



CITY OF LAGUNA HILLS TRAFFIC COMMISSION

REGULAR MEETING AGENDA Wednesday, January 17, 2024 – 7:00 PM

Michael Caputo - Chair

Neel Patel - Vice Chair

Manuel Hernandez - Commissioner

Mark Schaff - Commissioner

Location: 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, an overall time limit of ten minutes for any one subject, 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 COMMISSION MEMBERS

1. PUBLIC COMMENTS

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, an overall time limit of ten minutes for any one subject, and a total time limit of thirty minutes.

2. MINUTES

2.1 Minutes

Recommendation: That the Traffic Commission approve the minutes of November 15, 2023.

3. PRESENTATIONS

4. ADMINISTRATIVE REPORTS

4.1 Santa Vittoria Drive and San Remo Drive Speed Survey Review

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

4.2 Review of Traffic Conditions on Wilkes Place and Grissom Road

Recommendation: That the Traffic Commission recommend that the City Engineer add Grissom Road 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 Grissom Road.

5. INFORMATIONAL ITEMS

5.1. Sheriff's Department Verbal Report

6. MATTERS AGENDIZED AND PRESENTED BY TRAFFIC COMMISSION MEMBERS

6.1 Studying the Implementation of Overnight Parking Restrictions Within North Laguna Hills and the Urban Village Specific Plan Areas

Recommendation: That the Traffic Commission: 1) Receive a presentation from Vice Chair Patel; and 2) Provide direction to the City Engineer on this request.

6.2 Studying a Change to the Residential Permit Parking Program that Would Reduce Guest Permit Parking Passes from Four Permits to One Permit Per Household

Recommendation: That the Traffic Commission: 1) Receive a presentation from Vice Chair Patel; and 2) Provide direction to the City Engineer on this request.

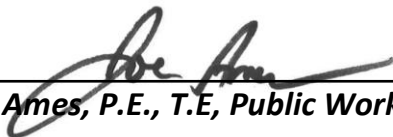
7. COMMISSIONER COMMENTS

8. ADJOURNMENT

The next Regular Meeting of the Traffic Commission will be March 20, 2024, at 7:00 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 January 11, 2024, at 5:00 p.m.



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

January 11, 2024

Date

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) 707-2650. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to assure 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

Staff Report

DATE: January 17, 2024
TO: Traffic Commissioners
FROM: Joe Ames
Public Works Director/City Engineer
ISSUE: Minutes

RECOMMENDATION: That the Traffic Commission approve the minutes of November 15, 2023.

ATTACHMENTS:

- Minutes November 15, 2023

**CITY OF LAGUNA HILLS
TRAFFIC COMMISSION**

**REGULAR MEETING
MINUTES
Wednesday, November 15, 2023**

CALL TO ORDER

The meeting was called to order at 7:00 p.m. by Chair Michael Caputo.

PLEDGE OF ALLEGIANCE

ROLL CALL OF COMMISSION MEMBERS

Attendee Name	Title	Status	Arrived
Michael Caputo	Chair	Present	
Neel Patel	Vice Chair	Absent	
Manuel Hernandez	Commissioner	Present	
Mark Schaff	Commissioner	Present	

1. PUBLIC COMMENTS

There were no Public Comments

2. MINUTES

2.1 Minutes

Recommendation: That the Traffic Commission approve the minutes of September 20, 2023.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Mark Schaff, Commissioner
SECONDER:	Michael Caputo, Chair
AYES:	Michael Caputo, Chair, Manuel Hernandez, Commissioner, Mark Schaff, Commissioner
ABSENT:	Neel Patel, Vice Chair

3. PRESENTATIONS

There were no Presentations.

4. ADMINISTRATIVE REPORTS

4.3 Establishment of a Residential Permit Parking Area for the Mandeville Neighborhood

Chair Caputo requested the Traffic Commission discuss item 4.3 out of order.

Public Works Director Joe Ames presented the staff report to the Traffic Commission.

The Traffic Commission received the following Public Comments:

- Darren Devito, a resident, spoke in favor of permit parking.
- Rita Frek, a resident, spoke in favor of permit parking, but is not in favor of no parking during the days and hours of street sweeping.
- Julie Devito, a resident, stated from the audience she seconded her husband's comments.
- William Dixon, a resident, spoke in favor of permit parking and was concerned regarding cars parked too close to the intersection when turning right onto Mandeville Drive from Moulton Parkway.
- Phillip Cook, a resident, spoke in favor of permit parking, and seconded William Dixon's concern regarding parked cars at the intersection of Mandeville Drive and Moulton Parkway.
- Gary Cervenka, a resident, spoke in favor of permit parking.
- Joe Camugla, a resident, spoke in favor of permit parking.
- Pam Camugla, a resident, stated from the audience she seconded Joe Camugla's comments.
- Karen Ziem, a resident, stated from the audience she agreed with the previous public comments.
- Stanley Ziem, a resident, spoke in favor of permit parking.
- Rick Youngren, a resident, spoke in favor of permit parking, and was concerned regarding cars parked too close to the intersection of Santa Rosa Avenue and Mandeville Drive, and Mandeville Drive and Moulton Parkway.
- Robert Henretta, a resident, spoke in favor of permit parking.
- Sandra Fagan, a resident, stated from the audience she agreed with all the previous public comments.
- Christine Youngren, a resident, stated from the audience she agreed with all the previous public comments.
- Greg Rankin, a resident, spoke in favor of permit parking.
- Toni Szymczyk, a resident, spoke in favor of permit parking.

Recommendation: That the Traffic Commission recommend to the City Council the establishment of a Residential Permit Parking Area consisting of no overnight parking between the hours of 10:00 PM and 6:00 AM except by permit and no parking during street sweeping hours in the Mandeville Neighborhood for the streets of Mandeville Drive (From Moulton Parkway to Los Alamitos), Santa Rosa Avenue, Alta Loma Court and Sundance Avenue.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Michael Caputo, Chair
SECONDER:	Mark Schaff, Commissioner
AYES:	Michael Caputo, Chair, Manuel Hernandez, Commissioner, Mark Schaff, Commissioner
ABSENT:	Neel Patel, Vice Chair

4.1 Santa Vittoria Drive and San Remo Drive Multiway Stop Control Warrant Analysis Overview

Public Works Director Joe Ames presented the staff report to the Traffic Commission.

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

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Mark Schaff, Commissioner
SECONDER:	Michael Caputo, Chair
AYES:	Michael Caputo, Chair, Manuel Hernandez, Commissioner, Mark Schaff, Commissioner
ABSENT:	Neel Patel, Vice Chair

4.2 San Remo Drive and Pesaro Marked Crosswalk Warrant Analysis

Public Works Director Joe Ames presented the staff report to the Traffic Commission.

Recommendation: That the Traffic Commission recommend that City staff install a white, high visibility marked crosswalk with ladder style bars across the east leg of San Remo Drive, a new ADA pedestrian curb ramp on the north side of San Remo Drive, applicable pedestrian bicycle crossing fluorescent yellow warning signs, applicable pedestrian crossing fluorescent yellow warning signs, and a Rectangular Rapid Flashing Beacon (RRFB) System.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Michael Caputo, Chair
SECONDER:	Manuel Hernandez, Commissioner
AYES:	Michael Caputo, Chair, Manuel Hernandez, Commissioner, Mark Schaff, Commissioner
ABSENT:	Neel Patel, Vice Chair

5. INFORMATIONAL ITEMS

5.1. Sheriff's Department Verbal Report

Captain Burk indicated the Sheriff's Department added a second Motor Deputy and doubled their enforcement capabilities.

6. COMMISSIONER COMMENTS

Commissioner Hernandez requested parking enforcement in the no parking zones on Via Lomas.

Chair Caputo thanked staff for installing radar speed feedback signs on La Paz.

Commissioner Schaff expressed concern over the ramifications of permit parking to other nearby neighborhoods.

7. ADJOURNMENT

There being no further business before the Traffic Commission at this session, Chair Caputo declared the meeting adjourned at 8:22 p.m.

Joe Ames, Public Works Director/City Engineer

ATTEST:

Michael Caputo, Chair

Approved at meeting of January 17, 2024



City of Laguna Hills

Traffic Commission

Staff Report

DATE: January 17, 2024
TO: Traffic Commissioners
FROM: Joe Ames
Public Works Director/City Engineer
ISSUE: Santa Vittoria Drive and San Remo Drive Speed Survey Review

RECOMMENDATION: That the Traffic Commission receive and file the report.

SUMMARY:

City staff was contacted by a resident of the community regarding concerns about vehicular speeding near the intersection of Santa Vittoria Drive and San Remo and requested the installation of an all-way stop at this intersection. Currently, there is one-way stop sign control on westbound San Remo Drive, while Santa Vittoria is uncontrolled. On November 15th, 2023, Traffic Commission Agenda Item 4.1 detailed the results of a multiway stop control warrant analysis. Upon review, it was determined that a multi-way stop sign is not warranted based on standard guidelines. However, based upon the resident's concern, City staff initiated a review of vehicular speeds on Santa Vittoria Drive south of San Remo Drive. Please see the attached Vicinity Map.

Counts Unlimited collected and reported the attached November 28th, 2023, 24-hour speed study on Santa Vittoria. The speed survey counts, as shown in the study, determined the 85th percentile speeds on northbound and southbound Santa Vittoria as 36 mph. City staff's experience has found the typical prevailing speed range for such streets to be between 7 to 9 mph above the posted speed limit, without traffic safety concerns. The 85th percentile speeds are within this range. Therefore, no action is warranted. City staff recommends that the Traffic Commission receive and file the report.

Assistant Engineer Samantha Vu performed extensive research and wrote this report.

Santa Vittoria Drive and San Remo Drive Speed Survey Review

January 17, 2024

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FISCAL IMPACT:

There is no fiscal impact due to the results of the 24-hour speed survey.

ATTACHMENTS:

- Traffic Commission Agenda Item 4.1, November 15, 2023
- Santa Vittoria Drive and San Remo Drive Vicinity Map
- Counts Unlimited Speed Survey November 28, 2023



City of Laguna Hills

Traffic Commission

Staff Report

DATE: November 15, 2023

TO: Traffic Commissioners

FROM: Joe Ames
Public Works Director/City Engineer

ISSUE: Santa Vittoria Drive and San Remo Drive Multiway Stop Control Warrant Analysis Overview

RECOMMENDATION: That the Traffic Commission receive and file the report.

SUMMARY:

Staff received a request from a resident of the community to evaluate the need for all-way stop sign control at the intersection of Santa Vittoria Drive and San Remo Drive to address speeding vehicles on Santa Vittoria Drive. Currently, there is one-way stop sign control on westbound San Remo Drive, while Santa Vittoria Drive is uncontrolled. Upon review, it was determined that a multi-way stop sign is not warranted based on standard guidelines. It is recommended that the Traffic Commission receive and file this report.

Assistant Engineer Samantha Vu performed extensive research and contributed significantly to this report.

BACKGROUND:

Santa Vittoria Drive is a local collector, curvilinear street traversing in the north-south direction. San Remo Drive is a local collector, curvilinear street traversing in the east-west direction. Both roadways provide space for one lane in each direction and meet in a T-intersection. There are no marked crosswalks across any leg of the intersection. The posted speed limit on both roadways is 30 MPH. Please see the attached Vicinity Map.

Santa Vittoria Drive and San Remo Drive Multiway Stop Control Warrant Analysis Overview

November 15, 2023

Page 2

Multiple residents have contacted staff regarding their concerns about the number of speeding vehicles on Santa Vittoria and the safety of pedestrians near the T-intersection of Santa Vittoria Drive and San Remo Drive. A request was made to evaluate the need for a multi-way stop at the intersection.

Upon receiving the request, staff contracted the services of Hartzog and Crabill, Inc. (HCI) to perform a multi-way stop sign warrant analysis, traffic volume review, and sight-distance review. Based on the guidelines of the California Manual on Uniform Traffic Control Devices (MUTCD), HCI reviewed the accident history, traffic volumes, and visibility at the intersection. In summary, an accident history review from the California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS) from January 2018 through March 2023 revealed one (1) reported collision. This was deemed a non-correctible collision in 2021, where a vehicle collided with an object. The collision warrant requires a minimum of five (5) reported, correctible accidents within a 12-month period, and therefore does not trigger the requirement of a multi-way stop sign. The traffic volumes were also not sufficient to trigger the requirement of a multi-way stop sign at the T-intersection. Moreover, the sight distance analysis revealed adequate stopping sight distance at the intersection. Please see the attached report for details.

While unfortunate, one (1) vehicle collision does not justify the installation of a multi-way stop sign at an intersection. Moreover, a stop sign is not to be used as a speed control measure, rather its purpose is to assign right-of-way. Multiple studies have shown no appreciable change in the prevailing speed of traffic on a street by stop signs. Improper use of a stop sign may contribute to increased occurrences of collisions, along with a general disregard for the traffic control device.

However, even though the findings did not result in a multi-way stop sign warrant being met, the City Engineer has directed that a 24-hour speed survey be conducted on Santa Vittoria to verify the 85th percentile speed on the roadway to investigate if other controls or signage should be implemented.

FISCAL IMPACT:

There is no fiscal impact due to the results of the warrant analysis.

ATTACHMENTS:

- Santa Vittoria and San Remo Vicinity Map

Santa Vittoria Drive and San Remo Drive Multiway Stop Control Warrant Analysis Overview

November 15, 2023

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-
- HCI Multitway Stop Sign Warrant Analysis - Santa Vittoria Drive at San Remo Drive 10-24-23

SANTA VITTORIA DRIVE AND SAN REMO DRIVE

4.1.a



1" = 68 ft

Vicinity Map

11/06/2023



This map may represents a visual display of related geographic information. Data provided here on is not guarantee of actual field conditions. To be sure of complete accuracy, please contact the responsible staff for most up-to-date information.

Packet Pg. 14

Attachment: Traffic Commission Agenda Item 4.1, November 15, 2023 (3399 : Santa Vittoria Drive and San

MULTIWAY STOP CONTROL WARRANTS ANALYSIS:

INTERSECTION OF SANTA VITTORIA DRIVE AND SAN REMO DRIVE IN THE CITY OF LAGUNA HILLS, CA OCTOBER 24, 2023

INTRODUCTION

The City of Laguna Hills requested Hartzog & Crabill, Inc. (HCI) to complete a Multiway Stop Warrants Analysis at the intersection of Santa Vittoria Drive and San Remo Drive. This analysis was completed in order to verify if a 3-Way stop sign installation is warranted and recommended based on meeting standard guidelines.

The intersection is located southwest of the I-5 Freeway, south of Ridge Route Drive and west of Moulton Parkway (see *Location Map below*). The location is a 3-way intersection with Santa Vittoria Drive running diagonally in the north-south directions and San Remo Drive running in the east-west directions (east of Santa Vittoria Drive). At this time, there is a 1-way Stop sign control on westbound San Remo Drive, while Santa Vittoria Drive is uncontrolled. There are no marked crosswalks across any leg of the intersection.



Multiway Stop Sign Warrants Analysis – Santa Vittoria Drive at San Remo Drive, in Laguna Hills, CA

BACKGROUND

Santa Vittoria Drive is a north-south curvy, collector roadway with single-family and multi-family residential properties on both sides of the street. At the intersection with San Remo Drive, the roadway is approximately 40 feet wide. The 2-lane roadway provides for one lane of traffic in each direction, which are separated by a double-yellow centerline stripe. There are no marked crosswalks across Santa Vittoria Drive at or near the intersection. The roadway does have curb, gutter, and sidewalk improvements on the both sides. Santa Vittoria Drive has a posted speed limit of 30 MPH. There is a Side Road Ahead symbol warning sign in the northbound advance approach. On-street parking is primarily allowed on both sides of the street, and partially restricted via posted signs for certain segments near the intersection, as well as for street sweeping periods. Currently, there are no STOP signs on Santa Vittoria Drive (i.e., uncontrolled) at its intersection with San Remo Drive.

See Exhibit 1 (next page) for photo images of Santa Vittoria Drive.

San Remo Drive is an east-west collector roadway with primarily single-family and also multi-family residential properties on both sides of the street. At the T-intersection with Santa Vittoria Drive, which is the westerly terminus of San Remo Drive, the roadway is approximately 36 feet wide. The 2-lane roadway provides for one lane of traffic in each direction, which are separated by a single-yellow skip centerline. The roadway does have curb, gutter, and sidewalk improvements on the south side, and only curb and gutter along a portion on the north side. San Remo Drive does have a posted speed limit of 30 MPH. There is a posted STOP sign, a white ‘STOP’ pavement marking, and a limit line for westbound San Remo Drive at its intersection with Santa Vittoria Drive.

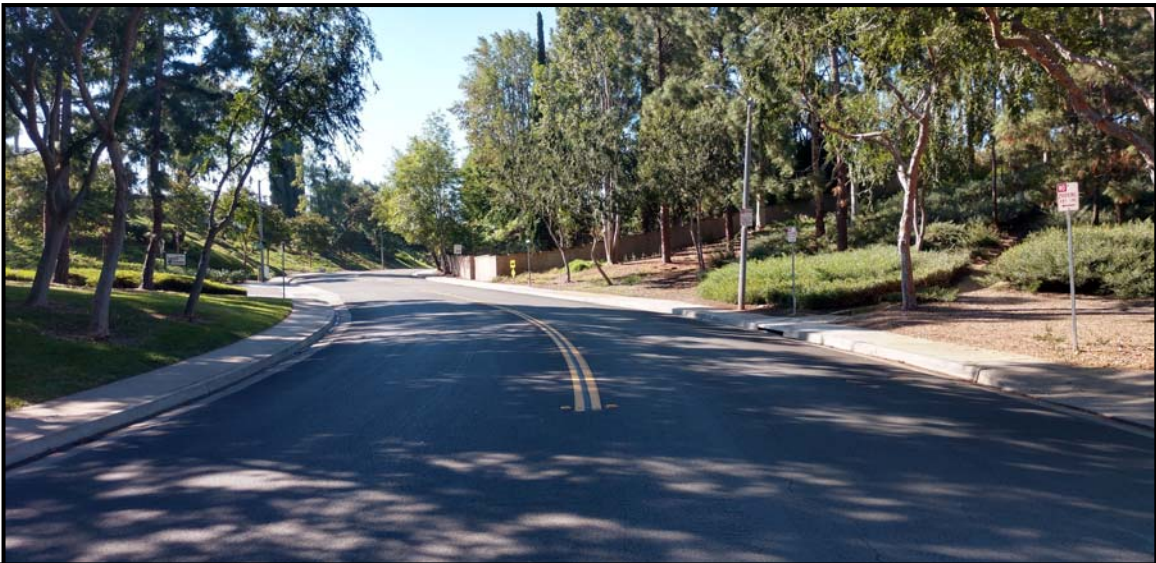
See Exhibit 2 (following page) for a photo image of San Remo Drive.

Multiway Stop Sign Warrants Analysis – Santa Vittoria Drive at San Remo Drive, in Laguna Hills, CA

EXHIBIT 1



SANTA VITTORIA DRIVE (Looking Northbound) @ SAN REMO DRIVE



SANTA VITTORIA DRIVE (Looking Southbound) @ SAN REMO DRIVE

Multiway Stop Sign Warrants Analysis – Santa Vittoria Drive at San Remo Drive, in Laguna Hills, CA

EXHIBIT 2



SAN REMO DRIVE (Looking Westbound) @ SANTA VITTORIA DRIVE

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... 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... In most cases, the street carrying the lowest volume of traffic should be controlled... 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 in order to satisfy this warrant. 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 such as ‘rear-end’ and ‘hit object’ are generally not considered correctible, unless otherwise stated. HCI gathered the latest available collision history for the intersection from the State of California Highway Patrol (CHP) Statewide Integrated Traffic Records System website (*i-SWITRS*), which is where local jurisdictions, such as cities, report their collisions. A comprehensive 5-year traffic collision history summary report was prepared for this intersection.

Multiway Stop Sign Warrants Analysis – Santa Vittoria Drive at San Remo Drive, in Laguna Hills, CA

Collision History (continued)

Table 1 (below) provides the most recent summary of collision history occurring at or near this intersection.

**TABLE 1
SWITRS COLLISION SUMMARY**

Intersection	2018-19		2020		2021		2022 - March 2023	
	Date	Type of Coll. / Correctible?	Date	Type of Coll. / Correctible?	Date	Type of Coll. / Correctible?	Date	Type of Coll. / Correctible?
Santa Vittoria Drive at San Remo Drive		<i>None reported</i>		<i>None reported</i>	02/01	Hit Object - No		<i>None reported</i>

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 above, there has been only (1) reported collision (non-correctible in 2021) 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, this warrant is not satisfied.

The SWITRS traffic collision data report is included in Appendix B.

Traffic Volumes

HCI collected Average Daily Traffic (ADT) vehicular approach counts to the intersection on Thursday, September 21, 2023 in order to account for vehicles that typically use this T-intersection. The ADT bi-directional approach count for Santa Vittoria Drive is 2,944 vehicles per day with the highest AM peak-hour approach volume having 214 vehicles, and 272 vehicles in the PM peak-hour. The ADT approach count for San Remo Drive is 801 vehicles with the highest AM peak-hour approach volume having 86 vehicles, and 59 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.***

Multiway Stop Sign Warrants Analysis – Santa Vittoria Drive at San Remo Drive, in Laguna Hills, CA

Traffic Volumes (continued)

TABLE 2
HIGHEST 24-HOUR INTERSECTION APPROACH VEHICLE COUNTS

Street	Direction	ADT Volume	Directional Split	Highest Hourly Volume
Santa Vittoria Drive	Northbound	1,201	41%	113 (2 – 3 PM)
	Southbound	1,743	59%	170 (5 – 6 PM)
San Remo Drive				
	Westbound	801	100%	86 (7 – 8 AM)

Santa Vittoria 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, San Remo Drive is considered the ‘minor’ street as westbound drivers on San Remo Drive are required to stop at Santa Vittoria 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 San Remo Drive carries approximately 21% of the entire traffic entering the intersection (Santa Vittoria Drive carries 79% 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 85th-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 speed limit on both streets is posted 30 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 collector-type roadways. As the posted 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 this traffic volume warrant.

TABLE 3
MULTIWAY STOP SIGN WARRANT FOR MINIMUM TRAFFIC VOLUMES
SANTA VITTORIA DRIVE AT SAN REMO DRIVE

Part 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, Results: No, average (199) vehicles per hour Only 66% of the required hourly traffic volume	and	Part 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, Results: No, average (61) vehicles per hour Only 30% of the required hourly traffic volume	but	Part 3. If the 85th-percentile approach speed of the major-street traffic exceeds 65 km/h or exceeds 40 mph, the minimum vehicular volume warrants are (70) percent of the above values. Results: No, 85th percentile speed on major-street does <u>not</u> exceed 40 mph
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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 (66% major street / 30% minor street). Therefore, the minimum traffic volume warrant is not satisfied.

Multiway Stop Sign Warrants Analysis – Santa Vittoria Drive at San Remo Drive, in Laguna Hills, CA

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. Santa Vittoria Drive has a consistent, gradual incline in the southbound direction and also has horizontal roadway curvature (i.e., side-to-side curves) near the intersection. San Remo Drive has a gradual incline in the eastbound direction as you move away from the intersection.

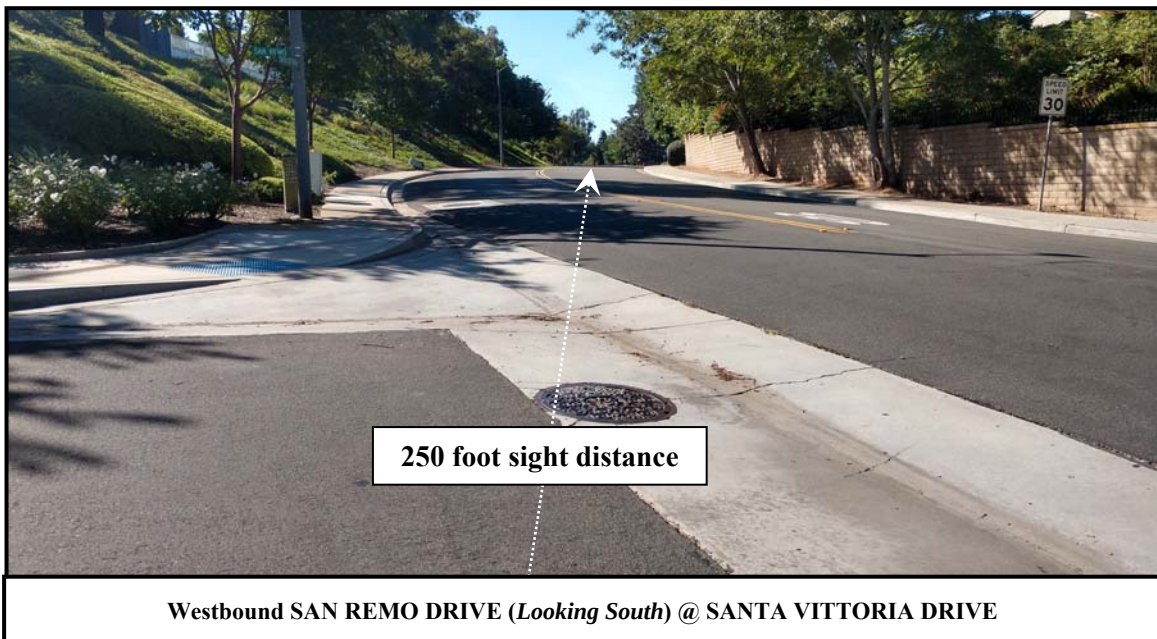
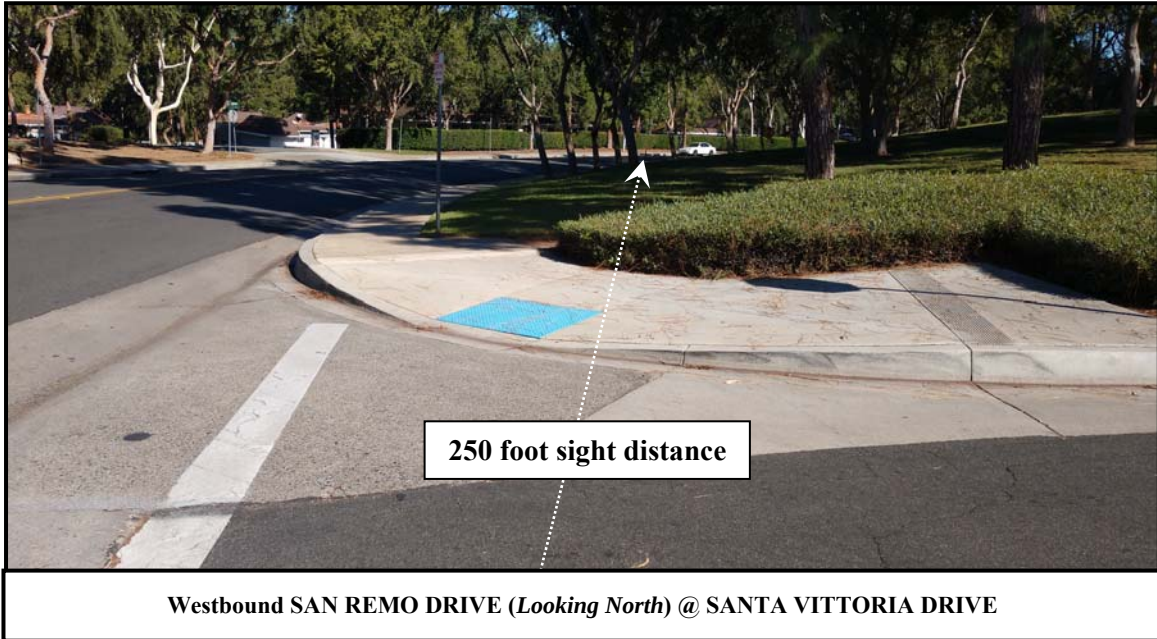
Driver sight distance was measured from the side-street approach to the intersection, as westbound traffic on San Remo Drive is required to stop, before proceeding to make a left-turn or right-turn onto Santa Vittoria Drive. The measured distance was derived from the stopping sight distance guidelines 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 85th 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 distance was used when looking towards approaching, uncontrolled traffic along Santa Vittoria Drive. More specifically, this stopping sight distance was field-measured from a typical ‘stopped’ vehicle location on San Remo Drive at the intersection looking towards the oncoming lanes of cross-traffic on Santa Vittoria Drive. An orange cone was placed at this distance and a photograph was taken from a stopped driver’s perspective (i.e, approx. 4.5 feet in height).

(See sight distance photos in Exhibit 3 on the following page).

As Exhibit 3 shows, when looking from San Remo Drive, a driver does have clear visibility to the minimum sight distance of 250 feet when looking both ways on Santa Vittoria Drive due to the on-street parking restrictions near the intersection.

Multiway Stop Sign Warrants Analysis – Santa Vittoria Drive at San Remo Drive, in Laguna Hills, CA

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 (Santa Vittoria 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 collision history at the intersection resulted in only (1) SWITRS-reported collision (non-correctible type) 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 street volumes required for a multi-way stop to be satisfied for any eight (8) hours in an average day were not satisfied. Excessive delay to any approach was not observed in terms of vehicles stopping and waiting for a gap on the major roadway due to the overall lower traffic volumes. Therefore, since intersection collision history and traffic volumes did not satisfy the minimum guidelines, it can also be derived that a traffic signal is not justified as an interim measure at this intersection (as mentioned above). 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 one street light located on the southeast corner of the intersection, also one near the northeast corner.

MULTIWAY STOP ANALYSIS SUMMARY (continued)

In regards to pedestrian and bicycle activity, field observations confirmed a low to medium activity of both. HCI also collected pedestrian and bicycle counts for this intersection on Thursday, September 21, 2023, between the hours of 7am to 7pm, in order to account for how many typically use this T-intersection. The total amount of pedestrians and bicyclists in this 12-hour period that cross the uncontrolled roadway of Santa Vittoria Drive resulted in 15. The total amount of pedestrians and bicyclists in this 12-hour period that cross San Remo Drive resulted in 62. ***The collected pedestrian and bicycle traffic volume data is also included in Appendix C.***

It was also determined that westbound San Remo Drive drivers do have a clear line of sight when stopped and looking both ways at Santa Vittoria Drive traffic, due to the on-street parking restrictions near the intersection.

Therefore, based upon engineering judgment, it is determined that stopping traffic on Santa Vittoria Drive at San Remo Drive 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 intersection of Santa Vittoria Drive and San Remo Drive. In regards to a marked crosswalk at this intersection, although not required, the City may consider installation of a white marked crosswalk across San Remo Drive. 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.*

05 YIELD or STOP signs should not be used for speed control.

Support:

06 Section 2B.07 contains provisions regarding the application of multi-way STOP control at an intersection.

Guidance:

07 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.

08 A YIELD or STOP sign should not be installed on the higher volume roadway unless justified by an engineering study.

Support:

09 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:

10 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.**

10a STOP signs shall not be erected at any entrance to an intersection controlled by traffic signals. Refer to CVC 21355(a).

11 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.

12 Portable or part-time STOP or YIELD signs shall not be used except for emergency and temporary traffic control zone purposes.

13 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:

14 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:

¹⁵ 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:

⁰¹ 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.

⁰² The STOP sign shall be an octagon with a white legend and border on a red background.

⁰³ Secondary legends shall not be used on STOP sign faces.

⁰⁴ 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.

⁰⁵ The ALL WAY plaque shall only be used if all intersection approaches are controlled by STOP signs.

⁰⁶ 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:

⁰⁷ 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:

⁰⁸ 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:

⁰⁹ 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:

¹⁰ The design and application of Stop Beacons are described in Section 4L.05.

¹¹ 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:

¹² 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:

¹³ 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.

¹⁴ Authority to place STOP (R1-1) signs facing State highway traffic is delegated to the Department of Transportation's District Directors.

Option:

¹⁵ 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:

¹⁶ 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 the Department of Transportation. Refer to CVC 21353.

Support:

¹⁷ The Department of Transportation 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:

- 01 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).
- 02 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:

- 03 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:

- 01 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.

- 02 The restrictions on the use of STOP signs described in Section 2B.04 also apply to multi-way stop applications.

Guidance:

- 03 The decision to install multi-way stop control should be based on an engineering study.
- 04 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 85th-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:

- 05 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.

APPENDIX B

SWITRS COLLISION HISTORY

CITY OF LAGUNA HILLS
5-YEAR SWITRS COLLISION DATABASE
INTERSECTION OF SANTA VITTORIA DRIVE AND SAN REMO DRIVE
JAN. 1, 2018 - MARCH 31, 2023

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
9233994	20210201	1356	SANTA VITTORIA DR	SAN REMO DR	54	S	N	A	0	A	8	22107	N	E	I	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 Only)

Primary Collision Factor
A - (Vehicle) Code Violation
B - Other Improper Driving
C - Other Than Driver
D - Unknown
E - Fell Asleep
- - 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

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

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

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

APPENDIX C

AVERAGE DAILY TRAFFIC (ADT) & PEDESTRIAN/BICYCLE CROSSING DATA

VOLUME

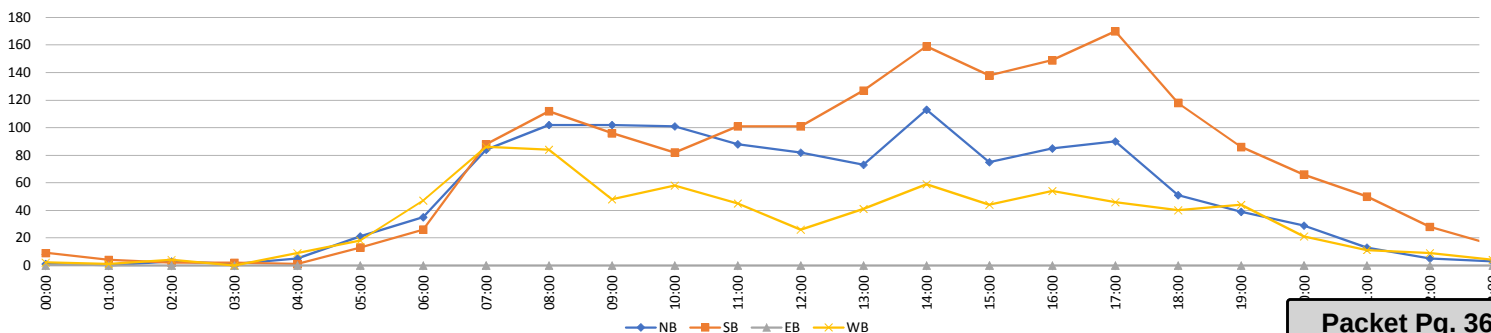
Santa Vittoria Dr & San Remo Dr

Day: Thursday
Date: 09/21/2023

Highest 8 hours per Side-Street Perspective.

City: Laguna Hills
Project #: CA23_010100_004

DAILY TOTALS						NB				SB	EB	WB	Total	DAILY TOTALS					
						1,201				1,743	0	801	3,745						
15-Minutes Interval												Hourly Intervals							
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL		
0:00	1	2		1	4	12:00	22	25		6	53	00:00 01:00	1	9		2	12		
0:15	0	3		0	3	12:15	21	23		6	50	01:00 02:00	0	4		1	5		
0:30	0	2		1	3	12:30	25	22		9	56	02:00 03:00	3	2		4	9		
0:45	0	2		0	2	12:45	14	31		5	50	03:00 04:00	1	2		0	3		
1:00	0	1		1	2	13:00	17	34		9	60	04:00 05:00	5	1		9	15		
1:15	0	1		0	1	13:15	21	24		15	60	05:00 06:00	21	13		18	52		
1:30	0	1		0	1	13:30	17	33		9	59	06:00 07:00	35	26		47	108		
1:45	0	1		0	1	13:45	18	36		8	62	07:00 08:00	84	88		86	258		
2:00	1	0		2	3	14:00	19	63		8	90	08:00 09:00	102	112		84	298		
2:15	1	0		1	2	14:15	51	31		19	101	09:00 10:00	102	96		48	246		
2:30	0	2		1	3	14:30	26	29		18	73	10:00 11:00	101	82		58	241		
2:45	1	0		0	1	14:45	17	36		14	67	11:00 12:00	88	101		45	234		
3:00	0	0		0	0	15:00	21	38		16	75	12:00 13:00	82	101		26	209		
3:15	1	0		0	1	15:15	16	33		8	57	13:00 14:00	73	127		41	241		
3:30	0	1		0	1	15:30	23	32		10	65	14:00 15:00	113	159		59	331		
3:45	0	1		0	1	15:45	15	35		10	60	15:00 16:00	75	138		44	257		
4:00	0	0		0	0	16:00	19	37		15	71	16:00 17:00	85	149		54	288		
4:15	1	1		1	3	16:15	19	35		10	64	17:00 18:00	90	170		46	306		
4:30	1	0		1	2	16:30	29	41		13	83	18:00 19:00	51	118		40	209		
4:45	3	0		7	10	16:45	18	36		16	70	19:00 20:00	39	86		44	169		
5:00	3	1		2	6	17:00	25	49		16	90	20:00 21:00	29	66		21	116		
5:15	3	3		4	10	17:15	18	41		9	68	21:00 22:00	13	50		11	74		
5:30	10	1		4	15	17:30	32	39		10	81	22:00 23:00	5	28		9	42		
5:45	5	8		8	21	17:45	15	41		11	67	23:00 00:00	3	15		4	22		
6:00	6	6		9	21	18:00	19	35		16	70	STATISTICS							
6:15	10	4		11	25	18:15	12	37		7	56		NB	SB	EB	WB	TOTAL		
6:30	8	5		11	24	18:30	9	25		10	44	Peak Period	00:00	to	12:00				
6:45	11	11		16	38	18:45	11	21		7	39	Volume	543	536		402	148		
7:00	25	11		10	46	19:00	13	23		12	48	Peak Hour	7:30	7:15		7:15	7:30		
7:15	14	17		23	54	19:15	6	22		13	41	Peak Volume	114	135		103	352		
7:30	20	25		31	76	19:30	8	18		8	34	Peak Hour Factor	0.770	0.582		0.831	0.72		
7:45	25	35		22	82	19:45	12	23		11	46	Peak Period	12:00	to	00:00				
8:00	37	58		27	122	20:00	6	15		1	22	Volume	658	1207		399	226		
8:15	32	17		23	72	20:15	9	14		9	32	Peak Hour	14:15	17:00		14:15	14:00		
8:30	16	20		19	55	20:30	7	21		3	31	Peak Volume	115	170		67	331		
8:45	17	17		15	49	20:45	7	16		8	31	Peak Hour Factor	0.564	0.867		0.882	0.81		
9:00	26	19		13	58	21:00	4	12		3	19	Peak Period	07:00	to	09:00				
9:15	22	32		9	63	21:15	5	8		0	13	Volume	186	200		170	556		
9:30	29	23		14	66	21:30	2	14		3	19	Peak Hour	7:30	7:15		7:15	7:30		
9:45	25	22		12	59	21:45	2	16		5	23	Peak Volume	114	135		103	352		
10:00	20	17		18	55	22:00	0	11		3	14	Peak Hour Factor	0.770	0.582		0.831	0.72		
10:15	33	22		18	73	22:15	2	6		2	10	Peak Period	16:00	to	18:00				
10:30	21	23		13	57	22:30	2	6		3	11	Volume	175	319		100	594		
10:45	27	20		9	56	22:45	1	5		1	7	Peak Hour	16:45	17:00		16:15	16:30		
11:00	28	30		15	73	23:00	1	7		0	8	Peak Volume	93	170		55	311		
11:15	22	25		11	58	23:15	0	4		1	5	Peak Hour Factor	0.727	0.867		0.859	0.86		
11:30	24	18		11	53	23:30	1	2		1	4								
11:45	14	28		8	50	23:45	1	2		2	5								
TOTALS	543	536	0	402	1481	TOTALS	658	1207	0	399	2264								
SPLIT %	37%	36%	0%	27%	40%	SPLIT %	29%	53%	0%	18%	60%								



Prepared by National Data & Surveying Services

Pedestrian & Bikes Study**Location:** Santa Vittoria Dr & San Remo Dr**City:** Laguna Hills, CA**Date:** 9/21/2023**Day:** Thursday

TIME	Pedestrians						TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		
	EB	WB	EB	WB	NB	SB	
7:00 AM	0	0	0	0	0	1	1
7:15 AM	0	0	0	0	1	0	1
7:30 AM	0	0	0	2	0	0	2
7:45 AM	0	0	0	0	1	4	5
8:00 AM	0	0	0	0	0	4	4
8:15 AM	0	0	0	1	2	1	4
8:30 AM	0	0	1	0	0	2	3
8:45 AM	0	0	0	0	2	1	3
9:00 AM	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	1	2	3
9:30 AM	0	0	0	0	0	1	1
9:45 AM	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	1	1	2
10:15 AM	0	0	0	0	1	0	1
10:30 AM	0	0	0	1	2	0	3
10:45 AM	0	0	0	0	1	1	2
11:00 AM	0	0	0	1	0	2	3
11:15 AM	0	0	0	0	0	1	1
11:30 AM	0	0	0	1	0	2	3
11:45 AM	0	1	0	0	1	0	2
12:00 PM	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	1	1	2
12:30 PM	0	0	0	0	1	0	1
12:45 PM	0	1	0	0	0	0	1
1:00 PM	0	0	0	1	1	0	2
1:15 PM	0	0	0	1	0	1	2
1:30 PM	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	1	1
2:00 PM	1	0	0	0	0	2	3
2:15 PM	0	0	0	0	7	0	7
2:30 PM	0	0	0	1	2	0	3
2:45 PM	0	0	0	0	0	1	1
3:00 PM	0	0	0	1	0	0	1
3:15 PM	0	0	0	0	0	1	1
3:30 PM	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	1	1
5:15 PM	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	2	0	2
5:45 PM	0	0	0	0	0	0	0
6:00 PM	0	0	0	1	1	1	3
6:15 PM	0	0	0	0	0	1	1
6:30 PM	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0
Totals	1	2	1	11	29	33	77



Yellow Arrows - Movements going North (NB)
 Red Arrows - Movements going South (SB)
 Blue Arrows - Movements going East (EB)
 Green Arrows - Movements going West (WB)

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 (low speed) - 25 mph or less	100 feet	100 feet	100 feet
Urban (high speed) - more than 25 mph to 40 mph	250 feet	250 feet	250 feet
Urban (high speed) - 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.)

Table 6C-2. Stopping Sight Distance as a Function of Speed

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.

Can also be used as Stopping Sight Distance as suggested buffer space length or location for flagger station.

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



Attachment: Santa Vittoria Drive and San Remo Drive Vicinity Map (3399 : Santa Vittoria Drive and San Remo Drive Speed Survey Review)

1" = 56 ft	Vicinity Map	01/11/2024	
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This map may represents a visual display of related geographic information. Data provided here on is not guarantee of actual field conditions. To be sure of complete accuracy, please contact the responsible staff for most up-to-date information.

Counts Unlimited, Inc.

City of Laguna Hills
 Santa Vittoria Drive
 Just S/ San Remo Drive
 24 Hour Directional Speed Survey

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

LHS001
 Site Code: 241-231119

Northbound

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
11/28/23	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	2	0	3	2	0	0	0	0	0	0	0	7
05:00	0	0	0	2	7	7	2	0	0	0	0	0	0	0	18
06:00	0	1	0	9	16	10	1	0	0	0	0	0	0	0	37
07:00	0	0	2	19	51	15	2	0	0	0	0	0	0	0	89
08:00	0	1	3	23	70	25	5	0	0	0	0	0	0	0	127
09:00	0	0	4	36	43	11	2	0	0	0	0	0	0	0	96
10:00	0	0	5	26	35	15	0	0	0	0	0	0	0	0	81
11:00	0	0	2	12	36	18	2	0	0	0	0	0	0	0	70
12 PM	0	1	2	15	34	16	4	0	0	0	0	0	0	0	72
13:00	0	0	5	30	59	9	3	0	1	0	0	0	0	0	107
14:00	0	0	3	19	35	14	2	1	0	0	0	0	0	0	74
15:00	1	0	5	18	46	9	1	0	0	0	0	0	0	0	80
16:00	1	0	4	32	28	15	2	0	0	0	0	0	0	0	82
17:00	0	0	2	22	37	6	1	0	0	0	0	0	0	0	68
18:00	0	0	0	7	16	2	0	0	0	0	0	0	0	0	25
19:00	0	1	2	8	12	5	2	0	0	0	0	0	0	0	30
20:00	0	0	3	3	8	4	0	0	0	0	0	0	0	0	18
21:00	0	0	2	4	7	5	0	0	0	0	0	0	0	0	18
22:00	0	0	0	2	3	1	0	0	1	0	0	0	0	0	7
23:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Total	2	4	45	290	545	191	31	1	2	0	0	0	0	0	1111

Daily
 15th Percentile : 26 MPH
 50th Percentile : 31 MPH
 85th Percentile : 36 MPH
 95th Percentile : 39 MPH

Statistics
 Mean Speed(Average) : 32 MPH
 10 MPH Pace Speed : 26-35 MPH
 Number in Pace : 835
 Percent in Pace : 75.2%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Counts Unlimited, Inc.

City of Laguna Hills
 Santa Vittoria Drive
 Just S/ San Remo Drive
 24 Hour Directional Speed Survey
 Southbound

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

LHS001
 Site Code: 241-231119

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
11/28/23	0	0	0	1	0	2	0	0	0	0	1	0	0	0	4
01:00	0	0	1	0	0	2	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
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	1	0	1	2	0	0	0	0	0	0	0	0	0	4
06:00	0	0	0	6	8	2	0	0	0	0	0	0	0	0	16
07:00	0	0	3	8	29	14	0	1	0	0	0	0	0	0	55
08:00	0	1	6	11	45	19	2	0	0	0	0	0	0	0	84
09:00	0	1	0	15	31	7	1	1	0	0	0	0	0	0	56
10:00	0	0	6	17	29	10	2	0	0	0	0	0	0	0	64
11:00	0	0	2	24	34	11	2	0	0	0	0	0	0	0	73
12 PM	0	1	6	25	36	17	5	1	0	0	0	0	0	0	91
13:00	0	0	3	19	60	15	3	0	0	0	0	0	0	0	100
14:00	0	0	2	27	46	9	3	0	1	0	0	0	0	0	88
15:00	0	1	8	22	53	19	2	0	0	0	0	0	0	0	105
16:00	0	0	1	32	52	22	0	0	0	0	0	0	0	0	107
17:00	0	0	2	49	37	12	3	0	0	0	0	0	0	0	103
18:00	0	0	5	24	30	5	1	0	0	0	0	0	0	0	65
19:00	0	0	0	11	17	8	0	1	0	0	0	0	0	0	37
20:00	0	0	1	11	18	4	0	0	0	0	0	0	0	0	34
21:00	0	0	1	11	14	3	0	0	0	0	0	0	0	0	29
22:00	0	1	2	6	6	2	2	0	0	0	0	0	0	0	19
23:00	0	0	1	3	1	1	0	0	0	0	0	0	0	0	6
Total	0	6	50	324	549	184	26	4	1	0	1	0	0	0	1145

Daily
 15th Percentile : 26 MPH
 50th Percentile : 31 MPH
 85th Percentile : 36 MPH
 95th Percentile : 39 MPH

Statistics
 Mean Speed(Average) : 32 MPH
 10 MPH Pace Speed : 26-35 MPH
 Number in Pace : 873
 Percent in Pace : 76.2%
 Number of Vehicles > 55 MPH : 1
 Percent of Vehicles > 55 MPH : 0.1%

Counts Unlimited, Inc.

City of Laguna Hills
 Santa Vittoria Drive
 Just S/ San Remo Drive
 24 Hour Directional Speed Survey
 Northbound, Southbound

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

LHS001
 Site Code: 241-231119

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
11/28/23	0	0	0	1	0	3	0	0	0	0	1	0	0	0	5
01:00	0	0	1	0	0	2	0	0	0	0	0	0	0	0	3
02:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	2	0	3	2	0	0	0	0	0	0	0	7
05:00	0	1	0	3	9	7	2	0	0	0	0	0	0	0	22
06:00	0	1	0	15	24	12	1	0	0	0	0	0	0	0	53
07:00	0	0	5	27	80	29	2	1	0	0	0	0	0	0	144
08:00	0	2	9	34	115	44	7	0	0	0	0	0	0	0	211
09:00	0	1	4	51	74	18	3	1	0	0	0	0	0	0	152
10:00	0	0	11	43	64	25	2	0	0	0	0	0	0	0	145
11:00	0	0	4	36	70	29	4	0	0	0	0	0	0	0	143
12 PM	0	2	8	40	70	33	9	1	0	0	0	0	0	0	163
13:00	0	0	8	49	119	24	6	0	1	0	0	0	0	0	207
14:00	0	0	5	46	81	23	5	1	1	0	0	0	0	0	162
15:00	1	1	13	40	99	28	3	0	0	0	0	0	0	0	185
16:00	1	0	5	64	80	37	2	0	0	0	0	0	0	0	189
17:00	0	0	4	71	74	18	4	0	0	0	0	0	0	0	171
18:00	0	0	5	31	46	7	1	0	0	0	0	0	0	0	90
19:00	0	1	2	19	29	13	2	1	0	0	0	0	0	0	67
20:00	0	0	4	14	26	8	0	0	0	0	0	0	0	0	52
21:00	0	0	3	15	21	8	0	0	0	0	0	0	0	0	47
22:00	0	1	2	8	9	3	2	0	1	0	0	0	0	0	26
23:00	0	0	1	3	3	1	0	0	0	0	0	0	0	0	8
Total	2	10	95	614	1094	375	57	5	3	0	1	0	0	0	2256

Daily
 15th Percentile : 26 MPH
 50th Percentile : 31 MPH
 85th Percentile : 36 MPH
 95th Percentile : 39 MPH

Statistics
 Mean Speed(Average) : 32 MPH
 10 MPH Pace Speed : 26-35 MPH
 Number in Pace : 1708
 Percent in Pace : 75.7%
 Number of Vehicles > 55 MPH : 1
 Percent of Vehicles > 55 MPH : 0.0%



City of Laguna Hills

Traffic Commission

Staff Report

DATE: January 17, 2024
TO: Traffic Commissioners
FROM: Joe Ames
Public Works Director/City Engineer
ISSUE: Review of Traffic Conditions on Wilkes Place and Grissom Road

RECOMMENDATION: That the Traffic Commission recommend that the City Engineer add Grissom Road 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 Grissom Road.

SUMMARY:

Staff was recently contacted by a resident regarding concerns of vehicular speeding on Wilkes Place south of Alicia Parkway and Grissom Road east of Wilkes Place. 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 vehicular speeds in the requested area. The data collected showed a few vehicles traveling well above 25 MPH and an increase in average speed in comparison to a previous study done in 2019 specifically along Grissom Road between Wilkes Place and Velasquez Road.

Assistant Engineer Samatha Vu performed extensive research and wrote this report.

BACKGROUND:

Staff was previously contacted in 2019 by a resident regarding concerns of vehicular speeding, cut-through traffic and traffic collisions on Wilkes Place south of Alicia Parkway and Grissom Road east of Wilkes Place. Based upon the resident's concern and in accordance with the Residential Streets Management Policy, staff initiated a review of the requested area.

Review of Traffic Conditions on Wilkes Place and Grissom Road

January 17, 2024

Page 2

The Traffic Engineers of Hartzog & Crabill, Inc., (HCI) completed the attached January 9, 2019, study of the traffic attributes of Wilkes Place and Grissom Road. The speed survey counts, performed by HCI, as shown in the study, determined the 85th percentile speeds on Wilkes Place as 30 MPH south of Alicia Parkway and on Grissom Road as 28.4 MPH east of Wilkes Place, respectively. Staff's experience has found the typical prevailing speed range for such streets to be between 32 and 34 MPH, without traffic safety concerns. The 85th percentile speeds were below this range and the 24-hour volumes were low for a typical residential street. Therefore, no action was needed at the time. More information can be seen in the attached Traffic Commission Agenda Item 4.1, dated January 19, 2019.

Staff was contacted recently by a resident regarding concerns of vehicular speeding along Wilkes Place and Grissom Road. Staff initiated a new speed survey for a total of 4 days in three locations to evaluate any changes since the previous report in 2019. Please see the attached Speed Survey Location Map. Counts Unlimited collected and reported the attached 24-hour speed survey on Wilkes Place and Grissom Road, between December 8 and December 11, 2023. The average of all 4 days in comparison to the speed survey done in 2019 are in Table 1 below.

Table 1: Speed Survey Summary

Speed Summary	Along Wilkes Place Segment		Along Grissom Road Segment		
	2019	2023	2019	2023 (Between Wilkes and Velasquez)	2023 (Between Velasquez and Las Bolsas)
Posted Speed Limit	25 MPH	25 MPH	25 MPH	25 MPH	25 MPH
85 th Percentile Speed	30 MPH	28.5 MPH	28.4 MPH	31.25 MPH	27.75 MPH
Average Speed	25 MPH	24 MPH	25.2 MPH	25.5 MPH	22 MPH
10 MPH Pace Range	21-30 MPH	21-30 MPH	20-29 MPH	21-30 MPH	16-25 MPH
Percent of Vehicles in Pace	74.1%	73%	87.3%	58.7%	59.1%

The speed survey counts determined the 85th percentile speeds on Wilkes Place as 27.75 MPH south of Alicia Parkway and on Grissom Road as 31.25 MPH between Wilkes Place and Velasquez Road, and 27.75 MPH between Velasquez Road and Las Bolsas. Staff's experience has found the typical prevailing speed range for such streets to be between 32 and 34 MPH, without traffic safety concerns. The 85th percentile speeds were below this range and the 24-hour volumes were low for a typical residential street. However, it was observed that approximately 46% of vehicles were driving 1-10 MPH above the speed limit and 6% of vehicles were driving 11-25 MPH

Review of Traffic Conditions on Wilkes Place and Grissom Road

January 17, 2024

Page 3

above the speed limit along Grissom between Wilkes and Velasquez. The high-speed vehicles were distributed evenly throughout the day.

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 Grissom Road does not exceed 34 MPH 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.

Review of Traffic Conditions on Wilkes Place and Grissom Road

January 17, 2024

Page 4

Staff recommends that an incremental approach continue to be followed by adding Grissom Road to the portable radar speed-feedback trailer to the rotational deployment list, conducting another speed survey in 90 days, and requesting that Police Services conduct increased law (speed) enforcement on Grissom Road. It should be noted that Police Services (Orange County Sheriff's Department) has already been notified of the observed speeding on Grissom and motor deputies were deployed to the area for monitoring. If no change is observed using the incremental approach and the minimum criteria in the Residential Streets Traffic Management Policy are met, staff will research the implementation of physical devices including cost, and present it to the Traffic Commission at a future meeting.

FISCAL IMPACT:

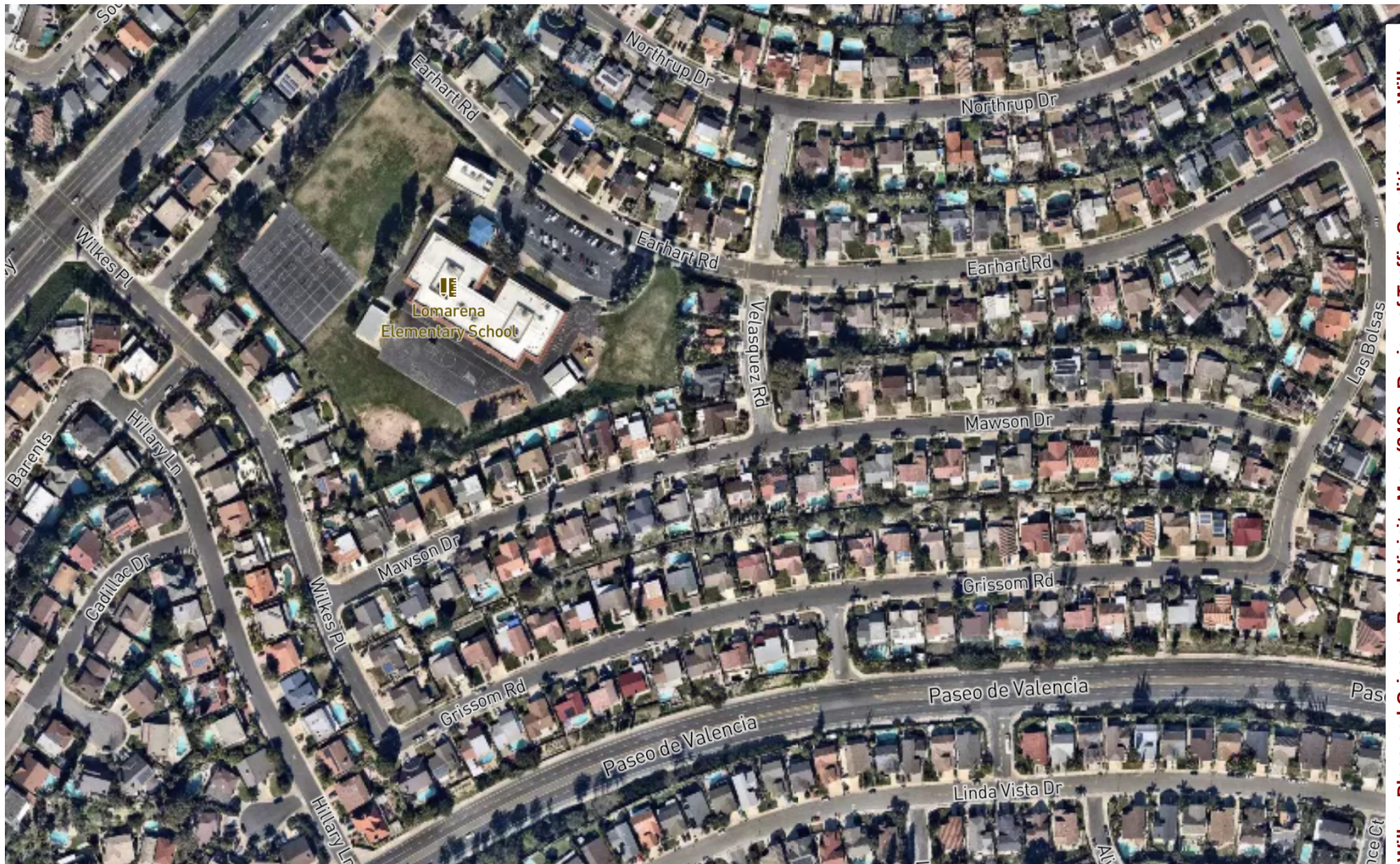
There is no fiscal impact due to the results of the speed survey.

ATTACHMENTS:

- Wilkes Place and Grissom Road Vicinity Map
- Hartzog & Crabill, Inc. January 9, 2019, Letter of Opinion
- Traffic Commission Agenda Item 4.1, January 16, 2019
- Speed Survey Location Map
- Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023

WILKES PLACE AND GRISSOM ROAD

4.2.a



1" = 311 ft

Vicinity Map

01/11/2024



This map may represents a visual display of related geographic information. Data provided here on is not guarantee of actual field conditions. To be sure of complete accuracy, please contact the responsible staff for most up-to-date information.

Packet Pg. 49

Attachment: Wilkes Place and Grissom Road Vicinity Map (3400 : Review of Traffic Conditions on Wilkes



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

17852 E. 17th Street
Suite 101
Tustin, CA 92780

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

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.

Mr. Kenneth H. Rosenfield, PE
 January 9, 2019
 Page 2 of 8

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.

Mr. Kenneth H. Rosenfield, PE
 January 9, 2019
 Page 3 of 8

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

Speed Summary	Along Wilkes Place Segment	Along Grissom Road Segment
Posted Speed Limit	25 MPH	25 MPH
85 th 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

Speed Summary	Along Bridlewood Drive Segment	Along Nellie Gail Road Segment
Posted Speed Limit	25 MPH	25 MPH
85 th 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 85th 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 85th 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.

Mr. Kenneth H. Rosenfield, PE
January 9, 2019
Page 4 of 8

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

YEAR	NUMBER OF COLLISIONS	FATAL	INJURY	PROPERTY DAMAGE ONLY
2013	0	0	0	0
2014	0	0	0	0
2015	0	0	0	0
2016	3	0	3	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

YEAR	NUMBER OF COLLISIONS	FATAL	INJURY	PROPERTY DAMAGE ONLY
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 *	1	0	0	1

* 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.

Mr. Kenneth H. Rosenfield, PE
January 9, 2019
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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

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
Grand Total	1	1	1	2	4	2	2	1	1	15

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.

Mr. Kenneth H. Rosenfield, PE
January 9, 2019
Page 7 of 8

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

STREET LOCATION	EXISTING SPEED LIMIT	RECOMMENDED SPEED LIMIT	85 TH PERCENTILE SPEED	AVERAGE SPEED	10 MPH PACE RANGE	PERCENT OF VEHICLES IN PACE	DAY / DATE / TIME
<u>BRIDLEWOOD DRIVE</u>							
LAUREL CREST TO VISTA VIEJO	25	-	36.1	29.3	25-34	70.7	WED / 12-12-18 / MID-DAY (12:15 - 2:00)
<u>GRISSOM ROAD</u>							
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)
<u>NELLIE GAIL ROAD</u>							
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)
<u>WILKES PLACE</u>							
ALICIA PKWY TO GRISSOM RD	25	-	30.0	25.0	21-30	74.1	TUES / 12-11-18 / MID-DAY (10:45 - 12:15)

Radar Speed Survey Field Sheet

 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 VUB

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

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

CUMULATIVE (BOTH DIRECTIONS) _____

DIRECTION: <u>NORTHBOUND</u>										
MPH	NUMBER OF VEHICLES									TOTAL
	5	10	15	20	25	30				
60										
59										
58										
57										
56										
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53										
52										
51										
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20	/									
19										
18										
17										
16										
15										

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

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

RADAR SPEED DISTRIBUTION SHEET

HCI

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

		NUMBER OF VEHICLES																											
SPEED		5					10					15					20					25					VEH.	PCT.	CUM. PCT.
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%	
45	X	X																								2	2.0%	100.0%	
																									0	0.0%	98.0%		
	X																								1	1.0%	98.0%		
	X																								1	1.0%	97.0%		
40	X																									1	1.0%	96.0%	
	X																								0	0.0%	94.9%		
	X	X																							2	2.0%	94.9%		
	X																								1	1.0%	92.9%		
35	X	X	X	X																						4	4.0%	91.9%	
	X	X	X	X																					0	0.0%	87.9%		
	X	X	X																						3	3.0%	87.9%		
	X	X	X	X	X																				0	0.0%	84.8%		
30	X	X	X	X	X																					5	5.1%	84.8%	
	X	X	X	X	X																				4	4.0%	79.8%		
	X	X	X	X	X	X	X																		5	5.1%	75.8%		
	X	X	X	X	X	X	X	X	X																7	7.1%	70.7%		
25	X	X	X	X	X	X	X	X	X																	9	9.1%	63.6%	
	X	X	X	X	X	X																			6	6.1%	54.5%		
	X	X	X	X																					4	4.0%	48.5%		
	X	X	X	X	X	X	X	X	X	X	X														11	11.1%	44.4%		
20	X	X	X	X	X	X	X	X																		8	8.1%	33.3%	
	X	X	X	X	X																				5	5.1%	25.3%		
	X	X	X	X																									
	X																												
15																													
TOTAL VEHICLES																										99			

UPPER LIMIT 10 MPH PACE: 34 MPH

LOWER LIMIT 10 MPH PACE: 25 MPH

PERCENT OVER PACE: 24.2 %

PERCENT IN PACE: 70.7 %

PERCENT UNDER PACE: 9.1 %

85th PERCENTILE SPEED: 36.1 MPH

MEDIAN SPEED: 29.3 MPH

15th PERCENTILE SPEED: 24.5 MPH

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: GRISCOM 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: <u>WESTBOUND</u>											
MPH	NUMBER OF VEHICLES										TOTAL
	5	10	15	20	25	30					
60											
59											
58											
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53											
52											
51											
50											
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48											
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15											

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

CUMULATIVE (BOTH DIRECTIONS) _____

DIRECTION: <u>EASTBOUND</u>											
MPH	NUMBER OF VEHICLES										TOTAL
	5	10	15	20	25	30					
60											
59											
58											
57											
56											
55											
54											
53											
52											
51											
50											
49											
48											
47											
46											
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18											
17											
16											
15											

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

CUMULATIVE TOTAL	MPH
	60
	59
	58
	57
	56
	55
	54
	53
	52
	51
	50
	49
	48
	47
	46
	45
	44
	43
	42
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	37
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	17
	16
	15

RADAR SPEED DISTRIBUTION SHEET

HCI

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.
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	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%
25	X	X	X	X	X	X	X	X													8	14.5%	61.8%
	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%
20	X	X																			2	3.6%	7.3%
	X	X																			2	3.6%	3.6%
																							0.0%
																							0.0%
																							0.0%
15																							0.0%
TOTAL VEHICLES																					55		0.0%

UPPER LIMIT 10 MPH PACE: 29 MPH

LOWER LIMIT 10 MPH PACE: 20 MPH

PERCENT OVER PACE: 12.7 %

PERCENT IN PACE: 87.3 %

PERCENT UNDER PACE: 0.0 %

85th PERCENTILE SPEED: 28.4 MPH

MEDIAN SPEED: 25.2 MPH

15th PERCENTILE SPEED: 22.6 MPH

Radar Speed Survey Field Sheet

 AGENCY: CITY OF LAGUNA HILLS

 STREET: NEELIE GAIL ROAD

 LOCATION: OSO 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 ✓ OK

DIRECTION: <u>SOUTHBOUND</u>											
MPH	NUMBER OF VEHICLES										TOTAL
	5	10	15	20	25	30					
60											
59											
58											
57											
56											
55											
54											
53											
52											
51											
50											
49											
48											
47											
46											
45											
44											
43	/										2
42	/										0
41	/										0
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											

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

CUMULATIVE (BOTH DIRECTIONS) _____

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

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

CUMULATIVE TOTAL	MPH
	60
	59
	58
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	53
	52
	51
	50
	49
	48
	47
	46
	45
	44
2	43
0	42
1	41
1	40
2	39
0	38
8	37
2	36
17	35
11	34
9	33
14	32
11	31
7	30
13	29
11	28
4	27
10	26
5	25
5	24
1	23
2	22
1	21
1	20
	19
	18
	17
	16
	15



RADAR SPEED DISTRIBUTION SHEET

CITY OF LAGUNA HILLS

NELLIE GAIL ROAD

DATE: 12/12/2018

TIME: 11:00 AM - 12:00 PM

OSO PKWY TO HIDDEN TRAIL RD

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%	
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50																							100.0%	
																							100.0%	
																							100.0%	
																							100.0%	
45																							100.0%	
																							100.0%	
																							100.0%	
																							100.0%	
40	X	X																			2	1.4%	100.0%	
																					0	0.0%	98.6%	
	X																				1	0.7%	98.6%	
	X	X																			2	1.4%	97.8%	
35	X																				1	0.7%	97.1%	
	X	X	X	X	X	X	X	X													8	5.8%	95.0%	
	X	X																			2	1.4%	89.2%	
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						17	12.2%	87.8%	
30	X	X	X	X	X	X	X	X	X	X											11	7.9%	75.5%	
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						9	6.5%	67.6%	
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						14	10.1%	61.2%	
	X	X	X	X	X	X	X	X	X	X	X										11	7.9%	51.1%	
25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						7	5.0%	43.2%	
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				13	9.4%	38.1%	
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				11	7.9%	28.8%	
	X	X	X	X																	4	2.9%	20.9%	
20	X	X	X	X	X	X	X	X	X	X											10	7.2%	18.0%	
	X	X	X	X	X																5	3.6%	10.8%	
	X																				1	0.7%	3.6%	
	X	X																			2	1.4%	2.9%	
15	X																				1	0.7%	1.4%	
	X																				1	0.7%	0.7%	
																							0.0%	
																							0.0%	
TOTAL VEHICLES																					139			

UPPER LIMIT 10 MPH PACE: 35 MPH

LOWER LIMIT 10 MPH PACE: 26 MPH

PERCENT OVER PACE: 12.2 %

PERCENT IN PACE: 77.0 %

PERCENT UNDER PACE: 10.8 %

85th PERCENTILE SPEED: 34.8 MPH

MEDIAN SPEED: 30.9 MPH

15th PERCENTILE SPEED: 25.6 MPH

Radar Speed Survey Field Sheet

HARTZOG AND CRABILL INC.
Consulting Traffic Engineers
17592 Irvine Blvd., Suite 122, Tustin, CA 92690
(714) 731-9450

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 VUB

DIRECTION: <u>SOUTHBOUND</u>										
MPH	5	NUMBER OF VEHICLES				25	30	TOTAL		
	10	15	20							
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										0
32										2
31										2
30										0
29										2
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										

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
CUMULATIVE (BOTH DIRECTIONS) _____

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

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

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



RADAR SPEED DISTRIBUTION SHEET

CITY OF LAGUNA HILLS

WILKES PLACE

DATE: 12/11/2018

TIME: 10:45 AM - 12:15 PM

ALICIA PKWY TO GRISSOM ROAD

SURVEY BY: C. BUENDIA

CHECKED BY: JERRY STOCK

TIME: 0:45 AM		12:15 PM		CHECKED BY: JERRY STOK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
SPEED	NUMBER OF VEHICLES																				VEH.	PCT.	CUM. PCT.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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UPPER LIMIT 10 MPH PACE: 30 MPH

LOWER LIMIT 10 MPH PACE: 21 MPH

PERCENT OVER PACE: 14.8 %

PERCENT IN PACE: 74.1 %

PERCENT UNDER PACE: 11.1 %

85th PERCENTILE SPEED: 30.0 MPH

MEDIAN SPEED:	25.0	MPH
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15th PERCENTILE SPEED: 20.3 MPH

ADT Traffic Volume Data

Prepared by NDS/ATD

VOLUME

Wilkes Pl Bet. Alicia Pkwy & Grissom Rd

Day: Wednesday
Date: 12/12/2018City: Laguna Hills
Project #: CA18_1262_001

DAILY TOTALS					NB	SB	EB				WB	Total
					465	373					0	0
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	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	
TOTALS	236	128			364	TOTALS	229	245			474	
SPLIT %	64.8%	35.2%			43.4%	SPLIT %	48.3%	51.7%			56.6	

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		12:4
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		0.46
7 - 9 Volume	154	64	0	0	4 - 6 Volume	50	54	0	0
7 - 9 Peak Hour	07:45	07:45		07:45	4 - 6 Peak Hour	17:00	16:30		16:4
7 - 9 Pk Volume	127	48	0	0	4 - 6 Pk Volume	26	35	0	0
Pk Hr Factor	0.467	0.414	0.000	0.000	Pk Hr Factor	0.722	0.795	0.000	0.000

Attachment: Hartzog & Crabill, Inc. January 9, 2019, Letter of Opinion (3400 : Review of Traffic Conditions on Wilkes Place and Grissom Road)

Prepared by NDS/ATD

VOLUME

Grissom Rd Bet. Wilkes Pl & Las Bolsas

Day: Wednesday
Date: 12/12/2018City: Laguna Hills
Project #: CA18_1262_002

DAILY TOTALS					NB	SB	EB					WB	Total
					0	0						259	235
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	11		
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	0	13:45			4	23	27		
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	1	14:45			3	20	23		
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	0	15:45			6	18	24		
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	30		
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	1	17:45			11	35	46		
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	9	18:45			1	19	20		
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	28	19:45			4	13	17		
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	19	20:45			0	8	8		
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	13	21:45			2	8	10		
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	14	22:45			0	2	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	17	23:45			1	1	2		
TOTALS	81				104	TOTALS	178				131	309	
SPLIT %	43.8%				56.2%	SPLIT %	57.6%				42.4%	62.6	

DAILY TOTALS			NB	SB	EB				WB		Total
			0	0							259
AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			17:00	12:45	17:0
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	0.73
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	17:0
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	0.73

Attachment: Hartzog & Crabill, Inc. January 9, 2019, Letter of Opinion (3400 : Review of Traffic Conditions on Wilkes Place and Grissom Road)

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	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	RC SL
8090227	20160704	2315	ALICIA PKWY	WILKES PL	0		Y	A	4	D	0		N	A	C	
8180551	20161113	2008	ALICIA PKWY	WILKES PL	0		Y	A	3	A	12	21453	N	D	C	
8197315	20161122	935	ALICIA PKWY	WILKES PL	0		Y	A	4	A	12	21453	N	D	C	

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

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	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 SURFACE
8636969	20180503	1229	GRISSOM RD	LAS BOLSAS AV	0		Y	A	0	A	8	22107	M	D	E	

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	Road Surface	
			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		
	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				

Origin-Destination Study Data

Prepared by National Data and Surveying Services

Origin and Destination Study**Day:** Wednesday**Date:** 12/12/2018**City:** Laguna Hills**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
Grand Total	1	1	1	2	4	2	2	1	1	15

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

DATE: January 16, 2019
TO: Traffic Commissioners
FROM: Amber Shah
 Associate Engineer
ISSUE: Review of Traffic Conditions on Wilkes Place and Grissom Road

RECOMMENDATION: That the Traffic Commission Receive and File the Report.

SUMMARY:

Staff was recently contacted by a resident regarding concerns of vehicular speeding, cut-through traffic and traffic collisions on Wilkes Place south of Alicia Parkway and Grissom Road east of Wilkes Place. 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 vehicular speeds, traffic collision history and an origin and destination study (cut-through traffic analysis) on Wilkes Place south of Alicia Parkway and Grissom Road east of Wilkes Place.

The Traffic Engineers of Hartzog & Crabill, Inc., (HCI) completed the attached January 9, 2019, study of the traffic attributes of Wilkes Place and Grissom Road. The speed survey counts, performed by HCI, as shown in the study, determined the 85th percentile speeds on Wilkes Place as 30 mph south of Alicia Parkway and on Grissom Road as 28.4 mph east of Wilkes Place, respectively. Staff's experience has found the typical prevailing speed range for such streets to be between 32 and 34 mph, without traffic safety concerns. The 85th percentile speeds were below this range therefore, no action is needed in response to this data.

The traffic count data revealed the 24-hr volumes to be low for a typical residential street that is a connecting, or through, street to other neighborhoods. The origin and destination study revealed the peak hourly percentages to be very low, in the 5-10%

Review of Traffic Conditions on Wilkes Place and Grissom Road

January 16, 2019

Page 2

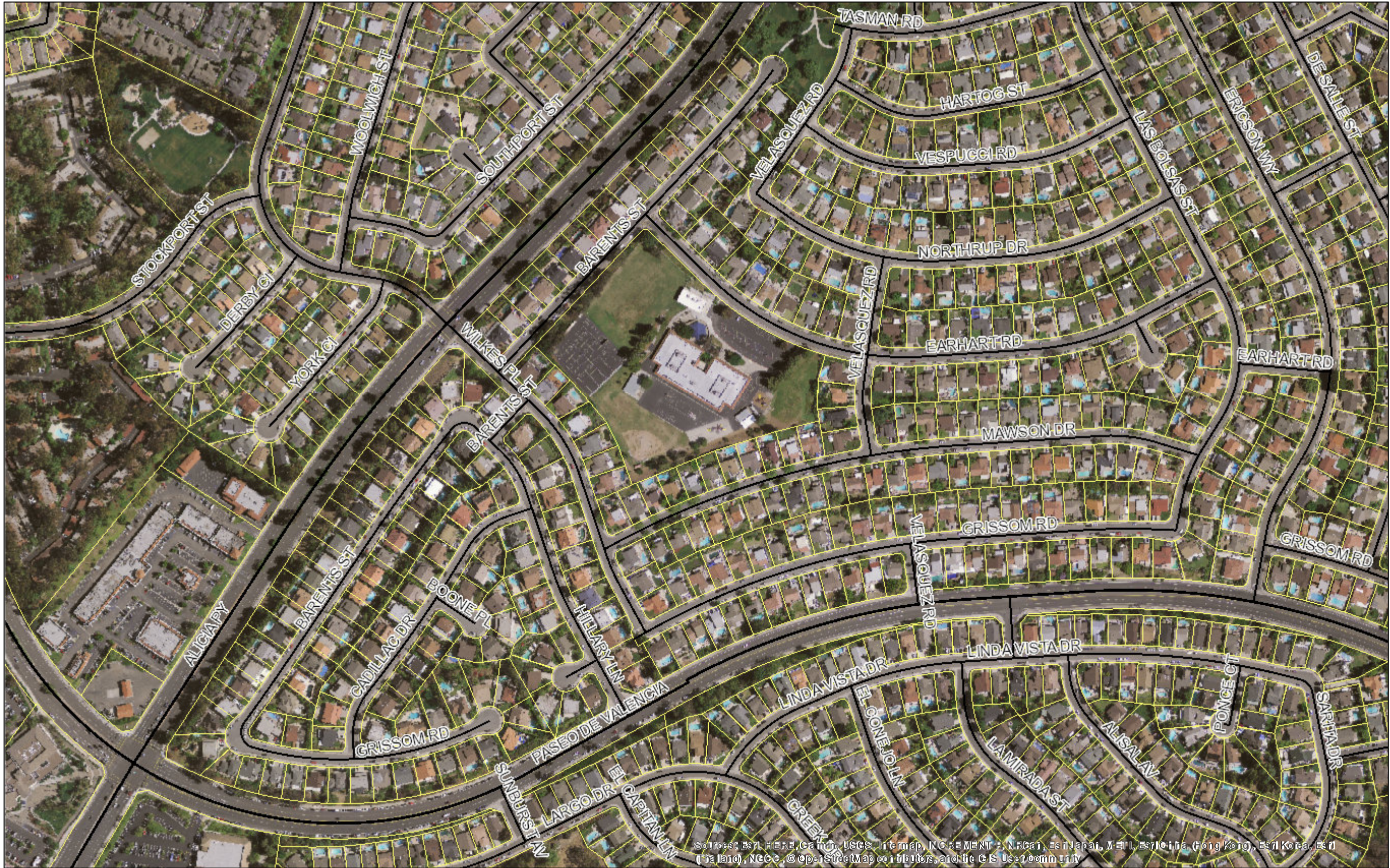
range, for what may be considered 'cut-through' traffic. The traffic volumes and cut-through traffic are not significant and no action is needed in response to this data.

A six-year traffic collision history review was also included in the study which determined four traffic collisions had been reported during this time. Three of the collisions occurred at the intersection of Wilkes Place and Alicia Parkway and were not identified as speed-related. One collision occurred on Grissom Road at the intersection of Las Bolsas Street and was also not identified as speed-related.

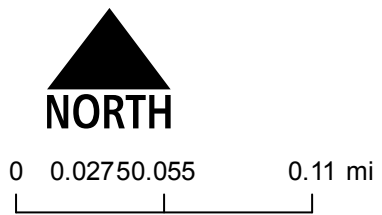
The resident also expressed concerns regarding the marking of crosswalks and the potential need for additional crossing guards for students walking to Lomarena Elementary School from Grissom Road. Based upon the resident's concern and the recommendation in the HCI report to update the school crossing signage on Wilkes Place, staff has initiated a field review of all (citywide) school zones and school crossing signage and markings to meet current standards at Lomarena Elementary School, San Joaquin Elementary School, Valencia Elementary School, Laguna Hills High School and New Vista School (private). This study will be presented to the Traffic Commission at a future meeting.

ATTACHMENTS:

- Vicinity Map - Wilkes Place and Grissom Road
- Traffic Study



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, MLL, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NECC, © OpenStreetMap contributors, and the GIS User community



VICINITY MAP - WILKES PLACE & GRISSOM ROAD





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

17852 E. 17th Street
Suite 101
Tustin, CA 92780

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

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.

Mr. Kenneth H. Rosenfield, PE
 January 9, 2019
 Page 2 of 8

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

Speed Summary	Along Wilkes Place Segment	Along Grissom Road Segment
Posted Speed Limit	25 MPH	25 MPH
85 th 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

Speed Summary	Along Bridlewood Drive Segment	Along Nellie Gail Road Segment
Posted Speed Limit	25 MPH	25 MPH
85 th 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 85th 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 85th 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.

Mr. Kenneth H. Rosenfield, PE
January 9, 2019
Page 4 of 8

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

YEAR	NUMBER OF COLLISIONS	FATAL	INJURY	PROPERTY DAMAGE ONLY
2013	0	0	0	0
2014	0	0	0	0
2015	0	0	0	0
2016	3	0	3	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

YEAR	NUMBER OF COLLISIONS	FATAL	INJURY	PROPERTY DAMAGE ONLY
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 *	1	0	0	1

* 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

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
Grand Total	1	1	1	2	4	2	2	1	1	15

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.

Mr. Kenneth H. Rosenfield, PE
 January 9, 2019
 Page 7 of 8

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

STREET LOCATION	EXISTING SPEED LIMIT	RECOMMENDED SPEED LIMIT	85 TH PERCENTILE SPEED	AVERAGE SPEED	10 MPH PACE RANGE	PERCENT OF VEHICLES IN PACE	DAY / DATE / TIME
<u>BRIDLEWOOD DRIVE</u>							
LAUREL CREST TO VISTA VIEJO	25	-	36.1	29.3	25-34	70.7	WED / 12-12-18 / MID-DAY (12:15 - 2:00)
<u>GRISSOM ROAD</u>							
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)
<u>NELLIE GAIL ROAD</u>							
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)
<u>WILKES PLACE</u>							
ALICIA PKWY TO GRISSOM RD	25	-	30.0	25.0	21-30	74.1	TUES / 12-11-18 / MID-DAY (10:45 - 12:15)

Radar Speed Survey Field Sheet

 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 VUB

DIRECTION: <u>SOUTHBOUND</u>										
MPH	NUMBER OF VEHICLES									TOTAL
	5	10	15	20	25	30				
60										
59										
58										
57										
56										
55										
54										
53										
52										
51										
50										
49										
48										
47	/									
46										
45										
44	/									
43	/									
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20	/									
19										
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17										
16										
15										

 AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
 CUMULATIVE (BOTH DIRECTIONS) _____

DIRECTION: <u>NORTHBOUND</u>										
MPH	NUMBER OF VEHICLES									TOTAL
	5	10	15	20	25	30				
60										
59										
58										
57										
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53										
52										
51										
50										
49										
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AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

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

RADAR SPEED DISTRIBUTION SHEET

HCI
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

NUMBER OF VEHICLES																											VEH.	PCT.	CUM. PCT.
SPEED																													
60																											100.0%		
																											100.0%		
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55																											100.0%		
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50																											100.0%		
																											100.0%		
																											100.0%		
	X	X																							2	2.0%	100.0%		
45																									0	0.0%	98.0%		
	X																								1	1.0%	98.0%		
	X																								1	1.0%	97.0%		
	X																								1	1.0%	96.0%		
																									0	0.0%	94.9%		
40	X	X																							2	2.0%	94.9%		
	X																								1	1.0%	92.9%		
	X	X	X	X																					4	4.0%	91.9%		
																									0	0.0%	87.9%		
	X	X	X																						3	3.0%	87.9%		
35	X	X	X	X	X																				0	0.0%	84.8%		
	X	X	X	X																					5	5.1%	84.8%		
	X	X	X	X	X																				4	4.0%	79.8%		
	X	X	X	X	X	X	X																		5	5.1%	75.8%		
	X	X	X	X	X	X	X	X	X																7	7.1%	70.7%		
30	X	X	X	X	X	X	X	X	X																9	9.1%	63.6%		
	X	X	X	X	X	X																			6	6.1%	54.5%		
	X	X	X	X																					4	4.0%	48.5%		
	X	X	X	X	X	X	X	X	X	X	X														11	11.1%	44.4%		
	X	X	X	X	X	X	X	X																	8	8.1%	33.3%		
	X	X	X	X	X																				5	5.1%	25.3%		
25	X	X	X	X	X	X	X	X	X	X	X														11	11.1%	20.2%		
	X	X	X	X																					4	4.0%	9.1%		
	X	X	X																						3	3.0%	5.1%		
	X																								1	1.0%	2.0%		
20	X																								0	0.0%	1.0%		
																									1	1.0%	1.0%		
																											0.0%		
																											0.0%		
																											0.0%		
15																											0.0%		
	TOTAL VEHICLES																									99		0.0%	

UPPER LIMIT 10 MPH PACE: 34 MPH

LOWER LIMIT 10 MPH PACE: 25 MPH

PERCENT OVER PACE: 24.2 %

PERCENT IN PACE: 70.7 %

PERCENT UNDER PACE: 9.1 %

85th PERCENTILE SPEED: 36.1 MPH

MEDIAN SPEED: 29.3 MPH

15th PERCENTILE SPEED: 24.5 MPH

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: GRISOM 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: <u>WESTBOUND</u>										
MPH	NUMBER OF VEHICLES									
	5	10	15	20	25	30				
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AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
CUMULATIVE (BOTH DIRECTIONS) _____

DIRECTION: <u>EASTBOUND</u>										
MPH	NUMBER OF VEHICLES									
	5	10	15	20	25	30				
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AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

CUMULATIVE TOTAL	MPH
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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

[illegible]

UPPER LIMIT 10 MPH PACE: 29 MPH

LOWER LIMIT 10 MPH PACE: 20 MPH

PERCENT OVER PACE:	12.7	%
--------------------	------	---

PERCENT IN PACE:	87.3	%
------------------	------	---

PERCENT UNDER PACE:	0.0	%
---------------------	-----	---

85th PERCENTILE SPEED: 28.4 MPH

MEDIAN SPEED: 25.2 MPH

15th PERCENTILE SPEED: 22.6 MPH

Radar Speed Survey Field Sheet

 AGENCY: CITY OF LAGUNA HILLS
 STREET: NEELIE GAIL ROAD
 LOCATION: OSO 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 ✓ OK

DIRECTION: <u>SOUTHBOUND</u>										
MPH	NUMBER OF VEHICLES									TOTAL
	5	10	15	20	25	30				
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: _____ CRITICAL SPEED: _____ PACE SPEED: _____
 CUMULATIVE (BOTH DIRECTIONS) _____

DIRECTION: <u>NORTHBOUND</u>										
MPH	NUMBER OF VEHICLES									TOTAL
	5	10	15	20	25	30				
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: _____ CRITICAL SPEED: _____ PACE SPEED: _____

CUMULATIVE TOTAL	MPH
	60
	59
	58
	57
	56
	55
	54
	53
	52
	51
	50
	49
	48
	47
	46
	45
	44
2	43
0	42
1	41
1	40
2	39
2	38
8	37
2	36
17	35
11	34
9	33
14	32
11	31
7	30
13	29
11	28
4	27
10	26
5	25
5	24
3	23
0	22
2	21
1	20
	19
	18
	17
	16
	15



RADAR SPEED DISTRIBUTION SHEET

CITY OF LAGUNA HILLS

NELLIE GAIL ROAD

DATE: 12/12/2018

TIME: 11:00 AM - 12:00 PM

OSO PKWY TO HIDDEN TRAIL RD

SURVEY BY: C. BUENDIA

CHECKED BY: JERRY STOCK

		NUMBER OF VEHICLES																				VEH.	PCT.	CUM. PCT.			
SPEED		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%
45																											100.0%
																											100.0%
																											100.0%
																											100.0%
40	X	X																							2	1.4%	100.0%
																								0	0.0%	98.6%	
	X																							1	0.7%	98.6%	
	X	X																						2	1.4%	97.1%	
35	X																							1	0.7%	95.7%	
	X	X	X	X	X	X	X																	8	5.8%	95.0%	
	X	X																						2	1.4%	89.2%	
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									17	12.2%	87.8%	
30	X	X	X	X	X	X	X	X	X	X															11	7.9%	75.5%
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							9	6.5%	67.6%	
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					14	10.1%	61.2%	
	X	X	X	X	X	X	X	X	X	X	X													11	7.9%	51.1%	
25	X	X	X	X	X	X	X																		7	5.0%	43.2%
	X	X	X	X	X	X	X	X	X	X	X	X	X											13	9.4%	38.1%	
	X	X	X	X	X	X	X	X	X	X	X													11	7.9%	28.8%	
	X	X	X	X																				4	2.9%	20.9%	
20	X	X	X	X	X	X	X	X	X																10	7.2%	18.0%
	X	X	X	X	X																			5	3.6%	10.8%	
	X																							5	3.6%	7.2%	
	X	X																						1	0.7%	3.6%	
15	X																								2	1.4%	2.9%
	X																							1	0.7%	1.4%	
	X																							1	0.7%	0.7%	
																											0.0%
																								0.0%			
																								0.0%			
																								0.0%			
																								0.0%			
																								0.0%			
																								0.0%			
																								0.0%			
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																								0.0%			
																								0.0%			
																								0.0%			
																								0.0%			
																								0.0%			

UPPER LIMIT 10 MPH PACE: 35 MPH

LOWER LIMIT 10 MPH PACE: 26 MPH

PERCENT OVER PACE: 12.2 %

PERCENT IN PACE: 77.0 %

PERCENT UNDER PACE: 10.8 %

85th PERCENTILE SPEED: 34.8 MPH

MEDIAN SPEED: 30.9 MPH

15th PERCENTILE SPEED: 25.6 MPH

Radar Speed Survey Field Sheet

HARTZOG AND CRABILL INC.
Consulting Traffic Engineers
17592 Irvine Blvd., Suite 122, Tustin, CA 92690
(714) 731-9455

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 VKL

DIRECTION: <u>SOUTHBOUND</u>										
MPH	5	NUMBER OF VEHICLES				25	30	TOTAL		
	10	15	20							
60										
59										
58										
57										
56										
55										
54										
53										
52										
51										
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46										
45										
44										
43										
42										
41										
40										
39										
38										
37										
36										1
35										0
34										0
33										0
32										2
31										2
30										0
29										2
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										

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
CUMULATIVE (BOTH DIRECTIONS) _____

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

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

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



RADAR SPEED DISTRIBUTION SHEET

CITY OF LAGUNA HILLS

WILKES PLACE

DATE: 12/11/2018

TIME: 10:45 AM - 12:15 PM

ALICIA PKWY TO GRISSOM ROAD

SURVEY BY: C. BUENDIA

CHECKED BY: JERRY STOCK

[illegible]

UPPER LIMIT 10 MPH PACE: 30 MPH

LOWER LIMIT 10 MPH PACE: 21 MPH

PERCENT OVER PACE: 14.8 %

PERCENT IN PACE: 74.1 %

PERCENT UNDER PACE: 11.1 %

85th PERCENTILE SPEED: 30.0 MPH

MEDIAN SPEED:	25.0	MPH
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15th PERCENTILE SPEED:	20.3	MPH
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ADT Traffic Volume Data

Prepared by NDS/ATD

VOLUME

Wilkes Pl Bet. Alicia Pkwy & Grissom Rd

Day: Wednesday
Date: 12/12/2018City: Laguna Hills
Project #: CA18_1262_001

DAILY TOTALS					NB	SB	EB				WB	Total
					465	373					0	0
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	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	
TOTALS	236	128			364	TOTALS	229	245			474	
SPLIT %	64.8%	35.2%			43.4%	SPLIT %	48.3%	51.7%			56.6	

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		12:4
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		0.46
7 - 9 Volume	154	64	0	0	4 - 6 Volume	50	54	0	0
7 - 9 Peak Hour	07:45	07:45		07:45	4 - 6 Peak Hour	17:00	16:30		16:4
7 - 9 Pk Volume	127	48	0	0	4 - 6 Pk Volume	26	35	0	0
Pk Hr Factor	0.467	0.414	0.000	0.000	Pk Hr Factor	0.722	0.795	0.000	0.000

Attachment: Traffic Commission Agenda Item 4.1, January 16, 2019 : Review of Traffic Conditions on Wilkes Place and Grissom Road)

Prepared by NDS/ATD

VOLUME

Grissom Rd Bet. Wilkes Pl & Las Bolsas

Day: Wednesday
Date: 12/12/2018City: Laguna Hills
Project #: CA18_1262_002

DAILY TOTALS					NB	SB	EB					WB	Total
					0	0						259	235
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	11		
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	0	13:45			4	23	27		
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	1	14:45			3	20	23		
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	0	15:45			6	18	24		
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	30		
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	1	17:45			11	35	46		
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	9	18:45			1	19	20		
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	28	19:45			4	13	17		
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	19	20:45			0	8	8		
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	13	21:45			2	8	10		
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	14	22:45			0	2	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	17	23:45			1	1	2		
TOTALS	81				104	TOTALS	178				131	309	
SPLIT %	43.8%				56.2%	SPLIT %	57.6%				42.4%	62.6	

DAILY TOTALS			NB	SB	EB				WB		Total
			0	0							259
AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			17:00	12:45	17:0
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	0.73
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	17:0
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	0.73

Attachment: Traffic Commission Agenda Item 4.1, January 16, 2019 (3400 : Review of Traffic Conditions on Wilkes Place and Grissom Road)

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	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	RC SL
8090227	20160704	2315	ALICIA PKWY	WILKES PL	0		Y	A	4	D	0		N	A	C	
8180551	20161113	2008	ALICIA PKWY	WILKES PL	0		Y	A	3	A	12	21453	N	D	C	
8197315	20161122	935	ALICIA PKWY	WILKES PL	0		Y	A	4	A	12	21453	N	D	C	

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

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	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 SURFACE
8636969	20180503	1229	GRISSOM RD	LAS BOLSAS AV	0		Y	A	0	A	8	22107	M	D	E	

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

Origin-Destination Study Data

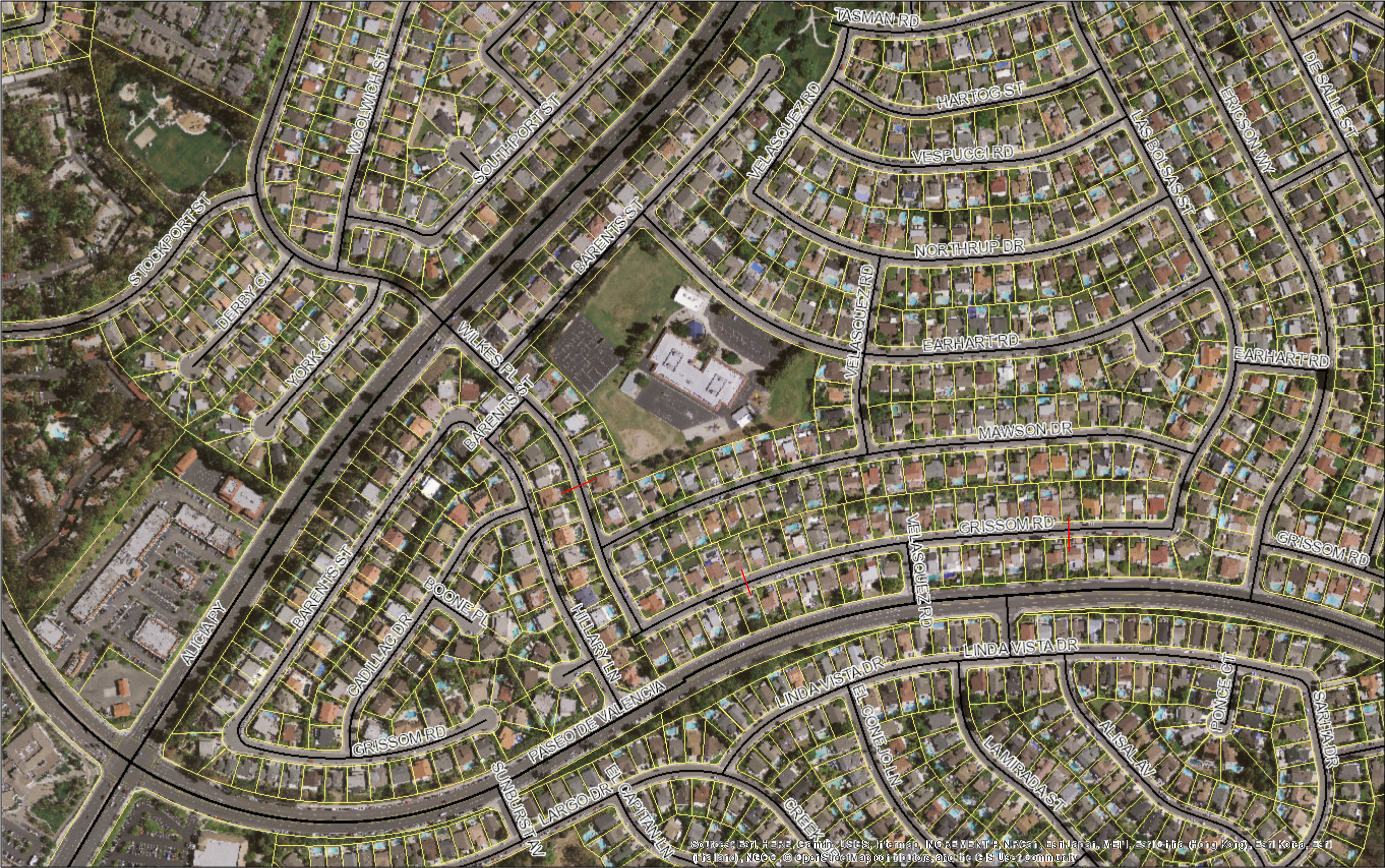
Prepared by National Data and Surveying Services

Origin and Destination Study**Day:** Wednesday**Date:** 12/12/2018**City:** Laguna Hills**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
Grand Total	1	1	1	2	4	2	2	1	1	15

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	

Revised Locations for 24-Hour Speed Survey on Wilkes and Grissom



0 0.02750.055 0.11 mi

VICINITY MAP - WILKES PLACE & GRISSOM ROAD



Counts Unlimited, Inc.

City of Laguna Hills
Wilkes Place
B/ Barentis Street - Mawson Drive
4 Day Directional Speed Survey

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

LHS001
Site Code: 241-231173

Northbound

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
12/08/23	0	1	2	1	0	0	0	0	0	0	0	0	0	0	4
01:00	0	0	0	0	1	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	1	1	0	0	0	0	0	0	0	0	0	0	2
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3
07:00	4	4	10	3	0	0	0	0	0	0	0	0	0	0	21
08:00	0	9	25	4	1	0	0	0	0	0	0	0	0	0	39
09:00	3	1	5	2	1	0	0	0	0	0	0	0	0	0	12
10:00	0	3	5	3	3	0	0	0	0	0	0	0	0	0	14
11:00	1	2	13	6	0	0	0	0	0	0	0	0	0	0	22
12 PM	1	5	6	10	1	1	0	0	0	0	0	0	0	0	24
13:00	0	1	10	7	2	1	0	0	0	0	0	0	0	0	21
14:00	0	4	13	25	3	0	0	0	0	0	0	0	0	0	45
15:00	0	2	8	11	3	0	0	0	0	0	0	0	0	0	24
16:00	1	1	5	11	1	1	0	0	0	0	0	0	0	0	20
17:00	0	1	10	6	3	0	0	0	0	0	0	0	0	0	20
18:00	0	2	8	10	1	0	0	0	0	0	0	0	0	0	21
19:00	1	1	9	5	1	0	0	0	0	0	0	0	0	0	17
20:00	0	2	6	8	0	0	0	0	0	0	0	0	0	0	16
21:00	0	1	2	6	0	0	0	0	0	0	0	0	0	0	9
22:00	0	0	4	7	1	0	0	0	0	0	0	0	0	0	12
23:00	1	2	0	1	0	0	0	0	0	0	0	0	0	0	4
Total	13	43	144	127	22	3	0	0	0	0	0	0	0	0	352

Daily
15th Percentile : 19 MPH
50th Percentile : 24 MPH
85th Percentile : 28 MPH
95th Percentile : 31 MPH

Statistics
Mean Speed(Average) : 24 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 271
Percent in Pace : 77.0%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

City of Laguna Hills
Wilkes Place
B/ Barentis Street - Mawson Drive
4 Day Directional Speed SurveyLHS001
Site Code: 241-231173Northbound

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
12/09/23	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
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	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
06:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
07:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
08:00	0	1	3	3	0	0	0	0	0	0	0	0	0	0	7
09:00	1	1	3	4	1	0	0	0	0	0	0	0	0	0	10
10:00	1	2	3	4	3	0	0	0	0	0	0	0	0	0	13
11:00	0	1	4	10	1	0	0	0	0	0	0	0	0	0	16
12 PM	0	1	6	9	2	0	0	0	0	0	0	0	0	0	18
13:00	0	3	3	4	4	0	0	0	0	0	0	0	0	0	14
14:00	0	0	5	3	2	0	0	0	0	0	0	0	0	0	10
15:00	0	3	8	4	0	0	0	0	0	0	0	0	0	0	15
16:00	2	3	4	5	1	1	0	0	0	0	0	0	0	0	16
17:00	1	9	10	4	0	0	0	0	0	0	0	0	0	0	24
18:00	0	3	7	8	1	0	0	0	0	0	0	0	0	0	19
19:00	4	4	5	4	1	0	0	0	0	0	0	0	0	0	18
20:00	0	3	6	5	1	0	0	0	0	0	0	0	0	0	15
21:00	0	0	4	4	0	0	0	0	0	0	0	0	0	0	8
22:00	0	1	4	3	0	0	0	0	0	0	0	0	0	0	8
23:00	0	3	3	3	0	0	0	0	0	0	0	0	0	0	9
Total	10	43	85	80	18	1	0	0	0	0	0	0	0	0	237

Daily

15th Percentile : 17 MPH
 50th Percentile : 23 MPH
 85th Percentile : 28 MPH
 95th Percentile : 31 MPH

Statistics

Mean Speed(Average) : 24 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 165
 Percent in Pace : 69.6%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
Wilkes Place
B/ Barentis Street - Mawson Drive
4 Day Directional Speed Survey

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

LHS001
Site Code: 241-231173

Northbound

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
12/10/23	0	0	2	3	0	0	0	0	0	0	0	0	0	0	5
01:00	0	1	0	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	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	1	0	1	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
08:00	1	1	1	1	2	0	0	0	0	0	0	0	0	0	6
09:00	0	3	5	3	0	0	0	0	0	0	0	0	0	0	11
10:00	0	2	2	3	2	0	0	0	0	0	0	0	0	0	9
11:00	0	0	5	2	0	0	0	0	0	0	0	0	0	0	7
12 PM	1	1	9	3	1	0	0	0	0	0	0	0	0	0	15
13:00	1	1	3	10	2	0	0	0	0	0	0	0	0	0	17
14:00	1	4	6	7	2	0	0	0	0	0	0	0	0	0	20
15:00	2	0	7	6	0	0	0	0	0	0	0	0	0	0	15
16:00	0	0	5	4	1	0	0	0	0	0	0	0	0	0	10
17:00	0	0	9	5	1	0	0	0	0	0	0	0	0	0	15
18:00	1	1	7	3	0	0	0	0	0	0	0	0	0	0	12
19:00	1	1	3	5	1	0	0	0	0	0	0	0	0	0	11
20:00	0	0	1	7	1	0	0	0	0	0	0	0	0	0	9
21:00	1	1	5	1	0	0	0	0	0	0	0	0	0	0	8
22:00	1	0	0	2	1	0	0	0	0	0	0	0	0	0	4
23:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
Total	10	18	75	66	14	0	0	0	0	0	0	0	0	0	183

Daily
15th Percentile : 19 MPH
50th Percentile : 24 MPH
85th Percentile : 28 MPH
95th Percentile : 31 MPH

Statistics
Mean Speed(Average) : 24 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 141
Percent in Pace : 77.0%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Counts Unlimited, Inc.

City of Laguna Hills
Wilkes Place
B/ Barentis Street - Mawson Drive
4 Day Directional Speed Survey

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

LHS001
Site Code: 241-231173

Northbound

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
12/11/23	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
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	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
07:00	1	4	11	6	1	0	0	0	0	0	0	0	0	0	23
08:00	3	4	21	9	2	0	0	0	0	0	0	0	0	0	39
09:00	2	4	6	3	1	0	0	0	0	0	0	0	0	0	16
10:00	1	4	5	6	0	0	0	0	0	0	0	0	0	0	16
11:00	1	2	7	8	2	0	0	0	0	0	0	0	0	0	20
12 PM	2	1	6	4	0	0	0	0	0	0	0	0	0	0	13
13:00	0	2	7	9	1	0	0	0	0	0	0	0	0	0	19
14:00	0	8	19	19	3	0	0	0	0	0	0	0	0	0	49
15:00	0	2	11	3	0	0	0	0	0	0	0	0	0	0	16
16:00	0	2	7	9	2	1	0	0	0	0	0	0	0	0	21
17:00	3	4	9	7	0	0	0	0	0	0	0	0	0	0	23
18:00	0	4	9	7	2	0	0	0	0	0	0	0	0	0	22
19:00	0	2	8	4	0	0	0	0	0	0	0	0	0	0	14
20:00	1	1	4	6	0	0	0	0	0	0	0	0	0	0	12
21:00	0	0	5	2	0	0	0	0	0	0	0	0	0	0	7
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	1	0	2	0	0	0	0	0	0	0	0	0	0	3
Total	14	47	143	104	14	1	0	0	0	0	0	0	0	0	323

Daily
15th Percentile : 18 MPH
50th Percentile : 23 MPH
85th Percentile : 28 MPH
95th Percentile : 29 MPH

Statistics
Mean Speed(Average) : 24 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 247
Percent in Pace : 76.5%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Counts Unlimited, Inc.

City of Laguna Hills
 Wilkes Place
 B/ Barentis Street - Mawson Drive
 4 Day Directional Speed Survey
 Southbound

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

LHS001
 Site Code: 241-231173

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
12/08/23	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	2	1	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
05:00	0	1	2	2	1	0	0	0	0	0	0	0	0	0	6
06:00	2	1	3	2	2	0	1	0	0	0	0	0	0	0	11
07:00	3	4	7	9	3	0	0	0	0	0	0	0	0	0	26
08:00	6	24	52	29	4	0	0	0	0	0	0	0	0	0	115
09:00	1	3	9	12	3	0	0	0	0	0	0	0	0	0	28
10:00	0	2	5	3	4	0	1	0	0	0	0	0	0	0	15
11:00	0	3	8	10	4	0	0	0	0	0	0	0	0	0	25
12 PM	0	2	19	12	2	1	0	0	0	0	0	0	0	0	36
13:00	0	3	6	9	0	0	0	0	0	0	0	0	0	0	18
14:00	0	3	48	34	2	0	0	0	0	0	0	0	0	0	87
15:00	1	1	10	5	3	0	0	0	0	0	0	0	0	0	20
16:00	1	7	8	11	0	0	0	0	0	0	0	0	0	0	27
17:00	2	3	10	7	2	0	0	0	0	0	0	0	0	0	24
18:00	1	3	4	7	2	0	0	0	0	0	0	0	0	0	17
19:00	0	3	4	4	1	0	0	0	0	0	0	0	0	0	12
20:00	0	4	6	3	0	0	0	0	0	0	0	0	0	0	13
21:00	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3
22:00	0	3	0	2	0	0	0	0	0	0	0	0	0	0	5
23:00	0	1	0	2	0	0	0	0	0	0	0	0	0	0	3
Total	18	74	204	164	33	1	2	0	0	0	0	0	0	0	496

Daily
 15th Percentile : 18 MPH
 50th Percentile : 23 MPH
 85th Percentile : 28 MPH
 95th Percentile : 31 MPH

Statistics
 Mean Speed(Average) : 24 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 368
 Percent in Pace : 74.2%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
 Wilkes Place
 B/ Barentis Street - Mawson Drive
 4 Day Directional Speed Survey
 Southbound

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

LHS001
 Site Code: 241-231173

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
12/09/23	0	0	0	1	0	1	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	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	1	0	0	0	0	0	0	0	0	0	3
05:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
07:00	2	2	2	1	1	0	1	0	0	0	0	0	0	0	9
08:00	2	3	5	7	2	0	0	0	0	0	0	0	0	0	19
09:00	0	3	6	5	2	0	0	0	0	0	0	0	0	0	16
10:00	1	0	1	9	1	1	1	0	0	0	0	0	0	0	14
11:00	0	0	7	5	3	0	0	0	0	0	0	0	0	0	15
12 PM	1	1	4	7	4	0	0	0	0	0	0	0	0	0	17
13:00	0	3	4	10	2	0	0	0	0	0	0	0	0	0	19
14:00	2	2	4	6	2	1	0	0	0	0	0	0	0	0	17
15:00	2	2	2	3	2	0	0	0	0	0	0	0	0	0	11
16:00	2	2	7	7	0	0	0	0	0	0	0	0	0	0	18
17:00	2	7	6	10	1	0	0	0	0	0	0	0	0	0	26
18:00	0	3	6	6	2	0	0	0	0	0	0	0	0	0	17
19:00	2	2	3	1	1	0	0	0	0	0	0	0	0	0	9
20:00	1	2	2	4	0	0	0	0	0	0	0	0	0	0	9
21:00	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3
22:00	0	1	2	0	3	0	0	0	0	0	0	0	0	0	6
23:00	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4
Total	17	33	64	91	29	3	2	0	0	0	0	0	0	0	239

Daily
 15th Percentile : 17 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 : 155
 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
 Wilkes Place
 B/ Barentis Street - Mawson Drive
 4 Day Directional Speed Survey
 Southbound

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

LHS001
 Site Code: 241-231173

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
12/10/23	0	0	0	1	0	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	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	1	0	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	2	1	1	1	0	0	0	0	0	0	0	0	0	5
06:00	0	1	0	2	0	0	0	0	0	0	0	0	0	0	3
07:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
08:00	1	0	4	2	1	0	0	0	0	0	0	0	0	0	8
09:00	1	1	2	4	0	0	0	0	0	0	0	0	0	0	8
10:00	0	3	4	6	4	0	0	0	0	0	0	0	0	0	17
11:00	0	2	5	6	0	0	0	0	0	0	0	0	0	0	13
12 PM	2	1	4	5	2	0	0	0	0	0	0	0	0	0	14
13:00	0	4	3	7	3	0	0	0	0	0	0	0	0	0	17
14:00	0	2	10	5	1	0	0	0	0	0	0	0	0	0	18
15:00	0	1	5	5	3	0	0	0	0	0	0	0	0	0	14
16:00	0	1	3	3	0	1	0	0	0	0	0	0	0	0	8
17:00	1	2	3	3	1	0	0	0	0	0	0	0	0	0	10
18:00	2	1	7	6	0	0	0	0	0	0	0	0	0	0	16
19:00	1	1	1	2	0	0	0	0	0	0	0	0	0	0	5
20:00	2	1	1	4	1	0	0	0	0	0	0	0	0	0	9
21:00	1	1	2	1	0	0	0	0	0	0	0	0	0	0	5
22:00	0	0	3	1	1	0	0	0	0	0	0	0	0	0	5
23:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	11	24	62	65	19	1	0	0	0	0	0	0	0	0	182

Daily
 15th Percentile : 18 MPH
 50th Percentile : 24 MPH
 85th Percentile : 29 MPH
 95th Percentile : 32 MPH

Statistics
 Mean Speed(Average) : 24 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 127
 Percent in Pace : 69.8%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

City of Laguna Hills
Wilkes Place
B/ Barentis Street - Mawson Drive
4 Day Directional Speed Survey
Southbound

LHS001
Site Code: 241-231173

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
12/11/23	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	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	3	0	0	0	0	0	0	0	0	0	0	5
05:00	0	0	1	0	2	1	0	0	0	0	0	0	0	0	4
06:00	0	3	2	5	2	0	0	0	0	0	0	0	0	0	12
07:00	1	1	14	15	2	0	0	0	0	0	0	0	0	0	33
08:00	5	14	64	44	4	1	0	0	0	0	0	0	0	0	132
09:00	1	3	6	4	2	0	0	0	0	0	0	0	0	0	16
10:00	1	2	4	6	4	0	0	0	0	0	0	0	0	0	17
11:00	1	2	6	10	3	0	0	0	0	0	0	0	0	0	22
12 PM	0	0	5	11	3	0	0	0	0	0	0	0	0	0	19
13:00	1	1	3	2	2	0	0	0	0	0	0	0	0	0	9
14:00	1	11	35	33	5	1	0	0	0	0	0	0	0	0	86
15:00	2	2	10	7	2	2	0	0	0	0	0	0	0	0	25
16:00	1	2	7	4	1	0	0	0	0	0	0	0	0	0	15
17:00	2	4	13	2	1	0	0	0	0	0	0	0	0	0	22
18:00	0	1	5	3	2	0	0	0	0	0	0	0	0	0	11
19:00	1	1	4	2	2	0	0	0	0	0	0	0	0	0	10
20:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
21:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
22:00	0	0	2	2	0	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
Total	17	50	185	155	37	5	0	0	0	0	0	0	0	0	449

Daily
15th Percentile : 20 MPH
50th Percentile : 24 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 : 340
Percent in Pace : 75.7%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
 Wilkes Place
 B/ Barentis Street - Mawson Drive
 4 Day Directional Speed Survey
 Northbound, Southbound

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

LHS001
 Site Code: 241-231173

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
12/08/23	0	1	2	1	0	0	0	0	0	0	0	0	0	0	4
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
02:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	1	2	0	0	0	0	0	0	0	0	0	0	4
05:00	0	1	3	2	1	0	0	0	0	0	0	0	0	0	7
06:00	3	2	4	2	2	0	1	0	0	0	0	0	0	0	14
07:00	7	8	17	12	3	0	0	0	0	0	0	0	0	0	47
08:00	6	33	77	33	5	0	0	0	0	0	0	0	0	0	154
09:00	4	4	14	14	4	0	0	0	0	0	0	0	0	0	40
10:00	0	5	10	6	7	0	1	0	0	0	0	0	0	0	29
11:00	1	5	21	16	4	0	0	0	0	0	0	0	0	0	47
12 PM	1	7	25	22	3	2	0	0	0	0	0	0	0	0	60
13:00	0	4	16	16	2	1	0	0	0	0	0	0	0	0	39
14:00	0	7	61	59	5	0	0	0	0	0	0	0	0	0	132
15:00	1	3	18	16	6	0	0	0	0	0	0	0	0	0	44
16:00	2	8	13	22	1	1	0	0	0	0	0	0	0	0	47
17:00	2	4	20	13	5	0	0	0	0	0	0	0	0	0	44
18:00	1	5	12	17	3	0	0	0	0	0	0	0	0	0	38
19:00	1	4	13	9	2	0	0	0	0	0	0	0	0	0	29
20:00	0	6	12	11	0	0	0	0	0	0	0	0	0	0	29
21:00	1	1	4	6	0	0	0	0	0	0	0	0	0	0	12
22:00	0	3	4	9	1	0	0	0	0	0	0	0	0	0	17
23:00	1	3	0	3	0	0	0	0	0	0	0	0	0	0	7
Total	31	117	348	291	55	4	2	0	0	0	0	0	0	0	848

Daily
 15th Percentile : 19 MPH
 50th Percentile : 23 MPH
 85th Percentile : 28 MPH
 95th Percentile : 31 MPH

Statistics
 Mean Speed(Average) : 24 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 639
 Percent in Pace : 75.4%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

City of Laguna Hills
Wilkes Place
B/ Barentis Street - Mawson Drive
4 Day Directional Speed Survey
Northbound, Southbound

LHS001
Site Code: 241-231173

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
12/09/23	0	0	1	2	0	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	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	1	0	1	2	1	0	0	0	0	0	0	0	0	0	5
05:00	0	1	1	1	1	0	0	0	0	0	0	0	0	0	4
06:00	0	2	2	2	1	0	0	0	0	0	0	0	0	0	7
07:00	2	4	4	1	1	0	1	0	0	0	0	0	0	0	13
08:00	2	4	8	10	2	0	0	0	0	0	0	0	0	0	26
09:00	1	4	9	9	3	0	0	0	0	0	0	0	0	0	26
10:00	2	2	4	13	4	1	1	0	0	0	0	0	0	0	27
11:00	0	1	11	15	4	0	0	0	0	0	0	0	0	0	31
12 PM	1	2	10	16	6	0	0	0	0	0	0	0	0	0	35
13:00	0	6	7	14	6	0	0	0	0	0	0	0	0	0	33
14:00	2	2	9	9	4	1	0	0	0	0	0	0	0	0	27
15:00	2	5	10	7	2	0	0	0	0	0	0	0	0	0	26
16:00	4	5	11	12	1	1	0	0	0	0	0	0	0	0	34
17:00	3	16	16	14	1	0	0	0	0	0	0	0	0	0	50
18:00	0	6	13	14	3	0	0	0	0	0	0	0	0	0	36
19:00	6	6	8	5	2	0	0	0	0	0	0	0	0	0	27
20:00	1	5	8	9	1	0	0	0	0	0	0	0	0	0	24
21:00	0	0	5	6	0	0	0	0	0	0	0	0	0	0	11
22:00	0	2	6	3	3	0	0	0	0	0	0	0	0	0	14
23:00	0	3	4	5	1	0	0	0	0	0	0	0	0	0	13
Total	27	76	149	171	47	4	2	0	0	0	0	0	0	0	476

Daily
15th Percentile : 17 MPH
50th Percentile : 24 MPH
85th Percentile : 29 MPH
95th Percentile : 33 MPH

Statistics
Mean Speed(Average) : 24 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 320
Percent in Pace : 67.2%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
 Wilkes Place
 B/ Barentis Street - Mawson Drive
 4 Day Directional Speed Survey
 Northbound, Southbound

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

LHS001
 Site Code: 241-231173

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
12/10/23	0	0	2	4	0	0	0	0	0	0	0	0	0	0	6
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	3	1	2	1	0	0	0	0	0	0	0	0	0	7
06:00	0	1	1	2	0	0	0	0	0	0	0	0	0	0	4
07:00	0	0	3	1	0	0	0	0	0	0	0	0	0	0	4
08:00	2	1	5	3	3	0	0	0	0	0	0	0	0	0	14
09:00	1	4	7	7	0	0	0	0	0	0	0	0	0	0	19
10:00	0	5	6	9	6	0	0	0	0	0	0	0	0	0	26
11:00	0	2	10	8	0	0	0	0	0	0	0	0	0	0	20
12 PM	3	2	13	8	3	0	0	0	0	0	0	0	0	0	29
13:00	1	5	6	17	5	0	0	0	0	0	0	0	0	0	34
14:00	1	6	16	12	3	0	0	0	0	0	0	0	0	0	38
15:00	2	1	12	11	3	0	0	0	0	0	0	0	0	0	29
16:00	0	1	8	7	1	1	0	0	0	0	0	0	0	0	18
17:00	1	2	12	8	2	0	0	0	0	0	0	0	0	0	25
18:00	3	2	14	9	0	0	0	0	0	0	0	0	0	0	28
19:00	2	2	4	7	1	0	0	0	0	0	0	0	0	0	16
20:00	2	1	2	11	2	0	0	0	0	0	0	0	0	0	18
21:00	2	2	7	2	0	0	0	0	0	0	0	0	0	0	13
22:00	1	0	3	3	2	0	0	0	0	0	0	0	0	0	9
23:00	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
Total	21	42	137	131	33	1	0	0	0	0	0	0	0	0	365

Daily
 15th Percentile : 19 MPH
 50th Percentile : 24 MPH
 85th Percentile : 29 MPH
 95th Percentile : 32 MPH

Statistics
 Mean Speed(Average) : 24 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 268
 Percent in Pace : 73.4%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

City of Laguna Hills
Wilkes Place
B/ Barentis Street - Mawson Drive
4 Day Directional Speed Survey
Northbound, Southbound

LHS001
Site Code: 241-231173

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
12/11/23	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
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	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	1	3	0	0	0	0	0	0	0	0	0	0	6
05:00	0	0	3	0	2	1	0	0	0	0	0	0	0	0	6
06:00	0	4	3	5	2	0	0	0	0	0	0	0	0	0	14
07:00	2	5	25	21	3	0	0	0	0	0	0	0	0	0	56
08:00	8	18	85	53	6	1	0	0	0	0	0	0	0	0	171
09:00	3	7	12	7	3	0	0	0	0	0	0	0	0	0	32
10:00	2	6	9	12	4	0	0	0	0	0	0	0	0	0	33
11:00	2	4	13	18	5	0	0	0	0	0	0	0	0	0	42
12 PM	2	1	11	15	3	0	0	0	0	0	0	0	0	0	32
13:00	1	3	10	11	3	0	0	0	0	0	0	0	0	0	28
14:00	1	19	54	52	8	1	0	0	0	0	0	0	0	0	135
15:00	2	4	21	10	2	2	0	0	0	0	0	0	0	0	41
16:00	1	4	14	13	3	1	0	0	0	0	0	0	0	0	36
17:00	5	8	22	9	1	0	0	0	0	0	0	0	0	0	45
18:00	0	5	14	10	4	0	0	0	0	0	0	0	0	0	33
19:00	1	3	12	6	2	0	0	0	0	0	0	0	0	0	24
20:00	1	1	6	7	0	0	0	0	0	0	0	0	0	0	15
21:00	0	0	7	3	0	0	0	0	0	0	0	0	0	0	10
22:00	0	1	2	2	0	0	0	0	0	0	0	0	0	0	5
23:00	0	1	0	2	0	0	0	0	0	0	0	0	0	0	3
Total	31	97	328	259	51	6	0	0	0	0	0	0	0	0	772

Daily
15th Percentile : 19 MPH
50th Percentile : 23 MPH
85th Percentile : 28 MPH
95th Percentile : 31 MPH

Statistics
Mean Speed(Average) : 24 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 587
Percent in Pace : 76.0%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
 Grissom Road
 B/ Wilkes Place - Velasquez Road
 4 Day Directional Speed Survey

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

LHS003
 Site Code: 241-231173

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
12/08/23	0	0	1	0	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	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	1	0	0	0	0	0	0	0	0	0	2
05:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:00	2	2	5	6	0	0	0	0	0	0	0	0	0	0	15
08:00	1	4	6	8	5	0	0	0	0	0	0	0	0	0	24
09:00	0	1	2	5	0	0	0	0	0	0	0	0	0	0	8
10:00	0	2	4	4	1	0	0	0	0	0	0	0	0	0	11
11:00	0	0	7	6	1	1	0	0	0	0	0	0	0	0	15
12 PM	1	0	5	5	5	0	0	0	0	0	0	0	0	0	16
13:00	0	1	2	2	2	0	0	0	0	0	0	0	0	0	7
14:00	0	1	12	10	2	0	0	0	0	0	0	0	0	0	25
15:00	1	1	4	5	5	0	0	0	0	0	0	0	0	0	16
16:00	1	3	0	3	1	0	0	0	0	0	0	0	0	0	8
17:00	1	3	3	5	0	0	0	0	0	0	0	0	0	0	12
18:00	1	2	1	3	1	0	0	0	0	0	0	0	0	0	8
19:00	0	1	0	2	0	3	0	0	0	0	0	0	0	0	6
20:00	2	3	2	3	0	0	0	0	0	0	0	0	0	0	10
21:00	2	0	2	1	1	0	0	0	0	0	0	0	0	0	6
22:00	0	0	3	3	0	0	0	0	0	0	0	0	0	0	6
23:00	2	1	2	0	0	0	0	0	0	0	0	0	0	0	5
Total	14	25	63	73	25	4	0	0	0	0	0	0	0	0	204

Daily
 15th Percentile : 18 MPH
 50th Percentile : 24 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 : 136
 Percent in Pace : 66.7%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400) :

Counts Unlimited, Inc.

City of Laguna Hills
 Grissom Road
 B/ Wilkes Place - Velasquez Road
 4 Day Directional Speed Survey

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

LHS003
 Site Code: 241-231173

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
12/09/23	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	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	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
06:00	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3
07:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
08:00	0	1	2	2	1	0	0	0	0	0	0	0	0	0	6
09:00	1	1	2	2	0	0	0	1	0	0	0	0	0	0	7
10:00	0	1	2	5	1	0	0	0	0	0	0	0	0	0	9
11:00	1	2	5	2	3	1	0	0	0	0	0	0	0	0	14
12 PM	0	1	3	5	1	0	0	0	0	0	0	0	0	0	10
13:00	2	1	1	4	5	0	0	0	0	0	0	0	0	0	13
14:00	0	1	0	4	1	0	0	0	0	0	0	0	0	0	6
15:00	0	0	4	4	0	0	0	0	0	0	0	0	0	0	8
16:00	0	1	4	2	2	0	0	1	0	0	0	0	0	0	10
17:00	1	0	5	2	1	0	0	0	0	0	0	0	0	0	9
18:00	1	1	4	4	2	0	0	0	0	0	0	0	0	0	12
19:00	2	1	1	0	0	0	0	0	0	0	0	0	0	0	4
20:00	0	3	4	1	0	0	0	0	0	0	0	0	0	0	8
21:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
22:00	0	1	6	0	0	0	0	0	0	0	0	0	0	0	7
23:00	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3
Total	9	17	47	39	21	1	0	2	0	0	0	0	0	0	136

Daily
 15th Percentile : 18 MPH
 50th Percentile : 24 MPH
 85th Percentile : 30 MPH
 95th Percentile : 34 MPH

Statistics
 Mean Speed(Average) : 25 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 86
 Percent in Pace : 63.2%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400) :

Counts Unlimited, Inc.

City of Laguna Hills
 Grissom Road
 B/ Wilkes Place - Velasquez Road
 4 Day Directional Speed Survey

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

LHS003
 Site Code: 241-231173

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
12/10/23	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	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
08:00	0	1	2	1	2	1	0	0	0	0	0	0	0	0	7
09:00	0	1	2	1	0	1	0	0	0	0	0	0	0	0	5
10:00	1	2	2	3	2	1	0	0	0	0	0	0	0	0	11
11:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
12 PM	1	1	3	6	2	0	1	0	0	0	0	0	0	0	14
13:00	0	2	0	3	3	1	0	0	0	0	0	0	0	0	9
14:00	0	1	5	1	3	1	0	0	0	0	0	0	0	0	11
15:00	1	0	4	1	2	0	0	0	0	0	0	0	0	0	8
16:00	0	1	2	2	0	0	0	0	0	0	0	0	0	0	5
17:00	2	1	3	3	0	0	0	0	0	0	0	0	0	0	9
18:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
19:00	1	0	3	3	1	0	0	0	0	0	0	0	0	0	8
20:00	2	0	2	0	1	0	0	0	0	0	0	0	0	0	5
21:00	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3
22:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	10	13	32	27	18	5	1	0	0	0	0	0	0	0	106

Daily
 15th Percentile : 17 MPH
 50th Percentile : 24 MPH
 85th Percentile : 32 MPH
 95th Percentile : 35 MPH

Statistics
 Mean Speed(Average) : 25 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 59
 Percent in Pace : 55.7%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
Grissom Road
B/ Wilkes Place - Velasquez Road
4 Day Directional Speed Survey

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

LHS003
Site Code: 241-231173

Eastbound

Start Time	15	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	
12/11/23	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	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
06:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
07:00	1	2	3	2	2	0	0	0	0	0	0	0	0	0	10
08:00	1	5	8	10	3	0	0	0	0	0	0	0	0	0	27
09:00	0	2	2	0	1	0	0	0	0	0	0	0	0	0	5
10:00	1	1	5	6	0	0	0	0	0	0	0	0	0	0	13
11:00	1	2	5	2	1	0	0	0	0	0	0	0	0	0	11
12 PM	3	2	3	5	2	0	0	0	0	0	0	0	0	0	15
13:00	0	3	2	2	1	0	0	0	0	0	0	0	0	0	8
14:00	1	3	2	11	0	0	0	0	0	0	0	0	0	0	17
15:00	0	1	8	6	1	0	0	0	0	0	0	0	0	0	16
16:00	1	1	6	2	0	0	0	0	0	0	0	0	0	0	10
17:00	3	3	3	2	2	0	0	0	0	0	0	0	0	0	13
18:00	3	4	4	3	0	0	0	0	0	0	0	0	0	0	14
19:00	0	1	3	2	0	0	0	0	0	0	0	0	0	0	6
20:00	0	1	2	2	0	0	0	0	0	0	0	0	0	0	5
21:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
Total	15	33	61	57	15	0	0	0	0	0	0	0	0	0	181

Daily
15th Percentile : 16 MPH
50th Percentile : 23 MPH
85th Percentile : 28 MPH
95th Percentile : 31 MPH

Statistics
Mean Speed(Average) : 23 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 118
Percent in Pace : 65.2%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
 Grissom Road
 B/ Wilkes Place - Velasquez Road
 4 Day Directional Speed Survey

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

LHS003
 Site Code: 241-231173

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
12/08/23	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	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
06:00	0	0	2	1	1	0	1	0	0	0	0	0	0	0	5
07:00	0	0	2	1	3	3	0	0	0	0	0	0	0	0	9
08:00	0	2	3	4	8	2	1	1	0	0	0	0	0	0	21
09:00	0	0	1	3	2	1	1	0	0	0	0	0	0	0	8
10:00	1	1	2	2	2	1	0	0	0	0	0	0	0	0	9
11:00	0	1	2	2	1	3	0	1	0	0	0	0	0	0	10
12 PM	1	1	2	4	3	1	0	0	0	0	0	0	0	0	12
13:00	1	1	4	2	2	0	0	0	0	0	0	0	0	0	10
14:00	0	2	3	7	3	0	2	0	0	0	0	0	0	0	17
15:00	0	0	1	5	3	1	0	0	0	0	0	0	0	0	10
16:00	0	1	9	4	1	1	0	0	0	0	0	0	0	0	16
17:00	0	2	4	6	3	0	0	0	0	0	0	0	0	0	15
18:00	0	2	1	3	3	0	1	0	0	0	0	0	0	0	10
19:00	1	1	1	2	0	1	1	1	0	0	0	0	0	0	8
20:00	1	3	2	4	2	0	0	0	0	0	0	0	0	0	12
21:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
22:00	0	0	1	4	0	0	0	0	0	0	0	0	0	0	5
23:00	0	0	1	0	2	0	0	0	0	0	0	0	0	0	3
Total	5	17	44	55	40	14	7	3	0	0	0	0	0	0	185

Daily
 15th Percentile : 20 MPH
 50th Percentile : 27 MPH
 85th Percentile : 34 MPH
 95th Percentile : 40 MPH

Statistics
 Mean Speed(Average) : 28 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 99
 Percent in Pace : 53.5%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
 Grissom Road
 B/ Wilkes Place - Velasquez Road
 4 Day Directional Speed Survey

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

LHS003
 Site Code: 241-231173

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
12/09/23	0	0	0	1	1	0	0	1	0	0	0	0	0	0	3
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	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	1	0	1	1	0	0	0	1	0	0	0	0	0	0	4
08:00	0	1	2	3	2	1	0	0	0	0	0	0	0	0	9
09:00	1	1	0	3	1	0	0	0	0	0	0	0	0	0	6
10:00	0	0	2	4	1	0	1	0	0	0	0	0	0	0	8
11:00	0	0	3	2	2	1	0	1	0	0	0	0	0	0	9
12 PM	1	2	0	5	1	0	1	0	0	0	0	0	0	0	10
13:00	1	1	4	4	1	2	0	0	0	0	0	0	0	0	13
14:00	0	0	1	4	2	1	0	0	0	0	0	0	0	0	8
15:00	0	2	2	3	2	0	0	1	0	0	0	0	0	0	10
16:00	0	3	2	3	1	2	0	1	0	0	0	0	0	0	12
17:00	1	2	3	1	0	0	0	0	0	0	0	0	0	0	7
18:00	2	1	4	1	2	0	0	0	0	0	0	0	0	0	10
19:00	0	2	2	4	0	0	0	0	0	0	0	0	0	0	8
20:00	0	1	4	3	0	0	0	0	0	0	0	0	0	0	8
21:00	0	3	2	1	0	1	0	0	0	0	0	0	0	0	7
22:00	0	1	1	3	0	1	0	0	0	0	0	0	0	0	6
23:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	7	20	38	46	16	9	2	5	0	0	0	0	0	0	143

Daily
 15th Percentile : 18 MPH
 50th Percentile : 25 MPH
 85th Percentile : 33 MPH
 95th Percentile : 39 MPH

Statistics
 Mean Speed(Average) : 26 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 84
 Percent in Pace : 58.7%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

City of Laguna Hills
Grissom Road
B/ Wilkes Place - Velasquez Road
4 Day Directional Speed SurveyLHS003
Site Code: 241-231173

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
12/10/23	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	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
06:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
08:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
09:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
10:00	0	2	1	3	1	1	1	0	0	0	0	0	0	0	9
11:00	0	1	2	1	1	0	0	0	0	0	0	0	0	0	5
12 PM	0	1	1	2	5	1	1	0	0	0	0	0	0	0	11
13:00	0	2	0	3	0	3	0	0	0	0	0	0	0	0	8
14:00	0	7	2	4	1	0	0	0	0	0	0	0	0	0	14
15:00	0	2	3	1	2	0	0	0	0	0	0	0	0	0	8
16:00	0	0	1	1	4	0	0	0	0	0	0	0	0	0	6
17:00	1	2	4	2	0	0	0	0	0	0	0	0	0	0	9
18:00	1	2	1	4	1	0	0	0	0	0	0	0	0	0	9
19:00	3	2	1	1	2	0	0	0	0	0	0	0	0	0	9
20:00	2	1	1	2	0	0	0	0	0	0	0	0	0	0	6
21:00	0	1	1	2	0	0	0	0	0	0	0	0	0	0	4
22:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
23:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
Total	7	25	18	30	22	5	2	0	0	0	0	0	0	0	109

Daily

15th Percentile : 16 MPH
50th Percentile : 25 MPH
85th Percentile : 32 MPH
95th Percentile : 36 MPH

Statistics

Mean Speed(Average) : 25 MPH
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 52
Percent in Pace : 47.7%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
Grissom Road
B/ Wilkes Place - Velasquez Road
4 Day Directional Speed Survey

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

LHS003
Site Code: 241-231173

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
12/11/23	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	1	0	0	1	0	0	0	0	0	0	0	0	0	2
06:00	0	1	2	2	0	0	0	0	0	0	0	0	0	0	5
07:00	0	0	3	4	4	1	0	0	0	0	0	0	0	0	12
08:00	0	1	4	7	6	2	1	0	0	0	0	0	0	0	21
09:00	0	0	3	2	0	0	0	0	0	0	0	0	0	0	5
10:00	1	0	4	4	2	1	0	0	0	0	0	0	0	0	12
11:00	1	0	4	2	1	1	0	0	0	0	0	0	0	0	9
12 PM	2	1	4	4	3	2	0	0	0	0	0	0	0	0	16
13:00	1	1	5	5	1	1	0	0	0	0	0	0	0	0	14
14:00	0	1	3	7	3	2	1	0	0	0	0	0	0	0	17
15:00	0	0	2	6	3	0	0	0	0	0	0	0	0	0	11
16:00	0	1	6	3	2	0	0	0	0	0	0	0	0	0	12
17:00	2	1	2	5	2	0	0	0	0	0	0	0	0	0	12
18:00	0	3	2	4	0	1	0	0	0	0	0	0	0	0	10
19:00	0	1	2	3	3	0	0	0	0	0	0	0	0	0	9
20:00	1	0	4	0	2	0	0	0	0	0	0	0	0	0	7
21:00	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
22:00	0	1	3	0	1	0	0	0	0	0	0	0	0	0	5
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	8	13	53	61	35	11	2	0	0	0	0	0	0	0	183

Daily
15th Percentile : 20 MPH
50th Percentile : 26 MPH
85th Percentile : 32 MPH
95th Percentile : 36 MPH

Statistics
Mean Speed(Average) : 27 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 114
Percent in Pace : 62.3%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

City of Laguna Hills
Grissom Road
B/ Wilkes Place - Velasquez Road
4 Day Directional Speed Survey
Eastbound, Westbound

LHS003
Site Code: 241-231173

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
12/08/23	0	0	1	0	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	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	1	0	0	0	0	0	0	0	0	0	2
05:00	0	0	3	0	1	0	0	0	0	0	0	0	0	0	4
06:00	0	0	2	2	1	0	1	0	0	0	0	0	0	0	6
07:00	2	2	7	7	3	3	0	0	0	0	0	0	0	0	24
08:00	1	6	9	12	13	2	1	1	0	0	0	0	0	0	45
09:00	0	1	3	8	2	1	1	0	0	0	0	0	0	0	16
10:00	1	3	6	6	3	1	0	0	0	0	0	0	0	0	20
11:00	0	1	9	8	2	4	0	1	0	0	0	0	0	0	25
12 PM	2	1	7	9	8	1	0	0	0	0	0	0	0	0	28
13:00	1	2	6	4	4	0	0	0	0	0	0	0	0	0	17
14:00	0	3	15	17	5	0	2	0	0	0	0	0	0	0	42
15:00	1	1	5	10	8	1	0	0	0	0	0	0	0	0	26
16:00	1	4	9	7	2	1	0	0	0	0	0	0	0	0	24
17:00	1	5	7	11	3	0	0	0	0	0	0	0	0	0	27
18:00	1	4	2	6	4	0	1	0	0	0	0	0	0	0	18
19:00	1	2	1	4	0	4	1	1	0	0	0	0	0	0	14
20:00	3	6	4	7	2	0	0	0	0	0	0	0	0	0	22
21:00	2	0	4	2	1	0	0	0	0	0	0	0	0	0	9
22:00	0	0	4	7	0	0	0	0	0	0	0	0	0	0	11
23:00	2	1	3	0	2	0	0	0	0	0	0	0	0	0	8
Total	19	42	107	128	65	18	7	3	0	0	0	0	0	0	389

Daily
15th Percentile : 19 MPH
50th Percentile : 26 MPH
85th Percentile : 32 MPH
95th Percentile : 37 MPH

Statistics
Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 235
Percent in Pace : 60.4%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
 Grissom Road
 B/ Wilkes Place - Velasquez Road
 4 Day Directional Speed Survey
 Eastbound, Westbound

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

LHS003
 Site Code: 241-231173

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
12/09/23	0	0	1	1	2	0	0	1	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	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	1	1	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
06:00	1	0	1	2	0	0	0	0	0	0	0	0	0	0	4
07:00	1	1	2	1	0	0	0	1	0	0	0	0	0	0	6
08:00	0	2	4	5	3	1	0	0	0	0	0	0	0	0	15
09:00	2	2	2	5	1	0	0	1	0	0	0	0	0	0	13
10:00	0	1	4	9	2	0	1	0	0	0	0	0	0	0	17
11:00	1	2	8	4	5	2	0	1	0	0	0	0	0	0	23
12 PM	1	3	3	10	2	0	1	0	0	0	0	0	0	0	20
13:00	3	2	5	8	6	2	0	0	0	0	0	0	0	0	26
14:00	0	1	1	8	3	1	0	0	0	0	0	0	0	0	14
15:00	0	2	6	7	2	0	0	1	0	0	0	0	0	0	18
16:00	0	4	6	5	3	2	0	2	0	0	0	0	0	0	22
17:00	2	2	8	3	1	0	0	0	0	0	0	0	0	0	16
18:00	3	2	8	5	4	0	0	0	0	0	0	0	0	0	22
19:00	2	3	3	4	0	0	0	0	0	0	0	0	0	0	12
20:00	0	4	8	4	0	0	0	0	0	0	0	0	0	0	16
21:00	0	3	2	1	1	1	0	0	0	0	0	0	0	0	8
22:00	0	2	7	3	0	1	0	0	0	0	0	0	0	0	13
23:00	0	0	4	0	1	0	0	0	0	0	0	0	0	0	5
Total	16	37	85	85	37	10	2	7	0	0	0	0	0	0	279

Daily
 15th Percentile : 18 MPH
 50th Percentile : 25 MPH
 85th Percentile : 31 MPH
 95th Percentile : 37 MPH

Statistics
 Mean Speed(Average) : 26 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 170
 Percent in Pace : 60.9%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

City of Laguna Hills
Grissom Road
B/ Wilkes Place - Velasquez Road
4 Day Directional Speed Survey
Eastbound, Westbound

LHS003
Site Code: 241-231173

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
12/10/23	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	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
06:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
07:00	0	1	1	1	1	0	0	0	0	0	0	0	0	0	4
08:00	0	1	2	1	3	1	0	0	0	0	0	0	0	0	8
09:00	0	1	2	2	1	1	0	0	0	0	0	0	0	0	7
10:00	1	4	3	6	3	2	1	0	0	0	0	0	0	0	20
11:00	1	1	3	1	1	0	0	0	0	0	0	0	0	0	7
12 PM	1	2	4	8	7	1	2	0	0	0	0	0	0	0	25
13:00	0	4	0	6	3	4	0	0	0	0	0	0	0	0	17
14:00	0	8	7	5	4	1	0	0	0	0	0	0	0	0	25
15:00	1	2	7	2	4	0	0	0	0	0	0	0	0	0	16
16:00	0	1	3	3	4	0	0	0	0	0	0	0	0	0	11
17:00	3	3	7	5	0	0	0	0	0	0	0	0	0	0	18
18:00	1	2	3	5	1	0	0	0	0	0	0	0	0	0	12
19:00	4	2	4	4	3	0	0	0	0	0	0	0	0	0	17
20:00	4	1	3	2	1	0	0	0	0	0	0	0	0	0	11
21:00	0	2	1	3	1	0	0	0	0	0	0	0	0	0	7
22:00	1	0	0	1	1	0	0	0	0	0	0	0	0	0	3
23:00	0	2	0	1	0	0	0	0	0	0	0	0	0	0	3
Total	17	38	50	57	40	10	3	0	0	0	0	0	0	0	215

Daily
15th Percentile : 17 MPH
50th Percentile : 25 MPH
85th Percentile : 32 MPH
95th Percentile : 36 MPH

Statistics
Mean Speed(Average) : 25 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 107
Percent in Pace : 49.8%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
 Grissom Road
 B/ Wilkes Place - Velasquez Road
 4 Day Directional Speed Survey
 Eastbound, Westbound

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

LHS003
 Site Code: 241-231173

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
12/11/23	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	1	1	1	2	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	1	2	6	6	6	1	0	0	0	0	0	0	0	0	22
08:00	1	6	12	17	9	2	1	0	0	0	0	0	0	0	48
09:00	0	2	5	2	1	0	0	0	0	0	0	0	0	0	10
10:00	2	1	9	10	2	1	0	0	0	0	0	0	0	0	25
11:00	2	2	9	4	2	1	0	0	0	0	0	0	0	0	20
12 PM	5	3	7	9	5	2	0	0	0	0	0	0	0	0	31
13:00	1	4	7	7	2	1	0	0	0	0	0	0	0	0	22
14:00	1	4	5	18	3	2	1	0	0	0	0	0	0	0	34
15:00	0	1	10	12	4	0	0	0	0	0	0	0	0	0	27
16:00	1	2	12	5	2	0	0	0	0	0	0	0	0	0	22
17:00	5	4	5	7	4	0	0	0	0	0	0	0	0	0	25
18:00	3	7	6	7	0	1	0	0	0	0	0	0	0	0	24
19:00	0	2	5	5	3	0	0	0	0	0	0	0	0	0	15
20:00	1	1	6	2	2	0	0	0	0	0	0	0	0	0	12
21:00	0	1	1	2	1	0	0	0	0	0	0	0	0	0	5
22:00	0	1	3	0	1	0	0	0	0	0	0	0	0	0	5
23:00	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
Total	23	46	114	118	50	11	2	0	0	0	0	0	0	0	364

Daily
 15th Percentile : 18 MPH
 50th Percentile : 24 MPH
 85th Percentile : 30 MPH
 95th Percentile : 34 MPH

Statistics
 Mean Speed(Average) : 25 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 232
 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
Grissom Road
B/ Velasquez Road - Las Bolsas Street
4 Day Directional Speed Survey

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

LHS002
Site Code: 241-231173

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
12/08/23	0	0	1	0	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	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	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	1	2	1	2	0	0	0	0	0	0	0	0	0	0	6
07:00	2	6	7	5	1	1	0	0	0	0	0	0	0	0	22
08:00	0	4	22	7	1	0	0	0	0	0	0	0	0	0	34
09:00	0	1	3	1	0	0	0	0	0	0	0	0	0	0	5
10:00	1	4	0	5	1	0	0	0	0	0	0	0	0	0	11
11:00	0	3	4	2	0	0	0	0	0	0	0	0	0	0	9
12 PM	0	3	6	2	0	1	0	0	0	0	0	0	0	0	12
13:00	1	4	2	2	1	1	0	0	0	0	0	0	0	0	11
14:00	3	3	8	7	1	0	0	0	0	0	0	0	0	0	22
15:00	3	3	7	3	1	0	0	0	0	0	0	0	0	0	17
16:00	2	11	8	2	0	0	0	0	0	0	0	0	0	0	23
17:00	3	3	8	2	0	0	0	0	0	0	0	0	0	0	16
18:00	2	2	3	0	1	0	0	0	0	0	0	0	0	0	8
19:00	1	1	2	0	1	0	0	0	0	0	0	0	0	0	5
20:00	2	2	1	0	0	0	0	0	0	0	0	0	0	0	5
21:00	1	2	3	0	0	0	0	0	0	0	0	0	0	0	6
22:00	0	2	3	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	22	57	91	40	8	3	0	0	0	0	0	0	0	0	221

Daily
15th Percentile : 15 MPH
50th Percentile : 21 MPH
85th Percentile : 27 MPH
95th Percentile : 29 MPH

Statistics
Mean Speed(Average) : 22 MPH
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 148
Percent in Pace : 67.0%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
Grissom Road
B/ Velasquez Road - Las Bolsas Street
4 Day Directional Speed Survey

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

LHS002
Site Code: 241-231173

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
12/09/23	0	0	1	0	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	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	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
07:00	0	0	4	3	1	0	0	0	0	0	0	0	0	0	8
08:00	0	4	4	2	0	0	0	0	0	0	0	0	0	0	10
09:00	0	2	10	5	4	0	0	0	0	0	0	0	0	0	21
10:00	1	2	4	3	0	0	0	0	0	0	0	0	0	0	10
11:00	0	1	3	6	0	0	0	0	0	0	0	0	0	0	10
12 PM	0	3	4	4	0	0	0	0	0	0	0	0	0	0	11
13:00	1	4	6	3	0	1	0	0	0	0	0	0	0	0	15
14:00	1	1	4	4	0	0	0	0	0	0	0	0	0	0	10
15:00	1	1	5	4	1	0	0	0	0	0	0	0	0	0	12
16:00	1	6	1	0	0	0	0	0	0	0	0	0	0	0	8
17:00	3	1	1	1	0	0	0	0	0	0	0	0	0	0	6
18:00	3	3	2	0	0	0	0	0	0	0	0	0	0	0	8
19:00	2	0	1	1	1	0	0	0	0	0	0	0	0	0	5
20:00	3	3	3	0	0	0	0	0	0	0	0	0	0	0	9
21:00	2	2	1	0	0	0	0	0	0	0	0	0	0	0	5
22:00	1	1	1	0	1	0	0	0	0	0	0	0	0	0	4
23:00	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4
Total	19	34	59	38	8	2	0	0	0	0	0	0	0	0	160

Daily
15th Percentile : 15 MPH
50th Percentile : 22 MPH
85th Percentile : 28 MPH
95th Percentile : 31 MPH

Statistics
Mean Speed(Average) : 22 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 97
Percent in Pace : 60.6%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
Grissom Road
B/ Velasquez Road - Las Bolsas Street
4 Day Directional Speed Survey

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

LHS002
Site Code: 241-231173

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
12/10/23	0	2	0	0	0	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	1	0	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	1	1	0	0	0	0	0	0	0	0	0	0	2
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3
07:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
09:00	1	1	6	4	1	0	0	0	0	0	0	0	0	0	13
10:00	1	4	4	2	0	0	0	0	0	0	0	0	0	0	11
11:00	0	4	1	1	0	0	0	0	0	0	0	0	0	0	6
12 PM	0	1	5	5	0	0	0	0	0	0	0	0	0	0	11
13:00	1	2	5	6	0	1	0	0	0	0	0	0	0	0	15
14:00	2	6	8	1	1	0	0	0	0	0	0	0	0	0	18
15:00	2	7	6	3	1	0	0	0	0	0	0	0	0	0	19
16:00	1	3	5	1	0	0	0	0	0	0	0	0	0	0	10
17:00	2	1	3	0	0	0	0	0	0	0	0	0	0	0	6
18:00	0	1	3	1	0	0	0	0	0	0	0	0	0	0	5
19:00	0	0	4	1	0	0	0	0	0	0	0	0	0	0	5
20:00	2	0	2	0	0	0	0	0	0	0	0	0	0	0	4
21:00	2	0	2	1	0	0	0	0	0	0	0	0	0	0	5
22:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	17	34	61	30	3	1	0	0	0	0	0	0	0	0	146

Daily
15th Percentile : 15 MPH
50th Percentile : 21 MPH
85th Percentile : 27 MPH
95th Percentile : 29 MPH

Statistics
Mean Speed(Average) : 21 MPH
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 95
Percent in Pace : 65.1%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
Grissom Road
B/ Velasquez Road - Las Bolsas Street
4 Day Directional Speed Survey

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

LHS002
Site Code: 241-231173

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
12/11/23	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	1	0	0	0	0	0	0	0	0	2
05:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
06:00	1	5	4	0	0	0	0	0	0	0	0	0	0	0	10
07:00	2	1	4	0	1	0	0	0	0	0	0	0	0	0	8
08:00	1	6	11	14	1	0	0	0	0	0	0	0	0	0	33
09:00	1	4	3	4	0	0	0	0	0	0	0	0	0	0	12
10:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
11:00	5	3	4	3	0	0	0	0	0	0	0	0	0	0	15
12 PM	2	2	6	4	0	0	0	0	0	0	0	0	0	0	14
13:00	1	5	7	3	0	0	0	0	0	0	0	0	0	0	16
14:00	2	7	7	5	2	0	0	0	0	0	0	0	0	0	23
15:00	0	2	4	5	1	0	0	0	0	0	0	0	0	0	12
16:00	3	1	6	3	0	0	0	0	0	0	0	0	0	0	13
17:00	1	3	7	0	1	0	0	0	0	0	0	0	0	0	12
18:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
19:00	1	2	3	0	0	0	0	0	0	0	0	0	0	0	6
20:00	1	1	1	1	0	0	0	0	0	0	0	0	0	0	4
21:00	1	2	1	1	0	0	0	0	0	0	0	0	0	0	5
22:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	22	51	73	46	6	1	0	0	0	0	0	0	0	0	199

Daily
15th Percentile : 15 MPH
50th Percentile : 21 MPH
85th Percentile : 27 MPH
95th Percentile : 29 MPH

Statistics
Mean Speed(Average) : 22 MPH
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 124
Percent in Pace : 62.3%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
Grissom Road
B/ Velasquez Road - Las Bolsas Street
4 Day Directional Speed Survey

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

LHS002
Site Code: 241-231173

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
12/08/23	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	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	1	2	0	2	0	0	0	0	0	0	0	0	0	0	5
07:00	4	6	2	1	0	0	0	0	0	0	0	0	0	0	13
08:00	1	3	5	4	2	0	0	0	0	0	0	0	0	0	15
09:00	0	2	3	5	0	0	0	0	0	0	0	0	0	0	10
10:00	0	3	1	5	0	0	0	0	0	0	0	0	0	0	9
11:00	1	2	2	5	2	1	0	0	0	0	0	0	0	0	13
12 PM	0	4	1	5	2	0	0	0	0	0	0	0	0	0	12
13:00	2	3	4	6	2	0	0	0	0	0	0	0	0	0	17
14:00	0	5	7	5	3	1	0	0	0	0	0	0	0	0	21
15:00	1	4	5	3	2	0	0	0	0	0	0	0	0	0	15
16:00	2	5	4	0	3	1	0	0	0	0	0	0	0	0	15
17:00	4	7	5	3	1	0	0	0	0	0	0	0	0	0	20
18:00	2	1	3	2	0	0	0	0	0	0	0	0	0	0	8
19:00	2	5	4	3	2	0	0	0	0	0	0	0	0	0	16
20:00	1	5	1	1	1	0	0	0	0	0	0	0	0	0	9
21:00	2	1	4	1	0	0	0	0	0	0	0	0	0	0	8
22:00	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3
23:00	2	0	1	0	0	0	1	0	0	0	0	0	0	0	4
Total	25	60	53	52	20	3	1	0	0	0	0	0	0	0	214

Daily
15th Percentile : 15 MPH
50th Percentile : 22 MPH
85th Percentile : 29 MPH
95th Percentile : 33 MPH

Statistics
Mean Speed(Average) : 22 MPH
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 113
Percent in Pace : 52.8%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
Grissom Road
B/ Velasquez Road - Las Bolsas Street
4 Day Directional Speed Survey

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

LHS002
Site Code: 241-231173

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
12/09/23	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	1	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	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00	1	0	1	0	1	0	0	0	0	0	0	0	0	0	3
08:00	1	3	4	0	0	1	0	0	0	0	0	0	0	0	9
09:00	0	5	2	1	2	1	0	0	0	0	0	0	0	0	11
10:00	0	2	5	5	0	0	0	0	0	0	0	0	0	0	12
11:00	0	2	1	6	0	0	0	0	0	0	0	0	0	0	9
12 PM	0	1	4	3	1	0	0	0	0	0	0	0	0	0	9
13:00	1	2	9	7	0	0	0	0	0	0	0	0	0	0	19
14:00	1	0	3	5	2	0	0	0	0	0	0	0	0	0	11
15:00	1	3	2	4	2	0	0	0	0	0	0	0	0	0	12
16:00	1	2	2	1	1	0	0	0	0	0	0	0	0	0	7
17:00	0	6	3	2	0	0	0	0	0	0	0	0	0	0	11
18:00	1	2	3	3	1	0	0	0	0	0	0	0	0	0	10
19:00	1	2	1	1	0	0	0	0	0	0	0	0	0	0	5
20:00	0	1	2	3	0	0	0	0	0	0	0	0	0	0	6
21:00	1	0	2	2	0	0	0	0	0	0	0	0	0	0	5
22:00	0	3	3	1	1	0	0	0	0	0	0	0	0	0	8
23:00	1	0	2	1	0	0	0	0	0	0	0	0	0	0	4
Total	11	34	49	45	11	2	1	0	0	0	0	0	0	0	153

Daily
15th Percentile : 16 MPH
50th Percentile : 23 MPH
85th Percentile : 29 MPH
95th Percentile : 32 MPH

Statistics
Mean Speed(Average) : 23 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 94
Percent in Pace : 61.4%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
Grissom Road
B/ Velasquez Road - Las Bolsas Street
4 Day Directional Speed Survey

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

LHS002
Site Code: 241-231173

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
12/10/23	0	2	0	0	0	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	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	0	0	0	0	0	0	0	0	0	0	0	0
06:00	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3
07:00	1	0	1	1	0	0	0	0	0	0	0	0	0	0	3
08:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
09:00	1	2	3	1	1	0	0	0	0	0	0	0	0	0	8
10:00	2	1	3	2	1	1	0	0	0	0	0	0	0	0	10
11:00	1	2	5	4	2	0	0	0	0	0	0	0	0	0	14
12 PM	2	2	5	3	2	0	0	0	0	0	0	0	0	0	14
13:00	1	5	8	3	2	0	0	0	0	0	0	0	0	0	19
14:00	1	5	4	4	0	1	0	0	0	0	0	0	0	0	15
15:00	4	4	6	7	0	1	0	0	0	0	0	0	0	0	22
16:00	1	0	3	0	1	0	0	0	0	0	0	0	0	0	5
17:00	2	1	5	0	0	0	0	0	0	0	0	0	0	0	8
18:00	1	4	0	1	0	0	0	0	0	0	0	0	0	0	6
19:00	3	1	1	1	0	0	0	0	0	0	0	0	0	0	6
20:00	3	2	0	2	0	0	0	0	0	0	0	0	0	0	7
21:00	0	2	1	3	1	0	0	0	0	0	0	0	0	0	7
22:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	25	35	47	33	10	3	0	0	0	0	0	0	0	0	153

Daily
15th Percentile : 13 MPH
50th Percentile : 21 MPH
85th Percentile : 28 MPH
95th Percentile : 32 MPH

Statistics
Mean Speed(Average) : 21 MPH
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 82
Percent in Pace : 53.6%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
Grissom Road
B/ Velasquez Road - Las Bolsas Street
4 Day Directional Speed Survey

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

LHS002
Site Code: 241-231173

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
12/11/23	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	1	0	1	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	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3
06:00	4	1	1	0	0	0	0	0	0	0	0	0	0	0	6
07:00	2	4	5	1	0	0	0	0	0	0	0	0	0	0	12
08:00	2	7	3	0	0	0	0	0	0	0	0	0	0	0	12
09:00	1	2	2	6	0	0	0	0	0	0	0	0	0	0	11
10:00	1	1	3	3	2	0	0	0	0	0	0	0	0	0	10
11:00	2	1	1	3	2	0	0	0	0	0	0	0	0	0	9
12 PM	2	0	4	2	1	0	0	0	0	0	0	0	0	0	9
13:00	2	4	6	5	3	1	0	0	0	0	0	0	0	0	21
14:00	3	2	1	11	7	0	0	0	0	0	0	0	0	0	24
15:00	3	3	7	6	0	0	0	0	0	0	0	0	0	0	19
16:00	1	6	9	4	2	0	0	0	0	0	0	0	0	0	22
17:00	5	9	8	4	0	0	0	0	0	0	0	0	0	0	26
18:00	2	3	2	0	1	0	0	0	0	0	0	0	0	0	8
19:00	3	1	1	1	1	0	0	0	0	0	0	0	0	0	7
20:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
21:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
22:00	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
23:00	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3
Total	35	49	58	50	19	1	0	0	0	0	0	0	0	0	212

Daily
15th Percentile : 13 MPH
50th Percentile : 21 MPH
85th Percentile : 28 MPH
95th Percentile : 32 MPH

Statistics
Mean Speed(Average) : 22 MPH
10 MPH Pace Speed : 19-28 MPH
Number in Pace : 108
Percent in Pace : 50.9%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :

Counts Unlimited, Inc.

City of Laguna Hills
 Grissom Road
 B/ Velasquez Road - Las Bolsas Street
 4 Day Directional Speed Survey
 Eastbound, Westbound

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

LHS002
 Site Code: 241-231173

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
12/08/23	0	0	1	0	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	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	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:00	2	4	1	4	0	0	0	0	0	0	0	0	0	0	11
07:00	6	12	9	6	1	1	0	0	0	0	0	0	0	0	35
08:00	1	7	27	11	3	0	0	0	0	0	0	0	0	0	49
09:00	0	3	6	6	0	0	0	0	0	0	0	0	0	0	15
10:00	1	7	1	10	1	0	0	0	0	0	0	0	0	0	20
11:00	1	5	6	7	2	1	0	0	0	0	0	0	0	0	22
12 PM	0	7	7	7	2	1	0	0	0	0	0	0	0	0	24
13:00	3	7	6	8	3	1	0	0	0	0	0	0	0	0	28
14:00	3	8	15	12	4	1	0	0	0	0	0	0	0	0	43
15:00	4	7	12	6	3	0	0	0	0	0	0	0	0	0	32
16:00	4	16	12	2	3	1	0	0	0	0	0	0	0	0	38
17:00	7	10	13	5	1	0	0	0	0	0	0	0	0	0	36
18:00	4	3	6	2	1	0	0	0	0	0	0	0	0	0	16
19:00	3	6	6	3	3	0	0	0	0	0	0	0	0	0	21
20:00	3	7	2	1	1	0	0	0	0	0	0	0	0	0	14
21:00	3	3	7	1	0	0	0	0	0	0	0	0	0	0	14
22:00	0	3	4	1	0	0	0	0	0	0	0	0	0	0	8
23:00	2	0	2	0	0	0	1	0	0	0	0	0	0	0	5
Total	47	117	144	92	28	6	1	0	0	0	0	0	0	0	435

Daily
 15th Percentile : 15 MPH
 50th Percentile : 21 MPH
 85th Percentile : 28 MPH
 95th Percentile : 32 MPH

Statistics
 Mean Speed(Average) : 22 MPH
 10 MPH Pace Speed : 16-25 MPH
 Number in Pace : 261
 Percent in Pace : 60.0%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Counts Unlimited, Inc.

City of Laguna Hills
 Grissom Road
 B/ Velasquez Road - Las Bolsas Street
 4 Day Directional Speed Survey
 Eastbound, Westbound

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

LHS002
 Site Code: 241-231173

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
12/09/23	0	0	1	0	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	0	0	0	0	1	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	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	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
07:00	1	0	5	3	2	0	0	0	0	0	0	0	0	0	11
08:00	1	7	8	2	0	1	0	0	0	0	0	0	0	0	19
09:00	0	7	12	6	6	1	0	0	0	0	0	0	0	0	32
10:00	1	4	9	8	0	0	0	0	0	0	0	0	0	0	22
11:00	0	3	4	12	0	0	0	0	0	0	0	0	0	0	19
12 PM	0	4	8	7	1	0	0	0	0	0	0	0	0	0	20
13:00	2	6	15	10	0	1	0	0	0	0	0	0	0	0	34
14:00	2	1	7	9	2	0	0	0	0	0	0	0	0	0	21
15:00	2	4	7	8	3	0	0	0	0	0	0	0	0	0	24
16:00	2	8	3	1	1	0	0	0	0	0	0	0	0	0	15
17:00	3	7	4	3	0	0	0	0	0	0	0	0	0	0	17
18:00	4	5	5	3	1	0	0	0	0	0	0	0	0	0	18
19:00	3	2	2	2	1	0	0	0	0	0	0	0	0	0	10
20:00	3	4	5	3	0	0	0	0	0	0	0	0	0	0	15
21:00	3	2	3	2	0	0	0	0	0	0	0	0	0	0	10
22:00	1	4	4	1	2	0	0	0	0	0	0	0	0	0	12
23:00	1	0	4	3	0	0	0	0	0	0	0	0	0	0	8
Total	30	68	108	83	19	4	1	0	0	0	0	0	0	0	313

Daily
 15th Percentile : 16 MPH
 50th Percentile : 22 MPH
 85th Percentile : 28 MPH
 95th Percentile : 32 MPH

Statistics
 Mean Speed(Average) : 23 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 191
 Percent in Pace : 61.0%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Counts Unlimited, Inc.

City of Laguna Hills
 Grissom Road
 B/ Velasquez Road - Las Bolsas Street
 4 Day Directional Speed Survey
 Eastbound, Westbound

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

LHS002
 Site Code: 241-231173

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
12/10/23	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	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	1	1	0	0	0	0	0	0	0	0	0	0	2
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	2	1	2	1	0	0	0	0	0	0	0	0	0	0	6
07:00	4	0	1	1	0	0	0	0	0	0	0	0	0	0	6
08:00	0	2	3	1	0	0	0	0	0	0	0	0	0	0	6
09:00	2	3	9	5	2	0	0	0	0	0	0	0	0	0	21
10:00	3	5	7	4	1	1	0	0	0	0	0	0	0	0	21
11:00	1	6	6	5	2	0	0	0	0	0	0	0	0	0	20
12 PM	2	3	10	8	2	0	0	0	0	0	0	0	0	0	25
13:00	2	7	13	9	2	1	0	0	0	0	0	0	0	0	34
14:00	3	11	12	5	1	1	0	0	0	0	0	0	0	0	33
15:00	6	11	12	10	1	1	0	0	0	0	0	0	0	0	41
16:00	2	3	8	1	1	0	0	0	0	0	0	0	0	0	15
17:00	4	2	8	0	0	0	0	0	0	0	0	0	0	0	14
18:00	1	5	3	2	0	0	0	0	0	0	0	0	0	0	11
19:00	3	1	5	2	0	0	0	0	0	0	0	0	0	0	11
20:00	5	2	2	2	0	0	0	0	0	0	0	0	0	0	11
21:00	2	2	3	4	1	0	0	0	0	0	0	0	0	0	12
22:00	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	42	69	108	63	13	4	0	0	0	0	0	0	0	0	299

Daily
 15th Percentile : 15 MPH
 50th Percentile : 21 MPH
 85th Percentile : 27 MPH
 95th Percentile : 30 MPH

Statistics
 Mean Speed(Average) : 21 MPH
 10 MPH Pace Speed : 16-25 MPH
 Number in Pace : 177
 Percent in Pace : 59.2%
 Number of Vehicles > 55 MPH : 0
 Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400) :

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

City of Laguna Hills
Grissom Road
B/ Velasquez Road - Las Bolsas Street
4 Day Directional Speed Survey
Eastbound, Westbound

LHS002
Site Code: 241-231173

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
12/11/23	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	1	0	1	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	0	1	0	1	0	0	0	0	0	0	0	0	2
05:00	0	2	2	2	0	0	0	0	0	0	0	0	0	0	6
06:00	5	6	5	0	0	0	0	0	0	0	0	0	0	0	16
07:00	4	5	9	1	1	0	0	0	0	0	0	0	0	0	20
08:00	3	13	14	14	1	0	0	0	0	0	0	0	0	0	45
09:00	2	6	5	10	0	0	0	0	0	0	0	0	0	0	23
10:00	1	3	5	3	2	0	0	0	0	0	0	0	0	0	14
11:00	7	4	5	6	2	0	0	0	0	0	0	0	0	0	24
12 PM	4	2	10	6	1	0	0	0	0	0	0	0	0	0	23
13:00	3	9	13	8	3	1	0	0	0	0	0	0	0	0	37
14:00	5	9	8	16	9	0	0	0	0	0	0	0	0	0	47
15:00	3	5	11	11	1	0	0	0	0	0	0	0	0	0	31
16:00	4	7	15	7	2	0	0	0	0	0	0	0	0	0	35
17:00	6	12	15	4	1	0	0	0	0	0	0	0	0	0	38
18:00	2	5	4	0	1	0	0	0	0	0	0	0	0	0	12
19:00	4	3	4	1	1	0	0	0	0	0	0	0	0	0	13
20:00	1	2	2	1	0	0	0	0	0	0	0	0	0	0	6
21:00	1	5	2	1	0	0	0	0	0	0	0	0	0	0	9
22:00	1	1	0	2	0	0	0	0	0	0	0	0	0	0	4
23:00	0	1	1	2	0	0	0	0	0	0	0	0	0	0	4
Total	57	100	131	96	25	2	0	0	0	0	0	0	0	0	411

Daily
15th Percentile : 15 MPH
50th Percentile : 21 MPH
85th Percentile : 28 MPH
95th Percentile : 31 MPH

Statistics
Mean Speed(Average) : 22 MPH
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 231
Percent in Pace : 56.2%
Number of Vehicles > 55 MPH : 0
Percent of Vehicles > 55 MPH : 0.0%

Attachment: Counts Unlimited Speed Survey December 8, 2023 through December 12, 2023 (3400 :



City of Laguna Hills

Traffic Commission

Staff Report

DATE: January 17, 2024
TO: Traffic Commissioners
FROM: Joe Ames
Public Works Director/City Engineer
ISSUE: Studying the Implementation of Overnight Parking Restrictions Within North Laguna Hills and the Urban Village Specific Plan Areas

RECOMMENDATION: That the Traffic Commission: 1) Receive a presentation from Vice Chair Patel; and 2) Provide direction to the City Engineer on this request.

SUMMARY:

Vice Chair Neel Patel requested that the City Engineer place on the January 17, 2024, Traffic Commission meeting agenda a request to study the implementation of overnight parking restrictions within North Laguna Hills and the Urban Village Specific Plan (UVSP) areas. Studying this would require legal research and consultation with the City Attorney. Because the City Attorney is a contract attorney and his work requests must be prioritized, the City Engineer is requesting to receive direction from the majority of the Traffic Commission as to whether to direct the City Engineer to request that the City Attorney research and study the issue further.

BACKGROUND:

One part of the request, studying the implementation of overnight parking restrictions within the UVSP, would require consultation with the City Attorney's office because this part of the request affects mostly privately-controlled streets and the City Engineer has no knowledge of any laws that would allow for control over privately-controlled streets in this manner.

Studying the Implementation of Overnight Parking Restrictions

January 17, 2024

Page 2

For example, Chapter 9-44, Access & Parking, within Title 9, Zoning, of the Municipal Code states:

9-44.010 Purpose and intent.

Access and parking regulations are intended to ensure that all land uses provide safe access and on-site circulation with adequate off-street parking and loading facilities. These regulations also ensure that the use of land does not impact the safety, use, or vehicular circulation within the public right-of-way. (Ord. 98-8 § 2 (part); prior code § 9-26.010)

Therefore, City staff is usually concerned with ensuring that enough parking is available on-site to not impact public streets, and consequently, not with controlling the time(s) that private parking may be used on-site.

The only public streets in the UVSP are Paseo de Valencia, Los Alisos Boulevard, Avenida de la Carlota, and El Toro Road. The interior streets are privately-owned and privately-controlled.

The only public street that allows for overnight street parking is Los Alisos Boulevard next to the SoFi Apartments. That street has No Parking on Tuesdays for street sweeping. The other public streets do not allow for street parking.

Therefore, because studying this request would involve legal research by the City Attorney and such work requests must be prioritized, the City Engineer is requesting to receive direction from the majority of the Traffic Commission as to whether to direct the City Engineer to request that the City Attorney research and study the issue further.



City of Laguna Hills

Traffic Commission

Staff Report

DATE: January 17, 2024
TO: Traffic Commissioners
FROM: Joe Ames
Public Works Director/City Engineer
ISSUE: Studying a Change to the Residential Permit Parking Program that Would Reduce Guest Permit Parking Passes from Four Permits to One Permit Per Household

RECOMMENDATION: That the Traffic Commission: 1) Receive a presentation from Vice Chair Patel; and 2) Provide direction to the City Engineer on this request.

SUMMARY:

Vice Chair Neel Patel requested that the City Engineer place on the January 17, 2024, Traffic Commission meeting agenda a request to study a change to the Residential Permit Parking Program that would reduce guest permit parking passes from four permits to one permit per household. Studying this would require legal research and consultation with the City Attorney. Because the City Attorney is a contract attorney and his work requests must be prioritized, the City Engineer is requesting to receive direction from the majority of the Traffic Commission as to whether to direct the City Engineer to request that the City Attorney research and study the issue further.

BACKGROUND:

The procedures for administration of the Residential Permit Parking Program are embedded in Ordinance 94-4 and cite the allowable number guest permit parking passes which may be issued. Additionally, all of the permit parking districts that have already been approved were approved by individual ordinances that cite Ordinance 94-4 which provides for four guest parking permits. The original petitions for permit parking

Studying a Change to the Residential Permit Parking Program

January 17, 2024

Page 2

also include information that four guest parking passes can be issued per household participating in the Program.

Therefore, because studying this request would involve legal research by the City Attorney and such work requests must be prioritized, the City Engineer is requesting to receive direction from the majority of the Traffic Commission as to whether to direct the City Engineer to request that the City Attorney research and study the issue further.