

2011



# Engineering and Traffic Surveys

LIVERMORE  
CALIFORNIA



# LIVERMORE

January 27, 2011

Supervisor Jose Rosales  
Livermore-Pleasanton Municipal Court  
5672 Stoneridge  
Pleasanton, CA 94566

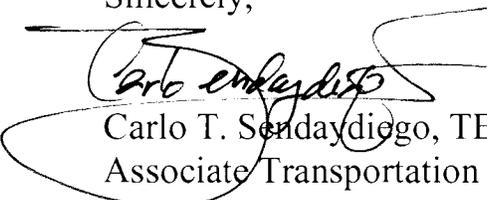
RE: 2011 Engineering and Traffic Surveys

On January 24, 2011, the City of Livermore City Council adopted Resolution No. 2011-009, which established speed limits for 103 street segments in Livermore. These speed limits are justified based on the 2011 Engineering and Traffic Surveys (E&TS) conducted on these streets. The 2011 E&TS were completed in accordance with California Vehicle Code Section 627, the California Manual on Uniform Traffic Control Devices, and the California Department of Transportation Policy Directive on speed limit setting dated June 29, 2009.

I have enclosed a copy of the 2011 Engineering and Traffic Surveys for your file.

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

Sincerely,

  
Carlo T. Sendaydiego, TE  
Associate Transportation Engineer



Attachments

CC: John Porter, Livermore-Pleasanton Municipal Court Commissioner  
John Hurd, Livermore Police  
Scott Trudeau, Livermore Police



IN THE CITY COUNCIL OF THE CITY OF LIVERMORE, CALIFORNIA

A RESOLUTION ESTABLISHING SPEED LIMITS ON CERTAIN  
STREETS IN THE CITY OF LIVERMORE

**BE IT RESOLVED** that the City Council of the City of Livermore approves the speed limits on 103 road segments in the City of Livermore, set forth on the attached Exhibits A and B and supported by the 2011 Engineering and Traffic Survey report, detailed copies of which are available at City Hall, Office of the City Engineer.

On the motion of Mayor Kamena, seconded by Councilmember Horner, the foregoing resolution was passed and adopted on the 24<sup>th</sup> day of January, 2011, by the following vote:

AYES: Councilmembers Horner, Leider, Vice Mayor Marchand, Mayor Kamena  
NOES: None  
ABSENT: Councilmember Williams  
ABSTAIN: None

ATTEST:

  
CITY CLERK  
SUSAN NEER

APPROVED AS TO FORM:

  
ASSISTANT CITY ATTORNEY  
E. KEVIN YOUNG

DATE: January 26, 2011

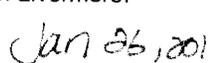
|   |   |
|---|---|
| I hereby certify that this is a true and accurate copy of a document(s) on file in the City of Livermore. |   |
|                        |  |
| Susan Neer, City Clerk, City of Livermore   | Date  |



EXHIBIT A

SUMMARY OF SURVEY RESULTS AND RECOMMENDED SPEED LIMITS

|    |                   | Surveyed<br>85% Speed                  | Recommended<br>Speed<br>Limit | Change<br>From |        |
|----|-------------------|--|-------------------------------|----------------|--------|
|    | STREET NAME       | SEGMENT LIMITS                         | (MPH)                         | (MPH)          | (MPH)  |
| 1  | AMES ST           | Dalton Ave to Raymond Rd               | 41                            | 35             |        |
| 2  | ARROYO RD         | S L Street to Concannon Blvd           | 41                            | 35             |        |
| 3  | ARROYO RD         | Concannon Blvd to Wetmore Road         | 43                            | 40             |        |
| 4  | BENNETT DR        | Southfront Rd to Las Positas Rd        | 33                            | 35             | 30     |
| 5  | BLUEBELL DR       | Hartford Ave to Springtown Blvd        | 32                            | 25             |        |
| 6  | BRISA ST          | Vasco Rd to West End                   | 37                            | 35             |        |
| 7  | BRISA ST          | Vasco Rd to East End                   | 41                            | 35             | 40 (-) |
| 8  | BROADMOOR ST      | Dalton Ave to Scenic Ave               | 32                            | 25             |        |
| 9  | CAMPUS HILL DR    | Portola Ave to College Parking Lot     | 39                            | 40             | 30     |
| 10 | CATALINA DR       | El Caminito to Holmes St               | 36                            | 30             | 25     |
| 11 | CENTRAL AVE       | Scenic Ave to Northfront Rd            | 35                            | 30             |        |
| 12 | CHARLOTTE WY      | Mines Rd to East Ave                   | 35                            | 30             |        |
| 13 | CHESTNUT ST       | N. P St to Junction Ave                | 33                            | 30             | 25     |
| 14 | COLLEGE AVE       | Fourth St to S. L St                   | 35                            | 30             | 25     |
| 15 | COLLEGE AVE       | S. L St to S. Livermore Ave            | 35                            | 30             | 25     |
| 16 | COLLIER CANYON RD | Constitution Dr to North City Limit    | 37                            | 35             |        |
| 17 | CONCANNON BL      | Isabel Ave to Holmes St                | 41                            | 35             |        |
| 18 | CONCANNON BL      | Holmes St to Arroyo Rd                 | 42                            | 35             |        |
| 19 | CONCANNON BL      | Arroyo Rd to S. Livermore Ave          | 41                            | 35             |        |
| 20 | CONSTITUTION DR   | North Canyons Pwy to Collier Canyon Rd | 37                            | 30             |        |
| 21 | DALTON AVE        | Vasco Rd to Ames Rd                    | 45                            | 40             |        |
| 22 | EAST AIRWAY BL    | Kitty Hawk Rd to Portola Ave           | 43                            | 40             |        |
| 23 | EAST AVE          | S. Livermore Ave to Loyola Way         | 35                            | 30             |        |
| 24 | EAST AVE          | Loyola Way to Vasco Rd                 | 42                            | 40             |        |
| 25 | EL CAMINITO       | E. Stanley Blvd to Holmes St           | 32                            | 25             |        |
| 26 | ENCINO DR         | Murdell Ln to El Caminito              | 32                            | 25             |        |
| 27 | FIRST ST          | S Street to L Street                   | 31                            | 25             |        |
| 28 | FIRST ST          | Maple Street to Inman Street           | 39                            | 35             |        |
| 29 | FIRST ST          | Inman Street to I-580                  | 47                            | 40             |        |
| 30 | FOURTH ST         | Holmes St to S. L St                   | 35                            | 30             |        |
| 31 | FOURTH ST         | S. L St to S. Livermore Ave            | 33                            | 30             | 25     |



EXHIBIT A

| STREET NAME                 | SEGMENT LIMITS                            | Surveyed           | Recommended             | Change        |
|-----------------------------|---|--------------------|-------------------------|---------------|
|                             |   | 85% Speed<br>(MPH) | Speed<br>Limit<br>(MPH) | From<br>(MPH) |
| 32 <b>FOURTH ST</b>         | S. Livermore Ave to School Street         | 30                 | 25                      |               |
| 33 <b>GREENVILLE RD</b>     | I-580 to U. P. RR underpass               | 50                 | <b>50</b>               | 45            |
| 34 <b>HAGEMANN DR</b>       | E. Jack London Bl to Olivina Ave          | 35                 | 30                      |               |
| 35 <b>HEATHER LN</b>        | Bluebell Dr to Scenic Ave                 | 32                 | 25                      |               |
| 36 <b>HOLMES ST</b>         | Wetmore Rd to Alden Ln                    | 48                 | 45                      |               |
| 37 <b>HOLMES ST</b>         | Alden Ln to El Caminito                   | 40                 | 35                      | 40 (-)        |
| 38 <b>HOLMES ST</b>         | El Caminito to First Street               | 40                 | 35                      |               |
| 39 <b>E. JACK LONDON BL</b> | Isabel Ave to Murrieta Blvd               | 41                 | 35                      |               |
| 40 <b>JUNCTION AVE</b>      | N. Livermore Ave to Old First St          | 32                 | 25                      |               |
| 41 <b>N. L ST</b>           | Portola Ave to Railroad Ave               | 35                 | 30                      |               |
| 42 <b>S. L ST</b>           | Railroad Ave to Fourth St                 | 26                 | 25                      |               |
| 43 <b>S. L ST</b>           | Fourth St to Arroyo Rd                    | 30                 | 25                      |               |
| 44 <b>LAS POSITAS RD</b>    | N. Livermore Ave to Las Colinas Rd        | 45                 | <b>45</b>               | 40            |
| 45 <b>LAS POSITAS RD</b>    | Las Colinas Rd to First St                | 40                 | 40                      |               |
| 46 <b>LAS POSITAS RD</b>    | First St to Bennett Dr                    | 31                 | 30                      |               |
| 47 <b>LAS POSITAS RD</b>    | Bennett Dr to Vasco Rd                    | 44                 | <b>45</b>               | 40            |
| 48 <b>LAS POSITAS RD</b>    | Vasco Rd to Greenville Rd                 | 36                 | 35                      |               |
| 49 <b>LAUGHLIN RD</b>       | Northfront Rd to North City Limit         | 43                 | 40                      |               |
| 50 <b>LINDBERGH AVE</b>     | Nissen Dr to Kitty Hawk Rd                | 39                 | 35                      |               |
| 51 <b>N. LIVERMORE AVE</b>  | I-580 to 600' north of Cromwell Way       | 44                 | 40                      | 45 (-)        |
| 52 <b>N. LIVERMORE AVE</b>  | 600' north of Cromwell Way to Portola Ave | 37                 | 30                      | 35 (-)        |
| 53 <b>N. LIVERMORE AVE</b>  | Portola Ave to Railroad Ave               | 36                 | 30                      |               |
| 54 <b>S. LIVERMORE AVE</b>  | Railroad Ave to Fourth St                 | 26                 | 25                      |               |
| 55 <b>S. LIVERMORE AVE</b>  | Fourth St to Palm Ave                     | 34                 | <b>30</b>               | 25            |
| 56 <b>S. LIVERMORE AVE</b>  | Palm Ave to Chateau Way                   | 37                 | 30                      |               |
| 57 <b>S. LIVERMORE AVE</b>  | Chateau Way to South City Limit           | 45                 | 40                      |               |
| 58 <b>MAPLE ST</b>          | Railroad Ave to East Ave                  | 28                 | 25                      |               |
| 59 <b>MINES RD</b>          | Las Positas Rd to Highland St             | 40                 | 35                      |               |
| 60 <b>MINES RD</b>          | Highland St to First St                   | 33                 | 30                      |               |
| 61 <b>MINES RD</b>          | First St to East Ave                      | 45                 | 40                      |               |
| 62 <b>MURDELL LN</b>        | E. Stanley Blvd to Concannon Blvd         | 31                 | 25                      |               |
| 63 <b>MURDELL LN</b>        | Concannon Blvd to Alden Ln                | 38                 | 35                      |               |



EXHIBIT A

|             |                           | Surveyed<br>85% Speed<br>(MPH)    | Recommended<br>Speed<br>Limit<br>(MPH) | Change<br>From<br>(MPH) |    |
|-------------|---------------------------|-----------------------------------|--|-------------------------|----|
| STREET NAME | SEGMENT LIMITS            |                                   |  |                         |    |
| 64          | <b>MURRIETA BL</b>        | Portola Ave to E. Stanley Blvd    | 42                                     | 35                      |    |
| 65          | <b>MURRIETA BL</b>        | E. Stanley Blvd to Holmes St      | 39                                     | <b>35</b>               | 30 |
| 66          | <b>NATIONAL DR</b>        | Brisa St to Greenville Rd         | 40                                     | 40                      |    |
| 67          | <b>NORTH CANYONS PKWY</b> | Doolan Rd to Collier Canyon Rd    | 43                                     | <b>45</b>               | 40 |
| 68          | <b>NORTHFRONT RD</b>      | Central Ave to Vasco Rd           | 36                                     | 35                      |    |
| 69          | <b>NORTHFRONT RD</b>      | Vasco Rd to East City Limits      | 47                                     | <b>45</b>               | 40 |
| 70          | <b>OLIVINA AVE</b>        | Hagemann Dr to Murrieta Blvd      | 35                                     | <b>30</b>               | 25 |
| 71          | <b>OLIVINA AVE</b>        | Murrieta Bl to N. P St            | 31                                     | 25                      |    |
| 72          | <b>N. P ST</b>            | Portola Ave to Chestnut St        | 36                                     | 30                      |    |
| 73          | <b>P ST</b>               | Chestnut St to College Ave        | 29                                     | 25                      |    |
| 74          | <b>PASEO LAGUNA SECO</b>  | Portola Ave to End                | 32                                     | 25                      |    |
| 75          | <b>PATTERSON PASS RD</b>  | Mines Rd to Vasco Rd              | 43                                     | 40                      |    |
| 76          | <b>PATTERSON PASS RD</b>  | Vasco Rd to Greenville Rd         | 50                                     | 45                      |    |
| 77          | <b>PINE ST</b>            | Murrieta Blvd to Rincon Ave       | 33                                     | 30                      |    |
| 78          | <b>PINE ST</b>            | Rincon Ave to Junction Ave        | 33                                     | <b>30</b>               | 25 |
| 79          | <b>PORTOLA AVE</b>        | Murrieta Blvd to N. Livermore Ave | 38                                     | 35                      |    |
| 80          | <b>PORTOLA AVE</b>        | N. Livermore Ave to First St      | 41                                     | 35                      |    |
| 81          | <b>PRESTON AVE</b>        | Vasco Rd to Las Positas Rd        | 38                                     | 35                      |    |
| 82          | <b>RAILROAD AVE</b>       | E. Stanley Blvd to S. L St        | 36                                     | 30                      |    |
| 83          | <b>RAILROAD AV</b>        | S. L St to Maple St               | 31                                     | 25                      |    |
| 84          | <b>RINCON AVE</b>         | Portola Ave to Pine St            | 35                                     | 30                      |    |
| 85          | <b>ROBERTSON PARK RD</b>  | Arroyo Rd to Concannon Blvd       | 35                                     | 30                      |    |
| 86          | <b>SCENIC AVE</b>         | Bluebell Dr to Vasco Rd           | 34                                     | <b>30</b>               | 25 |
| 87          | <b>SCENIC AVE</b>         | Vasco Rd to East End              | 37                                     | 30                      |    |
| 88          | <b>SECOND ST</b>          | Holmes St to S. L St              | 31                                     | 25                      |    |
| 89          | <b>SOUTHFRONT RD</b>      | First St to Preston Ave           | 48                                     | <b>45</b>               | 40 |
| 90          | <b>SOUTHFRONT RD</b>      | Preston Ave to Lawrence Dr        | 46                                     | <b>40</b>               | 35 |
| 91          | <b>SOUTHFRONT RD</b>      | Lawrence Dr to Greenville Rd      | 41                                     | 35                      |    |
| 92          | <b>SPRINGTOWN BL</b>      | Bluebell Dr to Galloway St        | 44                                     | 40                      |    |
| 93          | <b>E. STANLEY BL</b>      | Isabel Ave to Wall St             | 48                                     | 45                      |    |
| 94          | <b>E. STANLEY BL</b>      | Wall St to S. S St                | 41                                     | 35                      |    |
| 95          | <b>SUNFLOWER CT</b>       | Bluebell Dr to Central Ave        | 36                                     | 30                      |    |

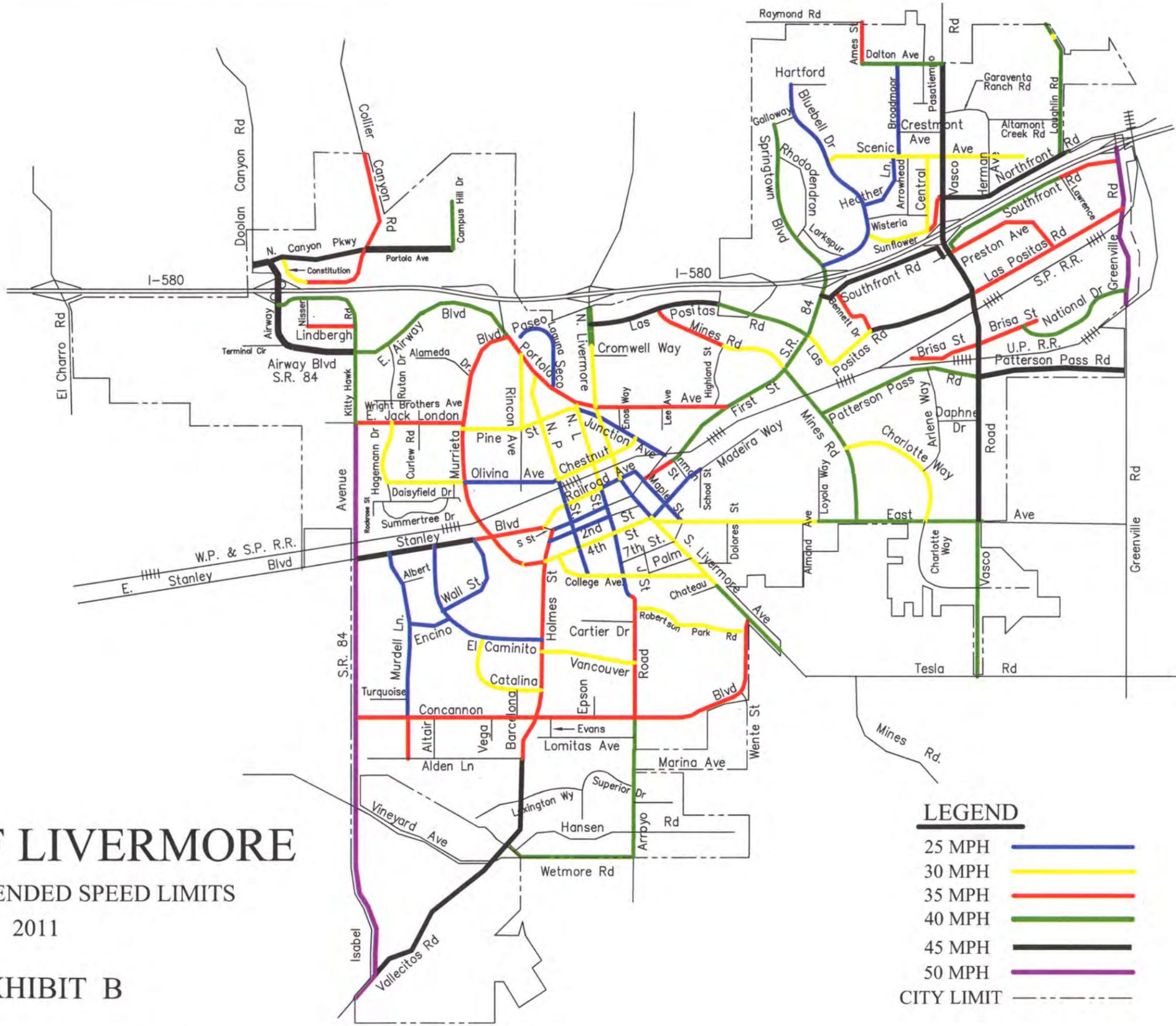


EXHIBIT A

| STREET NAME        | SEGMENT LIMITS                   | Surveyed<br>85% Speed<br>(MPH) | Recommended<br>Speed<br>Limit<br>(MPH) | Change<br>From<br>(MPH) |
|--------------------|----------------------------------|--------------------------------|--|-------------------------|
| 96 VALLECITOS ROAD | West City limits to Wetmore Road | 52                             | 45                                     | 50 (-)                  |
| 97 VANCOUVER WAY   | Holmes St to Arroyo Rd           | 36                             | 30                                     | 25                      |
| 98 VASCO RD        | Dalton Ave to I-580              | 48                             | 45                                     |                         |
| 99 VASCO RD        | I-580 to Patterson Pass Rd       | 43                             | 45                                     |                         |
| 100 VASCO RD       | Patterson Pass Rd to East Ave    | 47                             | 45                                     |                         |
| 101 VASCO RD       | East Ave to Tesla Road           | 47                             | 40                                     |                         |
| 102 WALL ST        | E. Stanley Bl to El Caminito     | 30                             | 25                                     |                         |
| 103 WETMORE RD     | Vallecitos Rd to Arroyo Rd       | 47                             | 40                                     | 45 (-)                  |

*Note: (-) indicates Reduced Speed Limit*





**CITY OF LIVERMORE**  
RECOMMENDED SPEED LIMITS  
2011  
EXHIBIT B

| LEGEND     |             |
|------------|-------------|
| 25 MPH     | Blue line   |
| 30 MPH     | Yellow line |
| 35 MPH     | Red line    |
| 40 MPH     | Green line  |
| 45 MPH     | Black line  |
| 50 MPH     | Purple line |
| CITY LIMIT | Dashed line |



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



## 1. INTRODUCTION

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This report presents the results of the 2011 Engineering and Traffic Surveys in the City of Livermore. The surveys were conducted to establish safe and reasonable speed limits for 103 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

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The procedure set by the State Department of Transportation (CaMUTCD Section 2B.13, CVC 627, and CVC 40802) was followed in preparing the 2011 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 (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 **85<sup>th</sup> 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 **85<sup>th</sup> 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, 2007 and December 31, 2009 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**

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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 the majority of motorists can be relied upon to travel at a reasonable and prudent speed that is appropriate for the prevailing driving conditions. Although the 85<sup>th</sup> 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 the speed limit to be set at the nearest 5 mile per hour increment either above or below the 85th percentile speed. The CVC, and the California Manual on Uniform Traffic Control Devices (CaMUTCD) allow further 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.

An example of the application of these procedures is as follows:

- If the 85<sup>th</sup> percentile speed were 32 mph, then 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. This result is true under both the current and previous procedures.
- If the 85<sup>th</sup> percentile speed were 33 mph, under the current procedure the speed limit would have to be set at 35 mph or optionally reduced to 30 mph, while under the previous procedures the speed limit would have been set at 30 mph or optionally reduced to 25 mph.

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 20 street segments, lowered on 6 street segments, and remain the same on 77 street segments.

When the City Council adopted the 2001 Engineering and Traffic Surveys, speed limits could be set at the first 5 mile per hour increment below the 85th percentile speed. However, in 2004 California adapted the CaMUTCD, which is based on federal standards, requiring speed limits be set at the nearest 5 mile per hour increment either above or below the 85th percentile speed. Eighty percent of the speed limits recommended to be increased are primarily due to this new State requirement.



# Spot Speed Study - City of Livermore

## Ames Street

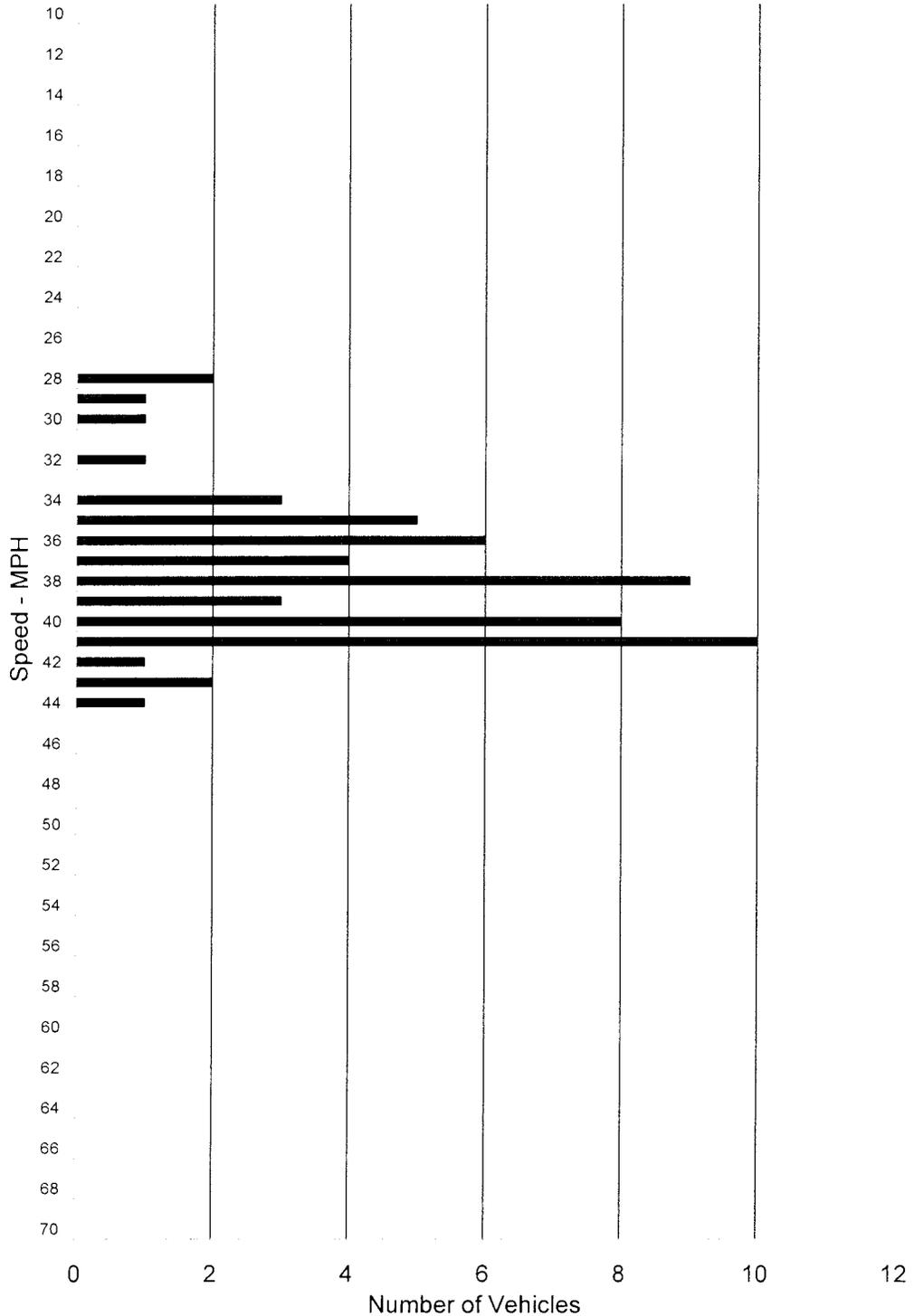
DATE: 10/8/2010  
 Start Time: 11:45 AM  
 DAY: Friday

Location: Dalton Avenue to Raymond Road  
 End Time: 12:45 PM  
 (Before) Speed Limit: 35 MPH

Observer: Parminder  
 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        | 2            |
| 29        | 1            |
| 30        | 1            |
| 31        | 0            |
| 32        | 1            |
| 33        | 0            |
| 34        | 3            |
| 35        | 5            |
| 36        | 6            |
| 37        | 4            |
| 38        | 9            |
| 39        | 3            |
| 40        | 8            |
| 41        | 10           |
| 42        | 1            |
| 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              | 57    | 37.7          | 28 - 44 | 38 mph          | 41 mph          | 34 - 43     | 51        | 89%             | 8% / 5           | 2% / 1           |

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 no reported collisions along this segment within the past three years.

**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. During this recent 1-hour survey, there were 35 bicyclists observed riding with traffic.

**Recommendation:** Based on the 85<sup>th</sup> 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 remains in effect.

# Spot Speed Study - City of Livermore

## Arroyo Road

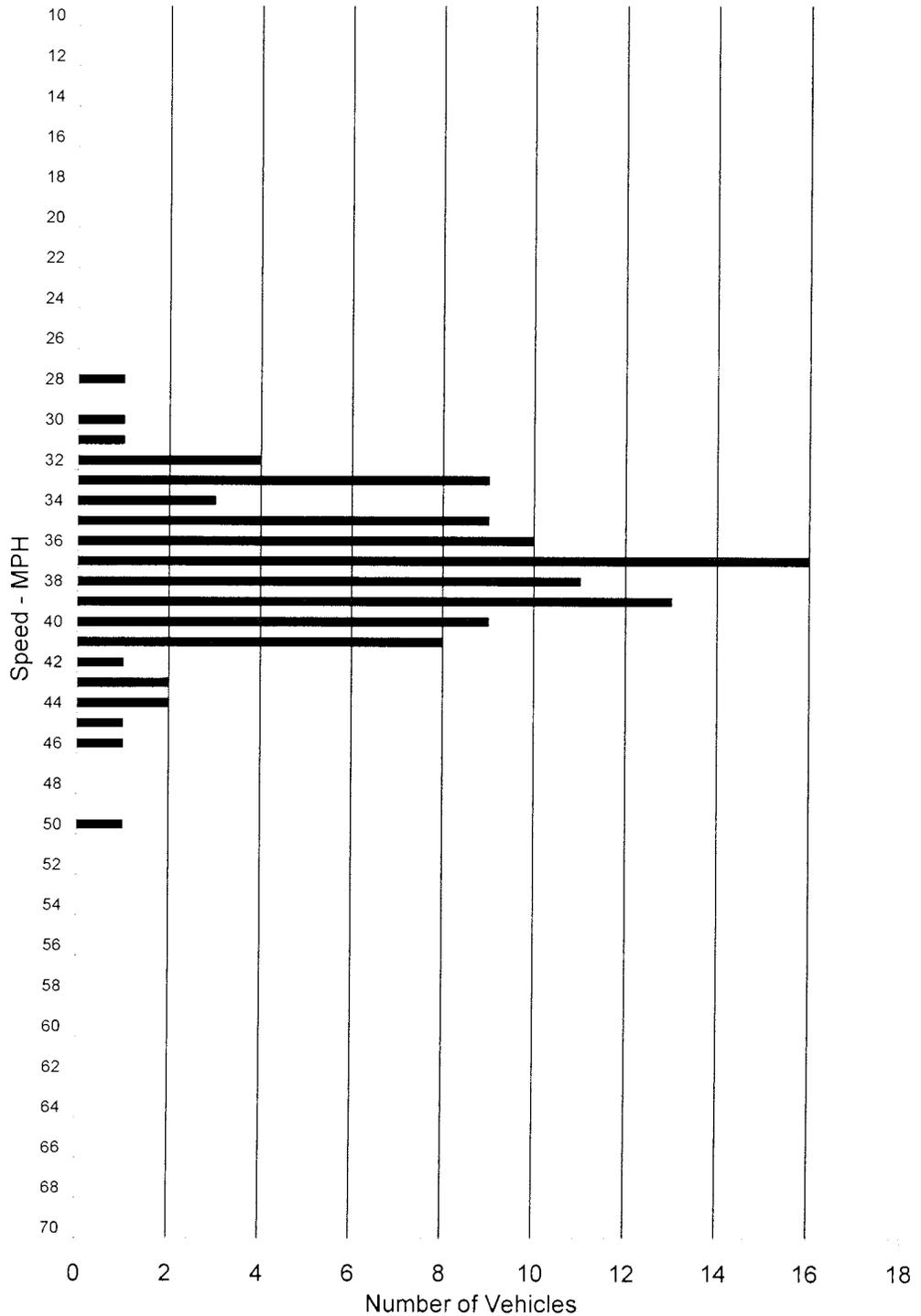
DATE: 10/26/2010  
 Start Time: 2:15 PM  
 DAY: Tuesday

Location: S. L Street to Concannon Boulevard  
 End Time: 2:38 PM  
 (Before) Speed Limit: 35 MPH

Observer: CN  
 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        | 0            |
| 30        | 1            |
| 31        | 1            |
| 32        | 4            |
| 33        | 9            |
| 34        | 3            |
| 35        | 9            |
| 36        | 10           |
| 37        | 16           |
| 38        | 11           |
| 39        | 13           |
| 40        | 9            |
| 41        | 8            |
| 42        | 1            |
| 43        | 2            |
| 44        | 2            |
| 45        | 1            |
| 46        | 1            |
| 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              | 103   | 37.4          | 28 - 50 | 37 mph          | 41 mph          | 32 - 41     | 92        | 89%             | 2% / 3           | 8% / 8           |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: ARROYO ROAD

Adjacent Land Use: RESIDENTIAL

Limits: S. L STREET TO CONCANNON BLVD

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 10 reported collisions along this segment within the past 3 years. This equates to 1.66 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**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 85<sup>th</sup> 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 remains in effect.

# Spot Speed Study - City of Livermore

## Arroyo Road

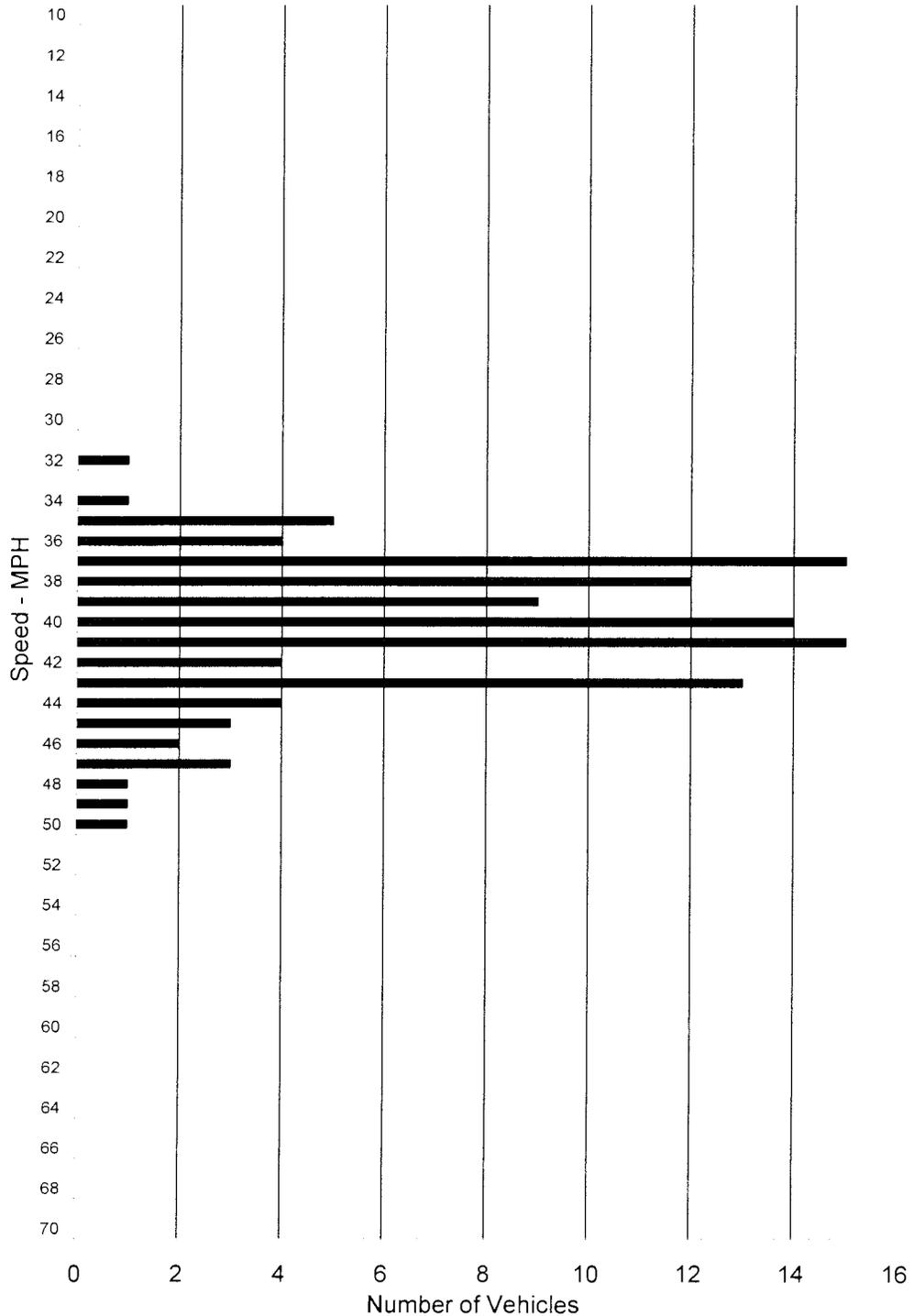
DATE: 10/26/2010  
 Start Time: 2:42 PM  
 DAY: Tuesday

Location: Concannon Boulevard to Wetmore Road  
 End Time: 3:14 PM  
 (Before) Speed Limit: 40 MPH

Observer: CN  
 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        | 1            |
| 33        | 0            |
| 34        | 1            |
| 35        | 5            |
| 36        | 4            |
| 37        | 15           |
| 38        | 12           |
| 39        | 9            |
| 40        | 14           |
| 41        | 15           |
| 42        | 4            |
| 43        | 13           |
| 44        | 4            |
| 45        | 3            |
| 46        | 2            |
| 47        | 3            |
| 48        | 1            |
| 49        | 1            |
| 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              | 108   | 40.2          | 32 - 50 | 40 mph          | 43 mph          | 35 - 44     | 95        | 88%             | 1% / 2           | 11% / 11         |

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 1.90 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**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 were pedestrians may use the pavement area.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 43 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 remains in effect.

# Spot Speed Study - City of Livermore

## Bennett Drive

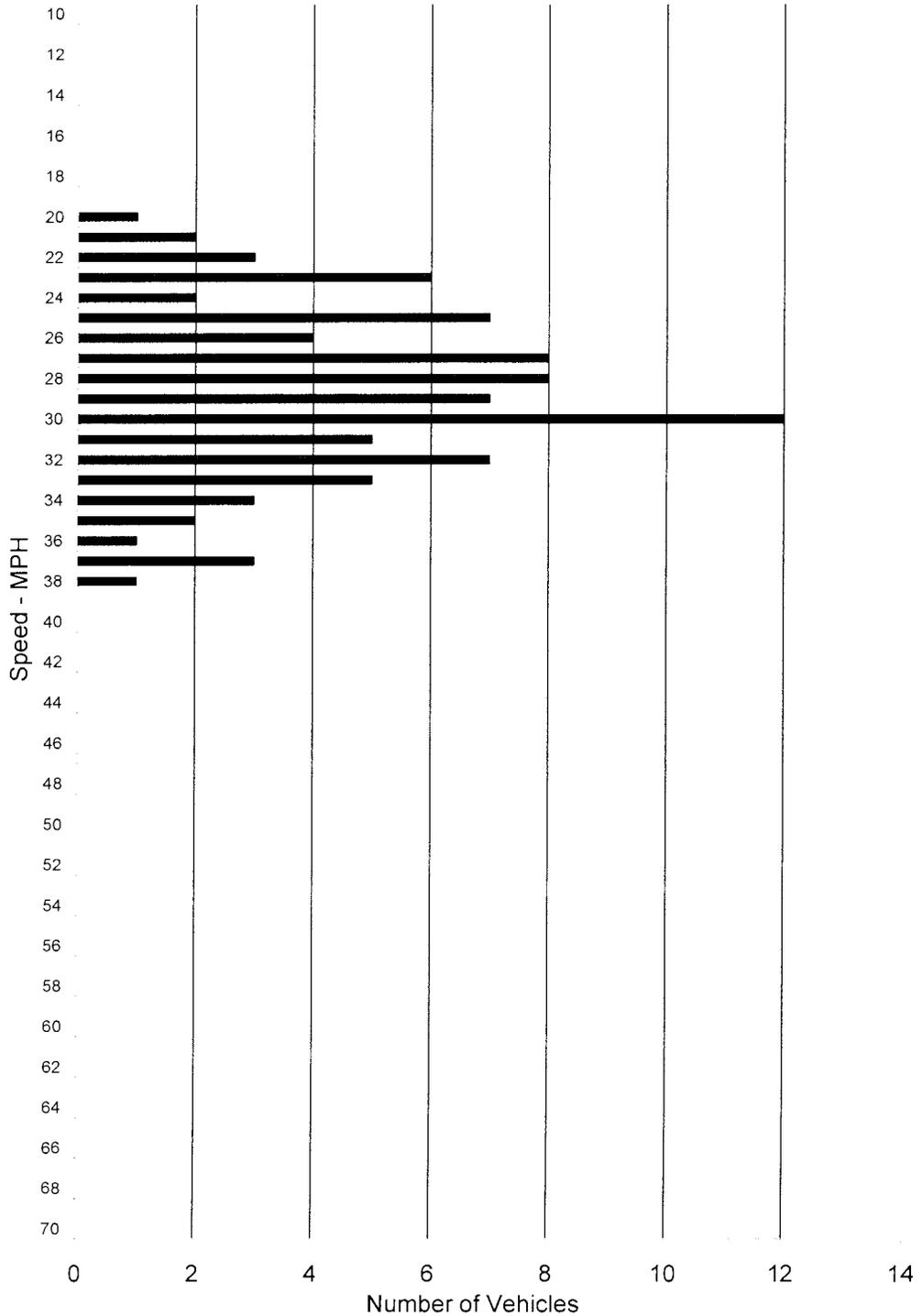
DATE: 10/27/2010  
 Start Time: 2:00 PM  
 DAY: Wednesday

Location: Southfront Road to Las Positas Road  
 End Time: 3:00 PM  
 (Before) Speed Limit: 30 MPH  
 Weather: Dry/Clear  
 Direction: NB & SB

Observer: Mbauer  
 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        | 1            |
| 21        | 2            |
| 22        | 3            |
| 23        | 6            |
| 24        | 2            |
| 25        | 7            |
| 26        | 4            |
| 27        | 8            |
| 28        | 8            |
| 29        | 7            |
| 30        | 12           |
| 31        | 5            |
| 32        | 7            |
| 33        | 5            |
| 34        | 3            |
| 35        | 2            |
| 36        | 1            |
| 37        | 3            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 87    | 28.7          | 20 - 38 | 29 mph          | 33 mph          | 23 - 32     | 66        | 76%          | 6% / 6           | 18% / 15         |

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:** Increase the existing 30 MPH mph speed limit to 35 MPH.

# Spot Speed Study - City of Livermore

## Bluebell Drive

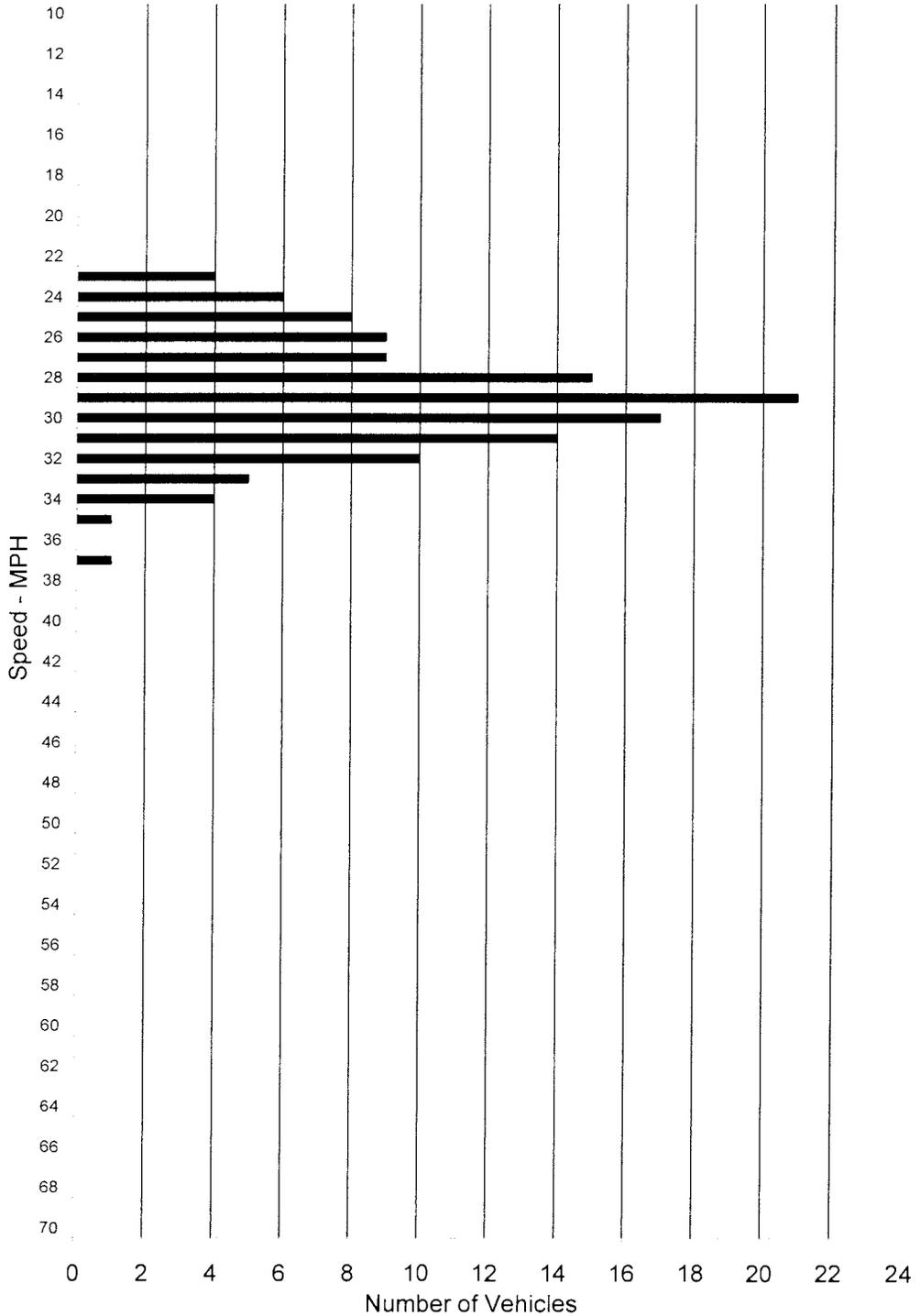
DATE: 1/4/2011  
 Start Time: 2:24 PM  
 DAY: Tuesday

Location: Hartford Avenue to Springtown Boulevard  
 End Time: 2:32 PM  
 (Before) Speed Limit: 25 MPH

Observer: CS  
 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        | 0            |
| 23        | 4            |
| 24        | 6            |
| 25        | 8            |
| 26        | 9            |
| 27        | 9            |
| 28        | 15           |
| 29        | 21           |
| 30        | 17           |
| 31        | 14           |
| 32        | 10           |
| 33        | 6            |
| 34        | 4            |
| 35        | 1            |
| 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              | 124   | 28.9          | 23 - 37 | 29 mph          | 32 mph          | 24 - 33     | 114       | 92%             | 3% / 4           | 5% / 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 pedestrian crosswalks, on-street parking and bike lanes from Springtown Boulevard to Scenic Avenue. A City park 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, on-street parking maneuvers, bicycling activities, and pedestrian activities.

**Recommendation:** Based on the 85<sup>th</sup> 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

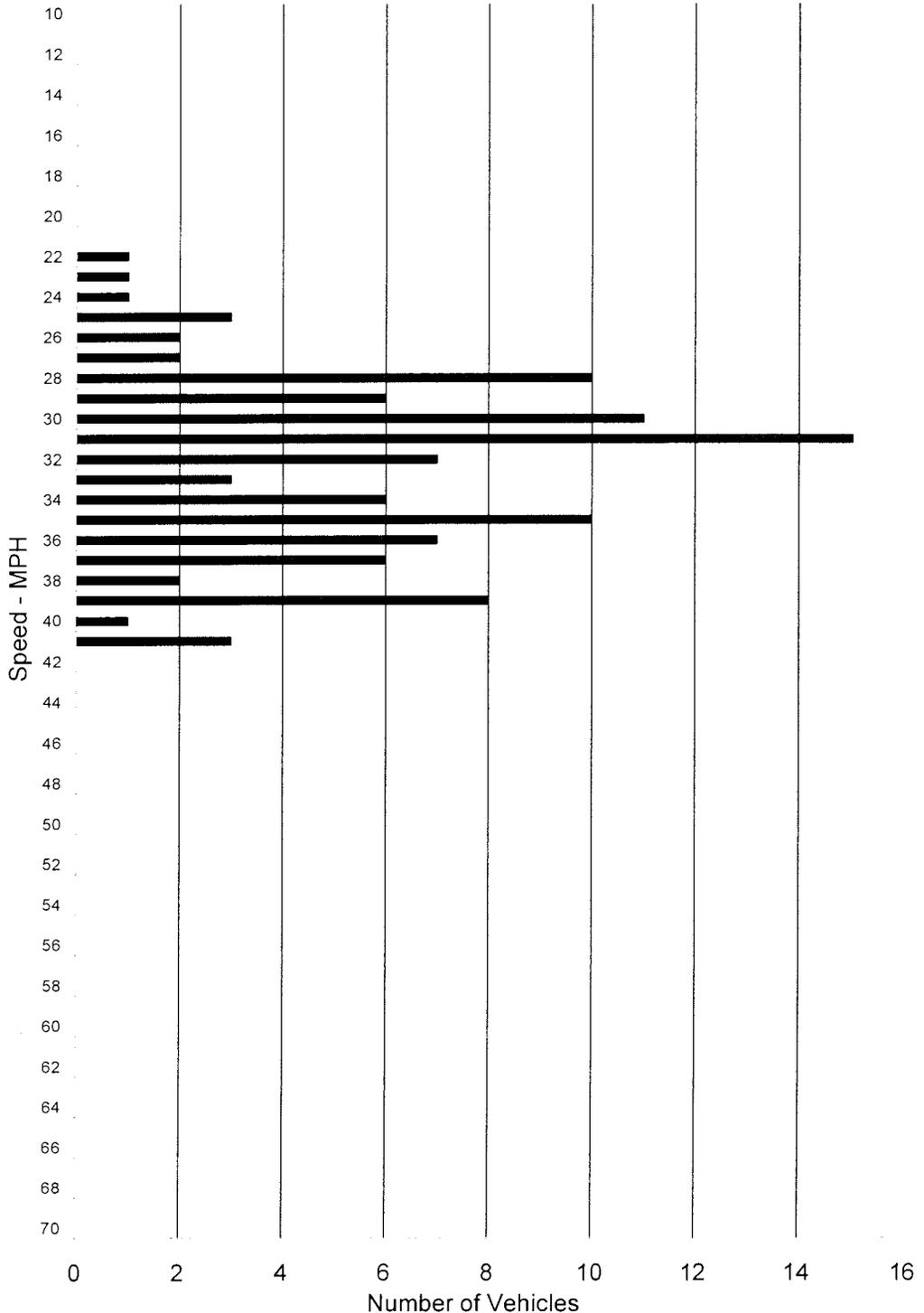
DATE: 10/1/2010  
 Start Time: 10:50 AM  
 DAY: Friday

Location: Vasco Road to West End  
 End Time: 12:50 PM  
 (Before) Speed Limit: 35 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Parminder  
 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        | 1            |
| 23        | 1            |
| 24        | 1            |
| 25        | 3            |
| 26        | 2            |
| 27        | 2            |
| 28        | 10           |
| 29        | 6            |
| 30        | 11           |
| 31        | 15           |
| 32        | 7            |
| 33        | 3            |
| 34        | 6            |
| 35        | 10           |
| 36        | 7            |
| 37        | 6            |
| 38        | 2            |
| 39        | 8            |
| 40        | 1            |
| 41        | 3            |
| 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   | 32.4          | 22 - 41 | 32 mph          | 37 mph          | 28 - 37     | 81        | 77%             | 9% / 10          | 14% / 14         |

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 7 reported collisions along this segment within the past three years.

**Other Considerations:** None.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 37 MPH, the 35 MPH speed limit remains in effect.

# Spot Speed Study - City of Livermore

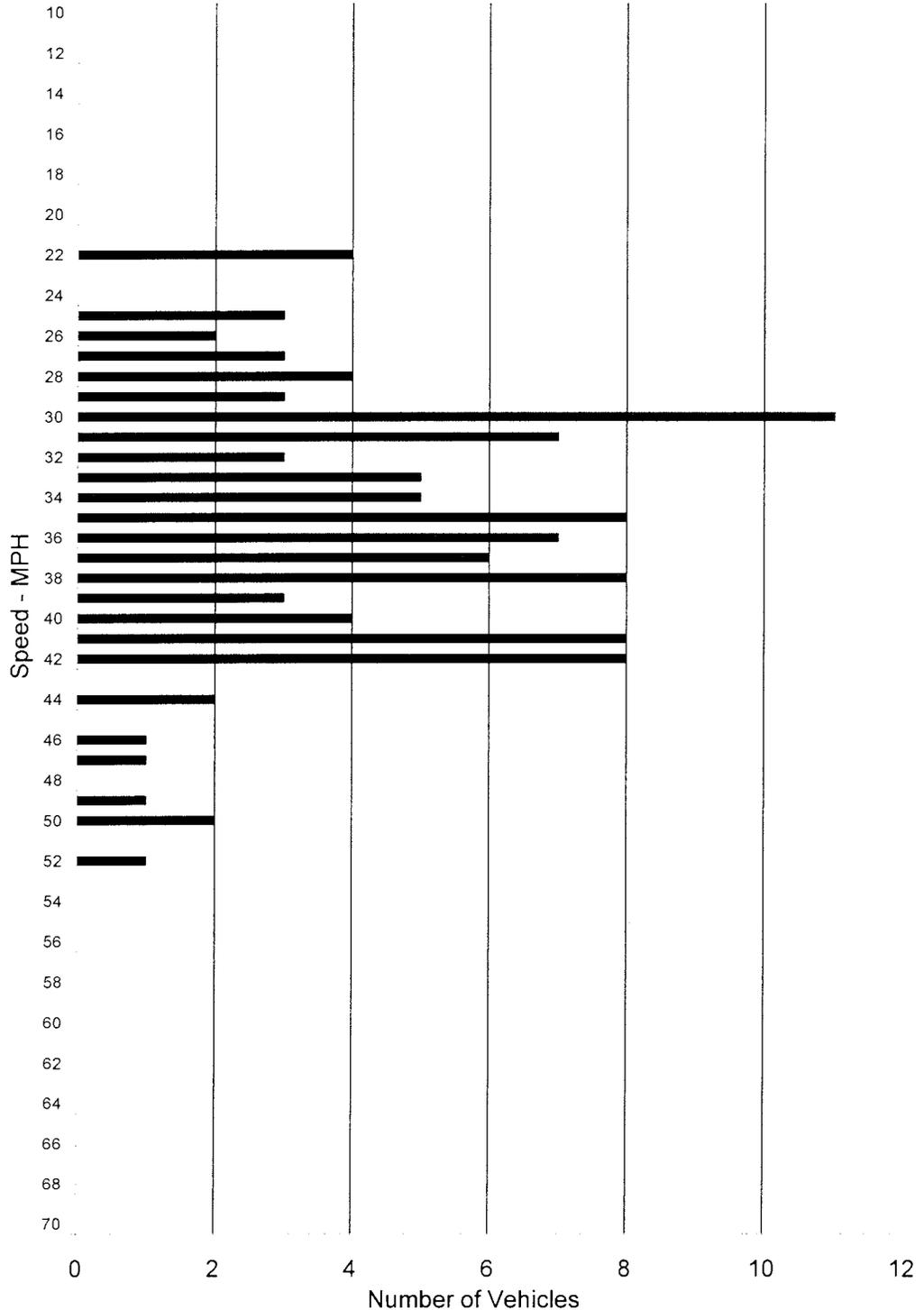
## Brisa Street

DATE: 10/1/2010  
 Start Time: 10:15 AM  
 DAY: Friday

Location: East End to Vasco Road  
 End Time: 10:45 PM  
 (Before) Speed Limit: 40 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Parminder  
 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        | 4            |
| 23        | 0            |
| 24        | 0            |
| 25        | 3            |
| 26        | 2            |
| 27        | 3            |
| 28        | 4            |
| 29        | 3            |
| 30        | 11           |
| 31        | 7            |
| 32        | 3            |
| 33        | 5            |
| 34        | 5            |
| 35        | 8            |
| 36        | 7            |
| 37        | 6            |
| 38        | 8            |
| 39        | 3            |
| 40        | 4            |
| 41        | 8            |
| 42        | 8            |
| 43        | 0            |
| 44        | 2            |
| 45        | 0            |
| 46        | 1            |
| 47        | 1            |
| 48        | 0            |
| 49        | 1            |
| 50        | 2            |
| 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              | 110   | 35.0          | 22 - 52 | 35 mph          | 41 mph          | 29 - 38     | 63        | 57%             | 14% / 16         | 29% / 31         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: BRISA STREET

Adjacent Land Use: INDUSTRIAL

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. Parking is allowed. The length of this segment is 0.61 miles.

**Collision History:** There have been 9 reported collisions along this segment within the past three years. This equates to 5.91 collisions per million vehicle miles, which is above the 1.56 statewide average for this type of roadway.

**Other Considerations:** None

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 41 MPH, the existing 40 MPH speed limit was considered. However, given the very high collision rate compared to statewide average for this type of roadway, a condition 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

## Broadmoor Street

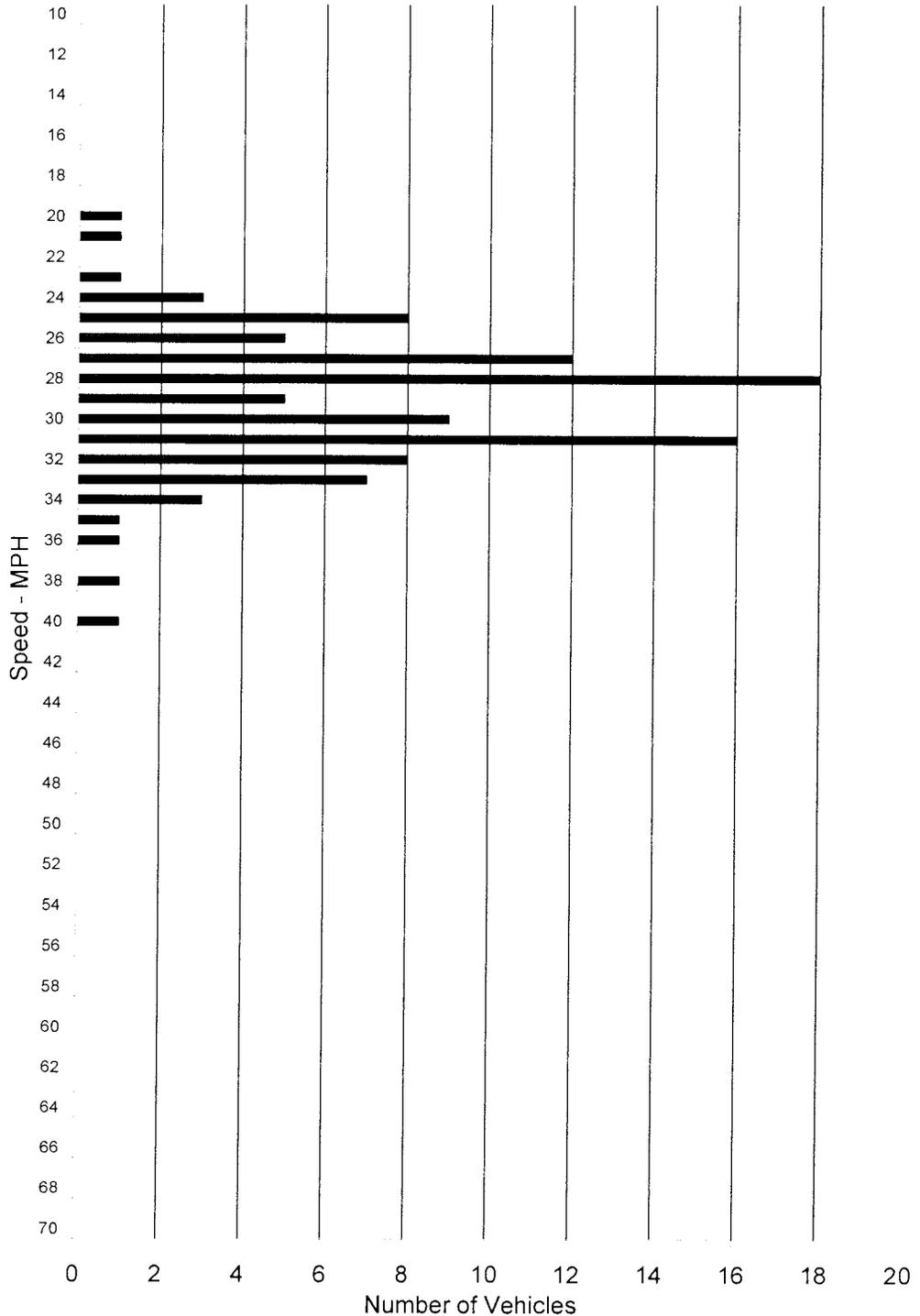
DATE: 9/24/2010  
 Start Time: 1:30 PM  
 DAY: Friday

Location: Dalton Avenue to Scenic Avenue  
 End Time: 2:15 PM  
 (Before) Speed Limit: 25 MPH

Observer: Parminder  
 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        | 1            |
| 22        | 0            |
| 23        | 1            |
| 24        | 3            |
| 25        | 8            |
| 26        | 5            |
| 27        | 12           |
| 28        | 18           |
| 29        | 5            |
| 30        | 9            |
| 31        | 16           |
| 32        | 8            |
| 33        | 7            |
| 34        | 3            |
| 35        | 1            |
| 36        | 1            |
| 37        | 0            |
| 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              | 101   | 29.1          | 20 - 40 | 29 mph          | 32 mph          | 24 - 33     | 91        | 90%             | 2% / 3           | 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 6 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, on-street parking maneuvers, bicycling activities, and two elementary schools and a middle school are in proximity generating pedestrian activities.

**Recommendation:** Based on the 85<sup>th</sup> 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

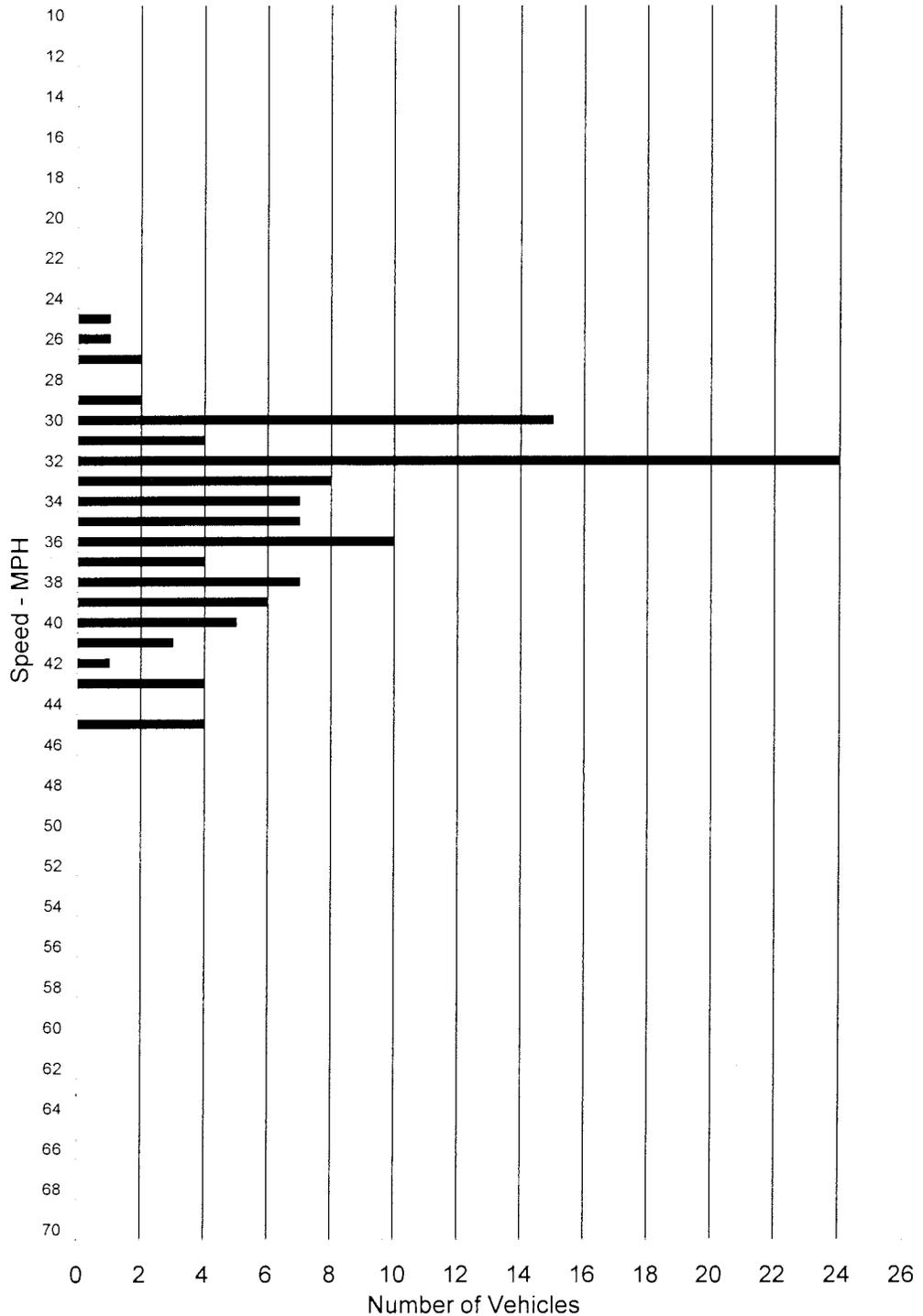
DATE: 10/27/2010  
 Start Time: 3:45 PM  
 DAY: Wednesday

Location: Portola Avenue to College Parking Lot  
 End Time: 4:30 PM  
 (Before) Speed Limit: 30 MPH

Observer: Mbauer  
 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        | 1            |
| 27        | 2            |
| 28        | 0            |
| 29        | 2            |
| 30        | 15           |
| 31        | 4            |
| 32        | 24           |
| 33        | 8            |
| 34        | 7            |
| 35        | 7            |
| 36        | 10           |
| 37        | 4            |
| 38        | 7            |
| 39        | 6            |
| 40        | 5            |
| 41        | 3            |
| 42        | 1            |
| 43        | 4            |
| 44        | 0            |
| 45        | 4            |
| 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   | 34.6          | 25 - 45 | 34 mph          | 39 mph          | 30 - 39     | 92        | 80%             | 5% / 6           | 15% / 17         |

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 parking allowed. This roadway provides access to Las Positas College. The length of this segment is 0.30 miles.

**Collision History:** No reported collision history

**Other Considerations:** None

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 39 MPH, the existing 30 MPH speed limit will increase to 40 MPH.

# Spot Speed Study - City of Livermore

## Catalina Drive

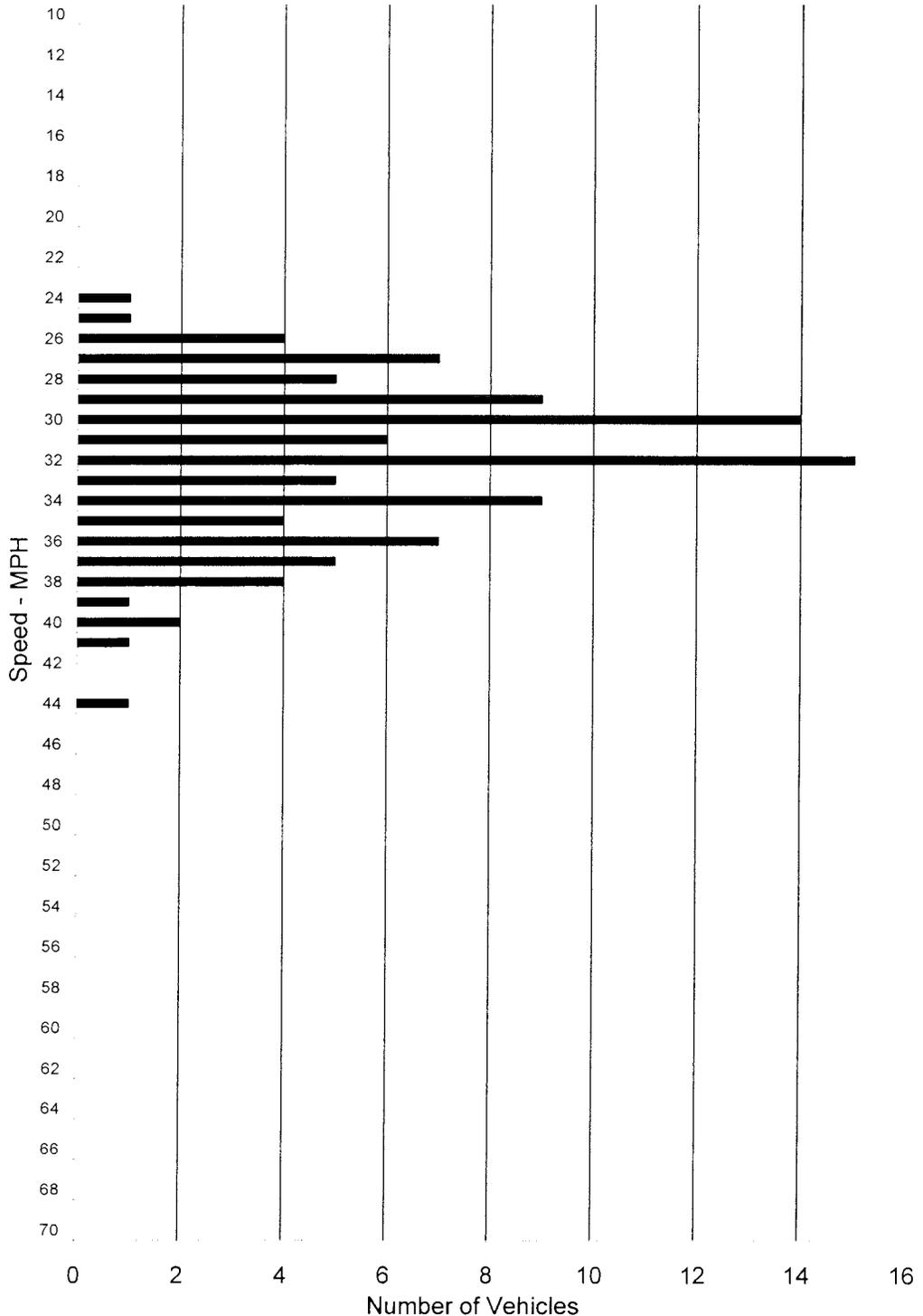
DATE: 10/14/2010  
 Start Time: 9:35 AM  
 DAY: Thursday

Location: Holmes Street to El Caminito  
 End Time: 10:58 AM  
 (Before) Speed Limit: 25 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: KR  
 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        | 4            |
| 27        | 7            |
| 28        | 5            |
| 29        | 9            |
| 30        | 14           |
| 31        | 6            |
| 32        | 15           |
| 33        | 5            |
| 34        | 9            |
| 35        | 4            |
| 36        | 7            |
| 37        | 5            |
| 38        | 4            |
| 39        | 1            |
| 40        | 2            |
| 41        | 1            |
| 42        | 0            |
| 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              | 101   | 32.0          | 24 - 44 | 32 mph          | 36 mph          | 27 - 36     | 81        | 80%             | 5% / 6           | 14% / 14         |

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 and a pedestrian crosswalk. 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 8 reported collisions along this segment within the past three years. This equates to 6.08 collisions per million vehicle miles, which is much higher than the statewide average of 1.17 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 85<sup>th</sup> 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

## Central Avenue

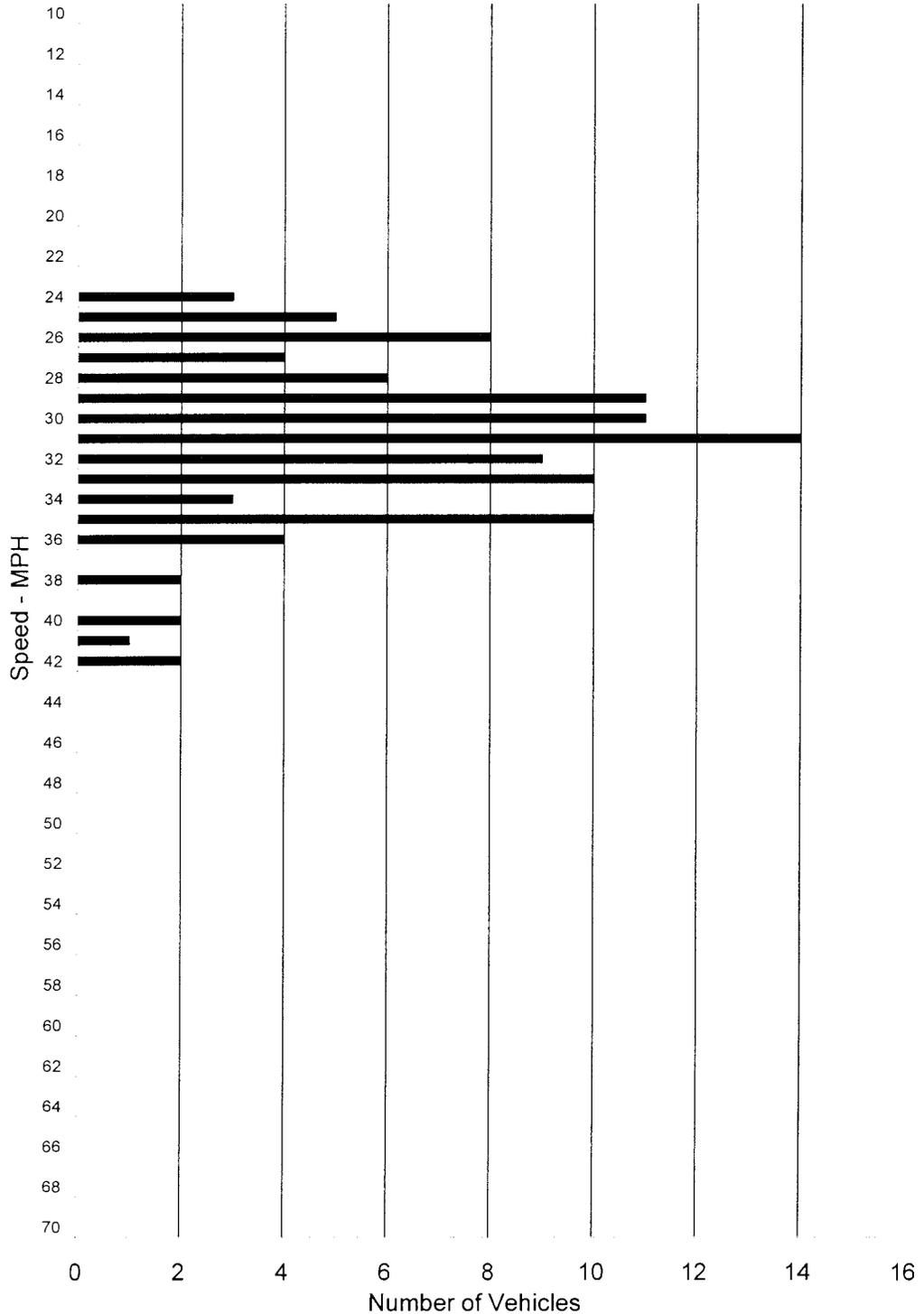
DATE: 10/20/2010  
 Start Time: 10:20 AM  
 DAY: Wednesday

Location: Scenic Avenue to Northfront Road  
 End Time: 10:50 AM  
 (Before) Speed Limit: 30 MPH

Observer: Mbauer  
 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        | 3            |
| 25        | 5            |
| 26        | 8            |
| 27        | 4            |
| 28        | 6            |
| 29        | 11           |
| 30        | 11           |
| 31        | 14           |
| 32        | 9            |
| 33        | 10           |
| 34        | 3            |
| 35        | 10           |
| 36        | 4            |
| 37        | 0            |
| 38        | 2            |
| 39        | 0            |
| 40        | 2            |
| 41        | 2            |
| 42        | 1            |
| 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              | 105   | 31.0          | 24 - 42 | 31 mph          | 35 mph          | 26 - 35     | 86        | 82%             | 7% / 8           | 11% / 11         |

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:** 2-lane residential collector street. This street is partially undeveloped. The length of this segment is 0.62 miles.

**Collision History:** There have been 3 reported collisions along this segment within the past three years. This equates to 2.38 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> 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

## Charlotte Way

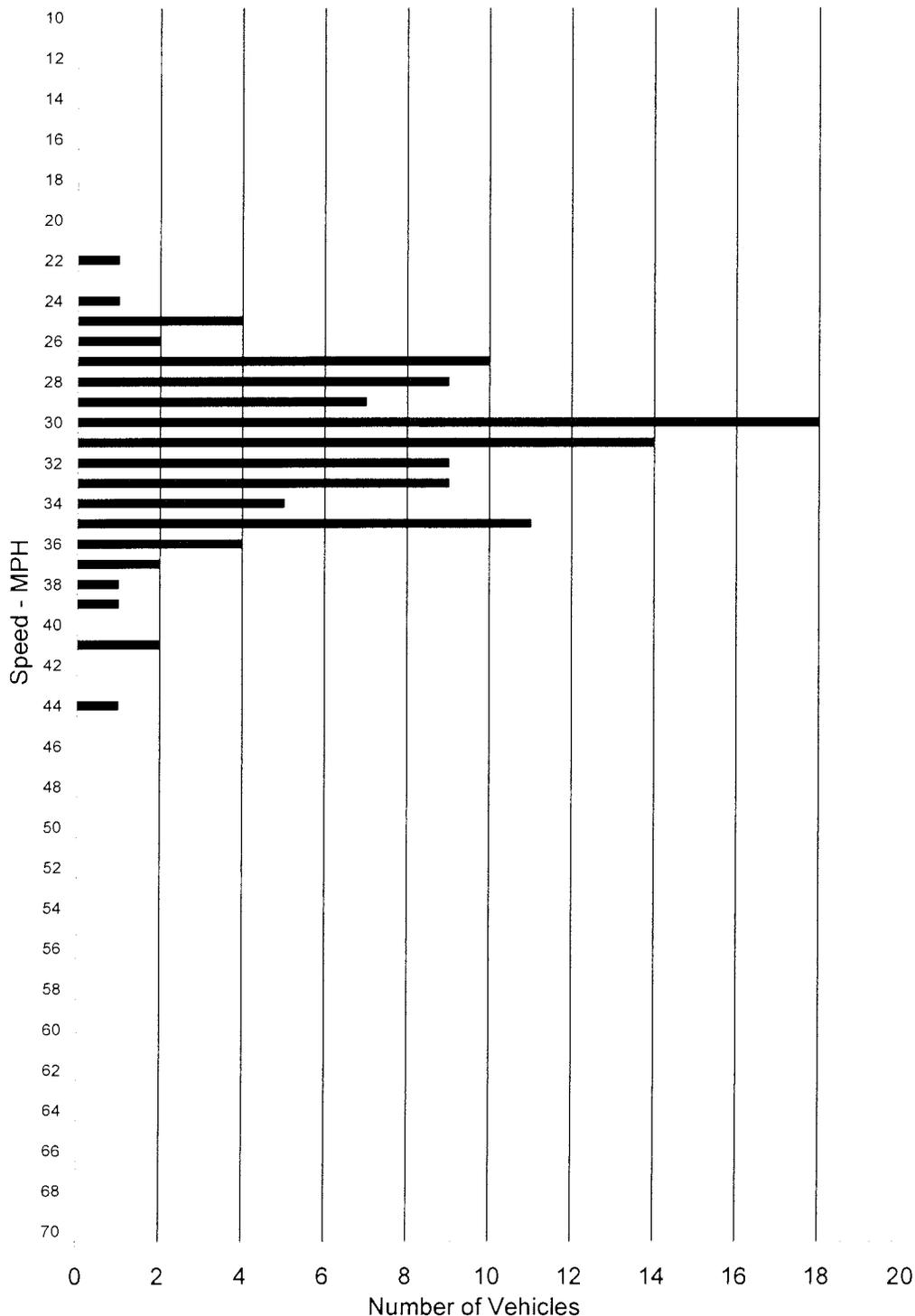
DATE: 9/29/2010  
 Start Time: 2:40 PM  
 DAY: Wednesday

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

Observer: Mbauer  
 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        | 1            |
| 23        | 0            |
| 24        | 1            |
| 25        | 4            |
| 26        | 2            |
| 27        | 10           |
| 28        | 9            |
| 29        | 7            |
| 30        | 18           |
| 31        | 14           |
| 32        | 9            |
| 33        | 9            |
| 34        | 5            |
| 35        | 11           |
| 36        | 4            |
| 37        | 2            |
| 38        | 1            |
| 39        | 1            |
| 40        | 0            |
| 41        | 2            |
| 42        | 0            |
| 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              | 111   | 31.2          | 22 - 44 | 31 mph          | 35 mph          | 27 - 36     | 96        | 86%             | 7% / 8           | 7% / 7           |  |

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 85<sup>th</sup> 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

## Chestnut Street

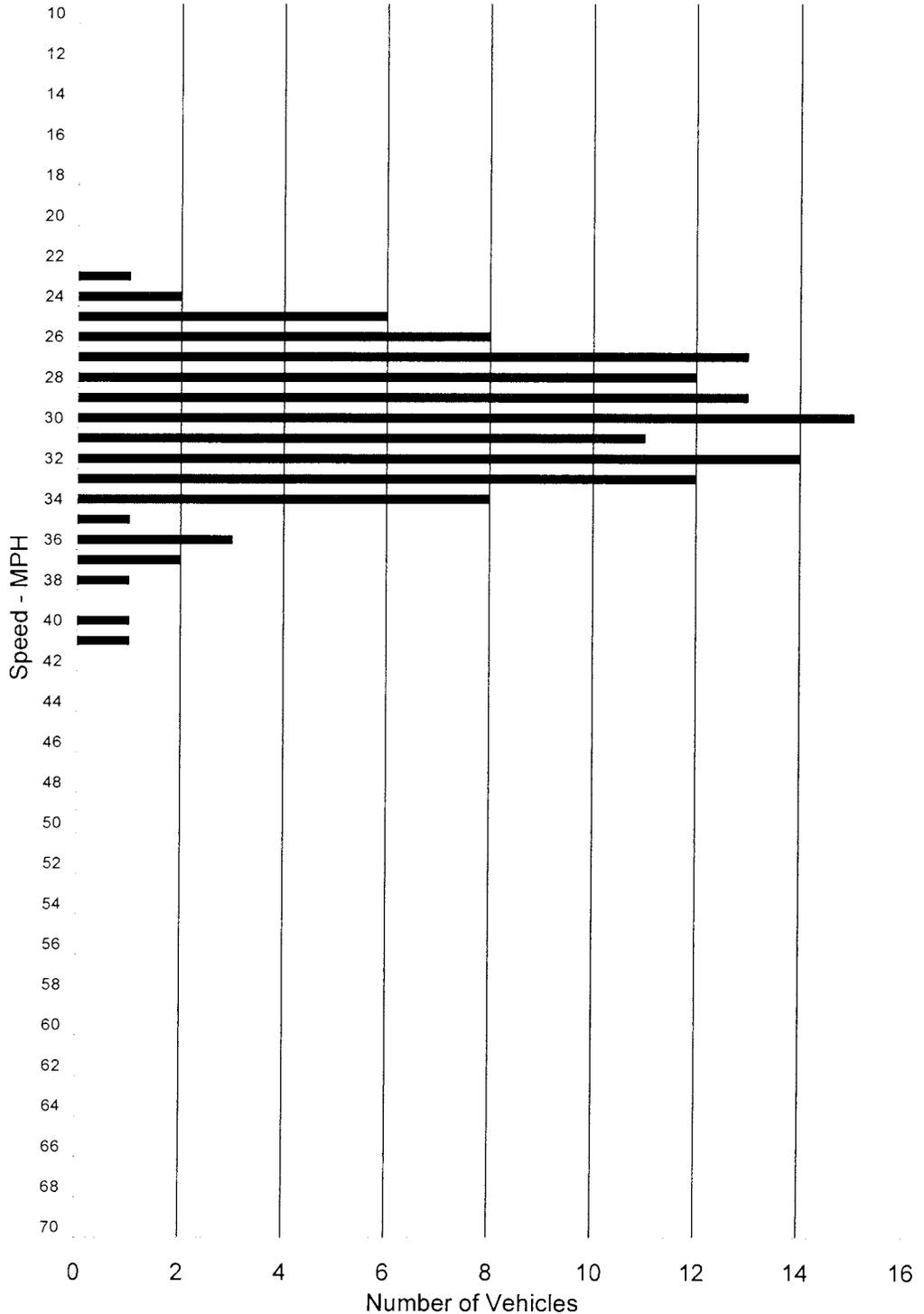
DATE: 9/23/2010  
 Start Time: 4:00 PM  
 DAY: Thursday

Location: N. P Street to Junction Avenue  
 End Time: 4:20 PM  
 (Before) Speed Limit: 25 MPH  
 Weather: Dry  
 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        | 1            |
| 24        | 2            |
| 25        | 6            |
| 26        | 8            |
| 27        | 13           |
| 28        | 12           |
| 29        | 13           |
| 30        | 15           |
| 31        | 11           |
| 32        | 14           |
| 33        | 12           |
| 34        | 8            |
| 35        | 1            |
| 36        | 3            |
| 37        | 2            |
| 38        | 1            |
| 39        | 0            |
| 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              | 124   | 30.1          | 23 - 41 | 30 mph          | 33 mph          | 25 - 34     | 112       | 90%             | 2% / 3           | 8% / 9           |

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 16 reported collisions along this segment within the past three years. This equates to 3.99 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**Other Considerations:** This segment has a high rate of turning maneuvers with numerous residential and commercial driveways, on-street parking maneuvers, and pedestrian activity. Even with the mixed commercial and residential buildings, there are more than 16 single residential units in a 0.25 mile sections. In accordance with the CVC, this is a Residence District.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 33 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

## College Avenue

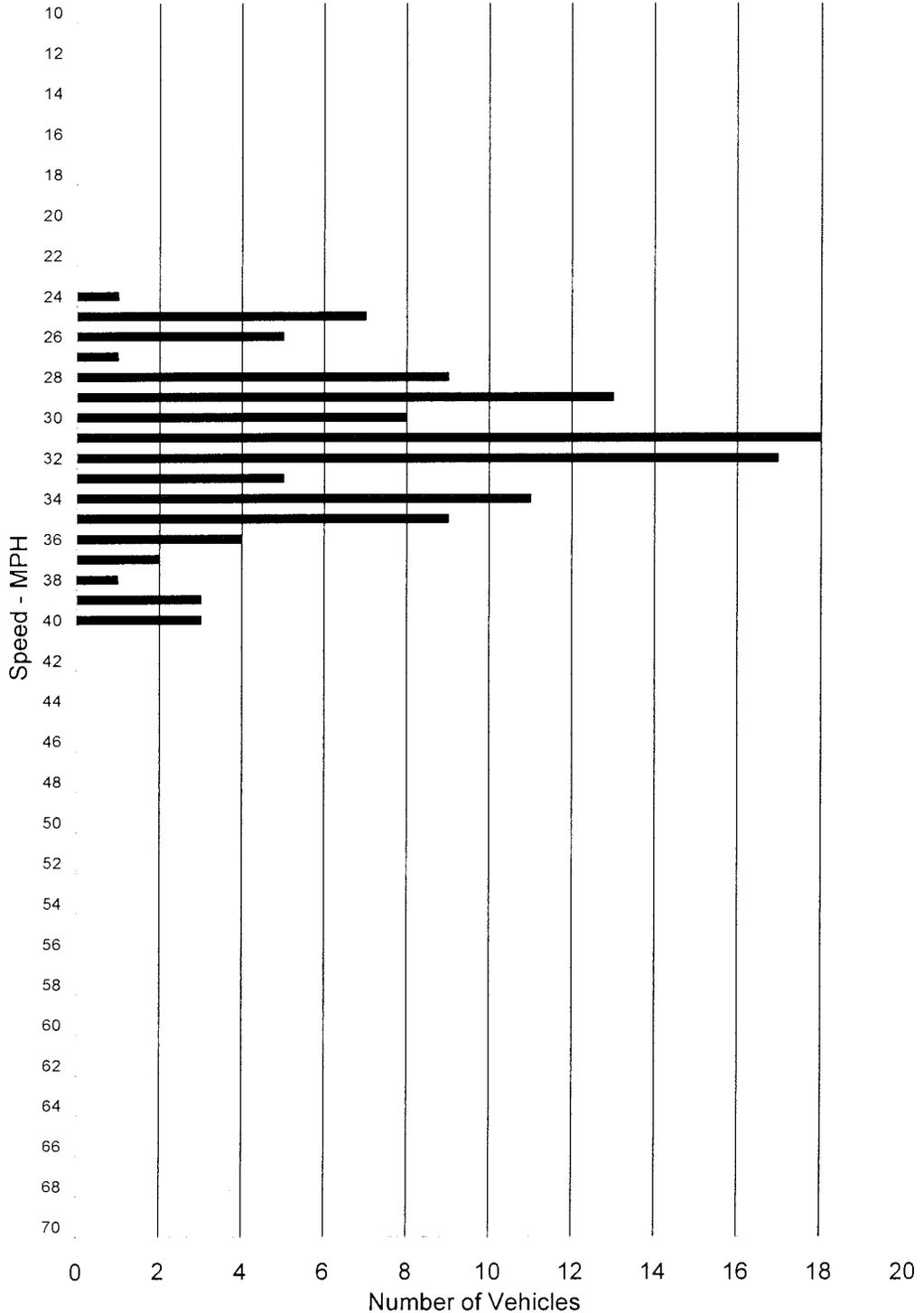
DATE: 10/13/2010  
 Start Time: 2:25 PM  
 DAY: Wednesday

Location: Fourth Street to L Street  
 End Time: 2:50 PM  
 (Before) Speed Limit: 25 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: CN  
 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        | 7            |
| 26        | 5            |
| 27        | 1            |
| 28        | 9            |
| 29        | 13           |
| 30        | 8            |
| 31        | 18           |
| 32        | 17           |
| 33        | 5            |
| 34        | 11           |
| 35        | 9            |
| 36        | 4            |
| 37        | 2            |
| 38        | 1            |
| 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              | 117   | 31.4          | 24 - 40 | 31 mph          | 35 mph          | 26 - 35     | 96        | 82%             | 6% / 8           | 12% / 13         |

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

**Collision History:** There have been 15 reported collisions along this segment within the past three years. This equates to 4.52 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> 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

## College Avenue

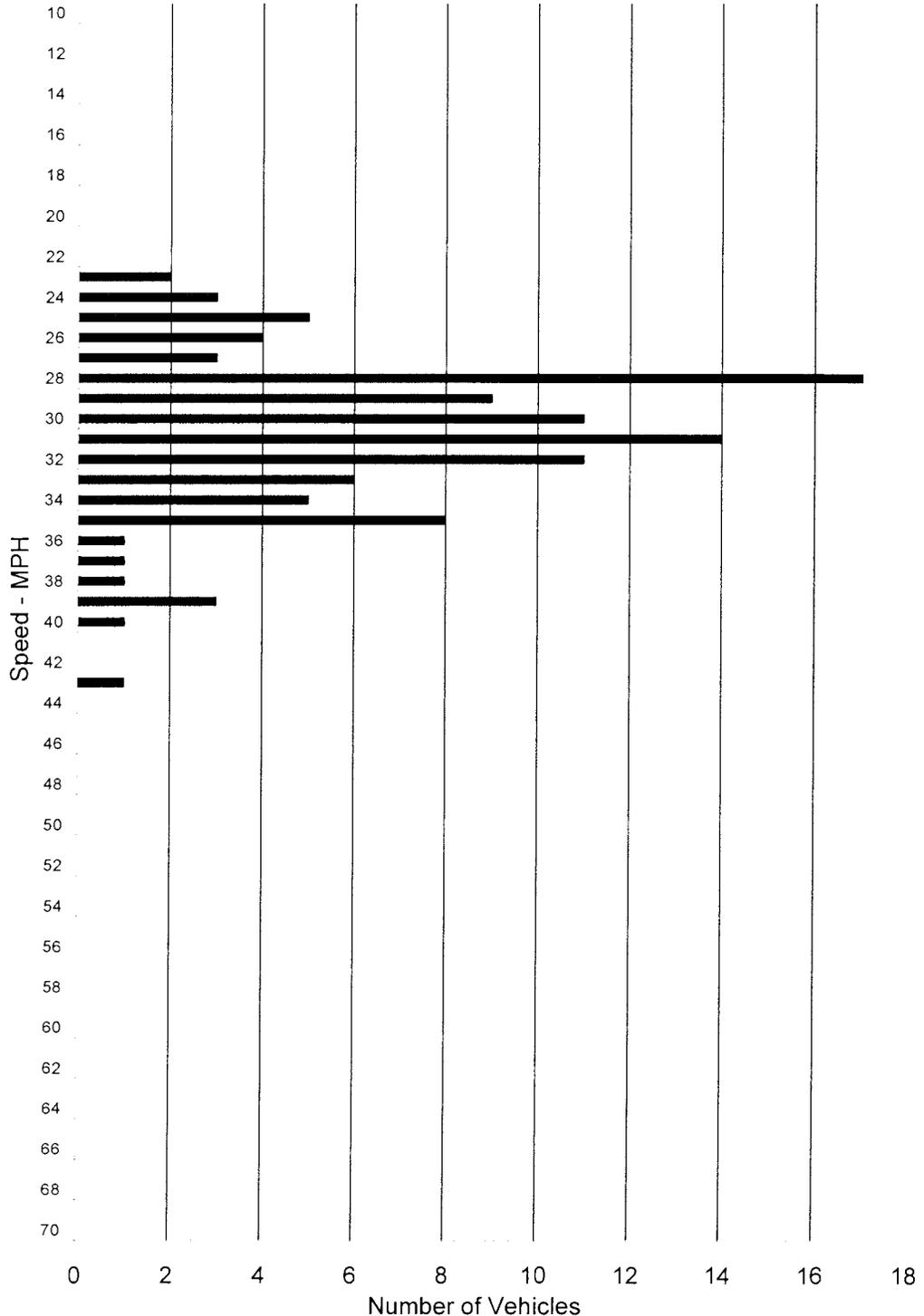
DATE: 10/13/2010  
 Start Time: 1:50 PM  
 DAY: Wednesday

Location: L Street to Livermore Avenue  
 End Time: 2:20 PM  
 (Before) Speed Limit: 25 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: CN  
 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        | 3            |
| 25        | 5            |
| 26        | 4            |
| 27        | 3            |
| 28        | 17           |
| 29        | 9            |
| 30        | 11           |
| 31        | 14           |
| 32        | 11           |
| 33        | 6            |
| 34        | 5            |
| 35        | 8            |
| 36        | 1            |
| 37        | 1            |
| 38        | 1            |
| 39        | 3            |
| 40        | 1            |
| 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              | 106   | 30.6          | 23 - 43 | 30 mph          | 35 mph          | 26 - 35     | 88        | 83%             | 9% / 10          | 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 11 reported collisions along this segment within the past three years. This equates to 3.31 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> 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

## Collier Canyon Road

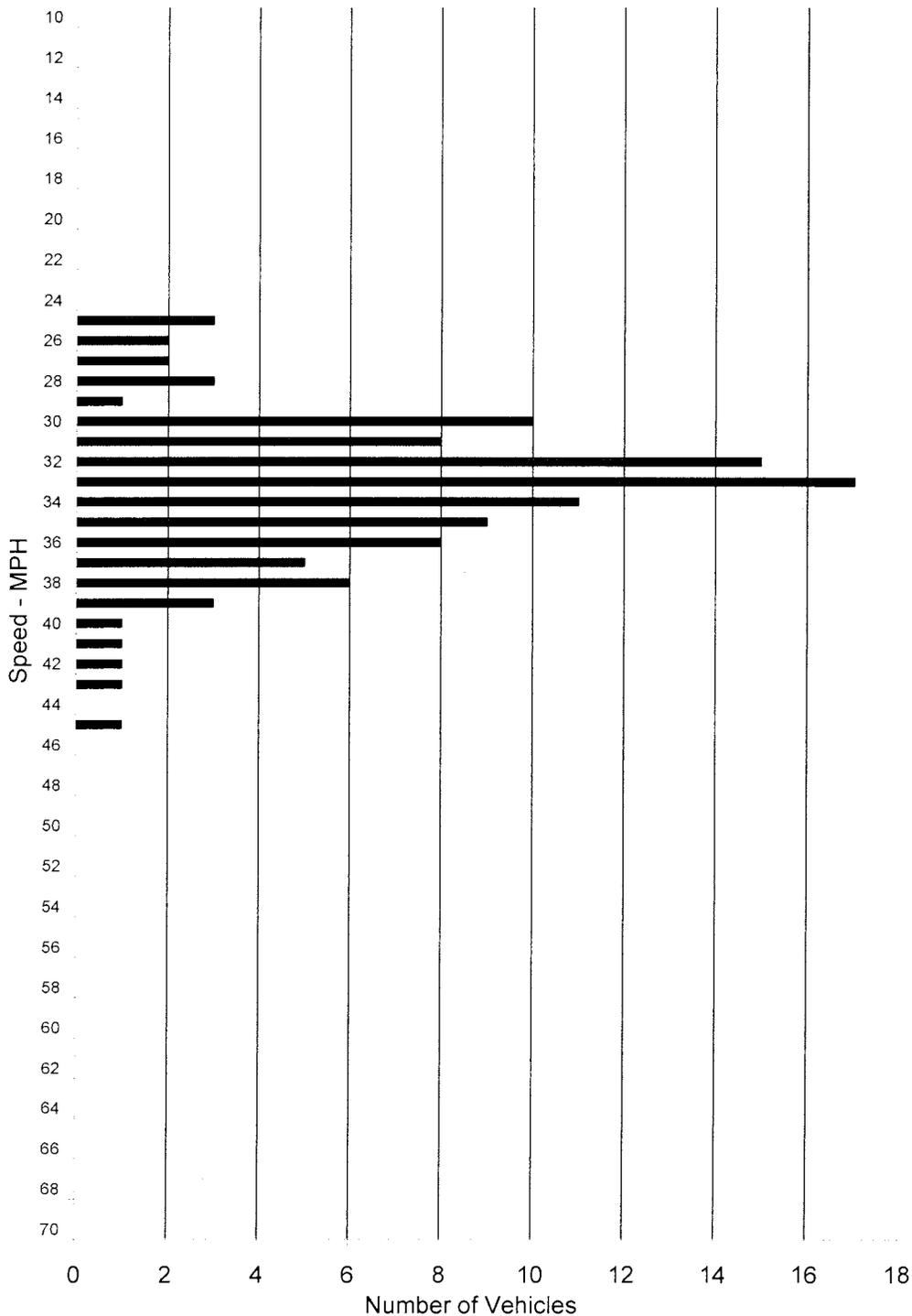
DATE: 9/15/2010  
 Start Time: 11:00 AM  
 DAY: Wednesday

Location: Constitution Drive to North End  
 End Time: 11:20 AM  
 (Before) Speed Limit: 35 MPH

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        | 3            |
| 26        | 2            |
| 27        | 2            |
| 28        | 3            |
| 29        | 1            |
| 30        | 10           |
| 31        | 8            |
| 32        | 15           |
| 33        | 17           |
| 34        | 11           |
| 35        | 9            |
| 36        | 8            |
| 37        | 5            |
| 38        | 6            |
| 39        | 3            |
| 40        | 1            |
| 41        | 1            |
| 42        | 1            |
| 43        | 1            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 108   | 33.3          | 25 - 45 | 33 mph          | 37 mph          | 30 - 39     | 92        | 85%          | 10% / 11         | 5% / 5           |

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 4 reported collisions along this segment within the past three years.

**Other Considerations:** None.

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

# Spot Speed Study - City of Livermore

## Concannon Boulevard

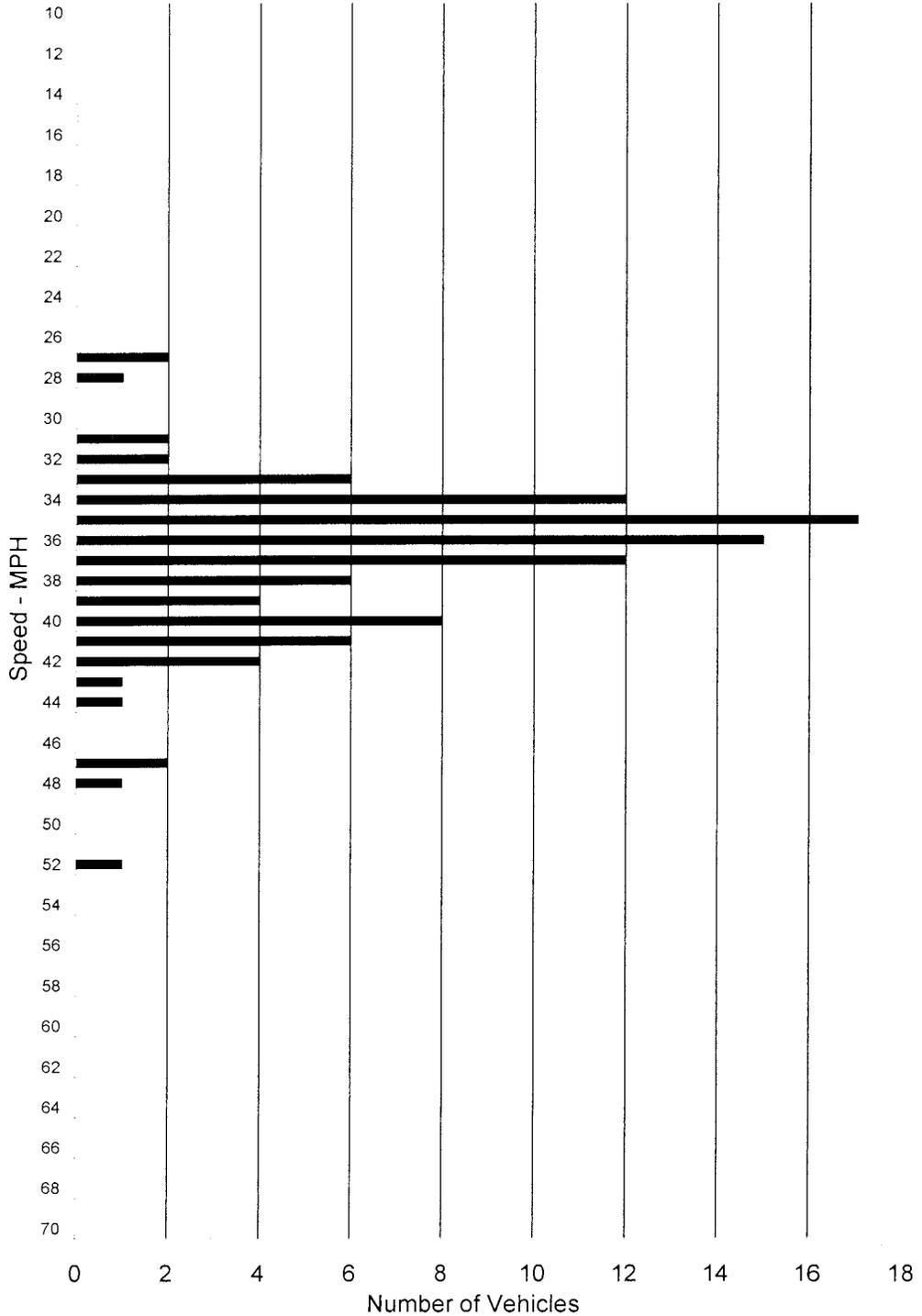
DATE: 9/20/2010  
 Start Time: 1:24 PM  
 DAY: Monday

Location: Isabel Avenue to Holmes Street  
 End Time: 1:58 PM  
 (Before) Speed Limit: 35 MPH

Observer: Dtorrey  
 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        | 1            |
| 29        | 0            |
| 30        | 0            |
| 31        | 2            |
| 32        | 2            |
| 33        | 6            |
| 34        | 12           |
| 35        | 17           |
| 36        | 15           |
| 37        | 12           |
| 38        | 6            |
| 39        | 4            |
| 40        | 8            |
| 41        | 6            |
| 42        | 4            |
| 43        | 1            |
| 44        | 1            |
| 45        | 0            |
| 46        | 0            |
| 47        | 2            |
| 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              | 103   | 36.8          | 27 - 52 | 36 mph          | 41 mph          | 33 - 42     | 90        | 87%             | 6% / 7           | 6% / 6           |

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 on-street 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 22 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. Some intersections have limited available safe stopping sight distance sufficient only for a design speed of 35 MPH.

**Recommendation:** Based on the 85<sup>th</sup> 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 Boulevard

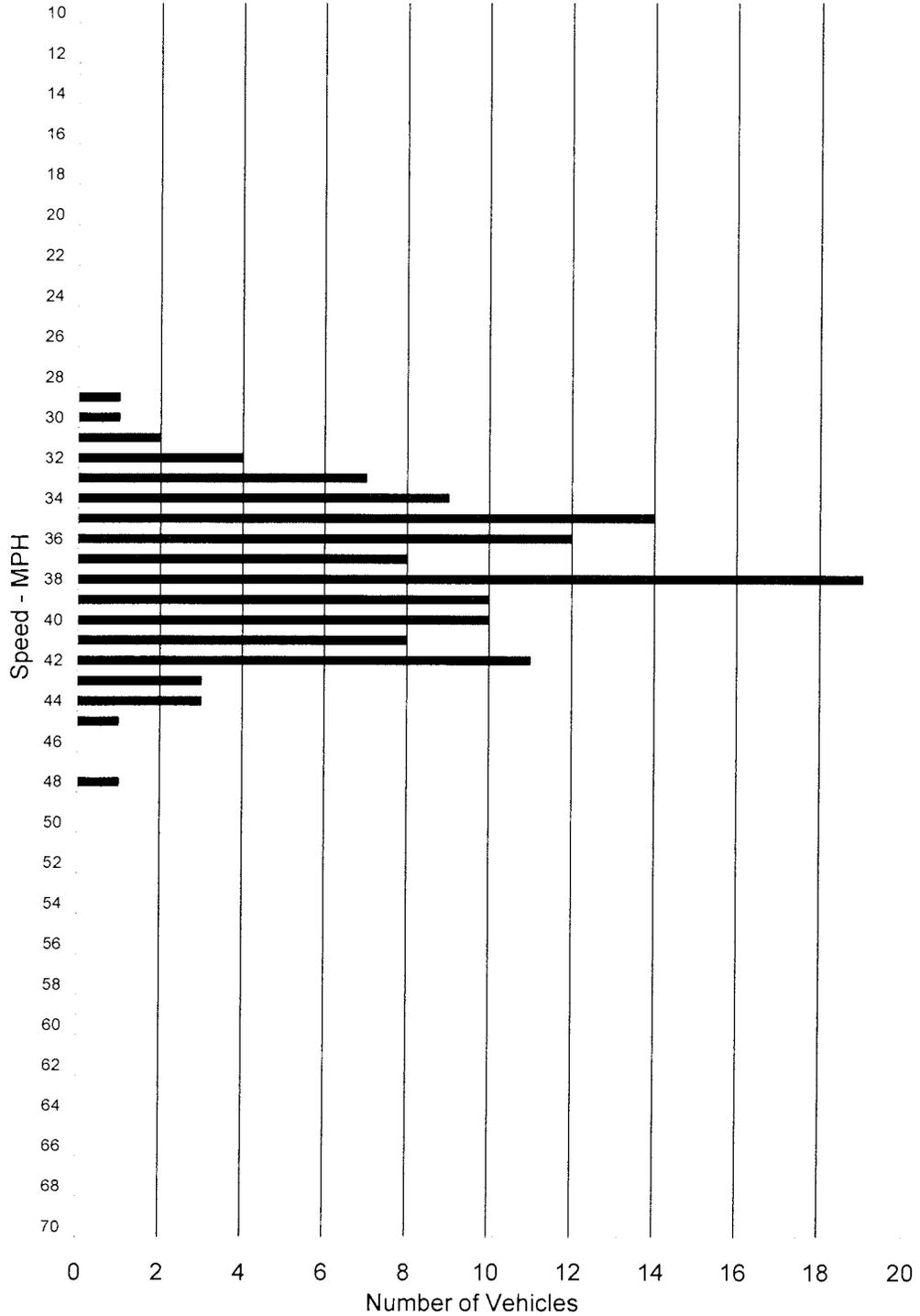
DATE: 10/25/2010  
 Start Time: 3:35 PM  
 DAY: Monday

Location: Holmes Street to Arroyo Road  
 End Time: 4:02 PM  
 (Before) Speed Limit: 35 MPH

Observer: CS  
 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        | 2            |
| 32        | 4            |
| 33        | 7            |
| 34        | 9            |
| 35        | 14           |
| 36        | 12           |
| 37        | 8            |
| 38        | 19           |
| 39        | 10           |
| 40        | 10           |
| 41        | 8            |
| 42        | 11           |
| 43        | 3            |
| 44        | 3            |
| 45        | 1            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 124   | 37.6          | 29 - 48 | 38 mph          | 42 mph          | 33 - 42     | 108       | 87%          | 6% / 8           | 7% / 8           |

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 arterial street through a residential area, with on-street bike lanes and no fronting homes. Parking is prohibited. The length of this segment is 0.65 miles.

**Collision History:** There have been 16 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 bicycle use. Some intersections have limited available safe stopping sight distance sufficient for a design speed of 35 MPH.

**Recommendation:** Based on the 85<sup>th</sup> 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 Boulevard

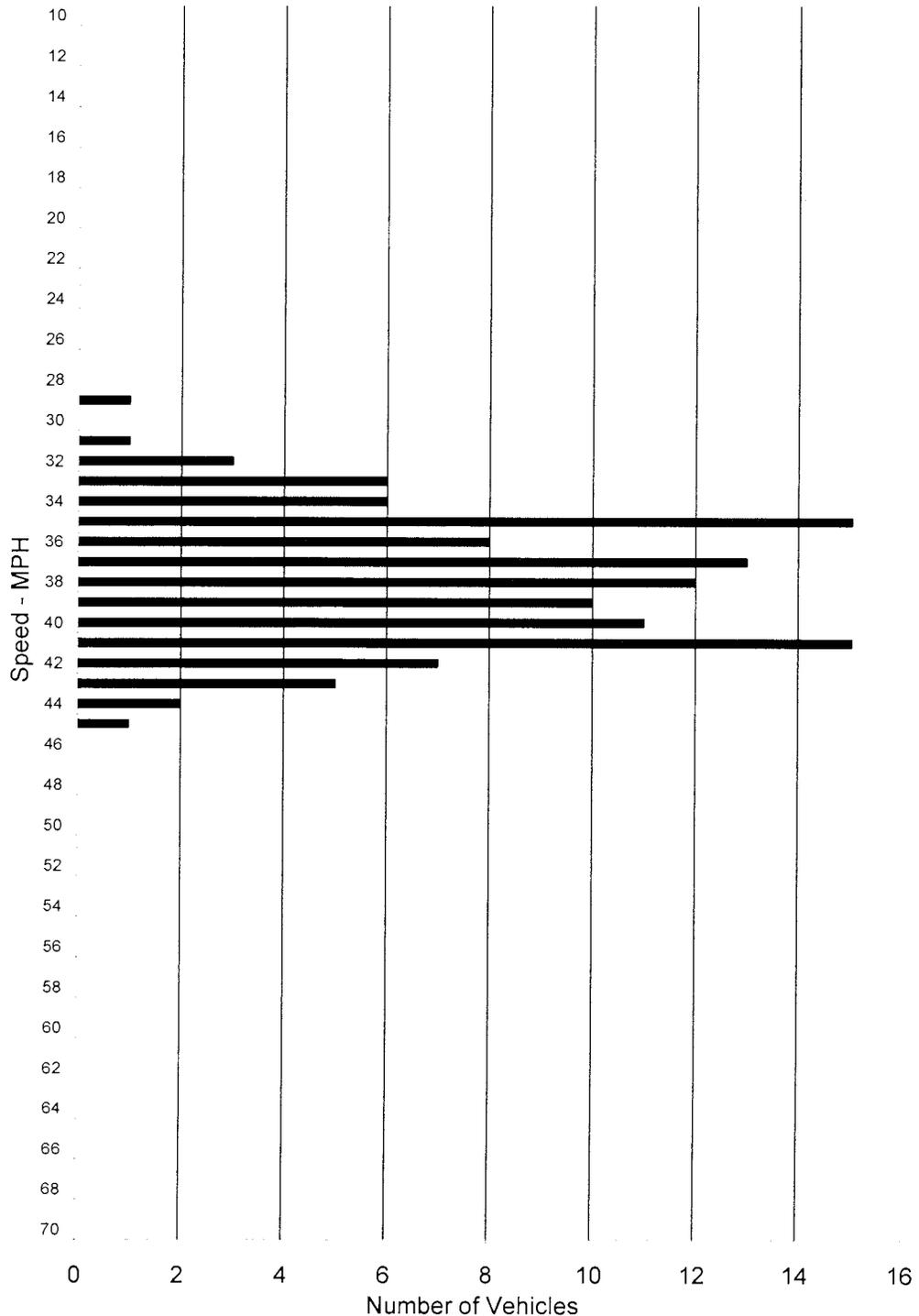
DATE: 10/25/2010  
 Start Time: 4:08 PM  
 DAY: Monday

Location: Arroyo Road to S. Livermore Avenue  
 End Time: 4:30 PM  
 (Before) Speed Limit: 35 MPH

Observer: CS  
 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        | 0            |
| 31        | 1            |
| 32        | 3            |
| 33        | 6            |
| 34        | 6            |
| 35        | 16           |
| 36        | 8            |
| 37        | 13           |
| 38        | 12           |
| 39        | 10           |
| 40        | 11           |
| 41        | 15           |
| 42        | 7            |
| 43        | 5            |
| 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              | 116   | 37.9          | 29 - 45 | 38 mph          | 41 mph          | 33 - 42     | 103       | 89%             | 4% / 5           | 7% / 8           |

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 trail crossings, and parking is prohibited. The length of this segment is 1.48 miles.

**Collision History:** There have been 20 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. Bicycle use is common along the road and along the trail. Some intersections have limited available safe stopping sight distance sufficient only for a design speed of 35 MPH.

**Recommendation:** Based on the 85<sup>th</sup> 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

## Constitution Drive

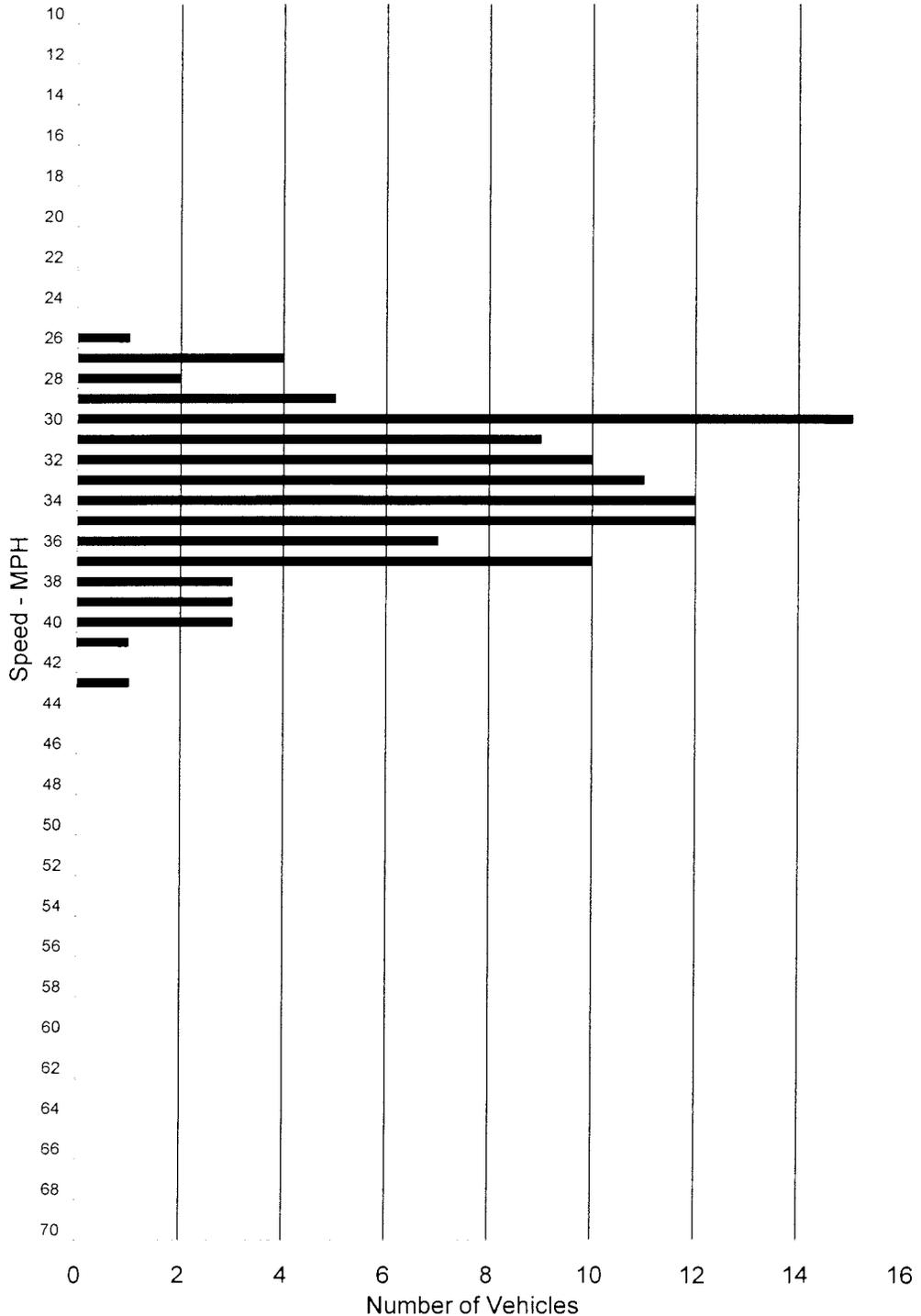
DATE: 9/15/2010  
 Start Time: 10:30 AM  
 DAY: Wednesday

Location: North Canyons Parkway to Collier Canyon Road  
 End Time: 10:45 AM  
 (Before) Speed Limit: 30 MPH

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        | 0            |
| 26        | 1            |
| 27        | 4            |
| 28        | 2            |
| 29        | 5            |
| 30        | 15           |
| 31        | 9            |
| 32        | 10           |
| 33        | 11           |
| 34        | 12           |
| 35        | 12           |
| 36        | 7            |
| 37        | 10           |
| 38        | 3            |
| 39        | 3            |
| 40        | 3            |
| 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              | 109   | 33.3          | 26 - 43 | 33 mph          | 37 mph          | 29 - 38     | 94        | 86%             | 6% / 7           | 8% / 8           |

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 8 reported collisions along this segment within the past three years. This equates to 1.75 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**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 85<sup>th</sup> 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

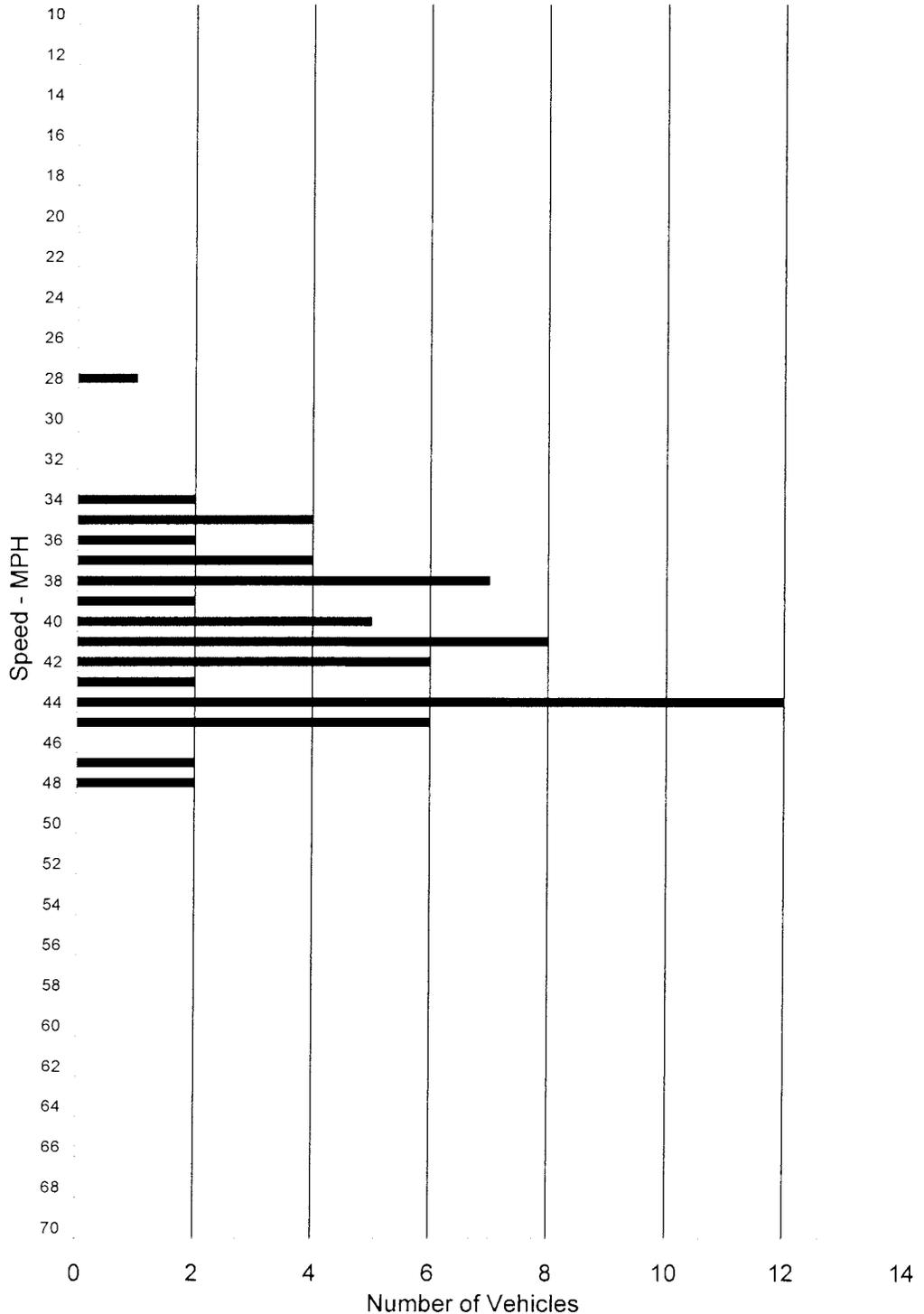
DATE: 10/8/2010  
 Start Time: 1:30 PM  
 DAY: Friday

Location: Vasco Road to Ames Road  
 End Time: 2:30 PM  
 (Before) Speed Limit: 40 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Parminder  
 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        | 0            |
| 31        | 0            |
| 32        | 0            |
| 33        | 0            |
| 34        | 2            |
| 35        | 4            |
| 36        | 2            |
| 37        | 4            |
| 38        | 7            |
| 39        | 2            |
| 40        | 5            |
| 41        | 8            |
| 42        | 6            |
| 43        | 2            |
| 44        | 12           |
| 45        | 6            |
| 46        | 0            |
| 47        | 2            |
| 48        | 2            |
| 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              | 65    | 40.8          | 28 - 48 | 41 mph          | 45 mph          | 36 - 45     | 54        | 83%             | 10% / 7          | 7% / 4           |

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:** 2-lane residential collector street with on-street bike lanes, left turn lanes, a school crosswalk, and a curve with 20 mph advisory speed at the west end. No homes front this segment and parking is prohibited. The length of this segment is 0.51 miles.

**Collision History:** There have been 5 reported collisions along this segment within the past three years. This equates to 2.83 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**Other Considerations:** There is a school crossing along Dalton Avenue due to the vicinity of 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 85<sup>th</sup> 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 remains in effect.

# Spot Speed Study - City of Livermore

## East Airway Boulevard

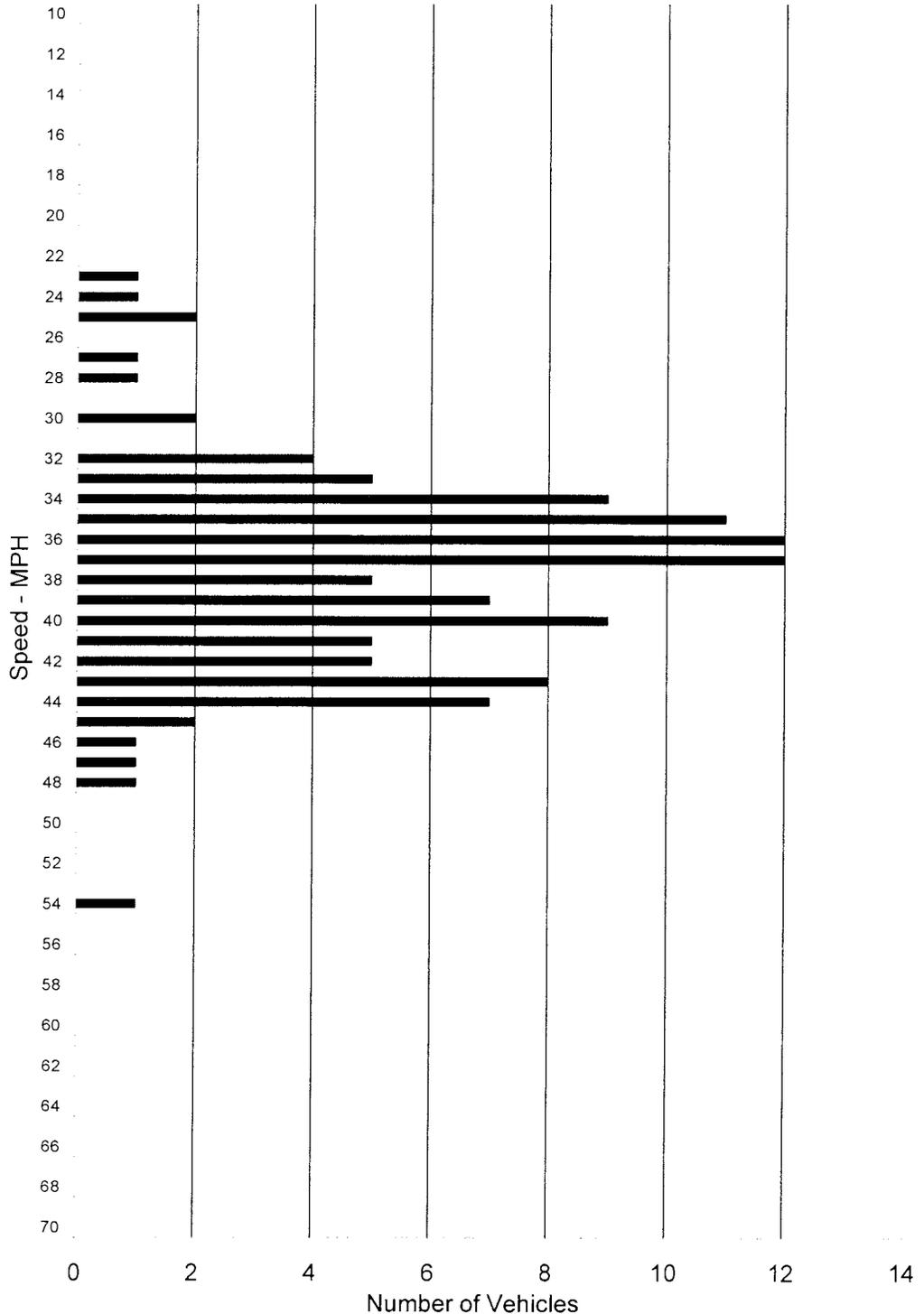
DATE: 10/25/2010  
 Start Time: 3:25 PM  
 DAY: Monday

Location: Kitty Hawk Road to Portola Avenue  
 End Time: 3:45 PM  
 (Before) Speed Limit: 40 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: CN  
 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        | 2            |
| 26        | 0            |
| 27        | 1            |
| 28        | 1            |
| 29        | 0            |
| 30        | 2            |
| 31        | 0            |
| 32        | 4            |
| 33        | 5            |
| 34        | 9            |
| 35        | 11           |
| 36        | 12           |
| 37        | 12           |
| 38        | 5            |
| 39        | 7            |
| 40        | 9            |
| 41        | 5            |
| 42        | 5            |
| 43        | 8            |
| 44        | 7            |
| 45        | 2            |
| 46        | 1            |
| 47        | 1            |
| 48        | 1            |
| 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              | 113   | 37.6          | 23 - 54 | 37 mph          | 43 mph          | 34 - 43     | 83        | 73%             | 15% / 17         | 12% / 13         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

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

Limits: KITTY HAWK RD TO PORTOLA AVE No. of Lanes: 2

**Roadway Description:** 2-lane collector street through a mostly vacant industrial and commercial area. 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 31 reported collisions along this segment within the past three years. This equates to 4.12 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**Other Considerations:** None.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 43 MPH, a speed limit of 45 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 40 MPH speed limit remains in effect

# Spot Speed Study - City of Livermore

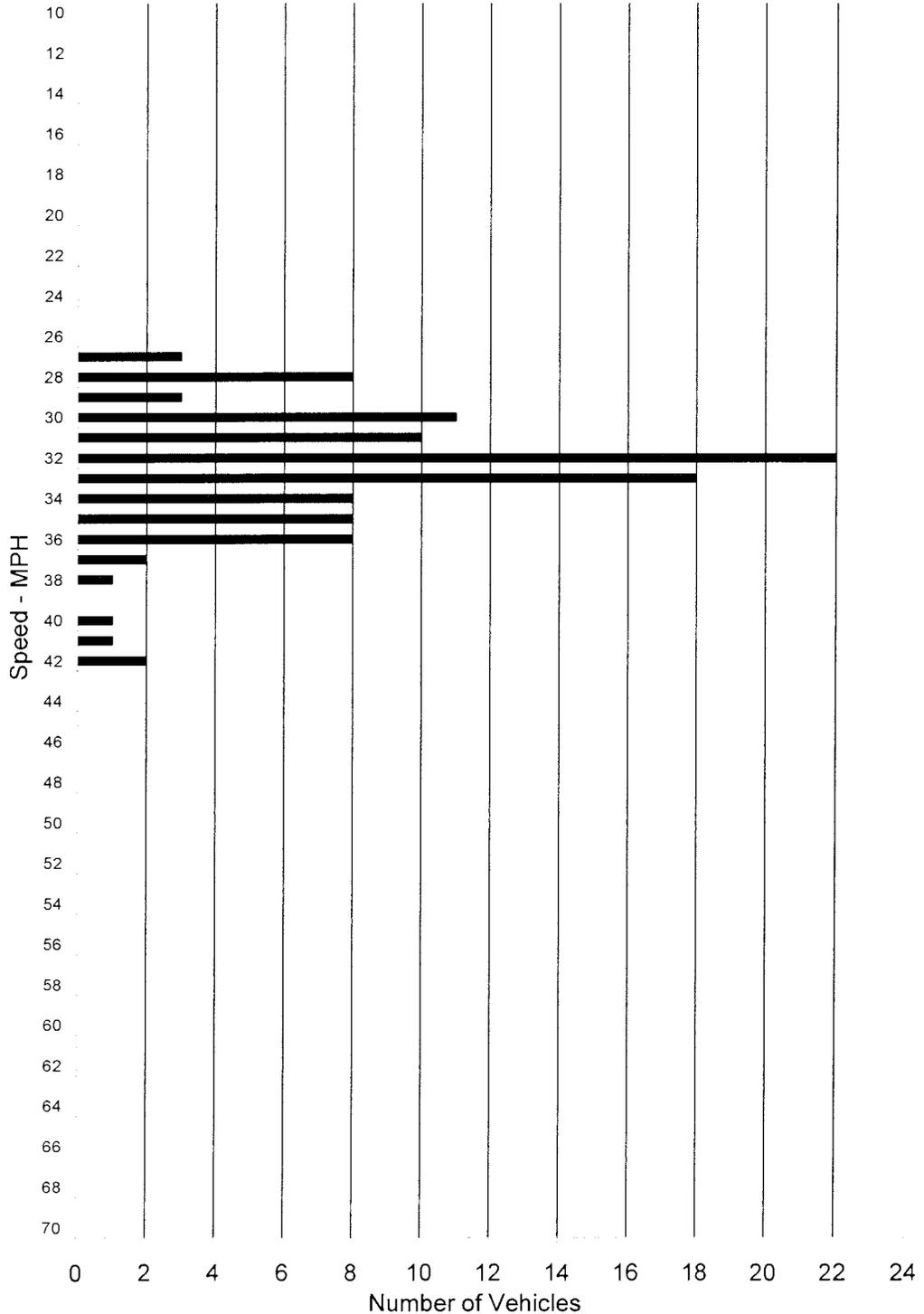
## East Avenue

DATE: 11/3/2010  
 Start Time: 11:53 AM  
 DAY: Tuesday

Location: S. Livermore Avenue to Loyola Way  
 End Time: 12:19 PM  
 (Before) Speed Limit: 30 MPH

Observer: NS  
 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        | 3            |
| 28        | 8            |
| 29        | 3            |
| 30        | 11           |
| 31        | 10           |
| 32        | 22           |
| 33        | 18           |
| 34        | 8            |
| 35        | 8            |
| 36        | 8            |
| 37        | 2            |
| 38        | 1            |
| 39        | 0            |
| 40        | 1            |
| 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        | 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   | 32.5          | 27 - 42 | 32 mph          | 35 mph          | 27 - 36     | 99        | 93%             | 0% / 0           | 7% / 7           |

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:** 4-lane arterial street. Homes 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 55 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 a high rate of turning maneuvers, numerous residential and commercial driveways, on-street parking maneuvers, and high pedestrian activity.

**Recommendation:** Based on the 85<sup>th</sup> 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 remains in effect.

# Spot Speed Study - City of Livermore

## East Avenue

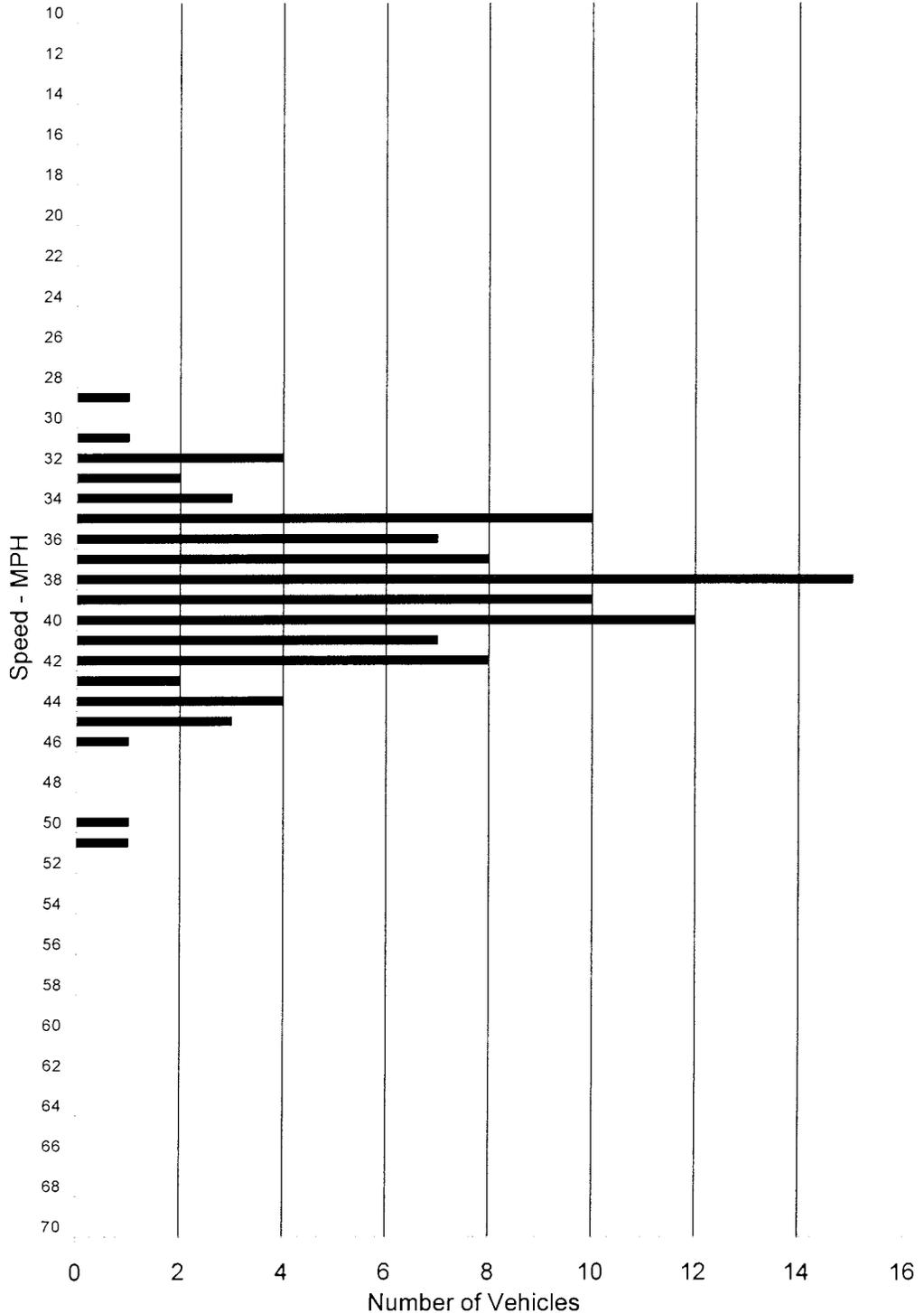
DATE: 10/4/2010  
 Start Time: 3:40 PM  
 DAY: Monday

Location: Loyola Way to Vasco Road  
 End Time: 4:04 PM  
 (Before) Speed Limit: 40 MPH

Observer: Dtorrey  
 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        | 1            |
| 30        | 0            |
| 31        | 1            |
| 32        | 4            |
| 33        | 2            |
| 34        | 3            |
| 35        | 10           |
| 36        | 7            |
| 37        | 8            |
| 38        | 15           |
| 39        | 10           |
| 40        | 12           |
| 41        | 7            |
| 42        | 8            |
| 43        | 2            |
| 44        | 4            |
| 45        | 3            |
| 46        | 1            |
| 47        | 0            |
| 48        | 0            |
| 49        | 0            |
| 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              | 100   | 38.6          | 29 - 51 | 38 mph          | 42 mph          | 35 - 44     | 83        | 83%             | 11% / 11         | 6% / 6           |

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 18 reported collisions along this segment within the past three years.

**Other Considerations:** None.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 42 MPH, the existing 40 MPH speed limit remains in effect.

# Spot Speed Study - City of Livermore

## El Caminito

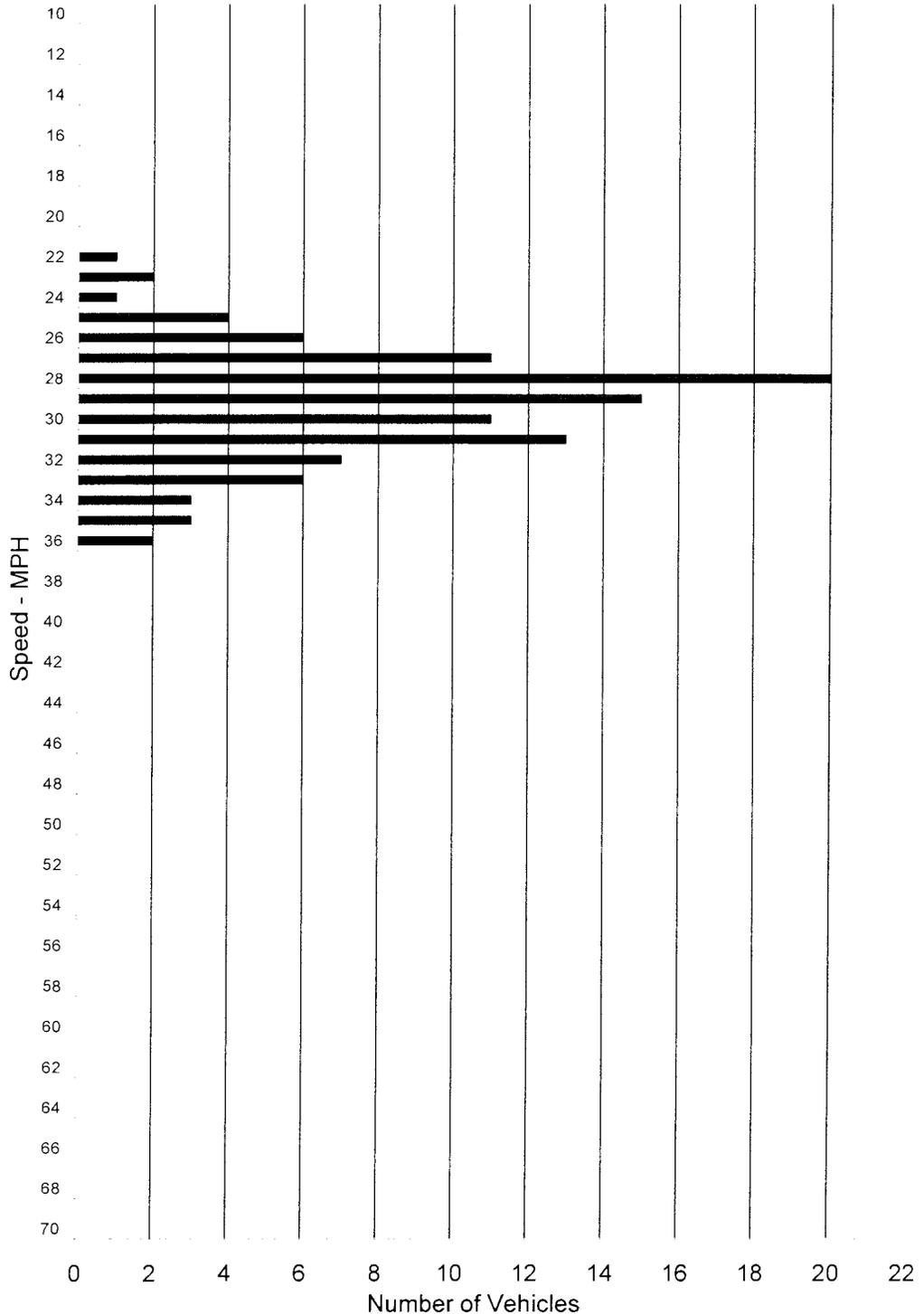
DATE: 12/1/2010  
 Start Time: 10:20 AM  
 DAY: Wednesday

Location: Stanley Boulevard to Holmes Street  
 End Time: 11:14 AM  
 (Before) Speed Limit: 25 MPH  
 Weather: Cloudy/Dry  
 Direction: EB & WB

Observer: CS  
 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        | 1            |
| 25        | 4            |
| 26        | 6            |
| 27        | 11           |
| 28        | 20           |
| 29        | 15           |
| 30        | 11           |
| 31        | 13           |
| 32        | 7            |
| 33        | 6            |
| 34        | 3            |
| 35        | 3            |
| 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              | 105   | 29.3          | 22 - 36 | 29 mph          | 32 mph          | 25 - 34     | 96        | 91%             | 3% / 4           | 5% / 5           |

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 on-street bike lanes, parking allowed, and a school crosswalk. The length of this segment is 1.33 miles.

**Collision History:** There have been 10 reported collisions along this segment within the past three years. This equates to 1.82 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 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 85<sup>th</sup> 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

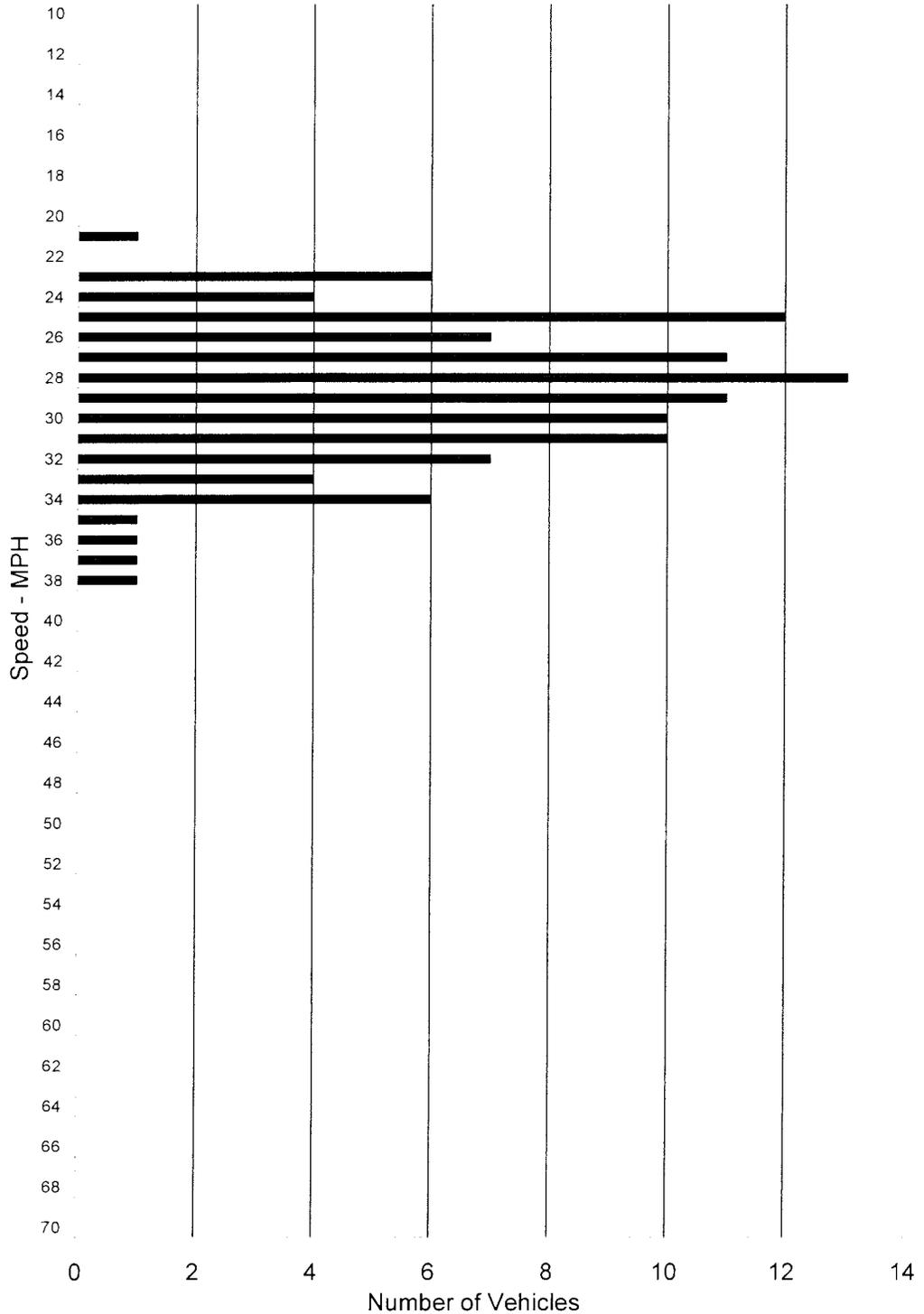
DATE: 10/6/2010  
 Start Time: 4:00 PM  
 DAY: Wednesday

Location: Murdell Lane to El Caminito  
 End Time: 4:30 PM  
 (Before) Speed Limit: 25 MPH  
 Weather: Cloudy/Dry  
 Direction: EB & WB

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        | 1            |
| 22        | 0            |
| 23        | 6            |
| 24        | 4            |
| 25        | 12           |
| 26        | 7            |
| 27        | 11           |
| 28        | 13           |
| 29        | 11           |
| 30        | 10           |
| 31        | 10           |
| 32        | 7            |
| 33        | 4            |
| 34        | 6            |
| 35        | 1            |
| 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              | 106   | 28.6          | 21 - 38 | 28 mph          | 32 mph          | 23 - 32     | 91        | 86%             | 0% / 1           | 14% / 14         |

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 4 reported collisions along this segment within the past three years. This equates to 3.88 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 related to schools in the area.

**Recommendation:** Based on the 85<sup>th</sup> 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: 10/29/2010  
 Start Time: 12:45 PM  
 DAY: Friday

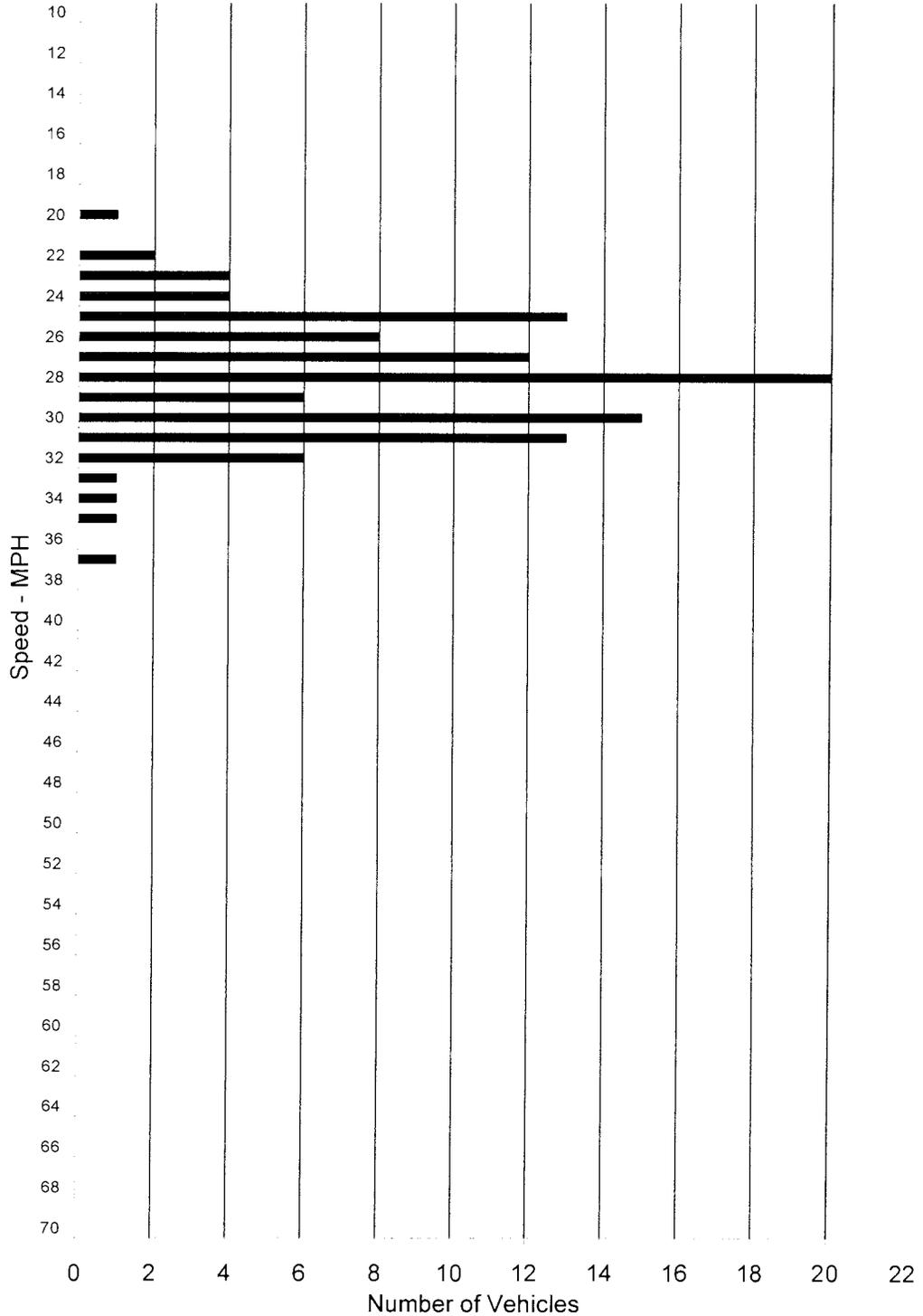
Location: S Street to L Street  
 End Time: 1:30 PM  
 (Before) Speed Limit: 25 MPH

Weather: Dry  
 Direction: EB & WB

Observer: Parminder  
 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        | 2            |
| 23        | 4            |
| 24        | 4            |
| 25        | 13           |
| 26        | 8            |
| 27        | 12           |
| 28        | 20           |
| 29        | 6            |
| 30        | 15           |
| 31        | 13           |
| 32        | 6            |
| 33        | 1            |
| 34        | 1            |
| 35        | 1            |
| 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              | 108   | 28.0          | 20 - 37 | 28 mph          | 31 mph          | 23 - 32     | 101       | 94%             | 2% / 3           | 4% / 4           |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: FIRST STREET

Adjacent Land Use: COMMERCIAL

Limits: S STREET TO L STREET

No. of Lanes: 4

**Roadway Description:** Mostly 4-lane divided that narrows down to 3-lane arterial street through a commercial area with 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:** The collision rate for this segment is 5.97 collisions per million vehicle miles within the past three years, which is higher than the statewide average rate of 1.56 for this type of roadway.

**Other Considerations:** High rate of turning maneuvers in and out of many commercial driveways with parking maneuvers especially between N and M Street where some diagonal parking is allowed.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 31 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 be remain in effect.

# Spot Speed Study - City of Livermore

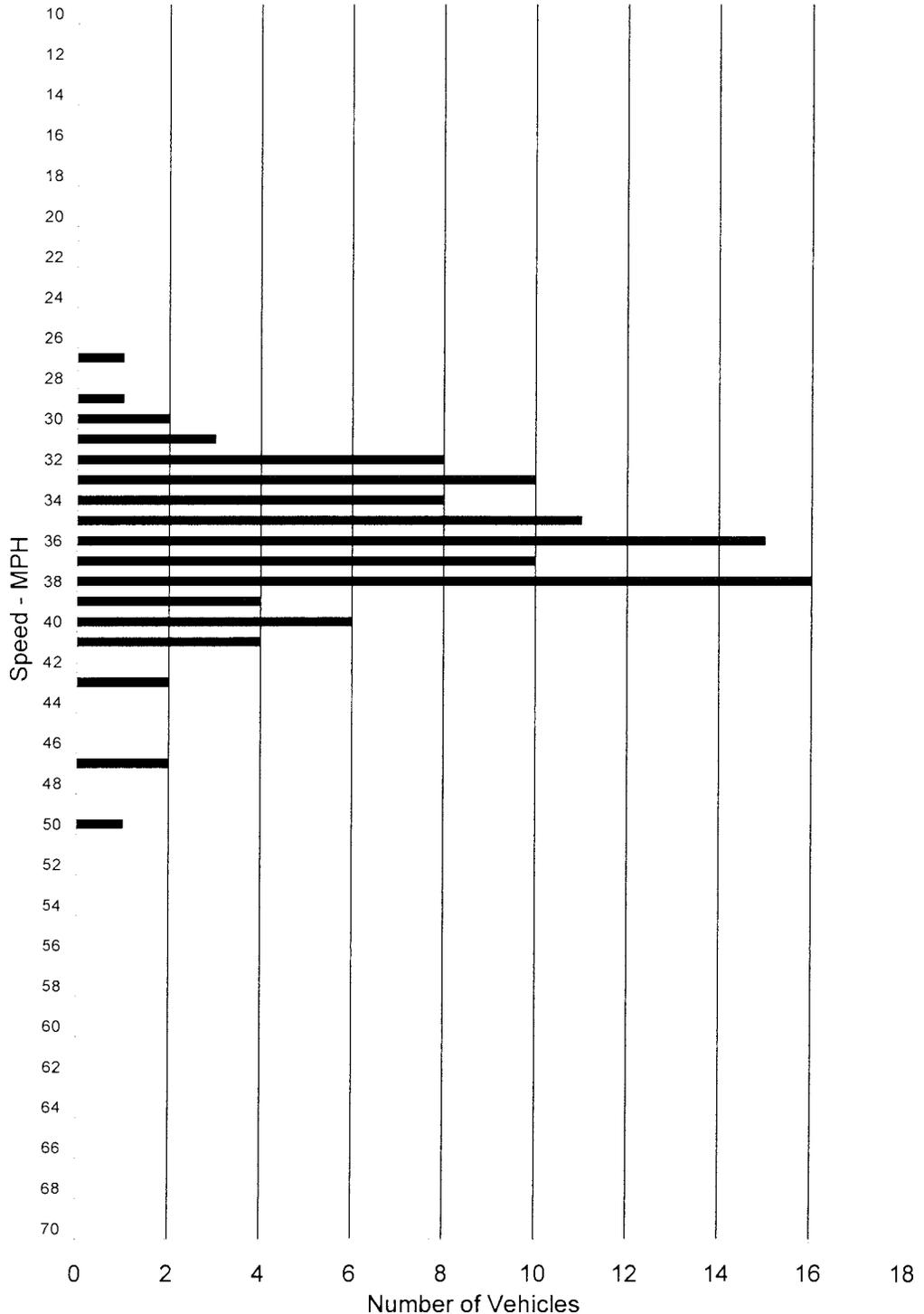
## First Street

DATE: 10/29/2010  
 Start Time: 11:20 AM  
 DAY: Friday

Location: Maple Street to Inman Street  
 End Time: 12:00 PM  
 (Before) Speed Limit: 35 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Parminder  
 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        | 0            |
| 27        | 1            |
| 28        | 0            |
| 29        | 1            |
| 30        | 2            |
| 31        | 3            |
| 32        | 8            |
| 33        | 10           |
| 34        | 8            |
| 35        | 11           |
| 36        | 15           |
| 37        | 10           |
| 38        | 16           |
| 39        | 4            |
| 40        | 6            |
| 41        | 4            |
| 42        | 0            |
| 43        | 2            |
| 44        | 0            |
| 45        | 0            |
| 46        | 0            |
| 47        | 2            |
| 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              | 104   | 36.2          | 27 - 50 | 36 mph          | 39 mph          | 32 - 41     | 92        | 88%             | 6% / 7           | 5% / 5           |

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:** 4-lane divided arterial street through a commercial, residential with fronting homes and vacant area. Parking is allowed on the south side. The length of this segment is 0.28 miles.

**Collision History:** There have been 28 reported collisions along this short segment within the past three years. This equates to 3.21 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for this type of roadway.

**Other Considerations:** Parking maneuvers on the south side .

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 39 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

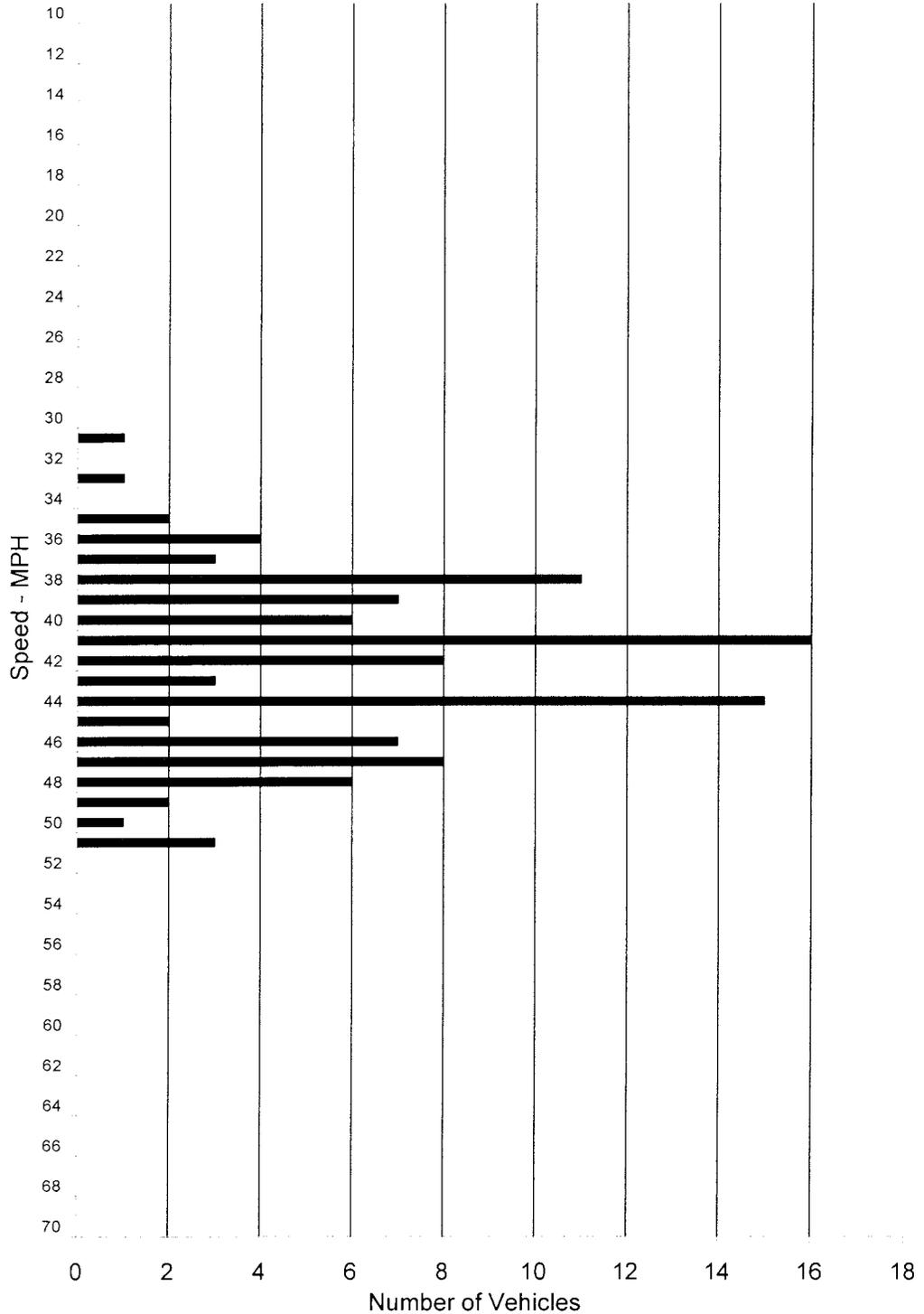
## First Street

DATE: 10/29/2010  
 Start Time: 10:30 AM  
 DAY: Friday

Location: Inman Street to I-580  
 End Time: 11:15 AM  
 (Before) Speed Limit: 40 MPH  
 Weather: Dry  
 Direction: NB & SB

Observer: Parminder  
 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        | 0            |
| 30        | 0            |
| 31        | 1            |
| 32        | 0            |
| 33        | 1            |
| 34        | 0            |
| 35        | 2            |
| 36        | 4            |
| 37        | 3            |
| 38        | 11           |
| 39        | 7            |
| 40        | 6            |
| 41        | 16           |
| 42        | 8            |
| 43        | 3            |
| 44        | 15           |
| 45        | 2            |
| 46        | 7            |
| 47        | 8            |
| 48        | 6            |
| 49        | 2            |
| 50        | 1            |
| 51        | 3            |
| 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   | 42.2          | 31 - 51 | 42 mph          | 47 mph          | 38 - 47     | 83        | 78%             | 10% / 11         | 12% / 12         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: FIRST STREET

Adjacent Land Use: COMMERCIAL/RESIDENTIAL

Limits: INMAN ST TO I-580

No. of Lanes: 4 & 6

**Roadway Description:** 4-lane divided arterial street from Inman Street to Portola Avenue, 6-lane divided arterial street with bike lanes from Portola Avenue to I-580. This segment is a residential and commercial area with some fronting homes, and parking allowed between Scott Street and Portola Avenue. A shopping center is at the intersection of Las Positas Road. The length of this segment is 1.65 miles.

**Collision History:** There have been 101 reported collisions along this segment within the past three years. This equates to 1.58 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for this type of roadway

**Other Considerations:** A high rate of turning maneuvers in and out of residential and commercial driveways, parking maneuvers and bicycling activities, a senior housing adjacent Scott Street at First Street.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 47 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

## Fourth Street

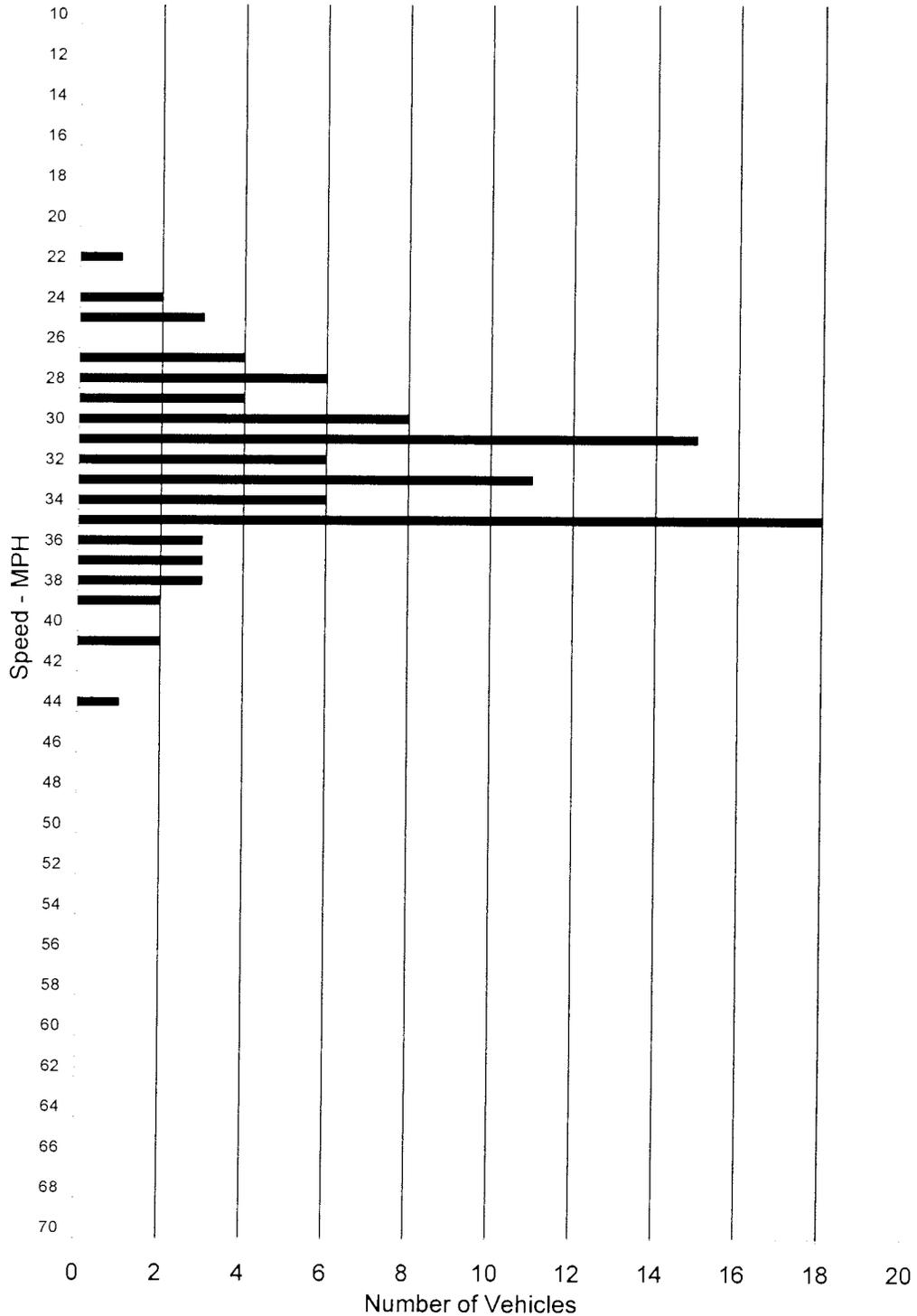
DATE: 10/4/2010  
 Start Time: 2:25 PM  
 DAY: Monday

Location: Holmes Street to S. L Street  
 End Time: 2:45 PM  
 (Before) Speed Limit: 30 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Dtorrey  
 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        | 1            |
| 23        | 0            |
| 24        | 2            |
| 25        | 3            |
| 26        | 0            |
| 27        | 4            |
| 28        | 6            |
| 29        | 4            |
| 30        | 8            |
| 31        | 15           |
| 32        | 6            |
| 33        | 11           |
| 34        | 6            |
| 35        | 18           |
| 36        | 3            |
| 37        | 3            |
| 38        | 3            |
| 39        | 2            |
| 40        | 0            |
| 41        | 2            |
| 42        | 0            |
| 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              | 98    | 32.3          | 22 - 44 | 32 mph          | 35 mph          | 27 - 36     | 81        | 83%             | 6% / 6           | 12% / 11         |

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 60 reported collisions along this segment within the past three years. This equates to 6.22 collisions per million vehicle miles, which is higher than the statewide average of 2.08 for 4-lane undivided roadways.

**Other Considerations:** High pedestrian activity especially related to public events, fronting homes and businesses, on street parking maneuvers, and numerous driveways resulting to unexpected turning maneuvers

**Recommendation:** Based on the 85<sup>th</sup> 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

## Fourth Street

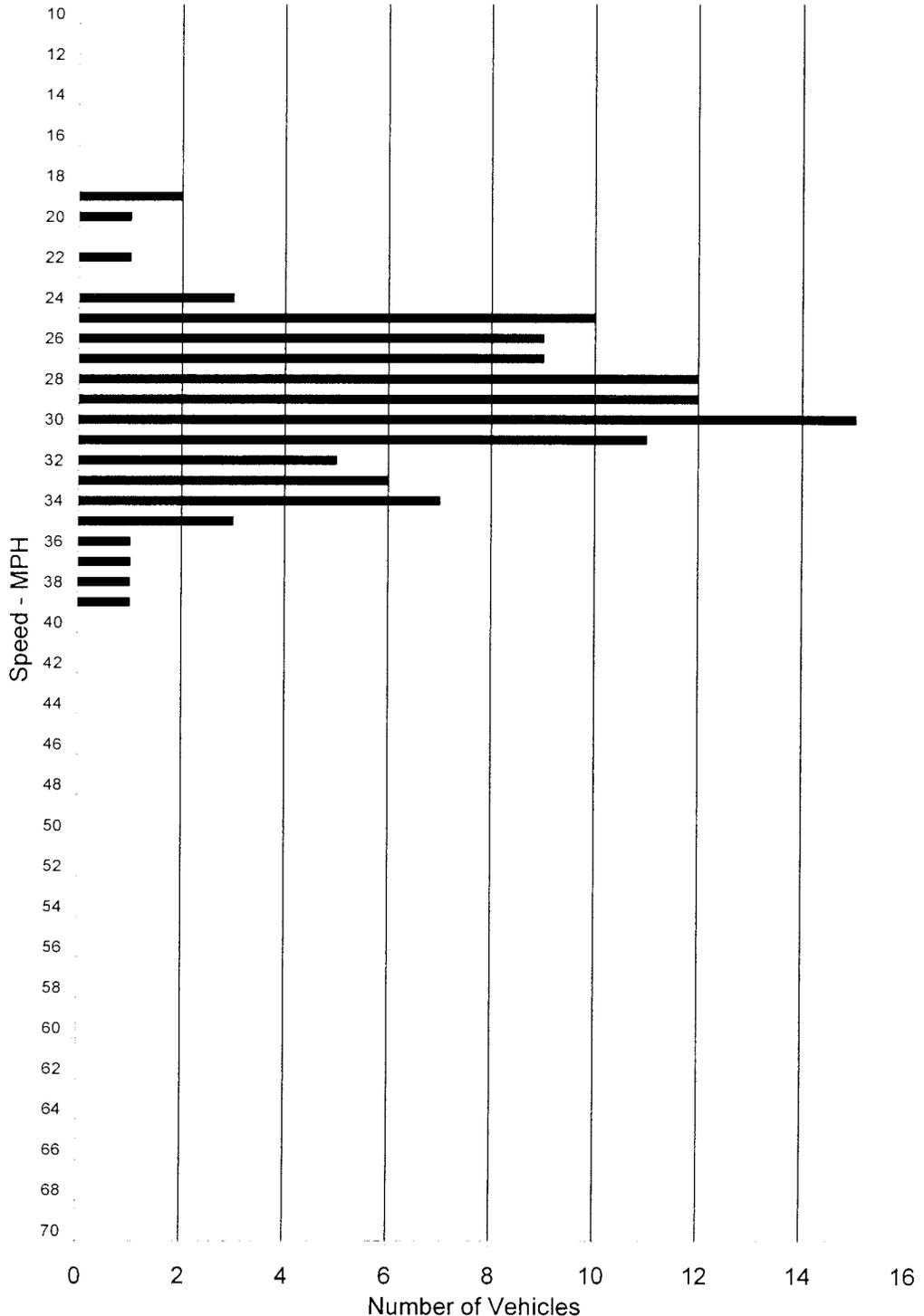
DATE: 10/4/2010  
 Start Time: 1:44 PM  
 DAY: Monday

Location: S. L Street to Livermore Avenue  
 End Time: 2:13 PM  
 (Before) Speed Limit: 25 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Dtorrey  
 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        | 2            |
| 20        | 1            |
| 21        | 0            |
| 22        | 1            |
| 23        | 0            |
| 24        | 3            |
| 25        | 10           |
| 26        | 9            |
| 27        | 9            |
| 28        | 12           |
| 29        | 12           |
| 30        | 15           |
| 31        | 11           |
| 32        | 5            |
| 33        | 6            |
| 34        | 7            |
| 35        | 3            |
| 36        | 1            |
| 37        | 1            |
| 38        | 1            |
| 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              | 110   | 29.1          | 19 - 39 | 29 mph          | 33 mph          | 25 - 34     | 96        | 87%             | 6% / 7           | 7% / 7           |

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:** 4-lane undivided arterial street in a commercial area with fronting businesses, homes, and parking. The length of this segment is 0.27 miles.

**Collision History:** There have been 44 reported collisions along this segment within the past three years. This equates to 9.13 collisions per million vehicle miles, which is higher than the statewide average of 2.08 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 85<sup>th</sup> percentile speed of 33 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

## Fourth Street

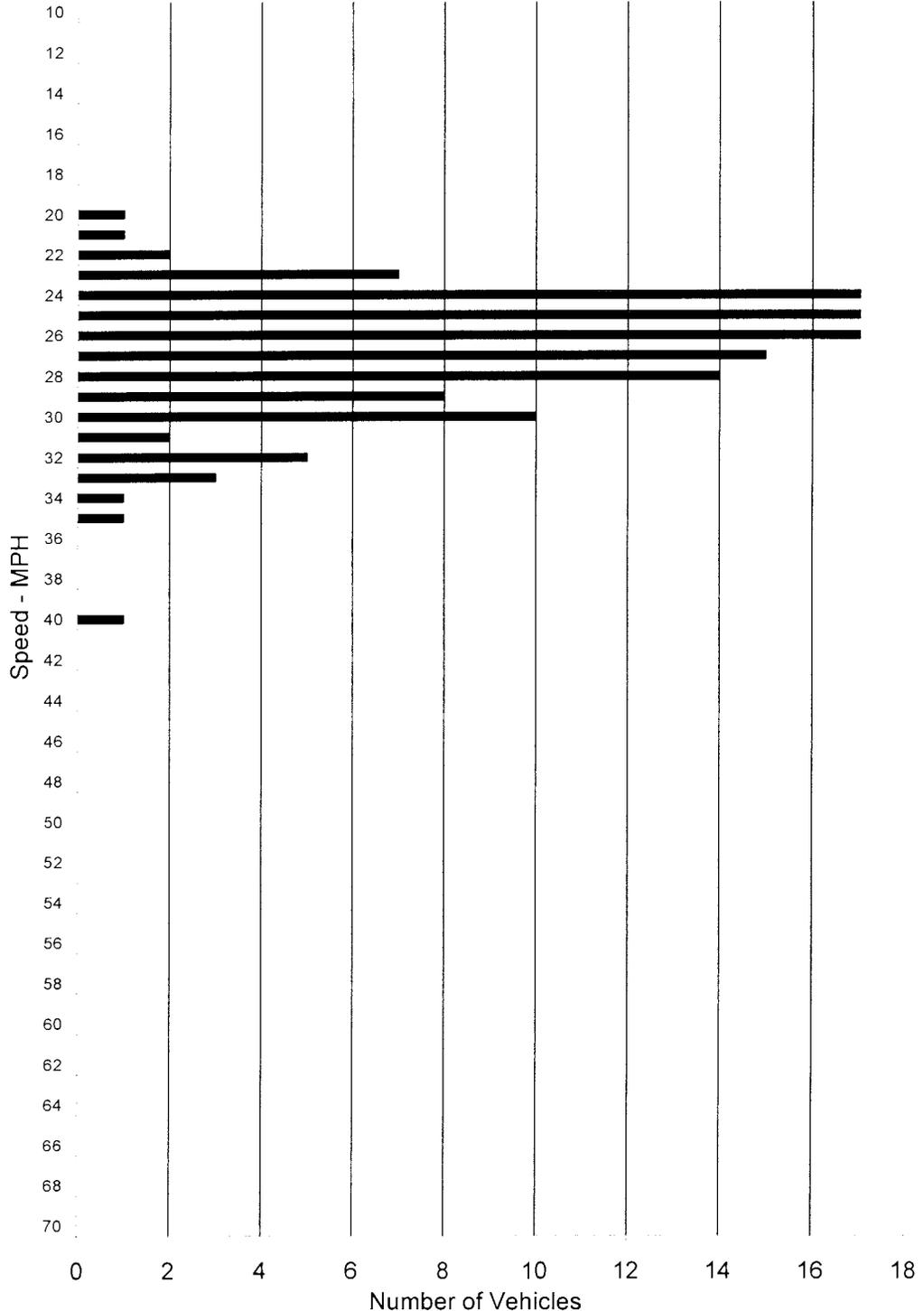
DATE: 10/4/2010  
 Start Time: 3:30PM  
 DAY: Monday

Location: S. Livermore Avenue to School Street  
 End Time: 3:50 PM  
 (Before) Speed Limit: 25 MPH

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        | 1            |
| 21        | 1            |
| 22        | 2            |
| 23        | 7            |
| 24        | 17           |
| 25        | 17           |
| 26        | 17           |
| 27        | 15           |
| 28        | 14           |
| 29        | 8            |
| 30        | 10           |
| 31        | 2            |
| 32        | 5            |
| 33        | 3            |
| 34        | 1            |
| 35        | 1            |
| 36        | 0            |
| 37        | 0            |
| 38        | 0            |
| 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              | 122   | 26.9          | 20 - 40 | 26 mph          | 30 mph          | 23 - 32     | 112       | 92%             | 3% / 4           | 5% / 6           |

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 22 reported collisions along this segment within the past three years. This equates to 6.67 collisions per million vehicle miles, which is higher than the statewide average of 2.08 for 4-lane undivided roadways.

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

**Recommendation:** Based on the 85<sup>th</sup> 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

## Greenville Road

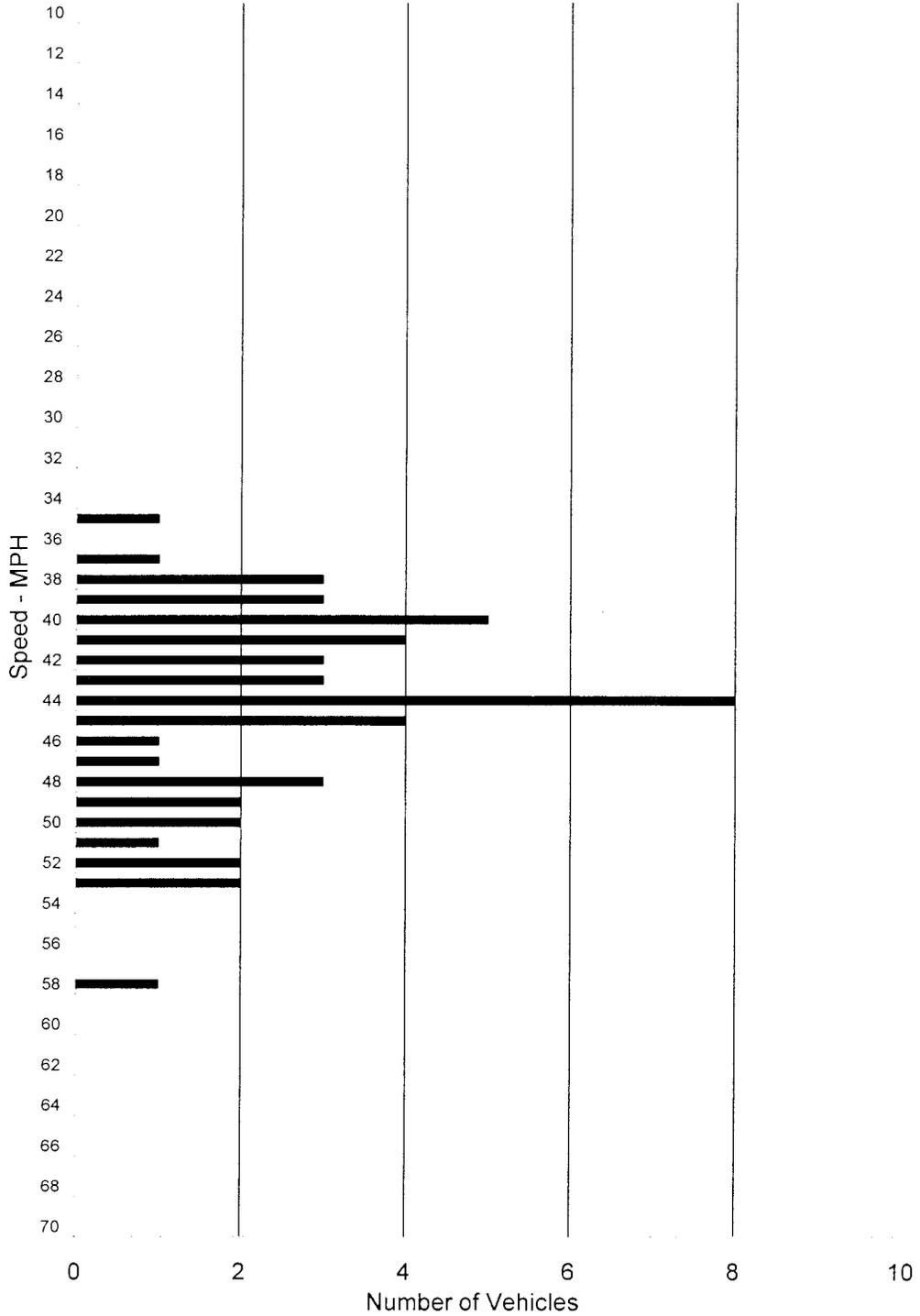
DATE: 11/2/2010  
 Start Time: 1:25 PM  
 DAY: Tuesday

Location: I-580 to UPRR Railroad Under Pass  
 End Time: 2:25 PM  
 (Before) Speed Limit: 45 MPH

Observer: Nsumiran  
 Calibration: DONE  
 NEW Speed Limit: 50 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        | 1            |
| 38        | 3            |
| 39        | 3            |
| 40        | 5            |
| 41        | 4            |
| 42        | 3            |
| 43        | 3            |
| 44        | 8            |
| 45        | 4            |
| 46        | 1            |
| 47        | 1            |
| 48        | 3            |
| 49        | 2            |
| 50        | 2            |
| 51        | 1            |
| 52        | 2            |
| 53        | 2            |
| 54        | 0            |
| 55        | 0            |
| 56        | 0            |
| 57        | 0            |
| 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              | 50    | 44.2          | 35 - 58 | 44 mph          | 50 mph          | 37 - 46     | 35        | 70%             | 2% / 1           | 28% / 14         |

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 a mostly vacant industrial area. Parking is prohibited. The length of this segment is 1.00 miles.

**Collision History:** There have been 6 reported collisions along this segment within the past three years.

**Other Considerations:** None

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 50 MPH, the existing 45 MPH speed limit will remain be raised to 50 MPH.

# Spot Speed Study - City of Livermore

## Hagemann Drive

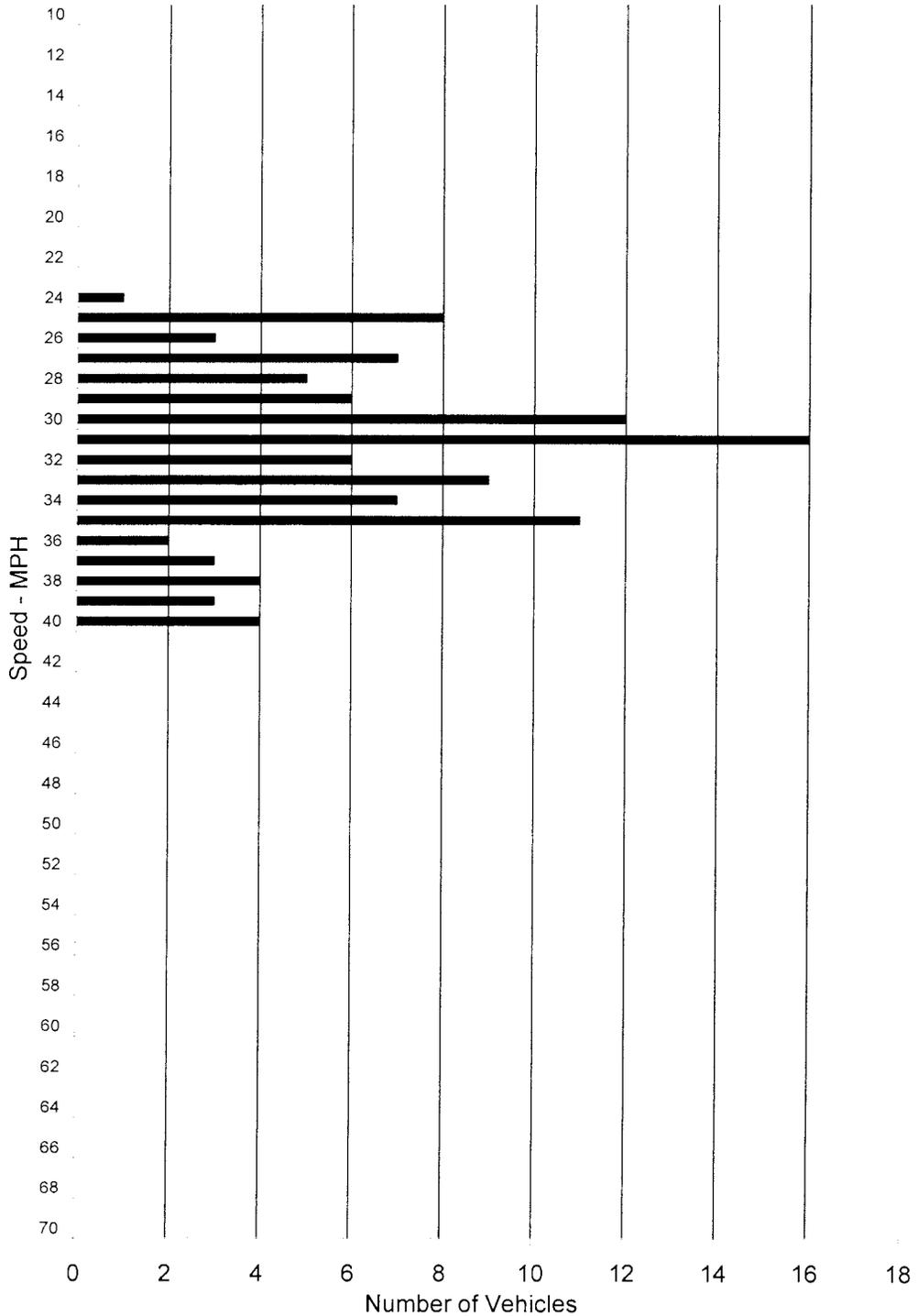
DATE: 9/20/2010  
 Start Time: 2:45 PM  
 DAY: Monday

Location: E. Jack London Boulevard to Olivina Avenue  
 End Time: 3:30 PM  
 (Before) Speed Limit: 30 MPH

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        | 1            |
| 25        | 8            |
| 26        | 3            |
| 27        | 7            |
| 28        | 5            |
| 29        | 6            |
| 30        | 12           |
| 31        | 16           |
| 32        | 6            |
| 33        | 9            |
| 34        | 7            |
| 35        | 11           |
| 36        | 2            |
| 37        | 3            |
| 38        | 4            |
| 39        | 3            |
| 40        | 4            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 107   | 31.6          | 24 - 40 | 31 mph          | 35 mph          | 26 - 35     | 82        | 77%          | 8% / 9           | 15% / 16         |

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 10 reported collisions along this segment within the past three years. This equates to 5.29 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> 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

## Heather Lane

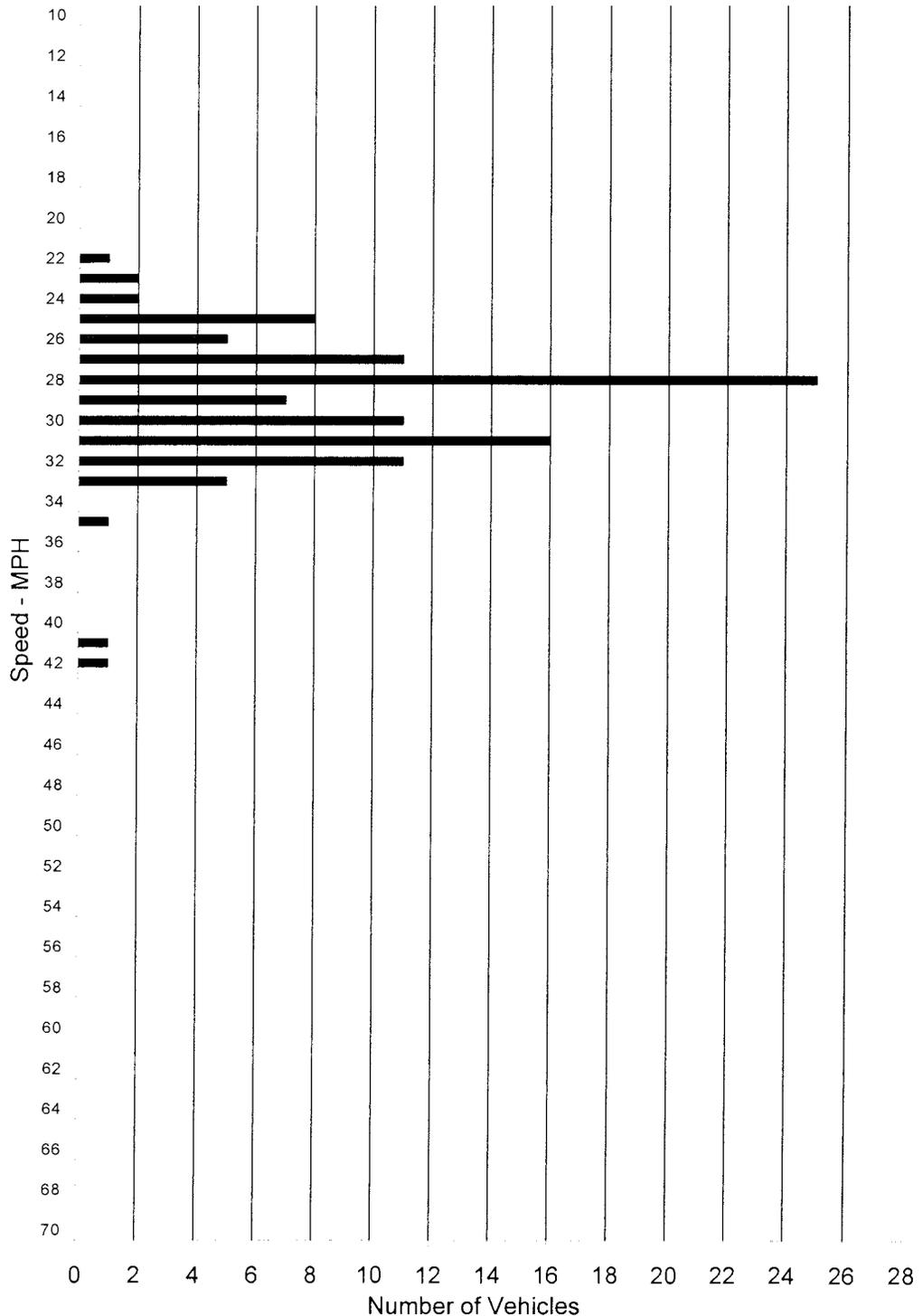
DATE: 9/24/2010  
 Start Time: 2:30 PM  
 DAY: Friday

Location: Bluebell Drive to Scenic Avenue  
 End Time: 3:00 PM  
 (Before) Speed Limit: 25 MPH

Observer: Parminder  
 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        | 2            |
| 25        | 8            |
| 26        | 5            |
| 27        | 11           |
| 28        | 25           |
| 29        | 7            |
| 30        | 11           |
| 31        | 16           |
| 32        | 11           |
| 33        | 5            |
| 34        | 0            |
| 35        | 1            |
| 36        | 0            |
| 37        | 0            |
| 38        | 0            |
| 39        | 0            |
| 40        | 0            |
| 41        | 1            |
| 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              | 107   | 29.0          | 22 - 42 | 28 mph          | 32 mph          | 24 - 33     | 101       | 94%             | 2% / 3           | 3% / 3           |

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, and fronting homes. The length of this segment is 0.43 miles.

**Collision History:** There have been 4 reported collisions along this segment within the past three years. This equates to 2.59 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> 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

## Holmes Street

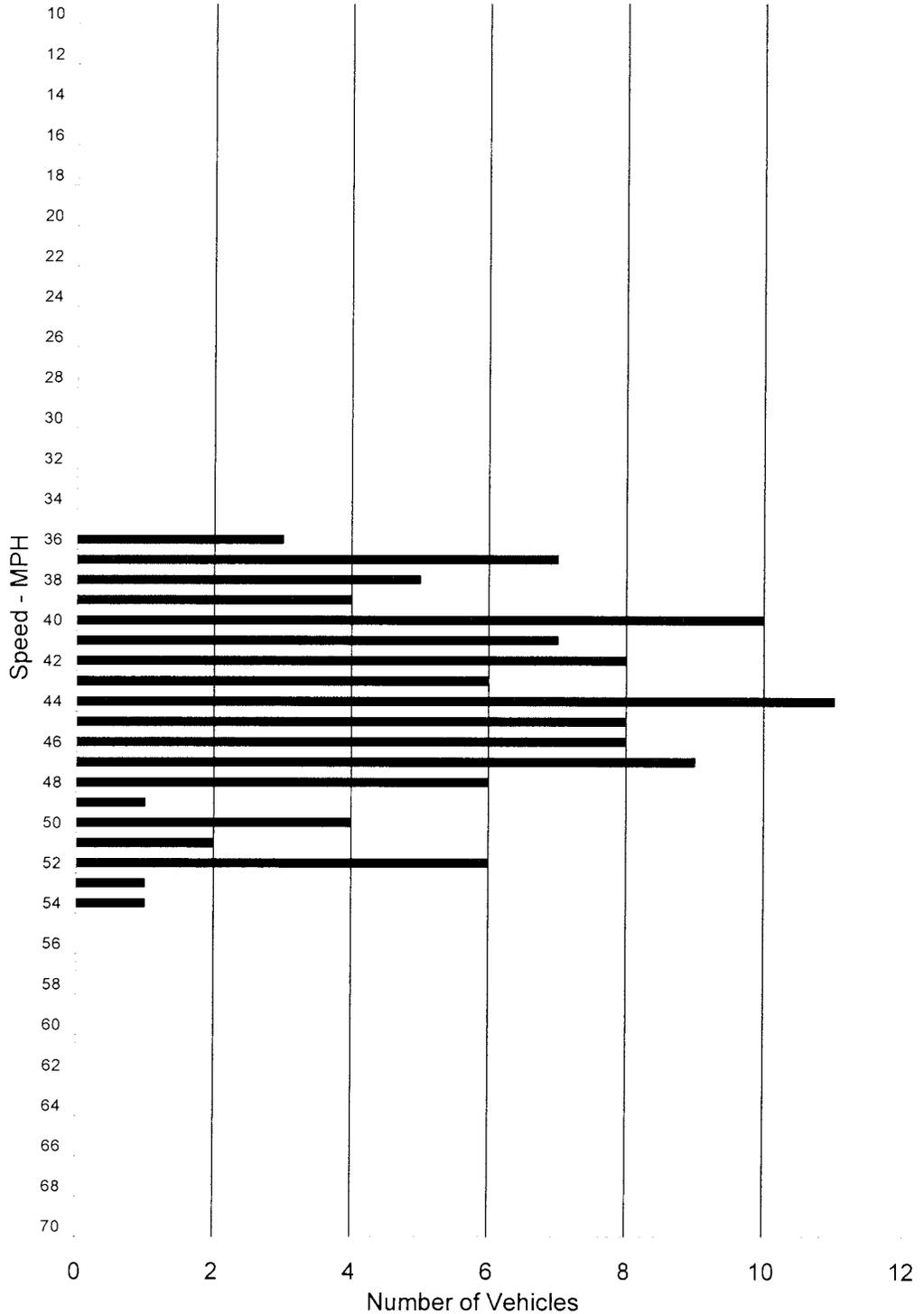
DATE: 10/11/2010  
 Start Time: 2:43 PM  
 DAY: Monday

Location: Wetmore Road to Alden Lane  
 End Time: 3:07 PM  
 (Before) Speed Limit: 45 MPH

Observer: Dtorrey  
 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        | 3            |
| 37        | 7            |
| 38        | 5            |
| 39        | 4            |
| 40        | 10           |
| 41        | 7            |
| 42        | 8            |
| 43        | 6            |
| 44        | 11           |
| 45        | 8            |
| 46        | 8            |
| 47        | 9            |
| 48        | 6            |
| 49        | 1            |
| 50        | 4            |
| 51        | 2            |
| 52        | 6            |
| 53        | 1            |
| 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              | 107   | 43.8          | 36 - 54 | 44 mph          | 48 mph          | 39 - 48     | 77        | 72%             | 14% / 15         | 15% / 15         |

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 striped 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 5 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. For some of these intersections, a design speed greater than 45 MPH will not provide adequate safe stopping sight distance.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 48 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

## Holmes Street

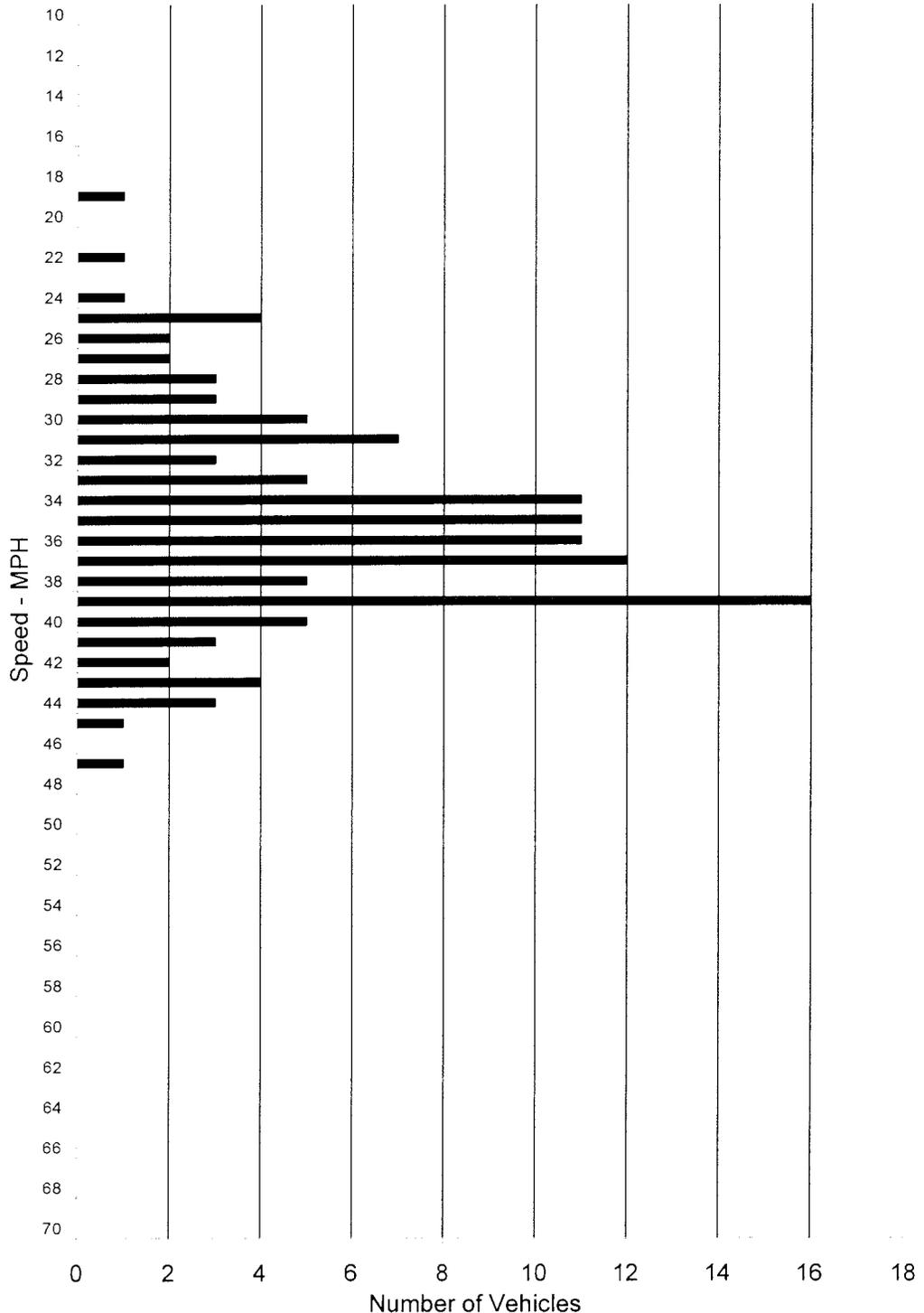
DATE: 10/18/2010  
 Start Time: 2:33 PM  
 DAY: Monday

Location: Alden Lane to El Caminito  
 End Time: 3:03 PM  
 (Before) Speed Limit: 40 MPH  
 Weather: Dry  
 Direction: NB & SB

Observer: Dtorrey  
 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        | 1            |
| 23        | 0            |
| 24        | 1            |
| 25        | 4            |
| 26        | 2            |
| 27        | 2            |
| 28        | 3            |
| 29        | 3            |
| 30        | 5            |
| 31        | 7            |
| 32        | 3            |
| 33        | 5            |
| 34        | 11           |
| 35        | 11           |
| 36        | 11           |
| 37        | 12           |
| 38        | 5            |
| 39        | 16           |
| 40        | 5            |
| 41        | 3            |
| 42        | 2            |
| 43        | 4            |
| 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   | 35.1          | 19 - 47 | 36 mph          | 40 mph          | 30 - 39     | 86        | 70%             | 13% / 17         | 16% / 19         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: HOLMES STREET  
Limits: ALDEN LANE TO EL CAMINITO

Adjacent Land Use: RESIDENTIAL/COMMERCIAL  
No. of Lanes: 4

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

**Collision History:** There have been 37 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 1.56 for 4-lane divided roadways

**Other Considerations:** None.

**Recommendation:** Based on the 85<sup>th</sup> 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 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

## Holmes Street

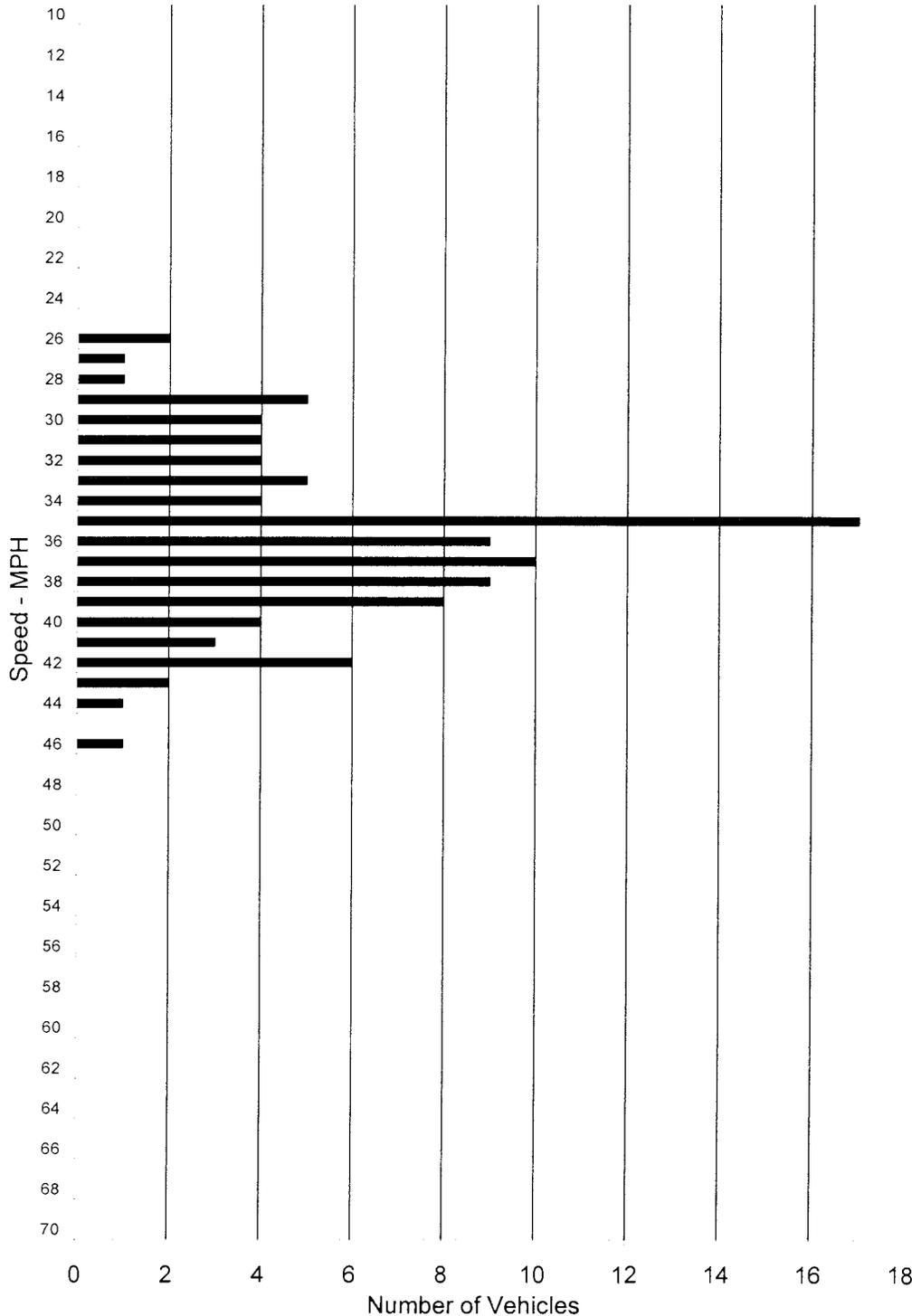
DATE: 10/18/2010  
 Start Time: 2:00 PM  
 DAY: Monday

Location: El Caminito to First Street  
 End Time: 2:25 PM  
 (Before) Speed Limit: 35 MPH

Observer: Dtorrey  
 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        | 2            |
| 27        | 1            |
| 28        | 1            |
| 29        | 5            |
| 30        | 4            |
| 31        | 4            |
| 32        | 4            |
| 33        | 5            |
| 34        | 4            |
| 35        | 17           |
| 36        | 9            |
| 37        | 10           |
| 38        | 9            |
| 39        | 8            |
| 40        | 4            |
| 41        | 3            |
| 42        | 6            |
| 43        | 2            |
| 44        | 1            |
| 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              | 100   | 35.8          | 26 - 46 | 36 mph          | 40 mph          | 33 - 42     | 75        | 75%             | 21% / 21         | 4% / 4           |

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 49 reported collisions along this segment within the past three years. This equates to 2.08 collisions per million vehicle miles, which is higher than the statewide average of 1.56 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 85<sup>th</sup> 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 35 MPH speed limit will remain in effect.

# Spot Speed Study - City of Livermore

## E. Jack London Boulevard

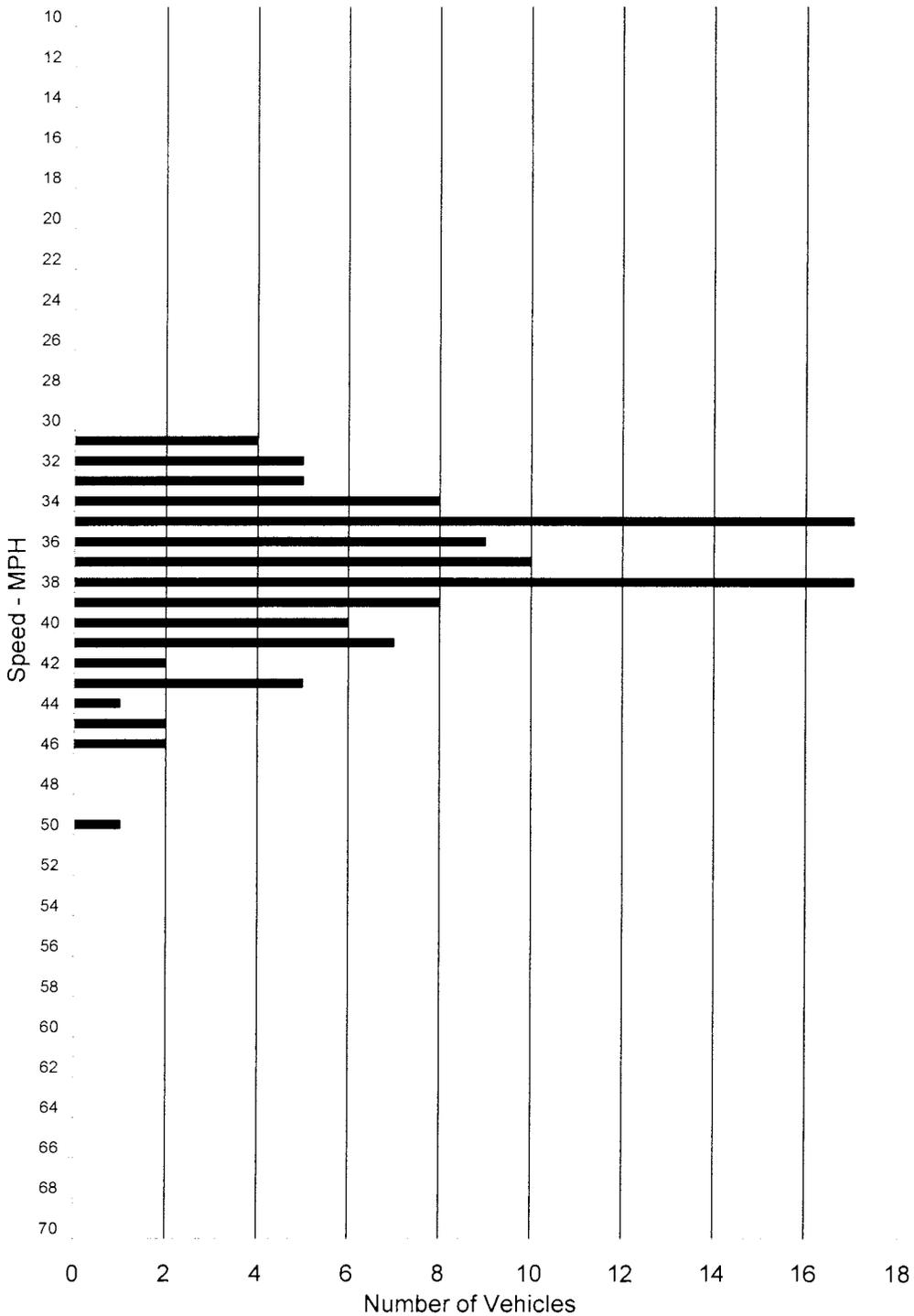
DATE: 9/20/2010  
 Start Time: 2:15 PM  
 DAY: Monday

Location: Isabel Avenue to Murrieta Bouleavrd  
 End Time: 2:35 PM  
 (Before) Speed Limit: 35 MPH

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        | 0            |
| 28        | 0            |
| 29        | 0            |
| 30        | 0            |
| 31        | 4            |
| 32        | 5            |
| 33        | 5            |
| 34        | 8            |
| 35        | 17           |
| 36        | 9            |
| 37        | 10           |
| 38        | 17           |
| 39        | 8            |
| 40        | 6            |
| 41        | 7            |
| 42        | 2            |
| 43        | 5            |
| 44        | 1            |
| 45        | 2            |
| 46        | 2            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 109   | 37.3          | 31 - 50 | 37 mph          | 41 mph          | 32 - 41     | 92        | 84%          | 3% / 4           | 12% / 13         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: E. JACK LONDON BOULEVARD  
Limits: ISABEL AVE TO MURRIETA BLVD

Adjacent Land Use: RESIDENTIAL/INDUSTRIAL  
No. of Lanes: 4

**Roadway Description:** 4-lane divided and undivided arterial street through a residential and industrial area with on-street 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 17 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 1.56 for 4-lane divided 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. Some intersections have limited available safe stopping sight distance sufficient only for a design speed of 35 MPH. Bicycle use is also common since this roadway connects to regional trails.

**Recommendation:** Based on the 85<sup>th</sup> 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

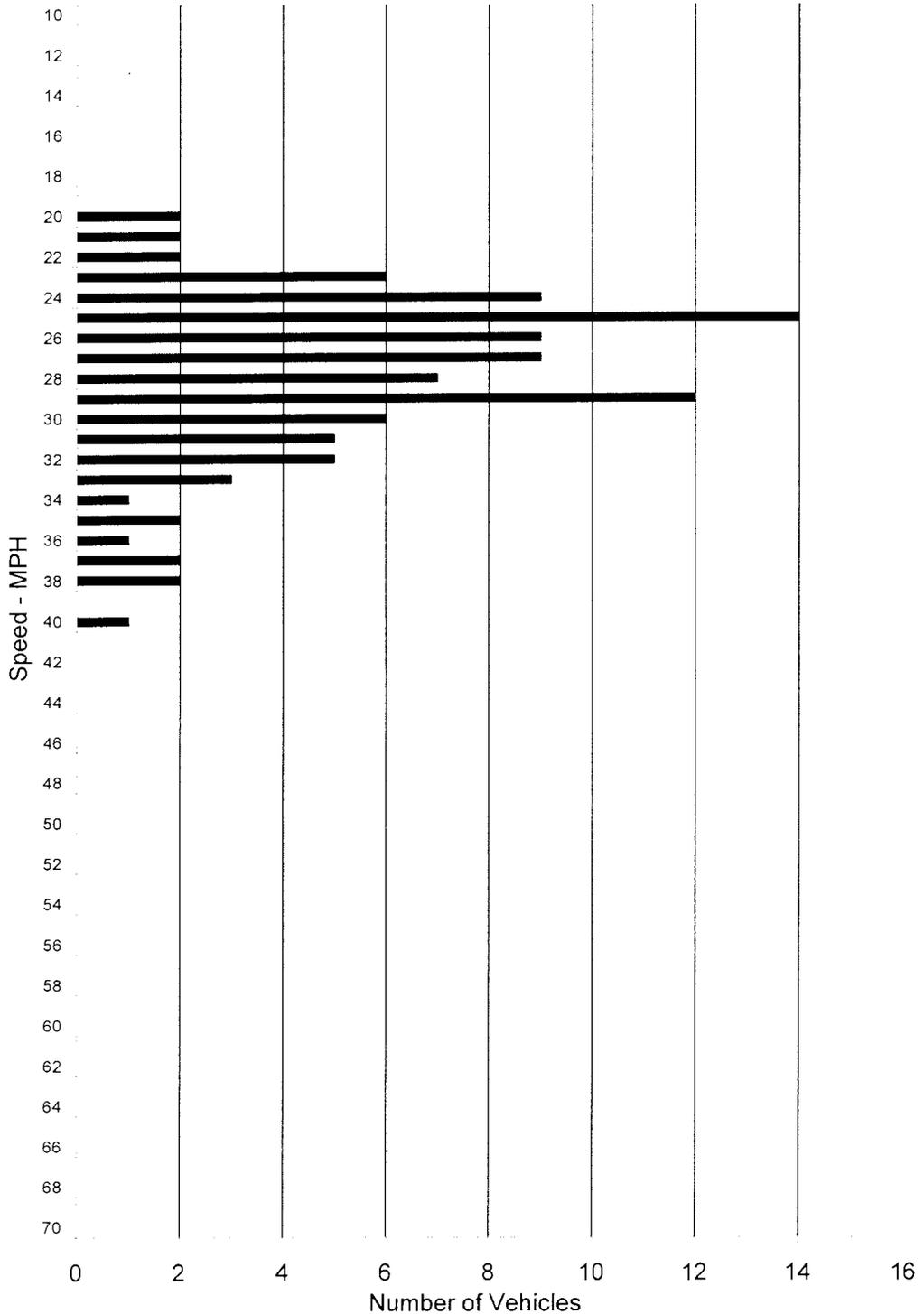
## Junction Avenue

DATE: 11/4/2010  
 Start Time: 02:01 PM  
 DAY: Friday

Location: N. Livermore Avenue to Old First Street  
 End Time: 3:10PM  
 (Before) Speed Limit: 25 MPH

Observer: NS  
 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        | 2            |
| 21        | 2            |
| 22        | 2            |
| 23        | 6            |
| 24        | 9            |
| 25        | 14           |
| 26        | 9            |
| 27        | 9            |
| 28        | 7            |
| 29        | 12           |
| 30        | 6            |
| 31        | 5            |
| 32        | 5            |
| 33        | 3            |
| 34        | 1            |
| 35        | 2            |
| 36        | 1            |
| 37        | 2            |
| 38        | 2            |
| 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              | 100   | 27.8          | 20 - 40 | 27 mph          | 32 mph          | 23 - 32     | 82        | 82%             | 6% / 6           | 12% / 12         |

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 Portola Elementary School are located on this segment. The length of this segment is 0.53 miles.

**Collision History:** There have been 8 reported collisions along this segment within the past three years. This equates to 4.55 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> 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

## N. L Street

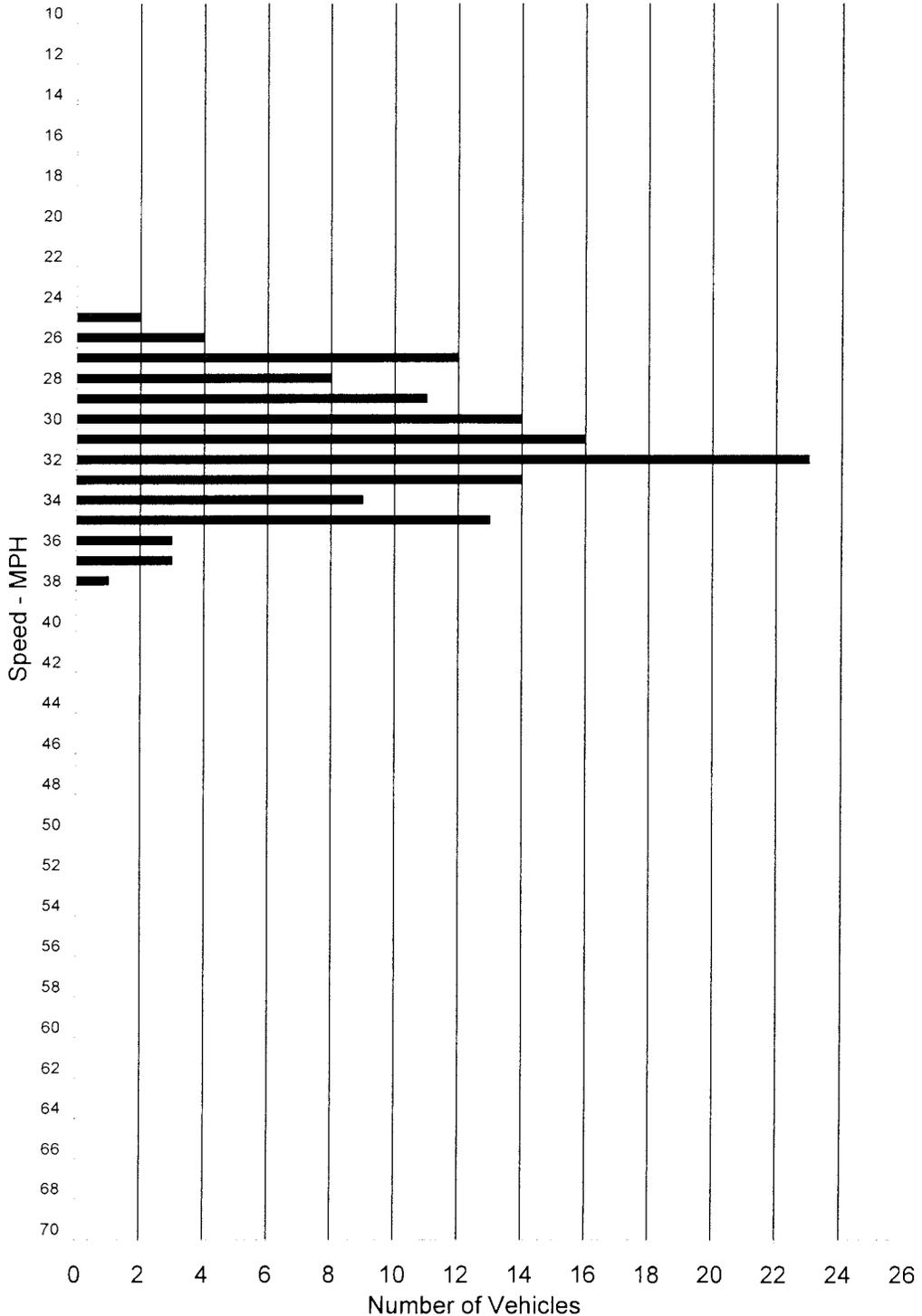
DATE: 9/23/2010  
 Start Time: 3:25 PM  
 DAY: Thursday

Location: Portola Avenue to Railroad Avenue  
 End Time: 3:50 PM  
 (Before) Speed Limit: 30 MPH  
 Weather: Dry  
 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        | 0            |
| 24        | 0            |
| 25        | 2            |
| 26        | 4            |
| 27        | 12           |
| 28        | 8            |
| 29        | 11           |
| 30        | 14           |
| 31        | 16           |
| 32        | 23           |
| 33        | 14           |
| 34        | 9            |
| 35        | 13           |
| 36        | 3            |
| 37        | 3            |
| 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              | 133   | 31.2          | 25 - 38 | 31 mph          | 35 mph          | 26 - 35     | 124       | 93%             | 1% / 2           | 6% / 7           |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: N. L STREET

Adjacent Land Use: RESIDENT./COMMERC.

Limits: PORTOLA AVE TO RAILROAD AVE

No. of Lanes: 4

**Roadway Description:** 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 28 reported collisions along this segment within the past three years. This equates to 5.82 collisions per million vehicle miles, which is higher than the statewide average of 2.08 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.

**Recommendation:** Based on the 85<sup>th</sup> 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 shall remain in effect.

# Spot Speed Study - City of Livermore

## S. L Street

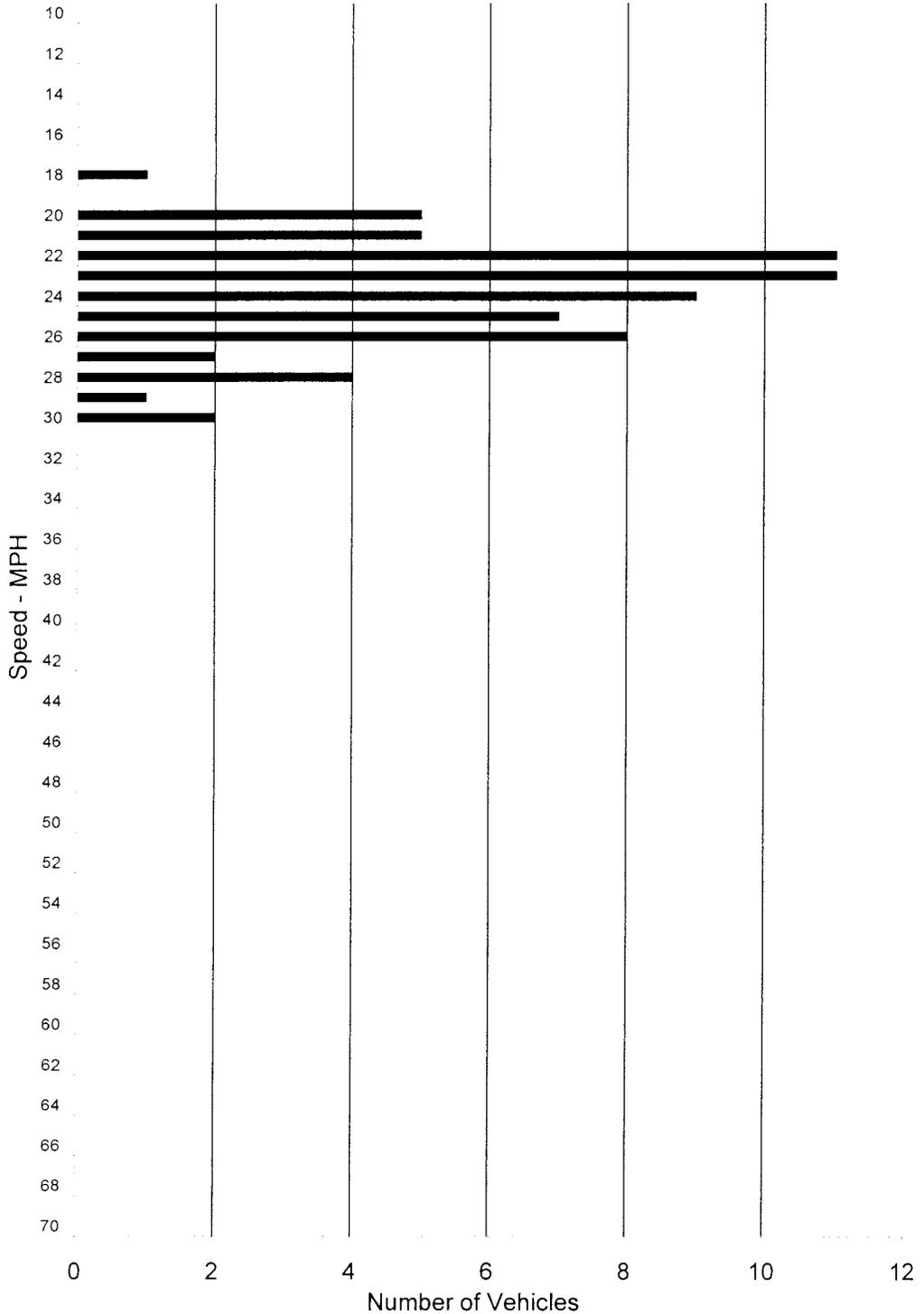
DATE: 10/22/2010  
 Start Time: 11:00 AM  
 DAY: Friday

Location: Railroad Avenue to Fourth Street  
 End Time: 12:00 PM  
 (Before) Speed Limit: 25 MPH

Observer: Parminder  
 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        | 1            |
| 19        | 0            |
| 20        | 5            |
| 21        | 5            |
| 22        | 11           |
| 23        | 11           |
| 24        | 9            |
| 25        | 7            |
| 26        | 8            |
| 27        | 2            |
| 28        | 4            |
| 29        | 1            |
| 30        | 2            |
| 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              | 66    | 23.8          | 18 - 30 | 23 mph          | 26 mph          | 20 - 29     | 63        | 95%             | 1% / 1           | 4% / 2           |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: S. L STREET Adjacent Land Use: RESIDENT./COMMERC.

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 45 reported collisions along this segment within the past three years. This equates to 17.13 collisions per million vehicle miles, which is higher than the statewide average of 2.08 for 4-lane undivided type of roadway.

**Other Considerations:** None.

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

# Spot Speed Study - City of Livermore

## S. L Street

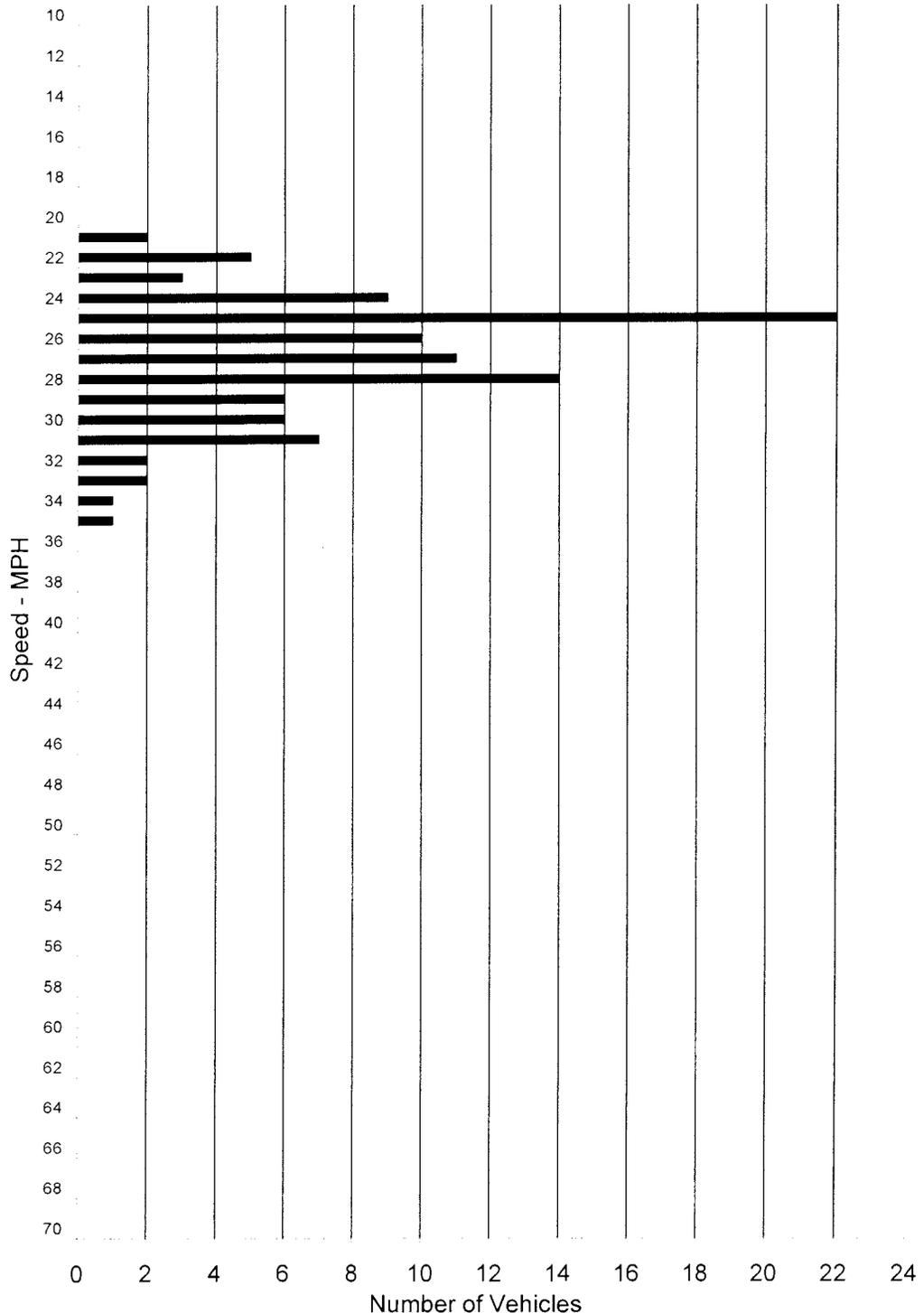
DATE: 10/4/2010  
 Start Time: 2:55 PM  
 DAY: Monday

Location: Fourth Street to Arroyo Road  
 End Time: 3:24 PM  
 (Before) Speed Limit: 25 MPH

Observer: Dtorrey  
 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        | 5            |
| 23        | 3            |
| 24        | 9            |
| 25        | 22           |
| 26        | 10           |
| 27        | 11           |
| 28        | 14           |
| 29        | 6            |
| 30        | 6            |
| 31        | 7            |
| 32        | 2            |
| 33        | 2            |
| 34        | 1            |
| 35        | 1            |
| 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              | 101   | 26.8          | 21 - 35 | 26 mph          | 30 mph          | 22 - 31     | 93        | 92%             | 1% / 2           | 6% / 6           |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: S. L STREET

Adjacent Land Use: RESIDENT./COMMERC.

Limits: FOURTH ST TO ARROYO RD

No. of Lanes: 2

**Roadway Description:** 2-lane residential collector street with a few fronting homes some commercial development, and on-street bike lanes. The length of this segment is 0.46 miles.

**Collision History:** There have been 32 reported collisions along this segment within the past three years. This equates to 7.93 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> 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

## Las Positas Road

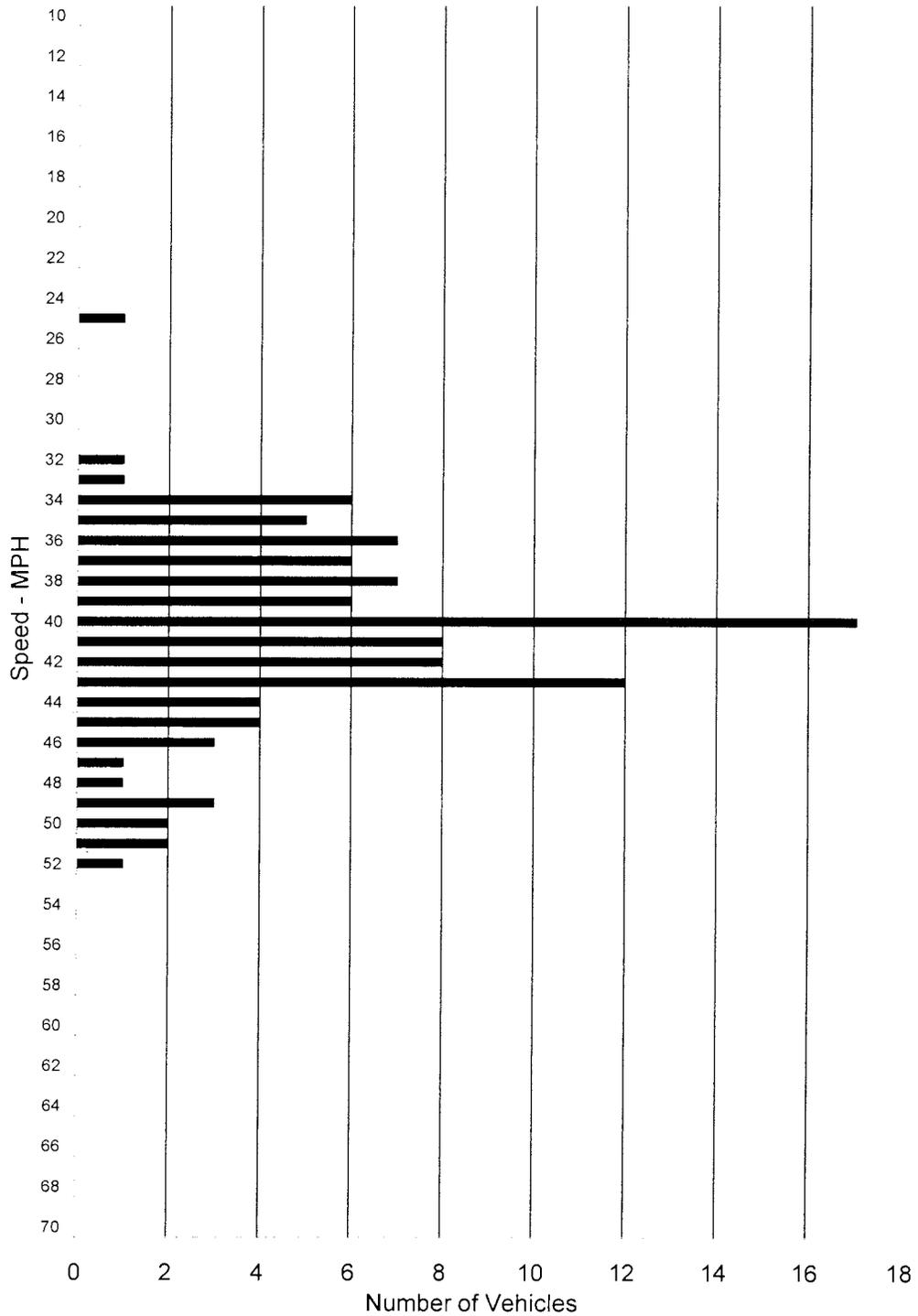
DATE: 10/26/2010  
 Start Time: 10:22 AM  
 DAY: Tuesday

Location: N. Livermore Avenue to Las Colinas Road  
 End Time: 10:46 AM  
 (Before) Speed Limit: 40 MPH

Observer: CS  
 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        | 0            |
| 31        | 0            |
| 32        | 1            |
| 33        | 1            |
| 34        | 6            |
| 35        | 5            |
| 36        | 7            |
| 37        | 6            |
| 38        | 7            |
| 39        | 6            |
| 40        | 17           |
| 41        | 8            |
| 42        | 8            |
| 43        | 12           |
| 44        | 4            |
| 45        | 4            |
| 46        | 3            |
| 47        | 1            |
| 48        | 1            |
| 49        | 3            |
| 50        | 2            |
| 51        | 2            |
| 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              | 106   | 40.5          | 25 - 52 | 40 mph          | 45 mph          | 34 - 43     | 82        | 77%             | 2% / 3           | 20% / 21         |

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. The length of this segment is 1.06 miles.

**Collision History:** There have been 20 reported collisions along this segment within the past three years.

**Other Considerations:** None

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 45 MPH, the existing 40 MPH will be raised to 45 MPH.

# Spot Speed Study - City of Livermore

## Las Positas Road

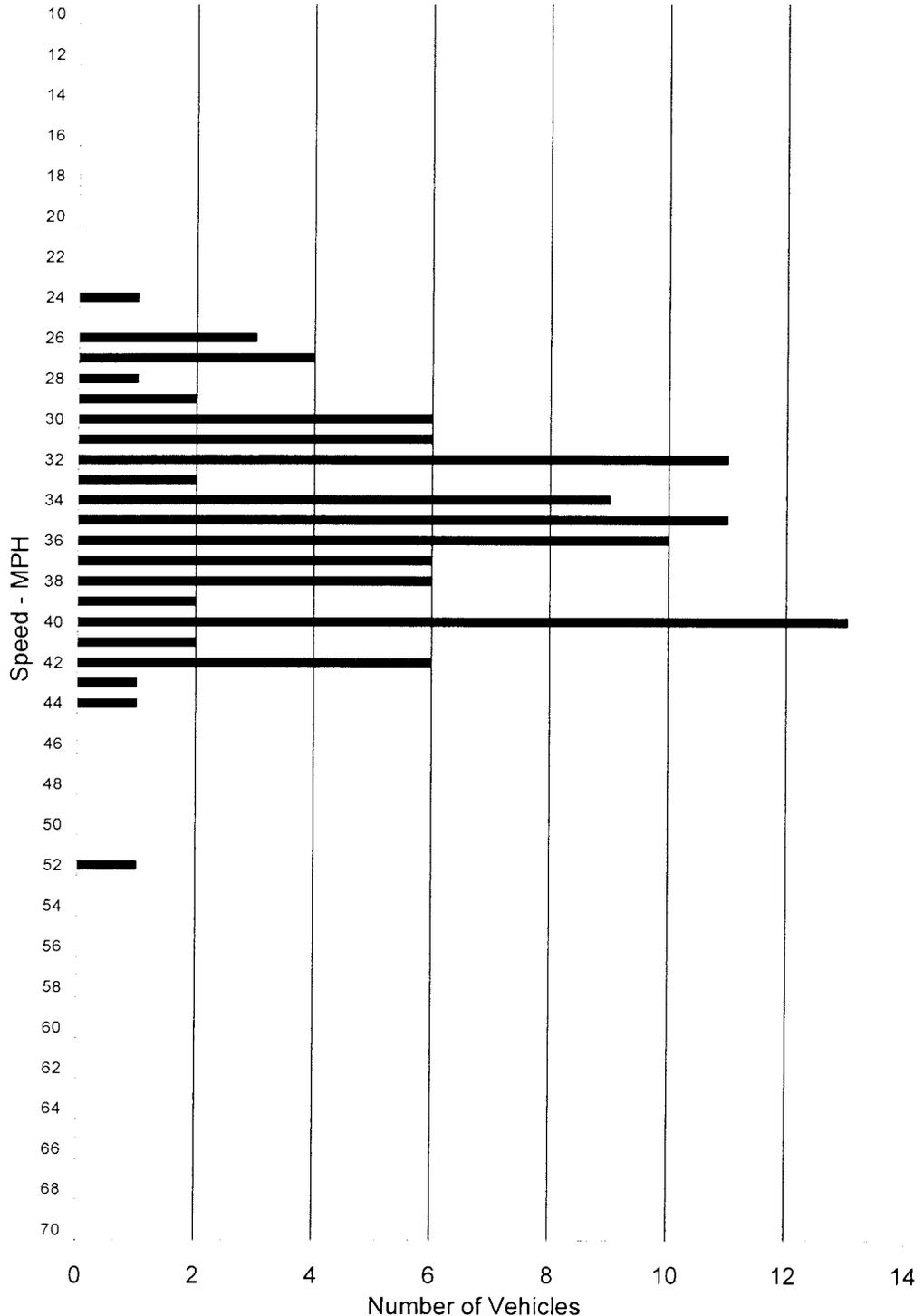
DATE: 9/17/2010  
 Start Time: 1:20 PM  
 DAY: Friday

Location: Las Colinas Road to First Street  
 End Time: 1:45 PM  
 (Before) Speed Limit: 40 MPH

Observer: Mbauer  
 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        | 1            |
| 25        | 0            |
| 26        | 3            |
| 27        | 4            |
| 28        | 1            |
| 29        | 2            |
| 30        | 6            |
| 31        | 6            |
| 32        | 11           |
| 33        | 2            |
| 34        | 9            |
| 35        | 11           |
| 36        | 10           |
| 37        | 6            |
| 38        | 6            |
| 39        | 2            |
| 40        | 13           |
| 41        | 2            |
| 42        | 6            |
| 43        | 1            |
| 44        | 1            |
| 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              | 104   | 35.1          | 24 - 52 | 35 mph          | 40 mph          | 31 - 40     | 76        | 73%             | 16% / 17         | 11% / 11         |

**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 rural road through a mixture of open space, agriculture and commercial development. This segment widens to 4 lanes along the shopping center near First Street. Parking is prohibited. The length of this segment is 0.74 miles.

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

**Other Considerations:** None

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 40 MPH, the existing 40 MPH will remain in effect.

# Spot Speed Study - City of Livermore

## Las Positas Road

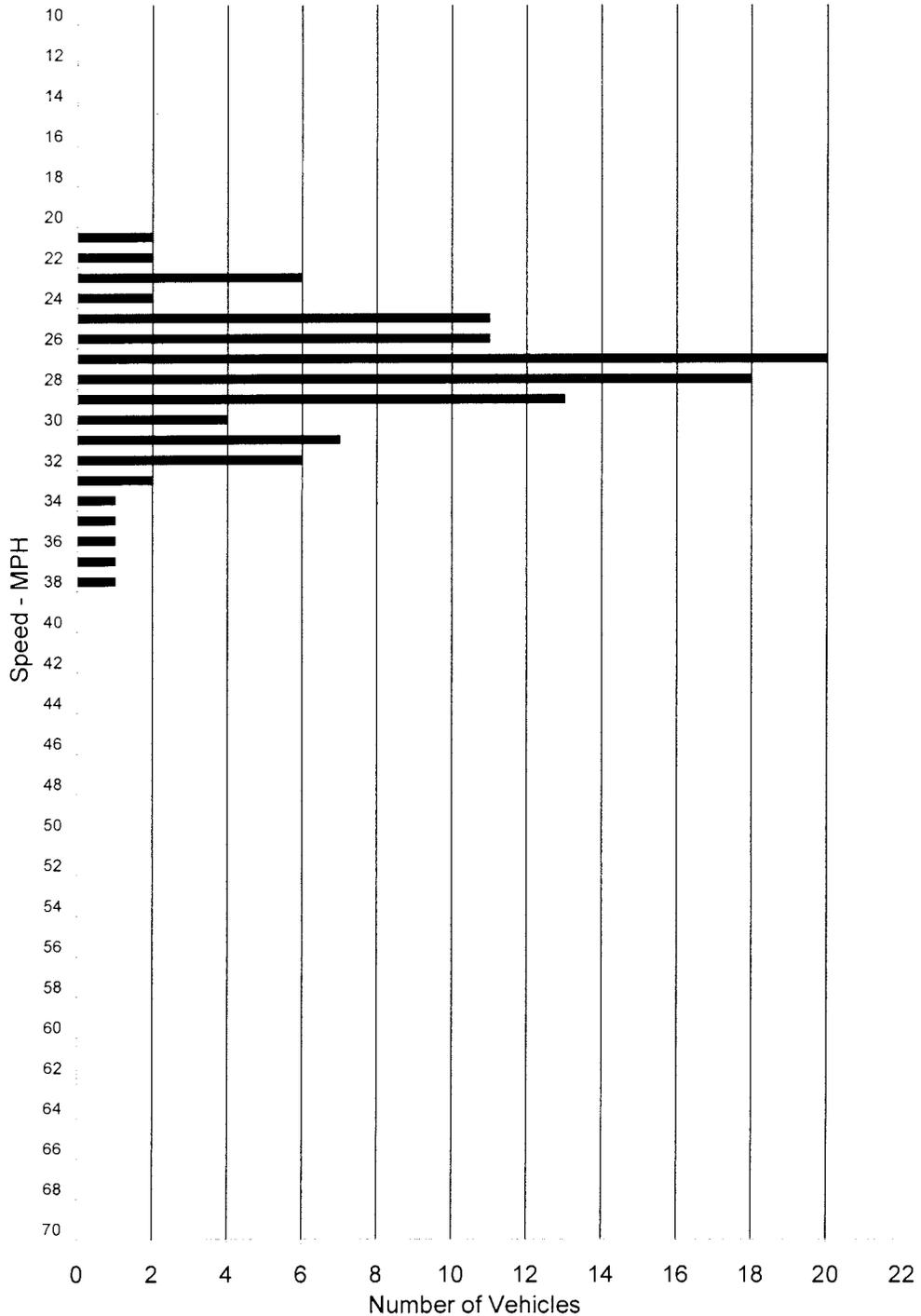
DATE: 9/17/2010  
 Start Time: 12:30 PM  
 DAY: Friday

Location: First Street to Bennett Drive  
 End Time: 1:00 PM  
 Before Speed Limit: 30 MPH  
 Weather: Dry/Clear  
 Direction: EB & WB

Observer: Parminder  
 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        | 2            |
| 22        | 2            |
| 23        | 6            |
| 24        | 2            |
| 25        | 11           |
| 26        | 11           |
| 27        | 20           |
| 28        | 18           |
| 29        | 13           |
| 30        | 4            |
| 31        | 7            |
| 32        | 6            |
| 33        | 2            |
| 34        | 1            |
| 35        | 1            |
| 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              | 109   | 27.8          | 21 - 38 | 28 mph          | 31 mph          | 23 - 32     | 98        | 90%             | 3% / 4           | 7% / 7           |

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.

**Other Considerations:** None.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 31 MPH, the existing 30 MPH will remain in effect.

# Spot Speed Study - City of Livermore

## Las Positas Road

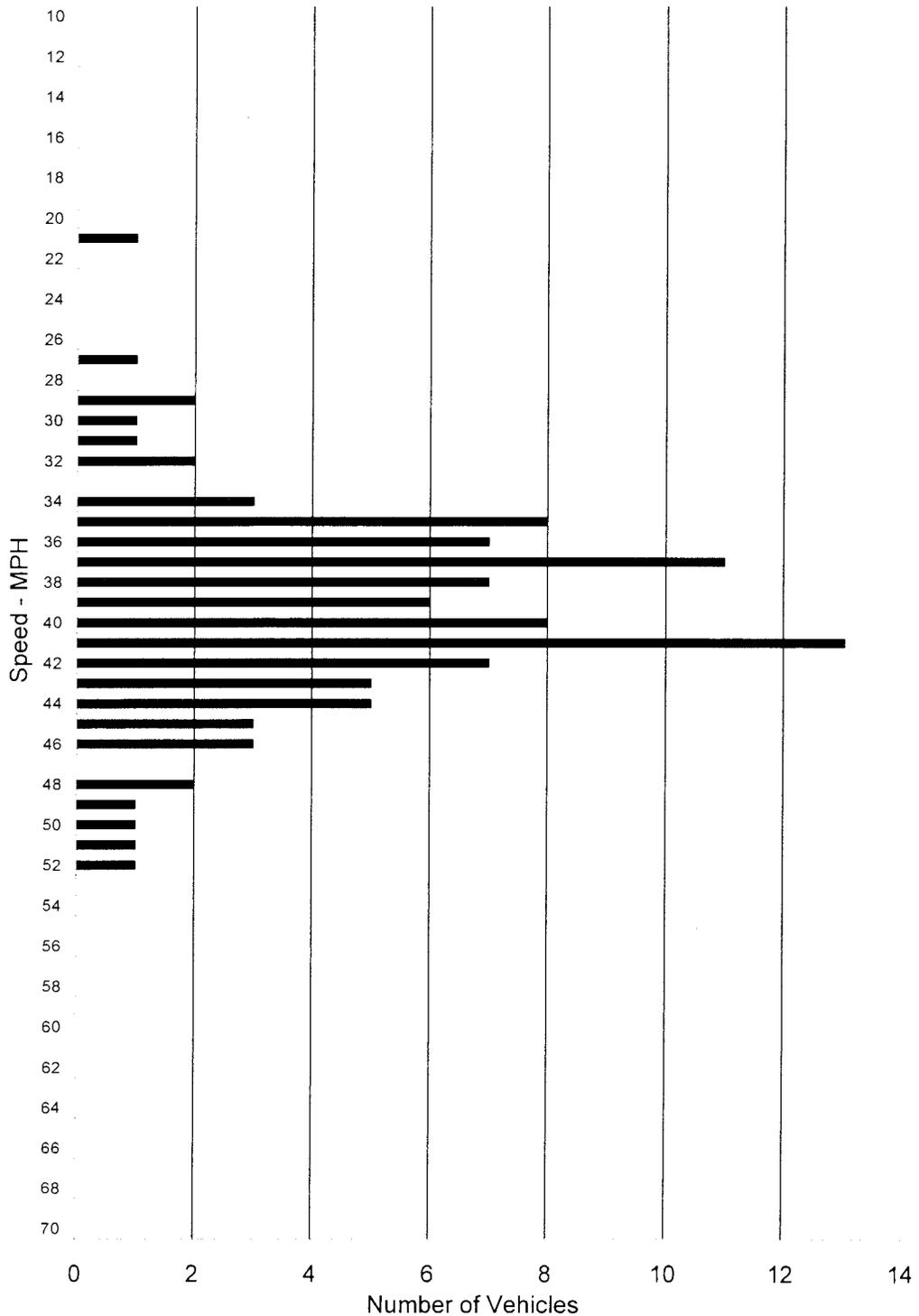
DATE: 9/17/2010  
 Start Time: 1:55 PM  
 DAY: Friday

Location: Vasco Road to Bennett Drive  
 End Time: 2:20 PM  
 (Before) Speed Limit: 40 MPH

Observer: Mbauer  
 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        | 1            |
| 28        | 0            |
| 29        | 2            |
| 30        | 1            |
| 31        | 1            |
| 32        | 2            |
| 33        | 0            |
| 34        | 3            |
| 35        | 8            |
| 36        | 7            |
| 37        | 11           |
| 38        | 7            |
| 39        | 6            |
| 40        | 8            |
| 41        | 13           |
| 42        | 7            |
| 43        | 5            |
| 44        | 5            |
| 45        | 3            |
| 46        | 3            |
| 47        | 0            |
| 48        | 2            |
| 49        | 1            |
| 50        | 1            |
| 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   | 39.3          | 21 - 52 | 39 mph          | 44 mph          | 35 - 44     | 77        | 77%             | 11% / 11         | 12% / 12         |

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: 3 & 4

**Roadway Description:** 3 & 4-lane divided arterial street with bike lanes through a mixture commercial and industrial development. This segment narrows to one eastbound lane from Bennett Drive to 2750 feet to the east. Parking is prohibited. The length of this segment is 0.81 miles.

**Collision History:** There have been 11 reported collisions along this segment within the past three years. This equates to 1.38 collisions per million vehicle miles.

**Other Considerations:** None.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 44 MPH, the existing 40 MPH will be increased to 45 MPH

# Spot Speed Study - City of Livermore

## Las Positas Road

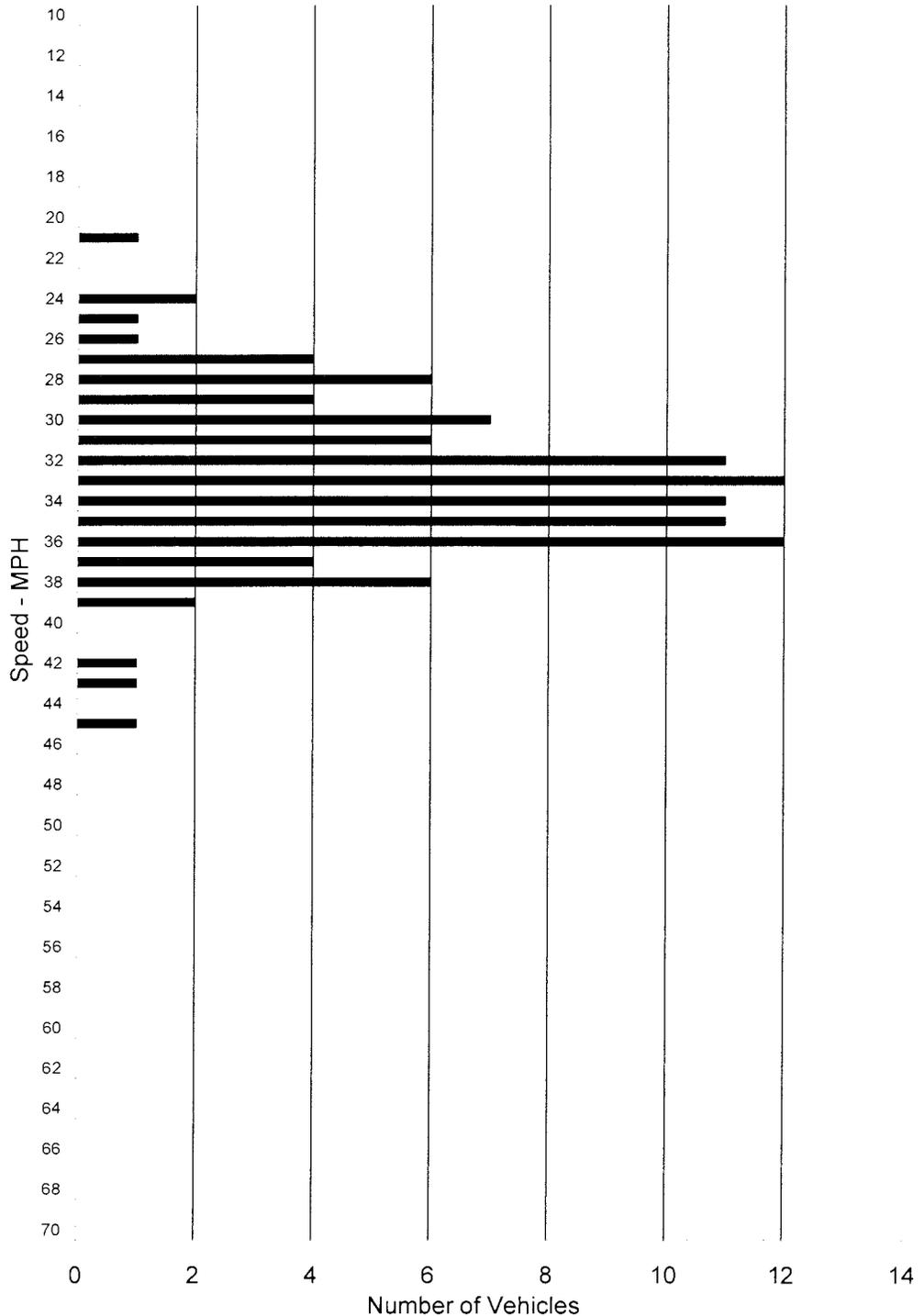
DATE: 10/20/2010  
 Start Time: 2:00 PM  
 DAY: Wednesday

Location: Vasco Road to Greenville Road  
 End Time: 2:45 PM  
 (Before) Speed Limit: 35 MPH

Observer: Mbauer  
 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        | 2            |
| 25        | 1            |
| 26        | 1            |
| 27        | 4            |
| 28        | 6            |
| 29        | 4            |
| 30        | 7            |
| 31        | 6            |
| 32        | 11           |
| 33        | 12           |
| 34        | 11           |
| 35        | 11           |
| 36        | 12           |
| 37        | 4            |
| 38        | 6            |
| 39        | 2            |
| 40        | 0            |
| 41        | 0            |
| 42        | 1            |
| 43        | 1            |
| 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              | 104   | 33.0          | 21 - 45 | 33 mph          | 36 mph          | 27 - 36     | 84        | 81%             | 4% / 5           | 15% / 15         |

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 on-street 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 19 reported collisions along this segment within the past three years.

**Other Considerations:** None

**Recommendation:** Based on the 85th percentile speed of 36 MPH, the existing 35 MPH will remain in effect.

# Spot Speed Study - City of Livermore

## Laughlin Road

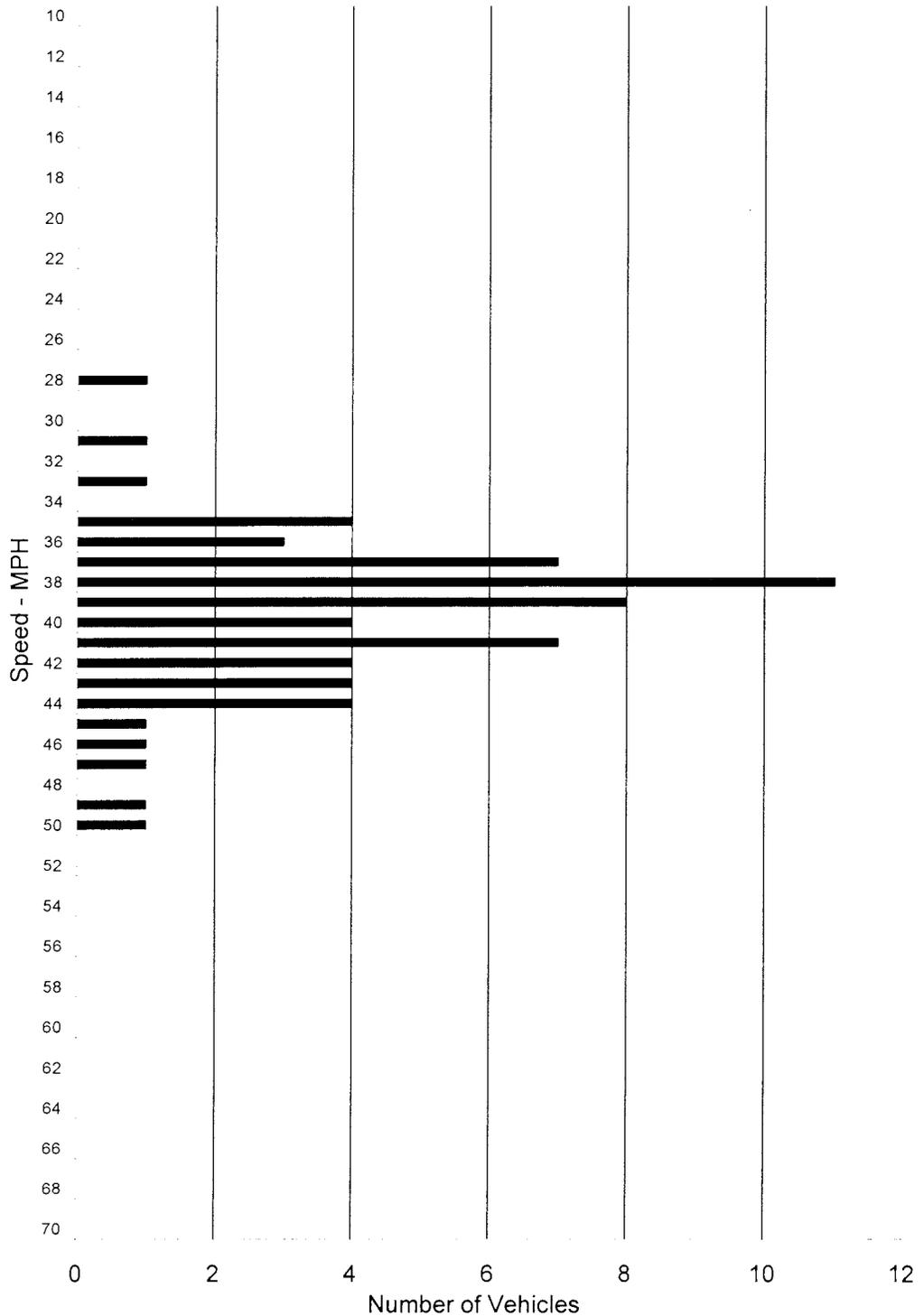
DATE: 10/8/2010  
 Start Time: 10:30 AM  
 DAY: Friday

Location: Northfront Road to North End  
 End Time: 11:30 PM  
 (Before) Speed Limit: 40 MPH  
 Weather: Dry  
 Direction: NB & SB

Observer: Parminder  
 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        | 0            |
| 31        | 1            |
| 32        | 0            |
| 33        | 1            |
| 34        | 0            |
| 35        | 4            |
| 36        | 3            |
| 37        | 7            |
| 38        | 11           |
| 39        | 8            |
| 40        | 4            |
| 41        | 7            |
| 42        | 4            |
| 43        | 4            |
| 44        | 4            |
| 45        | 1            |
| 46        | 1            |
| 47        | 1            |
| 48        | 0            |
| 49        | 1            |
| 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              | 64    | 39.5          | 28 - 50 | 39 mph          | 43 mph          | 35 - 44     | 56        | 88%             | 4% / 3           | 8% / 5           |

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 2 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 85<sup>th</sup> percentile speed of 43 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

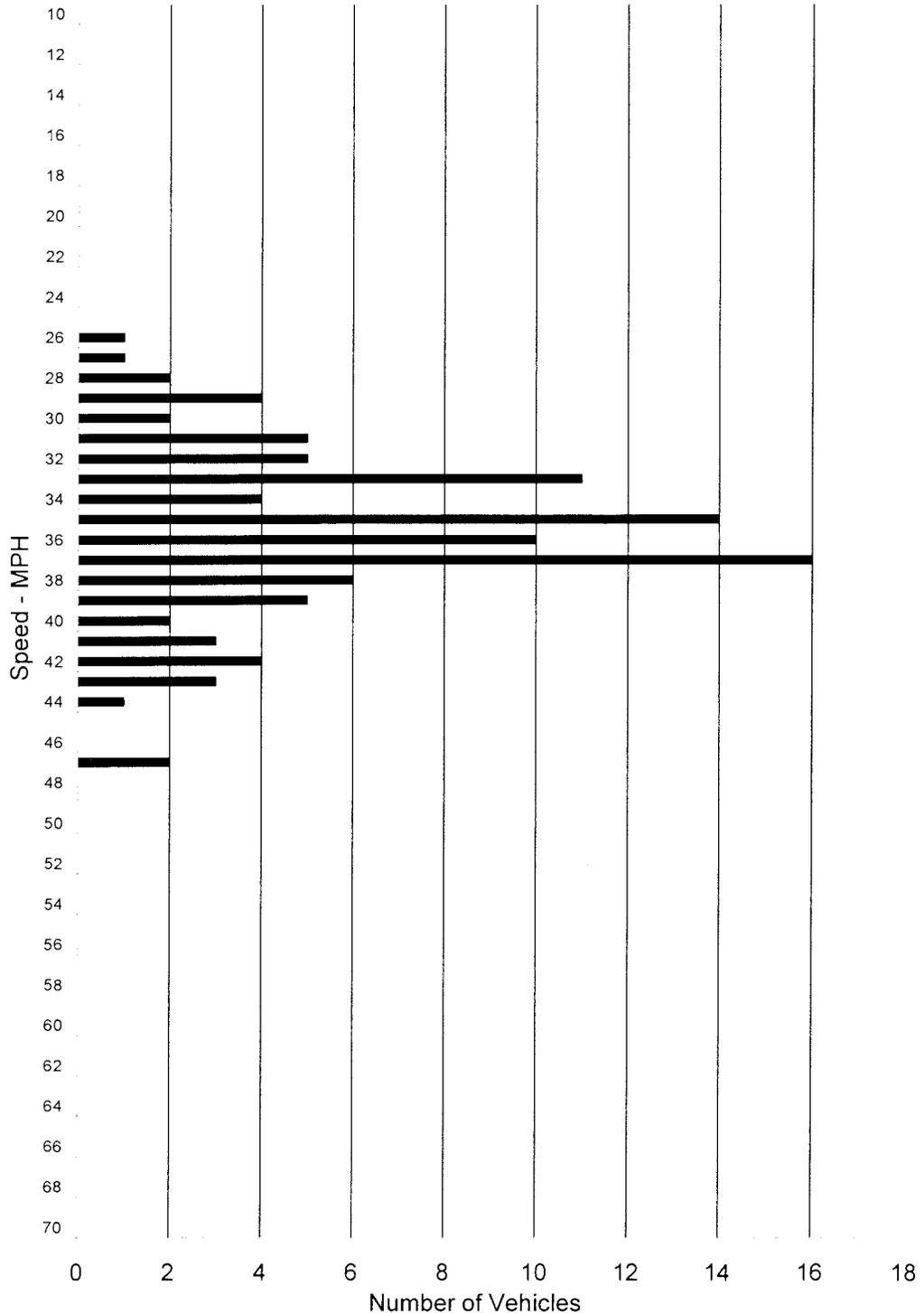
## Lindbergh Avenue

DATE: 11/19/2010  
 Start Time: 02:10 PM  
 DAY: Friday

Location: Nissen Drive to Kitty Hawk Road  
 End Time: 02:55 PM  
 (Before) Speed Limit: 35 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Parminder  
 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        | 1            |
| 27        | 1            |
| 28        | 2            |
| 29        | 4            |
| 30        | 2            |
| 31        | 5            |
| 32        | 5            |
| 33        | 11           |
| 34        | 4            |
| 35        | 14           |
| 36        | 10           |
| 37        | 16           |
| 38        | 6            |
| 39        | 5            |
| 40        | 2            |
| 41        | 3            |
| 42        | 4            |
| 43        | 3            |
| 44        | 1            |
| 45        | 0            |
| 46        | 0            |
| 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              | 101   | 35.7          | 26 - 47 | 36 mph          | 39 mph          | 30 - 39     | 78        | 77%             | 7% / 8           | 15% / 15         |

**CITY OF LIVERMORE**

**ENGINEERING AND TRAFFIC SURVEY**

Street: LINDBERGH AVENUE Adjacent Land Use: INDUSTRIAL

Limits: NISSAN DR TO KITTY HAWK ROAD 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 1 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 will be filled with parked vehicles and numerous pedestrian crossing activities occur.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 39 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

## North Livermore Avenue

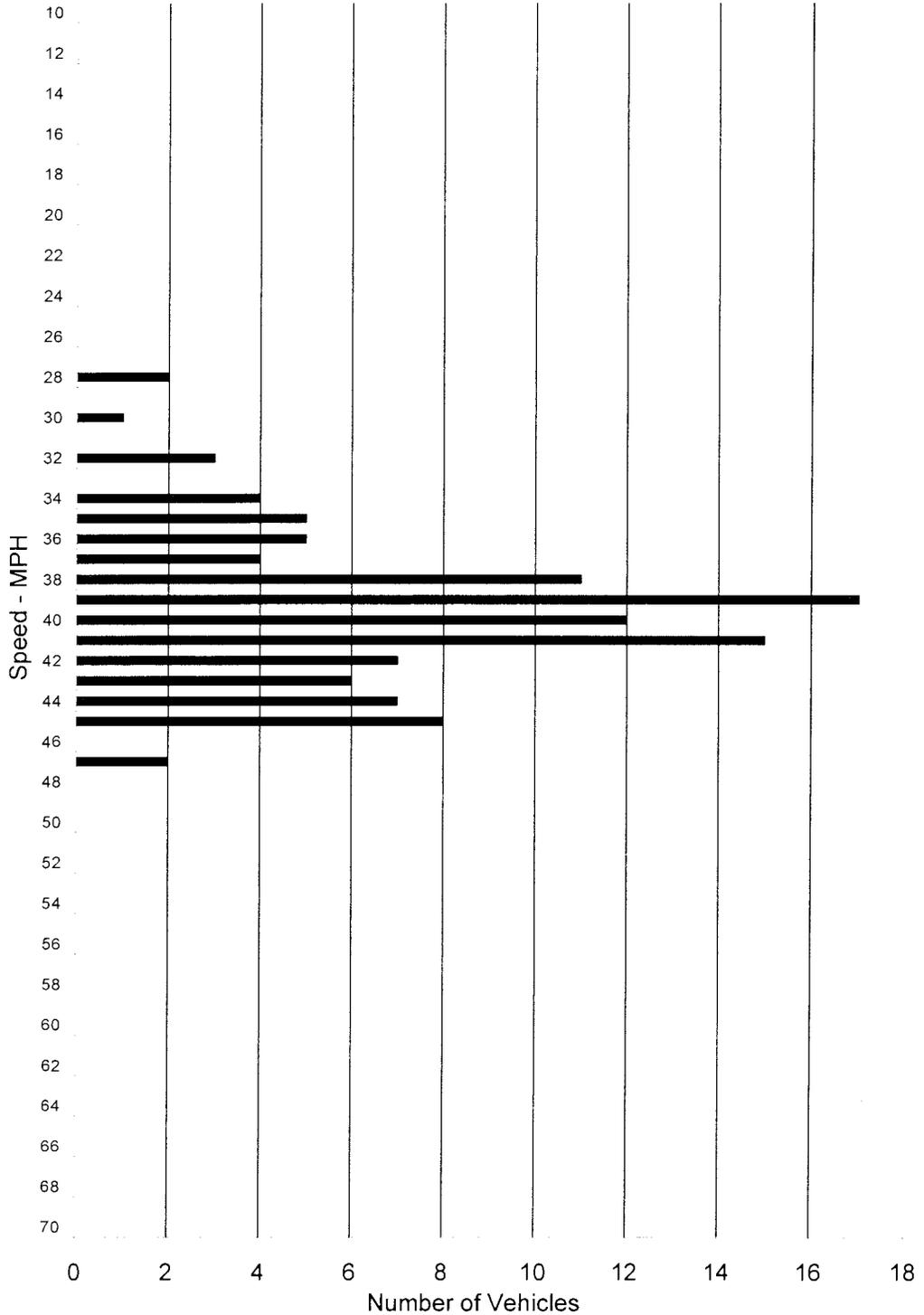
DATE: 10/22/2010  
 Start Time: 10:15 AM  
 DAY: Friday

Location: I-580 to 600' North of Cromwell Way  
 End Time: 10:45 AM  
 (Before) Speed Limit: 45 MPH

Observer: Parminder  
 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        | 2            |
| 29        | 0            |
| 30        | 1            |
| 31        | 0            |
| 32        | 3            |
| 33        | 0            |
| 34        | 4            |
| 35        | 5            |
| 36        | 5            |
| 37        | 4            |
| 38        | 11           |
| 39        | 17           |
| 40        | 12           |
| 41        | 15           |
| 42        | 7            |
| 43        | 6            |
| 44        | 7            |
| 45        | 8            |
| 46        | 0            |
| 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              | 109   | 39.6          | 28 - 47 | 40 mph          | 44 mph          | 36 - 45     | 92        | 84%             | 13% / 15         | 2% / 2           |

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: 4/6

**Roadway Description:** 4 to 6-lane divided arterial street with on-street 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 2.04 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for this type of roadway.

**Other Considerations:** None.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 44 MPH, a speed limit of 45 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 45 MPH speed limit will be reduced to 40 MPH.

# Spot Speed Study - City of Livermore

## North Livermore Avenue

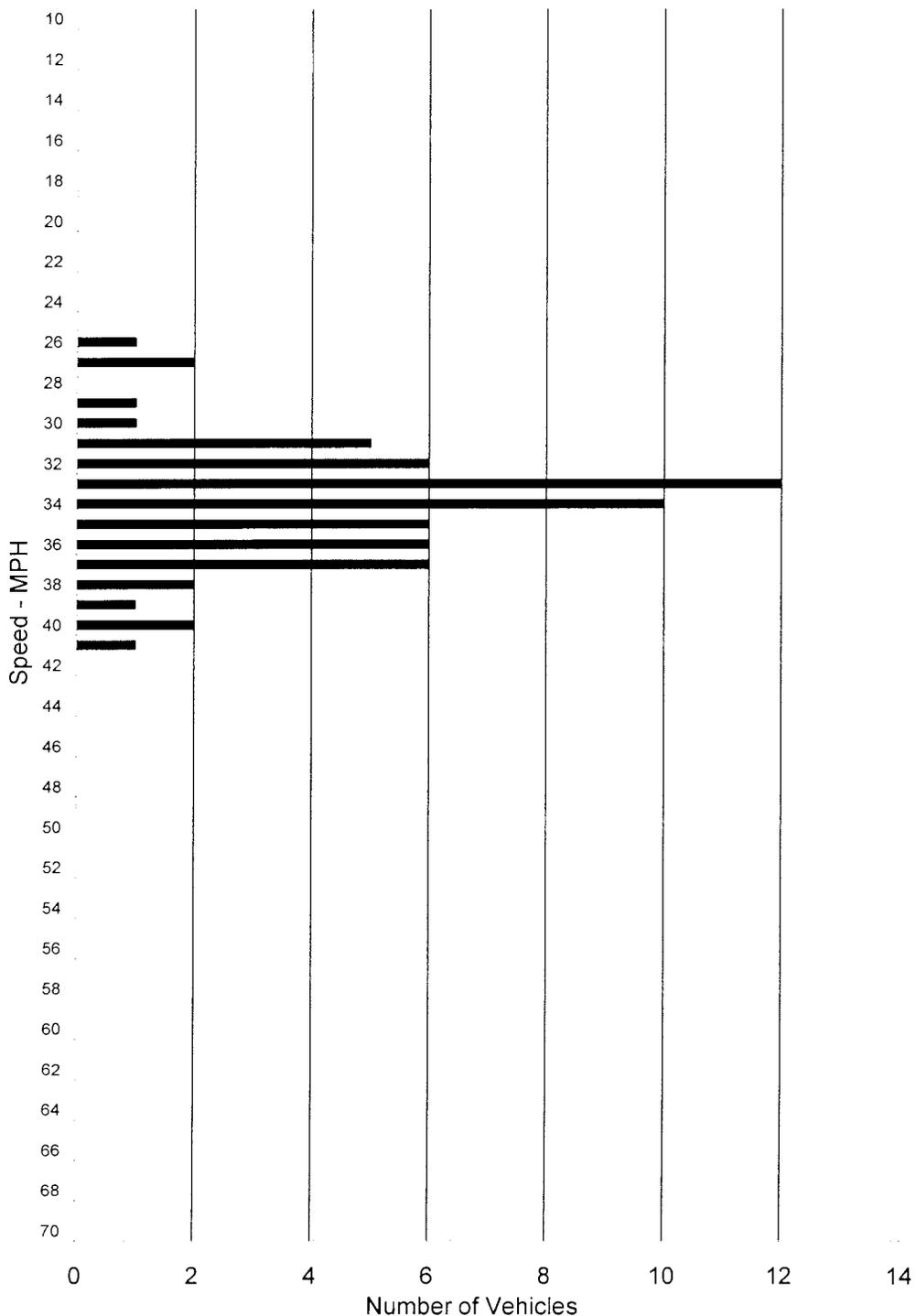
DATE: 10/28/2010  
 Start Time: 1:45 PM  
 DAY: Thursday

Location: 600' North of Cromwell Way to Portola Avenue  
 End Time: 2:45 PM  
 (Before) Speed Limit: 35 MPH

Observer: Neville  
 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        | 0            |
| 26        | 1            |
| 27        | 2            |
| 28        | 0            |
| 29        | 1            |
| 30        | 1            |
| 31        | 5            |
| 32        | 6            |
| 33        | 12           |
| 34        | 10           |
| 35        | 6            |
| 36        | 6            |
| 37        | 6            |
| 38        | 2            |
| 39        | 1            |
| 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              | 62    | 34.0          | 26 - 41 | 34 mph          | 37 mph          | 31 - 40     | 56        | 90%             | 8% / 5           | 2% / 1           |

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 on-street bike lanes through commercial, and residential areas. Parking is prohibited. The length of this segment is 0.27 miles.

**Collision History:** There have been 22 reported collisions along this segment within the past three years. This equates to 4.69 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for this type of roadway

**Discussion:** None.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 37 MPH, a speed limit of 35 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 35 MPH speed limit will be reduced to 30 MPH.

# Spot Speed Study - City of Livermore

## North Livermore Avenue

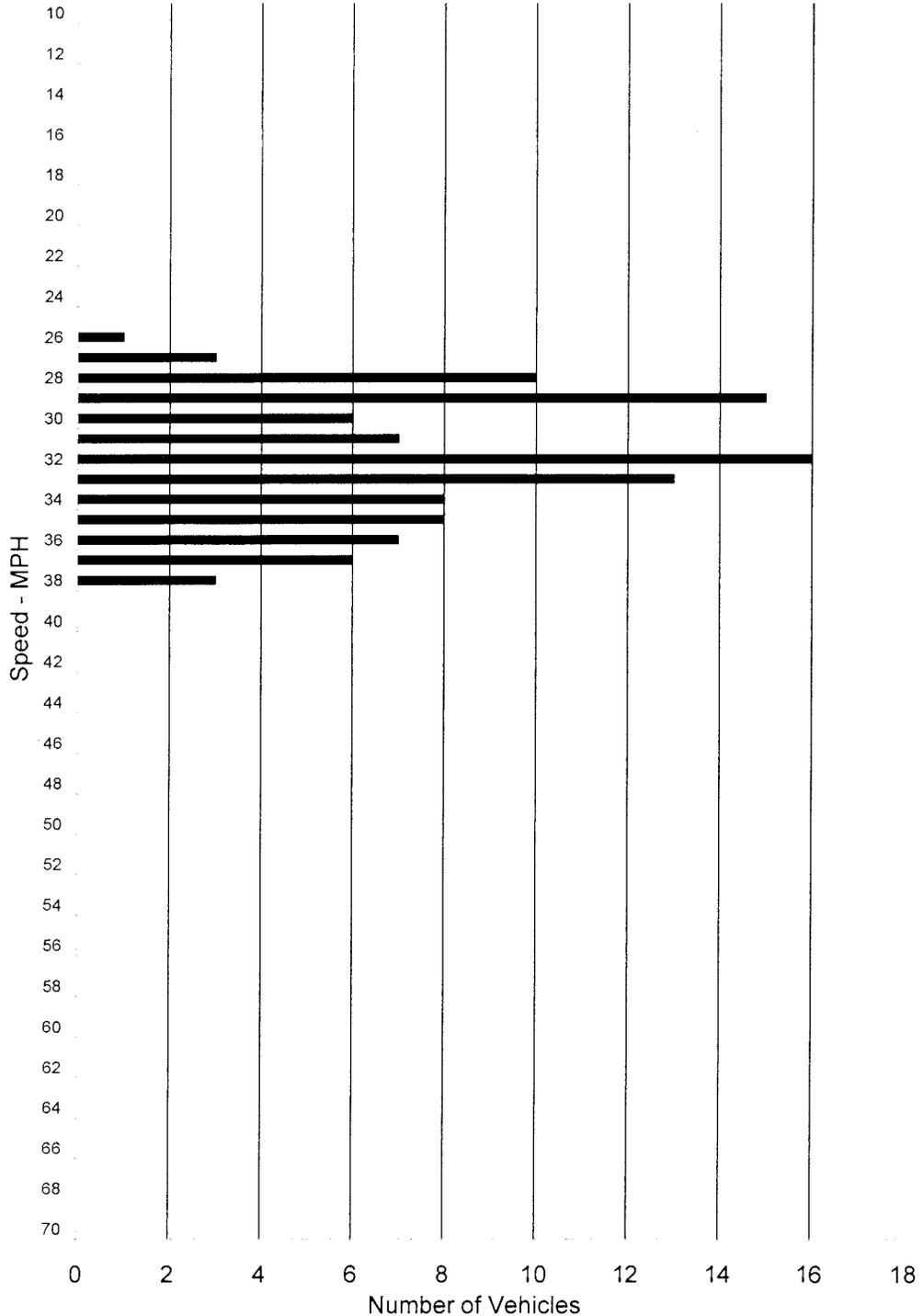
DATE: 10/28/2010  
 Start Time: 3:00 PM  
 DAY: Thursday

Location: Portola Avenue to Railroad Avenue  
 End Time: 3:40 PM  
 (Before) Speed Limit: 30 MPH

Observer: Neville  
 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        | 0            |
| 26        | 1            |
| 27        | 3            |
| 28        | 10           |
| 29        | 15           |
| 30        | 6            |
| 31        | 7            |
| 32        | 16           |
| 33        | 13           |
| 34        | 8            |
| 35        | 8            |
| 36        | 7            |
| 37        | 6            |
| 38        | 3            |
| 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   | 32.0          | 26 - 38 | 32 mph          | 36 mph          | 28 - 37     | 96        | 93%             | 3% / 4           | 3% / 3           |

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 a private school fronts this segment. The length of this segment is 0.56 miles.

**Collision History:** There have been 43 reported collisions along this segment within the past three years. This equates to 4.13 collisions per million vehicle miles, which is higher than the statewide average of 2.08 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 on route to school, and high pedestrian activity especially due to the schools in the area.

**Recommendation:** Based on the 85<sup>th</sup> 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

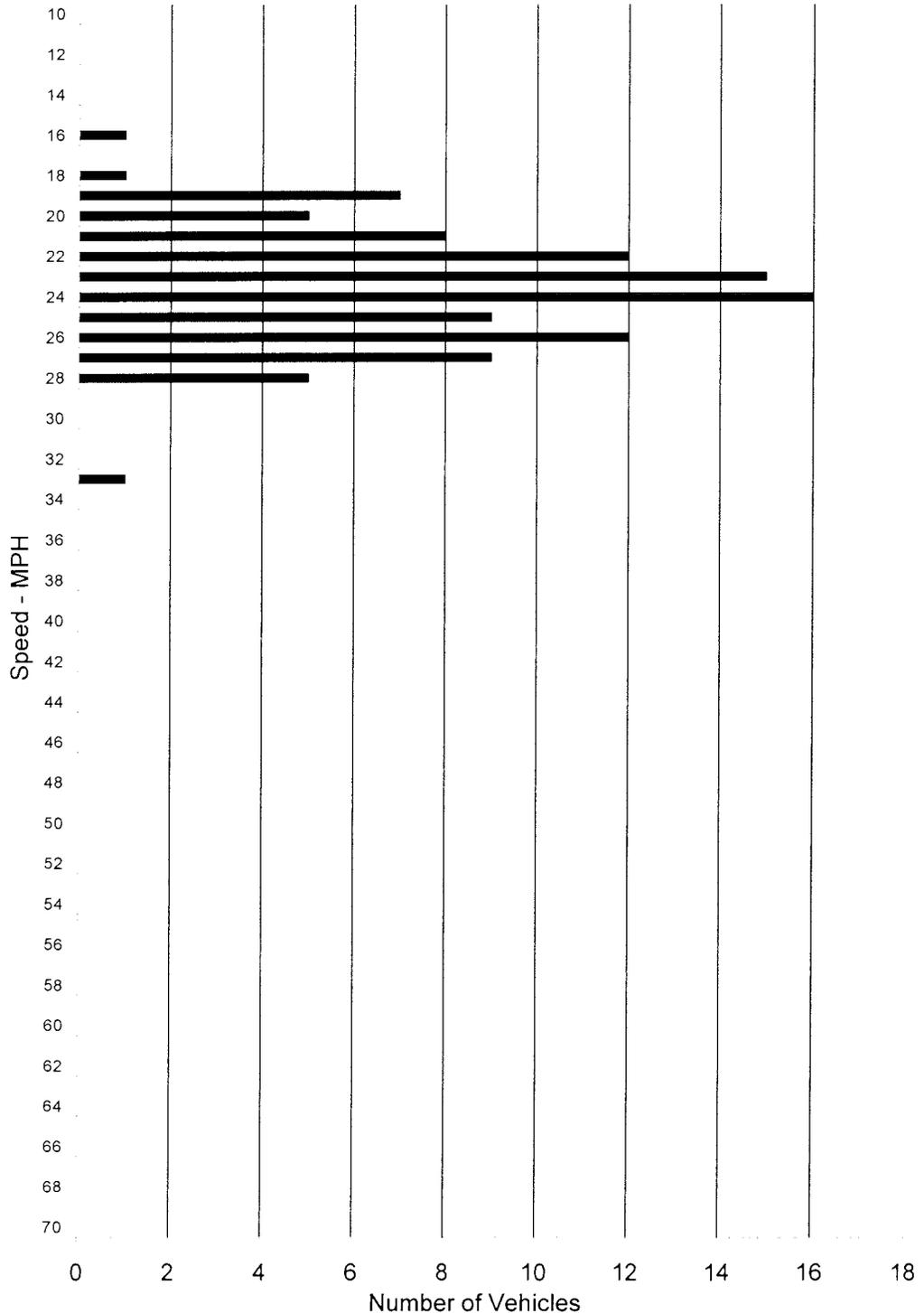
DATE: 10/29/2010  
 Start Time: 2:15 PM  
 DAY: Friday

Location: Fourth Street to Railroad Avenue  
 End Time: 3:00 PM  
 (Before) Speed Limit: 25 MPH  
 Weather: Dry  
 Direction: NB & SB

Observer: Parminder  
 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        | 1            |
| 17        | 0            |
| 18        | 1            |
| 19        | 7            |
| 20        | 5            |
| 21        | 8            |
| 22        | 12           |
| 23        | 15           |
| 24        | 16           |
| 25        | 9            |
| 26        | 12           |
| 27        | 9            |
| 28        | 5            |
| 29        | 0            |
| 30        | 0            |
| 31        | 0            |
| 32        | 0            |
| 33        | 1            |
| 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              | 101   | 23.6          | 16 - 33 | 24 mph          | 26 mph          | 19 - 28     | 98        | 97%             | 1% / 2           | 1% / 1           |

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:** 2 to 3 - lane arterial street 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 46 reported collisions along this segment within the past three years.

**Other Considerations:** None.

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

# Spot Speed Study - City of Livermore

## South Livermore Avenue

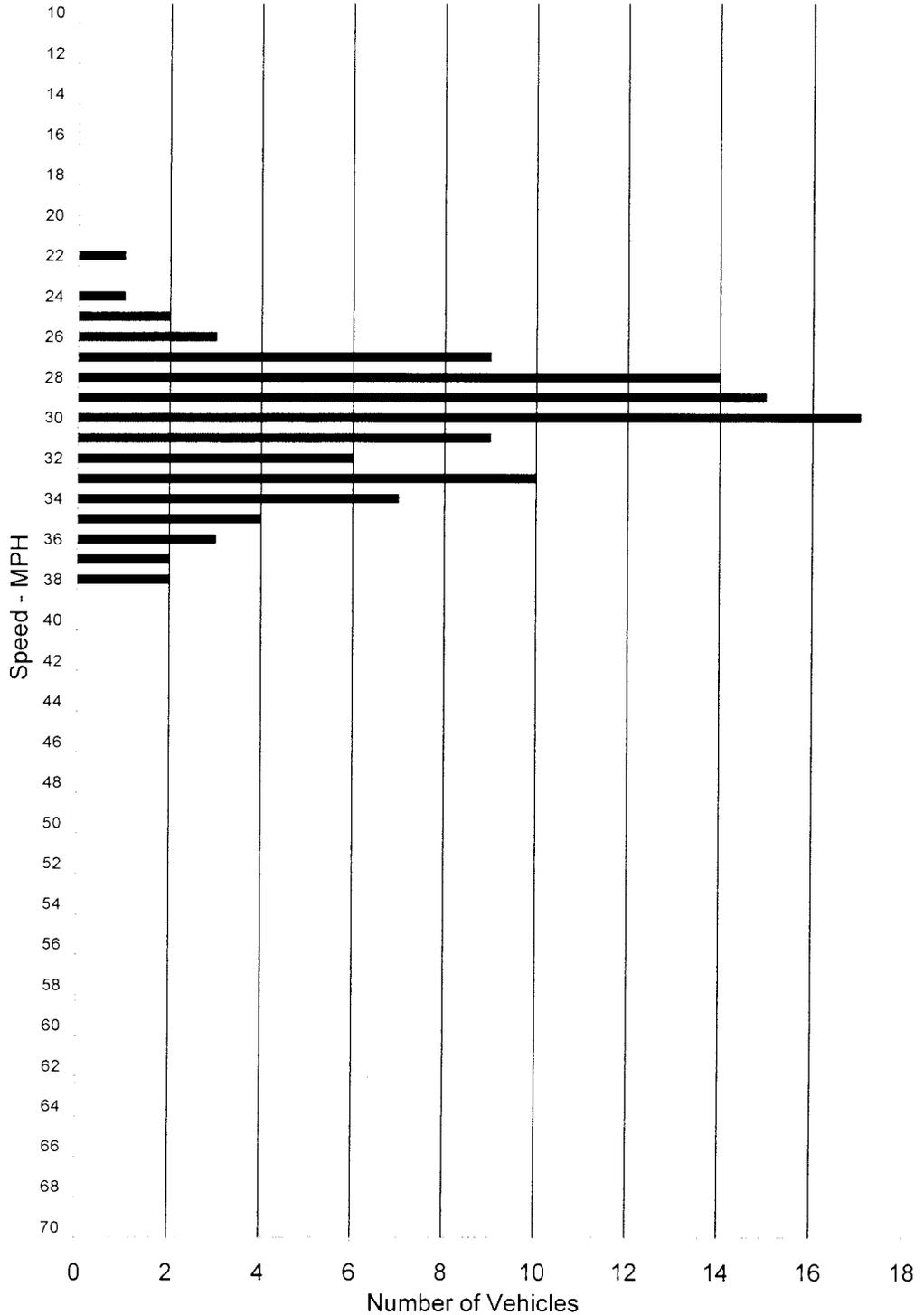
DATE: 9/13/2010  
 Start Time: 1:58 PM  
 DAY: Monday

Location: Fourth Street to Palm Avenue  
 End Time: 2:32 PM  
 (Before) Speed Limit: 25 MPH  
 Weather: Dry  
 Direction: NB & SB

Observer: Dtorrey  
 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        | 1            |
| 23        | 0            |
| 24        | 1            |
| 25        | 2            |
| 26        | 3            |
| 27        | 9            |
| 28        | 14           |
| 29        | 15           |
| 30        | 17           |
| 31        | 9            |
| 32        | 6            |
| 33        | 10           |
| 34        | 7            |
| 35        | 4            |
| 36        | 3            |
| 37        | 2            |
| 38        | 2            |
| 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   | 30.4          | 22 - 38 | 30 mph          | 34 mph          | 26 - 35     | 94        | 90%             | 3% / 4           | 7% / 7           |

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:** 2-lane collector street through primarily a residential area, with fronting homes and a shopping center. Bike lane is present along the west side starting at Fifth Street to Sixth Street. Bike lanes are present along both sides of the street from Sixth Street to Palm Avenue. Parking is permitted. The length of this segment is 0.40 miles.

**Collision History:** There have been 18 reported collisions along this segment within the past three years. This equates to 4.96 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> percentile speed of 34 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

## South Livermore Avenue

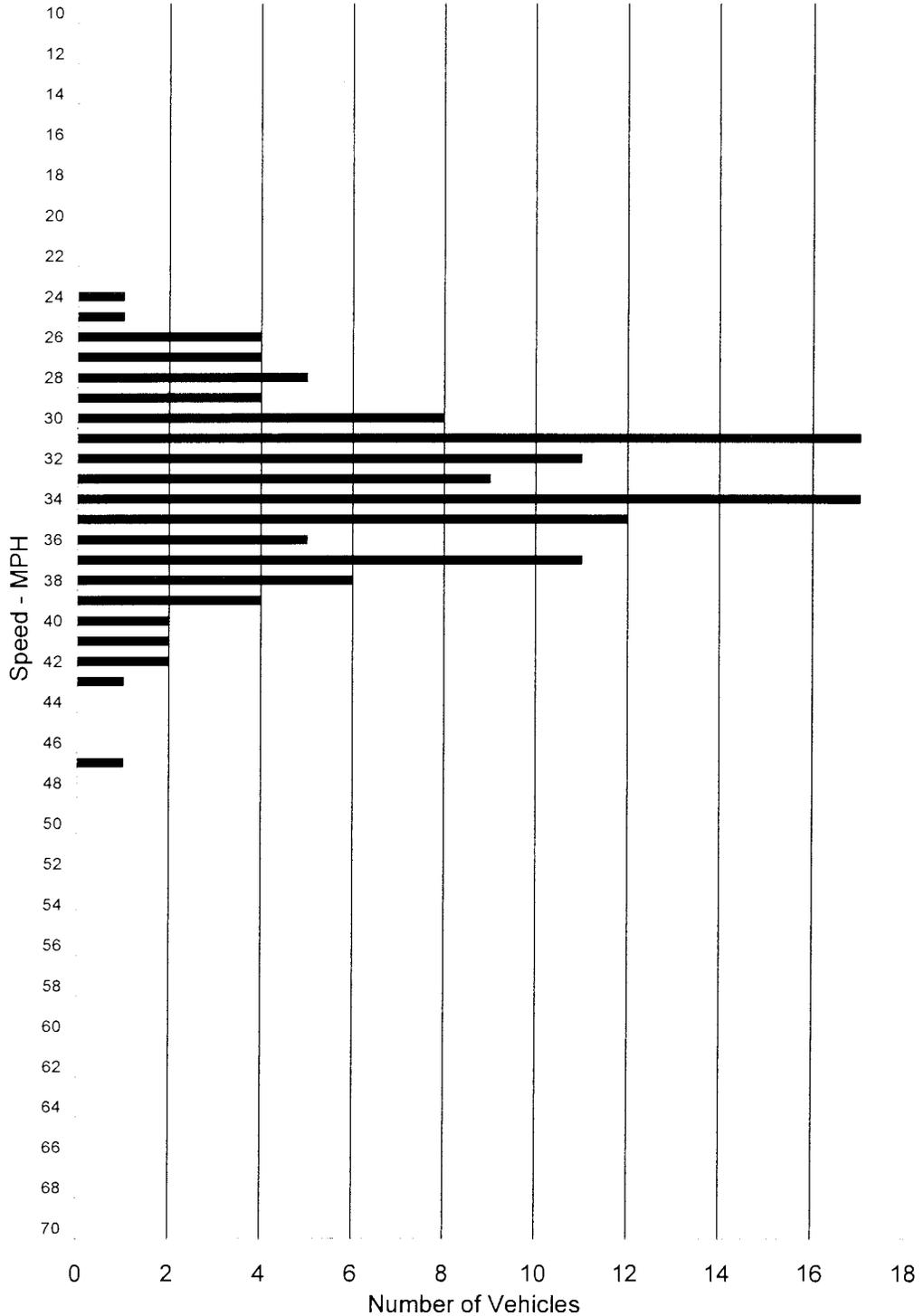
DATE: 9/13/2010  
 Start Time: 2:58 PM  
 DAY: Monday

Location: Palm Avenue to Chateau Way  
 End Time: 3:21 PM  
 (Before) Speed Limit: 30 MPH  
 Weather: Dry  
 Direction: NB & SB

Observer: Dtorrey  
 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        | 4            |
| 27        | 4            |
| 28        | 5            |
| 29        | 4            |
| 30        | 8            |
| 31        | 17           |
| 32        | 11           |
| 33        | 9            |
| 34        | 17           |
| 35        | 12           |
| 36        | 5            |
| 37        | 11           |
| 38        | 6            |
| 39        | 4            |
| 40        | 2            |
| 41        | 2            |
| 42        | 2            |
| 43        | 1            |
| 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              | 127   | 33.4          | 24 - 47 | 33 mph          | 37 mph          | 29 - 38     | 100       | 79%             | 11% / 15         | 10% / 12         |

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. A few fronting homes, a 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 4 reported collisions along this segment within the past three years.

**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 85<sup>th</sup> 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

## South Livermore Avenue

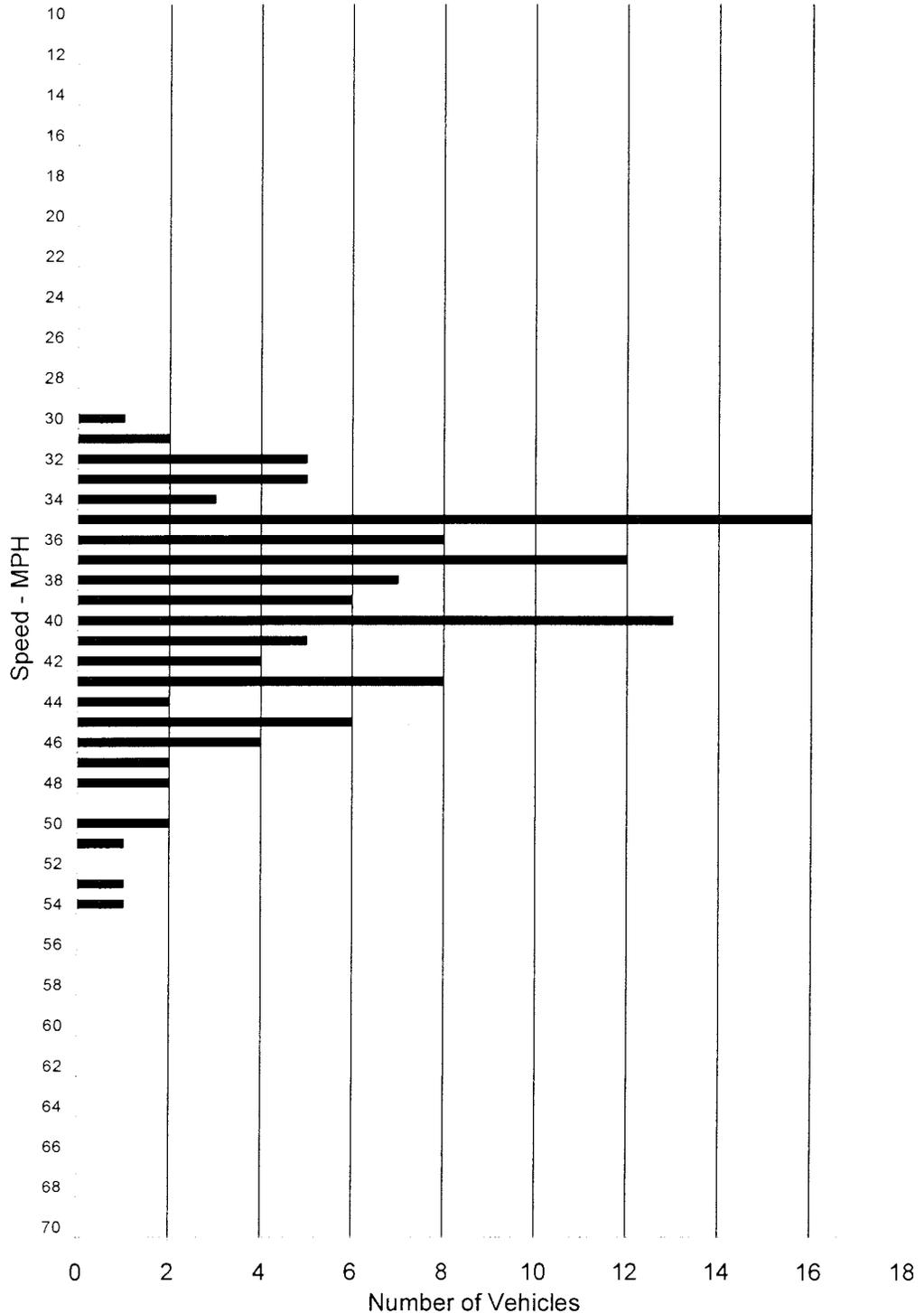
DATE: 9/13/2010  
 Start Time: 3:32 PM  
 DAY: Monday

Location: Chateau Way To South City Limit  
 End Time: 4:05 PM  
 (Before) Speed Limit: 40 MPH

Observer: Dtorrey  
 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        | 2            |
| 32        | 5            |
| 33        | 5            |
| 34        | 3            |
| 35        | 16           |
| 36        | 8            |
| 37        | 12           |
| 38        | 7            |
| 39        | 6            |
| 40        | 13           |
| 41        | 5            |
| 42        | 4            |
| 43        | 8            |
| 44        | 2            |
| 45        | 6            |
| 46        | 4            |
| 47        | 2            |
| 48        | 2            |
| 49        | 0            |
| 50        | 2            |
| 51        | 1            |
| 52        | 0            |
| 53        | 1            |
| 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              | 116   | 39.1          | 30 - 54 | 38 mph          | 45 mph          | 34 - 43     | 82        | 71%             | 11% / 13         | 19% / 21         |

**CITY OF LIVERMORE**

**ENGINEERING AND TRAFFIC SURVEY**

Street: SOUTH LIVERMORE AVENUE Adjacent Land Use: AGRICULTURAL

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

**Roadway Description:** 2-lane collector street with vineyards on one side a church, school and park on the other. 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 4 reported collisions along this segment within the past three years.

**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 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 85<sup>th</sup> 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.

# Spot Speed Study - City of Livermore

## Maple Street

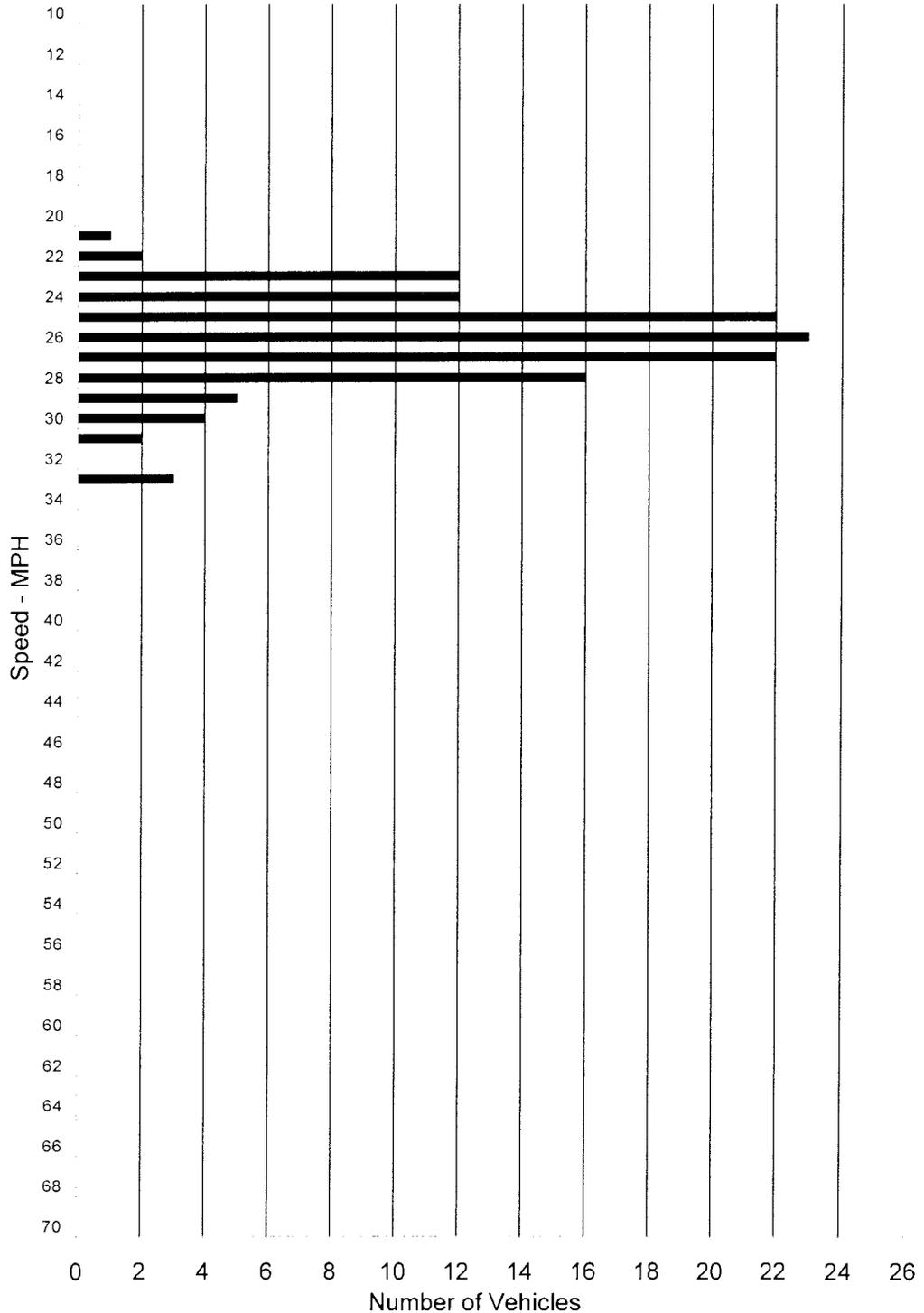
DATE: 10/4/2010  
 Start Time: 4:00 PM  
 DAY: Monday

Location: Railroad Avenue to East Avenue  
 End Time: 4:20 PM  
 (Before) Speed Limit: 25 MPH  
 Weather: Cloudy/Dry  
 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        | 1            |
| 22        | 2            |
| 23        | 12           |
| 24        | 12           |
| 25        | 22           |
| 26        | 23           |
| 27        | 22           |
| 28        | 16           |
| 29        | 5            |
| 30        | 4            |
| 31        | 2            |
| 32        | 0            |
| 33        | 3            |
| 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              | 124   | 26.2          | 21 - 33 | 26 mph          | 28 mph          | 22 - 31     | 120       | 97%             | 0% / 1           | 3% / 3           |

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 on-street bike lanes, parking, and numerous 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 26 reported collisions along this segment within the past three years. This equates to 10.13 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> percentile speed of 28 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

## Mines Road

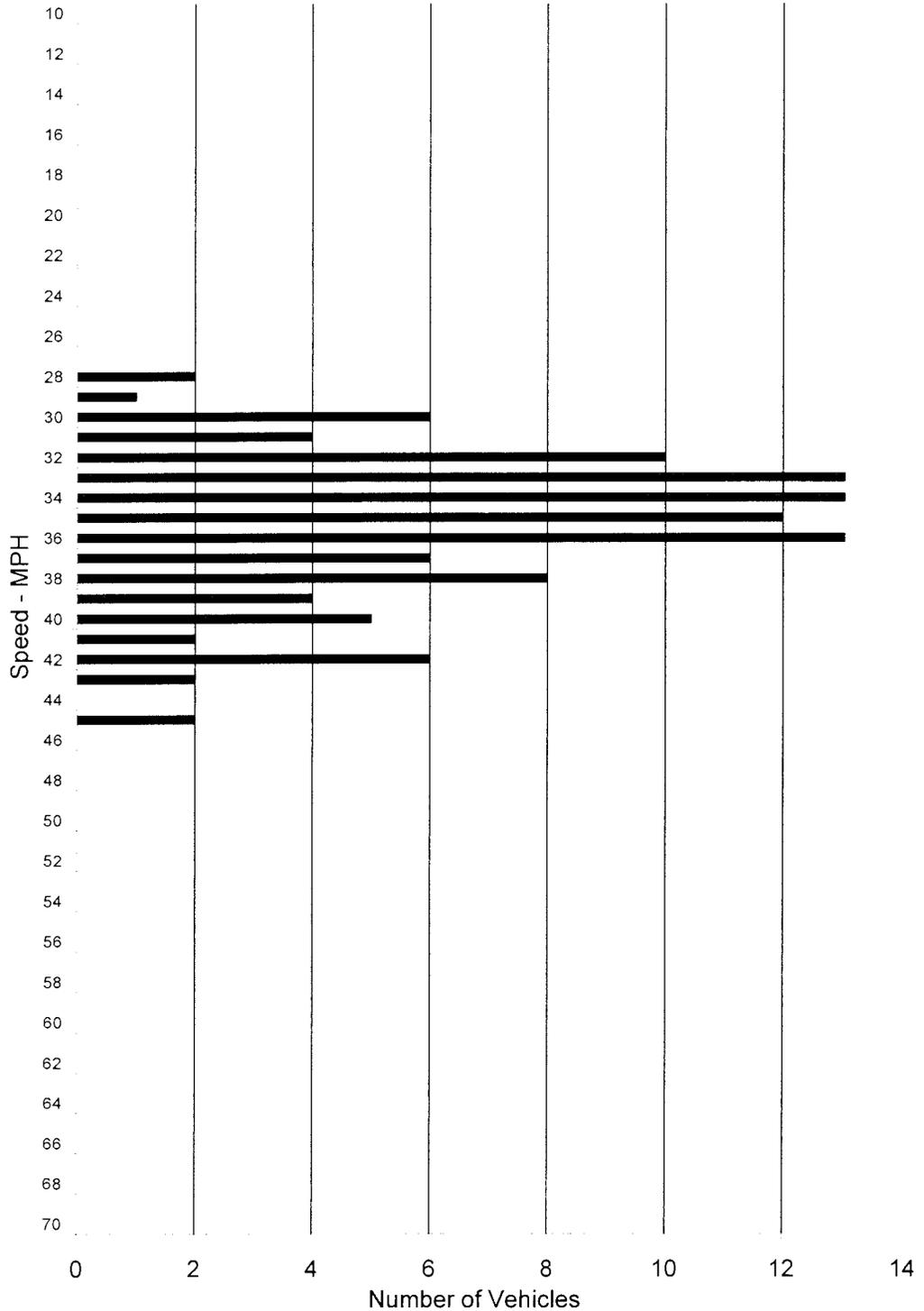
DATE: 10/6/2010  
 Start Time: 2:00 PM  
 DAY: Wednesday

Location: Las Positas Road to Highland Street  
 End Time: 2:25 PM  
 (Before) Speed Limit: 35 MPH

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        | 0            |
| 28        | 2            |
| 29        | 1            |
| 30        | 6            |
| 31        | 4            |
| 32        | 10           |
| 33        | 13           |
| 34        | 13           |
| 35        | 12           |
| 36        | 13           |
| 37        | 6            |
| 38        | 8            |
| 39        | 4            |
| 40        | 5            |
| 41        | 2            |
| 42        | 6            |
| 43        | 2            |
| 44        | 0            |
| 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              | 109   | 35.4          | 28 - 45 | 35 mph          | 40 mph          | 30 - 39     | 89        | 82%             | 2% / 3           | 16% / 17         |

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 on-street 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 2 reported collisions along this segment within the past three years. This equates to 0.95 collisions per million vehicle miles.

**Other Considerations:** Bicycling activity is common along this segment. Median choker 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 85<sup>th</sup> 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 35 MPH speed limit will remain in effect.

# Spot Speed Study - City of Livermore

## Mines Road

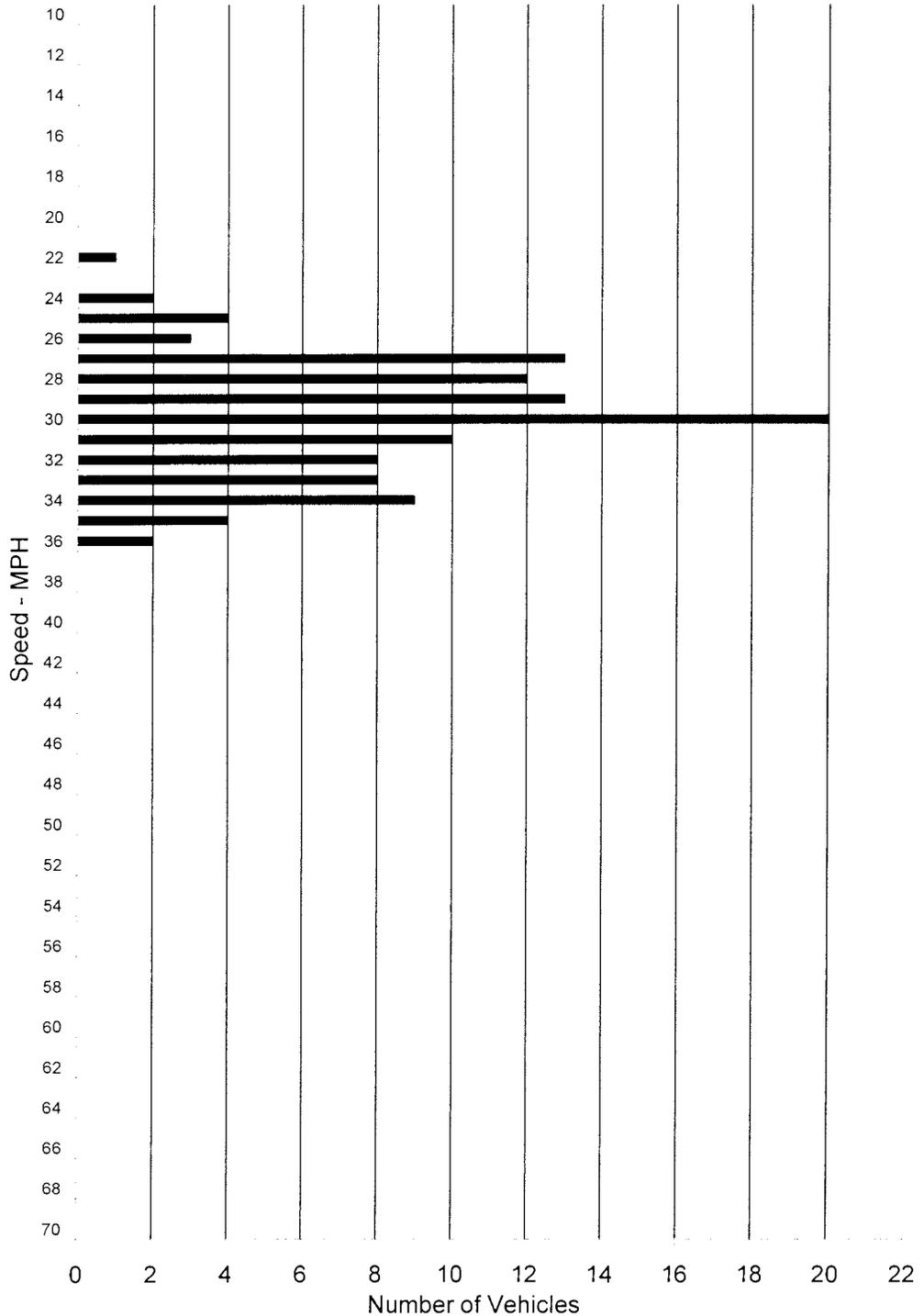
DATE: 9/29/2010  
 Start Time: 3:50 PM  
 DAY: Wednesday

Location: Highland Street to First Street  
 End Time: 4:30 PM  
 (Before) Speed Limit: 30 MPH

Observer: Mbauer  
 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        | 1            |
| 23        | 0            |
| 24        | 2            |
| 25        | 4            |
| 26        | 3            |
| 27        | 13           |
| 28        | 12           |
| 29        | 13           |
| 30        | 20           |
| 31        | 10           |
| 32        | 8            |
| 33        | 8            |
| 34        | 9            |
| 35        | 4            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 109   | 29.9          | 22 - 36 | 30 mph          | 33 mph          | 25 - 34     | 100       | 92%          | 2% / 3           | 6% / 6           |

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 9 reported collisions along this segment within the past three years. This equates to 4.76 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**Other Considerations:** Bicycling activity is common along this segment. Median chocker was installed towards the middle of the segment to help slow down traffic.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 33 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

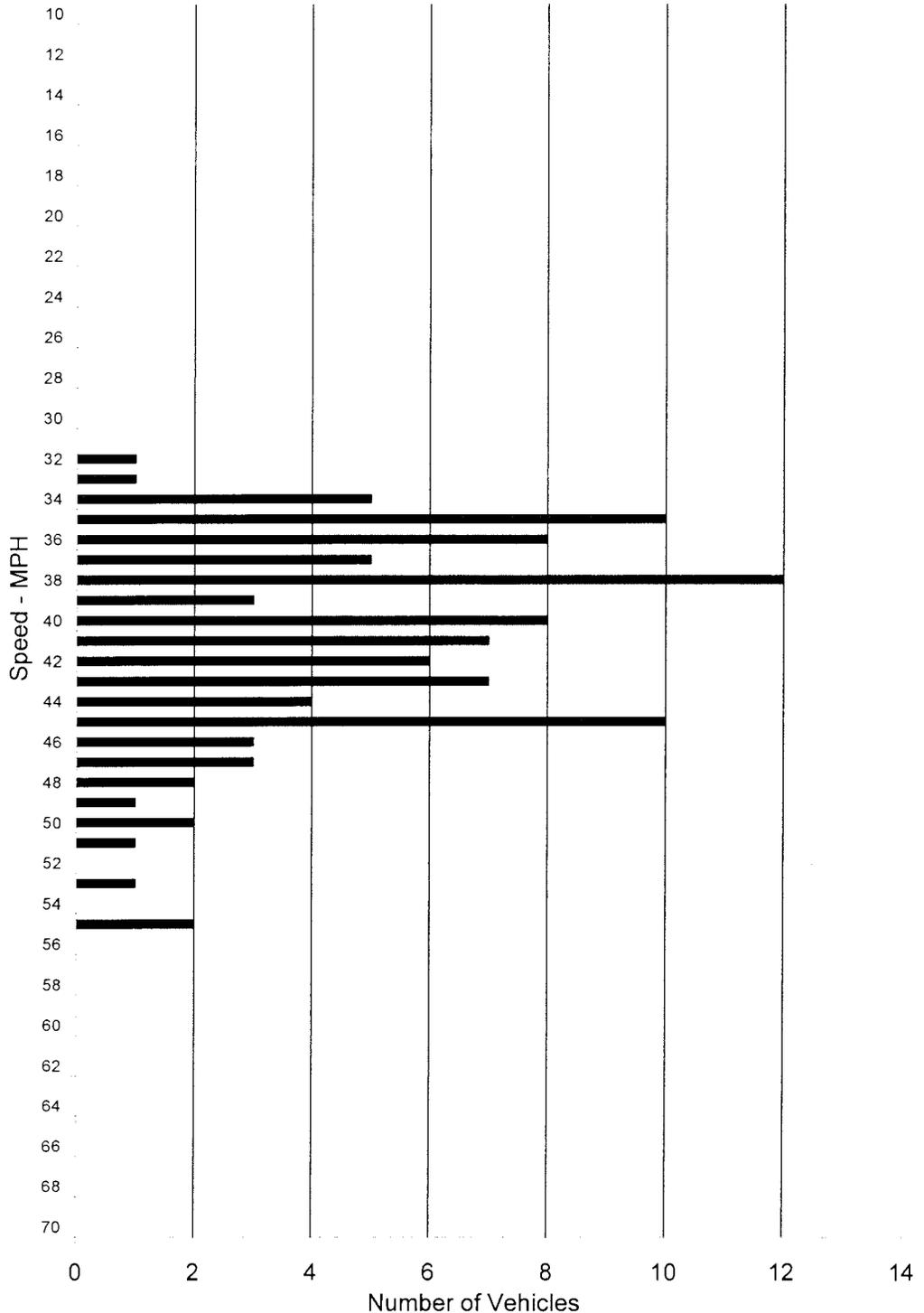
DATE: 9/17/2010  
 Start Time: 12:35 PM  
 DAY: Friday

Location: First Street to East Avenue  
 End Time: 1:07 PM  
 (Before) Speed Limit: 40 MPH

Observer: Mbauer  
 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        | 1            |
| 33        | 1            |
| 34        | 5            |
| 35        | 10           |
| 36        | 8            |
| 37        | 5            |
| 38        | 12           |
| 39        | 3            |
| 40        | 8            |
| 41        | 7            |
| 42        | 6            |
| 43        | 7            |
| 44        | 4            |
| 45        | 10           |
| 46        | 3            |
| 47        | 3            |
| 48        | 2            |
| 49        | 1            |
| 50        | 2            |
| 51        | 1            |
| 52        | 0            |
| 53        | 1            |
| 54        | 0            |
| 55        | 2            |
| 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   | 40.7          | 32 - 55 | 40 mph          | 45 mph          | 34 - 43     | 71        | 70%             | 1% / 2           | 29% / 29         |

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. There are 4 traffic signals on this roadway. The length of this segment is 1.30 miles.

**Collision History:** There have been 31 reported collisions along this segment within the past three years. This equates to 2.58 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for 4-lane divided 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 85<sup>th</sup> 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.

# Spot Speed Study - City of Livermore

## Murdell Lane

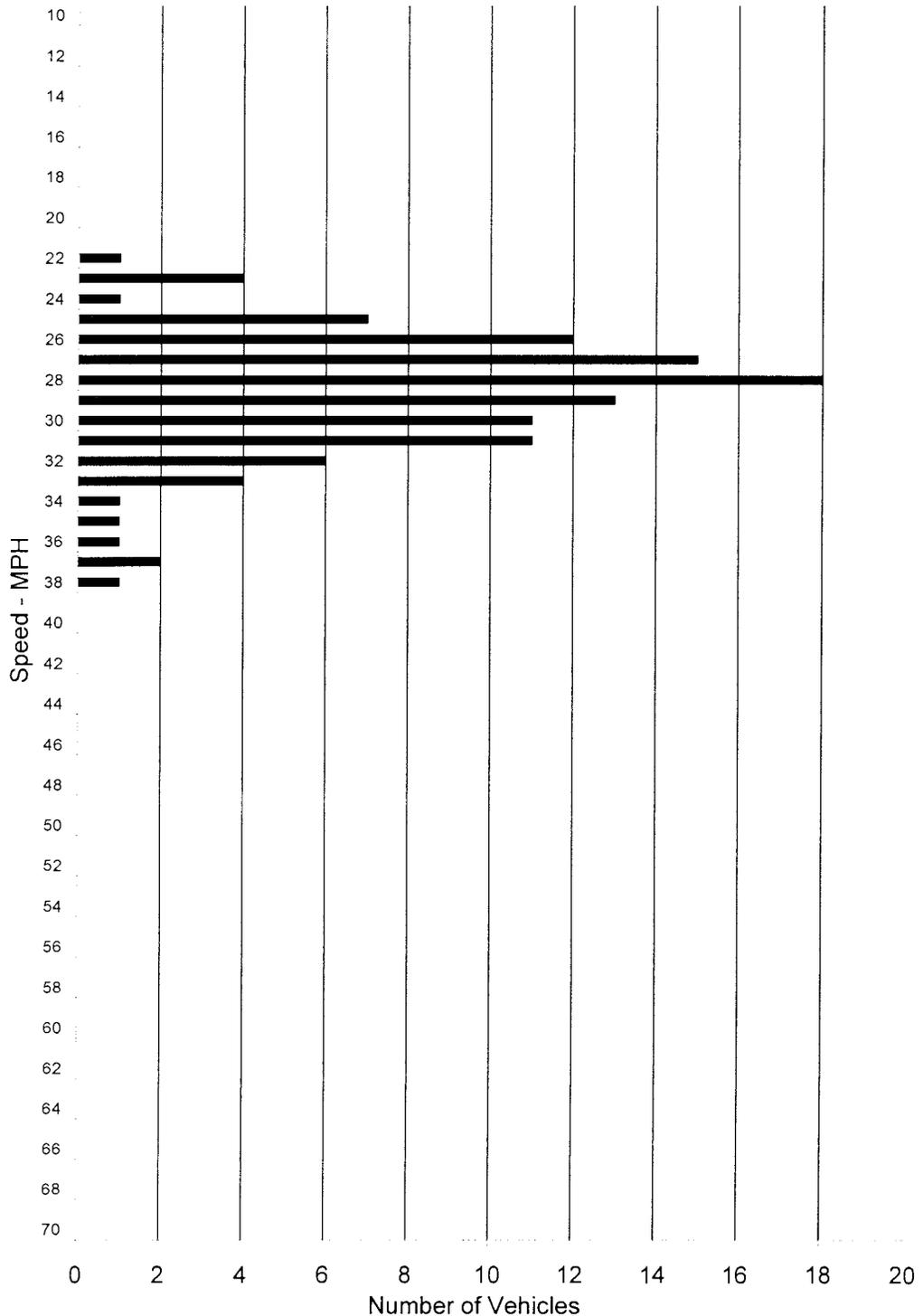
DATE: 1/4/2011  
 Start Time: 11:43 AM  
 DAY: Tuesday

Location: Concannon Boulevard to E. Stanley Boulevard  
 End Time: 12:28 PM  
 (Before) Speed Limit: 25 MPH

Observer: CS  
 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        | 4            |
| 24        | 1            |
| 25        | 7            |
| 26        | 12           |
| 27        | 15           |
| 28        | 18           |
| 29        | 13           |
| 30        | 11           |
| 31        | 11           |
| 32        | 6            |
| 33        | 4            |
| 34        | 1            |
| 35        | 1            |
| 36        | 1            |
| 37        | 2            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 109   | 28.7          | 22 - 38 | 28 mph          | 31 mph          | 23 - 32     | 98        | 90%          | 0% / 1           | 10% / 10         |

**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 5 reported collisions along this segment within the past three years. This equates to 0.76 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, 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 31 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

## Murdell Lane

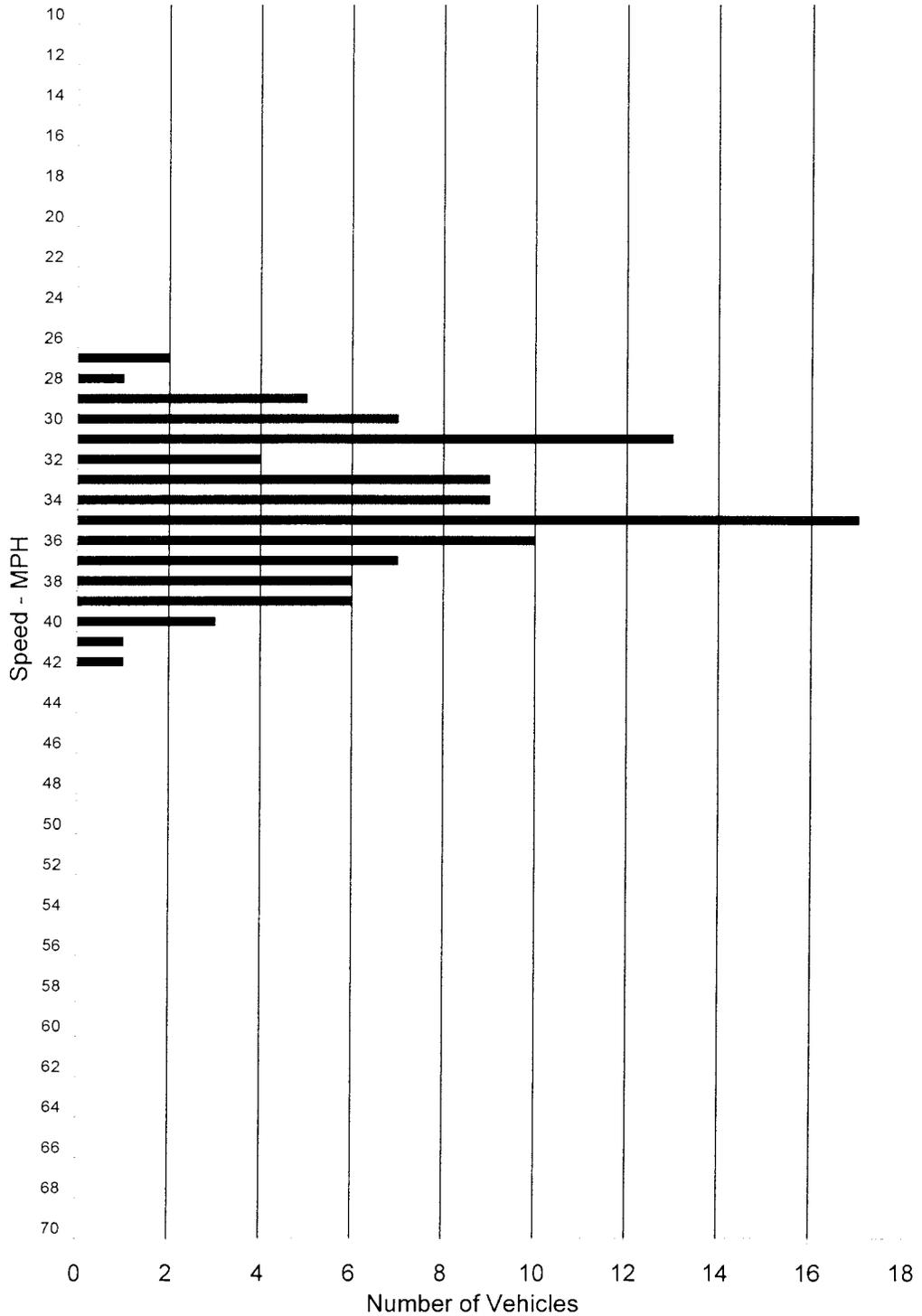
DATE: 10/6/2010  
 Start Time: 3:00 PM  
 DAY: Wednesday

Location: Alden Lane to Concannon Boulevard  
 End Time: 3:45 PM  
 (Before) Speed Limit: 35 MPH

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        | 2            |
| 28        | 1            |
| 29        | 5            |
| 30        | 7            |
| 31        | 13           |
| 32        | 4            |
| 33        | 9            |
| 34        | 9            |
| 35        | 17           |
| 36        | 10           |
| 37        | 7            |
| 38        | 6            |
| 39        | 6            |
| 40        | 3            |
| 41        | 1            |
| 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              | 101   | 34.2          | 27 - 42 | 35 mph          | 38 mph          | 30 - 39     | 88        | 87%             | 7% / 8           | 5% / 5           |

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 on-street bike lanes, and parking. The length of this segment is 0.33 miles.

**Collision History:** There has been 1 reported collision 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 bicycle use. Some intersections have limited available safe stopping sight distance sufficient for a design speed of 35 MPH.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 38 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

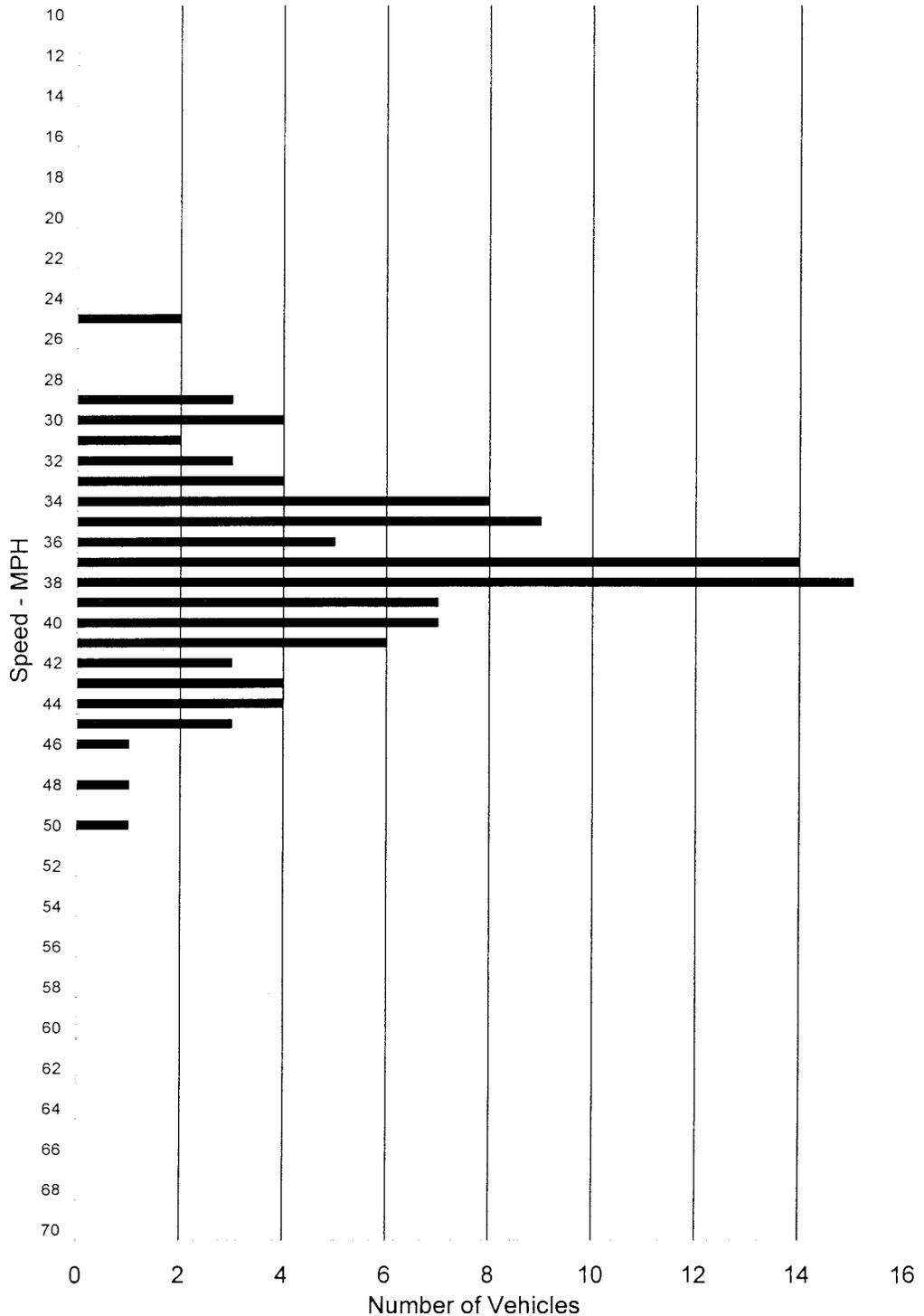
## Murrieta Boulevard

DATE: 11/1/2010  
 Start Time: 2:23 PM  
 DAY: Monday

Location: Portola Avenue to E. Stanley Boulevard  
 End Time: 2:48 PM  
 (Before) Speed Limit: 35 MPH

Observer: Dtorrey  
 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        | 2            |
| 26        | 0            |
| 27        | 0            |
| 28        | 0            |
| 29        | 3            |
| 30        | 4            |
| 31        | 2            |
| 32        | 3            |
| 33        | 4            |
| 34        | 8            |
| 35        | 9            |
| 36        | 5            |
| 37        | 14           |
| 38        | 15           |
| 39        | 7            |
| 40        | 7            |
| 41        | 6            |
| 42        | 3            |
| 43        | 4            |
| 44        | 4            |
| 45        | 3            |
| 46        | 1            |
| 47        | 0            |
| 48        | 1            |
| 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              | 106   | 37.3          | 25 - 50 | 37 mph          | 42 mph          | 32 - 41     | 78        | 74%             | 10% / 11         | 17% / 17         |

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. On-street 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 2.40 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for 4-lane divided 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 some bicycling activities.

**Recommendation:** Based on the 85<sup>th</sup> 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

## Murrieta Boulevard

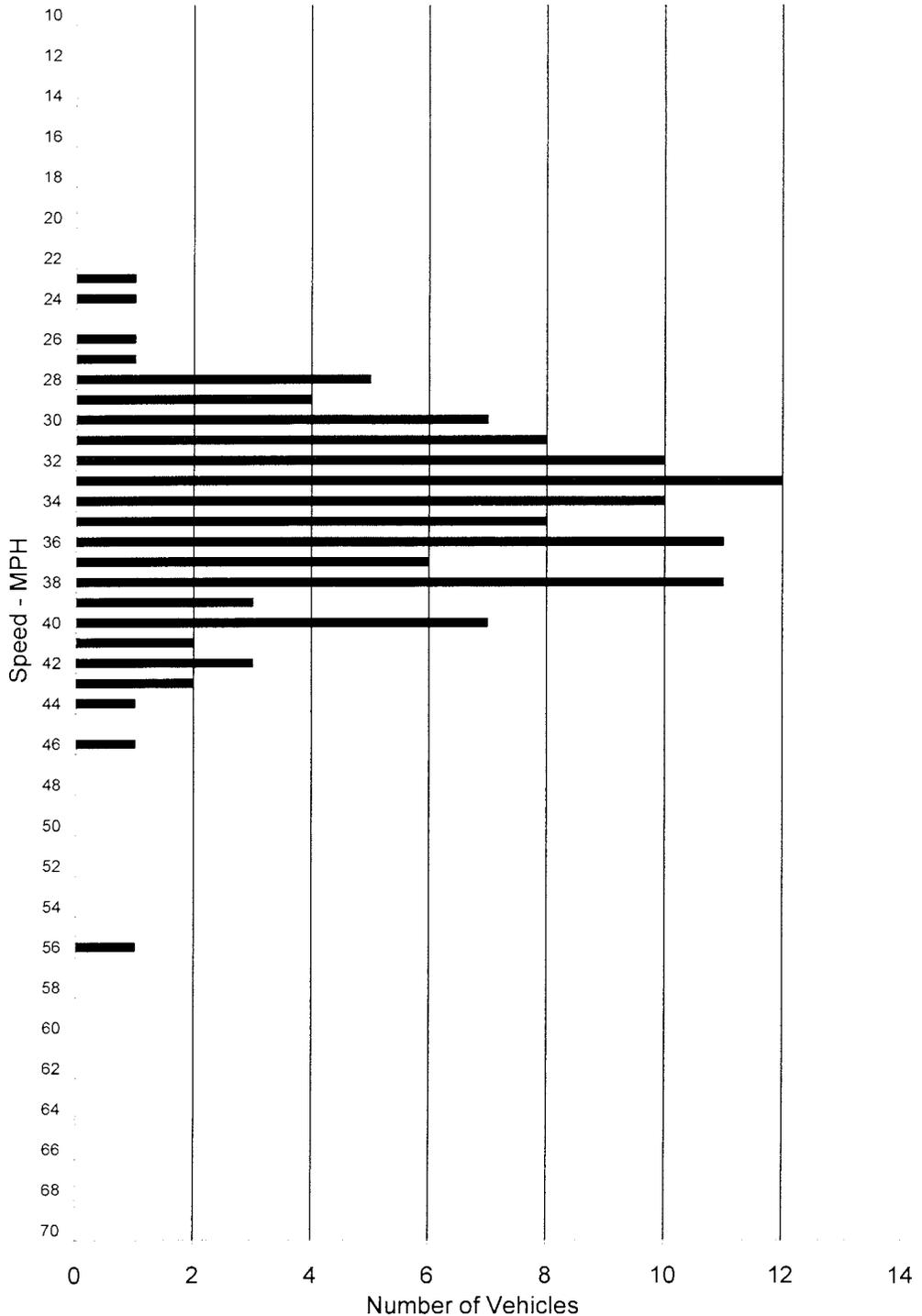
DATE: 9/20/2010  
 Start Time: 3:37 PM  
 DAY: Monday

Location: Holmes Street to Stanley Boulevard  
 End Time: 4:05 PM  
 (Before) Speed Limit: 30 MPH

Observer: Dtorrey  
 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        | 1            |
| 25        | 0            |
| 26        | 1            |
| 27        | 1            |
| 28        | 5            |
| 29        | 4            |
| 30        | 7            |
| 31        | 8            |
| 32        | 10           |
| 33        | 12           |
| 34        | 10           |
| 35        | 8            |
| 36        | 11           |
| 37        | 6            |
| 38        | 11           |
| 39        | 3            |
| 40        | 7            |
| 41        | 2            |
| 42        | 3            |
| 43        | 2            |
| 44        | 1            |
| 45        | 0            |
| 46        | 1            |
| 47        | 0            |
| 48        | 0            |
| 49        | 0            |
| 50        | 0            |
| 51        | 0            |
| 52        | 0            |
| 53        | 0            |
| 54        | 0            |
| 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              | 116   | 34.7          | 23 - 56 | 34 mph          | 39 mph          | 29 - 38     | 87        | 75%             | 7% / 9           | 18% / 20         |

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 median turn lane along the south half of the street. 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 30 reported collisions along this segment within the past three years. This equates to 3.70 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for this type of roadway.

**Other Considerations:** High pedestrian activity at the crosswalk on Murrieta Boulevard at Fenton Street that is frequently used by senior citizens going to the medical offices, by students going to and coming from school.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 39 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 be raised to 35 MPH.

# Spot Speed Study - City of Livermore

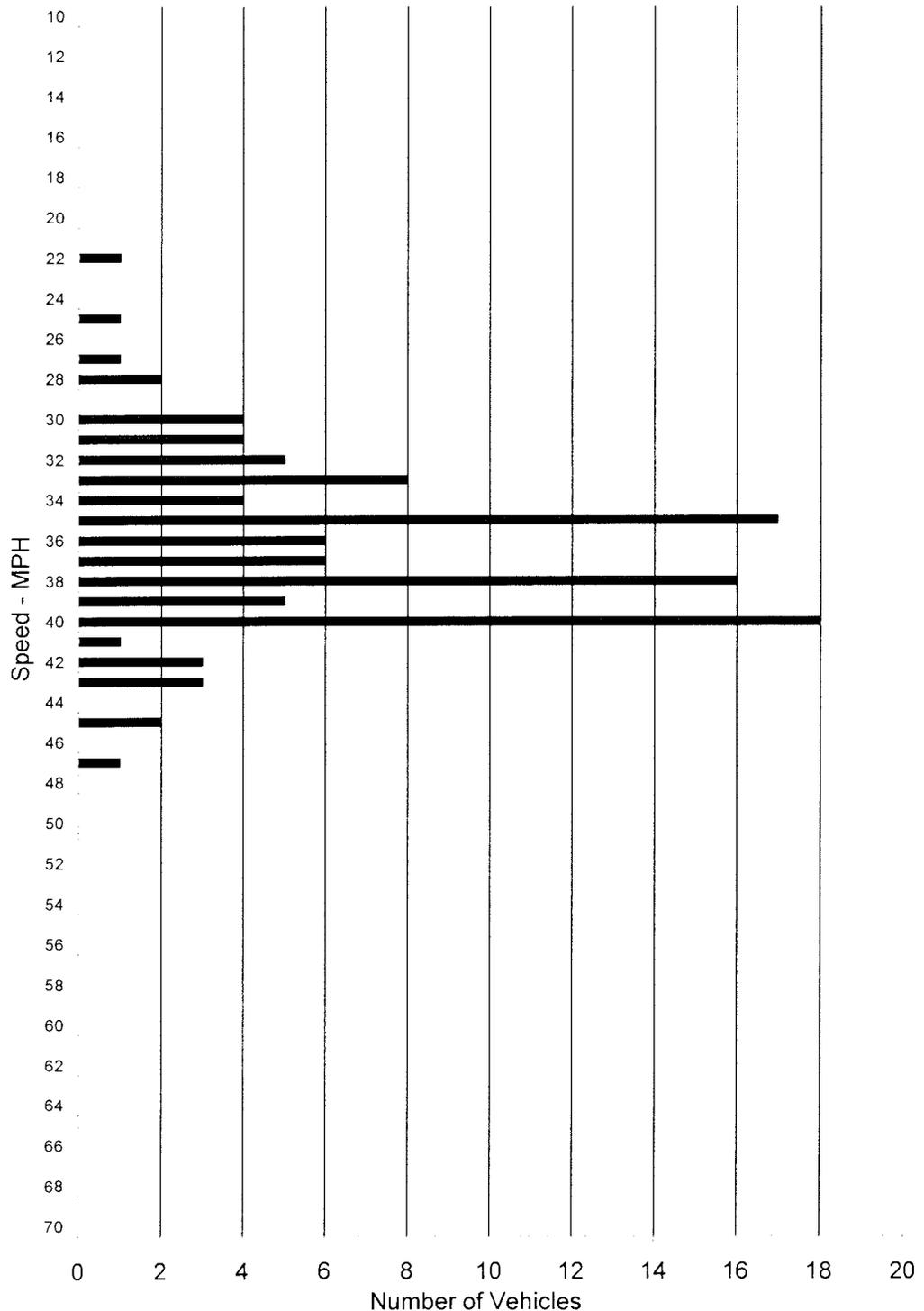
## National Drive

DATE: 11/15/2010  
 Start Time: 02:15 PM  
 DAY: Friday

Location: Greenville Road to Brisa Street  
 End Time: 03:05 PM  
 (Before) Speed Limit: 40 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Parminder  
 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        | 1            |
| 23        | 0            |
| 24        | 0            |
| 25        | 1            |
| 26        | 0            |
| 27        | 1            |
| 28        | 2            |
| 29        | 0            |
| 30        | 4            |
| 31        | 4            |
| 32        | 5            |
| 33        | 8            |
| 34        | 4            |
| 35        | 17           |
| 36        | 6            |
| 37        | 6            |
| 38        | 16           |
| 39        | 5            |
| 40        | 18           |
| 41        | 1            |
| 42        | 3            |
| 43        | 3            |
| 44        | 0            |
| 45        | 2            |
| 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              | 108   | 36.3          | 22 - 47 | 37 mph          | 40 mph          | 31 - 40     | 89        | 82%             | 8% / 9           | 10% / 10         |

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:** 2-lane divided collector street with a dual left turn lane through a mostly undeveloped industrial area. 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 85<sup>th</sup> percentile speed of 40 MPH, the existing 40 MPH speed limit will remain in effect.

# Spot Speed Study - City of Livermore

## North Canyons Parkway

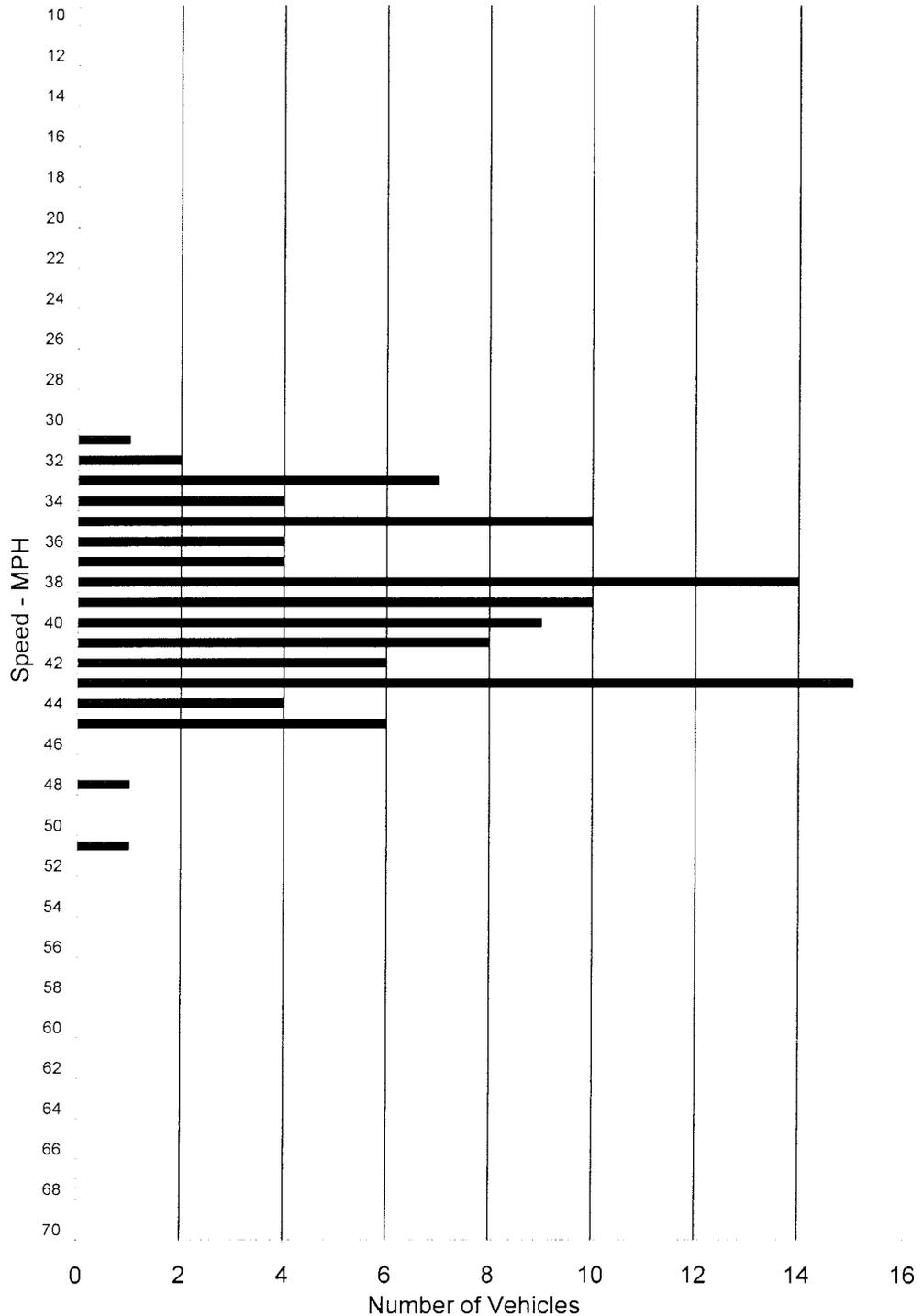
DATE: 9/15/2010  
 Start Time: 10:00 AM  
 DAY: Wednesday

Location: Doolan Road to Collier Canyon Road  
 End Time: 10:15 AM  
 (Before) Speed Limit: 40 MPH

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        | 0            |
| 27        | 0            |
| 28        | 0            |
| 29        | 0            |
| 30        | 0            |
| 31        | 1            |
| 32        | 2            |
| 33        | 7            |
| 34        | 4            |
| 35        | 10           |
| 36        | 4            |
| 37        | 4            |
| 38        | 14           |
| 39        | 10           |
| 40        | 9            |
| 41        | 8            |
| 42        | 6            |
| 43        | 15           |
| 44        | 4            |
| 45        | 6            |
| 46        | 0            |
| 47        | 0            |
| 48        | 1            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 106   | 39.2          | 31 - 51 | 39 mph          | 43 mph          | 34 - 43     | 84        | 79%          | 9% / 10          | 12% / 12         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: NORTH CANYONS PARKWAY Adjacent Land Use: INDUSTRIAL

Limits: DOOLAN RD TO COLLIER CANYON RD No. of Lanes: 4

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

**Collision History:** There have been 24 reported collisions along this segment within the past three years. This equates to 0.75 collisions per million vehicle miles.

**Other Considerations:** None.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 43 MPH, the existing 40 MPH speed limit will be raised to 45 MPH.

# Spot Speed Study - City of Livermore

## Northfront Road

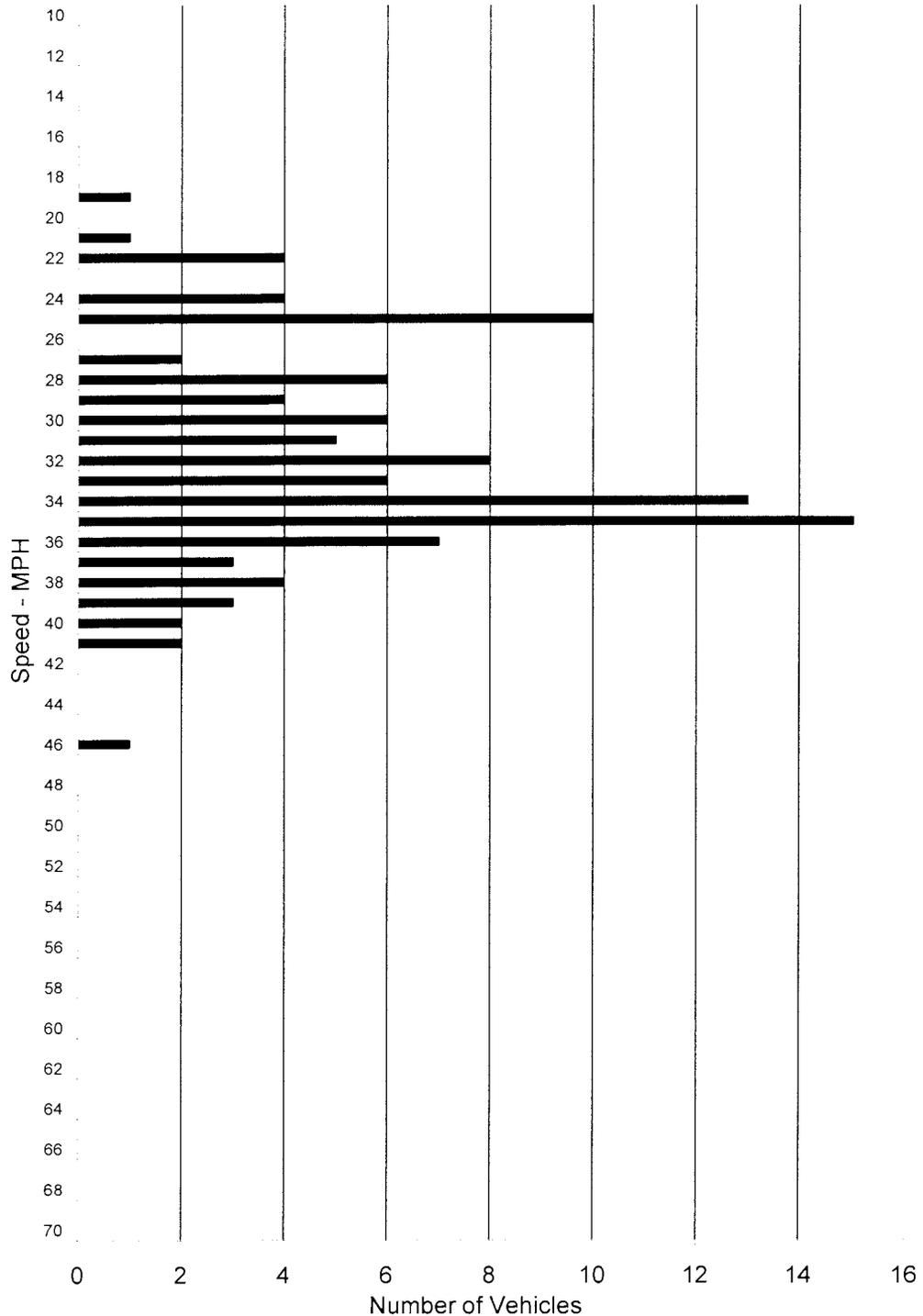
DATE: 9/24/2010  
 Start Time: 10:30 AM  
 DAY: Friday

Location: Central Avenue to Vasco Road  
 End Time: 11:15 AM  
 (Before) Speed Limit: 35 MPH  
 Weather: Dry/Clear  
 Direction: EB & WB

Observer: Parminder  
 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        | 1            |
| 22        | 4            |
| 23        | 0            |
| 24        | 4            |
| 25        | 10           |
| 26        | 0            |
| 27        | 2            |
| 28        | 6            |
| 29        | 4            |
| 30        | 6            |
| 31        | 5            |
| 32        | 8            |
| 33        | 6            |
| 34        | 13           |
| 35        | 15           |
| 36        | 7            |
| 37        | 3            |
| 38        | 4            |
| 39        | 3            |
| 40        | 2            |
| 41        | 2            |
| 42        | 0            |
| 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              | 107   | 31.9          | 19 - 46 | 33 mph          | 36 mph          | 28 - 37     | 73        | 68%             | 20% / 22         | 12% / 12         |

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 partially developed 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 4 reported collisions along this segment within the past three years. This equates to 1.45 collisions per million vehicle miles.

**Other Considerations:** None.

**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

## Northfront Road

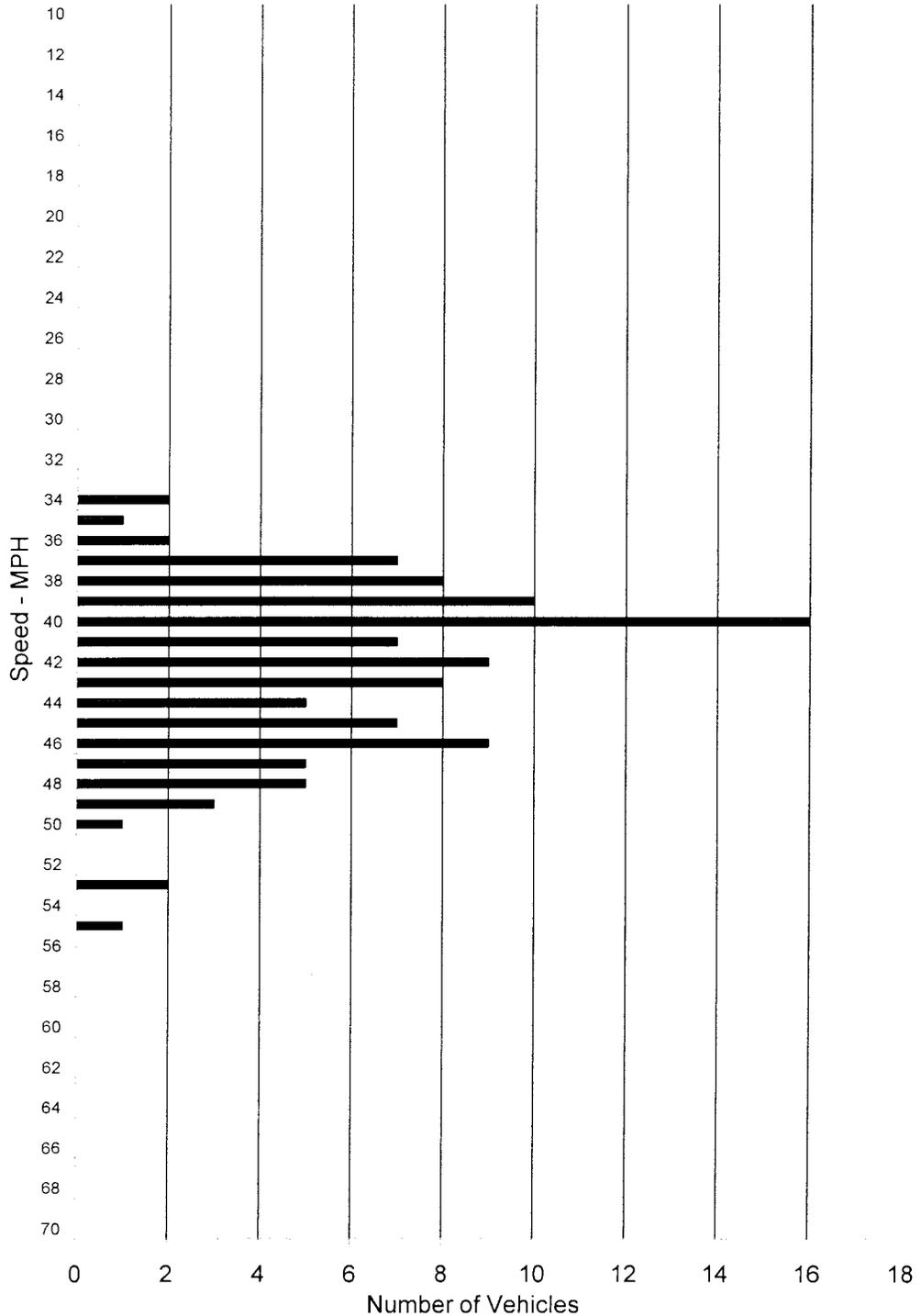
DATE: 10/20/2010  
 Start Time: 3:00 PM  
 DAY: Wednesday

Location: Vasco Road to East City Limits  
 End Time: 3:40 PM  
 (Before) Speed Limit: 40 MPH  
 Weather: Dry/Clear  
 Direction: EB & WB

Observer: Mbauer  
 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        | 2            |
| 35        | 1            |
| 36        | 2            |
| 37        | 7            |
| 38        | 8            |
| 39        | 10           |
| 40        | 16           |
| 41        | 7            |
| 42        | 9            |
| 43        | 8            |
| 44        | 5            |
| 45        | 7            |
| 46        | 9            |
| 47        | 5            |
| 48        | 5            |
| 49        | 3            |
| 50        | 1            |
| 51        | 0            |
| 52        | 0            |
| 53        | 2            |
| 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              | 108   | 42.2          | 34 - 55 | 42 mph          | 47 mph          | 37 - 46     | 86        | 80%             | 4% / 5           | 16% / 17         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: NORTHFRONT ROAD Adjacent Land Use: INDUSTRIAL

Limits: VASCO RD TO EAST CITY LIMIT No. of Lanes: 2

**Roadway Description:** 2-lane collector street through an undeveloped residential and commercial/industrial area. No fronting homes or 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 0.91 collisions per million vehicle miles.

**Other Considerations:** None.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 47 MPH, the existing 40 MPH speed limit will be raised to 45 MPH.

# Spot Speed Study - City of Livermore

## Olivina Avenue

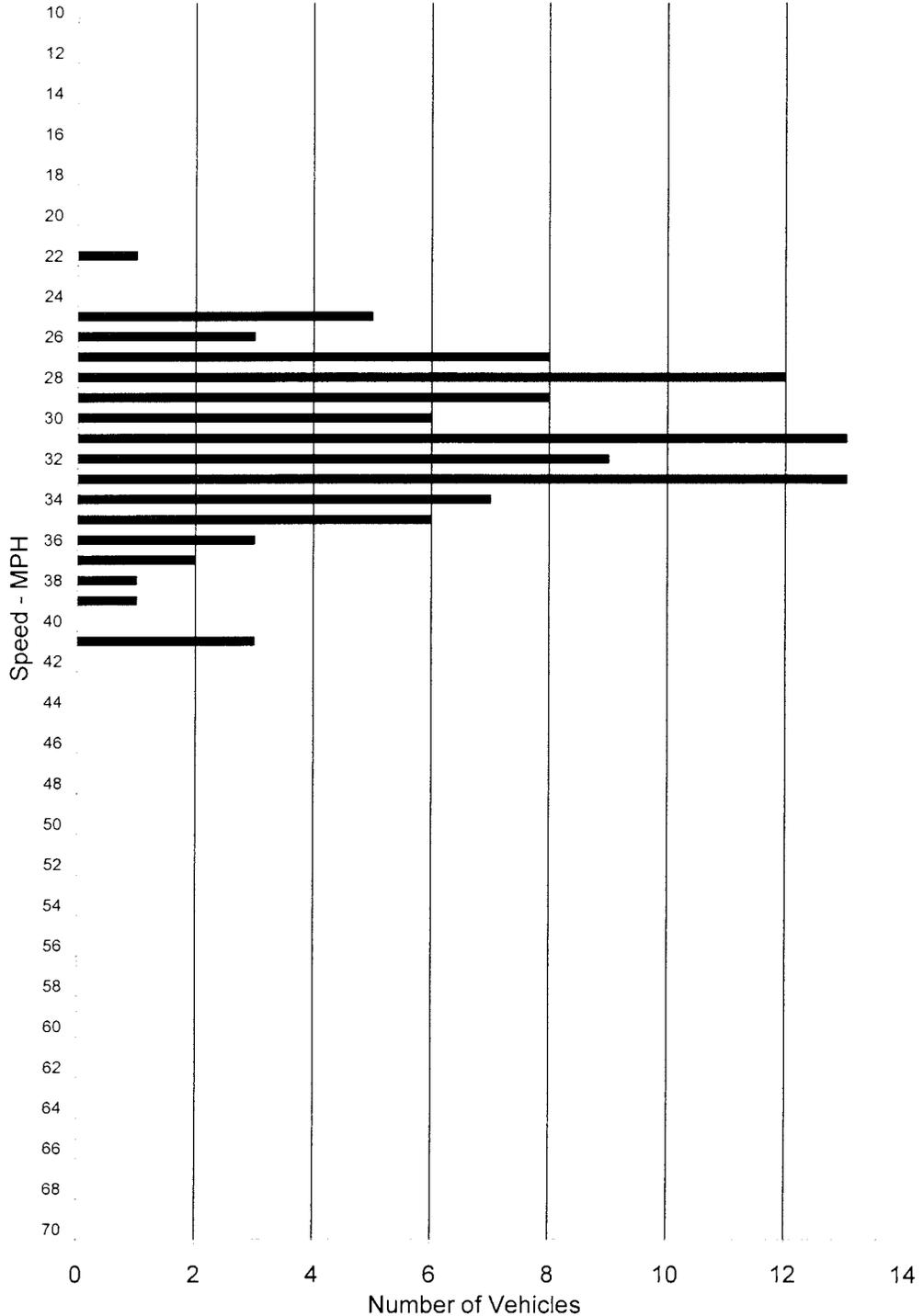
DATE: 9/20/2010  
 Start Time: 3:50 PM  
 DAY: Monday

Location: Hagemann Drive to Murrieta Boulevard  
 End Time: 4:20 PM  
 (Before) Speed Limit: 25 MPH

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        | 1            |
| 23        | 0            |
| 24        | 0            |
| 25        | 5            |
| 26        | 3            |
| 27        | 8            |
| 28        | 12           |
| 29        | 8            |
| 30        | 6            |
| 31        | 13           |
| 32        | 9            |
| 33        | 13           |
| 34        | 7            |
| 35        | 6            |
| 36        | 3            |
| 37        | 2            |
| 38        | 1            |
| 39        | 1            |
| 40        | 0            |
| 41        | 3            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 101   | 31.1          | 22 - 41 | 31 mph          | 35 mph          | 26 - 35     | 85        | 84%          | 5% / 6           | 10% / 10         |

**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:** 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 length of this segment is 0.56 miles.

**Collision History:** There have been 5 reported collisions along this segment within the past three years. This equates to 1.54 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 activity especially along the park frontage, and reduced roadway width with no shoulder area at the unimproved portion

**Recommendation:** Based on the 85<sup>th</sup> 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

## Olivina Avenue

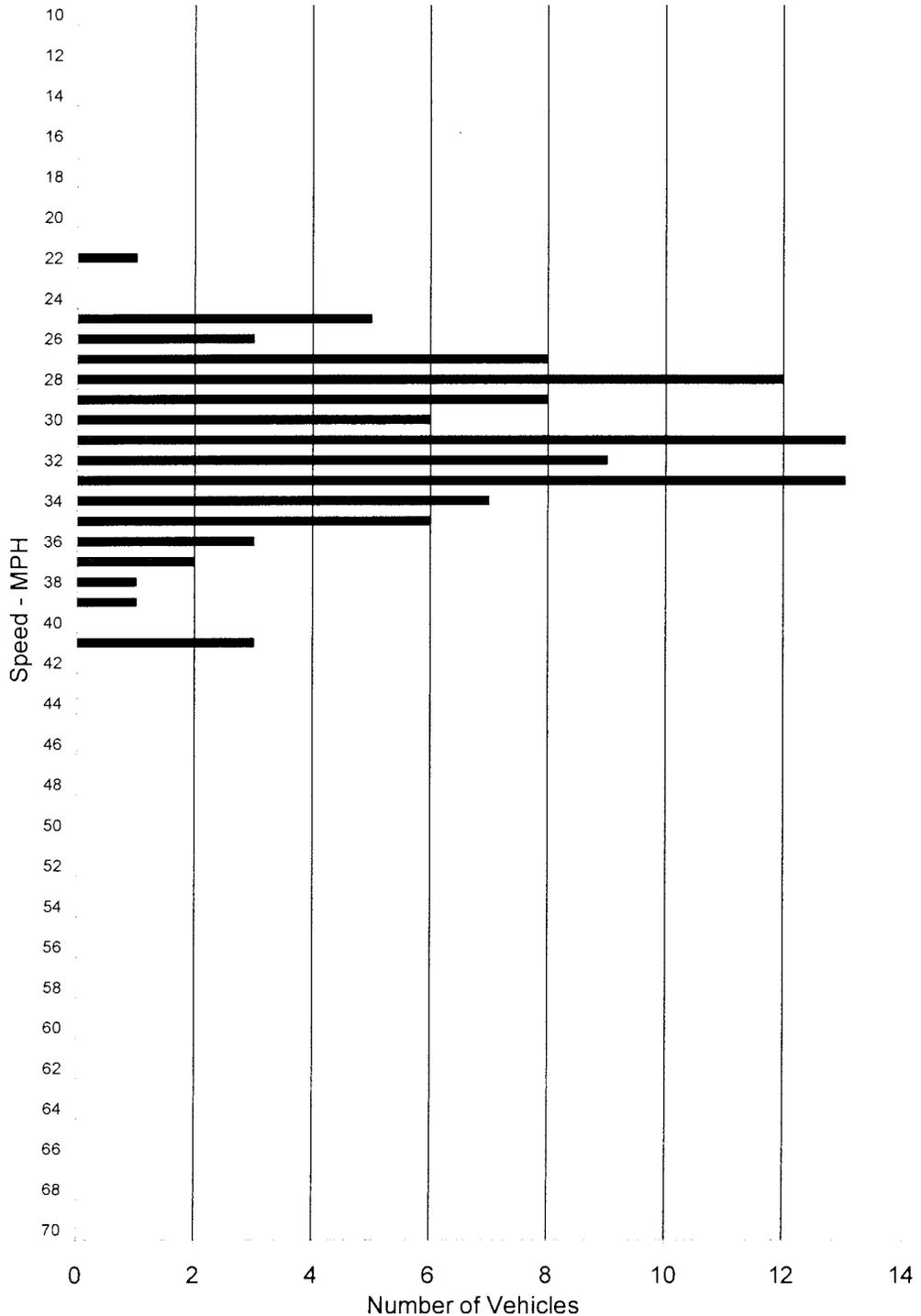
DATE: 9/22/2010  
 Start Time: 2:00 PM  
 DAY: Wednesday

Location: Murrieta Boulevard to N. P Street  
 End Time: 2:30 PM  
 (Before) Speed Limit: 25 MPH  
 Weather: Dry/Clear  
 Direction: EB & WB

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        | 0            |
| 24        | 0            |
| 25        | 5            |
| 26        | 3            |
| 27        | 8            |
| 28        | 12           |
| 29        | 8            |
| 30        | 6            |
| 31        | 13           |
| 32        | 9            |
| 33        | 13           |
| 34        | 7            |
| 35        | 6            |
| 36        | 3            |
| 37        | 2            |
| 38        | 1            |
| 39        | 1            |
| 40        | 0            |
| 41        | 3            |
| 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              | 101   | 31.1          | 22 - 41 | 31 mph          | 35 mph          | 26 - 35     | 85        | 84%             | 5% / 6           | 10% / 10         |

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:** 2-lane residential collector street. The length of this segment is 0.72 miles.

**Collision History:** There have been 15 reported collisions along this segment within the past three years. This equates to 4.11 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> percentile speed of 31 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

## N. P Street

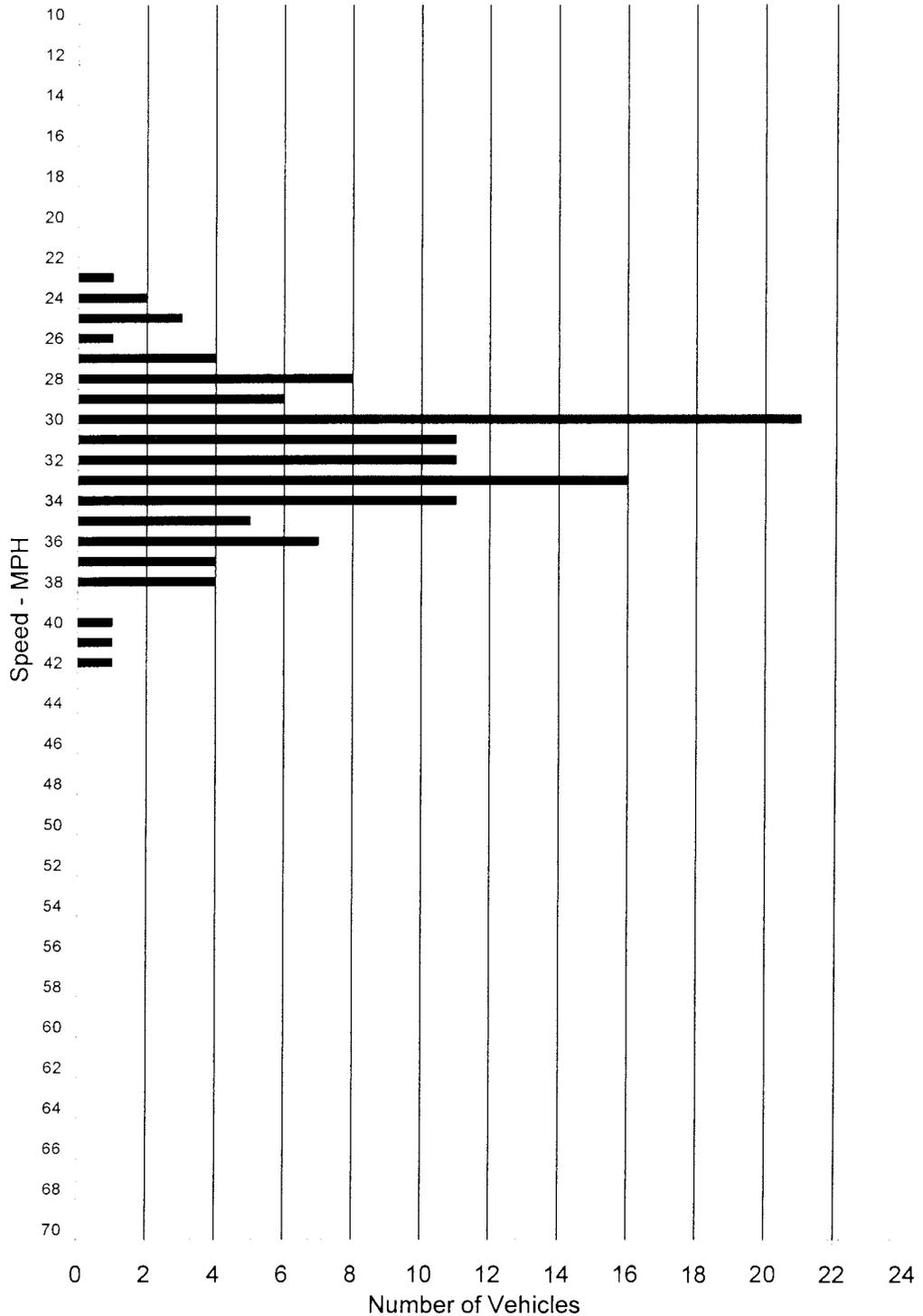
DATE: 9/23/2010  
 Start Time: 2:40 PM  
 DAY: Thursday

Location: Portola Avenue to Chestnut Street  
 End Time: 3:00 PM  
 (Before) Speed Limit: 30 MPH  
 Weather: Dry  
 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        | 3            |
| 26        | 1            |
| 27        | 4            |
| 28        | 8            |
| 29        | 6            |
| 30        | 21           |
| 31        | 11           |
| 32        | 11           |
| 33        | 16           |
| 34        | 11           |
| 35        | 5            |
| 36        | 7            |
| 37        | 4            |
| 38        | 4            |
| 39        | 0            |
| 40        | 1            |
| 41        | 1            |
| 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              | 118   | 31.8          | 23 - 42 | 32 mph          | 36 mph          | 27 - 36     | 100       | 85%             | 5% / 7           | 10% / 11         |

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:** This is a 2-lane collector street with parking, bike lanes, and a two-way left turn lane. The length of this segment is 0.80 miles.

**Collision History:** There have been 29 reported collisions along this segment within the past three years. This equates to 6.32 collisions per million vehicle miles, which is much than the statewide average of 1.17 for this type of roadway.

**Other Considerations:** This segment has a high rate of turning maneuvers in and out of many intersecting local streets and residential driveways, on-street parking maneuvers, and pedestrian and bicycling activities.

**Recommendation:** Based on the 85<sup>th</sup> 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

## P Street

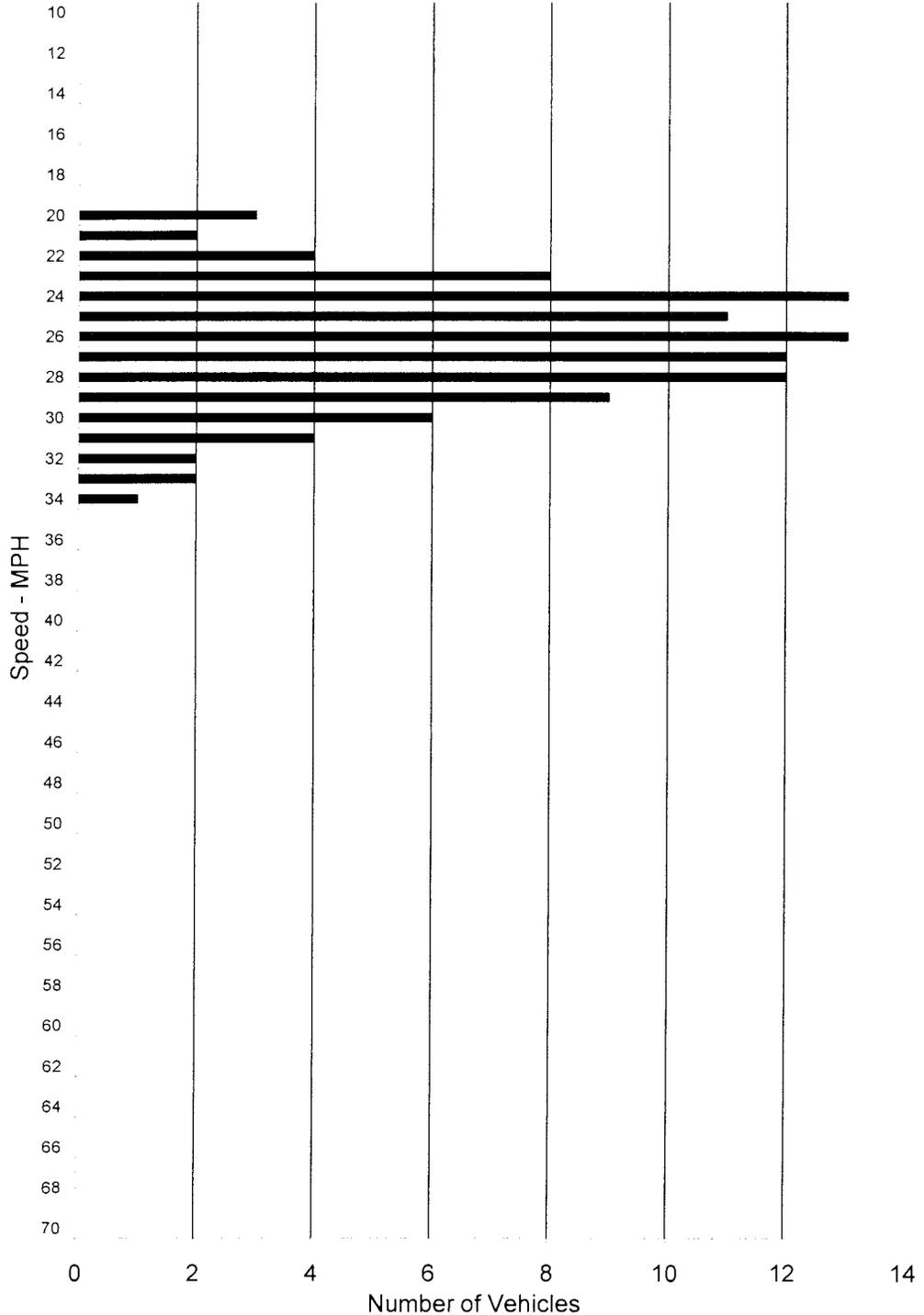
DATE: 10/25/2010  
 Start Time: 3:55 PM  
 DAY: Monday

Location: Chestnut Street to College Avenue  
 End Time: 4:16 PM  
 (Before) Speed Limit: 25 MPH

Observer: CN  
 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        | 3            |
| 21        | 2            |
| 22        | 4            |
| 23        | 8            |
| 24        | 13           |
| 25        | 11           |
| 26        | 13           |
| 27        | 12           |
| 28        | 12           |
| 29        | 9            |
| 30        | 6            |
| 31        | 4            |
| 32        | 2            |
| 33        | 2            |
| 34        | 1            |
| 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              | 102   | 26.4          | 20 - 34 | 26 mph          | 29 mph          | 22 - 31     | 92        | 90%             | 4% / 5           | 5% / 5           |

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:** 4-lane narrows down to 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 38 reported collisions along this segment within the past three years. This equates to 4.6 collisions per million vehicle miles, which is higher than the statewide average of 2.08 for this type of roadway.

**Other Considerations:** This segment runs along a heavy 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 85<sup>th</sup> percentile speed of 29 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

## Paseo Laguna Seco

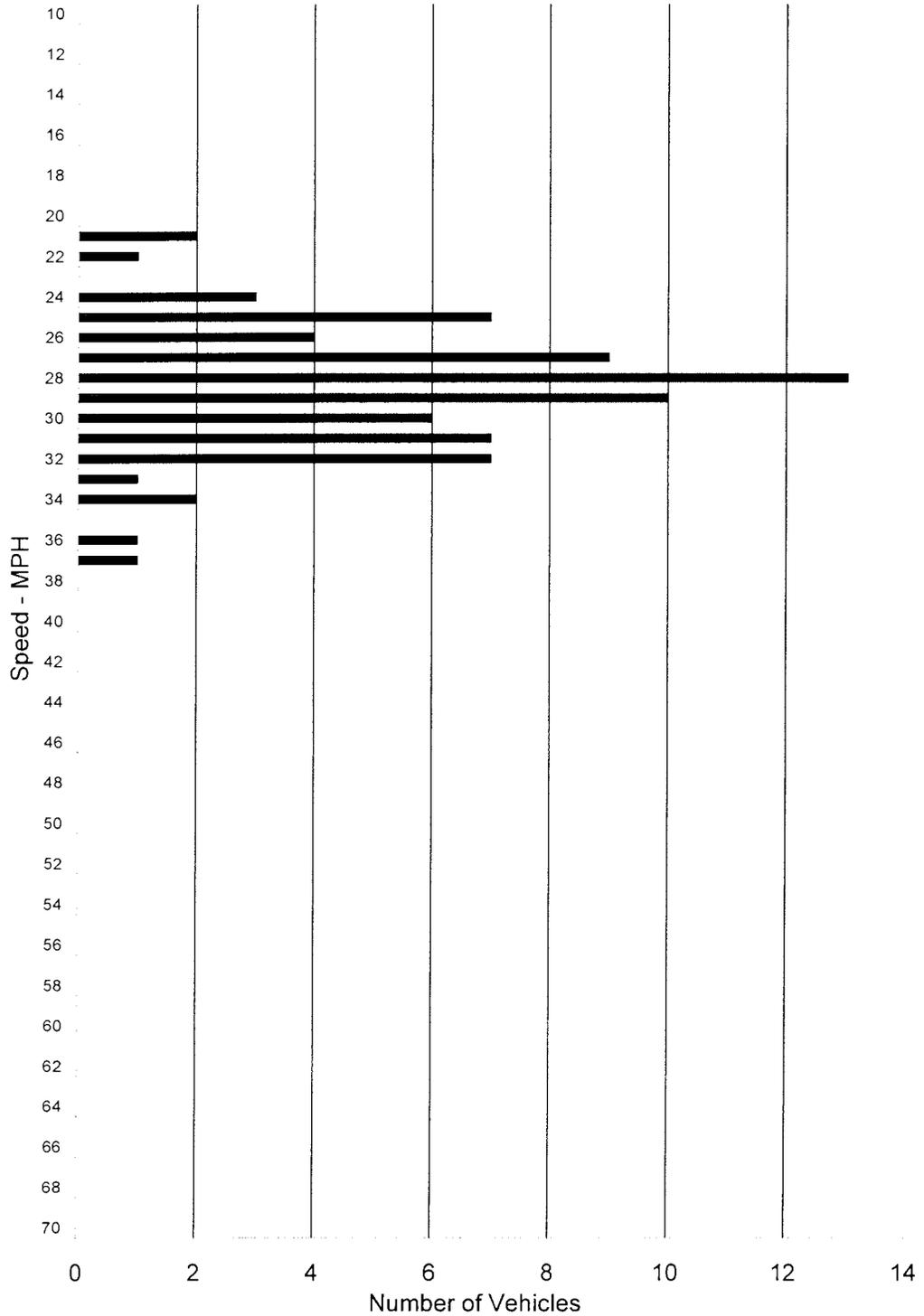
DATE: 12/16/2010  
 Start Time: 10:18 AM  
 DAY: Monday

Location: Portola Avenue to End  
 End Time: 11:18 AM  
 (Before) Speed Limit: 25 MPH

Observer: CS  
 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        | 1            |
| 23        | 0            |
| 24        | 3            |
| 25        | 7            |
| 26        | 4            |
| 27        | 9            |
| 28        | 13           |
| 29        | 10           |
| 30        | 6            |
| 31        | 7            |
| 32        | 7            |
| 33        | 1            |
| 34        | 2            |
| 35        | 0            |
| 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              | 74    | 28.5          | 21 - 37 | 28 mph          | 32 mph          | 24 - 33     | 67        | 91%             | 4% / 3           | 6% / 4           |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: PASEO LAGUNA SECO Adjacent Land Use: RESIDENTIAL

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

**Roadway Description:** 2-lane local residential street with on-street parking, multi-family housing along both sides, and dead ends at a park at the north end. The length of this segment is 0.41 miles.

**Collision History:** There have been 2 reported collisions along this segment within the past three years. This equates to 1.79 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway

**Other Considerations:** This segment has numerous driveways, on-street parking maneuvers, and pedestrian activity especially along the park frontage. Since the Park is located after a horizontal curb, it is not readily apparent to unfamiliar motorists.

**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

## Patterson Pass Road

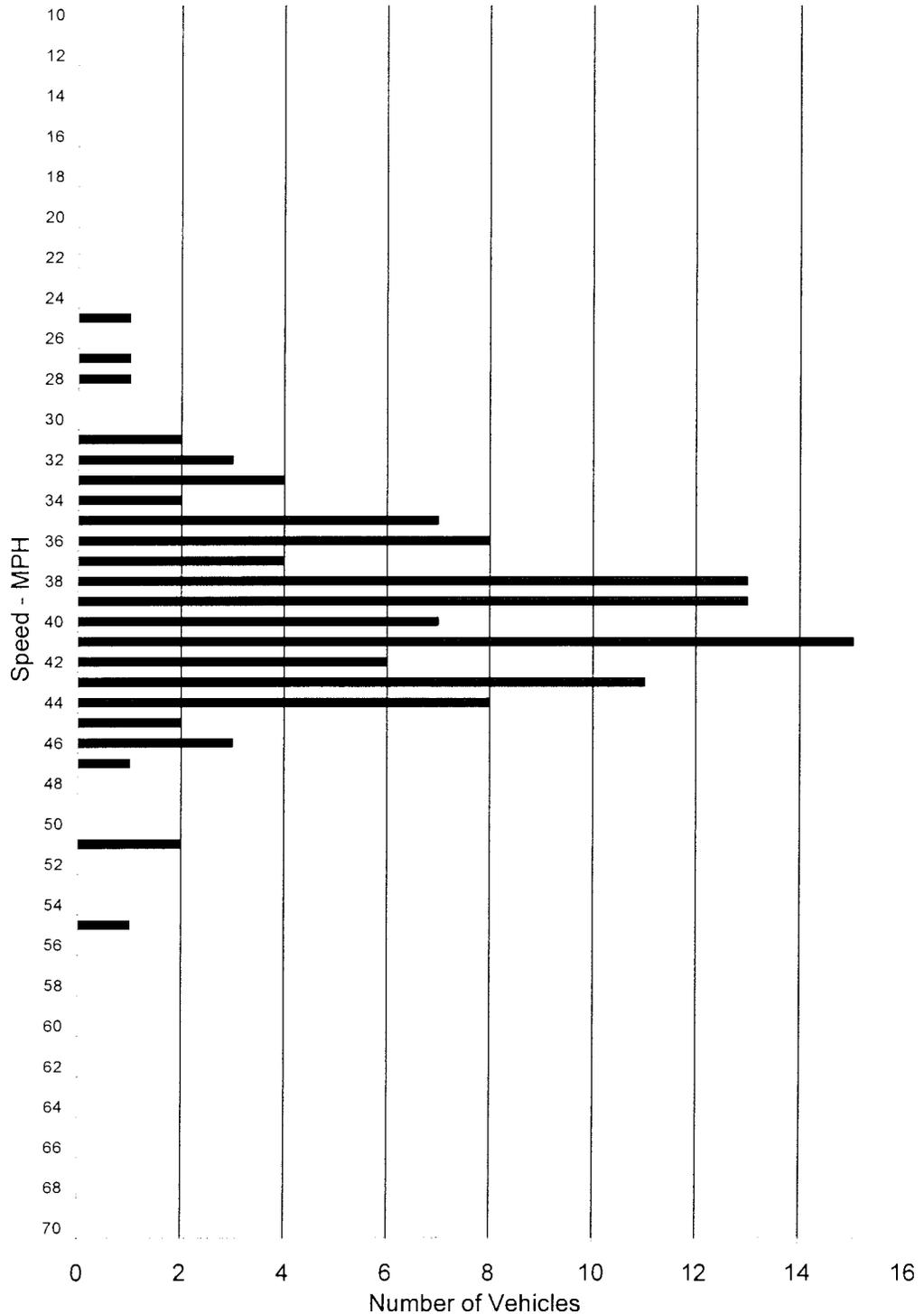
DATE: 9/17/2010  
 Start Time: 1:15 PM  
 DAY: Friday

Location: Mines Road to Vasco Road  
 End Time: 1:50 PM  
 (Before) Speed Limit: 40 MPH

Observer: Parminder  
 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        | 1            |
| 28        | 1            |
| 29        | 0            |
| 30        | 0            |
| 31        | 2            |
| 32        | 3            |
| 33        | 4            |
| 34        | 2            |
| 35        | 7            |
| 36        | 8            |
| 37        | 4            |
| 38        | 13           |
| 39        | 13           |
| 40        | 7            |
| 41        | 15           |
| 42        | 6            |
| 43        | 11           |
| 44        | 8            |
| 45        | 2            |
| 46        | 3            |
| 47        | 1            |
| 48        | 0            |
| 49        | 0            |
| 50        | 0            |
| 51        | 2            |
| 52        | 0            |
| 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              | 115   | 39.3          | 25 - 55 | 39 mph          | 43 mph          | 35 - 44     | 92        | 80%             | 12% / 14         | 8% / 9           |

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 on street 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 1.6 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for 4-lane divided type of roadway.

**Other Considerations:** There is a high rate of turning movements in and out of many intersecting local streets and pedestrian and bicycling activity especially in the William Payne Sports Park area. Some intersections have limited sight distance where a design speed of 45 MPH will result to insufficient safe stopping sight distance.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 43 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

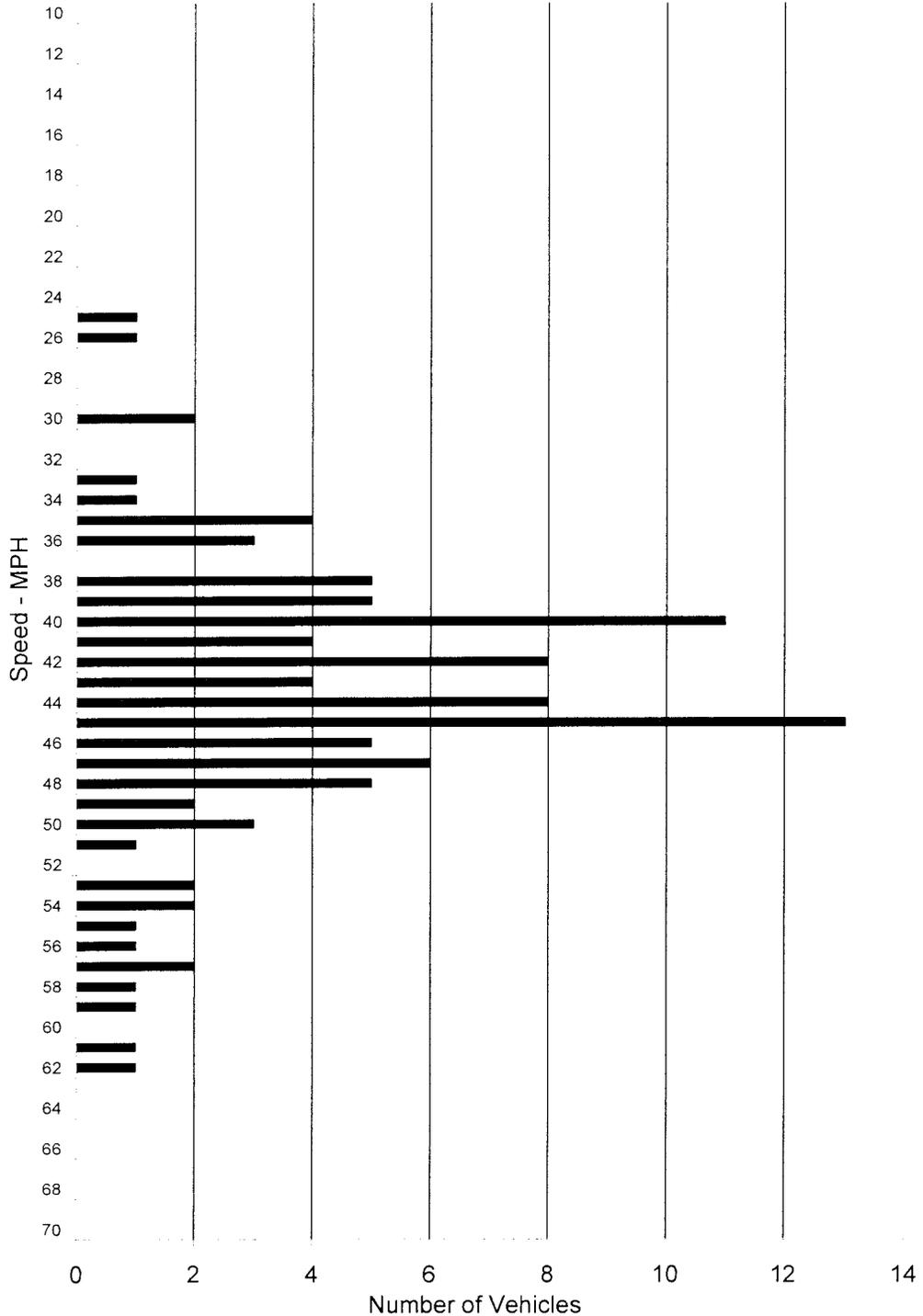
DATE: 10/8/2010  
 Start Time: 8:20 AM  
 DAY: Friday

Location: Vasco Road to Greenville Road  
 End Time: 9:05 AM  
 (Before) Speed Limit: 45 MPH

Observer: Mbauer  
 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        | 1            |
| 27        | 0            |
| 28        | 0            |
| 29        | 0            |
| 30        | 2            |
| 31        | 0            |
| 32        | 0            |
| 33        | 1            |
| 34        | 1            |
| 35        | 4            |
| 36        | 3            |
| 37        | 0            |
| 38        | 5            |
| 39        | 5            |
| 40        | 11           |
| 41        | 4            |
| 42        | 8            |
| 43        | 4            |
| 44        | 8            |
| 45        | 13           |
| 46        | 5            |
| 47        | 6            |
| 48        | 5            |
| 49        | 2            |
| 50        | 3            |
| 51        | 1            |
| 52        | 0            |
| 53        | 2            |
| 54        | 2            |
| 55        | 1            |
| 56        | 1            |
| 57        | 2            |
| 58        | 1            |
| 59        | 1            |
| 60        | 0            |
| 61        | 1            |
| 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              | 105   | 43.7          | 25 - 62 | 44 mph          | 50 mph          | 38 - 47     | 69        | 66%             | 12% / 13         | 22% / 23         |

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:** 4-lane divided arterial street with on street bike lanes through an industrial area. Parking is prohibited on both sides.

**Collision History:** There have been 13 reported collisions along this segment within the past three years. This equates to 2.97 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for a 4-lane divided type of roadway

**Other Considerations:** Bicycle use is common in this area around the Livermore Lab.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 50 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

## Pine Street

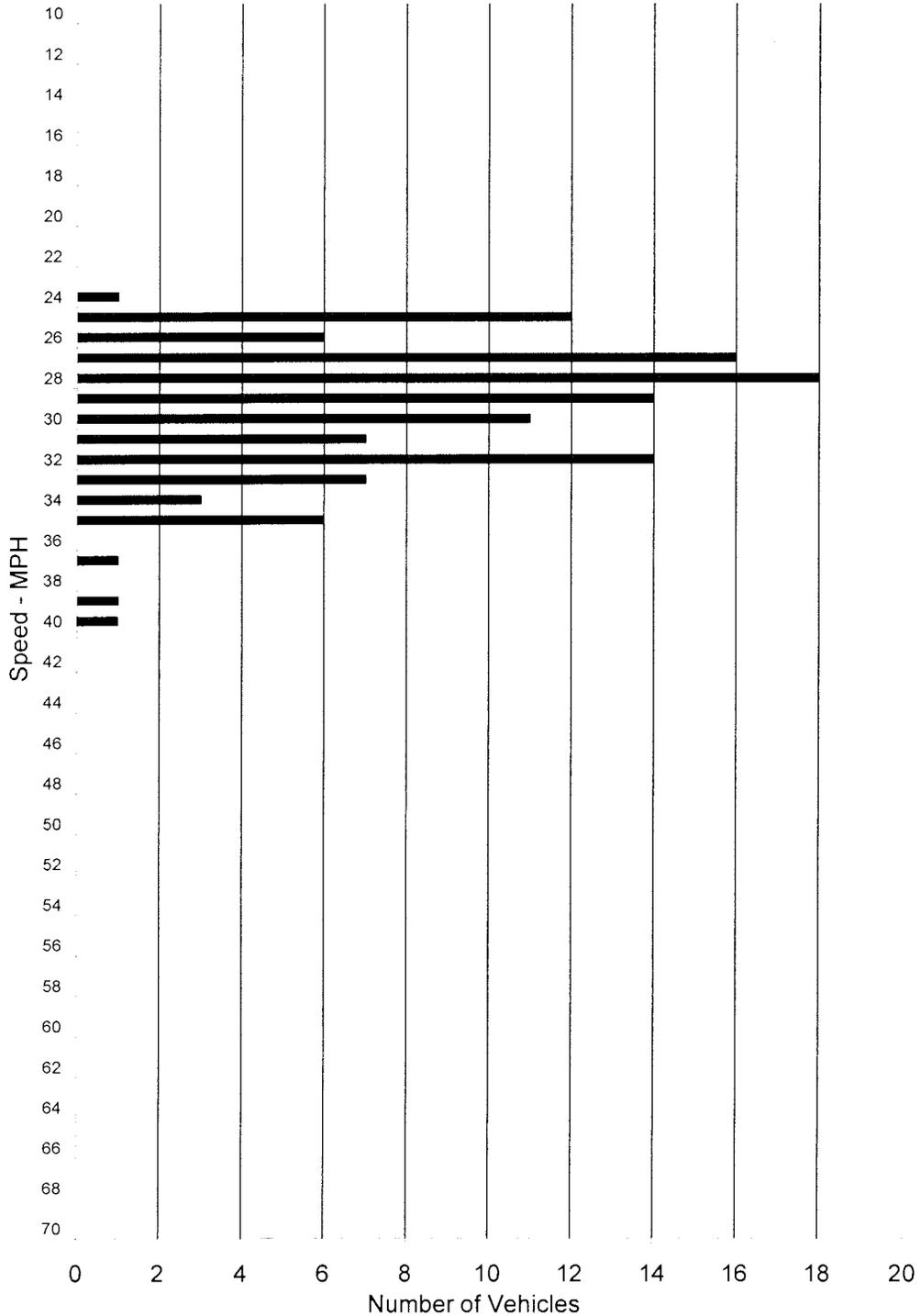
DATE: 9/22/2010  
 Start Time: 2:45 PM  
 DAY: Wednesday

Location: Murrieta Boulevard to Rincon Avenue  
 End Time: 3:15 PM  
 (Before) Speed Limit: 30 MPH

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        | 1            |
| 25        | 12           |
| 26        | 6            |
| 27        | 16           |
| 28        | 18           |
| 29        | 14           |
| 30        | 11           |
| 31        | 7            |
| 32        | 14           |
| 33        | 7            |
| 34        | 3            |
| 35        | 6            |
| 36        | 0            |
| 37        | 1            |
| 38        | 0            |
| 39        | 1            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 118   | 29.5          | 24 - 40 | 29 mph          | 33 mph          | 25 - 34     | 108       | 92%          | 0% / 1           | 8% / 9           |

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 8 reported collisions along this segment within the past three years. This equates to 3.6 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> percentile speed of 33 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

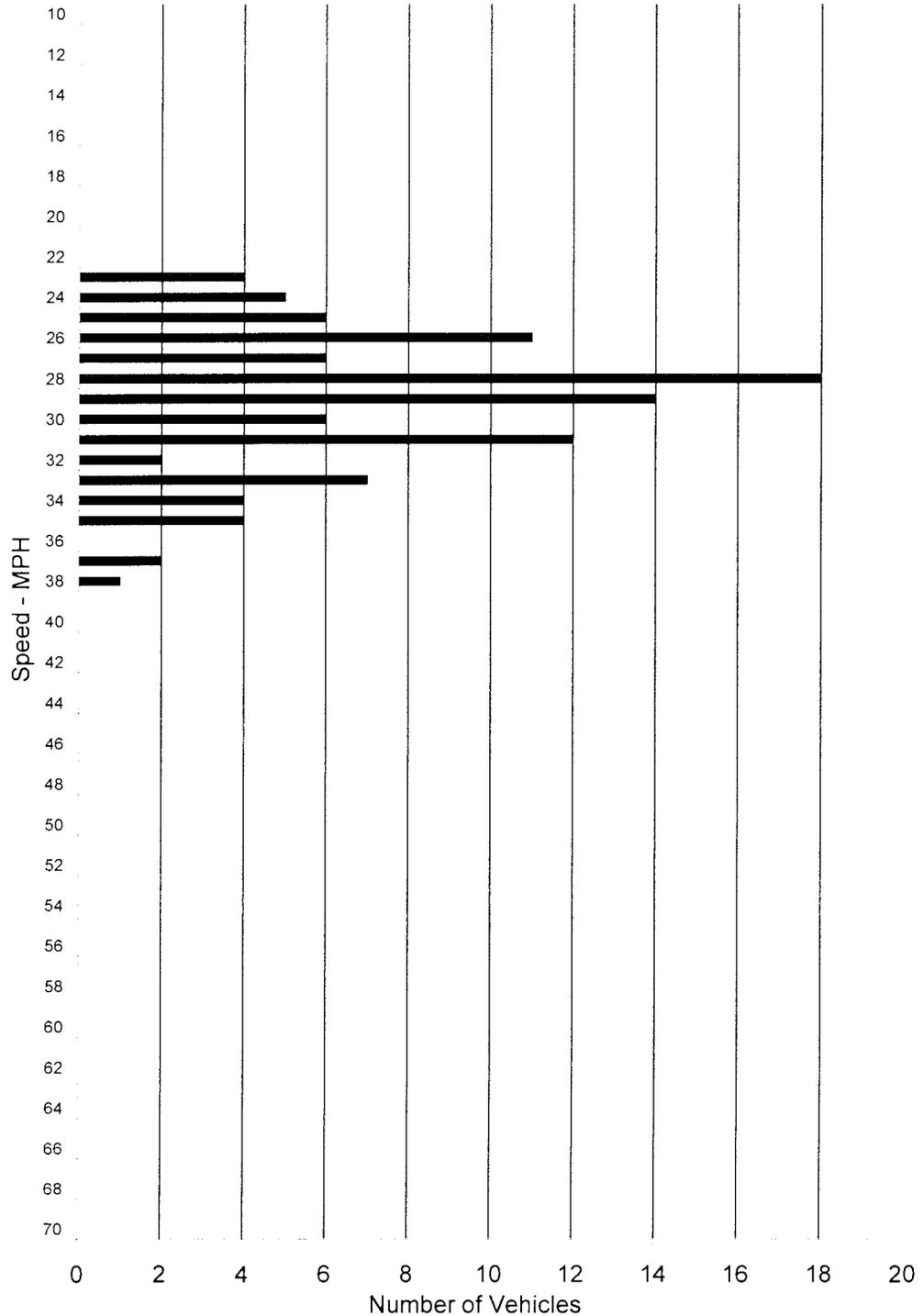
DATE: 9/22/2010  
 Start Time: 2:45 PM  
 DAY: Wednesday

Location: Rincon Avenue to Junction Avenue  
 End Time: 3:15 PM  
 (Before) Speed Limit: 25 MPH

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        | 4            |
| 24        | 5            |
| 25        | 6            |
| 26        | 11           |
| 27        | 6            |
| 28        | 18           |
| 29        | 14           |
| 30        | 6            |
| 31        | 12           |
| 32        | 2            |
| 33        | 7            |
| 34        | 4            |
| 35        | 4            |
| 36        | 0            |
| 37        | 2            |
| 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              | 102   | 29.0          | 23 - 38 | 29 mph          | 33 mph          | 24 - 33     | 87        | 85%             | 3% / 4           | 11% / 11         |

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:** 2-lane residential collector street. The length of this segment is 0.49 miles.

**Collision History:** There have been 14 reported collisions along this segment within the past three years. This equates to 5.23 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 85<sup>th</sup> percentile speed of 33 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

## Portola Avenue

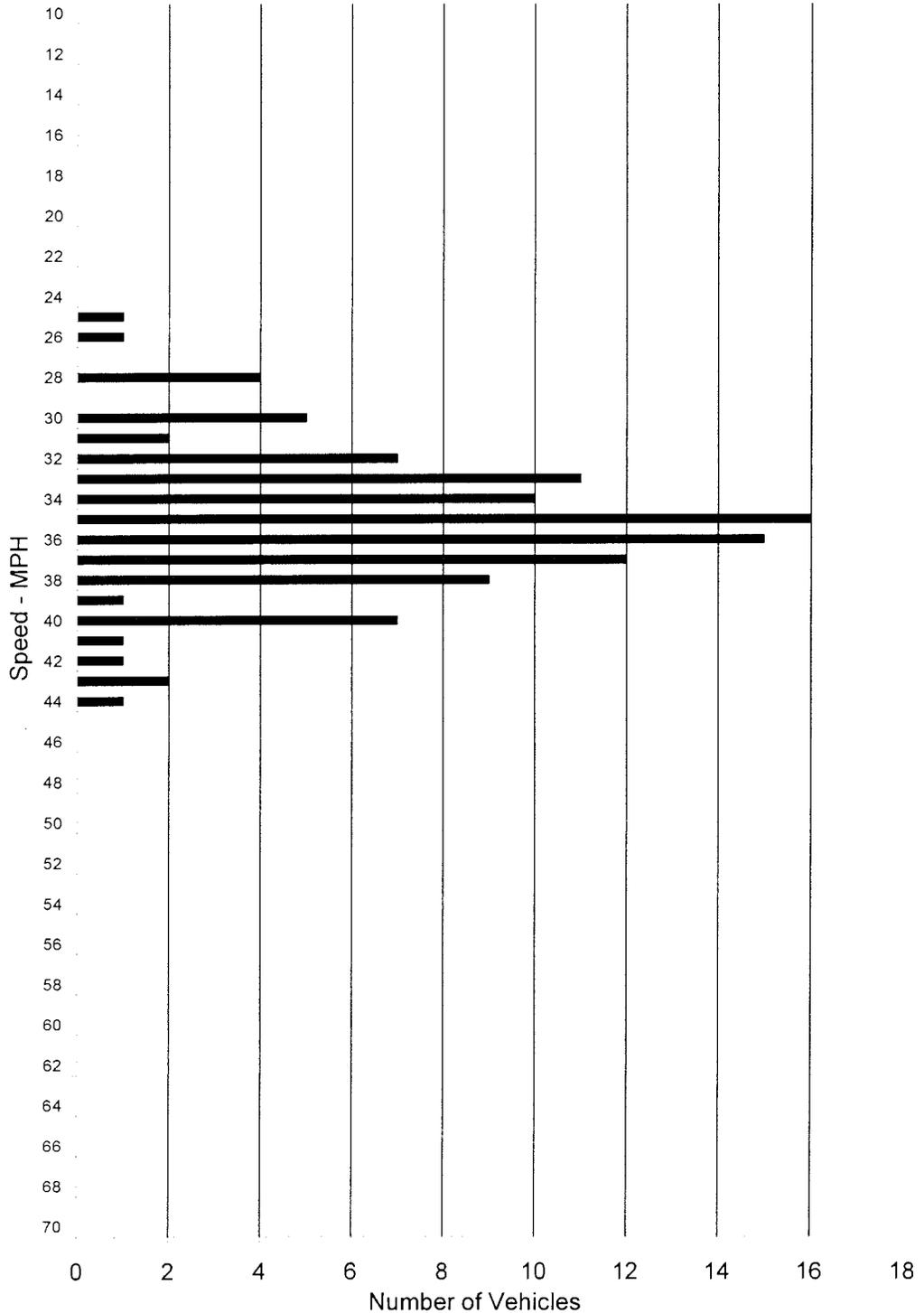
DATE: 10/25/2010  
 Start Time: 1:20 PM  
 DAY: Monday

Location: Murrieta Boulevard to N. Livermore Avenue  
 End Time: 1:37 PM  
 (Before) Speed Limit: 35 MPH

Observer: CN  
 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        | 1            |
| 27        | 0            |
| 28        | 4            |
| 29        | 0            |
| 30        | 5            |
| 31        | 2            |
| 32        | 7            |
| 33        | 11           |
| 34        | 10           |
| 35        | 16           |
| 36        | 15           |
| 37        | 12           |
| 38        | 9            |
| 39        | 1            |
| 40        | 7            |
| 41        | 1            |
| 42        | 1            |
| 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              | 106   | 35.1          | 25 - 44 | 35 mph          | 38 mph          | 31 - 40     | 90        | 85%             | 10% / 11         | 5% / 5           |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: PORTOLA AVENUE

Adjacent Land Use: RESIDENTIAL/COMMERC.

Limits: MURRIETA BLVD TO N. LIVERMORE AVE No. of Lanes: 4

**Roadway Description:** 4-lane divided arterial street with on street bike lanes through a residential and commercial development. Parking is prohibited. The length of this segment is 0.70 miles.

**Collision History:** There have been 49 reported collisions along this segment within the past three years. This equates to 4.48 collisions per million vehicle miles, which is higher than the statewide average of 1.56 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 85<sup>th</sup> percentile speed of 38 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

## Portola Avenue

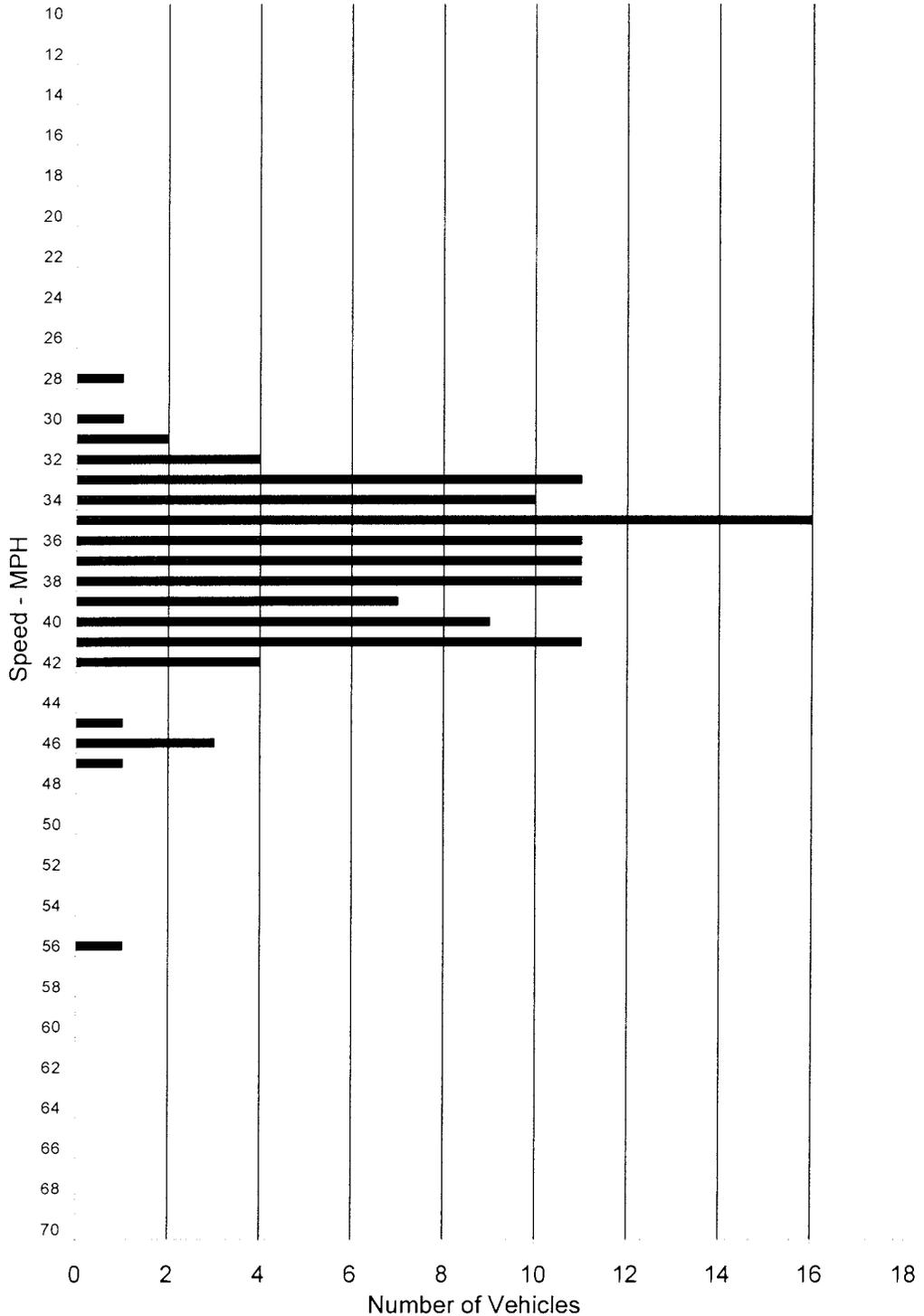
DATE: 10/25/2010  
 Start Time: 1:45 PM  
 DAY: Monday

Location: N. Livermore Avenue to First Street  
 End Time: 2:10 PM  
 (Before) Speed Limit: 35 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: CN  
 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        | 0            |
| 30        | 1            |
| 31        | 2            |
| 32        | 4            |
| 33        | 11           |
| 34        | 10           |
| 35        | 16           |
| 36        | 11           |
| 37        | 11           |
| 38        | 11           |
| 39        | 7            |
| 40        | 9            |
| 41        | 11           |
| 42        | 4            |
| 43        | 0            |
| 44        | 0            |
| 45        | 1            |
| 46        | 3            |
| 47        | 1            |
| 48        | 0            |
| 49        | 0            |
| 50        | 0            |
| 51        | 0            |
| 52        | 0            |
| 53        | 0            |
| 54        | 0            |
| 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              | 115   | 37.1          | 28 - 56 | 37 mph          | 41 mph          | 32 - 41     | 101       | 88%             | 3% / 4           | 9% / 10          |

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 school crosswalks. Bike Lanes are present. Portola Elementary 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 16 reported collisions along this segment within the past three years. This equates to 1.19 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 using the yellow crosswalks.

**Recommendation:** Based on the 85<sup>th</sup> 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

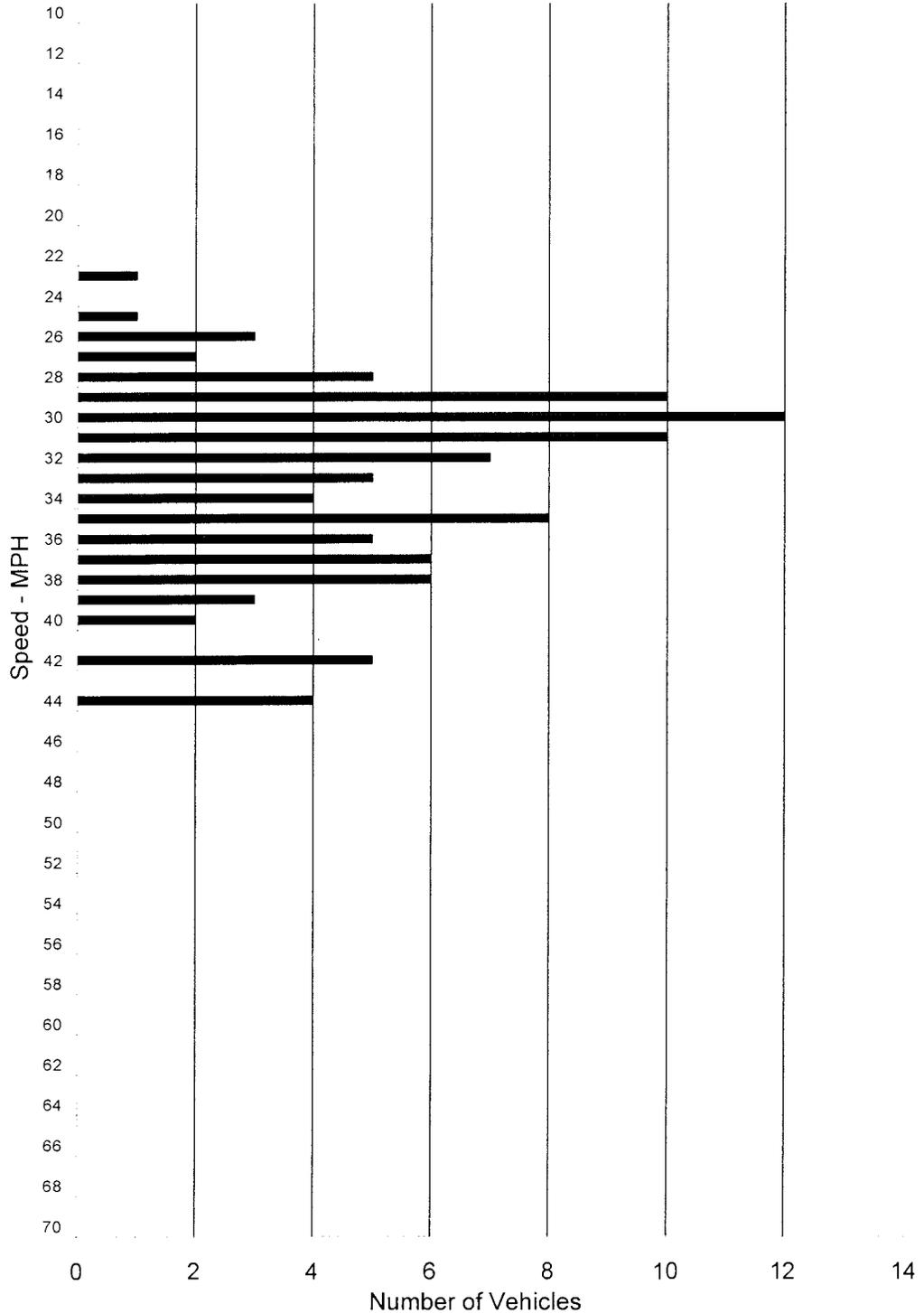
## Preston Avenue

DATE: 11/3/2010  
 Start Time: 1:20 PM  
 DAY: Wednesday

Location: Vasco Road to Las Positas Road  
 End Time: 2:01 PM  
 (Before) Speed Limit: 35 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Nsumiran  
 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        | 1            |
| 24        | 0            |
| 25        | 1            |
| 26        | 3            |
| 27        | 2            |
| 28        | 5            |
| 29        | 10           |
| 30        | 12           |
| 31        | 10           |
| 32        | 7            |
| 33        | 5            |
| 34        | 4            |
| 35        | 8            |
| 36        | 5            |
| 37        | 6            |
| 38        | 6            |
| 39        | 3            |
| 40        | 2            |
| 41        | 0            |
| 42        | 5            |
| 43        | 0            |
| 44        | 4            |
| 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    | 33.3          | 23 - 44 | 32 mph          | 38 mph          | 29 - 38     | 73        | 74%             | 12% / 12         | 15% / 14         |

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, which is higher than the statewide average of 1.17 for this type of roadway.

**Other Considerations:** This segment has numerous driveways, on-street parking maneuvers, and pedestrian activity.

**Recommendation:** Based on the 85th percentile speed of 38 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

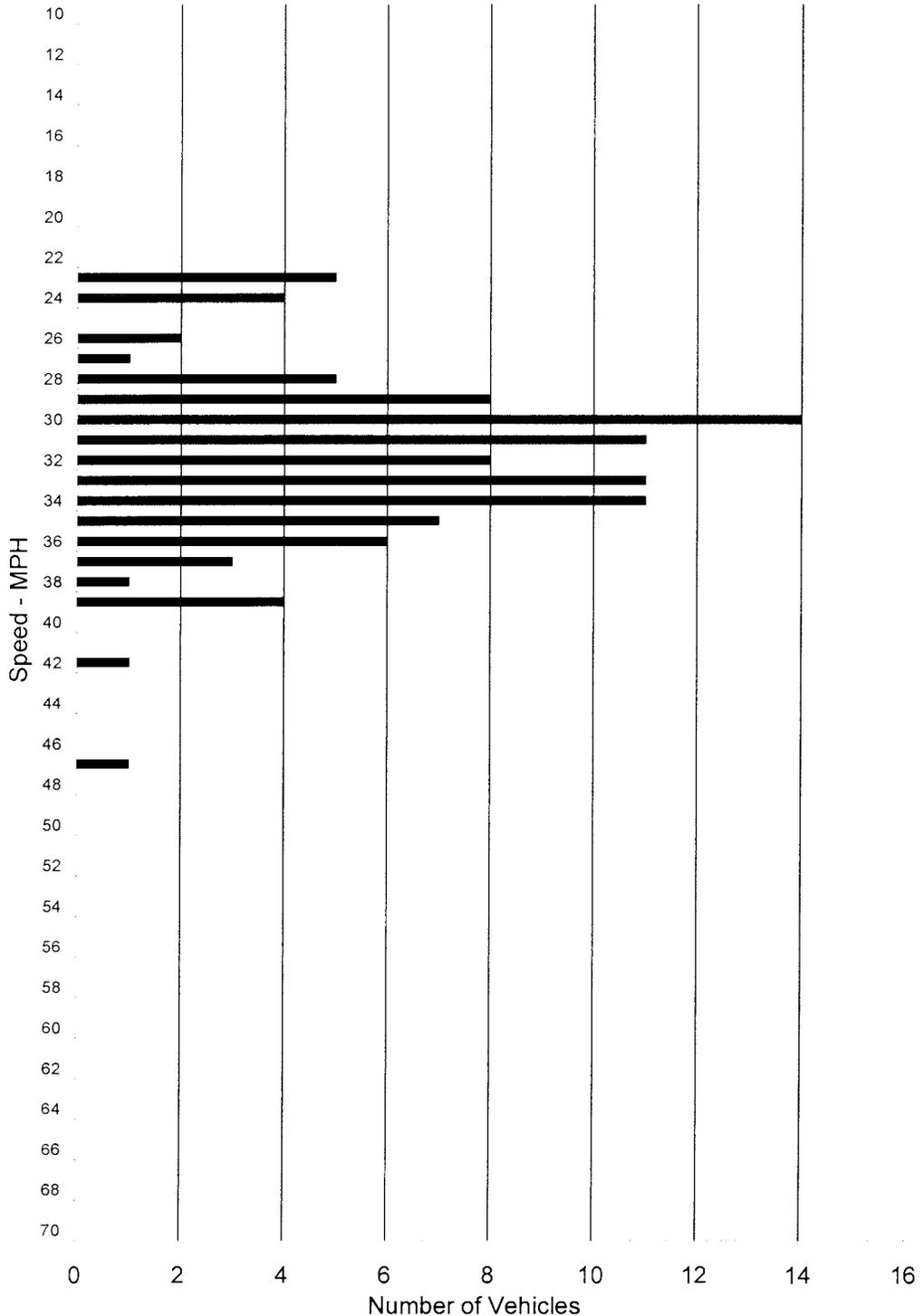
## Railroad Avenue

DATE: 11/1/2010  
 Start Time: 3:23 PM  
 DAY: Monday

Location: E. Stanley Boulevard to L Street  
 End Time: 3:46 PM  
 (Before) Speed Limit: 30 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Dtorrey  
 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        | 5            |
| 24        | 4            |
| 25        | 0            |
| 26        | 2            |
| 27        | 1            |
| 28        | 5            |
| 29        | 8            |
| 30        | 14           |
| 31        | 11           |
| 32        | 8            |
| 33        | 11           |
| 34        | 11           |
| 35        | 7            |
| 36        | 6            |
| 37        | 3            |
| 38        | 1            |
| 39        | 4            |
| 40        | 0            |
| 41        | 0            |
| 42        | 1            |
| 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              | 103   | 31.8          | 23 - 47 | 32 mph          | 36 mph          | 28 - 37     | 84        | 82%             | 11% / 12         | 7% / 7           |

**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:** 4-lane divided minor arterial street through a commercial and multi-family residential area. Parking is prohibited. The length of this segment is 0.53 miles.

**Collision History:** There have been 48 reported collisions along this segment within the past three years. This equates to 4.25 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for 4-lane divided type of roadway.

**Other Considerations:** There is high pedestrian activity related to the shopping center, numerous driveways with high turning maneuvers.

**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

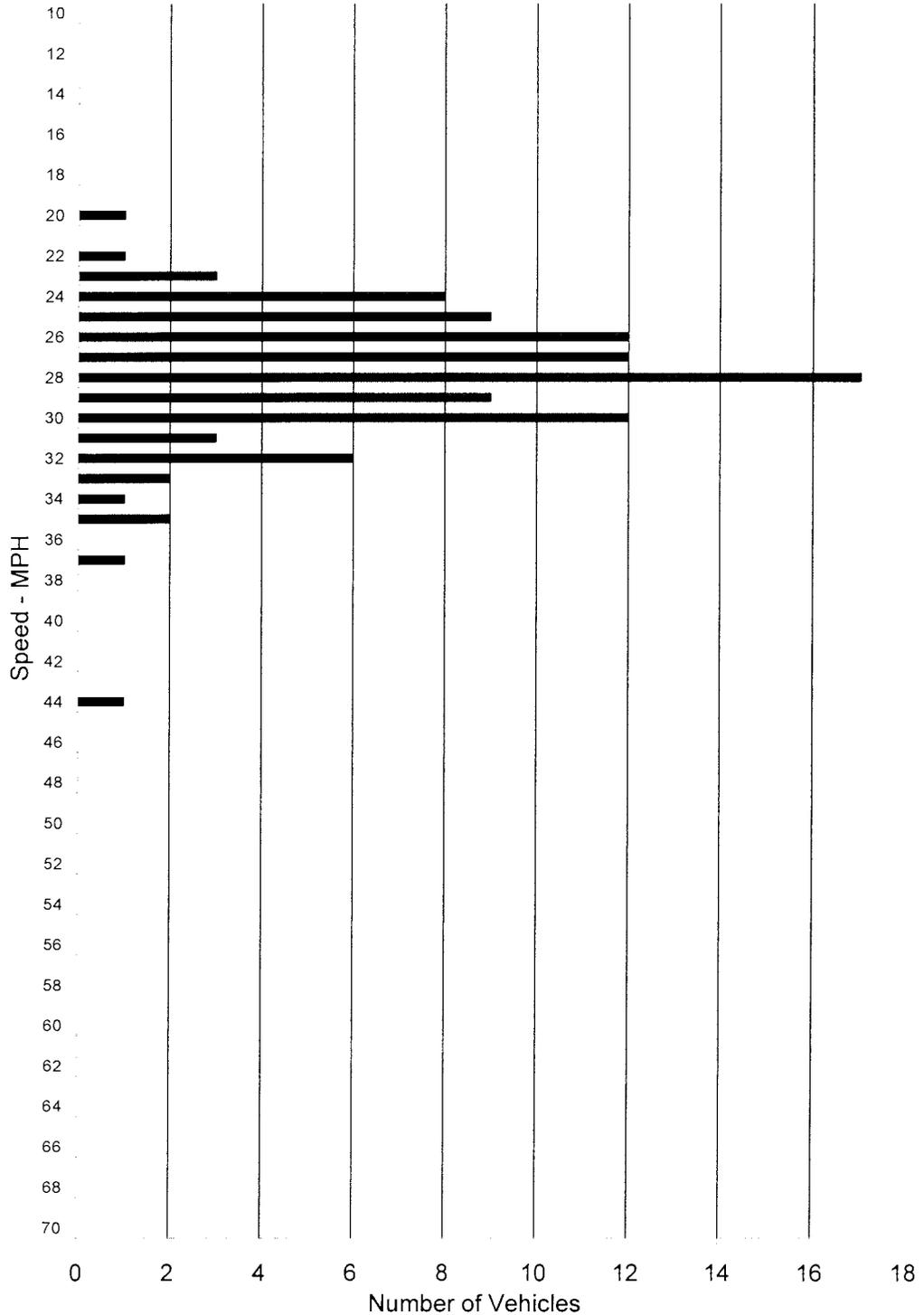
## Railroad Avenue

DATE: 11/2/2010  
 Start Time: 10:00 AM  
 DAY: Tuesday

Location: South L Street to Maple Street  
 End Time: 11:00 AM  
 (Before) Speed Limit: 25 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Nsumiran  
 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        | 1            |
| 21        | 0            |
| 22        | 1            |
| 23        | 3            |
| 24        | 8            |
| 25        | 9            |
| 26        | 12           |
| 27        | 12           |
| 28        | 17           |
| 29        | 9            |
| 30        | 12           |
| 31        | 3            |
| 32        | 6            |
| 33        | 2            |
| 34        | 1            |
| 35        | 2            |
| 36        | 0            |
| 37        | 1            |
| 38        | 0            |
| 39        | 0            |
| 40        | 0            |
| 41        | 0            |
| 42        | 0            |
| 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   | 28.0          | 20 - 44 | 28 mph          | 31 mph          | 23 - 32     | 91        | 91%             | 2% / 2           | 7% / 7           |

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 35 reported collisions along this segment within the past three years. This equates to 6.4 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for 4-lane divided 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 31 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

## Rincon Avenue

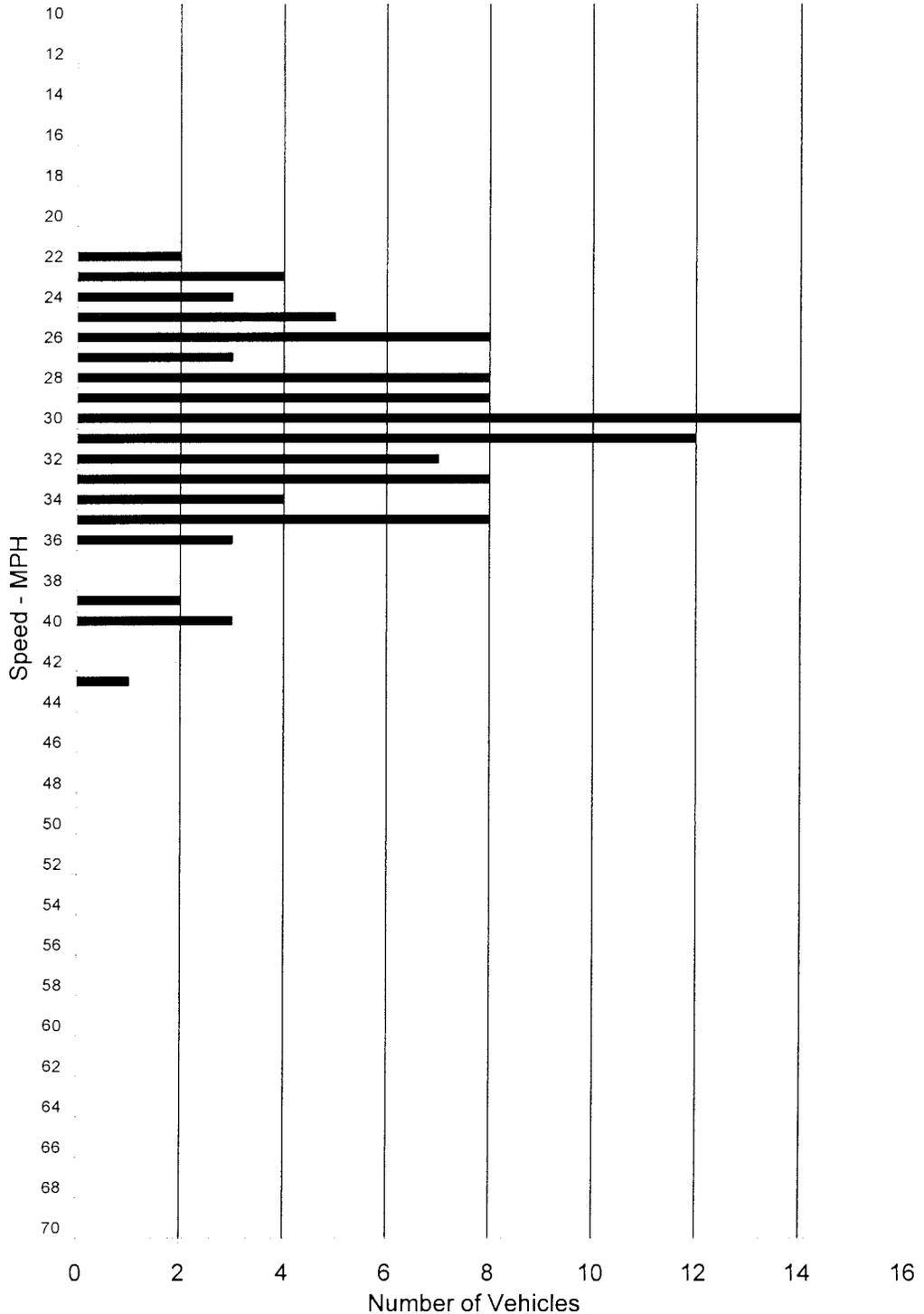
DATE: 9/23/2010  
 Start Time: 1:35 PM  
 DAY: Thursday

Location: Portola Avenue to Pine Street  
 End Time: 2:35 PM  
 (Before) Speed Limit: 30 MPH  
 Weather: Dry  
 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        | 2            |
| 23        | 4            |
| 24        | 3            |
| 25        | 5            |
| 26        | 8            |
| 27        | 3            |
| 28        | 8            |
| 29        | 8            |
| 30        | 14           |
| 31        | 12           |
| 32        | 7            |
| 33        | 8            |
| 34        | 4            |
| 35        | 8            |
| 36        | 3            |
| 37        | 0            |
| 38        | 0            |
| 39        | 2            |
| 40        | 3            |
| 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              | 103   | 30.3          | 22 - 43 | 30 mph          | 35 mph          | 26 - 35     | 80        | 78%             | 13% / 14         | 9% / 9           |

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 on-street 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 10 reported collisions along this segment within the past three years. This equates to 8.02 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 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

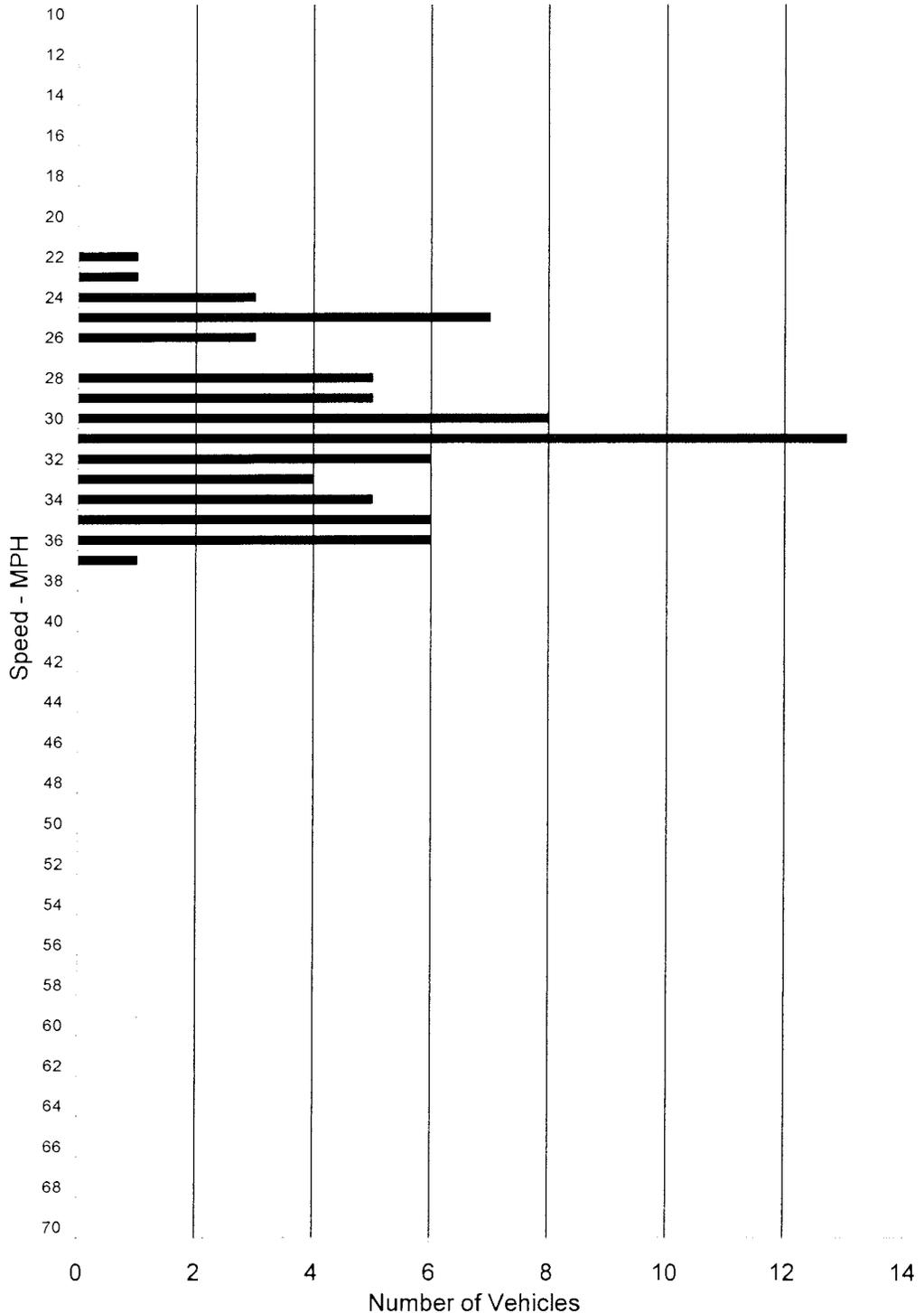
## Robertson Park Road

DATE: 11/5/2010  
 Start Time: 2:49 PM  
 DAY: Friday

Location: Arroyo Road to Concannon Boulevard  
 End Time: 3:49 PM  
 (Before) Speed Limit: 30 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: CN  
 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        | 1            |
| 24        | 3            |
| 25        | 7            |
| 26        | 3            |
| 27        | 0            |
| 28        | 5            |
| 29        | 5            |
| 30        | 8            |
| 31        | 13           |
| 32        | 6            |
| 33        | 4            |
| 34        | 5            |
| 35        | 6            |
| 36        | 6            |
| 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              | 74    | 30.5          | 22 - 37 | 31 mph          | 35 mph          | 28 - 37     | 59        | 80%             | 20% / 15         | 0% / 0           |

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 2 reported collisions along this segment within the past three years. This equates to 3.02 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 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

## Scenic Avenue

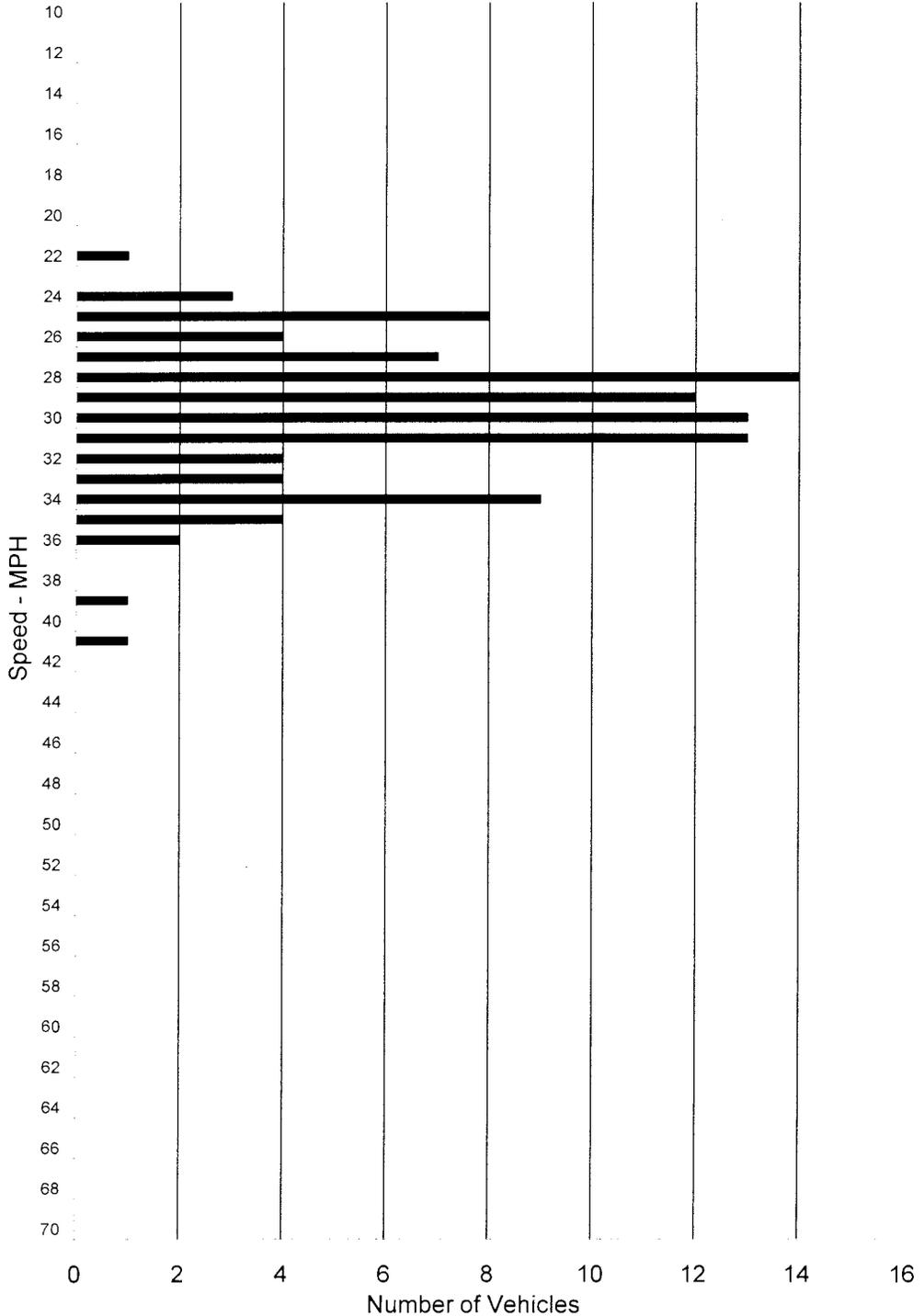
DATE: 9/24/2010  
 Start Time: 11:30 AM  
 DAY: Friday

Location: Bluebell Drive to Vasco Road  
 End Time: 12:40 PM  
 (Before) Speed Limit: 25 MPH  
 Weather: Dry/Clear  
 Direction: EB & WB

Observer: Parminder  
 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        | 1            |
| 23        | 0            |
| 24        | 3            |
| 25        | 8            |
| 26        | 4            |
| 27        | 7            |
| 28        | 14           |
| 29        | 12           |
| 30        | 13           |
| 31        | 13           |
| 32        | 4            |
| 33        | 4            |
| 34        | 9            |
| 35        | 4            |
| 36        | 2            |
| 37        | 0            |
| 38        | 0            |
| 39        | 1            |
| 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              | 100   | 29.8          | 22 - 41 | 30 mph          | 34 mph          | 25 - 34     | 88        | 88%             | 4% / 4           | 8% / 8           |

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:** 2-lane residential collector street with on-street bike lanes, parking, and a school crosswalk on the route to school. 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 13 reported collisions along this segment within the past three years. This equates to 2.18 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 school.

**Recommendation:** Based on the 85th percentile speed of 34 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

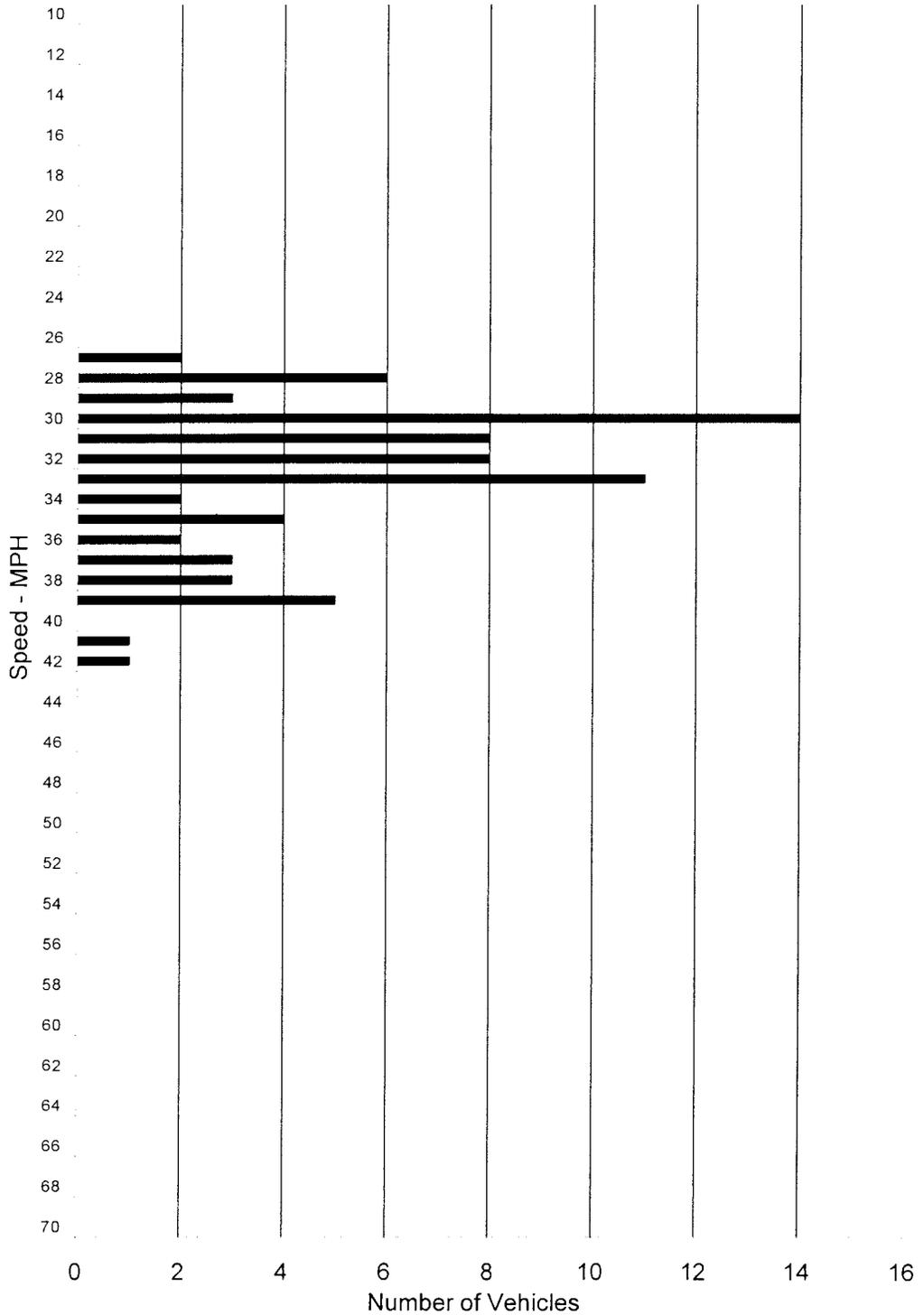
## Scenic Avenue

DATE: 11/5/2010  
 Start Time: 03:10 PM  
 DAY: Friday

Location: Vasco Road to East End  
 End Time: 04:10 PM  
 (Before) Speed Limit: 30 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Parminder  
 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        | 2            |
| 28        | 6            |
| 29        | 3            |
| 30        | 14           |
| 31        | 8            |
| 32        | 8            |
| 33        | 11           |
| 34        | 2            |
| 35        | 4            |
| 36        | 2            |
| 37        | 3            |
| 38        | 3            |
| 39        | 5            |
| 40        | 0            |
| 41        | 1            |
| 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              | 73    | 32.6          | 27 - 42 | 32 mph          | 37 mph          | 28 - 37     | 61        | 84%             | 2% / 2           | 14% / 10         |

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 on-street bike lanes and parking. The length of this segment is 0.67 miles.

**Collision History:** There have been 6 reported collisions along this segment within the past three years. This equates to 2.32 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**Other Considerations:** This segment has numerous driveways resulting to unexpected turns, on-street parking maneuvers, and pedestrian activity.

**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

## Second Street

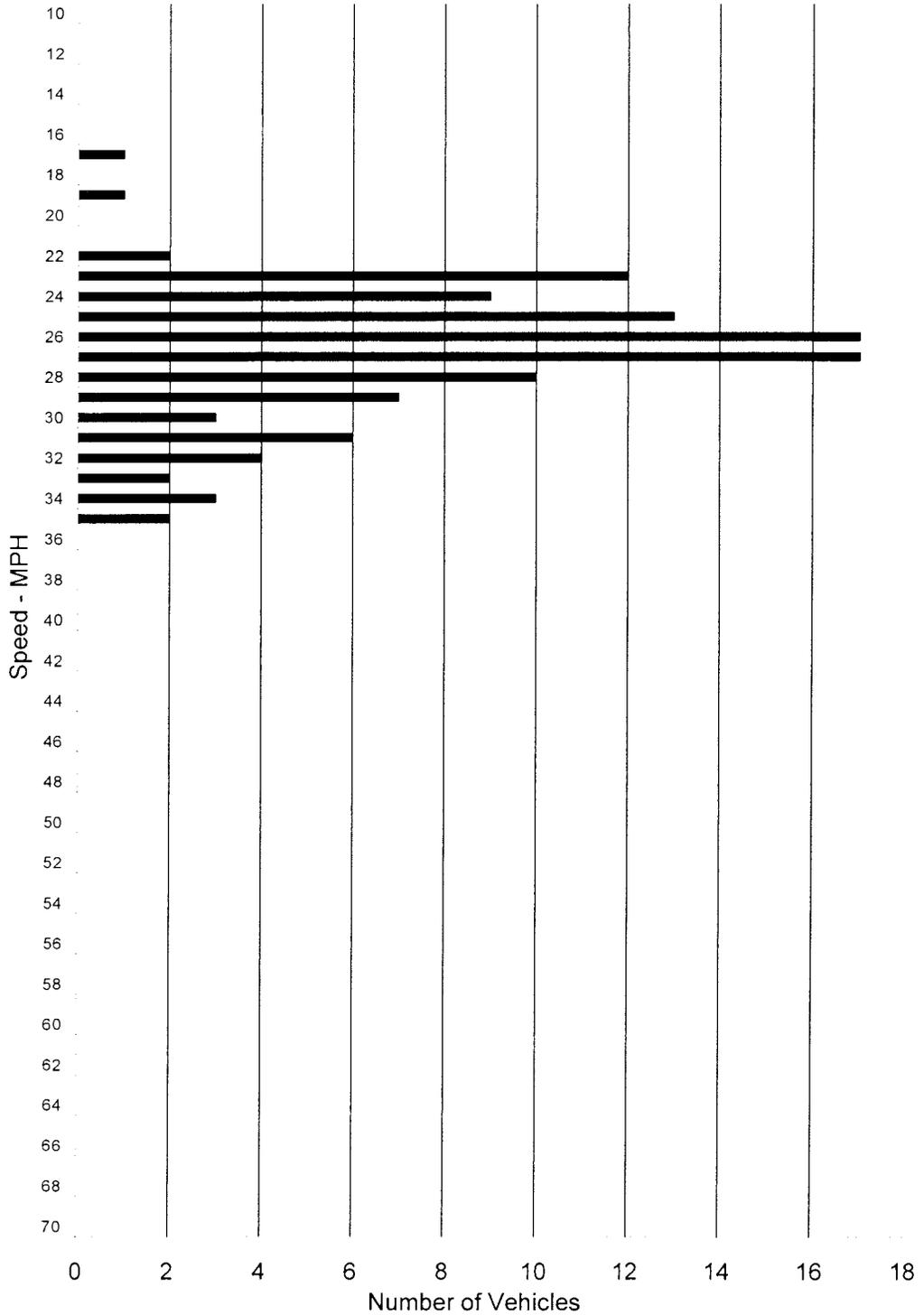
DATE: 11/5/2010  
 Start Time: 09:43 AM  
 DAY: Friday

Location: Holmes Street to L Street  
 End Time: 10:05 PM  
 (Before) Speed Limit: 25 MPH

Weather: Dry  
 Direction: EB & WB

Observer: MB  
 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        | 1            |
| 18        | 0            |
| 19        | 1            |
| 20        | 0            |
| 21        | 0            |
| 22        | 2            |
| 23        | 12           |
| 24        | 9            |
| 25        | 13           |
| 26        | 17           |
| 27        | 17           |
| 28        | 10           |
| 29        | 7            |
| 30        | 3            |
| 31        | 6            |
| 32        | 4            |
| 33        | 2            |
| 34        | 3            |
| 35        | 2            |
| 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              | 109   | 26.8          | 17 - 35 | 26 mph          | 31 mph          | 23 - 32     | 98        | 90%             | 3% / 4           | 7% / 7           |

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:** 4-lane collector street through a residential and commercial area, with fronting homes and parking. The length of this segment is 0.49 miles.

**Collision History:** There have been 13 reported collisions along this segment within the past three years. This equates to 4.8 collisions per million vehicle miles, which is higher than the statewide average of 2.08 for 4-lane undivided 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 parking maneuvers, and pedestrian activity.

**Recommendation:** Based on the 85th percentile speed of 31 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

## Southfront Road

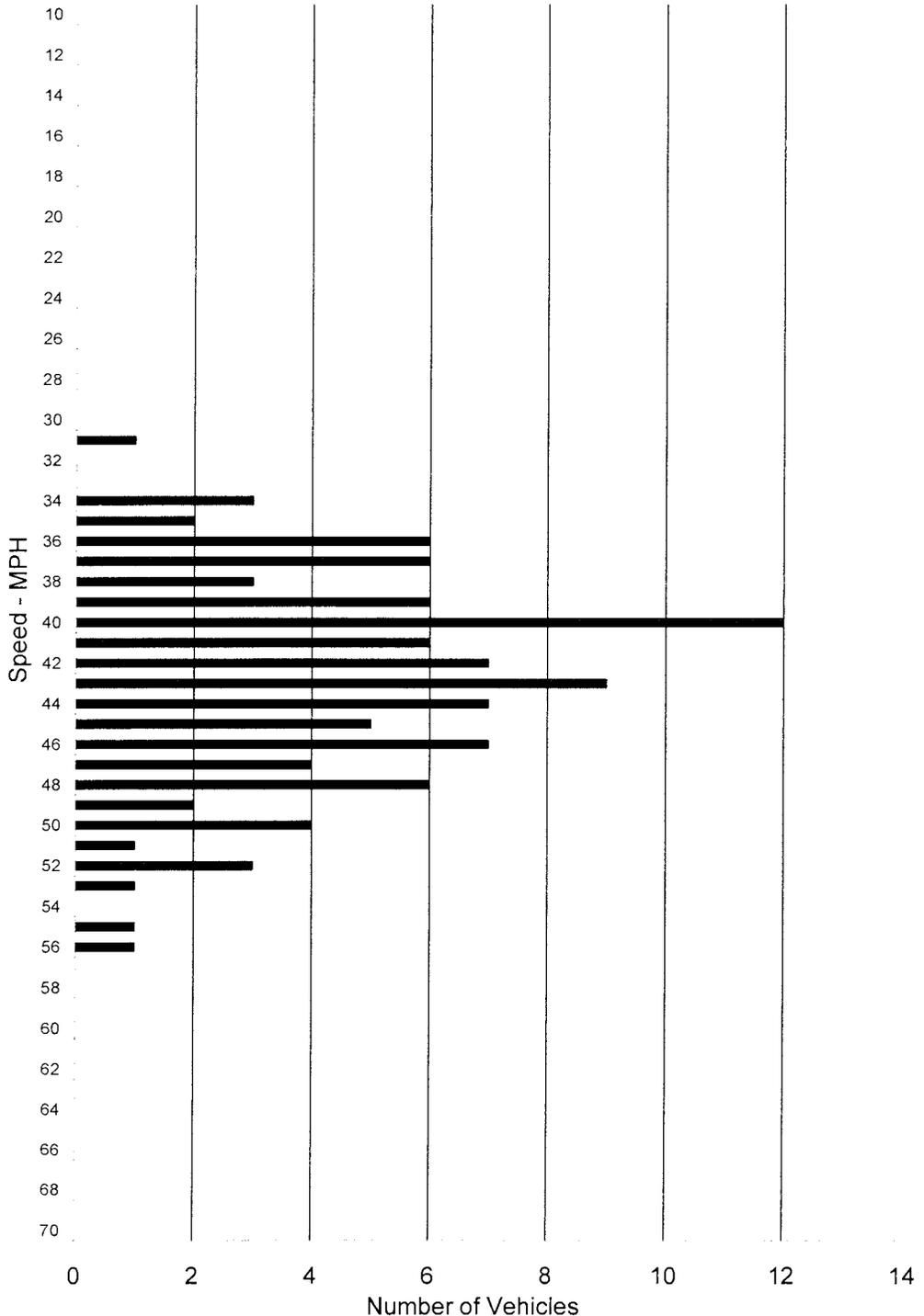
DATE: 9/22/2010  
 Start Time: 2:50 PM  
 DAY: Wednesday

Location: First Street tp Preston Avenue  
 End Time: 3:30 PM  
 (Before) Speed Limit: 40 MPH  
 Weather: Dry/Clear  
 Direction: EB & WB

Observer: Mbauer  
 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        | 1            |
| 32        | 0            |
| 33        | 0            |
| 34        | 3            |
| 35        | 2            |
| 36        | 6            |
| 37        | 6            |
| 38        | 3            |
| 39        | 6            |
| 40        | 12           |
| 41        | 6            |
| 42        | 7            |
| 43        | 9            |
| 44        | 7            |
| 45        | 5            |
| 46        | 7            |
| 47        | 4            |
| 48        | 6            |
| 49        | 2            |
| 50        | 4            |
| 51        | 1            |
| 52        | 3            |
| 53        | 1            |
| 54        | 0            |
| 55        | 1            |
| 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              | 103   | 42.7          | 31 - 56 | 42 mph          | 48 mph          | 39 - 48     | 69        | 67%             | 20% / 21         | 13% / 13         |

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 11 reported collisions along this segment within the past three years. This equates to 2.93 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 48 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 40 MPH speed limit will be raised to 45 MPH.

# Spot Speed Study - City of Livermore

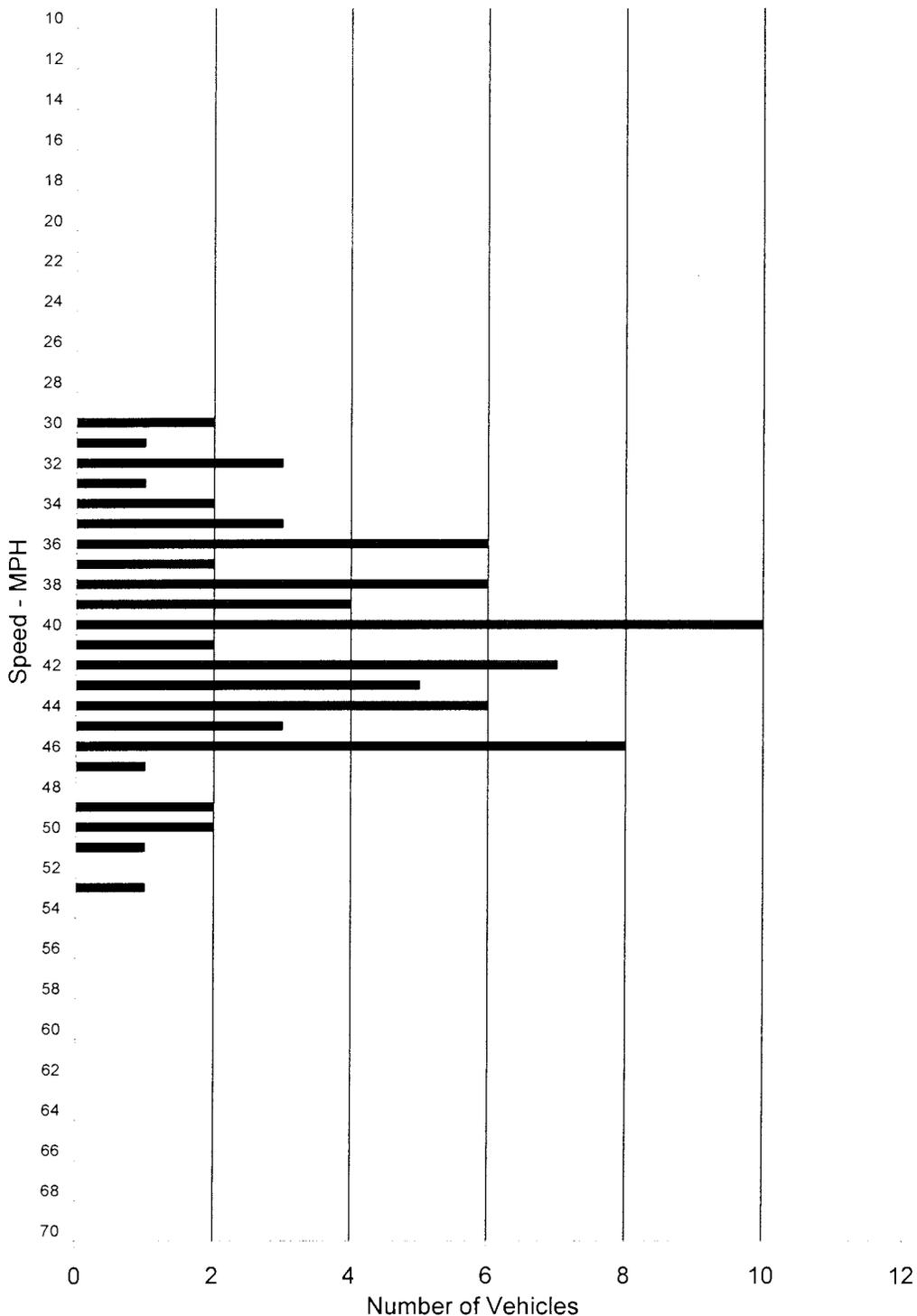
## Southfront Road

DATE: 10/29/2010  
 Start Time: 1:15 PM  
 DAY: Tuesday

Location: Preston Avenue to Lawrence Drive  
 End Time: 2:15 PM  
 (Before) Speed Limit: 35 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: CN  
 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        | 0            |
| 30        | 2            |
| 31        | 1            |
| 32        | 3            |
| 33        | 1            |
| 34        | 2            |
| 35        | 3            |
| 36        | 6            |
| 37        | 2            |
| 38        | 6            |
| 39        | 4            |
| 40        | 10           |
| 41        | 2            |
| 42        | 7            |
| 43        | 5            |
| 44        | 6            |
| 45        | 3            |
| 46        | 8            |
| 47        | 1            |
| 48        | 0            |
| 49        | 2            |
| 50        | 2            |
| 51        | 1            |
| 52        | 0            |
| 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              | 78    | 40.7          | 30 - 53 | 40 mph          | 46 mph          | 37 - 46     | 53        | 68%             | 23% / 18         | 9% / 7           |

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 3 reported collisions along this segment within the past three years. This equates to 1.21 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**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 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 35 MPH speed limit will be raised to 40 MPH.

# Spot Speed Study - City of Livermore

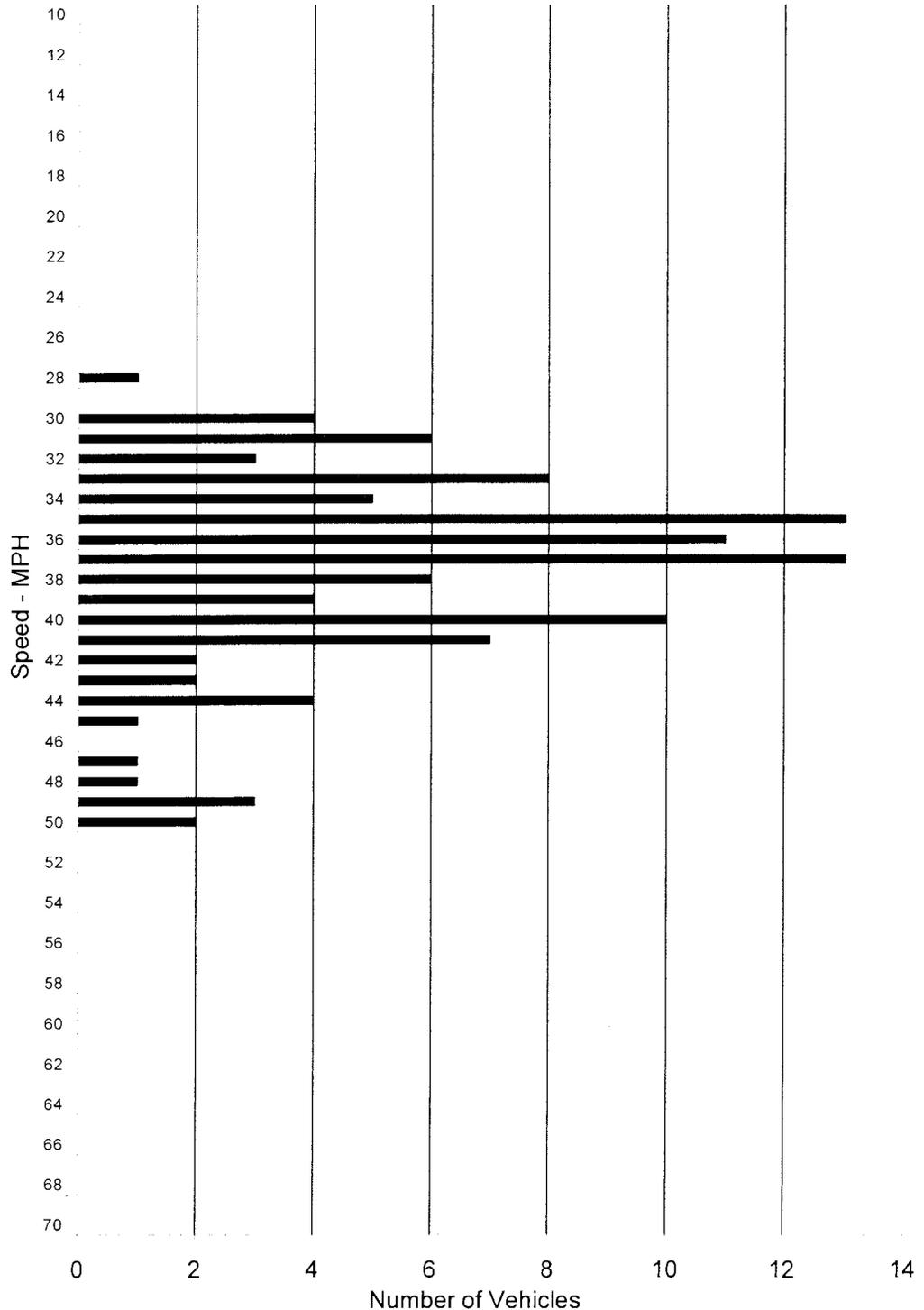
## Southfront Road

DATE: 10/29/2010  
 Start Time: 02:20 PM  
 DAY: Tuesday

Location: Lawrence Drive to Greenville Road  
 End Time: 02:59 PM  
 (Before) Speed Limit: 35 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: CN  
 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        | 0            |
| 27        | 0            |
| 28        | 1            |
| 29        | 0            |
| 30        | 4            |
| 31        | 6            |
| 32        | 3            |
| 33        | 8            |
| 34        | 5            |
| 35        | 13           |
| 36        | 11           |
| 37        | 13           |
| 38        | 6            |
| 39        | 4            |
| 40        | 10           |
| 41        | 7            |
| 42        | 2            |
| 43        | 2            |
| 44        | 4            |
| 45        | 1            |
| 46        | 0            |
| 47        | 1            |
| 48        | 1            |
| 49        | 3            |
| 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              | 107   | 37.4          | 28 - 50 | 37 mph          | 41 mph          | 32 - 41     | 80        | 75%             | 10% / 11         | 15% / 16         |

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 6 reported collisions along this segment within the past three years. This equates to 3.96 collisions per million vehicle miles, which is higher than the statewide average of 1.56 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 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

## Springtown Boulevard

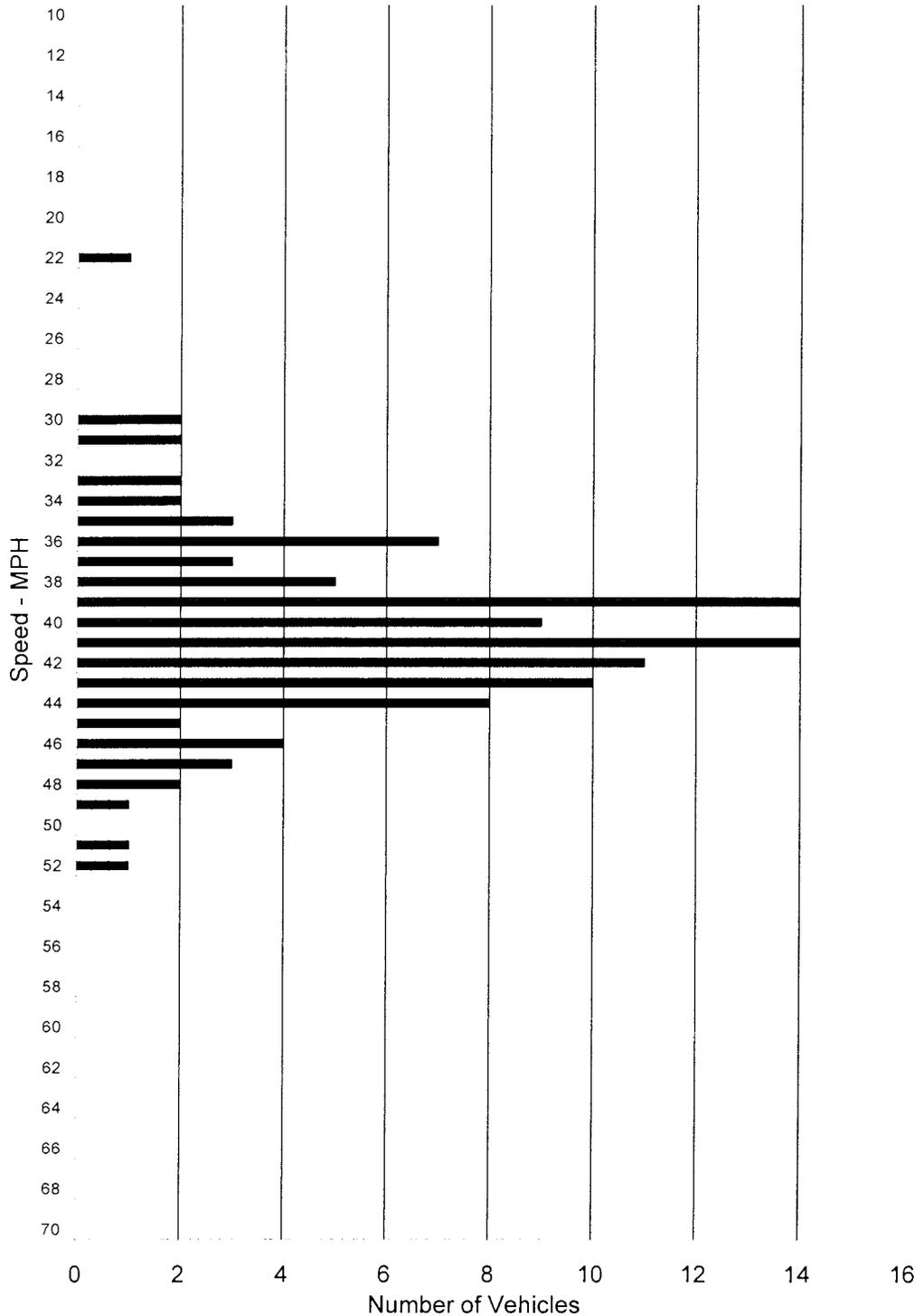
DATE: 10/8/2010  
 Start Time: 2:45 PM  
 DAY: Friday

Location: Bluebell Drive to Galloway Street  
 End Time: 3:30 PM  
 (Before) Speed Limit: 40 MPH

Observer: Parminder  
 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        | 1            |
| 23        | 0            |
| 24        | 0            |
| 25        | 0            |
| 26        | 0            |
| 27        | 0            |
| 28        | 0            |
| 29        | 0            |
| 30        | 2            |
| 31        | 2            |
| 32        | 0            |
| 33        | 2            |
| 34        | 2            |
| 35        | 3            |
| 36        | 7            |
| 37        | 3            |
| 38        | 5            |
| 39        | 14           |
| 40        | 9            |
| 41        | 14           |
| 42        | 11           |
| 43        | 10           |
| 44        | 8            |
| 45        | 2            |
| 46        | 4            |
| 47        | 3            |
| 48        | 2            |
| 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              | 107   | 40.4          | 22 - 52 | 41 mph          | 44 mph          | 35 - 44     | 84        | 79%             | 8% / 9           | 14% / 14         |

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:** 4-lane divided collector street through a residential area with no fronting homes, and on-street bike lanes. Parking is prohibited. The length of this segment is 1.14 miles.

**Collision History:** There have been 9 reported collisions along this segment within the past three years. This equates to 1.26 collisions per million vehicle miles.

**Other Considerations:** There is a high rate of turning maneuvers in and out of many intersecting local streets, and driveways to apartments. Some intersections have limited sight distance where a 45 MPH design speed will result to insufficient available safe stopping sight distance.

**Recommendation:** Based on the 85th percentile speed of 44 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

## E. Stanley Boulevard

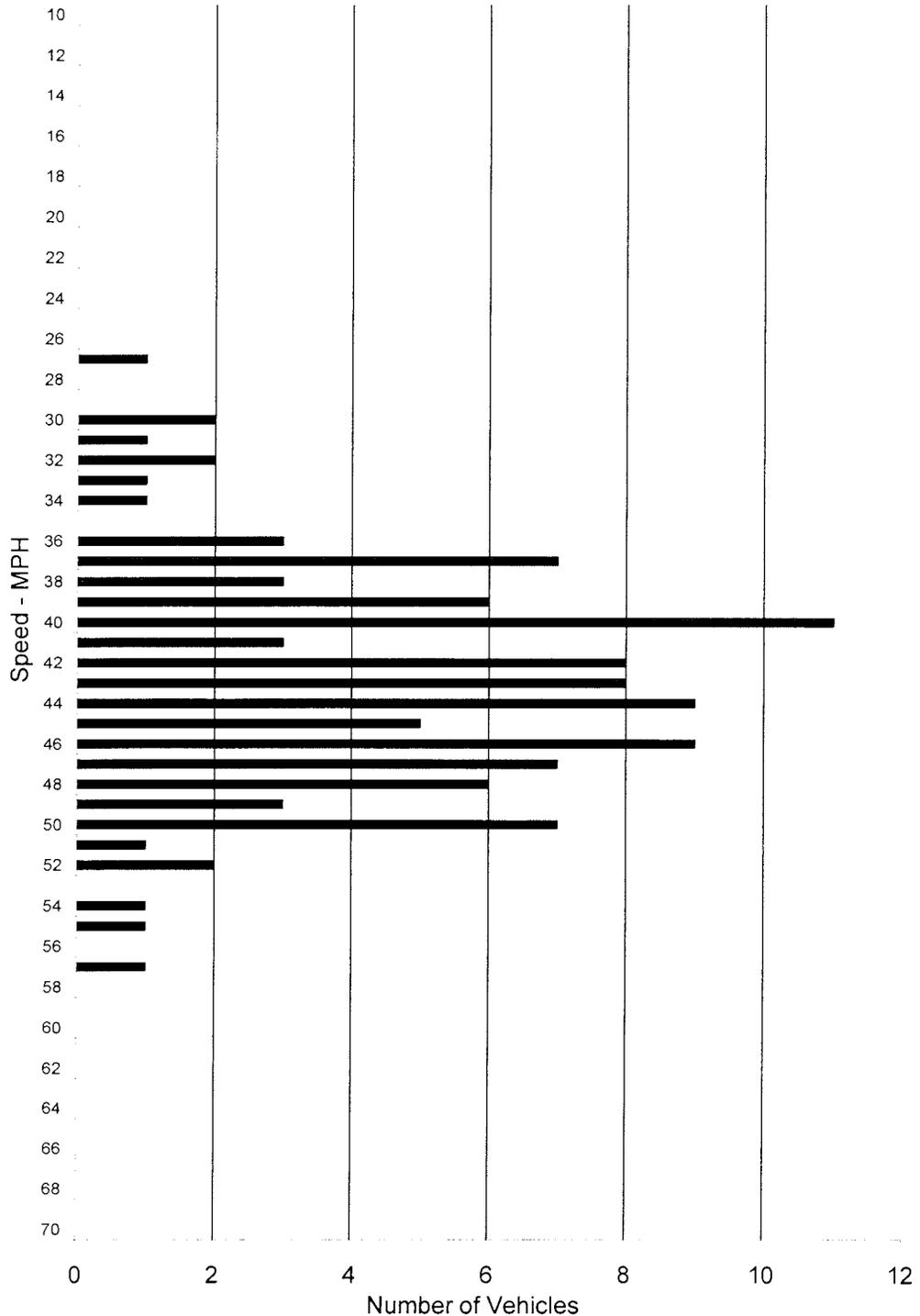
DATE: 10/18/2010  
 Start Time: 3:09 PM  
 DAY: Monday

Location: lasbel Avenue to Wall Street  
 End Time: 3:45 PM  
 (Before) Speed Limit: 45 MPH

Observer: Dtorrey  
 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        | 1            |
| 28        | 0            |
| 29        | 0            |
| 30        | 2            |
| 31        | 1            |
| 32        | 2            |
| 33        | 1            |
| 34        | 1            |
| 35        | 0            |
| 36        | 3            |
| 37        | 7            |
| 38        | 3            |
| 39        | 6            |
| 40        | 11           |
| 41        | 3            |
| 42        | 8            |
| 43        | 8            |
| 44        | 9            |
| 45        | 5            |
| 46        | 9            |
| 47        | 7            |
| 48        | 6            |
| 49        | 3            |
| 50        | 7            |
| 51        | 1            |
| 52        | 2            |
| 53        | 0            |
| 54        | 1            |
| 55        | 1            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 109   | 42.9          | 27 - 57 | 43 mph          | 48 mph          | 39 - 48     | 72        | 66%          | 19% / 21         | 15% / 16         |

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:** 4-lane divided arterial 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 58 reported collisions along this segment within the past three years. This equates to 3.53 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for 4-lane divided type of roadway.

**Other Considerations:** None.

**Recommendation:** Based on the 85th percentile speed of 48 MPH, a speed limit of 50 MPH was considered. However, given a high collision rate, a condition 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

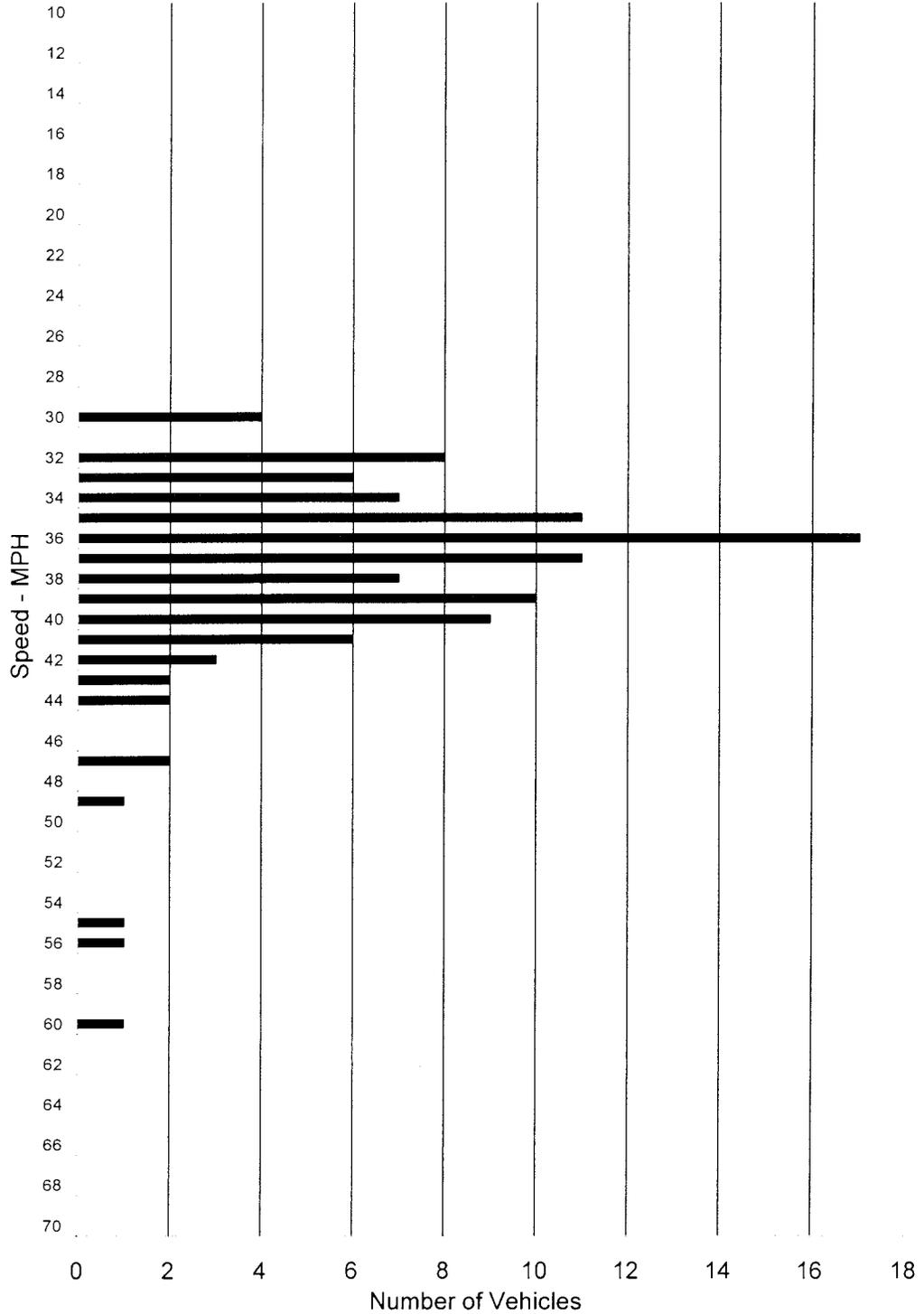
## E. Stanley Boulevard

DATE: 11/5/2010  
 Start Time: 09:20 AM  
 DAY: Friday

Location: S Street to Wall Street  
 End Time: 09:32 PM  
 (Before) Speed Limit: 35 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: MB  
 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        | 0            |
| 27        | 0            |
| 28        | 0            |
| 29        | 0            |
| 30        | 4            |
| 31        | 0            |
| 32        | 8            |
| 33        | 6            |
| 34        | 7            |
| 35        | 11           |
| 36        | 17           |
| 37        | 11           |
| 38        | 7            |
| 39        | 10           |
| 40        | 9            |
| 41        | 6            |
| 42        | 3            |
| 43        | 2            |
| 44        | 2            |
| 45        | 0            |
| 46        | 0            |
| 47        | 2            |
| 48        | 0            |
| 49        | 1            |
| 50        | 0            |
| 51        | 0            |
| 52        | 0            |
| 53        | 0            |
| 54        | 0            |
| 55        | 1            |
| 56        | 1            |
| 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              | 109   | 37.5          | 30 - 60 | 37 mph          | 41 mph          | 32 - 41     | 92        | 84%             | 3% / 4           | 12% / 13         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: E. STANLEY BOULEVARD

Adjacent Land Use: COMMERCIAL

Limits: WALL ST TO S. 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 55 reported collisions along this segment within the past three years. This equates to 3.63 collisions per million vehicle miles, which is higher than the statewide average of 1.56 for 4-lane divided 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 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

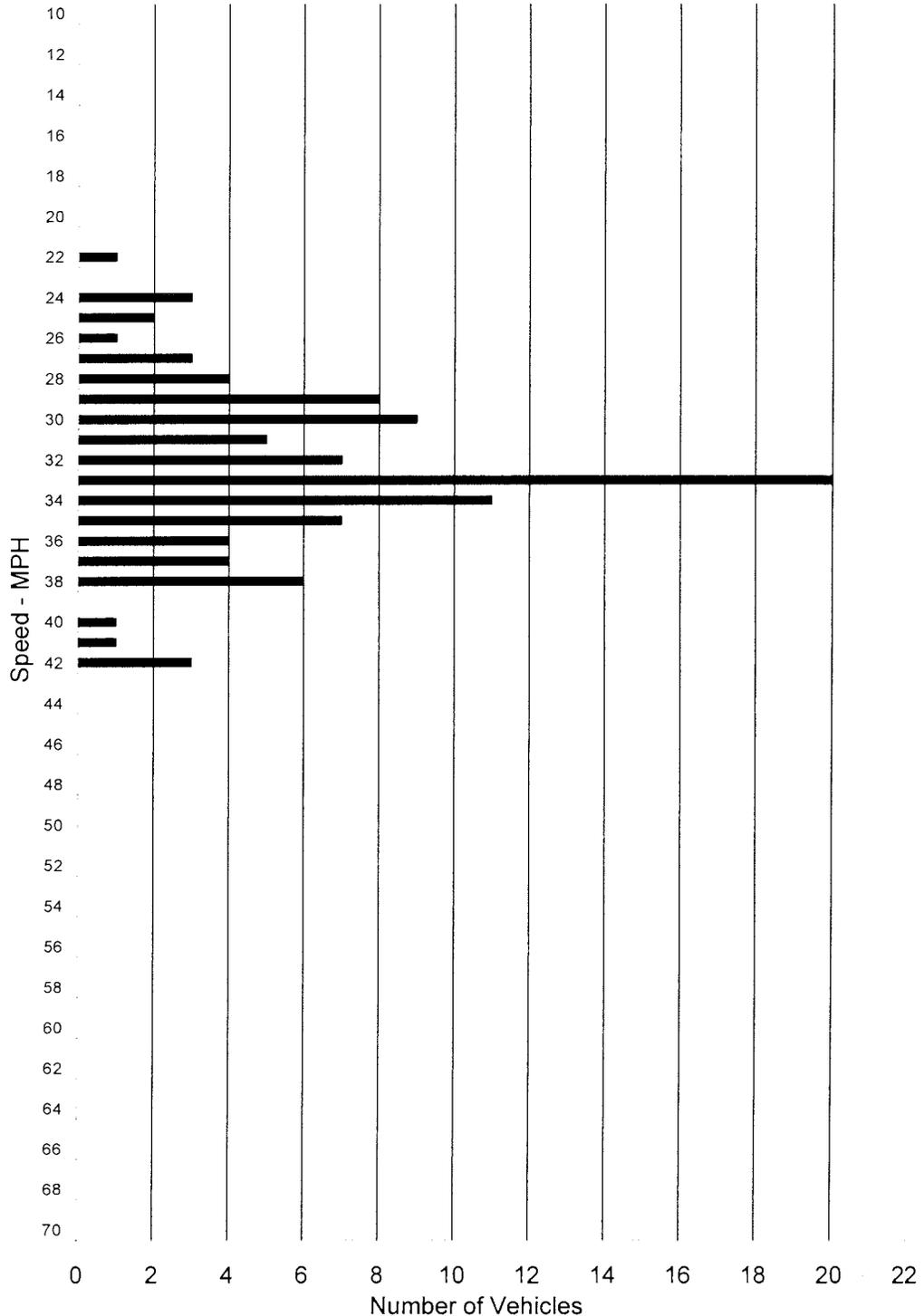
## Sun Flower Court

DATE: 11/2/2010  
 Start Time: 2:43 PM  
 DAY: Tuesday

Location: Bluebell Drive to Central Avenue  
 End Time: 3:23 PM  
 (Before) Speed Limit: 30 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: Nsumiran  
 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        | 0            |
| 24        | 3            |
| 25        | 2            |
| 26        | 1            |
| 27        | 3            |
| 28        | 4            |
| 29        | 8            |
| 30        | 9            |
| 31        | 5            |
| 32        | 7            |
| 33        | 20           |
| 34        | 11           |
| 35        | 7            |
| 36        | 4            |
| 37        | 4            |
| 38        | 6            |
| 39        | 0            |
| 40        | 1            |
| 41        | 1            |
| 42        | 3            |
| 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 Pace | % / # Below Pace | % / # Above Pace |
| ALL              | 100   | 32.5          | 22 - 42 | 33 mph          | 36 mph          | 29 - 38     | 81        | 81%          | 14% / 14         | 5% / 5           |

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 3 reported collisions along this segment within the past three years. This equates to 1.43 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**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

## Vallecitos Road

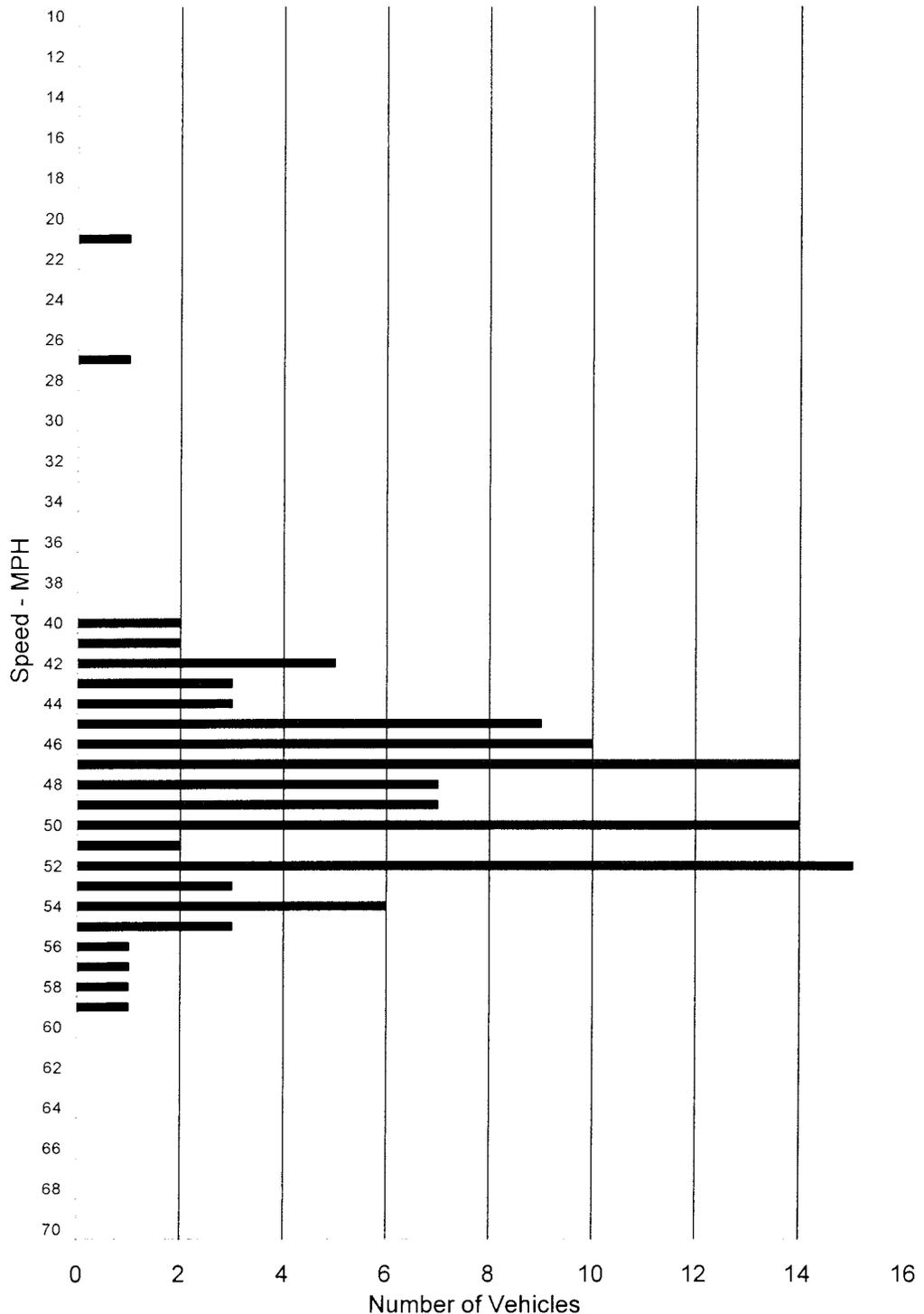
DATE: 10/11/2010  
 Start Time: 2:10 PM  
 DAY: Monday

Location: Wetmore Road to Isabel Avenue  
 End Time: 2:33 PM  
 (Before) Speed Limit: 50 MPH

Observer: Dtorrey  
 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        | 1            |
| 28        | 0            |
| 29        | 0            |
| 30        | 0            |
| 31        | 0            |
| 32        | 0            |
| 33        | 0            |
| 34        | 0            |
| 35        | 0            |
| 36        | 0            |
| 37        | 0            |
| 38        | 0            |
| 39        | 0            |
| 40        | 2            |
| 41        | 2            |
| 42        | 5            |
| 43        | 3            |
| 44        | 3            |
| 45        | 9            |
| 46        | 10           |
| 47        | 14           |
| 48        | 7            |
| 49        | 7            |
| 50        | 14           |
| 51        | 2            |
| 52        | 15           |
| 53        | 3            |
| 54        | 6            |
| 55        | 3            |
| 56        | 1            |
| 57        | 1            |
| 58        | 1            |
| 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              | 111   | 48.1          | 21 - 59 | 48 mph          | 52 mph          | 45 - 54     | 87        | 78%             | 15% / 17         | 7% / 7           |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: VALLECITOS ROAD  
Limits: WETMORE ROAD TO ISABEL AVE

Adjacent Land Use: AGRICULTURE/UNDEVELOPED  
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 1.32 miles.

**Collision History:** There have been 28 reported collisions along this segment within the past three years. This equates to 1.53 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway

**Other Considerations:** Excessive speed has been a factor in reported collisions.

**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 50 MPH speed limit will be lowered to 45 MPH.

# Spot Speed Study - City of Livermore

## Vancouver Way

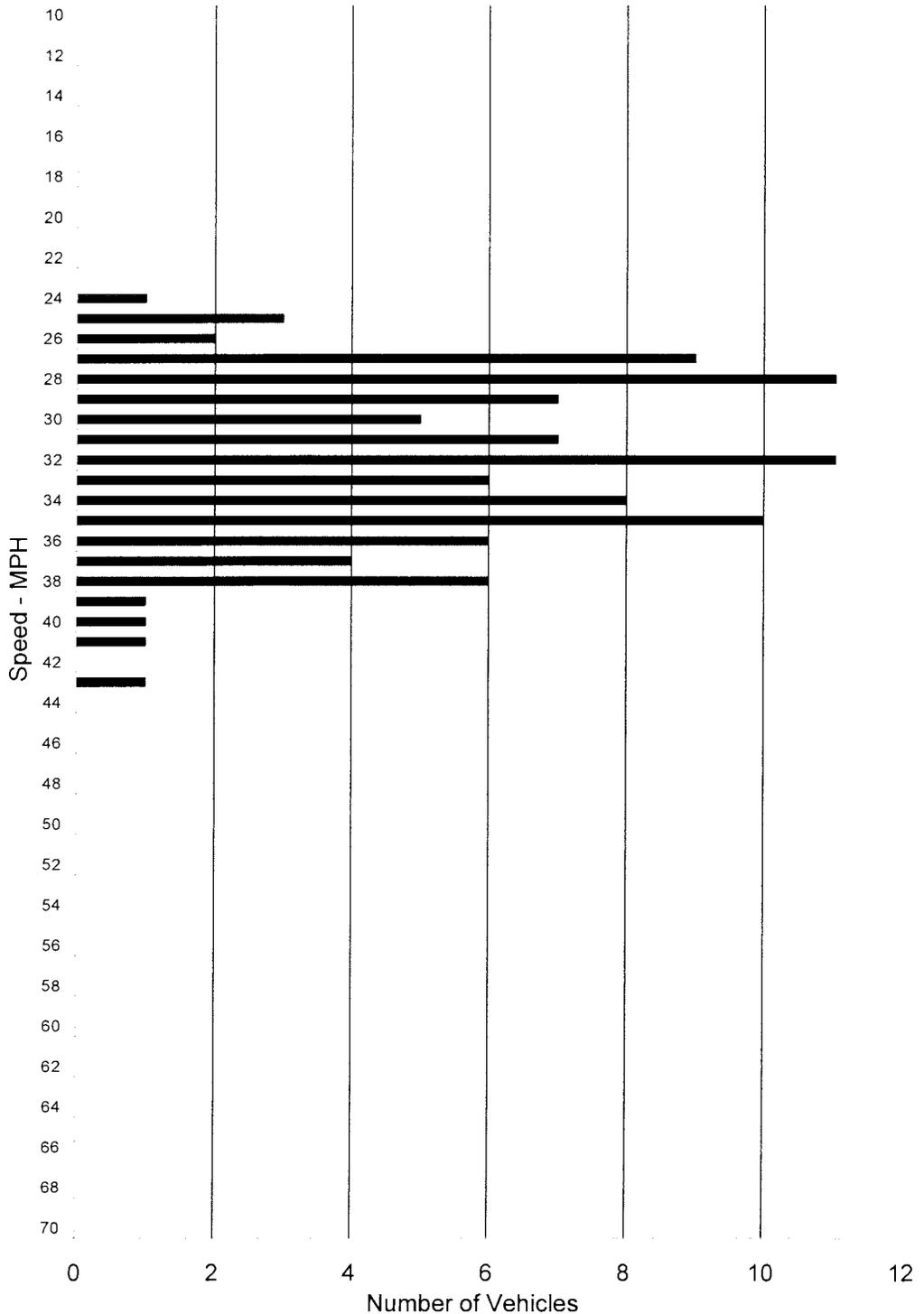
DATE: 10/15/2010  
 Start Time: 10:34 AM  
 DAY: Friday

Location: Holmes Street to Arroyo Road  
 End Time: 11:50 AM  
 (Before) Speed Limit: 25 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: KR  
 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        | 2            |
| 27        | 9            |
| 28        | 11           |
| 29        | 7            |
| 30        | 5            |
| 31        | 7            |
| 32        | 11           |
| 33        | 6            |
| 34        | 8            |
| 35        | 10           |
| 36        | 6            |
| 37        | 4            |
| 38        | 6            |
| 39        | 1            |
| 40        | 1            |
| 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   | 32.0          | 24 - 43 | 32 mph          | 36 mph          | 27 - 36     | 80        | 80%             | 6% / 6           | 14% / 14         |

**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 on-street bike lanes and parking. The length of this segment is 0.66 miles.

**Collision History:** There have been 5 reported collisions along this segment within the past three years. This equates to 2.45 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 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

## North Vasco Road

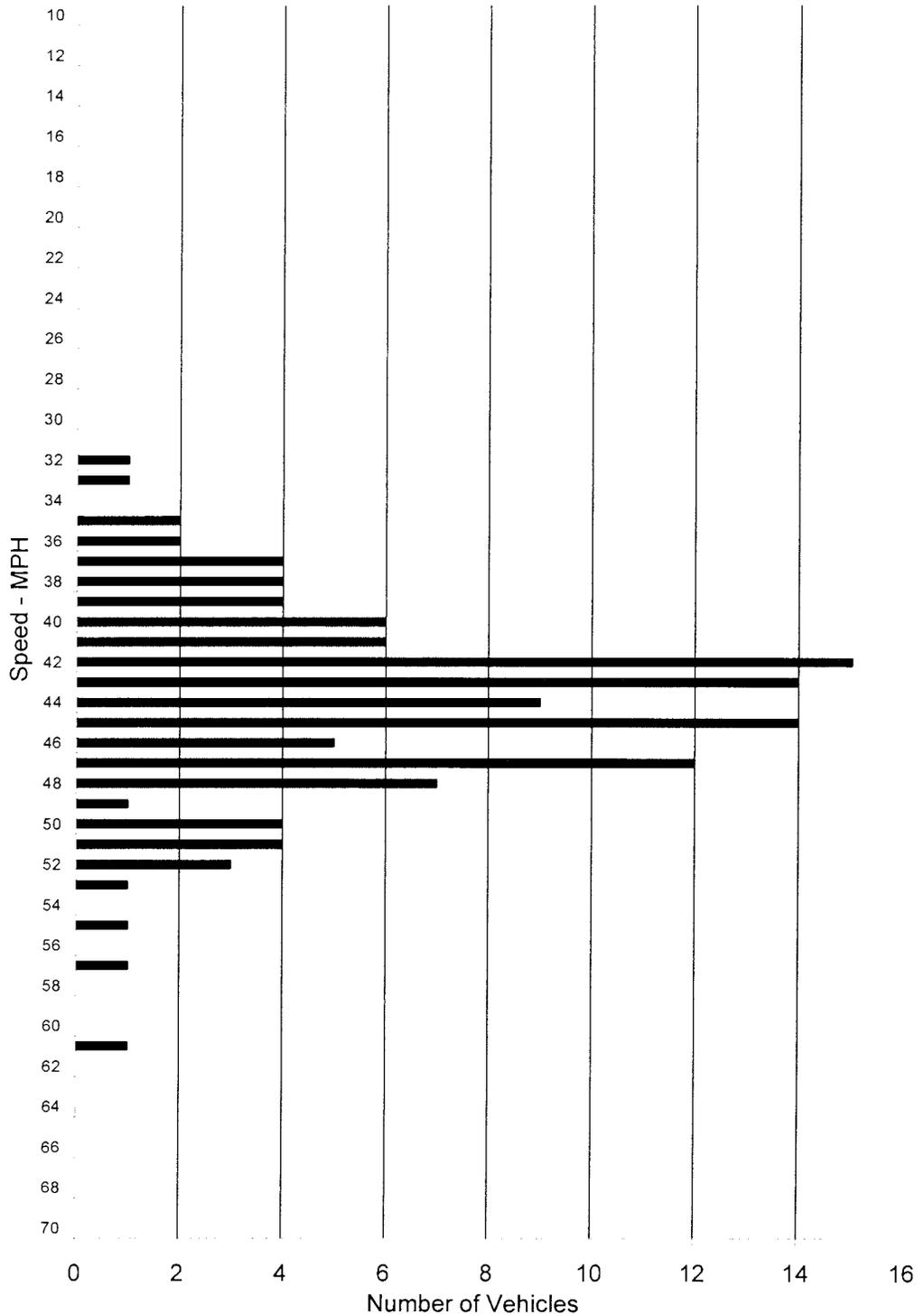
DATE: 9/17/2010  
 Start Time: 11:06 AM  
 DAY: Friday

Location: I-580 to Dalton Avenue  
 End Time: 11:40 AM  
 (Before) Speed Limit: 45 MPH

Observer: Parminder  
 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        | 1            |
| 33        | 1            |
| 34        | 0            |
| 35        | 2            |
| 36        | 2            |
| 37        | 4            |
| 38        | 4            |
| 39        | 4            |
| 40        | 6            |
| 41        | 6            |
| 42        | 15           |
| 43        | 14           |
| 44        | 9            |
| 45        | 14           |
| 46        | 5            |
| 47        | 12           |
| 48        | 7            |
| 49        | 1            |
| 50        | 4            |
| 51        | 4            |
| 52        | 3            |
| 53        | 1            |
| 54        | 0            |
| 55        | 1            |
| 56        | 0            |
| 57        | 1            |
| 58        | 0            |
| 59        | 0            |
| 60        | 0            |
| 61        | 1            |
| 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   | 44.0          | 32 - 61 | 44 mph          | 48 mph          | 39 - 48     | 92        | 75%             | 11% / 14         | 14% / 16         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: VASCO ROAD Adjacent Land Use: RESIDENTIAL/COMMERC.

Limits: DALTON AVE TO I-580 No. of Lanes: 4

**Roadway Description:** 4-lane divided arterial street with on-street bike lanes through a residential and commercial development. Parking is prohibited, and no homes front this segment. The length of this segment is 1.21 miles.

**Collision History:** There have been 59 reported collisions along this segment within the past three years. This equates to 2.32 collisions per million vehicle miles, which is higher than the statewide average of 1.56 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 48 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

## South Vasco Road

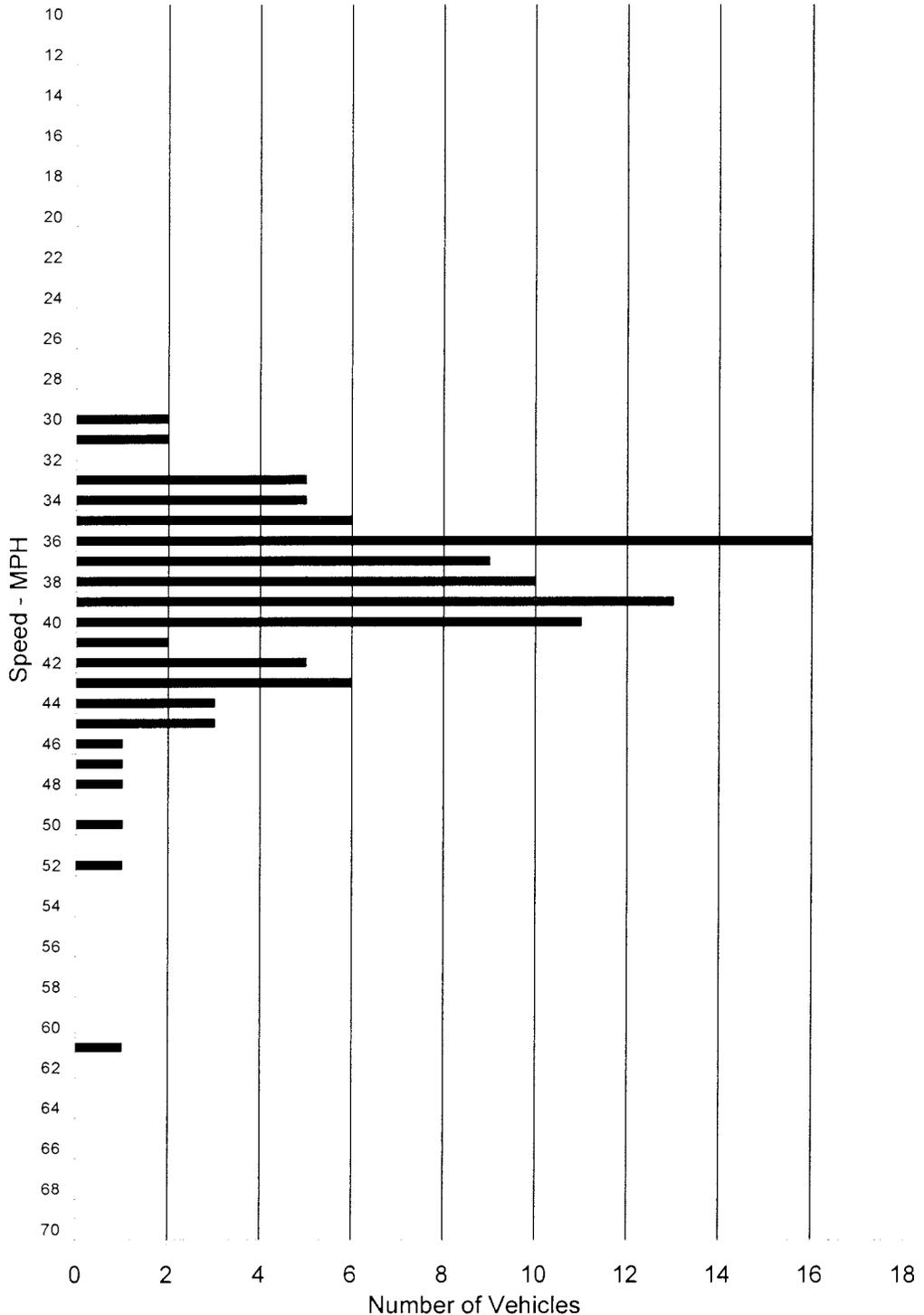
DATE: 9/17/2010  
 Start Time: 10:20 AM  
 DAY: Friday

Location: Patterson Pass Road to I-580  
 End Time: 11:50 AM  
 (Before) Speed Limit: 45 MPH

Observer: Mbauer  
 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        | 2            |
| 31        | 2            |
| 32        | 0            |
| 33        | 5            |
| 34        | 5            |
| 35        | 6            |
| 36        | 16           |
| 37        | 9            |
| 38        | 10           |
| 39        | 13           |
| 40        | 11           |
| 41        | 2            |
| 42        | 5            |
| 43        | 6            |
| 44        | 3            |
| 45        | 3            |
| 46        | 1            |
| 47        | 1            |
| 48        | 1            |
| 49        | 0            |
| 50        | 1            |
| 51        | 0            |
| 52        | 1            |
| 53        | 0            |
| 54        | 0            |
| 55        | 0            |
| 56        | 0            |
| 57        | 0            |
| 58        | 0            |
| 59        | 0            |
| 60        | 0            |
| 61        | 1            |
| 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   | 38.7          | 30 - 61 | 38 mph          | 43 mph          | 34 - 43     | 83        | 80%             | 8% / 9           | 12% / 12         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: VASCO ROAD Adjacent Land Use: INDUSTR./COMMERC.

Limits: I-580 TO PATTERSON PASS RD No. of Lanes: 4/6

**Roadway Description:** 4 to 6-lane divided arterial street from with on-street bike lanes through an industrial area. Parking is prohibited. The length of this segment is 1.09 miles.

**Collision History:** There have been 45 reported collisions along this segment within the past three years. This equates to 1.23 collisions per million vehicle miles, which is lower than the statewide average of 1.56 for this type of roadway

**Other Considerations:** None.

**Recommendation:** Based on the 85th percentile speed of 43 MPH, the existing 45 MPH speed limit will remain in effect.

# Spot Speed Study - City of Livermore

## South Vasco Road

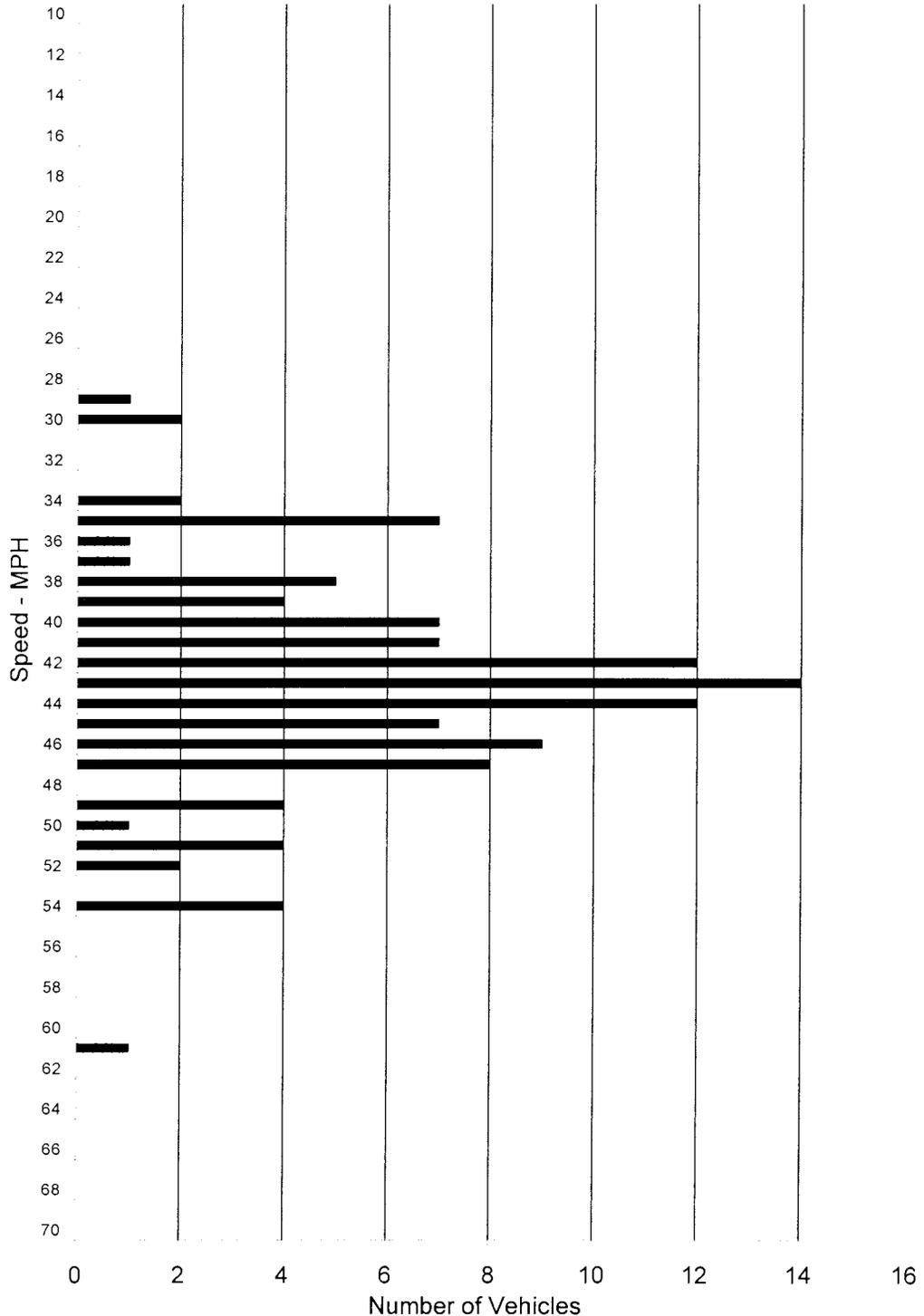
DATE: 9/17/2010  
 Start Time: 10:20 AM  
 DAY: Friday

Location: East Avenue to Patterson Pass Road  
 End Time: 10:50 AM  
 (Before) Speed Limit: 45 MPH

Observer: Parminder  
 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        | 1            |
| 30        | 2            |
| 31        | 0            |
| 32        | 0            |
| 33        | 0            |
| 34        | 2            |
| 35        | 7            |
| 36        | 1            |
| 37        | 1            |
| 38        | 5            |
| 39        | 4            |
| 40        | 7            |
| 41        | 7            |
| 42        | 12           |
| 43        | 14           |
| 44        | 12           |
| 45        | 7            |
| 46        | 9            |
| 47        | 8            |
| 48        | 0            |
| 49        | 4            |
| 50        | 1            |
| 51        | 4            |
| 52        | 2            |
| 53        | 0            |
| 54        | 4            |
| 55        | 0            |
| 56        | 0            |
| 57        | 0            |
| 58        | 0            |
| 59        | 0            |
| 60        | 0            |
| 61        | 1            |
| 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   | 43.1          | 29 - 61 | 43 mph          | 47 mph          | 38 - 47     | 85        | 74%             | 12% / 14         | 14% / 16         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: 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 on-street bike lanes. Residential development 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 17 reported collisions along this segment within the past three years. This equates to 0.79 collisions per million vehicle miles, which is lower than the statewide average of 1.56 for this type of roadway.

**Other Considerations:** None.

**Recommendation:** Based on the 85th percentile speed of 47 MPH, the existing 45 MPH speed limit will remain in effect.

# Spot Speed Study - City of Livermore

## South Vasco Road

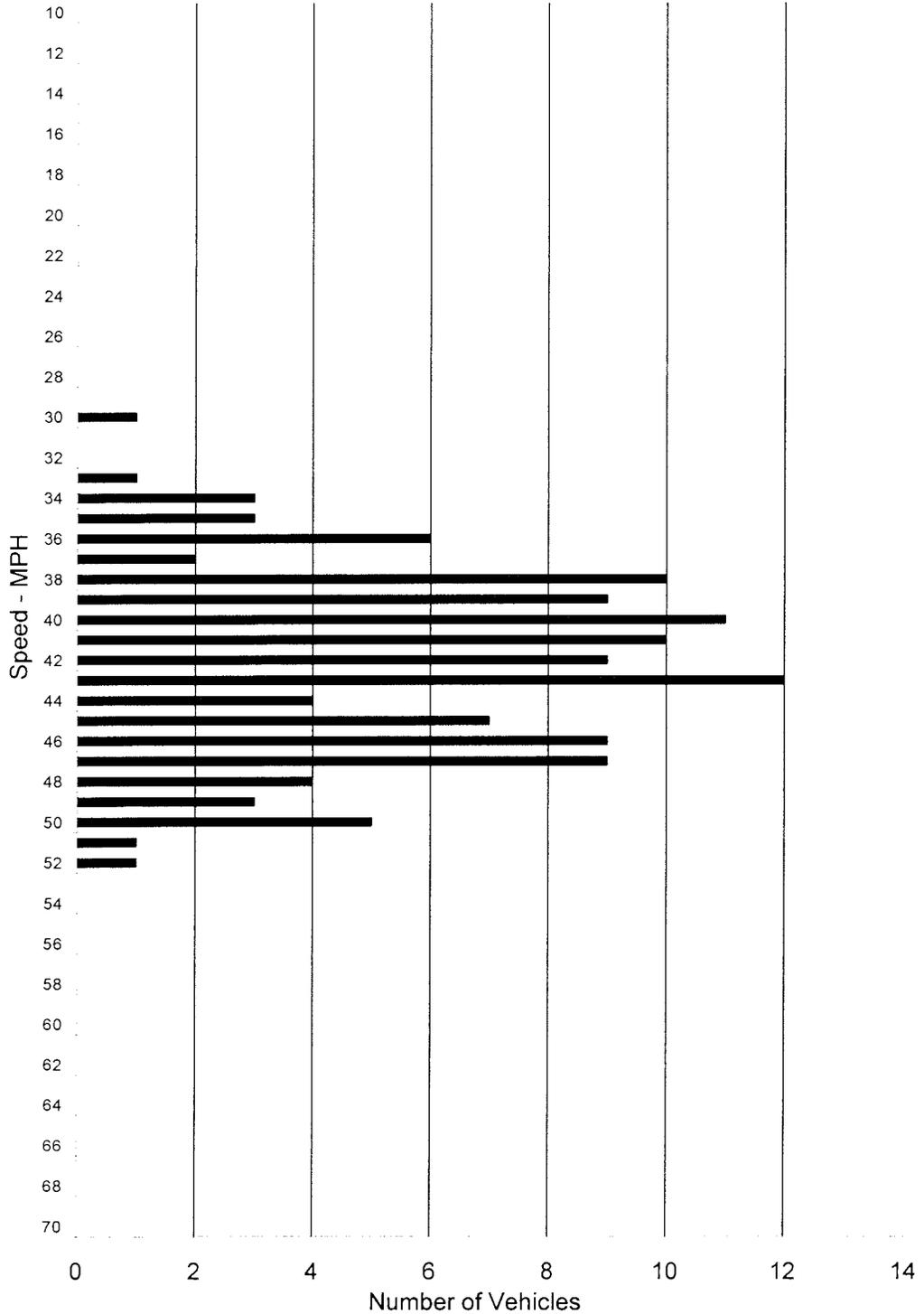
DATE: 10/29/2010  
 Start Time: 3:10 PM  
 DAY: Friday

Location: East Avenue to Tesla Road  
 End Time: 3:41 PM  
 (Before) Speed Limit: 40 MPH  
 Weather: Dry  
 Direction: NB & SB

Observer: CN  
 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        | 1            |
| 34        | 3            |
| 35        | 3            |
| 36        | 6            |
| 37        | 2            |
| 38        | 10           |
| 39        | 9            |
| 40        | 11           |
| 41        | 10           |
| 42        | 9            |
| 43        | 12           |
| 44        | 4            |
| 45        | 7            |
| 46        | 9            |
| 47        | 9            |
| 48        | 4            |
| 49        | 3            |
| 50        | 5            |
| 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              | 120   | 42.1          | 30 - 52 | 42 mph          | 47 mph          | 38 - 47     | 90        | 75%             | 13% / 16         | 12% / 14         |

CITY OF LIVERMORE

ENGINEERING AND TRAFFIC SURVEY

Street: SOUTH VASCO ROAD Adjacent Land Use: RESIDENTIAL/INDUSTRIAL

Limits: EAST AVE TO SOUTH CITY LIMIT No. of Lanes: 2

**Roadway Description:** 2-lane arterial street through a partially undeveloped residential, industrial and agricultural area. Parking is prohibited.

**Collision History:** There have been 13 reported collisions along this segment within the past three years. This equates to 1.24 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**Unusual Conditions:** There is a high rate of turning maneuvers in and out of intersecting local streets.

**Recommendation:** Based on the 85th percentile speed of 47 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

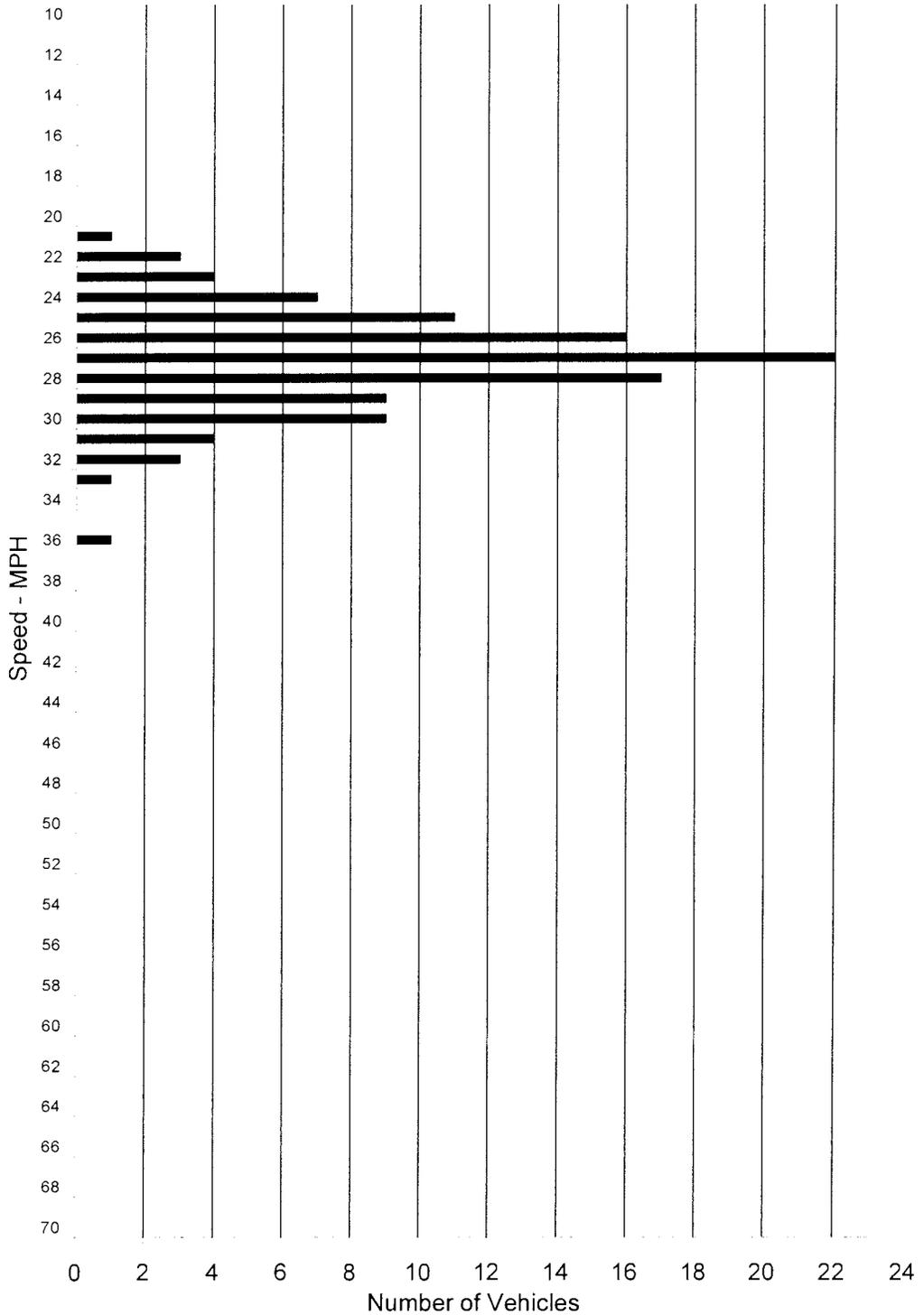
DATE: 1/4/2011  
 Start Time: 10:55 AM  
 DAY: Tuesday

Location: El Caminito to E. Stanley Boulevard  
 End Time: 11:36 AM  
 (Before) Speed Limit: 25 MPH

Observer: CS  
 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        | 1            |
| 22        | 3            |
| 23        | 4            |
| 24        | 7            |
| 25        | 11           |
| 26        | 16           |
| 27        | 22           |
| 28        | 17           |
| 29        | 9            |
| 30        | 9            |
| 31        | 4            |
| 32        | 3            |
| 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              | 108   | 27.1          | 21 - 36 | 27 mph          | 30 mph          | 22 - 31     | 102       | 94%             | 0% / 1           | 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 on-street bike lanes, and parking. Granada High School is located on this segment. The length of this segment is 0.65 miles.

**Collision History:** There have been 29 reported collisions along this segment within the past three years. This equates to 5.61 collisions per million vehicle miles, which is higher than the statewide average of 1.17 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 activity especially near the high school.

**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

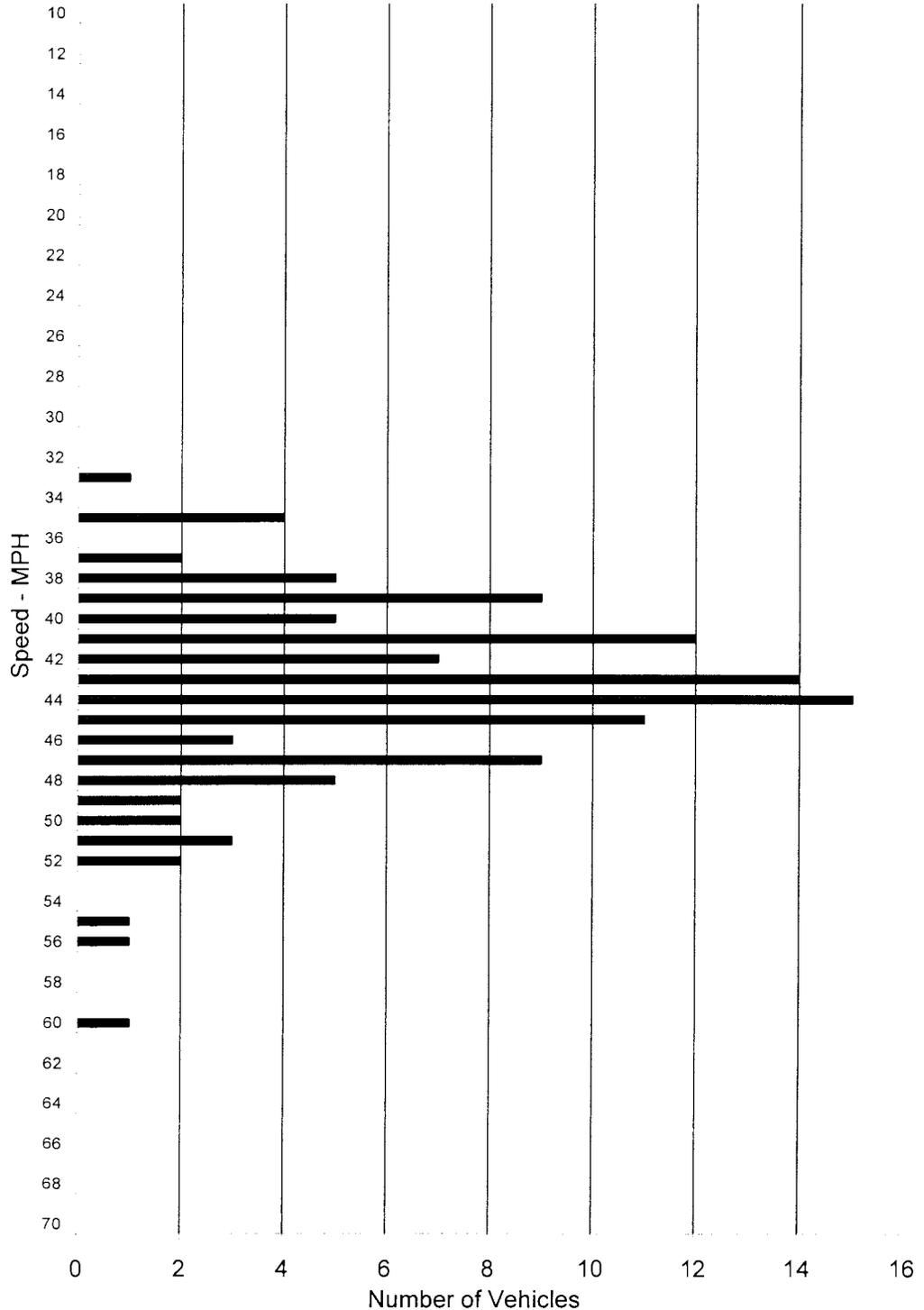
## Wetmore Road

DATE: 11/5/2010  
 Start Time: 01:56 PM  
 DAY: Friday

Location: Vallecitos Road to Arroyo Road  
 End Time: 02:31 PM  
 (Before) Speed Limit: 45 MPH  
 Weather: Dry  
 Direction: EB & WB

Observer: CN  
 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        | 0            |
| 30        | 0            |
| 31        | 0            |
| 32        | 0            |
| 33        | 1            |
| 34        | 0            |
| 35        | 4            |
| 36        | 0            |
| 37        | 2            |
| 38        | 5            |
| 39        | 9            |
| 40        | 5            |
| 41        | 12           |
| 42        | 7            |
| 43        | 14           |
| 44        | 15           |
| 45        | 11           |
| 46        | 3            |
| 47        | 9            |
| 48        | 5            |
| 49        | 2            |
| 50        | 2            |
| 51        | 3            |
| 52        | 2            |
| 53        | 0            |
| 54        | 0            |
| 55        | 1            |
| 56        | 1            |
| 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              | 114   | 43.5          | 33 - 60 | 43 mph          | 47 mph          | 38 - 47     | 90        | 79%             | 6% / 7           | 15% / 17         |

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 8 reported collisions along this segment within the past three years. This equates to 1.86 collisions per million vehicle miles, which is higher than the statewide average of 1.17 for this type of roadway.

**Other Considerations:** Unimproved shoulders with a high number of pedestrian, equestrian, and bicycling activities. A midblock crosswalk serving the trail and Sycamore Grove Park is located towards the westerly end of the segment.

**Recommendation:** Based on the 85<sup>th</sup> percentile speed of 47 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.