



## City of Laguna Hills Traffic Commission

Michael Caputo  
Chair

Neel Patel  
Vice Chair

Mark Jones  
Commissioner

Scott Miller  
Commissioner

Mark Schaff  
Commissioner

Regular Meeting Agenda  
Wednesday, May 21, 2025 - 6:00 PM

City Council Chamber  
24035 El Toro Road  
Laguna Hills, CA 92653

Any person wishing to address the Traffic Commission on any matter, whether or not it appears on this Agenda, is asked to complete a "Request to Speak" form available on the table at the back of the Chamber. The completed form is to be submitted to the Recording Secretary prior to an individual being heard by the Traffic Commission. Completion of the form is voluntary. All persons may attend the meeting regardless of whether this form is completed.

Members of the public wishing to address the Traffic Commission can do so during the Public Comments portion of the Agenda with a time limitation of three minutes per person, as determined by the Chair, and a total time limit of thirty minutes for Public Comments. If you are commenting on an Agenda item, your comments will be heard at the time that item is scheduled on the Agenda. If you are addressing the Commission on an item not listed on the Agenda, the Traffic Commission is prohibited by law from discussing or taking any action on that item.

### **Call to Order**

Resolution No. 96-04-09-1 established rules of decorum for public meetings held by the City of Laguna Hills. Resolution No. 96-04-09-1 is available on the table at the back of the City Council Chamber.

### **Pledge of Allegiance**

### **Roll Call of Commissioner Members**

#### **1. Public Comment**

This is the time to address the Traffic Commission on any matter not listed on this Agenda that is within the subject matter jurisdiction of the Commission. Public Comments are limited to three minutes per person as determined by the Chair and a total time limit of thirty minutes.

## **2. Minutes Approval**

### **2.1 Approval of Minutes for March 19, 2025, Traffic Commission Meeting**

**Recommendation:** That the Traffic Commission approve the minutes of March 19, 2025.

## **3. Presentations**

### **3.1 Introduction to Traffic Engineering**

**Recommendation:** That the Traffic Commission receive and file the report.

## **4. Administrative Reports**

### **4.1 Review of Traffic Conditions on Bridlewood Drive and Vista Viejo**

**Recommendation:** That the Traffic Commission recommend that the City Engineer install centerline striping and "Watch Downhill Speed" signs along Bridlewood Drive and Vista Viejo, as well as additional "30" pavement legends along Vista Viejo and conduct another speed survey in six months, in accordance to the City Council's Residential Streets Traffic Management Policy

### **4.2 Buckskin Drive/Broken Bit Lane and Buckskin Drive/Nellie Gail Road Sight Distance and Stop Sign Evaluation**

**Recommendation:** That the Traffic Commission recommend to City Council the installation of a One-Way Stop Sign on Broken Bit Lane at Buckskin Drive.

### **4.3 Exploring Citywide Street Sweeping Parking Restrictions**

**Recommendation:** That the Traffic Commission provide input on the topic and recommend City staff return to Traffic Commission at a future meeting with a written report.

## **5. Informational Items**

### **5.1 Sheriff's Department Verbal Report**

## **6. Commissioner Comments**

## Adjournment

The next Regular Meeting of the Traffic Commission will be July 16, 2025, at 6:00 p.m. in the City Council Chamber, located at 24035 El Toro Road, Laguna Hills, California.

## CERTIFICATION

I, JOE AMES, P.E., T.E., Public Works Director/City Engineer of the City of Laguna Hills, do hereby certify that a copy of the foregoing Agenda was posted at Laguna Hills City Hall, Laguna Hills Community Center, and the Courtyard at La Paz Center by May 15, 2025, at 5:00p.m.,

  
\_\_\_\_\_  
*Joe Ames, P.E., T.E., Public Works Director/City Engineer*

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, you should contact the office of the Public Works Director/City Engineer at (949) 707-2651. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure access.

Materials related to an item on this Agenda submitted to the Commission after distribution of the Agenda packet are available for public inspection in the Public Services Department at 24035 El Toro Road, Laguna Hills, California, during normal business hours.

**CITY OF LAGUNA HILLS  
TRAFFIC COMMISSION**

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**REGULAR MEETING  
MINUTES  
Wednesday, March 19, 2025**

**CALL TO ORDER**

Resolution No. 96-04-09-1 established rules of decorum for public meetings held by the City of Laguna Hills. Resolution No. 96-04-09-1 is available on the table at the back of the City Council Chamber.

The meeting was called to order at 6:00 p.m. by Chair Caputo.

**PLEDGE OF ALLEGIANCE**

Chair Caputo led the pledge of Allegiance.

**ROLL CALL OF COMMISSION MEMBERS**

<b>Attendee Name</b>	<b>Title</b>	<b>Status</b>	<b>Arrived</b>
Mike Caputo	Chair	Present	
Scott Miller	Commissioner	Present via Zoom	
Neel Patel	Vice Chair	Present	
Mark Schaff	Commissioner	Present	
Manuel Hernandez	Commissioner	Absent	

**1. PUBLIC COMMENTS**

There were no Public Comments.

**2. MINUTES**

**2.1 Minutes**

**Recommendation:** That the Traffic Commission approve the minutes of March 19, 2025.

<b>RESULT:</b>	<b>APPROVED [4-0]</b>
<b>MOVER:</b>	Neel Patel, Vice Chair
<b>SECONDER:</b>	Scott Miller, Commissioner
<b>AYES:</b>	Mike Caputo, Chair, Scott Miller, Commissioner, Neel Patel, Vice Chair, Mark Schaff, Commissioner
<b>NOES:</b>	None
<b>ABSENT:</b>	Manuel Hernandez, Commissioner

### 3. PRESENTATIONS

There were no Presentations.

### 4. ADMINISTRATIVE REPORTS

#### 4.1 Sight Distance and Stop Sign Evaluation for the Intersection of Sunburst Avenue and Largo Drive

Assistant Engineer Samantha Vu reviewed the information provided in the staff report and responded to Commissioner requests for additional information.

**Recommendation:** That the Traffic Commission recommend to the City Council the installation of a One-Way Stop Sign on Sunburst Avenue at Largo Drive.

<b>RESULT:</b>	<b>APPROVED [4-0]</b>
<b>MOVER:</b>	Mark Schaff, Commissioner
<b>SECONDER:</b>	Neel Patel, Vice Chair
<b>AYES:</b>	Mike Caputo, Chair, Scott Miller, Commissioner, Neel Patel, Vice Chair, Mark Schaff, Commissioner
<b>NOES:</b>	None
<b>ABSENT:</b>	Manuel Hernandez, Commissioner

#### 4.2 Review of Traffic Conditions on Bridlewood Drive and Vista Viejo

Assistant Engineer Samantha Vu reviewed the information provided in the staff report and responded to Commissioner requests for additional information.

The following individual submitted an electronic public comment on this item that was received, forwarded to the Commission prior to the meeting, and announced into the record by Traffic Commission Secretary Comella:

Aaron Meyers, a resident of Laguna Hills, submitted an email and attended the meeting. Mr. Meyers spoke in favor of additional traffic control, and an additional Multi-Way Stop Sign, at the intersection of Bridlewood Drive and Vista Viejo.

**Recommendation:** That the Traffic Commission recommend the City Engineer adds Bridlewood Drive and Vista Viejo to the portable radar speed-feedback trailer rotational deployment list, that staff conducts another speed survey with additional locations in 90 days, that Police Services conducts increased law (speed) enforcement on Bridlewood Drive and Vista Viejo, and directs staff to present a Multi-Way Stop Sign analysis for Bridlewood Drive and Vista Viejo at the next Traffic Commission meeting.

<b>RESULT:</b>	<b>APPROVED [4-0]</b>
<b>MOVER:</b>	Mike Caputo, Chair
<b>SECONDER:</b>	Mark Schaff, Commissioner
<b>AYES:</b>	Mike Caputo, Chair, Scott Miller, Commissioner, Neel Patel, Vice Chair, Mark Schaff, Commissioner
<b>NOES:</b>	None
<b>ABSENT:</b>	Manuel Hernandez, Commissioner

#### **4.3 Establishment of Speed Limit for Del Lago Drive between Lake Forest Drive and La Cadena Drive**

Assistant Engineer Samantha Vu reviewed the information provided in the staff report and responded to Commissioner requests for additional information.

**Recommendation:** That the Traffic Commission recommends that the City Council adopt an ordinance establishing a speed limit of 30 MPH for Del Lago Drive between Lake Forest Drive and La Cadena Drive, and the posting of 25 MPH speed limit signs on El Pacifico Drive, Peralta Drive, and Plaza Pointe Drive at the entry points to the North Laguna Hills commercial/industrial area.

<b>RESULT:</b>	<b>APPROVED [4-0]</b>
<b>MOVER:</b>	Neel Patel, Vice Chair
<b>SECONDER:</b>	Scott Miller, Commissioner
<b>AYES:</b>	Mike Caputo, Chair, Scott Miller, Commissioner, Neel Patel, Vice Chair, Mark Schaff, Commissioner
<b>NOES:</b>	None
<b>ABSENT:</b>	Manuel Hernandez, Commissioner

**4.4 La Paz Road & Appaloosa Place – Installation of Acceleration Lane**

Assistant Engineer Samantha Vu reviewed the information provided in the staff report and responded to Commissioner requests for additional information.

The following individual submitted an electronic public comment on this item that was received, forwarded to the Commission prior to the meeting, and announced into the record by Administrative Assistant Comella:

Lulu Hallenbeck, a resident of Laguna Hills, submitted an email and thanked staff for their quick response to her request for an acceleration lane on La Paz Road at Appaloosa Place.

**Recommendation:** That the Traffic Commission receive and file the report.

<b>RESULT:</b>	<b>APPROVED [4-0]</b>
<b>MOVER:</b>	Mike Caputo, Chair
<b>SECONDER:</b>	Neel Patel
<b>AYES:</b>	Mike Caputo, Chair, Scott Miller, Commissioner, Neel Patel, Vice Chair, Mark Schaff, Commissioner
<b>NOES:</b>	None
<b>ABSENT:</b>	Manuel Hernandez, Commissioner

**4.5 Bicycle Master Plan Update**

Assistant Engineer Samantha Vu reviewed the information provided in the staff report and responded to Commissioner requests for additional information.

**Recommendation:** That the Traffic Commission recommend that the City Council direct staff to update the bikeways portion of the Bikeways, Trails & Open Space Master Plan (“Bicycle Master Plan”) and appropriate funding for this work.

<b>RESULT:</b>	<b>APPROVED [4-0]</b>
<b>MOVER:</b>	Mike Caputo, Chair
<b>SECONDER:</b>	Scott Miller, Commissioner
<b>AYES:</b>	Mike Caputo, Chair, Scott Miller, Commissioner, Neel Patel, Vice Chair, Mark Schaff, Commissioner
<b>NOES:</b>	None
<b>ABSENT:</b>	Manuel Hernandez, Commissioner

**5. INFORMATIONAL ITEMS****5.1. Sheriff's Department Verbal Report**

Captain Burk provided a verbal report to the Commission.

**6. COMMISSIONER COMMENTS**

Commissioner Miller thanked Assistant Engineer Vu for her presentation of the staff reports in Assistant City Manager Ames' absence. Chair Caputo seconded Commissioner Miller's sentiment.

**7. ADJOURNMENT**

There being no further business before the Traffic Commission at this session, Chair Caputo declared the meeting adjourned at 7:59 p.m.

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Julie Comella, Traffic Commission Secretary

ATTEST:

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Mike Caputo, Chair

Approved at meeting of May 21, 2025



## City of Laguna Hills Traffic Commission Staff Report

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**Date:** May 21, 2025  
**To:** Traffic Commissioners  
**From:** Joe Ames, Assistant City Manager  
**Issue:** Introduction to Traffic Engineering

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**Recommendation:** That the Traffic Commission receive and file the report.

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### **Background:**

The Assistant City Manager learned that, in years past, City staff used to schedule an Introduction to Traffic Engineering for new Traffic Commissioners and as a refresher for existing Traffic Commissioners. With the appointment of Mark Jones to Traffic Commission, City staff wanted to renew this tradition. Therefore, City staff has invited Jerry Stock from Hartzog & Crabill, Inc., the City's on-call traffic engineering consultant, to provide a presentation to the Traffic Commissioners covering common Traffic Commission topics.

### **Fiscal Impact:**

The cost of the consultant work is within the Public Works operating budget.

### **Attachments:**

None



## City of Laguna Hills Traffic Commission Staff Report

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**Date:** May 21, 2025  
**To:** Chair and Commission Members  
**From:** Samantha Vu, Assistant Engineer  
**Issue:** Review of Traffic Conditions on Bridlewood Drive and Vista Viejo

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**Recommendation:** That the Traffic Commission recommend that the City Engineer install centerline striping and “Watch Downhill Speed” signs along Bridlewood Drive and Vista Viejo, as well as additional white “30” pavement legends along Vista Viejo and conduct another speed survey in six months, in accordance to the City Council’s Residential Streets Traffic Management Policy.

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### **Background:**

City staff was previously contacted by a resident of the community regarding concerns of vehicular speeding on Bridlewood Drive and Vista Viejo. Please see the attached Vicinity Map. Based upon the resident’s concern and in accordance with the Residential Streets Management Policy, City staff initiated a review of the requested area.

City staff was previously contacted by a resident of Moulton Ranch in April 2018 regarding concerns of vehicular speeding and collisions on Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive. City staff subsequently initiated a traffic engineering evaluation of Bridlewood Drive between Vista Viejo Road and Laurel Crest Drive. The report presented at the July 18, 2018 meeting of the Traffic Commission concluded that the 85<sup>th</sup> percentile speed measurement of Bridlewood Drive was higher than expected and considered to be unacceptable. Additional traffic speed enforcement and use of the radar trailer were utilized to address this issue. The Traffic Commission requested City staff repeat the speed survey of Bridlewood Drive in six months’ time.

In accordance with the Traffic Commission's request, a follow-up speed survey was performed in December 2018. Although the prevailing speed of traffic was lower than previous measurements, it was still higher than expected for a residential street. Therefore, City staff recommended and subsequently installed additional signs and pavement legends on Bridlewood Drive. Continued concentrated police enforcement was also recommended in addition to a follow-up speed survey in six months' time.

In accordance with the recommendation at the January 16, 2019, meeting of the Traffic Commission, a new speed survey was performed in October 2019. This speed survey determined the prevailing speed of traffic was in the acceptable range in the morning but remained higher than expected in the afternoon time period. At the time, it was determined that the appropriate steps were to continue concentrated police enforcement. Previous Traffic Commission reports are attached.

Due to the previous studies being more than two (2) years old, City staff contacted Counts Unlimited, Inc. to conduct a four (4) day speed survey in two locations in January 2025. Per direction of the Traffic Commission from the March, 19<sup>th</sup> 2025 meeting, City staff contacted Counts Unlimited, Inc. to conduct a four (4) day speed survey in four locations. Please see the attached Speed Survey Location Map. Counts Unlimited, Inc. collected and reported the attached 96-hour speed survey on Bridlewood Drive and Vista Viejo, between April 11 and April 14, 2025. Table 1 below contains a summary of the results as well as the previous January 2025 results for comparison. It should be noted that Bridlewood Drive has a posted speed limit of 25 MPH. Vista Viejo has a posted speed limit of 35 MPH in the City of Mission Viejo which decreases to 30 MPH for the portion of the roadway that is in within the City of Laguna Hills.

**Table 1: April 2025 Speed Survey Summary**

Speed Summary	Bridlewood			Vista Viejo		
	Jan.	April (South of Laurel Crest)	April (South of Meadow Crest)	Jan.	April (East of Devonshire)	April (East of Bridlewood)
85 <sup>th</sup> Percentile Speed (MPH)	35	29.5	36.5	35.5	33	40
Average Speed (MPH)	29.75	26.25	30.5	30.25	28	35.25
Percent of Vehicles in Pace	62.5%	76.68%	57.08%	61.38%	66.28%	62.28%
10 MPH Pace Speed	26-35	21-30	26-35	26-35	21-30	31-40

Staff’s experience has found the typical prevailing speed range for such streets to be between 32 and 34 MPH, without traffic safety concerns. This is approximately 7-8 MPH above the posted speed limit. The speed survey determined the 85<sup>th</sup> percentile speeds on both streets have increased since the last speed survey. Both streets experienced low vehicle volumes for a typical, residential streets; however, Bridlewood Drive and Vista Viejo had unusual spotty speeding which led to a low percent of vehicles in pace for both streets.

To address traffic safety concerns, the Residential Streets Traffic Management Policy outlines procedures and incremental solutions. Generally, actions to address speeding issues on residential streets will only be recommended if the prevailing speed is above 32 to 34 MPH, if unusual conditions exist on the roadway, or if there are documented speed-related traffic collisions. In this case, the policy recommends an incremental approach, which includes:

- Increased law enforcement
- Frequent deployment of portable radar speed-feedback trailers
- The use of traffic control devices, regulatory signs and markings, warning signs, and striping

- Physical devices like bolt-down speed cushions

It should be noted that the implementation of physical devices has additional criteria to be considered during assessment. According to the Residential Streets traffic management Policy, the following minimum criteria must be met to consider the implementation of physical devices:

- a. At least 67% of the affected residents of the street and adjacent area streets support the implementation of the physical device. The streets to be used to evaluate the support for the physical device will be those that reasonably can be inferred to draw traffic to the street of concern.
- b. The prevailing speed of traffic has been documented to be greater than 34 mph for at least two radar speed surveys taken 90 days apart as part of the follow-up evaluation of all other traffic controls used to address the issue.
- c. At least 1,500 vehicles traverse the street in a 24-hour period.
- d. The location meets the approval of the Police and Fire Department related to adequate response time of safety vehicles.
- e. The grade of the street shall not exceed 6%.
- f. The street must have a length of at least 1,300 feet and be able to accommodate a minimum of three speed humps unless otherwise directed by the City Council.
- g. Other issues related to traffic engineering will be considered as deemed appropriate by the City Traffic Engineer.

Increased law enforcement and deployment of portable radar speed-feedback trailers were implemented after the previous traffic commission meeting. Due to the increase in speeding, City staff recommends an incremental approach to be followed by installing centerline striping and “Watch Downhill Speed” signs along Bridlewood Drive and Vista Viejo, as well as additional white “30” pavement legends along Vista Viejo and conduct another speed survey in six months, in accordance to the City Council’s Residential Streets Traffic Management Policy. If no change is observed using the incremental approach and the minimum criteria in the Residential Streets Traffic Management Policy are met, City staff will research the implementation of physical devices including cost and present it to the Traffic Commission at a future meeting.

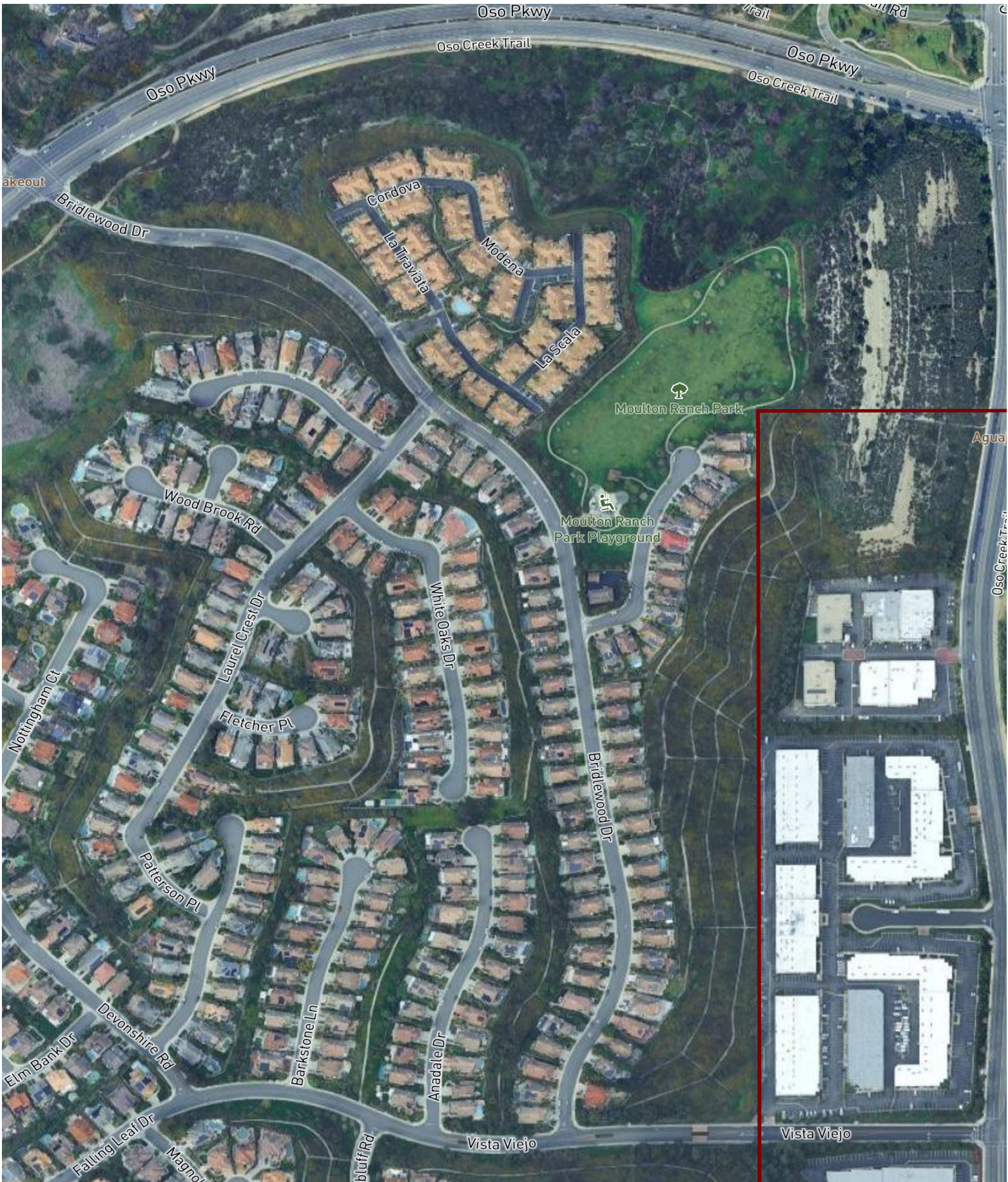
**Fiscal Impact:**

The anticipated cost of the required signing and striping is \$3,500.00. Funds are available for this work in the 2024-25 Fiscal Year Public Works Maintenance Budget.

**Attachments:**

1. Vicinity Map
2. Traffic Commission Item 4.2, dated July 18, 2018
3. Traffic Commission Item 4.2, dated January 16, 2019
4. Traffic Commission Item 4.5, dated November 20, 2019
5. Traffic Commission Item 4.2, dated March 19, 2025
6. Speed Survey Location Map
7. Counts Unlimited, Inc. Speed Survey, April 11, 2025 through April 14, 2025

# Bridlewood Drive and Vista Viejo



1" = 350 ft

Vicinity Map

03/10/2025





## City of Laguna Hills

### Traffic Commission

### Staff Report

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**DATE:** July 18, 2018  
**TO:** Traffic Commissioners  
**FROM:** Kenneth H. Rosenfield P.E.  
 Assistant City Manager/Director of Public Services  
**ISSUE:** Review of Traffic Conditions on Bridlewood Drive and Devonshire Road

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**RECOMMENDATION:** That the Traffic Commission Request Staff Monitor the Speed of Vehicles and Repeat the Speed Survey of Bridlewood Drive Between Vista Viejo Road and Laurel Crest Drive in Six Months Time.

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#### SUMMARY:

Staff was recently contacted by a resident of Moulton Ranch regarding concerns of vehicular speeding and traffic collisions on Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive, and on Devonshire Road, between Falling Leaf Drive and Nottingham Court. Please see the attached Vicinity Map. Based upon the resident's concern and in accordance with the Residential Streets Management Policy, staff initiated a review of the travel speeds, traffic volume and traffic collision history on Bridlewood Drive and on Devonshire Road.

The Traffic Engineers of Hartzog & Crabill, Inc., (HCI) completed the attached June 1, 2018, study of the traffic attributes of Bridlewood Drive from Vista Viejo Road to Laurel Crest Drive and Devonshire Road from Falling Leaf Drive to Nottingham Court. The speed surveys, performed by HCI, as shown in the study, determined the 85<sup>th</sup> percentile speeds on Bridlewood Drive and Devonshire Road as 37.1 mph and 32.9 mph, respectively.

0860-50 900023872

## Review of Traffic Conditions on Bridlewood Drive and Devonshire Road

July 18, 2018

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The 85<sup>th</sup> percentile speed measurement of Bridlewood Drive is higher than expected and considered to be unacceptable for a residential character street. The study also determined 24.6% of the vehicles on Bridlewood Drive were exceeding 34 mph, which is also a higher percentage than the expected percentage, typically at approximately 15%.

The 85<sup>th</sup> percentile speed measurement of Devonshire Road was fully within the expected range. Staff's long term experience has found the typical prevailing speed range for such streets to be between 32 and 34 mph, without adverse traffic collision history. Hence, the 85<sup>th</sup> percentile speed on Devonshire of 32 mph is not of concern for this residential character street.

The traffic count data, for both Bridlewood Drive and Devonshire Road, revealed the 24-hr volumes to be very low for a typical residential street that is a connecting, or through, street to other neighborhoods. The traffic volumes are not significant and no action is needed in response to this data.

A five-year traffic collision history review of Bridlewood Drive was also included in the study which determined three traffic collisions, including one not identified in the collision data from SWITRS but noted based on the attached photographic evidence provided by a resident, had occurred on Bridlewood Drive during this time. None of the traffic collisions were identified as speed-related.

The five-year traffic collision history review of Devonshire Road identified a single traffic collision which was not identified as speed-related and is not considered significant for the purposes of this report.

Concentrated police enforcement of driver behavior is the best and appropriate remedy for residential streets vehicular speeding and is recommended for Bridlewood Drive. Staff will work with the Orange County Sheriff's Department on enforcement activity in this area and will also post the radar trailer in this area to increase driver education as to the appropriate speed on Bridlewood Drive. Staff will also provide the Moulton Ranch Homeowners Association (HOA) with a traffic safety article to be included in their newsletter for the residents of their HOA. In addition, a follow-up speed survey is recommended to be performed in six months. Should the speeding issue remain, the next incremental action will be evaluated. Currently, there are 25 mph pavement

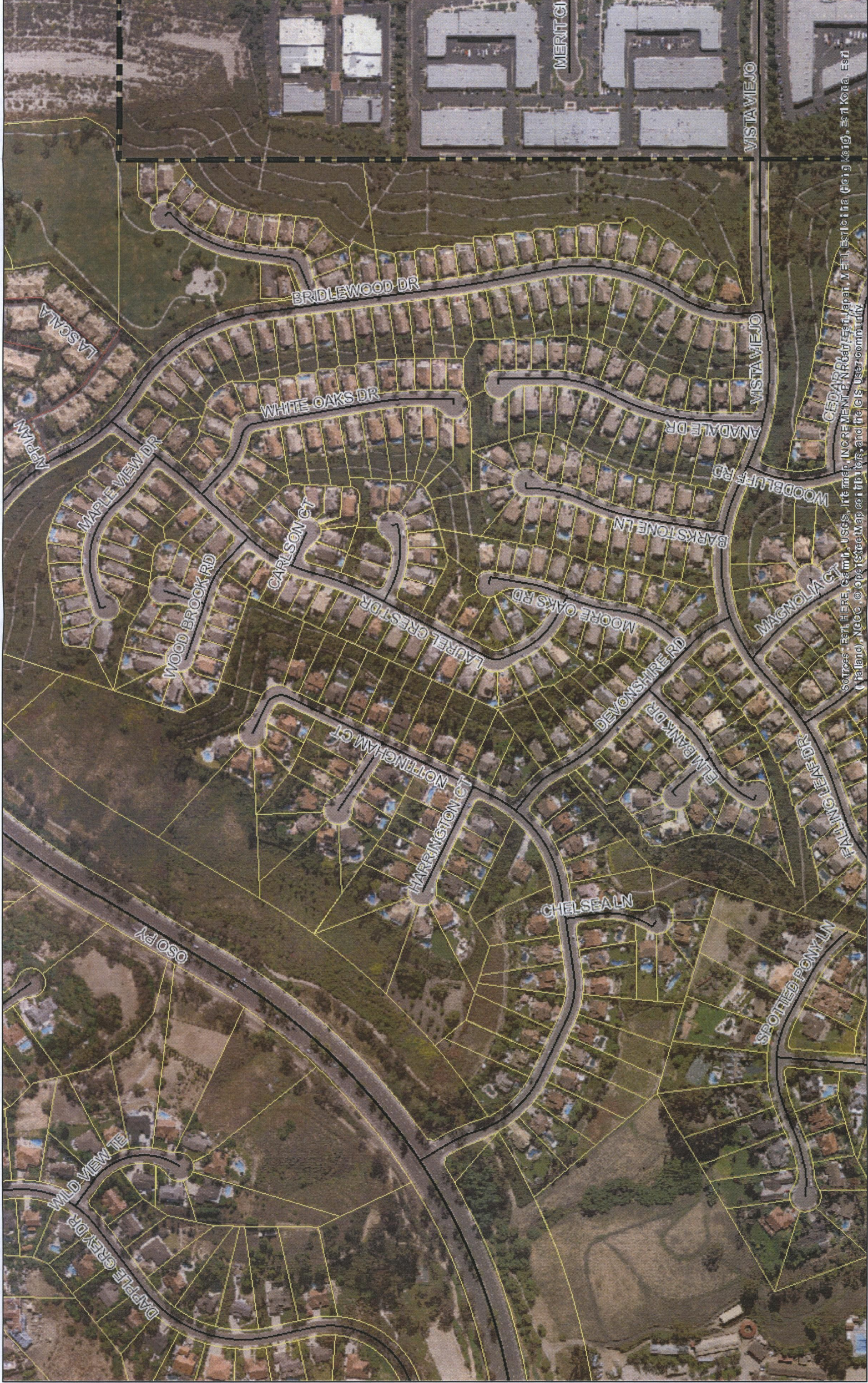
Review of Traffic Conditions on Bridlewood Drive and Devonshire Road  
July 18, 2018  
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legends and 25 mph signs posted at multiple locations along Bridlewood Drive between Vista Viejo Road and Laurel Crest Drive. While no changes to existing traffic controls are currently proposed, the number and locations of speed limit signage and pavement markings will also be reviewed following the repeat speed survey.

**ATTACHMENTS:**

- Vicinity Map
- Photograph
- Traffic Evaluation



VICINITY MAP - BRIDLEWOOD DRIVE & DEVONSHIRE ROAD



Attachment: Photograph (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)





Trammell Hartzog, President  
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June 1, 2018

Mr. Kenneth H. Rosenfield, PE  
Assistant City Manager/Public Services Director  
**City of Laguna Hills**  
24035 El Toro Road  
Laguna Hills, CA 92653

**Subject: Traffic Data Evaluation - Letter of Opinion -  
Speeding and Collision Concerns along Bridlewood Drive  
and Also along Devonshire Road**

Dear Mr. Rosenfield,

Pursuant to your request, Hartzog & Crabill, Inc. (HCI) has prepared this traffic engineering evaluation regarding residential concerns of speeding and collisions along the following two (2) street segments:

- 1) Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive
- 2) Devonshire Road, between Falling Leaf Drive and Nottingham Court

**BACKGROUND**

Bridlewood Drive

Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive, is a 40-foot wide, 2-lane, north-south residential collector roadway. At the project limits, there is a 1-way stop at Vista Viejo Road and a 3-way stop at Laurel Crest Drive. There is no centerline striping along the entire segment, with exception of a short length of double-yellow centerline at the project limits.

There are posted 25 MPH speed limit signs along Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive. There are also '25' pavement markings adjacent to the sign postings. On-street parking is allowed along both sides of Bridlewood Drive.

Devonshire Road

Devonshire Road, between Falling Leaf Drive and Nottingham Court, is a 40-foot wide, 2-lane, north-south residential collector roadway. At the project limits, both intersections have 1-way stop controls. There is no centerline striping along the entire segment, with exception of a short length of double-yellow centerline at the project limits.

There are posted 25 MPH speed limit signs along Devonshire Road between Falling Leaf Drive and Nottingham Court. There are also '25' pavement markings adjacent to the sign postings. On-street parking is allowed along both sides of Devonshire Road.

*Consulting Traffic Engineers to Government Agencies*

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

Mr. Kenneth H. Rosenfield, PE  
June 1, 2018  
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**TRAVEL SPEED DATA**

To determine travel speeds on Bridlewood Drive and on Devonshire Road, a spot speed radar survey was conducted along each of these residential collector roadways on Wednesday, May 16, 2018, and Thursday, May 17, 2018, respectively. Tables 1 & 2 below summarize the radar speed data.

**TABLE 1  
SPEED SURVEY SUMMARY  
BRIDLEWOOD DRIVE, FROM VISTA VIEJO ROAD TO LAUREL CREST DRIVE**

<b>Speed-Count Summary</b>	<b>From Vista Viejo Road to Laurel Crest Drive</b>
85 <sup>th</sup> Percentile Speed	37.1 MPH
Median Speed	29.5 MPH
15th Percentile Speed	25.0 MPH
10 MPH Pace Speed	25-34 MPH
Average Daily Traffic (ADT)	722 vehicles

As shown above, the 85<sup>th</sup> percentile speed on Bridlewood Drive was recorded at 37.1 MPH. This data shows that higher than typical travel speeds are occurring above the posted 25 MPH speed limit.

**TABLE 2  
SPEED SURVEY SUMMARY  
DEVONSHIRE ROAD, FROM FALLING LEAF DRIVE TO NOTTINGHAM COURT**

<b>Speed-Count Summary</b>	<b>From Falling Leaf Drive to Nottingham Court</b>
85 <sup>th</sup> Percentile Speed	32.9 MPH
Median Speed	27.9 MPH
15th Percentile Speed	25.0 MPH
10 MPH Pace Speed	25-34 MPH
Average Daily Traffic (ADT)	590 vehicles

As shown above, the 85<sup>th</sup> percentile speed on Devonshire Road was recorded at 32.9 MPH. This data shows that typical travel speeds are occurring for a posted 25 MPH speed limit street. All radar survey data is attached to this letter.

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

Mr. Kenneth H. Rosenfield, PE  
June 1, 2018  
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**TRAFFIC VOLUME DATA**

Bridlewood Drive

Average Daily Traffic (ADT) counts were collected for the segment of Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive, on Wednesday, May 2, 2018. The ADT, or 24-hour two-way traffic volume, along this segment resulted in 722 vehicles.

A two-lane collector street generally has a Level-of-Service (LOS) 'D' capacity of 11,300 vehicles per day. Consequently, the existing traffic volume is well under the roadway capacity.

Devonshire Road

Average Daily Traffic (ADT) counts were collected for the segment of Devonshire Road, between Falling Leaf Drive and Nottingham Court, on Wednesday, May 2, 2018. The ADT, or 24-hour two-way traffic volume, along this segment resulted in 590 vehicles.

As mentioned, a two-lane collector street generally has a Level-of-Service (LOS) 'D' capacity of 11,300 vehicles per day. Consequently, the existing traffic volume is well under the roadway capacity. All traffic volume data is included in the appendix.

**COLLISION DATA**

Bridlewood Drive

HCI obtained collision data for the past five (5) years, between January 1, 2013 – February 28, 2018, from the Statewide Integrated Traffic Records System website (*i-SWITRS*) database to determine the number of collisions occurring on this segment of Bridlewood Drive. Table 3 below presents the summary collision data.

**TABLE 3  
TRAFFIC COLLISION DATA SUMMARY  
BRIDLEWOOD DRIVE, FROM VISTA VIEJO ROAD TO LAUREL CREST DRIVE**

<b>YEAR</b>	<b>NUMBER OF COLLISIONS</b>	<b>FATAL</b>	<b>INJURY</b>	<b>PROPERTY DAMAGE ONLY</b>
2013	1	0	1	0
2014	0	0	0	0
2015	0	0	0	0
2016	0	0	0	0
2017	1	0	0	1
2018 *	1	0	0	1

\* Available SWITRS data was only up to February 2018 at the time of report preparation.

Mr. Kenneth H. Rosenfield, PE  
June 1, 2018  
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**COLLISION DATA (continued)**

As shown above, there were a total of three (3) collisions reported along this segment within the last (5) years. The collisions were recorded as Rear End and Head-On types, and categorized as Driving or Bicycling Under Influence and Automobile ROW. As such, there were no collisions determined as 'speed-related'. Consequently, there are no other recommendations regarding collisions at this time.

It is noted, a resident provided the City with photographic evidence of a two vehicle traffic collision having occurred on Bridlewood Drive on April 5, 2018. The Sheriff's Department reported that no police report was written as the parties described no injuries and stated they would settle the matter on their own. Accordingly, we have no details on the cause of this traffic collision.

Devonshire Road

HCI also obtained collision data for the past five (5) years, between January 1, 2013 – February 28, 2018, from the Statewide Integrated Traffic Records System website (*i*-SWITRS) database to determine the number of collisions occurring on the subject segment of Devonshire Road. Table 4 below presents the summary collision data.

**TABLE 4  
TRAFFIC COLLISION DATA SUMMARY  
DEVONSHIRE ROAD, FROM FALLING LEAF DRIVE TO NOTTINGHAM COURT**

<b>YEAR</b>	<b>NUMBER OF COLLISIONS</b>	<b>FATAL</b>	<b>INJURY</b>	<b>PROPERTY DAMAGE ONLY</b>
2013	0	0	0	0
2014	0	0	0	0
2015	0	0	0	0
2016	0	0	0	0
2017	1	0	1	0
2018 *	0	0	0	0

\* Available SWITRS data was only up to February 2018 at the time of report preparation.

As shown above, there was only one (1) collision reported along this segment within the last (5) years. This collision was recorded as a Rear End type, and categorized as Improper Turning. As such, there were no collisions determined as 'speed-related'. Consequently, there are no other recommendations regarding collisions at this time. The comprehensive 5-year segment collision history reports are attached to this letter.

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

Mr. Kenneth H. Rosenfield, PE  
June 1, 2018  
Page 5 of 5

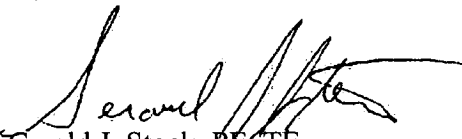
**RECOMMENDATIONS**

As speeding was verified on Bridlewood Drive, it is recommended that an incremental approach be taken to address the higher travel speeds. Initial steps include:

- increased law enforcement.
- deployment of portable radar speed-feedback trailers.
- neighborhood watch committee meeting to help make all residents aware of speeding.

It has been our pleasure to prepare this letter of opinion regarding speeds, traffic volumes, and collisions on Bridlewood Drive, and also on Devonshire Road. If you may have any questions or need additional information, please feel free to call us anytime at (714) 731-9455.

Sincerely,  
**HARTZOG & CRABILL, INC.**



Gerald J. Stock, PE, TE  
Executive Vice President

Attachments:           Radar Speed Data (Qty. 2)  
                              ADT Volume Data (Qty. 2)  
                              Collision History (Qty. 2)

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# Speed Data

# RADAR SPEED DISTRIBUTION SHEET

## CITY OF LAGUNA HILLS

**HCI**

BRIDLEWOOD DRIVE

LAUREL CREST DR TO VISTA VIEJO

DATE: 5/16/2018

SURVEY BY:

C. BUENDIA

TIME: 9:00 AM - 10:00 AM

CHECKED BY:

JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						x 100.0%
59						x 100.0%
58						x 100.0%
57						x 100.0%
56						x 100.0%
55						x 100.0%
54						x 100.0%
53						x 100.0%
52						x 100.0%
51						x 100.0%
50						x 100.0%
49						x 100.0%
48						x 100.0%
47						x 100.0%
46						x 100.0%
45						x 100.0%
44						x 100.0%
43						x 100.0%
42						x 98.1%
41						x 98.1%
40						x 96.2%
39						x 94.3%
38						x 92.5%
37						x 86.8%
36						x 83.0% -- -85PCT
35						x 77.4%
34						x 75.5% }PACE
33						x 67.9% }PACE
32						x 64.2% }PACE
31						x 56.6% }PACE
30						x 49.1% }PACE ---MEAN
29						x 41.5% }PACE
28						x 34.0% }PACE
27						x 28.3% }PACE
26						x 18.9% }PACE
25						x 17.0% }PACE --- -15PCT
24						x 5.7%
23						x 3.8%
22						x 3.8%
21						x 1.9%
20						x 1.9%
19						x 0.0%
18						x 0.0%
17						x 0.0%
16						x 0.0%
15						x 0.0%

UPPER LIMIT 10 MPH PACE: 34 MPH  
 LOWER LIMIT 10 MPH PACE: 25 MPH  
 PERCENT OVER PACE: 24.5 %  
 PERCENT IN PACE: 69.8 %  
 PERCENT UNDER PACE: 5.7 %

85th PERCENTILE SPEED: 36.5 MPH  
 MEDIAN SPEED: 30.1 MPH  
 15th PERCENTILE SPEED: 24.8 MPH

wood Spot Spd 2018-01

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# Radar Speed Survey Field Sheet

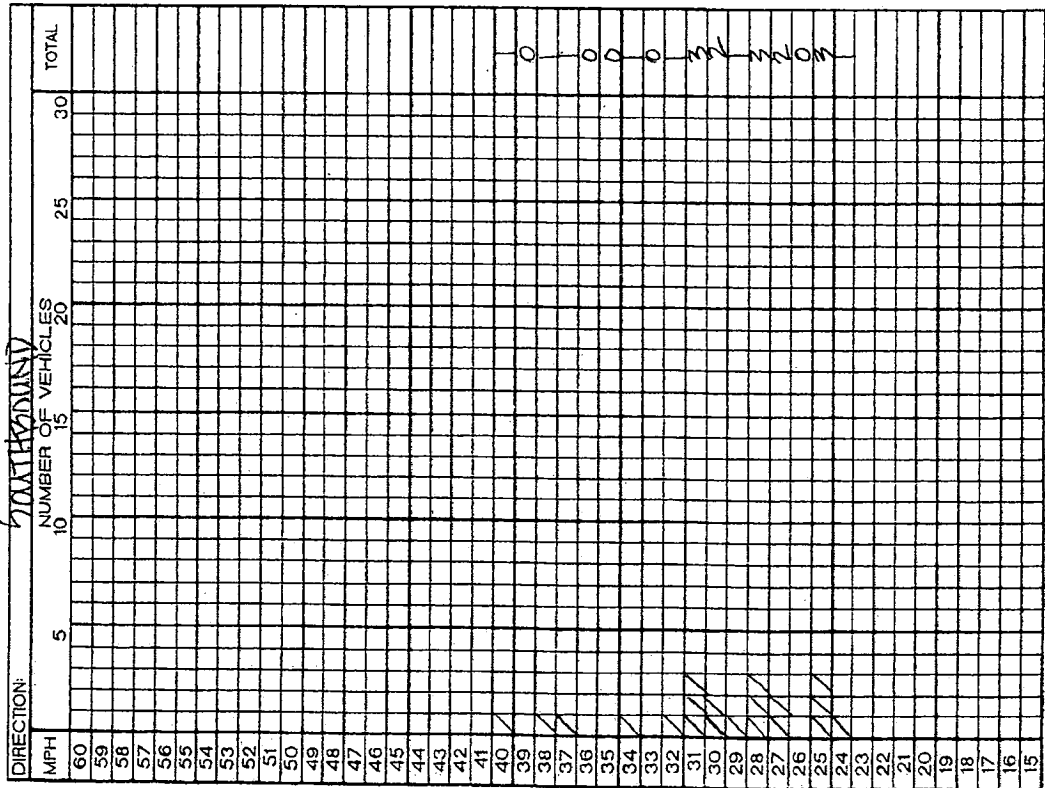
HARTOG AND CABELL I  
County Road 100 West  
1917 East  
MIDWAY, KY 40341

AGENCY: CITY OF LAYLUNA HILLS  
STREET: BRIDLEWOOD  
LOCATION: LAUREL CREST DR TO VISTA VIEJO

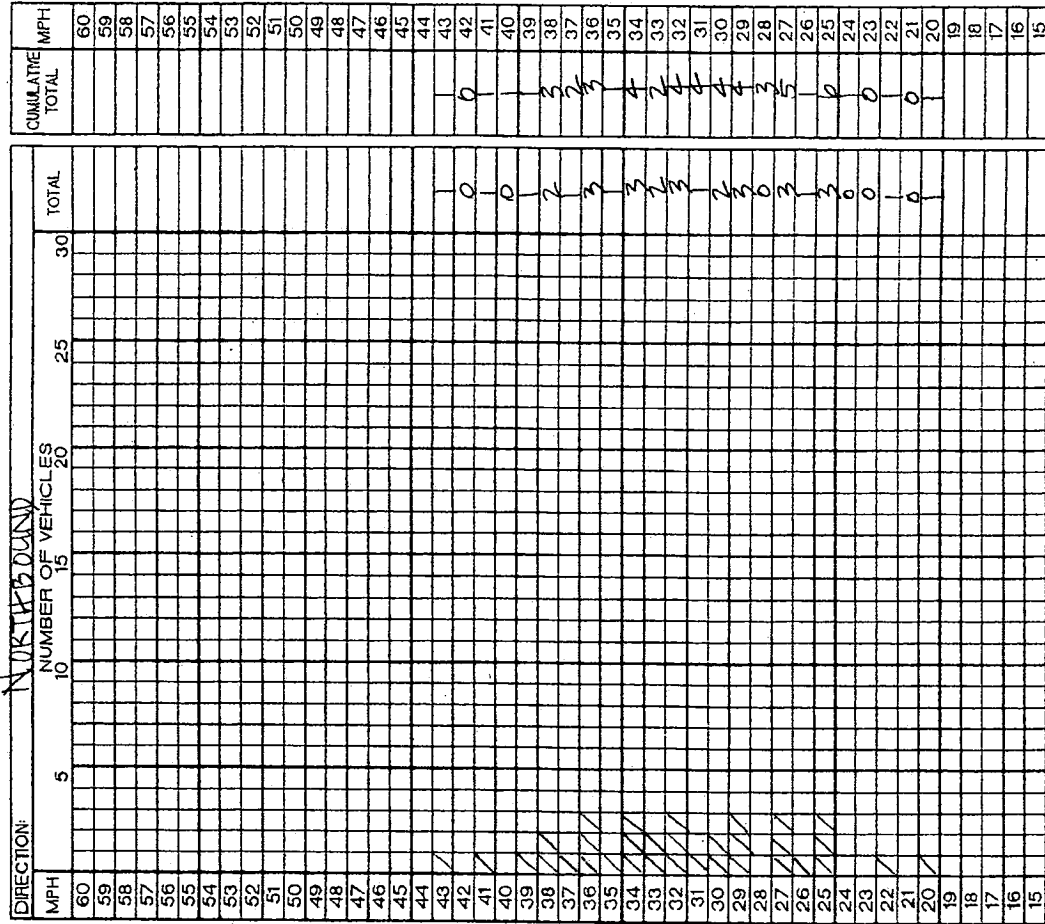
WEATHER: SUNNY  
ROAD CONDITION: DRY  
OBSERVER: CATHY BUENDIA

DATE: 5-16-18  
START TIME: 9:00 AM  
END TIME: 10:00 AM

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire



AVERAGE SPEED: \_\_\_\_\_  
CRITICAL SPEED: \_\_\_\_\_  
PACE SPEED: \_\_\_\_\_  
CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_



AVERAGE SPEED: \_\_\_\_\_  
CRITICAL SPEED: \_\_\_\_\_  
PACE SPEED: \_\_\_\_\_  
CUMULATIVE TOTAL \_\_\_\_\_

# RADAR SPEED DISTRIBUTION SHEET



## CITY OF LAGUNA HILLS

BRIDLEWOOD DRIVE

LAUREL CREST DR TO VISTA VIEJO

DATE: 5/16/2018

SURVEY BY:

C. BUENDIA

TIME: 10:00 AM - 11:00 AM

CHECKED BY:

JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						x 100.0%
59						x 100.0%
58						x 100.0%
57						x 100.0%
56						x 100.0%
55						x 100.0%
54						x 100.0%
53						x 100.0%
52						x 100.0%
51						x 100.0%
50						x 98.4%
49						x 98.4%
48						x 98.4%
47						x 98.4%
46						x 98.4%
45						x 98.4%
44						x 98.4%
43						x 98.4%
42						x 98.4%
41						x 96.7%
40						x 95.1%
39						x 93.4%
38						x 91.8%
37						x 82.0% ---85PCT
36						x 78.7%
35						x 78.7%
34						x 75.4% }PACE
33						x 67.2% }PACE
32						x 63.9% }PACE
31						x 60.7% }PACE
30						x 57.4% }PACE
29						x 50.8% }PACE
28						x 45.9% }PACE ---MEAN
27						x 34.4% }PACE
26						x 18.0% }PACE
25						x 13.1% }PACE ---15PCT
24						x 8.2%
23						x 6.6%
22						x 4.9%
21						x 4.9%
20						x 3.3%
19						x 1.6%
18						x 0.0%
17						x 0.0%
16						x 0.0%
15						x 0.0%

UPPER LIMIT 10 MPH PACE: 34 MPH  
 LOWER LIMIT 10 MPH PACE: 25 MPH  
 PERCENT OVER PACE: 24.6 %  
 PERCENT IN PACE: 67.2 %  
 PERCENT UNDER PACE: 8.2 %

85th PERCENTILE SPEED: 37.3 MPH  
 MEDIAN SPEED: 28.8 MPH  
 15th PERCENTILE SPEED: 25.4 MPH

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

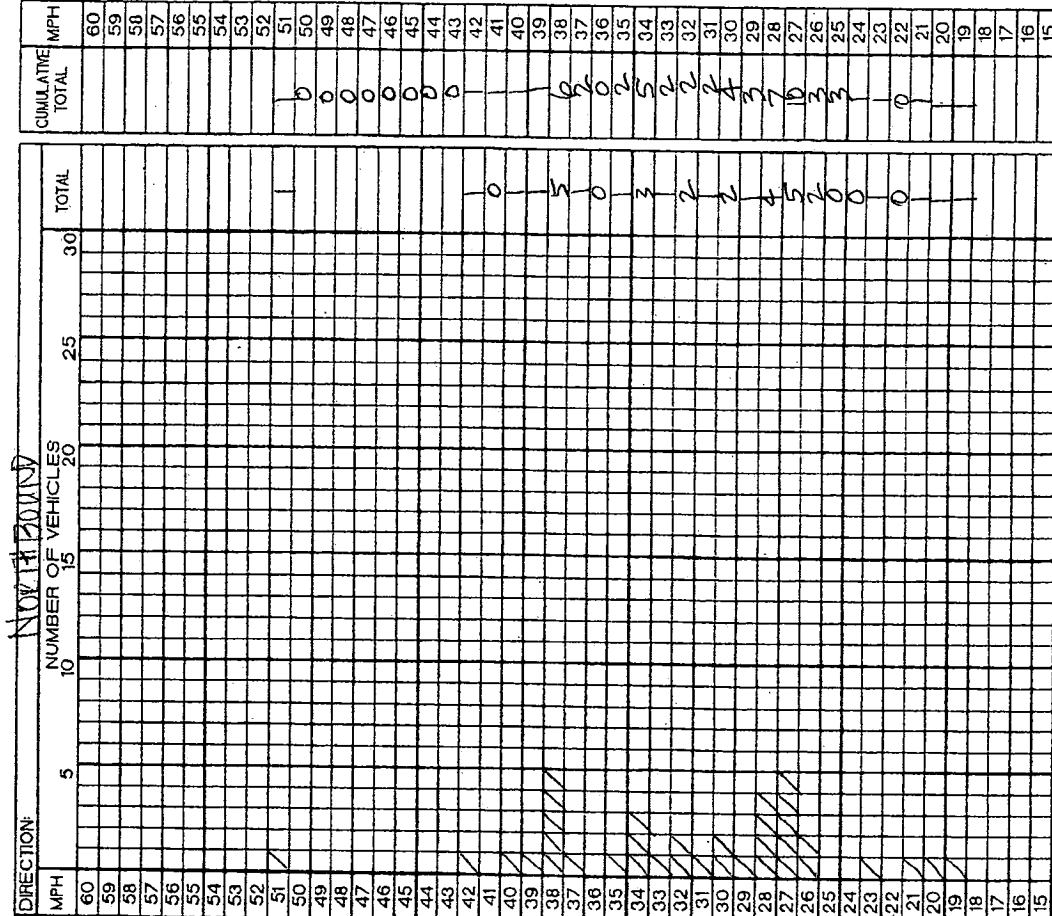
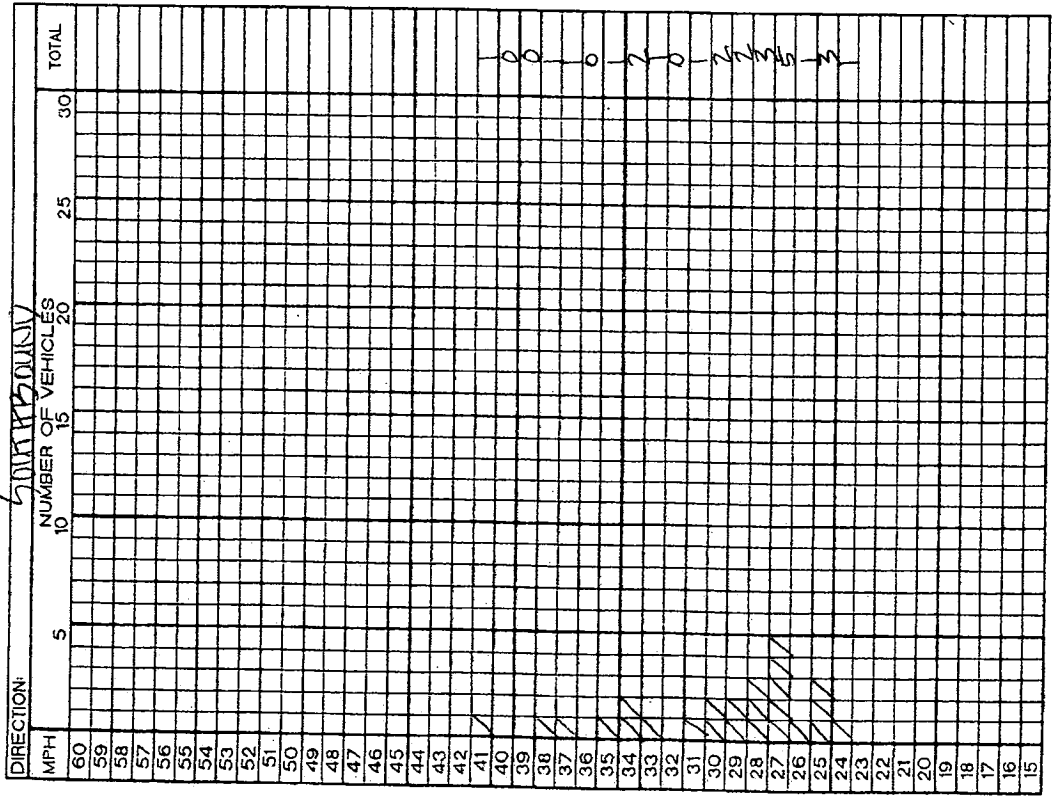
# Radar Speed Survey Field Sheet

HARTOG AND CRABILL  
COUNTY HEALTH OFFICER  
1521 S.W. 10th Ave., Suite 103  
MIAMI, FL 33135  
(305) 546-1444

AGENCY: CITY OF LAGUNA HILLS  
STREET: BRIDLEWOOD  
LOCATION: LAUREL CREST DR TO VISTA VIEJO

WEATHER: SUNNY  
ROAD CONDITION: DRY  
OBSERVER: CATHY BUENDIA

DATE: 5-16-18  
START TIME: 10:00 AM  
END TIME: 11:00 AM



# RADAR SPEED DISTRIBUTION SHEET

**CITY OF LAGUNA HILLS**

**HCI**      BRIDLEWOOD DRIVE      LAUREL CREST DR TO VISTA VIEJO  
 DATE: 5/16/2018      SURVEY BY: C. BUENDIA  
 TIME: 9:00 AM - 11:00 AM      CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						X 100.0%
59						X 100.0%
58						X 100.0%
57						X 100.0%
56						X 100.0%
55						X 100.0%
54						X 100.0%
53						X 100.0%
52						X 100.0%
51						X 100.0%
50						X 99.1%
49						X 99.1%
48						X 99.1%
47						X 99.1%
46						X 99.1%
45						X 99.1%
44						X 99.1%
43						X 99.1%
42						X 98.2%
41						X 97.4%
40						X 95.6%
39						X 93.9%
38						X 92.1%
37						X 84.2%      ---85PCT
36						X 80.7%
35						X 78.1%
34						X 75.4%      }PACE
33						X 67.5%      }PACE
32						X 64.0%      }PACE
31						X 58.8%      }PACE
30						X 53.5%      }PACE
29						X 46.5%      }PACE ---MEAN
28						X 40.4%      }PACE
27						X 31.6%      }PACE
26						X 18.4%      }PACE
25						X 14.9%      }PACE ---15PCT
24						X 7.0%
23						X 5.3%
22						X 4.4%
21						X 3.5%
20						X 2.6%
19						X 0.9%
18						X 0.0%
17						X 0.0%
16						X 0.0%
15						X 0.0%

UPPER LIMIT 10 MPH PACE:	34 MPH	85th PERCENTILE SPEED:	37.1 MPH
LOWER LIMIT 10 MPH PACE:	25 MPH	MEDIAN SPEED:	29.5 MPH
PERCENT OVER PACE:	24.6 %	15th PERCENTILE SPEED:	25.0 MPH
PERCENT IN PACE:	68.4 %		
PERCENT UNDER PACE:	7.0 %		

od Spot Spd 2018-CUM

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# RADAR SPEED DISTRIBUTION SHEET

## CITY OF LAGUNA HILLS



**DEVONSHIRE ROAD**

**FALLING LEAF DR TO NOTTINGHAM CT**

DATE: 5/17/2018

SURVEY BY:

C. BUENDIA

TIME: 9:00 AM - 10:00 AM

CHECKED BY:

JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	100.0%
51					X	100.0%
50					X	100.0%
49					X	100.0%
48					X	100.0%
47					X	100.0%
46					X	100.0%
45					X	100.0%
44					X	100.0%
43					X	100.0%
42					X	100.0%
41					X	100.0%
40					X	100.0%
39					X	100.0%
38					X	100.0%
37					X	100.0%
36					X	96.9%
35					X	96.9%
34					X	96.9%
33					X	93.8% }PACE
32					X	78.1% }PACE ---85PCT
31					X	78.1% }PACE
30					X	75.0% }PACE
29					X	71.9% }PACE
28					X	62.5% }PACE
27					X	50.0% }PACE ---MEAN
26					X	46.9% }PACE
25					X	28.1% }PACE
24					X	21.9% }PACE
23					X	9.4% ---15PCT
22					X	9.4%
21					X	3.1%
20					X	3.1%
19					X	0.0%
18					X	0.0%
17					X	0.0%
16					X	0.0%
15					X	0.0%

UPPER LIMIT 10 MPH PACE: 34 MPH  
 LOWER LIMIT 10 MPH PACE: 25 MPH  
 PERCENT OVER PACE: 6.3 %  
 PERCENT IN PACE: 84.4 %  
 PERCENT UNDER PACE: 9.4 %

85th PERCENTILE SPEED: 33.4 MPH  
 MEDIAN SPEED: 28.0 MPH  
 15th PERCENTILE SPEED: 24.5 MPH

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# Radar Speed Survey Field Sheet

HARTOG AND CRABELL II  
 COUNTY: DEW  
 1931 New Hwy, Dept. of Transp. & Safety  
 City, State

AGENCY: CITY OF LAGUNA HILLS  
 STREET: DEVONSHIRE ROAD  
 LOCATION: FALLING LEAF DR. TO NOTTINGHAM CT

WEATHER: QUANT DATE: 05-17-18  
 ROAD CONDITION: DRY START TIME: 9:00 AM  
 OBSERVER: CATHY BUENDIA END TIME: 10:00 AM

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire

DIRECTION: MPH	NUMBER OF VEHICLES				TOTAL	CUMULATIVE TOTAL
	5	10	15	20		
60						
59						
58						
57						
56						
55						
54						
53						
52						
51						
50						
49						
48						
47						
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44						
43						
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37						
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21						
20						
19						
18						
17						
16						
15						

DIRECTION: MPH	NUMBER OF VEHICLES				TOTAL	CUMULATIVE TOTAL
	5	10	15	20		
60						
59						
58						
57						
56						
55						
54						
53						
52						
51						
50						
49						
48						
47						
46						
45						
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20						
19						
18						
17						
16						
15						

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
 CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
 CUMULATIVE TOTAL \_\_\_\_\_

# RADAR SPEED DISTRIBUTION SHEET



## CITY OF LAGUNA HILLS

**DEVONSHIRE ROAD**

**FALLING LEAF DR TO NOTTINGHAM CT**

DATE: 5/17/2018

SURVEY BY:

C. BUENDIA

TIME: 10:00 AM - 11:00 AM

CHECKED BY:

JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						X 100.0%
59						X 100.0%
58						X 100.0%
57						X 100.0%
56						X 100.0%
55						X 100.0%
54						X 100.0%
53						X 100.0%
52						X 100.0%
51						X 100.0%
50						X 100.0%
49						X 100.0%
48						X 100.0%
47						X 100.0%
46						X 100.0%
45						X 100.0%
44						X 100.0%
43						X 100.0%
42						X 100.0%
41						X 100.0%
40						X 100.0%
39						X 100.0%
38						X 100.0%
37						X 95.7%
36						X 95.7%
35						X 95.7% }PACE
34						X 95.7% }PACE
33						X 95.7% }PACE
32					X	X 87.0% }PACE
31					X	X 87.0% }PACE
30					X	X 78.3% }PACE -- 85PCT
29				X		X 60.9% }PACE
28			X			X 52.2% }PACE
27		X				X 39.1% }PACE ---MEAN
26	X					X 21.7% }PACE ---15PCT
25	X					X 4.3% }PACE
24	X					X 0.0%
23	X					X 0.0%
22	X					X 0.0%
21	X					X 0.0%
20	X					X 0.0%
19	X					X 0.0%
18	X					X 0.0%
17	X					X 0.0%
16	X					X 0.0%
15	X					X 0.0%

UPPER LIMIT 10 MPH PACE: 34 MPH  
 LOWER LIMIT 10 MPH PACE: 25 MPH  
 PERCENT OVER PACE: 4.3 %  
 PERCENT IN PACE: 95.7 %  
 PERCENT UNDER PACE: 0.0 %

85th PERCENTILE SPEED: 30.8 MPH  
 MEDIAN SPEED: 27.8 MPH  
 15th PERCENTILE SPEED: 25.6 MPH

Devonshire 2018-02

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# Radar Speed Survey Field Sheet

HORIZON AND CRABBLE  
COUNTY NORTH DEVON  
1133 WINDY HILL, BARTON, DEVON, EX 35  
(0139) 214-5122

AGENCY: CITY OF LAGUNA HILLS  
STREET: DEVONSHIRE ROAD  
LOCATION: FAWING LEAF DR TO NOTTINGHAM CT.

WEATHER: SUNNY DATE: 5-17-18  
ROAD CONDITION: Dry START TIME: 10:00 AM  
OBSERVER: CATHY BUENDIA END TIME: 11:00 AM VUL

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire

DIRECTION: SOUTHBOUND

MPH	NUMBER OF VEHICLES				TOTAL
	5	10	15	20	
60					
59					
58					
57					
56					
55					
54					
53					
52					
51					
50					
49					
48					
47					
46					
45					
44					
43					
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20					
19					
18					
17					
16					
15					

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_

DIRECTION: NORTHBOUND

MPH	NUMBER OF VEHICLES				TOTAL
	5	10	15	20	
60					
59					
58					
57					
56					
55					
54					
53					
52					
51					
50					
49					
48					
47					
46					
45					
44					
43					
42					
41					
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27					
26					
25					
24					
23					
22					
21					
20					
19					
18					
17					
16					
15					

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_

102594 of 9425102

# RADAR SPEED DISTRIBUTION SHEET



## CITY OF LAGUNA HILLS

DEVONSHIRE ROAD

FALLING LEAF DR TO NOTTINGHAM CT

DATE: 5/17/2018

SURVEY BY:

C. BUENDIA

TIME: 9:00 AM - 11:00 AM

CHECKED BY:

JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						X 100.0%
59						X 100.0%
58						X 100.0%
57						X 100.0%
56						X 100.0%
55						X 100.0%
54						X 100.0%
53						X 100.0%
52						X 100.0%
51						X 100.0%
50						X 100.0%
49						X 100.0%
48						X 100.0%
47						X 100.0%
46						X 100.0%
45						X 100.0%
44						X 100.0%
43						X 100.0%
42						X 100.0%
41						X 100.0%
40						X 100.0%
39						X 100.0%
38						X 100.0%
37						X 96.4%
36						X 96.4%
35						X 96.4%
34					X	94.5% }PACE
33					X	85.5% }PACE
32				X		81.8% }PACE ---85PCT
31				X		80.0% }PACE
30				X		74.5% }PACE
29				X		61.8% }PACE
28			X			50.9% }PACE
27		X	X			43.6% }PACE ---MEAN
26		X				25.5% }PACE
25	X					14.5% }PACE ---15PCT
24	X					5.5%
23	X					5.5%
22	X					1.8%
21	X					1.8%
20	X					0.0%
19	X					0.0%
18	X					0.0%
17	X					0.0%
16	X					0.0%
15	X					0.0%

UPPER LIMIT 10 MPH PACE: 34 MPH  
 LOWER LIMIT 10 MPH PACE: 25 MPH  
 PERCENT OVER PACE: 5.5 %  
 PERCENT IN PACE: 89.1 %  
 PERCENT UNDER PACE: 5.5 %

85th PERCENTILE SPEED: 32.9 MPH  
 MEDIAN SPEED: 27.9 MPH  
 15th PERCENTILE SPEED: 25.0 MPH

Devonshire 2018 CUM

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# ADT Volume Data

Prepared by NDS/ATD

**VOLUME**

Bridlewood Dr Bet. Vista Viejo Rd & Laurel Crest Dr

Day: Wednesday  
Date: 5/2/2018

City: Laguna Hills  
Project #: CA18\_1093\_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					454	268	0	0	722		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	5	10			15
00:15	1	1			2	12:15	6	9			15
00:30	0	0			0	12:30	7	3			10
00:45	0	1	0	1	2	12:45	7	25	4	26	11
01:00	0	0			0	13:00	5	2			7
01:15	0	0			0	13:15	6	4			10
01:30	0	0			0	13:30	8	4			12
01:45	0	0			0	13:45	2	21	9	19	11
02:00	0	0			0	14:00	8	7			15
02:15	0	0			0	14:15	7	4			11
02:30	0	0			0	14:30	7	5			12
02:45	0	0			0	14:45	9	31	5	21	14
03:00	0	0			0	15:00	5	7			12
03:15	0	0			0	15:15	9	5			14
03:30	0	0			0	15:30	3	6			9
03:45	0	0			0	15:45	8	25	4	22	12
04:00	1	1			2	16:00	12	5			17
04:15	0	0			0	16:15	10	7			17
04:30	1	0			1	16:30	6	3			9
04:45	1	3	0	1	5	16:45	11	39	3	18	14
05:00	1	1			2	17:00	4	2			6
05:15	0	0			0	17:15	4	3			7
05:30	2	0			2	17:30	15	10			25
05:45	1	4	0	1	6	17:45	9	32	5	20	14
06:00	2	1			3	18:00	4	2			6
06:15	1	1			2	18:15	10	8			18
06:30	5	0			5	18:30	10	4			14
06:45	2	10	1	3	16	18:45	7	31	6	20	13
07:00	9	3			12	19:00	12	7			19
07:15	8	5			13	19:15	3	1			4
07:30	7	4			11	19:30	4	4			8
07:45	15	39	4	16	74	19:45	4	23	3	15	7
08:00	11	7			18	20:00	4	1			5
08:15	11	4			15	20:15	4	1			5
08:30	16	5			21	20:30	4	3			7
08:45	7	45	2	18	72	20:45	3	15	1	6	4
09:00	9	6			15	21:00	4	1			5
09:15	11	1			12	21:15	3	2			5
09:30	8	4			12	21:30	2	4			6
09:45	4	32	4	15	55	21:45	1	10	0	7	1
10:00	4	2			6	22:00	0	4			4
10:15	6	4			10	22:15	0	2			2
10:30	11	4			15	22:30	2	0			2
10:45	8	29	5	15	57	22:45	1	3	0	6	1
11:00	6	8			14	23:00	1	1			2
11:15	7	4			11	23:15	0	0			0
11:30	13	2			15	23:30	0	0			0
11:45	8	34	3	17	62	23:45	1	2	0	1	1
<b>TOTALS</b>	<b>197</b>	<b>87</b>			<b>284</b>	<b>TOTALS</b>	<b>257</b>	<b>181</b>			<b>438</b>
<b>SPLIT %</b>	<b>69.4%</b>	<b>30.6%</b>			<b>39.3%</b>	<b>SPLIT %</b>	<b>58.7%</b>	<b>41.3%</b>			<b>60.7</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					454	268	0	0	722
AM Peak Hour	07:45	11:45			07:45	PM Peak Hour	16:00	12:00	18:1
AM Pk Volume	53	25			73	PM Pk Volume	39	26	64
Pk Hr Factor	0.828	0.625			0.869	Pk Hr Factor	0.813	0.650	0.84
7 - 9 Volume	84	34	0	0	118	4 - 6 Volume	71	38	109
7 - 9 Peak Hour	07:45	07:15			07:45	4 - 6 Peak Hour	16:00	17:00	16:0
7 - 9 Pk Volume	53	20	0	0	73	4 - 6 Pk Volume	39	20	57
Pk Hr Factor	0.828	0.714	0.000	0.000	0.869	Pk Hr Factor	0.813	0.500	0.833

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

Prepared by NDS/ATD

**VOLUME**

Devonshire Rd Bet. Falling Leaf Dr & Nottingham Ct

Day: Wednesday  
Date: 5/2/2018

City: Laguna Hills  
Project #: CA18\_1093\_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					174	416	0	0	590		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	2	9			11
00:15	0	0			0	12:15	2	7			9
00:30	0	0			0	12:30	3	6			9
00:45	0	0			0	12:45	4	11	8	30	41
01:00	0	0			0	13:00	2	5			7
01:15	0	0			0	13:15	5	7			12
01:30	0	0			0	13:30	3	5			8
01:45	0	0			0	13:45	5	15	3	20	35
02:00	0	0			0	14:00	6	7			13
02:15	0	0			0	14:15	4	7			11
02:30	0	0			0	14:30	5	5			10
02:45	0	0			0	14:45	2	17	6	25	42
03:00	1	0			1	15:00	3	10			13
03:15	0	0			0	15:15	6	9			15
03:30	0	0			0	15:30	7	10			17
03:45	0	1	0		0	15:45	1	17	7	36	53
04:00	0	0			0	16:00	0	6			6
04:15	0	0			0	16:15	8	4			12
04:30	0	0			0	16:30	4	9			13
04:45	0	1	1		1	16:45	7	19	12	31	50
05:00	0	0			0	17:00	3	11			14
05:15	1	1			2	17:15	6	14			20
05:30	0	0			0	17:30	3	12			15
05:45	0	1	1	2	1	17:45	2	14	14	51	65
06:00	1	1			2	18:00	2	14			16
06:15	0	0			0	18:15	4	19			23
06:30	0	5			5	18:30	2	7			9
06:45	0	1	2	8	2	18:45	3	11	8	48	59
07:00	1	2			3	19:00	3	8			11
07:15	0	3			3	19:15	2	4			6
07:30	5	1			6	19:30	4	4			8
07:45	2	8	5	11	7	19:45	1	10	3	19	29
08:00	2	6			8	20:00	1	6			7
08:15	2	7			9	20:15	2	3			5
08:30	6	4			10	20:30	1	1			2
08:45	2	12	5	22	7	20:45	1	5	3	13	18
09:00	3	10			13	21:00	0	2			2
09:15	0	7			7	21:15	3	5			8
09:30	4	4			8	21:30	1	4			5
09:45	3	10	6	27	9	21:45	1	5	1	12	17
10:00	1	9			10	22:00	0	6			6
10:15	0	3			3	22:15	1	3			4
10:30	2	5			7	22:30	0	0			0
10:45	2	5	6	23	8	22:45	2	3	0	9	12
11:00	2	7			9	23:00	1	1			2
11:15	1	5			6	23:15	0	3			3
11:30	3	5			8	23:30	0	0			0
11:45	2	8	5	22	7	23:45	0	1	2	6	7
<b>TOTALS</b>	<b>46</b>	<b>116</b>			<b>162</b>	<b>TOTALS</b>	<b>128</b>	<b>300</b>			<b>428</b>
<b>SPLIT %</b>	<b>28.4%</b>	<b>71.6%</b>			<b>27.5%</b>	<b>SPLIT %</b>	<b>29.9%</b>	<b>70.1%</b>			<b>72.5</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					174	416	0	0	590
AM Peak Hour	08:15	09:00			08:15	PM Peak Hour	16:15	17:30	17:30
AM Pk Volume	13	27			39	PM Pk Volume	22	59	70
Pk Hr Factor	0.542	0.675			0.750	Pk Hr Factor	0.688	0.776	0.76
7 - 9 Volume	20	33	0	0	53	4 - 6 Volume	33	82	115
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	16:15	17:00	16:4
7 - 9 Pk Volume	12	22	0	0	34	4 - 6 Pk Volume	22	51	68
Pk Hr Factor	0.500	0.786	0.000	0.000	0.850	Pk Hr Factor	0.688	0.911	0.85

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# Collision History

**CITY OF LAGUNA HILLS  
SWITRS COLLISION DATABASE  
BRIDLEWOOD DRIVE, FROM VISTA VIEJO ROAD TO LAUREL CREST DRIVE  
JAN. 1, 2013 - FEB. 28, 2018**

CASE ID	COLL. DATE	COLL. TIME	PRIMARY ROAD	SECONDARY ROAD	DIST.	DIR.	INTERS.	WEATH.	COLL. SEVERITY	PRIM. COLL. FACT.	PCF VIOL CAT.	PCF VIOL	HIT AND RUN	HIT AND RUN	TYPE OF COLL.	MOTOR VEHICLE INVOLVED WITH	ROA SURI
8361526	20170326	10	BRIDLEWOOD DR	VISTA VIEJO RD	488	N	N	A	0	A	1	23152	N	C	E	A	
6174038	20130806	1741	VISTA VIEJO	BRIDLEWOOD LN	0		Y	A	4	A	9	21801	N	A	C	A	

**NOTES:**

Weather 1	Collision Severity	Primary Collision Factor	PCF Violation Category	Hit and Run	Type of Collision
A - Clear	1 - Fatal	A - (Vehicle) Code Violation	01 - Driving or Bicycling Under Influence	F - Felony	A - Head-On
B - Cloudy	2 - Injury (Severe)	B - Other Improper Driving	02 - Impeding Traffic	M - Misdemeanor	B - Sideswipe
C - Raining	3 - Injury (Other Visible)	C - Other Than Driver	03 - Unsafe Speed	N - Not Hit & Run	C - Rear-End
D - Snowing	4 - Injury (Complaint of Pain)	D - Unknown	04 - Following Too Closely		D - Broadside
E - Fog	0 - PDO (Property Damage Only)	E - Fell Asleep	05 - Wrong Side of Road		E - Hit Object
F - Other		-- Not Stated	06 - Improper Passing		F - Overturned
G - Wind			07 - Unsafe Lane Change		G - Vehicle/Pedestrian
-- Not Stated			08 - Improper Turning		H - Other
			09 - Automobile ROW		-- Not Stated
			10 - Pedestrian ROW		
			11 - Pedestrian Violation	<b>Road Surface</b>	
			12 - Traffic Signals and Signs	A - Dry	
			13 - Hazardous Parking	B - Wet	
			14 - Lights	C - Snowy or Icy	
			15 - Brakes	D - Slippery	
			16 - Other Equipment	-- Not Stated	
			17 - Other Hazardous Violation		
			18 - Other Than Driver (or Ped)		
			19 -		
			20 -		
			21 - Unsafe Starting or Backing		
			22 - Other Improper Driving		
			23 - Pedestrian or "Other" Under the Influence		
			24 - Fell Asleep		
			00 - Unknown		
			-- Not Stated		

**Motor Vehicle Involved With:**

- A - Non-Collision
- B - Pedestrian
- C - Other Motor Vehicle
- D - Motor Vehicle on Other Roadway
- E - Parked Motor Vehicle
- F - Train
- G - Bicycle
- H - Animal
- I - Fixed Object
- J - Other Object
- Not Stated

CITY OF LAGUNA HILLS  
 SWITRS COLLISION DATABASE  
 DEVONSHIRE ROAD, FROM FALLING LEAF DRIVE TO NOTTINGHAM COURT  
 JAN. 1, 2013 - FEB. 28, 2018

CASE ID	COLL. DATE	COLL. TIME	PRIMARY ROAD	SECONDARY ROAD	DIST.	DIR.	INTERS.	WEATH.	COLL. SEVERITY	PRIM. COLL. FACT.	PCF VIOL. CAT.	PCF VIOL. CAT.	HIT AND RUN	HIT AND RUN	TYPE OF COLL.	MOTOR VEHICLE INVOLVED WITH SURI
8326285	20170220	2256	DEVONSHIRE RD	NORTH ELM BANK DR	175	N	A	1	4	A	8	22107	N	C	E	A

**NOTES:**

Weather 1	Collision Severity	Primary Collision Factor	PCF Violation Category	Hit and Run	Type of Collision
A - Clear	1 - Fatal	A - (Vehicle) Code Violation	01 - Driving or Bicycling Under Influence	F - Felony	A - Head-On
B - Cloudy	2 - Injury (Severe)	B - Other Improper Driving	02 - Impeding Traffic	M - Misdemeanor	B - Sideswipe
C - Raining	3 - Injury (Other Visible)	C - Other Than Driver	03 - Unsafe Speed	N - Not Hit & Run	C - Rear-End
D - Snowing	4 - Injury (Complaint of Pain)	D - Unknown	04 - Following Too Closely		D - Broadside
E - Fog	0 - PDO (Property Damage Only)	E - Fell Asleep	05 - Wrong Side of Road		E - Hit Object
F - Other		-- Not Stated	06 - Improper Passing		F - Overturned
G - Wind			07 - Unsafe Lane Change		G - Vehicle/Pedestrian
-- Not Stated			08 - Improper Turning		H - Other
			09 - Automobile ROW		-- Not Stated
			10 - Pedestrian ROW		
			11 - Pedestrian Violation		
			12 - Traffic Signals and Signs		
			13 - Hazardous Parking		
			14 - Lights		
			15 - Brakes		
			16 - Other Equipment		
			17 - Other Hazardous Violation		
			18 - Other Than Driver (or Ped)		
			19 -		
			20 -		
			21 - Unsafe Starting or Backing		
			22 - Other Improper Driving		
			23 - Pedestrian or "Other" Under the Influence		
			24 - Fell Asleep		
			00 - Unknown		
			-- Not Stated		

**Motor Vehicle Involved With:**

- A - Non-Collision
- B - Pedestrian
- C - Other Motor Vehicle
- D - Motor Vehicle on Other Roadway
- E - Parked Motor Vehicle
- F - Train
- G - Bicycle
- H - Animal
- I - Fixed Object
- J - Other Object
- Not Stated

**Road Surface**

- A - Dry
- B - Wet
- C - Snowy or Icy
- D - Slippery
- Not Stated



# City of Laguna Hills

## Traffic Commission

### Staff Report

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**DATE:** January 16, 2019  
**TO:** Traffic Commissioners  
**FROM:** Amber Shah  
Associate Engineer  
**ISSUE:** Repeat Speed Survey on Bridlewood Drive

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**RECOMMENDATION:** That the Traffic Commission Request Staff Implement Additional Pavement Legends and Markings on Southbound Bridlewood Drive Between Vista Viejo Road and Laurel Crest Drive and Repeat the Speed Survey of Bridlewood Drive in Six Months' Time.

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#### **SUMMARY:**

Staff was contacted by a resident of Moulton Ranch in April 2018 regarding concerns of vehicular speeding and traffic collisions on Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive, and on Devonshire Road, between Falling Leaf Drive and Nottingham Court. Please see the attached Vicinity Map. Based upon the resident's concern and in accordance with the Residential Streets Management Policy, staff subsequently initiated a review of the vehicular speeds, traffic volume and traffic collision history on Bridlewood Drive and on Devonshire Road. The report presented at the July 18, 2018 meeting of the Traffic Commission concluded the 85<sup>th</sup> percentile speed measurement of Bridlewood Drive was higher than expected and considered to be unacceptable for a residential character street. Additional traffic speed enforcement and use of the radar trailer were utilized to address this issue. The Traffic Commission requested staff repeat the speed survey of Bridlewood Drive in six months' time.

In accordance with the Traffic Commission's request, the Traffic Engineers of Hartzog & Crabill, Inc., (HCI) completed the attached January 9, 2019, speed survey of Bridlewood Drive from Vista Viejo Road to Laurel Crest Drive. This speed survey determined the 85<sup>th</sup> percentile speed on Bridlewood Drive reduced from 37.1 mph, as recorded in the first

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speed survey in May 2018, to 36.1 mph in December 2018. The 85<sup>th</sup> percentile speed measurement of Bridlewood Drive is still higher than expected and considered to be unacceptable for a residential character street. The study also determined the percent of vehicles on Nellie Gail Road exceeding 34 mph has only slightly declined from 24.6% to 24.2% which is also a higher percentage than the expected percentage, typically at approximately 15%.

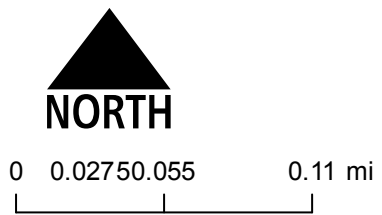
Based upon the results of this speed survey indicating vehicular speed remains an issue on Bridlewood Drive, staff field reviewed the existing number and locations of speed limit signage and pavement markings. Currently, there are 25 mph pavement legends and 25 mph signs posted at multiple locations along northbound Bridlewood Drive between Vista Viejo Road and Laurel Crest Drive and 25 mph signage but no pavement legends along southbound Bridlewood Drive. Staff recommends painting two “25” mph pavement legends adjacent to the posted speed limits signs along southbound Bridlewood Drive and “Stop Ahead” pavement markings in advance of the stop sign at Vista Viejo Road. Continued concentrated police enforcement of driver behavior is the best and appropriate remedy for residential streets vehicular speeding and is recommended for Bridlewood Drive. Staff will continue to work with the Sheriff’s Department on enforcement activity in this area and will also post the radar trailer in this area to increase driver education as to the appropriate speed on Bridlewood Drive. In addition, a follow-up speed survey is recommended to be performed in six months’ time. Should the speeding issue remain, the next incremental action will be evaluated.

**ATTACHMENTS:**

- Vicinity Map - Bridlewood Drive
- Traffic Study
- Bridlewood Dr Traffic Commission Agenda Item 4.2 7-18-18



### VICINITY MAP - BRIDLEWOOD DRIVE





Trammell Hartzog, President  
Gerald J. Stock, PE, TE,  
Executive Vice President

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FAX: (714) 731-9498

[www.hartzog-crabill.com](http://www.hartzog-crabill.com)

January 9, 2019

Mr. Kenneth H. Rosenfield, PE  
Assistant City Manager/Public Services Director  
**City of Laguna Hills**  
24035 El Toro Road  
Laguna Hills, CA 92653

**Subject: Letter of Opinion – Speeding, Cut-through Traffic, and Collision Concerns along Wilkes Place and Grissom Road, and Speeding Along Bridlewood Drive and Nellie Gail Road**

Dear Mr. Rosenfield,

Pursuant to your request, Hartzog & Crabill, Inc. (HCI) has prepared this traffic engineering evaluation regarding resident concerns of speeding and cut-through traffic, along with review of collisions, on the following two street segments:

- Wilkes Place, south of Alicia Parkway, and
- Grissom Road, east of Wilkes Place.

This evaluation also includes follow-up spot speed radar surveys along the two following two segments:

- Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive,
- Nellie Gail Road, between Oso Parkway and Hidden Trail Road.

## **BACKGROUND**

### Wilkes Place

Wilkes Place, between Alicia Parkway and Grissom Road, is a 36-foot to 40-foot wide, 2-lane, diagonal north-south residential collector roadway. At the project limits, there is a traffic signal at Alicia Parkway and a 90 degree bend at Grissom Road. There is double-yellow and single-yellow skip centerline striping along the entire segment. There is also an uncontrolled, marked yellow crosswalk across Wilkes Place at Barents Street, along with SCHOOL XING warning signs and advance SLOW SCHOOL XING pavement markings. There is a posted 25 MPH speed limit sign just south of Alicia Parkway. On-street parking is allowed along both sides of Wilkes Place.

## **BACKGROUND (continued)**

### Grissom Road

Grissom Road, between Wilkes Place and Las Bolsas Street, is a 36-foot wide, 2-lane, east-west residential collector roadway. At the project limits, there are 90-degree bends with double-yellow centerlines delineating the curves only. There is no centerline striping along the entire segment, and no posted speed limit signs. On-street parking is allowed along both sides of Grissom Road. An intersecting T-intersection with Velasquez Road connects to Paseo de Valencia.

### Bridlewood Drive

Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive, is a 40-foot wide, 2-lane, north-south residential collector roadway. At the project limits, there is a 1-way stop at Vista Viejo Road and a 3-way stop at Laurel Crest Drive. There is no centerline striping along the entire segment, with exception of a short length of double-yellow centerline at the project limits. There are posted 25 MPH speed limit signs along Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive. There are also '25' pavement markings adjacent to the sign postings. On-street parking is allowed along both sides of Bridlewood Drive.

### Nellie Gail Road

Nellie Gail Road, between Oso Parkway and Hidden Trail Road, is a 40-foot wide, curvy 2-lane, residential collector roadway. There is a traffic signal control at Oso Parkway and a one-way Stop control at Hidden Trail Road. There is a double-yellow centerline stripe along the entire segment, and a raised landscaped center median at Oso Parkway. There are Equestrian Xings with posted warning signs within this segment, along with other advance Side Street warning signs. There are posted 25 MPH speed limit signs along Nellie Gail Road between Oso Parkway and Hidden Trail Road. There is also a '25' pavement marking adjacent to the sign posting just south of Oso Parkway. On-street parking is allowed along both sides of Nellie Gail Road.

## **TRAVEL SPEED DATA**

To determine travel speeds on the four (4) segments of:

- 1) Wilkes Place, between Alicia Parkway and Grissom Road;
- 2) Grissom Road, between Wilkes Place and Las Bolsas Street;
- 3) Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive;
- 4) Nellie Gail Road, between Oso Parkway and Hidden Trail Road;

a spot speed radar survey was conducted on each of the locations on Tuesday, December 11, and on Wednesday, December 12, 2018. Tables 1 and 2 (next page) summarize the spot speed radar survey data.

**TRAVEL SPEED DATA (continued)**

**TABLE 1  
 SPEED SURVEY SUMMARY  
 WILKES PLACE, FROM ALICIA PARKWAY TO GRISSOM ROAD  
 GRISSOM ROAD, FROM WILKES PLACE TO LAS BOLSAS STREET**

<b>Speed Summary</b>	<b>Along Wilkes Place Segment</b>	<b>Along Grissom Road Segment</b>
Posted Speed Limit	25 MPH	25 MPH
85 <sup>th</sup> Percentile Speed	30 MPH	28.4 MPH
Average Speed	25 MPH	25.2 MPH
10 MPH Pace Range	21 - 30 MPH	20 - 29 MPH
Percent of Vehicles in Pace	74.1%	87.3%

Source: Hartzog & Crabill, Inc., 2018.

**TABLE 2  
 SPEED SURVEY SUMMARY  
 BRIDLEWOOD DRIVE, FROM VISTA VIEJO ROAD TO LAUREL CREST DRIVE  
 NELLIE GAIL ROAD, FROM OSO PARKWAY TO HIDDEN TRAIL ROAD**

<b>Speed Summary</b>	<b>Along Bridlewood Drive Segment</b>	<b>Along Nellie Gail Road Segment</b>
Posted Speed Limit	25 MPH	25 MPH
85 <sup>th</sup> Percentile Speed	36.1 MPH	34.8 MPH
Average Speed	29.3 MPH	30.9 MPH
10 MPH Pace Range	25 - 34 MPH	26 - 35 MPH
Percent of Vehicles in Pace	70.7%	77.0%

Source: Hartzog & Crabill, Inc., 2018.

As shown above, the 85<sup>th</sup> percentile speeds on Wilkes Place and Grissom Road were recorded at 30 MPH and 28.4 MPH, respectively. This data shows that typical travel speeds are occurring for a posted 25 MPH speed limit street. The 85<sup>th</sup> percentile speeds on Bridlewood Drive and Nellie Gail Road were recorded at 36.1 MPH and 34.8 MPH, respectively. This data shows that higher travel speeds are occurring along Bridlewood Drive. It is noted, back in March 2018, the 85th percentile speed on Bridlewood Drive was recorded at 37.1 MPH. In May 2018, the 85th percentile speed on Nellie Gail Road was recorded at 39 MPH, which has reduced to a typical speed for this type of roadway.

The overall speed radar survey data is attached to this letter.

### **TRAVEL SPEED DATA** (*continued*)

In an effort to lower overall speeds on Bridlewood Drive, the City may want to consider taking an incremental approach that may include the following:

- increased law enforcement
- frequent deployment of portable radar speed-feedback trailers
- neighborhood watch committee meeting to help make all residents aware of speeding

### **TRAFFIC VOLUME DATA**

Average Daily Traffic (ADT) counts were collected for the two (2) segments of Wilkes Place and Grissom Road on Wednesday, December 12, 2018. The ADT, or 24-hour two-way traffic volume, along these segments resulted in 838 and 494 vehicles, respectively.

A two-lane collector street generally has a Level-of-Service (LOS) 'D' capacity of 11,300 vehicles per day. Consequently, the current traffic volumes are well under the roadway capacity, and there are no other recommendations regarding traffic volume data to provide at this time.

The ADT count data collected as part of this evaluation is attached to this letter.

### **COLLISION DATA**

HCI obtained collision data for the past six (6) years, between January 1, 2013 – November 30, 2018, from the Statewide Integrated Traffic Records System website (*i-SWITRS*) database to determine the number of collisions occurring on the two (2) segments of Wilkes Place and Grissom Road.

Tables 3 and 4 (next page) presents the summary collision data.

**COLLISION DATA (continued)**

**TABLE 3  
TRAFFIC COLLISION DATA SUMMARY  
WILKES PLACE, FROM ALICIA PARKWAY TO GRISSOM ROAD**

<b>YEAR</b>	<b>NUMBER OF COLLISIONS</b>	<b>FATAL</b>	<b>INJURY</b>	<b>PROPERTY DAMAGE ONLY</b>
2013	0	0	0	0
2014	0	0	0	0
2015	0	0	0	0
2016	<b>3</b>	0	<b>3</b>	0
2017	0	0	0	0
2018 *	0	0	0	0

\* Available SWITRS data up to November 2018 at the time of report preparation.

As shown above, there have been a total of three (3) collisions reported within the last six (6) years on Wilkes Place. It is noted, all three collisions occurred at the intersection of Wilkes Place and Alicia Parkway. There were no collisions determined as ‘speed-related’.

**TABLE 4  
TRAFFIC COLLISION DATA SUMMARY  
GRISSOM ROAD, FROM WILKES PLACE TO LAS BOLSAS STREET**

<b>YEAR</b>	<b>NUMBER OF COLLISIONS</b>	<b>FATAL</b>	<b>INJURY</b>	<b>PROPERTY DAMAGE ONLY</b>
2013	0	0	0	0
2014	0	0	0	0
2015	0	0	0	0
2016	0	0	0	0
2017	0	0	0	0
2018 *	<b>1</b>	0	0	<b>1</b>

\* Available SWITRS data up November 2018 at the time of report preparation.

As shown above, there has been a total of one (1) collision reported within the last six (6) years on Grissom Road. This collision occurred at the intersection of Grissom Road and Las Bolsas Street, and was not determined as ‘speed-related’.

Consequently, there are no other recommendations regarding collision data on these two segments at this time.

The comprehensive 6-year segment collision history reports are attached to this letter.

**CUT-THROUGH TRAFFIC**

An Origin and Destination (O&D) study (i.e., license plate survey) was conducted on Wednesday, December 12, 2018 during the AM peak period (7 - 9am) to quantify the amount of traffic that are likely using Wilkes Place and Grissom Road as a short-cut.

The study collected license plate numbers in a 5-minute interval basis for all vehicles entering and exiting Wilkes Place at the project limit of Alicia Parkway, and also entering and exiting Velasquez Road at Paseo de Valencia (via Grissom Road).

Table 5 below shows a summary of the license plate matches recorded per each hour.

**TABLE 5  
ORIGIN-DESTINATION LICENSE PLATE MATCHES  
USING WILKES PLACE AND GRISSOM ROAD**

<b>Path</b>	<b>7:00:00 AM</b>	<b>7:05:00 AM</b>	<b>7:45:00 AM</b>	<b>7:50:00 AM</b>	<b>8:05:00 AM</b>	<b>8:10:00 AM</b>	<b>8:15:00 AM</b>	<b>8:50:00 AM</b>	<b>8:55:00 AM</b>	<b>Total</b>
<b>2 to 1</b>	1	1	1		3		1			<b>7</b>
<b>1 to 2</b>				2	1	2	1	1	1	<b>8</b>
<b>Grand Total</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>15</b>

The numbers (1 to 2 & 2 to 1) in Table 5 above refer to vehicles entering from and exiting to as follows:

Location 1 - Wilkes Place, just south of Alicia Parkway.

Location 2 - Velasquez Road, just north of Paseo de Valencia (short leg leading to Grissom Road).

The overall Origin-Destination Study spreadsheet is attached to this letter.

Per the ADT count data collected, the hourly traffic volumes for these same peak hours are compared as follows:

<u>Hour</u>	<u>ADT Traffic Volume</u>	<u>Cut-Thru</u>	<u>Cut-Thru/Volume</u>
7-8 AM	48	5	10%
8-9 AM	170	10	6%

As shown above, the actual hourly percentages are very low for what may be considered ‘cut-through’ traffic. Consequently, there are no recommendations regarding ‘cut-through’ traffic at this time.

## **SUMMARY**

### Wilkes Place and Grissom Road

In summary, the traffic data on Wilkes Place and Grissom Road resulted in the following:

- ✓ typical travel speeds are occurring for these 25 MPH speed limit streets;
- ✓ traffic volumes are well-below the traffic carrying capacity of the two roadways;
- ✓ there is no traffic collision history related to traffic speeds along these segments; and,
- ✓ 'cut-through' traffic is determined as very low.

### Bridlewood Drive and Nellie Gail Road

In summary, the recent speed data on Bridlewood Drive and Nellie Gail Road resulted in the following:

- ✓ higher than typical travel speeds are occurring along Bridlewood Drive.
- ✓ the Nellie Gail Road speed results are typical and do not result in recommended actions.

## **RECOMMENDATIONS**

### Wilkes Place and Grissom Road

In review of the existing School Xing signage on Wilkes Place, it is recommended to update the signage to the newer standard signs with fluorescent yellow-green background.

### Bridlewood Drive

In order to address the higher travel speeds along Bridlewood Drive, it is recommended that an incremental approach continue to be followed, which includes:

- increased law enforcement.
- frequent deployment of portable radar speed-feedback trailers.
- neighborhood watch committee meeting to help make all residents aware of speeding.

Mr. Kenneth H. Rosenfield, PE

January 9, 2019

Page 8 of 8

It has been our pleasure to prepare this letter of opinion regarding speeds, traffic volumes, collisions, and cut-through traffic on these project segments. If you have any questions or need additional information, please feel free to call us anytime at (714) 731-9455.

Sincerely,

**HARTZOG & CRABILL, INC.**



Gerald J. Stock, PE, TE  
Executive Vice President

Attachments:            Spot Speed Radar Data  
                                 ADT Traffic Volume Data  
                                 Collision History Data  
                                 Origin-Destination Study

# **Spot Speed Radar Data**

**SUMMARY OF SPOT SPEED SURVEYS  
DECEMBER 2018**

<b>STREET LOCATION</b>	<b>EXISTING SPEED LIMIT</b>	<b>RECOMMENDED SPEED LIMIT</b>	<b>85<sup>TH</sup> PERCENTILE SPEED</b>	<b>AVERAGE SPEED</b>	<b>10 MPH PACE RANGE</b>	<b>PERCENT OF VEHICLES IN PACE</b>	<b>DAY / DATE / TIME</b>
<b><u>BRIDLEWOOD DRIVE</u></b>							
LAUREL CREST TO VISTA VIEJO	25	-	36.1	29.3	25-34	70.7	WED / 12-12-18 / MID-DAY (12:15 - 2:00)
<b><u>GRISSOM ROAD</u></b>							
WILKES PL TO LAS BOLSAS ST	25	-	28.4	25.2	20-29	87.3	TUES / 12-11-18 / MID-DAY (12:15 – 2:00)
<b><u>NELLIE GAIL ROAD</u></b>							
OSO PKWY TO HIDDEN TRAIL RD	25	-	34.8	30.9	26-35	77.0	WED / 12-12-18 / MID-DAY (11:00 – 12:00)
<b><u>WILKES PLACE</u></b>							
ALICIA PKWY TO GRISSOM RD	25	-	30.0	25.0	21-30	74.1	TUES / 12-11-18 / MID-DAY (10:45 – 12:15)

# Radars Speed Survey Field Sheet

**HARTZOG AND CRABILL INC.**  
 Consulting Traffic Engineers  
 17592 Irvine Blvd., Suite 122, Irvine, CA 92614  
 (714) 731-9455

AGENCY: CITY OF LAGUNA HILLS  
 STREET: BRIDLEWOOD  
 LOCATION: VISTA VIEJO RD TO LAUREL CREST DR

WEATHER: SUNNY DATE: 12-12-18  
 ROAD CONDITION: DRY START TIME: 12:15 PM  
 OBSERVER: CATHY BUENDIA END TIME: 2:00 PM ✓✓✓

DIRECTION: SOUTHBOUND

MPH	NUMBER OF VEHICLES					TOTAL
	5	10	15	20	25	
60						
59						
58						
57						
56						
55						
54						
53						
52						
51						
50						
49						
48						
47	/					1
46						0
45						0
44	/					1
43	/					1
42						0
41						0
40	/					1
39	//					2
38						0
37						0
36						0
35	/					1
34	//					2
33	//					2
32	//					2
31	//	/				3
30	//	/				3
29	//	/				3
28	//	/	/			4
27	//	/	/	/		5
26	//	/	/	/	/	6
25	//	/	/	/	/	6
24	//	/	/	/	/	6
23						0
22						0
21						0
20	/					1
19						
18						
17						
16						
15						

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
 CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_

DIRECTION: NORTHBOUND

MPH	NUMBER OF VEHICLES					TOTAL	CUMULATIVE TOTAL	MPH
	5	10	15	20	25			
60								60
59								59
58								58
57								57
56								56
55								55
54								54
53								53
52								52
51								51
50								50
49								49
48								48
47	/						1	2
46							0	0
45	/						1	1
44							0	1
43							0	1
42							0	0
41	//						2	2
40	/						0	1
39	//						2	4
38							0	0
37	//						3	3
36							0	0
35	//						4	5
34	//						4	4
33	//						4	5
32	//	/					6	7
31	//	/					4	9
30	//	/					3	10
29	//	/					2	4
28	//	/	/				6	11
27	//	/	/	/			8	8
26	//	/	/	/	/		2	5
25	//	/	/	/	/		5	11
24	/						1	4
23	/						2	3
22	/						1	1
21								0
20	/						1	1
19								
18								
17								
16								
15								

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_

# RADAR SPEED DISTRIBUTION SHEET



CITY OF LAGUNA HILLS

BRIDLEWOOD DRIVE

DATE: 12/12/2018

TIME: 12:15 PM - 2:00 PM

LAUREL CREST DR TO VISTA VIEJO

SURVEY BY: C. BUENDIA

CHECKED BY: JERRY STOCK

SPEED	NUMBER OF VEHICLES					VEH.	PCT.	CUM. PCT.
	5	10	15	20	25			
60								100.0%
								100.0%
								100.0%
								100.0%
55								100.0%
								100.0%
								100.0%
								100.0%
50								100.0%
								100.0%
								100.0%
								100.0%
	X	X					2	2.0%
							0	0.0%
45	X						1	1.0%
	X						1	1.0%
	X						1	1.0%
							0	0.0%
	X	X					2	2.0%
	X						1	1.0%
40	X	X	X	X			4	4.0%
							0	0.0%
	X	X	X				3	3.0%
							0	0.0%
35	X	X	X	X	X		5	5.1%
	X	X	X	X			4	4.0%
	X	X	X	X	X		5	5.1%
	X	X	X	X	X	X	7	7.1%
	X	X	X	X	X	X	9	9.1%
30	X	X	X	X	X		6	6.1%
	X	X	X	X			4	4.0%
	X	X	X	X	X	X	11	11.1%
	X	X	X	X	X	X	8	8.1%
	X	X	X	X			5	5.1%
25	X	X	X	X	X	X	11	11.1%
	X	X	X	X			4	4.0%
	X	X	X				3	3.0%
	X						1	1.0%
							0	0.0%
20	X						1	1.0%
								0.0%
								0.0%
								0.0%
								0.0%
15								0.0%
TOTAL VEHICLES						99		

UPPER LIMIT 10 MPH PACE:	34	MPH	85th PERCENTILE SPEED:	36.1	MPH
LOWER LIMIT 10 MPH PACE:	25	MPH	MEDIAN SPEED:	29.3	MPH
PERCENT OVER PACE:	24.2	%	15th PERCENTILE SPEED:	24.5	MPH
PERCENT IN PACE:	70.7	%			
PERCENT UNDER PACE:	9.1	%			

# Radar Speed Survey Field Sheet

**HARTZOG AND CRABILL INC.**  
 Consulting Traffic Engineers  
 11592 Irvine Blvd., Suite 122 Irvine CA 92618  
 (714) 731-9455

AGENCY: CITY OF LAGUNA HILLS  
 STREET: GRISSOM ROAD  
 LOCATION: WILKES PL TO LAS BOISAS ST.

WEATHER: SUNNY DATE: 12-11-18  
 ROAD CONDITION: DRY START TIME: 12:15 PM  
 OBSERVER: CATHY BUENDIA END TIME: 2:00 PM

DIRECTION: WESTBOUND

MPH	NUMBER OF VEHICLES					TOTAL
	5	10	15	20	25	
60						
59						
58						
57						
56						
55						
54						
53						
52						
51						
50						
49						
48						
47						
46						
45						
44						
43						
42						
41						
40						
39						
38						
37						
36						
35						1
34						0
33						0
32						0
31						2
30						1
29						1
28						1
27						4
26						2
25						4
24						5
23						2
22						1
21						1
20						2
19						
18						
17						
16						
15						

DIRECTION: EASTBOUND

MPH	NUMBER OF VEHICLES					TOTAL	CUMULATIVE TOTAL	MPH
	5	10	15	20	25			
60								60
59								59
58								58
57								57
56								56
55								55
54								54
53								53
52								52
51								51
50								50
49								49
48								48
47								47
46								46
45								45
44								44
43								43
42								42
41								41
40								40
39								39
38								38
37								37
36							1	36
35							0	35
34							1	34
33							1	33
32							0	32
31							0	31
30							0	30
29							1	29
28							5	28
27							2	27
26							5	26
25							4	25
24							4	24
23							0	23
22							2	22
21							1	21
20							1	20
19								19
18								18
17								17
16								16
15								15

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
 CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_

# RADAR SPEED DISTRIBUTION SHEET



CITY OF LAGUNA HILLS

GRISSOM ROAD

DATE: 12/11/2018

TIME: 12:15 PM - 2:00 PM

WILKES PLACE TO LAS BOLSAS ST

SURVEY BY: C. BUENDIA

CHECKED BY: JERRY STOCK

SPEED	NUMBER OF VEHICLES										VEH.	PCT.	CUM. PCT.			
	5	10	15	20	25	30	35	40	45	50						
60															100.0%	
															100.0%	
															100.0%	
															100.0%	
															100.0%	
55															100.0%	
															100.0%	
															100.0%	
															100.0%	
50															100.0%	
															100.0%	
															100.0%	
															100.0%	
45															100.0%	
															100.0%	
															100.0%	
															100.0%	
40															100.0%	
															100.0%	
															100.0%	
															100.0%	
35	X													1	1.8%	100.0%
	X													1	1.8%	98.2%
	X													1	1.8%	96.4%
	X													1	1.8%	94.5%
														0	0.0%	92.7%
30	X	X												2	3.6%	92.7%
	X													1	1.8%	89.1%
	X	X												2	3.6%	87.3%
	X	X	X	X	X	X								6	10.9%	83.6%
	X	X	X	X	X	X								6	10.9%	72.7%
	X	X	X	X	X	X	X	X						8	14.5%	61.8%
25	X	X	X	X	X	X	X	X						8	14.5%	47.3%
	X	X	X	X	X	X	X	X	X					9	16.4%	32.7%
	X	X												2	3.6%	16.4%
	X	X	X											3	5.5%	12.7%
	X	X												2	3.6%	7.3%
20	X	X												2	3.6%	3.6%
															0.0%	
															0.0%	
															0.0%	
															0.0%	
15															0.0%	
<b>TOTAL VEHICLES</b>											<b>55</b>					

UPPER LIMIT 10 MPH PACE:	29	MPH	85th PERCENTILE SPEED:	28.4	MPH
LOWER LIMIT 10 MPH PACE:	20	MPH	MEDIAN SPEED:	25.2	MPH
PERCENT OVER PACE:	12.7	%	15th PERCENTILE SPEED:	22.6	MPH
PERCENT IN PACE:	87.3	%			
PERCENT UNDER PACE:	0.0	%			

**HARTZOG AND CRABILL INC.**  
 Consulting Traffic Engineers  
 17592 Irvine Blvd., Suite 122, Tustin, CA 92680  
 (714) 731-9455

# Radar Speed Survey Field Sheet

AGENCY: CITY OF LAGUNA HILLS  
 STREET: NEVILLE GAIL ROAD  
 LOCATION: 050 PKWY TO HIDDEN TRAIL RD

WEATHER: SUNNY DATE: 12-12-18  
 ROAD CONDITION: DRY START TIME: 11:00 AM  
 OBSERVER: CATHY BUENDIA END TIME: 12:00 PM ✓ VAL

DIRECTION: SOUTHBOUND

MPH	NUMBER OF VEHICLES					TOTAL
	5	10	15	20	25	
60						
59						
58						
57						
56						
55						
54						
53						
52						
51						
50						
49						
48						
47						
46						
45						
44						
43	/					2
42	/					0
41	/					1
40	/					0
39	/					0
38	/					1
37	/	/				4
36	/	/				0
35	/	/	/			7
34	/	/	/			4
33	/	/	/			4
32	/	/	/			6
31	/	/	/			2
30	/	/	/			3
29	/	/	/	/		9
28	/	/	/	/		4
27	/	/	/	/		4
26	/	/	/	/		5
25	/	/	/	/		4
24	/	/	/	/		2
23	/	/	/	/		1
22	/	/	/	/		0
21	/	/	/	/		0
20	/	/	/	/		1
19						
18						
17						
16						
15						

DIRECTION: NORTHBOUND

MPH	NUMBER OF VEHICLES					TOTAL	CUMULATIVE TOTAL	MPH
	5	10	15	20	25			
60								60
59								59
58								58
57								57
56								56
55								55
54								54
53								53
52								52
51								51
50								50
49								49
48								48
47								47
46								46
45								45
44								44
43							2	43
42							0	42
41							1	41
40							1	40
39	/						2	39
38	/						0	38
37	/	/					4	37
36	/	/					2	36
35	/	/	/				10	35
34	/	/	/				7	34
33	/	/	/				5	33
32	/	/	/				8	32
31	/	/	/				9	31
30	/	/	/				4	30
29	/	/	/	/			4	29
28	/	/	/	/			7	28
27	/	/	/	/			0	27
26	/	/	/	/			5	26
25	/	/	/	/			1	25
24	/	/	/	/			3	24
23	/	/	/	/			0	23
22	/	/	/	/			1	22
21	/	/	/	/			1	21
20	/	/	/	/			1	20
19								19
18								18
17								17
16								16
15								15

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
 CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_



# Radar Speed Survey Field Sheet

**HARTZOG AND CRABILL INC.**  
 Consulting Traffic Engineers  
 17592 Irvine Blvd., Suite 122, Irvine CA, 92619  
 (714) 731-9452

AGENCY: CITY OF LAGUNA HILLS  
 STREET: WILKES PLACE  
 LOCATION: ALICIA PKWY TO GRISSOM RD

WEATHER: SUNNY DATE: 12-11-18  
 ROAD CONDITION: DRY START TIME: 10:45 AM  
 OBSERVER: CATHY BUENDIA END TIME: 12:15 PM *VXL*

DIRECTION: SOUTHBOUND

MPH	NUMBER OF VEHICLES					TOTAL
	5	10	15	20	25	
60						
59						
58						
57						
56						
55						
54						
53						
52						
51						
50						
49						
48						
47						
46						
45						
44						
43						
42						
41						
40						
39						
38						
37						
36	/					1
35						0
34						0
33	//					2
32	//					2
31						0
30	//					2
29	//					1
28						0
27	//					3
26						0
25	//					3
24	//					1
23	//					2
22	//					1
21	//					5
20	//					4
19						0
18	/					1
17						
16						
15						

DIRECTION:

MPH	NUMBER OF VEHICLES					TOTAL	CUMULATIVE TOTAL	MPH
	5	10	15	20	25			
60								60
59								59
58								58
57								57
56								56
55								55
54								54
53								53
52								52
51								51
50								50
49								49
48								48
47								47
46								46
45								45
44								44
43								43
42								42
41								41
40								40
39								39
38	/						1	38
37							0	37
36							0	36
35							0	35
34							0	34
33	//						2	33
32	//						1	32
31							1	31
30	//						4	30
29	//						2	29
28	//						4	28
27	//						4	27
26							2	26
25	//						3	25
24	//						2	24
23							0	23
22	//						2	22
21	//						2	21
20	//						0	20
19							0	19
18	/						1	18
17								17
16								16
15								15

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
 CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_

# RADAR SPEED DISTRIBUTION SHEET



CITY OF LAGUNA HILLS

WILKES PLACE

ALICIA PKWY TO GRISSOM ROAD

DATE: 12/11/2018

SURVEY BY: C. BUENDIA

TIME: 10:45 AM - 12:15 PM

CHECKED BY: JERRY STOCK

SPEED	NUMBER OF VEHICLES										VEH.	PCT.	CUM. PCT.			
	5	10	15	20	25	30	35	40	45	50						
60															100.0%	
															100.0%	
															100.0%	
															100.0%	
															100.0%	
55															100.0%	
															100.0%	
															100.0%	
															100.0%	
															100.0%	
50															100.0%	
															100.0%	
															100.0%	
															100.0%	
															100.0%	
45															100.0%	
															100.0%	
															100.0%	
															100.0%	
															100.0%	
40															100.0%	
															100.0%	
															100.0%	
															100.0%	
															100.0%	
	X													1	1.9%	100.0%
														0	0.0%	98.1%
	X													1	1.9%	98.1%
35														0	0.0%	96.3%
														0	0.0%	96.3%
	X	X												2	3.7%	96.3%
	X	X	X											3	5.6%	92.6%
	X													1	1.9%	87.0%
30	X	X	X	X	X	X								6	11.1%	85.2%
	X	X	X											3	5.6%	74.1%
	X	X	X	X										4	7.4%	68.5%
	X	X	X	X										4	7.4%	61.1%
	X	X												2	3.7%	53.7%
25	X	X	X	X	X	X								6	11.1%	50.0%
	X	X	X											3	5.6%	38.9%
	X	X												2	3.7%	33.3%
	X	X	X											3	5.6%	29.6%
	X	X	X	X	X	X	X	X						7	13.0%	24.1%
20	X	X	X	X										4	7.4%	11.1%
														0	0.0%	3.7%
	X	X												2	3.7%	3.7%
															0.0%	
															0.0%	
15															0.0%	
TOTAL VEHICLES											54					

UPPER LIMIT 10 MPH PACE:	30	MPH	
LOWER LIMIT 10 MPH PACE:	21	MPH	85th PERCENTILE SPEED: 30.0 MPH
PERCENT OVER PACE:	14.8	%	MEDIAN SPEED: 25.0 MPH
PERCENT IN PACE:	74.1	%	15th PERCENTILE SPEED: 20.3 MPH
PERCENT UNDER PACE:	11.1	%	

# **ADT Traffic Volume Data**

### VOLUME

Wilkes Pl Bet. Alicia Pkwy & Grissom Rd

Day: Wednesday  
Date: 12/12/2018

City: Laguna Hills  
Project #: CA18\_1262\_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						465	373	0	0	838	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	2	2			4	12:00	10	6			16
00:15	1	1			2	12:15	6	3			9
00:30	0	1			1	12:30	3	7			10
00:45	0	3	0	4	0	12:45	3	22	9	25	12
01:00	0	0	0		0	13:00	6	21			27
01:15	0	1			1	13:15	55	12			67
01:30	0	0			0	13:30	15	4			19
01:45	0	0	1		0	13:45	3	79	6	43	9
02:00	0	0			0	14:00	6	1			7
02:15	0	0			0	14:15	3	0			3
02:30	1	0			1	14:30	3	7			10
02:45	0	1	0		0	14:45	5	17	3	11	8
03:00	0	1			1	15:00	6	6			12
03:15	0	0			0	15:15	1	6			7
03:30	0	0			0	15:30	4	5			9
03:45	0	0	1		0	15:45	5	16	1	18	6
04:00	0	0			0	16:00	6	2			8
04:15	1	1			2	16:15	5	8			13
04:30	0	0			0	16:30	8	7			15
04:45	1	2	1	2	2	16:45	5	24	7	24	12
05:00	2	0			2	17:00	4	10			14
05:15	2	1			3	17:15	7	11			18
05:30	4	0			4	17:30	9	7			16
05:45	3	11	0	1	3	17:45	6	26	2	30	8
06:00	1	0			1	18:00	6	9			15
06:15	2	1			3	18:15	2	5			7
06:30	2	2			4	18:30	2	6			8
06:45	7	12	2	5	9	18:45	5	15	8	28	13
07:00	3	2			5	19:00	0	5			5
07:15	6	3			9	19:15	1	2			3
07:30	7	4			11	19:30	5	3			8
07:45	12	28	11	20	23	19:45	3	9	10	20	13
08:00	68	29			97	20:00	2	8			10
08:15	34	3			37	20:15	2	3			5
08:30	13	5			18	20:30	1	5			6
08:45	11	126	7	44	18	20:45	3	8	6	22	9
09:00	2	7			9	21:00	4	3			7
09:15	4	5			9	21:15	0	5			5
09:30	3	1			4	21:30	0	2			2
09:45	5	14	4	17	9	21:45	2	6	1	11	3
10:00	2	1			3	22:00	1	4			5
10:15	6	6			12	22:15	1	3			4
10:30	4	6			10	22:30	1	0			1
10:45	4	16	4	17	8	22:45	1	4	0	7	1
11:00	5	8			13	23:00	1	0			1
11:15	8	3			11	23:15	0	2			2
11:30	6	2			8	23:30	2	2			4
11:45	4	23	3	16	7	23:45	0	3	2	6	2
<b>TOTALS</b>	<b>236</b>	<b>128</b>			<b>364</b>	<b>TOTALS</b>	<b>229</b>	<b>245</b>			<b>474</b>
<b>SPLIT %</b>	<b>64.8%</b>	<b>35.2%</b>			<b>43.4%</b>	<b>SPLIT %</b>	<b>48.3%</b>	<b>51.7%</b>			<b>56.6%</b>

DAILY TOTALS						NB	SB	EB	WB	Total	
						465	373	0	0	838	
AM Peak Hour	07:45	07:45			07:45	PM Peak Hour	12:45	12:30		12:45	
AM Pk Volume	127	48			175	PM Pk Volume	79	49		125	
Pk Hr Factor	0.467	0.414			0.451	Pk Hr Factor	0.359	0.583		0.466	
7 - 9 Volume	154	64	0	0	218	4 - 6 Volume	50	54	0	0	104
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	17:00	16:30			16:45
7 - 9 Pk Volume	127	48	0	0	175	4 - 6 Pk Volume	26	35	0	0	60
Pk Hr Factor	0.467	0.414	0.000	0.000	0.451	Pk Hr Factor	0.722	0.795	0.000	0.000	0.833

### VOLUME

Grissom Rd Bet. Wilkes Pl & Las Bolsas

Day: Wednesday  
Date: 12/12/2018

City: Laguna Hills  
Project #: CA18\_1262\_002

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	259	235	494			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			0	0	0	12:00			3	1	4	
00:15			0	0	0	12:15			2	2	4	
00:30			0	0	0	12:30			4	0	4	
00:45			0	0	0	12:45			1	10	5	8
01:00			0	1	1	13:00			8	4	12	
01:15			0	0	0	13:15			4	16	20	
01:30			0	0	0	13:30			7	1	8	
01:45			0	0	1	13:45			4	23	2	23
02:00			1	0	1	14:00			5	3	8	
02:15			0	0	0	14:15			8	4	12	
02:30			0	0	0	14:30			4	4	8	
02:45			0	1	0	14:45			3	20	6	17
03:00			0	1	1	15:00			7	3	10	
03:15			0	0	0	15:15			2	2	4	
03:30			0	0	0	15:30			3	4	7	
03:45			0	0	1	15:45			6	18	8	17
04:00			0	0	0	16:00			4	2	6	
04:15			1	0	1	16:15			6	3	9	
04:30			0	2	2	16:30			2	5	7	
04:45			1	2	3	16:45			9	21	4	14
05:00			0	0	0	17:00			8	2	10	
05:15			0	1	1	17:15			13	4	17	
05:30			0	0	0	17:30			3	7	10	
05:45			0	1	2	17:45			11	35	8	21
06:00			0	1	1	18:00			8	1	9	
06:15			3	3	6	18:15			6	2	8	
06:30			0	4	4	18:30			4	2	6	
06:45			3	6	4	18:45			1	19	4	9
07:00			2	1	3	19:00			4	2	6	
07:15			2	5	7	19:15			1	3	4	
07:30			4	8	12	19:30			4	1	5	
07:45			10	18	6	19:45			4	13	6	12
08:00			7	5	12	20:00			4	1	5	
08:15			4	11	15	20:15			1	1	2	
08:30			4	4	8	20:30			3	1	4	
08:45			2	17	4	20:45			0	8	0	3
09:00			6	2	8	21:00			3	1	4	
09:15			3	5	8	21:15			0	0	0	
09:30			0	5	5	21:30			3	1	4	
09:45			2	11	3	21:45			2	8	1	3
10:00			2	2	4	22:00			0	1	1	
10:15			4	3	7	22:15			1	1	2	
10:30			4	4	8	22:30			1	0	1	
10:45			2	12	2	22:45			0	2	0	2
11:00			6	5	11	23:00			0	0	0	
11:15			2	4	6	23:15			0	0	0	
11:30			3	3	6	23:30			0	2	2	
11:45			3	14	1	23:45			1	1	0	2
<b>TOTALS</b>			<b>81</b>	<b>104</b>	<b>185</b>	<b>TOTALS</b>			<b>178</b>	<b>131</b>	<b>309</b>	
<b>SPLIT %</b>			<b>43.8%</b>	<b>56.2%</b>	<b>37.4%</b>	<b>SPLIT %</b>			<b>57.6%</b>	<b>42.4%</b>	<b>62.6%</b>	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	259	235	494		
AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			17:00	12:45	17:00
AM Pk Volume			25	30	55	PM Pk Volume			35	26	56
Pk Hr Factor			0.625	0.682	0.859	Pk Hr Factor			0.673	0.406	0.737
7 - 9 Volume	0	0	35	44	79	4 - 6 Volume	0	0	56	35	91
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	25	30	55	4 - 6 Pk Volume	0	0	35	21	56
Pk Hr Factor	0.000	0.000	0.625	0.682	0.859	Pk Hr Factor	0.000	0.000	0.673	0.656	0.737

# **Collision History Data**

**CITY OF LAGUNA HILLS  
5-YEAR SWITRS COLLISION DATABASE  
WILKES PLACE, FROM ALICIA PARKWAY TO GRISSOM ROAD  
JAN. 1, 2013 - NOV. 30, 2018**

CASE ID	COLLISION DATE	COLL. TIME	COLL. PRIMARY ROAD	COLL. SECONDARY ROAD	DIST.	DIR.	INTERS.	WEATH. 1	COLL. SEVERITY	PRIM. COLL. FACT.	PCF VIOL. CAT.	PCF VIOL.	HIT AND RUN	TYPE OF COLL.	MOTOR VEHICLE INVOLVED WITH ROAD SURF.	
															WITH	SURF.
8090227	20160704	2315	ALICIA PKWY	WILKES PL	0		Y	A	4	D	0		N	A	C	A
8180551	20161113	2008	ALICIA PKWY	WILKES PL	0		Y	A	3	A	12	21453	N	D	C	A
8197315	20161122	935	ALICIA PKWY	WILKES PL	0		Y	A	4	A	12	21453	N	D	C	A

**NOTES:**

<b>Weather 1</b>	<b>Collision Severity</b>	<b>Primary Collision Factor</b>	<b>PCF Violation Category</b>	<b>Hit and Run</b>	<b>Type of Collision</b>
A - Clear	1 - Fatal	A - (Vehicle) Code Violation	01 - Driving or Bicycling Under Ir	F - Felony	A - Head-On
B - Cloudy	2 - Injury (Severe)	B - Other Improper Driving	02 - Impeding Traffic	M - Misdemeanor	B - Sideswipe
C - Raining	3 - Injury (Other Visible)	C - Other Than Driver	03 - Unsafe Speed	N - Not Hit & Run	C - Rear-End
D - Snowing	4 - Injury (Complaint of Pain)	D - Unknown	04 - Following Too Closely		D - Broadside
E - Fog	0 - PDO (Property Damage On	E - Fell Asleep	05 - Wrong Side of Road		E - Hit Object
F - Other		- - Not Stated	06 - Improper Passing		F - Overturned
G - Wind			07 - Unsafe Lane Change		G - Vehicle/Pedestrian
- - Not Stated			08 - Improper Turning		H - Other
			09 - Automobile ROW		- - Not Stated
			10 - Pedestrian ROW		
			11 - Pedestrian Violation		
			12 - Traffic Signals and Signs	<b>Road Surface</b>	
			13 - Hazardous Parking	A - Dry	
			14 - Lights	B - Wet	
			15 - Brakes	C - Snowy or Icy	
			16 - Other Equipment	D - Slippery	
			17 - Other Hazardous Violation	- - Not Stated	
			18 - Other Than Driver (or Ped)		
			19 -		
			20 -		
			21 - Unsafe Starting or Backing		
			22 - Other Improper Driving		
			23 - Pedestrian or "Other" Under the Influence		
			24 - Fell Asleep		
			00 - Unknown		
			- - Not Stated		

**CITY OF LAGUNA HILLS  
5-YEAR SWITRS COLLISION DATABASE  
GRISSOM ROAD, FROM WILKES PLACE TO LAS BOLSAS AVENUE  
JAN. 1, 2013 - NOV. 30, 2018**

CASE ID	COLLISION DATE	COLL. TIME	COLL. PRIMARY ROAD	COLL. SECONDARY ROAD	DIST.	DIR.	INTERS.	WEATH. 1	COLL. SEVERITY	PRIM. COLL. FACT.	PCF VIOL. CAT.	PCF VIOL.	HIT AND RUN	TYPE OF COLL.	MOTOR VEHICLE INVOLVED WITH ROAD SURF.	
															WITH	SURF.
8636969	20180503	1229	GRISSOM RD	LAS BOLSAS AV	0		Y	A	0	A	8	22107	M	D	E	A

**NOTES:**

**Weather 1**

A - Clear  
B - Cloudy  
C - Raining  
D - Snowing  
E - Fog  
F - Other  
G - Wind  
-- Not Stated

**Collision Severity**

1 - Fatal  
2 - Injury (Severe)  
3 - Injury (Other Visible)  
4 - Injury (Complaint of Pain)  
0 - PDO (Property Damage On

**Primary Collision Factor**

A - (Vehicle) Code Violation  
B - Other Improper Driving  
C - Other Than Driver  
D - Unknown  
E - Fell Asleep  
-- Not Stated

**PCF Violation Category**

01 - Driving or Bicycling Under Ir  
02 - Impeding Traffic  
03 - Unsafe Speed  
04 - Following Too Closely  
05 - Wrong Side of Road  
06 - Improper Passing  
07 - Unsafe Lane Change  
08 - Improper Turning  
09 - Automobile ROW  
10 - Pedestrian ROW  
11 - Pedestrian Violation  
12 - Traffic Signals and Signs  
13 - Hazardous Parking  
14 - Lights  
15 - Brakes  
16 - Other Equipment  
17 - Other Hazardous Violation  
18 - Other Than Driver (or Ped)  
19 -  
20 -  
21 - Unsafe Starting or Backing  
22 - Other Improper Driving  
23 - Pedestrian or "Other" Under the Influence  
24 - Fell Asleep  
00 - Unknown  
-- Not Stated

**Hit and Run**

F - Felony  
M - Misdemeanor  
N - Not Hit & Run

**Type of Collision**

A - Head-On  
B - Sideswipe  
C - Rear-End  
D - Broadside  
E - Hit Object  
F - Overturned  
G - Vehicle/Pedestrian  
H - Other  
-- Not Stated

**Motor Vehicle Involved With:**

A - Non-Collision  
B - Pedestrian  
C - Other Motor Vehicle  
D - Motor Vehicle on Other Roadway  
E - Parked Motor Vehicle  
F - Train  
G - Bicycle  
H - Animal  
I - Fixed Object  
J - Other Object  
-- Not Stated

**Road Surface**

A - Dry  
B - Wet  
C - Snowy or Icy  
D - Slippery  
-- Not Stated

# **Origin-Destination Study Data**

Prepared by National Data and Surveying Services  
**Origin and Destination Study**

Day: Wednesday

City: Laguna Hills

Date: 12/12/2018

Project: 18-1263

Path	7:00:00 AM	7:05:00 AM	7:45:00 AM	7:50:00 AM	8:05:00 AM	8:10:00 AM	8:15:00 AM	8:50:00 AM	8:55:00 AM	Total
2 to 1	1	1	1		3		1			7
1 to 2				2	1	2	1	1	1	8
<b>Grand Total</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>15</b>

Location ID	Street
1	Wilkes Place S/O Alicia Pkwy
2	Velasquez Road N/O Paseo de Valencia

\*All times correspond to vehicle origin time



# City of Laguna Hills

## Traffic Commission

### Staff Report

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**DATE:** July 18, 2018  
**TO:** Traffic Commissioners  
**FROM:** Kenneth H. Rosenfield P.E.  
Assistant City Manager/Director of Public Services  
**ISSUE:** Review of Traffic Conditions on Bridlewood Drive and Devonshire Road

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**RECOMMENDATION:** That the Traffic Commission Request Staff Monitor the Speed of Vehicles and Repeat the Speed Survey of Bridlewood Drive Between Vista Viejo Road and Laurel Crest Drive in Six Months Time.

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#### **SUMMARY:**

Staff was recently contacted by a resident of Moulton Ranch regarding concerns of vehicular speeding and traffic collisions on Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive, and on Devonshire Road, between Falling Leaf Drive and Nottingham Court. Please see the attached Vicinity Map. Based upon the resident's concern and in accordance with the Residential Streets Management Policy, staff initiated a review of the travel speeds, traffic volume and traffic collision history on Bridlewood Drive and on Devonshire Road.

The Traffic Engineers of Hartzog & Crabill, Inc., (HCI) completed the attached June 1, 2018, study of the traffic attributes of Bridlewood Drive from Vista Viejo Road to Laurel Crest Drive and Devonshire Road from Falling Leaf Drive to Nottingham Court. The speed surveys, performed by HCI, as shown in the study, determined the 85<sup>th</sup> percentile speeds on Bridlewood Drive and Devonshire Road as 37.1 mph and 32.9 mph, respectively.

## Review of Traffic Conditions on Bridlewood Drive and Devonshire Road

July 18, 2018

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The 85<sup>th</sup> percentile speed measurement of Bridlewood Drive is higher than expected and considered to be unacceptable for a residential character street. The study also determined 24.6% of the vehicles on Bridlewood Drive were exceeding 34 mph, which is also a higher percentage than the expected percentage, typically at approximately 15%.

The 85<sup>th</sup> percentile speed measurement of Devonshire Road was fully within the expected range. Staff's long term experience has found the typical prevailing speed range for such streets to be between 32 and 34 mph, without adverse traffic collision history. Hence, the 85<sup>th</sup> percentile speed on Devonshire of 32 mph is not of concern for this residential character street.

The traffic count data, for both Bridlewood Drive and Devonshire Road, revealed the 24-hr volumes to be very low for a typical residential street that is a connecting, or through, street to other neighborhoods. The traffic volumes are not significant and no action is needed in response to this data.

A five-year traffic collision history review of Bridlewood Drive was also included in the study which determined three traffic collisions, including one not identified in the collision data from SWITRS but noted based on the attached photographic evidence provided by a resident, had occurred on Bridlewood Drive during this time. None of the traffic collisions were identified as speed-related.

The five-year traffic collision history review of Devonshire Road identified a single traffic collision which was not identified as speed-related and is not considered significant for the purposes of this report.

Concentrated police enforcement of driver behavior is the best and appropriate remedy for residential streets vehicular speeding and is recommended for Bridlewood Drive. Staff will work with the Orange County Sheriff's Department on enforcement activity in this area and will also post the radar trailer in this area to increase driver education as to the appropriate speed on Bridlewood Drive. Staff will also provide the Moulton Ranch Homeowners Association (HOA) with a traffic safety article to be included in their newsletter for the residents of their HOA. In addition, a follow-up speed survey is recommended to be performed in six months. Should the speeding issue remain, the next incremental action will be evaluated. Currently, there are 25 mph pavement

## Review of Traffic Conditions on Bridlewood Drive and Devonshire Road

July 18, 2018

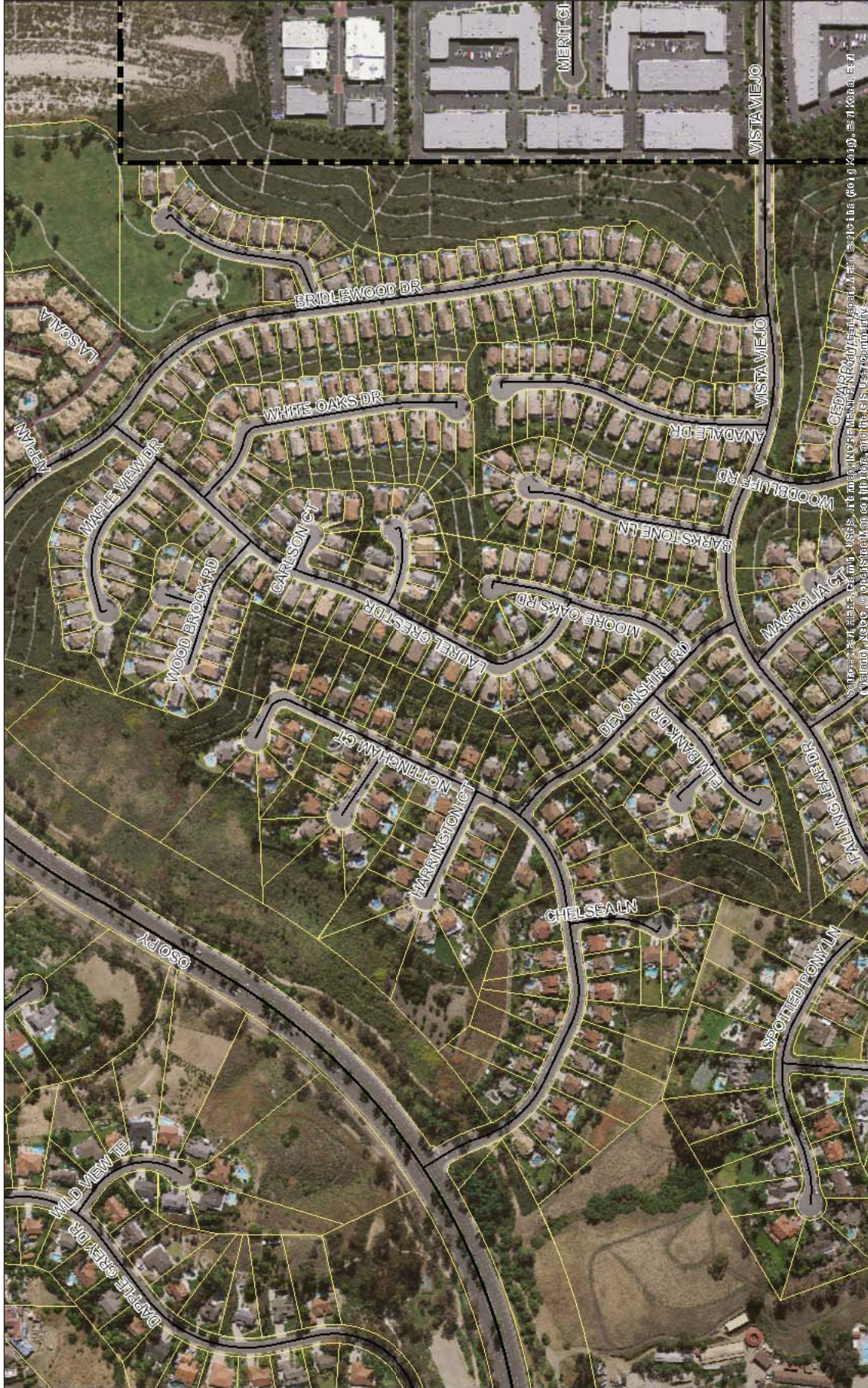
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legends and 25 mph signs posted at multiple locations along Bridlewood Drive between Vista Viejo Road and Laurel Crest Drive. While no changes to existing traffic controls are currently proposed, the number and locations of speed limit signage and pavement markings will also be reviewed following the repeat speed survey.

### **ATTACHMENTS:**

- Vicinity Map
- Photograph
- Traffic Evaluation



VICINITY MAP - BRIDLEWOOD DRIVE & DEVONSHIRE ROAD







Trammell Hartzog, President  
Gerald J. Stock, PE, TE,  
Executive Vice President

17852 E. 17<sup>th</sup> Street  
Suite 101  
Tustin, CA 92780

Phone: (714) 731-9455  
FAX: (714) 731-9498

www.hartzog-crabill.com

June 1, 2018

Mr. Kenneth H. Rosenfield, PE  
Assistant City Manager/Public Services Director  
**City of Laguna Hills**  
24035 El Toro Road  
Laguna Hills, CA 92653

**Subject: Traffic Data Evaluation - Letter of Opinion -  
Speeding and Collision Concerns along Bridlewood Drive  
and Also along Devonshire Road**

Dear Mr. Rosenfield,

Pursuant to your request, Hartzog & Crabill, Inc. (HCI) has prepared this traffic engineering evaluation regarding residential concerns of speeding and collisions along the following two (2) street segments:

- 1) Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive
- 2) Devonshire Road, between Falling Leaf Drive and Nottingham Court

**BACKGROUND**

Bridlewood Drive

Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive, is a 40-foot wide, 2-lane, north-south residential collector roadway. At the project limits, there is a 1-way stop at Vista Viejo Road and a 3-way stop at Laurel Crest Drive. There is no centerline striping along the entire segment, with exception of a short length of double-yellow centerline at the project limits.

There are posted 25 MPH speed limit signs along Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive. There are also '25' pavement markings adjacent to the sign postings. On-street parking is allowed along both sides of Bridlewood Drive.

Devonshire Road

Devonshire Road, between Falling Leaf Drive and Nottingham Court, is a 40-foot wide, 2-lane, north-south residential collector roadway. At the project limits, both intersections have 1-way stop controls. There is no centerline striping along the entire segment, with exception of a short length of double-yellow centerline at the project limits.

There are posted 25 MPH speed limit signs along Devonshire Road between Falling Leaf Drive and Nottingham Court. There are also '25' pavement markings adjacent to the sign postings. On-street parking is allowed along both sides of Devonshire Road.

Mr. Kenneth H. Rosenfield, PE  
 June 1, 2018  
 Page 2 of 5

## TRAVEL SPEED DATA

To determine travel speeds on Bridlewood Drive and on Devonshire Road, a spot speed radar survey was conducted along each of these residential collector roadways on Wednesday, May 16, 2018, and Thursday, May 17, 2018, respectively. Tables 1 & 2 below summarize the radar speed data.

**TABLE 1**  
**SPEED SURVEY SUMMARY**  
**BRIDLEWOOD DRIVE, FROM VISTA VIEJO ROAD TO LAUREL CREST DRIVE**

Speed-Count Summary	From Vista Viejo Road to Laurel Crest Drive
85 <sup>th</sup> Percentile Speed	37.1 MPH
Median Speed	29.5 MPH
15th Percentile Speed	25.0 MPH
10 MPH Pace Speed	25-34 MPH
Average Daily Traffic (ADT)	722 vehicles

As shown above, the 85<sup>th</sup> percentile speed on Bridlewood Drive was recorded at 37.1 MPH. This data shows that higher than typical travel speeds are occurring above the posted 25 MPH speed limit.

**TABLE 2**  
**SPEED SURVEY SUMMARY**  
**DEVONSHIRE ROAD, FROM FALLING LEAF DRIVE TO NOTTINGHAM COURT**

Speed-Count Summary	From Falling Leaf Drive to Nottingham Court
85 <sup>th</sup> Percentile Speed	32.9 MPH
Median Speed	27.9 MPH
15th Percentile Speed	25.0 MPH
10 MPH Pace Speed	25-34 MPH
Average Daily Traffic (ADT)	590 vehicles

As shown above, the 85<sup>th</sup> percentile speed on Devonshire Road was recorded at 32.9 MPH. This data shows that typical travel speeds are occurring for a posted 25 MPH speed limit street. All radar survey data is attached to this letter.

Mr. Kenneth H. Rosenfield, PE  
 June 1, 2018  
 Page 3 of 5

## TRAFFIC VOLUME DATA

### Bridlewood Drive

Average Daily Traffic (ADT) counts were collected for the segment of Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive, on Wednesday, May 2, 2018. The ADT, or 24-hour two-way traffic volume, along this segment resulted in 722 vehicles.

A two-lane collector street generally has a Level-of-Service (LOS) 'D' capacity of 11,300 vehicles per day. Consequently, the existing traffic volume is well under the roadway capacity.

### Devonshire Road

Average Daily Traffic (ADT) counts were collected for the segment of Devonshire Road, between Falling Leaf Drive and Nottingham Court, on Wednesday, May 2, 2018. The ADT, or 24-hour two-way traffic volume, along this segment resulted in 590 vehicles.

As mentioned, a two-lane collector street generally has a Level-of-Service (LOS) 'D' capacity of 11,300 vehicles per day. Consequently, the existing traffic volume is well under the roadway capacity. All traffic volume data is included in the appendix.

## COLLISION DATA

### Bridlewood Drive

HCI obtained collision data for the past five (5) years, between January 1, 2013 – February 28, 2018, from the Statewide Integrated Traffic Records System website (*i*-SWITRS) database to determine the number of collisions occurring on this segment of Bridlewood Drive. Table 3 below presents the summary collision data.

**TABLE 3**  
**TRAFFIC COLLISION DATA SUMMARY**  
**BRIDLEWOOD DRIVE, FROM VISTA VIEJO ROAD TO LAUREL CREST DRIVE**

YEAR	NUMBER OF COLLISIONS	FATAL	INJURY	PROPERTY DAMAGE ONLY
2013	1	0	1	0
2014	0	0	0	0
2015	0	0	0	0
2016	0	0	0	0
2017	1	0	0	1
2018 *	1	0	0	1

\* Available SWITRS data was only up to February 2018 at the time of report preparation.

Mr. Kenneth H. Rosenfield, PE  
 June 1, 2018  
 Page 4 of 5

### **COLLISION DATA (continued)**

As shown above, there were a total of three (3) collisions reported along this segment within the last (5) years. The collisions were recorded as Rear End and Head-On types, and categorized as Driving or Bicycling Under Influence and Automobile ROW. As such, there were no collisions determined as 'speed-related'. Consequently, there are no other recommendations regarding collisions at this time.

It is noted, a resident provided the City with photographic evidence of a two vehicle traffic collision having occurred on Bridlewood Drive on April 5, 2018. The Sheriff's Department reported that no police report was written as the parties described no injuries and stated they would settle the matter on their own. Accordingly, we have no details on the cause of this traffic collision.

#### Devonshire Road

HCI also obtained collision data for the past five (5) years, between January 1, 2013 – February 28, 2018, from the Statewide Integrated Traffic Records System website (*i-SWITRS*) database to determine the number of collisions occurring on the subject segment of Devonshire Road. Table 4 below presents the summary collision data.

**TABLE 4  
 TRAFFIC COLLISION DATA SUMMARY  
 DEVONSHIRE ROAD, FROM FALLING LEAF DRIVE TO NOTTINGHAM COURT**

<b>YEAR</b>	<b>NUMBER OF COLLISIONS</b>	<b>FATAL</b>	<b>INJURY</b>	<b>PROPERTY DAMAGE ONLY</b>
2013	0	0	0	0
2014	0	0	0	0
2015	0	0	0	0
2016	0	0	0	0
2017	1	0	1	0
2018 *	0	0	0	0

\* Available SWITRS data was only up to February 2018 at the time of report preparation.

As shown above, there was only one (1) collision reported along this segment within the last (5) years. This collision was recorded as a Rear End type, and categorized as Improper Turning. As such, there were no collisions determined as 'speed-related'. Consequently, there are no other recommendations regarding collisions at this time. The comprehensive 5-year segment collision history reports are attached to this letter.

Mr. Kenneth H. Rosenfield, PE  
June 1, 2018  
Page 5 of 5

## RECOMMENDATIONS

As speeding was verified on Bridlewood Drive, it is recommended that an incremental approach be taken to address the higher travel speeds. Initial steps include:

- increased law enforcement.
- deployment of portable radar speed-feedback trailers.
- neighborhood watch committee meeting to help make all residents aware of speeding.

It has been our pleasure to prepare this letter of opinion regarding speeds, traffic volumes, and collisions on Bridlewood Drive, and also on Devonshire Road. If you may have any questions or need additional information, please feel free to call us anytime at (714) 731-9455.

Sincerely,  
**HARTZOG & CRABILL, INC.**



Gerald J. Stock, PE, TE  
Executive Vice President

Attachments:      Radar Speed Data (Qty. 2)  
                          ADT Volume Data (Qty. 2)  
                          Collision History (Qty. 2)

# Speed Data

# RADAR SPEED DISTRIBUTION SHEET



## CITY OF LAGUNA HILLS

BRIDLEWOOD DRIVE

LAUREL CREST DR TO VISTA VIEJO

DATE: 5/16/2018

SURVEY BY:

C. BUENDIA

TIME: 9:00 AM - 10:00 AM

CHECKED BY:

JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						X 100.0%
59						X 100.0%
58						X 100.0%
57						X 100.0%
56						X 100.0%
55						X 100.0%
54						X 100.0%
53						X 100.0%
52						X 100.0%
51						X 100.0%
50						X 100.0%
49						X 100.0%
48						X 100.0%
47						X 100.0%
46						X 100.0%
45						X 100.0%
44						X 100.0%
43						X 100.0%
42						X 98.1%
41						X 98.1%
40						X 96.2%
39						X 94.3%
38						X 92.5%
37						X 86.8%
36						X 83.0% ---85PCT
35						X 77.4%
34						X 75.5% }PACE
33						X 67.9% }PACE
32						X 64.2% }PACE
31						X 56.6% }PACE
30						X 49.1% }PACE ---MEAN
29						X 41.5% }PACE
28						X 34.0% }PACE
27						X 28.3% }PACE
26						X 18.9% }PACE
25						X 17.0% }PACE
24						X 5.7% ---15PCT
23						X 3.8%
22						X 3.8%
21						X 1.9%
20						X 1.9%
19						X 0.0%
18						X 0.0%
17						X 0.0%
16						X 0.0%
15						X 0.0%

UPPER LIMIT 10 MPH PACE: 34 MPH  
 LOWER LIMIT 10 MPH PACE: 25 MPH  
 PERCENT OVER PACE: 24.5 %  
 PERCENT IN PACE: 69.8 %  
 PERCENT UNDER PACE: 5.7 %

85th PERCENTILE SPEED: 36.5 MPH  
 MEDIAN SPEED: 30.1 MPH  
 15th PERCENTILE SPEED: 24.8 MPH

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# Radar Speed Survey Field Sheet

**HARTZOG AND CRABELL I**  
 Consulting Traffic Engineers  
 10232 Lake Blvd., Suite 102, Irvine, CA, 92618  
 (714) 33-5432

WEATHER: SUNNY DATE: 5-16-18  
 ROAD CONDITION: DRY START TIME: 9:00 AM  
 OBSERVER: CATHY BUENDIA END TIME: 10:00 AM VLM

AGENCY: CITY OF LAGUNA HILLS  
 STREET: BRIDLEWOOD  
 LOCATION: LAUREL CREST DR TO VISTA VIEJO

DIRECTION: NORTHBOUND

MPH	5	10	15	20	25	30	TOTAL	CUMULATIVE TOTAL	MPH
60									60
59									59
58									58
57									57
56									56
55									55
54									54
53									53
52									52
51									51
50									50
49									49
48									48
47									47
46									46
45									45
44									44
43									43
42									42
41									41
40									40
39									39
38									38
37									37
36									36
35									35
34									34
33									33
32									32
31									31
30									30
29									29
28									28
27									27
26									26
25									25
24									24
23									23
22									22
21									21
20									20
19									19
18									18
17									17
16									16
15									15

DIRECTION: SOUTHBOUND

MPH	5	10	15	20	25	30	TOTAL	CUMULATIVE TOTAL	MPH
60									60
59									59
58									58
57									57
56									56
55									55
54									54
53									53
52									52
51									51
50									50
49									49
48									48
47									47
46									46
45									45
44									44
43									43
42									42
41									41
40									40
39									39
38									38
37									37
36									36
35									35
34									34
33									33
32									32
31									31
30									30
29									29
28									28
27									27
26									26
25									25
24									24
23									23
22									22
21									21
20									20
19									19
18									18
17									17
16									16
15									15

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
 AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
 CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_

# RADAR SPEED DISTRIBUTION SHEET

**CITY OF LAGUNA HILLS**  
**HCi** BRIDLEWOOD DRIVE LAUREL CREST DR TO VISTA VIEJO  
 DATE: 5/16/2018 SURVEY BY: C. BUENDIA  
 TIME: 10:00 AM - 11:00 AM CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	100.0%
51					X	100.0%
50					X	98.4%
49					X	98.4%
48					X	98.4%
47					X	98.4%
46					X	98.4%
45					X	98.4%
44					X	98.4%
43					X	98.4%
42					X	98.4%
41					X	96.7%
40					X	95.1%
39					X	93.4%
38					X	91.8%
37					X	82.0%
36					X	78.7%
35					X	78.7%
34					X	75.4% }PACE
33					X	67.2% }PACE
32					X	63.9% }PACE
31					X	60.7% }PACE
30					X	57.4% }PACE
29					X	50.8% }PACE
28					X	45.9% }PACE ---MEAN
27					X	34.4% }PACE
26					X	18.0% }PACE
25					X	13.1% }PACE ---15PCT
24					X	8.2%
23					X	6.6%
22					X	4.9%
21					X	4.9%
20					X	3.3%
19					X	1.6%
18					X	0.0%
17					X	0.0%
16					X	0.0%
15					X	0.0%

UPPER LIMIT 10 MPH PACE:	34 MPH	85th PERCENTILE SPEED:	37.3 MPH
LOWER LIMIT 10 MPH PACE:	25 MPH	MEDIAN SPEED:	28.8 MPH
PERCENT OVER PACE:	24.6 %	15th PERCENTILE SPEED:	25.4 MPH
PERCENT IN PACE:	67.2 %		
PERCENT UNDER PACE:	8.2 %		

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)



# RADAR SPEED DISTRIBUTION SHEET

**CITY OF LAGUNA HILLS**  
**HCI** BRIDLEWOOD DRIVE LAUREL CREST DR TO VISTA VIEJO  
 DATE: 5/16/2018 SURVEY BY: C. BUENDIA  
 TIME: 9:00 AM - 11:00 AM CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	100.0%
51					X	100.0%
50					X	99.1%
49					X	99.1%
48					X	99.1%
47					X	99.1%
46					X	99.1%
45					X	99.1%
44					X	99.1%
43					X	99.1%
42					X	98.2%
41					X	97.4%
40					X	95.6%
39					X	93.9%
38					X	92.1%
37					X	84.2%
36					X	80.7%
35					X	78.1%
34					X	75.4% }PACE
33					X	67.5% }PACE
32					X	64.0% }PACE
31					X	58.8% }PACE
30					X	53.5% }PACE
29					X	46.5% }PACE ---MEAN
28					X	40.4% }PACE
27					X	31.6% }PACE
26					X	18.4% }PACE
25					X	14.9% }PACE ---15PCT
24					X	7.0%
23					X	5.3%
22					X	4.4%
21					X	3.5%
20					X	2.6%
19					X	0.9%
18					X	0.0%
17					X	0.0%
16					X	0.0%
15					X	0.0%

UPPER LIMIT 10 MPH PACE: 34 MPH  
 LOWER LIMIT 10 MPH PACE: 25 MPH  
 PERCENT OVER PACE: 24.6 %  
 PERCENT IN PACE: 68.4 %  
 PERCENT UNDER PACE: 7.0 %

85th PERCENTILE SPEED: 37.1 MPH  
 MEDIAN SPEED: 29.5 MPH  
 15th PERCENTILE SPEED: 25.0 MPH

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# RADAR SPEED DISTRIBUTION SHEET

**HCI** **CITY OF LAGUNA HILLS**  
DEVONSHIRE ROAD FALLING LEAF DR TO NOTTINGHAM CT  
 DATE: 5/17/2018 SURVEY BY: C. BUENDIA  
 TIME: 9:00 AM - 10:00 AM CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	100.0%
51					X	100.0%
50					X	100.0%
49					X	100.0%
48					X	100.0%
47					X	100.0%
46					X	100.0%
45					X	100.0%
44					X	100.0%
43					X	100.0%
42					X	100.0%
41					X	100.0%
40					X	100.0%
39					X	100.0%
38					X	100.0%
37					X	100.0%
36					X	96.9%
35					X	96.9%
34					X	96.9%
33					X	93.8% }PACE
32				X	X	78.1% }PACE ---85PCT
31				X	X	78.1% }PACE
30				X	X	75.0% }PACE
29				X	X	71.9% }PACE
28			X	X	X	62.5% }PACE
27			X	X	X	50.0% }PACE ---MEAN
26		X	X	X	X	46.9% }PACE
25		X	X	X	X	28.1% }PACE
24	X	X	X	X	X	21.9% }PACE
23	X	X	X	X	X	9.4% ---15PCT
22	X	X	X	X	X	9.4%
21	X	X	X	X	X	3.1%
20	X	X	X	X	X	3.1%
19	X	X	X	X	X	0.0%
18	X	X	X	X	X	0.0%
17	X	X	X	X	X	0.0%
16	X	X	X	X	X	0.0%
15	X	X	X	X	X	0.0%

UPPER LIMIT 10 MPH PACE:	34	MPH	85th PERCENTILE SPEED:	33.4	MPH
LOWER LIMIT 10 MPH PACE:	25	MPH	MEDIAN SPEED:	28.0	MPH
PERCENT OVER PACE:	6.3	%	15th PERCENTILE SPEED:	24.5	MPH
PERCENT IN PACE:	84.4	%			
PERCENT UNDER PACE:	9.4	%			

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# Radar Speed Survey Field Sheet

HARTZOG AND CARRILL II  
COUNTY ENGINEER  
11341 WOOD RD, SHELBY, OH 44881  
(419) 731-5482

AGENCY: CITY OF LAGUNA HILLS  
STREET: DEVONSHIRE ROAD  
LOCATION: FALLING LEAF DR. TO NOTTINGHAM CT  
WEATHER: WINDY DATE: 05-17-18  
ROAD CONDITION: DRY START TIME: 9:00 AM  
OBSERVER: CATHY BUENDIA END TIME: 10:00 AM

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire

DIRECTION	NUMBER OF VEHICLES				TOTAL
	5	10	15	20	
MPH 60					
59					
58					
57					
56					
55					
54					
53					
52					
51					
50					
49					
48					
47					
46					
45					
44					
43					
42					
41					
40					
39					
38					
37					
36					
35					
34					
33					
32					
31					
30					
29					
28					
27					
26					
25					
24					
23					
22					
21					
20					
19					
18					
17					
16					
15					

AVERAGE SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
CRITICAL SPEED: \_\_\_\_\_  
CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_

DIRECTION	NUMBER OF VEHICLES				TOTAL	CUMULATIVE TOTAL	MPH
	5	10	15	20			
MPH 60							60
59							59
58							58
57							57
56							56
55							55
54							54
53							53
52							52
51							51
50							50
49							49
48							48
47							47
46							46
45							45
44							44
43							43
42							42
41							41
40							40
39							39
38							38
37							37
36							36
35							35
34							34
33							33
32							32
31							31
30							30
29							29
28							28
27							27
26							26
25							25
24							24
23							23
22							22
21							21
20							20
19							19
18							18
17							17
16							16
15							15

AVERAGE SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
CRITICAL SPEED: \_\_\_\_\_  
CUMULATIVE TOTAL \_\_\_\_\_

# RADAR SPEED DISTRIBUTION SHEET

**CITY OF LAGUNA HILLS**  
**DEVONSHIRE ROAD**      **FALLING LEAF DR TO NOTTINGHAM CT**  
**HCI**      **DATE: 5/17/2018**      **SURVEY BY: C. BUENDIA**  
**TIME: 10:00 AM - 11:00 AM**      **CHECKED BY: JERRY STOCK**

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						X 100.0%
59						X 100.0%
58						X 100.0%
57						X 100.0%
56						X 100.0%
55						X 100.0%
54						X 100.0%
53						X 100.0%
52						X 100.0%
51						X 100.0%
50						X 100.0%
49						X 100.0%
48						X 100.0%
47						X 100.0%
46						X 100.0%
45						X 100.0%
44						X 100.0%
43						X 100.0%
42						X 100.0%
41						X 100.0%
40						X 100.0%
39						X 100.0%
38						X 100.0%
37						X 100.0%
36						X 95.7%
35						X 95.7%
34						X 95.7% }PACE
33						X 95.7% }PACE
32						X 87.0% }PACE
31						X 87.0% }PACE
30						X 78.3% }PACE -- 85PCT
29						X 60.9% }PACE
28						X 52.2% }PACE
27						X 39.1% }PACE ---MEAN
26						X 21.7% }PACE
25	X					X 4.3% }PACE ---15PCT
24	X					0.0%
23	X					0.0%
22	X					0.0%
21	X					0.0%
20	X					0.0%
19	X					0.0%
18	X					0.0%
17	X					0.0%
16	X					0.0%
15	X					0.0%

UPPER LIMIT 10 MPH PACE:	34	MPH	85th PERCENTILE SPEED:	30.8	MPH
LOWER LIMIT 10 MPH PACE:	25	MPH	MEDIAN SPEED:	27.8	MPH
PERCENT OVER PACE:	4.3	%	15th PERCENTILE SPEED:	25.6	MPH
PERCENT IN PACE:	95.7	%			
PERCENT UNDER PACE:	0.0	%			

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)



# RADAR SPEED DISTRIBUTION SHEET



## CITY OF LAGUNA HILLS

**DEVONSHIRE ROAD**

**FALLING LEAF DR TO NOTTINGHAM CT**

DATE: 5/17/2018

SURVEY BY:

C. BUENDIA

TIME: 9:00 AM - 11:00 AM

CHECKED BY:

JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	100.0%
51					X	100.0%
50					X	100.0%
49					X	100.0%
48					X	100.0%
47					X	100.0%
46					X	100.0%
45					X	100.0%
44					X	100.0%
43					X	100.0%
42					X	100.0%
41					X	100.0%
40					X	100.0%
39					X	100.0%
38					X	100.0%
37					X	100.0%
36					X	96.4%
35					X	96.4%
34					X	94.5% }PACE
33					X	85.5% }PACE
32					X	81.8% }PACE ---85PCT
31					X	80.0% }PACE
30					X	74.5% }PACE
29					X	61.8% }PACE
28					X	50.9% }PACE
27					X	43.6% }PACE ---MEAN
26					X	25.5% }PACE
25					X	14.5% }PACE ---15PCT
24	X					5.5%
23	X					5.5%
22	X					1.8%
21	X					1.8%
20	X					0.0%
19	X					0.0%
18	X					0.0%
17	X					0.0%
16	X					0.0%
15	X					0.0%

UPPER LIMIT 10 MPH PACE: 34 MPH  
 LOWER LIMIT 10 MPH PACE: 25 MPH  
 PERCENT OVER PACE: 5.5 %  
 PERCENT IN PACE: 89.1 %  
 PERCENT UNDER PACE: 5.5 %

85th PERCENTILE SPEED: 32.9 MPH  
 MEDIAN SPEED: 27.9 MPH  
 15th PERCENTILE SPEED: 25.0 MPH

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# ADT Volume Data

Prepared by NDS/ATD

**VOLUME**

Bridlewood Dr Bet. Vista Viejo Rd & Laurel Crest Dr

Day: Wednesday  
Date: 5/2/2018

City: Laguna Hills  
Project #: CA18\_1093\_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						454	268	0	0	722	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	5	10			15
00:15	1	1			2	12:15	6	9			15
00:30	0	0			0	12:30	7	3			10
00:45	0	1	0	1	0	12:45	7	25	4	26	11
01:00	0	0			0	13:00	5	2			7
01:15	0	0			0	13:15	6	4			10
01:30	0	0			0	13:30	8	4			12
01:45	0	0			0	13:45	2	21	9	19	11
02:00	0	0			0	14:00	8	7			15
02:15	0	0			0	14:15	7	4			11
02:30	0	0			0	14:30	7	5			12
02:45	0	0			0	14:45	9	31	5	21	14
03:00	0	0			0	15:00	5	7			12
03:15	0	0			0	15:15	9	5			14
03:30	0	0			0	15:30	3	6			9
03:45	0	0			0	15:45	8	25	4	22	12
04:00	1	1			2	16:00	12	5			17
04:15	0	0			0	16:15	10	7			17
04:30	1	0			1	16:30	6	3			9
04:45	1	3	0	1	1	16:45	11	39	3	18	14
05:00	1	1			2	17:00	4	2			6
05:15	0	0			0	17:15	4	3			7
05:30	2	0			2	17:30	15	10			25
05:45	1	4	0	1	1	17:45	9	32	5	20	14
06:00	2	1			3	18:00	4	2			6
06:15	1	1			2	18:15	10	8			18
06:30	5	0			5	18:30	10	4			14
06:45	2	10	1	3	3	18:45	7	31	6	20	13
07:00	9	3			12	19:00	12	7			19
07:15	8	5			13	19:15	3	1			4
07:30	7	4			11	19:30	4	4			8
07:45	15	39	4	16	19	19:45	4	23	3	15	7
08:00	11	7			18	20:00	4	1			5
08:15	11	4			15	20:15	4	1			5
08:30	16	5			21	20:30	4	3			7
08:45	7	45	2	18	9	20:45	3	15	1	6	4
09:00	9	6			15	21:00	4	1			5
09:15	11	1			12	21:15	3	2			5
09:30	8	4			12	21:30	2	4			6
09:45	4	32	4	15	8	21:45	1	10	0	7	1
10:00	4	2			6	22:00	0	4			4
10:15	6	4			10	22:15	0	2			2
10:30	11	4			15	22:30	2	0			2
10:45	8	29	5	15	13	22:45	1	3	0	6	1
11:00	6	8			14	23:00	1	1			2
11:15	7	4			11	23:15	0	0			0
11:30	13	2			15	23:30	0	0			0
11:45	8	34	3	17	11	23:45	1	2	0	1	1
<b>TOTALS</b>	<b>197</b>	<b>87</b>			<b>284</b>	<b>TOTALS</b>	<b>257</b>	<b>181</b>			<b>438</b>
<b>SPLIT %</b>	<b>69.4%</b>	<b>30.6%</b>			<b>39.3%</b>	<b>SPLIT %</b>	<b>58.7%</b>	<b>41.3%</b>			<b>60.7</b>

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

DAILY TOTALS						NB	SB	EB	WB	Total	
						454	268	0	0	722	
AM Peak Hour	07:45	11:45			07:45	PM Peak Hour	16:00	12:00		18:1	
AM Pk Volume	53	25			73	PM Pk Volume	39	26		64	
Pk Hr Factor	0.828	0.625			0.869	Pk Hr Factor	0.813	0.650		0.84	
7 - 9 Volume	84	34	0	0	118	4 - 6 Volume	71	38	0	0	109
7 - 9 Peak Hour	07:45	07:15			07:45	4 - 6 Peak Hour	16:00	17:00			16:0
7 - 9 Pk Volume	53	20	0	0	73	4 - 6 Pk Volume	39	20	0	0	57
Pk Hr Factor	0.828	0.714	0.000	0.000	0.869	Pk Hr Factor	0.813	0.500	0.000	0.000	0.83

Prepared by NDS/ATD

**VOLUME**

Devonshire Rd Bet. Falling Leaf Dr & Nottingham Ct

Day: Wednesday  
Date: 5/2/2018

City: Laguna Hills  
Project #: CA18\_1093\_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					174	416	0	0	590		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	2	9			11
00:15	0	0			0	12:15	2	7			9
00:30	0	0			0	12:30	3	6			9
00:45	0	0			0	12:45	4	11	8	30	12
01:00	0	0			0	13:00	2	5			7
01:15	0	0			0	13:15	5	7			12
01:30	0	0			0	13:30	3	5			8
01:45	0	0			0	13:45	5	15	3	20	8
02:00	0	0			0	14:00	6	7			13
02:15	0	0			0	14:15	4	7			11
02:30	0	0			0	14:30	5	5			10
02:45	0	0			0	14:45	2	17	6	25	8
03:00	1	0			1	15:00	3	10			13
03:15	0	0			0	15:15	6	9			15
03:30	0	0			0	15:30	7	10			17
03:45	0	1	0		0	15:45	1	17	7	36	8
04:00	0	0			0	16:00	0	6			6
04:15	0	0			0	16:15	8	4			12
04:30	0	0			0	16:30	4	9			13
04:45	0	1	1		1	16:45	7	19	12	31	19
05:00	0	0			0	17:00	3	11			14
05:15	1	1			2	17:15	6	14			20
05:30	0	0			0	17:30	3	12			15
05:45	0	1	1	2	1	17:45	2	14	14	51	16
06:00	1	1			2	18:00	2	14			16
06:15	0	0			0	18:15	4	19			23
06:30	0	5			5	18:30	2	7			9
06:45	0	1	2	8	2	18:45	3	11	8	48	11
07:00	1	2			3	19:00	3	8			11
07:15	0	3			3	19:15	2	4			6
07:30	5	1			6	19:30	4	4			8
07:45	2	8	5	11	7	19:45	1	10	3	19	4
08:00	2	6			8	20:00	1	6			7
08:15	2	7			9	20:15	2	3			5
08:30	6	4			10	20:30	1	1			2
08:45	2	12	5	22	7	20:45	1	5	3	13	4
09:00	3	10			13	21:00	0	2			2
09:15	0	7			7	21:15	3	5			8
09:30	4	4			8	21:30	1	4			5
09:45	3	10	6	27	9	21:45	1	5	1	12	2
10:00	1	9			10	22:00	0	6			6
10:15	0	3			3	22:15	1	3			4
10:30	2	5			7	22:30	0	0			0
10:45	2	5	6	23	8	22:45	2	3	0	9	2
11:00	2	7			9	23:00	1	1			2
11:15	1	5			6	23:15	0	3			3
11:30	3	5			8	23:30	0	0			0
11:45	2	8	5	22	7	23:45	0	1	2	6	2
<b>TOTALS</b>	<b>46</b>	<b>116</b>			<b>162</b>	<b>TOTALS</b>	<b>128</b>	<b>300</b>			<b>428</b>
<b>SPLIT %</b>	<b>28.4%</b>	<b>71.6%</b>			<b>27.5%</b>	<b>SPLIT %</b>	<b>29.9%</b>	<b>70.1%</b>			<b>72.5</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					174	416	0	0	590
AM Peak Hour	08:15	09:00			08:15	PM Peak Hour	16:15	17:30	17:30
AM Pk Volume	13	27			39	PM Pk Volume	22	59	70
Pk Hr Factor	0.542	0.675			0.750	Pk Hr Factor	0.688	0.776	0.76
7 - 9 Volume	20	33	0	0	53	4 - 6 Volume	33	82	115
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	16:15	17:00	16:4
7 - 9 Pk Volume	12	22	0	0	34	4 - 6 Pk Volume	22	51	68
Pk Hr Factor	0.500	0.786	0.000	0.000	0.850	Pk Hr Factor	0.688	0.911	0.85

Attachment: Traffic Evaluation (1635 : Review of Traffic Conditions on Bridlewood Drive and Devonshire Road)

# Collision History

CITY OF LAGUNA HILLS

SWITRS COLLISION DATABASE

BRIDLEWOOD DRIVE, FROM VISTA VIEJO ROAD TO LAUREL CREST DRIVE

JAN. 1, 2013 - FEB. 28, 2018

CASE ID	COLL. DATE	COLL. TIME	PRIMARY ROAD	SECONDARY ROAD	DIST.	DIR.	INTERS.	WEATH.	COLL. SEVERITY	PRIM. COLL. FACT.	PCF VIOL. CAT.	PCF VIOL.	HIT AND RUN	TYPE OF COLL.	MOTOR VEHICLE INVOLVED WITH	ROA SURI
8361526	20170326	10	BRIDLEWOOD DR	VISTA VIEJO RD	488	N	N	A	0	A	1	23152	N	C	E	A
6174038	20130806	1741	VISTA VIEJO	BRIDLEWOOD LN	0	Y	A	A	4	A	9	21801	N	A	C	A

NOTES:

Weather 1	Collision Severity	Primary Collision Factor	PCF Violation Category	Hit and Run	Type of Collision
A - Clear	1 - Fatal	A - (Vehicle) Code Violation	01 - Driving or Bicycling Under Influence	F - Felony	A - Head-On
B - Cloudy	2 - Injury (Severe)	B - Other Improper Driving	02 - Impeding Traffic	M - Misdemeanor	B - Sideswipe
C - Raining	3 - Injury (Other Visible)	C - Other Than Driver	03 - Unsafe Speed	N - Not Hit & Run	C - Rear-End
D - Snowing	4 - Injury (Complaint of Pain)	D - Unknown	04 - Following Too Closely		D - Broadside
E - Fog	0 - PDO (Property Damage Only)	E - Fell Asleep	05 - Wrong Side of Road		E - Hit Object
F - Other		-- Not Stated	06 - Improper Passing		F - Overturned
G - Wind			07 - Unsafe Lane Change		G - Vehicle/Pedestrian
-- Not Stated			08 - Improper Turning		H - Other
			09 - Automobile ROW		-- Not Stated
			10 - Pedestrian ROW		
			11 - Pedestrian Violation		
			12 - Traffic Signals and Signs		
			13 - Hazardous Parking		
			14 - Lights		
			15 - Brakes		
			16 - Other Equipment		
			17 - Other Hazardous Violation		
			18 - Other Than Driver (or Ped)		
			19 -		
			20 -		
			21 - Unsafe Starting or Backing		
			22 - Other Improper Driving		
			23 - Pedestrian or "Other" Under the Influence		
			24 - Fell Asleep		
			00 - Unknown		
			-- Not Stated		

Motor Vehicle Involved With:

- A - Non-Collision
- B - Pedestrian
- C - Other Motor Vehicle
- D - Motor Vehicle on Other Roadway
- E - Parked Motor Vehicle
- F - Train
- G - Bicycle
- H - Animal
- I - Fixed Object
- J - Other Object
- Not Stated

Road Surface

- A - Dry
- B - Wet
- C - Snowy or Icy
- D - Slippery
- Not Stated

CITY OF LAGUNA HILLS

SWITRS COLLISION DATABASE

DEVONSHIRE ROAD, FROM FALLING LEAF DRIVE TO NOTTINGHAM COURT

JAN. 1, 2013 - FEB. 28, 2018

CASE ID	COLL. DATE	COLL. TIME	PRIMARY ROAD	SECONDARY ROAD	DIST.	DIR.	INTERS.	WEATH.	COLL. SEVERITY	PRIM. COLL. FACT.	PCF VIOL. CAT.	PCF VIOL.	HIT AND RUN	TYPE OF COLL.	MOTOR VEHICLE INVOLVED WITH	ROA SURT
8326285	20170220	2256	DEVONSHIRE RD	NORTH ELM BANK DR	175	N	A	1	4	A	8	22107	N	C	E	A

NOTES:

Weather 1	Collision Severity	Primary Collision Factor	PCF Violation Category	Hit and Run	Type of Collision
A - Clear	1 - Fatal	A - (Vehicle) Code Violation	01 - Driving or Bicycling Under Influence	F - Felony	A - Head-On
B - Cloudy	2 - Injury (Severe)	B - Other Improper Driving	02 - Impeding Traffic	M - Misdemeanor	B - Sideswipe
C - Raining	3 - Injury (Other Visible)	C - Other Than Driver	03 - Unsafe Speed	N - Not Hit & Run	C - Rear-End
D - Snowing	4 - Injury (Complaint of Pain)	D - Unknown	04 - Following Too Closely		D - Broadside
E - Fog	0 - PDO (Property Damage Only)	E - Fell Asleep	05 - Wrong Side of Road		E - Hit Object
F - Other		-- Not Stated	06 - Improper Passing		F - Overturned
G - Wind			07 - Unsafe Lane Change		G - Vehicle/Pedestrian
-- Not Stated			08 - Improper Turning		H - Other
			09 - Automobile ROW		-- Not Stated
			10 - Pedestrian ROW		
			11 - Pedestrian Violation		
			12 - Traffic Signals and Signs		
			13 - Hazardous Parking		
			14 - Lights		
			15 - Brakes		
			16 - Other Equipment		
			17 - Other Hazardous Violation		
			18 - Other Than Driver (or Ped)		
			19 -		
			20 -		
			21 - Unsafe Starting or Backing		
			22 - Other Improper Driving		
			23 - Pedestrian or "Other" Under the Influence		
			24 - Fell Asleep		
			00 - Unknown		
			-- Not Stated		

Motor Vehicle Involved With:	Road Surface
A - Non-Collision	A - Dry
B - Pedestrian	B - Wet
C - Other Motor Vehicle	C - Snowy or Icy
D - Motor Vehicle on Other Roadway	D - Slippery
E - Parked Motor Vehicle	-- Not Stated
F - Train	
G - Bicycle	
H - Animal	
I - Fixed Object	
J - Other Object	
-- Not Stated	



# City of Laguna Hills

## Traffic Commission

### Staff Report

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**DATE:** November 20, 2019

**TO:** TRAFFIC COMMISSIONERS

**FROM:** Amber M. Shah, P.E.  
Associate Civil Engineer

**ISSUE:** REPEAT SPEED SURVEY ON BRIDLEWOOD DRIVE

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**RECOMMENDATION:** TRAFFIC COMMISSION RECEIVE AND FILE

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#### **SUMMARY:**

Staff was previously contacted by a resident of Moulton Ranch in April 2018 regarding concerns of vehicular speeding and collisions on Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive. Please see the attached Vicinity Map. Based upon the resident's concerns and in accordance with the Residential Streets Management Policy, staff subsequently initiated a traffic engineering evaluation of Bridlewood Drive between Vista Viejo Road and Laurel Crest Drive. The report presented at the July 18, 2018 meeting of the Traffic Commission concluded the 85<sup>th</sup> percentile speed measurement of Bridlewood Drive was higher than expected and considered to be unacceptable. Additional traffic speed enforcement and use of the radar trailer were utilized to address this issue. The Traffic Commission requested staff repeat the speed survey of Bridlewood Drive in six months' time.

In accordance with the Traffic Commission's request, a follow-up speed survey was performed in December 2018. Although the prevailing speed of traffic was lower than previous measurements, it was still higher than expected for a residential street. Therefore, staff recommended and subsequently installed additional signs and pavement legends on Bridlewood Drive. Continued concentrated police enforcement was also recommended in addition to a follow-up speed survey in six months' time.

In accordance with the recommendation at the January 16, 2019, meeting of the Traffic Commission, a new speed survey was performed in October 2019. This speed survey determined the prevailing speed of traffic was in the acceptable range in the morning but remained higher than expected in the afternoon time period. The City has already taken incremental steps to address this speeding issue and implemented all non-physical traffic control devices appropriate for this location. Based upon a collision history of two collisions

reported in the past 5 years with none categorized as unsafe speed, staff recommends continued concentrated police enforcement and posting of the radar trailer in this area.

**BACKGROUND:**

Staff was contacted by a resident of Moulton Ranch in April 2018 regarding concerns of vehicular speeding and traffic collisions on Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive, and on Devonshire Road, between Falling Leaf Drive and Nottingham Court. Please see the attached Vicinity Map. Based upon the resident's concern and in accordance with the Residential Streets Management Policy, staff subsequently initiated a review of the vehicular speeds, traffic volume and traffic collision history on Bridlewood Drive and separately on Devonshire Road. The report presented at the July 18, 2018 meeting of the Traffic Commission concluded the 85<sup>th</sup> percentile speed measurement of Bridlewood Drive was higher than expected and considered to be unacceptable for a residential character street. Additional traffic speed enforcement and use of the radar trailer were utilized to address this issue. The report concluded the 85<sup>th</sup> percentile speed on Devonshire Road was within expectations and no further action on that street was needed. The Traffic Commission requested staff repeat the speed survey of Bridlewood Drive in six months' time.

In accordance with the Traffic Commission's request, the Traffic Engineers of Hartzog & Crabill, Inc., (HCI) completed a speed survey of Bridlewood Drive from Vista Viejo Road to Laurel Crest Drive in December 2018. The report presented at the January 16, 2019, meeting of the Traffic Commission concluded the 85<sup>th</sup> percentile speed on Bridlewood Drive reduced from 37.1 mph, as recorded in the first speed survey in May 2018, to 36.1 mph in December 2018. Based upon the results of the December 2018 speed survey indicating vehicular speed continued to be an issue, staff field reviewed the existing number and locations of speed limit signage and pavement markings. Staff recommended and subsequently had painted two "25" mph pavement legends adjacent to the posted speed limits signs along southbound Bridlewood Drive and "Stop Ahead" pavement markings in advance of the stop sign at Vista Viejo Road. Continued concentrated police enforcement was also recommended in addition to a follow-up speed survey in six months' time.

In accordance with the recommendation at the January 16, 2019, meeting of the Traffic Commission, the Traffic Engineers of Hartzog & Crabill, Inc., (HCI) completed the attached November 7, 2019, speed survey of Bridlewood Drive from Vista Viejo Road to Laurel Crest Drive. This speed survey determined the 85<sup>th</sup> percentile speed on Bridlewood Drive in the morning was within the typical range of 34 – 36 mph but remained higher than expected at 37.3 mph in the afternoon. The results of this speed survey indicate vehicular speed remains an issue on Bridlewood Drive. The City has taken the incremental steps necessary to address this speeding issue and implemented all non-physical traffic control devices appropriate for this location. Based upon a collision history of two collisions reported in the past 5 years with none categorized as unsafe speed, staff recommends continued concentrated police enforcement of driver behavior is the best and appropriate remedy for Bridlewood Drive. Staff will continue to work with the Sheriff's Department on

enforcement activity in this area and will continue to post the radar trailer in this area to increase driver education as to the appropriate speed on Bridlewood Drive.

**ATTACHMENT:**

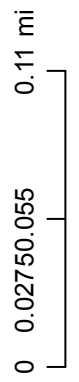
- Vicinity Map
- Hartzog & Crabill, Inc. November 7, 2019, Traffic Data Evaluation – Letter of Opinion – Speeding Data Follow-Up along Bridlewood Drive



Sources: Esri, HERE, Garmin, USGS, Imagery, AeroMap, InCREMENT P, NRCA, Esri Japan, METI, Esri Korea, Esri  
 (The Land), NCCCO, OpenStreetMap contributors, and the GIS User Community



VICINITY MAP - BRIDLEWOOD DRIVE





Trammell Hartzog, President  
Gerald J. Stock, PE, TE,  
Executive Vice President

17852 E. 17<sup>th</sup> Street  
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Tustin, CA 92780

Phone: (714) 731-9455  
FAX: (714) 731-9498

[www.hartzog-crabill.com](http://www.hartzog-crabill.com)

November 7, 2019

Mr. Kenneth H. Rosenfield, PE  
Assistant City Manager/Public Services Director  
**City of Laguna Hills**  
24035 El Toro Road  
Laguna Hills, CA 92653

**Subject: Traffic Data Evaluation - Letter of Opinion -  
Speeding Data Follow-Up along Bridlewood Drive**

Dear Mr. Rosenfield,

Pursuant to your request, Hartzog & Crabill, Inc. (HCI) has prepared this traffic engineering evaluation as a follow-up to our June 1, 2018 and January 9, 2019 evaluations regarding residential concerns of speeding along the street segment of Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive.

The following data was gathered/performed as part of this evaluation:

- 1) Two (2) radar speed surveys on Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive.

## **BACKGROUND**

Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive, is a 40-foot wide, 2-lane, north-south residential collector roadway. At the project limits, there is a 1-way stop at Vista Viejo Road and a 3-way stop at Laurel Crest Drive. There is no centerline striping along the entire segment, with exception of a short length of double-yellow centerline at the project limits.

There are posted 25 MPH speed limit signs along Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive. There are also '25' pavement markings adjacent to the sign postings. On-street parking is allowed along both sides of Bridlewood Drive.

## TRAVEL SPEED DATA

To determine current travel speeds on Bridlewood Drive, two spot speed radar surveys were conducted along this residential collector roadway on Thursday, October 24, 2019 (see attached). The tables below summarize the recent radar speed data collected.

### SPEED SURVEY SUMMARY BRIDLEWOOD DRIVE, FROM VISTA VIEJO ROAD TO LAUREL CREST DRIVE

<b><u>9:00-10:00AM</u></b> <b>Radar Speed Data Summary</b>	<b>Between Vista Viejo Road and Laurel Crest Drive</b>
85 <sup>th</sup> Percentile Speed	36.3 MPH
Median Speed	29.6 MPH
15 <sup>th</sup> Percentile Speed	24.0 MPH
10 MPH Pace Speed	23 - 32 MPH
Percent in Pace Speed	63.8%

<b><u>4:00-5:00PM</u></b> <b>Radar Speed Data Summary</b>	<b>Between Vista Viejo Road and Laurel Crest Drive</b>
85 <sup>th</sup> Percentile Speed	37.3 MPH
Median Speed	30.8 MPH
15 <sup>th</sup> Percentile Speed	25.7 MPH
10 MPH Pace Speed	29 - 38 MPH
Percent in Pace Speed	63.9%

Source: Hartzog & Crabill, Inc., 2019.

As shown in the two tables above, the highest 85<sup>th</sup>-percentile speed on Bridlewood Drive was recorded in the afternoon at 37.3 MPH. This data shows that higher than typical travel speeds are occurring above the posted 25 MPH speed limit.

The critical speeds also appear to be consistently high when compared to the highest critical speeds recorded back in June 2018 and January 2019, which were 37.1 MPH and 36.1 MPH, respectively.

## COLLISION DATA

HCI obtained the most recent, citywide collision data that was reported during the past five (5+) years from the Statewide Integrated Traffic Records System website (*i*-SWITRS) database.

HCI prepared an updated 5-year collision history report to determine the number of collisions occurring on this particular segment of Bridlewood Drive. The table below presents the summary collision data.

### TRAFFIC COLLISION DATA SUMMARY BRIDLEWOOD DRIVE, FROM VISTA VIEJO ROAD TO LAUREL CREST DRIVE

<b>Year</b>	<b>Number of Collisions</b>	<b>Fatal</b>	<b>Injury</b>	<b>Property Damage Only</b>
2014	0	0	0	0
2015	0	0	0	0
2016	0	0	0	0
2017	1	0	0	1
2018	0	0	0	0
2019 *	1	0	0	1
<b>TOTAL</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>

\* Available SWITRS data was up to June 30, 2019 at the time of report preparation.

As shown above, there were a total of two (2) collisions reported along this segment within the prior (5-1/2) years. These collisions were recorded as Rear End and Hit Object types. The two collisions were also categorized with primary collision factors that include Driving Under the Influence and Unsafe Starting or Backing. None (0) were categorized as Unsafe Speed; therefore, there are no other recommendations in regards to collisions at this time.

## RECOMMENDATIONS

As speeding above the 25 MPH speed limit was verified on Bridlewood Drive, it is recommended to continue the incremental approach in order to address and lower the overall travel speeds. These incremental steps include:

- increased law enforcement of this segment.
- frequent deployment of portable radar speed-feedback trailers.
- neighborhood watch committee meeting to help make all residents aware of speeding.
- additional speed limit signage and pavement markings.

Mr. Kenneth H. Rosenfield, PE


November 7, 2019

Page 4 of 4

It has been our pleasure to prepare this follow-up letter of opinion regarding speeding concerns along Bridlewood Drive. If you may have any questions or need additional information, please feel free to call us anytime at (714) 731-9455.

Sincerely,

**HARTZOG & CRABILL, INC.**



Gerald J. Stock, PE, TE  
Executive Vice President

Attachment:            Radar Speed Data

# **Speed Data**

**SUMMARY OF SPOT SPEED SURVEYS  
OCTOBER 2019**

STREET LOCATION	EXISTING SPEED LIMIT	RECOMMENDED SPEED LIMIT	85 <sup>TH</sup> PERCENTILE SPEED	AVERAGE SPEED	10 MPH PACE RANGE	PERCENT OF VEHICLES IN PACE	DAY / DATE / TIME PERIOD
<b><u>BRIDLEWOOD DRIVE</u></b>							
LAUREL CREST TO VISTA VIEJO							
9:00 AM - 10:00 AM	25	-	36.3	29.6	23-32	63.8	THURS / 10-24-2019 / AM
10:00 AM - 11:00 AM	25	-	34.9	30.2	26-35	74.5	THURS / 10-24-2019 / AM
3:00 PM - 4:00 PM	25	-	36.2	29.9	26-35	67.9	THURS / 10-24-2019 / PM
4:00 PM - 5:00 PM	25	-	37.3	30.8	29-38	63.9	THURS / 10-24-2019 / PM
<b><u>SANTA VITTORIA DRIVE</u></b>							
CAMINITO JALISCO TO CAMINTO COSTA							
9:00 AM - 10:00 AM	25	-	34.9	31.2	27-36	78.4	TUES / 10-29-2019 / AM
10:00 AM - 11:00 AM	25	-	34.9	30.5	27-36	82.9	TUES / 10-29-2019 / AM
3:00 PM - 4:00 PM	25	-	38.1	32.9	28-37	69.3	TUES / 10-29-2019 / PM
4:00 PM - 5:00 PM	25	-	38.0	33.7	30-39	77.0	TUES / 10-29-2019 / PM

HARTZOG AND CRABILL INC.  
Consulting Traffic Engineers  
1195 Ivan Blvd., Suite 127, Irvine CA 92618  
(949) 451-9100

# Radar Speed Survey Field Sheet

AGENCY: CITY OF LAGUNA HILLS  
STREET: BRIDLEWOOD  
LOCATION: VISTA VIEO TO LAUREL CREST

WEATHER: SUNNY  
ROAD CONDITION: DRY  
OBSERVER: CATHY BUENDIA

DATE: 10/24/19  
START TIME: 9:00 AM  
END TIME: 10:00 AM

MPH	DIRECTION: <u>SOUTHBOUND</u>					TOTAL
	5	10	15	20	25	
60						
59						
58						
57						
56						
55						
54						
53						
52						
51						
50						
49						
48						
47						
46						
45						
44						
43						
42						
41						
40						
39						
38						
37						
36						
35						
34						
33						
32						
31						
30						
29						
28						
27						
26						
25						
24						
23						
22						
21						
20						
19						
18						
17						
16						
15						

MPH	DIRECTION: <u>NORTHBOUND</u>					TOTAL	CUMULATIVE TOTAL	MPH
	5	10	15	20	25			
60								60
59								59
58								58
57								57
56								56
55								55
54								54
53								53
52								52
51								51
50								50
49								49
48								48
47								47
46								46
45								45
44								44
43								43
42								42
41								41
40								40
39								39
38								38
37								37
36								36
35								35
34								34
33								33
32								32
31								31
30								30
29								29
28								28
27								27
26								26
25								25
24								24
23								23
22								22
21								21
20								20
19								19
18								18
17								17
16								16
15								15

AVERAGE SPEED: \_\_\_\_\_  
CRITICAL SPEED: \_\_\_\_\_  
PACE SPEED: \_\_\_\_\_  
CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_

AVERAGE SPEED: \_\_\_\_\_  
CRITICAL SPEED: \_\_\_\_\_  
PACE SPEED: \_\_\_\_\_

AM-1

# RADAR SPEED DISTRIBUTION SHEET



## CITY OF LAGUNA HILLS

**BRIDLEWOOD DRIVE**

**LAUREL CREST DR TO VISTA VIEJO**

DATE: 10/24/2019

SURVEY BY:

C. BUENDIA

TIME: 9:00 AM - 10:00 AM

CHECKED BY:

JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	100.0%
51					X	100.0%
50					X	100.0%
49					X	100.0%
48					X	100.0%
47					X	100.0%
46					X	100.0%
45					X	100.0%
44					X	100.0%
43					X	100.0%
42					X	100.0%
41					X	95.7%
40					X	93.6%
39					X	91.5%
38					X	91.5%
37					X	89.4%
36				X	X	83.0% ---85PCT
35				X	X	78.7%
34				X	X	74.5%
33				X	X	72.3%
32			X	X	X	66.0% }PACE
31			X	X	X	61.7% }PACE
30			X	X	X	53.2% }PACE
29			X	X	X	44.7% }PACE ---MEAN
28			X	X	X	38.3% }PACE
27			X	X	X	34.0% }PACE
26		X	X	X	X	25.5% }PACE
25		X	X	X	X	21.3% }PACE
24		X	X	X	X	14.9% }PACE ---15PCT
23	X	X	X	X	X	12.8% }PACE
22	X	X	X	X	X	2.1%
21	X	X	X	X	X	0.0%
20	X	X	X	X	X	0.0%
19	X	X	X	X	X	0.0%
18	X	X	X	X	X	0.0%
17	X	X	X	X	X	0.0%
16	X	X	X	X	X	0.0%
15	X	X	X	X	X	0.0%

UPPER LIMIT 10 MPH PACE:	32 MPH	85th PERCENTILE SPEED:	36.3 MPH
LOWER LIMIT 10 MPH PACE:	23 MPH	MEDIAN SPEED:	29.6 MPH
PERCENT OVER PACE:	34.0 %	15th PERCENTILE SPEED:	24.0 MPH
PERCENT IN PACE:	63.8 %		
PERCENT UNDER PACE:	2.1 %		

HARTZOG AND CRABILL INC.  
Consulting Traffic Engineers  
11951 Ivan Blvd., Suite 102 Irvine, CA 92618  
(949) 451-9400

# Radar Speed Survey Field Sheet

AGENCY: CITY OF LAGUNA HILLS DATE: 10/24/19  
 STREET: BRIDLEWOOD ROAD CONDITION: DRY START TIME: 10:00 AM  
 LOCATION: VISTA VIEO TO LAUREL CREST OBSERVER: CATHY BUENDIA END TIME: 11:00 AM VM

DIRECTION:	NUMBER OF VEHICLES				TOTAL
	5	10	15	20	
MPH					
60					
59					
58					
57					
56					
55					
54					
53					
52					
51					
50					
49					
48					
47					
46					
45					
44					
43					
42					
41					
40					
39					
38					
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36					
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22					
21					
20					
19					
18					
17					
16					
15					

DIRECTION:	NUMBER OF VEHICLES				TOTAL	MPH	CUMULATIVE TOTAL
	5	10	15	20			
MPH							
60							
59							
58							
57							
56							
55							
54							
53							
52							
51							
50							
49							
48							
47							
46							
45							
44							
43							
42							
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36							
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21							
20							
19							
18							
17							
16							
15							

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
 CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_

AVERAGE SPEED: \_\_\_\_\_ CRITICAL SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_

AM-2

# RADAR SPEED DISTRIBUTION SHEET



## CITY OF LAGUNA HILLS

BRIDLEWOOD DRIVE

LAUREL CREST DR TO VISTA VIEJO

DATE: 10/24/2019

SURVEY BY:

C. BUENDIA

TIME: 10:00 AM - 11:00 AM

CHECKED BY:

JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	100.0%
51					X	100.0%
50					X	100.0%
49					X	100.0%
48					X	100.0%
47					X	100.0%
46					X	100.0%
45					X	98.2%
44					X	98.2%
43					X	98.2%
42					X	98.2%
41					X	96.4%
40					X	94.5%
39					X	94.5%
38					X	92.7%
37					X	90.9%
36					X	85.5%
35					X	85.5% } PACE
34					X	80.0% } PACE ---85PCT
33					X	76.4% } PACE
32					X	67.3% } PACE
31					X	63.6% } PACE
30					X	47.3% } PACE ----MEAN
29					X	34.5% } PACE
28					X	30.9% } PACE
27					X	23.6% } PACE
26					X	18.2% } PACE
25					X	10.9% ---15PCT
24					X	9.1%
23					X	5.5%
22					X	3.6%
21					X	3.6%
20					X	3.6%
19					X	1.8%
18					X	1.8%
17					X	1.8%
16					X	0.0%
15					X	0.0%

UPPER LIMIT 10 MPH PACE: 35 MPH  
 LOWER LIMIT 10 MPH PACE: 26 MPH  
 PERCENT OVER PACE: 14.5 %  
 PERCENT IN PACE: 74.5 %  
 PERCENT UNDER PACE: 10.9 %

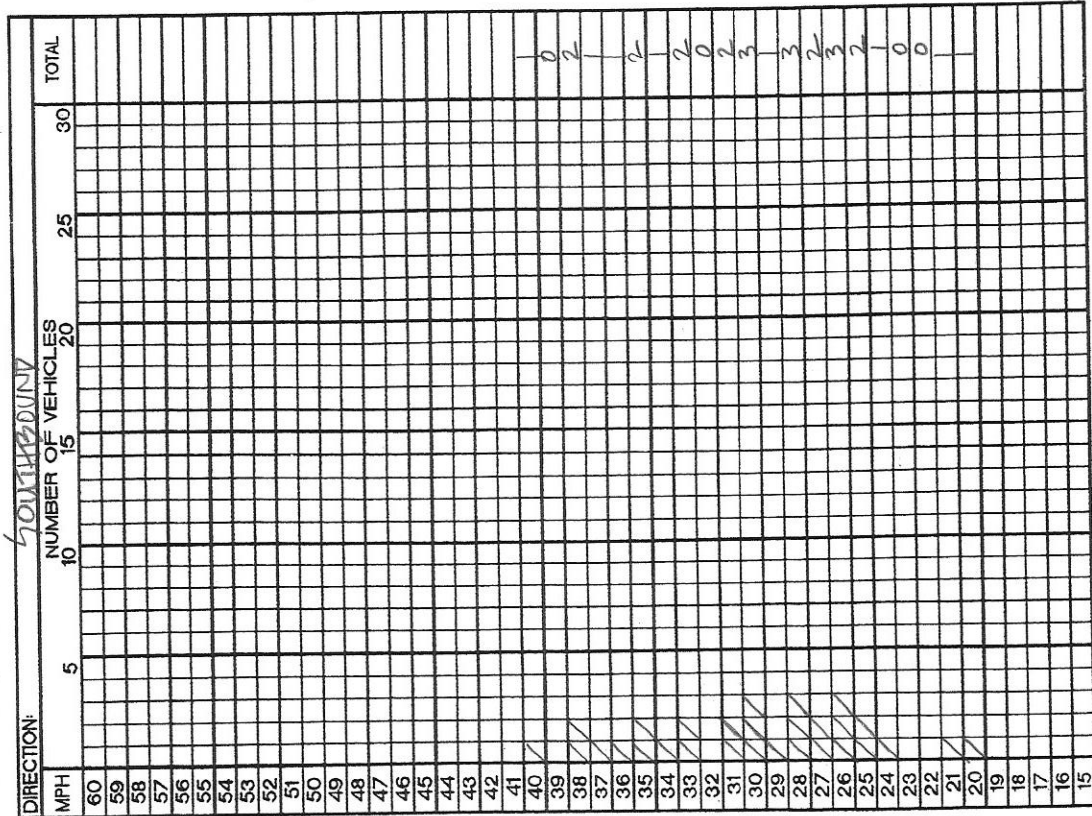
85th PERCENTILE SPEED: 34.9 MPH  
 MEDIAN SPEED: 30.2 MPH  
 15th PERCENTILE SPEED: 25.6 MPH

**HARTZOG AND CRABILL INC.**  
 Consulting Traffic Engineers  
 11991 Lake Blvd., Suite 1A, 92659  
 (714) 941-2422

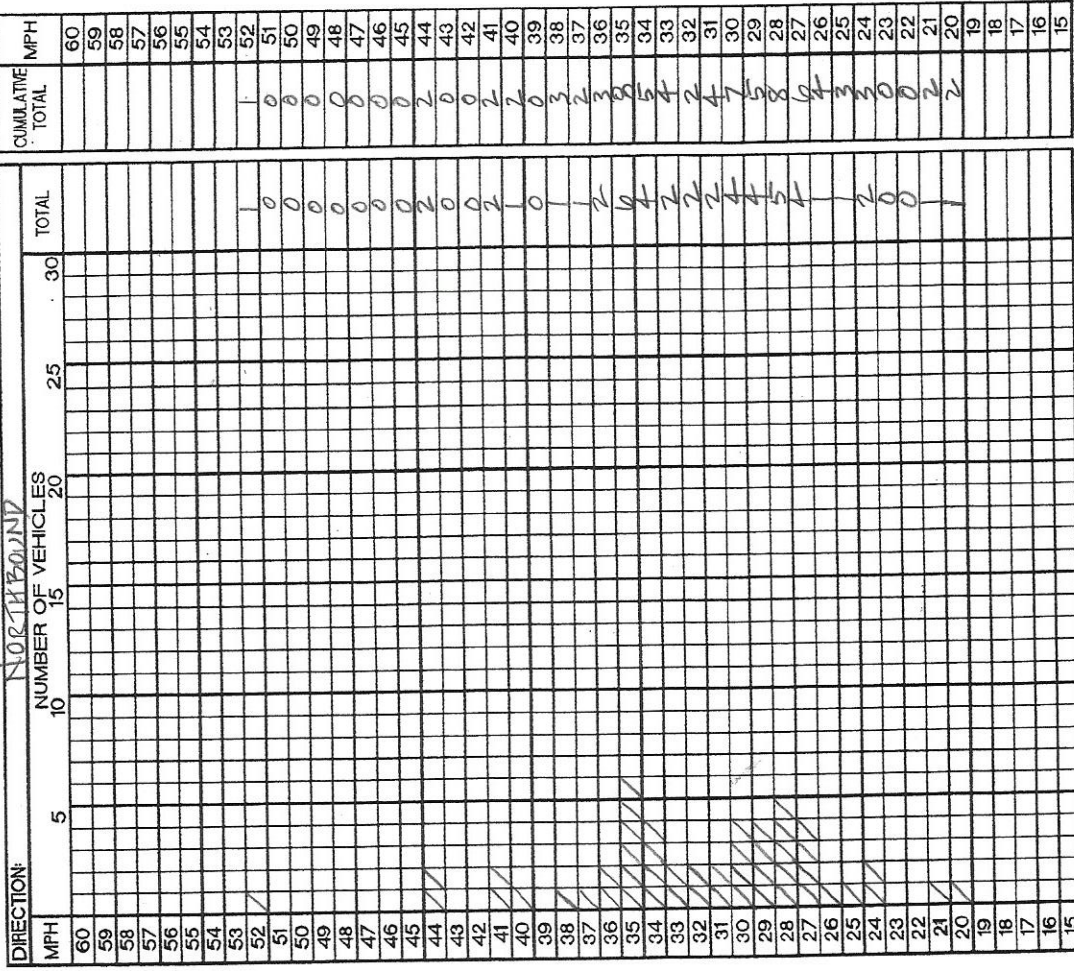
# Radar Speed Survey Field Sheet

AGENCY: CITY OF LAGUNA HILLS  
 STREET: BRIDLEWOOD  
 LOCATION: VISTA VIEW TO LAUREL CREST

WEATHER: SUNNY DATE: 10/24/19  
 ROAD CONDITION: DRY START TIME: 3:00 PM  
 OBSERVER: CATHY BUENDIA END TIME: 4:00 PM JAC



AVERAGE SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
 CRITICAL SPEED: \_\_\_\_\_  
 CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_



AVERAGE SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
 CRITICAL SPEED: \_\_\_\_\_

PM-1

# RADAR SPEED DISTRIBUTION SHEET



## CITY OF LAGUNA HILLS

**BRIDLEWOOD DRIVE**

**LAUREL CREST DR TO VISTA VIEJO**

DATE: 10/24/2019

SURVEY BY:

C. BUENDIA

TIME: 3:00 PM - 4:00 PM

CHECKED BY:

JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	100.0%
51					X	98.7%
50					X	98.7%
49					X	98.7%
48					X	98.7%
47					X	98.7%
46					X	98.7%
45					X	98.7%
44					X	98.7%
43					X	96.2%
42					X	96.2%
41					X	96.2%
40					X	93.6%
39					X	91.0%
38					X	91.0%
37					X	87.2%
36					X	84.6%
35					X	80.8% }PACE ---85PCT
34					X	70.5% }PACE
33					X	64.1% }PACE
32					X	59.0% }PACE
31					X	56.4% }PACE
30					X	51.3% }PACE
29					X	42.3% }PACE ---MEAN
28					X	35.9% }PACE
27					X	25.6% }PACE
26					X	17.9% }PACE ---15PCT
25					X	12.8%
24					X	9.0%
23					X	5.1%
22					X	5.1%
21					X	5.1%
20					X	2.6%
19					X	0.0%
18					X	0.0%
17					X	0.0%
16					X	0.0%
15					X	0.0%

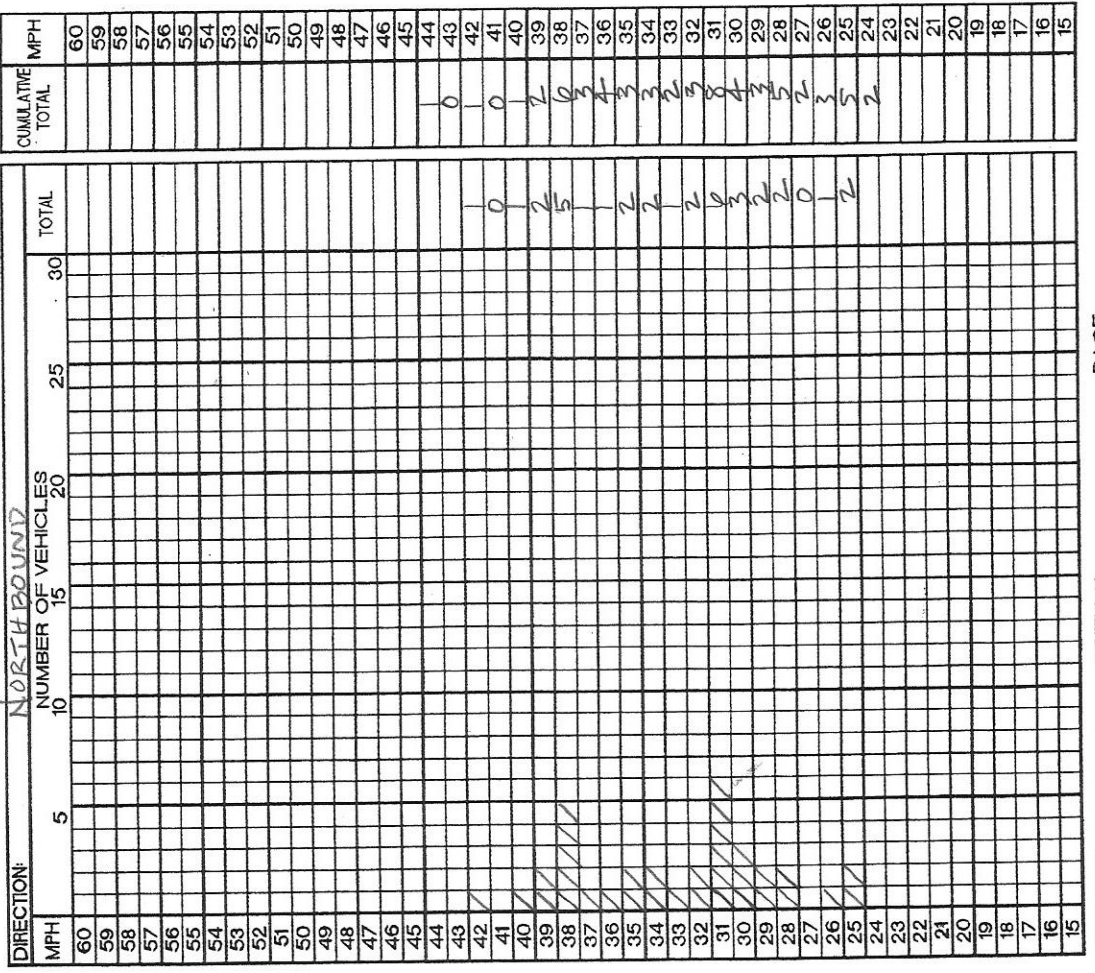
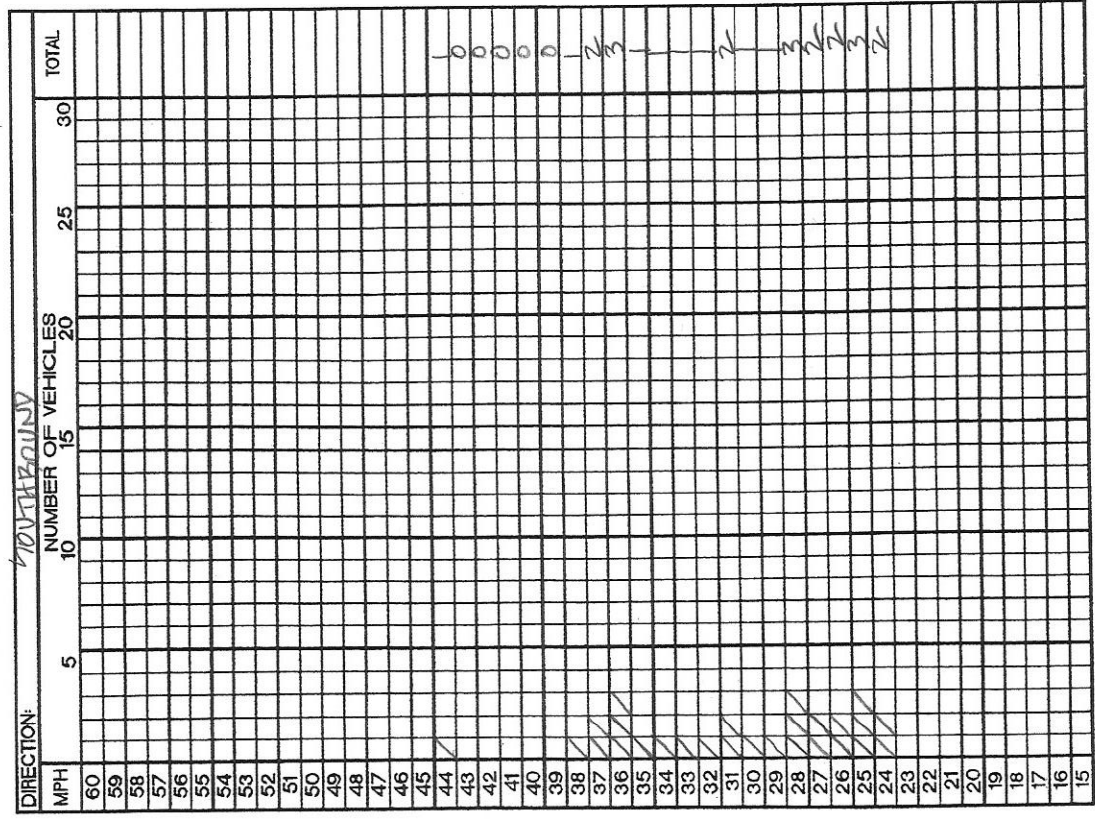
UPPER LIMIT 10 MPH PACE: 35 MPH  
 LOWER LIMIT 10 MPH PACE: 26 MPH  
 PERCENT OVER PACE: 19.2 %  
 PERCENT IN PACE: 67.9 %  
 PERCENT UNDER PACE: 12.8 %

85th PERCENTILE SPEED: 36.2 MPH  
 MEDIAN SPEED: 29.9 MPH  
 15th PERCENTILE SPEED: 25.4 MPH

HARTZOG AND CRABILL INC.  
COUNTY TRADE EXPERTS  
17921 Loma Blvd., Suite 102 Loma, CA 92699  
(714) 731-9255

# Radar Speed Survey Field Sheet

AGENCY: CITY OF LAGUNA HILLS WEATHER: SUNNY DATE: 10/24/19  
STREET: BRIDLEWOOD ROAD CONDITION: DRY START TIME: 4:00 PM  
LOCATION: VISTA VIEW TO LAUREL CREST OBSERVER: CATHY BUENDIA END TIME: 5:00 PM VUB



AVERAGE SPEED: \_\_\_\_\_ PACE SPEED: \_\_\_\_\_  
CRITICAL SPEED: \_\_\_\_\_  
CUMULATIVE (BOTH DIRECTIONS) \_\_\_\_\_

# RADAR SPEED DISTRIBUTION SHEET



## CITY OF LAGUNA HILLS

**BRIDLEWOOD DRIVE**

**LAUREL CREST DR TO VISTA VIEJO**

DATE: 10/24/2019

SURVEY BY:

C. BUENDIA

TIME: 4:00 PM - 5:00 PM

CHECKED BY:

JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	100.0%
51					X	100.0%
50					X	100.0%
49					X	100.0%
48					X	100.0%
47					X	100.0%
46					X	100.0%
45					X	100.0%
44					X	98.4%
43					X	98.4%
42					X	96.7%
41					X	96.7%
40					X	95.1%
39					X	91.8% }PACE
38					X	82.0% }PACE ---85PCT
37					X	77.0% }PACE
36					X	70.5% }PACE
35					X	65.6% }PACE
34					X	60.7% }PACE
33					X	57.4% }PACE
32					X	52.5% }PACE
31					X	39.3% }PACE ----MEAN
30					X	32.8% }PACE
29					X	27.9%
28					X	19.7%
27					X	16.4%
26					X	11.5% ---15PCT
25					X	3.3%
24					X	0.0%
23					X	0.0%
22					X	0.0%
21					X	0.0%
20					X	0.0%
19					X	0.0%
18					X	0.0%
17					X	0.0%
16					X	0.0%
15					X	0.0%

UPPER LIMIT 10 MPH PACE: 38 MPH  
 LOWER LIMIT 10 MPH PACE: 29 MPH  
 PERCENT OVER PACE: 8.2 %  
 PERCENT IN PACE: 63.9 %  
 PERCENT UNDER PACE: 27.9 %

85th PERCENTILE SPEED: 37.3 MPH  
 MEDIAN SPEED: 30.8 MPH  
 15th PERCENTILE SPEED: 25.7 MPH



## City of Laguna Hills Traffic Commission Staff Report

---

**Date:** March 19, 2025  
**To:** Chair and Commission Members  
**From:** Samantha Vu, Assistant Engineer  
**Issue:** Review of Traffic Conditions on Bridlewood Drive and Vista Viejo

---

**Recommendation:** That the Traffic Commission recommend that the City Engineer add Bridlewood Drive and Vista Viejo to the portable radar speed-feedback trailer rotational deployment list and conduct another speed survey in 90 days, and that Police Services conduct increased law (speed) enforcement on Bridlewood Drive and Vista Viejo.

---

### Background:

City staff was recently contacted by a resident of the community regarding concerns of vehicular speeding on Bridlewood Drive and Vista Viejo. Please see the attached Vicinity Map. Based upon the resident's concern and in accordance with the Residential Streets Management Policy, City staff initiated a review of the requested area.

City staff was previously contacted by a resident of Moulton Ranch in April 2018 regarding concerns of vehicular speeding and collisions on Bridlewood Drive, between Vista Viejo Road and Laurel Crest Drive. City staff subsequently initiated a traffic engineering evaluation of Bridlewood Drive between Vista Viejo Road and Laurel Crest Drive. The report presented at the July 18, 2018 meeting of the Traffic Commission concluded the 85<sup>th</sup> percentile speed measurement of Bridlewood Drive was higher than expected and considered to be unacceptable. Additional traffic speed enforcement and use of the radar trailer were utilized to address this issue. The Traffic Commission requested City staff repeat the speed survey of Bridlewood Drive in six months' time.

In accordance with the Traffic Commission's request, a follow-up speed survey was performed in December 2018. Although the prevailing speed of traffic was lower than previous measurements, it was still higher than expected for a residential street.

Therefore, City staff recommended and subsequently installed additional signs and pavement legends on Bridlewood Drive. Continued concentrated police enforcement was also recommended in addition to a follow-up speed survey in six months' time.

In accordance with the recommendation at the January 16, 2019, meeting of the Traffic Commission, a new speed survey was performed in October 2019. This speed survey determined the prevailing speed of traffic was in the acceptable range in the morning but remained higher than expected in the afternoon time period. At the time, it was determined that the appropriate steps were to continue concentrated police enforcement. Previous Traffic Commission reports are attached.

Due to the previous studies being more than two (2) years old, City staff contacted Counts Unlimited, Inc. to conduct a four (4) day speed survey in two locations. Please see the attached Speed Survey Location Map. Counts Unlimited, Inc. collected and reported the attached 96-hour speed survey on Bridlewood Drive and Vista Viejo, between January 3 and January 6, 2025. Table 1 below contains a summary of the results. It should be noted that Bridlewood Drive has a posted speed limit of 25 MPH. Vista Viejo has a posted speed limit of 35 MPH in the City of Mission Viejo which decreases to 30 MPH for the portion of the roadway that is in within the City of Laguna Hills.

**Table 1: Speed Survey Summary**

Speed Summary	Bridlewood Drive			Vista Viejo		
	NB	SB	Both	EB	WB	Both
85 <sup>th</sup> Percentile Speed (MPH)	35.5	34.25	35	36.75	33.75	35.5
Average Speed (MPH)	30.5	28.75	29.75	31.5	29	30.25
Percent of Vehicles in Pace (Within 26-35 MPH)	65.03%	57.75%	62.5%	56.55%	67.15%	61.38%

Staff's experience has found the typical prevailing speed range for such streets to be between 32 and 34 MPH, without traffic safety concerns. This is approximately 7-8 MPH above the posted speed limit. The speed survey counts determined the 85<sup>th</sup> percentile speeds on Bridlewood Drive as 35 MPH and 35.5 MPH on Vista Viejo. Based on the data in Table 1, the 85<sup>th</sup> percentile speeds were found to be high for Bridlewood Drive. Both streets experienced low vehicle volumes for a typical, residential streets; however, Bridlewood Drive and Vista Viejo had unusual spotty speeding which lead to a low percent of vehicles in pace for both streets.

To address traffic safety concerns, the Residential Streets Traffic Management Policy outlines procedures and incremental solutions. Generally, actions to address speeding issues on residential streets will only be recommended if the prevailing speed is above 32 to 34 MPH, if unusual conditions exist on the roadway, or if there are documented speed-related traffic collisions. Although Vista Viejo does not pose a traffic safety concern on average, the unusual spotty speeding poses a safety issue for residents. In this case, the policy recommends an incremental approach, which includes:

- Increased law enforcement
- Frequent deployment of portable radar speed-feedback trailers
- The use of traffic control devices, regulatory signs and markings, warning signs, and striping
- Physical devices like bolt-down speed cushions

It should be noted that the implementation of physical devices has additional criteria to be considered during assessment. According to the Residential Streets traffic management Policy, the following minimum criteria must be met to consider the implementation of physical devices:

- a. At least 67% of the affected residents of the street and adjacent area streets support the implementation of the physical device. The streets to be used to evaluate the support for the physical device will be those that reasonably can be inferred to draw traffic to the street of concern.
- b. The prevailing speed of traffic has been documented to be greater than 34 mph for at least two radar speed surveys taken 90 days apart as part of the follow-up evaluation of all other traffic controls used to address the issue.
- c. At least 1,500 vehicles traverse the street in a 24-hour period.

- d. The location meets the approval of the Police and Fire Department related to adequate response time of safety vehicles.
- e. The grade of the street shall not exceed 6%.
- f. The street must have a length of at least 1,300 feet and be able to accommodate a minimum of three speed humps unless otherwise directed by the City Council.
- g. Other issues related to traffic engineering will be considered as deemed appropriate by the City Traffic Engineer.

City staff recommends an incremental approach to be followed by adding both Bridlewood Drive and Vista Viejo to the portable radar speed-feedback trailer rotational deployment list, conducting another speed survey in 90 days, and requesting that Police Services conduct increased law (speed) enforcement on Bridlewood Drive and Vista Viejo. If no change is observed using the incremental approach and the minimum criteria in the Residential Streets Traffic Management Policy are met, City staff will research the implementation of physical devices including cost and present it to the Traffic Commission at a future meeting.

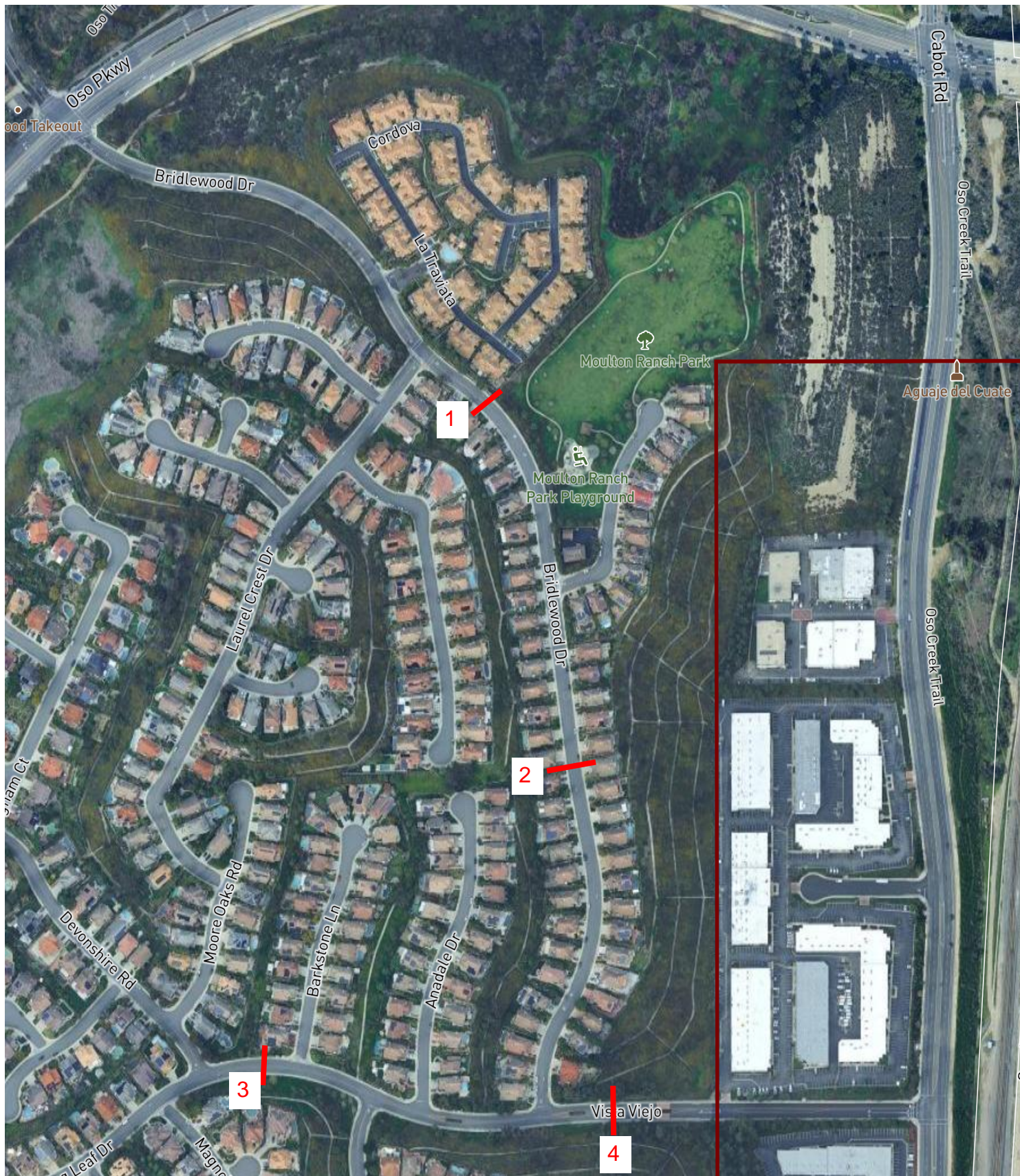
**Fiscal Impact:**


City staff's recommendation will result in no new fiscal impact.

**Attachments:**

1. Vicinity Map
2. Traffic Commission Item 4.2, dated July 18, 2018
3. Traffic Commission Item 4.2, dated January 16, 2019
4. Traffic Commission Item 4.5, dated November 20, 2019
5. Speed Survey Location Map
6. Counts Unlimited, Inc. Speed Survey, January 3, 2025 through January 6, 2025

# Speed Study Locations



<p>1" = 395 ft</p>	<p><b>Bridlewood and Vista Viejo</b></p>	<p><b>04/03/2025</b></p>	
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This map may represent a visual display of related geographic information. Data provided here is not a guarantee of actual field conditions. To ensure complete accuracy, please contact the responsible staff for the most up-to-date information.

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Laurel Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS001  
 Site Code: 241-25347

**Northbound**

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/11/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
04:00	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4
05:00	0	0	1	5	0	0	0	0	0	0	0	0	0	0	6
06:00	0	0	4	10	2	0	0	0	0	0	0	0	0	0	16
07:00	1	6	14	21	7	0	0	0	0	0	0	0	0	0	49
08:00	1	4	13	19	5	0	0	0	0	0	0	0	0	0	42
09:00	1	1	10	21	8	0	0	0	0	0	0	0	0	0	41
10:00	1	5	19	20	3	0	0	0	0	0	0	0	0	0	48
11:00	0	4	13	18	4	0	0	0	0	0	0	0	0	0	39
12 PM	0	3	15	23	9	1	0	0	0	0	0	0	0	0	51
13:00	2	7	12	10	9	0	0	0	0	0	0	0	0	0	40
14:00	0	3	4	13	5	0	0	0	0	0	0	0	0	0	25
15:00	1	1	10	32	6	1	0	0	0	0	0	0	0	0	51
16:00	1	1	14	26	3	0	0	0	0	0	0	0	0	0	45
17:00	0	1	16	23	5	0	0	0	0	0	0	0	0	0	45
18:00	0	7	16	17	1	0	0	0	0	0	0	0	0	0	41
19:00	0	5	11	9	3	1	0	0	0	0	0	0	0	0	29
20:00	0	0	9	7	4	0	0	0	0	0	0	0	0	0	20
21:00	0	1	6	5	0	0	0	0	0	0	0	0	0	0	12
22:00	1	6	3	1	0	0	0	0	0	0	0	0	0	0	11
23:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>9</b>	<b>55</b>	<b>193</b>	<b>284</b>	<b>75</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>620</b>

Daily  
 15th Percentile : 20 MPH  
 50th Percentile : 25 MPH  
 85th Percentile : 29 MPH  
 95th Percentile : 33 MPH

Statistics  
 Mean Speed(Average) : 26 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 477  
 Percent in Pace : 76.9%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Laurel Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS001  
 Site Code: 241-25347

## Northbound

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/12/25	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	3	5	1	0	0	0	0	0	0	0	0	0	9
07:00	1	0	4	6	1	0	0	0	0	0	0	0	0	0	12
08:00	2	3	9	8	1	0	0	0	0	0	0	0	0	0	23
09:00	0	0	3	24	6	0	0	0	0	0	0	0	0	0	33
10:00	0	1	7	18	13	0	0	0	0	0	0	0	0	0	39
11:00	0	1	12	16	11	0	0	0	0	0	0	0	0	0	40
12 PM	0	3	5	27	8	1	0	0	0	0	0	0	0	0	44
13:00	0	1	7	14	7	0	0	0	0	0	0	0	0	0	29
14:00	1	2	5	10	8	0	0	0	0	0	0	0	0	0	26
15:00	0	1	9	18	6	1	0	0	0	0	0	0	0	0	35
16:00	0	0	9	17	9	0	0	0	0	0	0	0	0	0	35
17:00	1	1	5	17	8	0	1	0	0	0	0	0	0	0	33
18:00	2	3	8	9	12	1	0	0	0	0	0	0	0	0	35
19:00	0	1	10	8	3	0	0	0	0	0	0	0	0	0	22
20:00	4	1	5	7	1	0	0	0	0	0	0	0	0	0	18
21:00	0	0	1	4	0	0	0	0	0	0	0	0	0	0	5
22:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
23:00	0	0	1	2	2	1	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>11</b>	<b>18</b>	<b>107</b>	<b>210</b>	<b>100</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>451</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 31 MPH  
 95th Percentile : 34 MPH

Statistics  
 Mean Speed(Average) : 27 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 317  
 Percent in Pace : 70.3%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Laurel Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS001  
 Site Code: 241-25347

**Northbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/13/25	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	2	5	1	0	0	0	0	0	0	0	0	0	8
07:00	0	1	6	10	1	1	0	0	0	0	0	0	0	0	19
08:00	0	1	3	8	3	0	0	0	0	0	0	0	0	0	15
09:00	1	2	0	11	6	1	0	0	0	0	0	0	0	0	21
10:00	0	2	13	19	5	0	0	0	0	0	0	0	0	0	39
11:00	0	2	12	15	7	0	0	0	0	0	0	0	0	0	36
12 PM	0	0	6	16	8	0	0	0	0	0	0	0	0	0	30
13:00	0	0	12	21	9	1	0	0	0	0	0	0	0	0	43
14:00	0	0	5	23	4	1	0	0	0	0	0	0	0	0	33
15:00	0	0	1	14	8	0	0	0	0	0	0	0	0	0	23
16:00	0	0	12	19	9	0	0	0	0	0	0	0	0	0	40
17:00	1	0	5	17	12	0	0	0	0	0	0	0	0	0	35
18:00	0	2	10	15	3	0	0	0	0	0	0	0	0	0	30
19:00	0	2	6	4	3	0	0	0	0	0	0	0	0	0	15
20:00	0	1	5	6	2	0	0	0	0	0	0	0	0	0	14
21:00	0	0	2	4	1	0	0	0	0	0	0	0	0	0	7
22:00	0	0	1	4	0	0	0	0	0	0	0	0	0	0	5
23:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
<b>Total</b>	<b>2</b>	<b>13</b>	<b>101</b>	<b>215</b>	<b>84</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>419</b>

Daily  
 15th Percentile : 22 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 31 MPH  
 95th Percentile : 33 MPH

Statistics  
 Mean Speed(Average) : 27 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 316  
 Percent in Pace : 75.4%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Laurel Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS001  
 Site Code: 241-25347

## Northbound

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/14/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	1	3	0	0	0	0	0	0	0	0	0	0	4
06:00	0	0	5	7	1	0	0	0	0	0	0	0	0	0	13
07:00	0	3	21	16	2	0	0	0	0	0	0	0	0	0	42
08:00	0	2	13	27	6	1	0	0	0	0	0	0	0	0	49
09:00	1	4	14	16	6	1	0	0	0	0	0	0	0	0	42
10:00	1	3	13	16	2	1	0	0	0	0	0	0	0	0	36
11:00	1	2	9	10	5	1	0	0	0	0	0	0	0	0	28
12 PM	0	2	14	19	2	0	0	0	0	0	0	0	0	0	37
13:00	1	3	7	19	4	0	0	0	0	0	0	0	0	0	34
14:00	0	1	15	16	3	0	0	0	0	0	0	0	0	0	35
15:00	1	2	19	20	5	0	0	0	0	0	0	0	0	0	47
16:00	0	5	6	31	6	0	0	0	0	0	0	0	0	0	48
17:00	0	1	12	26	10	0	0	0	0	0	0	0	0	0	49
18:00	0	2	13	21	4	0	0	0	0	0	0	0	0	0	40
19:00	0	1	6	15	1	0	1	0	0	0	0	0	0	0	24
20:00	0	1	8	4	1	0	0	0	0	0	0	0	0	0	14
21:00	0	0	2	1	1	0	0	0	0	0	0	0	0	0	4
22:00	0	0	2	1	1	0	0	0	0	0	0	0	0	0	4
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>5</b>	<b>32</b>	<b>180</b>	<b>269</b>	<b>60</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>551</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 26 MPH  
 85th Percentile : 29 MPH  
 95th Percentile : 33 MPH

Statistics  
 Mean Speed(Average) : 26 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 449  
 Percent in Pace : 81.5%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Laurel Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS001  
 Site Code: 241-25347

**Southbound**

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/11/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	2	1	1	0	0	0	0	0	0	0	0	0	5
06:00	0	1	4	3	0	0	0	0	0	0	0	0	0	0	8
07:00	0	4	5	7	1	0	0	0	0	0	0	0	0	0	17
08:00	0	3	12	13	6	0	1	0	0	0	0	0	0	0	35
09:00	1	3	3	11	2	0	0	0	0	0	0	0	0	0	20
10:00	2	3	9	3	2	1	0	0	0	0	0	0	0	0	20
11:00	0	2	13	14	1	0	0	0	0	0	0	0	0	0	30
12 PM	0	2	13	10	3	1	0	0	0	0	0	0	0	0	29
13:00	3	3	5	9	5	0	0	0	0	0	0	0	0	0	25
14:00	4	3	2	8	3	0	0	0	0	0	0	0	0	0	20
15:00	2	3	6	18	3	0	0	0	0	0	0	0	0	0	32
16:00	0	2	15	17	5	0	0	0	0	0	0	0	0	0	39
17:00	0	1	13	13	7	0	0	0	0	0	0	0	0	0	34
18:00	1	6	12	8	6	0	0	0	0	0	0	0	0	0	33
19:00	0	3	11	8	0	0	0	0	0	0	0	0	0	0	22
20:00	0	0	3	4	2	0	0	0	0	0	0	0	0	0	9
21:00	0	2	5	5	0	0	0	0	0	0	0	0	0	0	12
22:00	0	2	2	4	0	0	0	0	0	0	0	0	0	0	8
23:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>13</b>	<b>44</b>	<b>139</b>	<b>158</b>	<b>47</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>404</b>

Daily  
 15th Percentile : 20 MPH  
 50th Percentile : 25 MPH  
 85th Percentile : 29 MPH  
 95th Percentile : 33 MPH

Statistics  
 Mean Speed(Average) : 25 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 297  
 Percent in Pace : 73.5%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

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 4 Day Directional Speed Survey

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LHS001  
 Site Code: 241-25347

**Southbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/12/25	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	5	1	0	0	0	0	0	0	0	0	0	0	6
07:00	0	1	4	4	0	0	0	0	0	0	0	0	0	0	9
08:00	2	3	5	7	0	0	0	0	0	0	0	0	0	0	17
09:00	0	1	5	5	0	0	0	0	0	0	0	0	0	0	11
10:00	0	2	7	9	4	0	0	0	0	0	0	0	0	0	22
11:00	0	1	11	11	2	0	0	0	0	0	0	0	0	0	25
12 PM	0	0	2	21	4	0	0	0	0	0	0	0	0	0	27
13:00	1	1	13	8	3	0	0	0	0	0	0	0	0	0	26
14:00	0	3	3	3	0	0	0	0	0	0	0	0	0	0	9
15:00	0	2	8	9	1	0	0	0	0	0	0	0	0	0	20
16:00	0	2	8	14	4	0	0	0	0	0	0	0	0	0	28
17:00	2	1	12	10	4	0	0	0	0	0	0	0	0	0	29
18:00	1	3	6	6	2	0	0	0	0	0	0	0	0	0	18
19:00	1	2	3	2	1	0	0	0	0	0	0	0	0	0	9
20:00	1	1	4	2	1	0	0	0	0	0	0	0	0	0	9
21:00	0	0	2	4	1	0	0	0	0	0	0	0	0	0	7
22:00	0	2	5	5	0	0	0	0	0	0	0	0	0	0	12
23:00	0	0	2	0	3	0	0	0	0	0	0	0	0	0	5
<b>Total</b>	<b>8</b>	<b>25</b>	<b>107</b>	<b>122</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>293</b>

Daily  
 15th Percentile : 20 MPH  
 50th Percentile : 25 MPH  
 85th Percentile : 29 MPH  
 95th Percentile : 32 MPH

Statistics  
 Mean Speed(Average) : 25 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 229  
 Percent in Pace : 78.2%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Laurel Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS001  
 Site Code: 241-25347

**Southbound**

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/13/25	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	3	4	0	0	0	0	0	0	0	0	0	0	7
07:00	0	5	2	2	0	0	0	0	0	0	0	0	0	0	9
08:00	0	1	5	2	1	0	0	0	0	0	0	0	0	0	9
09:00	0	3	1	8	1	0	0	0	0	0	0	0	0	0	13
10:00	1	0	6	6	1	0	0	0	0	0	0	0	0	0	14
11:00	0	0	9	7	0	0	0	0	0	0	0	0	0	0	16
12 PM	0	0	13	2	1	0	0	0	0	0	0	0	0	0	16
13:00	3	1	13	7	2	0	0	0	0	0	0	0	0	0	26
14:00	0	0	3	9	3	1	0	0	0	0	0	0	0	0	16
15:00	0	0	5	12	2	0	0	0	0	0	0	0	0	0	19
16:00	0	1	10	11	7	0	0	0	0	0	0	0	0	0	29
17:00	0	1	3	13	5	0	0	0	0	0	0	0	0	0	22
18:00	0	2	4	4	0	0	0	0	0	0	0	0	0	0	10
19:00	0	2	10	5	1	0	0	0	0	0	0	0	0	0	18
20:00	0	1	3	7	1	0	0	0	0	0	0	0	0	0	12
21:00	0	0	2	1	2	0	0	0	0	0	0	0	0	0	5
22:00	0	1	2	2	0	0	0	0	0	0	0	0	0	0	5
23:00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>4</b>	<b>18</b>	<b>95</b>	<b>107</b>	<b>28</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>253</b>

Daily  
 15th Percentile : 20 MPH  
 50th Percentile : 25 MPH  
 85th Percentile : 29 MPH  
 95th Percentile : 32 MPH

Statistics  
 Mean Speed(Average) : 26 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 202  
 Percent in Pace : 79.8%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Laurel Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS001  
 Site Code: 241-25347

**Southbound**

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/14/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	1	2	0	0	0	0	0	0	0	0	0	0	4
06:00	1	1	5	1	0	0	0	0	0	0	0	0	0	0	8
07:00	0	1	6	9	0	0	0	0	0	0	0	0	0	0	16
08:00	0	1	6	7	2	0	0	0	0	0	0	0	0	0	16
09:00	0	3	9	10	0	0	0	0	0	0	0	0	0	0	22
10:00	3	3	8	8	2	0	0	0	0	0	0	0	0	0	24
11:00	0	0	9	9	3	0	0	0	0	0	0	0	0	0	21
12 PM	1	1	8	8	1	1	0	0	0	0	0	0	0	0	20
13:00	0	0	6	8	2	0	0	0	0	0	0	0	0	0	16
14:00	1	4	6	6	1	0	0	0	0	0	0	0	0	0	18
15:00	0	5	13	16	3	0	0	0	0	0	0	0	0	0	37
16:00	0	1	9	12	5	0	0	0	0	0	0	0	0	0	27
17:00	0	0	9	10	5	1	0	0	0	0	0	0	0	0	25
18:00	0	2	9	10	3	0	0	0	0	0	0	0	0	0	24
19:00	0	1	8	7	0	0	0	0	0	0	0	0	0	0	16
20:00	0	0	5	4	3	0	0	0	0	0	0	0	0	0	12
21:00	1	0	0	1	1	1	0	0	0	0	0	0	0	0	4
22:00	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
23:00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>8</b>	<b>24</b>	<b>119</b>	<b>133</b>	<b>32</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>319</b>

Daily  
 15th Percentile : 20 MPH  
 50th Percentile : 25 MPH  
 85th Percentile : 29 MPH  
 95th Percentile : 32 MPH

Statistics  
 Mean Speed(Average) : 25 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 252  
 Percent in Pace : 79.0%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Laurel Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS001  
 Site Code: 241-25347

**Northbound, Southbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/11/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
04:00	0	0	2	2	1	0	0	0	0	0	0	0	0	0	5
05:00	0	1	3	6	1	0	0	0	0	0	0	0	0	0	11
06:00	0	1	8	13	2	0	0	0	0	0	0	0	0	0	24
07:00	1	10	19	28	8	0	0	0	0	0	0	0	0	0	66
08:00	1	7	25	32	11	0	1	0	0	0	0	0	0	0	77
09:00	2	4	13	32	10	0	0	0	0	0	0	0	0	0	61
10:00	3	8	28	23	5	1	0	0	0	0	0	0	0	0	68
11:00	0	6	26	32	5	0	0	0	0	0	0	0	0	0	69
12 PM	0	5	28	33	12	2	0	0	0	0	0	0	0	0	80
13:00	5	10	17	19	14	0	0	0	0	0	0	0	0	0	65
14:00	4	6	6	21	8	0	0	0	0	0	0	0	0	0	45
15:00	3	4	16	50	9	1	0	0	0	0	0	0	0	0	83
16:00	1	3	29	43	8	0	0	0	0	0	0	0	0	0	84
17:00	0	2	29	36	12	0	0	0	0	0	0	0	0	0	79
18:00	1	13	28	25	7	0	0	0	0	0	0	0	0	0	74
19:00	0	8	22	17	3	1	0	0	0	0	0	0	0	0	51
20:00	0	0	12	11	6	0	0	0	0	0	0	0	0	0	29
21:00	0	3	11	10	0	0	0	0	0	0	0	0	0	0	24
22:00	1	8	5	5	0	0	0	0	0	0	0	0	0	0	19
23:00	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
<b>Total</b>	<b>22</b>	<b>99</b>	<b>332</b>	<b>442</b>	<b>122</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1024</b>

Daily  
 15th Percentile : 20 MPH  
 50th Percentile : 25 MPH  
 85th Percentile : 29 MPH  
 95th Percentile : 33 MPH

Statistics  
 Mean Speed(Average) : 26 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 774  
 Percent in Pace : 75.6%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Laurel Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS001  
 Site Code: 241-25347

**Northbound, Southbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/12/25	0	0	1	0	2	0	0	0	0	0	0	0	0	0	3
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	8	6	1	0	0	0	0	0	0	0	0	0	15
07:00	1	1	8	10	1	0	0	0	0	0	0	0	0	0	21
08:00	4	6	14	15	1	0	0	0	0	0	0	0	0	0	40
09:00	0	1	8	29	6	0	0	0	0	0	0	0	0	0	44
10:00	0	3	14	27	17	0	0	0	0	0	0	0	0	0	61
11:00	0	2	23	27	13	0	0	0	0	0	0	0	0	0	65
12 PM	0	3	7	48	12	1	0	0	0	0	0	0	0	0	71
13:00	1	2	20	22	10	0	0	0	0	0	0	0	0	0	55
14:00	1	5	8	13	8	0	0	0	0	0	0	0	0	0	35
15:00	0	3	17	27	7	1	0	0	0	0	0	0	0	0	55
16:00	0	2	17	31	13	0	0	0	0	0	0	0	0	0	63
17:00	3	2	17	27	12	0	1	0	0	0	0	0	0	0	62
18:00	3	6	14	15	14	1	0	0	0	0	0	0	0	0	53
19:00	1	3	13	10	4	0	0	0	0	0	0	0	0	0	31
20:00	5	2	9	9	2	0	0	0	0	0	0	0	0	0	27
21:00	0	0	3	8	1	0	0	0	0	0	0	0	0	0	12
22:00	0	2	6	5	1	0	0	0	0	0	0	0	0	0	14
23:00	0	0	3	2	5	1	0	0	0	0	0	0	0	0	11
<b>Total</b>	<b>19</b>	<b>43</b>	<b>214</b>	<b>332</b>	<b>131</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>744</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 26 MPH  
 85th Percentile : 30 MPH  
 95th Percentile : 33 MPH

Statistics  
 Mean Speed(Average) : 26 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 546  
 Percent in Pace : 73.4%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Laurel Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS001  
 Site Code: 241-25347

## Northbound, Southbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/13/25	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
01:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
06:00	0	0	5	9	1	0	0	0	0	0	0	0	0	0	15
07:00	0	6	8	12	1	1	0	0	0	0	0	0	0	0	28
08:00	0	2	8	10	4	0	0	0	0	0	0	0	0	0	24
09:00	1	5	1	19	7	1	0	0	0	0	0	0	0	0	34
10:00	1	2	19	25	6	0	0	0	0	0	0	0	0	0	53
11:00	0	2	21	22	7	0	0	0	0	0	0	0	0	0	52
12 PM	0	0	19	18	9	0	0	0	0	0	0	0	0	0	46
13:00	3	1	25	28	11	1	0	0	0	0	0	0	0	0	69
14:00	0	0	8	32	7	2	0	0	0	0	0	0	0	0	49
15:00	0	0	6	26	10	0	0	0	0	0	0	0	0	0	42
16:00	0	1	22	30	16	0	0	0	0	0	0	0	0	0	69
17:00	1	1	8	30	17	0	0	0	0	0	0	0	0	0	57
18:00	0	4	14	19	3	0	0	0	0	0	0	0	0	0	40
19:00	0	4	16	9	4	0	0	0	0	0	0	0	0	0	33
20:00	0	2	8	13	3	0	0	0	0	0	0	0	0	0	26
21:00	0	0	4	5	3	0	0	0	0	0	0	0	0	0	12
22:00	0	1	3	6	0	0	0	0	0	0	0	0	0	0	10
23:00	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
<b>Total</b>	<b>6</b>	<b>31</b>	<b>196</b>	<b>322</b>	<b>112</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>672</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 26 MPH  
 85th Percentile : 30 MPH  
 95th Percentile : 33 MPH

Statistics  
 Mean Speed(Average) : 27 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 518  
 Percent in Pace : 77.1%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Laurel Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS001  
 Site Code: 241-25347

**Northbound, Southbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/14/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
05:00	0	1	2	5	0	0	0	0	0	0	0	0	0	0	8
06:00	1	1	10	8	1	0	0	0	0	0	0	0	0	0	21
07:00	0	4	27	25	2	0	0	0	0	0	0	0	0	0	58
08:00	0	3	19	34	8	1	0	0	0	0	0	0	0	0	65
09:00	1	7	23	26	6	1	0	0	0	0	0	0	0	0	64
10:00	4	6	21	24	4	1	0	0	0	0	0	0	0	0	60
11:00	1	2	18	19	8	1	0	0	0	0	0	0	0	0	49
12 PM	1	3	22	27	3	1	0	0	0	0	0	0	0	0	57
13:00	1	3	13	27	6	0	0	0	0	0	0	0	0	0	50
14:00	1	5	21	22	4	0	0	0	0	0	0	0	0	0	53
15:00	1	7	32	36	8	0	0	0	0	0	0	0	0	0	84
16:00	0	6	15	43	11	0	0	0	0	0	0	0	0	0	75
17:00	0	1	21	36	15	1	0	0	0	0	0	0	0	0	74
18:00	0	4	22	31	7	0	0	0	0	0	0	0	0	0	64
19:00	0	2	14	22	1	0	1	0	0	0	0	0	0	0	40
20:00	0	1	13	8	4	0	0	0	0	0	0	0	0	0	26
21:00	1	0	2	2	2	1	0	0	0	0	0	0	0	0	8
22:00	0	0	3	2	2	0	0	0	0	0	0	0	0	0	7
23:00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>13</b>	<b>56</b>	<b>299</b>	<b>402</b>	<b>92</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>870</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 25 MPH  
 85th Percentile : 29 MPH  
 95th Percentile : 33 MPH

Statistics  
 Mean Speed(Average) : 26 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 701  
 Percent in Pace : 80.6%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

## Northbound

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/11/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
04:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
05:00	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
06:00	3	1	4	2	5	1	0	0	0	0	0	0	0	0	16
07:00	0	0	4	11	10	8	2	1	0	0	0	0	0	0	36
08:00	0	3	5	7	9	8	2	0	0	0	0	0	0	0	34
09:00	1	0	8	4	13	5	0	0	0	0	0	0	0	0	31
10:00	1	0	5	8	9	7	4	0	0	0	0	0	0	0	34
11:00	1	1	2	5	9	6	1	0	0	0	0	0	0	0	25
12 PM	1	1	3	6	14	12	3	0	0	0	0	0	0	0	40
13:00	7	3	4	5	6	5	1	0	0	0	0	0	0	0	31
14:00	0	0	2	6	8	4	3	0	0	0	0	0	0	0	23
15:00	0	0	1	12	15	12	5	0	0	0	0	0	0	0	45
16:00	1	5	3	7	13	9	1	0	0	0	0	0	0	0	39
17:00	0	0	2	8	17	9	2	0	0	0	0	0	0	0	38
18:00	0	2	6	9	11	4	0	0	0	0	0	0	0	0	32
19:00	1	2	2	7	6	6	1	0	0	1	0	0	0	0	26
20:00	1	1	5	3	7	3	0	0	0	0	0	0	0	0	20
21:00	0	1	1	2	4	1	0	0	0	0	0	0	0	0	9
22:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>17</b>	<b>21</b>	<b>59</b>	<b>103</b>	<b>162</b>	<b>100</b>	<b>26</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>490</b>

Daily  
 15th Percentile : 23 MPH  
 50th Percentile : 31 MPH  
 85th Percentile : 37 MPH  
 95th Percentile : 40 MPH

Statistics  
 Mean Speed(Average) : 31 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 265  
 Percent in Pace : 54.1%  
 Number of Vehicles > 55 MPH : 1  
 Percent of Vehicles > 55 MPH : 0.2%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

## Northbound

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/12/25	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	1	3	1	0	0	0	0	0	0	0	0	0	5
07:00	0	0	1	3	2	2	0	0	0	0	0	0	0	0	8
08:00	1	1	1	4	7	1	0	0	0	0	0	0	0	0	15
09:00	0	1	0	9	8	5	4	0	0	0	0	0	0	0	27
10:00	0	0	1	8	13	5	3	0	0	0	0	0	0	0	30
11:00	0	1	3	3	8	9	2	1	0	0	0	0	0	0	27
12 PM	1	0	4	10	15	8	1	0	0	0	0	0	0	0	39
13:00	0	1	2	5	11	5	3	0	0	1	0	0	0	0	28
14:00	0	0	1	4	4	11	1	1	0	0	0	0	0	0	22
15:00	0	1	3	2	11	7	2	0	0	0	0	0	0	0	26
16:00	0	0	0	7	11	5	3	0	0	0	0	0	0	0	26
17:00	0	0	3	8	8	4	1	1	0	0	0	0	0	0	25
18:00	1	0	3	4	11	6	3	0	0	0	0	0	0	0	28
19:00	0	0	2	8	8	3	1	0	0	0	0	0	0	0	22
20:00	0	0	2	5	3	1	0	0	0	0	0	0	0	0	11
21:00	1	0	0	0	2	2	0	0	0	0	0	0	0	0	5
22:00	1	0	0	1	2	1	0	0	0	0	0	0	0	0	5
23:00	1	0	0	2	4	1	1	1	0	0	0	0	0	0	10
<b>Total</b>	<b>6</b>	<b>5</b>	<b>27</b>	<b>87</b>	<b>129</b>	<b>78</b>	<b>26</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>364</b>

Daily  
 15th Percentile : 25 MPH  
 50th Percentile : 32 MPH  
 85th Percentile : 38 MPH  
 95th Percentile : 42 MPH

Statistics  
 Mean Speed(Average) : 33 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 216  
 Percent in Pace : 59.3%  
 Number of Vehicles > 55 MPH : 1  
 Percent of Vehicles > 55 MPH : 0.3%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

## Northbound

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/13/25	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
06:00	0	0	1	4	0	0	0	0	0	0	0	0	0	0	5
07:00	1	1	1	5	2	1	1	0	0	0	0	0	0	0	12
08:00	0	0	2	3	2	3	0	0	0	0	0	0	0	0	10
09:00	1	0	1	1	6	1	2	0	0	0	0	0	0	0	12
10:00	0	1	2	12	10	10	0	1	0	0	0	0	0	0	36
11:00	0	3	3	6	12	4	2	1	0	0	0	0	0	0	31
12 PM	0	0	1	5	12	6	2	0	0	1	0	0	0	0	27
13:00	0	2	2	6	15	7	2	1	1	0	0	0	0	0	36
14:00	0	0	2	6	10	6	3	0	0	0	0	0	0	0	27
15:00	0	0	2	3	4	4	4	0	0	0	0	0	0	0	17
16:00	0	1	3	8	12	9	0	1	1	0	0	0	0	0	35
17:00	0	1	4	5	7	9	0	1	0	0	0	0	0	0	27
18:00	0	1	3	5	9	4	1	1	0	0	0	0	0	0	24
19:00	0	0	2	5	8	3	0	0	0	0	0	0	0	0	18
20:00	0	0	2	1	6	4	0	1	0	0	0	0	0	0	14
21:00	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4
22:00	1	0	1	2	1	1	0	0	0	0	0	0	0	0	6
23:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
<b>Total</b>	<b>3</b>	<b>10</b>	<b>32</b>	<b>80</b>	<b>121</b>	<b>74</b>	<b>17</b>	<b>7</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>347</b>

Daily  
 15th Percentile : 25 MPH  
 50th Percentile : 32 MPH  
 85th Percentile : 38 MPH  
 95th Percentile : 42 MPH

Statistics  
 Mean Speed(Average) : 32 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 201  
 Percent in Pace : 57.9%  
 Number of Vehicles > 55 MPH : 1  
 Percent of Vehicles > 55 MPH : 0.3%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

**Northbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/14/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	1	1	0	0	1	1	0	0	0	0	0	0	0	0	4
06:00	0	2	2	2	5	1	0	1	0	0	0	0	0	0	13
07:00	0	1	5	5	18	2	1	0	0	0	0	0	0	0	32
08:00	1	0	8	16	14	7	1	0	0	0	0	0	0	0	47
09:00	1	2	3	8	7	5	0	0	0	0	0	0	0	0	26
10:00	1	0	1	8	9	6	2	0	0	0	0	0	0	0	27
11:00	1	1	1	7	7	8	1	1	0	0	0	0	0	0	27
12 PM	0	0	4	7	14	6	1	0	0	0	0	0	0	0	32
13:00	0	2	1	4	12	4	2	0	0	0	0	0	0	0	25
14:00	1	0	4	9	14	6	0	0	0	0	0	0	0	0	34
15:00	3	1	5	8	13	6	0	0	0	0	0	0	0	0	36
16:00	2	0	6	6	12	10	2	0	0	0	0	0	0	0	38
17:00	1	0	2	10	16	6	5	0	0	0	0	0	0	0	40
18:00	1	1	3	11	10	8	0	1	0	0	0	0	0	0	35
19:00	0	0	2	7	10	6	2	1	0	0	0	0	0	0	28
20:00	1	0	1	2	6	3	1	1	0	0	0	0	0	0	15
21:00	0	1	0	0	2	1	1	0	0	0	0	0	0	0	5
22:00	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>14</b>	<b>12</b>	<b>48</b>	<b>111</b>	<b>171</b>	<b>87</b>	<b>19</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>467</b>

Daily  
 15th Percentile : 24 MPH  
 50th Percentile : 31 MPH  
 85th Percentile : 37 MPH  
 95th Percentile : 40 MPH

Statistics  
 Mean Speed(Average) : 31 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 282  
 Percent in Pace : 60.4%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

## Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/11/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4
06:00	1	0	1	4	0	0	0	0	0	0	0	0	0	0	6
07:00	0	1	4	7	1	2	0	0	0	0	0	0	0	0	15
08:00	1	0	4	5	8	2	1	0	0	0	0	0	0	0	21
09:00	0	3	4	6	2	2	0	0	0	0	0	0	0	0	17
10:00	1	1	4	4	2	1	0	0	0	0	0	0	0	0	13
11:00	1	0	6	6	4	0	0	0	0	0	0	0	0	0	17
12 PM	2	2	5	6	6	1	0	0	0	0	0	0	0	0	22
13:00	2	1	3	7	3	0	0	0	0	0	0	0	0	0	16
14:00	1	1	2	2	5	0	0	0	0	0	0	0	0	0	11
15:00	3	3	0	3	12	3	1	0	0	0	0	0	0	0	25
16:00	0	0	4	9	6	1	0	0	0	0	0	0	0	0	20
17:00	2	1	4	9	3	1	2	0	0	0	0	0	0	0	22
18:00	1	1	3	8	6	1	0	0	0	0	0	0	0	0	20
19:00	0	3	5	7	5	0	0	0	0	0	0	0	0	0	20
20:00	0	0	2	2	1	0	0	0	0	0	0	0	0	0	5
21:00	2	0	2	2	0	0	0	0	0	0	0	0	0	0	6
22:00	0	0	3	0	1	0	0	0	0	0	0	0	0	0	4
23:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>18</b>	<b>17</b>	<b>58</b>	<b>87</b>	<b>71</b>	<b>14</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>269</b>

Daily  
 15th Percentile : 20 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 36 MPH

Statistics  
 Mean Speed(Average) : 27 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 158  
 Percent in Pace : 58.7%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

## Southbound

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/12/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	2	1	2	0	0	0	0	0	0	0	0	0	5
07:00	0	1	1	3	0	1	0	0	0	0	0	0	0	0	6
08:00	1	3	2	3	3	1	0	0	0	0	0	0	0	0	13
09:00	2	2	2	6	2	0	0	0	0	0	0	0	0	0	14
10:00	0	0	3	1	3	3	0	0	0	0	0	0	0	0	10
11:00	0	1	3	7	7	3	0	0	0	0	0	0	0	0	21
12 PM	0	2	7	7	6	0	0	0	0	0	0	0	0	0	22
13:00	1	2	6	4	3	0	0	0	0	0	0	0	0	0	16
14:00	0	1	1	3	1	0	0	0	0	0	0	0	0	0	6
15:00	0	1	1	4	7	1	0	0	0	0	0	0	0	0	14
16:00	1	2	3	5	6	2	0	0	0	0	0	0	0	0	19
17:00	1	3	2	4	5	3	0	0	0	0	0	0	0	0	18
18:00	1	1	2	4	2	1	0	0	0	0	0	0	0	0	11
19:00	0	0	2	3	2	1	0	0	0	0	0	0	0	0	8
20:00	0	0	0	3	2	0	0	0	0	0	0	0	0	0	5
21:00	2	0	0	0	1	2	0	0	0	0	0	0	0	0	5
22:00	0	0	0	4	1	1	0	0	0	0	0	0	0	0	6
23:00	0	3	0	1	1	0	1	0	0	0	0	0	0	0	6
<b>Total</b>	<b>10</b>	<b>22</b>	<b>37</b>	<b>63</b>	<b>54</b>	<b>20</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>207</b>

Daily  
 15th Percentile : 19 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 34 MPH  
 95th Percentile : 37 MPH

Statistics  
 Mean Speed(Average) : 27 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 117  
 Percent in Pace : 56.5%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

**Southbound**

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/13/25	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
06:00	0	1	1	1	2	0	0	0	0	0	0	0	0	0	5
07:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
08:00	1	2	2	2	3	0	0	0	0	0	0	0	0	0	10
09:00	1	2	4	2	0	0	0	0	0	0	0	0	0	0	9
10:00	1	2	1	3	2	1	0	0	0	0	0	0	0	0	10
11:00	0	0	3	3	2	2	0	0	0	0	0	0	0	0	10
12 PM	2	2	8	6	4	0	0	0	0	0	0	0	0	0	22
13:00	1	2	4	3	2	0	0	0	0	0	0	0	0	0	12
14:00	0	1	1	1	3	1	0	0	0	0	0	0	0	0	7
15:00	0	1	2	1	7	0	1	0	0	0	0	0	0	0	12
16:00	2	0	2	8	6	4	1	0	0	0	0	0	0	0	23
17:00	2	3	1	7	6	3	0	0	0	0	0	0	0	0	22
18:00	0	2	2	4	2	0	0	0	0	0	0	0	0	0	10
19:00	0	0	3	5	5	1	0	0	0	0	0	0	0	0	14
20:00	0	0	1	0	3	1	0	0	0	0	0	0	0	0	5
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>10</b>	<b>19</b>	<b>37</b>	<b>51</b>	<b>49</b>	<b>13</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>181</b>

Daily  
 15th Percentile : 19 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 37 MPH

Statistics  
 Mean Speed(Average) : 27 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 100  
 Percent in Pace : 55.2%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

## Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/14/25	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
05:00	0	0	1	0	2	1	0	0	0	0	0	0	0	0	4
06:00	1	0	1	2	1	0	0	0	0	0	0	0	0	0	5
07:00	1	4	3	5	8	1	0	0	0	0	0	0	0	0	22
08:00	1	1	2	5	3	3	0	0	0	0	0	0	0	0	15
09:00	3	2	3	3	2	0	0	0	0	0	0	0	0	0	13
10:00	0	5	6	7	4	2	0	0	0	0	0	0	0	0	24
11:00	1	1	3	2	4	1	1	0	0	0	0	0	0	0	13
12 PM	1	0	5	5	1	3	0	0	0	0	0	0	0	0	15
13:00	3	3	1	3	3	1	0	0	0	0	0	0	0	0	14
14:00	0	1	2	4	3	1	0	0	0	0	0	0	0	0	11
15:00	2	1	4	13	7	1	0	0	0	0	0	0	0	0	28
16:00	2	1	2	6	0	2	0	0	0	0	0	0	0	0	13
17:00	2	2	2	4	5	4	1	0	0	0	0	0	0	0	20
18:00	0	1	8	3	4	0	1	0	0	0	0	0	0	0	17
19:00	0	0	3	4	4	0	0	0	0	0	0	0	0	0	11
20:00	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
21:00	0	0	2	0	1	1	0	0	0	0	0	0	0	0	4
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>17</b>	<b>22</b>	<b>48</b>	<b>66</b>	<b>55</b>	<b>25</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>236</b>

Daily  
 15th Percentile : 19 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 34 MPH  
 95th Percentile : 38 MPH

Statistics  
 Mean Speed(Average) : 27 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 121  
 Percent in Pace : 51.3%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

**Northbound, Southbound**

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/11/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
03:00	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
04:00	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
05:00	1	1	0	0	5	0	0	0	0	0	0	0	0	0	7
06:00	4	1	5	6	5	1	0	0	0	0	0	0	0	0	22
07:00	0	1	8	18	11	10	2	1	0	0	0	0	0	0	51
08:00	1	3	9	12	17	10	3	0	0	0	0	0	0	0	55
09:00	1	3	12	10	15	7	0	0	0	0	0	0	0	0	48
10:00	2	1	9	12	11	8	4	0	0	0	0	0	0	0	47
11:00	2	1	8	11	13	6	1	0	0	0	0	0	0	0	42
12 PM	3	3	8	12	20	13	3	0	0	0	0	0	0	0	62
13:00	9	4	7	12	9	5	1	0	0	0	0	0	0	0	47
14:00	1	1	4	8	13	4	3	0	0	0	0	0	0	0	34
15:00	3	3	1	15	27	15	6	0	0	0	0	0	0	0	70
16:00	1	5	7	16	19	10	1	0	0	0	0	0	0	0	59
17:00	2	1	6	17	20	10	4	0	0	0	0	0	0	0	60
18:00	1	3	9	17	17	5	0	0	0	0	0	0	0	0	52
19:00	1	5	7	14	11	6	1	0	0	1	0	0	0	0	46
20:00	1	1	7	5	8	3	0	0	0	0	0	0	0	0	25
21:00	2	1	3	4	4	1	0	0	0	0	0	0	0	0	15
22:00	0	0	4	0	2	0	0	0	0	0	0	0	0	0	6
23:00	0	0	1	1	2	0	0	0	0	0	0	0	0	0	4
<b>Total</b>	<b>35</b>	<b>38</b>	<b>117</b>	<b>190</b>	<b>233</b>	<b>114</b>	<b>30</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>759</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 29 MPH  
 85th Percentile : 36 MPH  
 95th Percentile : 39 MPH

Statistics  
 Mean Speed(Average) : 30 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 423  
 Percent in Pace : 55.7%  
 Number of Vehicles > 55 MPH : 1  
 Percent of Vehicles > 55 MPH : 0.1%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

**Northbound, Southbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/12/25	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
01:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	3	4	3	0	0	0	0	0	0	0	0	0	10
07:00	0	1	2	6	2	3	0	0	0	0	0	0	0	0	14
08:00	2	4	3	7	10	2	0	0	0	0	0	0	0	0	28
09:00	2	3	2	15	10	5	4	0	0	0	0	0	0	0	41
10:00	0	0	4	9	16	8	3	0	0	0	0	0	0	0	40
11:00	0	2	6	10	15	12	2	1	0	0	0	0	0	0	48
12 PM	1	2	11	17	21	8	1	0	0	0	0	0	0	0	61
13:00	1	3	8	9	14	5	3	0	0	1	0	0	0	0	44
14:00	0	1	2	7	5	11	1	1	0	0	0	0	0	0	28
15:00	0	2	4	6	18	8	2	0	0	0	0	0	0	0	40
16:00	1	2	3	12	17	7	3	0	0	0	0	0	0	0	45
17:00	1	3	5	12	13	7	1	1	0	0	0	0	0	0	43
18:00	2	1	5	8	13	7	3	0	0	0	0	0	0	0	39
19:00	0	0	4	11	10	4	1	0	0	0	0	0	0	0	30
20:00	0	0	2	8	5	1	0	0	0	0	0	0	0	0	16
21:00	3	0	0	0	3	4	0	0	0	0	0	0	0	0	10
22:00	1	0	0	5	3	2	0	0	0	0	0	0	0	0	11
23:00	1	3	0	3	5	1	2	1	0	0	0	0	0	0	16
<b>Total</b>	<b>16</b>	<b>27</b>	<b>64</b>	<b>150</b>	<b>183</b>	<b>98</b>	<b>27</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>571</b>

Daily  
 15th Percentile : 23 MPH  
 50th Percentile : 30 MPH  
 85th Percentile : 37 MPH  
 95th Percentile : 40 MPH

Statistics  
 Mean Speed(Average) : 31 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 333  
 Percent in Pace : 58.3%  
 Number of Vehicles > 55 MPH : 1  
 Percent of Vehicles > 55 MPH : 0.2%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

## Northbound, Southbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/13/25	0	1	0	0	2	1	0	0	0	0	0	0	0	0	4
01:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
06:00	0	1	2	5	2	0	0	0	0	0	0	0	0	0	10
07:00	1	1	3	6	2	1	1	0	0	0	0	0	0	0	15
08:00	1	2	4	5	5	3	0	0	0	0	0	0	0	0	20
09:00	2	2	5	3	6	1	2	0	0	0	0	0	0	0	21
10:00	1	3	3	15	12	11	0	1	0	0	0	0	0	0	46
11:00	0	3	6	9	14	6	2	1	0	0	0	0	0	0	41
12 PM	2	2	9	11	16	6	2	0	0	1	0	0	0	0	49
13:00	1	4	6	9	17	7	2	1	1	0	0	0	0	0	48
14:00	0	1	3	7	13	7	3	0	0	0	0	0	0	0	34
15:00	0	1	4	4	11	4	5	0	0	0	0	0	0	0	29
16:00	2	1	5	16	18	13	1	1	1	0	0	0	0	0	58
17:00	2	4	5	12	13	12	0	1	0	0	0	0	0	0	49
18:00	0	3	5	9	11	4	1	1	0	0	0	0	0	0	34
19:00	0	0	5	10	13	4	0	0	0	0	0	0	0	0	32
20:00	0	0	3	1	9	5	0	1	0	0	0	0	0	0	19
21:00	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4
22:00	1	0	1	3	1	1	0	0	0	0	0	0	0	0	7
23:00	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>13</b>	<b>29</b>	<b>69</b>	<b>131</b>	<b>170</b>	<b>87</b>	<b>19</b>	<b>7</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>528</b>

Daily  
 15th Percentile : 22 MPH  
 50th Percentile : 30 MPH  
 85th Percentile : 37 MPH  
 95th Percentile : 40 MPH

Statistics  
 Mean Speed(Average) : 31 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 301  
 Percent in Pace : 57.0%  
 Number of Vehicles > 55 MPH : 1  
 Percent of Vehicles > 55 MPH : 0.2%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Bridlewood Drive  
 S/ Meadow Crest Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS002  
 Site Code: 241-25347

**Northbound, Southbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/14/25	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
05:00	1	1	1	0	3	2	0	0	0	0	0	0	0	0	8
06:00	1	2	3	4	6	1	0	1	0	0	0	0	0	0	18
07:00	1	5	8	10	26	3	1	0	0	0	0	0	0	0	54
08:00	2	1	10	21	17	10	1	0	0	0	0	0	0	0	62
09:00	4	4	6	11	9	5	0	0	0	0	0	0	0	0	39
10:00	1	5	7	15	13	8	2	0	0	0	0	0	0	0	51
11:00	2	2	4	9	11	9	2	1	0	0	0	0	0	0	40
12 PM	1	0	9	12	15	9	1	0	0	0	0	0	0	0	47
13:00	3	5	2	7	15	5	2	0	0	0	0	0	0	0	39
14:00	1	1	6	13	17	7	0	0	0	0	0	0	0	0	45
15:00	5	2	9	21	20	7	0	0	0	0	0	0	0	0	64
16:00	4	1	8	12	12	12	2	0	0	0	0	0	0	0	51
17:00	3	2	4	14	21	10	6	0	0	0	0	0	0	0	60
18:00	1	2	11	14	14	8	1	1	0	0	0	0	0	0	52
19:00	0	0	5	11	14	6	2	1	0	0	0	0	0	0	39
20:00	1	0	1	2	6	6	1	1	0	0	0	0	0	0	18
21:00	0	1	2	0	3	2	1	0	0	0	0	0	0	0	9
22:00	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
23:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>31</b>	<b>34</b>	<b>96</b>	<b>177</b>	<b>226</b>	<b>112</b>	<b>22</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>703</b>

Daily  
 15th Percentile : 22 MPH  
 50th Percentile : 30 MPH  
 85th Percentile : 36 MPH  
 95th Percentile : 39 MPH

Statistics  
 Mean Speed(Average) : 30 MPH  
 10 MPH Pace Speed : 26-35 MPH  
 Number in Pace : 403  
 Percent in Pace : 57.3%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

## Eastbound

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/11/25	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4
05:00	0	0	2	2	1	0	0	0	0	0	0	0	0	0	5
06:00	0	0	4	2	1	3	0	0	0	0	0	0	0	0	10
07:00	0	1	12	14	8	9	4	0	0	0	0	0	0	0	48
08:00	1	3	11	20	14	4	0	0	0	0	0	0	0	0	53
09:00	0	1	8	17	9	4	0	0	0	0	0	0	0	0	39
10:00	0	2	7	15	10	2	0	0	0	0	0	0	0	0	36
11:00	0	2	12	17	9	2	1	0	0	0	0	0	0	0	43
12 PM	0	3	11	25	12	2	0	0	0	0	0	0	0	0	53
13:00	0	4	13	18	12	3	1	0	0	0	0	0	0	0	51
14:00	1	1	15	17	5	2	1	0	0	0	0	0	0	0	42
15:00	0	1	14	29	13	3	0	0	0	0	0	0	0	0	60
16:00	0	3	21	24	9	2	1	0	0	0	0	0	0	0	60
17:00	0	2	18	30	21	4	0	0	0	0	0	0	0	0	75
18:00	0	1	15	20	7	1	0	0	0	0	0	0	0	0	44
19:00	1	1	22	7	2	2	1	0	0	0	0	0	0	0	36
20:00	0	2	11	7	1	0	0	0	0	0	0	0	0	0	21
21:00	0	1	5	5	0	0	0	0	0	0	0	0	0	0	11
22:00	0	0	7	4	1	0	0	0	0	0	0	0	0	0	12
23:00	0	0	3	7	3	1	0	0	0	0	0	0	0	0	14
<b>Total</b>	<b>3</b>	<b>28</b>	<b>212</b>	<b>286</b>	<b>139</b>	<b>44</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>721</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 36 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 498  
 Percent in Pace : 69.1%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

**Eastbound**

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/12/25	0	0	0	3	2	0	0	0	0	0	0	0	0	0	5
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	3	2	0	0	0	0	0	0	0	0	0	0	5
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
06:00	0	0	3	2	3	0	0	0	0	0	0	0	0	0	8
07:00	0	0	2	7	2	0	0	0	0	0	0	0	0	0	11
08:00	0	4	5	9	7	4	0	0	0	0	0	0	0	0	29
09:00	1	0	11	16	9	1	0	0	0	0	0	0	0	0	38
10:00	0	0	13	19	11	5	1	0	0	0	0	0	0	0	49
11:00	0	0	9	19	13	5	1	0	0	0	0	0	0	0	47
12 PM	0	2	14	22	2	3	2	0	0	0	0	0	0	0	45
13:00	0	1	10	11	10	4	1	0	0	0	0	0	0	0	37
14:00	0	1	7	17	8	2	0	0	0	0	0	0	0	0	35
15:00	0	1	11	19	7	4	1	0	0	0	0	0	0	0	43
16:00	0	5	11	18	10	4	1	0	0	0	0	0	0	0	49
17:00	0	1	13	13	6	6	3	0	0	0	0	0	0	0	42
18:00	1	1	24	14	7	3	0	0	0	0	0	0	0	0	50
19:00	0	1	8	13	9	1	0	0	0	0	0	0	0	0	32
20:00	1	0	6	6	4	1	0	0	0	0	0	0	0	0	18
21:00	0	1	5	9	4	0	0	0	0	0	0	0	0	0	19
22:00	0	0	4	1	2	0	0	0	0	0	0	0	0	0	7
23:00	0	0	5	3	2	1	0	0	0	0	0	0	0	0	11
<b>Total</b>	<b>3</b>	<b>18</b>	<b>165</b>	<b>224</b>	<b>120</b>	<b>44</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>584</b>

Daily  
 15th Percentile : 22 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 37 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 389  
 Percent in Pace : 66.6%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

## Eastbound

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/13/25	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	1	1	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
06:00	0	0	0	4	1	0	0	0	0	0	0	0	0	0	5
07:00	0	0	3	5	2	0	0	0	0	0	0	0	0	0	10
08:00	1	0	4	8	1	3	0	0	0	0	0	0	0	0	17
09:00	1	0	9	10	3	2	1	0	0	0	0	0	0	0	26
10:00	0	1	14	15	11	4	0	0	0	0	0	0	0	0	45
11:00	1	4	8	13	1	2	1	0	0	0	0	0	0	0	30
12 PM	0	1	6	20	6	4	1	0	0	0	0	0	0	0	38
13:00	0	2	17	28	10	3	0	0	0	0	0	0	0	0	60
14:00	0	0	9	16	12	3	1	0	0	0	0	0	0	0	41
15:00	0	2	12	18	13	5	0	0	0	0	0	0	0	0	50
16:00	0	2	10	31	9	3	0	0	0	0	0	0	0	0	55
17:00	0	0	13	18	9	1	1	0	0	0	0	0	0	0	42
18:00	1	2	8	13	5	3	1	0	0	0	0	0	0	0	33
19:00	0	2	13	5	4	0	0	0	0	0	0	0	0	0	24
20:00	0	2	5	11	4	0	0	0	0	0	0	0	0	0	22
21:00	0	3	3	9	1	1	0	0	0	0	0	0	0	0	17
22:00	0	0	3	3	2	0	2	0	0	0	0	0	0	0	10
23:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>4</b>	<b>22</b>	<b>140</b>	<b>231</b>	<b>97</b>	<b>35</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>537</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 37 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 371  
 Percent in Pace : 69.1%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

**Eastbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/14/25	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	3	1	0	0	0	0	0	0	0	0	0	4
05:00	0	0	2	3	1	1	0	0	0	0	0	0	0	0	7
06:00	0	0	2	5	2	3	0	0	0	0	0	0	0	0	12
07:00	0	0	5	12	12	6	0	0	0	0	0	0	0	0	35
08:00	1	3	21	22	14	2	0	0	0	0	0	0	0	0	63
09:00	0	8	13	19	9	3	0	0	0	0	0	0	0	0	52
10:00	1	4	16	17	11	0	0	0	0	0	0	0	0	0	49
11:00	1	3	15	14	8	4	0	0	0	0	0	0	0	0	45
12 PM	1	3	12	18	10	4	0	0	0	0	0	0	0	0	48
13:00	1	1	14	13	14	3	0	0	0	0	0	0	0	0	46
14:00	1	4	14	13	11	3	0	0	0	0	0	0	0	0	46
15:00	1	3	9	18	10	3	0	0	0	0	0	0	0	0	44
16:00	0	0	11	34	10	1	1	0	0	0	0	0	0	0	57
17:00	0	1	15	27	10	3	0	0	0	0	0	0	0	0	56
18:00	0	5	12	20	5	2	1	0	0	0	0	0	0	0	45
19:00	0	1	11	19	2	1	0	0	0	0	0	0	0	0	34
20:00	0	0	7	9	7	0	0	0	0	0	0	0	0	0	23
21:00	0	1	3	2	3	1	0	0	0	0	0	0	0	0	10
22:00	0	0	3	0	3	0	0	0	0	0	0	0	0	0	6
23:00	0	0	1	3	2	0	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>7</b>	<b>37</b>	<b>187</b>	<b>272</b>	<b>145</b>	<b>40</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>690</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 32 MPH  
 95th Percentile : 35 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 459  
 Percent in Pace : 66.5%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

## Westbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/11/25	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	0	4	1	1	0	0	0	0	0	0	0	0	6
07:00	1	2	3	7	9	1	0	0	0	0	0	0	0	0	23
08:00	0	3	13	12	5	1	0	0	0	0	0	0	0	0	34
09:00	0	0	8	13	13	0	0	0	0	0	0	0	0	0	34
10:00	0	2	3	5	7	1	1	0	0	0	0	0	0	0	19
11:00	1	1	9	11	3	4	0	0	0	0	0	0	0	0	29
12 PM	0	2	5	21	7	3	1	0	0	0	0	0	0	0	39
13:00	0	5	7	12	7	1	1	0	0	0	0	0	0	0	33
14:00	1	4	18	18	8	1	0	0	0	0	0	0	0	0	50
15:00	1	0	5	16	16	4	0	0	0	0	0	0	0	0	42
16:00	0	2	11	16	8	3	0	0	0	0	0	0	0	0	40
17:00	0	1	4	17	11	2	0	0	0	0	0	0	0	0	35
18:00	0	0	12	13	11	5	0	0	0	0	0	0	0	0	41
19:00	0	3	8	13	10	0	1	0	0	0	0	0	0	0	35
20:00	0	3	12	12	6	1	0	0	0	0	0	0	0	0	34
21:00	0	2	7	5	1	1	0	0	0	0	0	0	0	0	16
22:00	0	0	6	9	3	0	0	0	0	0	0	0	0	0	18
23:00	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>4</b>	<b>30</b>	<b>134</b>	<b>206</b>	<b>129</b>	<b>31</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>538</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 36 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 340  
 Percent in Pace : 63.2%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

**Westbound**

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/12/25	0	1	1	1	2	0	0	0	0	0	0	0	0	0	5
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	3	3	0	0	0	0	0	0	0	0	0	6
08:00	0	1	3	5	4	0	0	0	0	0	0	0	0	0	13
09:00	0	5	6	10	5	1	0	0	0	0	0	0	0	0	27
10:00	0	0	6	10	11	2	0	0	0	0	0	0	0	0	29
11:00	0	1	8	13	8	2	0	0	0	0	0	0	0	0	32
12 PM	1	1	15	17	10	7	1	0	0	0	0	0	0	0	52
13:00	1	1	7	20	14	4	0	0	0	0	0	0	0	0	47
14:00	0	0	4	24	12	4	0	0	0	0	0	0	0	0	44
15:00	0	1	5	10	6	2	2	0	0	0	0	0	0	0	26
16:00	0	1	8	13	13	3	0	0	0	0	0	0	0	0	38
17:00	0	1	9	15	2	3	0	0	0	0	0	0	0	0	30
18:00	0	2	10	13	7	2	0	0	0	0	0	0	0	0	34
19:00	0	2	7	19	4	1	0	0	0	0	0	0	0	0	33
20:00	0	0	6	14	1	1	0	0	0	0	0	0	0	0	22
21:00	0	1	4	3	0	0	0	0	0	0	0	0	0	0	8
22:00	0	3	3	7	1	1	0	0	0	0	0	0	0	0	15
23:00	0	2	4	6	1	1	1	0	0	0	0	0	0	0	15
<b>Total</b>	<b>2</b>	<b>24</b>	<b>107</b>	<b>204</b>	<b>104</b>	<b>34</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>479</b>

Daily  
 15th Percentile : 22 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 37 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 311  
 Percent in Pace : 64.9%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

**Westbound**

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/13/25	0	0	1	0	4	0	0	0	0	0	0	0	0	0	5
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
07:00	0	0	3	3	0	0	0	0	0	0	0	0	0	0	6
08:00	0	0	1	4	1	0	0	0	0	0	0	0	0	0	6
09:00	0	1	1	2	4	0	0	0	0	0	0	0	0	0	8
10:00	0	2	6	9	6	1	0	0	0	0	0	0	0	0	24
11:00	1	1	6	12	9	2	0	0	0	0	0	0	0	0	31
12 PM	0	1	9	16	9	3	0	0	0	0	0	0	0	0	38
13:00	0	1	8	24	10	3	0	0	0	0	0	0	0	0	46
14:00	0	1	14	11	13	4	1	0	0	0	0	0	0	0	44
15:00	0	0	3	8	3	7	0	0	0	0	0	0	0	0	21
16:00	1	2	10	14	10	2	0	0	0	0	0	0	0	0	39
17:00	0	0	8	15	4	2	0	0	0	0	0	0	0	0	29
18:00	0	2	8	16	5	2	0	0	0	0	0	0	0	0	33
19:00	0	1	6	10	6	2	0	0	0	0	0	0	0	0	25
20:00	0	3	8	8	5	1	0	0	0	0	0	0	0	0	25
21:00	0	1	1	4	3	0	0	0	0	0	0	0	0	0	9
22:00	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4
23:00	0	0	1	0	2	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>2</b>	<b>16</b>	<b>97</b>	<b>159</b>	<b>96</b>	<b>31</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>402</b>

Daily  
 15th Percentile : 22 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 36 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 256  
 Percent in Pace : 63.7%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

## Westbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/14/25	0	0	2	2	0	1	0	0	0	0	0	0	0	0	5
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3
06:00	1	1	3	4	0	0	0	0	0	0	0	0	0	0	9
07:00	0	1	6	5	5	2	0	0	0	0	0	0	0	0	19
08:00	0	2	6	11	10	1	0	0	0	0	0	0	0	0	30
09:00	0	6	7	13	4	1	0	0	0	0	0	0	0	0	31
10:00	0	3	6	9	5	3	1	0	0	0	0	0	0	0	27
11:00	1	3	5	8	7	2	0	0	0	0	0	0	0	0	26
12 PM	0	3	8	13	7	2	0	0	0	0	0	0	0	0	33
13:00	0	4	12	24	11	2	0	0	0	0	0	0	0	0	53
14:00	0	0	8	15	9	5	0	0	0	0	0	0	0	0	37
15:00	0	1	4	16	16	2	0	0	0	0	0	0	0	0	39
16:00	0	3	6	18	7	4	0	0	0	0	0	0	0	0	38
17:00	0	0	10	25	9	3	0	0	0	0	0	0	0	0	47
18:00	0	0	7	20	6	3	0	0	0	0	0	0	0	0	36
19:00	0	3	8	14	2	4	0	0	0	0	0	0	0	0	31
20:00	0	0	10	16	0	2	0	0	0	0	0	0	0	0	28
21:00	0	1	9	8	1	0	1	0	0	0	0	0	0	0	20
22:00	0	0	1	3	3	1	0	0	0	0	0	0	0	0	8
23:00	0	0	1	1	1	0	1	0	0	0	0	0	0	0	4
<b>Total</b>	<b>4</b>	<b>31</b>	<b>122</b>	<b>225</b>	<b>103</b>	<b>39</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>527</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 37 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 347  
 Percent in Pace : 65.8%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

## Eastbound, Westbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/11/25	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
01:00	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
02:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:00	0	0	2	2	1	0	0	0	0	0	0	0	0	0	5
05:00	0	0	3	3	1	0	0	0	0	0	0	0	0	0	7
06:00	0	0	4	6	2	4	0	0	0	0	0	0	0	0	16
07:00	1	3	15	21	17	10	4	0	0	0	0	0	0	0	71
08:00	1	6	24	32	19	5	0	0	0	0	0	0	0	0	87
09:00	0	1	16	30	22	4	0	0	0	0	0	0	0	0	73
10:00	0	4	10	20	17	3	1	0	0	0	0	0	0	0	55
11:00	1	3	21	28	12	6	1	0	0	0	0	0	0	0	72
12 PM	0	5	16	46	19	5	1	0	0	0	0	0	0	0	92
13:00	0	9	20	30	19	4	2	0	0	0	0	0	0	0	84
14:00	2	5	33	35	13	3	1	0	0	0	0	0	0	0	92
15:00	1	1	19	45	29	7	0	0	0	0	0	0	0	0	102
16:00	0	5	32	40	17	5	1	0	0	0	0	0	0	0	100
17:00	0	3	22	47	32	6	0	0	0	0	0	0	0	0	110
18:00	0	1	27	33	18	6	0	0	0	0	0	0	0	0	85
19:00	1	4	30	20	12	2	2	0	0	0	0	0	0	0	71
20:00	0	5	23	19	7	1	0	0	0	0	0	0	0	0	55
21:00	0	3	12	10	1	1	0	0	0	0	0	0	0	0	27
22:00	0	0	13	13	4	0	0	0	0	0	0	0	0	0	30
23:00	0	0	4	8	4	1	0	0	0	0	0	0	0	0	17
<b>Total</b>	<b>7</b>	<b>58</b>	<b>346</b>	<b>492</b>	<b>268</b>	<b>75</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1259</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 36 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 838  
 Percent in Pace : 66.6%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

## Eastbound, Westbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/12/25	0	1	1	4	4	0	0	0	0	0	0	0	0	0	10
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	4	3	0	0	0	0	0	0	0	0	0	0	7
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3
06:00	0	0	3	2	3	0	0	0	0	0	0	0	0	0	8
07:00	0	0	2	10	5	0	0	0	0	0	0	0	0	0	17
08:00	0	5	8	14	11	4	0	0	0	0	0	0	0	0	42
09:00	1	5	17	26	14	2	0	0	0	0	0	0	0	0	65
10:00	0	0	19	29	22	7	1	0	0	0	0	0	0	0	78
11:00	0	1	17	32	21	7	1	0	0	0	0	0	0	0	79
12 PM	1	3	29	39	12	10	3	0	0	0	0	0	0	0	97
13:00	1	2	17	31	24	8	1	0	0	0	0	0	0	0	84
14:00	0	1	11	41	20	6	0	0	0	0	0	0	0	0	79
15:00	0	2	16	29	13	6	3	0	0	0	0	0	0	0	69
16:00	0	6	19	31	23	7	1	0	0	0	0	0	0	0	87
17:00	0	2	22	28	8	9	3	0	0	0	0	0	0	0	72
18:00	1	3	34	27	14	5	0	0	0	0	0	0	0	0	84
19:00	0	3	15	32	13	2	0	0	0	0	0	0	0	0	65
20:00	1	0	12	20	5	2	0	0	0	0	0	0	0	0	40
21:00	0	2	9	12	4	0	0	0	0	0	0	0	0	0	27
22:00	0	3	7	8	3	1	0	0	0	0	0	0	0	0	22
23:00	0	2	9	9	3	2	1	0	0	0	0	0	0	0	26
<b>Total</b>	<b>5</b>	<b>42</b>	<b>272</b>	<b>428</b>	<b>224</b>	<b>78</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1063</b>

Daily  
 15th Percentile : 22 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 37 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 700  
 Percent in Pace : 65.9%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

**Eastbound, Westbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/13/25	0	0	1	1	4	0	0	0	0	0	0	0	0	0	6
01:00	0	1	0	1	1	1	0	0	0	0	0	0	0	0	4
02:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
03:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	0	2	1	1	0	0	0	0	0	0	0	0	0	4
06:00	0	0	0	4	2	0	0	0	0	0	0	0	0	0	6
07:00	0	0	6	8	2	0	0	0	0	0	0	0	0	0	16
08:00	1	0	5	12	2	3	0	0	0	0	0	0	0	0	23
09:00	1	1	10	12	7	2	1	0	0	0	0	0	0	0	34
10:00	0	3	20	24	17	5	0	0	0	0	0	0	0	0	69
11:00	2	5	14	25	10	4	1	0	0	0	0	0	0	0	61
12 PM	0	2	15	36	15	7	1	0	0	0	0	0	0	0	76
13:00	0	3	25	52	20	6	0	0	0	0	0	0	0	0	106
14:00	0	1	23	27	25	7	2	0	0	0	0	0	0	0	85
15:00	0	2	15	26	16	12	0	0	0	0	0	0	0	0	71
16:00	1	4	20	45	19	5	0	0	0	0	0	0	0	0	94
17:00	0	0	21	33	13	3	1	0	0	0	0	0	0	0	71
18:00	1	4	16	29	10	5	1	0	0	0	0	0	0	0	66
19:00	0	3	19	15	10	2	0	0	0	0	0	0	0	0	49
20:00	0	5	13	19	9	1	0	0	0	0	0	0	0	0	47
21:00	0	4	4	13	4	1	0	0	0	0	0	0	0	0	26
22:00	0	0	5	5	2	0	2	0	0	0	0	0	0	0	14
23:00	0	0	3	1	2	0	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>6</b>	<b>38</b>	<b>237</b>	<b>390</b>	<b>193</b>	<b>66</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>939</b>

Daily  
 15th Percentile : 22 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 37 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 627  
 Percent in Pace : 66.8%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 B/ Devonshire Road - Barkstone Lane  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS003  
 Site Code: 241-25347

**Eastbound, Westbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/14/25	0	0	2	3	0	1	0	0	0	0	0	0	0	0	6
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	2	3	1	0	0	0	0	0	0	0	0	0	6
05:00	2	0	3	3	1	1	0	0	0	0	0	0	0	0	10
06:00	1	1	5	9	2	3	0	0	0	0	0	0	0	0	21
07:00	0	1	11	17	17	8	0	0	0	0	0	0	0	0	54
08:00	1	5	27	33	24	3	0	0	0	0	0	0	0	0	93
09:00	0	14	20	32	13	4	0	0	0	0	0	0	0	0	83
10:00	1	7	22	26	16	3	1	0	0	0	0	0	0	0	76
11:00	2	6	20	22	15	6	0	0	0	0	0	0	0	0	71
12 PM	1	6	20	31	17	6	0	0	0	0	0	0	0	0	81
13:00	1	5	26	37	25	5	0	0	0	0	0	0	0	0	99
14:00	1	4	22	28	20	8	0	0	0	0	0	0	0	0	83
15:00	1	4	13	34	26	5	0	0	0	0	0	0	0	0	83
16:00	0	3	17	52	17	5	1	0	0	0	0	0	0	0	95
17:00	0	1	25	52	19	6	0	0	0	0	0	0	0	0	103
18:00	0	5	19	40	11	5	1	0	0	0	0	0	0	0	81
19:00	0	4	19	33	4	5	0	0	0	0	0	0	0	0	65
20:00	0	0	17	25	7	2	0	0	0	0	0	0	0	0	51
21:00	0	2	12	10	4	1	1	0	0	0	0	0	0	0	30
22:00	0	0	4	3	6	1	0	0	0	0	0	0	0	0	14
23:00	0	0	2	4	3	0	1	0	0	0	0	0	0	0	10
<b>Total</b>	<b>11</b>	<b>68</b>	<b>309</b>	<b>497</b>	<b>248</b>	<b>79</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1217</b>

Daily  
 15th Percentile : 21 MPH  
 50th Percentile : 27 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 36 MPH

Statistics  
 Mean Speed(Average) : 28 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 806  
 Percent in Pace : 66.2%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 E/ Bridlewood Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS004  
 Site Code: 241-25347

**Eastbound**

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
04/11/25	0	0	1	0	0	2	1	0	0	0	0	0	0	0	4
01:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	3	7	0	1	0	0	0	0	0	0	11
05:00	0	0	0	1	6	3	2	1	0	0	0	0	0	0	13
06:00	0	0	1	4	17	8	7	1	0	0	0	0	0	0	38
07:00	0	2	1	10	30	36	18	2	0	0	0	0	0	0	99
08:00	0	0	3	14	40	40	17	3	1	0	0	0	0	0	118
09:00	1	2	3	10	29	32	14	2	0	0	0	0	0	0	93
10:00	0	0	4	14	25	33	11	2	0	0	0	0	0	0	89
11:00	2	2	4	6	32	28	15	1	2	0	0	0	0	0	92
12 PM	0	1	1	6	32	39	22	0	0	0	0	0	0	0	101
13:00	1	2	5	19	29	29	12	1	0	1	0	0	0	0	99
14:00	1	0	3	9	21	32	14	2	0	0	0	0	0	0	82
15:00	2	1	4	12	31	27	21	4	0	0	0	0	0	0	102
16:00	0	0	2	17	23	38	15	3	0	0	0	0	0	0	98
17:00	0	0	2	17	39	34	15	4	0	0	0	0	0	0	111
18:00	0	0	1	7	29	25	12	2	0	0	0	0	0	0	76
19:00	0	1	2	10	12	18	13	3	0	0	0	0	0	0	59
20:00	0	0	1	1	11	11	4	2	0	0	0	0	0	0	30
21:00	0	0	2	6	10	5	1	0	0	0	0	0	0	0	24
22:00	0	0	1	3	5	11	2	0	0	0	0	0	0	0	22
23:00	0	0	1	2	3	8	1	0	0	0	0	0	0	0	15
<b>Total</b>	<b>7</b>	<b>11</b>	<b>42</b>	<b>168</b>	<b>428</b>	<b>466</b>	<b>218</b>	<b>34</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1378</b>

Daily  
 15th Percentile : 29 MPH  
 50th Percentile : 35 MPH  
 85th Percentile : 41 MPH  
 95th Percentile : 44 MPH

Statistics  
 Mean Speed(Average) : 36 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 894  
 Percent in Pace : 64.9%  
 Number of Vehicles > 55 MPH : 1  
 Percent of Vehicles > 55 MPH : 0.1%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 E/ Bridlewood Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS004  
 Site Code: 241-25347

## Eastbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/12/25	0	0	0	0	2	2	1	0	0	0	0	0	0	0	5
01:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
02:00	0	0	0	0	2	2	0	0	0	0	0	0	0	0	4
03:00	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2
04:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
05:00	0	0	0	1	3	2	4	0	0	0	0	0	0	0	10
06:00	0	0	0	3	7	6	2	1	0	0	0	0	0	0	19
07:00	0	0	1	3	5	15	7	2	0	0	0	0	0	0	33
08:00	0	0	2	7	26	20	14	3	0	0	0	0	0	0	72
09:00	0	1	3	8	21	28	25	3	0	0	0	0	0	0	89
10:00	0	0	2	3	27	30	19	3	1	0	0	0	0	0	85
11:00	0	0	0	9	24	29	25	5	1	1	0	0	0	0	94
12 PM	0	0	1	16	21	34	12	2	0	0	0	0	0	0	86
13:00	0	0	1	11	23	25	17	5	4	0	0	0	0	0	86
14:00	0	0	2	7	18	25	12	3	0	0	0	0	0	0	67
15:00	0	1	3	5	28	31	11	5	1	0	0	0	0	0	85
16:00	0	0	1	6	25	25	13	6	0	0	0	0	0	0	76
17:00	0	0	0	6	20	28	20	2	0	1	0	0	0	0	77
18:00	0	0	2	6	17	27	7	1	0	1	0	0	0	0	61
19:00	0	2	2	10	20	16	3	1	0	0	0	0	0	0	54
20:00	0	0	0	5	12	10	7	1	0	0	0	0	0	0	35
21:00	0	0	2	8	8	8	1	2	0	0	0	0	0	0	29
22:00	0	0	0	5	5	4	0	2	0	0	0	0	0	0	16
23:00	0	1	1	4	3	6	4	0	0	0	0	0	0	0	19
<b>Total</b>	<b>0</b>	<b>5</b>	<b>23</b>	<b>124</b>	<b>318</b>	<b>373</b>	<b>206</b>	<b>47</b>	<b>7</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1107</b>

Daily  
 15th Percentile : 30 MPH  
 50th Percentile : 36 MPH  
 85th Percentile : 42 MPH  
 95th Percentile : 45 MPH

Statistics  
 Mean Speed(Average) : 37 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 691  
 Percent in Pace : 62.4%  
 Number of Vehicles > 55 MPH : 4  
 Percent of Vehicles > 55 MPH : 0.4%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 E/ Bridlewood Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS004  
 Site Code: 241-25347

**Eastbound**

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/13/25	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
01:00	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3
02:00	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:00	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
05:00	0	0	1	0	2	0	0	0	0	0	0	0	0	0	3
06:00	0	0	0	3	6	4	2	0	0	0	0	0	0	0	15
07:00	0	0	0	3	9	9	6	0	0	0	0	0	0	0	27
08:00	0	1	2	5	13	20	7	1	0	0	0	0	0	0	49
09:00	0	0	2	5	16	28	16	3	1	0	0	0	0	0	71
10:00	0	0	1	12	13	25	16	5	0	0	0	0	0	0	72
11:00	0	0	0	9	27	26	5	1	1	0	0	0	0	0	69
12 PM	0	1	5	9	26	25	9	1	0	0	0	0	0	0	76
13:00	0	1	3	11	24	31	16	2	0	0	0	0	0	0	88
14:00	0	0	0	6	19	24	18	2	0	0	0	0	0	0	69
15:00	0	0	1	6	28	25	20	0	1	0	0	0	0	0	81
16:00	0	0	0	11	27	41	12	3	0	0	0	0	0	0	94
17:00	0	0	0	12	16	25	11	3	0	0	0	0	0	0	67
18:00	0	0	2	8	12	21	12	0	1	0	0	0	0	0	56
19:00	0	0	4	5	13	15	7	0	0	0	0	0	0	0	44
20:00	0	0	1	0	7	7	6	0	0	0	0	0	0	0	21
21:00	0	0	0	1	7	1	4	1	0	0	0	0	0	0	14
22:00	0	0	0	0	3	6	4	2	1	0	0	0	0	0	16
23:00	0	0	0	0	0	2	5	0	0	0	0	0	0	0	7
<b>Total</b>	<b>0</b>	<b>3</b>	<b>23</b>	<b>107</b>	<b>271</b>	<b>338</b>	<b>179</b>	<b>25</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>951</b>

Daily  
 15th Percentile : 30 MPH  
 50th Percentile : 36 MPH  
 85th Percentile : 41 MPH  
 95th Percentile : 44 MPH

Statistics  
 Mean Speed(Average) : 36 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 609  
 Percent in Pace : 64.0%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 E/ Bridlewood Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS004  
 Site Code: 241-25347

**Eastbound**

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/14/25	0	0	0	0	2	0	1	0	0	0	0	0	0	0	3
01:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	4	2	3	0	0	0	0	0	0	0	9
05:00	0	0	0	2	6	4	3	2	0	0	0	0	0	0	17
06:00	0	0	2	6	7	10	13	2	0	0	0	0	0	0	40
07:00	3	0	2	10	24	40	14	4	0	0	0	0	0	0	97
08:00	0	0	11	11	25	36	17	2	0	0	0	0	0	0	102
09:00	1	1	10	12	33	41	21	3	1	0	0	0	0	0	123
10:00	5	4	1	22	30	26	8	3	2	0	0	0	0	0	101
11:00	1	0	2	16	16	24	9	3	0	0	0	0	0	0	71
12 PM	1	4	6	23	22	18	3	0	0	0	0	0	0	0	77
13:00	0	1	2	16	22	27	18	4	1	0	0	0	0	0	91
14:00	0	0	3	12	28	29	13	5	0	0	0	0	0	0	90
15:00	0	0	1	16	31	30	15	2	1	0	0	0	0	0	96
16:00	0	0	1	11	27	34	18	4	0	1	0	0	0	0	96
17:00	0	1	1	10	28	26	18	4	0	2	0	0	0	0	90
18:00	0	0	1	13	18	18	9	4	0	0	0	0	0	0	63
19:00	0	0	0	7	14	12	11	0	2	0	0	0	0	0	46
20:00	0	0	2	4	5	9	5	0	0	0	0	0	0	0	25
21:00	0	0	0	3	4	3	4	0	0	0	0	0	0	0	14
22:00	0	0	0	0	4	1	3	2	0	0	0	0	0	0	10
23:00	0	0	0	1	2	1	4	1	0	0	0	0	0	0	9
<b>Total</b>	<b>11</b>	<b>11</b>	<b>45</b>	<b>195</b>	<b>354</b>	<b>392</b>	<b>211</b>	<b>45</b>	<b>7</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1274</b>

Daily  
 15th Percentile : 28 MPH  
 50th Percentile : 35 MPH  
 85th Percentile : 41 MPH  
 95th Percentile : 44 MPH

Statistics  
 Mean Speed(Average) : 35 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 746  
 Percent in Pace : 58.6%  
 Number of Vehicles > 55 MPH : 3  
 Percent of Vehicles > 55 MPH : 0.2%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 E/ Bridlewood Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS004  
 Site Code: 241-25347

**Westbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/11/25	0	0	0	0	1	0	3	1	0	0	0	0	0	0	5
01:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
02:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
05:00	0	0	0	2	2	1	0	0	0	0	0	0	0	0	5
06:00	0	0	7	8	5	7	2	1	0	0	0	0	0	0	30
07:00	3	2	3	15	14	6	3	1	0	1	0	0	0	0	48
08:00	0	0	15	16	24	20	1	0	0	0	0	0	0	0	76
09:00	0	0	4	26	29	11	2	0	0	0	0	0	0	0	72
10:00	0	2	4	19	23	14	3	0	0	0	0	0	0	0	65
11:00	0	0	6	26	29	19	3	4	1	0	0	0	0	0	88
12 PM	0	0	8	28	36	18	11	3	0	0	0	0	0	0	104
13:00	0	1	8	21	37	17	1	0	0	0	0	0	0	0	85
14:00	0	0	6	28	43	22	6	1	0	0	0	0	0	0	106
15:00	0	1	3	19	39	31	9	4	0	0	0	0	0	0	106
16:00	0	0	3	28	38	25	9	2	2	0	0	0	0	0	107
17:00	0	0	4	12	41	26	9	6	0	0	0	0	0	0	98
18:00	0	2	11	15	35	28	8	2	0	0	0	0	0	0	101
19:00	0	2	2	8	42	29	14	4	0	1	0	0	0	0	102
20:00	0	0	0	15	28	12	7	4	0	0	0	0	0	0	66
21:00	0	0	2	7	15	18	4	2	0	0	0	0	0	0	48
22:00	0	1	0	6	13	10	4	0	0	0	0	0	0	0	34
23:00	0	0	0	3	5	6	0	1	0	0	0	0	0	0	15
<b>Total</b>	<b>3</b>	<b>11</b>	<b>87</b>	<b>303</b>	<b>500</b>	<b>323</b>	<b>99</b>	<b>36</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1367</b>

Daily  
 15th Percentile : 26 MPH  
 50th Percentile : 32 MPH  
 85th Percentile : 38 MPH  
 95th Percentile : 43 MPH

Statistics  
 Mean Speed(Average) : 33 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 823  
 Percent in Pace : 60.2%  
 Number of Vehicles > 55 MPH : 2  
 Percent of Vehicles > 55 MPH : 0.1%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 E/ Bridlewood Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS004  
 Site Code: 241-25347

**Westbound**

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/12/25	0	0	0	1	4	4	0	0	0	0	0	0	0	0	9
01:00	0	0	0	2	1	1	0	0	0	0	0	0	0	0	4
02:00	0	0	0	2	2	2	0	1	0	0	0	0	0	0	7
03:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	2	0	1	2	0	0	0	0	0	0	0	0	5
06:00	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3
07:00	0	0	0	5	4	4	0	0	0	0	0	0	0	0	13
08:00	0	1	1	8	13	8	4	1	0	0	0	0	0	0	36
09:00	0	2	2	6	19	15	3	2	0	0	0	0	0	0	49
10:00	0	0	8	13	23	18	8	2	1	0	0	0	0	0	73
11:00	0	0	1	11	22	24	14	4	1	0	0	0	0	0	77
12 PM	0	0	3	16	36	28	7	2	2	0	0	0	0	0	94
13:00	0	0	1	17	24	33	17	2	3	0	0	0	0	0	97
14:00	0	0	1	16	33	31	15	4	0	0	0	0	0	0	100
15:00	0	1	1	10	23	19	14	1	1	0	0	0	0	0	70
16:00	0	0	1	7	23	33	12	3	0	0	0	0	0	0	79
17:00	0	0	5	8	28	31	9	2	0	0	0	0	0	0	83
18:00	0	0	4	16	26	20	9	1	0	0	0	0	0	0	76
19:00	0	0	5	13	32	21	10	0	0	0	0	0	0	0	81
20:00	0	0	3	4	12	19	6	1	0	0	0	0	0	0	45
21:00	0	0	0	11	8	9	4	0	0	0	0	0	0	0	32
22:00	0	0	2	8	16	11	4	3	0	0	0	0	0	0	44
23:00	0	0	2	7	10	6	3	1	0	1	0	0	0	0	30
<b>Total</b>	<b>0</b>	<b>4</b>	<b>42</b>	<b>181</b>	<b>362</b>	<b>340</b>	<b>139</b>	<b>31</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1108</b>

Daily  
 15th Percentile : 28 MPH  
 50th Percentile : 34 MPH  
 85th Percentile : 40 MPH  
 95th Percentile : 44 MPH

Statistics  
 Mean Speed(Average) : 35 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 702  
 Percent in Pace : 63.4%  
 Number of Vehicles > 55 MPH : 1  
 Percent of Vehicles > 55 MPH : 0.1%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 E/ Bridlewood Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS004  
 Site Code: 241-25347

**Westbound**

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
04/13/25	0	0	0	1	3	6	2	0	0	0	0	0	0	0	12
01:00	0	0	1	1	2	0	1	0	0	0	0	0	0	0	5
02:00	0	0	1	0	1	3	0	1	0	0	0	0	0	0	6
03:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4
06:00	0	0	1	1	0	1	0	0	0	0	0	0	0	0	3
07:00	0	0	1	4	3	3	2	0	0	0	0	0	0	0	13
08:00	0	0	1	7	6	2	3	0	0	0	0	0	0	0	19
09:00	0	0	4	6	9	7	0	1	0	0	0	0	0	0	27
10:00	0	0	5	9	15	25	4	1	0	0	0	0	0	0	59
11:00	0	0	4	15	29	19	9	0	0	0	0	0	0	0	76
12 PM	0	0	6	15	27	29	8	3	0	0	0	0	0	0	88
13:00	0	0	2	12	33	23	6	2	1	0	0	0	0	0	79
14:00	0	1	6	8	27	24	18	1	1	0	0	0	0	0	86
15:00	0	1	2	11	19	30	10	5	0	0	0	0	0	0	78
16:00	0	0	4	11	32	18	8	3	0	0	0	0	0	0	76
17:00	0	0	2	17	23	29	7	2	0	0	0	0	0	0	80
18:00	0	0	5	10	29	25	11	2	0	0	0	0	0	0	82
19:00	0	0	2	8	27	18	4	1	1	0	0	0	0	0	61
20:00	0	0	1	8	20	20	5	1	0	0	1	0	0	0	56
21:00	0	0	2	1	8	11	1	0	0	0	0	0	0	0	23
22:00	0	1	0	0	6	7	1	0	0	0	0	0	0	0	15
23:00	0	0	1	1	3	5	0	0	1	0	0	0	0	0	11
<b>Total</b>	<b>0</b>	<b>3</b>	<b>52</b>	<b>147</b>	<b>324</b>	<b>307</b>	<b>101</b>	<b>23</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>962</b>

Daily  
 15th Percentile : 28 MPH  
 50th Percentile : 34 MPH  
 85th Percentile : 39 MPH  
 95th Percentile : 44 MPH

Statistics  
 Mean Speed(Average) : 35 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 631  
 Percent in Pace : 65.6%  
 Number of Vehicles > 55 MPH : 1  
 Percent of Vehicles > 55 MPH : 0.1%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 E/ Bridlewood Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS004  
 Site Code: 241-25347

**Westbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/14/25	0	0	0	1	2	2	2	0	0	0	0	0	0	0	7
01:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	3	1	0	0	0	0	0	0	0	4
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
05:00	0	0	3	0	1	4	0	0	0	0	0	0	0	0	8
06:00	0	2	4	6	8	4	1	1	0	0	0	0	0	0	26
07:00	0	1	8	9	19	6	4	0	0	0	0	0	0	0	47
08:00	0	1	8	20	22	20	4	0	0	0	0	0	0	0	75
09:00	0	1	4	21	17	14	2	0	0	0	0	0	0	0	59
10:00	0	2	5	23	21	14	4	2	0	0	0	0	0	0	71
11:00	1	4	5	9	24	12	4	1	1	0	0	0	0	0	61
12 PM	0	5	17	25	25	9	2	0	0	0	0	0	0	0	83
13:00	0	1	7	20	33	23	6	3	0	0	0	0	0	0	93
14:00	0	1	1	14	35	26	8	1	0	0	0	0	0	0	86
15:00	0	1	4	20	41	33	8	5	1	0	0	0	0	0	113
16:00	1	3	13	14	37	29	12	3	2	0	0	0	0	0	114
17:00	0	3	9	23	45	31	6	3	0	0	0	0	0	0	120
18:00	0	2	5	21	43	21	8	2	0	0	0	0	0	0	102
19:00	0	0	4	15	27	21	5	4	1	0	0	0	0	0	77
20:00	0	0	2	16	28	22	5	1	1	0	0	0	0	0	75
21:00	0	0	2	11	16	8	6	0	0	0	0	0	0	0	43
22:00	0	0	0	2	8	4	2	0	0	0	0	0	0	0	16
23:00	0	0	0	2	1	0	1	1	0	0	0	0	0	0	5
<b>Total</b>	<b>2</b>	<b>27</b>	<b>101</b>	<b>275</b>	<b>453</b>	<b>307</b>	<b>91</b>	<b>27</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1289</b>

Daily  
 15th Percentile : 26 MPH  
 50th Percentile : 32 MPH  
 85th Percentile : 38 MPH  
 95th Percentile : 43 MPH

Statistics  
 Mean Speed(Average) : 33 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 760  
 Percent in Pace : 59.0%  
 Number of Vehicles > 55 MPH : 0  
 Percent of Vehicles > 55 MPH : 0.0%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 E/ Bridlewood Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS004  
 Site Code: 241-25347

## Eastbound, Westbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/11/25	0	0	1	0	1	2	4	1	0	0	0	0	0	0	9
01:00	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
02:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:00	0	0	1	0	4	7	0	1	0	0	0	0	0	0	13
05:00	0	0	0	3	8	4	2	1	0	0	0	0	0	0	18
06:00	0	0	8	12	22	15	9	2	0	0	0	0	0	0	68
07:00	3	4	4	25	44	42	21	3	0	1	0	0	0	0	147
08:00	0	0	18	30	64	60	18	3	1	0	0	0	0	0	194
09:00	1	2	7	36	58	43	16	2	0	0	0	0	0	0	165
10:00	0	2	8	33	48	47	14	2	0	0	0	0	0	0	154
11:00	2	2	10	32	61	47	18	5	3	0	0	0	0	0	180
12 PM	0	1	9	34	68	57	33	3	0	0	0	0	0	0	205
13:00	1	3	13	40	66	46	13	1	0	1	0	0	0	0	184
14:00	1	0	9	37	64	54	20	3	0	0	0	0	0	0	188
15:00	2	2	7	31	70	58	30	8	0	0	0	0	0	0	208
16:00	0	0	5	45	61	63	24	5	2	0	0	0	0	0	205
17:00	0	0	6	29	80	60	24	10	0	0	0	0	0	0	209
18:00	0	2	12	22	64	53	20	4	0	0	0	0	0	0	177
19:00	0	3	4	18	54	47	27	7	0	1	0	0	0	0	161
20:00	0	0	1	16	39	23	11	6	0	0	0	0	0	0	96
21:00	0	0	4	13	25	23	5	2	0	0	0	0	0	0	72
22:00	0	1	1	9	18	21	6	0	0	0	0	0	0	0	56
23:00	0	0	1	5	8	14	1	1	0	0	0	0	0	0	30
<b>Total</b>	<b>10</b>	<b>22</b>	<b>129</b>	<b>471</b>	<b>928</b>	<b>789</b>	<b>317</b>	<b>70</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2745</b>

Daily  
 15th Percentile : 27 MPH  
 50th Percentile : 33 MPH  
 85th Percentile : 39 MPH  
 95th Percentile : 44 MPH

Statistics  
 Mean Speed(Average) : 35 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 1717  
 Percent in Pace : 62.6%  
 Number of Vehicles > 55 MPH : 3  
 Percent of Vehicles > 55 MPH : 0.1%

# Counts Unlimited, Inc.

City of Laguna Hills  
 Vista Viejo  
 E/ Bridlewood Drive  
 4 Day Directional Speed Survey

PO Box 1178  
 Corona, CA 92878  
 Phone: (951) 268-6268  
 email: counts@countsunlimited.com

LHS004  
 Site Code: 241-25347

## Eastbound, Westbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/12/25	0	0	0	1	6	6	1	0	0	0	0	0	0	0	14
01:00	0	0	0	2	2	1	1	0	0	0	0	0	0	0	6
02:00	0	0	0	2	4	4	0	1	0	0	0	0	0	0	11
03:00	0	0	0	1	0	0	0	1	0	1	0	0	0	0	3
04:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
05:00	0	0	2	1	4	4	4	0	0	0	0	0	0	0	15
06:00	0	0	0	3	9	7	2	1	0	0	0	0	0	0	22
07:00	0	0	1	8	9	19	7	2	0	0	0	0	0	0	46
08:00	0	1	3	15	39	28	18	4	0	0	0	0	0	0	108
09:00	0	3	5	14	40	43	28	5	0	0	0	0	0	0	138
10:00	0	0	10	16	50	48	27	5	2	0	0	0	0	0	158
11:00	0	0	1	20	46	53	39	9	2	1	0	0	0	0	171
12 PM	0	0	4	32	57	62	19	4	2	0	0	0	0	0	180
13:00	0	0	2	28	47	58	34	7	7	0	0	0	0	0	183
14:00	0	0	3	23	51	56	27	7	0	0	0	0	0	0	167
15:00	0	2	4	15	51	50	25	6	2	0	0	0	0	0	155
16:00	0	0	2	13	48	58	25	9	0	0	0	0	0	0	155
17:00	0	0	5	14	48	59	29	4	0	1	0	0	0	0	160
18:00	0	0	6	22	43	47	16	2	0	1	0	0	0	0	137
19:00	0	2	7	23	52	37	13	1	0	0	0	0	0	0	135
20:00	0	0	3	9	24	29	13	2	0	0	0	0	0	0	80
21:00	0	0	2	19	16	17	5	2	0	0	0	0	0	0	61
22:00	0	0	2	13	21	15	4	5	0	0	0	0	0	0	60
23:00	0	1	3	11	13	12	7	1	0	1	0	0	0	0	49
<b>Total</b>	<b>0</b>	<b>9</b>	<b>65</b>	<b>305</b>	<b>680</b>	<b>713</b>	<b>345</b>	<b>78</b>	<b>15</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2215</b>

Daily  
 15th Percentile : 29 MPH  
 50th Percentile : 35 MPH  
 85th Percentile : 41 MPH  
 95th Percentile : 44 MPH

Statistics  
 Mean Speed(Average) : 36 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 1393  
 Percent in Pace : 62.9%  
 Number of Vehicles > 55 MPH : 5  
 Percent of Vehicles > 55 MPH : 0.2%

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LHS004  
 Site Code: 241-25347

## Eastbound, Westbound

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/13/25	0	0	0	1	3	7	4	0	0	0	0	0	0	0	15
01:00	0	0	1	1	3	1	2	0	0	0	0	0	0	0	8
02:00	0	0	1	1	3	3	0	1	0	0	0	0	0	0	9
03:00	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3
04:00	0	0	2	0	0	1	0	0	0	0	0	0	0	0	3
05:00	0	0	1	1	4	1	0	0	0	0	0	0	0	0	7
06:00	0	0	1	4	6	5	2	0	0	0	0	0	0	0	18
07:00	0	0	1	7	12	12	8	0	0	0	0	0	0	0	40
08:00	0	1	3	12	19	22	10	1	0	0	0	0	0	0	68
09:00	0	0	6	11	25	35	16	4	1	0	0	0	0	0	98
10:00	0	0	6	21	28	50	20	6	0	0	0	0	0	0	131
11:00	0	0	4	24	56	45	14	1	1	0	0	0	0	0	145
12 PM	0	1	11	24	53	54	17	4	0	0	0	0	0	0	164
13:00	0	1	5	23	57	54	22	4	1	0	0	0	0	0	167
14:00	0	1	6	14	46	48	36	3	1	0	0	0	0	0	155
15:00	0	1	3	17	47	55	30	5	1	0	0	0	0	0	159
16:00	0	0	4	22	59	59	20	6	0	0	0	0	0	0	170
17:00	0	0	2	29	39	54	18	5	0	0	0	0	0	0	147
18:00	0	0	7	18	41	46	23	2	1	0	0	0	0	0	138
19:00	0	0	6	13	40	33	11	1	1	0	0	0	0	0	105
20:00	0	0	2	8	27	27	11	1	0	0	1	0	0	0	77
21:00	0	0	2	2	15	12	5	1	0	0	0	0	0	0	37
22:00	0	1	0	0	9	13	5	2	1	0	0	0	0	0	31
23:00	0	0	1	1	3	7	5	0	1	0	0	0	0	0	18
<b>Total</b>	<b>0</b>	<b>6</b>	<b>75</b>	<b>254</b>	<b>595</b>	<b>645</b>	<b>280</b>	<b>48</b>	<b>9</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1913</b>

Daily  
 15th Percentile : 29 MPH  
 50th Percentile : 35 MPH  
 85th Percentile : 40 MPH  
 95th Percentile : 44 MPH

Statistics  
 Mean Speed(Average) : 36 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 1240  
 Percent in Pace : 64.8%  
 Number of Vehicles > 55 MPH : 1  
 Percent of Vehicles > 55 MPH : 0.1%

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 E/ Bridlewood Drive  
 4 Day Directional Speed Survey

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LHS004  
 Site Code: 241-25347

**Eastbound, Westbound**

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
04/14/25	0	0	0	1	4	2	3	0	0	0	0	0	0	0	10
01:00	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	4	1	0	0	0	0	0	0	0	5
03:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	2	4	2	3	0	0	0	0	0	0	0	11
05:00	0	0	3	2	7	8	3	2	0	0	0	0	0	0	25
06:00	0	2	6	12	15	14	14	3	0	0	0	0	0	0	66
07:00	3	1	10	19	43	46	18	4	0	0	0	0	0	0	144
08:00	0	1	19	31	47	56	21	2	0	0	0	0	0	0	177
09:00	1	2	14	33	50	55	23	3	1	0	0	0	0	0	182
10:00	5	6	6	45	51	40	12	5	2	0	0	0	0	0	172
11:00	2	4	7	25	40	36	13	4	1	0	0	0	0	0	132
12 PM	1	9	23	48	47	27	5	0	0	0	0	0	0	0	160
13:00	0	2	9	36	55	50	24	7	1	0	0	0	0	0	184
14:00	0	1	4	26	63	55	21	6	0	0	0	0	0	0	176
15:00	0	1	5	36	72	63	23	7	2	0	0	0	0	0	209
16:00	1	3	14	25	64	63	30	7	2	1	0	0	0	0	210
17:00	0	4	10	33	73	57	24	7	0	2	0	0	0	0	210
18:00	0	2	6	34	61	39	17	6	0	0	0	0	0	0	165
19:00	0	0	4	22	41	33	16	4	3	0	0	0	0	0	123
20:00	0	0	4	20	33	31	10	1	1	0	0	0	0	0	100
21:00	0	0	2	14	20	11	10	0	0	0	0	0	0	0	57
22:00	0	0	0	2	12	5	5	2	0	0	0	0	0	0	26
23:00	0	0	0	3	3	1	5	2	0	0	0	0	0	0	14
<b>Total</b>	<b>13</b>	<b>38</b>	<b>146</b>	<b>470</b>	<b>807</b>	<b>699</b>	<b>302</b>	<b>72</b>	<b>13</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2563</b>

Daily  
 15th Percentile : 26 MPH  
 50th Percentile : 33 MPH  
 85th Percentile : 40 MPH  
 95th Percentile : 44 MPH

Statistics  
 Mean Speed(Average) : 34 MPH  
 10 MPH Pace Speed : 31-40 MPH  
 Number in Pace : 1506  
 Percent in Pace : 58.8%  
 Number of Vehicles > 55 MPH : 3  
 Percent of Vehicles > 55 MPH : 0.1%



## City of Laguna Hills Traffic Commission Staff Report

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**Date:** May 21, 2025  
**To:** Traffic Commissioners  
**From:** Joe Ames, Assistant City Manager  
**Issue:** Buckskin Drive/Broken Bit Lane and Buckskin Drive/Nellie Gail Road Sight Distance and Stop Sign Evaluation

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**Recommendation:** That the Traffic Commission recommend to City Council the installation of a One-Way Stop Sign on Broken Bit Lane at Buckskin Drive.

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### **Background:**

Staff received a request from a resident of the community to evaluate the need for all-way stop controls at the intersection of Buckskin Drive and Broken Bit Lane, and Buckskin Drive and Nellie Gail Road. The resident was concerned about collisions at the intersections.

Buckskin Drive and Broken Bit Lane are local residential streets that do not have a posted speed limit (the local prima facie speed limit of 25 MPH applies). On-street parking is allowed on both sides of both streets. Both streets are two-lane residential roadways with an applicable prima facie local speed limit of 25 MPH. Broken Bit Lane terminates in a cul-de-sac. The intersection is currently uncontrolled, has no marked crosswalks on any leg, and meets in a T-intersection. Please see the attached Vicinity Map.

Buckskin Drive/Chaparral Place and Nellie Gail Road are local residential streets. Nellie Gail Road has a posted speed limit of 30 MPH whereas Buckskin Drive and Chaparral Place do not have a posted speed limit (the local prima facie speed limit of 25 MPH applies). On-street residential parking is allowed on all streets. Chapparal Place terminates in a cul-de-sac. The intersection currently has 2-way STOP control on Buckskin Drive/Chaparral Place at its intersection with Nellie Gail Road. Please see

attached Vicinity Map.

Upon receiving the request, City staff contacted Hartzog and Crabill, Inc. (HCI), the City's traffic engineering consultant, to perform a five (5) year accident history review, traffic and pedestrian volumes, speeds, and delay review, and a sight distance evaluation, which are all key criteria for determining if an all-way stop control is warranted.

As taken from the attached HCI reports:

**“The California MUTCD **Multi-Way Stop** Applications section contains guidelines, such as minimum collisions and traffic volumes necessary for the justification of multi-way stop control. The general guidelines given for a stop sign application begin with using engineering judgment for the installation of a stop sign(s) on a street entering a through highway and where high speeds on the cross street make entry difficult, or due to restricted view, or when crash records indicate a need for control by a stop sign. Further guidance criteria found in the California MUTCD include the following important statements: *“YIELD or STOP signs should not be used for speed control... In most cases, the street carrying the lowest volume of traffic should be controlled... A STOP (R1-1) sign is not a ‘cure-all’ and is not a substitute for other traffic control devices. Often, the need for a STOP (R1-1) sign can be eliminated if the sight distance is increased by removing obstructions... A YIELD or STOP sign should not be installed on the higher volume roadway unless justified by an engineering study... Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal...”***

Based on the guidelines of the California Manual on Uniform Traffic Control Devices (MUTCD), HCI reviewed the accident history and visibility at the intersections. In summary, an accident history review from the California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS) from January 2020 through December 2024 revealed no reported collisions at either intersection. The collision warrant requires a minimum of five (5) reported, correctable accidents within a 12-month period, and therefore does not trigger the requirement of a stop sign.

For the sight distance analysis, the applicable sight distance was derived from the stopping sight distance guidelines found in the California MUTCD. In this reference, a 25 MPH roadway speed recommends a minimum Stopping Sight Distance of 155 feet. For a more conservative approach, a 30 MPH speed limit was utilized for analysis which has a minimum sight distance of 200 feet. For Buckskin Drive at Broken Bit Lane, the sight distance analysis found that a stopped driver's perspective from the minor street of

Broken Bit Lane insufficient due to parked vehicles when looking west on Buckskin Drive. HCI recommends that, in order to improve visibility, on-street parking restrictions on the south side of Buckskin Drive, west of Broken Bit Lane be implemented. For Buckskin Drive/Chapparral Place at Nellie Gail Road, the sight distance found that a stopped driver's perspective from both the minor streets of Buckskin Drive and Chapparral Place were sufficient. Please see the attached report for details.

For the traffic volumes analysis, a part of the California MUTCD criteria for all-way stop control calls for minimum volumes of vehicular and pedestrian traffic be satisfied in order to fulfill the traffic volume warrant. The premise of this warrant is that there is too much volume of vehicular traffic on the 'major' street to allow vehicles on the 'minor' street to turn onto or cross over the 'major' street safely, or allow pedestrians to cross the 'major' street safely. Upon analysis of the 3-part warrant in the reports, neither intersection met the volume warrant analysis.

Extensive details about the analyses for each intersection are included in each *Multi-Way Stop Control Warrant Analysis* report from HCI, attached.

In overall consideration of the analysis criteria in the HCI reports, whereupon it was found that none of the multi-way stop control warrants were met for either intersection, HCI recommended that in order to better assign right-of-way at the uncontrolled intersection of Buckskin Drive at Broken Bit Lane, the installation of a STOP sign, STOP pavement marking, and limit line is recommended for the side-street northbound approach of Broken Bit Lane. HCI also recommended that, in order to improve visibility, on-street parking restrictions on the south side of Buckskin Drive, west of Broken Bit Lane be implemented. While City staff's recommendation did not include this additional recommended action due to the timing needed to post the agenda for this Traffic Commission meeting, the Traffic Commission may wish to consider this recommendation as well.

**Fiscal Impact:**

The anticipated installation cost of the required signing and striping is \$1,000.00. Funds are available for this work in the 2024-25 Fiscal Year Public Works Maintenance Budget.

**Attachments:**

1. Vicinity Maps
2. Hartzog & Crabill, Inc., Multiway Stop Control Warrant Analysis - Intersection of Buckskin Drive and Broken Bit Lane

3. Hartzog & Crabill, Inc., Multiway Stop Control Warrants Analysis - Intersection of Nellie Gail Road and Buckskin Drive/Chapparal Place

Broken Bit Lane and Buckskin Drive



Buckskin Drive/Chapparral Place and Nellie Gail Road



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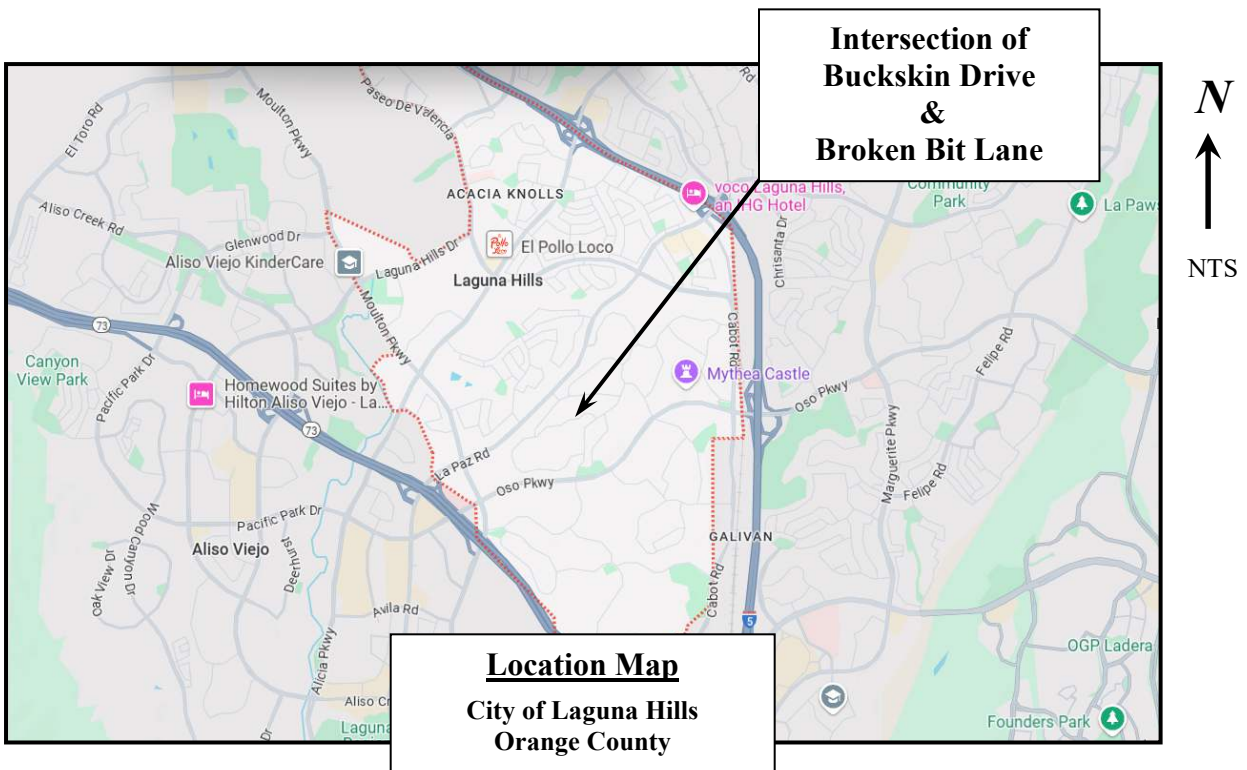
## MULTIWAY STOP CONTROL WARRANTS ANALYSIS

### **INTERSECTION OF BUCKSKIN DRIVE AND BROKEN BIT LANE IN THE CITY OF LAGUNA HILLS, CA APRIL 25, 2025**

#### **INTRODUCTION**

The City of Laguna Hills requested Hartzog & Crabill, Inc. (HCI) to complete a Multiway Stop Warrants Analysis at the intersection of Buckskin Drive and Broken Bit Lane. This analysis was completed in order to verify if a three-way stop sign installation is warranted and recommended based on meeting standard guidelines.

The location is a typical T-intersection with Buckskin Drive running diagonally in the east-west directions and Broken Bit Lane running in the north-south directions. The intersection is located in the central part of the City between La Paz Road and Oso Parkway (*see Location Map below*). The intersection is entirely within the City of Laguna Hills jurisdiction. At the present time, there are no stop controls at the intersection of Buckskin Drive and Broken Bit Lane.



## **BACKGROUND**

Buckskin Drive is an east-west local roadway with single-family residential properties on both sides of the street. At its intersection with Broken Bit Lane, the roadway is approximately 42 feet wide. The 2-lane roadway provides for one lane of traffic in each direction, which are not separated by any centerline striping. There are no marked crosswalks across Buckskin Drive at or near the intersection. The roadway has concrete rolled-curb and gutter improvements on both sides; however, only the north-side includes sidewalk improvements. Buckskin Drive has an un-posted applicable ‘local’ prima facie speed limit of 25 MPH, and on-street parking is allowed on both sides of the street. Currently there are no STOP signs on Buckskin Drive (i.e., uncontrolled) at its intersection with Broken Bit Lane.

*See Exhibit 1 (next page) for photo images of Buckskin Drive.*

Broken Bit Lane is a north-south local roadway with single-family residential properties on both sides of the street. At the T-intersection with Buckskin Drive, which is the northerly terminus of Broken Bit Lane, the roadway is approximately 38 feet wide. The 2-lane roadway provides for one lane of traffic in each direction, which are not separated by any centerline striping. There are no marked crosswalks across Broken Bit Lane at or near the intersection. The roadway has concrete rolled-curb and gutter improvements on the both sides (i.e., there are no sidewalk improvements). Broken Bit Lane has an un-posted applicable ‘local’ prima facie speed limit of 25 MPH, and on-street parking is allowed on both sides of the street. Currently, there is no STOP sign on Broken Bit Lane (i.e., uncontrolled) at its intersection with Buckskin Drive.

*See Exhibit 2 (following page) for a photo image of Broken Bit Lane.*

**EXHIBIT 1**

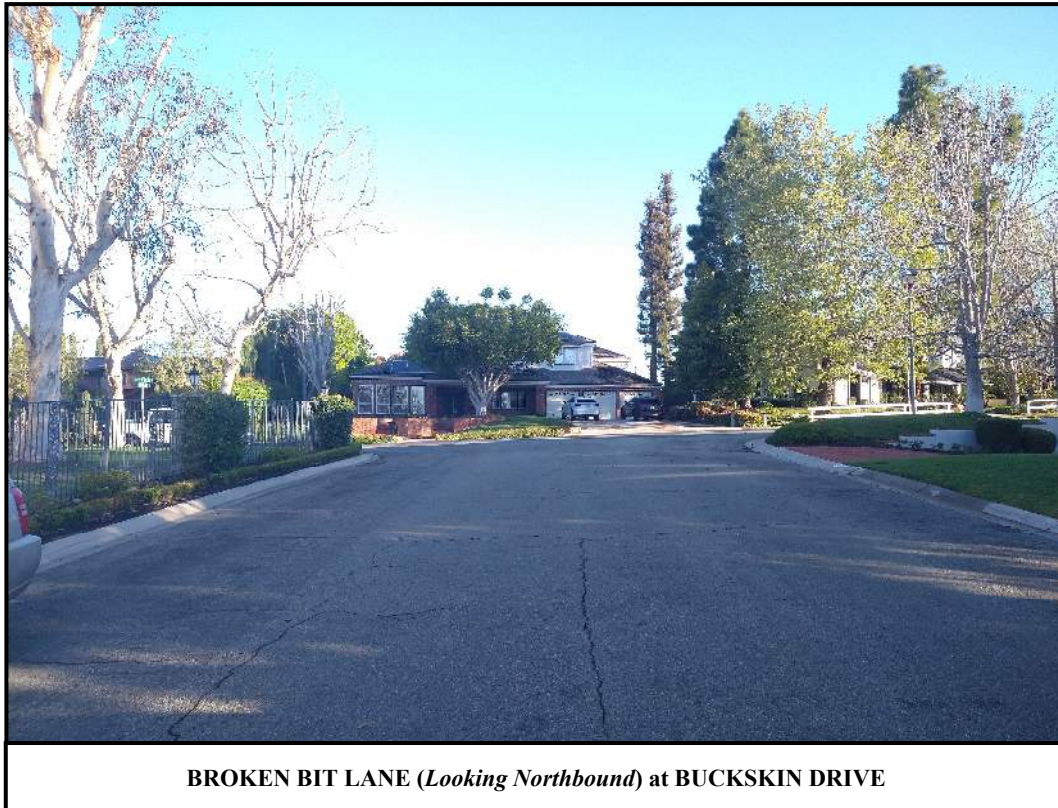


**BUCKSKIN DRIVE (*Looking Eastbound*) at BROKEN BIT LANE**



**BUCKSKIN DRIVE (*Looking Westbound*) at BROKEN BIT LANE**

**EXHIBIT 2**



## WARRANT GUIDELINES

As is common practice with many municipal agencies, the City of Laguna Hills follows State guidelines for determining if traffic control devices, such as multi-way stop signs, should be installed. Therefore, the prevailing source used for this analysis is the State of California Manual on Uniform Traffic Control Devices (*California MUTCD*). The California MUTCD contains minimum guidelines regarding traffic volumes, collisions, speeds, visibility, and other criteria in order to satisfy the requirements, in this case, for the recommendation and installation of a multi-way (3-way) stop.

The California MUTCD **Multi-way Stop** Applications Guidance criteria are described in the following four main parts:

- 1) As an interim measure where traffic control signals are justified;
- 2) Reported crashes – five or more in a 12-month period that are susceptible to correction by a multi-way stop installation;
- 3) Minimum traffic and pedestrian volumes, speeds, and delay; and,
- 4) Where a combination of the above criteria are all satisfied to 80 percent.

If any one, or a combination, of these criteria is met, then a multi-way stop application should be considered. If these criteria are not met, the installation of an unwarranted multi-way stop sign installation is typically not recommended.

*The California MUTCD guidelines describing Right-of-Way at Intersections, STOP Sign Applications, Multi-way Stop Applications, and Yield Sign Applications are included in Appendix A.*

## MULTIWAY STOP ANALYSIS

The California MUTCD **Multi-way Stop** Applications section contains guidelines, such as minimum collisions and traffic volumes necessary for the justification of multi-way stop control. The general guidelines given for a stop sign application begin with using engineering judgment for the installation of a stop sign(s) on a street entering a through highway and where high speeds on the cross street make entry difficult, or due to restricted view, or when crash records indicate a need for control by a stop sign. Further guidance criteria found in the California MUTCD include the following important statements: *“YIELD or STOP signs should not be used for speed control... In most cases, the street carrying the lowest volume of traffic should be controlled... A STOP (R1-1) sign is not a ‘cure-all’ and is not a substitute for other traffic control devices. Often, the need for a STOP (R1-1) sign can be eliminated if the sight distance is increased by removing obstructions... A YIELD or STOP sign should not be installed on the higher volume roadway unless justified by an engineering study... Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal...”*

### *Collision History*

The guidelines for Multi-way Stop Applications contained in the California MUTCD regarding collisions, or crashes, require a minimum of five (5) reported crashes occurring in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions, as well as right-angle collisions (i.e., broadside, or head-on) and pedestrian-vehicle collisions. Other types categorized as ‘sideswipe’, ‘rear-end’, and ‘hit object’ collisions are generally not considered susceptible to correction, unless further review indicates otherwise. The latest available collision history was gathered by HCI from the California Highway Patrol (CHP) Statewide Integrated Traffic Records System website (i-SWITRS), which is where local jurisdictions such as cities report their collisions.

**Collision History (continued)**

A comprehensive 5-year traffic collision history summary report was prepared for this intersection and reviewed for collisions susceptible to correction by the installation of a multi-way stop. Table 1 below provides the most recent summary of collision history occurring at or near this intersection.

**TABLE 1  
SWITRS COLLISION SUMMARY**

Intersection	2020-21		2022		2023		2024	
	Date	Type of Coll. / Correctible?	Date	Type of Coll. / Correctible?	Date	Type of Coll. / Correctible?	Date	Type of Coll. / Correctible?
Broken Bit Ln at Buckskin Drive		None reported		None reported		None reported		None reported

**Notes:** Information above is derived per the latest 5-year intersection traffic collision database report gathered from CHP-SWITRS (*i-SWITRS website*).

- 1) Type of Coll. = Type of Collision (*i.e., broadside, rear-end, etc.*)
- 2) Correctible? = Yes / No

As shown, there have been zero (0) reported collisions at or near this intersection over the past (5) years of available SWITRS collision data. Since the collision warrant requires a minimum of (5) reported crashes susceptible to correction by a multi-way stop, to occur within a 12-month period, the collision warrant is not satisfied. ***The prepared traffic collision database report is included in Appendix B.***

**Traffic Volumes**

HCI collected Average Daily Traffic (ADT) vehicular approach counts to the intersection on Tuesday, March 18, 2025 in order to account for vehicles that typically use this T-intersection. The ADT approach count for Buckskin Drive is 370 vehicles per day with the highest AM peak-hour approach volume having 26 vehicles, and 38 vehicles in the PM peak-hour. The ADT approach count for Broken Bit Lane is 92 vehicles with the highest AM peak-hour approach volume having 7 vehicles, and 14 vehicles in the PM peak-hour. Table 2 (next page) provides a breakdown of the approach volumes. ***The traffic volume data collected for this intersection is included in Appendix C.***

*Traffic Volumes (continued)*

**TABLE 2**

**HIGHEST 24-HOUR INTERSECTION APPROACH VEHICLE COUNTS**

<b>Street</b>	<b>Direction</b>	<b>ADT Volume</b>	<b>Directional Split</b>	<b>Highest Hourly Volume</b>
<b>Buckskin Drive</b>	Eastbound	177	48%	18 (6 - 7PM)
	Westbound	193	52%	24 (3 - 4PM)
<b>Broken Bit Lane</b>	Northbound	92	100%	14 (4 - 5PM)

Buckskin Drive is considered the ‘through’ or ‘major’ street at this residential T-intersection since it carries higher volumes from both approaches, and drivers are not required to slow down, or even stop, before proceeding straight through the intersection. In comparison, Broken Bit Lane is considered the ‘minor’ street as northbound drivers on Broken Bit Lane are required to stop at Buckskin Drive and look both ways before proceeding to make a left-turn or right-turn. It is typically expected that the traffic volumes on the minor street are significantly less than those on the major street. As can be seen from the table above, this is the case, as Broken Bit Lane carries approximately 20% of the entire traffic entering the intersection (Buckskin Drive carries 80% of entering traffic).

A part of the California MUTCD guideline criteria also calls for a reduction in the required minimum volumes when the critical approach speed (*or 85<sup>th</sup>-percentile speed*) on the major street exceeds 40 MPH. If this is the case, the minimum vehicular volumes to be met for a multiway stop sign installation are reduced to 70%. As mentioned, the applicable speed limit for both streets is 25 MPH. Field observations during our site visit also confirmed vehicles were not regularly speeding over the speed limit near the intersection, but were considered typical and what may be expected for two-lane local-type roadways. As the speed limits are less than the 40 MPH limit required to reduce traffic volumes, the 70% minimum volumes for a multi-way stop sign analysis are not applicable, and the 100% minimum volumes were analyzed on the next page.

**Traffic Volumes (continued)**

It is important to note that the highest hourly vehicle traffic counts shown in Table 2 above are given for the highest one-hour of traffic for each direction, and serve as a good indicator to compare with the required minimum hourly traffic volumes in the California MUTCD multi-way stop guidelines. It must also be mentioned that the average hourly minimum volumes for a multi-way stop application are to be satisfied for any eight (8) hours of an average day (not just for one hour in a day).

Table 3 below shows the California MUTCD minimum traffic volume guidelines for a Multi-way Stop Application in comparison with the highest 8-hour traffic count data collected at this intersection. Both Parts 1 and 2 of the minimum volume warrants below must be satisfied in order to fulfill the traffic volume warrant.

**TABLE 3  
MULTIWAY STOP SIGN WARRANT FOR MINIMUM TRAFFIC VOLUMES  
BUCKSKIN DRIVE AT BROKEN BIT LANE**

<p align="center"><b>Part 1.</b></p> <p>The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least <b>300</b> vehicles per hour for any <b>(8)</b> hours of an average day,</p> <p align="center"><b>Results:</b></p> <p><b>No, average (25) vehicles per hour</b></p> <p>Only 8% of the required hourly traffic volume</p>	<i>and</i>	<p align="center"><b>Part 2.</b></p> <p>The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least <b>200</b> units per hour for the same <b>(8)</b> hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour,</p> <p align="center"><b>Results:</b></p> <p><b>No, average (8) vehicles per hour</b></p> <p>Only 4% of the required hourly traffic volume</p>	<i>but</i>	<p align="center"><b>Part 3.</b></p> <p>If the 85<sup>th</sup>-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are <b>(70)</b> percent of the above values.</p> <p align="center"><b>Results:</b></p> <p><b>No, 85<sup>th</sup> percentile speed on major-street does not exceed 40 mph</b></p>
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As shown above, the average hourly intersection approach traffic volumes for the highest 8-hour period did not satisfy both Parts 1 and 2 (*8% major street / 4% minor street*). Therefore, the minimum traffic volume warrant is not satisfied.

### ***Visibility***

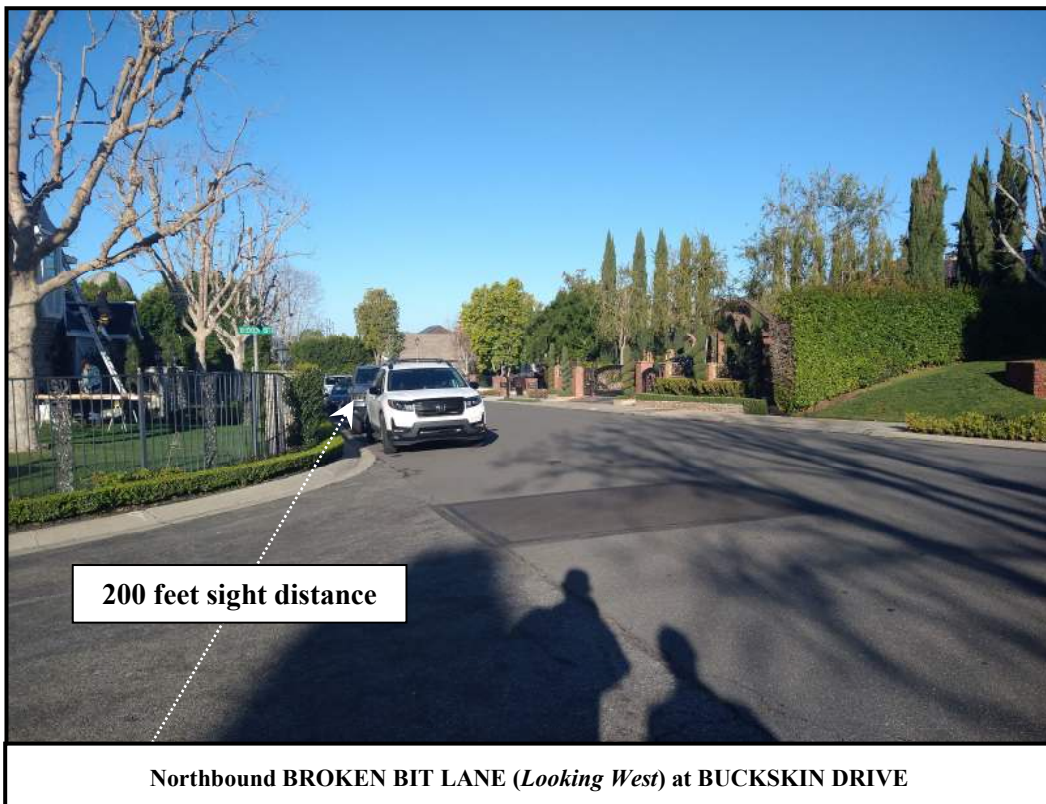
Impaired visibility, or restricted sight distance, due to the geometry of the intersection and possible obstructions was carefully considered during our field-review of the surrounding residential property environment. The geometry of the intersection includes an approximate 90° angle. Buckskin Drive has a consistent, slightly gradual incline in the eastbound direction. Broken Bit Lane has a slightly gradual incline in the northbound direction.

Driver sight distance was measured from the side-street approach to the intersection, as northbound traffic on Broken Bit Lane is required to stop, before proceeding to make a left-turn or right-turn onto Buckskin Drive. The measured distance was derived from the stopping sight distance guidelines found in the California MUTCD (*see Appendix D*). In this reference, a 25 MPH roadway speed recommends a minimum Stopping Sight Distance of 155 feet. However, it is likely that the 85<sup>th</sup> percentile speeds typically exceed the 25 MPH posted speed limit. Therefore, a 30 MPH speed limit was used as a more conservative measure, which has a minimum sight distance of 200 feet. This distance was used when looking towards approaching, uncontrolled traffic along Buckskin Drive. More specifically, this stopping sight distance was field-measured from a typical ‘stopped’ vehicle location on Broken Bit Lane at the intersection looking towards the oncoming lanes of cross-traffic on Buckskin Drive. An orange cone was placed at this distance and a photograph was taken from a stopped driver’s perspective (i.e., approximately 3.5 feet in height).

*(See sight distance photos in Exhibit 3 on the following page).*

As Exhibit 3 shows, when looking from Broken Bit Lane, a driver does not have a clear line of sight to the minimum sight distance of 200 feet when looking west on Buckskin Drive. It is noted, visibility is restricted when vehicles are continuously parked one behind the other along the driver’s sight distance as shown in the exhibit.

**EXHIBIT 3**



## **MULTIWAY STOP ANALYSIS SUMMARY**

The analysis of the four (4) main criteria provided in the California MUTCD regarding Multi-way Stop Applications showed that this intersection did not meet the minimum guidelines to justify stopping the major roadway (i.e., Buckskin Drive). The four main criteria analyzed were: 1) As an interim measure where traffic control signals are justified; 2) Reported collisions – a correctible crash problem; 3) Traffic and pedestrian volumes, speeds, and delay; and 4) Where a combination of the above criteria are satisfied to 80 percent.

In summary, the most recent collision history at the intersection resulted in zero (0) SWITRS-reported collisions during the last five years of available data, where the minimum guideline calls for at least five (5) correctible collisions in a 12-month period. The average minimum hourly minor street traffic volumes required for a multi-way stop that are to be satisfied for any eight (8) hours in an average day were also not satisfied. Excessive delay to the side-street approach was not observed in terms of stopping and waiting for a gap on the major roadway. Therefore, since intersection collision history and traffic volumes did not satisfy the minimum guidelines, it can also be derived that a traffic signal (as mentioned in 1) above) is not justified as an interim measure at this intersection. The 80% combined criteria were also not met as both the collisions and minimum traffic volumes were not satisfied to this percentage. If the California MUTCD criteria are not met, the location is typically not recommended for installation of a multi-way stop.

However, engineering judgment should always be included in any decision regarding traffic safety improvements. Intersection lighting was also verified and found to be adequate as there is a decorative street light located on the southeast corner of the intersection.

**MULTIWAY STOP ANALYSIS SUMMARY (continued)**

It was also determined that northbound Broken Bit Lane drivers do not have a clear line of sight when stopped and looking west for approaching Buckskin Drive traffic, since continuously parked vehicles along the south-side block visibility. Restricting on-street parking from the curb return to the house walkway (approximately 30 feet) on the south-side of Buckskin Drive near the intersection should be considered.

In regards to pedestrian and bicycle activity, field observations during our morning site visit confirmed a low activity of both.

Therefore, based upon engineering judgment, it is determined that stopping traffic on Buckskin Drive at Broken Bit Lane is not required to enhance the traffic safety at this intersection.

**RECOMMENDATION**

In overall consideration of the analysis criteria in this report, a multi-way (3-way) stop sign installation is not recommended for the T-intersection of Buckskin Drive and Broken Bit Lane. However, since it was determined that northbound Broken Bit Lane drivers do not have a clear line of sight when stopped and looking west for approaching Buckskin Drive traffic, in order to improve visibility it is recommended to restrict on-street parking from the curb return to the house walkway (approximately 30 feet) on the south-side of Buckskin Drive near the intersection.

Lastly, in order to better assign right-of-way at the uncontrolled intersection, the installation of a STOP sign, STOP pavement marking, and limit line is recommended for the side-street northbound approach of Broken Bit Lane. If approved, the cost for this one-way stop installation is in the approximate range of \$300.00 to \$600.00.

**APPENDIX A**

**MULTIWAY STOP APPLICATIONS  
GUIDELINES:**

***CALIFORNIA MUTCD***

**Standard:**

**03 Except as provided in Paragraphs 4 and 5, the minimum sizes for regulatory signs facing traffic on multi-lane conventional roads shall be as shown in the Multi-lane column of Table 2B-1 and 2B-1(CA).**

**Option:**

**04** Where the posted speed limit is 35 mph or less on a multi-lane highway or street, other than for a STOP sign, the minimum size shown in the Single Lane column in Table 2B-1 and 2B-1(CA) may be used.

**05** Where a regulatory sign, other than a STOP sign, is placed on the left-hand side of a multi-lane roadway in addition to the installation of the same regulatory sign on the right-hand side or the roadway, the size shown in the Single Lane column in Table 2B-1 and 2B-1(CA) may be used for both the sign on the right-hand side and the sign on the left-hand side of the roadway.

**Standard:**

**06 A minimum size of 36 x 36 inches shall be used for STOP signs that face multi-lane approaches.**

**07 Where side roads intersect a multi-lane street or highway that has a speed limit of 45 mph or higher, the minimum size of the STOP signs facing the side road approaches, even if the side road only has one approach lane, shall be 36 x 36 inches.**

**08 Where side roads intersect a multi-lane street or highway that has a speed limit of 40 MPH or lower, the minimum size of the STOP signs facing the side road approaches shall be as shown in the Single Lane or Multi-lane columns of Table 2B-1 and 2B-1(CA) based on the number of approach lanes on the side street approach.**

**Guidance:**

**09** The minimum sizes for regulatory signs facing traffic on exit and entrance ramps should be as shown in the column of Table 2B-1 and 2B-1(CA) that corresponds to the mainline roadway classification (Expressway or Freeway). If a minimum size is not provided in the Freeway column, the minimum size in the Expressway column should be used. If a minimum size is not provided in the Freeway or Expressway Column, the size in the Oversized column should be used.

**Section 2B.04 Right-of-Way at Intersections**

**Support:**

**01** State or local laws written in accordance with the "Uniform Vehicle Code" (see Section 1A.11) establish the right-of-way rule at intersections having no regulatory traffic control signs such that the driver of a vehicle approaching an intersection must yield the right-of-way to any vehicle or pedestrian already in the intersection. When two vehicles approach an intersection from different streets or highways at approximately the same time, the right-of-way rule requires the driver of the vehicle on the left to yield the right-of-way to the vehicle on the right. The right-of-way can be modified at through streets or highways by placing YIELD (R1-2) signs (see Sections 2B.08 and 2B.09) or STOP (R1-1) signs (see Sections 2B.05 through 2B.07) on one or more approaches.

**Guidance:**

**02** Engineering judgment should be used to establish intersection control. The following factors should be considered:

- A. Vehicular, bicycle, and pedestrian traffic volumes on all approaches;
- B. Number and angle of approaches;
- C. Approach speeds;
- D. Sight distance available on each approach; and
- E. Reported crash experience.

**03** YIELD or STOP signs should be used at an intersection if one or more of the following conditions exist:

- A. An intersection of a less important road with a main road where application of the normal right-of-way rule would not be expected to provide reasonable compliance with the law;
- B. A street entering a designated through highway or street; and/or
- C. An unsignalized intersection in a signalized area.

**04** In addition, the use of YIELD or STOP signs should be considered at the intersection of two minor streets or local roads where the intersection has more than three approaches and where one or more of the following conditions exist:

- A. The combined vehicular, bicycle, and pedestrian volume entering the intersection from all approaches averages more than 2,000 units per day;
  - B. The ability to see conflicting traffic on an approach is not sufficient to allow a road user to stop or yield in compliance with the normal right-of-way rule if such stopping or yielding is necessary; and/or
  - C. Crash records indicate that five or more crashes that involve the failure to yield the right-of-way at the intersection under the normal right-of-way rule have been reported within a 3-year period, or that three or more such crashes have been reported within a 2-year period.
- <sup>05</sup> **YIELD or STOP signs should not be used for speed control.**

**Support:**

<sup>06</sup> Section 2B.07 contains provisions regarding the application of multi-way STOP control at an intersection.

**Guidance:**

<sup>07</sup> Once the decision has been made to control an intersection, the decision regarding the appropriate roadway to control should be based on engineering judgment. In most cases, the roadway carrying the lowest volume of traffic should be controlled.

<sup>08</sup> A YIELD or STOP sign should not be installed on the higher volume roadway unless justified by an engineering study.

**Support:**

<sup>09</sup> The following are considerations that might influence the decision regarding the appropriate roadway upon which to install a YIELD or STOP sign where two roadways with relatively equal volumes and/or characteristics intersect:

- A. Controlling the direction that conflicts the most with established pedestrian crossing activity or school walking routes;
- B. Controlling the direction that has obscured vision, dips, or bumps that already require drivers to use lower operating speeds; and
- C. Controlling the direction that has the best sight distance from a controlled position to observe conflicting traffic.

**Standard:**

<sup>10</sup> Because the potential for conflicting commands could create driver confusion, YIELD or STOP signs shall not be used in conjunction with any traffic control signal operation., ~~except in the following cases:~~

- ~~A. If the signal indication for an approach is a flashing red at all times;~~
- ~~B. If a minor street or driveway is located within or adjacent to the area controlled by the traffic control signal, but does not require separate traffic signal control because an extremely low potential for conflict exists; or~~
- ~~C. If a channelized turn lane is separated from the adjacent travel lanes by an island and the channelized turn lane is not controlled by a traffic control signal.~~

<sup>10a</sup> STOP signs shall not be erected at any entrance to an intersection controlled by traffic signals. Refer to CVC 21355(a).

**Option:**

<sup>10b</sup> YIELD or STOP signs may be used at a channelized turn lane if it is separated from the adjacent travel lanes moving in same direction by an island and the channelized turn lane is not controlled by a traffic control signal.

**Standard:**

<sup>11</sup> Except as provided in Section 2B.09, STOP signs and YIELD signs shall not be installed on different approaches to the same unsignalized intersection if those approaches conflict with or oppose each other.

<sup>12</sup> Portable or part-time STOP or YIELD signs shall not be used except for emergency and temporary traffic control zone purposes.

<sup>13</sup> A portable or part-time (folding) STOP sign that is manually placed into view and manually removed from view shall not be used during a power outage to control a signalized approach unless the maintaining agency establishes that the signal indication that will first be displayed to that approach upon restoration of power is a flashing red signal indication and that the portable STOP sign will be manually removed from view prior to stop-and-go operation of the traffic control signal.

Option:

<sup>14</sup> A portable or part-time (folding) STOP sign that is electrically or mechanically operated such that it only displays the STOP message during a power outage and ceases to display the STOP message upon restoration of power may be used during a power outage to control a signalized approach.

Support:

<sup>15</sup> Section 9B.03 contains provisions regarding the assignment of priority at a shared-use path/ roadway intersection.

**Section 2B.05 STOP Sign (R1-1) and ALL WAY Plaque (R1-3P)**

**Standard:**

<sup>01</sup> When it is determined that a full stop is always required on an approach to an intersection, a STOP (R1-1) sign (see Figure 2B-1) shall be used.

<sup>02</sup> The STOP sign shall be an octagon with a white legend and border on a red background.

<sup>03</sup> Secondary legends shall not be used on STOP sign faces.

<sup>04</sup> At intersections where all approaches are controlled by STOP signs (see Section 2B.07), an ALL WAY supplemental plaque (R1-3P) shall be mounted below each STOP sign. The ALL WAY plaque (see Figure 2B-1) shall have a white legend and border on a red background.

<sup>05</sup> The ALL WAY plaque shall only be used if all intersection approaches are controlled by STOP signs.

<sup>06</sup> Supplemental plaques with legends such as 2-WAY, 3-WAY, 4-WAY, or other numbers of ways shall not be used with STOP signs.

Support:

<sup>07</sup> The use of the CROSS TRAFFIC DOES NOT STOP (W4-4P) plaque (and other plaques with variations of this word message) is described in Section 2C.59.

Guidance:

<sup>08</sup> Plaques with the appropriate alternative messages of TRAFFIC FROM LEFT (RIGHT) DOES NOT STOP (W4-4aP) or ONCOMING TRAFFIC DOES NOT STOP (W4-4bP) should be used at intersections where STOP signs control all but one approach to the intersection, unless the only non-stopped approach is from a one-way street.

Option:

<sup>09</sup> An EXCEPT RIGHT TURN (R1-10P) plaque (see Figure 2B-1) may be mounted below the STOP sign if an engineering study determines that a special combination of geometry and traffic volumes is present that makes it possible for right-turning traffic on the approach to be permitted to enter the intersection without stopping.

Support:

<sup>10</sup> The design and application of Stop Beacons are described in Section 4L.05.

<sup>11</sup> A STOP (R1-1) sign is not a "cure-all" and is not a substitute for other traffic control devices. Often, the need for a STOP (R1-1) sign can be eliminated if the sight distance is increased by removing obstructions.

**Through Highways**

Option:

<sup>12</sup> STOP (R1-1) signs may be installed either at or near the entrance to a State highway, except at signalized intersections, or at any location so as to control traffic within an intersection. Refer to CVC 21352 and 21355. See Section 1A.11 for information regarding this publication.

Support:

<sup>13</sup> When STOP (R1-1) signs or traffic control signals have been erected at all entrances, a highway constitutes a through highway. Refer to CVC 600.

<sup>14</sup> Authority to place STOP (R1-1) signs facing State highway traffic is delegated to the Caltrans District Directors.

Option:

<sup>15</sup> Local authorities may designate any highway under their jurisdiction as a through highway and install STOP (R1-1) signs in a like manner. Refer to CVC 21354.

Standard:

<sup>16</sup> No local authority shall erect or maintain any STOP (R1-1) sign or other traffic control device requiring a stop, on any State highway, except by permission of Caltrans. Refer to CVC 21353.

Support:

<sup>17</sup> Caltrans will grant such permission only when an investigation indicates that the STOP (R1-1) sign will benefit traffic.

**Section 2B.06 STOP Sign Applications**

Guidance:

<sup>01</sup> At intersections where a full stop is not necessary at all times, consideration should first be given to using less restrictive measures such as YIELD signs (see Sections 2B.08 and 2B.09).

<sup>02</sup> The use of STOP signs on the minor-street approaches should be considered if engineering judgment indicates that a stop is always required because of one or more of the following conditions:

- A. The vehicular traffic volumes on the through street or highway exceed 6,000 vehicles per day;
- B. A restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the through street or highway; and/or
- C. Crash records indicate that three or more crashes that are susceptible to correction by the installation of a STOP sign have been reported within a 12-month period, or that five or more such crashes have been reported within a 2-year period. Such crashes include right-angle collisions involving road users on the minor-street approach failing to yield the right-of-way to traffic on the through street or highway.

Support:

<sup>03</sup> The use of STOP signs at grade crossings is described in Sections 8B.04 and 8B.05.

**Section 2B.07 Multi-Way Stop Applications**

Support:

<sup>01</sup> Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.

<sup>02</sup> The restrictions on the use of STOP signs described in Section 2B.04 also apply to multi-way stop applications.

Guidance:

<sup>03</sup> The decision to install multi-way stop control should be based on an engineering study.

<sup>04</sup> The following criteria should be considered in the engineering study for a multi-way STOP sign installation:

- A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.
- B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.
- C. Minimum volumes:
  - 1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and
  - 2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but
  - 3. If the 85<sup>th</sup>-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.
- D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Option:

<sup>05</sup> Other criteria that may be considered in an engineering study include:

- A. The need to control left-turn conflicts;
- B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
- C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and

**D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.**

### **Section 2B.08 YIELD Sign (R1-2)**

**Standard:**

**01 The YIELD (R1-2) sign (see Figure 2B-1) shall be a downward-pointing equilateral triangle with a wide red border and the legend YIELD in red on a white background.**

**Support:**

**02 The YIELD sign assigns right-of-way to traffic on certain approaches to an intersection. Vehicles controlled by a YIELD sign need to slow down to a speed that is reasonable for the existing conditions or stop when necessary to avoid interfering with conflicting traffic.**

### **Section 2B.09 YIELD Sign Applications**

**Option:**

**01 YIELD signs may be installed:**

- A. On the approaches to a through street or highway where conditions are such that a full stop is not always required.**
- B. At the second crossroad of a divided highway, where the median width at the intersection is 30 feet or greater. In this case, a STOP or YIELD sign may be installed at the entrance to the first roadway of a divided highway, and a YIELD sign may be installed at the entrance to the second roadway.**
- C. For a channelized turn lane that is separated from the adjacent travel lanes by an island, even if the adjacent lanes at the intersection are controlled by a highway traffic control signal or by a STOP sign.**
- D. At an intersection where a special problem exists and where engineering judgment indicates the problem to be susceptible to correction by the use of the YIELD sign.**
- E. Facing the entering roadway for a merge-type movement if engineering judgment indicates that control is needed because acceleration geometry and/or sight distance is not adequate for merging traffic operation.**

**Standard:**

**02 A YIELD (R1-2) sign shall be used to assign right-of-way at the entrance to a roundabout. YIELD signs at roundabouts shall be used to control the approach roadways and shall not be used to control the circulatory roadway.**

**03 Other than for all of the approaches to a roundabout, YIELD signs shall not be placed on all of the approaches to an intersection.**

### **Section 2B.10 STOP Sign or YIELD Sign Placement**

**Standard:**

**01 The STOP or YIELD sign shall be installed on the near side of the intersection on the right-hand side of the approach to which it applies. When the STOP or YIELD sign is installed at this required location and the sign visibility is restricted, a Stop Ahead sign (see Section 2C.36) shall be installed in advance of the STOP sign or a Yield Ahead sign (see Section 2C.36) shall be installed in advance of the YIELD sign.**

**02 The STOP or YIELD sign shall be located as close as practical to the intersection it regulates, while optimizing its visibility to the road user it is intended to regulate.**

**02a YIELD signs shall not be erected upon the approaches to more than one of the intersecting streets. Refer to CVC 21356.**

**03 STOP signs and YIELD signs shall not be mounted on the same post.**

**04 No items other than inventory stickers, sign installation dates, and bar codes shall be affixed to the fronts of STOP or YIELD signs, and the placement of these items shall be in the border of the sign.**

**05 No items other than official traffic control signs, inventory stickers, sign installation dates, anti-vandalism stickers, and bar codes shall be mounted on the backs of STOP or YIELD signs.**

**06 No items other than retroreflective strips (see Section 2A.21) or official traffic control signs shall be mounted on the fronts or backs of STOP or YIELD signs supports.**

## **APPENDIX B**

### **SWITRS COLLISION HISTORY**

**CITY OF LAGUNA HILLS**  
**INTERSECTION OF BROKEN BIT LANE AND BUCKSKIN DRIVE**  
**5-YEAR SWITRS COLLISION DATABASE**  
**JAN. 1, 2020 THROUGH DEC. 31, 2024**

CASE ID	COLL. DATE	COLL. TIME	PRIMARY ROAD	SECONDARY ROAD	DIST.	DIR.	INTERS.	WEATH. 1	COLL. SEVERITY	PRIM. COLL. FACT.	PCF VIOL. CAT.	PCF VIOL.	HIT AND RUN	TYPE OF COLL.	MOTOR VEHICLE INVOLVED WITH	ROAD SURF.
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**NO COLLISIONS REPORTED.**

**NOTES:**

**Weather 1**

- A - Clear
- B - Cloudy
- C - Raining
- D - Snowing
- E - Fog
- F - Other
- G - Wind
- Not Stated

**Collision Severity**

- 1 - Fatal
- 2 - Injury (Severe)
- 3 - Injury (Other Visible)
- 4 - Injury (Complaint of Pain)
- 0 - PDO (Property Damage Only)

**Primary Collision Factor**

- A - (Vehicle) Code Violation
- B - Other Improper Driving
- C - Other Than Driver
- D - Unknown
- E - Fell Asleep
- Not Stated

**PCF Violation Category**

- 01 - Driving or Bicycling Under Influence
- 02 - Impeding Traffic
- 03 - Unsafe Speed
- 04 - Following Too Closely
- 05 - Wrong Side of Road
- 06 - Improper Passing
- 07 - Unsafe Lane Change
- 08 - Improper Turning
- 09 - Automobile ROW
- 10 - Pedestrian ROW
- 11 - Pedestrian Violation
- 12 - Traffic Signals and Signs
- 13 - Hazardous Parking
- 14 - Lights
- 15 - Brakes
- 16 - Other Equipment
- 17 - Other Hazardous Violation
- 18 - Other Than Driver (or Ped)
- 19 -
- 20 -
- 21 - Unsafe Starting or Backing
- 22 - Other Improper Driving
- 23 - Pedestrian or "Other" Under the Influence
- 24 - Fell Asleep
- 00 - Unknown
- Not Stated

**Hit and Run**

- F - Felony
- M - Misdemeanor
- N - Not Hit & Run

**Type of Collision**

- A - Head-On
- B - Sideswipe
- C - Rear-End
- D - Broadside
- E - Hit Object
- F - Overturned
- G - Vehicle/Pedestrian
- H - Other
- Not Stated

**Motor Vehicle Involved With:**

- A - Non-Collision
- B - Pedestrian
- C - Other Motor Vehicle
- D - Motor Vehicle on Other Roadway
- E - Parked Motor Vehicle
- F - Train
- G - Bicycle
- H - Animal
- I - Fixed Object
- J - Other Object
- Not Stated

**Road Surface**

- A - Dry
- B - Wet
- C - Snowy or Icy
- D - Slippery
- Not Stated

**APPENDIX C**

**AVERAGE DAILY TRAFFIC (ADT)**

**COUNT DATA**

# VOLUME

Broken Bit Ln & Buckskin Dr

Day: Tuesday  
Date: 3/18/2025

Highest 8 Hours per Side-Street Perspective.

City: Laguna Hills  
Project #: CA25\_010031\_005

DAILY TOTALS					NB	SB	EB	WB	Total		
					92	0	177	193	462		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	0		1	0	1	12:00	4		1	4	9
0:15	0		0	1	1	12:15	0		2	7	9
0:30	0		0	0	0	12:30	1		7	2	10
0:45	0		0	1	1	12:45	4	9	2	12	10
1:00	0		0	0	0	13:00	2		3	3	8
1:15	0		0	0	0	13:15	4		8	3	15
1:30	0		0	0	0	13:30	1		1	1	3
1:45	0		0	0	0	13:45	0	7	2	14	7
2:00	0		0	0	0	14:00	2		5	5	12
2:15	0		0	0	0	14:15	2		1	4	7
2:30	0		0	0	0	14:30	2		7	5	14
2:45	0		0	0	0	14:45	3	9	4	17	8
3:00	0		0	0	0	15:00	1		4	7	12
3:15	0		0	0	0	15:15	2		5	9	16
3:30	0		0	0	0	15:30	2		1	3	6
3:45	0		0	0	0	15:45	0	5	4	14	9
4:00	0		0	0	0	16:00	5		5	3	13
4:15	0		0	0	0	16:15	3		6	3	12
4:30	0		0	1	1	16:30	4		5	2	11
4:45	0		0	0	0	16:45	2	14	0	16	5
5:00	0		0	0	0	17:00	0		5	2	7
5:15	0		1	1	2	17:15	1		1	2	4
5:30	1		0	0	1	17:30	2		1	1	4
5:45	0	1	0	1	0	17:45	0	3	1	8	4
6:00	2		1	0	3	18:00	2		8	3	13
6:15	1		1	0	2	18:15	4		7	3	14
6:30	2		0	0	2	18:30	0		2	1	3
6:45	1	6	0	2	2	18:45	1	7	1	18	6
7:00	2		4	0	6	19:00	2		1	4	7
7:15	0		2	3	5	19:15	0		2	4	6
7:30	0		1	2	3	19:30	0		1	3	4
7:45	2	4	4	11	2	19:45	1	3	0	4	4
8:00	1		0	3	4	20:00	0		2	0	2
8:15	3		5	4	12	20:15	0		1	3	4
8:30	2		4	4	10	20:30	0		1	1	2
8:45	1	7	3	12	3	20:45	0		0	4	3
9:00	3		4	4	11	21:00	0		4	1	5
9:15	0		3	3	6	21:15	2		0	0	2
9:30	1		2	2	5	21:30	0		1	0	1
9:45	2	6	3	12	3	21:45	0	2	0	5	5
10:00	2		0	3	5	22:00	0		1	2	3
10:15	1		5	2	8	22:15	0		0	0	0
10:30	1		2	3	6	22:30	0		1	1	2
10:45	2	6	3	10	2	22:45	0		0	2	0
11:00	1		0	5	6	23:00	0		1	0	1
11:15	1		4	2	7	23:15	0		0	2	2
11:30	1		4	4	9	23:30	0		1	1	2
11:45	0	3	3	11	2	23:45	0		1	3	1
<b>TOTALS</b>	<b>33</b>		<b>60</b>	<b>61</b>	<b>154</b>	<b>TOTALS</b>	<b>59</b>		<b>117</b>	<b>132</b>	<b>308</b>
<b>SPLIT %</b>	<b>21.4%</b>		<b>39.0%</b>	<b>39.6%</b>	<b>33.3%</b>	<b>SPLIT %</b>	<b>19.2%</b>		<b>38.0%</b>	<b>42.9%</b>	<b>66.7%</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					92	0	177	193	462

AM Peak Hour	8:15		8:15	11:30	8:15	PM Peak Hour	16:00		12:30	15:00	14:30
AM Pk Volume	9		16	17	40	PM Pk Volume	14		20	24	50
Pk Hr Factor	0.750		0.800	0.607	0.833	Pk Hr Factor	0.700		0.625	0.667	0.781
7 - 9 Volume	11	0	23	21	55	4 - 6 Volume	17	0	24	19	60
7 - 9 Peak Hour	7:45		7:45	8:00	7:45	4 - 6 Peak Hour	16:00		16:00	16:00	16:00
7 - 9 Pk Volume	8	0	13	14	34	4 - 6 Pk Volume	14	0	16	11	41
Pk Hr Factor	0.667	0.000	0.650	0.875	0.708	Pk Hr Factor	0.700	0.000	0.667	0.917	0.788

**APPENDIX D**

**STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED**

***CALIFORNIA MUTCD***

**Table 6C-1. Recommended Advance Warning Sign ~~Minimum~~ Spacing**

Road Type	Distance Between Signs**		
	A	B	C
Urban ( <del>low speed</del> ) - 25 mph or less***	100 feet	100 feet	100 feet
Urban - more than 25 mph to 40 mph***	250 feet	250 feet	250 feet
Urban ( <del>high speed</del> ) - more than 40 mph***	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

- \* ~~Speed category to be determined by the highway agency.~~
- \*\* The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)
- \*\*\* Posted speed limit, off-peak 85th-percentile speed prior to work starting, or other anticipated operating speed in mph.

**Table 6C-2. Stopping Sight Distance as a Function of Speed on Level Roads.  
 (Used as suggested longitudinal buffer space length or location for flagger station)**

Speed*	Distance
20 mph	115 feet
25 mph	155 feet
30 mph	200 feet
35 mph	250 feet
40 mph	305 feet
45 mph	360 feet
50 mph	425 feet
55 mph	495 feet
60 mph	570 feet
65 mph	645 feet
70 mph	730 feet
75 mph	820 feet



\* Posted speed, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.

**Table 6C-3. Taper Length Criteria for Temporary Traffic Control Zones**

Type of Taper	Taper Length
Merging Taper	at least L
Shifting Taper	at least 0.5 L
Shoulder Taper	at least 0.33 L
One-Lane, Two-Way Traffic Taper	50 feet minimum, 100 feet maximum
Downstream Taper	50 feet minimum, 100 feet maximum

Note: Use Table 6C-4 to calculate L

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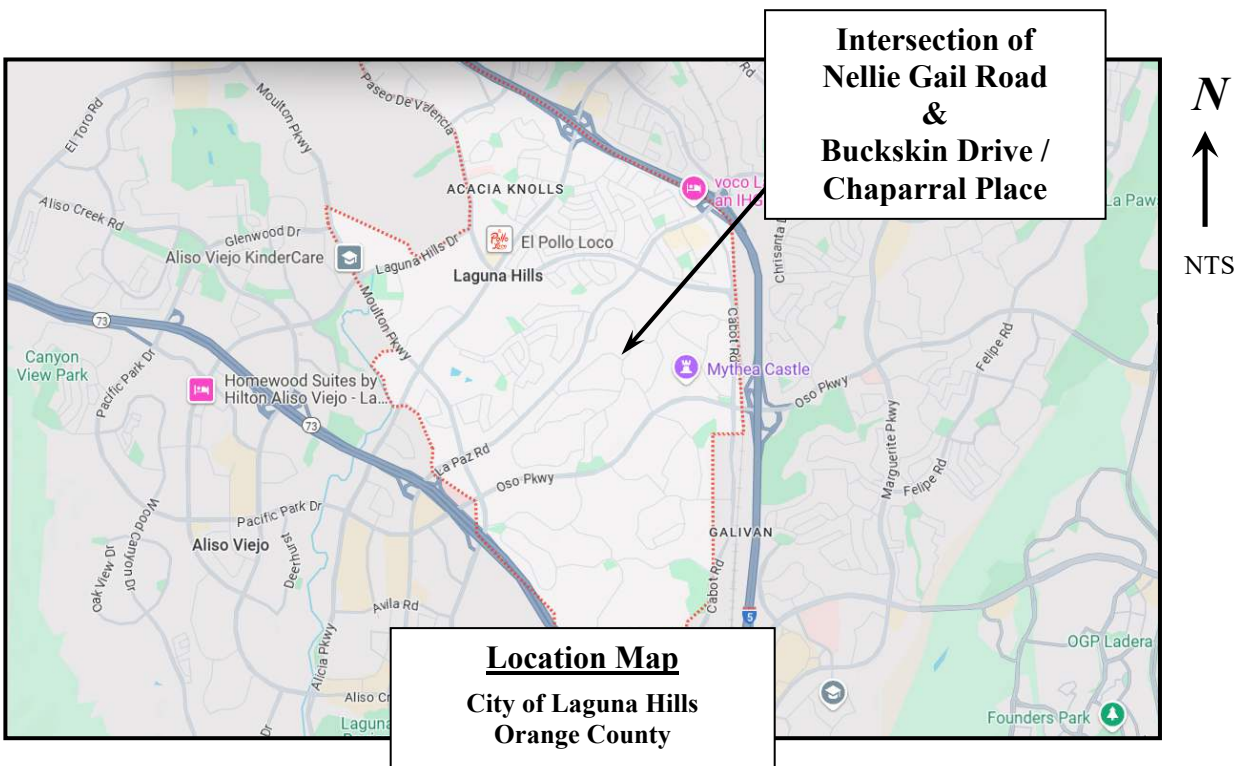
## MULTIWAY STOP CONTROL WARRANTS ANALYSIS

### **INTERSECTION OF NELLIE GAIL ROAD AND BUCKSKIN DRIVE/CHAPARRAL PLACE IN THE CITY OF LAGUNA HILLS, CA APRIL 28, 2025**

#### **INTRODUCTION**

The City of Laguna Hills requested Hartzog & Crabill, Inc. (HCI) to complete a Multiway Stop Warrants Analysis at the intersection of Nellie Gail Road and Buckskin Drive/Chaparral Place. This analysis was completed in order to verify if a four-way stop sign installation is warranted and recommended based on meeting standard guidelines.

The location is a 4-way intersection with Nellie Gail Road running diagonally in the east-west directions and Buckskin Drive/Chaparral Place running diagonally in the north-south directions. The intersection is located in the central part of the City between La Paz Road and Oso Parkway (*see Location Map below*). The intersection is entirely within the City of Laguna Hills jurisdiction. At the present time, there is a 2-Way Stop control on Buckskin Drive at the intersection with Nellie Gail Road.



## **BACKGROUND**

Nellie Gail Road is a curvy, diagonal, north-south and east-west collector roadway with single-family residential properties on both sides of the street. At the intersection with Buckskin Drive, the roadway is approximately 42 feet wide. The 2-lane roadway provides for one lane of traffic in each direction, divided by a painted, double-yellow centerline stripe. There are no marked crosswalks across Nellie Gail Road at or near the intersection. The roadway does have concrete rolled-curb and gutter improvements on both sides; however, only the south-side includes sidewalk improvements. The north-side of the roadway includes an equestrian path. Nellie Gail Road has a posted speed limit of 30 MPH, and on-street parking is allowed on both sides of the street. Currently, there are no STOP signs on Nellie Gail Road (i.e., uncontrolled) at its intersection with Buckskin Drive. *See Exhibit 1 (next page) for photo images of Nellie Gail Road.*

Buckskin Drive/Chaparral Place is a curvy, diagonal, north-south and east-west local roadway with single-family residential properties on both sides of the street. Chaparral Place is located south of Nellie Gail Road and is a short cul-de-sac. At the intersection with Nellie Gail Road, the roadway is approximately 40 feet wide. The 2-lane roadway provides for one lane of traffic in each direction, which are not separated by any centerline striping. There are no marked crosswalks across Buckskin Drive/Chaparral Place at or near the intersection. The roadway has concrete rolled-curb and gutter improvements on the both sides. There are sidewalk improvements along the north-side of Buckskin Drive, west of Nellie Gail Road (i.e., there are no sidewalk improvements along Chaparral Place). Buckskin Drive/Chaparral Place has an un-posted applicable ‘local’ prima facie speed limit of 25 MPH, and on-street parking is allowed on both sides of the street. Currently, there is a 2-Way STOP control on Buckskin Drive/Chaparral Place at its intersection with Nellie Gail Road. *See Exhibit 2 (following page) for photo images of Buckskin Drive/Chaparral Place.*

**EXHIBIT 1**



**NELLIE GAIL ROAD (*Looking Eastbound*) at BUCKSKIN DRIVE/CHAPARRAL PLACE**



**NELLIE GAIL ROAD (*Looking Westbound*) at BUCKSKIN DRIVE/CHAPARRAL PLACE**

**EXHIBIT 2**



**CHAPARRAL PLACE (Looking Northbound) at NELLIE GAIL ROAD**



**BUCKSKIN DRIVE (Looking Southbound) at NELLIE GAIL ROAD**

## WARRANT GUIDELINES

As is common practice with many municipal agencies, the City of Laguna Hills follows State guidelines for determining if traffic control devices, such as multi-way stop signs, should be installed. Therefore, the prevailing source used for this analysis is the State of California Manual on Uniform Traffic Control Devices (*California MUTCD*). The California MUTCD contains minimum guidelines regarding traffic volumes, collisions, speeds, visibility, and other criteria in order to satisfy the requirements, in this case, for the recommendation and installation of a multi-way (4-way) stop.

The California MUTCD **Multi-way Stop** Applications Guidance criteria are described in the following four main parts:

- 1) As an interim measure where traffic control signals are justified;
- 2) Reported crashes – five or more in a 12-month period that are susceptible to correction by a multi-way stop installation;
- 3) Minimum traffic and pedestrian volumes, speeds, and delay; and,
- 4) Where a combination of the above criteria are all satisfied to 80 percent.

If any one, or a combination, of these criteria is met, then a multi-way stop application should be considered. If these criteria are not met, the installation of an unwarranted multi-way stop sign installation is typically not recommended.

*The California MUTCD guidelines describing Right-of-Way at Intersections, STOP Sign Applications, Multi-way Stop Applications, and Yield Sign Applications are included in Appendix A.*

## MULTIWAY STOP ANALYSIS

The California MUTCD **Multi-way Stop** Applications section contains guidelines, such as minimum collisions and traffic volumes necessary for the justification of multi-way stop control. The general guidelines given for a stop sign application begin with using engineering judgment for the installation of a stop sign(s) on a street entering a through highway and where high speeds on the cross street make entry difficult, or due to restricted view, or when crash records indicate a need for control by a stop sign. Further guidance criteria found in the California MUTCD include the following important statements: *“YIELD or STOP signs should not be used for speed control... In most cases, the street carrying the lowest volume of traffic should be controlled... A STOP (R1-1) sign is not a ‘cure-all’ and is not a substitute for other traffic control devices. Often, the need for a STOP (R1-1) sign can be eliminated if the sight distance is increased by removing obstructions... A YIELD or STOP sign should not be installed on the higher volume roadway unless justified by an engineering study... Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal...”*

### *Collision History*

The guidelines for Multi-way Stop Applications contained in the California MUTCD regarding collisions, or crashes, require a minimum of five (5) reported crashes occurring in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions, as well as right-angle collisions (i.e., broadside, or head-on) and pedestrian-vehicle collisions. Other types categorized as ‘sideswipe’, ‘rear-end’, and ‘hit object’ collisions are generally not considered susceptible to correction, unless further review indicates otherwise. The latest available collision history was gathered by HCI from the California Highway Patrol (CHP) Statewide Integrated Traffic Records System website (i-SWITRS), which is where local jurisdictions such as cities report their collisions.

**Collision History (continued)**

A comprehensive 5-year traffic collision history summary report was prepared for this intersection and reviewed for collisions susceptible to correction by the installation of a multi-way stop. Table 1 below provides the most recent summary of collision history occurring at or near this intersection.

**TABLE 1  
SWITRS COLLISION SUMMARY**

Intersection	2020-21		2022		2023		2024	
	Date	Type of Coll. / Correctible?	Date	Type of Coll. / Correctible?	Date	Type of Coll. / Correctible?	Date	Type of Coll. / Correctible?
Nellie Gail Rd at Buckskin Dr/ Chaparral Ln		None reported		None reported		None reported		None reported

**Notes:** Information above is derived per the latest 5-year intersection traffic collision database report gathered from CHP-SWITRS (*i-SWITRS website*).

- 1) Type of Coll. = Type of Collision (*i.e., broadside, rear-end, etc.*)
- 2) Correctible? = Yes / No

As shown, there have been zero (0) reported collisions at or near this intersection over the past (5) years of available SWITRS collision data. Since the collision warrant requires a minimum of (5) reported crashes susceptible to correction by a multi-way stop, to occur within a 12-month period, the collision warrant is not satisfied. ***The prepared traffic collision database report is included in Appendix B.***

**Traffic Volumes**

HCI collected Average Daily Traffic (ADT) vehicular approach counts to the intersection on Tuesday, March 18, 2025 in order to account for vehicles that typically use this intersection. The ADT approach count for Nellie Gail Road is 756 vehicles per day with the highest AM peak-hour approach volume having 57 vehicles, and 71 vehicles in the PM peak-hour. The ADT approach count for Buckskin Drive/Chaparral Place is 264 vehicles with the highest AM peak-hour approach volume having 24 vehicles, and 34 vehicles in the PM peak-hour. Table 2 (next page) provides a breakdown of the approach volumes. ***The collected intersection traffic volume data is included in Appendix C.***

*Traffic Volumes (continued)*

**TABLE 2  
HIGHEST 24-HOUR INTERSECTION APPROACH VEHICLE COUNTS**

<b>Street</b>	<b>Direction</b>	<b>ADT Volume</b>	<b>Directional Split</b>	<b>Highest Hourly Volume</b>
<b>Nellie Gail Road</b>	Eastbound	390	52%	42 (3 - 4PM)
	Westbound	366	48%	33 (9 - 10AM)
<b>Chaparral Place / Buckskin Drive</b>	Northbound	32	12%	5 (9 - 10AM)
	Southbound	232	88%	30 (4 - 5PM)

Nellie Gail Road is considered the ‘through’ or ‘major’ street at this residential intersection since it carries higher volumes from both approaches, and drivers are not required to slow down, or even stop, before proceeding straight through the intersection. In comparison, Buckskin Drive/Chaparral Place is considered the ‘minor’ street as drivers on Buckskin Drive/Chaparral Place are required to stop at Nellie Gail Road and look both ways before proceeding to make a left-turn, right-turn, or proceed straight. It is typically expected that the traffic volumes on the minor street are significantly less than those on the major street. As can be seen from the table above, this is the case, as Buckskin Drive/Chaparral Place carries approximately 26% of the entire traffic entering the intersection (Nellie Gail Road carries 74% of entering traffic).

A part of the California MUTCD guideline criteria also calls for a reduction in the required minimum volumes when the critical approach speed (*or 85<sup>th</sup>-percentile speed*) on the major street exceeds 40 MPH. If this is the case, the minimum vehicular volumes to be met for a multiway stop sign installation are reduced to 70%. As mentioned, the posted speed limit on Nellie Gail Road is 30 MPH. Field observations during our site visit confirmed vehicles were not regularly speeding over the speed limit near the intersection, but were considered typical and what may be expected for two-lane local-collector type roadways. As the speed limit is less than the 40 MPH limit required to reduce traffic volumes, the 70% minimum volumes for a multi-way stop sign analysis are not applicable, and the 100% minimum volumes were analyzed on the next page.

**Traffic Volumes (continued)**

It is important to note that the highest hourly vehicle traffic counts shown in Table 2 above are given for the highest one-hour of traffic for each direction, and serve as a good indicator to compare with the required minimum hourly traffic volumes in the California MUTCD multi-way stop guidelines. It must also be mentioned that the average hourly minimum volumes for a multi-way stop application are to be satisfied for any eight (8) hours of an average day (not just for one hour in a day).

Table 3 below shows the California MUTCD minimum traffic volume guidelines for a Multi-way Stop Application in comparison with the highest 8-hour traffic count data collected at this intersection. Both Parts 1 and 2 of the minimum volume warrants below must be satisfied in order to fulfill the traffic volume warrant.

**TABLE 3  
MULTIWAY STOP SIGN WARRANT FOR MINIMUM TRAFFIC VOLUMES  
NELLIE GAIL ROAD AT BUCKSKIN DRIVE/CHAPARRAL PLACE**

<p style="text-align: center;"><b>Part 1.</b></p> <p>The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least <b>300</b> vehicles per hour for any <b>(8)</b> hours of an average day,</p> <p style="text-align: center;"><b>Results:</b></p> <p><b>No, average (57) vehicles per hour</b></p> <p>Only 19% of the required hourly traffic volume</p>	<i>and</i>	<p style="text-align: center;"><b>Part 2.</b></p> <p>The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least <b>200</b> units per hour for the same <b>(8)</b> hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour,</p> <p style="text-align: center;"><b>Results:</b></p> <p><b>No, average (23) vehicles per hour</b></p> <p>Only 12% of the required hourly traffic volume</p>	<i>but</i>	<p style="text-align: center;"><b>Part 3.</b></p> <p>If the 85<sup>th</sup>-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are <b>(70)</b> percent of the above values.</p> <p style="text-align: center;"><b>Results:</b></p> <p><b>No, 85<sup>th</sup> percentile speed on major-street does not exceed 40 mph</b></p>
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As shown above, the average hourly intersection approach traffic volumes for the highest 8-hour period did not satisfy both Parts 1 and 2 (*19% major street / 12% minor street*). Therefore, the minimum traffic volume warrant is not satisfied.

***Visibility***

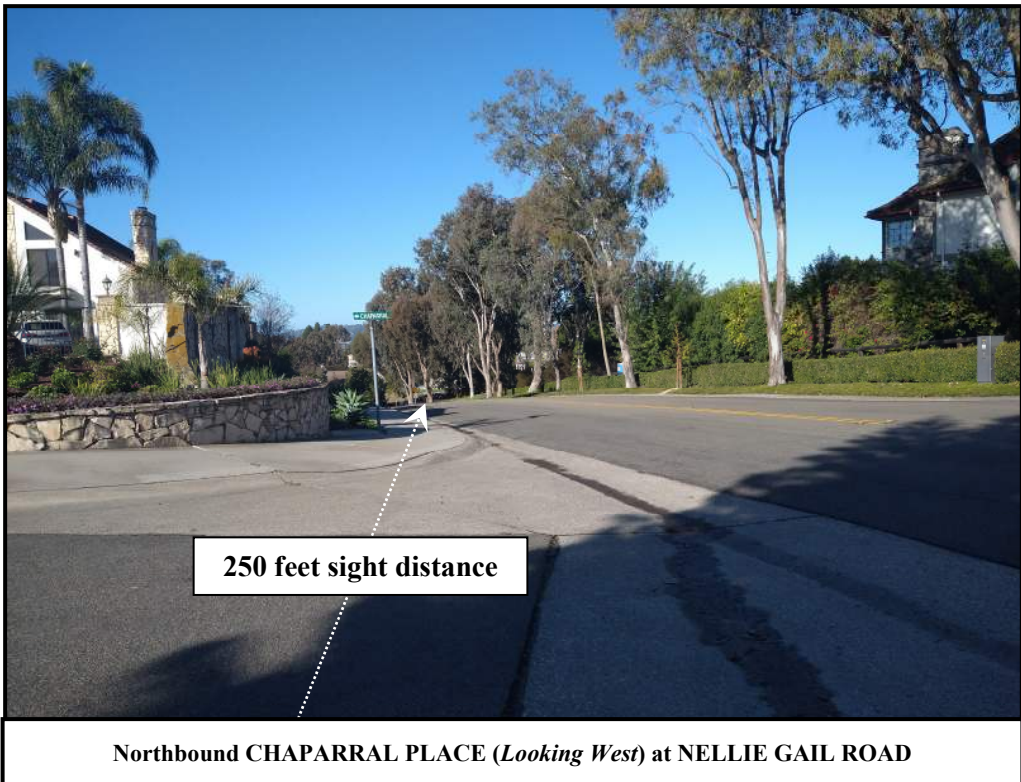
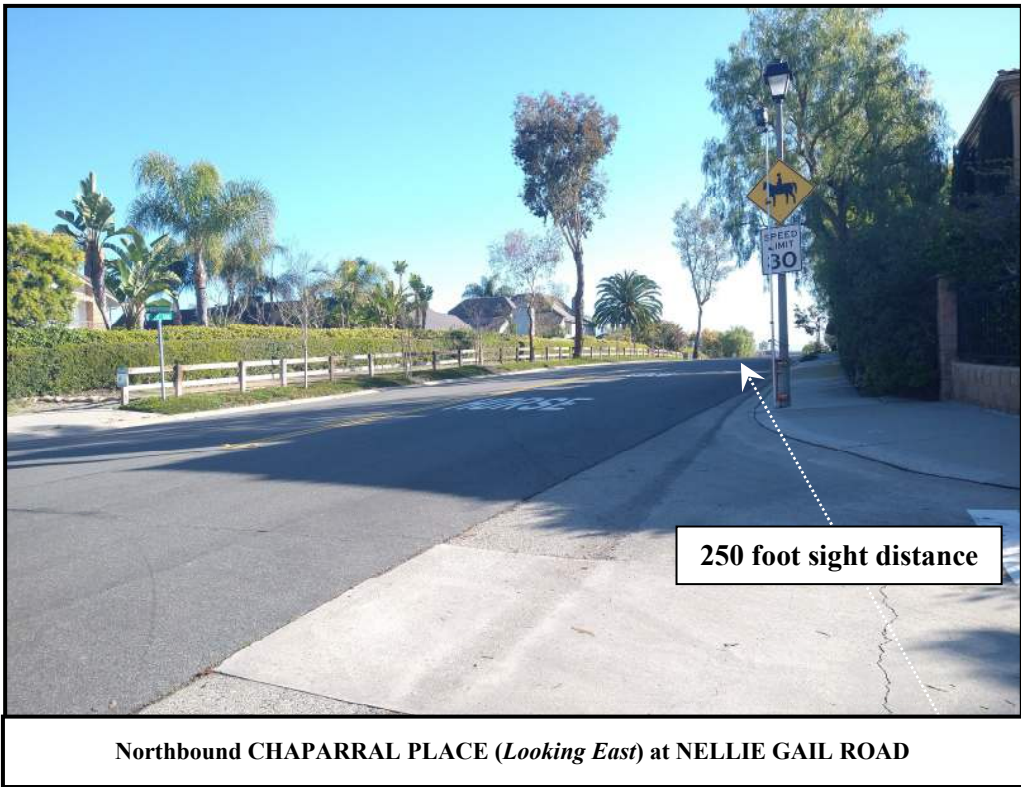
Impaired visibility, or restricted sight distance, due to the geometry of the intersection and possible obstructions was carefully considered during our field-review of the surrounding residential property environment. The geometry of the intersection includes an approximate 90° angle. Nellie Gail Road has a consistent, gradual incline in the eastbound direction.

Driver sight distance was measured from the side-street approaches to the intersection, as northbound Chaparral Place traffic and southbound Buckskin Drive traffic is required to stop before proceeding to make a left-turn or right-turn onto Nellie Gail Road, or proceed straight. The measured distance was derived from the stopping sight distance guidelines found in the California MUTCD (*see Appendix D*). In this reference, a 30 MPH roadway speed recommends a minimum Stopping Sight Distance of 200 feet. However, it is likely that the 85<sup>th</sup> percentile speeds typically exceed the 30 MPH posted speed limit. Therefore, a 35 MPH speed limit was used as a more conservative measure, which has a minimum sight distance of 250 feet. This 250-foot distance was used when looking towards approaching, uncontrolled traffic along Nellie Gail Road. More specifically, this stopping sight distance was field-measured from a typical ‘stopped’ vehicle location on Buckskin Drive and Chaparral Place at the intersection looking towards the oncoming lanes of cross-traffic on Nellie Gail Road. An orange cone was placed at this distance and a photograph was taken from a stopped driver’s perspective (i.e., approx. 3.5 feet in height).

*(See sight distance photos in Exhibits 3 & 4 on the following pages).*

As Exhibits 3 and 4 show, when looking from the side-streets, a driver does have a clear line of sight to the minimum sight distance of 250 feet when looking both ways on Nellie Gail Road.

**EXHIBIT 3**



**EXHIBIT 4**



## **MULTIWAY STOP ANALYSIS SUMMARY**

The analysis of the four (4) main criteria provided in the California MUTCD regarding Multi-way Stop Applications showed that this intersection did not meet the minimum guidelines to justify stopping the major roadway (i.e., Nellie Gail Road). The four main criteria analyzed were: 1) As an interim measure where traffic control signals are justified; 2) Reported collisions – a correctible crash problem; 3) Traffic and pedestrian volumes, speeds, and delay; and 4) Where a combination of the above criteria are satisfied to 80 percent.

In summary, the most recent collision history at the intersection resulted in zero (0) SWITRS-reported collisions during the last five years of available data, where the minimum guideline calls for at least five (5) correctible collisions in a 12-month period. The average minimum hourly minor street traffic volumes required for a multi-way stop that are to be satisfied for any eight (8) hours in an average day were also not satisfied. Excessive delay to the side-street approach was not observed in terms of stopping and waiting for a gap on the major roadway. Therefore, since intersection collision history and traffic volumes did not satisfy the minimum guidelines, it can also be derived that a traffic signal (as mentioned in 1) above) is not justified as an interim measure at this intersection. The 80% combined criteria were also not met as both the collisions and minimum traffic volumes were not satisfied to this percentage. If the California MUTCD criteria are not met, the location is typically not recommended for installation of a multi-way stop.

However, engineering judgment should always be included in any decision regarding traffic safety improvements. Intersection lighting was also verified and found to be adequate as there is a decorative street light located on the southeast corner of the intersection.

**MULTIWAY STOP ANALYSIS SUMMARY (continued)**

It was also determined that side-street drivers do have a clear line of sight when stopped at the intersection and looking both ways at approaching Nellie Gail Road traffic.

In regards to pedestrian and bicycle activity, field observations during our morning site visit confirmed a low activity of both.

Therefore, based upon engineering judgment, it is determined that stopping traffic on Nellie Gail Road at Buckskin Drive/Chaparral Place is not required to enhance the traffic safety at this intersection.

**RECOMMENDATION**

In overall consideration of the analysis criteria in this report, a multi-way (4-way) stop sign installation is not recommended for the intersection of Nellie Gail Road and Buckskin Drive/Chaparral Place. There are no other recommendations at this time.

**APPENDIX A**

**MULTIWAY STOP APPLICATIONS  
GUIDELINES:**

***CALIFORNIA MUTCD***

**Standard:**

**03 Except as provided in Paragraphs 4 and 5, the minimum sizes for regulatory signs facing traffic on multi-lane conventional roads shall be as shown in the Multi-lane column of Table 2B-1 and 2B-1(CA).**

**Option:**

**04** Where the posted speed limit is 35 mph or less on a multi-lane highway or street, other than for a STOP sign, the minimum size shown in the Single Lane column in Table 2B-1 and 2B-1(CA) may be used.

**05** Where a regulatory sign, other than a STOP sign, is placed on the left-hand side of a multi-lane roadway in addition to the installation of the same regulatory sign on the right-hand side or the roadway, the size shown in the Single Lane column in Table 2B-1 and 2B-1(CA) may be used for both the sign on the right-hand side and the sign on the left-hand side of the roadway.

**Standard:**

**06 A minimum size of 36 x 36 inches shall be used for STOP signs that face multi-lane approaches.**

**07 Where side roads intersect a multi-lane street or highway that has a speed limit of 45 mph or higher, the minimum size of the STOP signs facing the side road approaches, even if the side road only has one approach lane, shall be 36 x 36 inches.**

**08 Where side roads intersect a multi-lane street or highway that has a speed limit of 40 MPH or lower, the minimum size of the STOP signs facing the side road approaches shall be as shown in the Single Lane or Multi-lane columns of Table 2B-1 and 2B-1(CA) based on the number of approach lanes on the side street approach.**

**Guidance:**

**09** The minimum sizes for regulatory signs facing traffic on exit and entrance ramps should be as shown in the column of Table 2B-1 and 2B-1(CA) that corresponds to the mainline roadway classification (Expressway or Freeway). If a minimum size is not provided in the Freeway column, the minimum size in the Expressway column should be used. If a minimum size is not provided in the Freeway or Expressway Column, the size in the Oversized column should be used.

**Section 2B.04 Right-of-Way at Intersections**

**Support:**

**01** State or local laws written in accordance with the "Uniform Vehicle Code" (see Section 1A.11) establish the right-of-way rule at intersections having no regulatory traffic control signs such that the driver of a vehicle approaching an intersection must yield the right-of-way to any vehicle or pedestrian already in the intersection. When two vehicles approach an intersection from different streets or highways at approximately the same time, the right-of-way rule requires the driver of the vehicle on the left to yield the right-of-way to the vehicle on the right. The right-of-way can be modified at through streets or highways by placing YIELD (R1-2) signs (see Sections 2B.08 and 2B.09) or STOP (R1-1) signs (see Sections 2B.05 through 2B.07) on one or more approaches.

**Guidance:**

**02** Engineering judgment should be used to establish intersection control. The following factors should be considered:

- A. Vehicular, bicycle, and pedestrian traffic volumes on all approaches;
- B. Number and angle of approaches;
- C. Approach speeds;
- D. Sight distance available on each approach; and
- E. Reported crash experience.

**03** YIELD or STOP signs should be used at an intersection if one or more of the following conditions exist:

- A. An intersection of a less important road with a main road where application of the normal right-of-way rule would not be expected to provide reasonable compliance with the law;
- B. A street entering a designated through highway or street; and/or
- C. An unsignalized intersection in a signalized area.

**04** In addition, the use of YIELD or STOP signs should be considered at the intersection of two minor streets or local roads where the intersection has more than three approaches and where one or more of the following conditions exist:

- A. The combined vehicular, bicycle, and pedestrian volume entering the intersection from all approaches averages more than 2,000 units per day;
  - B. The ability to see conflicting traffic on an approach is not sufficient to allow a road user to stop or yield in compliance with the normal right-of-way rule if such stopping or yielding is necessary; and/or
  - C. Crash records indicate that five or more crashes that involve the failure to yield the right-of-way at the intersection under the normal right-of-way rule have been reported within a 3-year period, or that three or more such crashes have been reported within a 2-year period.
- <sup>05</sup> **YIELD or STOP signs should not be used for speed control.**

**Support:**

<sup>06</sup> Section 2B.07 contains provisions regarding the application of multi-way STOP control at an intersection.

**Guidance:**

<sup>07</sup> Once the decision has been made to control an intersection, the decision regarding the appropriate roadway to control should be based on engineering judgment. In most cases, the roadway carrying the lowest volume of traffic should be controlled.

<sup>08</sup> A YIELD or STOP sign should not be installed on the higher volume roadway unless justified by an engineering study.

**Support:**

<sup>09</sup> The following are considerations that might influence the decision regarding the appropriate roadway upon which to install a YIELD or STOP sign where two roadways with relatively equal volumes and/or characteristics intersect:

- A. Controlling the direction that conflicts the most with established pedestrian crossing activity or school walking routes;
- B. Controlling the direction that has obscured vision, dips, or bumps that already require drivers to use lower operating speeds; and
- C. Controlling the direction that has the best sight distance from a controlled position to observe conflicting traffic.

**Standard:**

<sup>10</sup> Because the potential for conflicting commands could create driver confusion, YIELD or STOP signs shall not be used in conjunction with any traffic control signal operation., ~~except in the following cases:~~

- ~~A. If the signal indication for an approach is a flashing red at all times;~~
- ~~B. If a minor street or driveway is located within or adjacent to the area controlled by the traffic control signal, but does not require separate traffic signal control because an extremely low potential for conflict exists; or~~
- ~~C. If a channelized turn lane is separated from the adjacent travel lanes by an island and the channelized turn lane is not controlled by a traffic control signal.~~

<sup>10a</sup> STOP signs shall not be erected at any entrance to an intersection controlled by traffic signals. Refer to CVC 21355(a).

**Option:**

<sup>10b</sup> YIELD or STOP signs may be used at a channelized turn lane if it is separated from the adjacent travel lanes moving in same direction by an island and the channelized turn lane is not controlled by a traffic control signal.

**Standard:**

<sup>11</sup> Except as provided in Section 2B.09, STOP signs and YIELD signs shall not be installed on different approaches to the same unsignalized intersection if those approaches conflict with or oppose each other.

<sup>12</sup> Portable or part-time STOP or YIELD signs shall not be used except for emergency and temporary traffic control zone purposes.

<sup>13</sup> A portable or part-time (folding) STOP sign that is manually placed into view and manually removed from view shall not be used during a power outage to control a signalized approach unless the maintaining agency establishes that the signal indication that will first be displayed to that approach upon restoration of power is a flashing red signal indication and that the portable STOP sign will be manually removed from view prior to stop-and-go operation of the traffic control signal.

Option:

<sup>14</sup> A portable or part-time (folding) STOP sign that is electrically or mechanically operated such that it only displays the STOP message during a power outage and ceases to display the STOP message upon restoration of power may be used during a power outage to control a signalized approach.

Support:

<sup>15</sup> Section 9B.03 contains provisions regarding the assignment of priority at a shared-use path/ roadway intersection.

**Section 2B.05 STOP Sign (R1-1) and ALL WAY Plaque (R1-3P)**

**Standard:**

<sup>01</sup> When it is determined that a full stop is always required on an approach to an intersection, a STOP (R1-1) sign (see Figure 2B-1) shall be used.

<sup>02</sup> The STOP sign shall be an octagon with a white legend and border on a red background.

<sup>03</sup> Secondary legends shall not be used on STOP sign faces.

<sup>04</sup> At intersections where all approaches are controlled by STOP signs (see Section 2B.07), an ALL WAY supplemental plaque (R1-3P) shall be mounted below each STOP sign. The ALL WAY plaque (see Figure 2B-1) shall have a white legend and border on a red background.

<sup>05</sup> The ALL WAY plaque shall only be used if all intersection approaches are controlled by STOP signs.

<sup>06</sup> Supplemental plaques with legends such as 2-WAY, 3-WAY, 4-WAY, or other numbers of ways shall not be used with STOP signs.

Support:

<sup>07</sup> The use of the CROSS TRAFFIC DOES NOT STOP (W4-4P) plaque (and other plaques with variations of this word message) is described in Section 2C.59.

Guidance:

<sup>08</sup> Plaques with the appropriate alternative messages of TRAFFIC FROM LEFT (RIGHT) DOES NOT STOP (W4-4aP) or ONCOMING TRAFFIC DOES NOT STOP (W4-4bP) should be used at intersections where STOP signs control all but one approach to the intersection, unless the only non-stopped approach is from a one-way street.

Option:

<sup>09</sup> An EXCEPT RIGHT TURN (R1-10P) plaque (see Figure 2B-1) may be mounted below the STOP sign if an engineering study determines that a special combination of geometry and traffic volumes is present that makes it possible for right-turning traffic on the approach to be permitted to enter the intersection without stopping.

Support:

<sup>10</sup> The design and application of Stop Beacons are described in Section 4L.05.

<sup>11</sup> A STOP (R1-1) sign is not a "cure-all" and is not a substitute for other traffic control devices. Often, the need for a STOP (R1-1) sign can be eliminated if the sight distance is increased by removing obstructions.

**Through Highways**

Option:

<sup>12</sup> STOP (R1-1) signs may be installed either at or near the entrance to a State highway, except at signalized intersections, or at any location so as to control traffic within an intersection. Refer to CVC 21352 and 21355. See Section 1A.11 for information regarding this publication.

Support:

<sup>13</sup> When STOP (R1-1) signs or traffic control signals have been erected at all entrances, a highway constitutes a through highway. Refer to CVC 600.

<sup>14</sup> Authority to place STOP (R1-1) signs facing State highway traffic is delegated to the Caltrans District Directors.

Option:

<sup>15</sup> Local authorities may designate any highway under their jurisdiction as a through highway and install STOP (R1-1) signs in a like manner. Refer to CVC 21354.

Standard:

<sup>16</sup> No local authority shall erect or maintain any STOP (R1-1) sign or other traffic control device requiring a stop, on any State highway, except by permission of Caltrans. Refer to CVC 21353.

Support:

<sup>17</sup> Caltrans will grant such permission only when an investigation indicates that the STOP (R1-1) sign will benefit traffic.

**Section 2B.06 STOP Sign Applications**

Guidance:

<sup>01</sup> At intersections where a full stop is not necessary at all times, consideration should first be given to using less restrictive measures such as YIELD signs (see Sections 2B.08 and 2B.09).

<sup>02</sup> The use of STOP signs on the minor-street approaches should be considered if engineering judgment indicates that a stop is always required because of one or more of the following conditions:

- A. The vehicular traffic volumes on the through street or highway exceed 6,000 vehicles per day;
- B. A restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the through street or highway; and/or
- C. Crash records indicate that three or more crashes that are susceptible to correction by the installation of a STOP sign have been reported within a 12-month period, or that five or more such crashes have been reported within a 2-year period. Such crashes include right-angle collisions involving road users on the minor-street approach failing to yield the right-of-way to traffic on the through street or highway.

Support:

<sup>03</sup> The use of STOP signs at grade crossings is described in Sections 8B.04 and 8B.05.

**Section 2B.07 Multi-Way Stop Applications**

Support:

<sup>01</sup> Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.

<sup>02</sup> The restrictions on the use of STOP signs described in Section 2B.04 also apply to multi-way stop applications.

Guidance:

<sup>03</sup> The decision to install multi-way stop control should be based on an engineering study.

<sup>04</sup> The following criteria should be considered in the engineering study for a multi-way STOP sign installation:

- A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.
- B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.
- C. Minimum volumes:
  - 1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and
  - 2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but
  - 3. If the 85<sup>th</sup>-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.
- D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Option:

<sup>05</sup> Other criteria that may be considered in an engineering study include:

- A. The need to control left-turn conflicts;
- B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
- C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and

**D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.**

### **Section 2B.08 YIELD Sign (R1-2)**

**Standard:**

**01 The YIELD (R1-2) sign (see Figure 2B-1) shall be a downward-pointing equilateral triangle with a wide red border and the legend YIELD in red on a white background.**

**Support:**

**02 The YIELD sign assigns right-of-way to traffic on certain approaches to an intersection. Vehicles controlled by a YIELD sign need to slow down to a speed that is reasonable for the existing conditions or stop when necessary to avoid interfering with conflicting traffic.**

### **Section 2B.09 YIELD Sign Applications**

**Option:**

**01 YIELD signs may be installed:**

- A. On the approaches to a through street or highway where conditions are such that a full stop is not always required.**
- B. At the second crossroad of a divided highway, where the median width at the intersection is 30 feet or greater. In this case, a STOP or YIELD sign may be installed at the entrance to the first roadway of a divided highway, and a YIELD sign may be installed at the entrance to the second roadway.**
- C. For a channelized turn lane that is separated from the adjacent travel lanes by an island, even if the adjacent lanes at the intersection are controlled by a highway traffic control signal or by a STOP sign.**
- D. At an intersection where a special problem exists and where engineering judgment indicates the problem to be susceptible to correction by the use of the YIELD sign.**
- E. Facing the entering roadway for a merge-type movement if engineering judgment indicates that control is needed because acceleration geometry and/or sight distance is not adequate for merging traffic operation.**

**Standard:**

**02 A YIELD (R1-2) sign shall be used to assign right-of-way at the entrance to a roundabout. YIELD signs at roundabouts shall be used to control the approach roadways and shall not be used to control the circulatory roadway.**

**03 Other than for all of the approaches to a roundabout, YIELD signs shall not be placed on all of the approaches to an intersection.**

### **Section 2B.10 STOP Sign or YIELD Sign Placement**

**Standard:**

**01 The STOP or YIELD sign shall be installed on the near side of the intersection on the right-hand side of the approach to which it applies. When the STOP or YIELD sign is installed at this required location and the sign visibility is restricted, a Stop Ahead sign (see Section 2C.36) shall be installed in advance of the STOP sign or a Yield Ahead sign (see Section 2C.36) shall be installed in advance of the YIELD sign.**

**02 The STOP or YIELD sign shall be located as close as practical to the intersection it regulates, while optimizing its visibility to the road user it is intended to regulate.**

**02a YIELD signs shall not be erected upon the approaches to more than one of the intersecting streets. Refer to CVC 21356.**

**03 STOP signs and YIELD signs shall not be mounted on the same post.**

**04 No items other than inventory stickers, sign installation dates, and bar codes shall be affixed to the fronts of STOP or YIELD signs, and the placement of these items shall be in the border of the sign.**

**05 No items other than official traffic control signs, inventory stickers, sign installation dates, anti-vandalism stickers, and bar codes shall be mounted on the backs of STOP or YIELD signs.**

**06 No items other than retroreflective strips (see Section 2A.21) or official traffic control signs shall be mounted on the fronts or backs of STOP or YIELD signs supports.**

## **APPENDIX B**

### **SWITRS COLLISION HISTORY**

**CITY OF LAGUNA HILLS**  
**INTERSECTION OF NELLIE GAIL ROAD AND BUCKSKIN DRIVE/CHAPARRAL PLACE**  
**5-YEAR SWITRS COLLISION DATABASE**  
**JAN. 1, 2020 THROUGH DEC. 31, 2024**

CASE ID	COLL. DATE	COLL. TIME	PRIMARY ROAD	SECONDARY ROAD	DIST.	DIR.	INTERS.	WEATH. 1	COLL. SEVERITY	PRIM. COLL. FACT.	PCF VIOL. CAT.	PCF VIOL.	HIT AND RUN	TYPE OF COLL.	MOTOR VEHICLE INVOLVED WITH	ROAD SURF.
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**NO COLLISIONS REPORTED.**

**NOTES:**

**Weather 1**

- A - Clear
- B - Cloudy
- C - Raining
- D - Snowing
- E - Fog
- F - Other
- G - Wind
- Not Stated

**Collision Severity**

- 1 - Fatal
- 2 - Injury (Severe)
- 3 - Injury (Other Visible)
- 4 - Injury (Complaint of Pain)
- 0 - PDO (Property Damage Only)

**Primary Collision Factor**

- A - (Vehicle) Code Violation
- B - Other Improper Driving
- C - Other Than Driver
- D - Unknown
- E - Fell Asleep
- Not Stated

**PCF Violation Category**

- 01 - Driving or Bicycling Under Influence
- 02 - Impeding Traffic
- 03 - Unsafe Speed
- 04 - Following Too Closely
- 05 - Wrong Side of Road
- 06 - Improper Passing
- 07 - Unsafe Lane Change
- 08 - Improper Turning
- 09 - Automobile ROW
- 10 - Pedestrian ROW
- 11 - Pedestrian Violation
- 12 - Traffic Signals and Signs
- 13 - Hazardous Parking
- 14 - Lights
- 15 - Brakes
- 16 - Other Equipment
- 17 - Other Hazardous Violation
- 18 - Other Than Driver (or Ped)
- 19 -
- 20 -
- 21 - Unsafe Starting or Backing
- 22 - Other Improper Driving
- 23 - Pedestrian or "Other" Under the Influence
- 24 - Fell Asleep
- 00 - Unknown
- Not Stated

**Hit and Run**

- F - Felony
- M - Misdemeanor
- N - Not Hit & Run

**Type of Collision**

- A - Head-On
- B - Sideswipe
- C - Rear-End
- D - Broadside
- E - Hit Object
- F - Overturned
- G - Vehicle/Pedestrian
- H - Other
- Not Stated

**Motor Vehicle Involved With:**

- A - Non-Collision
- B - Pedestrian
- C - Other Motor Vehicle
- D - Motor Vehicle on Other Roadway
- E - Parked Motor Vehicle
- F - Train
- G - Bicycle
- H - Animal
- I - Fixed Object
- J - Other Object
- Not Stated

**Road Surface**

- A - Dry
- B - Wet
- C - Snowy or Icy
- D - Slippery
- Not Stated

**APPENDIX C**

**AVERAGE DAILY TRAFFIC (ADT)**

**COUNT DATA**

# VOLUME

Buckskin Dr/Chaparral Pl & Nellie Gail Rd

Day: Tuesday  
Date: 3/18/2025

Highest 8 Hours per Side-Street Perspective.

City: Laguna Hills  
Project #: CA25\_010031\_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						32	232	390	366	1,020	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	0	0	0	0	0	12:00	0	5	4	7	16
0:15	0	0	2	0	2	12:15	4	4	10	6	24
0:30	0	0	2	0	2	12:30	0	7	7	3	17
0:45	0	0	0	4	1	12:45	0	4	5	21	16
1:00	0	0	1	0	1	13:00	0	3	7	7	17
1:15	0	0	0	0	0	13:15	1	6	3	6	16
1:30	0	0	0	0	0	13:30	0	2	4	1	7
1:45	0	0	0	1	0	13:45	1	2	3	14	16
2:00	0	0	0	0	0	14:00	0	7	9	5	21
2:15	0	0	0	0	0	14:15	0	2	6	8	16
2:30	0	0	0	0	0	14:30	0	7	4	12	23
2:45	0	0	0	0	0	14:45	0	4	20	8	19
3:00	0	0	0	0	0	15:00	2	3	6	8	19
3:15	0	0	0	0	0	15:15	2	3	18	8	31
3:30	0	0	0	0	0	15:30	0	6	8	8	22
3:45	0	0	0	0	0	15:45	0	4	3	15	18
4:00	0	0	0	0	0	16:00	1	8	5	11	25
4:15	0	0	0	0	0	16:15	1	9	7	8	25
4:30	0	0	1	0	1	16:30	1	9	9	6	25
4:45	0	0	0	1	0	16:45	1	4	4	30	23
5:00	0	0	0	0	0	17:00	0	3	9	6	18
5:15	0	0	1	2	3	17:15	0	1	5	6	12
5:30	0	1	1	0	2	17:30	0	3	12	8	23
5:45	0	0	1	1	3	17:45	1	1	2	9	13
6:00	0	3	1	1	5	18:00	0	4	10	5	19
6:15	0	1	0	0	1	18:15	1	7	4	9	21
6:30	0	1	0	3	4	18:30	0	1	9	4	14
6:45	0	0	5	3	4	18:45	0	1	2	14	16
7:00	1	5	0	3	9	19:00	0	2	6	3	11
7:15	0	2	1	3	6	19:15	0	1	7	4	12
7:30	0	3	3	9	15	19:30	0	3	3	4	10
7:45	0	1	3	13	8	19:45	0	2	8	4	8
8:00	0	6	7	4	17	20:00	0	1	5	2	8
8:15	2	3	7	6	18	20:15	0	1	5	3	9
8:30	1	6	5	13	25	20:30	0	1	4	1	6
8:45	1	4	3	18	6	20:45	0	0	3	4	6
9:00	1	4	4	9	18	21:00	1	2	2	2	7
9:15	2	6	6	10	24	21:15	0	1	2	0	3
9:30	0	5	5	7	17	21:30	0	1	1	2	4
9:45	2	5	4	19	9	21:45	0	1	0	4	8
10:00	0	2	5	8	15	22:00	0	1	4	0	5
10:15	1	10	5	4	20	22:15	0	2	0	1	3
10:30	0	5	5	7	17	22:30	0	0	1	0	1
10:45	0	1	5	22	9	22:45	0	0	3	1	3
11:00	0	3	8	9	20	23:00	0	1	2	0	3
11:15	2	4	8	8	22	23:15	0	0	2	1	3
11:30	0	3	12	4	19	23:30	0	0	1	0	1
11:45	2	4	2	12	4	23:45	0	0	1	1	2
<b>TOTALS</b>	<b>15</b>	<b>90</b>	<b>130</b>	<b>140</b>	<b>375</b>	<b>TOTALS</b>	<b>17</b>	<b>142</b>	<b>260</b>	<b>226</b>	<b>645</b>
<b>SPLIT %</b>	<b>4.0%</b>	<b>24.0%</b>	<b>34.7%</b>	<b>37.3%</b>	<b>36.8%</b>	<b>SPLIT %</b>	<b>2.6%</b>	<b>22.0%</b>	<b>40.3%</b>	<b>35.0%</b>	<b>63.2%</b>

DAILY TOTALS						NB	SB	EB	WB	Total	
						32	232	390	366	1,020	
AM Peak Hour	11:30	10:15	10:45	8:30	8:30	PM Peak Hour	12:00	16:00	15:00	14:15	16:00
AM Pk Volume	6	23	37	40	85	PM Pk Volume	4	30	42	35	98
Pk Hr Factor	0.375	0.575	0.771	0.769	0.850	Pk Hr Factor	0.250	0.833	0.583	0.729	0.980
7 - 9 Volume	5	31	37	50	123	4 - 6 Volume	5	39	59	61	164
7 - 9 Peak Hour	8:00	7:45	7:45	8:00	8:00	4 - 6 Peak Hour	16:00	16:00	16:45	16:00	16:00
7 - 9 Pk Volume	4	18	27	31	78	4 - 6 Pk Volume	4	30	36	33	98
Pk Hr Factor	0.500	0.750	0.844	0.596	0.780	Pk Hr Factor	1.000	0.833	0.750	0.750	0.980

**APPENDIX D**

**STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED**

***CALIFORNIA MUTCD***

**Table 6C-1. Recommended Advance Warning Sign ~~Minimum~~ Spacing**

Road Type	Distance Between Signs**		
	A	B	C
Urban ( <del>low speed</del> ) - 25 mph or less***	100 feet	100 feet	100 feet
Urban - more than 25 mph to 40 mph***	250 feet	250 feet	250 feet
Urban ( <del>high speed</del> ) - more than 40 mph***	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

- \* ~~Speed category to be determined by the highway agency.~~
- \*\* The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)
- \*\*\* Posted speed limit, off-peak 85th-percentile speed prior to work starting, or other anticipated operating speed in mph.

**Table 6C-2. Stopping Sight Distance as a Function of Speed on Level Roads.  
 (Used as suggested longitudinal buffer space length or location for flagger station)**

Speed*	Distance
20 mph	115 feet
25 mph	155 feet
30 mph	200 feet
35 mph	250 feet
40 mph	305 feet
45 mph	360 feet
50 mph	425 feet
55 mph	495 feet
60 mph	570 feet
65 mph	645 feet
70 mph	730 feet
75 mph	820 feet



\* Posted speed, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.

**Table 6C-3. Taper Length Criteria for Temporary Traffic Control Zones**

Type of Taper	Taper Length
Merging Taper	at least L
Shifting Taper	at least 0.5 L
Shoulder Taper	at least 0.33 L
One-Lane, Two-Way Traffic Taper	50 feet minimum, 100 feet maximum
Downstream Taper	50 feet minimum, 100 feet maximum

Note: Use Table 6C-4 to calculate L



## City of Laguna Hills Traffic Commission Staff Report

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**Date:** May 21, 2025  
**To:** Traffic Commissioners  
**From:** Joe Ames, Assistant City Manager  
**Issue:** Exploring Citywide Street Sweeping Parking Restrictions

---

**Recommendation:** That the Traffic Commission provide input on the topic and recommend City staff return to Traffic Commission at a future meeting with a written report.

---

### **Background:**

At the April 22, 2025, City Council meeting, Mayor Pro Tem Caskey requested that the Traffic Commission look into adopting a Citywide street sweeping parking restriction ordinance. In separate correspondence to Assistant City Manager Ames, Mayor Pro Tem Caskey indicated that cost, enforcement, and coordination with trash pickup days be examined.

By happenstance, Assistant City Manager Ames recently attended a League of California Cities' Public Works Officers Institute Conference where one of the presentations featured the City of Ontario's recently implemented Citywide street sweeping parking restrictions, including costs for implementation. Additionally, the City recently received bids for a proposed street name sign replacement project.

Based on a spacing interval of approximately 300', which is typical for permit parking area no parking signs already installed in the City, approximately an additional 2,400 no parking during street sweeping signs will need to be installed on residential and collector streets. The estimated cost of installation of the required no parking on street sweeping day signage might range from \$175 to \$225 per sign installation location. This results in an estimated total project cost resulting in a range of \$420,000 to \$540,000.

Another cost of implementing street sweeping day parking restrictions is the cost of enforcement. The cost of enforcement will vary depending on the personnel used for enforcement (e.g. Orange County Sheriff's Deputy or Community Service Officer, private contractor, or City Code Enforcement Officer), and the duration and frequency of enforcement.

Regarding coordination with trash pickup day, currently street sweeping on residential streets is conducted the day after trash day on the 2nd and 4th week of the month. If a no parking during street sweeping restriction is proposed and adopted, City staff would propose that this schedule continue. It should be noted that there is a proposal to change residential trash pickup days for some residential properties starting July 2026 based on a new solid waste and recycling service contract awarded to CR&R, Inc. as part of a joint-procurement with the City of Lake Forest. One of the proposed efficiency improvements in the contract proposes to coordinate trash pickup days with Lake Forest. Therefore, City staff would recommend any proposed implementation of street sweeping parking restrictions should be delayed until after the implementation of the proposed changes in trash pickup day for some residents.

City staff recommends that the Traffic Commission provide input on the topic and recommend City staff return to Traffic Commission at a future meeting with a refined written report.

**Fiscal Impact:**

See above.

**Attachments:**

None