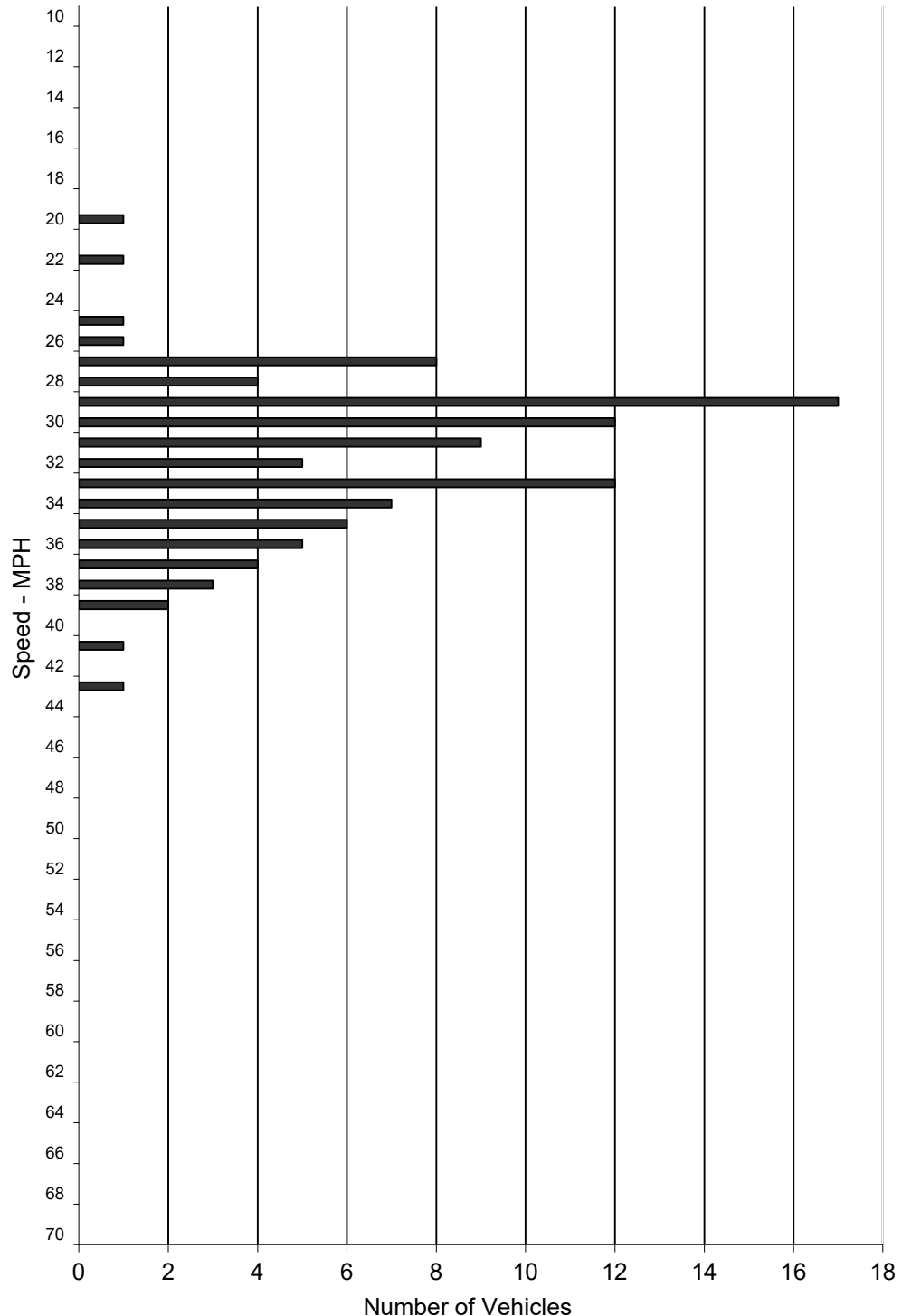
DATE: 8/27/2019
Start Time: 10:19 am
DAY: Tuesday

Location: Fourth St - South L St
End Time: 10:55 am
Posted Speed: 30 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 1 |
| 21 | 0 |
| 22 | 1 |
| 23 | 0 |
| 24 | 0 |
| 25 | 1 |
| 26 | 1 |
| 27 | 8 |
| 28 | 4 |
| 29 | 17 |
| 30 | 12 |
| 31 | 9 |
| 32 | 5 |
| 33 | 12 |
| 34 | 7 |
| 35 | 6 |
| 36 | 5 |
| 37 | 4 |
| 38 | 3 |
| 39 | 2 |
| 40 | 0 |
| 41 | 1 |
| 42 | 0 |
| 43 | 1 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 31.6 | 20 - 43 | 31 mph | 36 mph | 27 - 36 | 85 | 85% | 4% / 4 | 11% / 11 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: COLLEGE AVENUE Adjacent Land Use: RESIDENTIAL

Limits: FOURTH ST TO S. L ST No. of Lanes: 2

Roadway Description: A 2-lane residential collector street. The length of this segment is 0.62 miles.

Collision History: There have been 9 reported collisions along this segment within the past three years. This equates to 2.10 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turning maneuvers, on-street parking maneuvers, and bicycling and pedestrian activity.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the high collision rate, and residence district, conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

College Avenue

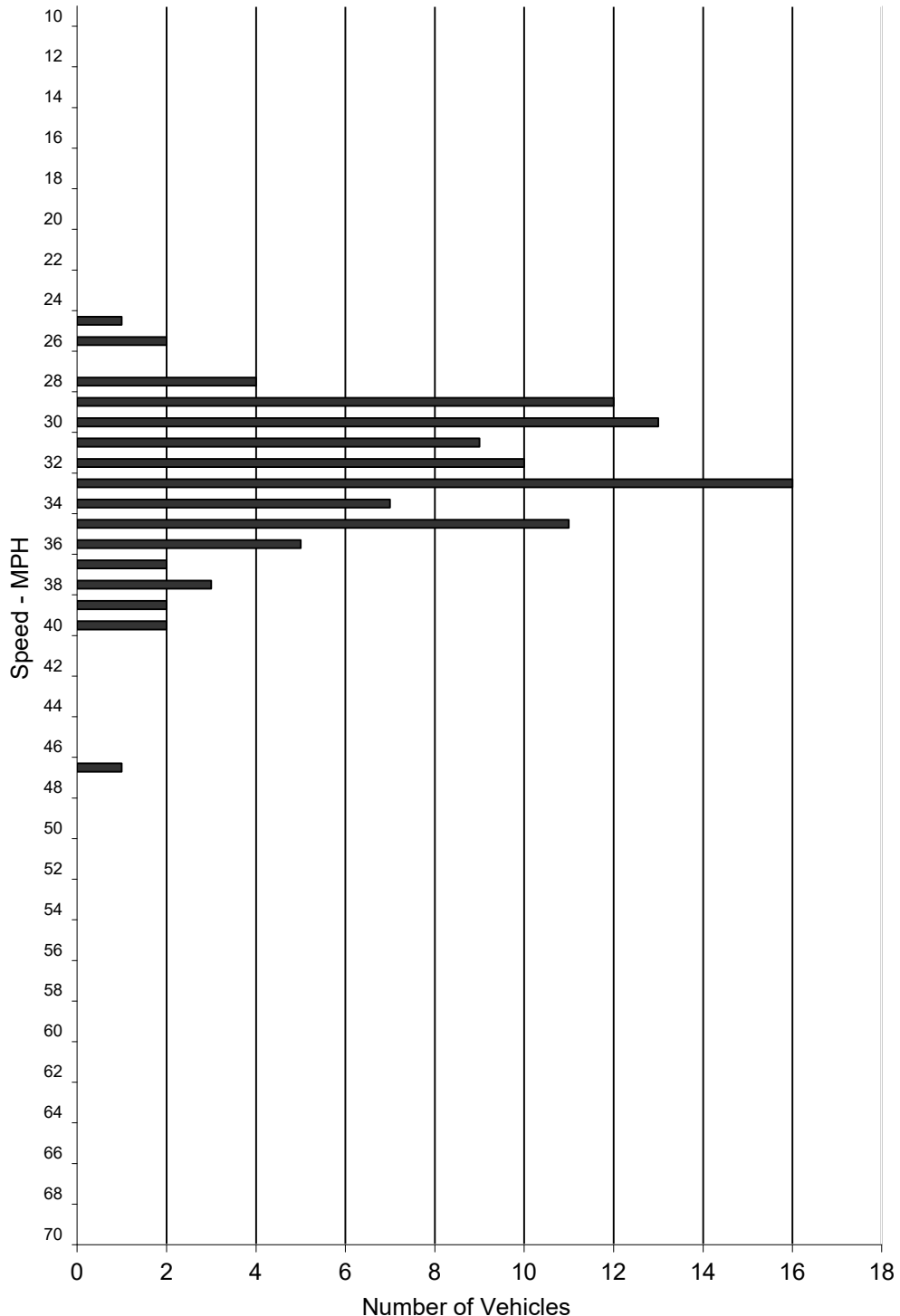
DATE: 8/27/2019
Start Time: 11:06 am
DAY: Tuesday

Location: South L St - South Livermore Ave
End Time: 11:46 am
Posted Speed: 30 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 1 |
| 26 | 2 |
| 27 | 0 |
| 28 | 4 |
| 29 | 12 |
| 30 | 13 |
| 31 | 9 |
| 32 | 10 |
| 33 | 16 |
| 34 | 7 |
| 35 | 11 |
| 36 | 5 |
| 37 | 2 |
| 38 | 3 |
| 39 | 2 |
| 40 | 2 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 1 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 32.5 | 25 - 47 | 32 mph | 35 mph | 28 - 37 | 89 | 89% | 3% / 3 | 8% / 8 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: COLLEGE AVENUE Adjacent Land Use: RESIDENTIAL

Limits: S. L ST TO S. LIVERMORE AVE No. of Lanes: 2

Roadway Description: 2-lane residential collector street. The length of this segment is 0.64 miles.

Collision History: There have been 8 reported collisions along this segment within the past three years. This equates to 1.78 collisions per million vehicle miles.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turning maneuvers, on-street parking maneuvers, bicycling and pedestrian activities with no bike lanes.

Recommendation: Based on the 85th percentile speed of 35 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Collier Canyon Road

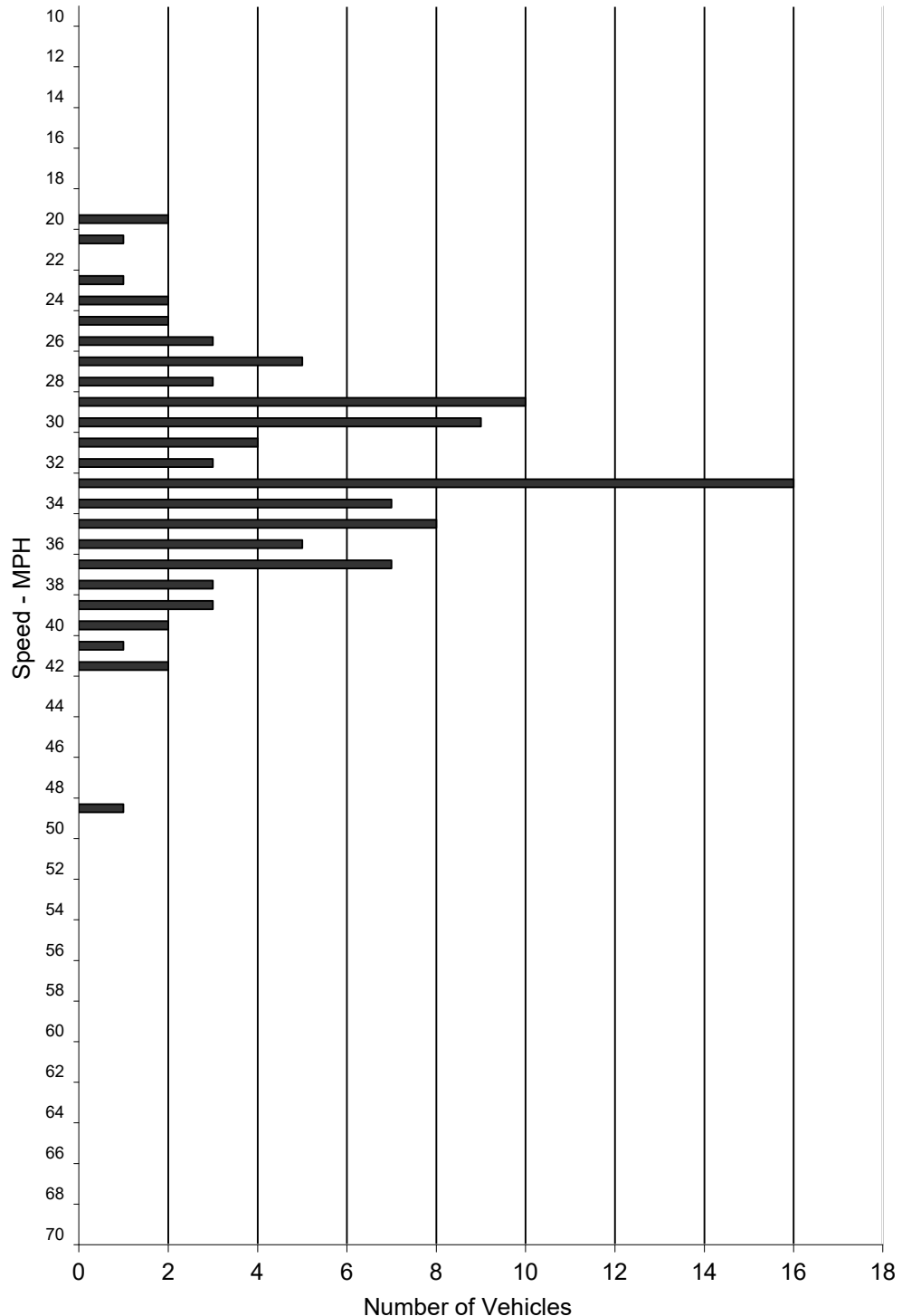
DATE: 8/5/2019
Start Time: 10:37 am
DAY: Monday

Location: Constitution Dr to North City Limit
End Time: 11:13 am
Posted Speed: 35 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: BMC
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 2 |
| 21 | 1 |
| 22 | 0 |
| 23 | 1 |
| 24 | 2 |
| 25 | 2 |
| 26 | 3 |
| 27 | 5 |
| 28 | 3 |
| 29 | 10 |
| 30 | 9 |
| 31 | 4 |
| 32 | 3 |
| 33 | 16 |
| 34 | 7 |
| 35 | 8 |
| 36 | 5 |
| 37 | 7 |
| 38 | 3 |
| 39 | 3 |
| 40 | 2 |
| 41 | 1 |
| 42 | 2 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 1 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 32.3 | 20 - 49 | 33 mph | 37 mph | 28 - 37 | 72 | 72% | 16% / 16 | 12% / 12 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: COLLIER CANYON ROAD

Adjacent Land Use: INDUSTRIAL/RESIDENTIAL

Limits: CONSTITUTION AVE TO NORTH CITY LIMIT No. of Lanes: 2 & 4

Roadway Description: 4- lane, which narrows down to 2-lane collector street through industrial and some residential development. Las Positas College is along the north end of this segment. The length of this segment is 1.14 miles.

Collision History: There have been 3 reported collisions along this segment within the past three years.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 37 MPH, the existing speed limit of 35 MPH remains in effect.

Spot Speed Study - City of Livermore

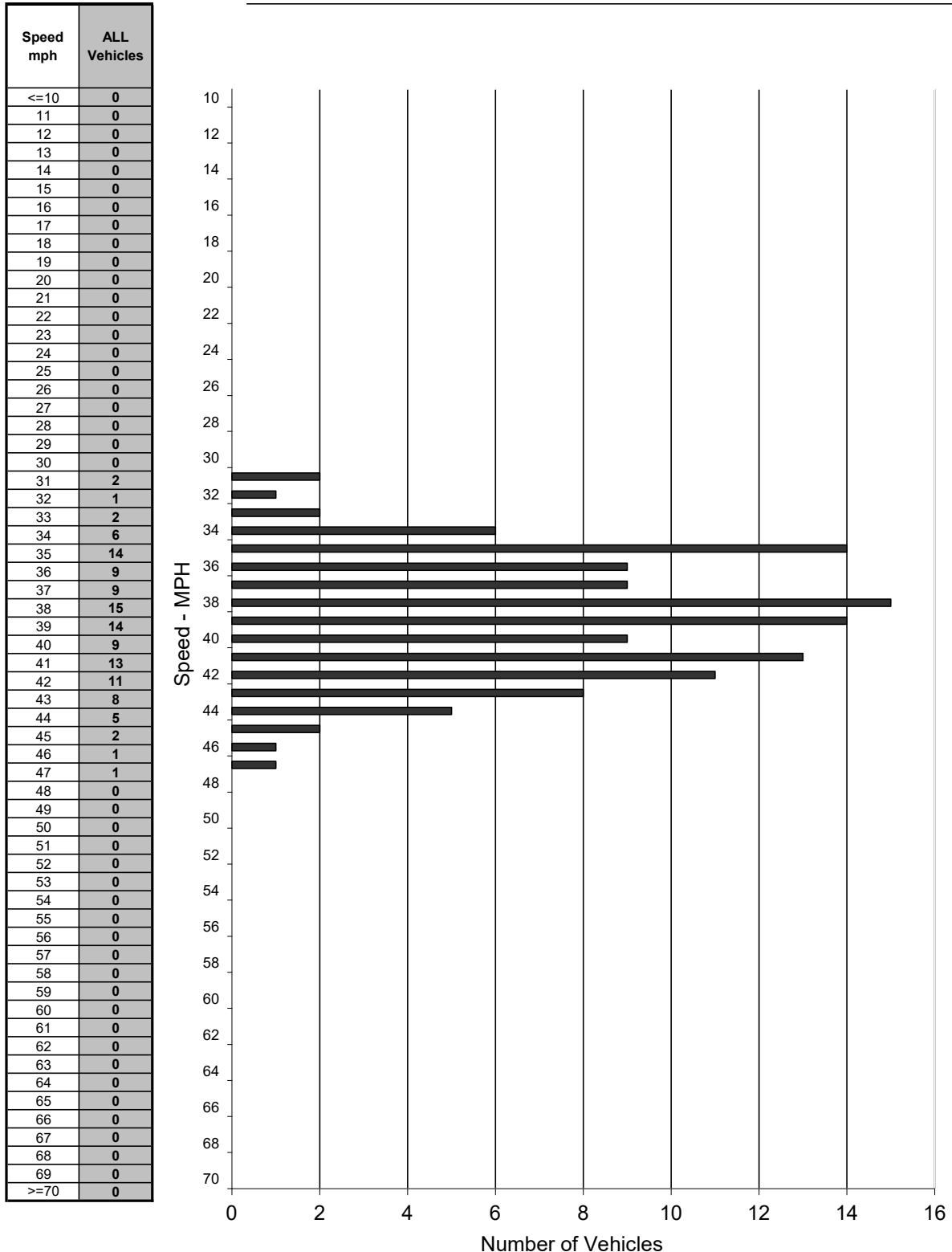
Concannon Blvd

DATE: 8/3/2020
Start Time: 10:27 AM
DAY: Monday

Location: SR-84 (Isabel Avenue) - Holmes Street
End Time: 10:56 AM
Posted Speed: 35 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: CTS
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 122 | 38.8 | 31 - 47 | 39 mph | 42 mph | 34 - 43 | 108 | 89% | 4% / 5 | 8% / 9 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: CONCANNON BOULEVARD Adjacent Land Use: RESIDENTIAL/COMMERCIAL
Limits: ISABEL AVE TO HOLMES ST No. of Lanes: 4

Roadway Description: 4-lane divided arterial street through a residential and commercial area with no fronting homes or parking. A fire station, a route to school crosswalk, and bike lanes are along this segment. A shopping center is at the intersection of Holmes Street. The length of this segment is 1.37 miles.

Collision History: There have been 13 reported collisions along this segment within the past three years.

Other Considerations: There is a high rate of turning maneuvers in and out of many intersecting local streets, and a high number of school related crossings. Cyclists are also typically observed along this segment.

Recommendation: Based on the 85th percentile speed of 42 MPH, a speed limit of 40 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Concannon Blvd

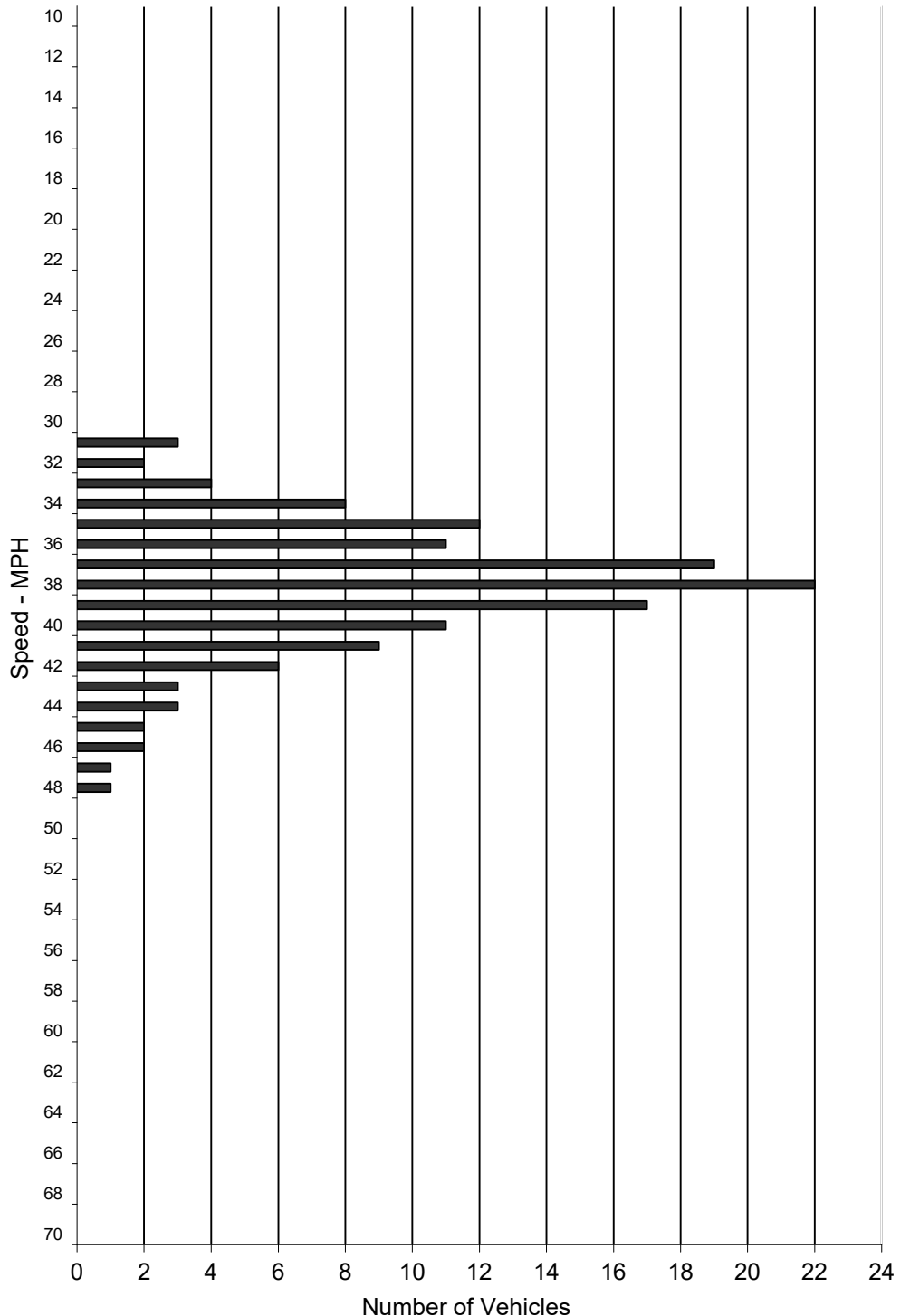
DATE: 6/19/2020
Start Time: 2:55 PM
DAY: Friday

Location: Holmes Street - Arroyo Rd
End Time: 3:21 PM
Posted Speed: 35 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: CTS
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 3 |
| 32 | 2 |
| 33 | 4 |
| 34 | 8 |
| 35 | 12 |
| 36 | 11 |
| 37 | 19 |
| 38 | 22 |
| 39 | 17 |
| 40 | 11 |
| 41 | 9 |
| 42 | 6 |
| 43 | 3 |
| 44 | 3 |
| 45 | 2 |
| 46 | 2 |
| 47 | 1 |
| 48 | 1 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 136 | 38.1 | 31 - 48 | 38 mph | 41 mph | 33 - 42 | 119 | 88% | 3% / 5 | 9% / 12 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: CONCANNON BOULEVARD Adjacent Land Use: RESIDENTIAL

Limits: HOLMES ST TO ARROYO RD No. of Lanes: 4

Roadway Description: 4-lane divided major street through a residential area, with bike lanes and no fronting homes. Parking is prohibited. The length of this segment is 0.65 miles.

Collision History: There have been 18 reported collisions along this segment within the past three years. This equates to 1.96 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: There is a high rate of turning maneuvers in and out of intersecting local streets, and high bicycle use. Some intersections have limited available safe stopping sight distance sufficient for a design speed.

Recommendation: Based on the 85th percentile speed of 41 MPH, a speed limit of 40 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Concannon Blvd

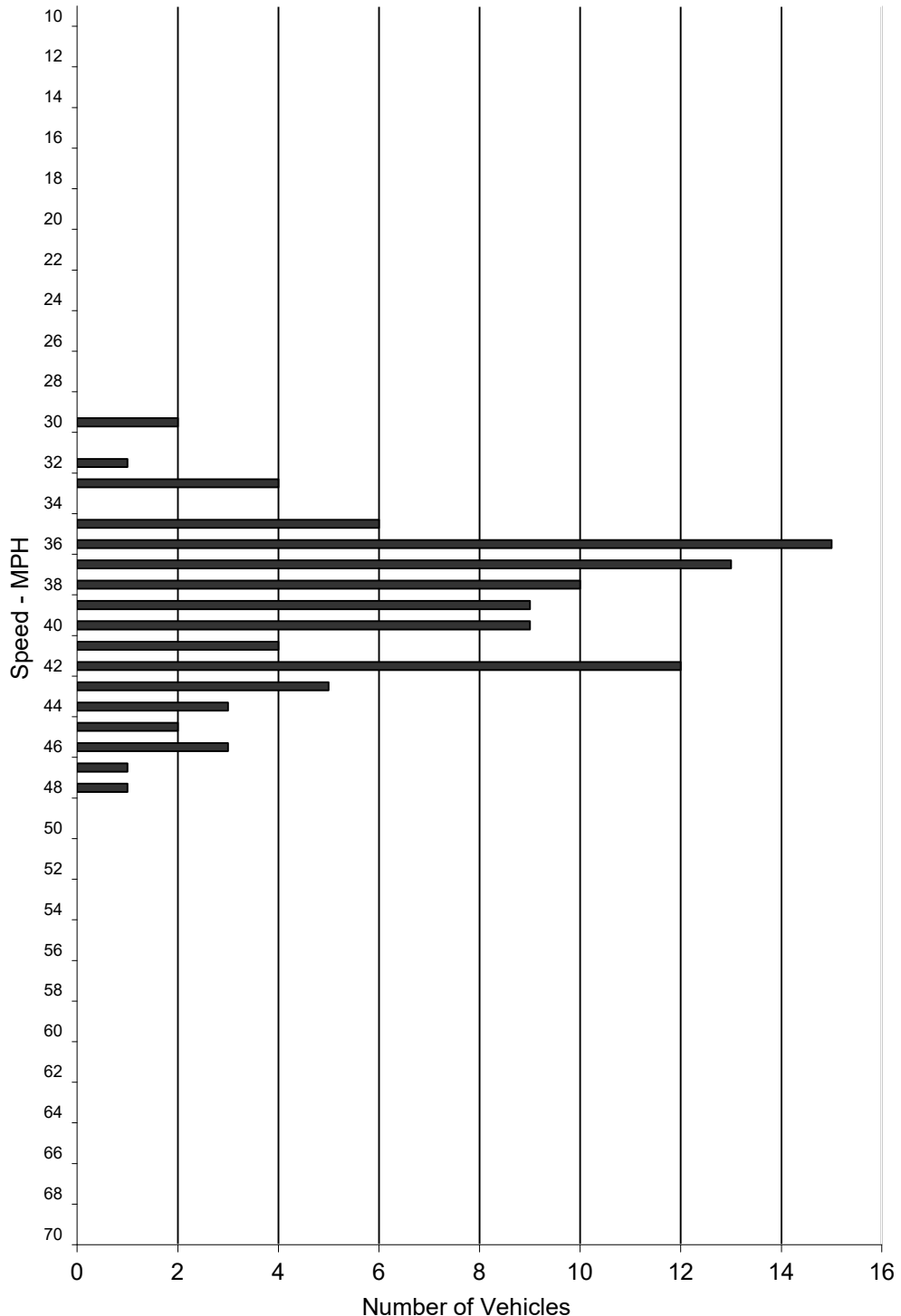
DATE: 8/26/2019
Start Time: 10:28 am
DAY: Monday

Location: Arroyo Rd - South Livermore Ave
End Time: 10:51 am
Posted Speed: 35 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 2 |
| 31 | 0 |
| 32 | 1 |
| 33 | 4 |
| 34 | 0 |
| 35 | 6 |
| 36 | 15 |
| 37 | 13 |
| 38 | 10 |
| 39 | 9 |
| 40 | 9 |
| 41 | 4 |
| 42 | 12 |
| 43 | 5 |
| 44 | 3 |
| 45 | 2 |
| 46 | 3 |
| 47 | 1 |
| 48 | 1 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 38.8 | 30 - 48 | 38 mph | 42 mph | 35 - 44 | 86 | 86% | 7% / 7 | 7% / 7 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: CONCANNON BOULEVARD

Adjacent Land Use: RESIDENTIAL/AGRICULTURE

Limits: ARROYO RD TO S. LIVERMORE AVE

No. of Lanes: 2

Roadway Description: 2-lane mostly divided arterial street through a residential and agriculture area, with on-street bike lanes from Arroyo Road to San Vicente Drive. There is a multi use trail along the south side between Normandy Way and South Livermore Avenue. There are 2 uncontrolled multi use trail crossings, and parking is prohibited. The length of this segment is 1.48 miles.

Collision History: There have been 18 reported collisions along this segment in the past three years. This equates to 0.7 collisions per million vehicle miles.

Other Considerations: There is a high rate of turning maneuvers in and out of intersecting local streets. Bicycle use is common along the road and along the trail. Avid bicycle enthusiasts are often observed riding on the street as opposed to the trail. Some intersections have limited sight distance sufficient only for a design speed of 35 MPH.

Recommendation: Based on the 85th percentile speed of 42 MPH, a speed limit of 40 MPH was considered. However, given the conditions not readily apparent to motorists identified above such as design speed, sight distance, and bicycle use, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Constitution Drive

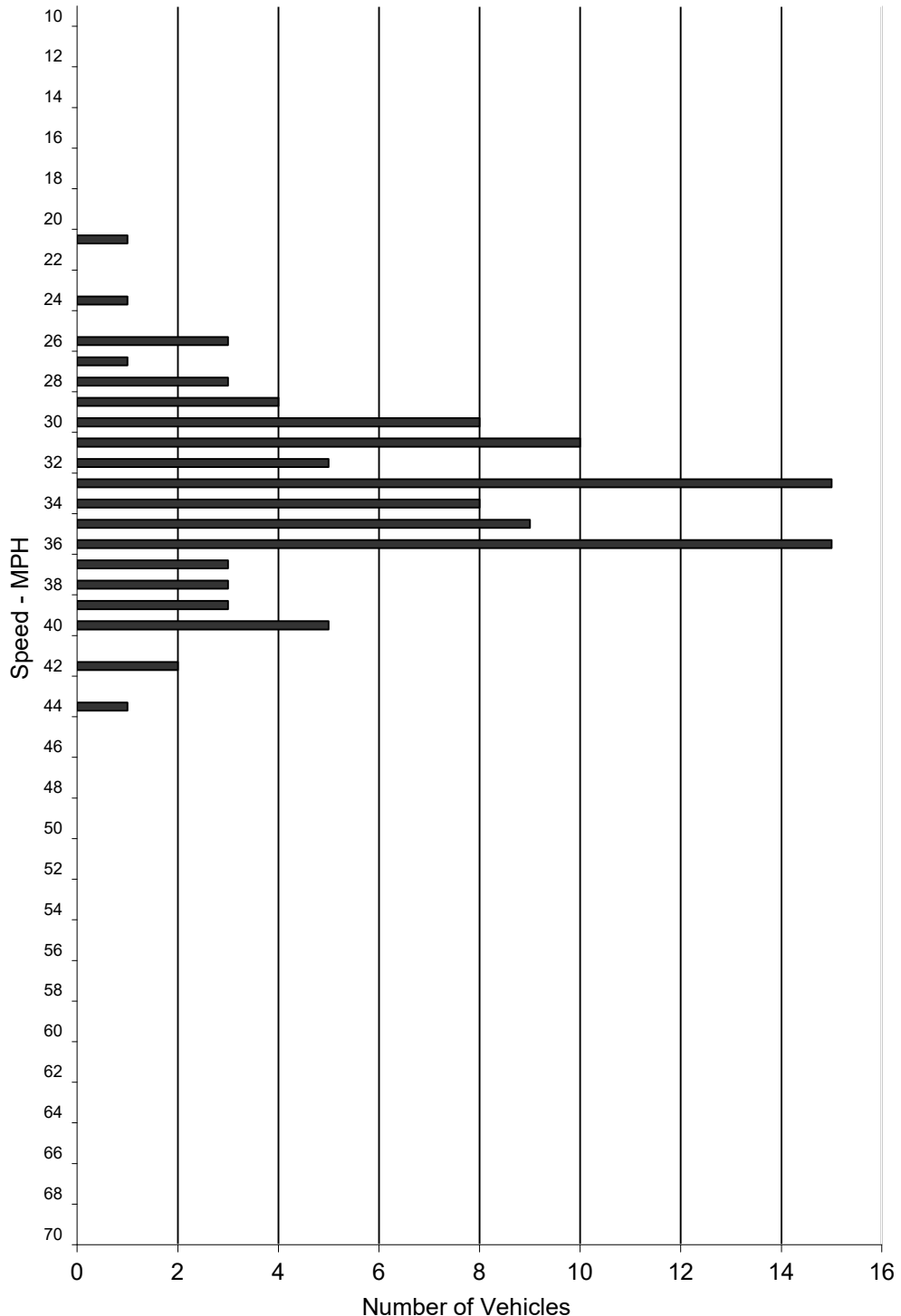
DATE: 8/6/2019
Start Time: 10:35 am
DAY: Tuesday

Location: North Canyons Pkwy - Collier Canyons Rd
End Time: 10:56 am
Posted Speed: 30 MPH

Observer: BMC
Calibration: DONE
New Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 1 |
| 22 | 0 |
| 23 | 0 |
| 24 | 1 |
| 25 | 0 |
| 26 | 3 |
| 27 | 1 |
| 28 | 3 |
| 29 | 4 |
| 30 | 8 |
| 31 | 10 |
| 32 | 5 |
| 33 | 15 |
| 34 | 8 |
| 35 | 9 |
| 36 | 15 |
| 37 | 3 |
| 38 | 3 |
| 39 | 3 |
| 40 | 5 |
| 41 | 0 |
| 42 | 2 |
| 43 | 0 |
| 44 | 1 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 33.5 | 21 - 44 | 33 mph | 37 mph | 28 - 37 | 80 | 80% | 6% / 6 | 14% / 14 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: CONSTITUTION DRIVE Adjacent Land Use: INDUSTRIAL/COMMER.

Limits: NORTH CANYONS PKWY TO COLLIER CANYON RD No. of Lanes: 2

Roadway Description: 2-lane collector street with two-way left turn lane through most of its length on a commercial and industrial area. The length of this segment is 0.7 miles.

Collision History: There have been 4 reported collisions along this segment within the past three years. This equates to 0.95 collisions per million vehicle miles.

Other Considerations: There is a high rate of turning maneuvers in and out of commercial driveways. Some driveways have limited available safe stopping sight distance sufficient only for a design speed of 30 MPH.

Recommendation: Based on the 85th percentile speed of 37 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Dalton Avenue

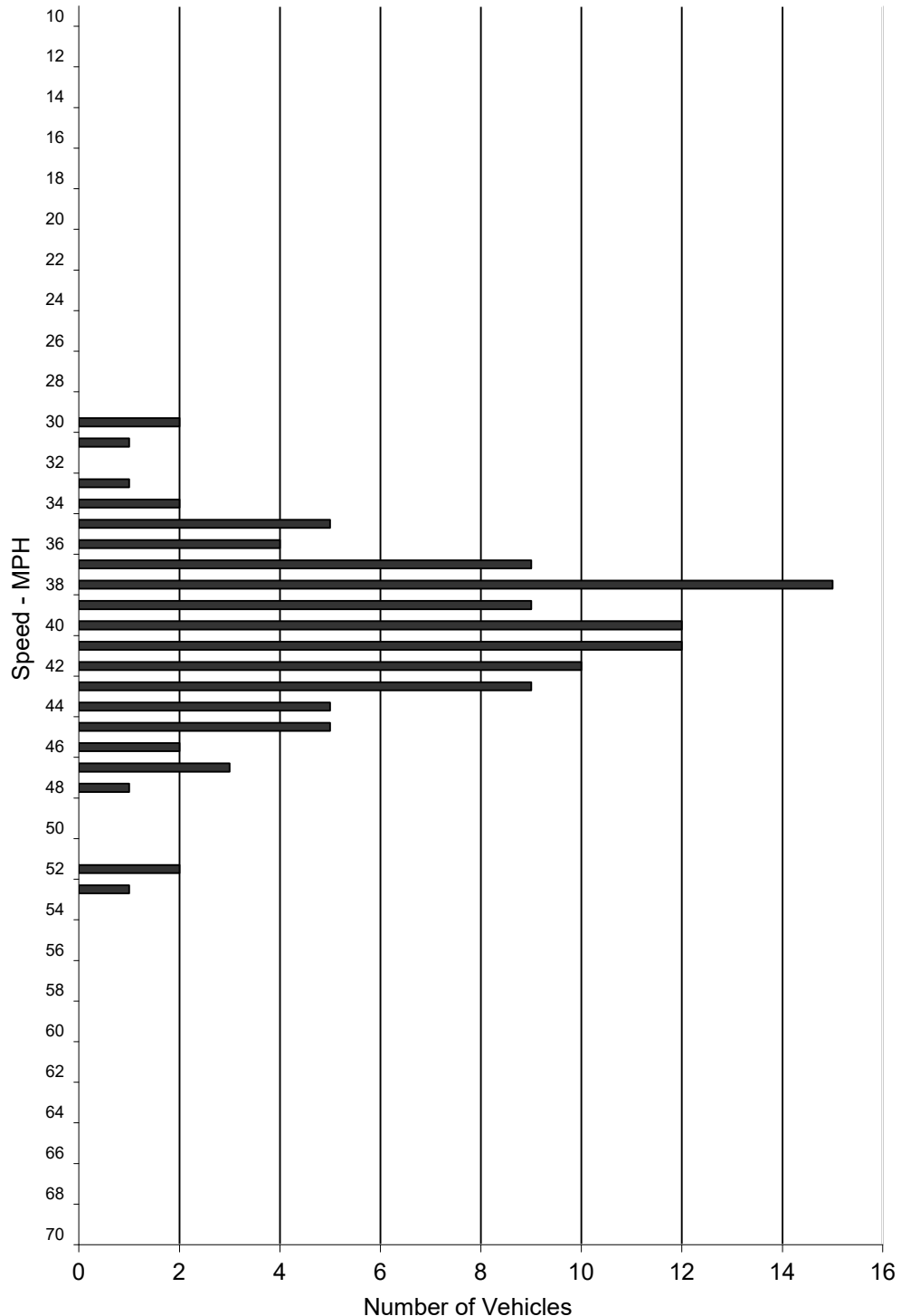
DATE: 10/1/2019
Start Time: 2:00 PM
DAY: Tuesday

Location: Vasco Road to Ames Road
End Time: 2:35 PM
(Before) Speed Limit: 40 MPH
Weather: Sunny
Direction: EB & WB

Observer: HI
Calibration: DONE
NEW Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 2 |
| 31 | 1 |
| 32 | 0 |
| 33 | 1 |
| 34 | 2 |
| 35 | 5 |
| 36 | 4 |
| 37 | 9 |
| 38 | 15 |
| 39 | 9 |
| 40 | 12 |
| 41 | 12 |
| 42 | 10 |
| 43 | 9 |
| 44 | 5 |
| 45 | 5 |
| 46 | 2 |
| 47 | 3 |
| 48 | 1 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 2 |
| 53 | 1 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 110 | 40.2 | 30 - 53 | 40 mph | 44 mph | 35 - 44 | 90 | 82% | 5% / 6 | 13% / 14 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: DALTON AVENUE

Adjacent Land Use: RESIDENTIAL

Limits: VASCO ROAD TO AMES ROAD

No. of Lanes: 2

Roadway Description: A 2-lane residential collector street with on-street bike lanes, a school crossing with pedestrian activated flashing beacon, and a curve with 20 mph advisory speed at the west end exist along the segment. No homes front this segment and parking is prohibited. The length of this segment is 0.51 miles.

Collision History: There have been 6 reported collisions along this segment within the past three years. This equates to 2.20 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: There is a school crossing along Dalton Avenue due to its proximity to Christensen Elementary School. Bicycle enthusiasts often use this roadway as part of their training route. Additionally, portions of the segment have unimproved shoulders along the northside.

Recommendation: Based on the 85th percentile speed of 44 MPH, the existing 40 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

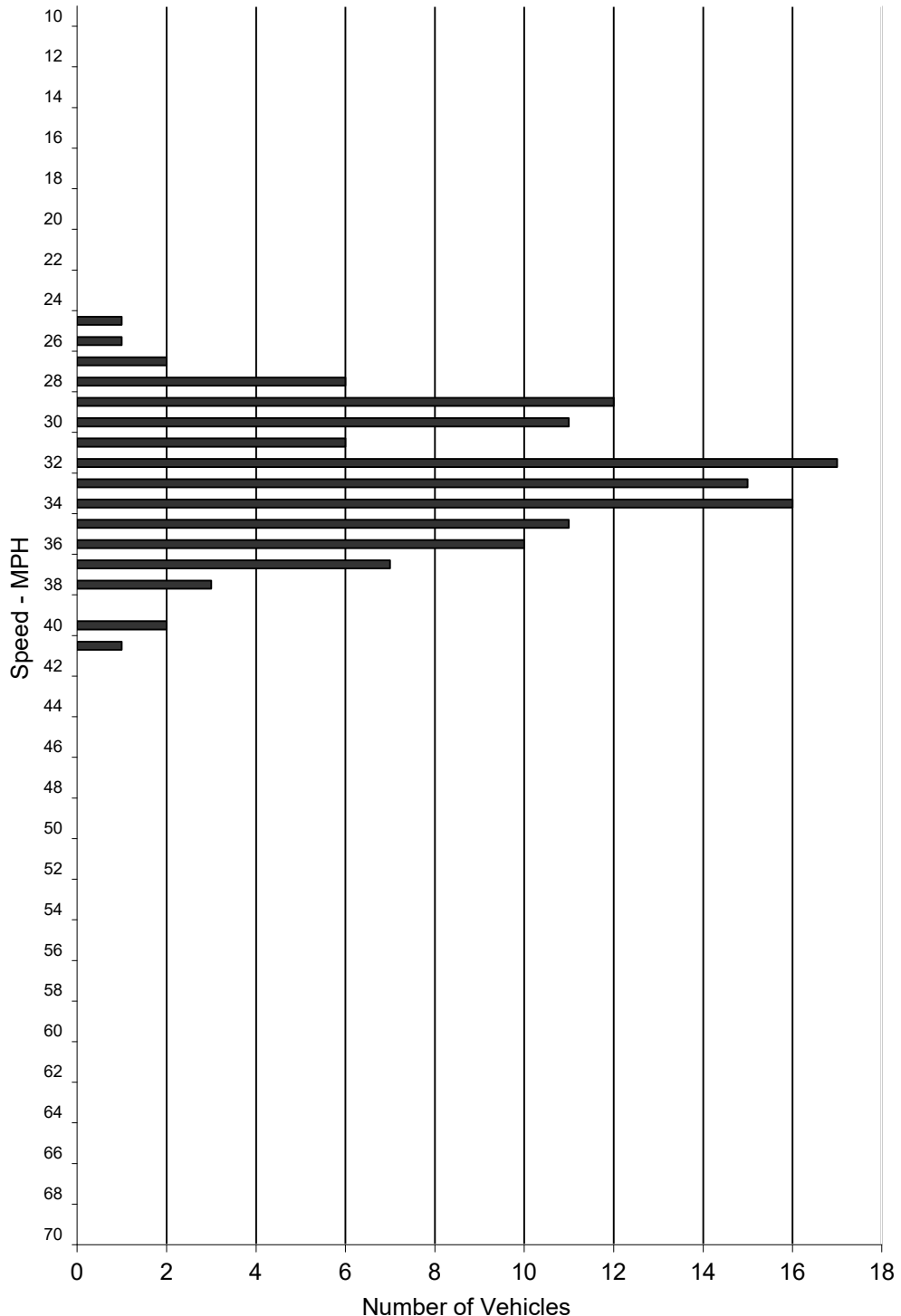
East Avenue

DATE: 5/7/2020
Start Time: 1:22 PM
DAY: Thursday

Location: S. Livermore Avenue to Loyola Way
End Time: 1:45 PM
(Before) Speed Limit: 30 MPH
Weather: Dry
Direction: EB & WB

Observer: CTS
Calibration: DONE
NEW Speed Limit: 30 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 1 |
| 26 | 1 |
| 27 | 2 |
| 28 | 6 |
| 29 | 12 |
| 30 | 11 |
| 31 | 6 |
| 32 | 17 |
| 33 | 15 |
| 34 | 16 |
| 35 | 11 |
| 36 | 10 |
| 37 | 7 |
| 38 | 3 |
| 39 | 0 |
| 40 | 2 |
| 41 | 1 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 121 | 32.7 | 25 - 41 | 33 mph | 36 mph | 28 - 37 | 111 | 92% | 3% / 4 | 5% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: EAST AVENUE Adjacent Land Use: RESIDENTIAL/COMMERCIAL

Limits: S. LIVERMORE AVE TO LOYOLA WY No. of Lanes: 4

Roadway Description: A 4-lane arterial street. Homes and high density housing front this segment and parking is permitted. This segment also includes a City Park, Livermore High School, East Avenue Middle School, a fire station, a shopping center, and many crosswalks. The length of this segment is 1.44 miles.

Collision History: There have been 42 reported collisions along this segment within the past three years. This equates to 1.25 collisions per million vehicle miles.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with a high rate of turning maneuvers, numerous residential and commercial driveways, on-street parking maneuvers, and high pedestrian and bicycling activities especially close to schools.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed remains in effect.

Spot Speed Study - City of Livermore

East Avenue

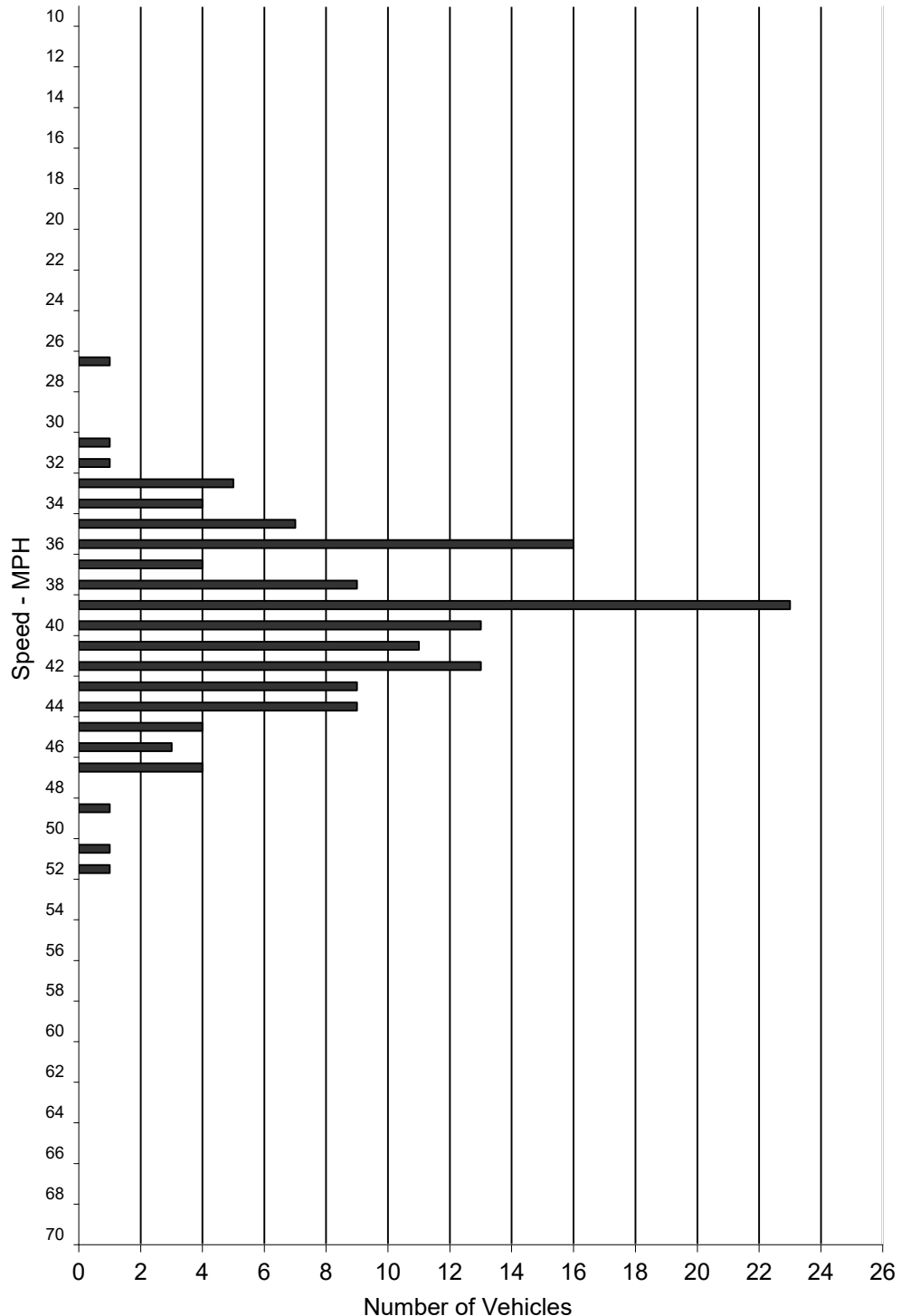
DATE: 11/14/2019
Start Time: 11:56 AM
DAY: Thursday

Location: Loyola Way to Vasco Road
End Time: 12:49 PM
(Before) Speed Limit: 40 MPH
Weather: Cloudy/Dry
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 1 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 1 |
| 32 | 1 |
| 33 | 5 |
| 34 | 4 |
| 35 | 7 |
| 36 | 16 |
| 37 | 4 |
| 38 | 9 |
| 39 | 23 |
| 40 | 13 |
| 41 | 11 |
| 42 | 13 |
| 43 | 9 |
| 44 | 9 |
| 45 | 4 |
| 46 | 3 |
| 47 | 4 |
| 48 | 0 |
| 49 | 1 |
| 50 | 0 |
| 51 | 1 |
| 52 | 1 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 140 | 39.7 | 27 - 52 | 39 mph | 44 mph | 35 - 44 | 114 | 81% | 8% / 12 | 10% / 14 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: EAST AVENUE Adjacent Land Use: RESIDENTIAL/COMMERCIAL

Limits: LOYOLA WY TO VASCO RD No. of Lanes: 4

Roadway Description: 4-lane arterial street with on-street bike lanes. Parking is prohibited. The length of this segment is 1.11 miles.

Collision History: There have been 20 reported collisions along this segment within the past three years. This equates to 1.49 collisions per million vehicle miles

Other Considerations: High bicycle use along the segment.

Recommendation: Based on the 85th percentile speed of 44 MPH, the existing 40 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

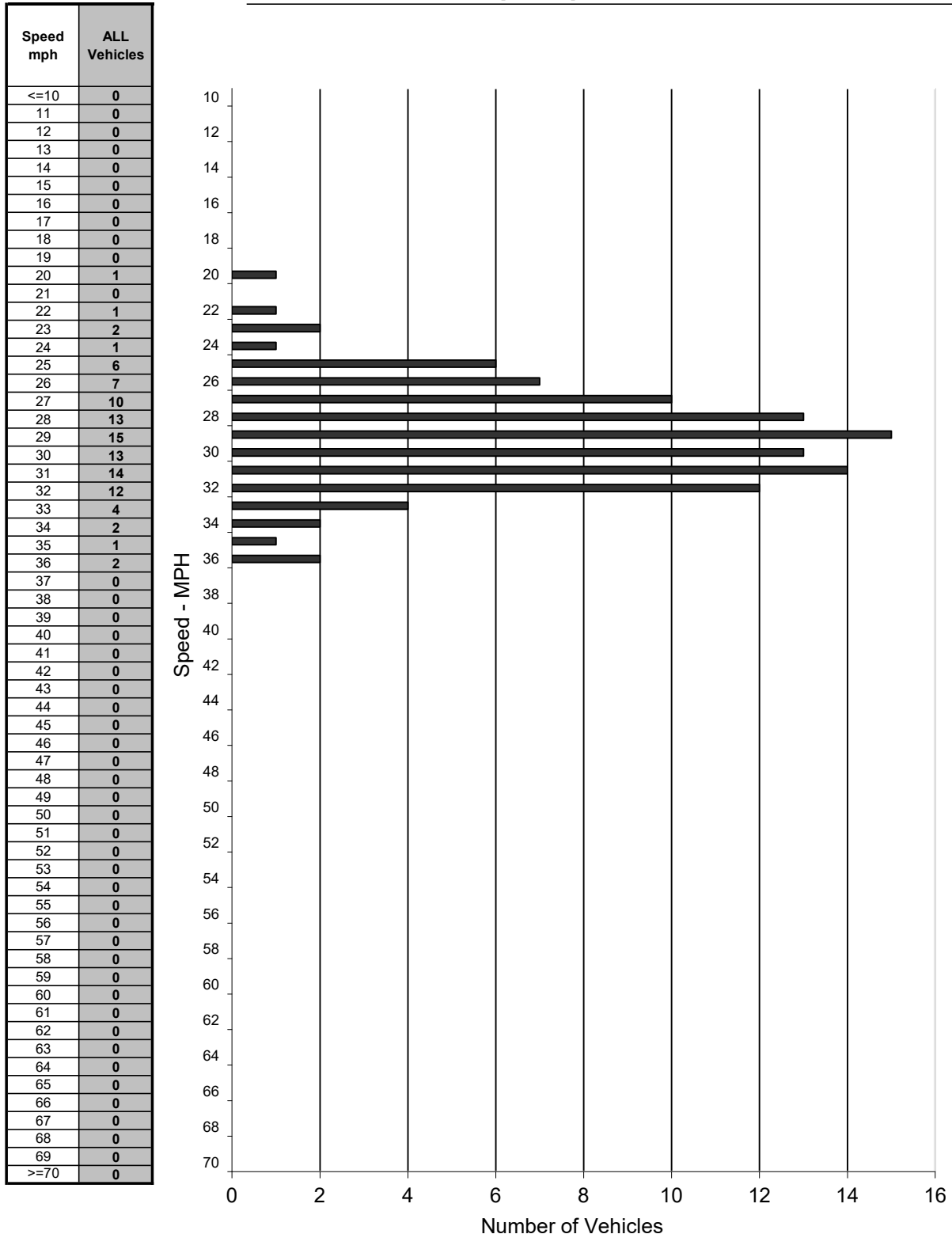
El Caminito

DATE: 6/22/2020
Start Time: 11:50AM
DAY: Thursday

Location: East Stanley Blvd - Holmes St
End Time: 12:35PM
Posted Speed: 25 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: CTS
Calibration: DONE
New Speed Limit: 25 MPH

Spot Speeds



CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: EL CAMINITO Development: RESIDENTIAL

Limits: EAST STANLEY BLVD TO HOLMES ST No. of Lanes: 2

Roadway Description: 2-lane residential collector street with bike lanes, on-street parking, and a school crosswalk. Speed humps are installed throughout the segment. The length of this segment is 1.33 miles.

Collision History: There have been 5 reported collisions along this segment within the past three years. This equates to 0.91 collisions per million vehicle miles.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turning maneuvers, on-street parking maneuvers, bicycling activities, and pedestrian activities related to schools in the area. Speed humps were also installed designed for low speed residential roadways.

Recommendation: Based on the 85th percentile speed of 32 MPH, a speed limit of 30 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit remains in effect.

Spot Speed Study - City of Livermore

Encino Drive

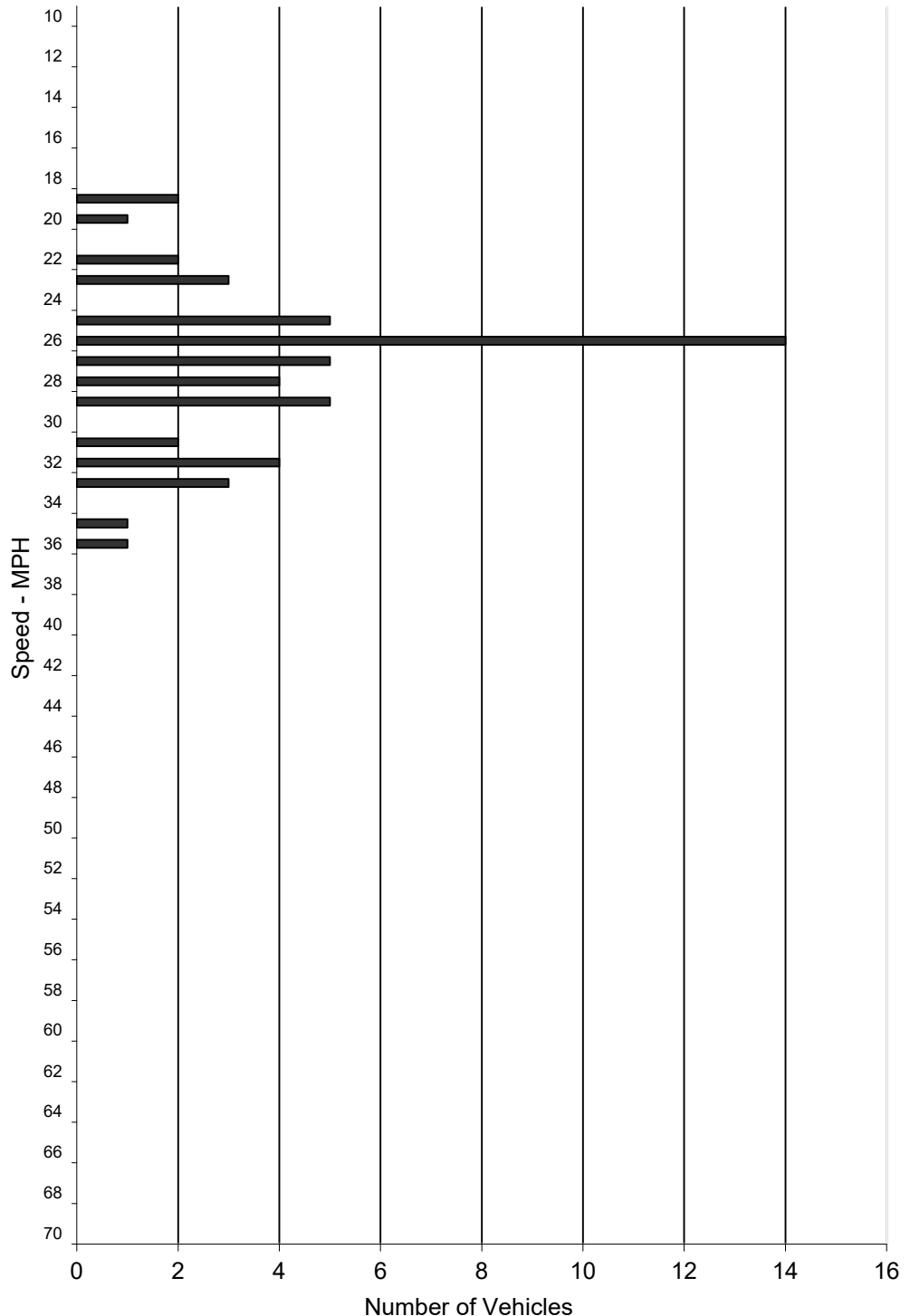
DATE: 5/13/2020
Start Time: 12:40 pm
DAY: Wednesday

Location: Murdell Ln - El Caminito
End Time: 01:40 pm
Posted Speed: 25 MPH
Weather: Cloudy
Direction: EB & WB

Observer: MD
Calibration: DONE
New Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 2 |
| 20 | 1 |
| 21 | 0 |
| 22 | 2 |
| 23 | 3 |
| 24 | 0 |
| 25 | 5 |
| 26 | 14 |
| 27 | 5 |
| 28 | 4 |
| 29 | 5 |
| 30 | 0 |
| 31 | 2 |
| 32 | 4 |
| 33 | 3 |
| 34 | 0 |
| 35 | 1 |
| 36 | 1 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 52 | 27.2 | 19 - 36 | 26 mph | 32 mph | 23 - 32 | 42 | 81% | 9% / 5 | 10% / 5 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: ENCINO DRIVE Adjacent Land Use: RESIDENTIAL

Limits: MURDELL LN TO EL CAMINITO No. of Lanes: 2

Roadway Description: 2-lane residential collector street with on-street bike lanes, parking, and a school crosswalk. The length of this segment is 0.28 miles.

Collision History: There have been 1 reported collision along this segment within the past three years. This equates to 1.20 collisions per million vehicle miles.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turning maneuvers, on-street parking maneuvers, bicycling and pedestrian activities related to schools in the area.

Recommendation: Based on the 85th percentile speed of 32 MPH, a speed limit of 30 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

First Street

DATE: 11/15/2019
Start Time: 11:59 am
DAY: Friday

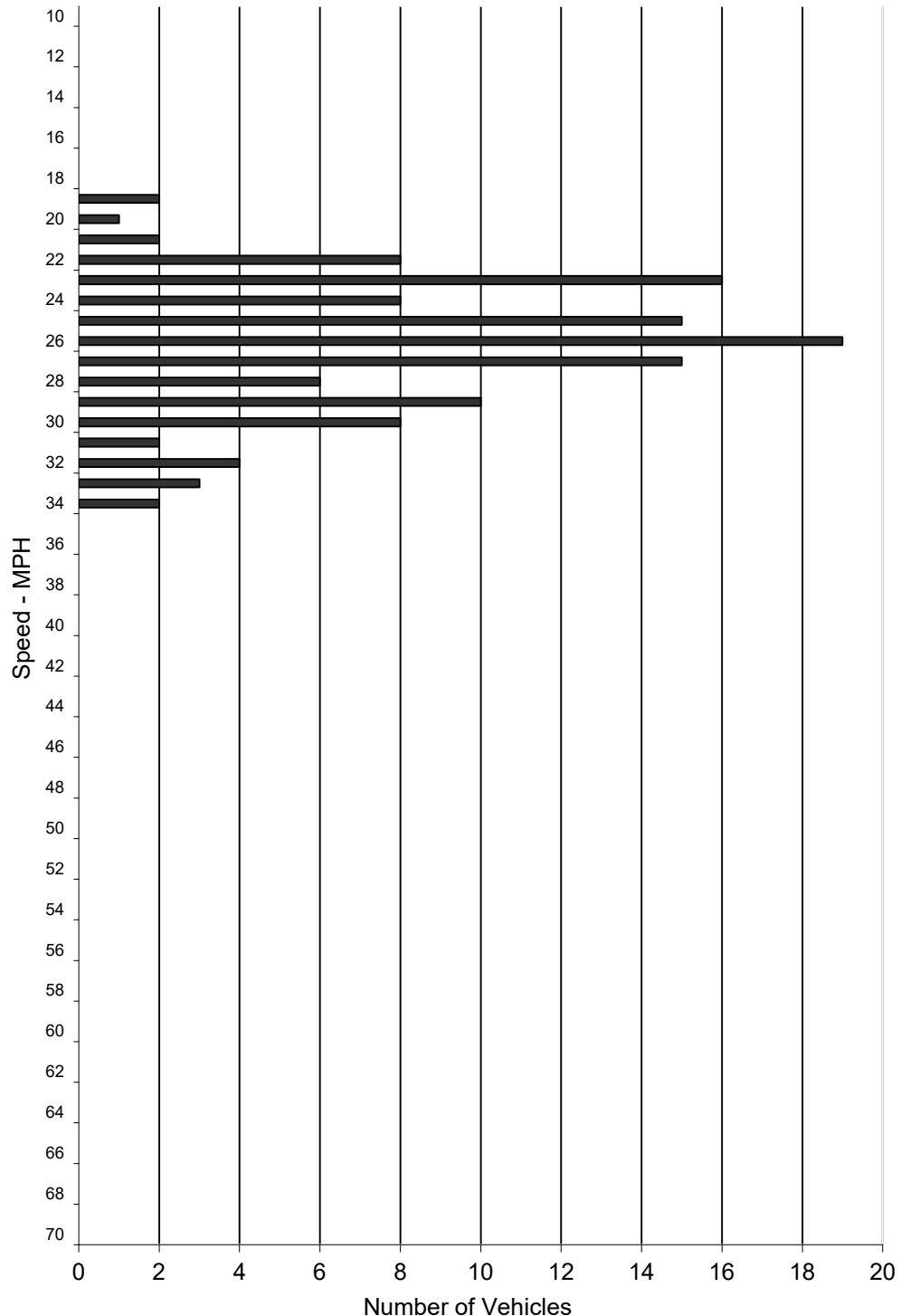
Location: S Street - L Street
End Time: 12:59 am
Posted Speed: 25 MPH

Weather: Dry/Clear
Direction: EB & WB

Observer: MD
Calibration: DONE
New Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 2 |
| 20 | 1 |
| 21 | 2 |
| 22 | 8 |
| 23 | 16 |
| 24 | 8 |
| 25 | 15 |
| 26 | 19 |
| 27 | 15 |
| 28 | 6 |
| 29 | 10 |
| 30 | 8 |
| 31 | 2 |
| 32 | 4 |
| 33 | 3 |
| 34 | 2 |
| 35 | 0 |
| 36 | 0 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 121 | 26.2 | 19 - 34 | 26 mph | 30 mph | 21 - 30 | 107 | 88% | 2% / 3 | 10% / 11 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: FIRST STREET

Adjacent Land Use: COMMERCIAL

Limits: S STREET TO L STREET

No. of Lanes: 2 & 4

Roadway Description: Mostly 4-lane divided that narrows down to 2-lane arterial street through a commercial area with diagonal parking allowed from L Street to O Street, and a median from O Street to S Street. A shopping center is at the intersection of P Street. The length of this segment is 0.46 miles.

Collision History: There have been 17 reported collisions along this segment in the past three years. This equates to 3.16 collisions per million vehicle miles. which is higher than the statewide average rate of 2.09 for this type of roadway.

Other Considerations: High rate of turning maneuvers in and out of many commercial driveways and diagonal parking maneuvers.

Recommendation: Based on the 85th percentile speed of 30 MPH, a speed limit of 30 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

First Street

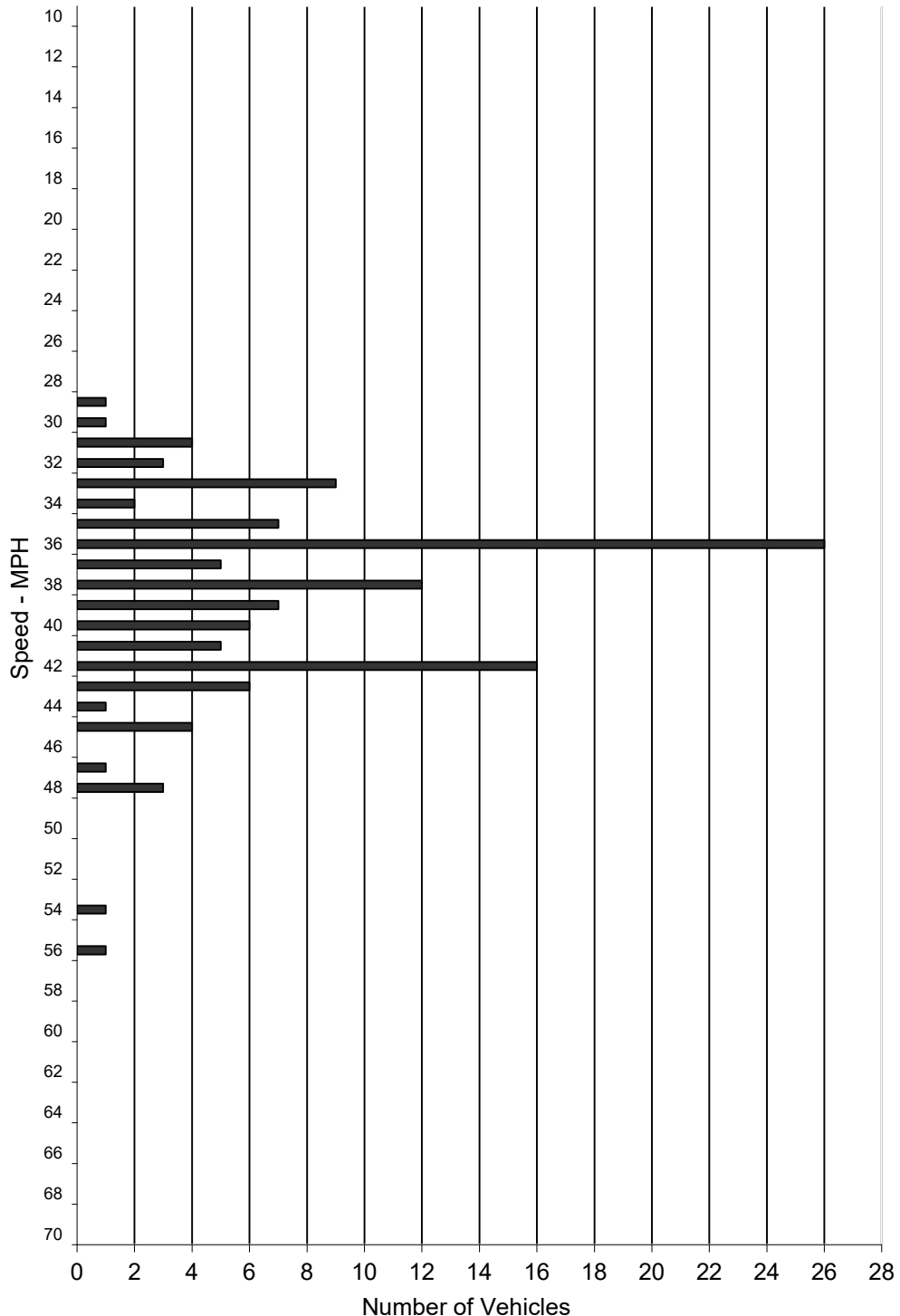
DATE: 11/15/2019
Start Time: 11:06 am
DAY: Friday

Location: Maple Street - Inman Street
End Time: 11:49 am
Posted Speed: 35 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: MD
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 1 |
| 30 | 1 |
| 31 | 4 |
| 32 | 3 |
| 33 | 9 |
| 34 | 2 |
| 35 | 7 |
| 36 | 26 |
| 37 | 5 |
| 38 | 12 |
| 39 | 7 |
| 40 | 6 |
| 41 | 5 |
| 42 | 16 |
| 43 | 6 |
| 44 | 1 |
| 45 | 4 |
| 46 | 0 |
| 47 | 1 |
| 48 | 3 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 1 |
| 55 | 0 |
| 56 | 1 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 121 | 38.3 | 29 - 56 | 38 mph | 42 mph | 33 - 42 | 95 | 79% | 7% / 9 | 15% / 17 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: FIRST STREET

Adjacent Land Use: COMMERCIAL/RESIDENTIAL/VACANT

Limits: MAPLE ST TO INMAN ST

No. of Lanes: 4

Roadway Description: A 4-lane divided arterial street through a commercial and residential areas with fronting homes. Bike lanes exists and parking is allowed in some areas. The length of this segment is 0.28 miles.

Collision History: There have been 14 reported collisions along this short segment within the past three years. This equates to 1.93 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: Parking maneuvers adjacent to bike lanes with high bicycling activity

Recommendation: Based on the 85th percentile speed of 42 MPH, a speed limit of 40 MPH was considered. However, given the high collision rate and other condition not readily apparent to motorists, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

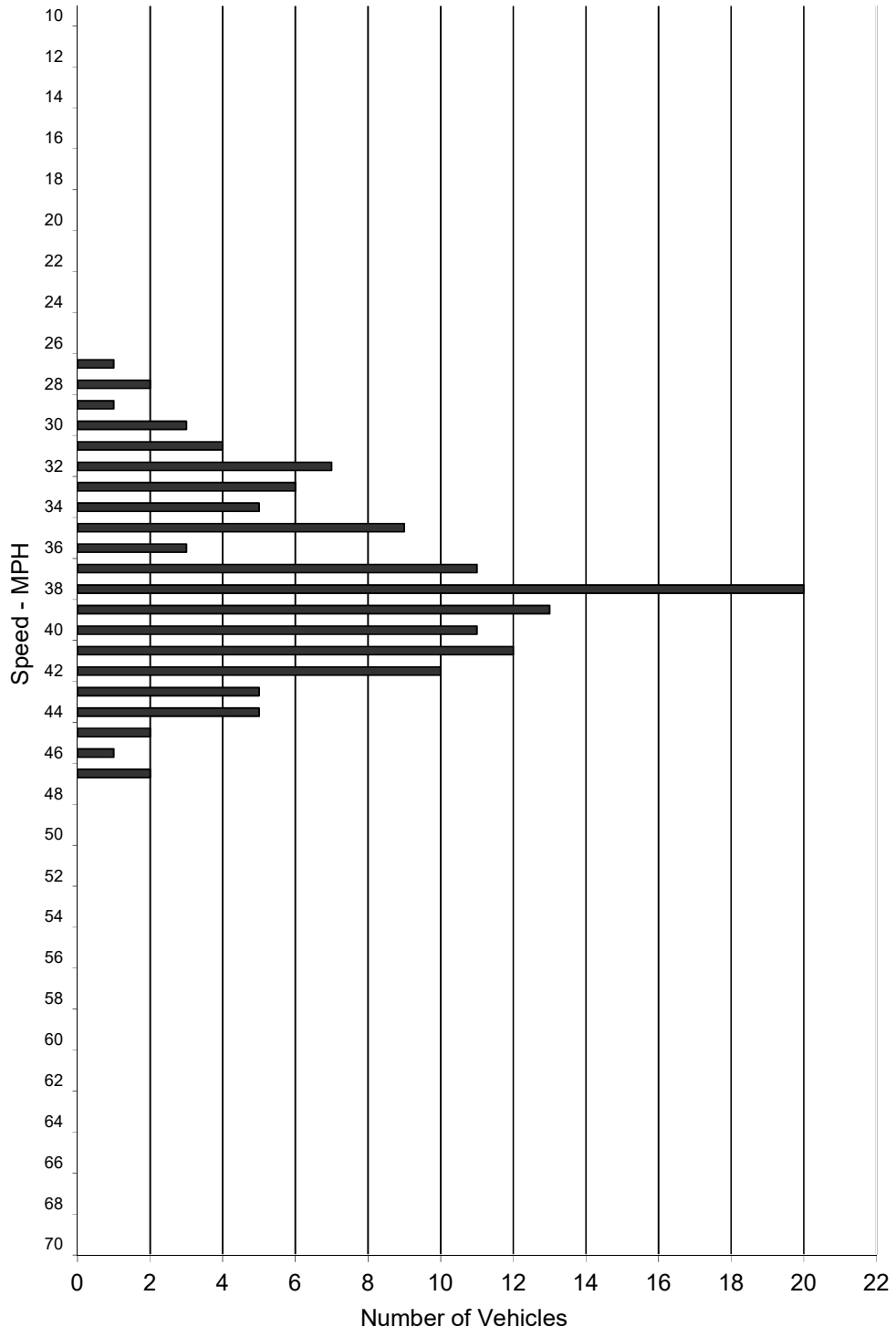
First Street

DATE: 7/14/2020
Start Time: 1:17 PM
DAY: Friday

Location: Inman Street to Portola Avenue
End Time: 1:34 PM
(Before) Speed Limit: 40 MPH
Weather: Clear/Dry
Direction: NB & SB

Observer: CTS
Calibration: DONE
NEW Speed Limit: 35MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 1 |
| 28 | 2 |
| 29 | 1 |
| 30 | 3 |
| 31 | 4 |
| 32 | 7 |
| 33 | 6 |
| 34 | 5 |
| 35 | 9 |
| 36 | 3 |
| 37 | 11 |
| 38 | 20 |
| 39 | 13 |
| 40 | 11 |
| 41 | 12 |
| 42 | 10 |
| 43 | 5 |
| 44 | 5 |
| 45 | 2 |
| 46 | 1 |
| 47 | 2 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 133 | 37.8 | 27 - 47 | 38 mph | 42 mph | 33 - 42 | 100 | 75% | 13% / 18 | 12% / 15 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: FIRST STREET

Adjacent Land Use: COMMERCIAL/RESIDENTIAL

Limits: INMAN ST TO PORTOLA AVE

No. of Lanes: 4

Roadway Description: A 4-lane divided arterial street through a commercial and residential areas with fronting homes. Bike lanes exists and parking is allowed in some areas. The length of this segment is 0.28 miles.

Collision History: There have been 30 reported collisions along this segment within the past three years. This equates to 1.09 collisions per million vehicle miles.

Other Considerations: A high rate of turning maneuvers in and out of commercial driveways, together with parking maneuvers and bicycling activities. High pedestrian crossing activities especially next to the Casino area.

Recommendation: Based on the 85th percentile speed of 42 MPH, a speed limit of 40 MPH was considered. However, given the conditions not readily apparent to motorists, a 5 mile per hour reduction is justified. Therefore, the existing 40 MPH speed limit will be reduced to 35 MPH.

Spot Speed Study - City of Livermore

First Street

DATE: 11/15/2019
Start Time: 10:12 Am
DAY: Friday

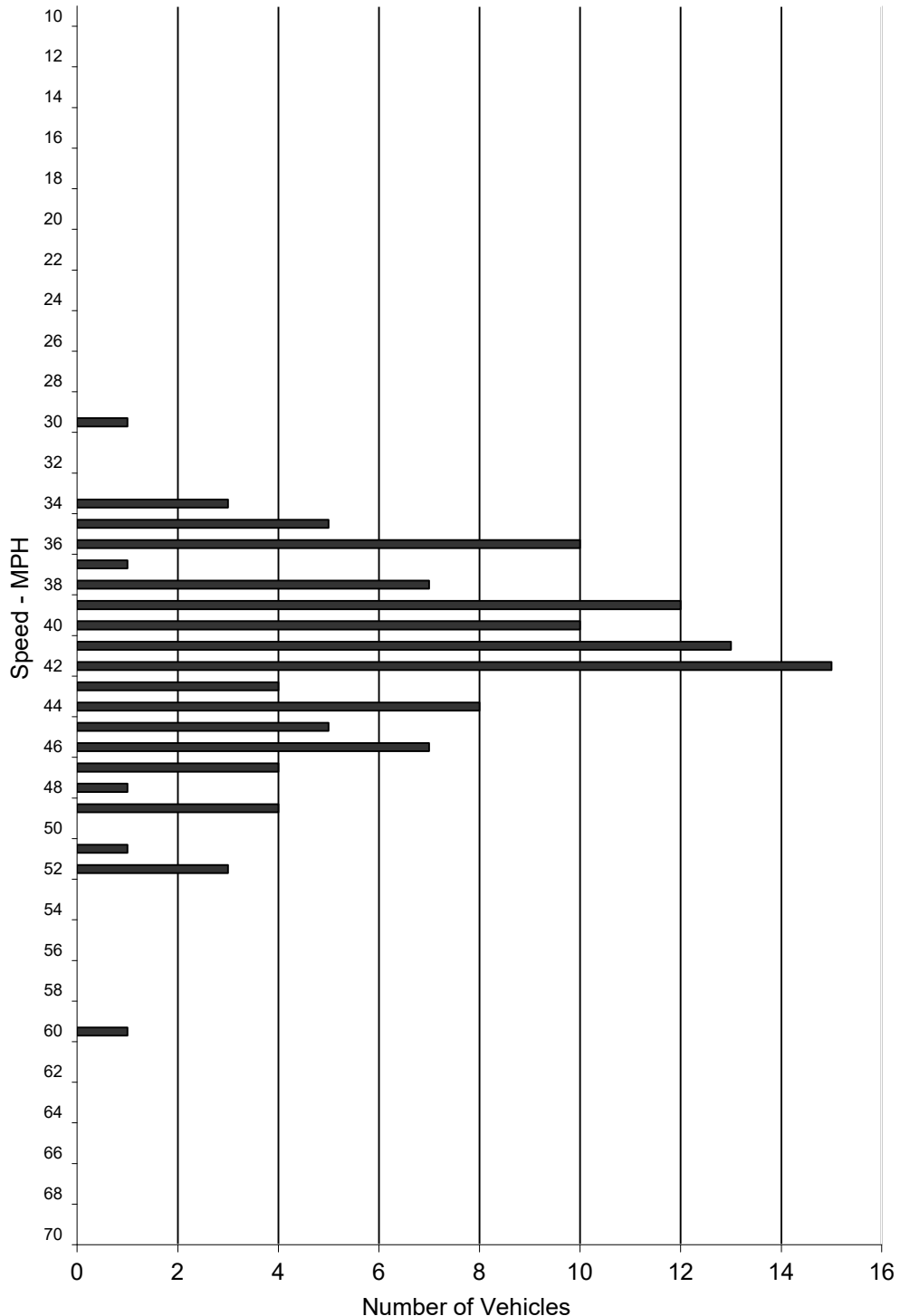
Location: Portola Avenue - I 580
End Time: 10:52 Am
Posted Speed: 40 MPH

Weather: Dry/Clear
Direction: NB & SB

Observer: MD
Calibration: DONE
New Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 1 |
| 31 | 0 |
| 32 | 0 |
| 33 | 0 |
| 34 | 3 |
| 35 | 5 |
| 36 | 10 |
| 37 | 1 |
| 38 | 7 |
| 39 | 12 |
| 40 | 10 |
| 41 | 13 |
| 42 | 15 |
| 43 | 4 |
| 44 | 8 |
| 45 | 5 |
| 46 | 7 |
| 47 | 4 |
| 48 | 1 |
| 49 | 4 |
| 50 | 0 |
| 51 | 1 |
| 52 | 3 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 1 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 115 | 41.5 | 30 - 60 | 41 mph | 46 mph | 35 - 44 | 85 | 74% | 3% / 4 | 23% / 26 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: FIRST STREET

Adjacent Land Use: COMMERCIAL/RESIDENTIAL

Limits: PORTOLA AVENUE TO I-580

No. of Lanes: 6

Roadway Description: A 6-lane divided arterial street with bike lanes and no on-street parking. This segment is a commercial area with no fronting homes. The length of this segment is 0.96 miles.

Collision History: There have been 87 reported collisions along this segment within the past three years. This equates to 2.26 collisions per million vehicle miles, which is higher than the statewide average of 1.25 for this type of roadway

Other Considerations: A high rate of turning maneuvers in and out of commercial driveways, parking maneuvers and bicycling activities.

Recommendation: Based on the 85th percentile speed of 46 MPH, a speed limit of 45 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 40 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Fourth Street

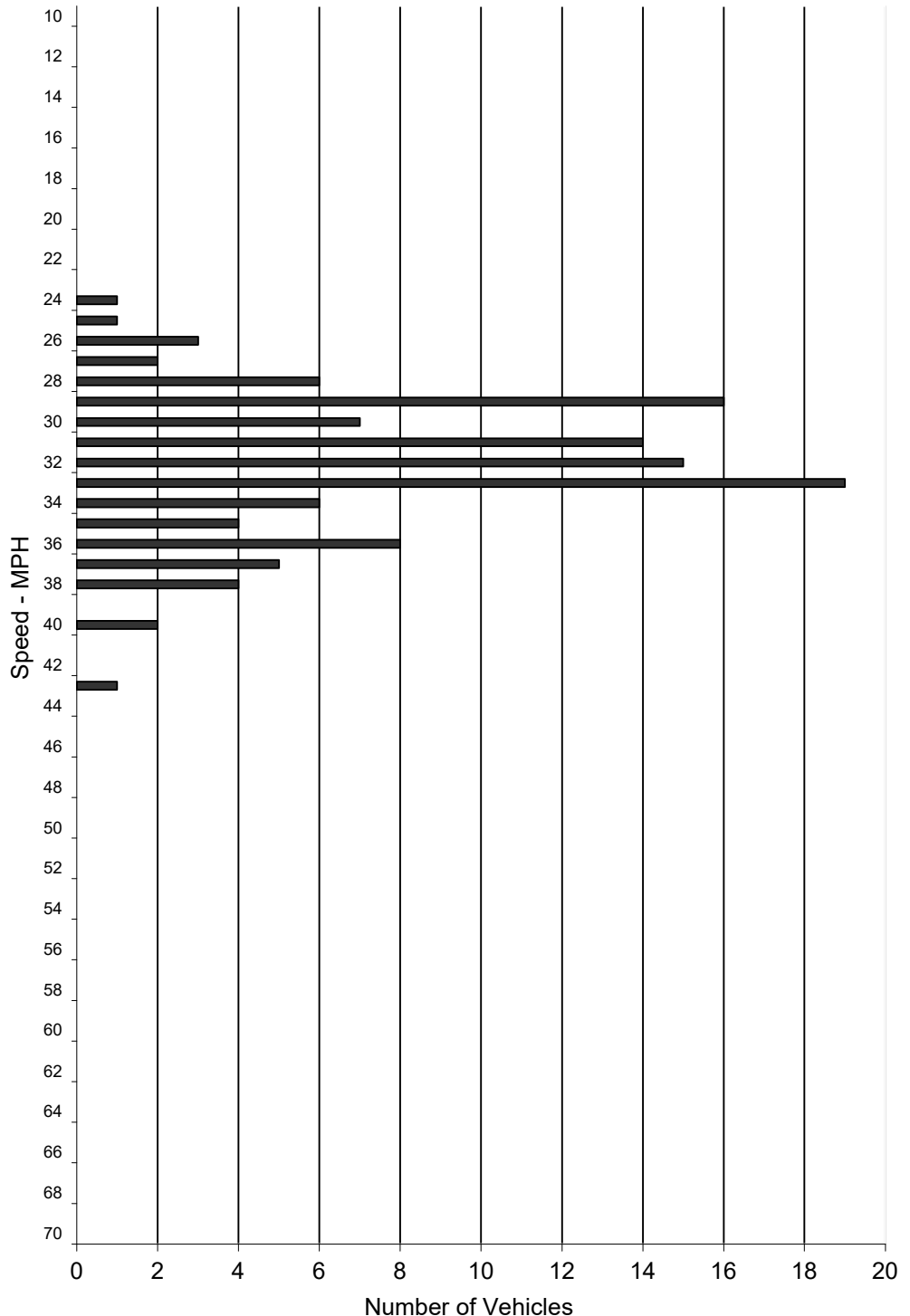
DATE: 5/14/2020
Start Time: 1:05 PM
DAY: Thursday

Location: Holmes Street to S. L Street
End Time: 1:29 PM
(Before) Speed Limit: 30 MPH
Weather: Cloudy
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 1 |
| 25 | 1 |
| 26 | 3 |
| 27 | 2 |
| 28 | 6 |
| 29 | 16 |
| 30 | 7 |
| 31 | 14 |
| 32 | 15 |
| 33 | 19 |
| 34 | 6 |
| 35 | 4 |
| 36 | 8 |
| 37 | 5 |
| 38 | 4 |
| 39 | 0 |
| 40 | 2 |
| 41 | 0 |
| 42 | 0 |
| 43 | 1 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 114 | 32.1 | 24 - 43 | 32 mph | 36 mph | 28 - 37 | 100 | 88% | 6% / 7 | 7% / 7 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: FOURTH STREET Adjacent Land Use: RESIDENT./COMMERC.

Limits: HOLMES ST TO S. L STREET No. of Lanes: 4

Roadway Description: 4-lane undivided arterial street in a residential area with fronting homes, on-street parking and narrow lanes. Commercial uses and medical offices are also located on this segment. The length of this segment is 0.55 miles.

Collision History: There have been 31 reported collisions along this segment within the past three years. This equates to 3.05 collisions per million vehicle miles, which is higher than the statewide average of 1.98 for this type of roadway.

Other Considerations: High pedestrian activity, fronting homes and businesses, on street parking maneuvers, and numerous driveways resulting to unexpected turning maneuvers.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Fourth Street

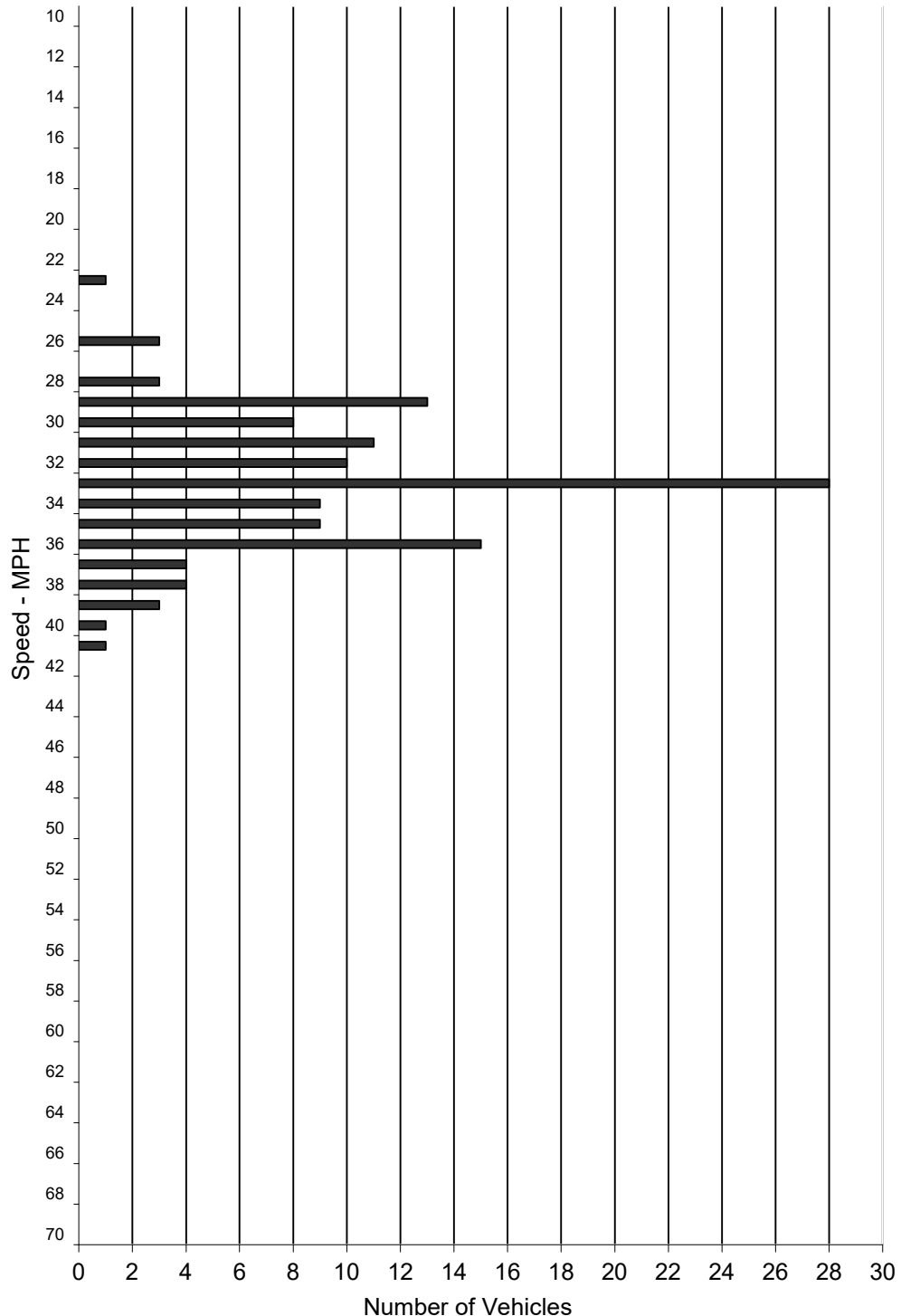
DATE: 11/18/2019
Start Time: 12:32 PM
DAY: Monday

Location: S. L Street to Livermore Avenue
End Time: 1:10 PM
(Before) Speed Limit: 30 MPH
Weather: Dry
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 1 |
| 24 | 0 |
| 25 | 0 |
| 26 | 3 |
| 27 | 0 |
| 28 | 3 |
| 29 | 13 |
| 30 | 8 |
| 31 | 11 |
| 32 | 10 |
| 33 | 28 |
| 34 | 9 |
| 35 | 9 |
| 36 | 15 |
| 37 | 4 |
| 38 | 4 |
| 39 | 3 |
| 40 | 1 |
| 41 | 1 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 123 | 32.9 | 23 - 41 | 33 mph | 36 mph | 29 - 38 | 111 | 90% | 5% / 7 | 5% / 5 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: FOURTH STREET Adjacent land Use: COMMERCIAL/RESIDENTIAL

Limits: S. L ST TO S. LIVERMORE AVE No. of Lanes: 4

Roadway Description: A 4-lane undivided arterial street in a commercial area with fronting homes and businesses. On street parking is allowed with no bike lanes. Carnegie Park, a major pedestrian generator in the Downtown is in this 0.27 mile segment.

Collision History: There have been 26 reported collisions along this segment within the past three years. This equates to 5.22 collisions per million vehicle miles, which is higher than the statewide average of 1.98 for 4-lane undivided roadways.

Other Considerations: This short segment has high pedestrian activity, fronting homes and businesses, on street parking maneuvers, and numerous driveways resulting to unexpected turning maneuvers.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

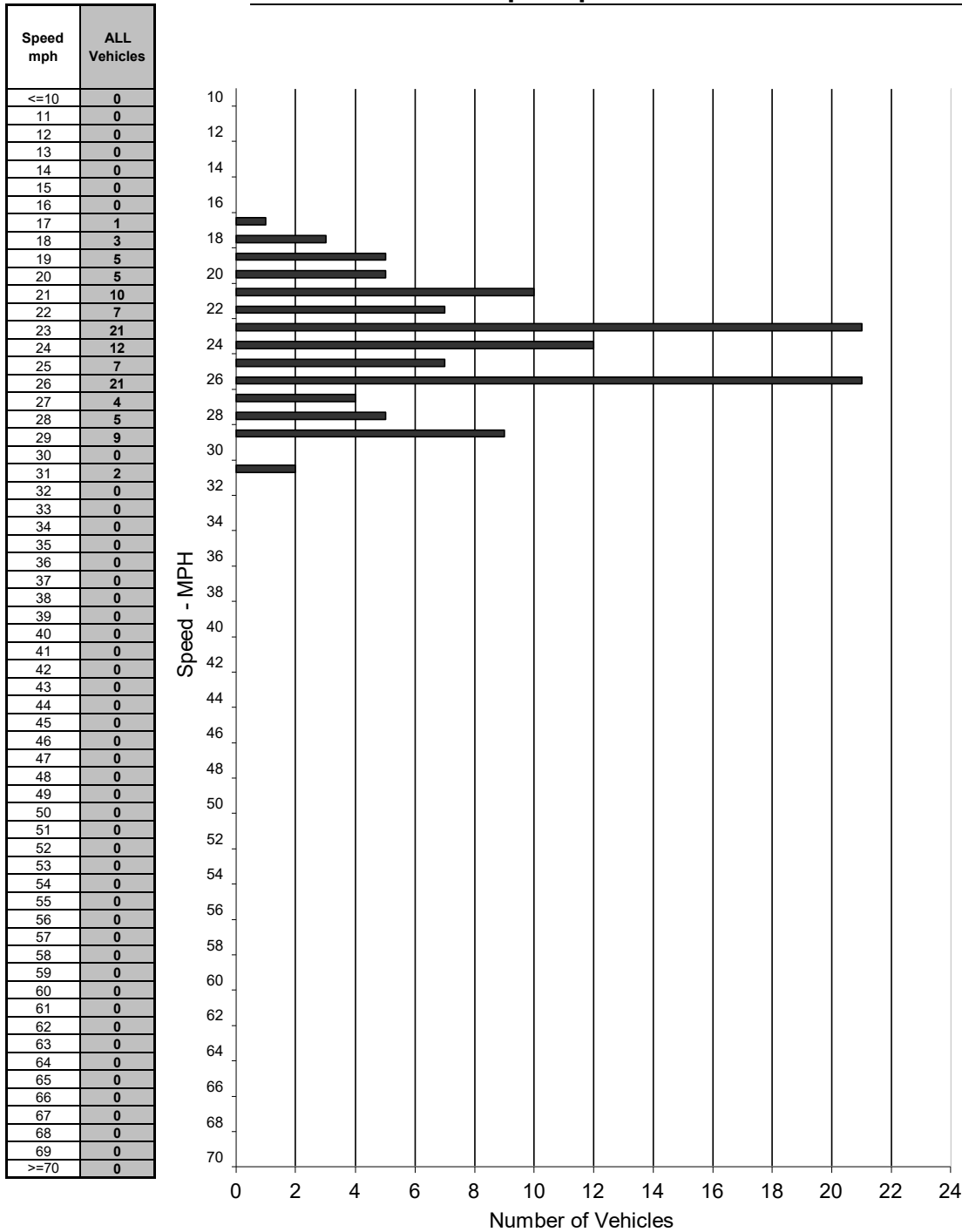
Fourth Street

DATE: 11/18/2019
Start Time: 1:17 PM
DAY: Monday

Location: S. Livermore Avenue to School Street
End Time: 2:05 PM
(Before) Speed Limit: 25 MPH

Observer: MD
Calibration: DONE
NEW Speed Limit: 25 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 112 | 24.0 | 17 - 31 | 24 mph | 27 mph | 20 - 29 | 101 | 90% | 8% / 9 | 2% / 2 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: FOURTH STREET Adjacent Land Use: COMMERCIAL/RESIDENTIAL

Limits: S.LIVERMORE AVE TO SCHOOL ST No. of Lanes: 4

Roadway Description: 4-lane undivided arterial street in a commercial area with fronting businesses, homes, schools, on-street parking, and school crosswalks. The length of this segment is 0.44 miles.

Collision History: There have been 18 reported collisions along this segment within the past three years. This equates to 6.62 collisions per million vehicle miles, which is higher than the statewide average of 1.96 for this type of roadway.

Other Considerations: This segment has high pedestrian activity, fronting homes and businesses, on-street parking maneuvers, and numerous driveways.

Recommendation: Based on the 85th percentile speed of 27 MPH, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

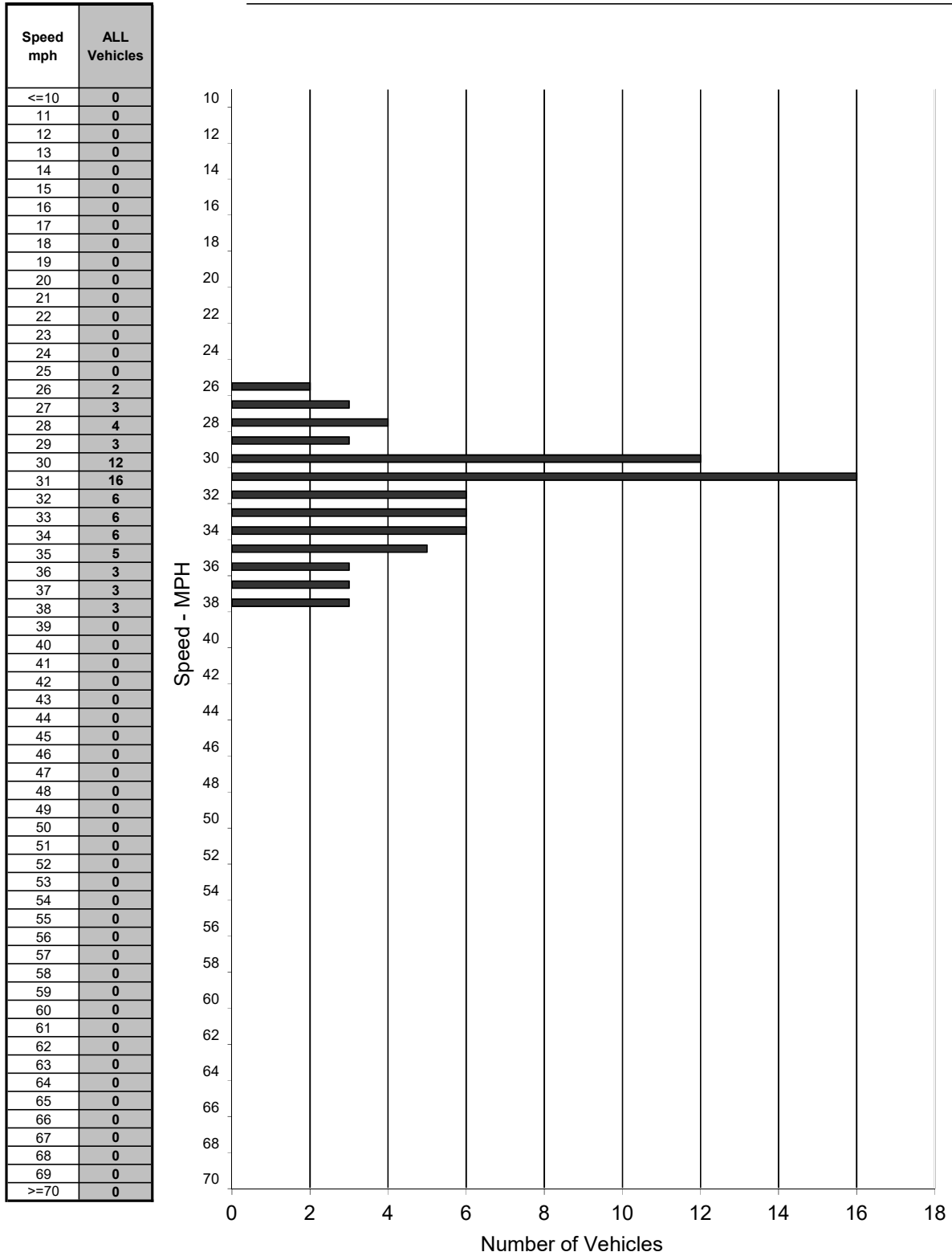
Garaventa Ranch Road

DATE: 8/27/2019
Start Time: 2:20 PM
DAY: Wednesday

Location: Vasco Rd to Scenic Ave
End Time: 3:20 PM
Posted Speed: 25 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: CTS
Calibration: DONE
New Speed Limit: 30 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 72 | 31.8 | 26 - 38 | 31 mph | 35 mph | 27 - 36 | 64 | 89% | 2% / 2 | 9% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: GARAVENTA RANCH ROAD

Adjacent Land Use: RESIDENTIAL

Limits: VASCO RD TO SCENIC AVE

No. of Lanes: 2

Roadway Description: A 2-lane residential collector street with buffered bike lanes and school crosswalks. An elementary school and a park with two baseball fields and a soccer field are along this segment. The length of this segment is 0.67 miles.

Collision History: There have been no reported collisions along this segment within the past three years.

Other Considerations: This segment has school crosswalks with high pedestrian crossing activity. The huge park also contributes to the high pedestrian and bicycling activities in the area.

Recommendation: Based on the 85th percentile speed of 35 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will be raised to 30 MPH.

Spot Speed Study - City of Livermore

Greenville Road

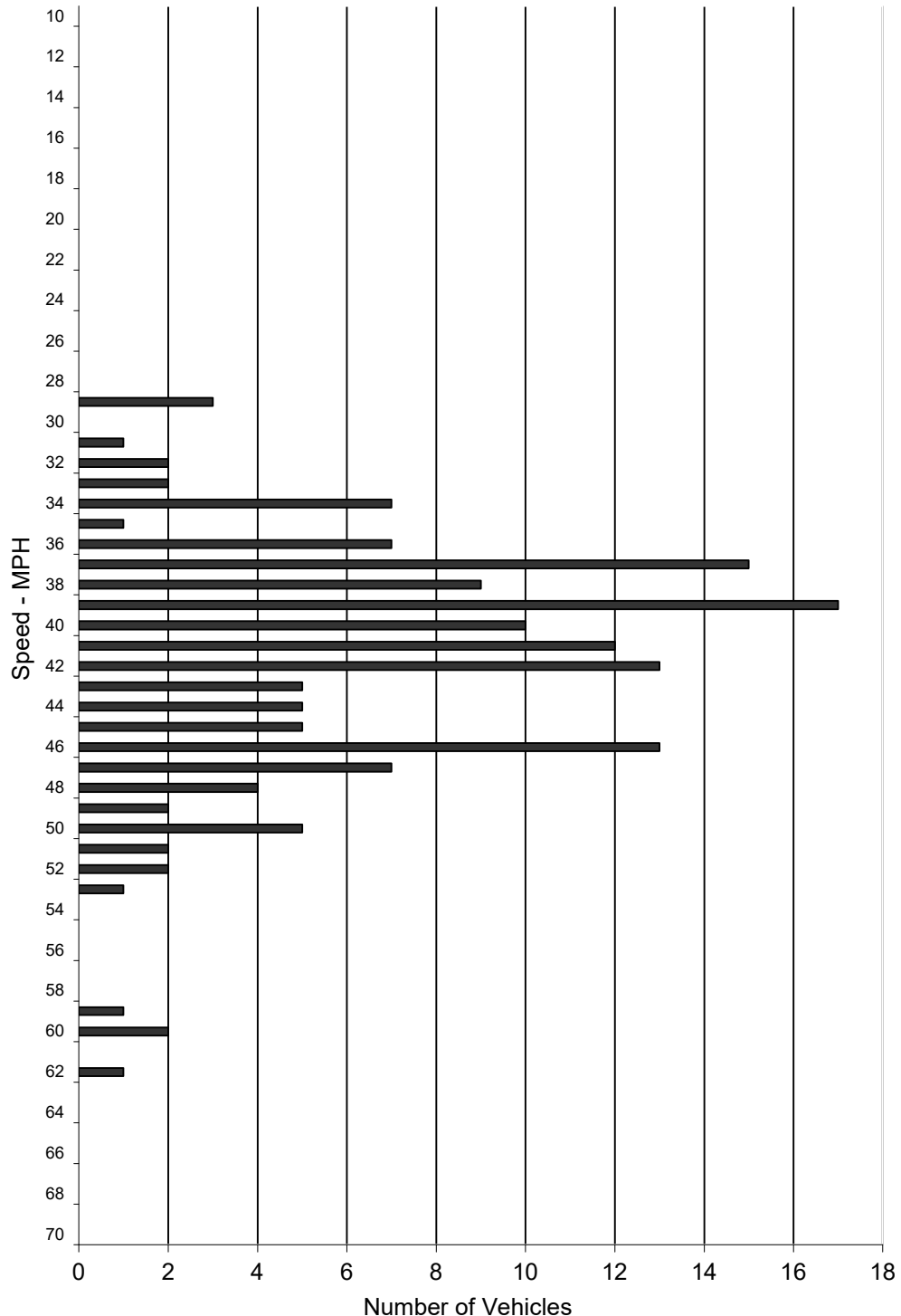
DATE: 12/23/2019
Start Time: 12:57 PM
DAY: Monday

Location: I-580 to UPRR Railroad Under Pass
End Time: 1:41 PM
(Before) Speed Limit: 50 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 45 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 3 |
| 30 | 0 |
| 31 | 1 |
| 32 | 2 |
| 33 | 2 |
| 34 | 7 |
| 35 | 1 |
| 36 | 7 |
| 37 | 15 |
| 38 | 9 |
| 39 | 17 |
| 40 | 10 |
| 41 | 12 |
| 42 | 13 |
| 43 | 5 |
| 44 | 5 |
| 45 | 5 |
| 46 | 13 |
| 47 | 7 |
| 48 | 4 |
| 49 | 2 |
| 50 | 5 |
| 51 | 2 |
| 52 | 2 |
| 53 | 1 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 1 |
| 60 | 2 |
| 61 | 0 |
| 62 | 1 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 154 | 41.5 | 29 - 62 | 41 mph | 47 mph | 37 - 46 | 104 | 68% | 14% / 23 | 18% / 27 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: GREENVILLE ROAD Adjacent Land Use: INDUSTRIAL
Limits: I-580 TO U.P. RR UNDERPASS No. of Lanes: 4

Roadway Description: 4-lane divided arterial street on the north end, and 2-lane divided arterial street on the south end in an industrial area. Bike lanes exist and parking is prohibited. The length of this segment is 1.00 miles.

Collision History: There have been 14 reported collisions along this segment within the past three years. This equates to 1.06 collisions per million vehicle miles.

Other Considerations: None

Recommendation: Based on the 85th percentile speed of 47 MPH, the existing 50 MPH speed limit will be reduced to 45 MPH.

Spot Speed Study - City of Livermore

Greenville Rd

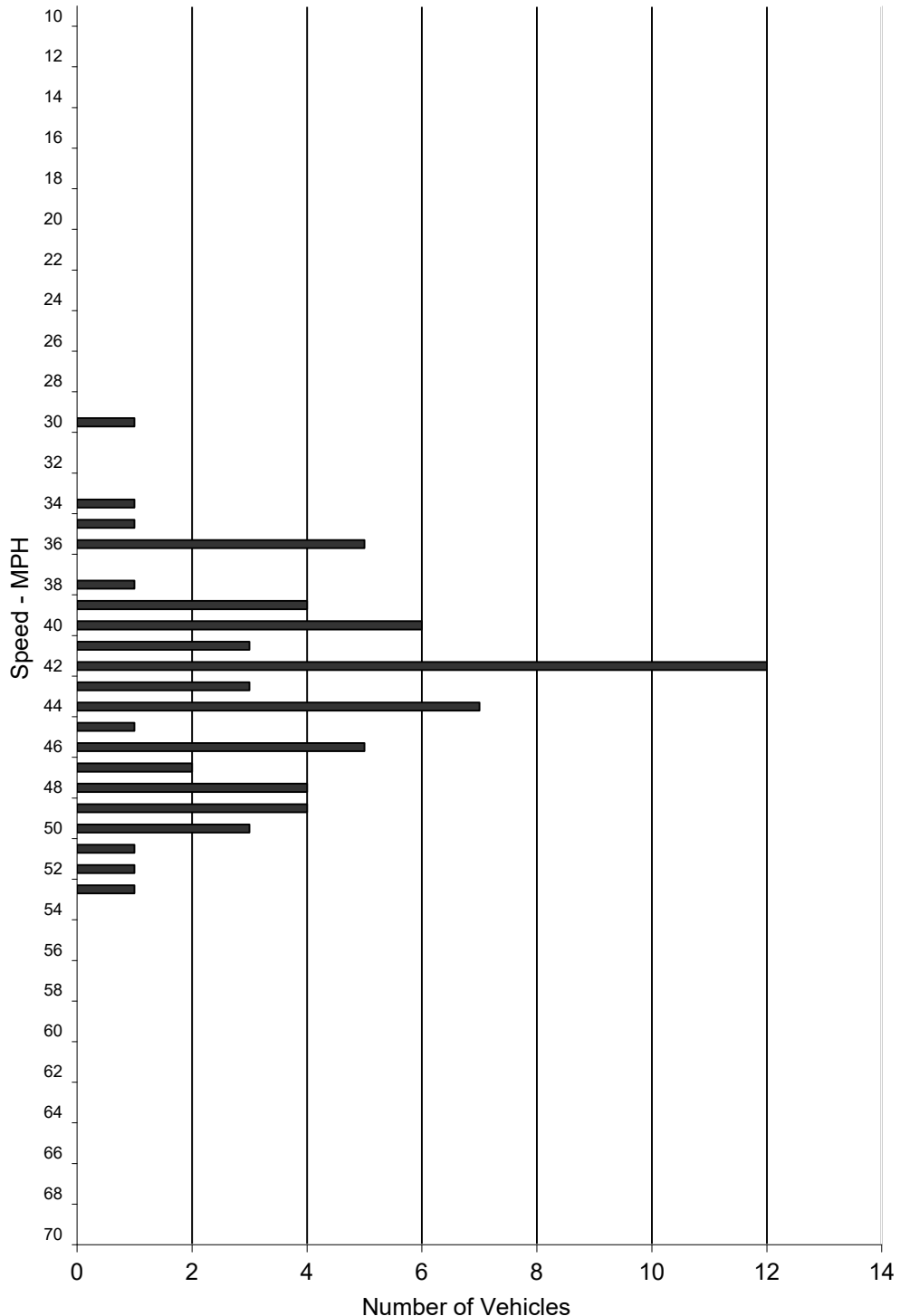
DATE: 12/11/2019
Start Time: 10:20 Am
DAY: Thursday

Location: UPRR Underpass to South City Limit
End Time: 11:20 Am
Posted Speed: 45 MPH
Weather: Sunny
Direction: NB & SB

Observer: JT
Calibration: DONE
New Speed Limit: 45 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 1 |
| 31 | 0 |
| 32 | 0 |
| 33 | 0 |
| 34 | 1 |
| 35 | 1 |
| 36 | 5 |
| 37 | 0 |
| 38 | 1 |
| 39 | 4 |
| 40 | 6 |
| 41 | 3 |
| 42 | 12 |
| 43 | 3 |
| 44 | 7 |
| 45 | 1 |
| 46 | 5 |
| 47 | 2 |
| 48 | 4 |
| 49 | 4 |
| 50 | 3 |
| 51 | 1 |
| 52 | 1 |
| 53 | 1 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 66 | 43.0 | 30 - 53 | 42 mph | 49 mph | 39 - 48 | 47 | 71% | 13% / 9 | 16% / 10 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: GREENVILLE ROAD Adjacent Land Use: INDUSTRIAL
Limits: U.P.R.R. UNDERPASS to South City Limit No. of Lanes: 2

Roadway Description: 2-lane undivided arterial rural street with some industrial improvements along the west side and mostly vacant industrial along the east side. Lawrence Livermore and Sandia National Laboratories are within this area at the southern limit of this segment. Parking is prohibited. Bike lanes exist from Patterson Pass Road to the south City limit and extends to Alameda County. The length of this segment is 1.61 miles.

Collision History: There have been 43 reported collisions along this segment within the past three years. This equates to 2.84 collisions per million vehicle miles, which is higher than the statewide average of 1.19 for this type of roadway.

Other Considerations: Bicyclist frequently use this roadway as well as joggers from the National Laboratories. Majority of the area has unimproved shoulders with no sidewalks. Pedestrians are observed walking and jogging at the edge of the roadway.

Recommendation: Based on the 85th percentile speed of 49 MPH, the existing 45 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Hagemann Drive

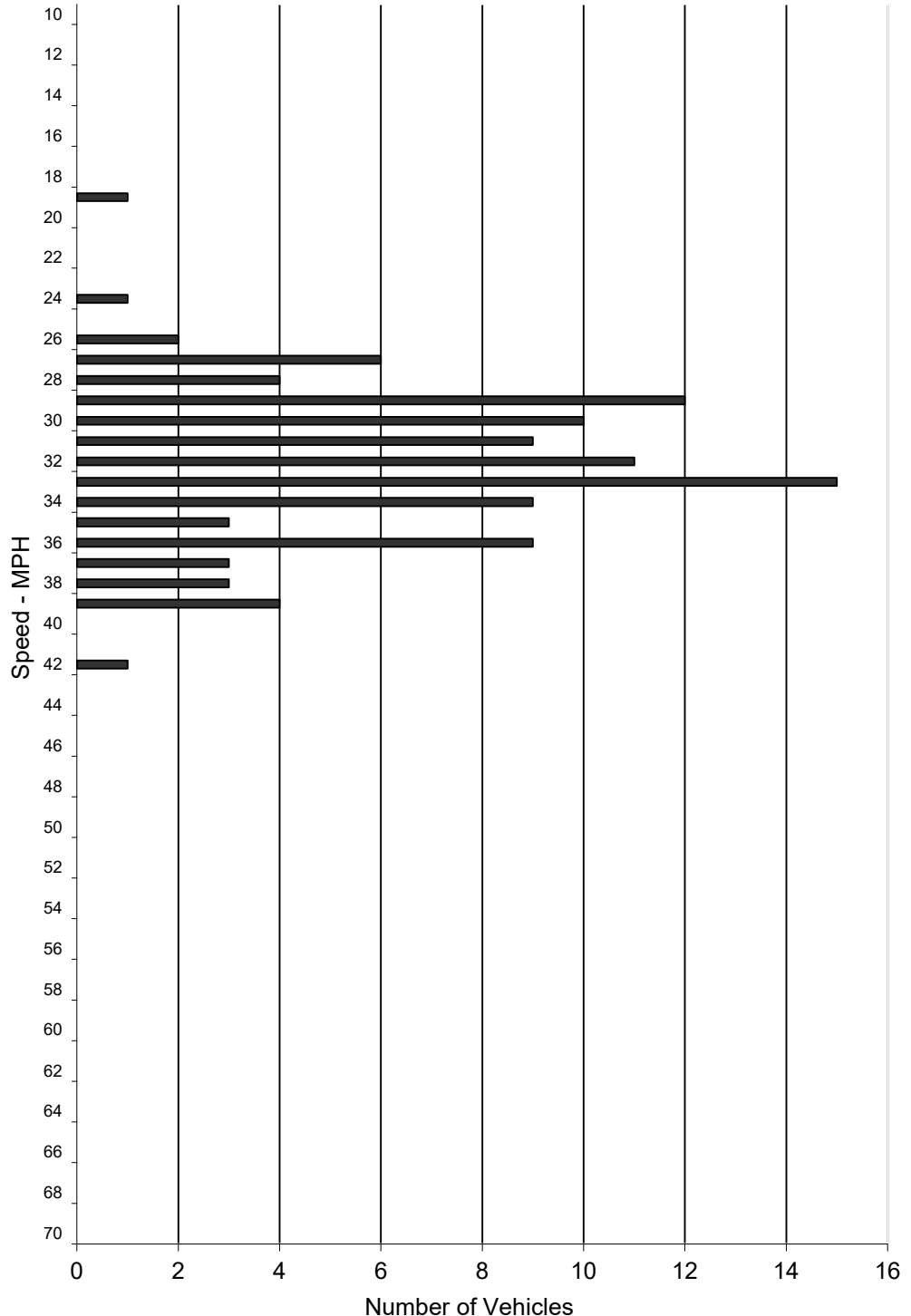
DATE: 5/14/2020
Start Time: 4:17 pm
DAY: Thursday

Location: E. Jack London Blvd - Olivina Ave
End Time: 5:13 PM
Posted Speed: 30 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: MD
Calibration: DONE
New Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 1 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 1 |
| 25 | 0 |
| 26 | 2 |
| 27 | 6 |
| 28 | 4 |
| 29 | 12 |
| 30 | 10 |
| 31 | 9 |
| 32 | 11 |
| 33 | 15 |
| 34 | 9 |
| 35 | 3 |
| 36 | 9 |
| 37 | 3 |
| 38 | 3 |
| 39 | 4 |
| 40 | 0 |
| 41 | 0 |
| 42 | 1 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 103 | 32.0 | 19 - 42 | 32 mph | 36 mph | 27 - 36 | 88 | 85% | 3% / 4 | 11% / 11 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: HAGEMANN DRIVE Adjacent Land Use: RESIDENTIAL

Limits: E. JACK LONDON BLVD TO OLIVINA AVE No. of Lanes: 2

Roadway Description: 2-lane residential collector street with on-street bike lanes, fronting homes, and parking is permitted. The length of this segment is 0.45 miles.

Collision History: There have been 5 reported collisions along this segment within the past three years. This equates to 3.28 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turning maneuvers, on-street parking maneuvers, and pedestrian activity.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Heather Lane

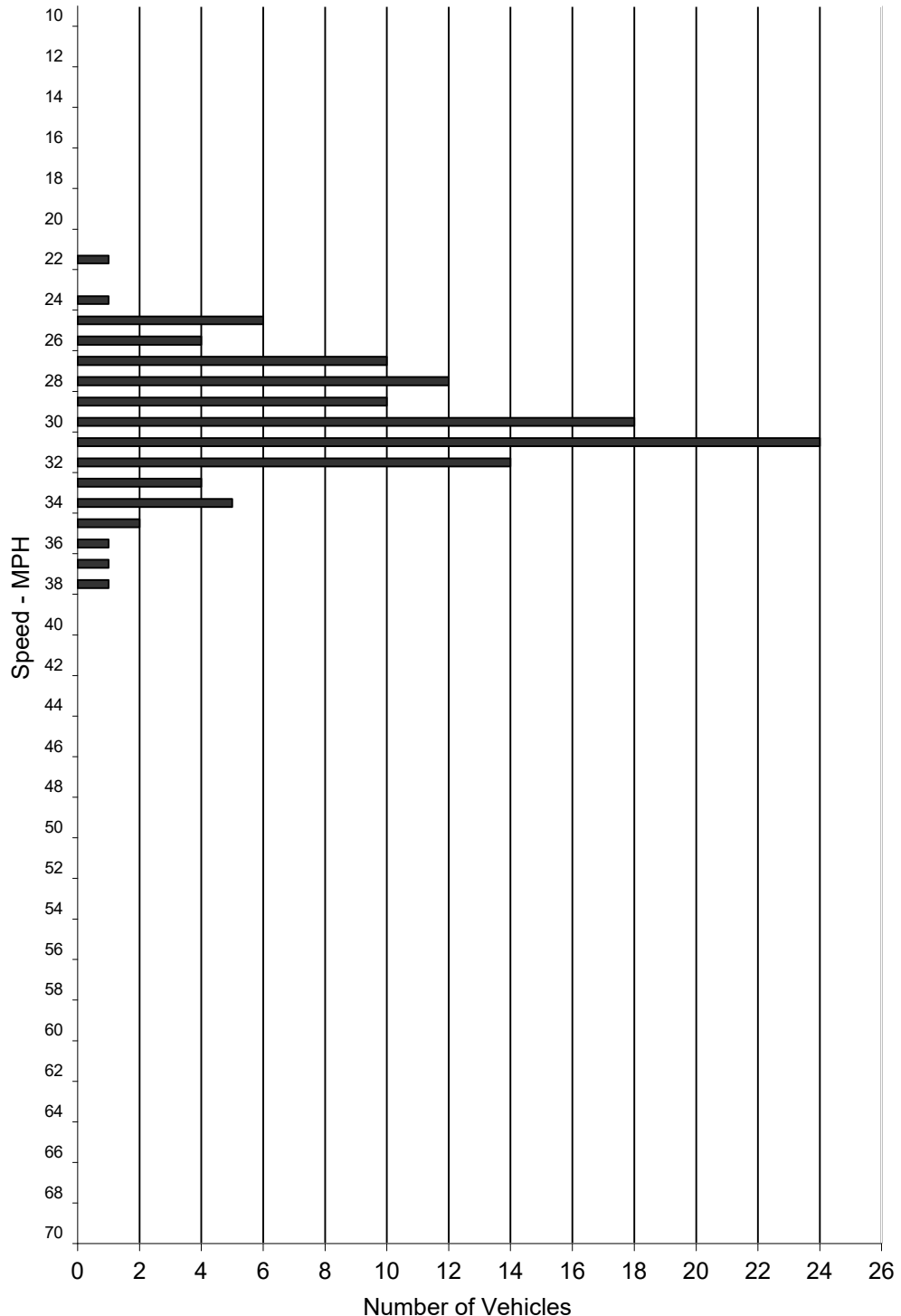
DATE: 7/9/2020
Start Time: 4:35 PM
DAY: Thursday

Location: Bluebell Drive to Scenic Avenue
End Time: 5:16 PM
(Before) Speed Limit: 25 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: CTS
Calibration: DONE
NEW Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 1 |
| 23 | 0 |
| 24 | 1 |
| 25 | 6 |
| 26 | 4 |
| 27 | 10 |
| 28 | 12 |
| 29 | 10 |
| 30 | 18 |
| 31 | 24 |
| 32 | 14 |
| 33 | 4 |
| 34 | 5 |
| 35 | 2 |
| 36 | 1 |
| 37 | 1 |
| 38 | 1 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 114 | 29.9 | 22 - 38 | 30 mph | 32 mph | 25 - 34 | 107 | 94% | 1% / 2 | 5% / 5 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: HEATHER LANE Adjacent Land Use: RESIDENTIAL

Limits: BLUEBELL DR TO SCENIC AVE No. of Lanes: 2

Roadway Description: 2-lane residential collector street with on-street parking, bike lanes, and fronting homes. The length of this segment is 0.43 miles.

Collision History: There have been 1 reported collisions along this segment within the past three years. This equates to 0.66 collisions per million vehicle miles.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, and pedestrian and bicycling activities.

Recommendation: Based on the 85th percentile speed of 32 MPH, a speed limit of 30 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

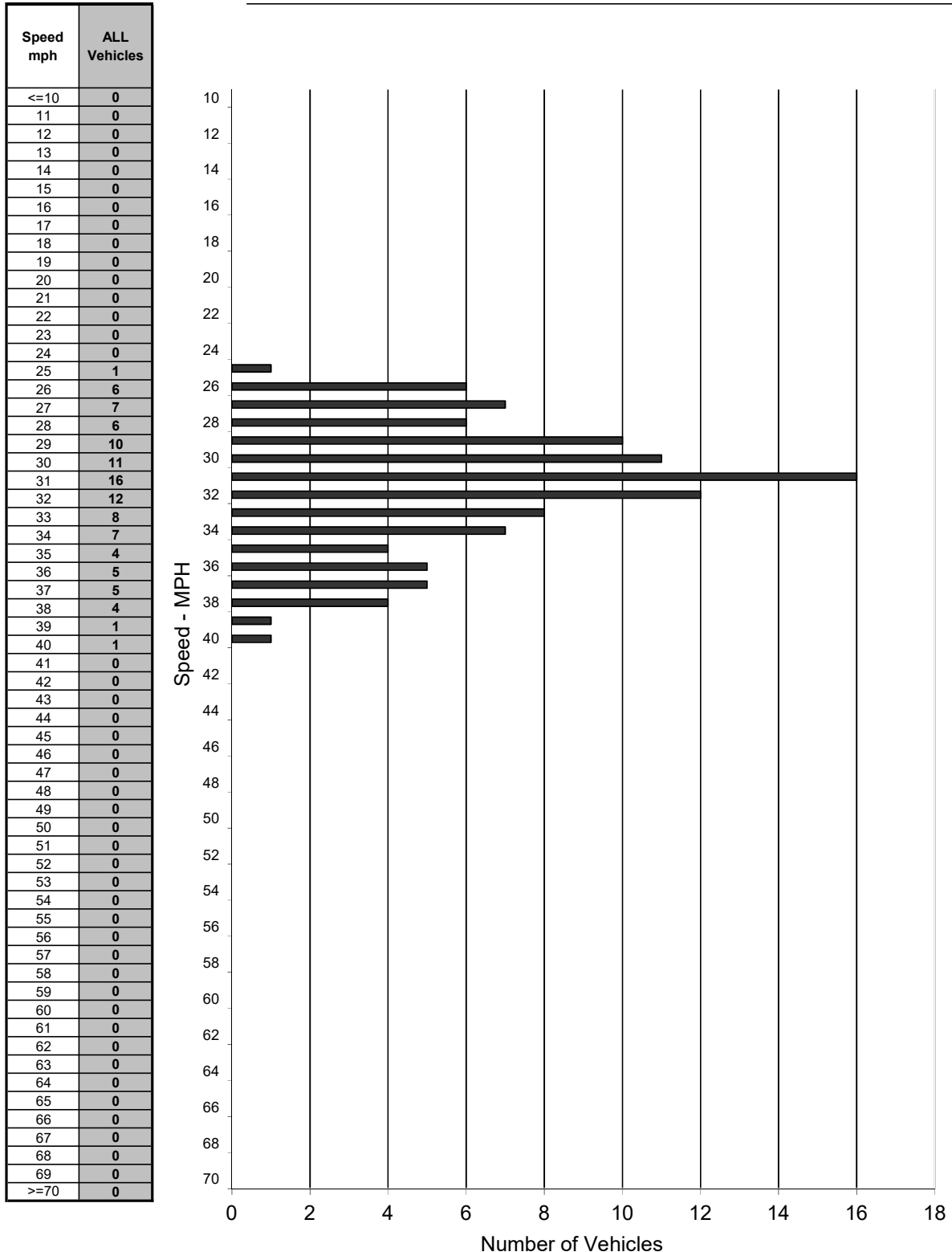
Herman Avenue

DATE: 7/15/2020
Start Time: 3:29 PM
DAY: Wednesday

Location: Northfront Rd to Scenic Ave
End Time: 4:06 PM
Posted Speed: 25 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: CTS
Calibration: DONE
New Speed Limit: 30 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 104 | 31.5 | 25 - 40 | 31 mph | 36 mph | 26 - 35 | 87 | 84% | 0% / 1 | 16% / 16 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: HERMAN AVENUE

Adjacent Land Use: RESIDENTIAL/UNDEVELOPED

Limits: NORTHFRONT RD TO SCENIC AVE

No. of Lanes: 2

Roadway Description: A 2-lane collector street through a residential area on the west side and undeveloped on the east side. A church fronts this segment. Bike lanes and on-street parking is allowed on the west side, but the east side remains undeveloped with no shoulder improvements. The length of this segment is 0.32 miles.

Collision History: There have been no reported collisions along this segment within the past three years.

Other Considerations: This segment has fronting homes, on street parking maneuvers, and numerous turning maneuvers at driveways and intersections. With no improved sidewalk along the east side, some pedestrians may walk on the pavement section of the street next to moving motor vehicles and bicycles.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will be raised to 30 MPH.

Spot Speed Study - City of Livermore

Holmes Street

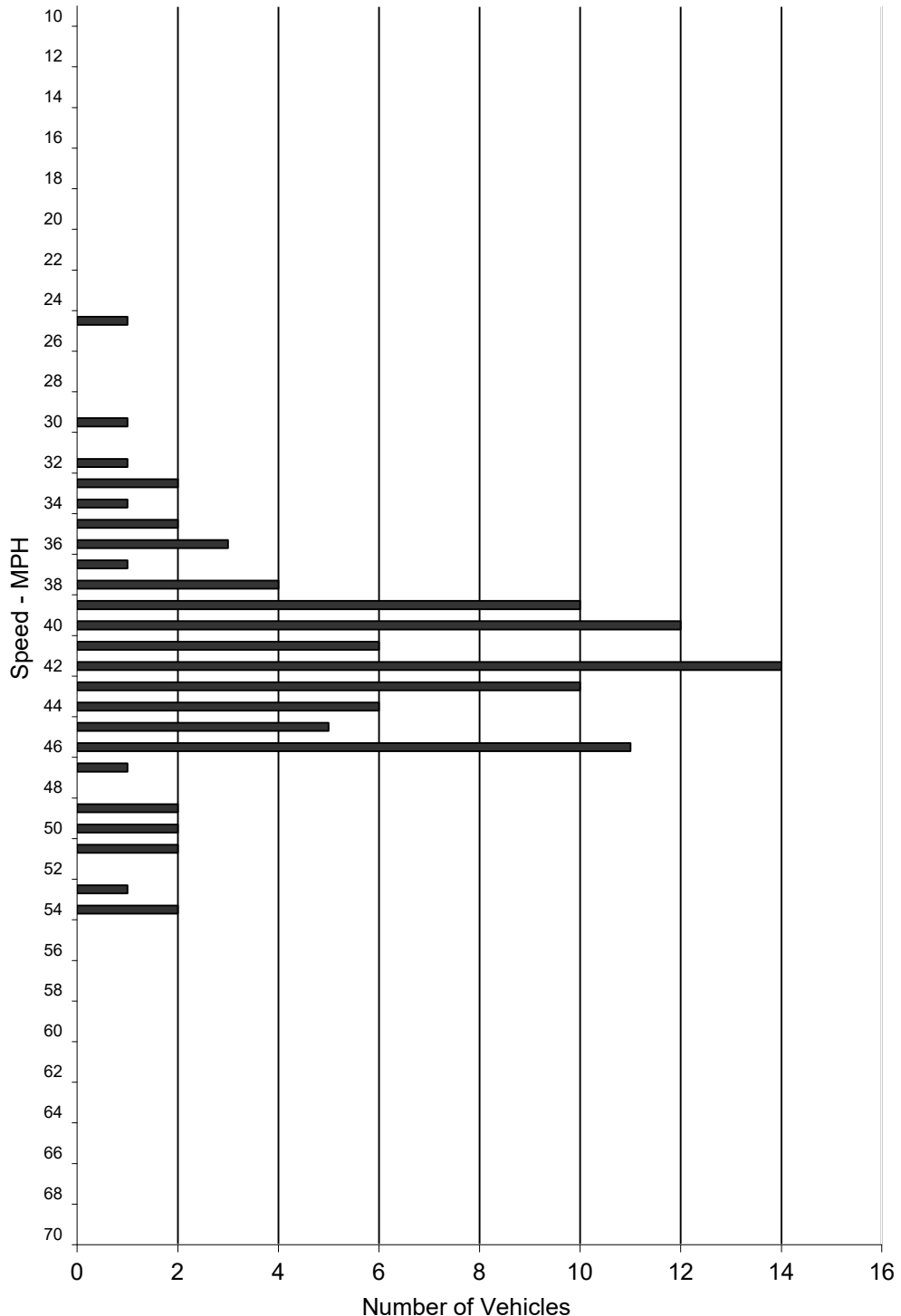
DATE: 8/20/2019
Start Time: 10:14 am
DAY: Tuesday

Location: Wetmore Rd - Alden Ln
End Time: 10:38 am
Posted Speed: 45 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: BMC
Calibration: DONE
New Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 1 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 1 |
| 31 | 0 |
| 32 | 1 |
| 33 | 2 |
| 34 | 1 |
| 35 | 2 |
| 36 | 3 |
| 37 | 1 |
| 38 | 4 |
| 39 | 10 |
| 40 | 12 |
| 41 | 6 |
| 42 | 14 |
| 43 | 10 |
| 44 | 6 |
| 45 | 5 |
| 46 | 11 |
| 47 | 1 |
| 48 | 0 |
| 49 | 2 |
| 50 | 2 |
| 51 | 2 |
| 52 | 0 |
| 53 | 1 |
| 54 | 2 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 41.9 | 25 - 54 | 42 mph | 46 mph | 37 - 46 | 79 | 79% | 11% / 11 | 10% / 10 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: HOLMES STREET

Adjacent Land Use: RESIDENTIAL/PARK

Limits: WETMORE ROAD TO ALDEN LANE

No. of Lanes: 3

Roadway Description: 3-lane divided arterial street through a residential area with bike lanes and no fronting homes or parking allowed. There are two lanes for northbound traffic and one lane for southbound. There is a park on this segment. The length of this segment is 0.64 miles.

Collision History: There have been 4 reported collisions along this segment within the past three years.

Other Considerations: There is a high rate of turning maneuvers in and out of intersecting local streets and the park entrance. With the Arroyo Del Valle Regional Trail and the Sycamore Grove Park nearby, and the Independence Park in this segment, bicycling is popular. Bike lanes are well utilized.

Recommendation: Based on the 85th percentile speed of 46 MPH, a speed limit of 45 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 45 MPH speed limit will be reduced to 40 MPH. effect.

Spot Speed Study - City of Livermore

Holmes Street

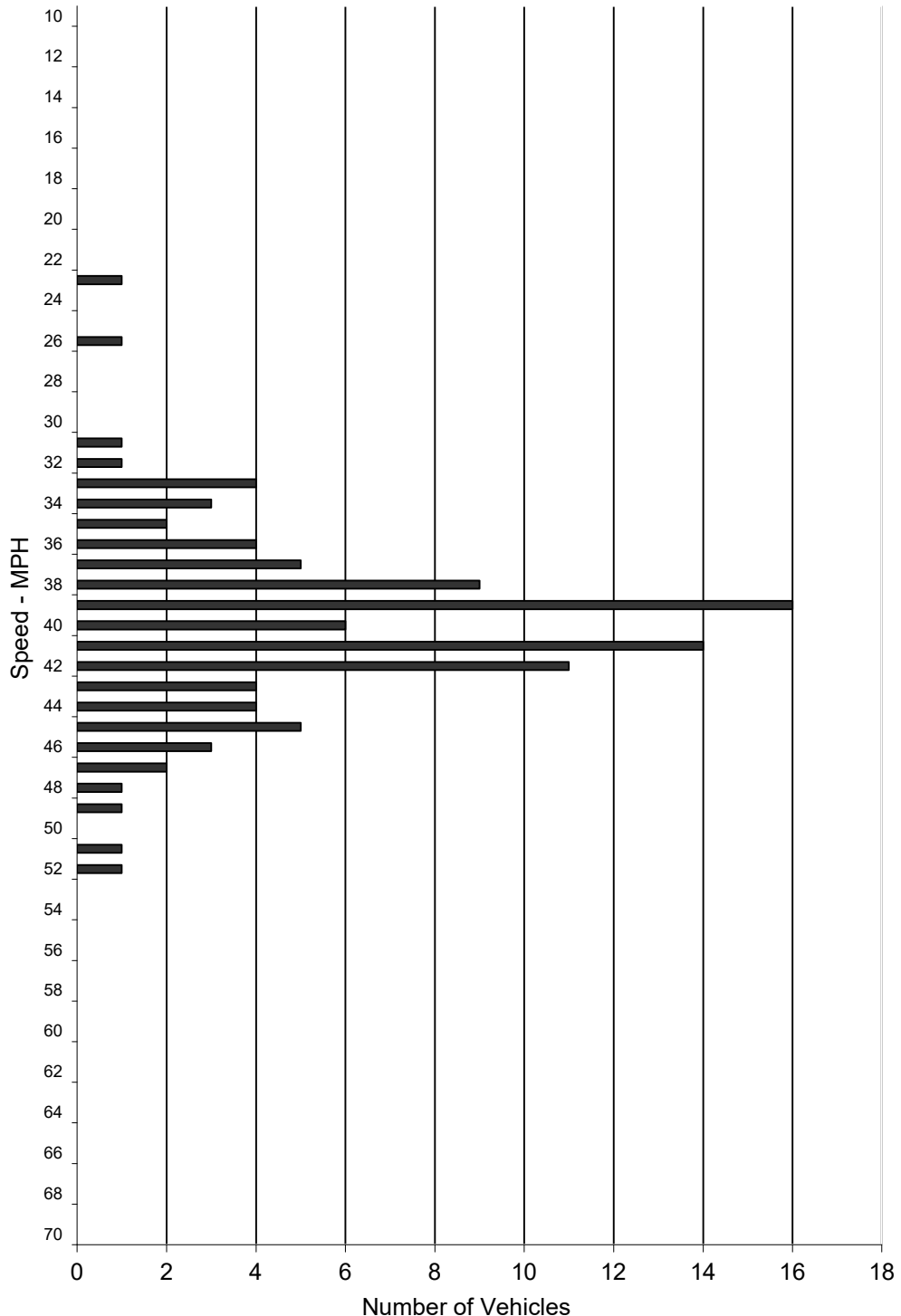
DATE: 8/21/2019
Start Time: 9:52 am
DAY: Wednesday

Location: Alden Ln - El Caminito
End Time: 10:35 am
Posted Speed: 35 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: BMC
Calibration: DONE
New Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 1 |
| 24 | 0 |
| 25 | 0 |
| 26 | 1 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 1 |
| 32 | 1 |
| 33 | 4 |
| 34 | 3 |
| 35 | 2 |
| 36 | 4 |
| 37 | 5 |
| 38 | 9 |
| 39 | 16 |
| 40 | 6 |
| 41 | 14 |
| 42 | 11 |
| 43 | 4 |
| 44 | 4 |
| 45 | 5 |
| 46 | 3 |
| 47 | 2 |
| 48 | 1 |
| 49 | 1 |
| 50 | 0 |
| 51 | 1 |
| 52 | 1 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 39.9 | 23 - 52 | 40 mph | 44 mph | 36 - 45 | 78 | 78% | 13% / 13 | 9% / 9 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: HOLMES STREET

Adjacent Land Use: RESIDENTIAL/COMMERCIAL

Limits: ALDEN LANE TO EL CAMINITO

No. of Lanes: 4

Roadway Description: 4-lane divided arterial street through a residential and commercial area with no fronting homes. Parking is prohibited. Bike lanes exist from Alden Lane but ends at Concannon Boulevard. A shopping center is at the intersection of Concannon Boulevard. The length of this segment is 0.78 miles.

Collision History: There have been 32 reported collisions along this segment within the past three years. This equates to 2-11 collisions per million vehicle miles, which is higher than the statewide average of 1.41 for 4-lane divided roadways

Other Considerations: Bicycle use extends beyond marked bike lanes with bicyclist riding alongside motor vehicles.

Recommendation: Based on the 85th percentile speed of 44 MPH, the existing 35 MPH speed limit will be raised to 40 MPH. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Holmes Street

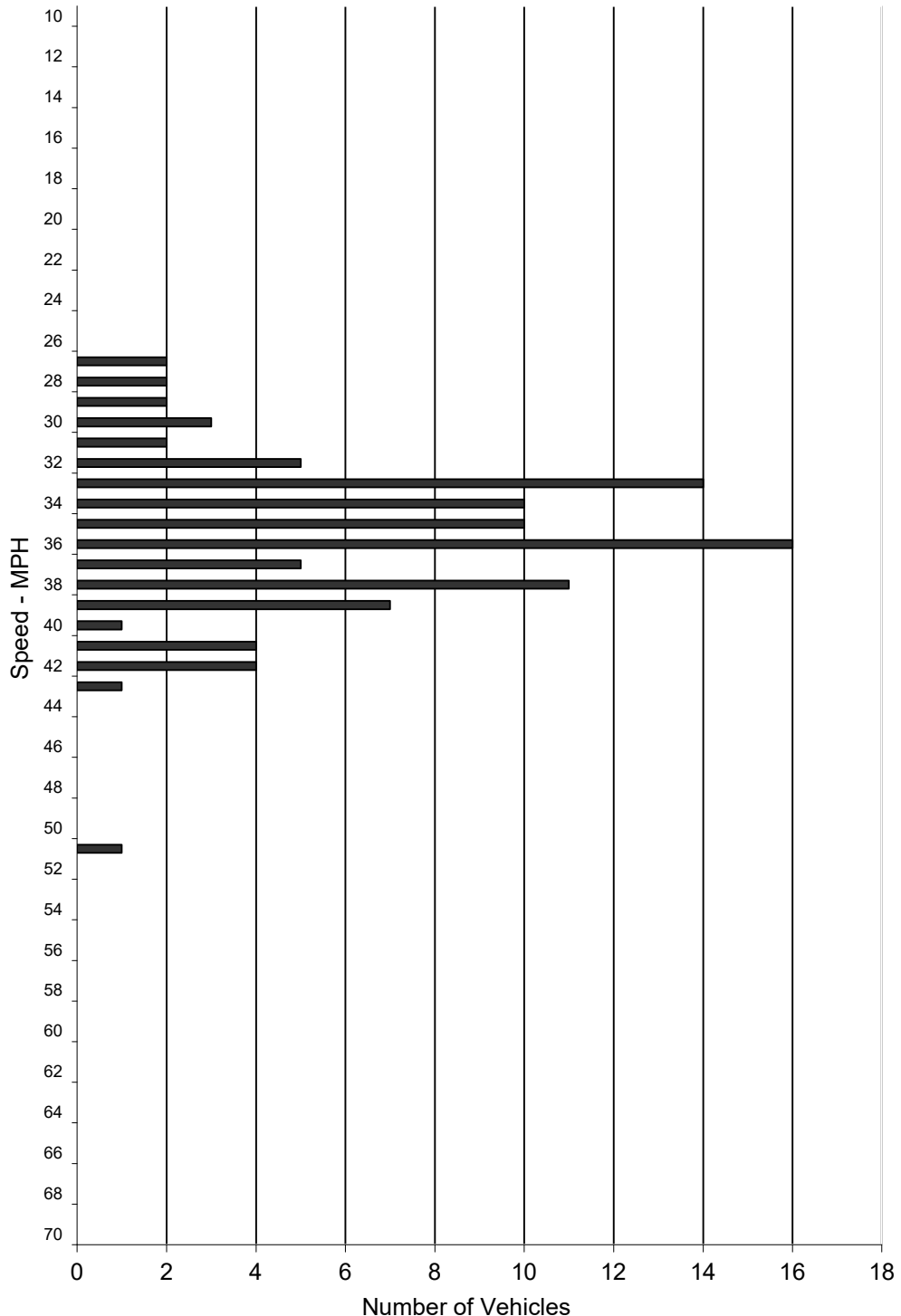
DATE: 8/21/2019
Start Time: 10:51 am
DAY: Wednesday

Location: El Caminito - First Street
End Time: 11:06 am
Posted Speed: 35 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: BMC
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 2 |
| 28 | 2 |
| 29 | 2 |
| 30 | 3 |
| 31 | 2 |
| 32 | 5 |
| 33 | 14 |
| 34 | 10 |
| 35 | 10 |
| 36 | 16 |
| 37 | 5 |
| 38 | 11 |
| 39 | 7 |
| 40 | 1 |
| 41 | 4 |
| 42 | 4 |
| 43 | 1 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 1 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 35.5 | 27 - 51 | 35 mph | 39 mph | 30 - 39 | 83 | 83% | 6% / 6 | 11% / 11 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: HOLMES STREET

Adjacent Land Use: RESIDENTIAL/MEDICAL OFFICES

Limits: EL CAMINITO TO FIRST STREET

No. of Lanes: 4

Roadway Description: 4-lane divided arterial street through a residential and medical offices area with some fronting homes and some parking allowed. A medical office complex is located at the intersection of Murrieta Boulevard. The length of this segment is 0.82 miles.

Collision History: There have been 33 reported collisions along this segment within the past three years. This equates to 1.51 collisions per million vehicle miles, which is higher than the statewide average of 1.41 for this type of roadway.

Other Considerations: There is a high rate of turning maneuvers in and out of many residential driveways. A senior/assisted living facility is located at the eastside of the Mocho/Holmes Street intersection.

Recommendation: Based on the 85th percentile speed of 39 MPH, the existing 35 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Isabel Avenue

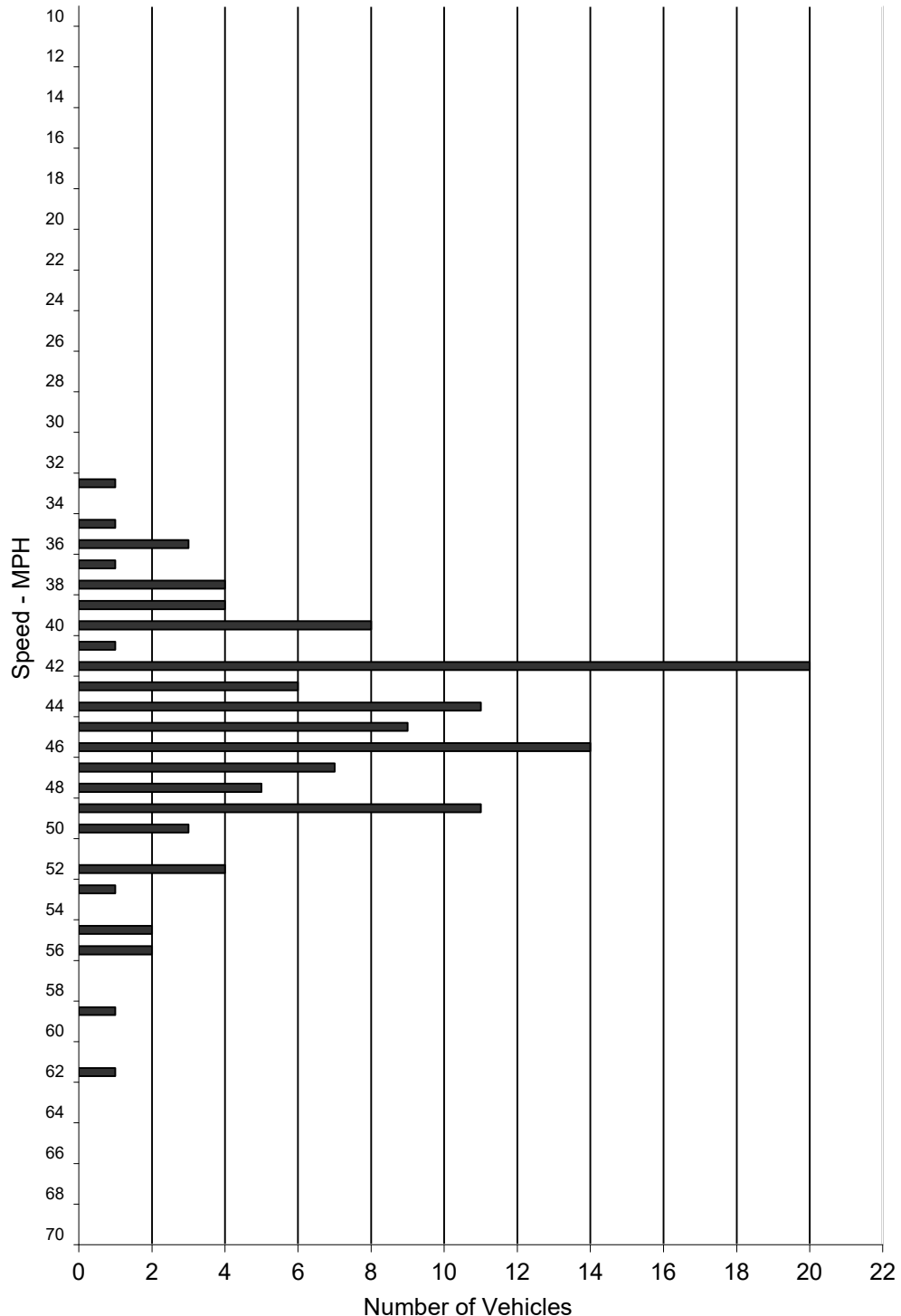
DATE: 12/16/2019
Start Time: 1:35 PM
DAY: Thursday

Location: I-580 to Portola Avenue
End Time: 1:51 PM
(Before) Speed Limit: 50 MPH
Weather: Clear
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 45 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 0 |
| 32 | 0 |
| 33 | 1 |
| 34 | 0 |
| 35 | 1 |
| 36 | 3 |
| 37 | 1 |
| 38 | 4 |
| 39 | 4 |
| 40 | 8 |
| 41 | 1 |
| 42 | 20 |
| 43 | 6 |
| 44 | 11 |
| 45 | 9 |
| 46 | 14 |
| 47 | 7 |
| 48 | 5 |
| 49 | 11 |
| 50 | 3 |
| 51 | 0 |
| 52 | 4 |
| 53 | 1 |
| 54 | 0 |
| 55 | 2 |
| 56 | 2 |
| 57 | 0 |
| 58 | 0 |
| 59 | 1 |
| 60 | 0 |
| 61 | 0 |
| 62 | 1 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 120 | 44.8 | 33 - 62 | 44 mph | 49 mph | 40 - 49 | 92 | 77% | 11% / 14 | 12% / 14 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: ISABEL AVENUE

Adjacent Land Use: UNIMPROVED

Limits: I-580 to PORTOLA AVENUE

No. of Lanes: 4

Roadway Description: 4-lane major street divided by a wide painted island with bike lanes. No on-street parking is allowed. It is the main access to Las Positas College from the freeway. Although adjacent land is currently undeveloped, the Isabel Neighborhood Specific Plan is under consideration.

Collision History: There have been 1 reported collision along this segment within the past 3 years.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 49 MPH, the existing 50 MPH speed will be lowered to **45 MPH**. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

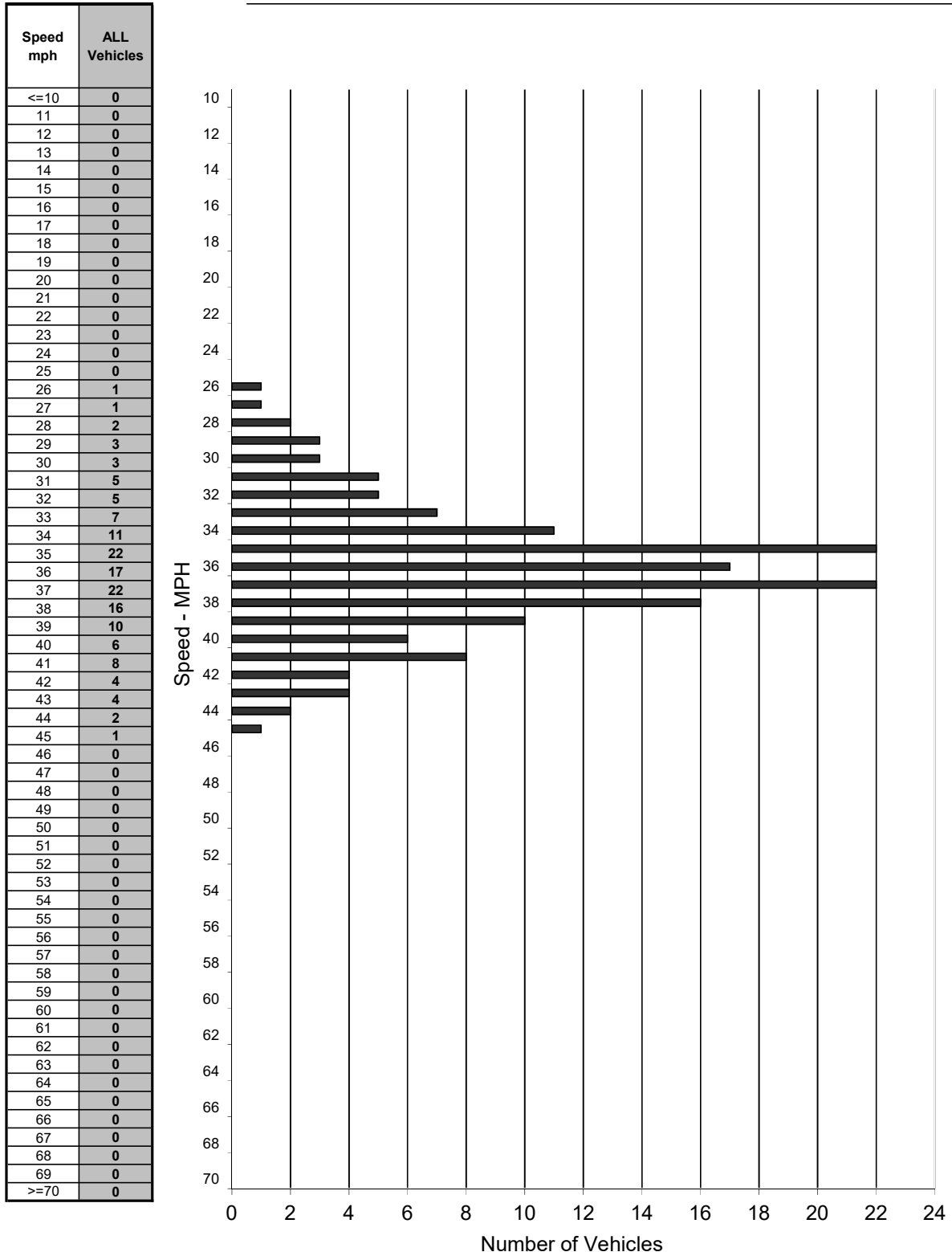
East Jack London Blvd

DATE: 7/14/2020
Start Time: 3:13 PM
DAY: Tuesday

Location: SR-84 (Isabel Ave) - Murrieta Blvd
End Time: 3:37 PM
Posted Speed: 35 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: CTS
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 150 | 36.3 | 26 - 45 | 36 mph | 40 mph | 32 - 41 | 124 | 83% | 10% / 15 | 8% / 11 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: E. JACK LONDON BOULEVARD

Adjacent Land Use: RESIDENTIAL/INDUSTRIAL

Limits: ISABEL AVE TO MURRIETA BLVD

No. of Lanes: 4

Roadway Description: 4-lane divided and undivided arterial street through a residential and industrial area with bike lanes, no fronting homes, and parking is prohibited. Rancho Las Positas Elementary School is along this segment. The length of this segment is 0.82 miles.

Collision History: There have been 31 reported collisions along this segment within the past three years. This equates to 2.69 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: There is a high rate of turning maneuvers in and out of many intersecting local streets, and a high number of school related crossings. Bicycle use is also common since this roadway connects to regional trails.

Recommendation: Based on the 85th percentile speed of 40 MPH, a speed limit of 40 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

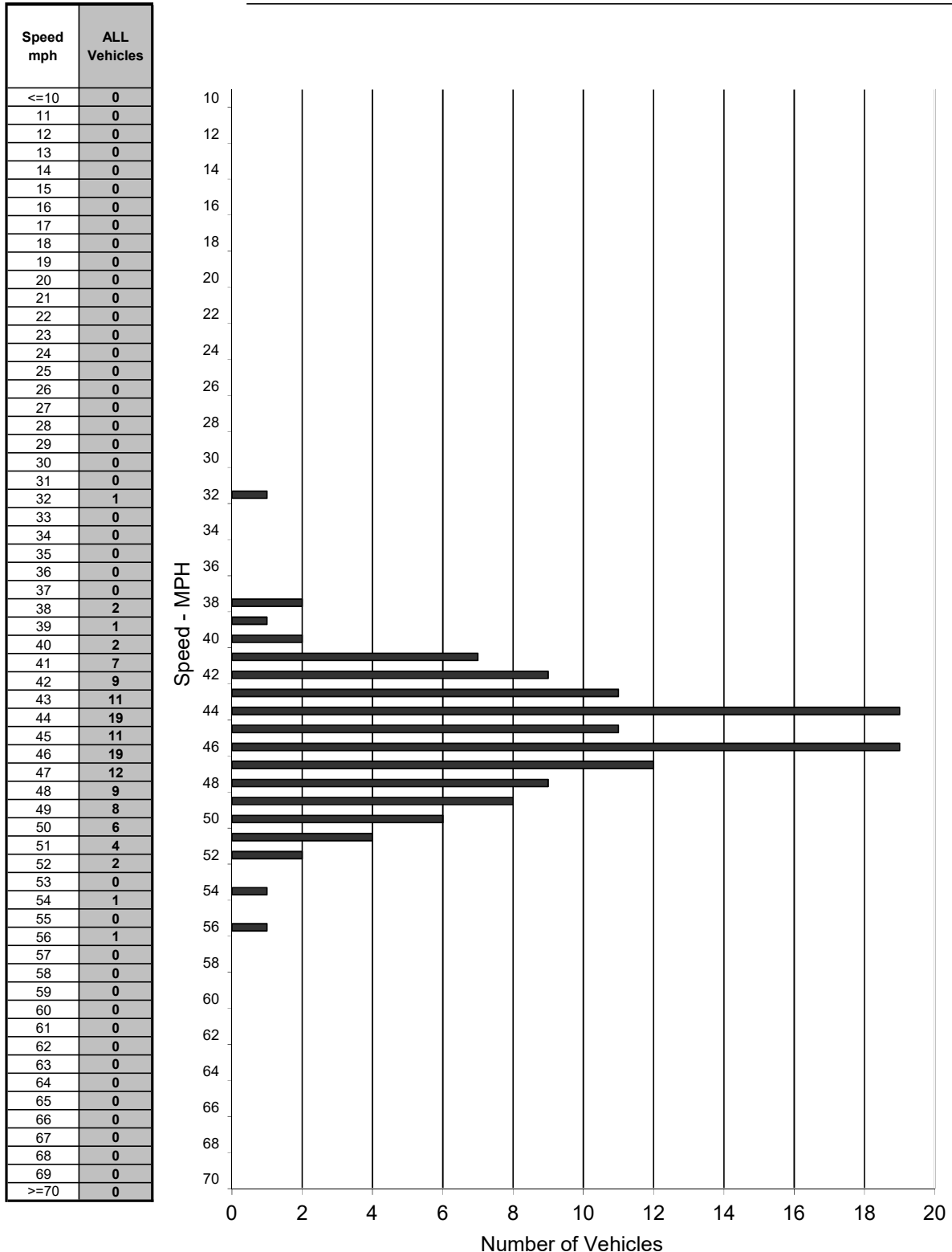
West Jack London Blvd

DATE: 7/15/2020
Start Time: 11:36 AM
DAY: Tuesday

Location: El Charro Rd - SR 84 (Isabel Ave)
End Time: 12:04 PM
Posted Speed: 45 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: CTS
Calibration: DONE
New Speed Limit: 45 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 125 | 45.4 | 32 - 56 | 45 mph | 49 mph | 41 - 50 | 111 | 89% | 4% / 6 | 7% / 8 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: W. JACK LONDON BOULEVARD
Limits: EL CHARRO RD TO ISABEL AVE (SR84)

Adjacent Land Use: COMMERCIAL/INDUSTRIAL
No. of Lanes: 2 & 4

Roadway Description: 2 and 4-lane divided and undivided arterial street through a commercial and industrial area with multi use trail along most of the southerly side, no fronting homes, and parking is prohibited. Most of the south side is undeveloped while most of the northside is the Livermore Airport. The Shopping Outlet mall is located at the west end of the segment. The length of this segment 2.5 miles.

Collision History: There have been 39 reported collisions along this segment within the past three years. This equates to 1.25 collisions per million vehicle miles, which is higher than the statewide average of 1.19 for this type of roadway.

Other Considerations: There are a few curves along the segment with sight distance design speed of 45 MPH. Bike enthusiast still prefer riding on the street as opposed to the trail.

Recommendation: Based on the 85th percentile speed of 49 MPH, the existing 45 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

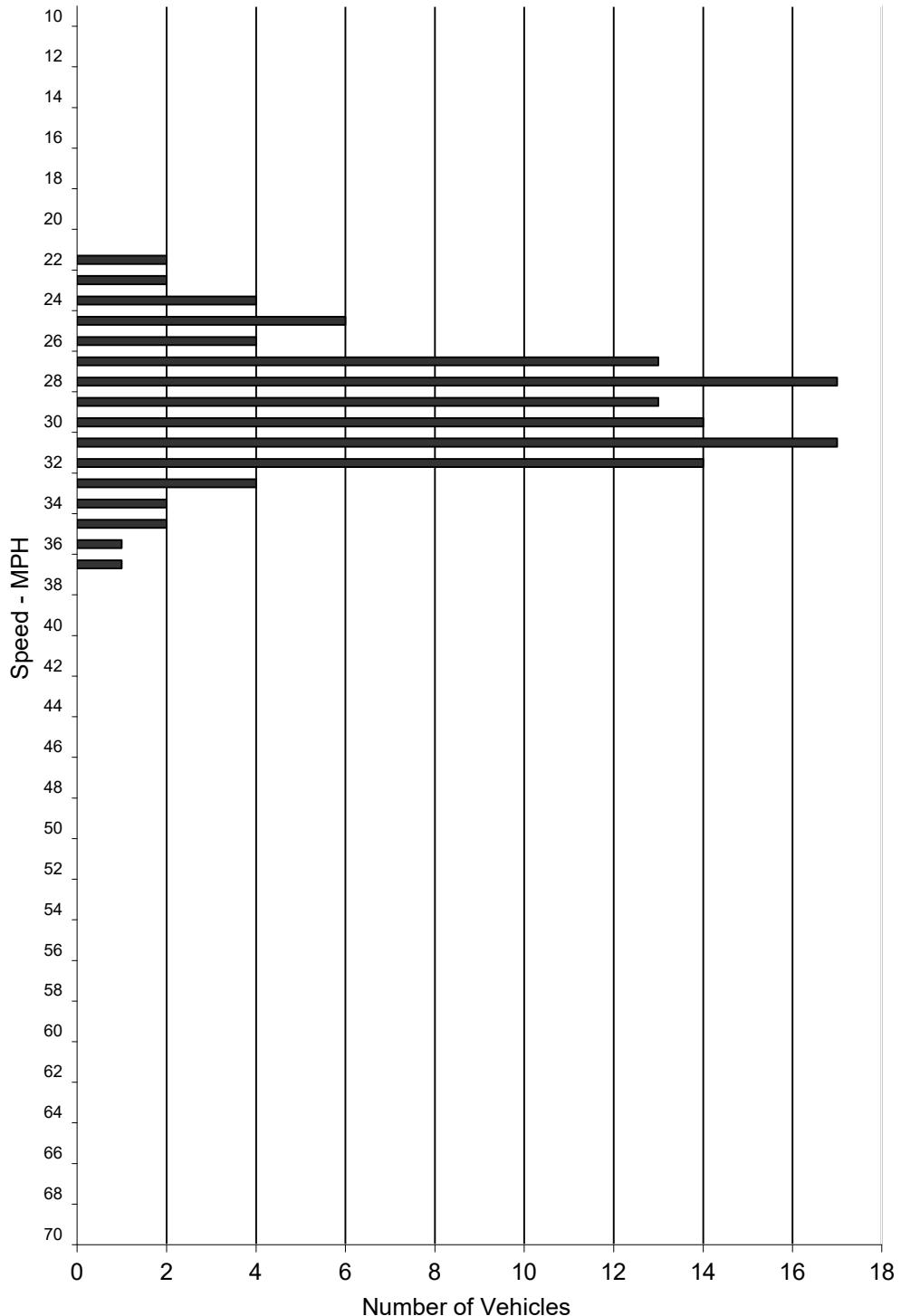
Junction Avenue

DATE: 7/7/2020
Start Time: 3:19PM
DAY: Tuesday

Location: N. Livermore Avenue to Old First Street
End Time: 4:13PM
(Before) Speed Limit: 25 MPH
Weather: Clear
Direction: NB & SB

Observer: CTS
Calibration: DONE
NEW Speed Limit: 25 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 2 |
| 23 | 2 |
| 24 | 4 |
| 25 | 6 |
| 26 | 4 |
| 27 | 13 |
| 28 | 17 |
| 29 | 13 |
| 30 | 14 |
| 31 | 17 |
| 32 | 14 |
| 33 | 4 |
| 34 | 2 |
| 35 | 2 |
| 36 | 1 |
| 37 | 1 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 116 | 29.2 | 22 - 37 | 29 mph | 32 mph | 24 - 33 | 106 | 91% | 3% / 4 | 6% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: JUNCTION AVENUE Adjacent Land Use: RESIDENTIAL

Limits: N. LIVERMORE AVE TO OLD FIRST ST No. of Lanes: 2

Roadway Description: 2-lane residential collector street with fronting homes and multi-family units, on-street parking, and bike lanes. Junction Avenue School and access to Lawrence School are along this segment. The length of this segment is 0.53 miles.

Collision History: There have been 10 reported collisions along this segment within the past three years. This equates to 5.72 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous crosswalks, high pedestrian activity especially due to the schools, fronting homes, on street parking maneuvers, and numerous driveways.

Recommendation: Based on the 85th percentile speed of 32 MPH, a speed limit of 30 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Kittyhawk Road

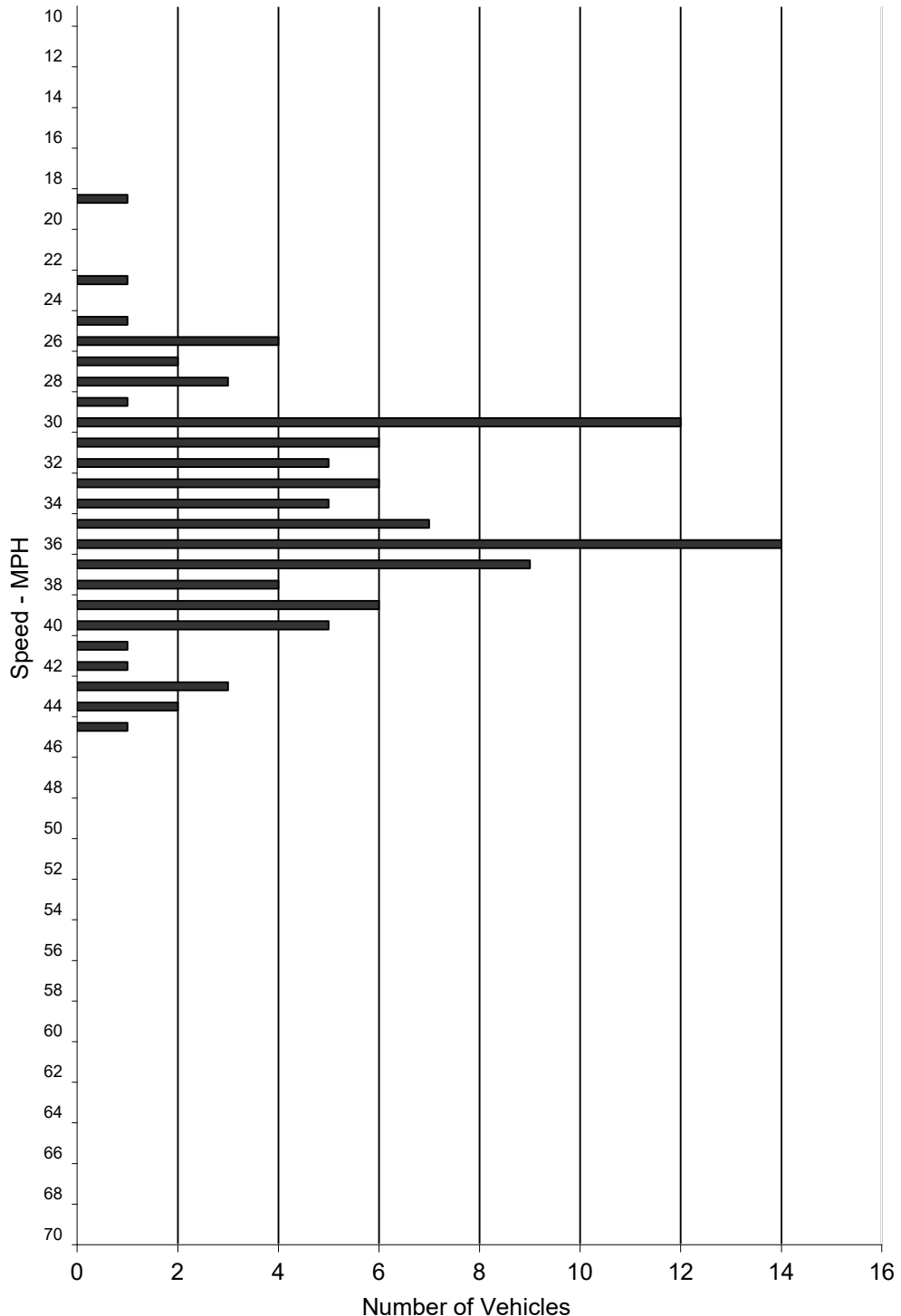
DATE: 8/6/2019
Start Time: 1:40 pm
DAY: Tuesday

Location: Airway Blvd - SR84 (Isabel Ave)
End Time: 2:21 pm
Posted Speed: 40 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 1 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 1 |
| 24 | 0 |
| 25 | 1 |
| 26 | 4 |
| 27 | 2 |
| 28 | 3 |
| 29 | 1 |
| 30 | 12 |
| 31 | 6 |
| 32 | 5 |
| 33 | 6 |
| 34 | 5 |
| 35 | 7 |
| 36 | 14 |
| 37 | 9 |
| 38 | 4 |
| 39 | 6 |
| 40 | 5 |
| 41 | 1 |
| 42 | 1 |
| 43 | 3 |
| 44 | 2 |
| 45 | 1 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 34.3 | 19 - 45 | 35 mph | 39 mph | 30 - 39 | 74 | 74% | 13% / 13 | 13% / 13 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: KITTY HAWK ROAD

Adjacent Land Use: INDUSTRIAL/COMMERCIAL

Limits: AIRWAY BLVD. TO ISABEL AVE. (SR84) No. of Lanes: 3

Roadway Description: A 3-lane collector street through a mostly developed industrial and commercial area on the south side with I-580 freeway on the north side. A two-way left turn lane exists through most of the segment. Boomers, a popular family amusement facility is located midway in the segment. The length of this segment is 0.9 miles.

Collision History: There have been 4 reported collisions along this segment within the past three years.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 39 MPH, the existing 40 MPH speed limit will be reduced to 35 MPH. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

N. L Street

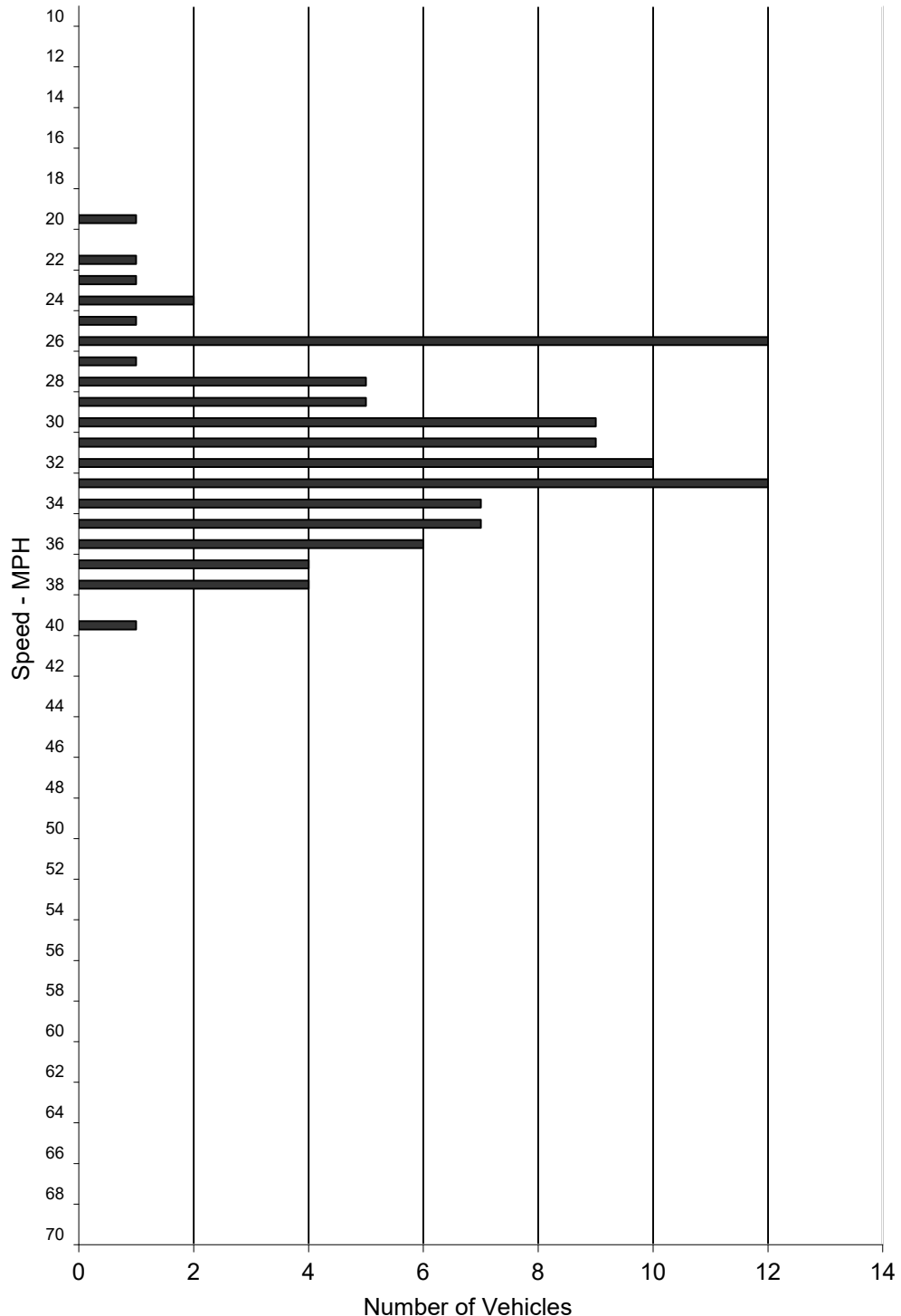
DATE: 12/16/2019
Start Time: 2:04 PM
DAY: Monday

Location: Portola Avenue to Railroad Avenue
End Time: 2:23 PM
(Before) Speed Limit: 30 MPH
Weather: Dry
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 1 |
| 21 | 0 |
| 22 | 1 |
| 23 | 1 |
| 24 | 2 |
| 25 | 1 |
| 26 | 12 |
| 27 | 1 |
| 28 | 5 |
| 29 | 5 |
| 30 | 9 |
| 31 | 9 |
| 32 | 10 |
| 33 | 12 |
| 34 | 7 |
| 35 | 7 |
| 36 | 6 |
| 37 | 4 |
| 38 | 4 |
| 39 | 0 |
| 40 | 1 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 98 | 31.3 | 20 - 40 | 32 mph | 36 mph | 26 - 35 | 77 | 79% | 6% / 6 | 16% / 15 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: N. L STREET

Adjacent Land Use: RESIDENTAL/COMMERCIAL

Limits: PORTOLA AVE TO RAILROAD AVE

No. of Lanes: 4

Roadway Description: A 4-lane residential collector street with some commercial development, and on-street parking. The length of this segment is 0.64 miles.

Collision History: There have been 27 reported collisions along this segment within the past three years. This equates to 7.26 collisions per million vehicle miles, which is higher than the statewide average of 1.98 for 4-lane undivided type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turning maneuvers, on-street parking maneuvers, and pedestrian activity. High collision rate.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH shall remain in effect.

Spot Speed Study - City of Livermore

S. L Street

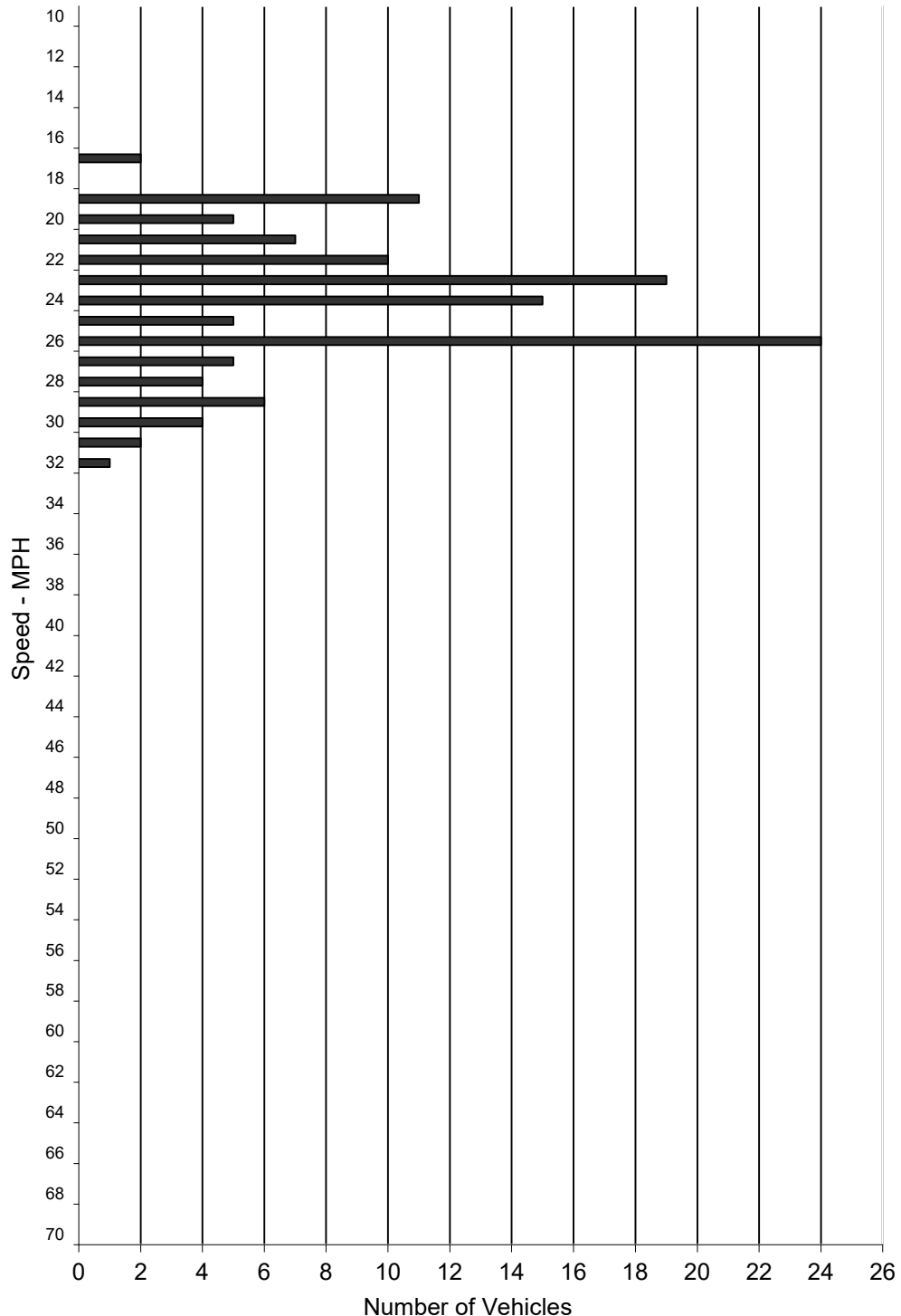
DATE: 12/6/2019
Start Time: 01:30 PM
DAY: Friday

Location: Railroad Avenue to Fourth Street
End Time: 2:17 PM
(Before) Speed Limit: 25 MPH
Weather: Cloudy
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 2 |
| 18 | 0 |
| 19 | 11 |
| 20 | 5 |
| 21 | 7 |
| 22 | 10 |
| 23 | 19 |
| 24 | 15 |
| 25 | 5 |
| 26 | 24 |
| 27 | 5 |
| 28 | 4 |
| 29 | 6 |
| 30 | 4 |
| 31 | 2 |
| 32 | 1 |
| 33 | 0 |
| 34 | 0 |
| 35 | 0 |
| 36 | 0 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 120 | 24.1 | 17 - 32 | 24 mph | 27 mph | 19 - 28 | 105 | 88% | 1% / 2 | 11% / 13 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: S. L STREET

Adjacent Land Use: RESIDENTIAL/COMMERCIAL

Limits: RAILROAD AVE TO FOURTH ST

No. of Lanes: 4

Roadway Description: 4-lane collector street through the downtown business district. The length of this segment is 0.29 miles.

Collision History: There have been 26 reported collisions along this segment within the past three years. This equates to 9.86 collisions per million vehicle miles, which is higher than the statewide average of 1.98 for 4-lane undivided type of roadway.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 27 MPH, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

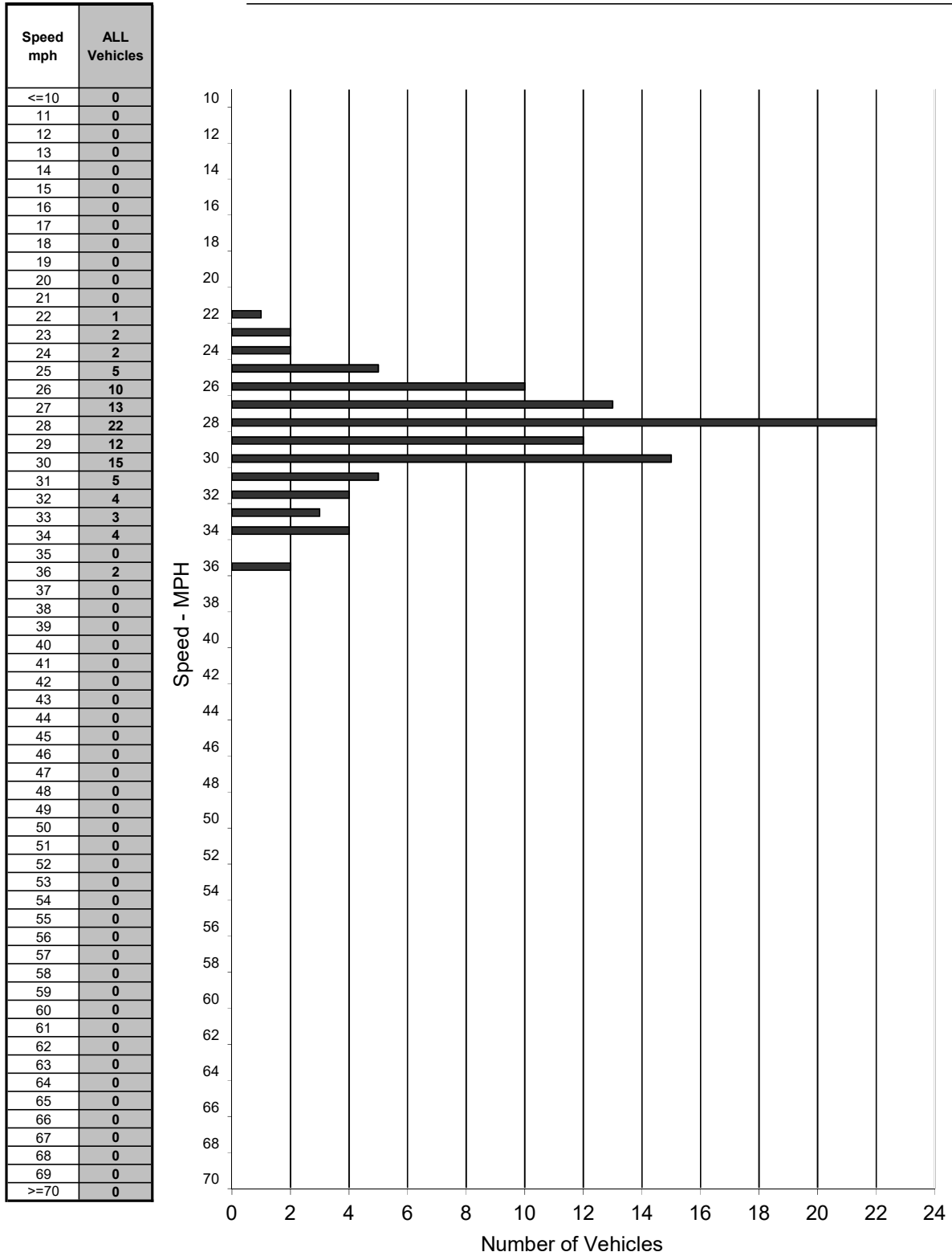
S. L Street

DATE: 9/3/2019
Start Time: 10:51AM
DAY: Friday

Location: Fourth Street To Arroyo Road
End Time: 11:16AM
(Before) Speed Limit: 25 MPH
Weather: Dry
Direction: NB & SB

Observer: BMC
Calibration: DONE
NEW Speed Limit: 25MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 28.6 | 22 - 36 | 28 mph | 31 mph | 25 - 34 | 93 | 93% | 5% / 5 | 2% / 2 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: S. L STREET

Adjacent Land Use: RESIDENTIAL/COMMERCIAL

Limits: FOURTH ST TO ARROYO RD

No. of Lanes: 2

Roadway Description: A 2-lane residential collector street with fronting homes and some commercial developments. On-street parking is permitted with bike lanes. The length of this segment is 0.46 miles.

Collision History: There have been 15 reported collisions along this segment within the past three years. This equates to 3.94 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, and on-street parking maneuvers.

Recommendation: Based on the 85th percentile speed of 31 MPH, a speed limit of 30 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Las Positas Rd

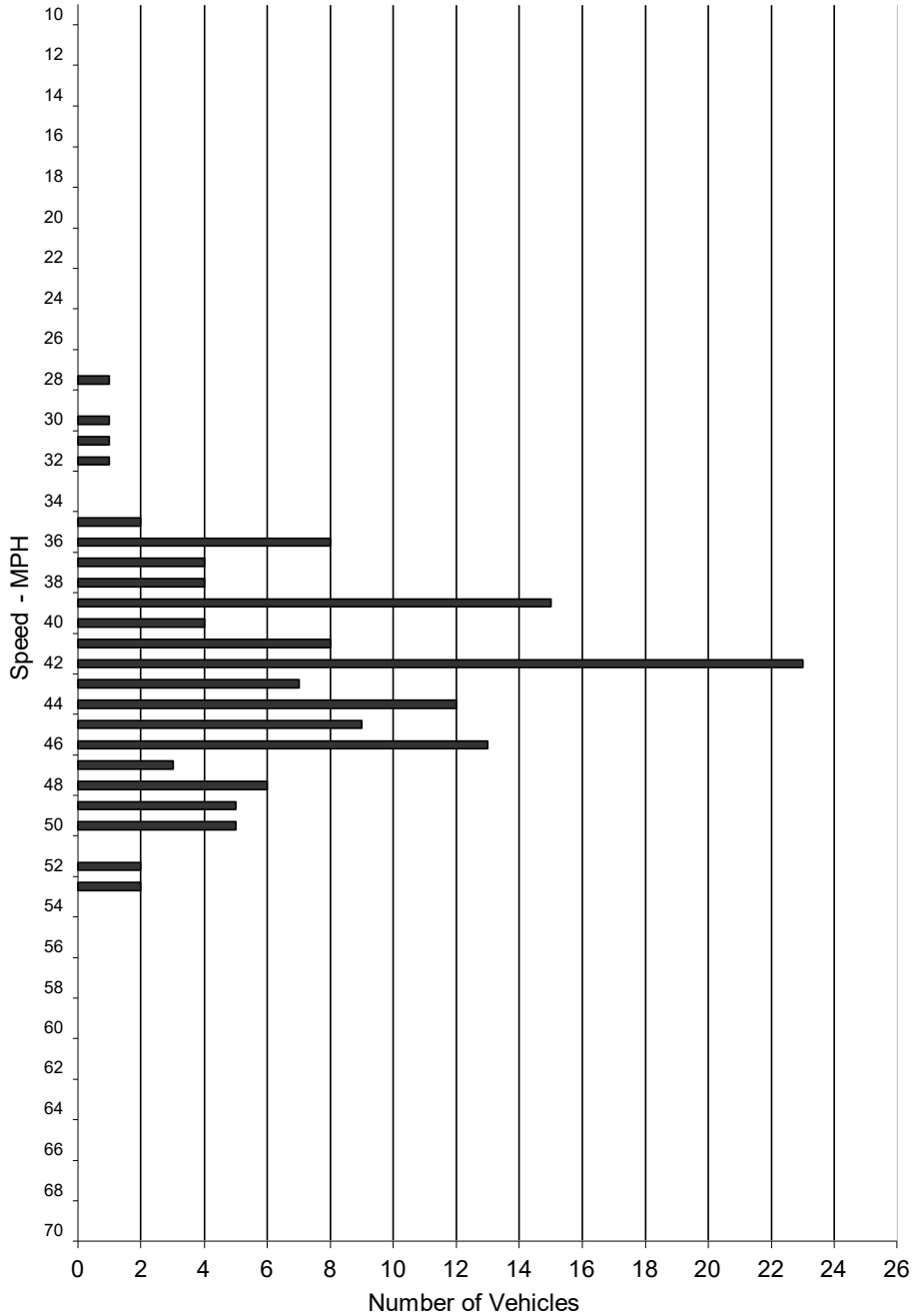
DATE: 12/16/2019
Start Time: 3:46 PM
DAY: Monday

Location: N. Livermore Avenue to Las Colinas Road
End Time: 4:15 PM
(Before) Speed Limit: 45 MPH

Observer: MD
Calibration: DONE
NEW Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 1 |
| 29 | 0 |
| 30 | 1 |
| 31 | 1 |
| 32 | 1 |
| 33 | 0 |
| 34 | 0 |
| 35 | 2 |
| 36 | 8 |
| 37 | 4 |
| 38 | 4 |
| 39 | 15 |
| 40 | 4 |
| 41 | 8 |
| 42 | 23 |
| 43 | 7 |
| 44 | 12 |
| 45 | 9 |
| 46 | 13 |
| 47 | 3 |
| 48 | 6 |
| 49 | 5 |
| 50 | 5 |
| 51 | 0 |
| 52 | 2 |
| 53 | 2 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 136 | 42.5 | 28 - 53 | 42 mph | 47 mph | 39 - 48 | 100 | 74% | 16% / 22 | 11% / 14 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: LAS POSITAS ROAD

Adjacent land Use: COMMERCIAL/AGRICULTURE

Limits: N. LIVERMORE AVE TO LAS COLINAS RD No. of Lanes: 3 TO 4

Roadway Description: 4-lane divided arterial street with bike lanes through a mixture of open space, agriculture and commercial development. This segment narrows to 3 lanes along the shopping center near N. Livermore Avenue. Parking is prohibited. Kaiser Medical Offices and Primrose School/Daycare are in this segment. Several sections of the southern sidewalk are unimproved. The length of this segment is 1.06 miles.

Collision History: There have been 15 reported collisions along this segment within the past three years.

Other Considerations: Bicyclist are often observed using the bike lanes. Senior citizens frequent the Kaiser medical offices & urgent care along this segment. A school/daycare center for preschoolers also provide after school services for elementary students is in this segment. Pedestrians can walk on the street where the sidewalk is unimproved especially during wet conditions.

Recommendation: Based on the 85th percentile speed of 47 MPH, the existing 45 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 45 MPH will be reduced to 40 MPH.

Spot Speed Study - City of Livermore

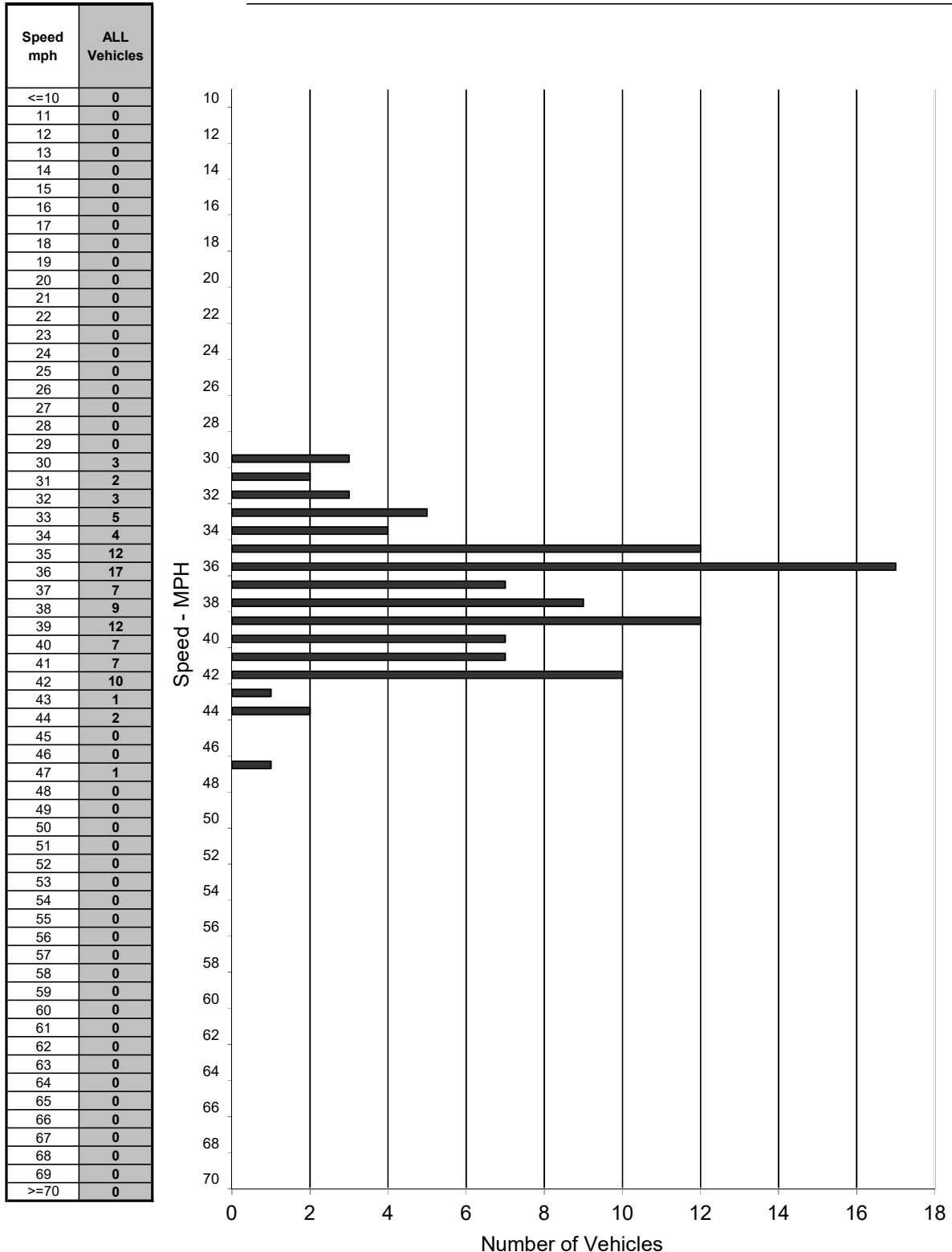
Las Positas Road

DATE: 12/17/2019
Start Time: 4:23 PM
DAY: Tuesday

Location: Las Colinas Road to First Street
End Time: 4:41 PM
(Before) Speed Limit: 40 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 40MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 102 | 37.4 | 30 - 47 | 37 mph | 41 mph | 33 - 42 | 90 | 88% | 7% / 8 | 4% / 4 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: LAS POSITAS ROAD

Adjacent Land Use: COMMERCIAL/AGRICULTURE

Limits: LAS COLINAS RD TO FIRST STREET

No. of Lanes: 2 TO 4

Roadway Description: 2-lane road through a mixture of open space, agriculture and commercial development. This segment widens to 4 lanes along the Target shopping center near First Street. Parking is prohibited. The length of this segment is 0.74 miles.

Collision History: There have been 15 reported collisions along this segment within the past three years.

Other Considerations: None

Recommendation: Based on the 85th percentile speed of 41 MPH, the existing 40 MPH will remain in effect.

Spot Speed Study - City of Livermore

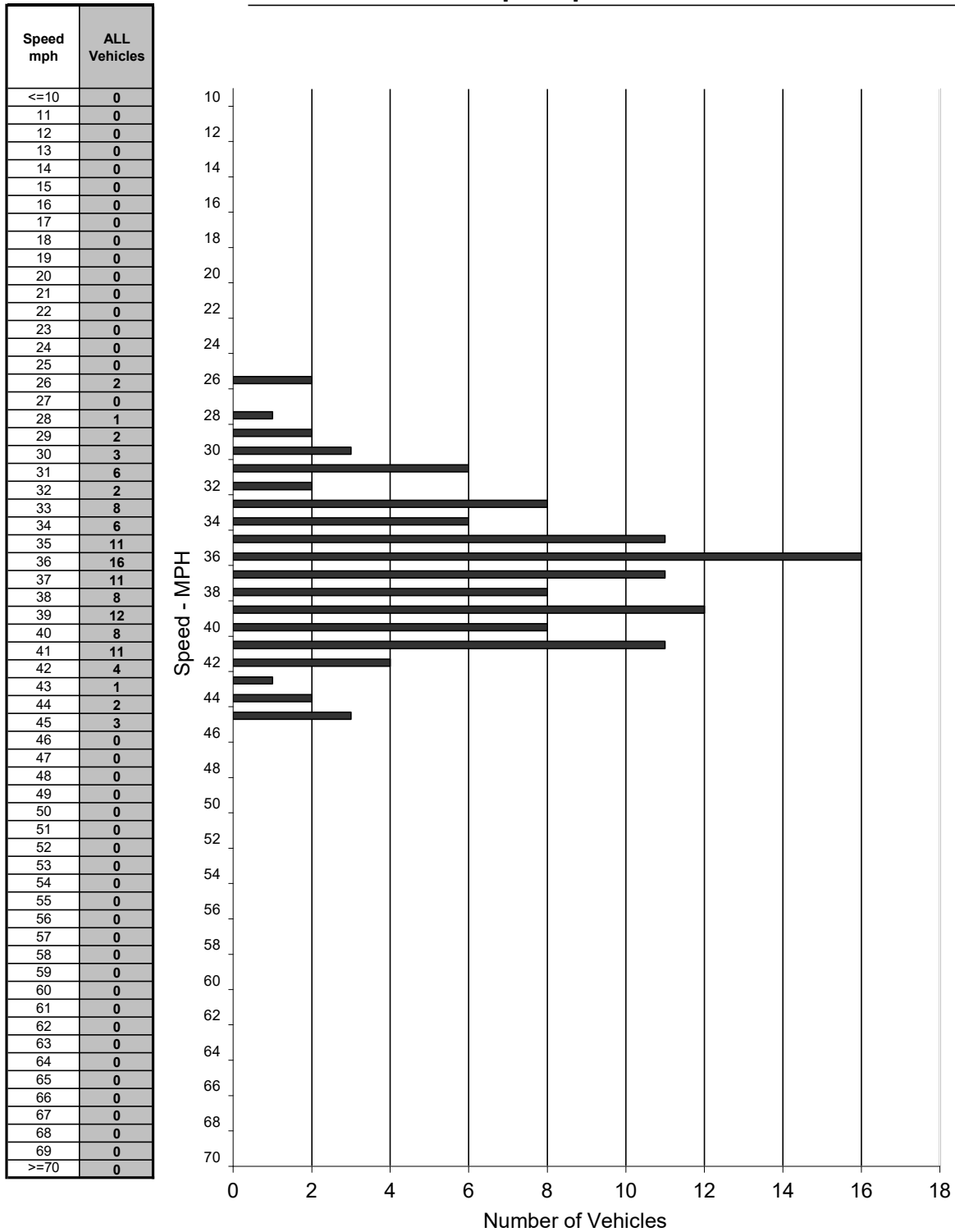
Las Positas Road

DATE: 9/20/2019
Start Time: 10:28 PM
DAY: Friday

Location: First Street to Bennett Drive
End Time: 10:55 PM
Before Speed Limit: 30 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: JL
Calibration: DONE
NEW Speed Limit: 35 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 117 | 36.7 | 26 - 45 | 37 mph | 41 mph | 33 - 42 | 95 | 81% | 13% / 16 | 6% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: LAS POSITAS ROAD

Adjacent Land Use: COMMERCIAL/INDUSTRIAL

Limits: FIRST ST TO BENNETT DR

No. of Lanes: 2

Roadway Description: 2 to 4-lane minor arterial street with bike lanes through commercial and industrial development. Parking is prohibited. The length of this segment is 0.68 miles.

Collision History: There have been 20 reported collisions along this segment within the past three years. This equates to 2.14 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 41 MPH, a speed limit of 40 MPH was considered. However, given the high collision rate, a condition not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will increase to 35 MPH.

Spot Speed Study - City of Livermore

Las Positas Road

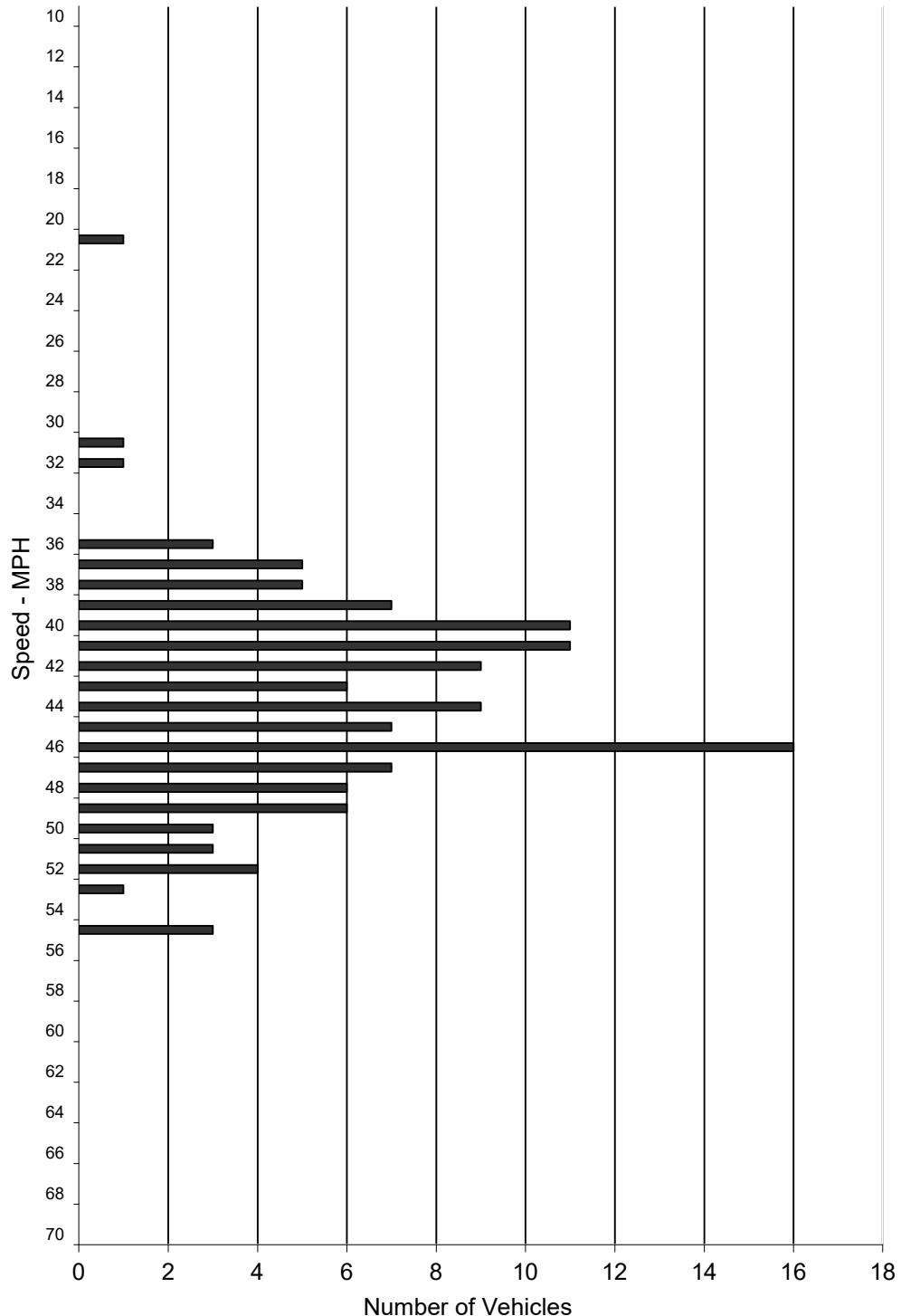
DATE: 9/19/2019
Start Time: 10:53 PM
DAY: Thursday

Location: Vasco Road to Bennett Drive
End Time: 11:24 PM
(Before) Speed Limit: 45 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: JL
Calibration: DONE
NEW Speed Limit: 45 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 1 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 1 |
| 32 | 1 |
| 33 | 0 |
| 34 | 0 |
| 35 | 0 |
| 36 | 3 |
| 37 | 5 |
| 38 | 5 |
| 39 | 7 |
| 40 | 11 |
| 41 | 11 |
| 42 | 9 |
| 43 | 6 |
| 44 | 9 |
| 45 | 7 |
| 46 | 16 |
| 47 | 7 |
| 48 | 6 |
| 49 | 6 |
| 50 | 3 |
| 51 | 3 |
| 52 | 4 |
| 53 | 1 |
| 54 | 0 |
| 55 | 3 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 125 | 43.6 | 21 - 55 | 44 mph | 49 mph | 39 - 48 | 89 | 71% | 12% / 16 | 16% / 20 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: LAS POSITAS ROAD

Adjacent Land Use: COMMERCIAL/INDUSTRIAL

Limits: VASCO ROAD TO BENNETT DRIVE

No. of Lanes: 4

Roadway Description: A 4-lane divided arterial street with bike lanes through a mixture commercial and industrial development. Parking is prohibited. The length of this segment is 0.81 miles.

Collision History: There have been 9 reported collisions along this segment within the past three years.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 49 MPH, the existing 45 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Las Positas Road

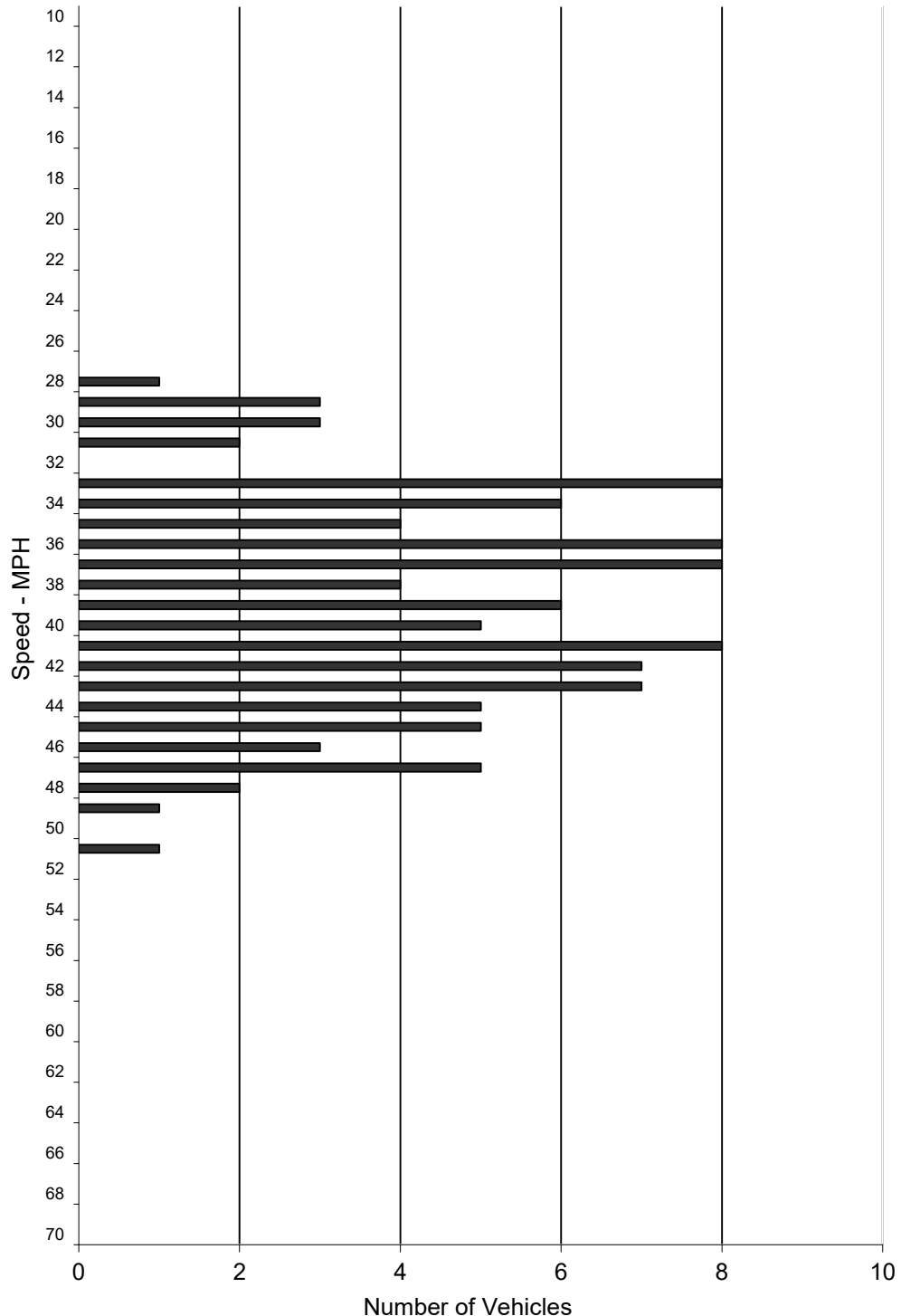
DATE: 9/20/2019
Start Time: 09:44 AM
DAY: Friday

Location: Vasco Road to Greenville Road
End Time: 10:23 AM
(Before) Speed Limit: 35 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: JL
Calibration: DONE
NEW Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 1 |
| 29 | 3 |
| 30 | 3 |
| 31 | 2 |
| 32 | 0 |
| 33 | 8 |
| 34 | 6 |
| 35 | 4 |
| 36 | 8 |
| 37 | 8 |
| 38 | 4 |
| 39 | 6 |
| 40 | 5 |
| 41 | 8 |
| 42 | 7 |
| 43 | 7 |
| 44 | 5 |
| 45 | 5 |
| 46 | 3 |
| 47 | 5 |
| 48 | 2 |
| 49 | 1 |
| 50 | 0 |
| 51 | 1 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 102 | 39.0 | 28 - 51 | 39 mph | 45 mph | 33 - 42 | 64 | 63% | 8% / 9 | 29% / 29 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: LAS POSITAS ROAD Adjacent Land Use: INDUSTRIAL
Limits: VASCO RD TO GREENVILLE RD No. of Lanes: 2/4

Roadway Description: Generally a 2-lane minor arterial street from Vasco Road to 550' east of Preston Avenue and widens to 4-lane divided arterial street from 550' east of Preston Avenue to Greenville Road with bike lanes through an industrial area, and numerous driveways. Parking is prohibited on this segment and length is 1.40 miles.

Collision History: There have been 11 reported collisions along this segment within the past three years.

Other Considerations: There is a high rate of large truck turning maneuvers in and out of intersecting local streets and driveways mixed with bike enthusiast observed training along this segment.

Recommendation: Based on the 85th percentile speed of 45 MPH, a speed limit of 45 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will increase to 40 MPH.

Spot Speed Study - City of Livermore

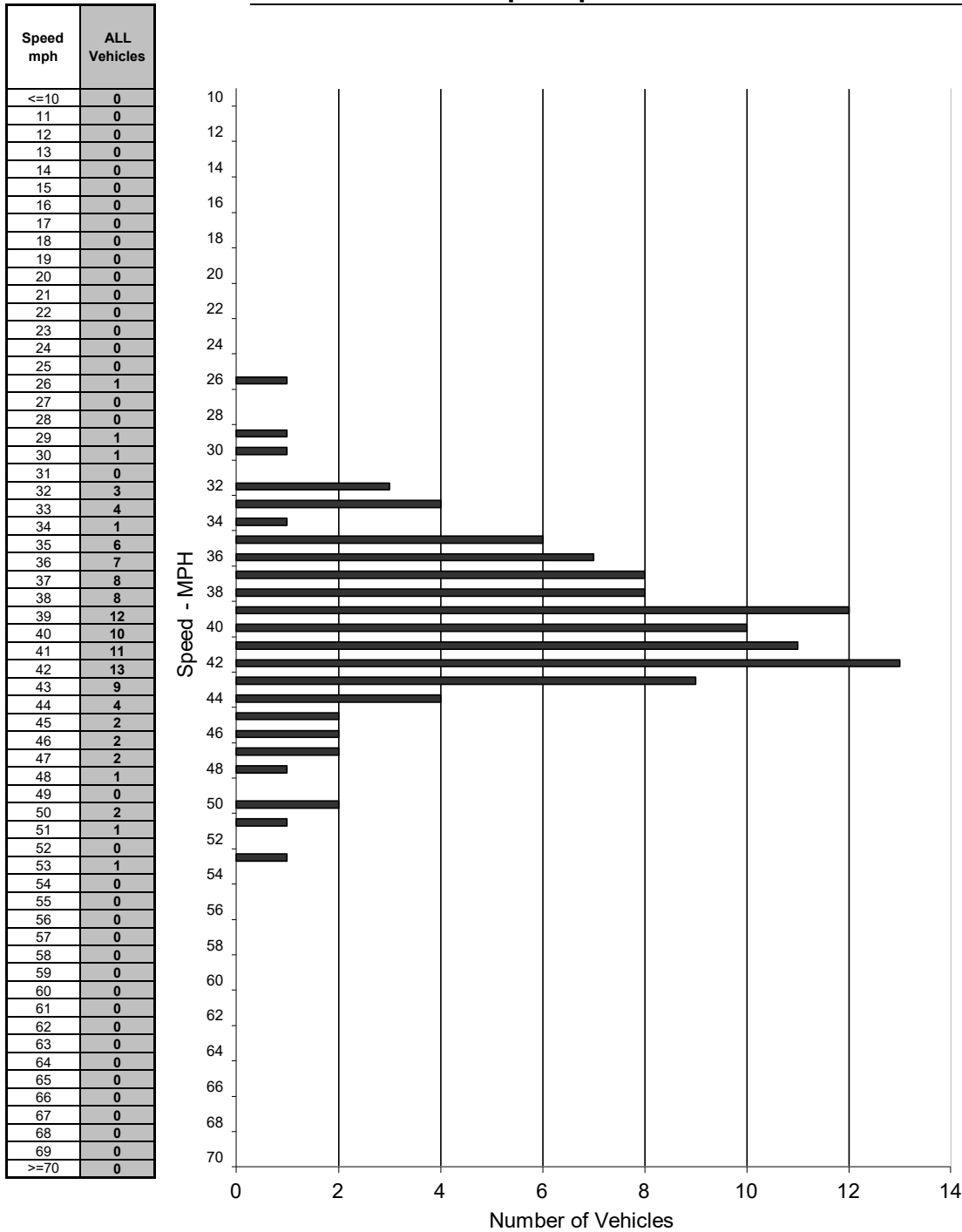
Laughlin Road

DATE: 10/7/2019
Start Time: 1:40 AM
DAY: Monday

Location: Northfront Road to North City Limit
End Time: 02:30 PM
(Before) Speed Limit: 40 MPH
Weather: Sunny
Direction: NB & SB

Observer: HI
Calibration: DONE
NEW Speed Limit: 40MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 110 | 39.7 | 26 - 53 | 40 mph | 43 mph | 35 - 44 | 88 | 80% | 10% / 11 | 10% / 11 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: LAUGHLIN ROAD

Adjacent Land Use: RESIDENTIAL

Limits: NORTHFRONT RD TO NORTH CITY LIMIT

No. of Lanes: 2

Roadway Description: 2-lane residential collector street with no fronting homes on the west side, and undeveloped on the east side. Parking is prohibited. The length of this segment is 1.08 miles.

Collision History: There have been no reported collisions along this segment within the past three years.

Other Considerations: There is a considerable amount of turning maneuvers in and out of intersecting local streets. For some of these intersections, a design speed greater than 40 MPH will not provide adequate safe stopping sight distance.

Recommendation: Based on the 85th percentile speed of 43 MPH, the existing 40 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

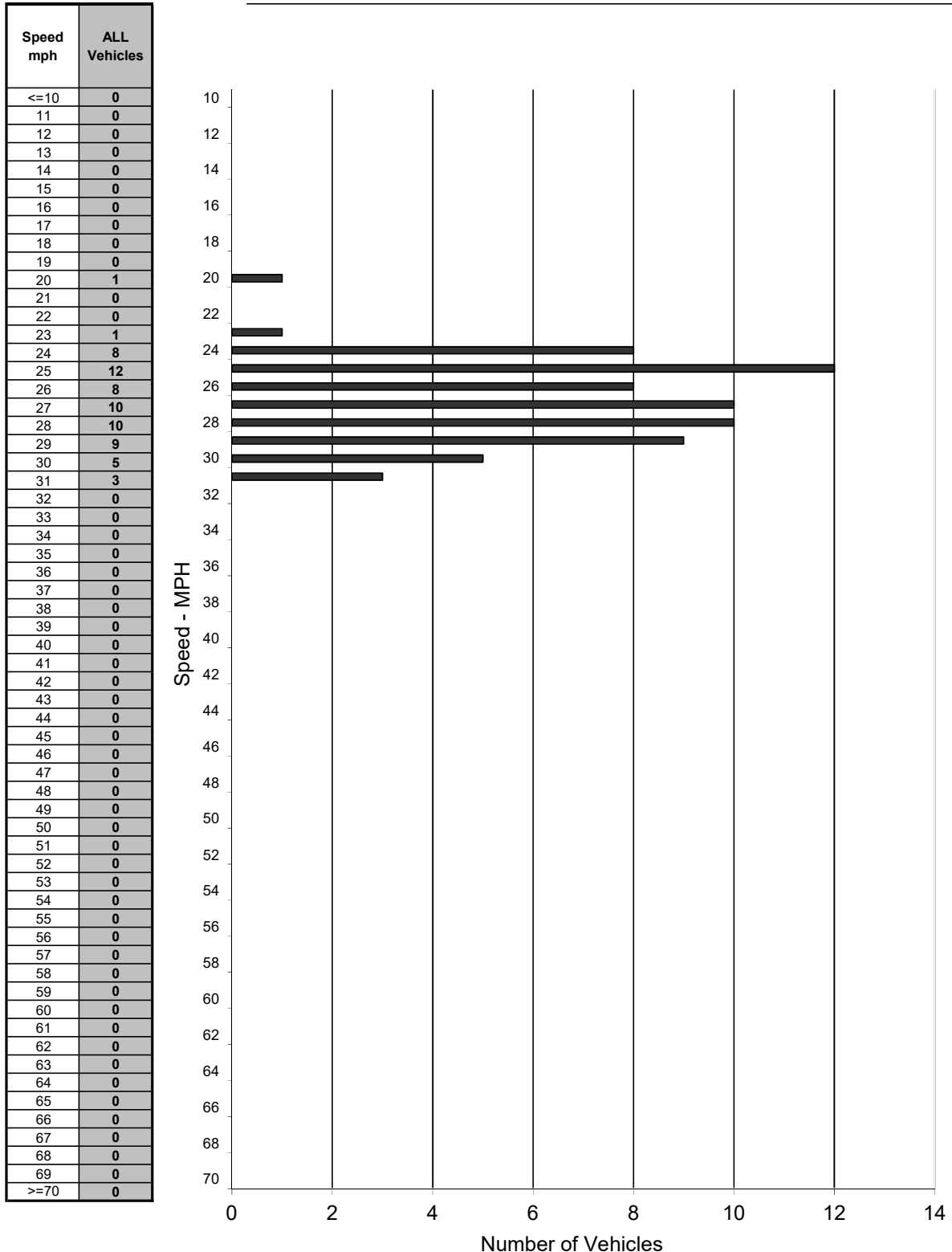
Lexington Way

DATE: 7/20/2020
Start Time: 1:40 PM
DAY: Monday

Location: Holmes Street to Superior Drive
End Time: 2:40 PM
Posted Speed: 25 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: CTS
Calibration: DONE
New Speed Limit: 25 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 67 | 26.8 | 20 - 31 | 27 mph | 29 mph | 22 - 31 | 66 | 99% | 1% / 1 | 0% / 0 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: LEXINGTON WAY

Adjacent Land Use: RESIDENTIAL

Limits: HOLMES ST TO SUPERIOR DR

No. of Lanes: 2

Roadway Description: A 2-lane residential collector street with bike lanes and on-street parking. The length of this segment is 0.50 miles.

Collision History: There have been no reported collisions along this segment within the past 3 years.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turning maneuvers. There is a mix of on-street parking maneuvers, bicycling activities, and pedestrian activities.

Recommendation: Based on the 85th percentile speed of 29 MPH, the existing 25 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Lindbergh Avenue

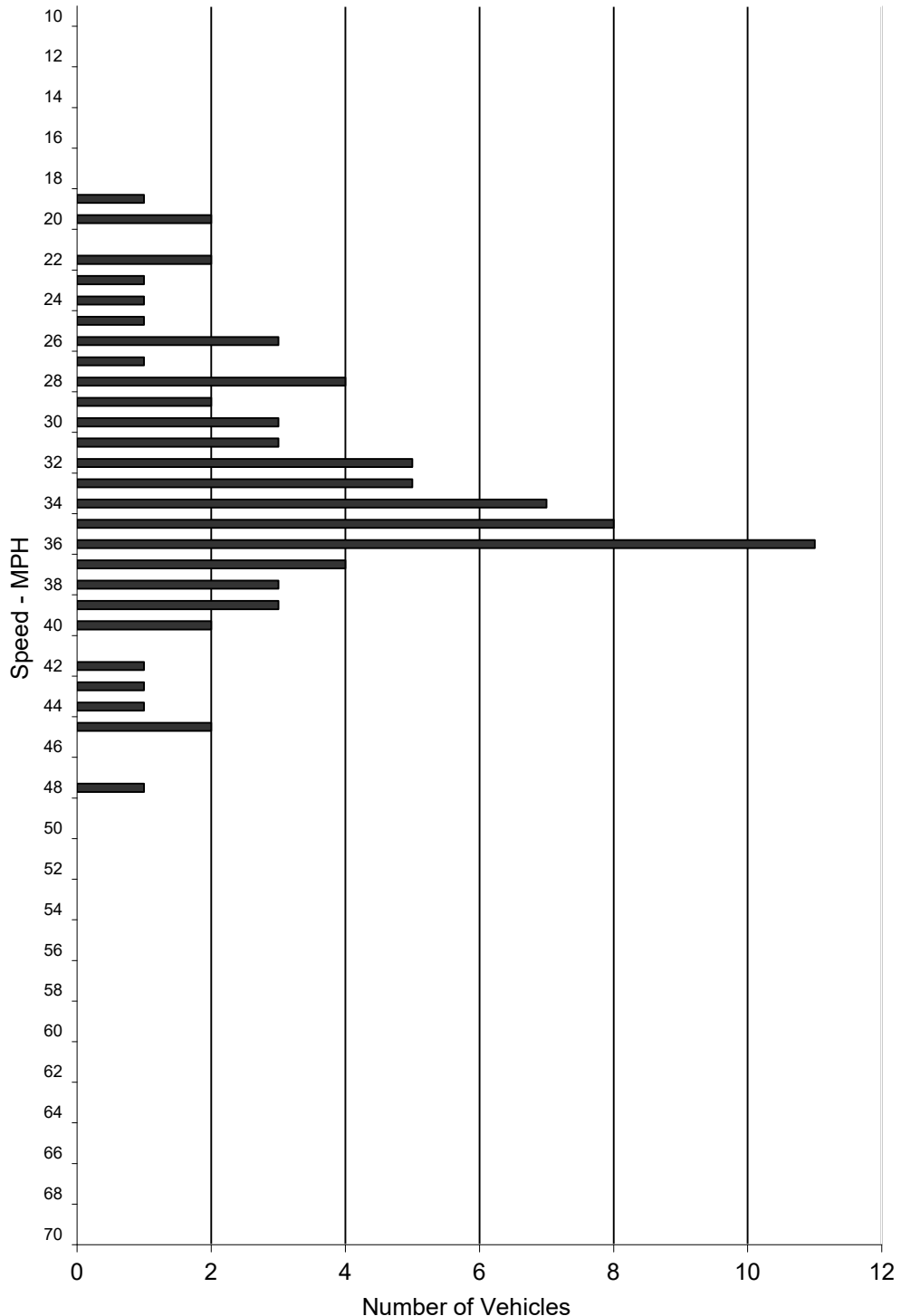
DATE: 8/5/2019
Start Time: 2:00 pm
DAY: Monday

Location: Nissen Dr - Branson Way
End Time: 3:00 pm
Posted Speed: 35 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 1 |
| 20 | 2 |
| 21 | 0 |
| 22 | 2 |
| 23 | 1 |
| 24 | 1 |
| 25 | 1 |
| 26 | 3 |
| 27 | 1 |
| 28 | 4 |
| 29 | 2 |
| 30 | 3 |
| 31 | 3 |
| 32 | 5 |
| 33 | 5 |
| 34 | 7 |
| 35 | 8 |
| 36 | 11 |
| 37 | 4 |
| 38 | 3 |
| 39 | 3 |
| 40 | 2 |
| 41 | 0 |
| 42 | 1 |
| 43 | 1 |
| 44 | 1 |
| 45 | 2 |
| 46 | 0 |
| 47 | 0 |
| 48 | 1 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 78 | 33.3 | 19 - 48 | 34 mph | 38 mph | 28 - 37 | 52 | 67% | 15% / 12 | 18% / 14 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: LINDBERGH AVENUE Adjacent Land Use: INDUSTRIAL

Limits: NISSEN DR TO BRANSON WAY No. of Lanes: 2

Roadway Description: 2-lane local street in an industrial area with on-street parking and numerous driveways. The Shrine Event Center is along this roadway. The length of this segment is 0.53 miles.

Collision History: There has been no reported collision along this segment within the past three years.

Other Considerations: Numerous driveways that result to a high rate of unexpected turning maneuvers including trucks. The Shrine Event Center regularly holds events that generate large attendance. At times, the street can be filled with parked vehicles and numerous pedestrian crossing activities occur.

Recommendation: Based on the 85th percentile speed of 38 MPH, the existing 35 MPH speed limit will remain ineffect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

South Livermore Avenue

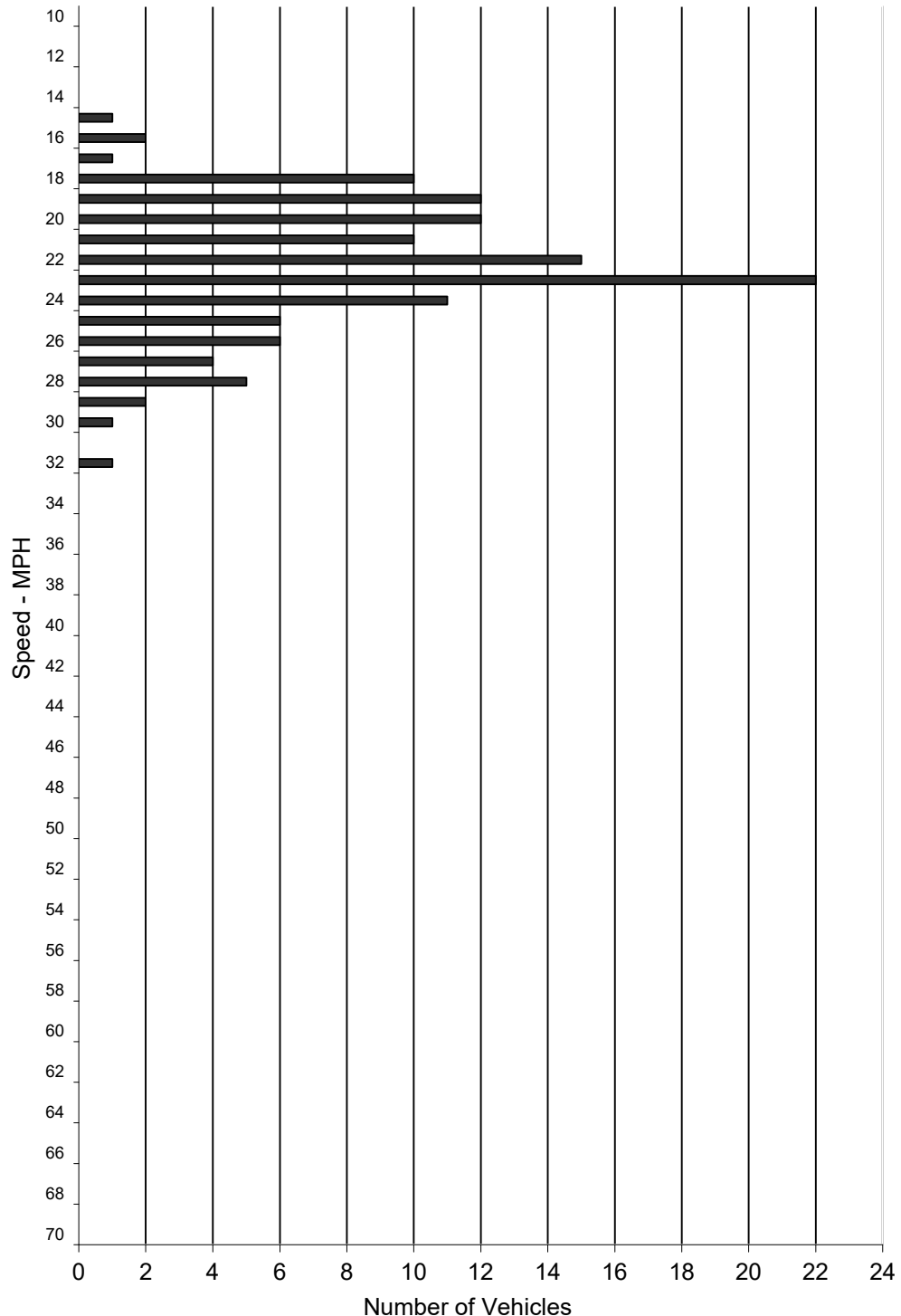
DATE: 11/21/2019
Start Time: 11:05 PM
DAY: Thursday

Location: Fourth Street to Railroad Avenue
End Time: 12:05 PM
(Before) Speed Limit: 25 MPH
Weather: clear & Dry
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 1 |
| 16 | 2 |
| 17 | 1 |
| 18 | 10 |
| 19 | 12 |
| 20 | 12 |
| 21 | 10 |
| 22 | 15 |
| 23 | 22 |
| 24 | 11 |
| 25 | 6 |
| 26 | 6 |
| 27 | 4 |
| 28 | 5 |
| 29 | 2 |
| 30 | 1 |
| 31 | 0 |
| 32 | 1 |
| 33 | 0 |
| 34 | 0 |
| 35 | 0 |
| 36 | 0 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 121 | 22.3 | 15 - 32 | 22 mph | 26 mph | 18 - 27 | 108 | 89% | 3% / 4 | 8% / 9 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: S.LIVERMORE AVENUE

Adjacent Land Use: COMMERCIAL

Limits: RAILROAD AVE TO FOURTH ST

No. of Lanes: 2 to 3

Roadway Description: An arterial street with 2 lanes widening to 3 lanes towards the south end of the segment through the downtown business district. Parking is permitted in some areas. The length of this segment is 0.32 miles.

Collision History: There have been 25 reported collisions along this segment within the past three years. This equates to 5.32 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a central business district with numerous driveways, on-street parking maneuvers, crosswalks with high pedestrian activity.

Recommendation: Based on the 85th percentile speed of 26 MPH, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

South Livermore Avenue

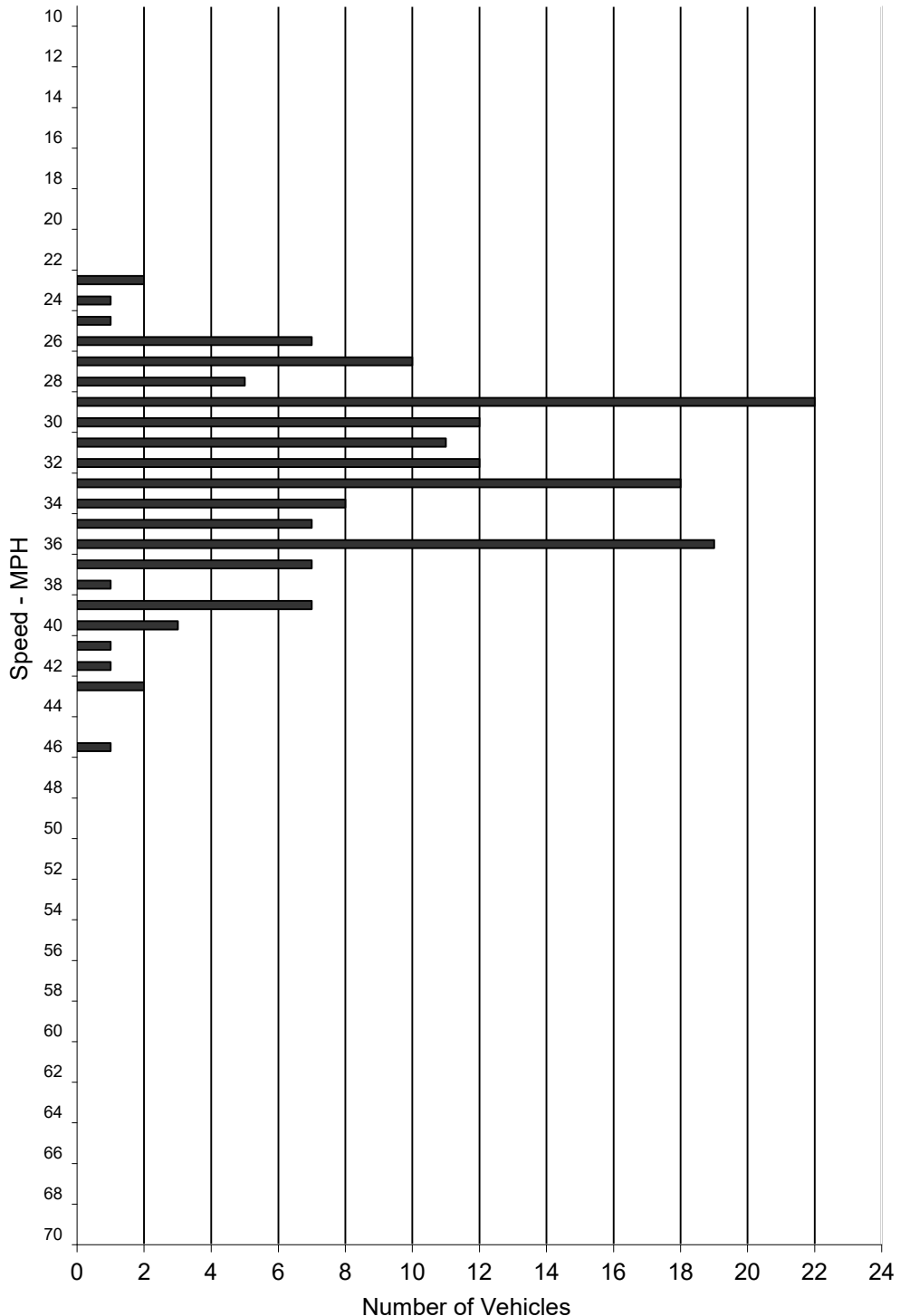
DATE: 11/21/2019
Start Time: 12:20 PM
DAY: Thursday

Location: Fourth Street to Palm Avenue
End Time: 1:02 PM
(Before) Speed Limit: 30 MPH
Weather: Dry & Clean
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 2 |
| 24 | 1 |
| 25 | 1 |
| 26 | 7 |
| 27 | 10 |
| 28 | 5 |
| 29 | 22 |
| 30 | 12 |
| 31 | 11 |
| 32 | 12 |
| 33 | 18 |
| 34 | 8 |
| 35 | 7 |
| 36 | 19 |
| 37 | 7 |
| 38 | 1 |
| 39 | 7 |
| 40 | 3 |
| 41 | 1 |
| 42 | 1 |
| 43 | 2 |
| 44 | 0 |
| 45 | 0 |
| 46 | 1 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 158 | 32.3 | 23 - 46 | 32 mph | 36 mph | 27 - 36 | 124 | 78% | 6% / 11 | 15% / 23 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: S. LIVERMORE AVENUE Adjacent Land Use : RESIDENTIAL

Limits: FOURTH ST TO PALM AVE No. of Lanes: 2

Roadway Description: A 2-lane collector street through primarily a residential area, with fronting homes and a commercial complex at the south end of the segment. Bike lanes are present intermittently along both sides of the street. Parking is permitted. The length of this segment is 0.40 miles.

Collision History: There have been 16 reported collisions along this segment within the past three years. This equates to 4.58 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, and high pedestrian and bicycling activities.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

South Livermore Avenue

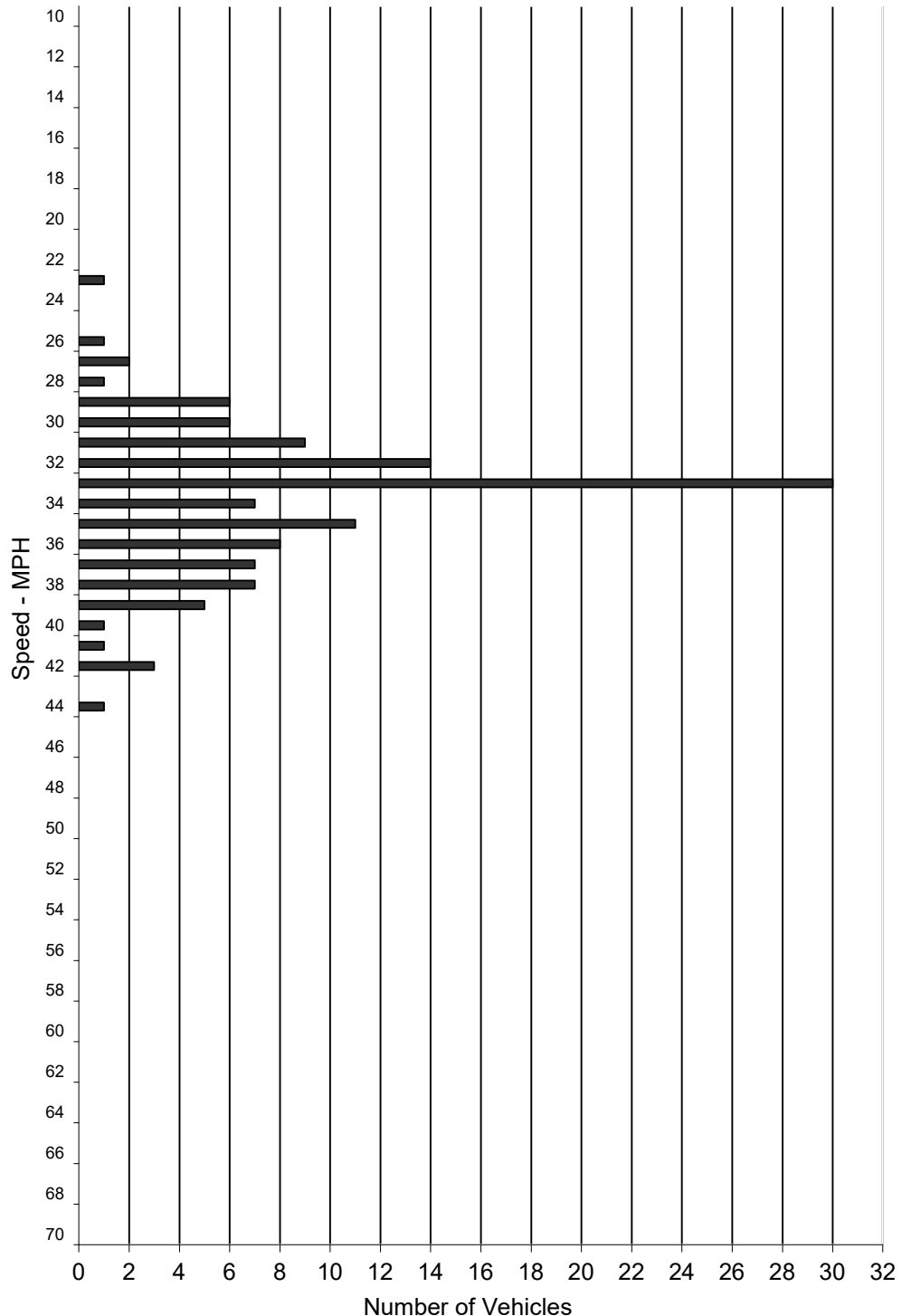
DATE: 12/5/2019
Start Time: 3:07 PM
DAY: Thursday

Location: Palm Avenue to Chateau Way
End Time: 3:39 PM
(Before) Speed Limit: 30 MPH
Weather: cloudy
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 1 |
| 24 | 0 |
| 25 | 0 |
| 26 | 1 |
| 27 | 2 |
| 28 | 1 |
| 29 | 6 |
| 30 | 6 |
| 31 | 9 |
| 32 | 14 |
| 33 | 30 |
| 34 | 7 |
| 35 | 11 |
| 36 | 8 |
| 37 | 7 |
| 38 | 7 |
| 39 | 5 |
| 40 | 1 |
| 41 | 1 |
| 42 | 3 |
| 43 | 0 |
| 44 | 1 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 121 | 33.8 | 23 - 44 | 33 mph | 37 mph | 29 - 38 | 105 | 87% | 4% / 5 | 10% / 11 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: S. LIVERMORE AVENUE

Adjacent Land Use: RESIDENTIAL

Limits: PALM AVE TO CHATEAU WAY

No. of Lanes: 2

Roadway Description: 2-lane collector street with on-street parking, bike lanes, and median turn lane through an area of residential and commercial development. Fronting homes, the main library, and civic center are along this segment. A private elementary school and a multi use trail are present just south of the segment limit. The length of this segment is 0.42 miles.

Collision History: There have been 7 reported collisions along this segment within the past three years. This equates to 1.91 collisions per million vehicle miles, which is higher than the statewide average of 1.41 for this type of roadway

Other Considerations: This segment has numerous driveways, on-street parking maneuvers, high pedestrian activities especially at the library area, and high bicycling activity due to its proximity to multi-use trails.

Recommendation: Based on the 85th percentile speed of 37 MPH, a speed limit of 35 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

South Livermore Avenue

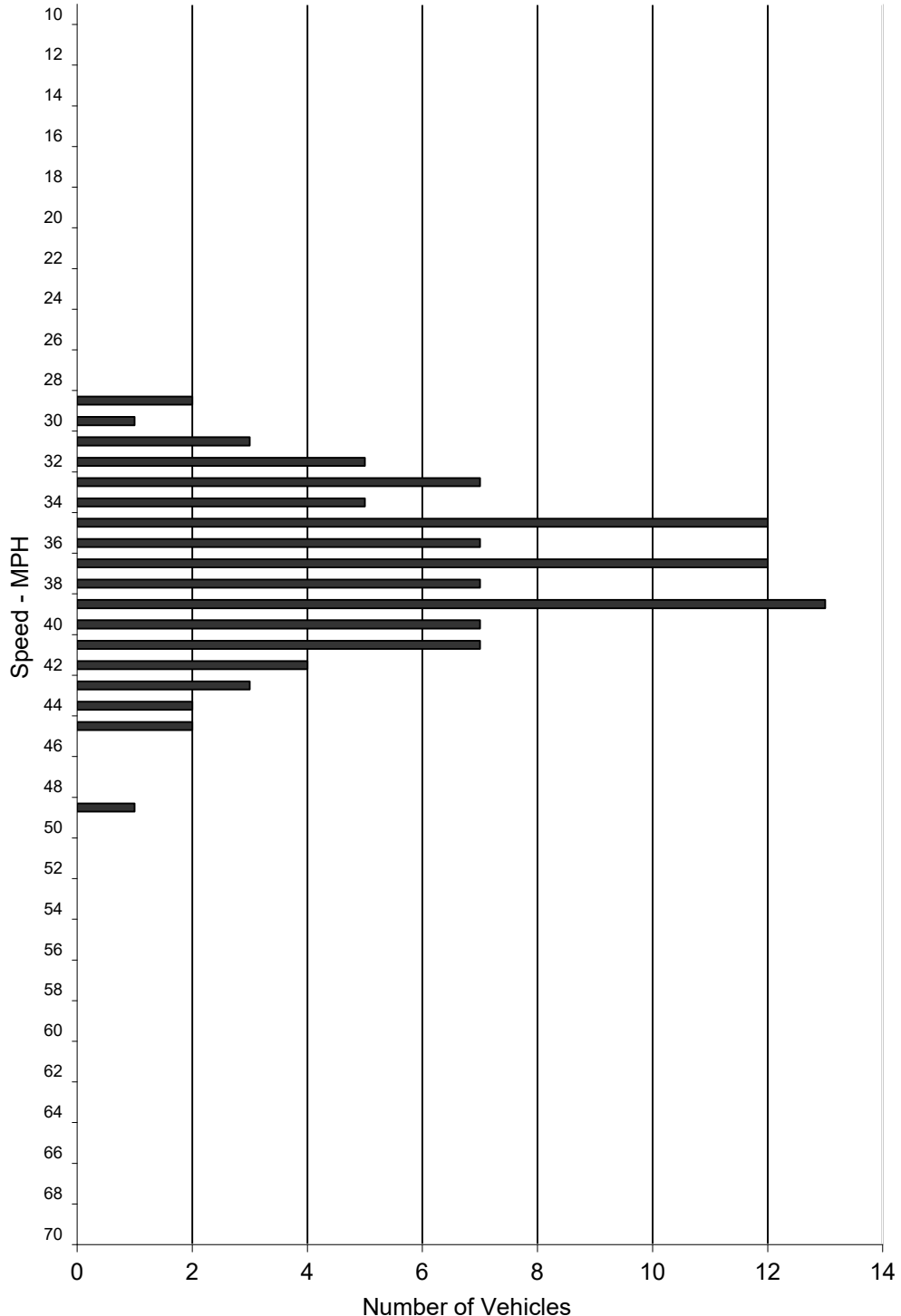
DATE: 9/5/2019
Start Time: 10:07 am
DAY: Thursday

Location: Chateau Way - South City Limits
End Time: 10:50 am
Posted Speed: 40 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: MD
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 2 |
| 30 | 1 |
| 31 | 3 |
| 32 | 5 |
| 33 | 7 |
| 34 | 5 |
| 35 | 12 |
| 36 | 7 |
| 37 | 12 |
| 38 | 7 |
| 39 | 13 |
| 40 | 7 |
| 41 | 7 |
| 42 | 4 |
| 43 | 3 |
| 44 | 2 |
| 45 | 2 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 1 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 37.2 | 29 - 49 | 37 mph | 41 mph | 32 - 41 | 82 | 82% | 6% / 6 | 12% / 12 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SOUTH LIVERMORE AVENUE Adjacent Land Use: AGRICULTURAL/RESIDENTIAL

Limits: CHATEAU WAY TO SOUTH CITY LIMIT No. of Lanes: 2

Roadway Description: A 2-lane collector street with senior housing and vineyards on one side, a church, school, park, and residential on the other side. A multi-use trail crossing exists at the northern portion of the segment, and multi use trail running along west side from Concannon Boulevard to the County area.

Collision History: There have been 6 reported collisions along this segment within the past three years. This equates to 1.56 collisions per million vehicle miles, which is higher than the statewide average of 1.41 for this type of roadway

Other Considerations: Unimproved shoulders along the easterly side south of the Civic Center and Library area. High pedestrian activity just to the north of the segment limit because of the Library. High bicycling and jogging activity due to the multi-use trails, and is often used by bicycling enthusiasts as part of their training and recreational route.

Recommendation: Based on the 85th percentile speed of 41 MPH, a speed limit of 40 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 40 MPH speed limit will be reduced to 35 MPH.

Spot Speed Study - City of Livermore

N. Livermore Avenue

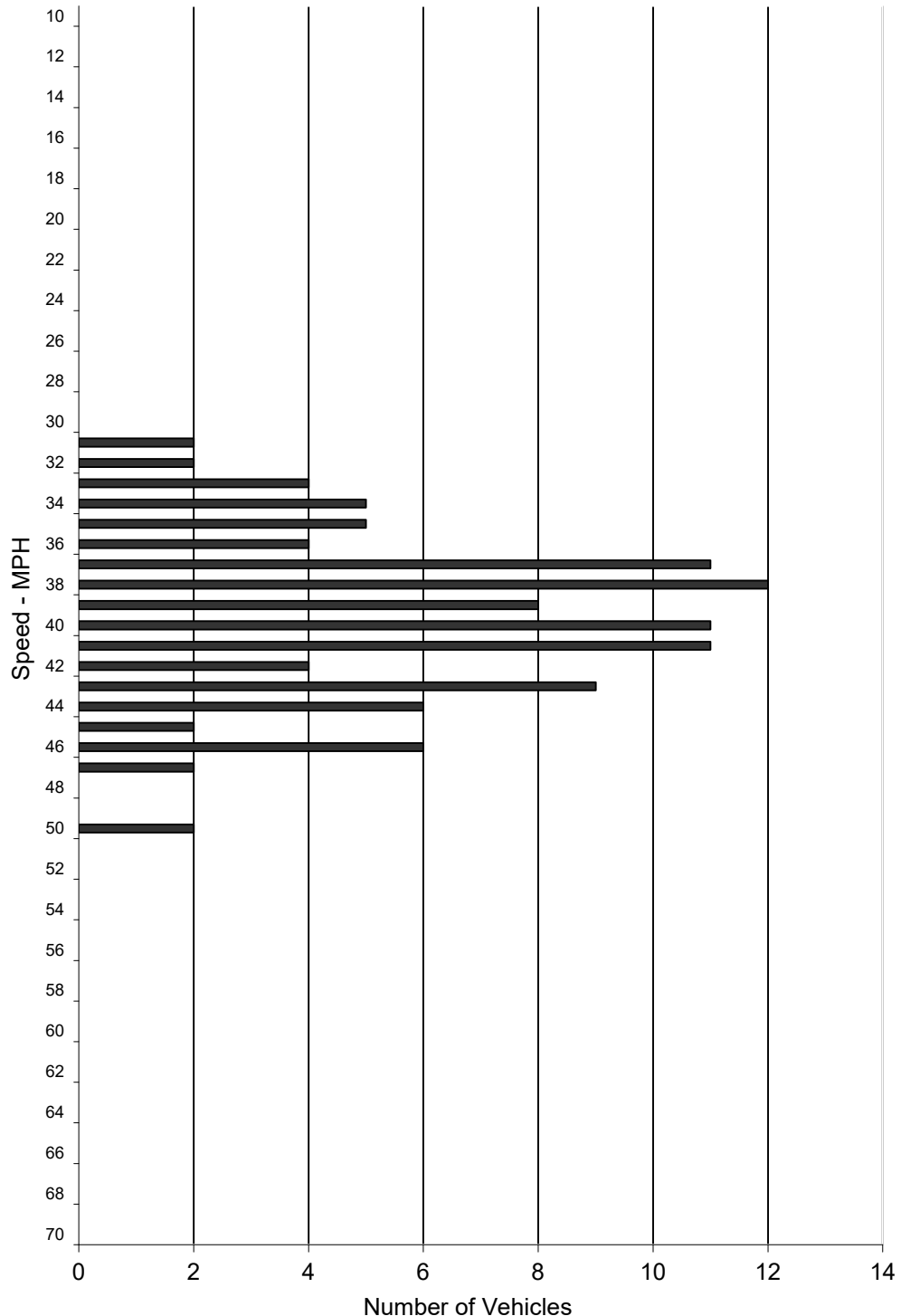
DATE: 12/20/2019
Start Time: 9:20 AM
DAY: Friday

Location: I-580 to 600' North of Cromwell Way
End Time: 10:50 AM
(Before) Speed Limit: 40 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: CTS
Calibration: DONE
NEW Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 2 |
| 32 | 2 |
| 33 | 4 |
| 34 | 5 |
| 35 | 5 |
| 36 | 4 |
| 37 | 11 |
| 38 | 12 |
| 39 | 8 |
| 40 | 11 |
| 41 | 11 |
| 42 | 4 |
| 43 | 9 |
| 44 | 6 |
| 45 | 2 |
| 46 | 6 |
| 47 | 2 |
| 48 | 0 |
| 49 | 0 |
| 50 | 2 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 106 | 39.5 | 31 - 50 | 39 mph | 44 mph | 35 - 44 | 81 | 76% | 12% / 13 | 12% / 12 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: N. LIVERMORE AVENUE

Adjacent Land Use: COMMERCIAL

Limits: I-580 TO 600' NORTH OF CROMWELL WAY

No. of Lanes: 4

Roadway Description: A 4-lane divided arterial street with bike lanes through a commercial area. Parking is prohibited. The length of this segment is 0.36 miles.

Collision History: There have been 29 reported collisions along this segment within the past three years. This equates to 2.25 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 44 MPH, the existing 40 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

N. Livermore Avenue

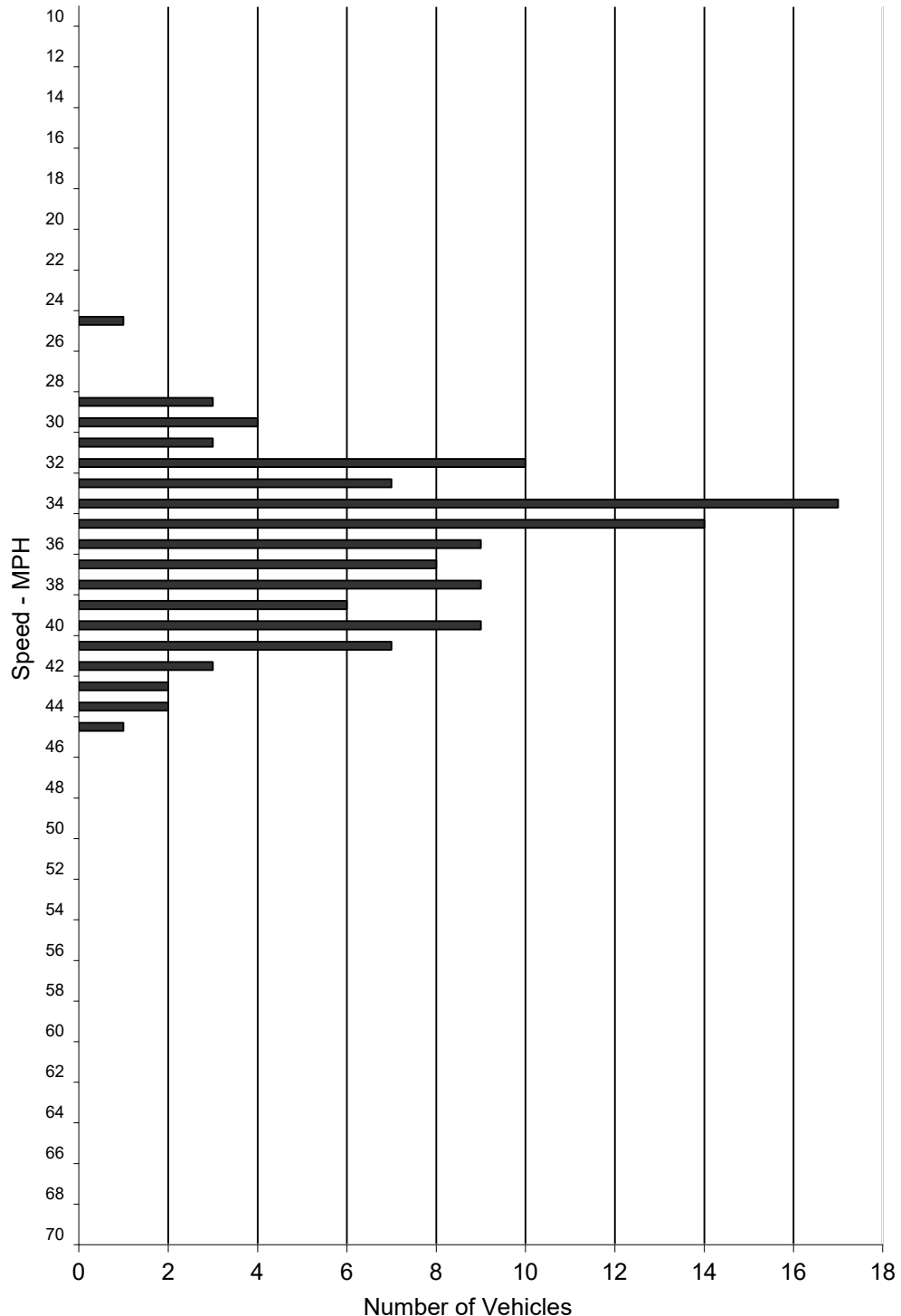
DATE: 12/20/2019
Start Time: 10:55 AM
DAY: Friday

Location: 600' North of Cromwell to Portola Avenue
End Time: 11:20 AM
(Before) Speed Limit: 30 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: CTS
Calibration: DONE
NEW Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 1 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 3 |
| 30 | 4 |
| 31 | 3 |
| 32 | 10 |
| 33 | 7 |
| 34 | 17 |
| 35 | 14 |
| 36 | 9 |
| 37 | 8 |
| 38 | 9 |
| 39 | 6 |
| 40 | 9 |
| 41 | 7 |
| 42 | 3 |
| 43 | 2 |
| 44 | 2 |
| 45 | 1 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 115 | 35.9 | 25 - 45 | 35 mph | 40 mph | 32 - 41 | 96 | 83% | 9% / 11 | 7% / 8 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: N. LIVERMORE AVENUE Adjacent Land Use: COMMERCIAL/RESIDENTIAL
Limits: 600' NORTH OF CROMWELL WAY TO PORTOLA AVE No. of Lanes: 4

Roadway Description: 4-lane divided arterial street with bike lanes through commercial, and residential areas. Parking is prohibited. The length of this segment is 0.27 miles.

Collision History: There have been 21 reported collisions along this segment within the past three years. This equates to 2.29 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway

Other Considerations: There is a high rate of turning maneuvers in and out of commercial driveways and high collision rate coupled with bicycling activities.

Recommendation: Based on the 85th percentile speed of 40 MPH, a speed limit of 40 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will increase to 35 MPH.

Spot Speed Study - City of Livermore

North Livermore Avenue

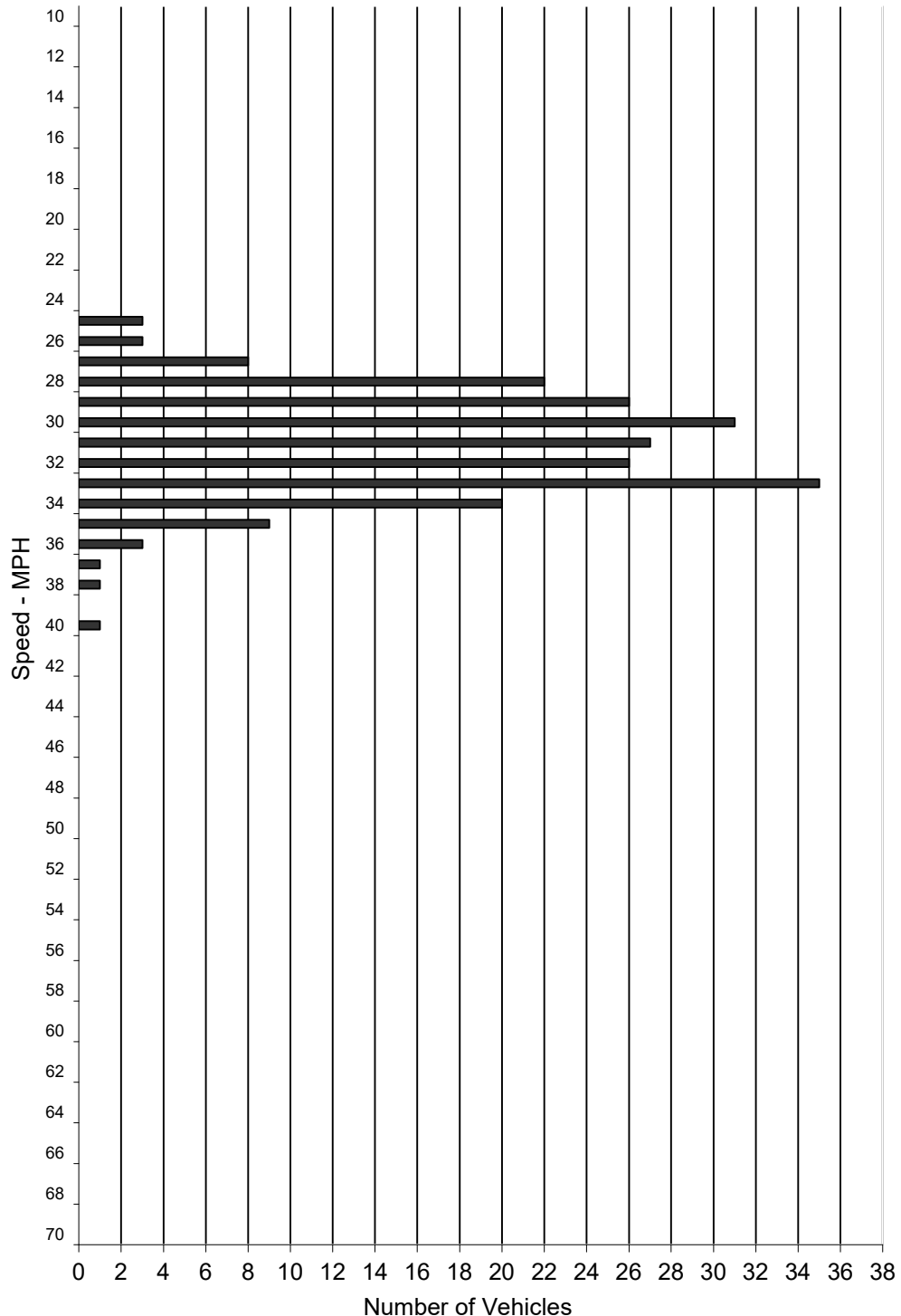
DATE: 12/12/2019
Start Time: 2:15 PM
DAY: Tuesday

Location: Portola Avenue to Railroad Avenue
End Time: 3:15 PM
(Before) Speed Limit: 30 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: JT
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 3 |
| 26 | 3 |
| 27 | 8 |
| 28 | 22 |
| 29 | 26 |
| 30 | 31 |
| 31 | 27 |
| 32 | 26 |
| 33 | 35 |
| 34 | 20 |
| 35 | 9 |
| 36 | 3 |
| 37 | 1 |
| 38 | 1 |
| 39 | 0 |
| 40 | 1 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 216 | 31.1 | 25 - 40 | 31 mph | 34 mph | 26 - 35 | 207 | 96% | 1% / 3 | 3% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: N. LIVERMORE AVENUE

Adjacent Land Use: RESIDENTIAL

Limits: PORTOLA AVE TO RAILROAD AVE

No. of Lanes: 4

Roadway Description: 4-lane arterial street through a residential area, with fronting homes, parking, school crosswalks at two locations, and schools nearby this segment. The length of this segment is 0.56 miles.

Collision History: There have been 54 reported collisions along this segment within the past three years. This equates to 4.68 collisions per million vehicle miles, which is higher than the statewide average of 1.98 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, crosswalks for route to school, and high pedestrian activity especially due to the schools in the area.

Recommendation: Based on the 85th percentile speed of 34 MPH, the existing 30 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Maple Street

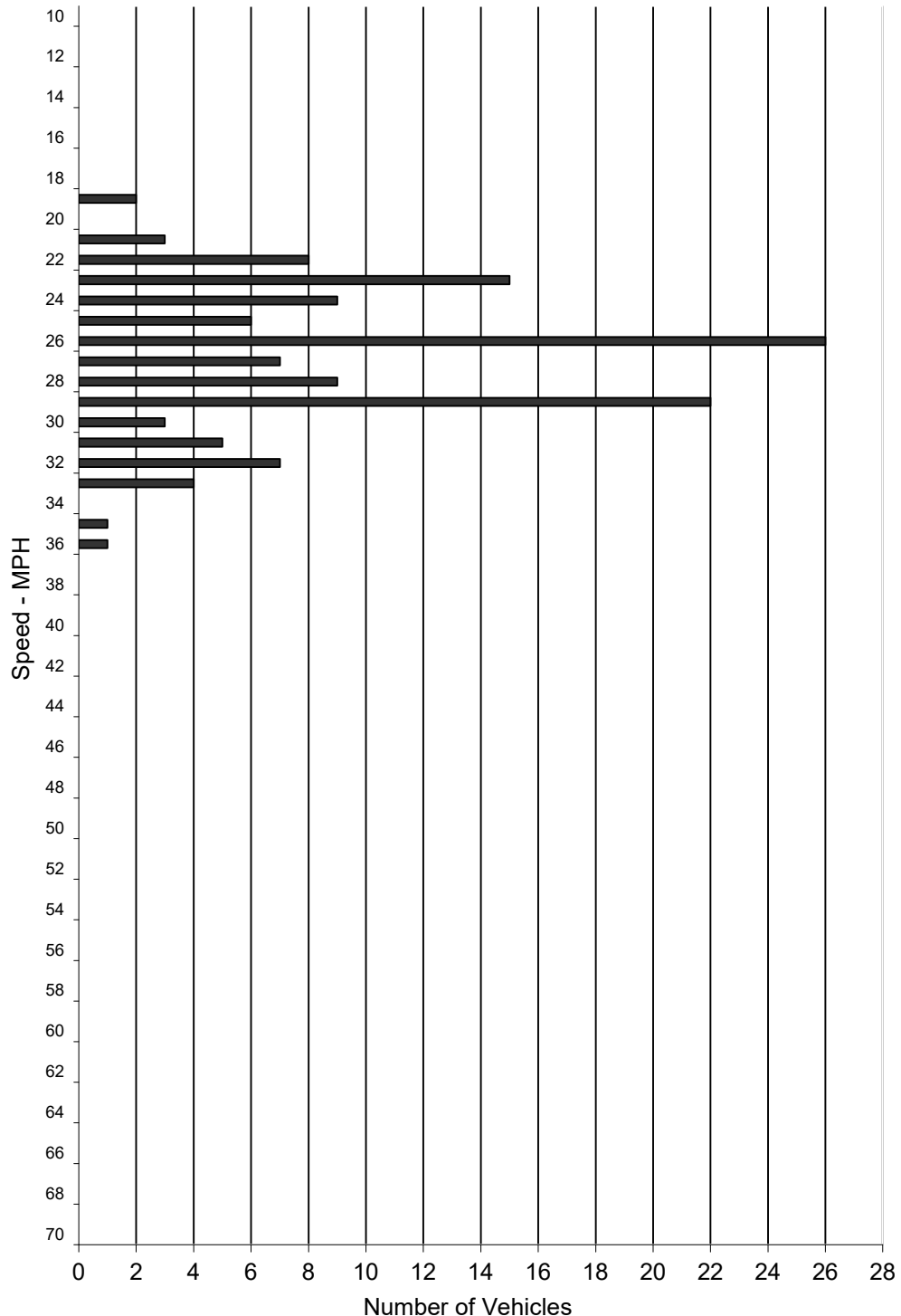
DATE: 12/9/2019
Start Time: 4:00 PM
DAY: Monday

Location: Railroad Avenue to East Avenue
End Time: 1:44 PM
(Before) Speed Limit: 25 MPH
Weather: Cloudy/Dry
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 2 |
| 20 | 0 |
| 21 | 3 |
| 22 | 8 |
| 23 | 15 |
| 24 | 9 |
| 25 | 6 |
| 26 | 26 |
| 27 | 7 |
| 28 | 9 |
| 29 | 22 |
| 30 | 3 |
| 31 | 5 |
| 32 | 7 |
| 33 | 4 |
| 34 | 0 |
| 35 | 1 |
| 36 | 1 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 128 | 26.7 | 19 - 36 | 26 mph | 30 mph | 22 - 31 | 110 | 86% | 3% / 5 | 11% / 13 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: MAPLE STREET Adjacent Land Use: RESIDENTIAL

Limits: RAILROAD AVE TO EAST AVE No. of Lanes: 2

Roadway Description: 2-lane residential collector street with bike lanes, parking, and numerous school crosswalks. Livermore High School, and a church with elementary school are on this segment. The length of this segment is 0.46 miles.

Collision History: There have been 29 reported collisions along this segment within the past three years. This equates to 9.47 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment has numerous driveways, on-street parking maneuvers, heavy pedestrian activity especially near the schools.

Recommendation: Based on the 85th percentile speed of 30 MPH, a speed limit of 30 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Mines Road

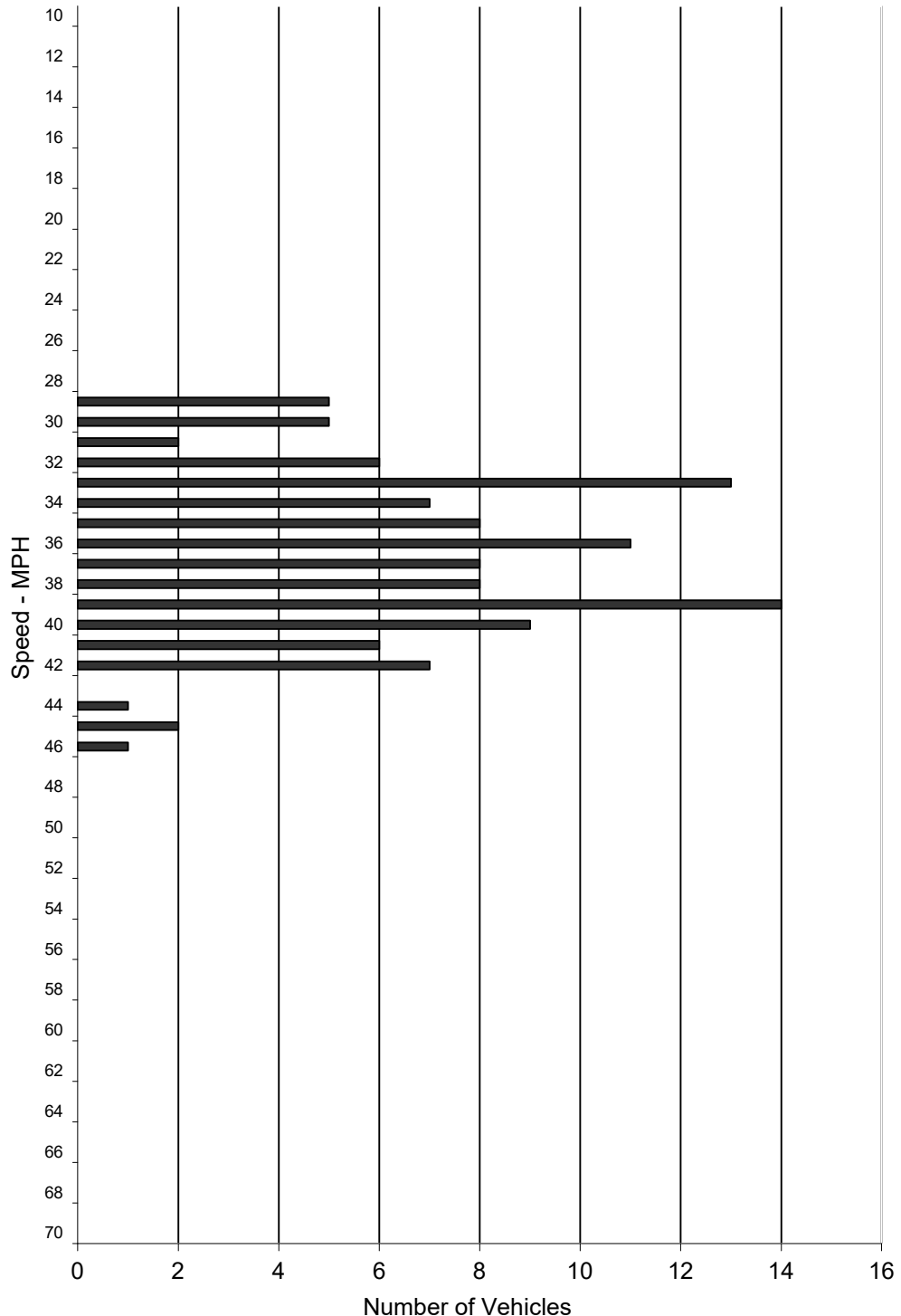
DATE: 6/16/2020
Start Time: 3:15 PM
DAY: Tuesday

Location: Las Positas Road to Highland Street
End Time: 3:44 PM
(Before) Speed Limit: 35 MPH
Weather: Clear
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 5 |
| 30 | 5 |
| 31 | 2 |
| 32 | 6 |
| 33 | 13 |
| 34 | 7 |
| 35 | 8 |
| 36 | 11 |
| 37 | 8 |
| 38 | 8 |
| 39 | 14 |
| 40 | 9 |
| 41 | 6 |
| 42 | 7 |
| 43 | 0 |
| 44 | 1 |
| 45 | 2 |
| 46 | 1 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 113 | 36.4 | 29 - 46 | 36 mph | 41 mph | 33 - 42 | 91 | 81% | 15% / 18 | 4% / 4 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: MINES ROAD Adjacent Land Use: OPEN SPACE/RESIDENTIAL

Limits: LAS POSITAS RD TO HIGHLAND ST No. of Lanes: 2

Roadway Description: 2-lane collector street through an open space area with bike lanes. The south portion of this segment is through a residential area, with no fronting homes, and parking is prohibited. The length of this segment is 0.45 miles.

Collision History: There have been 3 reported collisions along this segment within the past three years. This equates to 1.35 collisions per million vehicle miles.

Other Considerations: Bicycling activity is common along this segment. Median chocker was installed towards the southerly end of the segment approaching the residential area to slow down traffic with a design speed of 35 MPH.

Recommendation: Based on the 85th percentile speed of 41 MPH, a speed limit of 40 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Mines Road

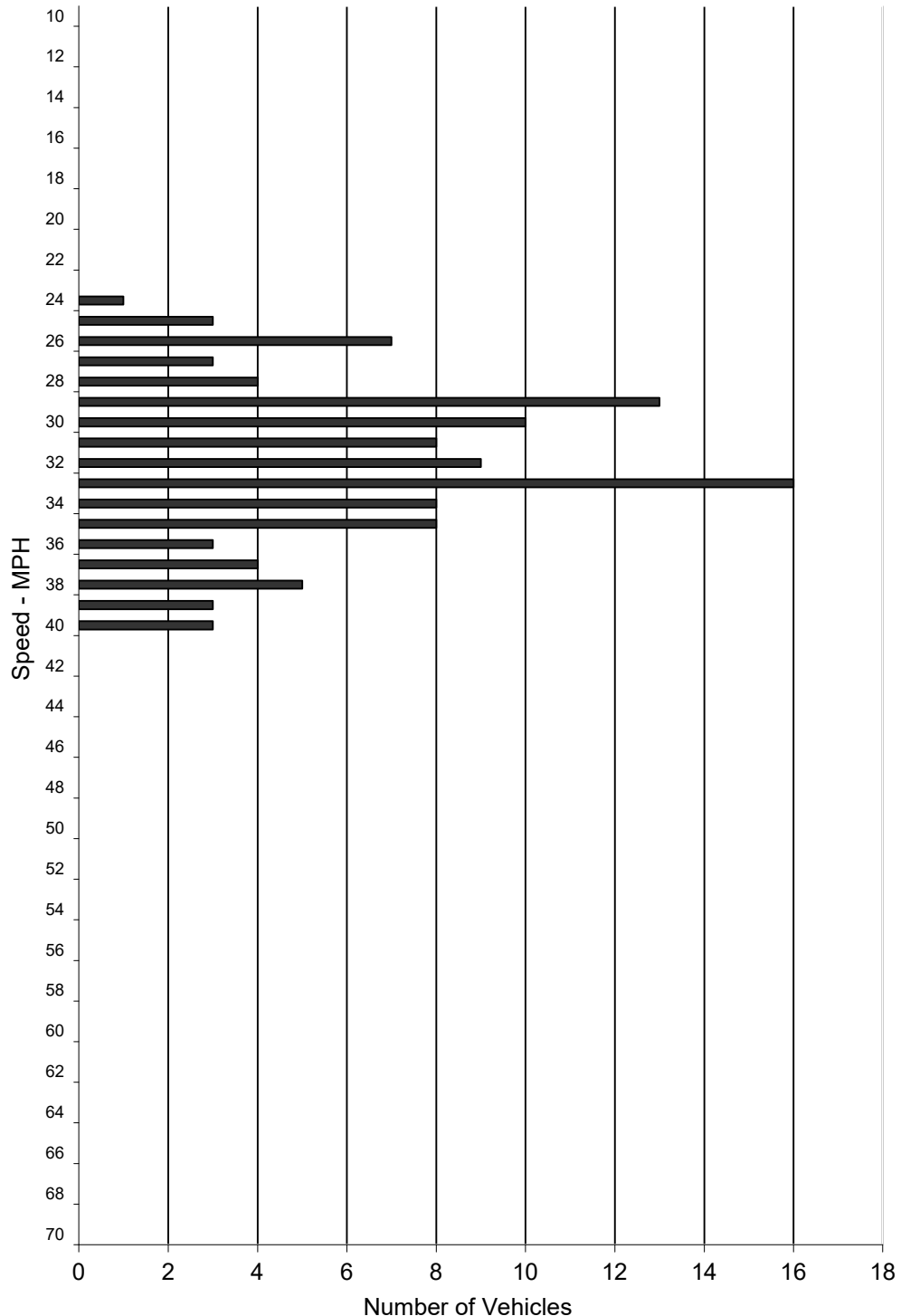
DATE: 12/5/2019
Start Time: 4:03 PM
DAY: Thursday

Location: Highland Street to First Street
End Time: 4:33 PM
(Before) Speed Limit: 30 MPH
Weather: Cloudy
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 1 |
| 25 | 3 |
| 26 | 7 |
| 27 | 3 |
| 28 | 4 |
| 29 | 13 |
| 30 | 10 |
| 31 | 8 |
| 32 | 9 |
| 33 | 16 |
| 34 | 8 |
| 35 | 8 |
| 36 | 3 |
| 37 | 4 |
| 38 | 5 |
| 39 | 3 |
| 40 | 3 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 108 | 31.9 | 24 - 40 | 32 mph | 36 mph | 26 - 35 | 86 | 80% | 3% / 4 | 17% / 18 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: MINES ROAD Adjacent Land Use: RESIDENTIAL

Limits: HIGHLAND ST TO FIRST ST No. of Lanes: 2

Roadway Description: 2-lane residential collector street, with no fronting homes or on-street parking. A City park is along this segment. The length of this segment is 0.40 miles.

Collision History: There have been 5 reported collisions along this segment within the past three years. This equates to 5.52 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: Bicycling activity is common along this segment and numerous pedestrian crossings due to the Park and residential nature of the area. Median chocker was installed towards the middle of the segment to help slow down traffic.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Mines Road

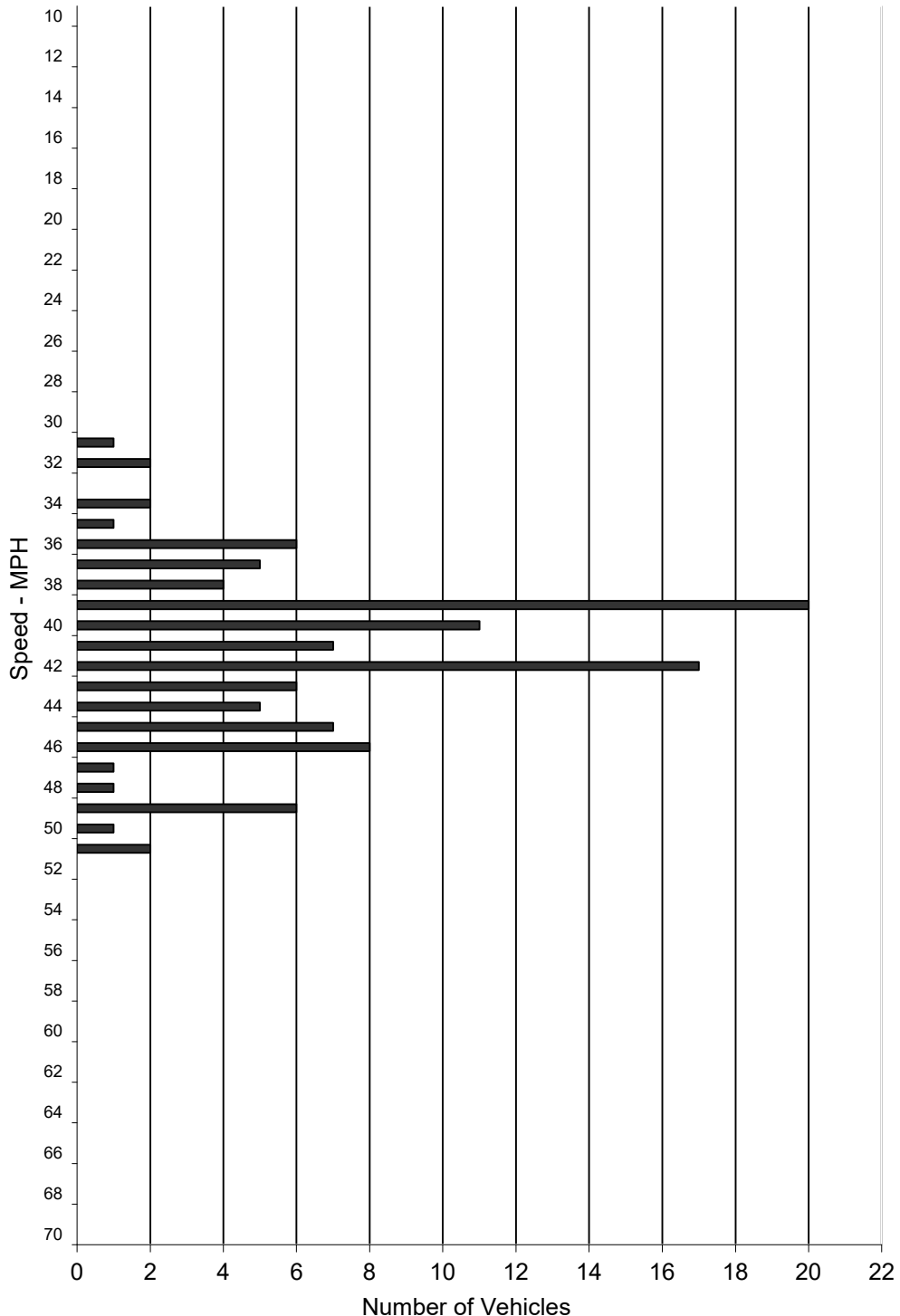
DATE: 12/6/2019
Start Time: 12:37 PM
DAY: Friday

Location: First Street to East Avenue
End Time: 1:06 PM
(Before) Speed Limit: 40 MPH
Weather: Cloudy
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 1 |
| 32 | 2 |
| 33 | 0 |
| 34 | 2 |
| 35 | 1 |
| 36 | 6 |
| 37 | 5 |
| 38 | 4 |
| 39 | 20 |
| 40 | 11 |
| 41 | 7 |
| 42 | 17 |
| 43 | 6 |
| 44 | 5 |
| 45 | 7 |
| 46 | 8 |
| 47 | 1 |
| 48 | 1 |
| 49 | 6 |
| 50 | 1 |
| 51 | 2 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 113 | 41.4 | 31 - 51 | 41 mph | 46 mph | 37 - 46 | 90 | 80% | 10% / 12 | 10% / 11 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: MINES ROAD

Adjacent Land Use: RESIDENTIAL/INDUSTRIAL

Limits: FIRST ST TO EAST AVE

No. of Lanes: 4

Roadway Description: 4-lane divided arterial street through a residential/ industrial area, with on-street bike lanes, no fronting homes, and no on-street parking. The length of this segment is 1.30 miles.

Collision History: There have been 42 reported collisions along this segment within the past three years. This equates to 1.93 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: Bicycling activity is common along this segment. The vertical curve for a bridge along this segment limits sight distance.

Recommendation: Based on the 85th percentile speed of 46 MPH, a speed limit of 45 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 40 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Murdell Lane

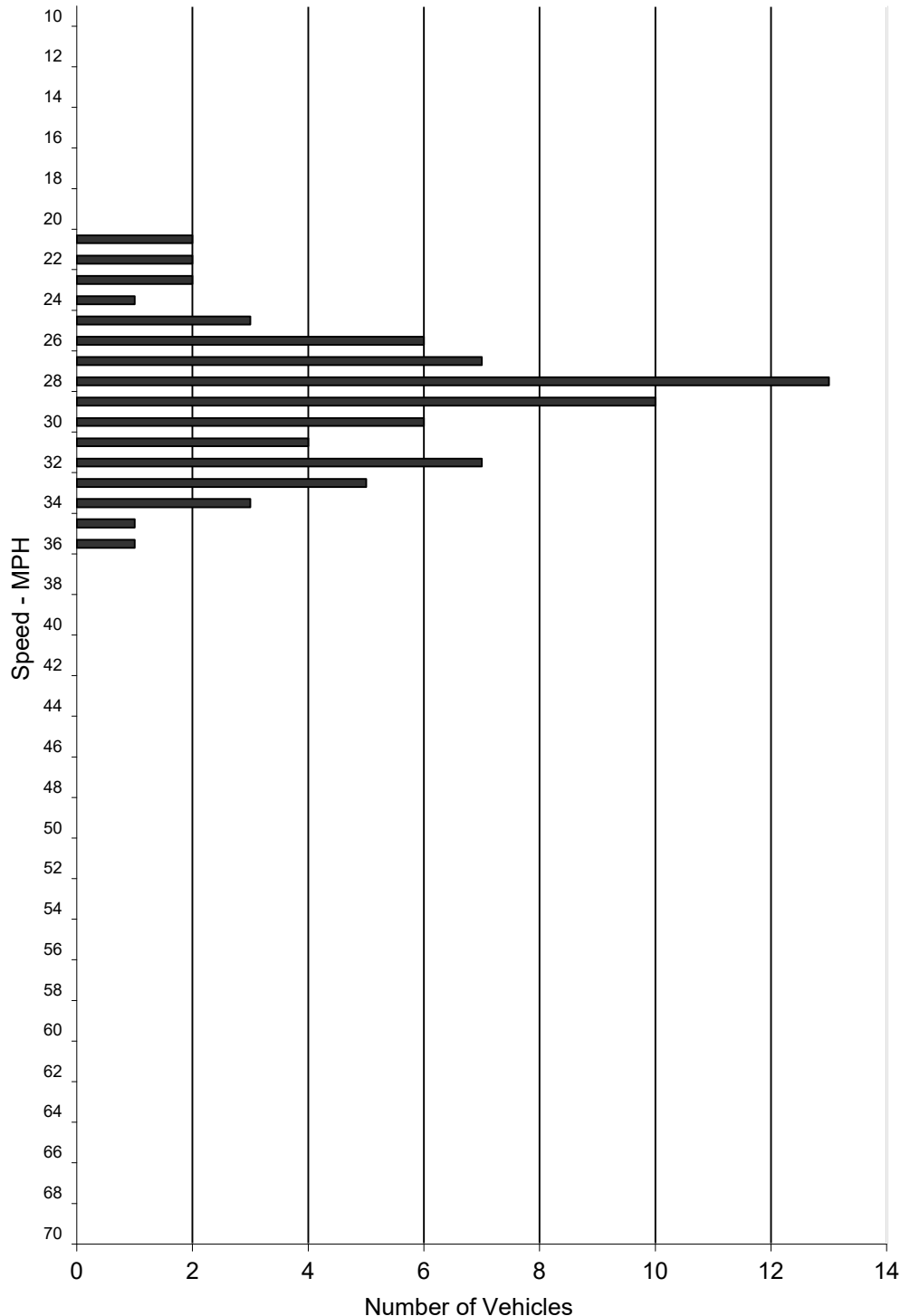
DATE: 5/13/2020
Start Time: 2:59 pm
DAY: Wednesday

Location: East Stanley Blvd - Concannon Blvd
End Time: 3:59 pm
Posted Speed: 25 MPH
Weather: Cloudy
Direction: NB & SB

Observer: MD
Calibration: DONE
New Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 2 |
| 22 | 2 |
| 23 | 2 |
| 24 | 1 |
| 25 | 3 |
| 26 | 6 |
| 27 | 7 |
| 28 | 13 |
| 29 | 10 |
| 30 | 6 |
| 31 | 4 |
| 32 | 7 |
| 33 | 5 |
| 34 | 3 |
| 35 | 1 |
| 36 | 1 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 73 | 28.7 | 21 - 36 | 29 mph | 32 mph | 25 - 34 | 64 | 88% | 9% / 7 | 3% / 2 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: MURDELL LANE Adjacent Land Use: RESIDENTIAL

Limits: CONCANNON BLVD TO E. STANLEY BLVD No. of Lanes: 2

Roadway Description: 2-lane residential collector street with on-street bike lanes, parking, and school crosswalks. There is a school access, and a park along this segment. The length of this segment is 1.10 miles.

Collision History: There have been 10 reported collisions along this segment within the past three years. This equates to 3.13 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, a mid-block crosswalk on the route to school, and heavy pedestrian activity especially along the park frontage. Speed humps were installed to help slow down traffic along the residential roadway.

Recommendation: Based on the 85th percentile speed of 32 MPH, a speed limit of 30 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Murdell Ln

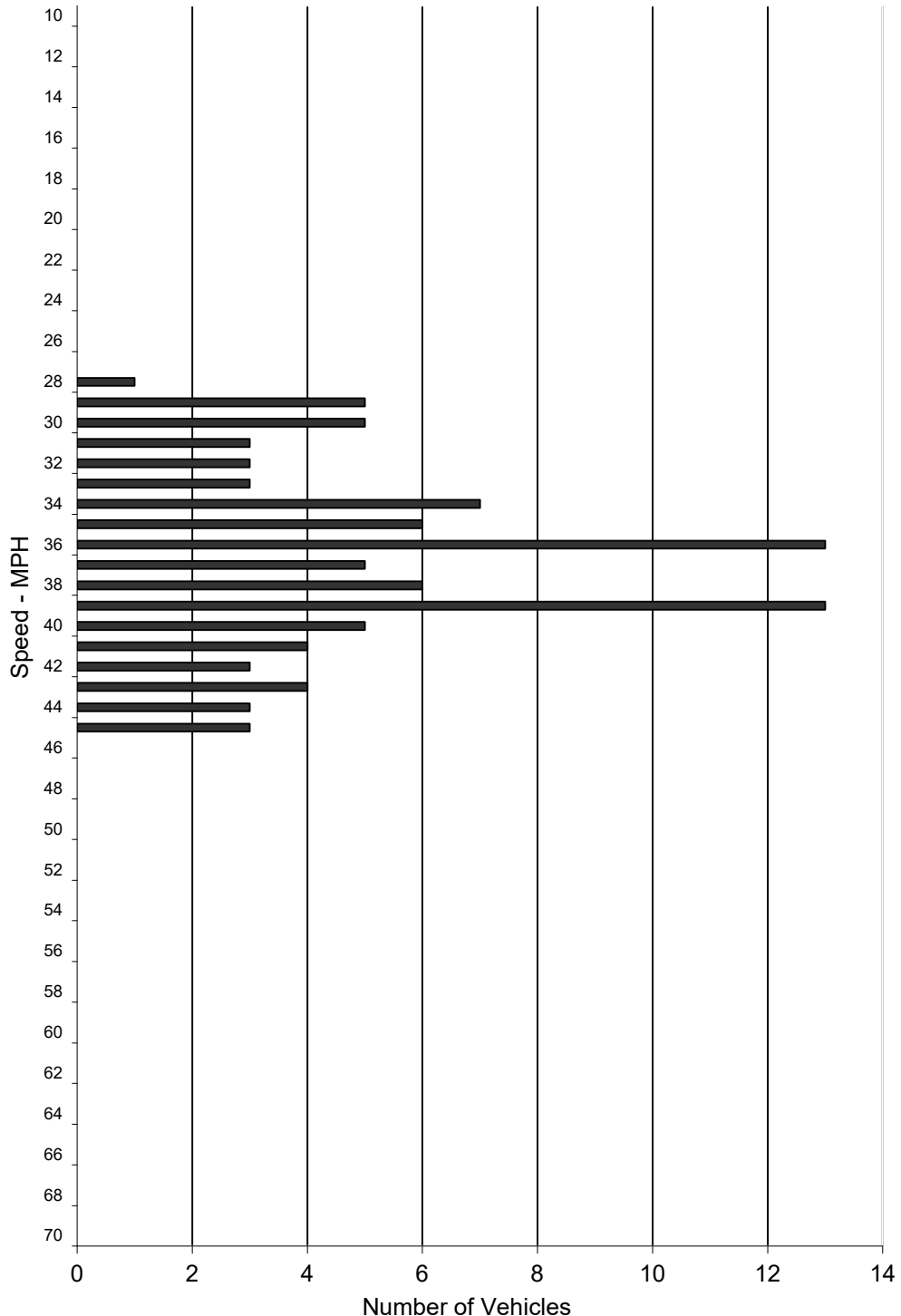
DATE: 8/16/2019
Start Time: 11:09 am
DAY: Friday

Location: Concannon Blvd - Alden Ln
End Time: 12:09 pm
Posted Speed: 35 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: BMC
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 1 |
| 29 | 5 |
| 30 | 5 |
| 31 | 3 |
| 32 | 3 |
| 33 | 3 |
| 34 | 7 |
| 35 | 6 |
| 36 | 13 |
| 37 | 5 |
| 38 | 6 |
| 39 | 13 |
| 40 | 5 |
| 41 | 4 |
| 42 | 3 |
| 43 | 4 |
| 44 | 3 |
| 45 | 3 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 92 | 36.7 | 28 - 45 | 36 mph | 41 mph | 34 - 43 | 66 | 72% | 21% / 20 | 7% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: MURDELL LANE Adjacent Land Use: RESIDENTIAL

Limits: ALDEN LANE TO CONCANNON BLVD No. of Lanes: 2

Roadway Description: 2-lane residential collector street with bike lanes, and on-street parking. The length of this segment is 0.33 miles.

Collision History: There have been 2 reported collisions along this segment within the past three years. This equates to 2.66 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: There is a high rate of turning maneuvers in and out of intersecting local streets, and bicycle use. Some intersections have limited available safe stopping sight distance sufficient for a design speed of 35 MPH.

Recommendation: Based on the 85th percentile speed of 41 MPH, a speed limit of 40 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

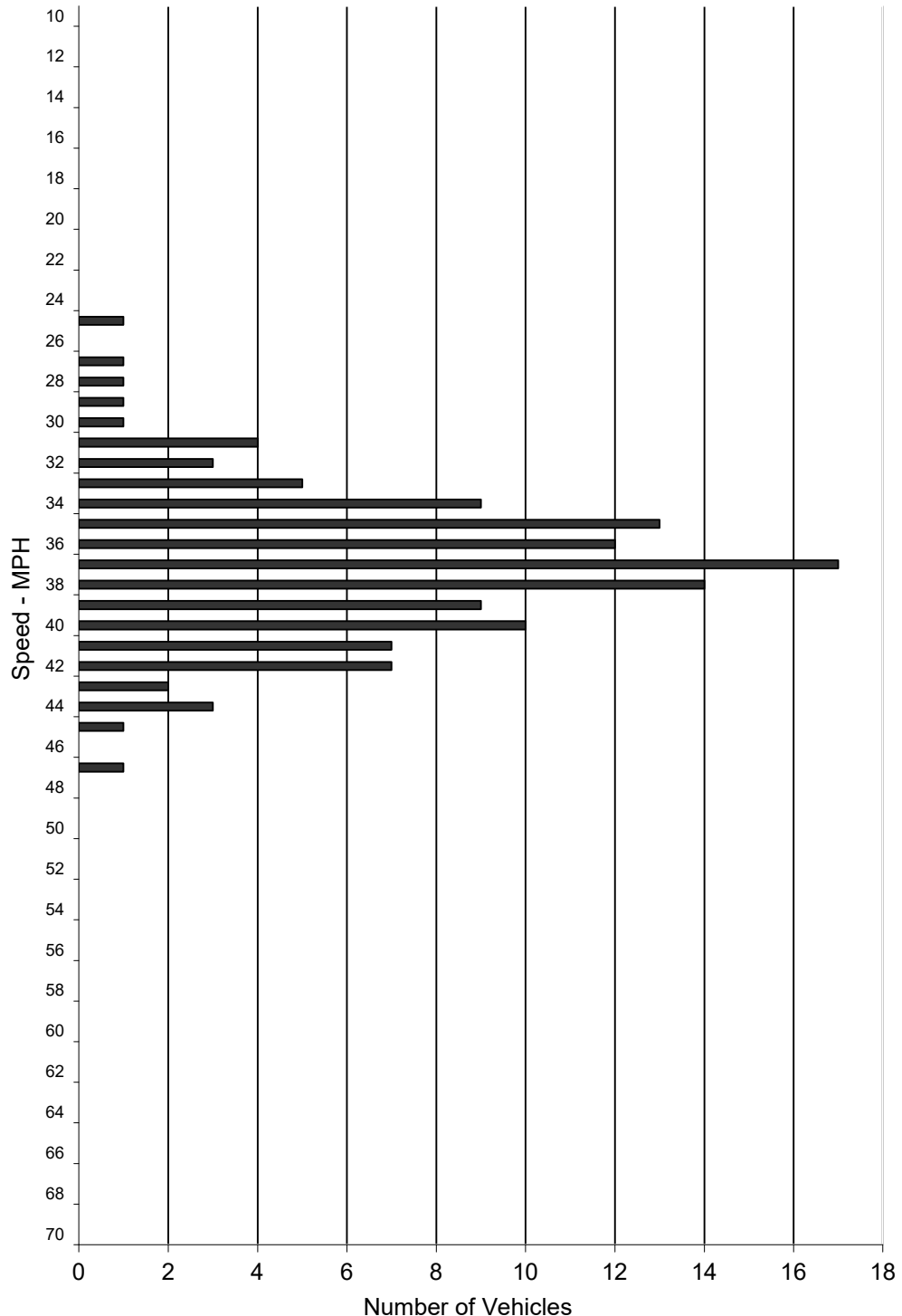
Murrieta Boulevard

DATE: 12/12/2019
Start Time: 2:50 PM
DAY: Tuesday

Location: Portola Avenue to E. Stanley Boulevard
End Time: 3:20 PM
(Before) Speed Limit: 35 MPH
Weather: Dry
Direction: NB & SB

Observer: CTS
Calibration: DONE
NEW Speed Limit: 35 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 1 |
| 26 | 0 |
| 27 | 1 |
| 28 | 1 |
| 29 | 1 |
| 30 | 1 |
| 31 | 4 |
| 32 | 3 |
| 33 | 5 |
| 34 | 9 |
| 35 | 13 |
| 36 | 12 |
| 37 | 17 |
| 38 | 14 |
| 39 | 9 |
| 40 | 10 |
| 41 | 7 |
| 42 | 7 |
| 43 | 2 |
| 44 | 3 |
| 45 | 1 |
| 46 | 0 |
| 47 | 1 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 122 | 37.0 | 25 - 47 | 37 mph | 41 mph | 33 - 42 | 103 | 84% | 9% / 12 | 6% / 7 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: MURRIETA BOULEVARD Adjacent Land Use: RESIDENTIAL

Limits: PORTOLA AVE TO EAST STANLEY BLVD No. of Lanes: 4

Roadway Description: 4-lane divided arterial street through a residential area with no fronting homes. Parking is prohibited. Bike lanes exist from Olivina Ave. to Stanley Blvd. The length of this segment is 1.49 miles.

Collision History: There have been 45 reported collisions along this segment within the past three years. This equates to 2.48 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: There is a high rate of turning maneuvers in and out of intersecting local streets. Bike lanes connect to adjacent regional trails generating bicycling activities. Bikes continue further north along the segment where there are no bike lanes forcing bicyclist to share the road with motor vehicles.

Recommendation: Based on the 85th percentile speed of 41 MPH, a speed limit of 40 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Murrieta Boulevard

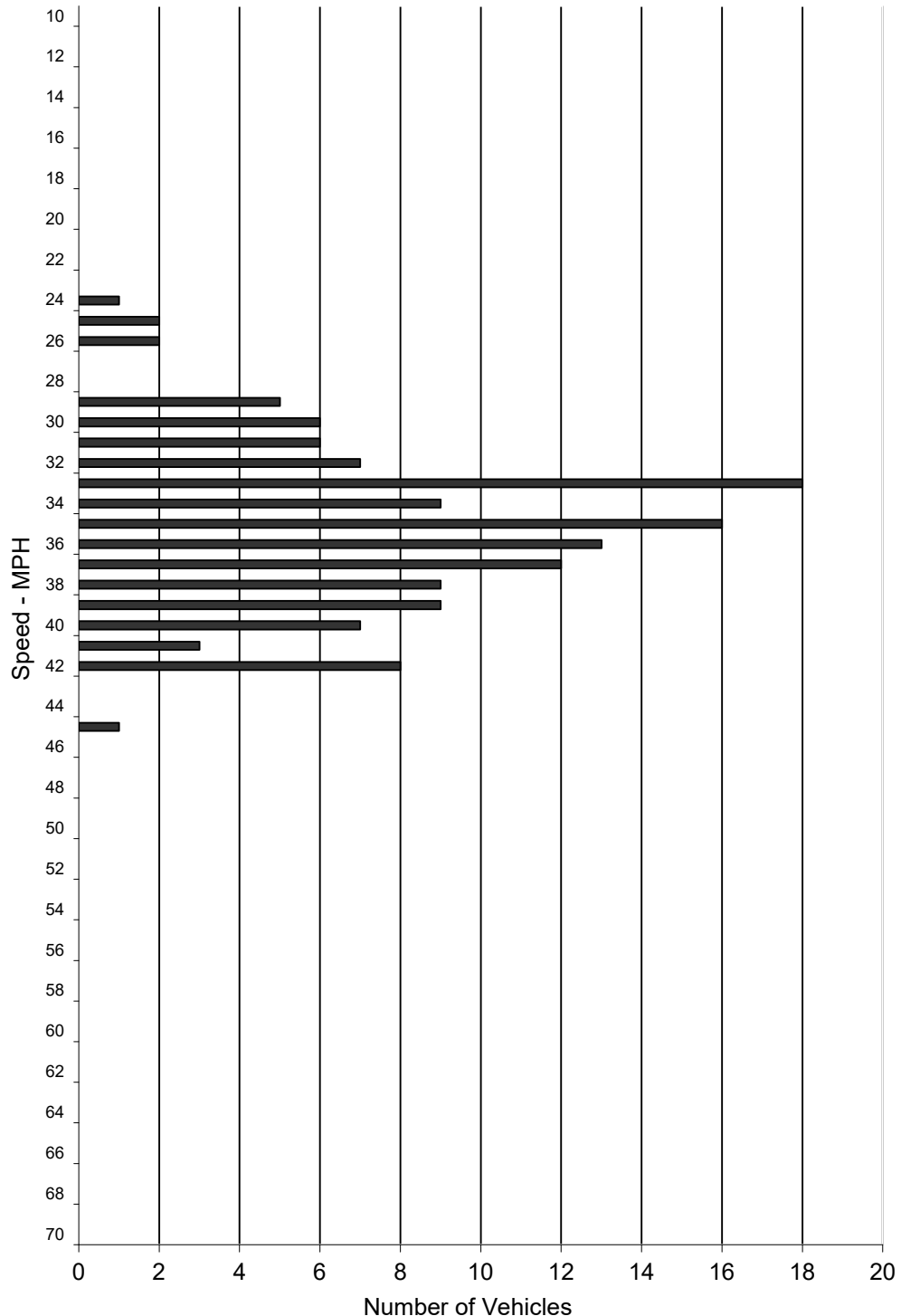
DATE: 12/19/2019
Start Time: 1:42 PM
DAY: Thursday

Location: Holmes Street to Stanley Boulevard
End Time: 2:09 PM
(Before) Speed Limit: 35 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 1 |
| 25 | 2 |
| 26 | 2 |
| 27 | 0 |
| 28 | 0 |
| 29 | 5 |
| 30 | 6 |
| 31 | 6 |
| 32 | 7 |
| 33 | 18 |
| 34 | 9 |
| 35 | 16 |
| 36 | 13 |
| 37 | 12 |
| 38 | 9 |
| 39 | 9 |
| 40 | 7 |
| 41 | 3 |
| 42 | 8 |
| 43 | 0 |
| 44 | 0 |
| 45 | 1 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 134 | 35.1 | 24 - 45 | 35 mph | 39 mph | 31 - 40 | 106 | 79% | 11% / 16 | 9% / 12 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: MURRIETA BOULEVARD Adjacent Land Use: RESIDENT./COMMER.

Limits: EAST STANLEY BLVD TO HOLMES ST No. of Lanes: 4

Roadway Description: 4-lane divided arterial street with raised median along the north half and painted median or two-way left turn lane along the south half of the segment. Apartment complexes, medical offices and a shopping center are along this segment. The length of this segment is 0.52 miles.

Collision History: There have been 28 reported collisions along this segment within the past three years. This equates to 3.01 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: High pedestrian activity in the area by senior citizens going to the medical offices, and by students going to and from Granada High School.

Recommendation: Based on the 85th percentile speed of 39 MPH, the existing 35 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

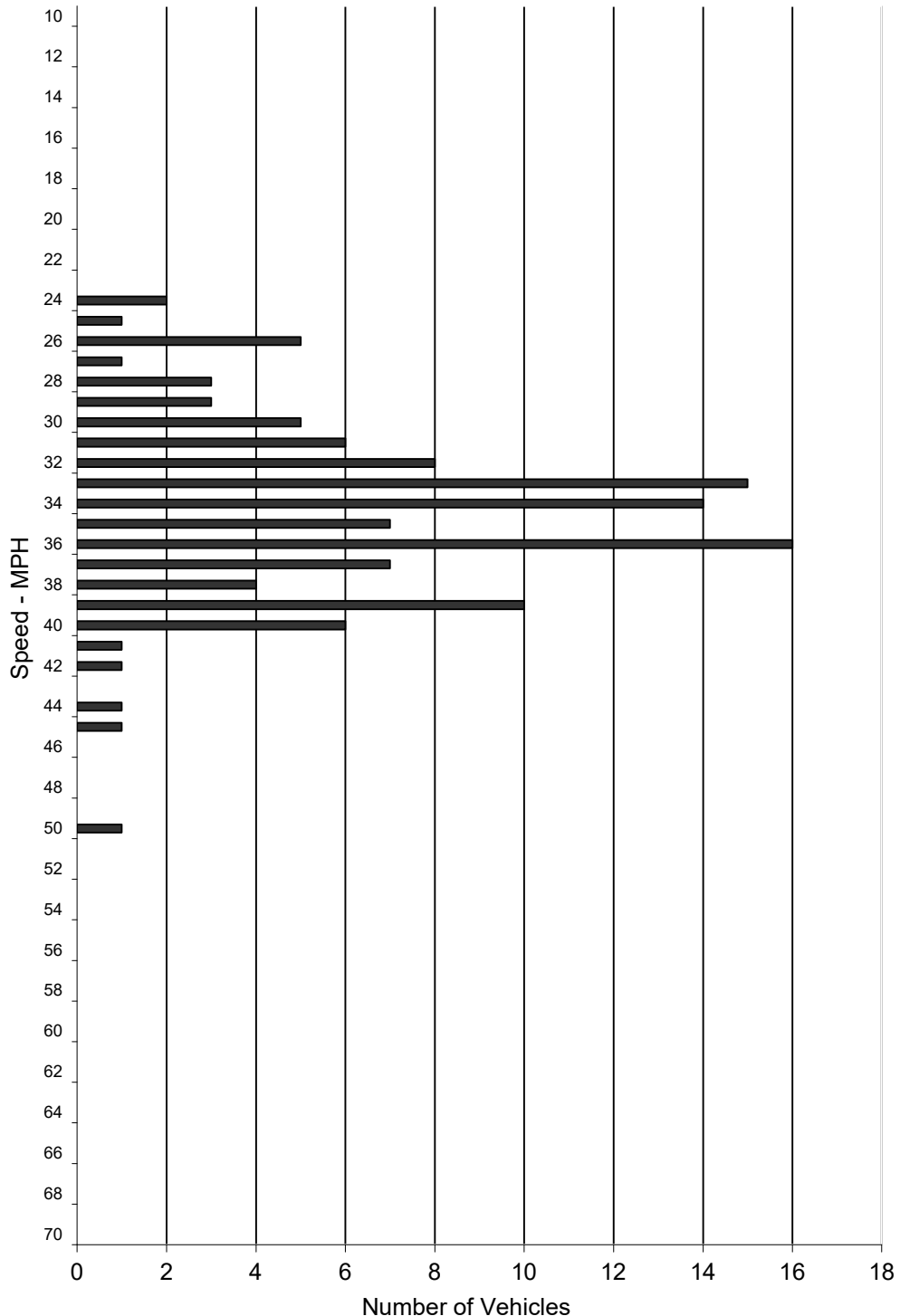
National Drive

DATE: 12/9/2019
Start Time: 3:05 PM
DAY: Friday

Location: Greenville Road to Brisa Street
End Time: 03:38 PM
(Before) Speed Limit: 40 MPH
Weather: cloudy
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 35 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 2 |
| 25 | 1 |
| 26 | 5 |
| 27 | 1 |
| 28 | 3 |
| 29 | 3 |
| 30 | 5 |
| 31 | 6 |
| 32 | 8 |
| 33 | 15 |
| 34 | 14 |
| 35 | 7 |
| 36 | 16 |
| 37 | 7 |
| 38 | 4 |
| 39 | 10 |
| 40 | 6 |
| 41 | 1 |
| 42 | 1 |
| 43 | 0 |
| 44 | 1 |
| 45 | 1 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 1 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 118 | 34.3 | 24 - 50 | 34 mph | 39 mph | 31 - 40 | 93 | 79% | 16% / 20 | 5% / 5 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: NATIONAL DRIVE

Adjacent Land Use: INDUSTRIAL

Limits: BRISA ST TO GREENVILLE RD

No. of Lanes: 2

Roadway Description: A 2-lane collector street with a two-way left turn lane in the middle of the road through an industrial area. On-street parking is permitted in some areas. The length of this segment is 1.07 miles.

Collision History: There have been 7 reported collisions along this segment within the past three years.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 39 MPH, the existing 40 MPH speed limit will be reduced to 35 MPH. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

North Canyons Parkway

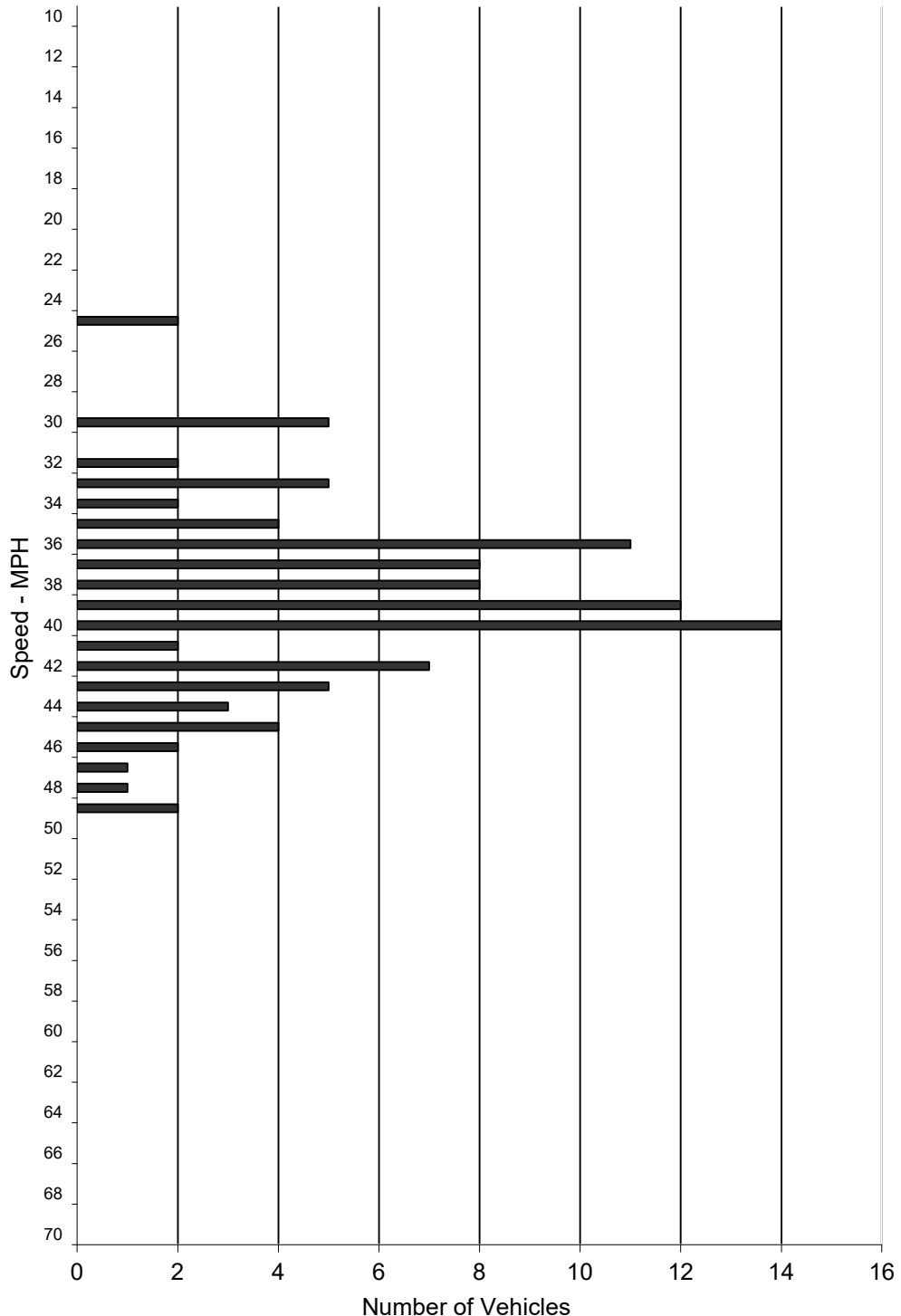
DATE: 8/5/2019
Start Time: 11:27 am
DAY: Monday

Location: Doolan Rd - Collier Canyon Rd
End Time: 11:48 am
Posted Speed: 45 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 2 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 5 |
| 31 | 0 |
| 32 | 2 |
| 33 | 5 |
| 34 | 2 |
| 35 | 4 |
| 36 | 11 |
| 37 | 8 |
| 38 | 8 |
| 39 | 12 |
| 40 | 14 |
| 41 | 2 |
| 42 | 7 |
| 43 | 5 |
| 44 | 3 |
| 45 | 4 |
| 46 | 2 |
| 47 | 1 |
| 48 | 1 |
| 49 | 2 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 38.5 | 25 - 49 | 39 mph | 43 mph | 35 - 44 | 74 | 74% | 16% / 16 | 10% / 10 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: NORTH CANYONS PARKWAY

Adjacent Land Use: INDUSTRIAL/COMMERCIAL

Limits: DOOLAN RD TO COLLIER CANYON RD

No. of Lanes: 4

Roadway Description: 4-lane divided arterial street with bike lanes through mostly an industrial area. Parking is prohibited. The length of this segment is 1.05 miles.

Collision History: There have been 13 reported collisions along this segment within the past three years. This equates to 0.57 collisions per million vehicle miles.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 43 MPH, the existing 45 MPH speed limit will be reduced to 40 MPH. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Northfront Road

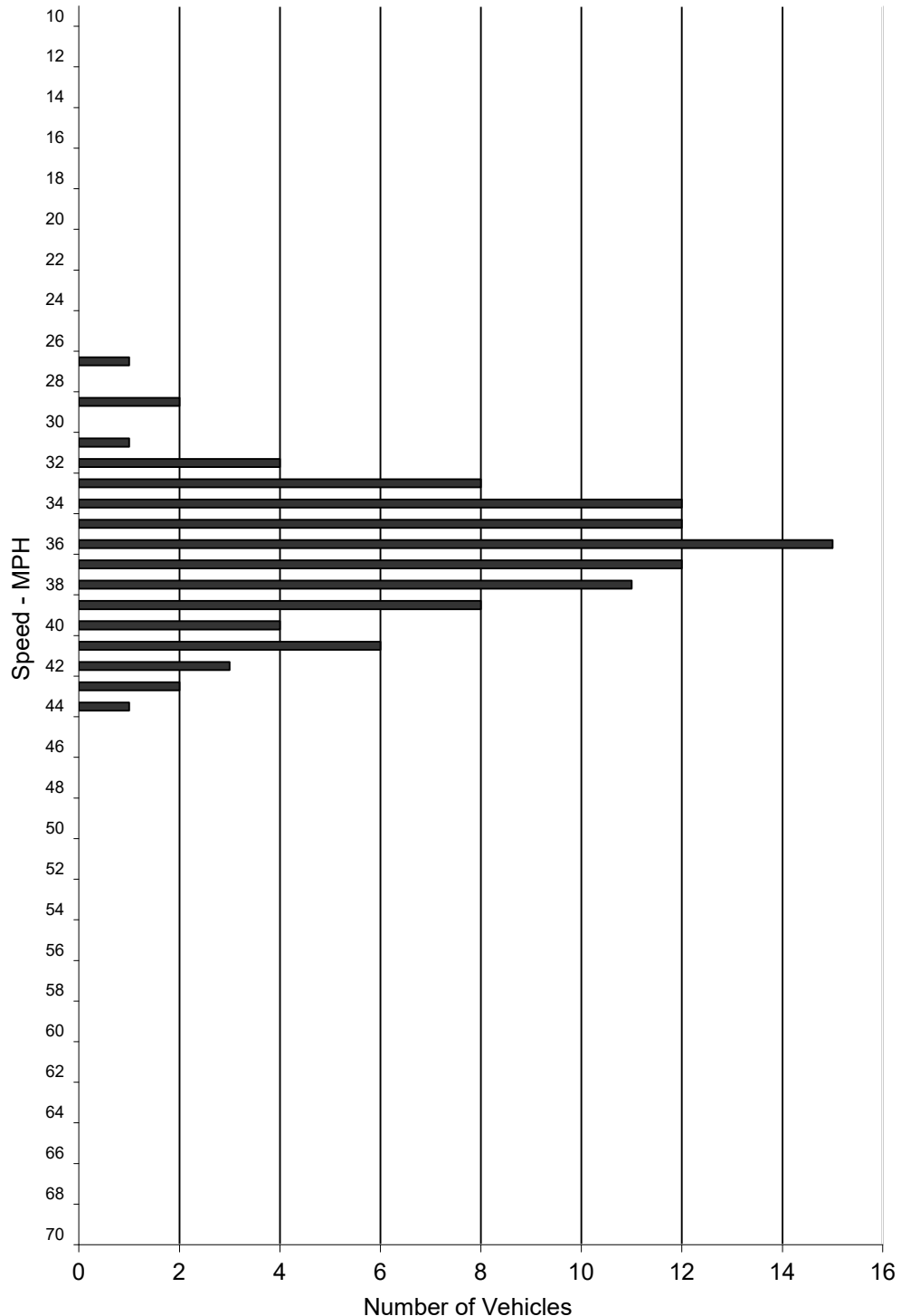
DATE: 9/30/2019
Start Time: 3:05 PM
DAY: Monday

Location: Central Avenue to Vasco Road
End Time: 3:35 PM
(Before) Speed Limit: 35 MPH
Weather: Sunny
Direction: EB & WB

Observer: HI
Calibration: DONE
NEW Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 1 |
| 28 | 0 |
| 29 | 2 |
| 30 | 0 |
| 31 | 1 |
| 32 | 4 |
| 33 | 8 |
| 34 | 12 |
| 35 | 12 |
| 36 | 15 |
| 37 | 12 |
| 38 | 11 |
| 39 | 8 |
| 40 | 4 |
| 41 | 6 |
| 42 | 3 |
| 43 | 2 |
| 44 | 1 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 102 | 36.4 | 27 - 44 | 36 mph | 40 mph | 32 - 41 | 92 | 90% | 3% / 4 | 6% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: NORTHFRONT ROAD

Adjacent Land Use: RESIDENTIAL

Limits: CENTRAL AVE TO VASCO RD

No. of Lanes: 2

Roadway Description: 2-lane collector street through residential and commercial/industrial area. No fronting homes or on-street parking. The length of this segment is 0.34 miles.

Collision History: There have been 5 reported collisions along this segment within the past three years. This equates to 3.9 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 40 MPH, a speed limit of 40 MPH was considered. However, given the high collision rate, a condition not readily apparent to motorists, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

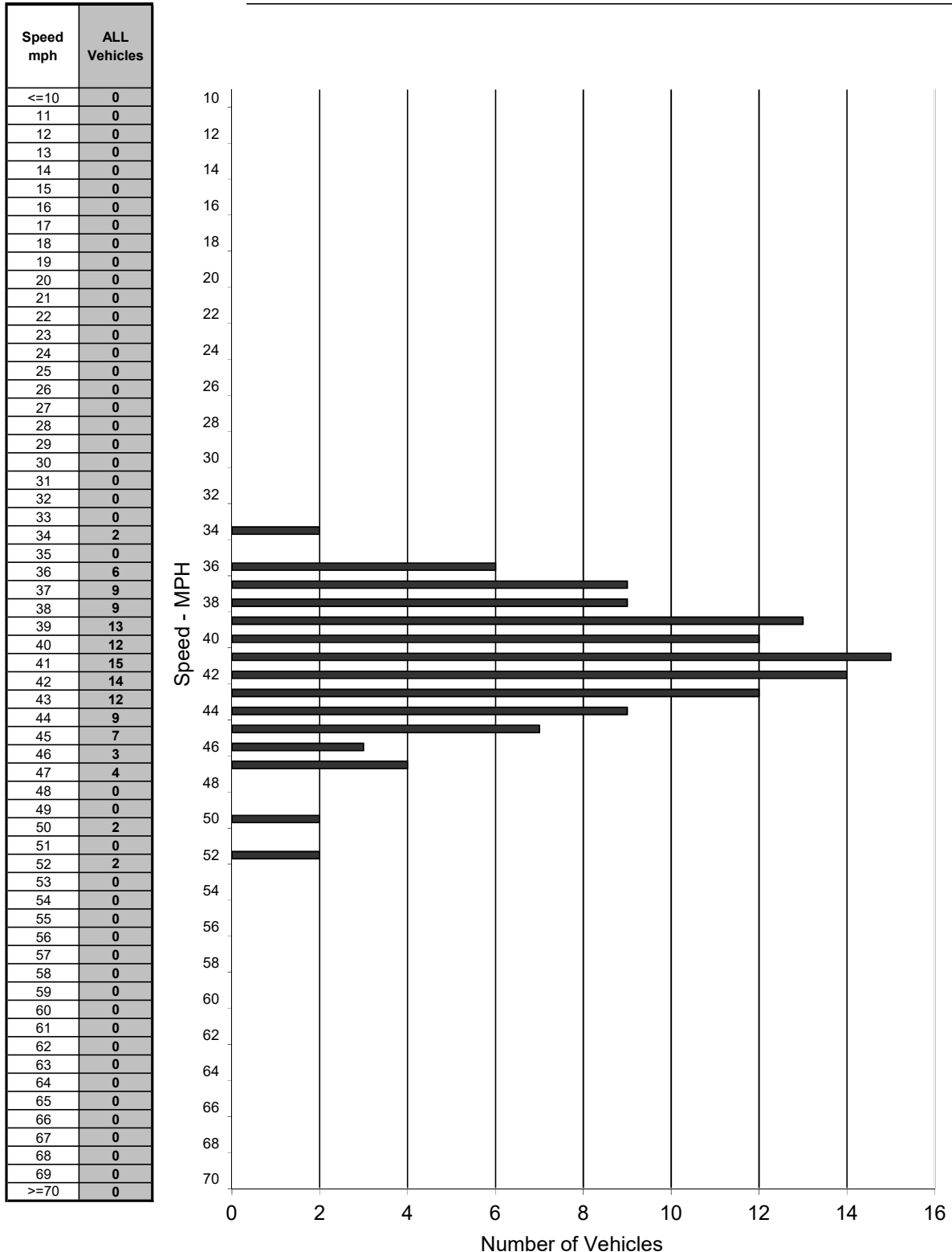
Northfront Road

DATE: 10/7/2019
Start Time: 2:35 PM
DAY: Monday

Location: Vasco Road to East City Limit
End Time: 2:50 PM
Posted Speed: 40 MPH
Weather: Sunny
Direction: EB & WB

Observer: HI
Calibration: DONE
New Speed Limit: 40 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 119 | 41.2 | 34 - 52 | 41 mph | 45 mph | 36 - 45 | 106 | 89% | 1% / 2 | 10% / 11 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: NORTHFRONT ROAD

Adjacent Land Use: INDUSTRIAL/COMMERCIAL

Limits: VASCO RD TO EAST CITY LIMIT

No. of Lanes: 2

Roadway Description: 2-lane collector street through a residential and commercial/industrial area. No fronting homes or parking. The length of this segment is 0.89 miles.

Collision History: There have been 23 reported collisions along this segment within the past three years. This equates to 2.35 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: Bicycling activity is frequent in this area due to its proximity to Northfront Park/multi-use trail, which serves the northern section of Livermore.

Recommendation: Based on the 85th percentile speed of 45 MPH, a speed limit of 45 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 40 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

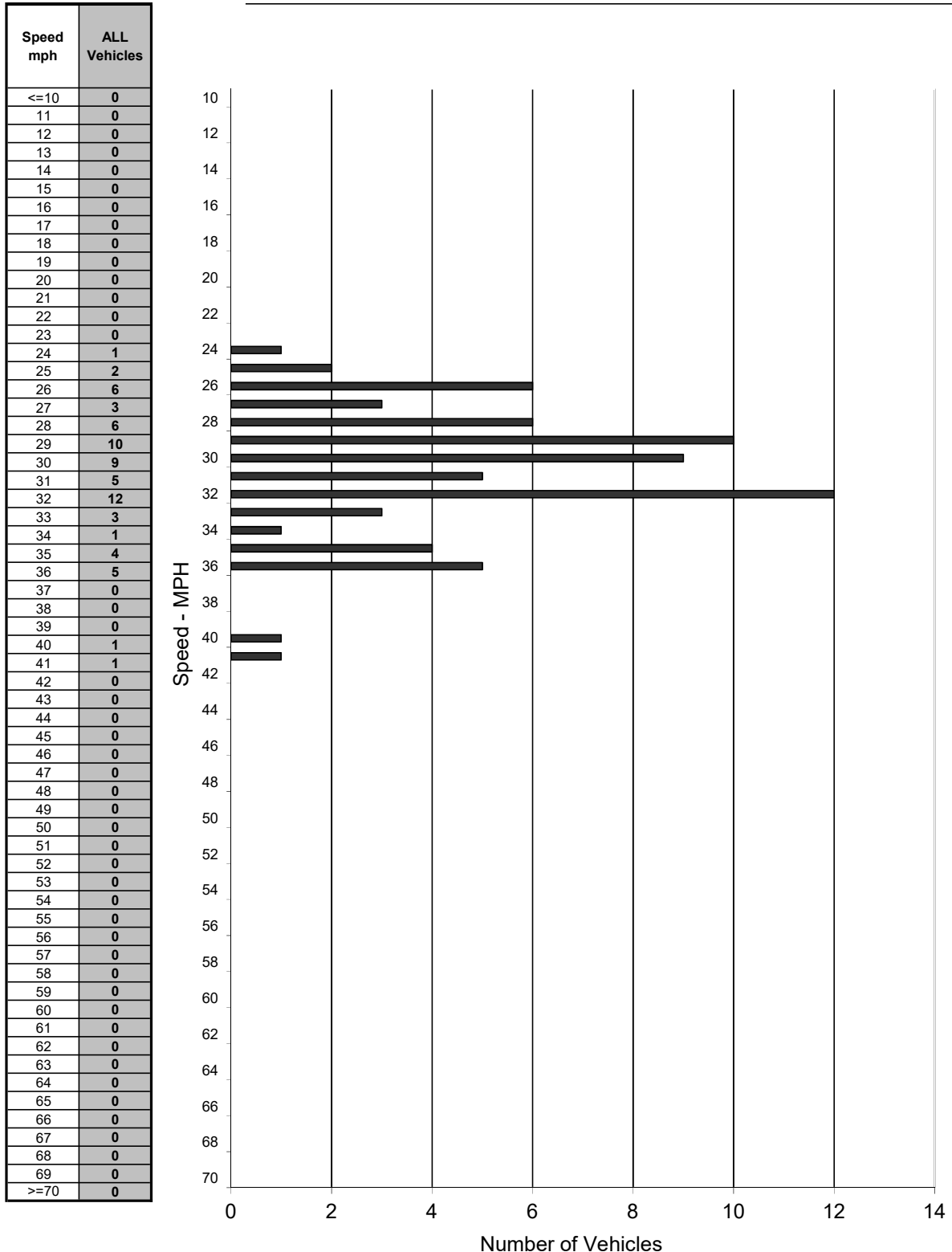
Olivina Road

DATE: 5/14/2020
Start Time: 03:01 pm
DAY: Thursday

Location: Hagemann Dr - Murrieta Blvd
End Time: 4:10 pm
Posted Speed: 30 MPH
Weather: Cloudy
Direction: EB & WB

Observer: MD
Calibration: DONE
New Speed Limit: 30 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 69 | 30.6 | 24 - 41 | 30 mph | 35 mph | 26 - 35 | 59 | 86% | 4% / 3 | 11% / 7 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: OLIVINA AVENUE

Adjacent Land Use: RESIDENTIAL

Limits: HAGEMANN DR TO MURRIETA BLVD

No. of Lanes: 2

Roadway Description: A 2-lane residential collector street. There is a City park along this segment. A short portion of this street is undeveloped on the south side, reducing the roadway width substantially. The west end of the segment has bike lanes but disappears as the road narrows. On-street parking is permitted through most of the segment. The length of this segment is 0.56 miles.

Collision History: There have been 6 reported collisions along this segment within the past three years. This equates to 2.02 collisions per million vehicle miles.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, pedestrian activity especially along the park frontage, and reduced roadway width with no shoulder area at the unimproved portion

Recommendation: Based on the 85th percentile speed of 35 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Olivina Avenue

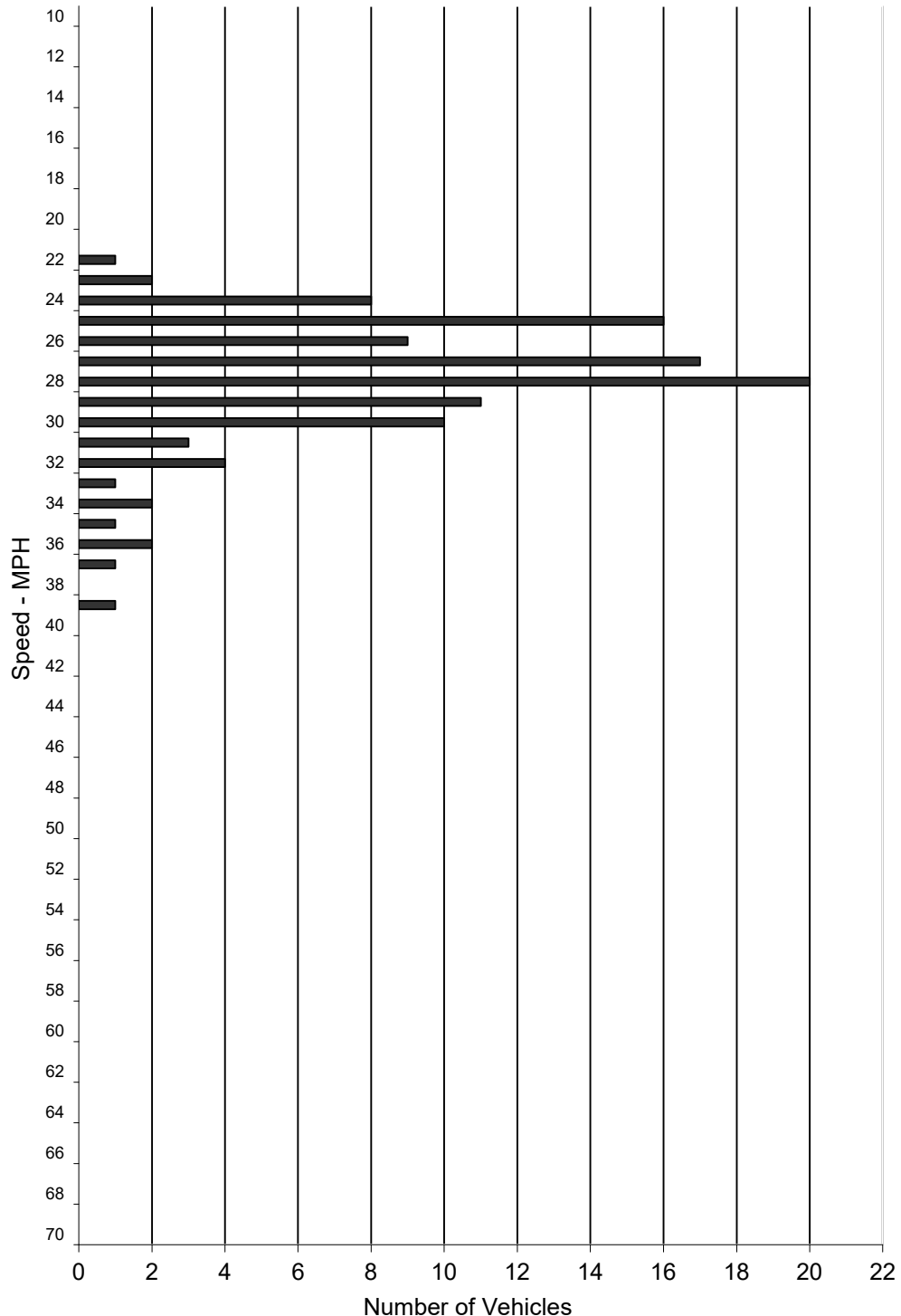
DATE: 12/17/2019
Start Time: 3:25 PM PM
DAY: Tuesday

Location: Murrieta Boulevard to N. P Street
End Time: 3:54 PM
(Before) Speed Limit: 25 MPH
Weather: Dry
Direction: EB & WB

Observer: CTS
Calibration: DONE
NEW Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 1 |
| 23 | 2 |
| 24 | 8 |
| 25 | 16 |
| 26 | 9 |
| 27 | 17 |
| 28 | 20 |
| 29 | 11 |
| 30 | 10 |
| 31 | 3 |
| 32 | 4 |
| 33 | 1 |
| 34 | 2 |
| 35 | 1 |
| 36 | 2 |
| 37 | 1 |
| 38 | 0 |
| 39 | 1 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 109 | 27.9 | 22 - 39 | 28 mph | 30 mph | 23 - 32 | 100 | 92% | 0% / 1 | 8% / 8 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: OLIVINA AVENUE Adjacent Land use: RESIDENTIAL

Limits: MURRIETA BLVD TO N. P ST No. of Lanes: 2

Roadway Description: A 2-lane residential collector street with on-street parking and no bike lanes. The segment is within one short block from Marilyn Elementary School so quite a few school age pedestrians can regularly be observed. The length of this segment is 0.72 miles.

Collision History: There have been 20 reported collisions along this segment within the past three years. This equates to 5.33 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, and pedestrian activity.

Recommendation: Based on the 85th percentile speed of 30 MPH, a speed limit of 30 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

N. P Street

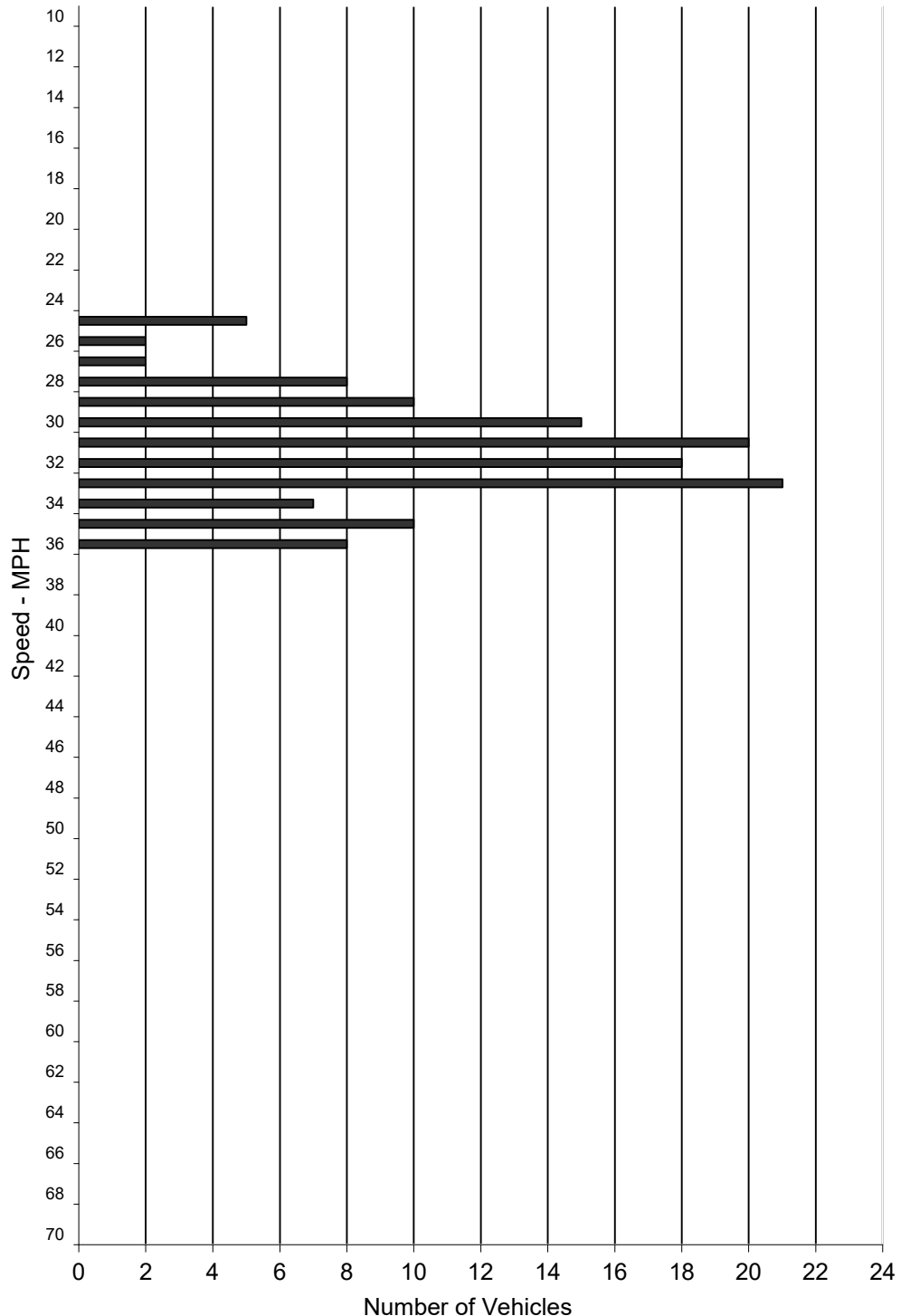
DATE: 12/19/2019
Start Time: 1:35 PM
DAY: Thursday

Location: Portola Avenue to Chestnut Street
End Time: 2:13 PM
(Before) Speed Limit: 30 MPH
Weather: Dry
Direction: NB & SB

Observer: JT
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 5 |
| 26 | 2 |
| 27 | 2 |
| 28 | 8 |
| 29 | 10 |
| 30 | 15 |
| 31 | 20 |
| 32 | 18 |
| 33 | 21 |
| 34 | 7 |
| 35 | 10 |
| 36 | 8 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 126 | 31.4 | 25 - 36 | 32 mph | 34 mph | 27 - 36 | 119 | 94% | 5% / 7 | 0% / 0 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: N. P STREET

Adjacent Land Use: RESIDENTIAL

Limits: PORTOLA AVE TO CHESTNUT ST

No. of Lanes: 2

Roadway Description: A 2-lane collector with a two-way left turn lane, bike lanes with on-street parking, bike lanes. The length of this segment is 0.80 miles.

Collision History: There have been 11 reported collisions along this segment within the past three years. This equates to 2.75 collisions per million vehicle miles, which is much than the statewide average of 1.41 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turning maneuvers, on-street parking maneuvers, bicycling and pedestrian activities.

Recommendation: Based on the 85th percentile speed of 34 MPH, the existing 30 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

P Street

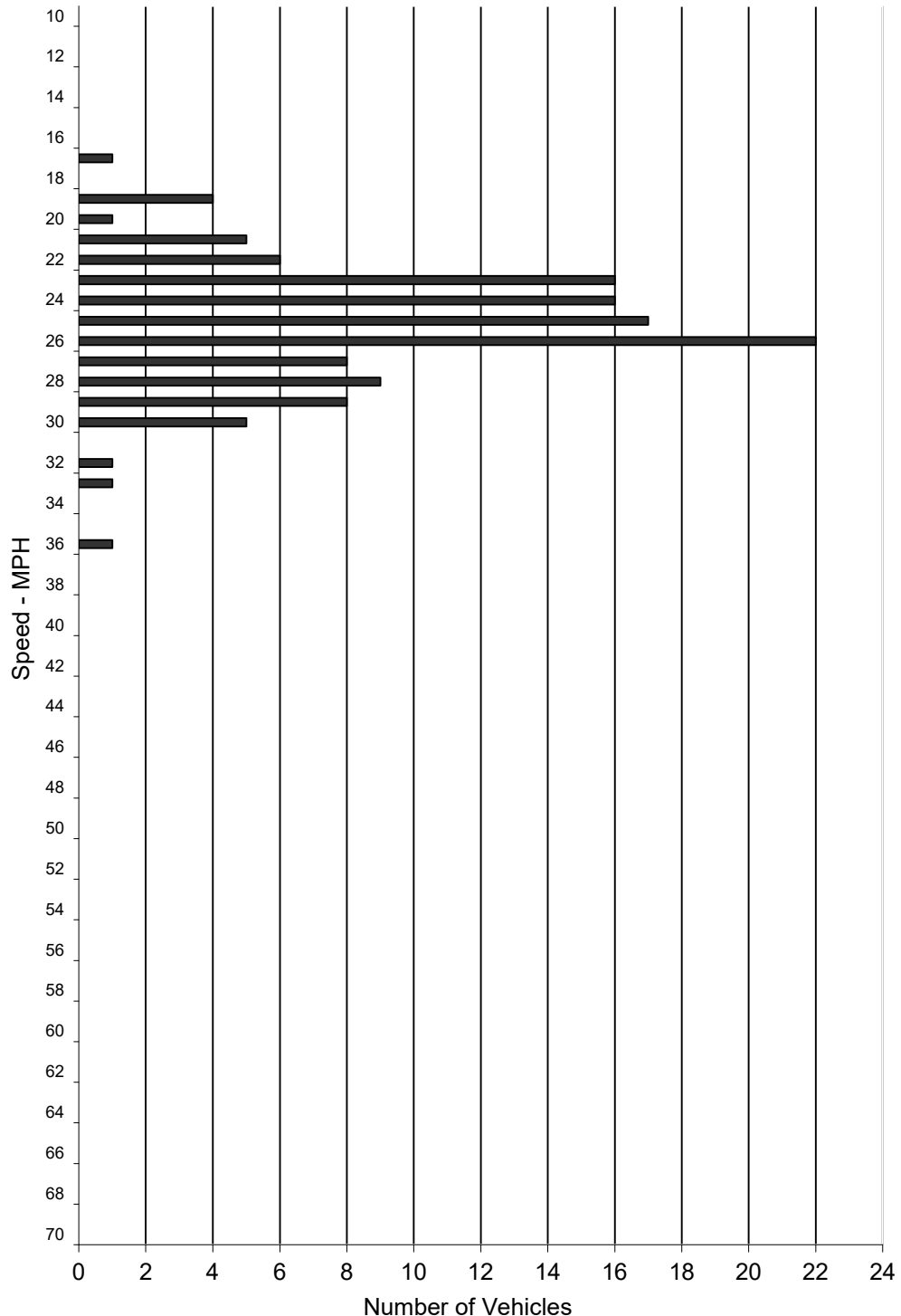
DATE: 12/9/2019
Start Time: 1:54 PM
DAY: Monday

Location: Chestnut Street to College Avenue
End Time: 2:38 PM
(Before) Speed Limit: 25 MPH
Weather: Cloudy
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 1 |
| 18 | 0 |
| 19 | 4 |
| 20 | 1 |
| 21 | 5 |
| 22 | 6 |
| 23 | 16 |
| 24 | 16 |
| 25 | 17 |
| 26 | 22 |
| 27 | 8 |
| 28 | 9 |
| 29 | 8 |
| 30 | 5 |
| 31 | 0 |
| 32 | 1 |
| 33 | 1 |
| 34 | 0 |
| 35 | 0 |
| 36 | 1 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 121 | 25.2 | 17 - 36 | 25 mph | 28 mph | 21 - 30 | 112 | 93% | 4% / 6 | 3% / 3 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: P STREET

Adjacent Land Use: COMMERC./RESIDENT.

Limits: CHESTNUT STREET TO COLLEGE AVENUE

No. of Lanes: 4 & 2

Roadway Description: A 4-lane narrowing down to a 2-lane collector street through the downtown business district, with raised median between Chestnut Street and First Street, which changes to 2-lane residential collector street with on-street parking between Fourth Street and College Avenue. The length of this segment is 0.64 miles.

Collision History: There have been 42 reported collisions along this segment within the past three years. This equates to 4.87 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment runs along a business district and residential district, has a high rate of turning maneuvers in and out of many commercial and residential driveways, and heavy pedestrian activity.

Recommendation: Based on the 85th percentile speed of 28 MPH, the existing 25 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Patterson Pass Road

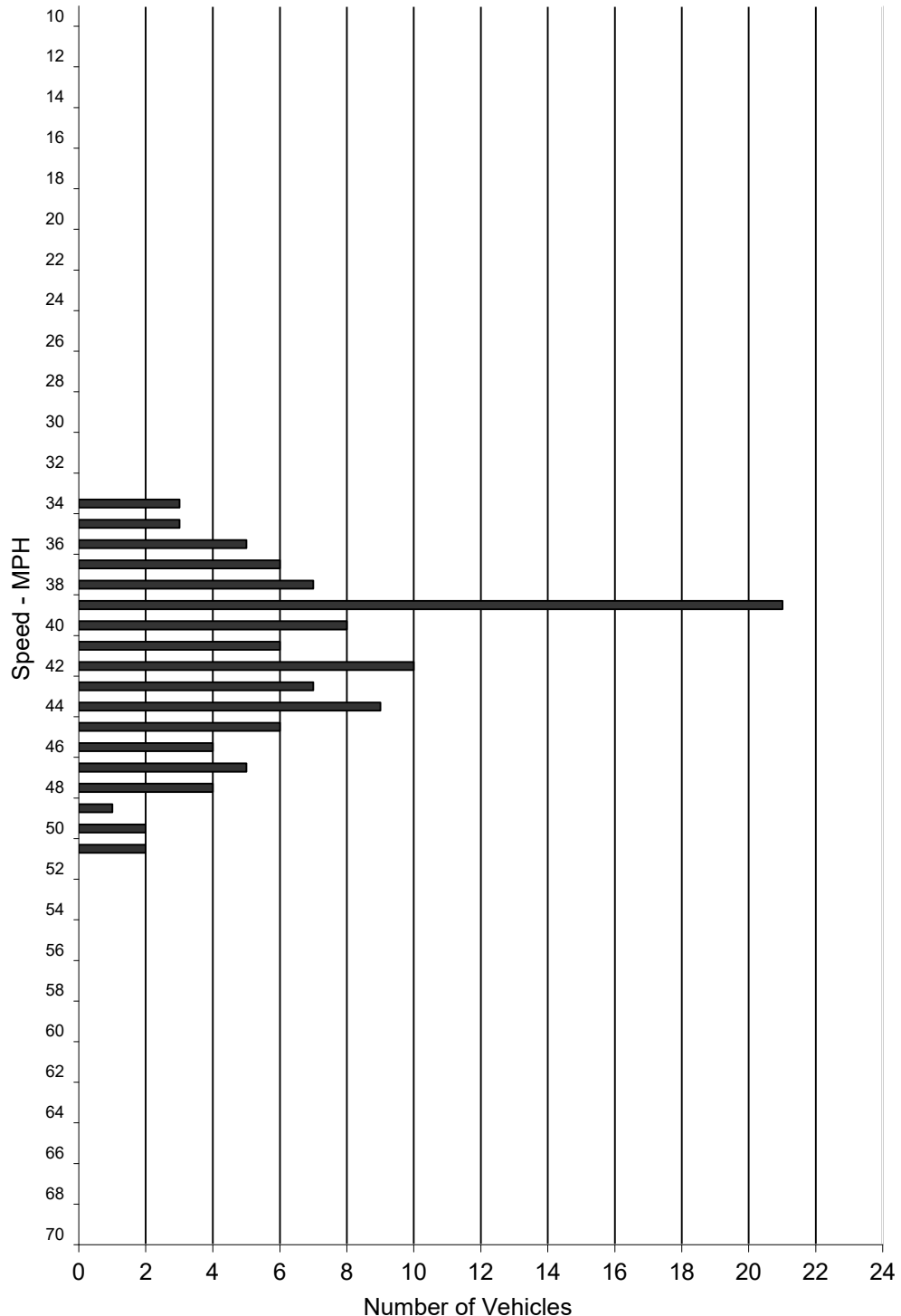
DATE: 9/26/2019
Start Time: 2:22 PM
DAY: Thursday

Location: Mines Road to Vasco Road
End Time: 2:53 PM
(Before) Speed Limit: 40 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: JL
Calibration: DONE
NEW Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 0 |
| 32 | 0 |
| 33 | 0 |
| 34 | 3 |
| 35 | 3 |
| 36 | 5 |
| 37 | 6 |
| 38 | 7 |
| 39 | 21 |
| 40 | 8 |
| 41 | 6 |
| 42 | 10 |
| 43 | 7 |
| 44 | 9 |
| 45 | 6 |
| 46 | 4 |
| 47 | 5 |
| 48 | 4 |
| 49 | 1 |
| 50 | 2 |
| 51 | 2 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 109 | 41.4 | 34 - 51 | 41 mph | 46 mph | 36 - 45 | 85 | 78% | 5% / 6 | 17% / 18 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: PATTERSON PASS ROAD

Adjacent Land Use: RESIDENTIAL

Limits: MINES RD TO VASCO RD

No. of Lanes: 4

Roadway Description: 4-lane divided arterial street with bike lanes through a residential area, and a park at the corner of Vasco Road. No homes front this segment, and parking is prohibited. The length of this segment is 1.36 miles.

Collision History: There have been 12 reported collisions along this segment within the past three years. This equates to 1.25 collisions per million vehicle miles.

Other Considerations: There is a high rate of turning movements in and out of many intersecting local streets. High pedestrian and bicycling activities especially in the William Payne Sports Park area. Some intersections have limited sight distance where a design speed higher than 40 MPH could result to insufficient safe stopping sight distance.

Recommendation: Based on the 85th percentile speed of 46 MPH, a speed limit of 45 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 40 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Patterson Pass Road

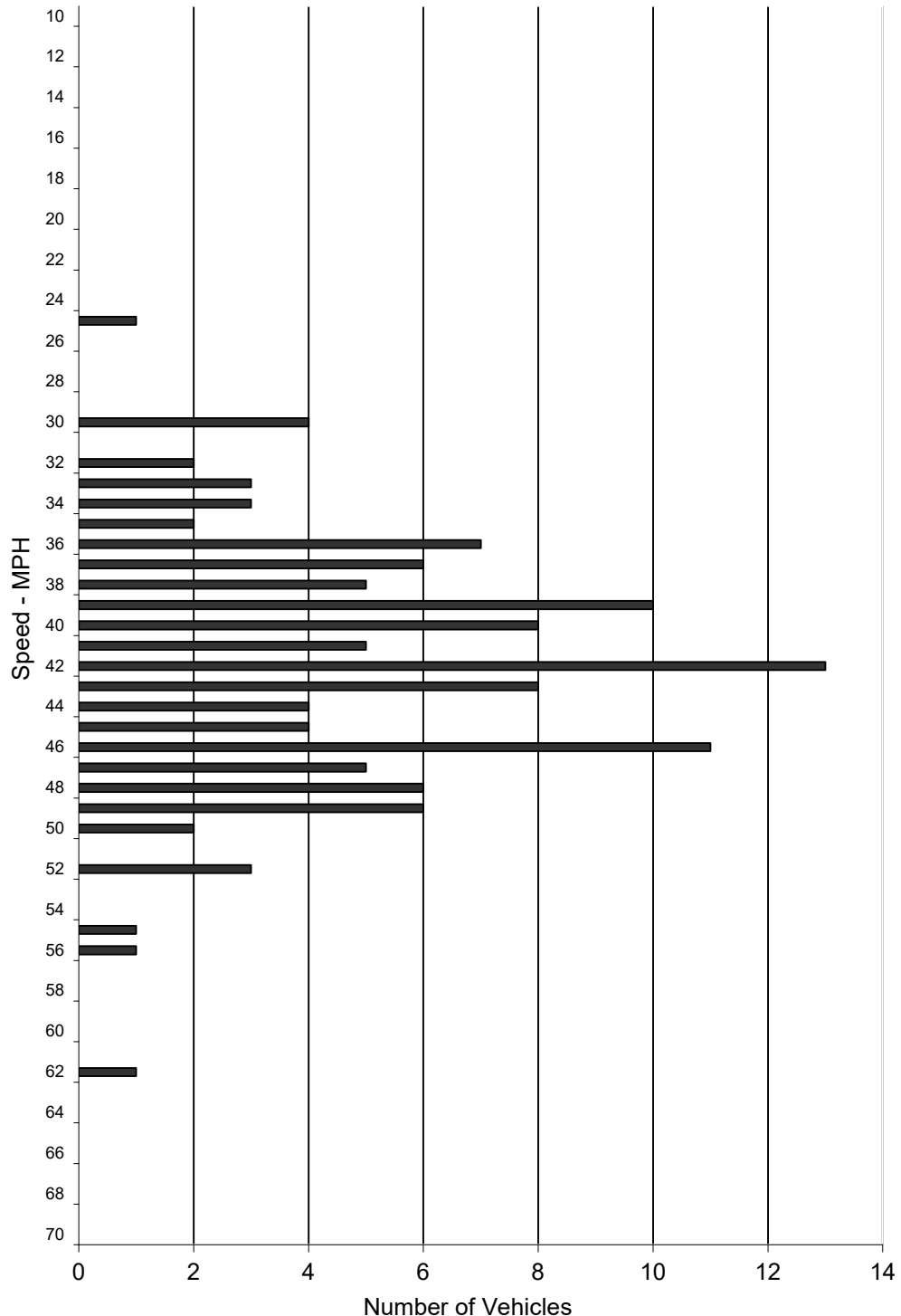
DATE: 9/26/2019
Start Time: 1:40 PM
DAY: Thursday

Location: Vasco Road to Greenville Road
End Time: 2:15 PM
(Before) Speed Limit: 45 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: JL
Calibration: DONE
NEW Speed Limit: 45 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 1 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 4 |
| 31 | 0 |
| 32 | 2 |
| 33 | 3 |
| 34 | 3 |
| 35 | 2 |
| 36 | 7 |
| 37 | 6 |
| 38 | 5 |
| 39 | 10 |
| 40 | 8 |
| 41 | 5 |
| 42 | 13 |
| 43 | 8 |
| 44 | 4 |
| 45 | 4 |
| 46 | 11 |
| 47 | 5 |
| 48 | 6 |
| 49 | 6 |
| 50 | 2 |
| 51 | 0 |
| 52 | 3 |
| 53 | 0 |
| 54 | 0 |
| 55 | 1 |
| 56 | 1 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 1 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 121 | 41.8 | 25 - 62 | 42 mph | 48 mph | 37 - 46 | 74 | 61% | 18% / 22 | 21% / 25 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: PATTERSON PASS ROAD Adjacent Land Use: INDUSTRIAL

Limits: VASCO RD TO GREENVILLE RD No. of Lanes: 4

Roadway Description: A 4-lane divided arterial street with bike lanes through an industrial area. On-street parking is prohibited.

Collision History: There have been 49 reported collisions along this segment within the past three years. This equates to 4.71 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: Bicycle use is common in this area around the Lawrence Livermore Lab.

Recommendation: Based on the 85th percentile speed of 48 MPH, the existing 45 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Pine Street

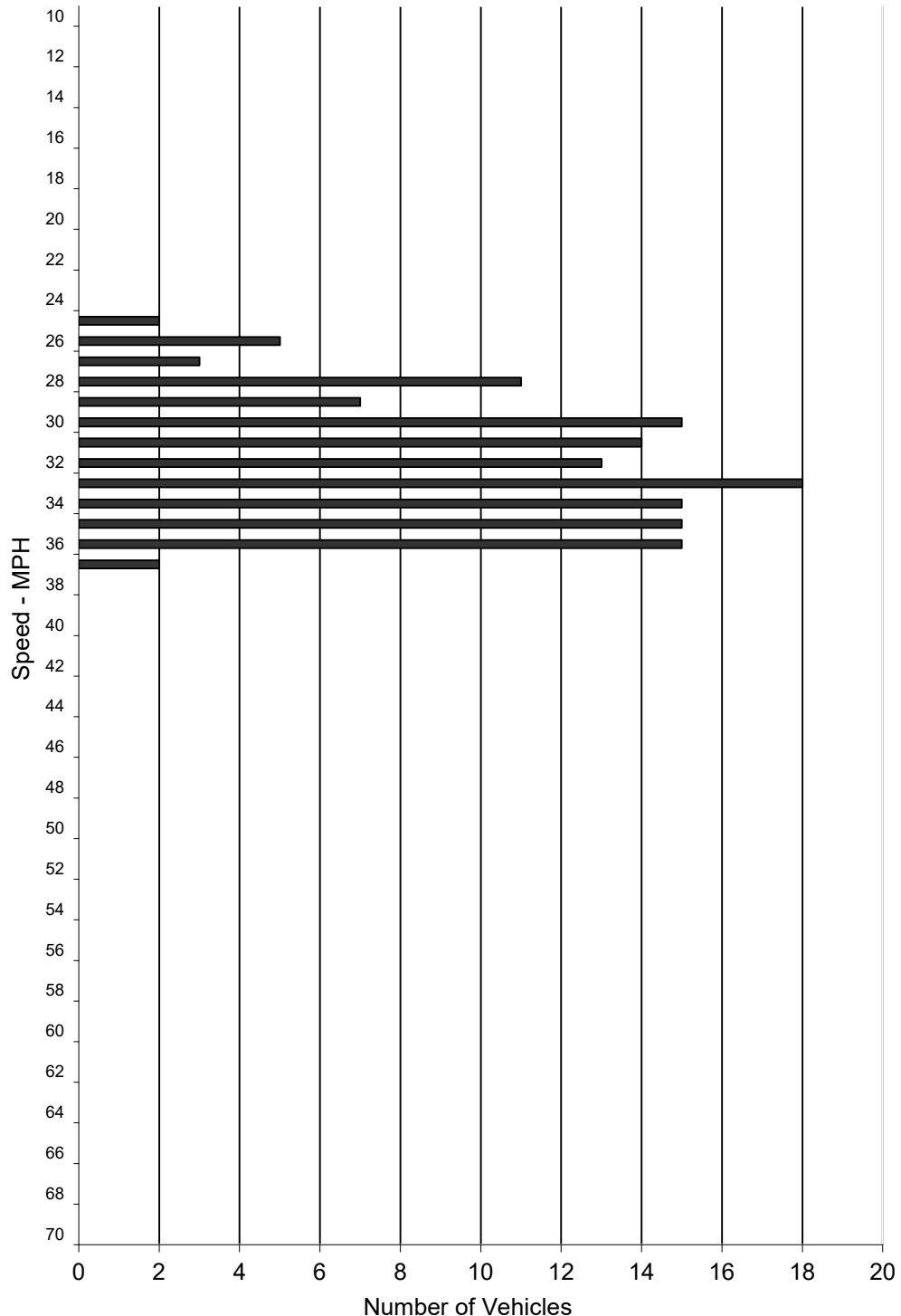
DATE: 12/19/2019
Start Time: 2:15 PM
DAY: Thursday

Location: Murrieta Boulevard to Rincon Avenue
End Time: 2:55 PM
(Before) Speed Limit: 30 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: JT
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 2 |
| 26 | 5 |
| 27 | 3 |
| 28 | 11 |
| 29 | 7 |
| 30 | 15 |
| 31 | 14 |
| 32 | 13 |
| 33 | 18 |
| 34 | 15 |
| 35 | 15 |
| 36 | 15 |
| 37 | 2 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 135 | 32.0 | 25 - 37 | 32 mph | 35 mph | 27 - 36 | 126 | 93% | 5% / 7 | 2% / 2 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: PINE STREET Adjacent Land Use: RESIDENTIAL

Limits: MURRIETA BLVD TO RINCON AVE No. of Lanes: 2

Roadway Description: 2-lane residential collector street with on-street bike lanes and parking. A fire station and shopping center are along this segment. The length of this segment is 0.41 miles.

Collision History: There have been 12 reported collisions along this segment within the past three years. This equates to 6.25 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, and pedestrian activity especially near the shopping center.

Recommendation: Based on the 85th percentile speed of 35 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Pine Street

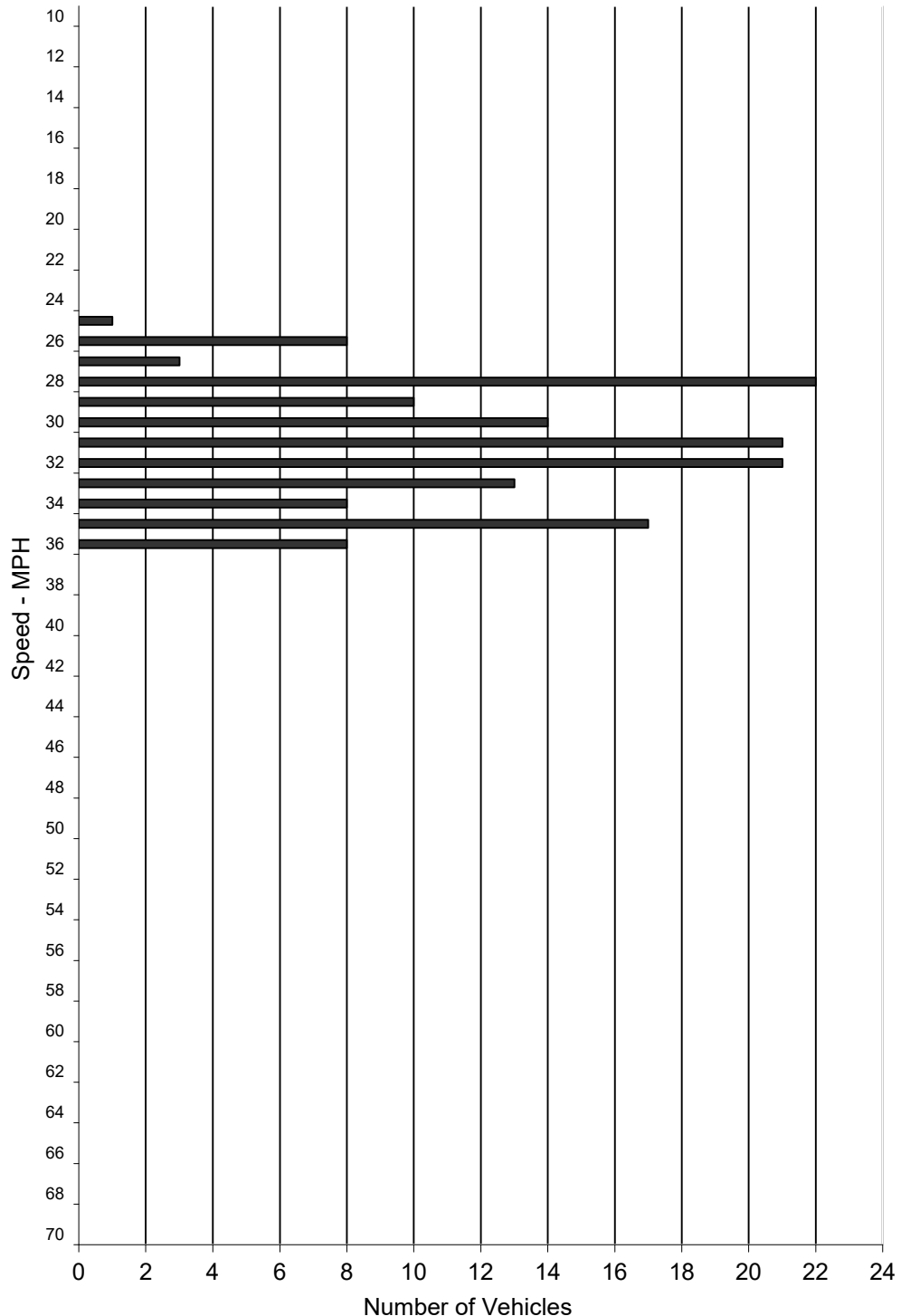
DATE: 12/20/2019
Start Time: 1:15 PM
DAY: Friday

Location: Rincon Avenue to Junction Avenue
End Time: 1:50 PM
(Before) Speed Limit: 30 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: JT
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 1 |
| 26 | 8 |
| 27 | 3 |
| 28 | 22 |
| 29 | 10 |
| 30 | 14 |
| 31 | 21 |
| 32 | 21 |
| 33 | 13 |
| 34 | 8 |
| 35 | 17 |
| 36 | 8 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 146 | 31.1 | 25 - 36 | 31 mph | 35 mph | 26 - 35 | 137 | 94% | 0% / 1 | 6% / 8 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: PINE STREET

Adjacent Land Use: RESIDENTIAL

Limits: RINCON AVE TO JUNCTION AVE

No. of Lanes: 2

Roadway Description: A 2-lane residential collector street with on-street parking and bike lanes. The length of this segment is 0.49 miles.

Collision History: There have been 25 reported collisions along this segment within the past three years. This equates to 10.89 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, bicycling and pedestrian activities.

Recommendation: Based on the 85th percentile speed of 35 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Portola Avenue

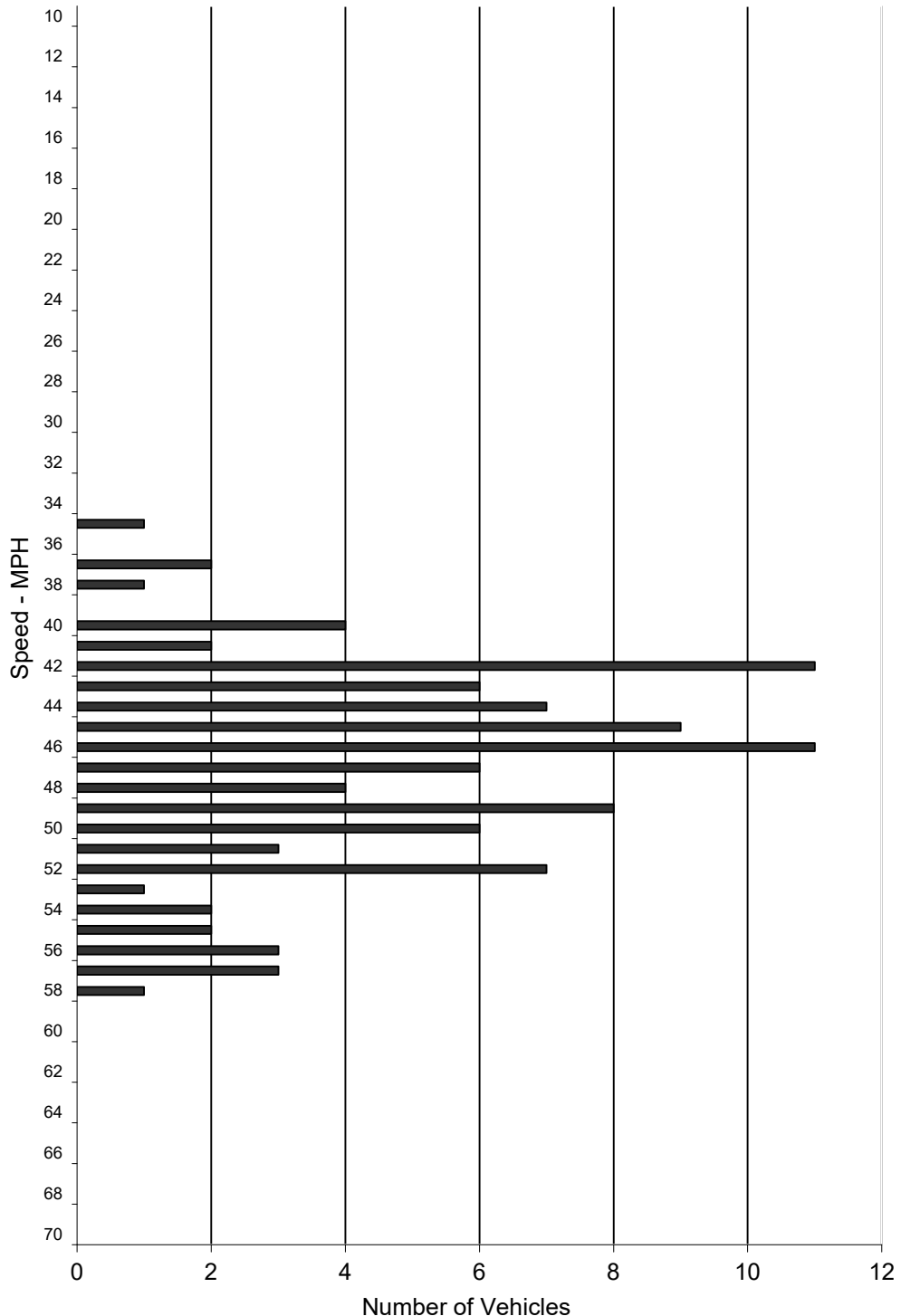
DATE: 8/6/2019
Start Time: 11:18 am
DAY: Tuesday

Location: North Canyons Pkwy - Murrieta Blvd
End Time: 11:41 am
Posted Speed: 45 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 45 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 0 |
| 32 | 0 |
| 33 | 0 |
| 34 | 0 |
| 35 | 1 |
| 36 | 0 |
| 37 | 2 |
| 38 | 1 |
| 39 | 0 |
| 40 | 4 |
| 41 | 2 |
| 42 | 11 |
| 43 | 6 |
| 44 | 7 |
| 45 | 9 |
| 46 | 11 |
| 47 | 6 |
| 48 | 4 |
| 49 | 8 |
| 50 | 6 |
| 51 | 3 |
| 52 | 7 |
| 53 | 1 |
| 54 | 2 |
| 55 | 2 |
| 56 | 3 |
| 57 | 3 |
| 58 | 1 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 46.8 | 35 - 58 | 46 mph | 52 mph | 42 - 51 | 71 | 71% | 10% / 10 | 19% / 19 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: PORTOLA AVENUE Adjacent Land Use: RESIDENTIAL/VACANT COMMERCIAL

Limits: NORTH CANYONS PKWY. TO MURRIETA BLVD. No. of Lanes: 6, 4 and 2

Roadway Description: A 6-lane divided narrowing down to 2-lane then widens to 4-lane divided arterial street with bike lanes and no on-street parking. This segment goes through high density residential housing, community sports park, and unimproved business commercial lands. No homes front this segment. The length of this segment is 1.36 miles.

Collision History: There have been 15 reported collisions along this segment within the past three years.

Other Considerations: Because of its scenic nature, the presence of sports park, and the installation of a multi-use trail adjacent to this area, this segment is popular for walking/jogging and bicycling activity often used as training route and bike commuting route.

Recommendation: Based on the 85th percentile speed of 52 MPH, a speed limit of 50 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 45 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Portola Avenue

DATE: 12/20/2019
Start Time: 1:20 PM
DAY: Friday

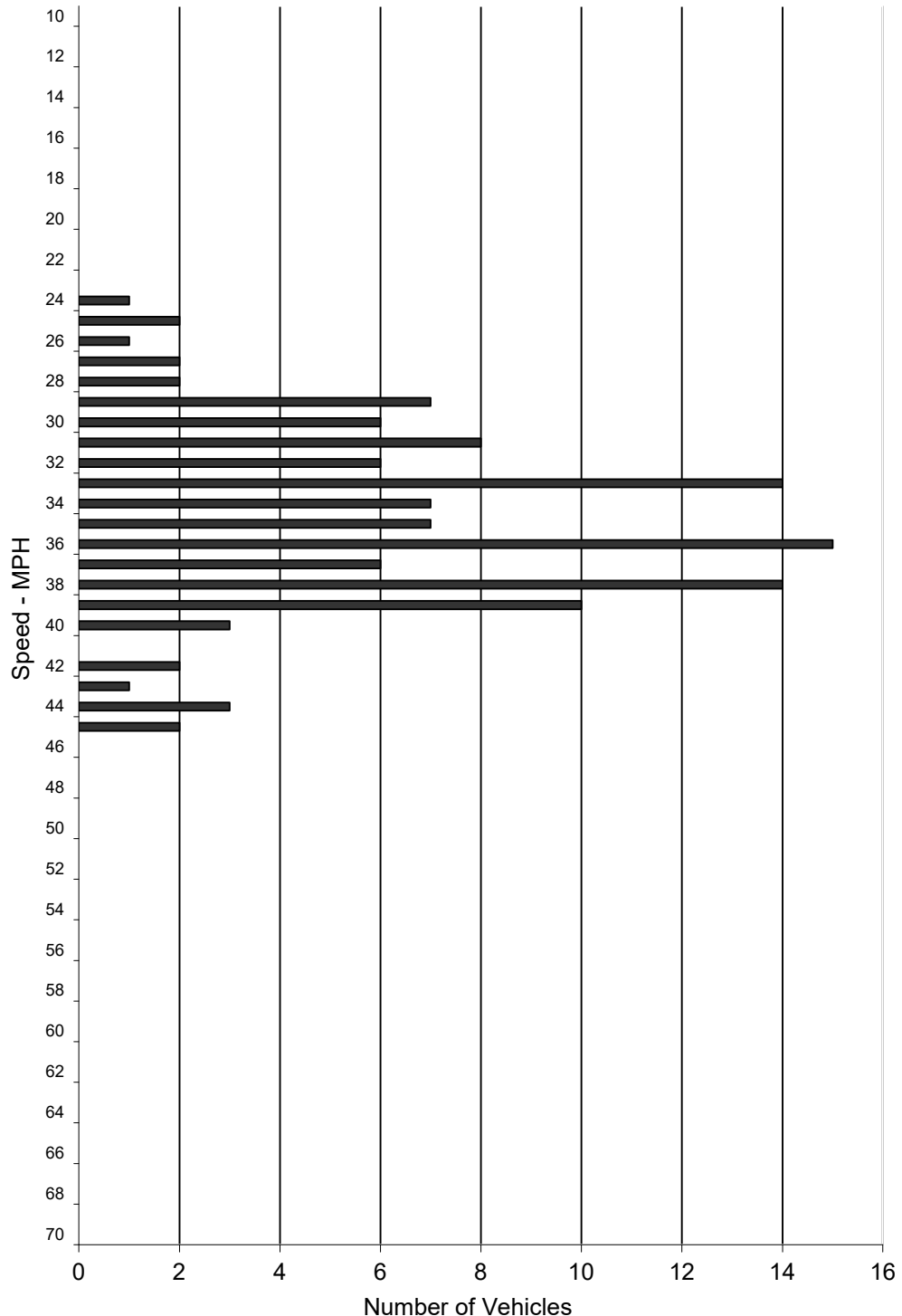
Location: Murrieta Boulevard to N. Livermore Avenue
End Time: 1:37 PM
(Before) Speed Limit: 35 MPH

Weather: Dry
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 1 |
| 25 | 2 |
| 26 | 1 |
| 27 | 2 |
| 28 | 2 |
| 29 | 7 |
| 30 | 6 |
| 31 | 8 |
| 32 | 6 |
| 33 | 14 |
| 34 | 7 |
| 35 | 7 |
| 36 | 15 |
| 37 | 6 |
| 38 | 14 |
| 39 | 10 |
| 40 | 3 |
| 41 | 0 |
| 42 | 2 |
| 43 | 1 |
| 44 | 3 |
| 45 | 2 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 119 | 34.7 | 24 - 45 | 35 mph | 39 mph | 30 - 39 | 93 | 78% | 12% / 15 | 10% / 11 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: PORTOLA AVENUE

Adjacent Land Use: RESIDENTIAL/COMMERCIAL

Limits: MURRIETA BLVD TO N. LIVERMORE AVE No. of Lanes: 4

Roadway Description: A 4-lane divided arterial street with bike lanes through a residential and commercial area. Parking is prohibited. The length of this segment is 0.70 miles.

Collision History: There have been 32 reported collisions along this segment within the past three years. This equates to 1.92 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: There is a high rate of turning movements in and out of many intersecting local streets and commercial developments.

Recommendation: Based on the 85th percentile speed of 39 MPH, the existing 35 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Portola Ave

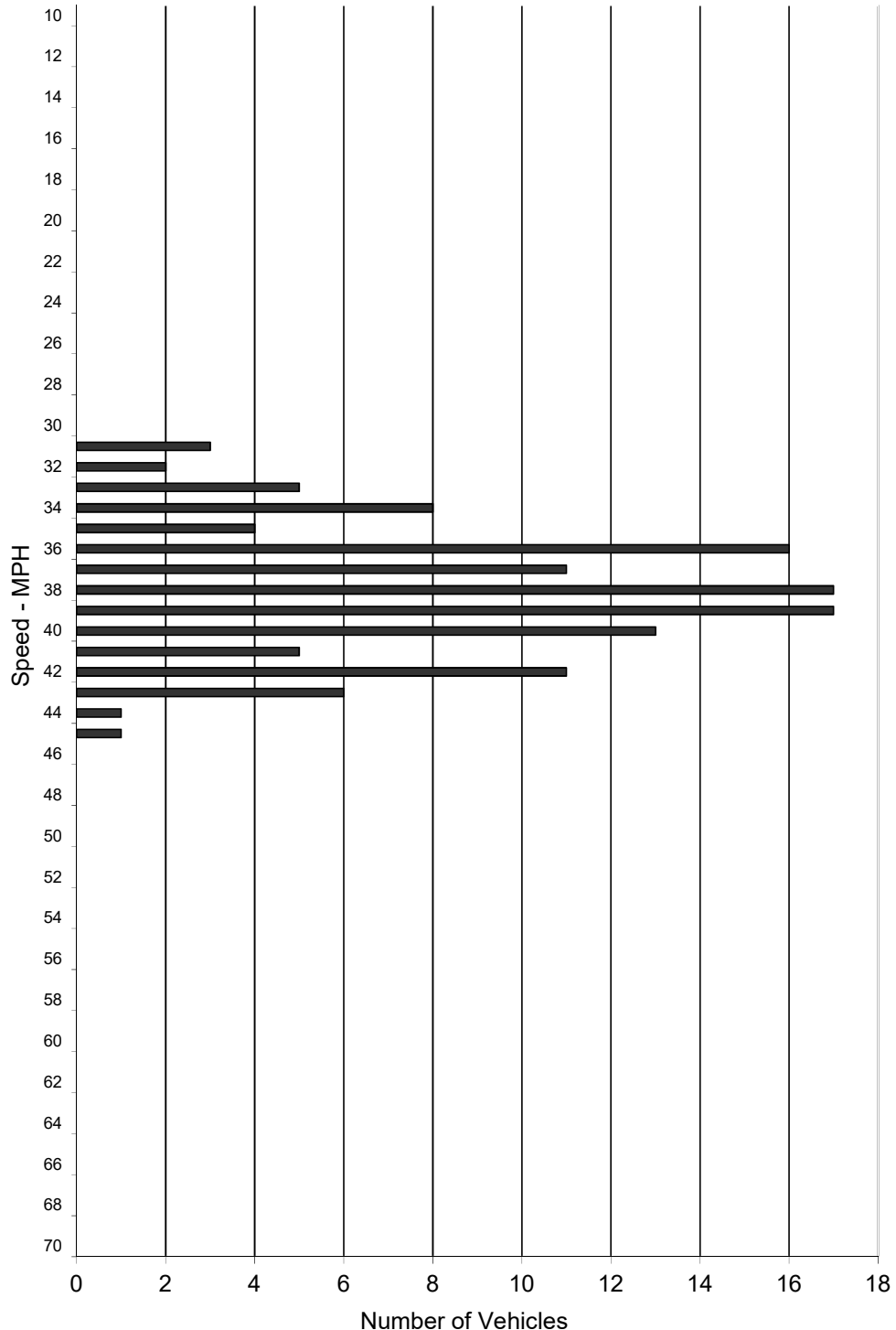
DATE: 7/14/2020
Start Time: 2:42 pm
DAY: Tuesday

Location: N. Livermore Avenue to First Street
End Time: 3:16 pm
Posted Speed: 35MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: MD
Calibration: DONE
New Speed Limit: 35 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 3 |
| 32 | 2 |
| 33 | 5 |
| 34 | 8 |
| 35 | 4 |
| 36 | 16 |
| 37 | 11 |
| 38 | 17 |
| 39 | 17 |
| 40 | 13 |
| 41 | 5 |
| 42 | 11 |
| 43 | 6 |
| 44 | 1 |
| 45 | 1 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 120 | 38.0 | 31 - 45 | 38 mph | 42 mph | 34 - 43 | 108 | 90% | 8% / 10 | 2% / 2 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: PORTOLA AVENUE Adjacent Land Use: RESIDENTIAL

Limits: N. LIVERMORE AVE TO FIRST ST No. of Lanes: 4

Roadway Description: 4-lane divided arterial street with painted median island from S. Livermore Avenue to Lee Avenue and raised median from Lee Avenue to First Street through a residential area, with no fronting homes, and several uncontrolled school crosswalks. Parking is prohibited through most of the segment. Bike lanes are present. Lawrence School is along this segment, and Junction Avenue School is nearby. The length of this segment is 1.12 miles.

Collision History: There have been 20 reported collisions along this segment within the past three years. This equates to 1.35 collisions per million vehicle miles.

Other Considerations: There is high pedestrian activity especially near the schools, and a high rate of turning movements in and out of many intersecting local streets. Pedestrian Crossing Guards help students cross the road.

Recommendation: Based on the 85th percentile speed of 42 MPH, a speed limit of 40 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

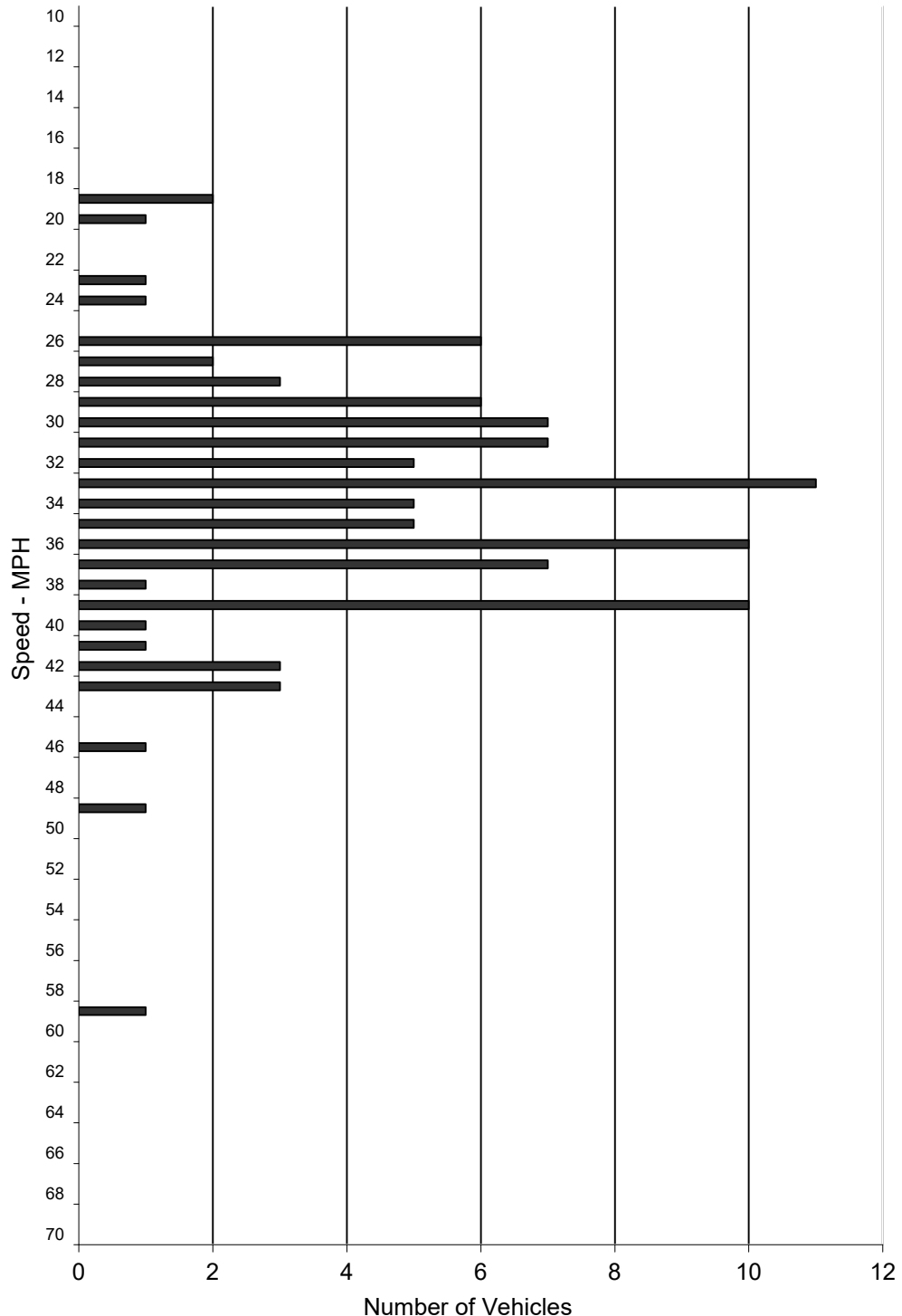
Preston Avenue

DATE: 12/26/2019
Start Time: 3:16 PM
DAY: Thursday

Location: Vasco Road to Las Positas Road
End Time: 4:01 PM
(Before) Speed Limit: 35 MPH
Weather: clear
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 35 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 2 |
| 20 | 1 |
| 21 | 0 |
| 22 | 0 |
| 23 | 1 |
| 24 | 1 |
| 25 | 0 |
| 26 | 6 |
| 27 | 2 |
| 28 | 3 |
| 29 | 6 |
| 30 | 7 |
| 31 | 7 |
| 32 | 5 |
| 33 | 11 |
| 34 | 5 |
| 35 | 5 |
| 36 | 10 |
| 37 | 7 |
| 38 | 1 |
| 39 | 10 |
| 40 | 1 |
| 41 | 1 |
| 42 | 3 |
| 43 | 3 |
| 44 | 0 |
| 45 | 0 |
| 46 | 1 |
| 47 | 0 |
| 48 | 0 |
| 49 | 1 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 1 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 101 | 33.7 | 19 - 59 | 33 mph | 39 mph | 30 - 39 | 68 | 67% | 21% / 22 | 11% / 11 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY SHEET

Street: PRESTON AVENUE Adjacent Land Use: INDUSTRIAL

Limits: VASCO RD TO LAS POSITAS RD No. of Lanes: 2

Roadway Description: 2-lane collector street through a partially developed industrial area with on-street parking. The length of this segment is 0.89 miles.

Collision History: There have been 8 reported collisions along this segment within the past three years. This equates to 1.22 collisions per million vehicle miles.

Other Considerations: This segment has numerous driveways, on-street parking maneuvers, and high pedestrian activity.

Recommendation: Based on the 85th percentile speed of 39 MPH, the existing 35 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

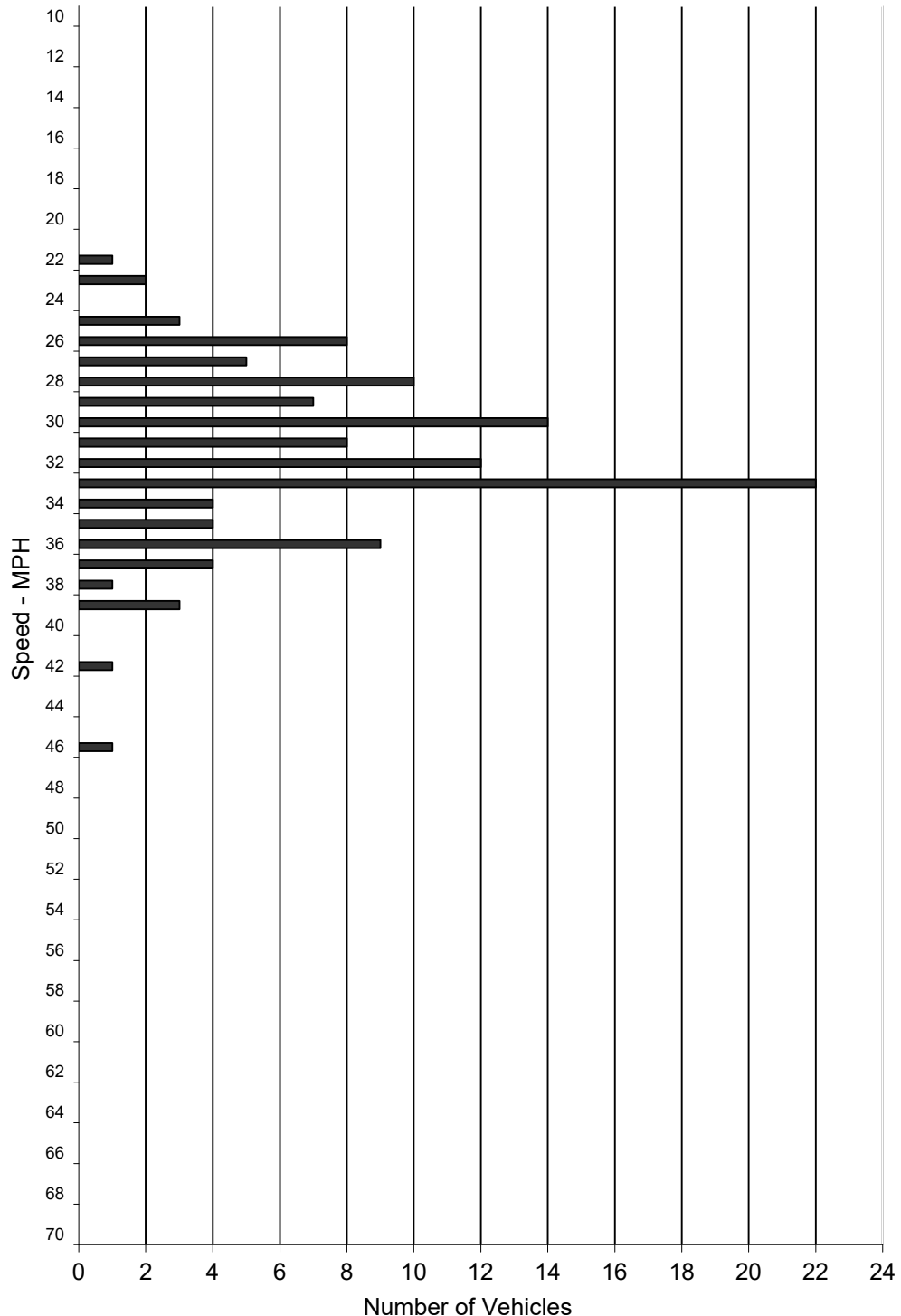
Railroad Avenue

DATE: 12/19/2019
Start Time: 3:14 PM
DAY: Thursday

Location: E. Stanley Boulevard to L Street
End Time: 3:30 PM
(Before) Speed Limit: 30 MPH
Weather: Dry
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 30 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 1 |
| 23 | 2 |
| 24 | 0 |
| 25 | 3 |
| 26 | 8 |
| 27 | 5 |
| 28 | 10 |
| 29 | 7 |
| 30 | 14 |
| 31 | 8 |
| 32 | 12 |
| 33 | 22 |
| 34 | 4 |
| 35 | 4 |
| 36 | 9 |
| 37 | 4 |
| 38 | 1 |
| 39 | 3 |
| 40 | 0 |
| 41 | 0 |
| 42 | 1 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 1 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 119 | 31.4 | 22 - 46 | 32 mph | 36 mph | 27 - 36 | 95 | 80% | 11% / 14 | 9% / 10 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: RAILROAD AVENUE Adjacent Land Use: COMMERC./RESIDENT.

Limits: E. STANLEY BLVD TO S. L ST No. of Lanes: 4

Roadway Description: A 4-lane divided arterial street through a commercial and high density residential area. Parking is prohibited. The length of this segment is 0.53 miles.

Collision History: There have been 45 reported collisions along this segment within the past three years. This equates to 3.89 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: There is high pedestrian activity related to the commercial area, numerous driveways with high turning maneuvers. Some bicycling activities even without bike lanes.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the high collision history and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

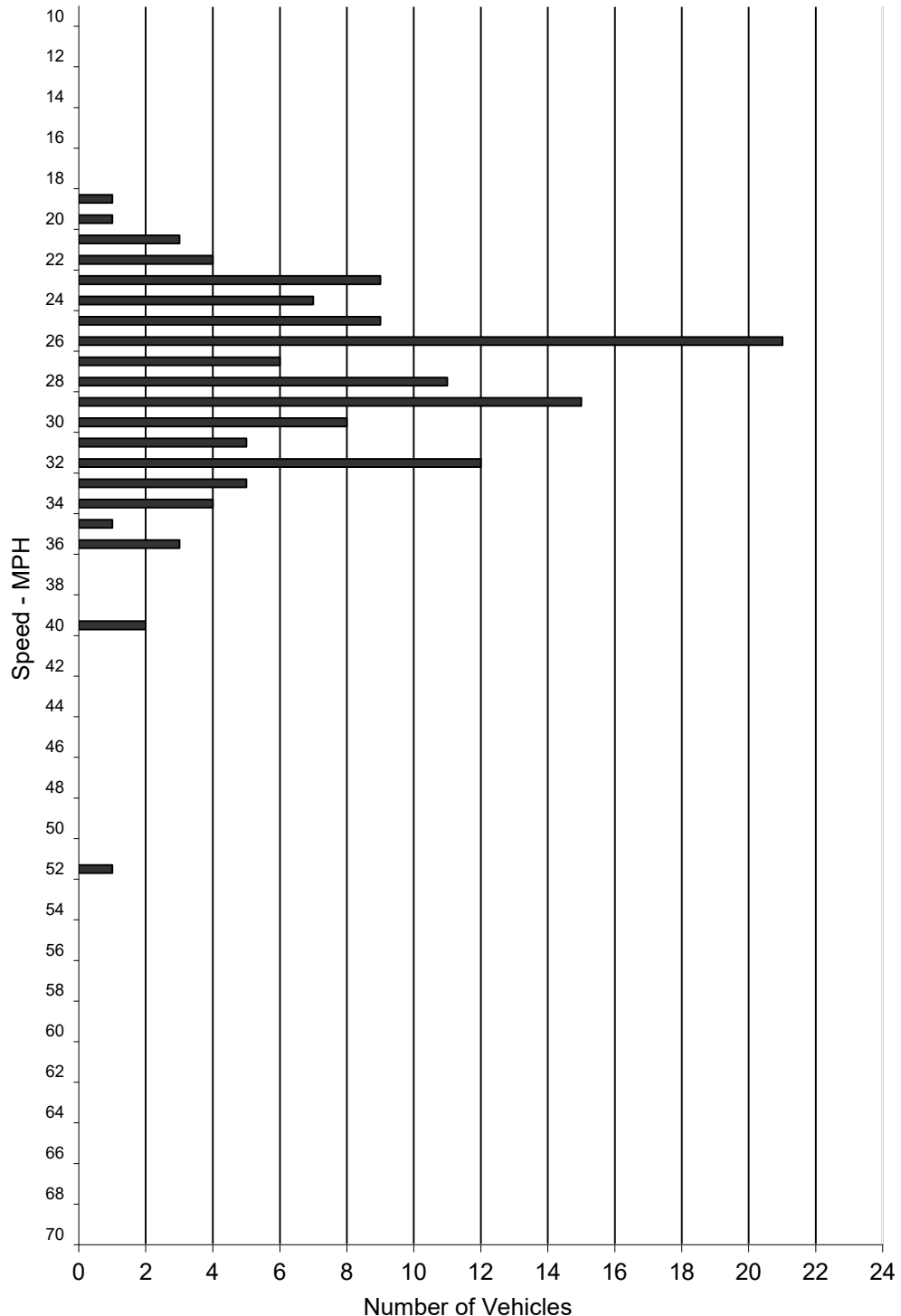
Railroad Avenue

DATE: 12/19/2019
Start Time: 2:25 PM
DAY: Thursday

Location: South L Street to Maple Street
End Time: 2:58 PM
(Before) Speed Limit: 25 MPH
Weather: Dry
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 25 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 1 |
| 20 | 1 |
| 21 | 3 |
| 22 | 4 |
| 23 | 9 |
| 24 | 7 |
| 25 | 9 |
| 26 | 21 |
| 27 | 6 |
| 28 | 11 |
| 29 | 15 |
| 30 | 8 |
| 31 | 5 |
| 32 | 12 |
| 33 | 5 |
| 34 | 4 |
| 35 | 1 |
| 36 | 3 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 2 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 1 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 128 | 28.1 | 19 - 52 | 28 mph | 32 mph | 23 - 32 | 103 | 80% | 7% / 9 | 13% / 16 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: RAILROAD AVENUE Development: COMMERCIAL

Limits: S. L ST TO MAPLE ST No. of Lanes: 4

Roadway Description: 4-lane divided collector street through a commercial area and the Downtown Livermore. A multi-screen movie theater, and a Performing Arts theater is along this segment. On-street parking is not permitted. The length of this segment is 0.28 miles.

Collision History: There have been 30 reported collisions along this segment within the past three years. This equates to 4.91 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: Very high pedestrian activity as this segment goes through the Downtown with numerous driveways resulting to high turning maneuvers.

Recommendation: Based on the 85th percentile speed of 32 MPH, a speed limit of 30 MPH was considered. However, given the high collision history and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Rincon Avenue

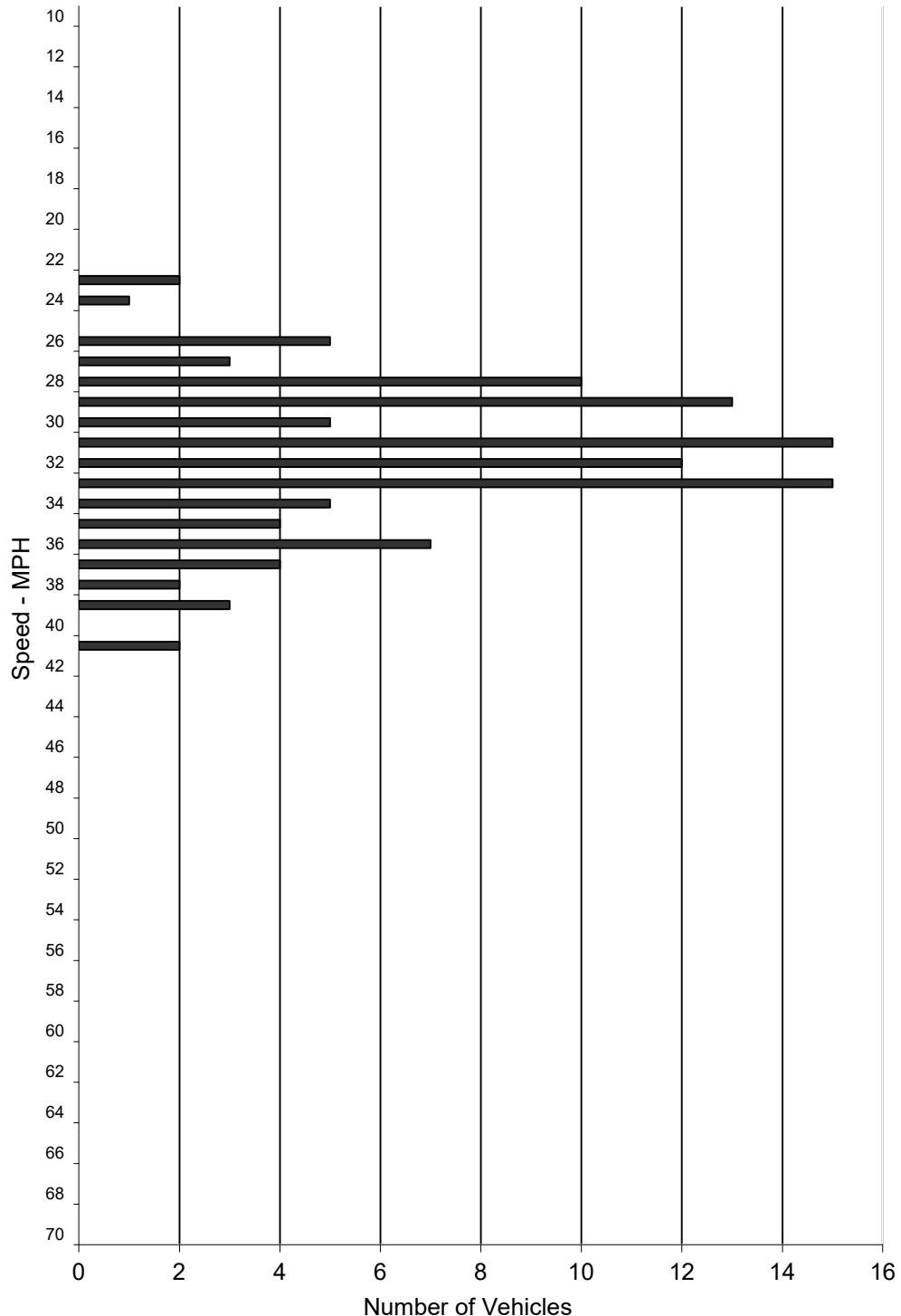
DATE: 12/19/2019
Start Time: 3:37 PM
DAY: Thursday

Location: Portola Avenue to Pine Street
End Time: 4:37 PM
(Before) Speed Limit: 30 MPH
Weather: Dry
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 2 |
| 24 | 1 |
| 25 | 0 |
| 26 | 5 |
| 27 | 3 |
| 28 | 10 |
| 29 | 13 |
| 30 | 5 |
| 31 | 15 |
| 32 | 12 |
| 33 | 15 |
| 34 | 5 |
| 35 | 4 |
| 36 | 7 |
| 37 | 4 |
| 38 | 2 |
| 39 | 3 |
| 40 | 0 |
| 41 | 2 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 108 | 31.6 | 23 - 41 | 31 mph | 36 mph | 28 - 37 | 90 | 83% | 10% / 11 | 7% / 7 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: RINCON AVENUE

Adjacent Land Use: RESIDENTIAL

Limits: PORTOLA AVE TO PINE ST

No. of Lanes: 2

Roadway Description: 2-lane residential collector street with bike lanes and parking. A fire station is along this segment. The length of this segment is 0.46 miles.

Collision History: There have been 9 reported collisions along this segment within the past three years. This equates to 5.26 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, and pedestrian activity.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the high collision history and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Rincon Avenue

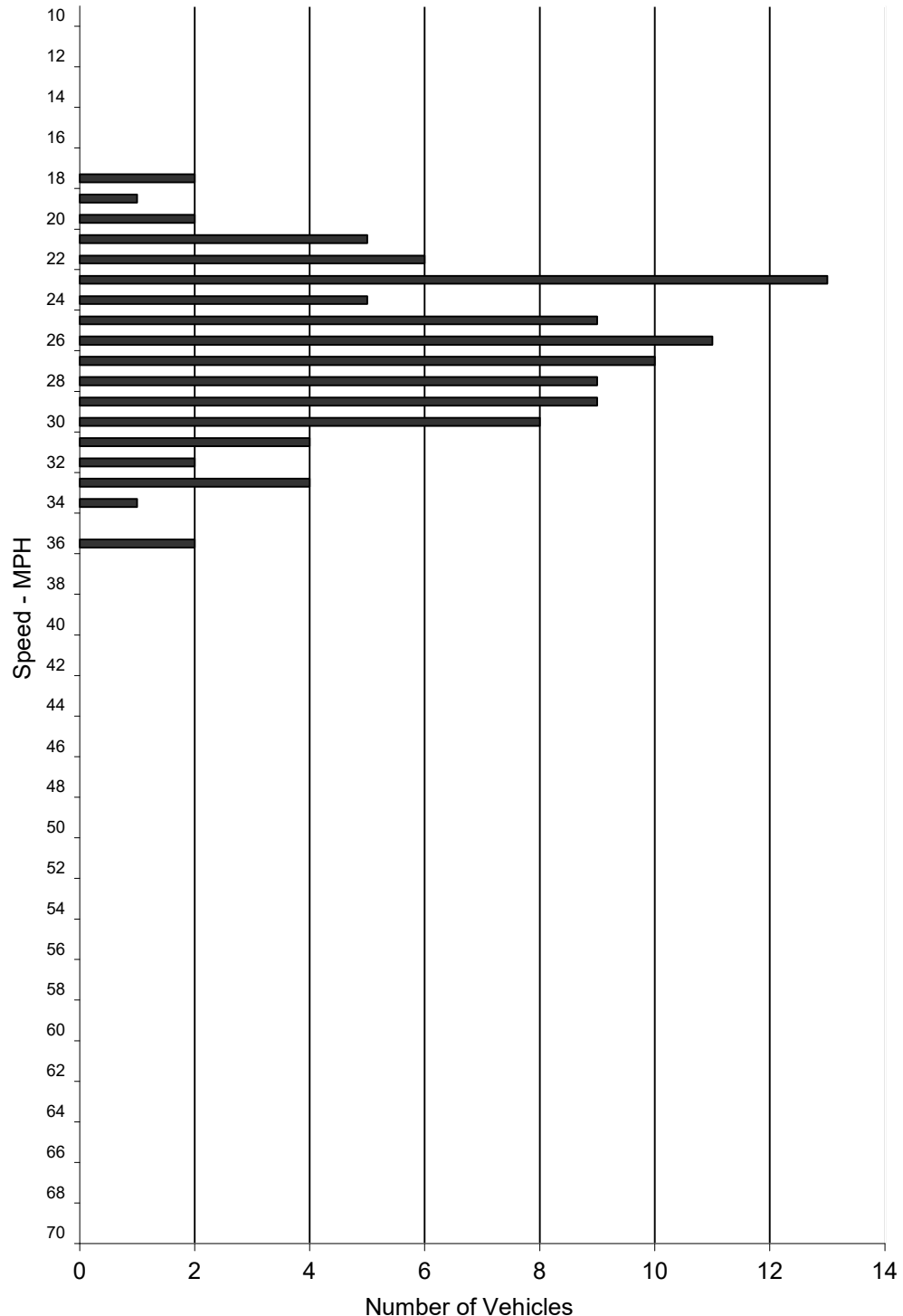
DATE: 6/11/2020
Start Time: 4.00 PM
DAY: Thursday

Location: Pine Street to Olivina Avenue
End Time: 04:45 pm
Posted Speed: 25 MPH
Weather: Cloudy
Direction: EB & WB

Observer: MD
Calibration: DONE
New Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 2 |
| 19 | 1 |
| 20 | 2 |
| 21 | 5 |
| 22 | 6 |
| 23 | 13 |
| 24 | 5 |
| 25 | 9 |
| 26 | 11 |
| 27 | 10 |
| 28 | 9 |
| 29 | 9 |
| 30 | 8 |
| 31 | 4 |
| 32 | 2 |
| 33 | 4 |
| 34 | 1 |
| 35 | 0 |
| 36 | 2 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 103 | 26.3 | 18 - 36 | 26 mph | 30 mph | 21 - 30 | 85 | 83% | 4% / 5 | 13% / 13 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: RINCON AVENUE

Adjacent Land Use: RESIDENTIAL

Limits: PINE ST TO OLIVINA AVE

No. of Lanes: 2

Roadway Description: A 2-lane local residential street with on-street parking. A City park and Public library is along this segment, and an elementary school is a block away. The length of this segment is 0.37 miles.

Collision History: There have been 9 reported collisions along this segment within the past three years. This equates to 6.53 collisions per million vehicle miles, which is higher than the 2.09 statewide average for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways and on-street parking maneuvers. Its close proximity to an elementary school, coupled with a community park/swim center and a public library along the segment resulting to high pedestrian and bicycling activity.

Recommendation: Based on the 85th percentile speed of 30 MPH, a speed limit of 30 MPH was considered. However, given the conditions not readily apparent to motorists identified above, and a higher than average collision rate, a 5 mile per hour reduction is justified. Therefore, the 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Robertson Park Road

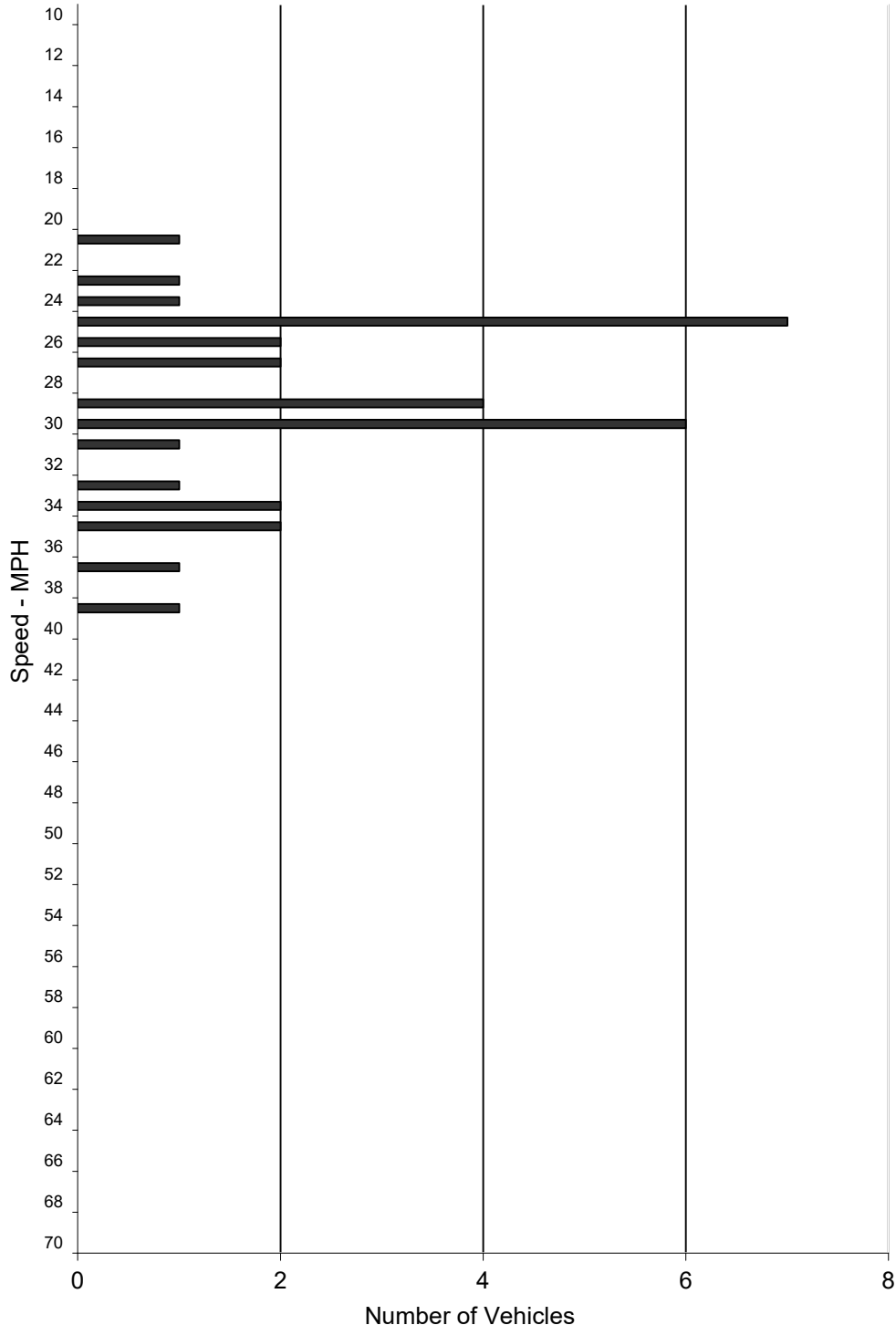
DATE: 8/26/2019
Start Time: 1:35 pm
DAY: Monday

Location: Arroyo Rd - Concannon Blvd
End Time: 2:35 pm
Posted Speed: 30 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 1 |
| 22 | 0 |
| 23 | 1 |
| 24 | 1 |
| 25 | 7 |
| 26 | 2 |
| 27 | 2 |
| 28 | 0 |
| 29 | 4 |
| 30 | 6 |
| 31 | 1 |
| 32 | 0 |
| 33 | 1 |
| 34 | 2 |
| 35 | 2 |
| 36 | 0 |
| 37 | 1 |
| 38 | 0 |
| 39 | 1 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 32 | 28.8 | 21 - 39 | 29 mph | 34 mph | 25 - 34 | 25 | 78% | 9% / 3 | 13% / 4 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: ROBERTSON PARK ROAD Development: PUBLIC PARK

Limits: ARROYO RD TO CONCANNON BLVD No. of Lanes: 2

Roadway Description: 2-lane undivided private road with narrow lanes through Robertson Park. Parking is prohibited. City maintenance yard is along the east end. This roadway is adjacent to an equestrian trail. The length of this segment is 1.18 miles.

Collision History: There have been 3 reported collisions along this segment within the past three years. This equates to 4.53 collisions per million vehicle miles, which is higher than the statewide average of 1.8 for this type of roadway.

Other Considerations: Unimproved shoulders with a heavy cyclist/pedestrian/equestrian activity near the roadway from the recreation nature of adjacent area.

Recommendation: Based on the 85th percentile speed of 34 MPH, the existing 30 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Scenic Avenue

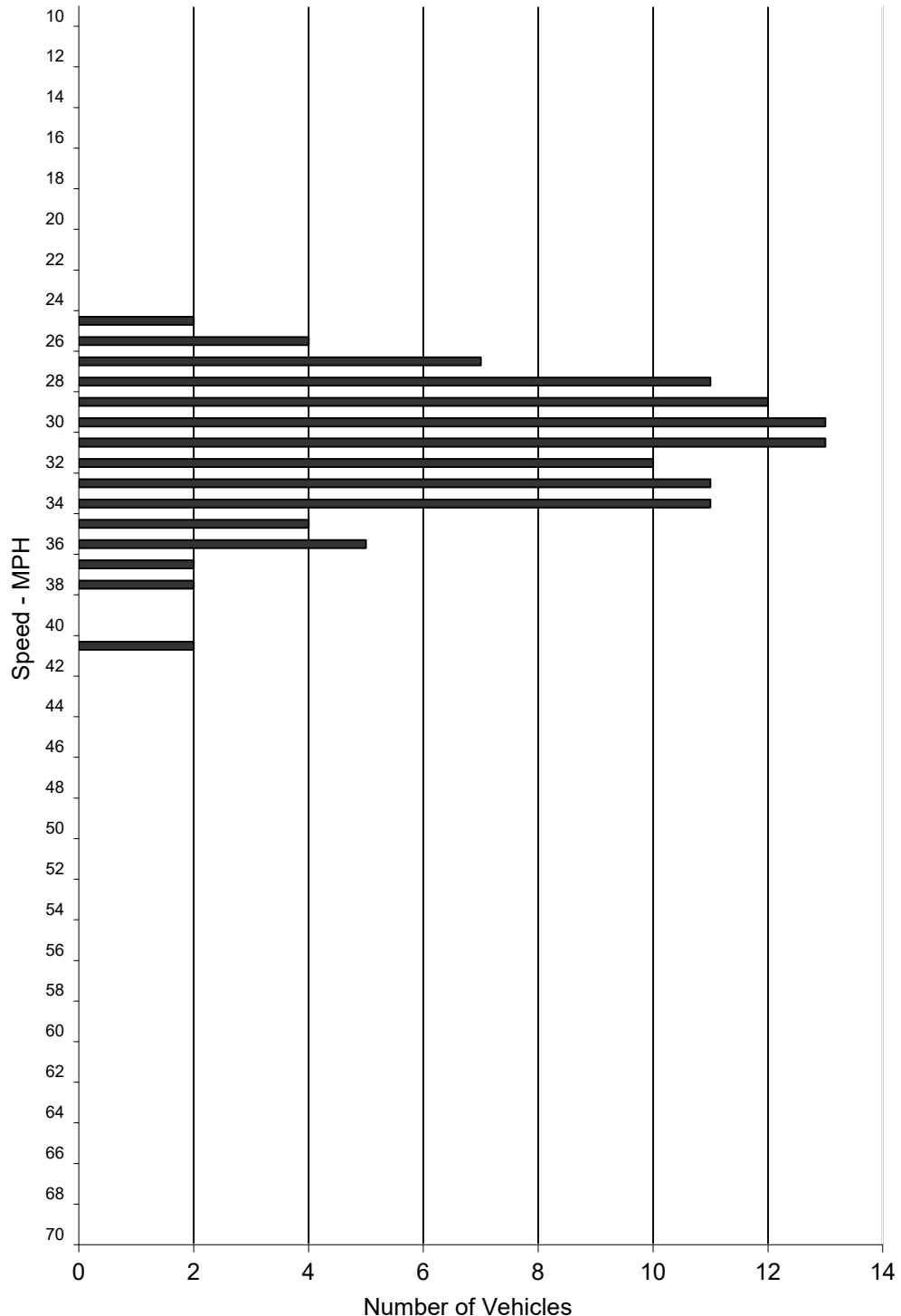
DATE: 10/1/2019
Start Time: 3:10 PM
DAY: Tuesday

Location: Bluebell Drive to Vasco Road
End Time: 3:45 PM
(Before) Speed Limit: 30 MPH
Weather: Sunny
Direction: EB & WB

Observer: HI
Calibration: DONE
NEW Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 2 |
| 26 | 4 |
| 27 | 7 |
| 28 | 11 |
| 29 | 12 |
| 30 | 13 |
| 31 | 13 |
| 32 | 10 |
| 33 | 11 |
| 34 | 11 |
| 35 | 4 |
| 36 | 5 |
| 37 | 2 |
| 38 | 2 |
| 39 | 0 |
| 40 | 0 |
| 41 | 2 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 109 | 31.2 | 25 - 41 | 31 mph | 34 mph | 27 - 36 | 97 | 89% | 5% / 6 | 6% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SCENIC AVENUE Adjacent Land Use: RESIDENTIAL

Limits: BLUEBELL DR TO VASCO RD No. of Lanes: 2

Roadway Description: A 2-lane residential collector street with bike lanes, parking, and school crosswalks. An elementary school and a fire station are along this segment. The length of this segment is 0.91 miles.

Collision History: There have been 6 reported collisions along this segment within the past three years. This equates to 1.68 collisions per million vehicle miles.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, and pedestrian activity especially near the school.

Recommendation: Based on the 85th percentile speed of 34 MPH, the existing 30 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

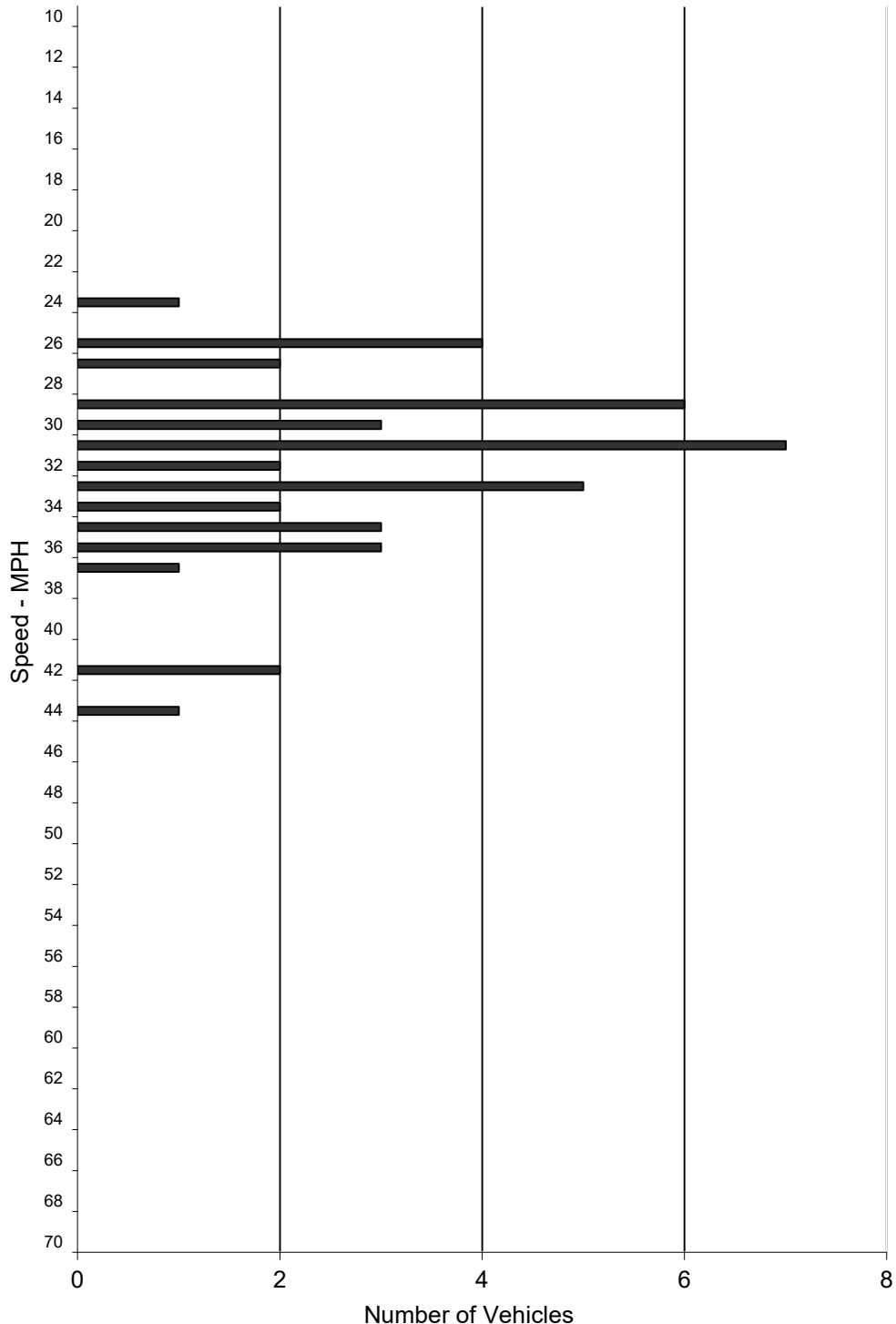
Scenic Avenue

DATE: 10/24/2019
Start Time: 10:00 PM
DAY: Thursday

Location: Vasco Road to East End
End Time: 11:00 PM
(Before) Speed Limit: 30 MPH
Weather: Clear
Direction: EB & WB

Observer: HI
Calibration: DONE
NEW Speed Limit: 30 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 1 |
| 25 | 0 |
| 26 | 4 |
| 27 | 2 |
| 28 | 0 |
| 29 | 6 |
| 30 | 3 |
| 31 | 7 |
| 32 | 2 |
| 33 | 5 |
| 34 | 2 |
| 35 | 3 |
| 36 | 3 |
| 37 | 1 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 2 |
| 43 | 0 |
| 44 | 1 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 42 | 31.9 | 24 - 44 | 31 mph | 36 mph | 26 - 35 | 34 | 81% | 2% / 1 | 17% / 7 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SCENIC AVENUE Adjacent Land Use: RESIDENTIAL

Limits: VASCO RD TO EAST END No. of Lanes: 2

Roadway Description: 2-lane residential collector street with bike lanes and parking. The length of this segment is 0.67 miles.

Collision History: There have been 1 reported collision along this segment within the past three years.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turns, on-street parking maneuvers, and pedestrian activity especially near the school.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Second Street

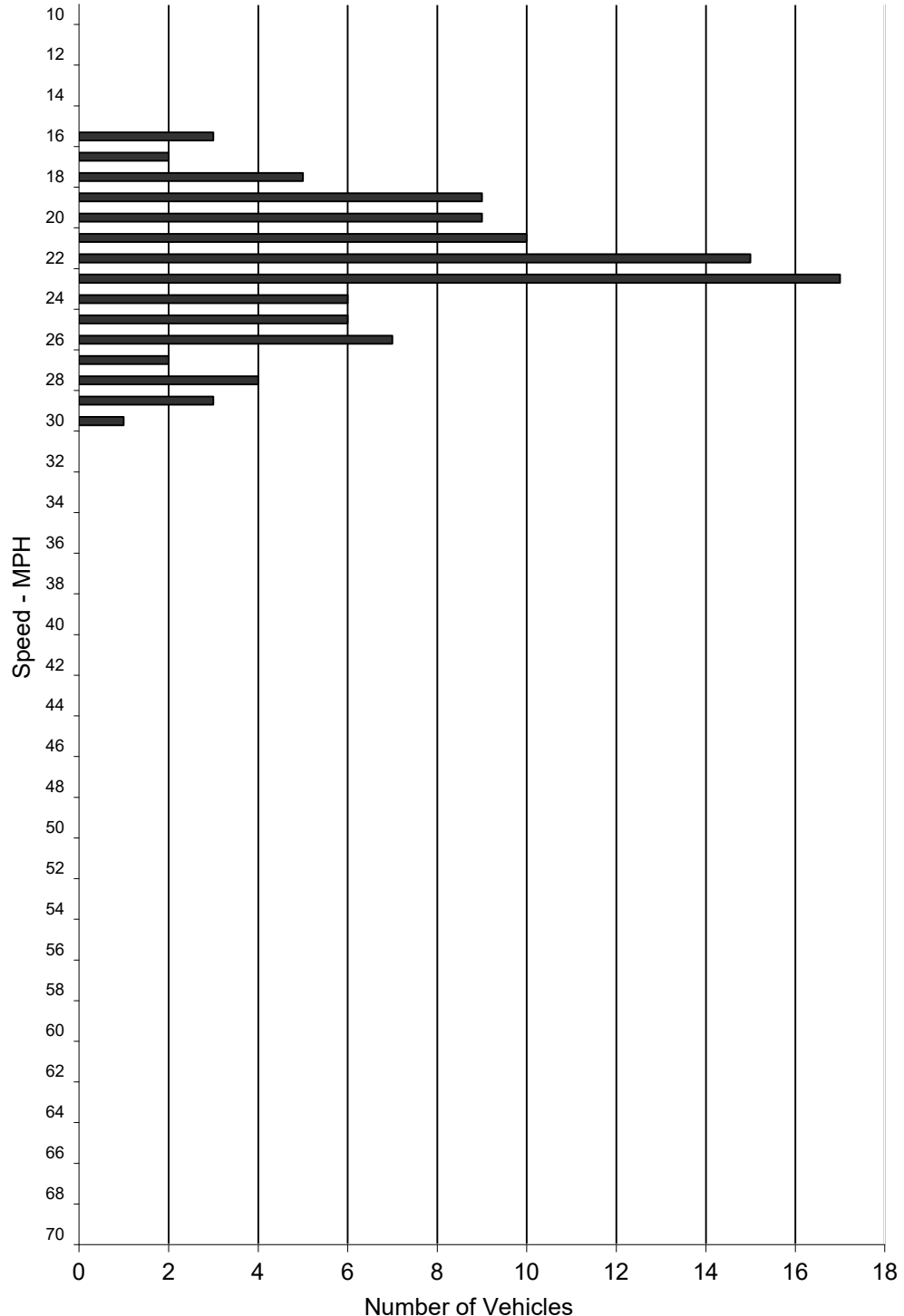
DATE: 11/14/2019
Start Time: 3:12 pm
DAY: Thursday

Location: Holmes Street - South L Street
End Time: 4:12 pm
Posted Speed: 25 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: MD
Calibration: DONE
New Speed Limit: 25 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 3 |
| 17 | 2 |
| 18 | 5 |
| 19 | 9 |
| 20 | 9 |
| 21 | 10 |
| 22 | 15 |
| 23 | 17 |
| 24 | 6 |
| 25 | 6 |
| 26 | 7 |
| 27 | 2 |
| 28 | 4 |
| 29 | 3 |
| 30 | 1 |
| 31 | 0 |
| 32 | 0 |
| 33 | 0 |
| 34 | 0 |
| 35 | 0 |
| 36 | 0 |
| 37 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 99 | 22.4 | 16 - 30 | 22 mph | 26 mph | 17 - 26 | 86 | 87% | 3% / 3 | 11% / 10 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SECOND STREET

Adjacent Land Use: RESIDENT./COMMERC.

Limits: HOLMES ST TO S. L ST

No. of Lanes: 4

Roadway Description: 2-lane collector street through a residential and commercial area, with fronting homes and diagonal parking. The length of this segment is 0.49 miles.

Collision History: There have been 8 reported collisions along this segment within the past three years. This equates to 3.24 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment has a high rate of turning movements in and out of many intersecting local streets, with numerous driveways, on-street diagonal parking maneuvers, and pedestrian activity.

Recommendation: Based on the 85th percentile speed of 26 MPH, a speed limit of 25 MPH will remain in effect.

Spot Speed Study - City of Livermore

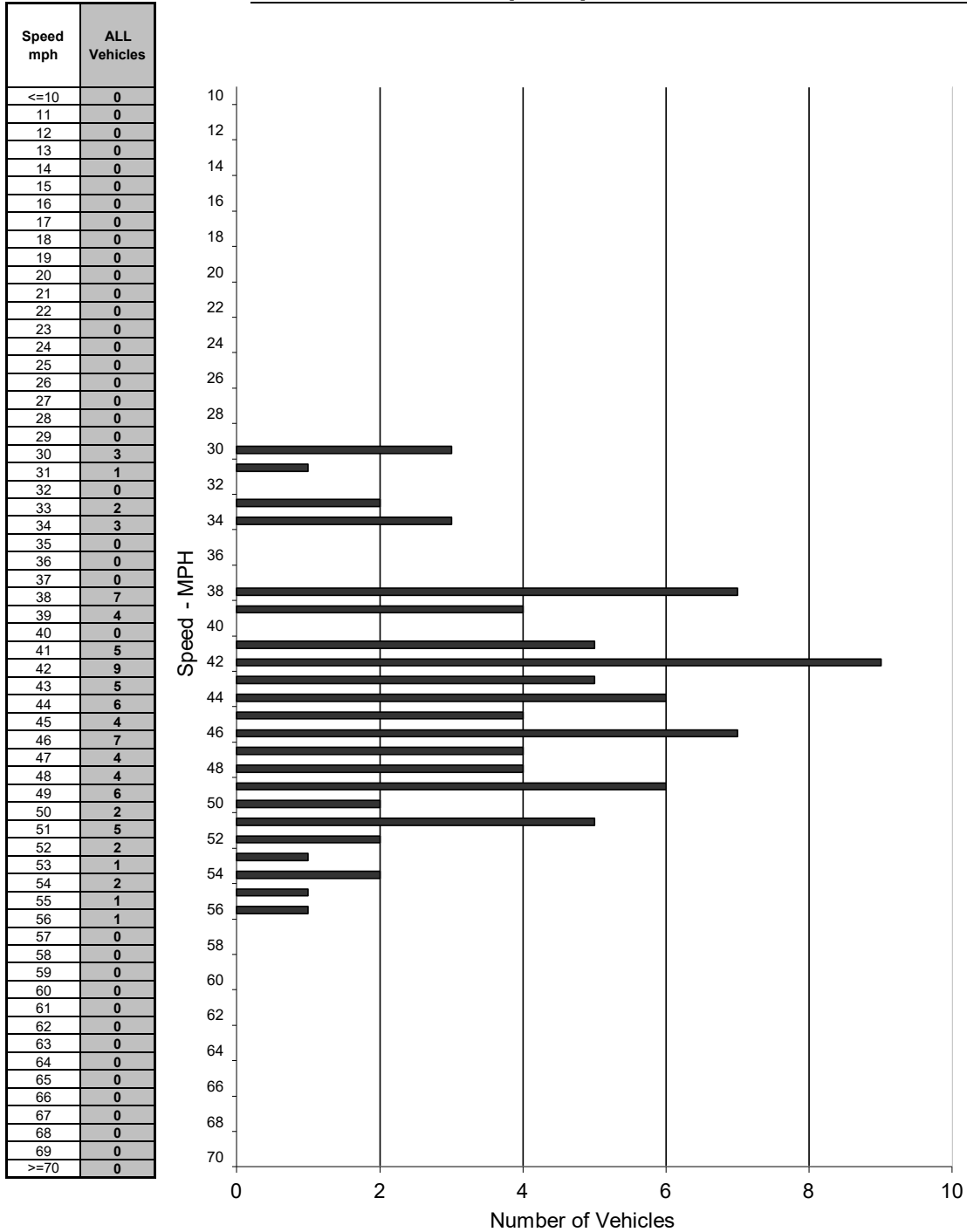
Southfront Road

DATE: 9/26/2019
Start Time: 09:02 AM
DAY: Thursday

Location: First Street to Preston Avenue
End Time: 10:02 AM
(Before) Speed Limit: 45 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: JL
Calibration: DONE
NEW Speed Limit: 45 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 84 | 43.8 | 30 - 56 | 44 mph | 50 mph | 41 - 50 | 52 | 62% | 23% / 20 | 15% / 12 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SOUTHFRONT ROAD Adjacent Land Use: INDUSTRIAL/COMMERC.
Limits: FIRST ST TO PRESTON AVE No. of Lanes: 2

Roadway Description: 2-lane collector street through a commercial/industrial area with some unimproved shoulders in some areas. The length of this segment is 1.28 miles.

Collision History: There have been 10 reported collisions along this segment within the past three years. This equates to 2.64 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: Many slow trucks, numerous driveways, a high rate of turning movements in and out of intersecting streets and driveways.

Recommendation: Based on the 85th percentile speed of 50 MPH, a speed limit of 50 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 45 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

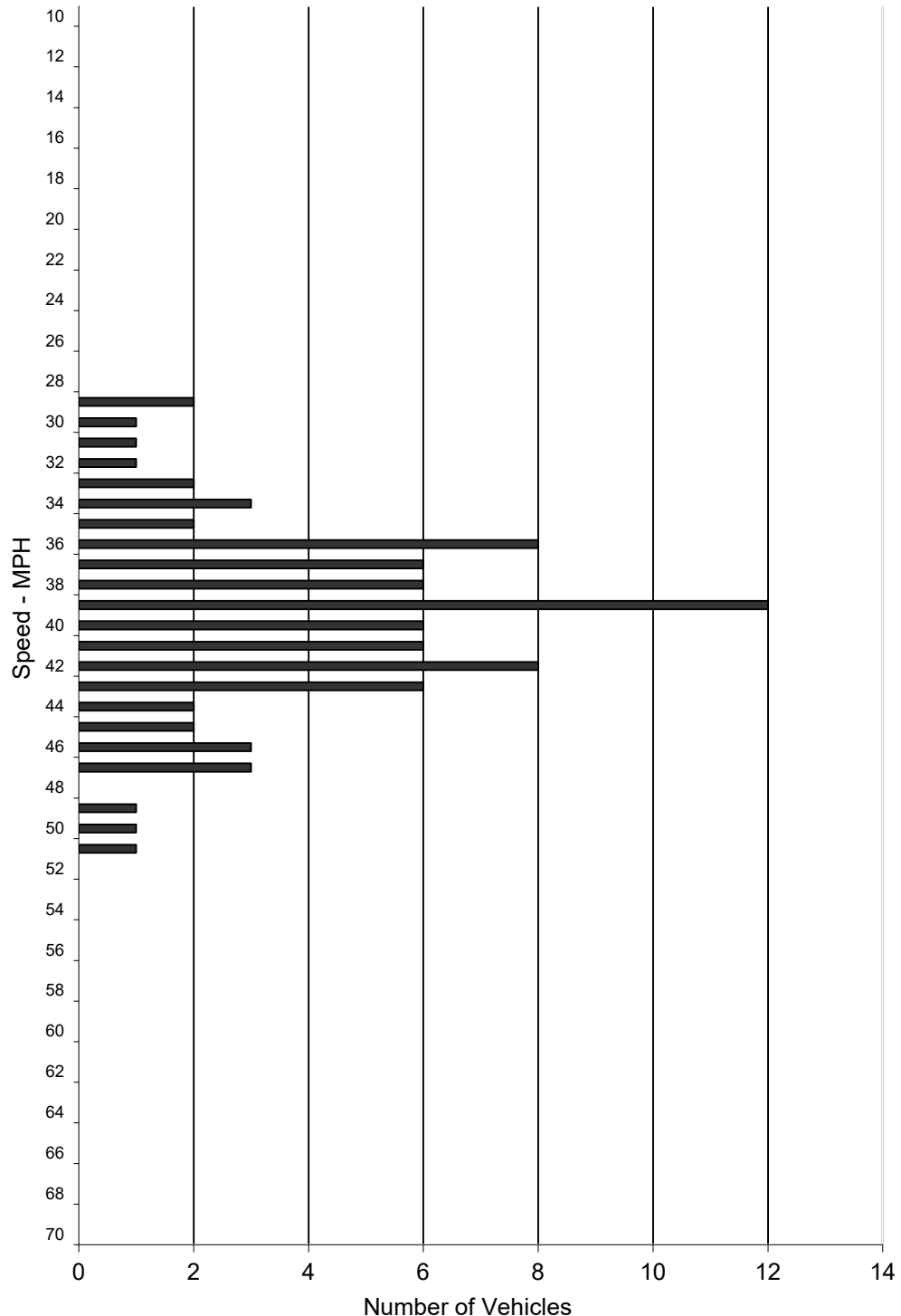
Southfront Road

DATE: 9/26/2019
Start Time: 10:06 AM
DAY: Thursday

Location: Preston Avenue to Lawrence Drive
End Time: 11:06 AM
(Before) Speed Limit: 40 MPH
Weather: Sunny
Direction: EB & WB

Observer: JL
Calibration: DONE
NEW Speed Limit: 40 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 2 |
| 30 | 1 |
| 31 | 1 |
| 32 | 1 |
| 33 | 2 |
| 34 | 3 |
| 35 | 2 |
| 36 | 8 |
| 37 | 6 |
| 38 | 6 |
| 39 | 12 |
| 40 | 6 |
| 41 | 6 |
| 42 | 8 |
| 43 | 6 |
| 44 | 2 |
| 45 | 2 |
| 46 | 3 |
| 47 | 3 |
| 48 | 0 |
| 49 | 1 |
| 50 | 1 |
| 51 | 1 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 83 | 39.5 | 29 - 51 | 39 mph | 44 mph | 34 - 43 | 63 | 76% | 8% / 7 | 16% / 13 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SOUTHFRONT ROAD

Adjacent Land Use: INDUSTRIAL

Limits: PRESTON AVE TO LAWRENCE DR

No. of Lanes: 2

Roadway Description: 2-lane collector street through industrial area. The length of this segment is 1.00 miles.

Collision History: There have been 4 reported collisions along this segment within the past three years. This equates to 1.37 collisions per million vehicle miles.

Other Considerations: Numerous driveways, heavily used on-street parking, and a high rate of turning movements in and out of intersecting streets and driveways.

Recommendation: Based on the 85th percentile speed of 44 MPH, the existing 40 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

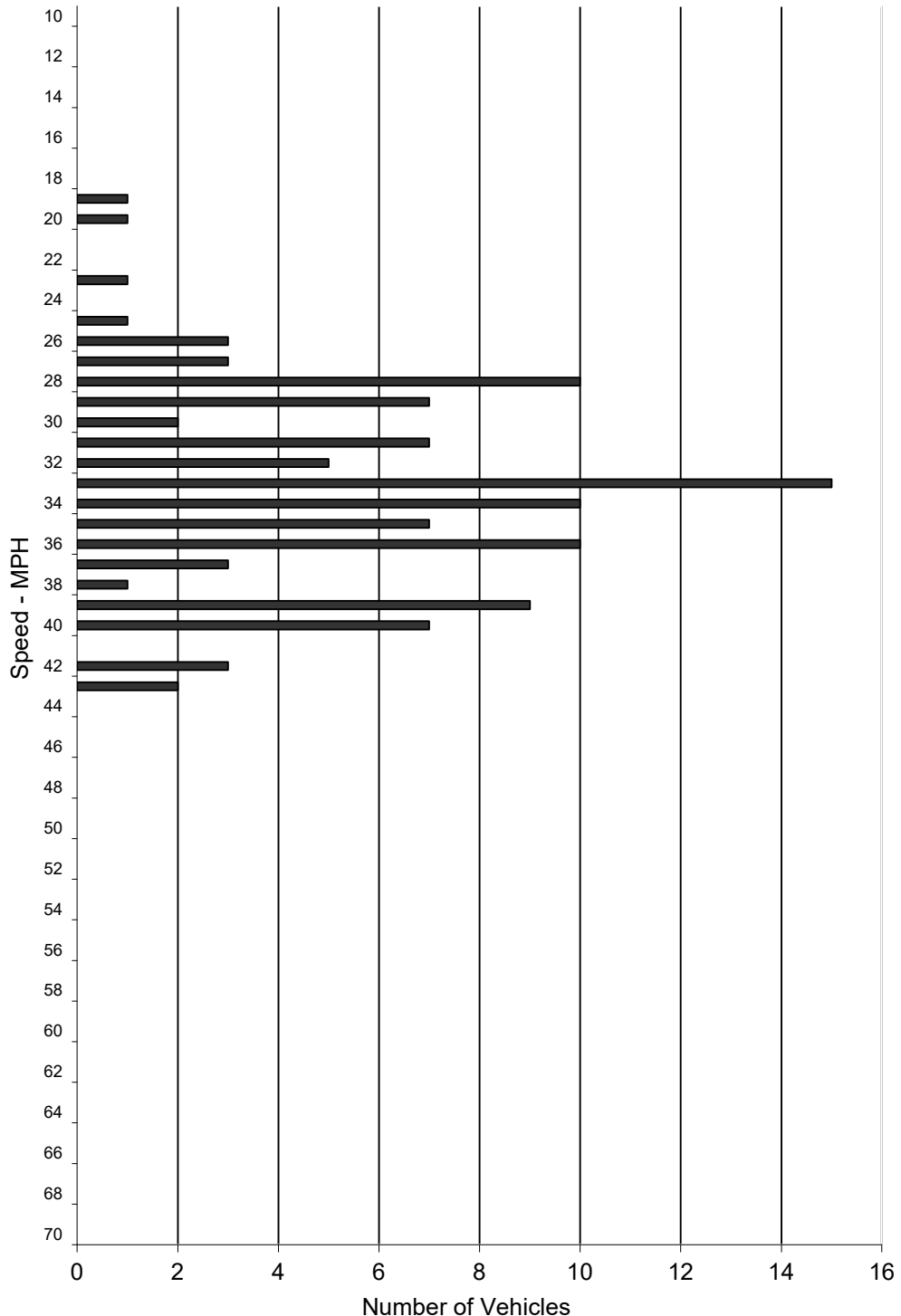
Southfront Road

DATE: 9/26/2019
Start Time: 11:08 AM
DAY: Thursday

Location: Lawrence Drive to Greenville Road
End Time: 11:57 AM
(Before) Speed Limit: 35 MPH
Weather: Dry
Direction: EB & WB

Observer: JL
Calibration: DONE
NEW Speed Limit: 35 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 1 |
| 20 | 1 |
| 21 | 0 |
| 22 | 0 |
| 23 | 1 |
| 24 | 0 |
| 25 | 1 |
| 26 | 3 |
| 27 | 3 |
| 28 | 10 |
| 29 | 7 |
| 30 | 2 |
| 31 | 7 |
| 32 | 5 |
| 33 | 15 |
| 34 | 10 |
| 35 | 7 |
| 36 | 10 |
| 37 | 3 |
| 38 | 1 |
| 39 | 9 |
| 40 | 7 |
| 41 | 0 |
| 42 | 3 |
| 43 | 2 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 108 | 33.3 | 19 - 43 | 33 mph | 39 mph | 27 - 36 | 76 | 70% | 6% / 7 | 24% / 25 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SOUTHFRONT ROAD Adjacent Land Use: INDUSTRIAL

Limits: LAWRENCE DR TO GREENVILLE RD No. of Lanes: 4

Roadway Description: Mostly 4-lane divided collector street through an industrial area. Parking is prohibited. The length of this segment is 0.59 miles.

Collision History: There have been 13 reported collisions along this segment within the past three years. This equates to 6.78 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: High rate of turning maneuvers in and out of the numerous driveways.

Recommendation: Based on the 85th percentile speed of 39 MPH, the existing 35 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

Springtown Boulevard

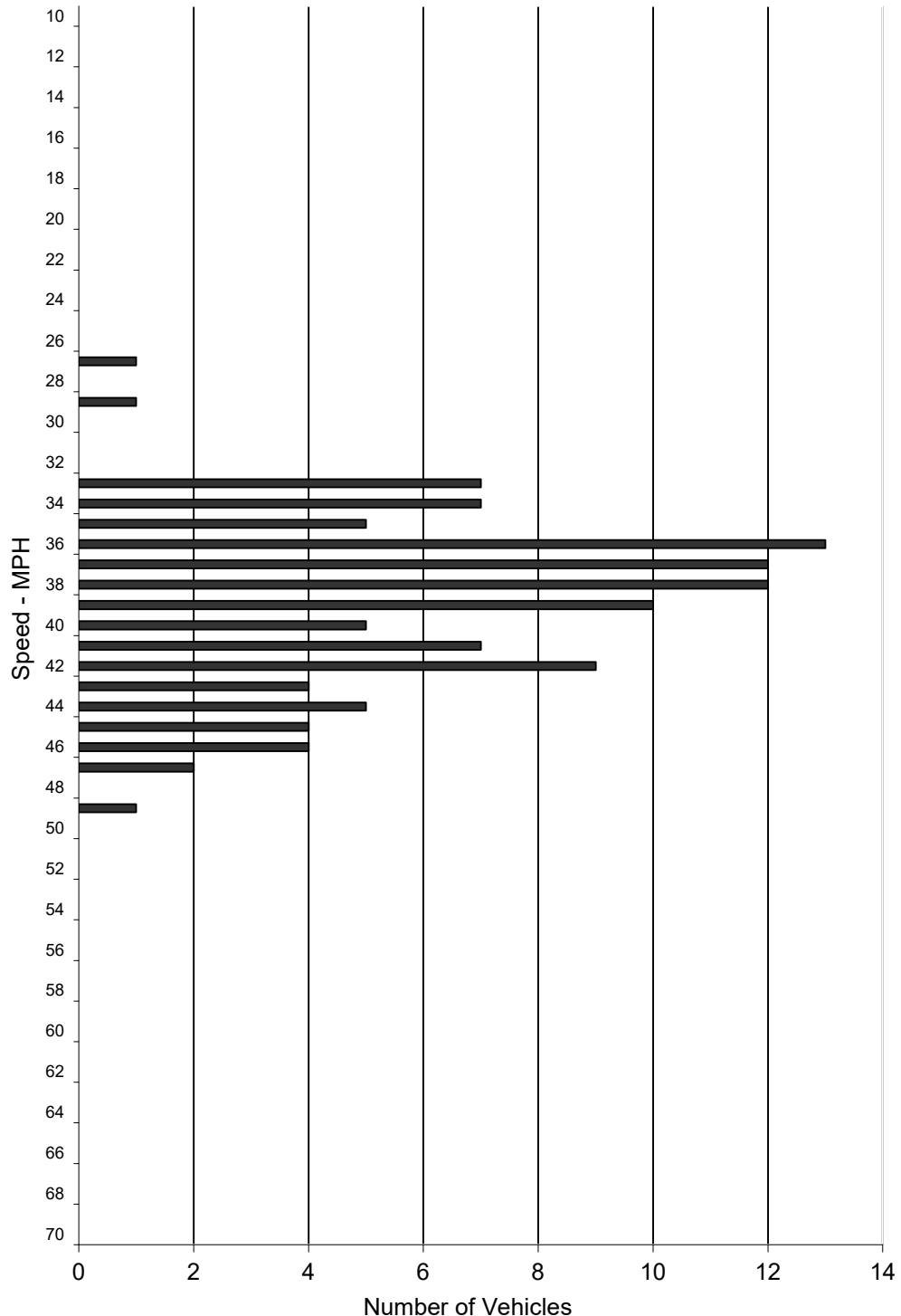
DATE: 10/24/2019
Start Time: 11:22 AM
DAY: Thursday

Location: Bluebell Drive to Galloway Street
End Time: 12:10 PM
(Before) Speed Limit: 40 MPH
Weather: Dry
Direction: NB & SB

Observer: HI
Calibration: DONE
NEW Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 1 |
| 28 | 0 |
| 29 | 1 |
| 30 | 0 |
| 31 | 0 |
| 32 | 0 |
| 33 | 7 |
| 34 | 7 |
| 35 | 5 |
| 36 | 13 |
| 37 | 12 |
| 38 | 12 |
| 39 | 10 |
| 40 | 5 |
| 41 | 7 |
| 42 | 9 |
| 43 | 4 |
| 44 | 5 |
| 45 | 4 |
| 46 | 4 |
| 47 | 2 |
| 48 | 0 |
| 49 | 1 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 109 | 38.7 | 27 - 49 | 38 mph | 43 mph | 33 - 42 | 87 | 80% | 1% / 2 | 19% / 20 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SPRINGTOWN BOULEVARD Adjacent Land Use: RESIDENTIAL

Limits: BLUEBELL DR TO GALLOWAY ST No. of Lanes: 4

Roadway Description: A 4-lane divided collector street through a residential area with bike lanes. West side of the street is generally high density residential. No fronting homes on the east side since sound wall separates the homes from the street. Parking is prohibited. The length of this segment is 1.14 miles.

Collision History: There have been 7 reported collisions along this segment within the past three years. This equates to 1.27 collisions per million vehicle miles.

Other Considerations: There is a high rate of turning maneuvers in and out of many intersecting local streets, and apartment driveways. Recreation bicycling is common in this roadway.

Recommendation: Based on the 85th percentile speed of 43 MPH, the existing 40 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

East Stanley Blvd

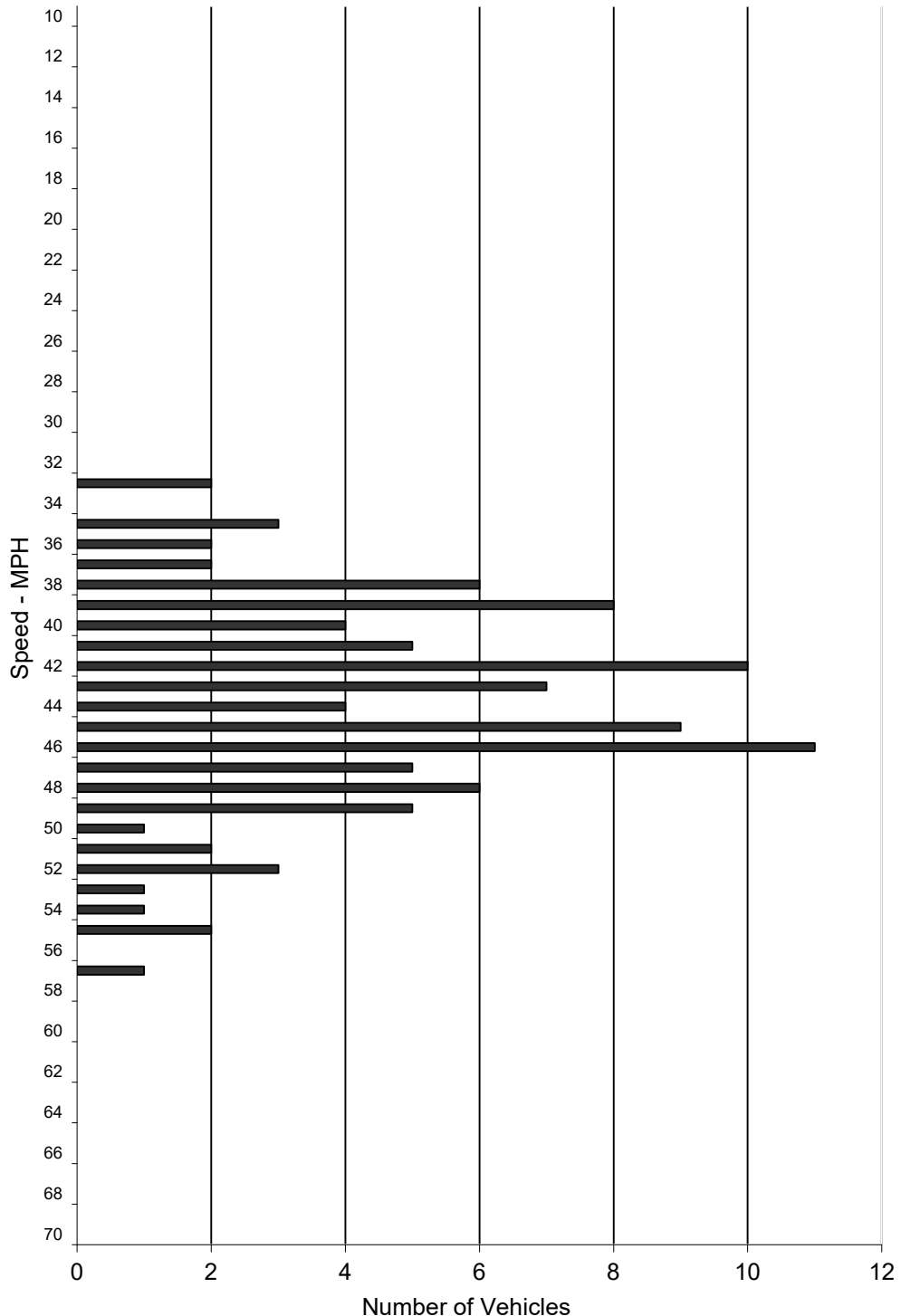
DATE: 8/13/2019
Start Time: 2:28 pm
DAY: Tuesday

Location: SR 84 (Isabel Ave) - Wall St
End Time: 2:47 pm
Posted Speed: 45 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: BMC
Calibration: DONE
New Speed Limit: 45 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 0 |
| 32 | 0 |
| 33 | 2 |
| 34 | 0 |
| 35 | 3 |
| 36 | 2 |
| 37 | 2 |
| 38 | 6 |
| 39 | 8 |
| 40 | 4 |
| 41 | 5 |
| 42 | 10 |
| 43 | 7 |
| 44 | 4 |
| 45 | 9 |
| 46 | 11 |
| 47 | 5 |
| 48 | 6 |
| 49 | 5 |
| 50 | 1 |
| 51 | 2 |
| 52 | 3 |
| 53 | 1 |
| 54 | 1 |
| 55 | 2 |
| 56 | 0 |
| 57 | 1 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 43.8 | 33 - 57 | 44 mph | 49 mph | 38 - 47 | 69 | 69% | 9% / 9 | 22% / 22 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: E. STANLEY BOULEVARD Adjacent Land Use: RESIDENTIAL

Limits: ISABEL AVE TO WALL ST No. of Lanes: 4

Roadway Description: A 4-lane divided major street. Residential development is along the south side with no fronting homes, and railroad tracks are adjacent to the roadway on the north side. Parking is prohibited. The length of this segment is 0.78 miles.

Collision History: There have been 35 reported collisions along this segment within the past three years. This equates to 1.42 collisions per million vehicle miles.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 49 MPH, the existing 45 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

E. Stanley Boulevard

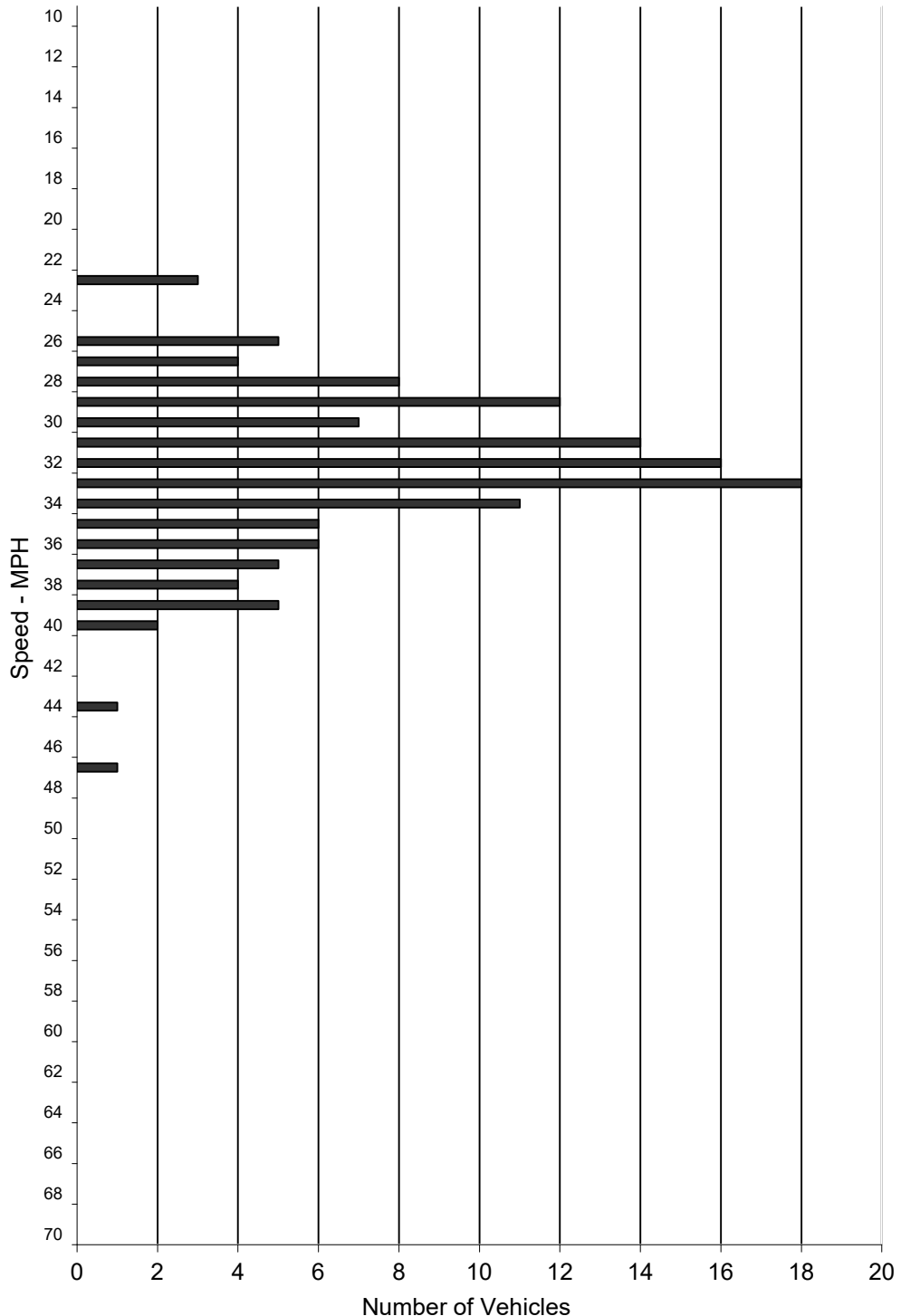
DATE: 12/20/2019
Start Time: 1:04 PM
DAY: Friday

Location: Wall Street to S Street
End Time: 1:49 PM
(Before) Speed Limit: 35 MPH

Weather: Dry
Direction: EB & WB

Observer: MD
Calibration: DONE
NEW Speed Limit: 35 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 3 |
| 24 | 0 |
| 25 | 0 |
| 26 | 5 |
| 27 | 4 |
| 28 | 8 |
| 29 | 12 |
| 30 | 7 |
| 31 | 14 |
| 32 | 16 |
| 33 | 18 |
| 34 | 11 |
| 35 | 6 |
| 36 | 6 |
| 37 | 5 |
| 38 | 4 |
| 39 | 5 |
| 40 | 2 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 1 |
| 45 | 0 |
| 46 | 0 |
| 47 | 1 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 128 | 32.3 | 23 - 47 | 32 mph | 36 mph | 28 - 37 | 103 | 80% | 9% / 12 | 11% / 13 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: E. STANLEY BOULEVARD

Adjacent Land Use: COMMERCIAL

Limits: WALL ST TO S ST

No. of Lanes: 4

Roadway Description: 4-lane divided arterial street through a commercial area. Parking is prohibited. Valley Memorial Hospital is on this segment. A senior housing is located along this segment. The length of this segment is 0.61 miles.

Collision History: There have been 47 reported collisions along this segment within the past three years. This equates to 3.26 collisions per million vehicle miles, which is higher than the statewide average of 1.71 for this type of roadway.

Other Considerations: Heavy lane changes because of Granada High School access through Wall Street. Heavy pedestrian activity in the area, and senior citizens crossing to and from their homes to the nearby commercial area.

Recommendation: Based on the 85th percentile speed of 36 MPH, the existing 35 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

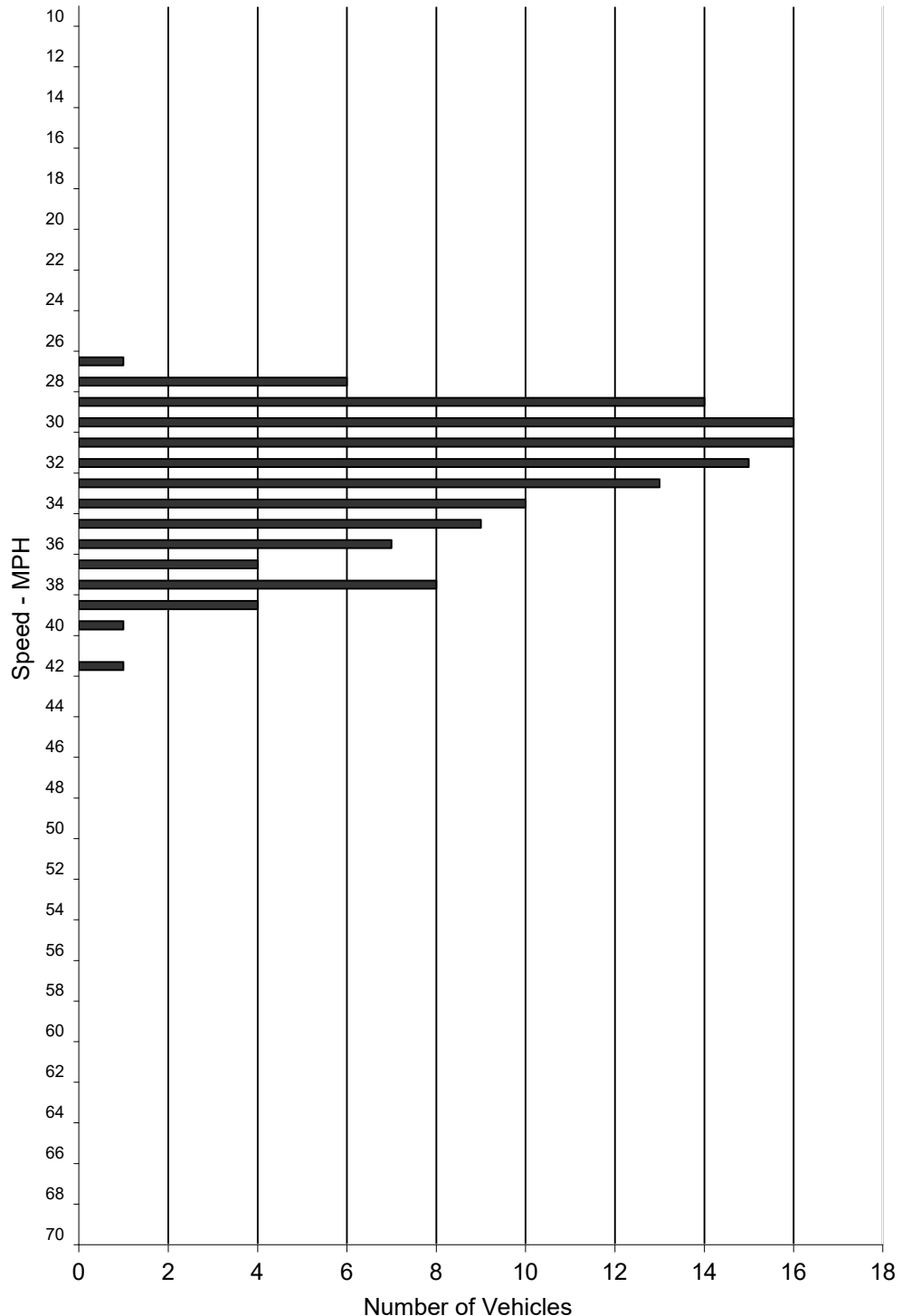
Sunflower Court

DATE: 10/7/2019
Start Time: 3:40 PM
DAY: Monday

Location: Bluebell Drive to Central Avenue
End Time: 4:10 PM
(Before) Speed Limit: 30 MPH
Weather: Sunny
Direction: EB & WB

Observer: HI
Calibration: DONE
NEW Speed Limit: 30 MPH

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 1 |
| 28 | 6 |
| 29 | 14 |
| 30 | 16 |
| 31 | 16 |
| 32 | 15 |
| 33 | 13 |
| 34 | 10 |
| 35 | 9 |
| 36 | 7 |
| 37 | 4 |
| 38 | 8 |
| 39 | 4 |
| 40 | 1 |
| 41 | 0 |
| 42 | 1 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 125 | 32.7 | 27 - 42 | 32 mph | 36 mph | 29 - 38 | 112 | 90% | 5% / 7 | 5% / 6 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SUNFLOWER COURT Development: RESIDENTIAL

Limits: BLUEBELL DR TO CENTRAL AVE No. of Lanes: 2

Roadway Description: 2-lane residential collector street. There is a senior and apartment complex on this segment. Homes front on the north side with parking permitted. Freeway frontage is on the south side with parking prohibited. The length of this segment is 0.51 miles.

Collision History: There have been 2 reported collisions along this segment within the past three years. This equates to 1.27 collisions per million vehicle miles.

Other Considerations: There is a high rate of turning maneuvers in and out of intersecting local streets, and driveways to apartments. Some intersections have very limited sight distance.

Recommendation: Based on the 85th percentile speed of 36 MPH, a speed limit of 35 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 30 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

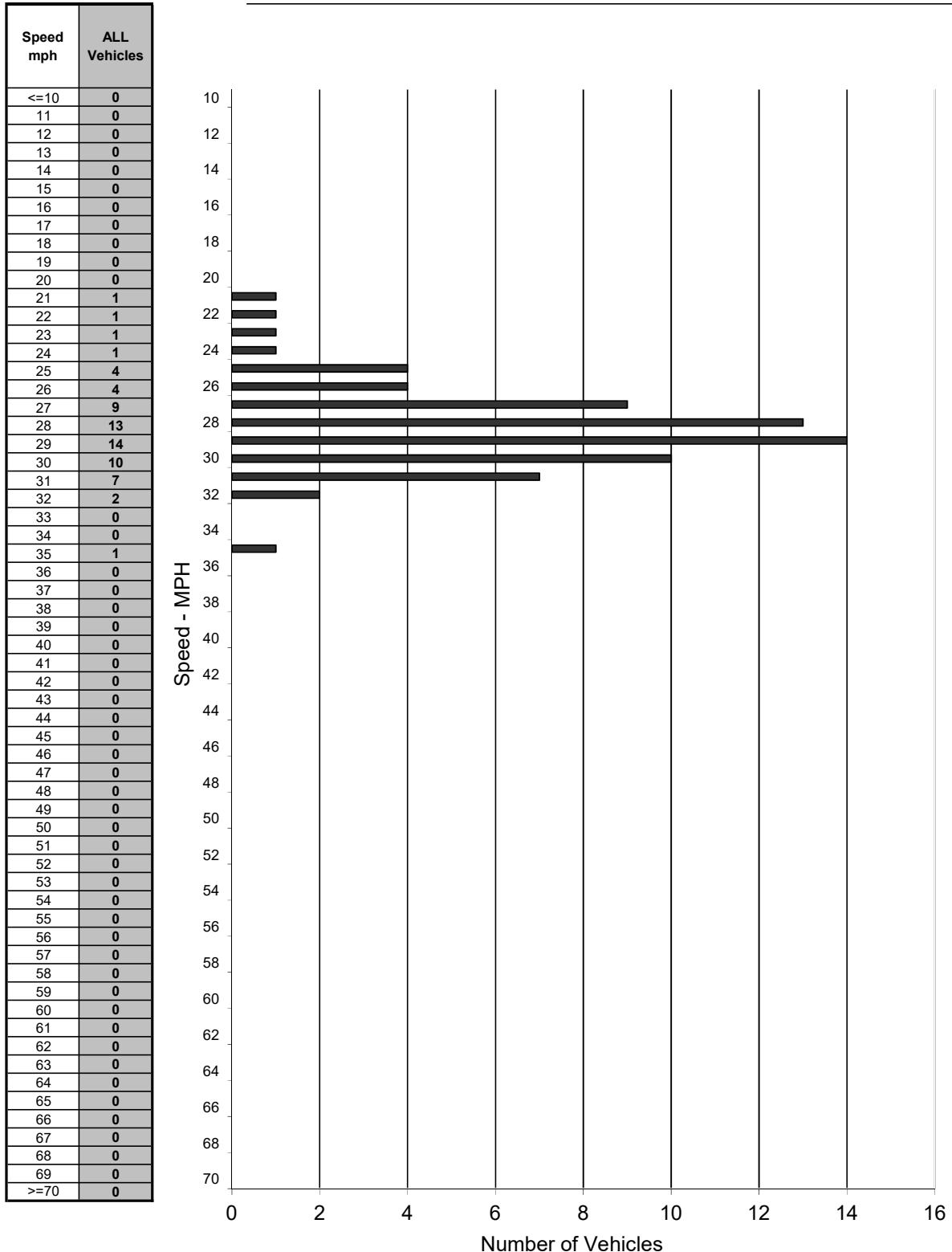
Superior Drive

DATE: 7/20/2020
Start Time: 11:30 am
DAY: Monday

Location: Arroyo Road to South End
End Time: 12:30 pm
Posted Speed: 25 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: CTS
Calibration: DONE
New Speed Limit: 25 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 68 | 28.3 | 21 - 35 | 28 mph | 30 mph | 23 - 32 | 65 | 96% | 2% / 2 | 2% / 1 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SUPERIOR DRIVE

Adjacent Land Use: RESIDENTIAL

Limits: ARROYO RD TO SOUTH END

No. of Lanes: 2

Roadway Description: A 2-lane residential collector street with buffered bike lanes and on-street parking. The length of this segment is 0.63 miles.

Collision History: There have been no reported collisions along this segment within the past 3 years.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways resulting to unexpected turning maneuvers. There is a mix of on-street parking maneuvers, bicycling activities, and pedestrian activities.

Recommendation: Based on the 85th percentile speed of 30 MPH, a speed limit of 30 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

Vallecitos Road

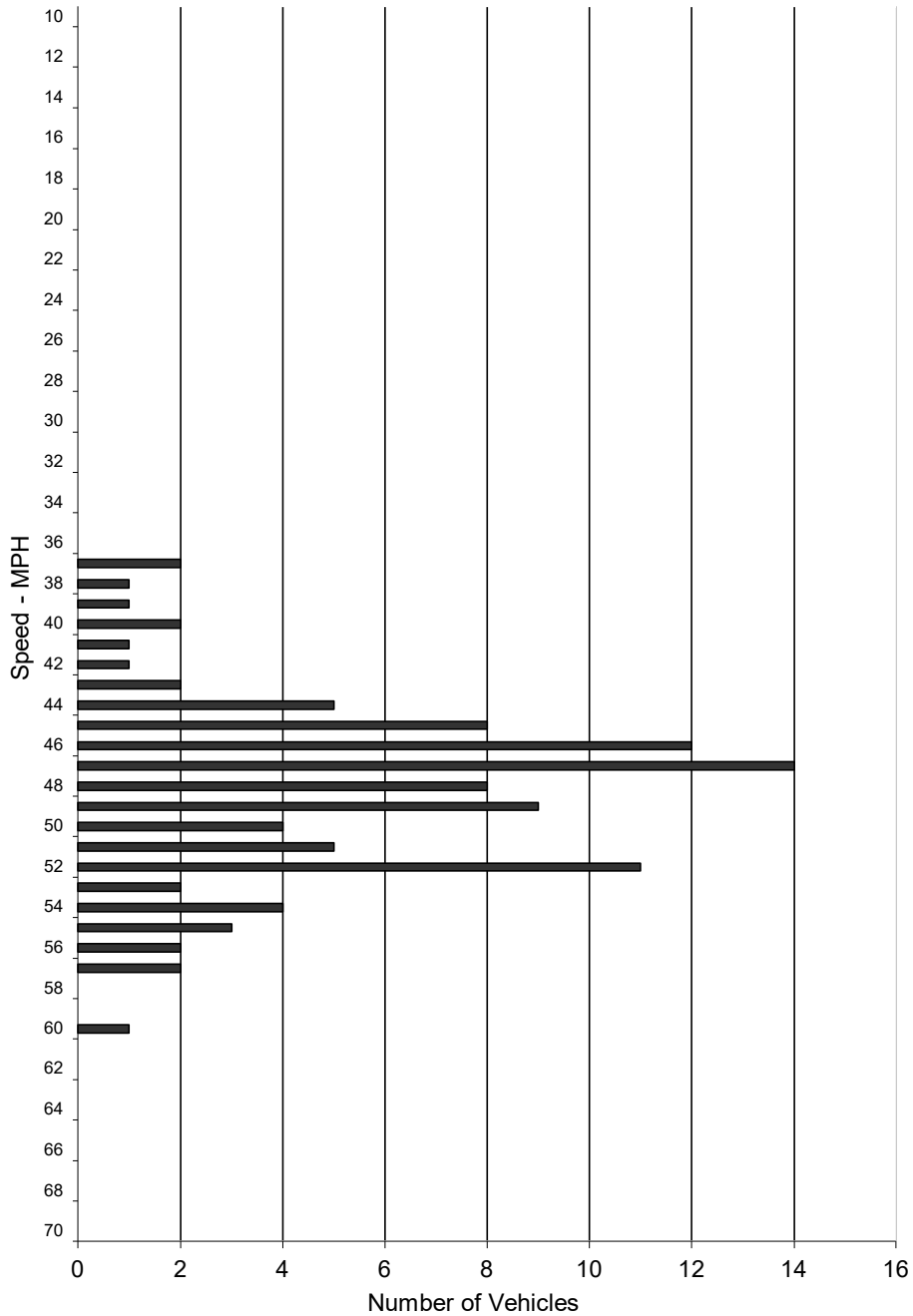
DATE: 8/19/2019
Start Time: 2:45 pm
DAY: Monday

Location: Wetmore Road to Isabel Avenue
End Time: 3:09 pm
Posted Speed: 45 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: BMC
Calibration: DONE
New Speed Limit: 45 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 0 |
| 32 | 0 |
| 33 | 0 |
| 34 | 0 |
| 35 | 0 |
| 36 | 0 |
| 37 | 2 |
| 38 | 1 |
| 39 | 1 |
| 40 | 2 |
| 41 | 1 |
| 42 | 1 |
| 43 | 2 |
| 44 | 5 |
| 45 | 8 |
| 46 | 12 |
| 47 | 14 |
| 48 | 8 |
| 49 | 9 |
| 50 | 4 |
| 51 | 5 |
| 52 | 11 |
| 53 | 2 |
| 54 | 4 |
| 55 | 3 |
| 56 | 2 |
| 57 | 2 |
| 58 | 0 |
| 59 | 0 |
| 60 | 1 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 100 | 48.2 | 37 - 60 | 48 mph | 52 mph | 43 - 52 | 78 | 78% | 8% / 8 | 14% / 14 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: VALLECITOS ROAD

Adjacent Land Use: AGRICULTURE/UNDEVELOPED

Limits: WETMORE ROAD TO ISABEL AVE

No. of Lanes: 2

Roadway Description: 2-lane arterial street through an agriculture and undeveloped area with unimproved shoulders and parking prohibited. The length of this segment is 1.13 miles.

Collision History: There have been 26 reported collisions along this segment within the past three years. This equates to 1.30 collisions per million vehicle miles.

Other Considerations: Some driveways have limited sight distance because of the terrain and horizontal curve combination. Recreational bike trails are nearby so bicycling activities are common on this road.

Recommendation: Based on the 85th percentile speed of 52 MPH, a speed limit of 50 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 45 MPH will remain in effect.

Spot Speed Study - City of Livermore

Vancouver Way

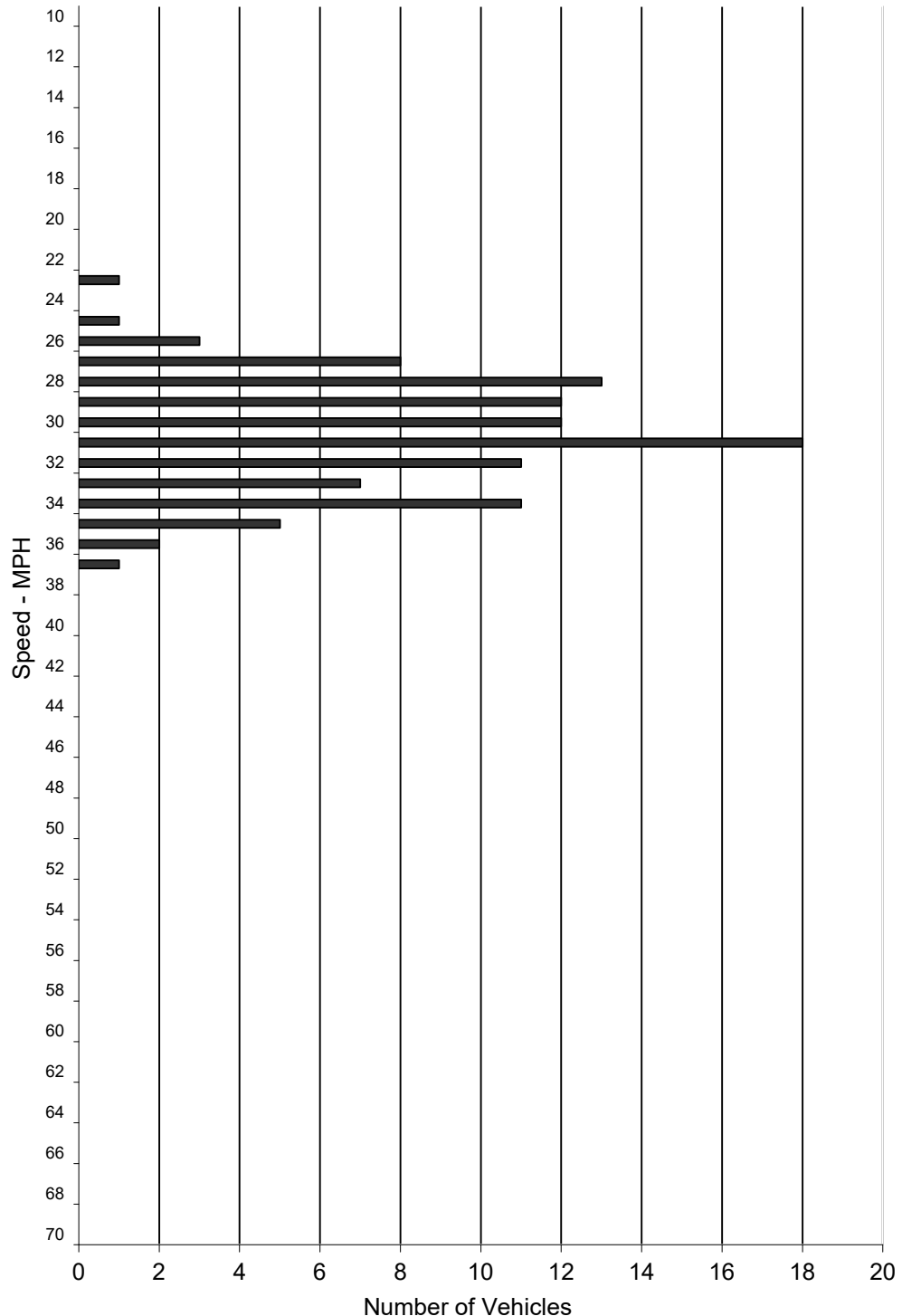
DATE: 6/10/2020
Start Time: 3:06 pm
DAY: Wednesday

Location: Holmes St - Arroyo Rd
End Time: 3:56 pm
Posted Speed: 30 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: CTS
Calibration: DONE
New Speed Limit: 30 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 1 |
| 24 | 0 |
| 25 | 1 |
| 26 | 3 |
| 27 | 8 |
| 28 | 13 |
| 29 | 12 |
| 30 | 12 |
| 31 | 18 |
| 32 | 11 |
| 33 | 7 |
| 34 | 11 |
| 35 | 5 |
| 36 | 2 |
| 37 | 1 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 44 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 49 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 105 | 30.6 | 23 - 37 | 31 mph | 34 mph | 26 - 35 | 100 | 95% | 1% / 2 | 3% / 3 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: VANCOUVER WAY Adjacent Land Use: RESIDENTIAL

Limits: HOLMES ST TO ARROYO RD No. of Lanes: 2

Roadway Description: 2-lane residential collector street with buffered bike lanes and parking. The length of this segment is 0.66 miles.

Collision History: There have been 3 reported collisions along this segment within the past three years. This equates to 2.25 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways, on-street parking maneuvers, biking and pedestrian activity.

Recommendation: Based on the 85th percentile speed of 34 MPH, the existing 30 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

North Vasco Road

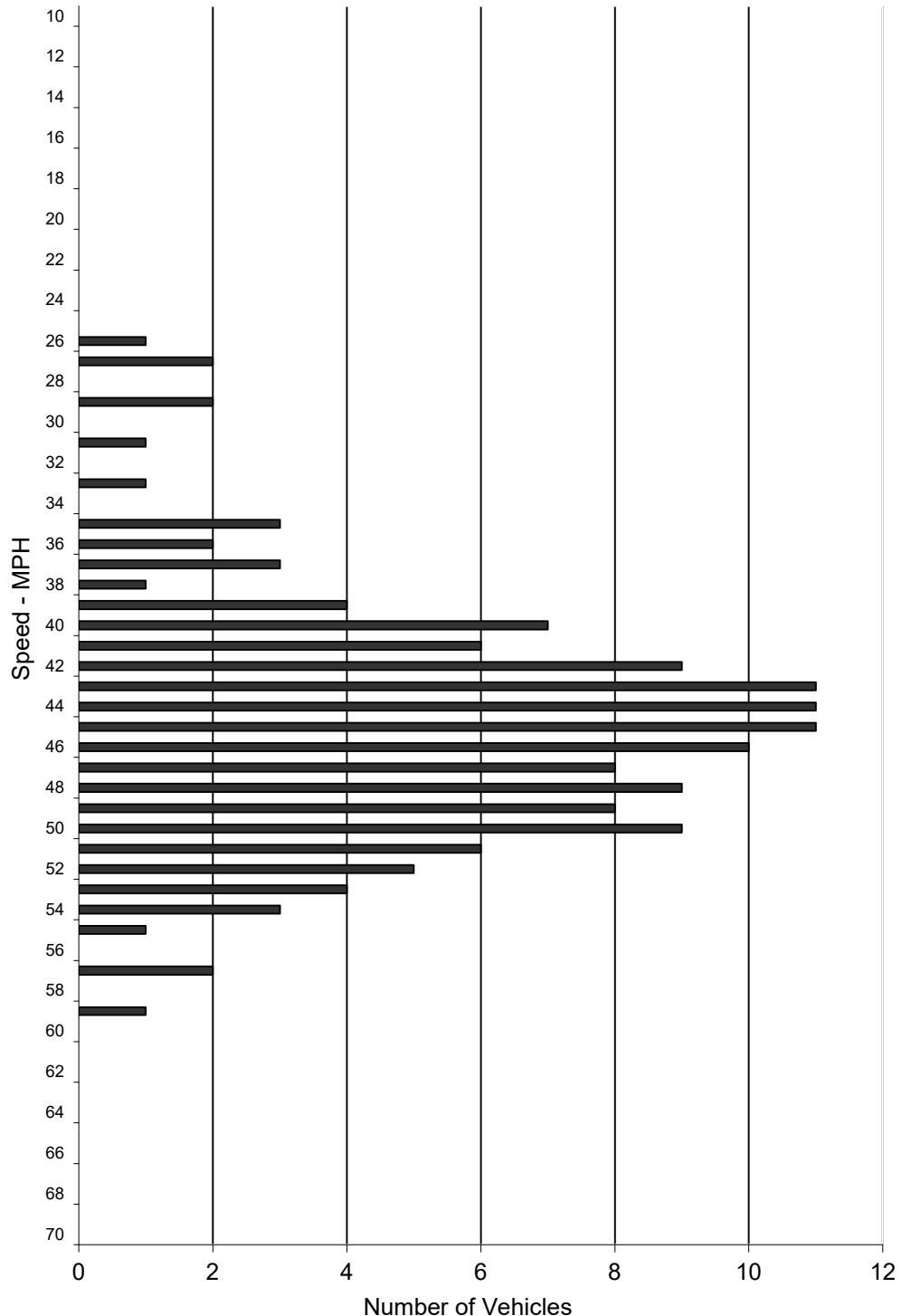
DATE: 10/7/2019
Start Time: 3:00 PM
DAY: Monday

Location: I-580 to Dalton Avenue
End Time: 3:20 PM
(Before) Speed Limit: 45 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: HI
Calibration: DONE
NEW Speed Limit: 45 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 1 |
| 27 | 2 |
| 28 | 0 |
| 29 | 2 |
| 30 | 0 |
| 31 | 1 |
| 32 | 0 |
| 33 | 1 |
| 34 | 0 |
| 35 | 3 |
| 36 | 2 |
| 37 | 3 |
| 38 | 1 |
| 39 | 4 |
| 40 | 7 |
| 41 | 6 |
| 42 | 9 |
| 43 | 11 |
| 44 | 11 |
| 45 | 11 |
| 46 | 10 |
| 47 | 8 |
| 48 | 9 |
| 49 | 8 |
| 50 | 9 |
| 51 | 6 |
| 52 | 5 |
| 53 | 4 |
| 54 | 3 |
| 55 | 1 |
| 56 | 0 |
| 57 | 2 |
| 58 | 0 |
| 59 | 1 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 141 | 44.8 | 26 - 59 | 45 mph | 51 mph | 41 - 50 | 92 | 65% | 19% / 27 | 16% / 22 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: NORTH VASCO ROAD Adjacent Land Use: RESIDENTIAL/COMMERC.

Limits: I-580 TO DALTON AVENUE No. of Lanes: 4

Roadway Description: 4-lane divided arterial street with bike lanes through a residential and commercial area. Parking is prohibited, and no homes front this segment. The length of this segment is 1.21 miles.

Collision History: There have been 65 reported collisions along this segment within the past three years. This equates to 1.87 collisions per million vehicle miles, which is higher than the statewide average of 1.41 for this type of roadway.

Other Considerations: There is a high rate of turning maneuvers in and out of commercial driveways, and high bicycle use along this segment.

Recommendation: Based on the 85th percentile speed of 51 MPH, a speed limit of 50 MPH was considered. However, given the high collision rate and other conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 45 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

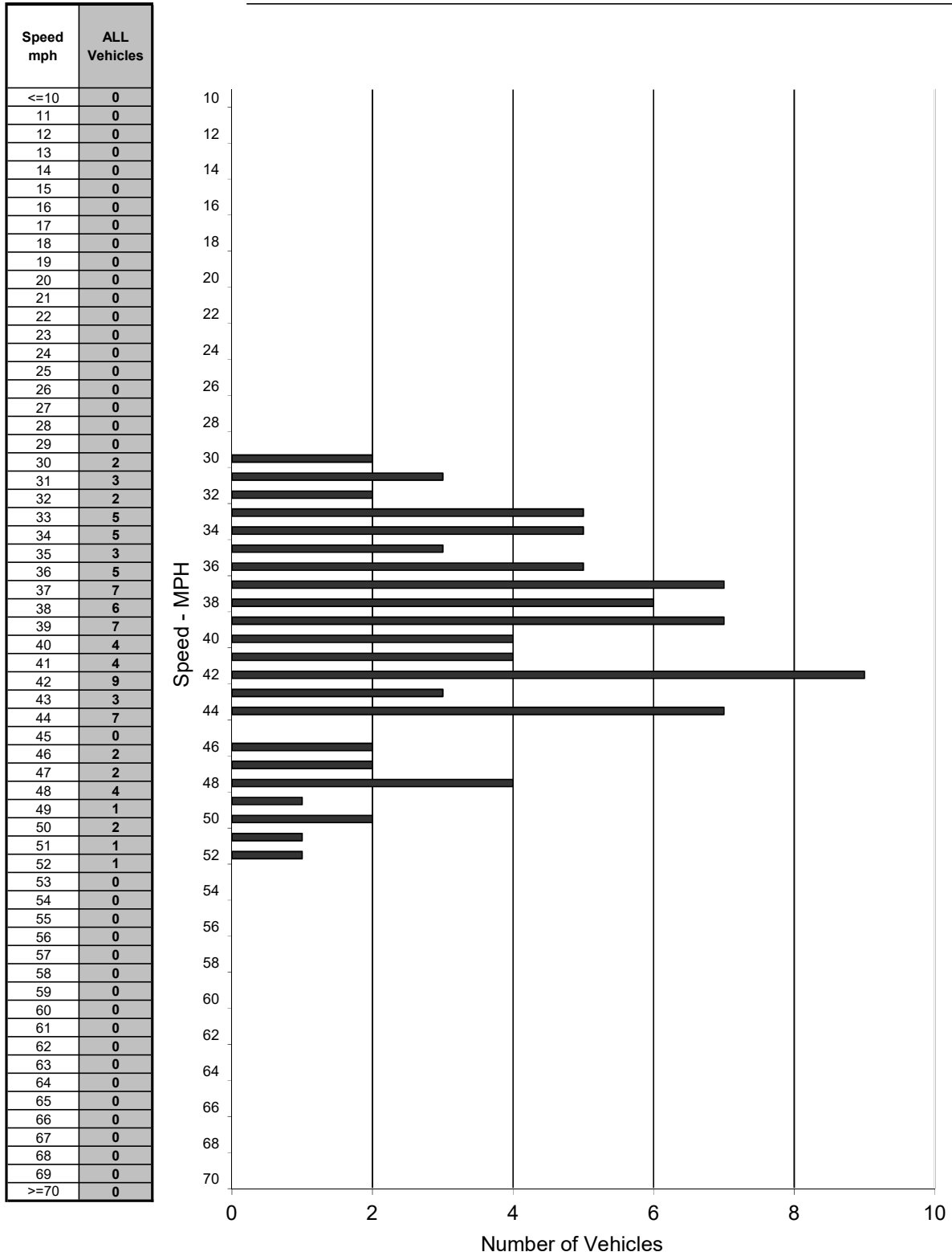
South Vasco Road

DATE: 9/19/2019
Start Time: 9:47 AM
DAY: Thursday

Location: I-580 to Patterson Pass Rd
End Time: 10:47 AM
(Before) Speed Limit: 45 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: JL
Calibration: DONE
NEW Speed Limit: 45 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 85 | 39.6 | 30 - 52 | 39 mph | 46 mph | 33 - 42 | 55 | 65% | 8% / 7 | 28% / 23 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SOUTH VASCO ROAD Adjacent Land Use: INDUSTRIAL/COMMERCIAL

Limits: I-580 TO PATTERSON PASS RD No. of Lanes: 4/6

Roadway Description: 4 to 6-lane divided arterial street from with bike lanes through an industrial and commercial area. Parking is prohibited. The length of this segment is 1.09 miles.

Collision History: There have been 56 reported collisions along this segment within the past three years. This equates to 1.18 collisions per million vehicle miles.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 46 MPH, the existing 45 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

South Vasco Road

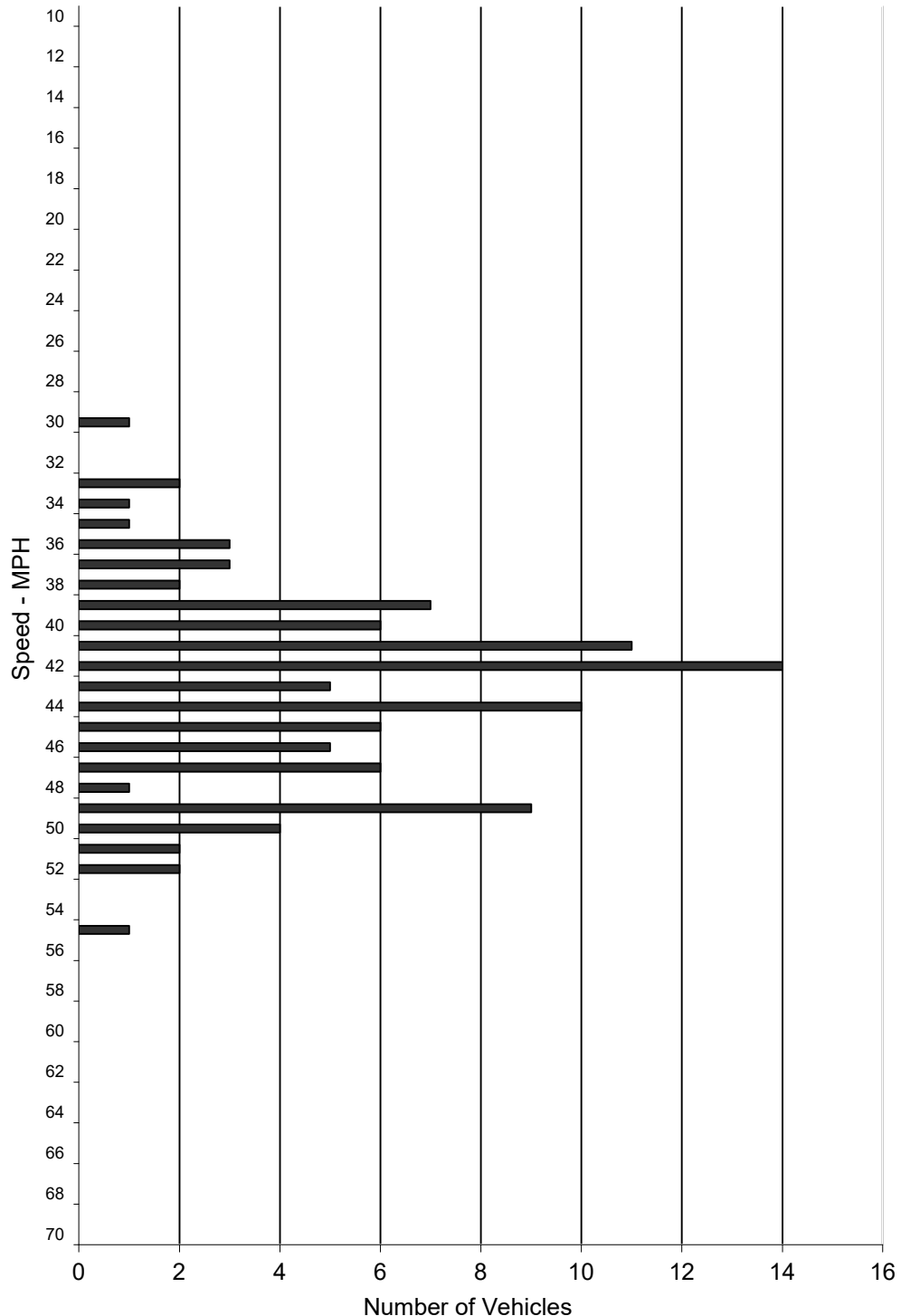
DATE: 9/19/2019
Start Time: 09:00 AM
DAY: Thursday

Location: Patterson Pass Road to East Avenue
End Time: 09:35 AM
(Before) Speed Limit: 45 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: JL
Calibration: DONE
NEW Speed Limit: 45 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 1 |
| 31 | 0 |
| 32 | 0 |
| 33 | 2 |
| 34 | 1 |
| 35 | 1 |
| 36 | 3 |
| 37 | 3 |
| 38 | 2 |
| 39 | 7 |
| 40 | 6 |
| 41 | 11 |
| 42 | 14 |
| 43 | 5 |
| 44 | 10 |
| 45 | 6 |
| 46 | 5 |
| 47 | 6 |
| 48 | 1 |
| 49 | 9 |
| 50 | 4 |
| 51 | 2 |
| 52 | 2 |
| 53 | 0 |
| 54 | 0 |
| 55 | 1 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 102 | 43.1 | 30 - 55 | 42 mph | 49 mph | 40 - 49 | 73 | 72% | 19% / 20 | 9% / 9 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SOUTH VASCO ROAD

Adjacent Land Use: RESIDENTIAL/INDUSTRIAL

Limits: PATTERSON PASS RD TO EAST AVE

No. of Lanes: 4

Roadway Description: 4-lane divided arterial street with bike lanes. Residential area is along the west side with no fronting homes, and the Lawrence Livermore Laboratory is along the east side of the street. Parking is prohibited. The length of this segment is 1.00 miles.

Collision History: There have been 21 reported collisions along this segment within the past three years. This equates to 0.95 collisions per million vehicle miles.

Other Considerations: None.

Recommendation: Based on the 85th percentile speed of 49 MPH, the existing 45 MPH speed limit will remain in effect. This is in accordance with CVC 21400(b) in which the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed.

Spot Speed Study - City of Livermore

South Vasco Road

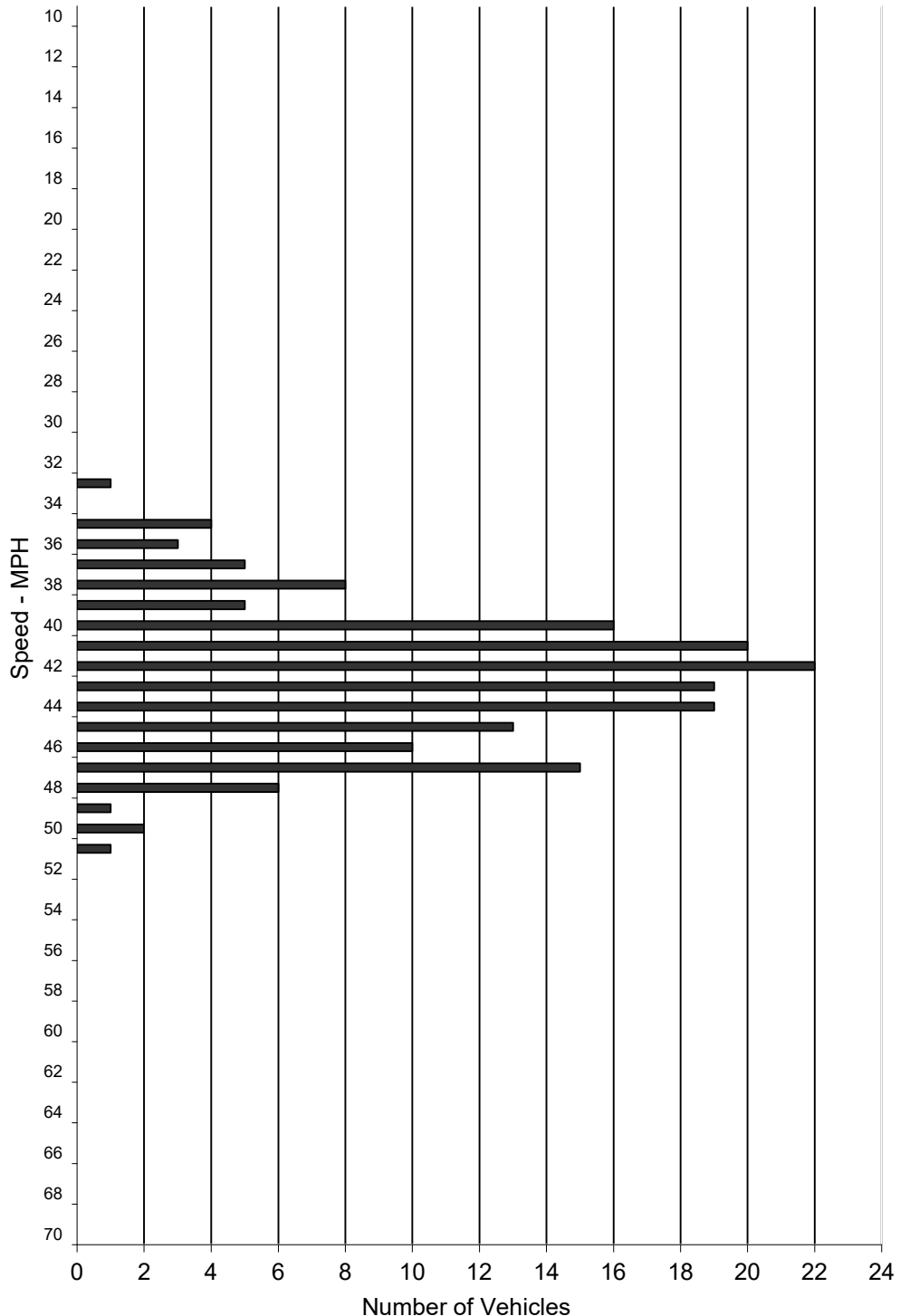
DATE: 12/26/2019
Start Time: 1:55 PM
DAY: Thursday

Location: East Avenue to Tesla Road
End Time: 2:30 PM
(Before) Speed Limit: 40 MPH
Weather: Dry
Direction: NB & SB

Observer: MD
Calibration: DONE
NEW Speed Limit: 40 MPH

Spot Speeds

| Speed mph | ALL Vehicles |
|-----------|--------------|
| <=10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 0 |
| 32 | 0 |
| 33 | 1 |
| 34 | 0 |
| 35 | 4 |
| 36 | 3 |
| 37 | 5 |
| 38 | 8 |
| 39 | 5 |
| 40 | 16 |
| 41 | 20 |
| 42 | 22 |
| 43 | 19 |
| 44 | 19 |
| 45 | 13 |
| 46 | 10 |
| 47 | 15 |
| 48 | 6 |
| 49 | 1 |
| 50 | 2 |
| 51 | 1 |
| 52 | 0 |
| 53 | 0 |
| 54 | 0 |
| 55 | 0 |
| 56 | 0 |
| 57 | 0 |
| 58 | 0 |
| 59 | 0 |
| 60 | 0 |
| 61 | 0 |
| 62 | 0 |
| 63 | 0 |
| 64 | 0 |
| 65 | 0 |
| 66 | 0 |
| 67 | 0 |
| 68 | 0 |
| 69 | 0 |
| >=70 | 0 |



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 170 | 42.6 | 33 - 51 | 43 mph | 46 mph | 38 - 47 | 147 | 86% | 7% / 13 | 6% / 10 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SOUTH VASCO ROAD Adjacent Land Use: RESIDENTIAL/INDUSTRIAL

Limits: EAST AVE TO SOUTH CITY LIMIT (TESLA RD) No. of Lanes: 2

Roadway Description: 2-lane arterial street through a partially undeveloped residential, industrial and agricultural area. A multi-use trail runs along the east side of the segment. Some sidewalks exist along the west side but mostly unimproved. Parking is prohibited.

Collision History: There have been 11 reported collisions along this segment within the past three years. This equates to 1.10 collisions per million vehicle miles.

Other Considerations: There is a high rate of turning maneuvers in and out of intersecting local streets. Bicycling and pedestrian activities are common in the area. Because some sections of the shoulder are unimproved along the west side, some pedestrians walk on the street.

Recommendation: Based on the 85th percentile speed of 46 MPH, a speed limit of 45 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 40 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

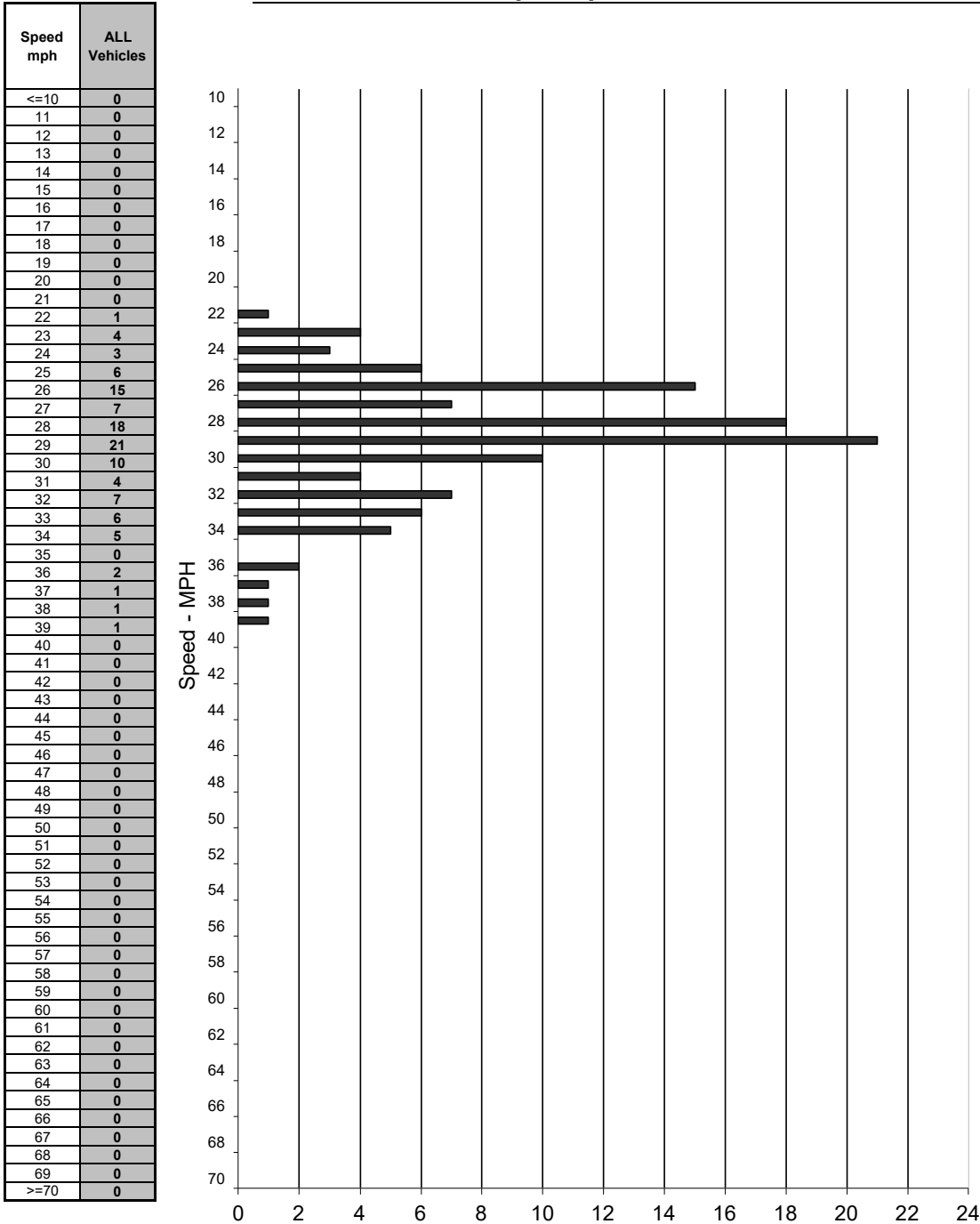
Wall Street

DATE: 6/11/2020
Start Time: 1:07 PM
DAY: Thursday

Location: E. Stanley Blvd to El Caminito
End Time: 01:58 PM
Posted Speed: 25 MPH
Weather: Dry/Clear
Direction: NB & SB

Observer: MD
Calibration: DONE
New Speed Limit: 25 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 112 | 28.8 | 22 - 39 | 29 mph | 32 mph | 25 - 34 | 99 | 88% | 7% / 8 | 5% / 5 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: WALL STREET Adjacent Land Use: RESIDENTIAL

Limits: E. STANLEY BLVD TO EL CAMINITO No. of Lanes: 2

Roadway Description: 2-lane residential collector street with buffered bike lanes, and on-street parking. Granada High School is located on this segment. The length of this segment is 0.65 miles.

Collision History: There have been 8 reported collisions along this segment within the past three years. This equates to 5.4 collisions per million vehicle miles, which is higher than the statewide average of 2.09 for this type of roadway.

Other Considerations: This segment is a Residence District as defined in the California Vehicle Code with numerous driveways and marked crosswalks, on-street parking maneuvers, and high pedestrian and bicycling activities especially near the high school.

Recommendation: Based on the 85th percentile speed of 32 MPH, a speed limit of 30 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 25 MPH speed limit will remain in effect.

Spot Speed Study - City of Livermore

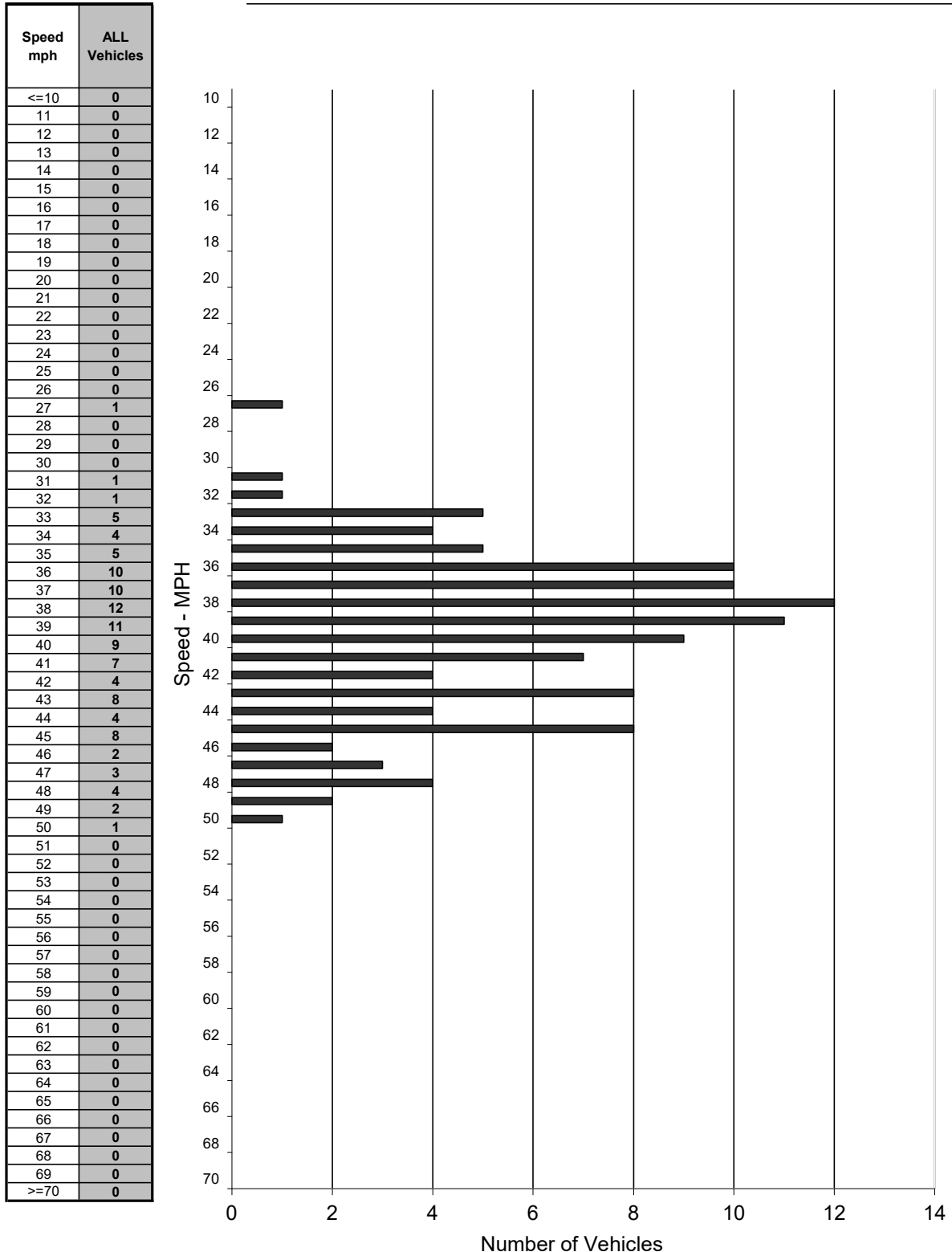
Wetmore Road

DATE: 8/3/2020
Start Time: 11:05 am
DAY: Monday

Location: Vallecitos Road - Arroyo Road
End Time: 11:49 am
Posted Speed: 40 MPH
Weather: Dry/Clear
Direction: EB & WB

Observer: CTS
Calibration: DONE
New Speed Limit: 40 MPH

Spot Speeds



| SPEED PARAMETERS | | | | | | | | | | |
|------------------|-------|---------------|---------|-----------------|-----------------|-------------|-----------|-----------------|------------------|------------------|
| Class | Count | Average Speed | Range | 50th Percentile | 85th Percentile | 10 MPH Pace | # in Pace | Percent in Pace | % / # Below Pace | % / # Above Pace |
| ALL | 112 | 39.7 | 27 - 50 | 39 mph | 45 mph | 36 - 45 | 83 | 74% | 15% / 17 | 11% / 12 |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: WETMORE ROAD Adjacent Land Use: RESIDENTIAL/AGRICULTURAL

Limits: VALLECITOS RD TO ARROYO RD No. of Lanes: 2

Roadway Description: 2-lane undivided road with unimproved shoulders throughout most its length. Mostly agricultural in nature but residential developments and Sycamore Grove Park connect to this road. This roadway is adjacent to a multi-use trail. The length of this segment is 0.81 miles.

Collision History: There have been 9 reported collisions along this segment within the past three years. This equates to 1.71 collisions per million vehicle miles.

Other Considerations: Unimproved shoulders with a high number of pedestrian, equestrian, and bicycling activities. Even though there is a parallel multi-use trail, avid cyclists are still observed riding with motor vehicles on the street. A midblock crosswalk serving the trail and Sycamore Grove Park is located towards the westerly end of the segment.

Recommendation: Based on the 85th percentile speed of 45 MPH, a speed limit of 45 MPH was considered. However, given the conditions not readily apparent to motorists identified above, a 5 mile per hour reduction is justified. Therefore, the existing 40 MPH speed limit will remain in effect.