Rancho Minerva Middle School
SAFE ROUTE TO SCHOOL

Prepared for:

CITY OF VISTA
CALIFORNIA

Prepared By:

KOA

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Section 1 – Introduction

Background

Over the years, the City of Vista has received concerns from residents and parents regarding the safety of school children walking and bicycling to school along the Vale Terrace Drive and Foothill Drive corridor which leads to Rancho Minerva Middle School. To provide options that will address these concerns this Rancho Minerva Middle School (RMMS) Safe Routes to School Plan will provide guidance on the priorities and actions needed to improve the infrastructure to accommodate all children walking and bicycling to school, including those with disabilities while providing traffic safety for movements by other modes, such as transit. This Safe Routes to School Plan is important in determining community values and needs, and in ultimately contributing to the success of transforming this corridor into a safe and comfortable place to be.

At its core, Safe Routes to School (SRTS) program is national movement that aims to make communities safer and more convenient for children to walk or bike to school. The SRTS program is intended to improve the health of students through increased exercise. It will help reduce greenhouse gas and emissions by reducing the number of vehicle miles traveled by increasing the number of students walking and cycling to school. The SRTS program is both a federal and California initiative to enhance walkability and bicycling for students, kindergarten through 8th grade, but is also beneficial for secondary students as well. The program promotes safe walking and cycling through six key components, often referred to as the six E's:

- Education – instruction in the benefits and opportunities of SRTS
- Encouragement – incentives for walking and biking to school
- Enforcement – methods for insuring compliance with regulations and ordinances
- Engineering – improvement of infrastructure to accommodate safe walking and biking
- Evaluation – comparison of pre-SRTS and post-plan implementation
- Equity – the support of SRTS improvements within low-income communities, communities of color

Partners

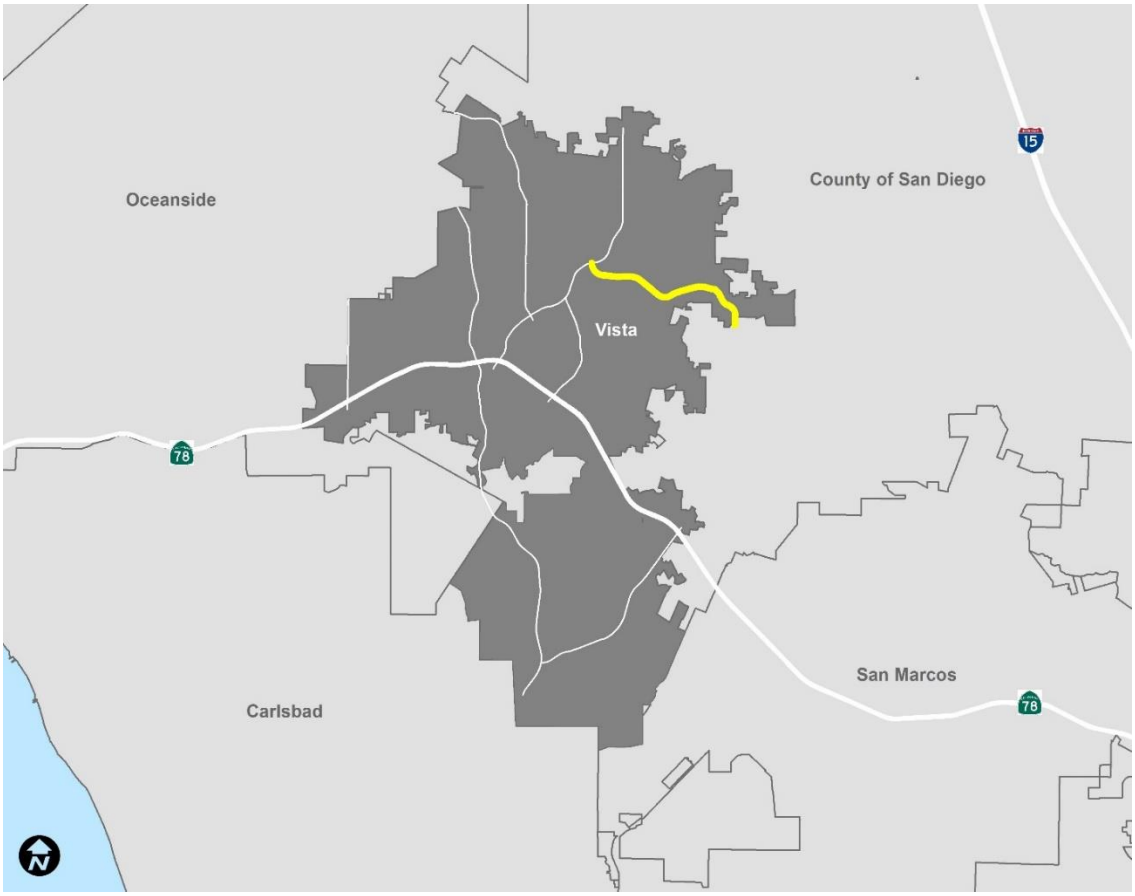
Strong partnerships create a necessary foundation for success. This Safe Routes to School Plan involved collaboration between the City of Vista, the Vista Unified School District (VUSD), Rancho Minerva School Staff and input from residents living along the corridor.

Study Area

The project studies the corridor comprised of Vale Terrace Drive and Foothill Drive that connect Rancho Minerva Middle School to E. Vista Way in Vista, California. Specifically, the study corridor

extends along Vale Terrace Drive from E. Vista Way to Foothill Drive and along Foothill Drive from Vale Terrace Drive to Foothill Ranch Lane, which is the city limit. The focus on this corridor is being made as it is an important school route that was identified as a critical need in the city's Safe Route to School Master Plan completed in 2016. The study corridor location is shown in Figure 1-1.

Figure 1-1 Corridor Location



Project Purpose

The Vale Terrace Drive and Foothill Drive corridor is used by school children from the RMMS for walking that experiences traffic issues such as speeding and crashes. The project will provide guidance for the priorities and actions needed to improve traffic safety while balancing various modes, such as transit and bicycle and pedestrian connectivity throughout the corridor.

This study will develop a conceptual complete street plan for Vale Terrace Drive and Foothill Drive corridor to address these project goals:

1. Creates a pedestrian and bicycle friendly environment
2. Improves access to schools and transit

3. Reduces vehicular speeds
4. Improves traffic safety
5. Improves public health

This report provides an analysis of existing travel conditions and a summary of community input. The analysis has led to conceptual development of pedestrian and bicycle enhancements geared towards encouraging the safe and convenient walking and biking in the study corridor. It is anticipated that the study report will be used to help establish priorities for infrastructure, signing, and marking improvements and will be used in support of grant applications for active transportation projects.

Planning Context

The study takes into consideration the City's previous planning efforts related to these corridors and its vicinity. The following reports provide useful planning context for this study's efforts.

General Plan Circulation Element, 2011

The Circulation Element of the City of Vista General Plan 2030 provides a guide for future circulation- and transportation-related decision making to achieve the community's Vision 2030. The City has stated as a goal to enhance the transportation safety, access, convenience and comfort for all users of all ages and abilities. The Circulation Element establishes a policy foundation that is described in goals and policies. These policies include developing an efficient bicycle and pedestrian circulation system that improves access and linkages in a manner that is human- scaled, bicycle and pedestrian oriented, and transit accessible and provides alternatives to the personal automobile.

The Circulation Element also defines a classification system of the street network. Vale Terrace Drive from E. Vista Way to Vale Terrace Place is classified as a two-lane collector street indicating a collector with a minimum of 70 feet of right of way. From Vale Terrace Place to Foothill Drive, Vale Terrace Drive is classified as two-lane light collector indicating a collector roadway within a narrower 60 foot right-of-way. Foothill Drive is classified as a Semi-Rural Street indicating a typical right of way width of 46 to 55 feet. Cross sections defined by the City of Vista for collectors include area for a travel shoulder and a parkway/sidewalk. The characteristics of a Semi-rural street are more flexible and include the consideration of multi-use trails and pedestrian paths instead of sidewalks to maintain the semi-rural character of the area.

Bicycle Master Plan, 2015

In 2015, the City of Vista completed a Bicycle Master Plan to guide the development and implementation of bicycle related infrastructure, policies and supporting programs within the City over the next 20 years. This plan identified a soft surface multi-use trail to be constructed adjacent to Vale Terrace Drive from Ponderosa Drive to Foothill Drive. A bicycle boulevard or shared bicycle route is identified in the Bicycle Master Plan for Foothill Drive.

Vista Safe Routes to School Master Plan, 2016

A city-wide Safe Routes to School (SRTS) Master Plan was completed in 2016. The SRTS program is intended to improve the health of students by making improvements that would increase in the number of students walking and cycling to school. The RMMS was included in the City-side SRTS Plan and includes RMMS student and parent input. The plan identifies conceptual engineering recommendations for traffic calming improvements as well as identifying the locations for improvements to sidewalks along Vale Terrace Drive and Foothills Drive.

Section 2 – Existing Conditions

Overview

The Rancho Minerva Middle School (RMMS) Safe Routes to School study focuses on multi-modal access to the RMMS. This study corridor that provides the primary access to the RMMS is two miles long. It extends along Vale Terrace Drive and Foothill Drive from E. Vista Way to the east city limit located just south of the RMMS. Over its length, the study corridor varies in the volume of traffic served, the density of cross streets and level of complete street features. Figure 2-1 shows the study corridor in more detail including the location of schools, parks, and business areas.

Vale Terrace Drive from E. Vista Way to Ponderosa Drive has a more urban character with adjacent commercial and higher density residential development, higher traffic volumes and a higher density of driveways and cross streets than the other sections of the study corridor.

From Ponderosa Drive to Vale Terrace Place, Vale Terrace Drive has mixed complete street features such as sidewalks and adjacent pedestrian trails that together provide a pedestrian connection through this segment. The number of driveways, cross streets and traffic volumes are slightly less than on the roadway section to the west of Ponderosa Drive.

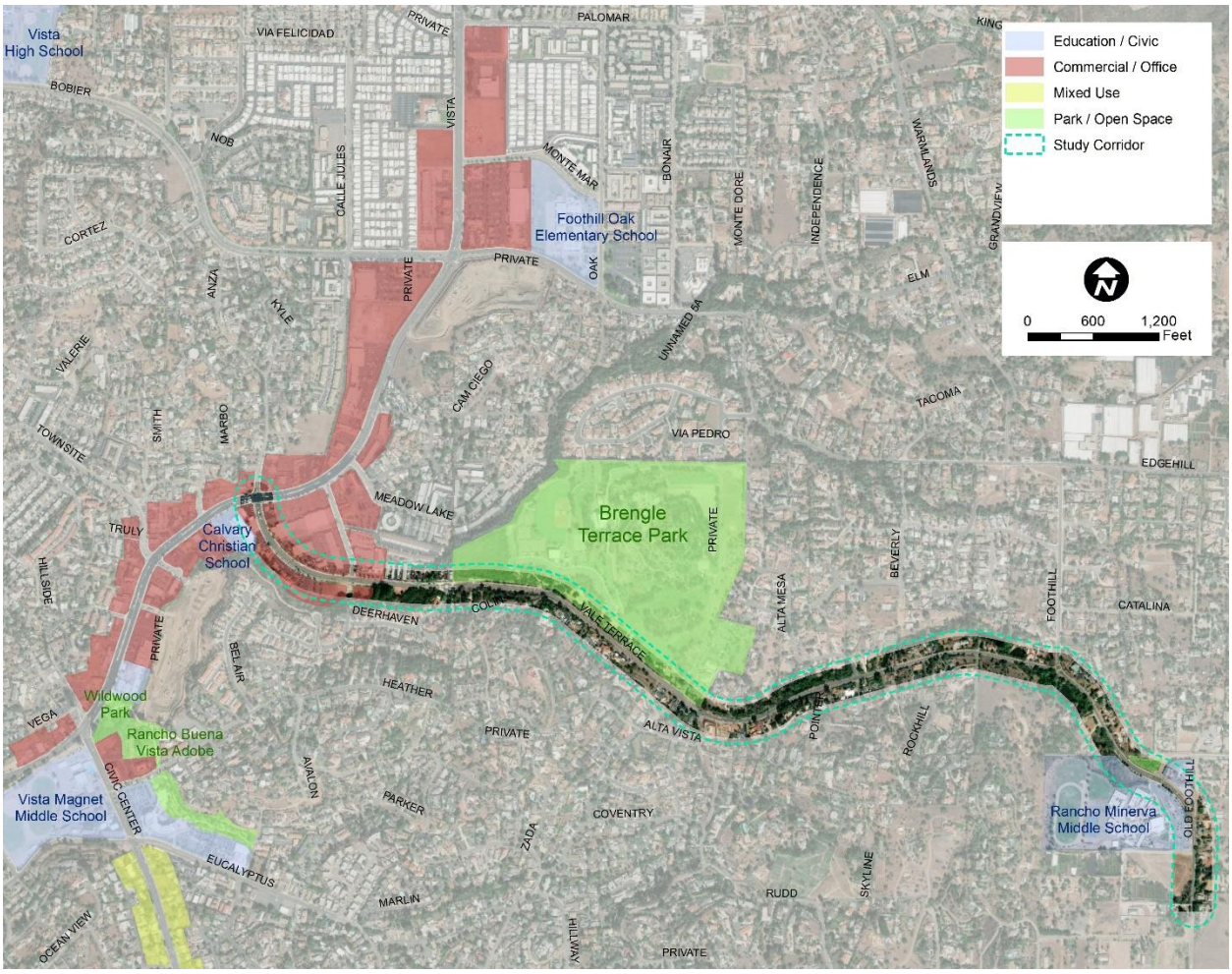
From Vale Terrace Place to Foothill Drive, Vale Terrace Drive narrows, has no sidewalks and limited space for pedestrian movements. This section of the study corridor has lower traffic volumes and fewer driveways and cross streets.

The segment of the study corridor on Foothill Drive has traffic volumes that are as high as the section between E. Vista Way and Ponderosa Drive. The roadway is narrow and has very limited sidewalks.

Field Observations

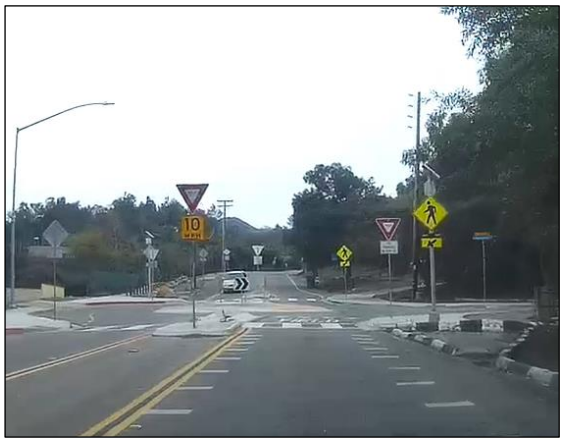
Field observations provide detail on current corridor conditions that can be used to determine recommendations needed to improve the corridor and address study goals. Multiple field observation efforts were completed to assess the overall corridor conditions. A walk audit was also completed with parents and school staff from RMMS. The findings from the walk audit are presented in Section 3. Additionally, senior engineers conducted a field review to examine and verify field related constraints that could impact project recommendations. These potential constraints included right-of-way limits, side slopes, grades, utilities and roadway features that could constrain sidewalk or bicycle access to the Rancho Minerva Middle School (RMMS) and for travel along the corridor.

Figure 2-1 Corridor Vicinity



Figures 2-2 and Figure 2-3 are photo exhibits showing the existing conditions and specific character of the study corridor.

Figure 2-2 Vale Terrace Drive



Traffic calming at Ponderosa Drive

Entrance to Brengle Terrace Park

Roundabout at Ponderosa Drive

Side street stop at Williamston Drive

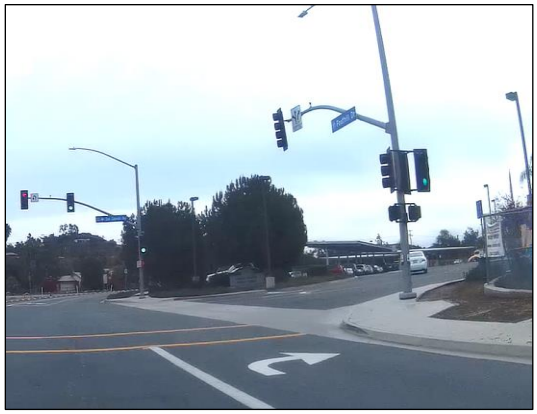
Bicycle lane east of Williamston Drive

Stop Control at Vale Terrace Place

Figure 2-3 Foothill Drive

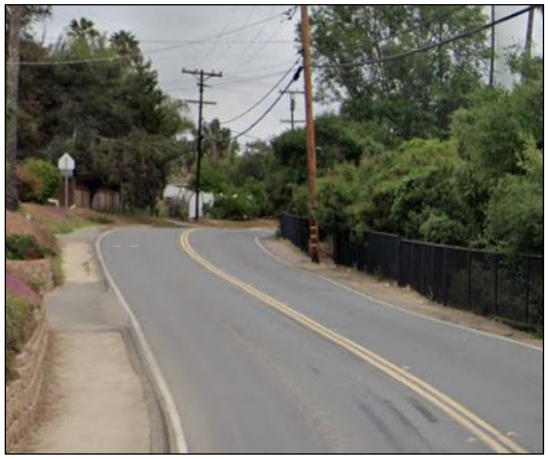
Limited Shoulder south of RMMS

Curb and decomposed granite path north of RMMS



Sidewalk in front of RMMS

End of sidewalk north of RMMS



Looking south along Foothill Drive

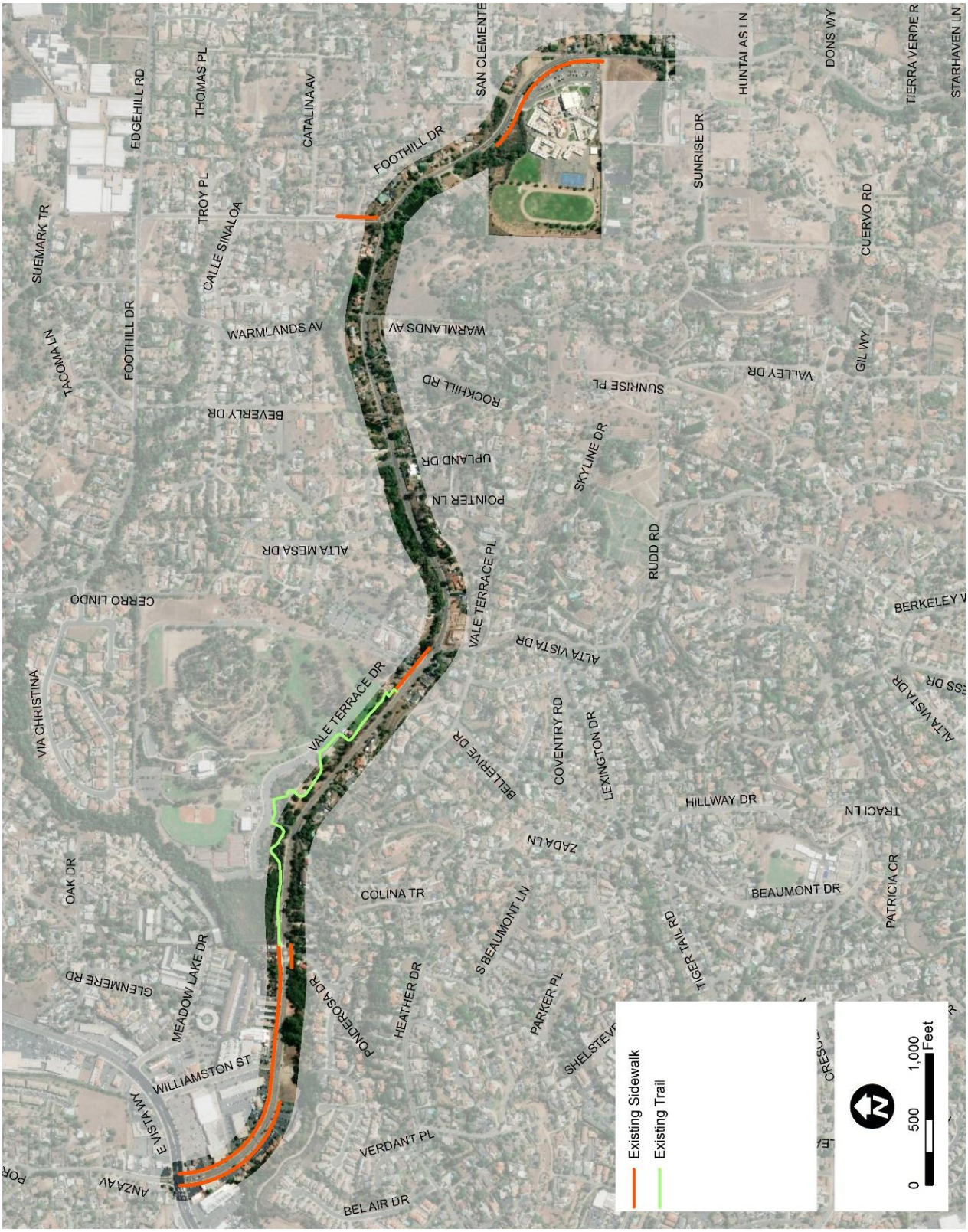
Crosswalk at Vale Terrace Drive and Foothill Drive

Pedestrian Facilities

Sidewalks

The location of sidewalks and trails in the study corridor are shown in Figure 2-4. As shown in the figure, sidewalks and pedestrian trails are provided primarily in the west part of the corridor, with long missing segments in the east part of the corridor. Ten foot sidewalks are provided on one or both sides of Vale Terrace Drive from E. Vista Way to Ponderosa Drive. A paved pedestrian trail extends from the north sidewalk to and through Brengle Terrace Park to Vale Terrace Place. From Vale Terrace Place to Foothill Drive, there are no paved sidewalks. On Foothill Drive from Vale Terrace Drive to north of RMMS, there are no paved sidewalks.

Figure 2-4 Sidewalks



Volumes

Bike and pedestrian counts were taken at five locations along the corridor as shown in Figure 2.5.

Crosswalks

Crosswalks are provided on Foothill Drive at San Clemente Avenue, which is also the north entrance to the RMMS. Other crosswalk locations include the intersection of Vale Terrace Drive and Foothill Drive, Vale Terrace Drive and Vale Terrace Place, Vale Terrace Drive and Ponderosa Drive, and at E. Vista Way and Vale Terrace Drive.

Bicycle Facilities

Currently, Class II bicycle lanes are provided on Vale Terrace Drive between Ponderosa Drive and the intersection approach to E. Vista Way. There are no bicycle facilities east of Ponderosa Drive along Vale Terrace Drive or Foothill Drive within the study corridor. For locations without bicycle lanes, bicyclists are able to use sections of Vale Terrace Drive and Foothill Drive that have wider shoulders or cyclists have to mix with vehicle traffic. The Vista Bicycle Master Plan identifies bicycle facilities to be constructed in the future. Recommendations include constructing a new bicycle lane for the most western section of the corridor and constructing a multi-use trail that would be adjacent to Vale Terrace Drive.

Bicycle Rider on Vale Terrace Drive

Vehicle Traffic

Roadway Characteristics

Both Vale Terrace Drive and Foothill Drive provide one through lane in each direction. At the west end of the corridor, Vale Terrace Drive widens to three total lanes as a center turn lane is provided. Left turn lanes are provided at Vale Terrace Drive, to the entrance of Brengle Terrace Park, at Vale Terrace Place, and the San Clemente Drive/ RMMS entrance.

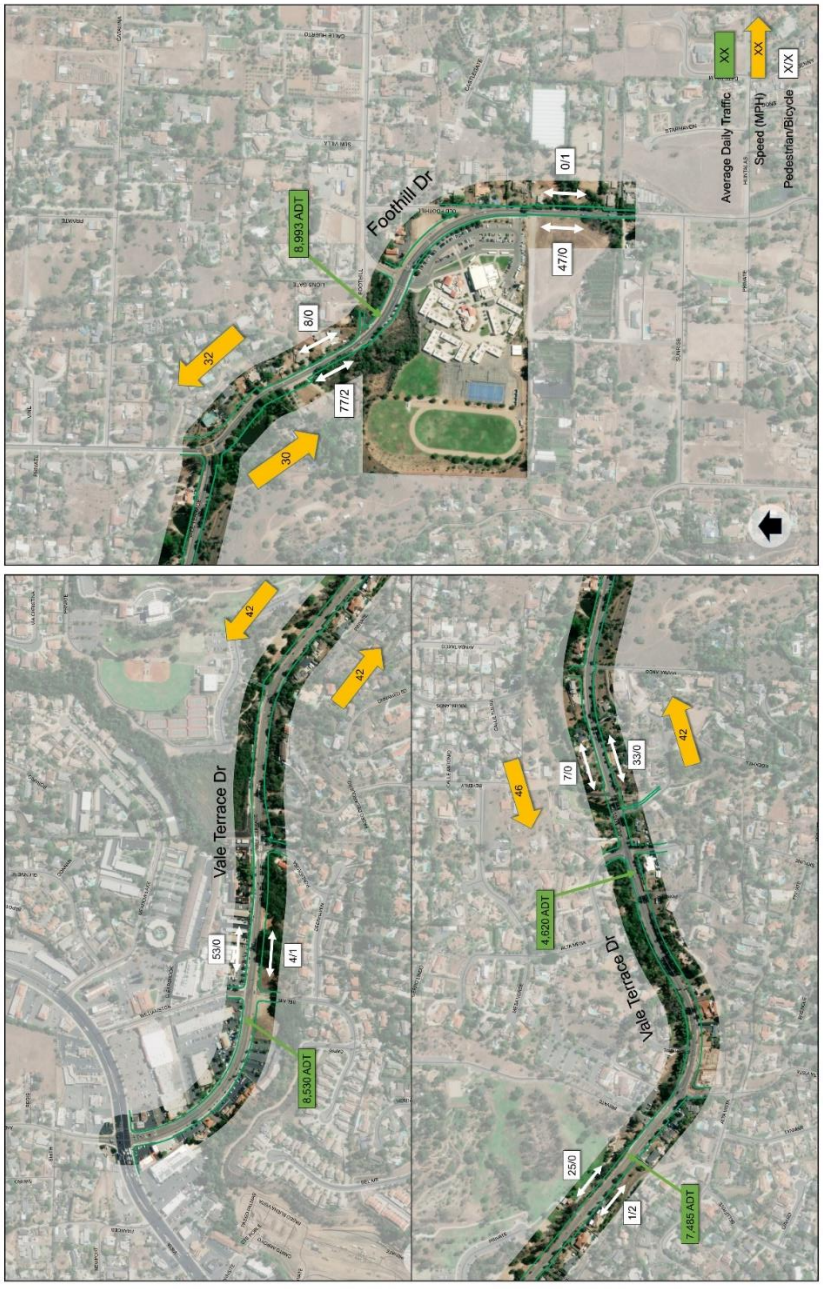
Traffic Volume

Daily vehicle counts were taken in January 2020 at four locations in the corridor as shown in Figure 2-5. The average daily trips (ADT) on Vale Terrace Drive were 8,530 ADT between E. Vista Way and Ponderosa Drive, 7,485 ADT from Ponderosa Drive to Vale Terrace Place, and 4,620 ADT between Vale Terrace Place and Foothill Drive. The average daily trips on Foothill Drive were found to be 8,995 ADT between Vale Terrace Drive and the Rancho Minerva School.

Travel Speed

Speed profiles were also conducted at the four count locations. Posted speed is 35 MPH throughout the corridor, with a school speed limit of 25 MPH near the RMMS. Figure 2-5 shows the observed 85 percentile speeds. The 85th percentile speed is the measurement most used to report travel speeds, as this is the speed at or below 85 percent of the vehicles travel. The highest travel speeds in the study corridor occur on Vale Terrace Drive between Vale Terrace Place and Foothill Drive.

Figure 2-5 Vehicle, Pedestrian and Bicycle Counts



Intersection Operation

A peak hour turning movement count was taken for the intersection of Vale Terrace Drive and Vale Terrace Place. This location is the mid-point of the corridor and provides a good indication of current peak hour traffic operations. Intersection turning movements were recorded for the AM peak hour and the PM peak hour and used to calculate the existing intersection level-of-service.

Intersection Level-of-Service (LOS)

Location	Control	Period	Ave. Delay (secs.)	LOS
Vale Terrace Drive & Vale Terrace Place	Stop	AM Peak	12.7	B
		PM Peak	11.9	B

Transit

The North County Transit District (NCTD) Vista Circulator Route 334 provides transit service to the western portion of the study corridor. Route 334 is a one-way loop circulator route that connects to-and-from the Vista Transit Center located at the Sprinter Station at N. Santa Fe Avenue and E. Vista Way. This route has two stops along Vale Terrace Drive, one at Ponderosa Drive and a second at Vale Terrace Place. Neither stop has a shelter or a bench. Service operates from 4:45 AM to 7:35 PM, with route frequency that varies between 35 and 45 minutes during the day.

Transit stop east of Ponderosa Drive

Transit stop west of Vale Terrace Place

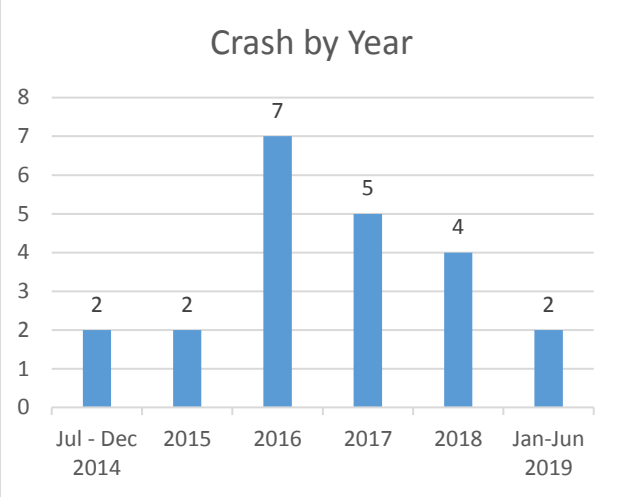
The Vista Unified School District provides school bus transportation for students living two miles or more distance from school. There are four routes that transport RMMS students. The buses are well utlized by students.

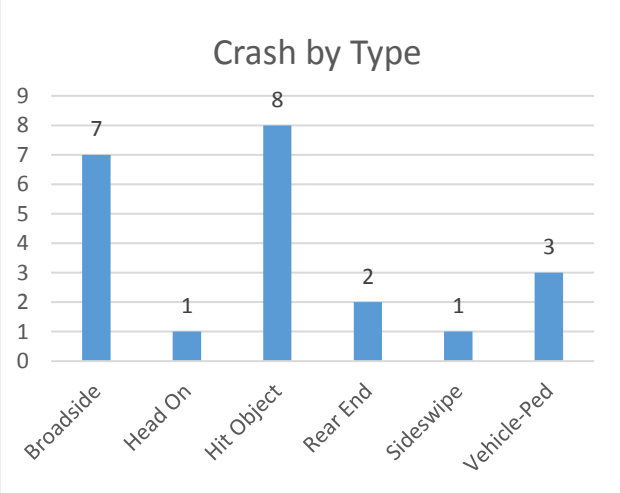
Collision Analysis

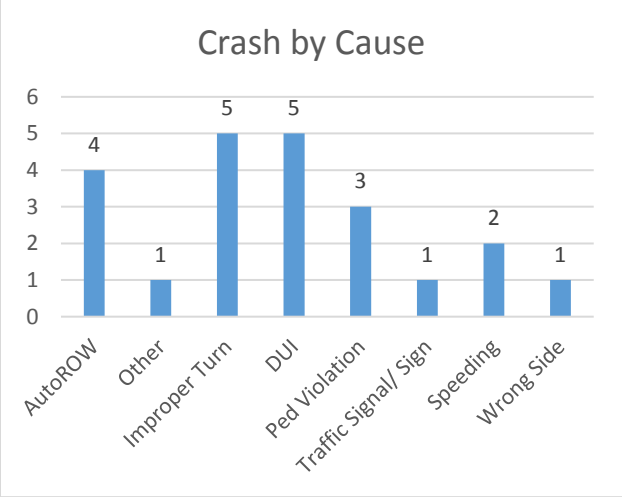
Collison data was collected from the City's Crossroads database to analyze collision trends during the five year period from August 1, 2014 through July 31. 2019. There were a total of 22 collisions that occurred along the study corridor with no fatalities and two severe injuries during this period. Three collisions involved pedestrians. Over half of the collisions occurred at the west end of the corridor between E. Vista Way and Ponderosa Drive, including three of the pedestrian collisions.

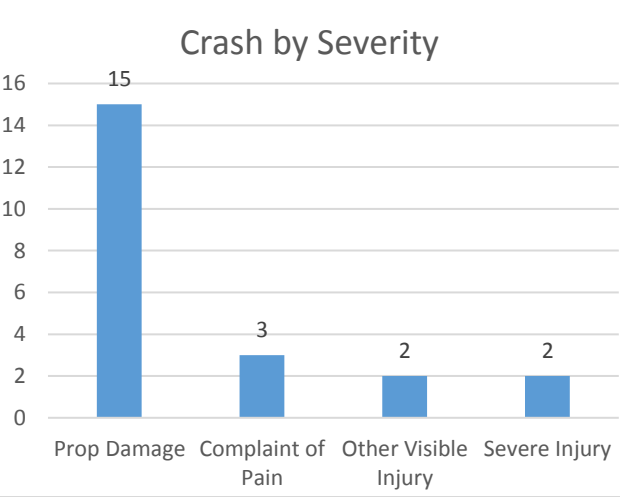
Figure 2-6 provides charts that summarize the collision experience in the study corridor from 2014 through 2019. The location of the collisions is shown in Figure 2-7.

Figure 2-6 Study Corridor Collision Data



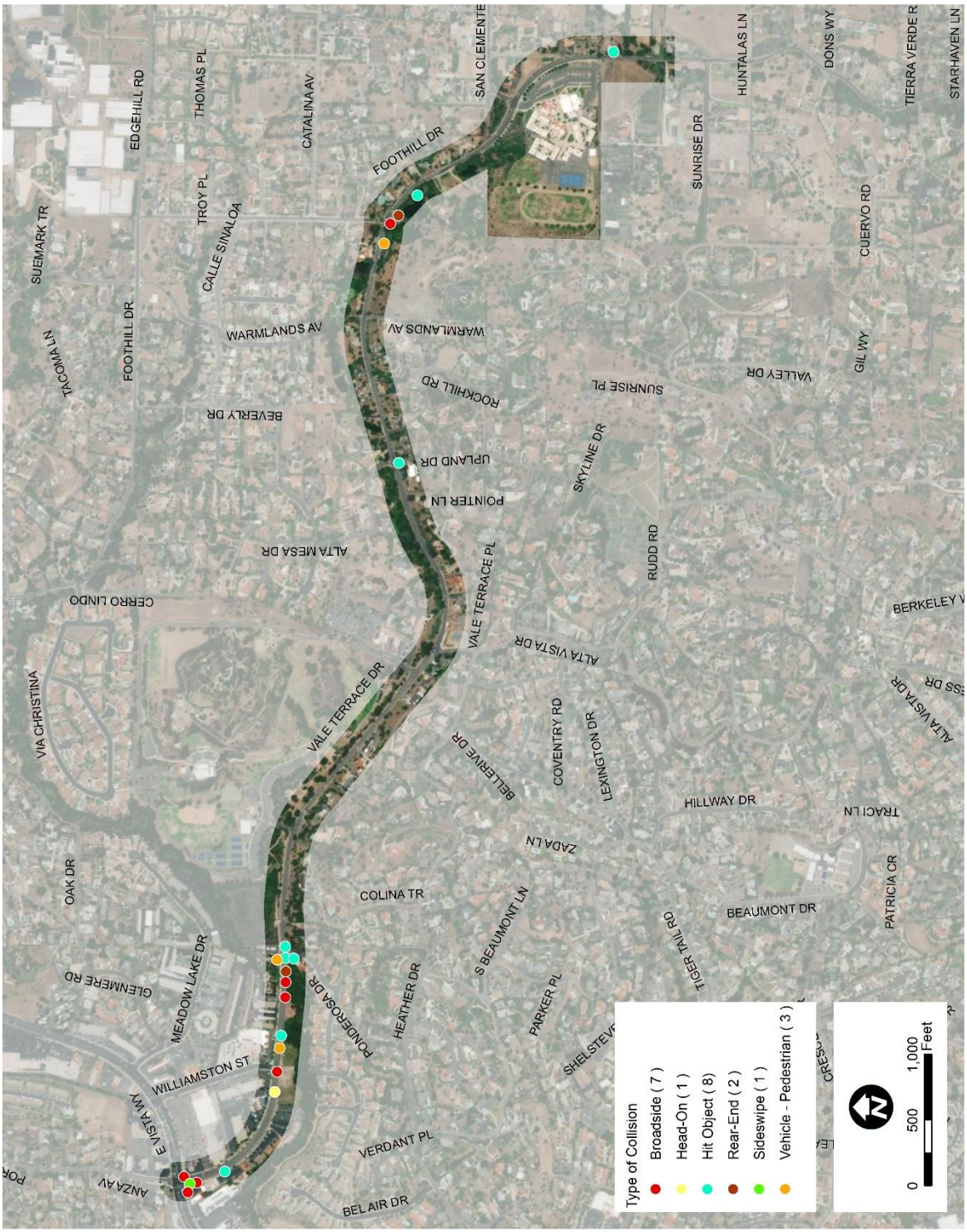






Note: Collisions were omitted related to the construction of the roundabout at the intersection of Vale Terrace Drive and Ponderosa between 12-21-17 to 12-29-2017

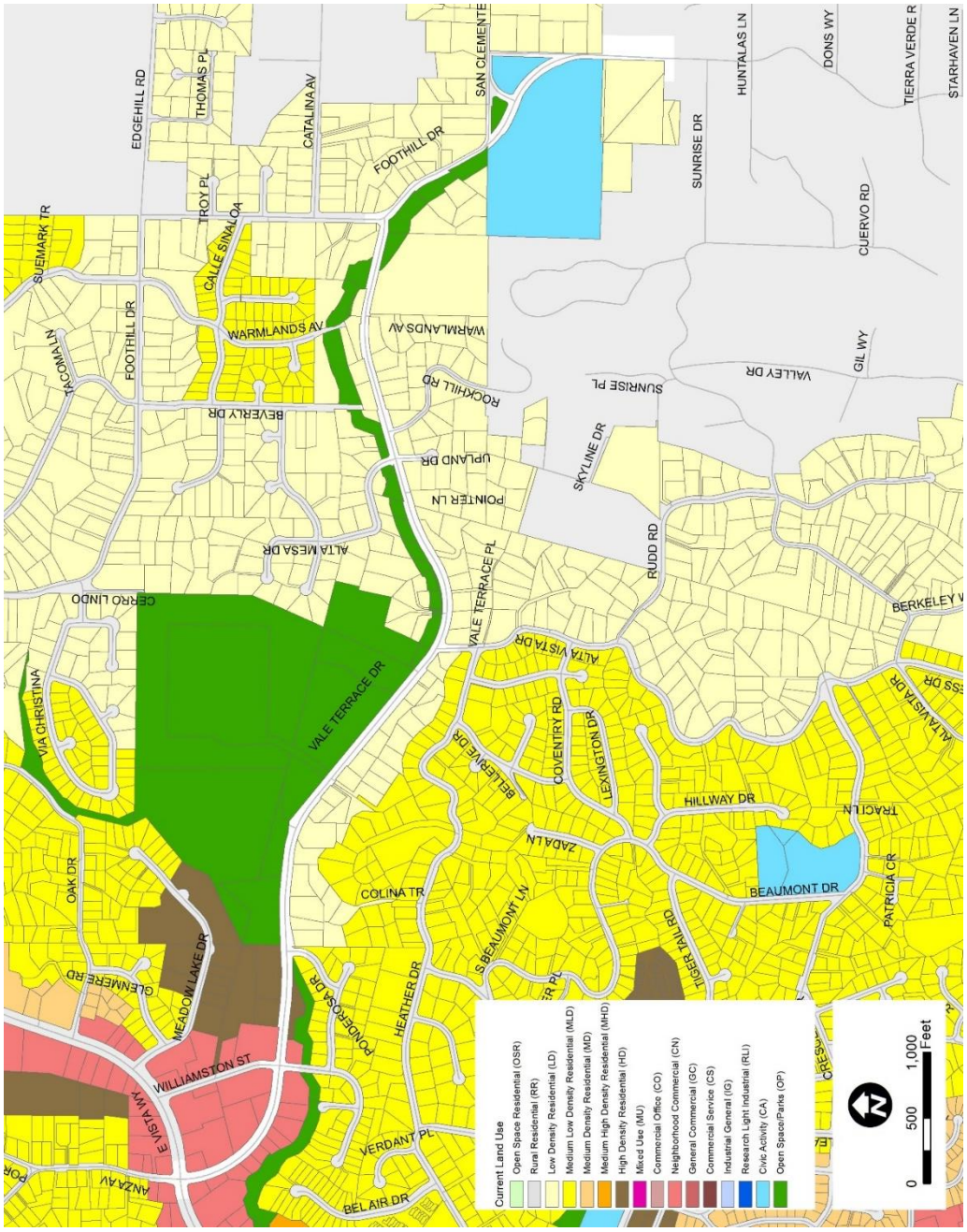
Figure 2-7 Location of Collisions



Land Use

Study corridor land use is shown in Figure 2-8. Land use along Vale Terrace Drive and Foothill Drive is primarily residential. A commercial area is located at the west end of the study corridor at E. Vista Way. Rancho Minerva Middle School is located at the east end of the study corridor along Foothill Drive.

Figure 2-8 Land Use



Disadvantaged Status

Caltrans' Active Transportation Program supports projects and plans in disadvantaged communities. For a project to qualify as directly benefitting a disadvantaged community, the project must be located within or directly adjacent to a disadvantaged community.

Two methods used to define disability eligibility are described below.

1) Median Household Income is less than 80% of the statewide median based on data from the most recent year American Community Survey. In 2018, this level was defined as $60,222. https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml?src=bkmk

2) At least 75% of public school students in the project area are eligible to receive free or reduced price meals under the National School Lunch Program.

Median household income (2018) for adjacent census tracts to the Study Corridor was $65,274, which is above the 80% California median income threshold defining low income. The median household income (2018) for the City of Vista was $59,833. Student percentage of Free or Reduced Price Lunch (FRPL) participation at Rancho Minerva Middle School is 78.8 percent which meets this disadvantaged community criteria.

Racial Characteristics

The racial characteristics of the census tracts adjacent to the study corridor are 47% white, 42% Hispanic and 11% other (black, Asian, American Indian, other). This distribution is shown in Figure 2-9.

Age

The study corridor population is generally young, with 27% of the population under 19 years of age, and 77% of the population under 55 years of age. The age distribution of the study corridor is shown in Figure 2-10.

Findings

- The study corridor lacks complete street features to support a friendly pedestrian and bicycle environment.
- Observed 85th percentile vehicle speeds often exceed the speed limit and these high speeds contribute to the poor pedestrian and bicycle environment in the study corridor.

- Collisions are more frequent in the western portion of the corridor.
- Given lack of separation between vehicles, pedestrians and vehicles, combined with the high vehicle speeds, safety should be addressed in the middle and eastern sections of the corridor also.
- Side street access onto Vale Terrace Drive is difficult in some locations.
- There are a number of physical constraints that would need to be addressed if improvements are made, including varying right-of-way, side slopes and erosion.

Figure 2-9 Study Corridor Racial Characteristics

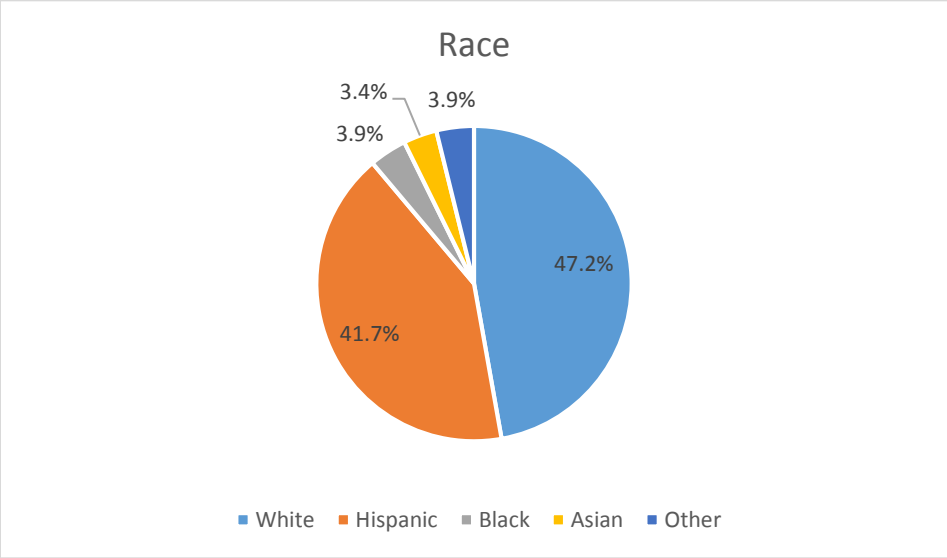
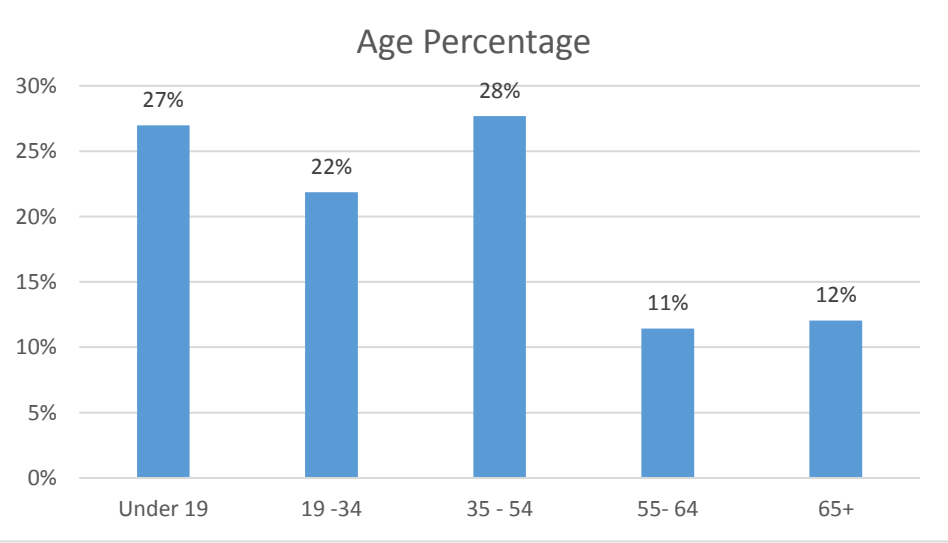


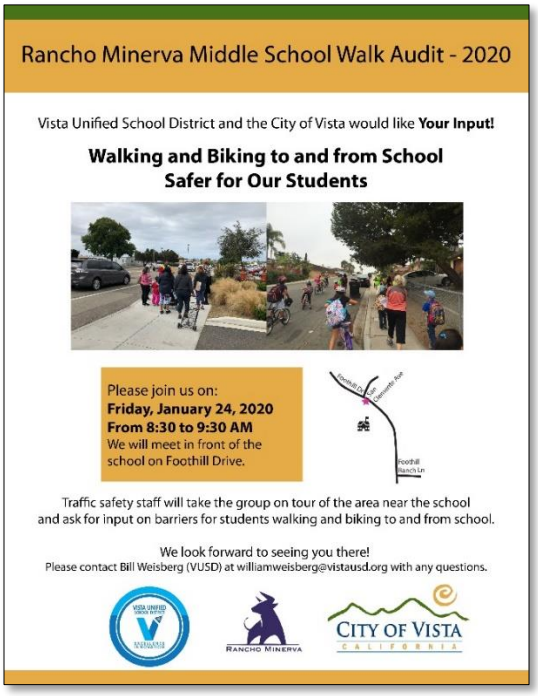
Figure 2-10 Study Corridor Age Distribution



Section 3 – Walk Audit

Overview

A key component for obtaining public input are Walking Safety Assessments also called walk audits. These are opportunities for the project team to engage directly with the school community. They allow the project team to hear concerns directly from parents, school staff and students, and also experience these concerns in person on-site. The Safe Routes to School (SRTS) walk audit for Rancho Minerva Middle School (RMMS) was held on Friday January 24, 2020 from 8:30 to 9:30 a.m. There were 20 members of the school community in attendance and the event was conducted in English and in Spanish. Shown below are the flyers that were distributed to parents advertising the walk audit.



The purpose of the walk audit was to:

1. Obtain specific input from parents on locations that pose a challenge to children walking and biking between home and school.
2. Obtain suggestions from parents on possible solutions they would support.
3. Engage parents in the SRTS program.

The walk audit was completed by KOA staff and supported by the City of Vista Traffic Engineering Department and the Vista Unified School District. The walk audit began by meeting with participants

in front of the RMMS following the morning drop-off of students. A brief orientation of walk audit goals and description of the activities for the walk audit was completed.

Introduction and instructions

Field Observations

The participants walked with the facilitators in person to see areas of concern. The route taken by the walk audit is shown in Figure 3-1. The walk began in front of the school and the group headed north on Foothill Drive to Vale Terrace Drive, then west on Vale Terrace Drive before returning to the RMMS.

Input on pedestrian environment

Figure 3-1 Walk Audit Route

The following photos illustrate the walk audit route and show issues identified:

Crossing Foothill Drive at the School Entrance

Walking north along Foothill Drive

Crosswalk at Foothill Dr. and Vale Terrace Drive

Narrow walkway on south side of Vale Terrace Drive

Embankment along south side of Vale Terrace Drive

Walking behind guard rail west side of Foothill Drive

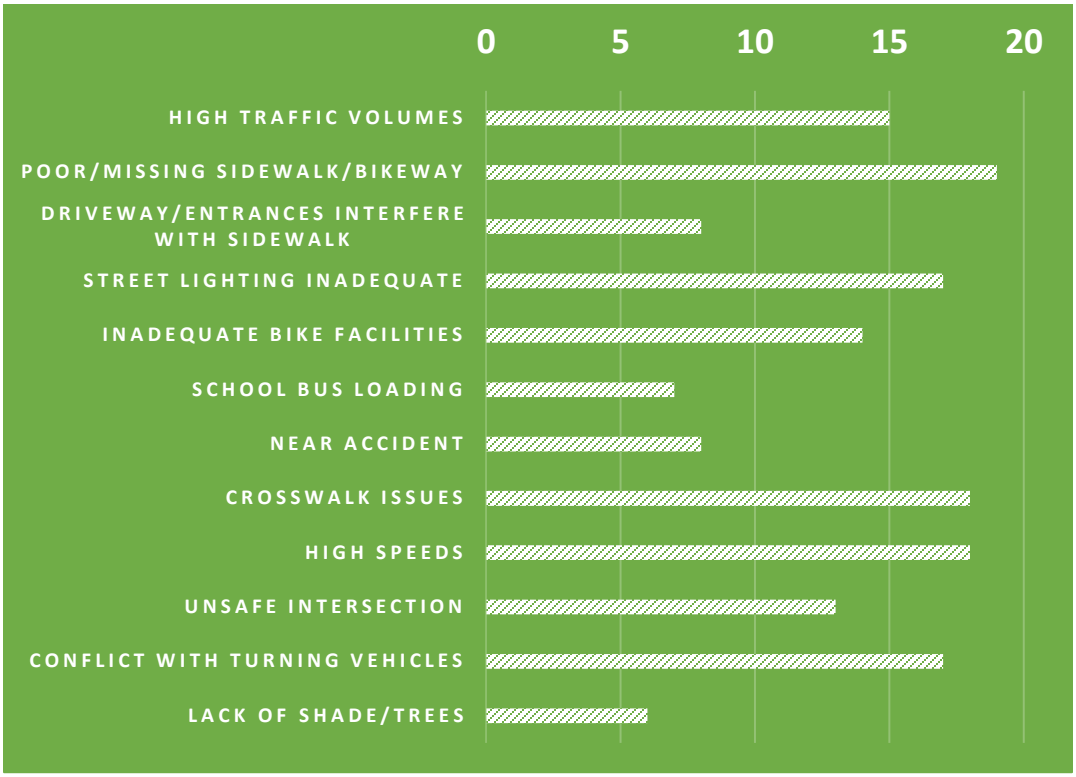
Slope and erosion west side of Foothill Drive

Group Discussion

Following the field observations, major concerns were shared in a group discussion. Participants completed a survey of safety issues representing concerns with walking or bicycling in the school area. The Walk Audit Participant Survey is included in the report appendix. Participants were asked to identify any safety or complete streets concerns. The frequency of the responses is presented in Figure 3-2.

Participants completing survey and highlighting issues to be addressed

Figure 3-2 Frequency of Survey Responses



Additional comments made by participants filling out the survey are listed below.

Concerns by participants:

- Students want to walk on south side of Vale Terrace Drive, even at locations where there is no space available to walk. More space on the north side is available.
- Students walk in the road and into traffic.
- Inadequate space for children to walk along the corridor.
- Motorists do not respect pedestrians.
- There are many narrow streets and there is a lack of consistent sidewalks.
- Vehicle speeding throughout the corridor.
- Additional consideration needed for students that walk down Foothill Drive
- The stop signs at Foothill Drive and Vale Terrace Drive are not being adhered to.
- Weather – rain runoff affects walking.
- Walking areas along Vale Terrace Drive narrow closer to the park.
- Missing school signs near RMMS.
- Brush blocks walking areas.
- Sidewalks need maintenance.
- Kids walking or skateboarding in the middle of the road.
- Need for crossing guards.
- There are some blind spots for motorists turning on to Vale Terrace Drive.

Solutions provided by participants:

- Sidewalks are needed on streets that connect to Vale Terrace Drive.
- Need to extend the southbound right turn lane turning into Rancho Minerva Middle School from Foothill Drive.
- Need sidewalks, reduced speeds and streetlights.
- Need a signal at Foothill Drive and Vale Terrace Drive.
- Need for additional school buses/ public transit routes to the school.
- Need for improved street lighting.
- Need for improved landscaping and tree trimming.
- Need for a crossing guard.

Walk Audit Participants

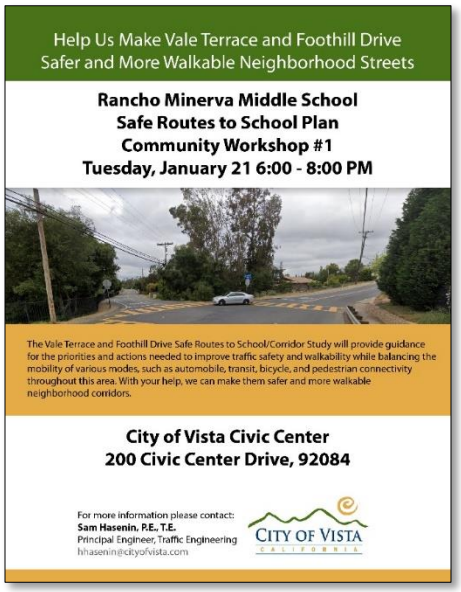
Section 4 - Community Engagement

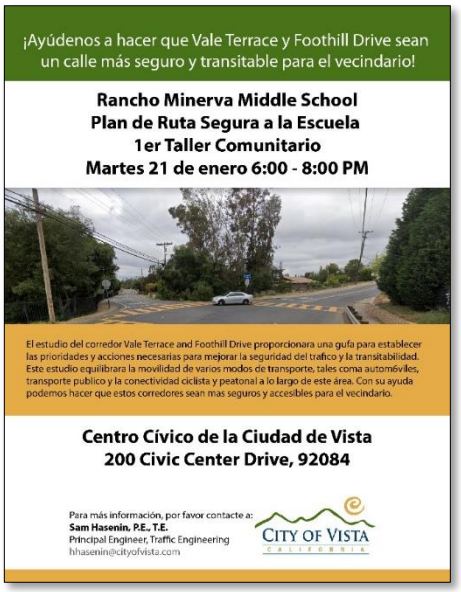
Overview

Community engagement consisted of two interactive workshops to listen to the residents, schools and local business and develop ideas for improvements along the study corridor. The first workshop was conducted at the City's Civic Center on January 21, 2020. This workshop focused on introducing the project and gathering issues and concerns. A second workshop was held on April 30, 2020 to review and obtain input on the transportation concepts developed for this project.

Public Workshop # 1

A variety of outreach materials was designed to maximize community engagement. Because of Vista's multi-generational, Spanish-speaking population, all outreach materials were in English and Spanish. Materials that were developed included flyers and announcements that were published via appropriate City communication outlets. Figure 3-1 shows the bilingual flyers created for the workshops. The City also sent notices to property owners and residents within 500 feet of the corridors for each workshop.





Workshop attendance was very successful with around 40 attendees of all ages. Attendees were primarily residents along Vale Terrace Drive and Foothill Drive, or parents of students of Rancho Minerva Middle School who lived near the corridor. In addition, Mayor Judy Ritter and Councilman Joe Green were also present, participating in the table exercises and providing additional support for the project.

The workshop included a study overview presentation, some exhibit boards showing statistics and overall information about the corridor, and large table maps as well as a project toolbox description and comment forms on each table to encourage participation and invite people to share their thoughts during the workshop activities.

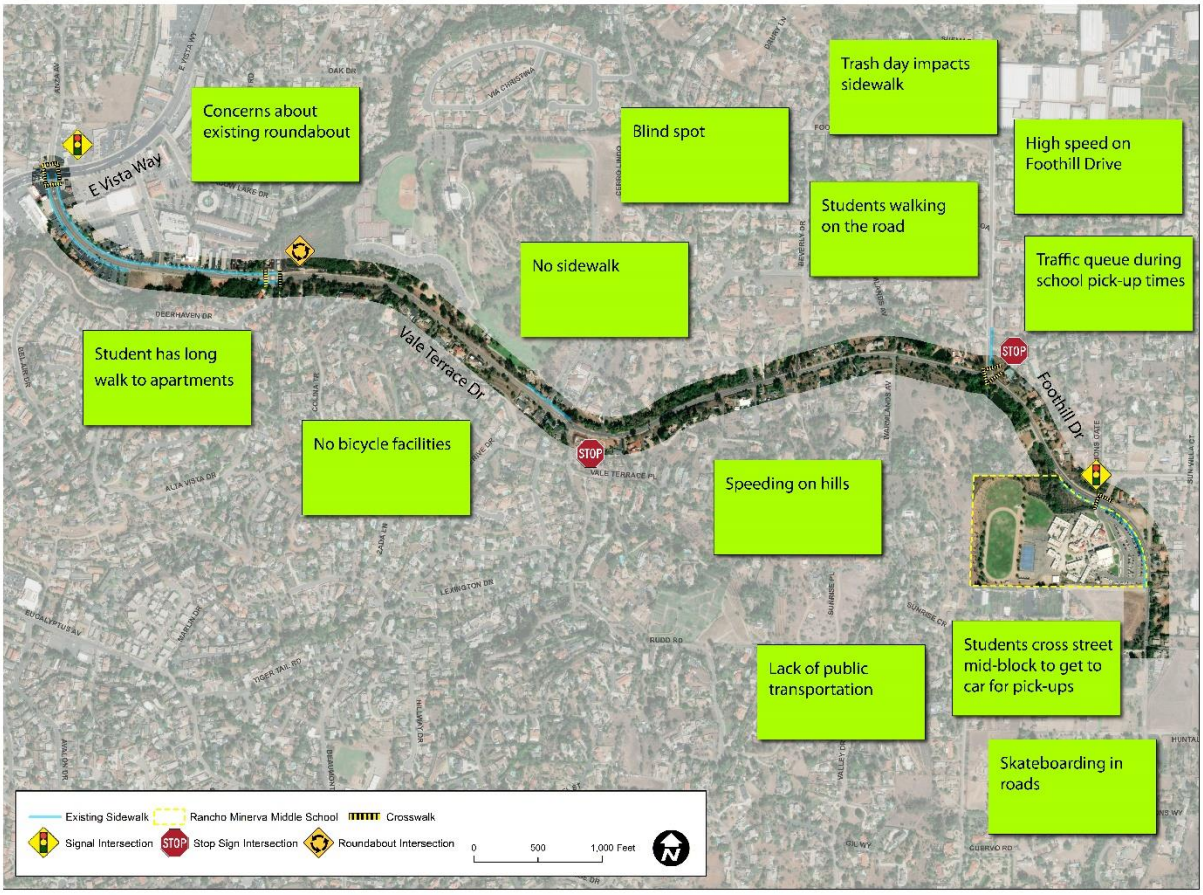
The agenda for the Workshop consisted of a presentation introducing the project, and the project goals, objectives and timeline and two exercises. The first exercise asked attendees to review existing conditions and discuss challenges they are experiencing along the corridor. Each table then collaborated to prioritize their highest concerns, and reported their results back to the group.

Presentation at Public Meeting

Exercise 1: Identify Challenges and Problem Locations

The workshop collected valuable inputs from local residents. Residents discussed and wrote about their location-specific comments on sticky notes and placed them on the table map. Each of the six tables identified issues on the maps and then identified their top issues. Figure 4-1 shows a summary of the comments made related to challenges and problem locations along the study corridor.

Figure 4-1 Identified Issues



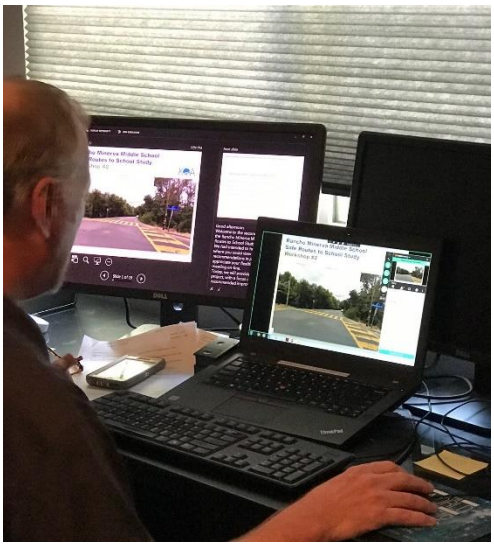
Exercise 2: Potential Solutions

In the second input exercise, each of the six tables were asked to identify potential improvements on the maps and then identified their top projects and strategies. Figure 3-2 shows a summary of the comments made identifying projects and strategies for the study corridor.

Figure 4-2 Identified Improvements

Public Workshop # 2

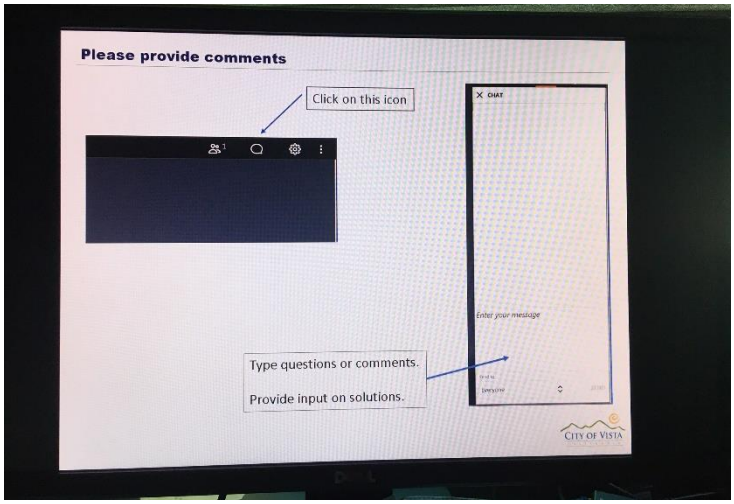
Given the restrictions to in-person gatherings due to health concerns, the second workshop was help on-line. The meeting included a study overview presentation, description of proposed improvements to the corridor, and a review of the engineering exhibits. Opportunities for comments were available during and following the presentation. Each comment received was responded to during the presentation. Workshop attendance was successful with 30 devices logged in and participating in the meeting.



Presentation of Project On-line

The presentation software had a comment section, and we included:

- A discussion of placement of 4-way stops.
- Location of sidewalks on north versus south side of the street.
- Questions about number of pedestrians, project cost and time needed to complete the project
- Completing the project in the summer months, to not disrupt student and parents walking to school
- Questions on right-of-way
- Questions about traffic control



On-line Comments Screen

Each question or comment was addressed. Public support was indicated by the comments received.

Section 5 – Student Tallies and Parent Surveys

Overview

This section describes the information collected and evaluated from student tallies taken in each classroom by teachers and from a survey sent home with students for parents to complete.

Student Tallies

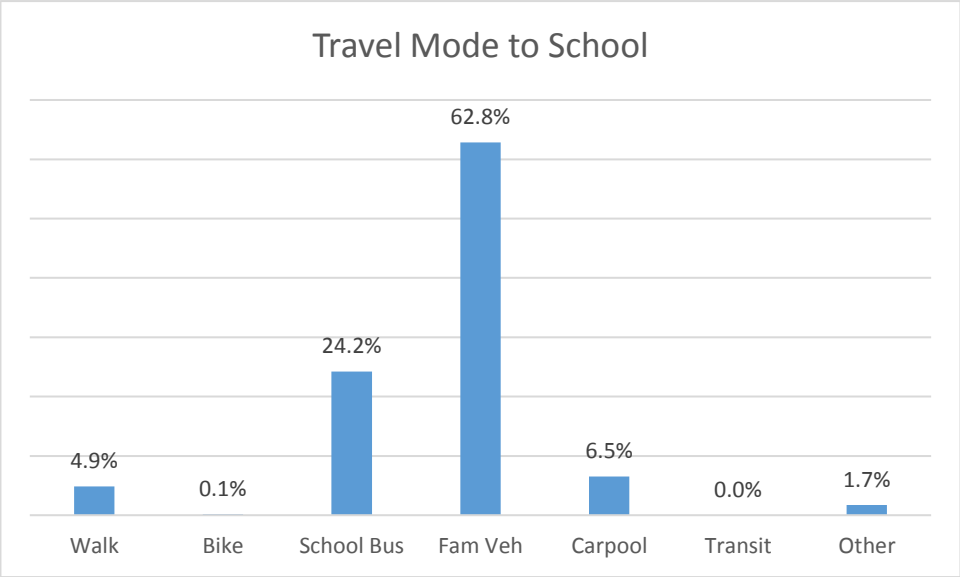
Survey at Rancho Minerva Middle School

Enrollment: 717 students

Month and Year Collected: February, 2020

Classroom Tallies Analyzed: 26

This report contains data from Rancho Minerva Middle School (RMMS) about students' trips to school. This data was collected using the Safe Routes to School Student Arrival and Departure Tally sheet created by the National Center for Safe Routes to School. The tally was conducted by RMMS teachers on three consecutive days (Tuesday, Wednesday and Thursday) in a single week with the aim of quantifying the transportation modes students used during the week. Student tallies were completed on February 18-20, 2020. The project team coordinated with the VUSD and the RMMS staff to distribute the student tally sheets. A copy of the tally form has been included in the report appendix. The most complete information was obtained for the trip to school. The results of the tallies are presented below.



The school tally was collected over a period of two days. Over the two day period, the information provided by teachers at RMMS included information on 1,375 trips to school.

The primary mode of travel is the family vehicle. However, there is a sizable percentage (24.2%) that arrives by school bus. Nearly 5% of the students walked to school, with 0.1% arriving by bicycle. Public transit use was 0% as there is no public transit service provided to RMMS.

Parent Survey

The "Parent Survey About Walking and Biking to School" form from the National Safe Routes to School Center was used as a second tool to collect school trip information. Parent surveys were completed the week of February 17, 2020. The surveys were sent home with the student for the parents to completed and submit back to the school. There were a total of 244 surveys completed. A copy of the survey form has been included in the report appendix.

Information was gathered on a series of questions including:

- Gender and grade of student
- The distance from a student's home to school
- Most frequent transportation travel option to and from school
- Duration of trips to-and-from school
- Barriers that contribute to parent's decision not to allow student to walk or bike to school
- Parent perception whether walking or biking is appropriate for their student
- Perceived health benefits

Gender of Student – a higher number of surveys were completed by parents of female students.

Male or Female

Choice	Frequency	Percent
Female	145	59.43
Male	88	36.07
Prefer not to say	2	0.82
No Response	9	3.69

Grade of Student – this indicates the surveys completed for each middle school grade.

Grade of child who brought this survey

Choice	Frequency	Percent
6th	110	45.08
8th	80	32.79
7th	53	21.72

Distance between school and home – a majority of the students live over 1 mile from the school (63%). 38.5% live more than 2 miles from the school. School bus service is provided for students over two miles.

How far does your child live from school?

Choice	Frequency	Percent
More than 2 miles	94	38.52
1 mile up to 2 miles	60	24.59
Do not know	48	19.67
1/2 mile up to 1 mile	18	7.38
1/4 mile up to 1/2 mile	8	3.28
Less than 1/4 mile	7	2.87
No Response	9	3.69

Typical Model of Arrival and Departure from School - approximately (55%) arrive and depart school using a family vehicle. Another 25-27% travel by school bus. The percentage of students walking is higher for the after school trip than for the before school trip.

How does your child arrive at school?

Choice	Frequency	Percent
Family Vehicle	136	55.74
School Bus	62	25.41
Carpool	30	12.30
Walk	11	4.51
Other	1	0.41
Bike	1	0.41
Transit	0	0.00
No Response	3	1.23

How does your child leave school?

Choice	Frequency	Percent
Family Vehicle	133	54.51
School Bus	67	27.46
Carpool	21	8.61
Walk	20	8.20
Other	1	0.41
Bike	1	0.41
Transit	0	0.00
No Response	1	0.41

Arrival and Departure from School by Travel Time - the travel time to-and-from school for students using all travel modes is shown below.

How long does it take your child to get to school?

Choice	Frequency	Percent
5-10 minutes	97	39.75
11-20 minutes	80	32.79
More than 20 minutes	31	12.70
Don't know / Not sure	21	8.61
Less than 5 minutes	14	5.74
No Response	1	0.41

How long does it take your child to travel home from school?

Choice	Frequency	Percent
11-20 minutes	77	31.56
5-10 minutes	75	30.74
More than 20 minutes	63	25.82
Don't know / Not sure	18	7.38
Less than 5 minutes	8	3.28
No Response	3	1.23

Child Asking Permission to Walk to School – the number and percentage of students that ask their parents' permission to walk to school.

Permission to walk or bike to/from school

Choice	Frequency	Percent
No	144	59.02
Yes	95	38.93
No Response	5	2.05

Grade Parents would Allow Students to Walk to School – this shows the grade where parents would be comfortable having their student begin walking to school.

Grade that would allow child to walk or bike to/from school

Choice	Frequency	Percent
I would not feel comfortable at any grade	97	39.75
9th	36	14.75
6th	24	9.84
10th	18	7.38
8th	18	7.38
7th	17	6.97
4th	11	4.51
12th	9	3.69
5th	6	2.46
11th	3	1.23
2nd	1	0.41
Pre-K	0	0.00
K	0	0.00
1st	0	0.00
3rd	0	0.00
No Response	4	1.64

Issues with walking or biking - the primary Issues affecting decisions by parents to have student walk are distance, lack of sidewalks, traffic speed and traffic volume. The full list of responses is below.

Issues with walking or biking

Choice	Frequency	Percent
Distance	126	51.64
Sidewalks or pathways	105	43.03
Speed of traffic along route	79	32.38
Amount of traffic along route	75	30.74
Violence or crime	74	30.33
Safety of intersections and crossings	70	28.69
Time	64	26.23
Crossing guards	32	13.11
Child's before or after school activities	15	6.15
Adults to walk o bike with	10	4.10
No Response	52	21.31

Needed Improvements - the table below indicates those issues that if they were addresses, parents would be more likely to have their child walk to school.

Changed or Improved: YES

Choice	Frequency	Percent
Sidewalks or pathways	95	38.93
Safety of intersections and crossings	77	31.56
Distance	69	28.28
Speed of traffic along route	69	28.28
Amount of traffic along route	57	23.36
Time	56	22.95
Violence or crime	55	22.54
Crossing guards	53	21.72
Adults to walk or bike with	36	14.75
Child's before or after school activities	27	11.07
No Response	78	31.97

Impact to Student Health - parent opinion on how healthy walking/biking would be for their child is shown below.

How healthy is walking/biking to school for your child?

Choice	Frequency	Percent
Healthy	99	40.57
Very Healthy	73	29.92
Neutral	48	19.67
Unhealthy	6	2.46
Very Unhealthy	5	2.05
No Response	13	5.33

Findings

Over 60% of the students live over 1 mile away from RMMS.

The percent of students who currently walk/bike is around 5% for arrival and 8% for departure.

Over 60% of the parents surveyed would not allow their child to walk to middle school.

The primary issues affecting parent decisions to allow children to walk to school are distance, concern about sidewalks and concerns about traffic levels and traffic speeds.

The item most identified to be improved that would impact parent decisions to allow students to walk or bicycle to school are improved sidewalks, improved safety of intersections and reducing travel speeds.

Section 6 – Proposed Solutions

Background

Both the review of existing conditions and public input and comment have demonstrated the need to provide transportation options that allow all children, including those with disabilities, to walk and bicycle to school safely. This section describes the improvement concepts developed to address these needs.

Complete Streets Treatments

Figure 6-1 provides a compilation of proposed design treatments that address the project needs and the goals of this plan. The tools generally fall under three categories: bikeways, sidewalks/pedestrian and intersections/crossings. These tools have been considered in developing the design concept.

Design Concept

Public comments from the first workshop and analysis provided valuable input into developing initial complete street concepts.

Concept design principles were supported by the community and include:

- Provide sidewalk connection and continuity
- Provide bicycle facility connection and continuity
- Manage traffic speeds
- Provide sufficient separation between vehicles, bicyclists and pedestrians
- Provide safe pedestrian crossings
- Improve transit stops

Each of these principles were followed to develop the design concept. Following this project description, graphics are provided showing typical cross sections at four locations (Figure 6-2) along the study corridor. The improvement concept design for roadway, pedestrian, bicycle and transit improvements is described in following section of the report and graphically presented in Appendix C.

Foothill Drive - Between Vale Terrace Drive and Rancho Minerva Middle School

Foothill Drive has two through lanes. The right-of-way along Foothill Drive varies along the length but in general, the segment between RMMS and Vale Terrace Drive is the narrowest of the study corridor. At one point within this segment, Foothill Drive abuts the right-of-way line on the west side of the street. At this point, students walking to-or-from the school on the west side of Foothill Drive along a dirt path just north of RMMS are walking on privately owned land. South of this point, a sidewalk has been constructed from the school to the north, but it ends and students continue using

the dirt path. The path is narrow and the topography drops off significantly in some places. A decomposed granite (DG) path is provided on the opposite side of Foothill Drive, but this tends not to be used by the majority of RMMS students.

The first alternative studied provides a sidewalk on the west side of Foothill Drive, the side of the street used by RMMS students. In order to provide the sidewalk within existing city right-of-way, a portion of the Foothill Drive roadway pavement would need to be shifted to the east. Approximately a half lane of existing pavement would be removed to provide space to construct a sidewalk along the west side of the street. New pavement would be added along the east side of the street to provide the needed roadway width. This would create the space needed to construct a sidewalk within city right-of-way on the west side of Foothill Drive from the end of the current sidewalk north of the RMMS to Vale Terrace Place. However, with the shift, a portion of the existing DG path would be taken away for some length affecting space for walking on the east side of Foothill Drive.

A second sidewalk concept was prepared that would not require the shift of Foothill Drive, but would be built on the opposite side of the street from the RMMS. In this alternative, the DG path along the east side of Foothill Drive from Vale Terrace Drive to the RMMS entrance at San Clemente Avenue would be converted to a concrete sidewalk. While it would not require partial street reconstruction related to the movement of travel lanes, there were concerns expressed by the public that RMMS students may resist crossing Foothill Drive to use the sidewalk on the east side of the street and might continue to use the dirt path on the west side. This was verified by field observation and traffic counts showing students only walking on the west side of the street. Field observations also showed that due to the narrow width of the dirt path on the west side, students walk in the travel lane. Even with this risk, students are not crossing the street to use the existing DG sidewalk. Therefore, the alternative for a sidewalk on the east side of this segment of Vale Terrace Drive is removed from further consideration.

Vale Terrace Drive - Between Vale Terrace Place and Foothill Drive

Vale Terrace Drive has two through lanes along this section. Adjacent travel shoulders are of varying width and are currently used by pedestrians as there are no pedestrian facilities. Bicycle facilities are not defined with bicyclists also using travel shoulders as available or mixing with vehicle traffic in travel lanes.

The right of way and width available for transportation use along Vale Terrace Drive narrows from Vale Terrace Place to Foothill Drive. In this section, the topography is such that there is not sufficient surface area to provide both bicycle lanes and a sidewalk. Based on public input, the improvement concept shows a wide sidewalk/ path to be constructed along the north side of Vale Terrace Drive that could be used primarily by pedestrians but could also be used by bicyclists. The sidewalk/path would be a minimum of eight feet wide and would extend from Vale Terrace Place to Foothill Drive. In order to accommodate the sidewalk/path, a curb would be provided along the outside edge of the westbound lane. The sidewalk/path would be placed behind the curb.

Within this segment three traffic calming features will be constructed in order to provide the number of features and spacing needed to slow traffic speeds. These features include roundabout construction at Vale Terrace Place, at Upland Drive and at a private drive.

Vale Terrace Drive - Between Ponderosa Drive and Vale Terrace Place

Vale Terrace Drive has two through lanes along this section. A paved walking trail is provided parallel to Vale Terrace Drive within Brengle Park. However, the trail is far from the street and is mainly used to access Brengle Terrace Park. No bicycle facilities are currently defined, although roadway travel shoulders of varying width are present and provide minimal separation from vehicles.

With the proposed corridor improvements, bicycle lanes will be provided on both sides of the street. Traffic counts show that pedestrians are using the north side of the street in this segment. A sidewalk will be constructed along the north side of street. As part of this improvement concept, the sidewalk on the north side of Vale Terrace Drive would be extended from Ponderosa Dive to connect to existing sidewalk located west of Jim Porter Parkway. The sidewalk will be located behind a curb constructed along the outside of the westbound bicycle lane. The sidewalk would be placed behind the curb. In order to accommodate the bicycle lane on the south side, minor shoulder repair will be needed in some locations.

Sidewalks would be extended on the south side of Vale Terrace Drive east of Ponderosa Avenue and just west of Vale Terrace Place to provide access to the two existing NCTD transit stops. A crosswalk will be provided at both of these locations to connect the sidewalks on the north side and south side of Vale Terrace Drive.

Brengle Park has unique activities including a disc golf course and a performance amphitheater. The Alta Vista Botanical Gardens are located at the park, as well as tennis courts and baseball/softball fields. The intersection of Vale Terrace Drive and Brengle Terrace Park Entrance provides the primary entrance into the park. The entrance has a steep slope downward into the park which creates difficult safety conditions for constructing a roundabout. For this reason, a four-way stop is shown as the recommended intersection treatment at this location.

Vale Terrace Drive - Between E. Vista Drive and Ponderosa Drive

Vale Terrace Drive is a two-lane roadway with bicycle lanes provided for most of this length and a sidewalk provided on the north side of the street. The intersection at Williamston Street is controlled by a stop sign on Williamston Street. The intersection at Ponderosa Drive was recently converted from a side street stop to a roundabout.

To continue the roundabout concept from the other of the project segments and the existing roundabout at Ponderosa Drive, the proposed improvements include constructing a roundabout at Williamston Street. The existing eastbound bicycle lane will be carried around the roundabout. For westbound travel, the bicycle lanes merge into the travel lanes through the roundabout. Given the existing width of the Vale Terrace Drive, no additional changes to roadway pavement or pavement markings are identified.

Cost Estimate

An estimate of probable construction costs for the corridor improvements is provided in Table 6-1.The table includes construction costs, environmental study, project engineering and construction engineering as part of the total project cost.

Table 6-1 Opinion of Probable Construction Cost for Vale Terrace Drive and Foothill Drive

Item	Unit	Quantity	Unit Cost	Cost
GENERAL OVERHEAD				
Mobilization	LS	1	$180,000.00	$180,000.00
Traffic Control	LS	1	$80,000.00	$80,000.00
Construction Staking	LS	1	$40,000.00	$40,000.00
Erosion Control	LS	1	$60,000.00	$60,000.00
GENERAL CONSTRUCTION				
Information Construction Signs	EA	4	$1,000.00	$4,000.00
Clearing and Grubbing	LS	1	$40,000.00	$40,000.00
Unclassified Excavation	CY	2010	$150.00	$301,500.00
Class II Aggregate Base	CY	540	$110.00	$59,400.00
Asphalt Concrete Pavement	Tons	1050	$150.00	$157,500.00
Construct 4" Thick PCC Sidewalk	SF	48140	$10.00	$481,400.00
Curb Ramps	EA	16	$1,000.00	$16,000.00
Construct PCC Curb and Gutter	LF	9200	$30.00	$276,000.00
Construct A-1 Curb	LF	2100	$28.00	$58,800.00
Construct Median Filler, Colored, Textured	SF	8950	$15.00	$134,250.00
Street Lighting	EA	13	$13,000.00	$169,000.00
Signing	LS	1	$15,000.00	$15,000.00
Striping	LS	1	$20,000.00	$20,000.00
Guard Rail	LF	110	$80.00	$8,800.00
Construction Cost				$2,101,650.00
15% construction contingency				$315,247.50
Total Construction Cost				$2,416,897.50
Preliminary Analysis and Environmental Document				$240,000.00
Plans, Specifications and				$360,000.00
Construction Engineering				$360,000.00
Total Project Cost				**$3,376,897.50**

Figure 6-1 Complete Streets Treatments

Class I: Bike Path/Shared Use Path

An off-street facility that is physically separated from the street.

Class II Bike Lane

A portion of the roadway that is designated by striping and pavement markings for the exclusive use of bicyclists.

Class III Bike Route

Class III bikeways are designated where bicycles and motor vehicles share the roadway. Design standards require specific signage, but enhancement can be provided by using shared roadway markings or "sharrows".

Roundabout

Roundabouts are intersection treatments is used rather than stop signs or stop lights. Roundabouts slow traffic but also provide often continuous flow. Roundabouts feature yield control for all approaches and a median to channelize traffic through the intersection.

Sidewalks

Sidewalks provide a dedicated space intended for use by pedestrians that is safe, comfortable and accessible to all. They are physically separated from the roadway by a curb or by unpaved buffer space.

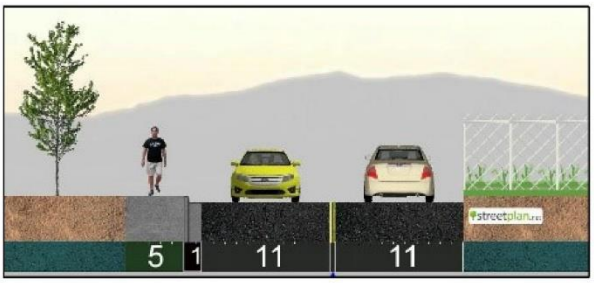
Bus Stop Amenities

A bus stop is a location where a bus route provides a stop. While often designated by a sign, the stop can be enhanced by providing a bench, canopy or shelter.

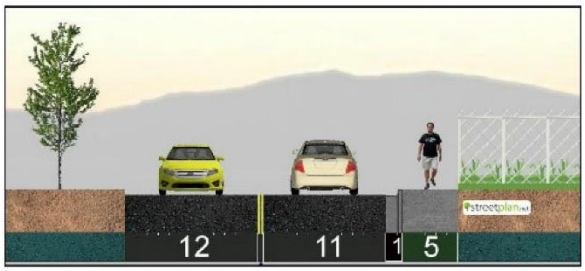
High Visibility Crosswalk

High visibility cross walks can be provided where larger pedestrian movements occur. High visibility crosswalks increase the visibility of pedestrian crossings by extending bye sight distance for motorists by using a more detectable crosswalk pattern.

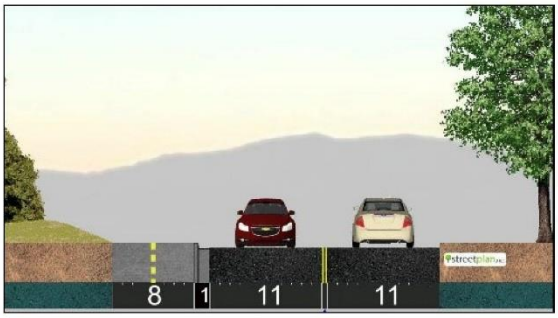
Figure 6-2 Typical Sections



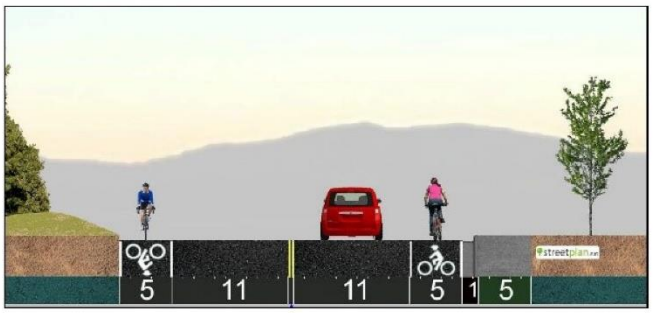
Foothill Drive – San Clemente Avenue to Vale Terrace Drive (Alternative 1)



Foothill Drive – San Clemente Avenue to Vale Terrace Drive (Alternative 2)



Vale Terrace Drive – Foothill Drive to Vale Terrace Place



Vale Terrace Drive – Vale Terrace Place to Ponderosa Avenue

Figure 6-3 Corridor Improvement Concept

(The proposed improvements are shown on the following 22 sheets in Appendix C.)

Section 7 – Evaluation and Monitoring Plan

Overview

The recommended project will be submitted to Caltrans for Active Transportation Program (ATP) Cycle 5 funding. If the project receives funding, performance metric data must be submitted within six months of programming to provide the "before" count metric data. The "after" count metric data should be submitted no sooner than six months after the project is completed.

Performance Metrics

The performance metric needed to support an ATP project is developing before and after daily pedestrian and bicycle counts. There are five steps that are described in the Interim Count Methodology Guidance (Interim Guidance) was developed by Caltrans in collaboration with the ATP Technical Advisory Committee. The following source provides additional detail and is referenced in this section of the report https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/ob/2019/ob19-02-attachment.pdf

1. Determine the Type of Count Data Needed

The following count duration information is provided to be followed.

ATP Project Types	Recommended Count Type & Method	Duration	Alternative Count Type & Method	Duration
Infrastructure (Including SRTS Infrastructure projects)	Automated 24 Hour Manual Count from Video 24 Hour	One Week	Manual In-field Counts Peak Period	4-total Hours on 3 Weekdays (T, W, TH) at 7 – 9 AM and 4 – 6 PM and 1 Weekend day 11 AM - 1 PM*

2. Determine the Number of Count Locations Needed

The goal of the interim guidance is to establish the minimum number of count locations. With a medium infrastructure project, the count guidance suggests one count per two corridors or intersections. This would indicate that one count location would be sufficient. Alternatively, one count on Vale Terrace Drive and one count on Foothill Drive could also be considered, but may not be required, as per guidance.

3. Selecting the Count Locations

Caltrans follows the National Bicycle and Pedestrian Documentation Project criteria to identify count locations. The key information from this list of criteria includes:

- For corridors where a single count is being conducted, it should be centrally located along the corridor or at a location where volumes are expected to be high.

- For networks, counts should be spread throughout the network in varying land uses, on varying roadway types, and in locations where future improvements are expected.

4. Conducting Pedestrian and Bicycle Counts

These best practices will impact the resulting count data and are required to be followed for ATP projects:

- All counts should be conducted no more than six months before the construction phase begins and again at least six months after it is completed. Agencies are encouraged but not required to conduct additional counts two years after the project has been completed, to allow projects to come to "maturity."

- Before and after user counts are to be conducted at the same location on the same days of the week, the same time(s) of day, and the same week of the year.

- Directionality (flows) and the mode of travel should be captured for each facility being measured. For example, a typical screenline count on a two-way street with sidewalks would have four facilities (two sidewalks and either two bikeways or two general travel lanes) and a minimum of eight mode/direction combinations.

5. Estimating the Total Volume (Number of Users) within the Project

Once the actual field-count data has been collected (manual or automated or surveys), the final step in the ATP reporting process is to estimate the total number of active transportation users within the proposed project limits. This will involve converting the count data into Average Daily Volume. The guidance suggests using average daily traffic volume counts to determine the expansion factors to convert the partial day counts into Daily Pedestrian Volumes and Daily Bicycle Volumes.

Appendix A Pedestrian and Bicycle Counts

Prepared by National Data & Surveying Services

Pedestrian Study

Location: 2382 Foothill Dr Bet. San Clemente Ave & Foothill Ranch Ln
City: Vista

Date 1/30/2020
Day Thursday

TIME	Sidewalk					
	East Side			West Side		
	NB	SB	Totals	NB	SB	Totals
7:00 AM	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0
7:30 AM	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0
8:00 AM	0	0	0	3	0	3
8:15 AM	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0
3:00 PM	0	0	0	0	32	32
3:15 PM	0	0	0	1	10	11
3:30 PM	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0
Totals	***0***	***0***	***0***	***5***	***42***	***47***

TIME	Roadway					
	East Side			West Side		
	NB	SB	Totals	NB	SB	Totals
7:00 AM	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0
Totals	***0***	***0***	***0***	***0***	***0***	***0***

TIME	Street Crossing		
	EB	WB	Totals
7:00 AM	0	0	0
7:15 AM	0	0	0
7:30 AM	0	0	0
7:45 AM	0	0	0
8:00 AM	0	0	0
8:15 AM	0	0	0
8:30 AM	0	0	0
8:45 AM	0	0	0
2:00 PM	0	0	0
2:15 PM	0	0	0
2:30 PM	0	0	0
2:45 PM	0	0	0
3:00 PM	3	1	4
3:15 PM	0	0	0
3:30 PM	0	0	0
3:45 PM	0	0	0
Totals	***3***	***1***	***4***

Prepared by National Data & Surveying Services

Bikes Study

Location: 2382 Foothill Dr Bet. San Clemente Ave & Foothill Ranch Ln
City: Vista

Date 1/30/2020
Day Thursday

TIME	Sidewalk					
	East Side			West Side		
	NB	SB	Totals	NB	SB	Totals
7:00 AM	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0
3:15 PM	1	0	1	0	0	0
3:30 PM	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0
Totals	***1***	***0***	***1***	***0***	***0***	***0***

TIME	Roadway					
	East Side			West Side		
	NB	SB	Totals	NB	SB	Totals
7:00 AM	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0
Totals	***0***	***0***	***0***	***0***	***0***	***0***

TIME	Street Crossing		
	EB	WB	Totals
7:00 AM	0	0	0
7:15 AM	0	0	0
7:30 AM	0	0	0
7:45 AM	0	0	0
8:00 AM	0	0	0
8:15 AM	0	0	0
8:30 AM	0	0	0
8:45 AM	0	0	0
2:00 PM	0	0	0
2:15 PM	0	0	0
2:30 PM	0	0	0
2:45 PM	0	0	0
3:00 PM	0	0	0
3:15 PM	0	0	0
3:30 PM	0	0	0
3:45 PM	0	0	0
Totals	***0***	***0***	***0***

Prepared by National Data & Surveying Services

Pedestrian Study

Location: Foothill Dr Bet. Vale Terrace Dr & Foothill Ranch Ln
City: Vista

Date: 1/7/2020
Day: Tuesday

TIME	East Side			West Side			Midblock Crossing		
	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL
7:00 AM	0	0	***0***	0	2	***2***	0	0	***0***
7:15 AM	0	0	***0***	0	0	***0***	0	0	***0***
7:30 AM	0	0	***0***	0	1	***1***	0	0	***0***
7:45 AM	0	1	***1***	0	5	***5***	0	0	***0***
8:00 AM	0	0	***0***	0	6	***6***	1	1	***2***
8:15 AM	0	0	***0***	0	0	***0***	0	0	***0***
8:30 AM	0	1	***1***	0	0	***0***	0	0	***0***
8:45 AM	0	0	***0***	0	0	***0***	0	0	***0***
Totals	***0***	***2***	***2***	***0***	***14***	***14***	***1***	***1***	***2***
2:00 PM	0	0	***0***	0	0	***0***	0	0	***0***
2:15 PM	0	0	***0***	0	0	***0***	0	0	***0***
2:30 PM	0	0	***0***	0	0	***0***	0	0	***0***
2:45 PM	0	0	***0***	0	0	***0***	0	0	***0***
3:00 PM	0	1	***1***	11	0	***11***	0	0	***0***
3:15 PM	4	0	***4***	48	1	***49***	1	0	***1***
3:30 PM	0	1	***1***	1	1	***2***	2	1	***3***
3:45 PM	0	0	***0***	1	0	***1***	0	0	***0***
Totals	***4***	***2***	***6***	***61***	***2***	***63***	***3***	***1***	***4***
Grand Total	***4***	***4***	***8***	***61***	***16***	***77***	***4***	***2***	***6***

Prepared by National Data & Surveying Services

Bike Study

Location: Foothill Dr Bet. Vale Terrace Dr & Foothill Ranch Ln
City: Vista

Date: 01/07/2020
Day: Tuesday

TIME	East Side						West Side						Bikes Crossing Midblock		
	Sidewalk		TOTAL	On Street		TOTAL	Sidewalk		TOTAL	On Street		TOTAL	EB	WB	TOTAL
	NB	SB		NB	SB		NB	SB		NB	SB				
7:00 AM	0	1	***1***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
7:15 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
7:30 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
7:45 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:00 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:15 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:30 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:45 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
Totals	***0***	***1***	***1***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
2:00 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
2:15 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
2:30 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
2:45 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
3:00 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
3:15 PM	1	0	***1***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
3:30 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
3:45 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
Totals	***1***	***0***	***1***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
Grand Total	***1***	***1***	***2***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***

Prepared by National Data & Surveying Services

Pedestrian Study

Location: Vale Terrace Dr Bet. E Vista Way & Ponderosa Dr
City: Vista

Date: 1/7/2020
Day: Tuesday

TIME	North Side			South Side			Midblock Crossing		
	EB	WB	TOTAL	EB	WB	TOTAL	NB	SB	TOTAL
7:00 AM	4	0	***4***	0	0	***0***	0	0	***0***
7:15 AM	2	4	***6***	1	0	***1***	0	0	***0***
7:30 AM	2	1	***3***	0	0	***0***	0	1	***1***
7:45 AM	0	1	***1***	0	0	***0***	0	0	***0***
8:00 AM	0	1	***1***	0	0	***0***	0	0	***0***
8:15 AM	0	0	***0***	0	0	***0***	0	1	***1***
8:30 AM	1	4	***5***	0	0	***0***	2	1	***3***
8:45 AM	2	0	***2***	0	0	***0***	0	1	***1***
Totals	***11***	***11***	***22***	***1***	***0***	***1***	***2***	***4***	***6***
2:00 PM	0	1	***1***	0	0	***0***	0	0	***0***
2:15 PM	0	2	***2***	0	0	***0***	0	0	***0***
2:30 PM	2	1	***3***	0	0	***0***	0	0	***0***
2:45 PM	1	3	***4***	0	0	***0***	0	0	***0***
3:00 PM	1	1	***2***	0	0	***0***	0	0	***0***
3:15 PM	1	2	***3***	0	0	***0***	1	0	***1***
3:30 PM	2	1	***3***	0	0	***0***	0	1	***1***
3:45 PM	5	8	***13***	1	2	***3***	0	0	***0***
Totals	***12***	***19***	***31***	***1***	***2***	***3***	***1***	***1***	***2***
Grand Total	***23***	***30***	***53***	***2***	***2***	***4***	***3***	***5***	***8***

Prepared by National Data & Surveying Services

Bike Study

Location: Vale Terrace Dr Bet. E Vista Way & Ponderosa Dr
City: Vista

Date: 01/07/2020
Day: Tuesday

TIME	North Side						South Side						Bikes Crossing Midblock		
	Sidewalk		TOTAL	On Street		TOTAL	Sidewalk		TOTAL	On Street		TOTAL	NB	SB	TOTAL
	EB	WB		EB	WB		EB	WB		EB	WB				
7:00 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
7:15 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
7:30 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
7:45 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:00 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:15 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:30 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:45 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
Totals	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
2:00 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
2:15 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
2:30 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
2:45 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
3:00 PM	0	0	***0***	0	0	***0***	0	0	***0***	1	0	***1***	0	0	***0***
3:15 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
3:30 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
3:45 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
Totals	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1***	***0***	***1***	***0***	***0***	***0***
Grand Total	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1***	***0***	***1***	***0***	***0***	***0***

Prepared by National Data & Surveying Services

Pedestrian Study

Location: Vale Terrace Dr Bet. Ponderosa Dr & Vale Terrace Pl
City: Vista

Date: 1/7/2020
Day: Tuesday

TIME	North Side			South Side			Crossing Midblock		
	EB	WB	TOTAL	EB	WB	TOTAL	NB	SB	TOTAL
7:00 AM	3	0	***3***	0	0	***0***	0	0	***0***
7:15 AM	0	1	***1***	0	0	***0***	0	0	***0***
7:30 AM	1	0	***1***	0	0	***0***	0	0	***0***
7:45 AM	2	0	***2***	0	0	***0***	0	0	***0***
8:00 AM	0	0	***0***	0	0	***0***	0	0	***0***
8:15 AM	0	1	***1***	0	0	***0***	0	0	***0***
8:30 AM	1	0	***1***	0	0	***0***	0	0	***0***
8:45 AM	0	0	***0***	0	0	***0***	0	0	***0***
Totals	***7***	***2***	***9***	***0***	***0***	***0***	***0***	***0***	***0***
2:00 PM	0	0	***0***	0	0	***0***	0	0	***0***
2:15 PM	0	0	***0***	0	0	***0***	0	0	***0***
2:30 PM	0	1	***1***	0	0	***0***	0	0	***0***
2:45 PM	0	2	***2***	0	0	***0***	0	0	***0***
3:00 PM	2	1	***3***	0	0	***0***	1	0	***1***
3:15 PM	1	1	***2***	0	0	***0***	0	0	***0***
3:30 PM	0	1	***1***	0	0	***0***	0	0	***0***
3:45 PM	0	7	***7***	1	0	***1***	0	0	***0***
Totals	***3***	***13***	***16***	***1***	***0***	***1***	***1***	***0***	***1***
Grand Total	***10***	***15***	***25***	***1***	***0***	***1***	***1***	***0***	***1***

Prepared by National Data & Surveying Services

Bike Study

Location: Vale Terrace Dr Bet. Ponderosa Dr & Vale Terrace Pl
City: Vista

Date: 01/07/2020
Day: Tuesday

TIME	North Side						South Side						Bikes Crossing Midblock		
	Sidewalk		TOTAL	On Street		TOTAL	Sidewalk		TOTAL	On Street		TOTAL	NB	SB	TOTAL
	EB	WB		EB	WB		EB	WB		EB	WB				
7:00 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
7:15 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
7:30 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
7:45 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:00 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:15 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:30 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
8:45 AM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
Totals	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
2:00 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
2:15 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
2:30 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
2:45 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
3:00 PM	0	0	***0***	0	0	***0***	0	0	***0***	1	0	***1***	0	0	***0***
3:15 PM	0	0	***0***	0	0	***0***	0	0	***0***	1	0	***1***	0	0	***0***
3:30 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
3:45 PM	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***	0	0	***0***
Totals	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***2***	***0***	***2***	***0***	***0***	***0***
Grand Total	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***2***	***0***	***2***	***0***	***0***	***0***

Prepared by National Data & Surveying Services

Pedestrian Study

Location: Vale Terrace Dr Bet. Vale Terrace Pl & Foothill Dr
City: Vista

Date: 1/7/2020
Day: Tuesday

TIME	North Side			South Side			Crossing Midblock		
	EB	WB	TOTAL	EB	WB	TOTAL	NB	SB	TOTAL
7:00 AM	0	0	***0***	0	0	***0***	0	0	***0***
7:15 AM	0	0	***0***	0	0	***0***	0	0	***0***
7:30 AM	1	0	***1***	1	0	***1***	0	0	***0***
7:45 AM	0	0	***0***	1	0	***1***	0	0	***0***
8:00 AM	0	0	***0***	1	0	***1***	0	1	***1***
8:15 AM	0	0	***0***	0	0	***0***	0	0	***0***
8:30 AM	0	1	***1***	0	0	***0***	0	0	***0***
8:45 AM	0	0	***0***	1	0	***1***	0	0	***0***
Totals	***1***	***1***	***2***	***4***	***0***	***4***	***0***	***1***	***1***
2:00 PM	0	0	***0***	0	1	***1***	0	0	***0***
2:15 PM	1	1	***2***	0	0	***0***	0	0	***0***
2:30 PM	0	1	***1***	0	0	***0***	0	0	***0***
2:45 PM	0	0	***0***	0	1	***1***	0	0	***0***
3:00 PM	0	0	***0***	0	2	***2***	0	0	***0***
3:15 PM	0	1	***1***	0	23	***23***	1	0	***1***
3:30 PM	1	0	***1***	0	1	***1***	0	0	***0***
3:45 PM	0	0	***0***	0	1	***1***	0	0	***0***
Totals	***2***	***3***	***5***	***0***	***29***	***29***	***1***	***0***	***1***
Grand Total	***3***	***4***	***7***	***4***	***29***	***33***	***1***	***1***	***2***

Prepared by National Data & Surveying Services

Bike Study

Location: Vale Terrace Dr Bet. Vale Terrace Pl & Foothill Dr
City: Vista

Date: 01/07/2020
Day: Tuesday

TIME	North Side						South Side						Bikes Crossing Midblock		
	Sidewalk		TOTAL	On Street		TOTAL	Sidewalk		TOTAL	On Street		TOTAL	NB	SB	TOTAL
	EB	WB		EB	WB		EB	WB		EB	WB				
7:00 AM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
7:15 AM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
7:30 AM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
7:45 AM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
8:00 AM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
8:15 AM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
8:30 AM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
8:45 AM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Totals	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
2:00 PM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
2:15 PM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
2:30 PM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
2:45 PM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
3:00 PM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
3:15 PM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
3:30 PM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
3:45 PM	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*	0	0	*0*
Totals	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Grand Total	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*

Appendix B Speed Survey and Traffic Data

Prepared by National Data & Surveying Services

SPEED

Foothill Dr Bet. Vale Terrace Dr & Foothill Ranch Ln

Day: Tuesday
Date: 1/7/2020

City: Vista
Project #: CA19_4473_001

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	4	15	8	0	0	0	0	0	0	0	0	**27**
01:00	0	0	1	12	3	1	0	0	0	0	0	0	0	**17**
02:00	0	0	2	6	4	2	0	0	0	0	0	0	0	**14**
03:00	0	1	1	12	3	2	1	0	0	0	0	0	0	**20**
04:00	0	0	4	27	15	4	0	0	0	0	0	0	0	**50**
05:00	0	2	25	112	57	13	0	0	0	0	0	0	0	**209**
06:00	0	6	73	361	115	2	1	0	0	0	0	0	0	**558**
07:00	1	13	191	505	155	13	0	0	0	0	0	0	0	**878**
08:00	22	45	240	427	106	5	0	0	0	0	0	0	0	**845**
09:00	2	8	83	229	80	5	0	0	0	0	0	0	0	**407**
10:00	1	5	86	190	61	5	1	0	0	0	0	0	0	**349**
11:00	1	1	83	235	78	4	0	0	0	0	0	0	0	**402**
12:00 PM	2	4	79	227	75	6	0	0	0	0	0	0	0	**393**
13:00	3	8	78	250	100	9	0	0	0	0	0	0	0	**448**
14:00	0	7	115	371	129	9	3	0	0	0	0	0	0	**634**
15:00	113	84	231	425	125	5	0	0	0	0	0	0	0	**983**
16:00	16	51	219	477	91	3	0	0	0	0	0	0	0	**857**
17:00	0	37	215	448	76	7	0	0	0	0	0	0	0	**783**
18:00	2	2	92	231	85	7	0	0	0	0	0	0	0	**419**
19:00	0	1	27	156	67	7	0	0	0	0	0	0	0	**258**
20:00	0	0	27	91	38	7	2	0	0	0	0	0	0	**165**
21:00	0	1	21	67	36	2	0	0	0	0	0	0	0	**127**
22:00	0	0	13	51	27	2	1	0	0	0	0	0	0	**94**
23:00	0	1	8	27	15	5	0	0	0	0	0	0	0	**56**
Totals	**163**	**277**	**1918**	**4952**	**1549**	**125**	**9**							**8993**
% of Totals	2%	3%	21%	55%	17%	1%	0%							100%

AM Volumes	27	81	793	2131	685	56	3	0	0	0	0	0	0	3776
% AM	0%	1%	9%	24%	8%	1%	0%							42%
AM Peak Hour	08:00	08:00	08:00	07:00	07:00	05:00	03:00							07:00
Volume	22	45	240	505	155	13	1							878
PM Volumes	136	196	1125	2821	864	69	6	0	0	0	0	0	0	5217
% PM	2%	2%	13%	31%	10%	1%	0%							58%
PM Peak Hour	15:00	15:00	15:00	16:00	14:00	13:00	14:00							15:00
Volume	113	84	231	477	129	9	3							983

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1723		19%	841		9%	1640		18%	4789		53%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Foothill Dr	Summary	22	27	27	31	34	8993

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Foothill Dr Bet. Vale Terrace Dr & Foothill Ranch Ln

Day: Tuesday
Date: 1/7/2020

City: Vista
Project #: CA19_4473_001

DAILY TOTALS	NB	SB	EB	WB	Total
	4,254	4,739	0	0	8,993

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	4		4		0	0	8		**12:00**	38		51		0	0	89	
00:15	2		4		0	0	6		**12:15**	61		53		0	0	114	
00:30	5		3		0	0	8		**12:30**	45		54		0	0	99	
00:45	4	15	1	12	0	0	5	27	**12:45**	40	184	51	209	0	0	91	393
01:00	3		1		0	0	4		**13:00**	55		42		0	0	97	
01:15	1		1		0	0	2		**13:15**	41		58		0	0	99	
01:30	3		3		0	0	6		**13:30**	54		68		0	0	122	
01:45	2	9	3	8	0	0	5	17	**13:45**	59	209	71	239	0	0	130	448
02:00	2		0		0	0	2		**14:00**	68		69		0	0	137	
02:15	1		1		0	0	2		**14:15**	71		78		0	0	149	
02:30	6		1		0	0	7		**14:30**	80		84		0	0	164	
02:45	2	11	1	3	0	0	3	14	**14:45**	82	301	102	333	0	0	184	634
03:00	2		1		0	0	3		**15:00**	103		120		0	0	223	
03:15	2		1		0	0	3		**15:15**	161		127		0	0	288	
03:30	3		5		0	0	8		**15:30**	150		125		0	0	275	
03:45	2	9	4	11	0	0	6	20	**15:45**	123	537	74	446	0	0	197	983
04:00	1		7		0	0	8		**16:00**	110		88		0	0	198	
04:15	2		9		0	0	11		**16:15**	136		86		0	0	222	
04:30	1		9		0	0	10		**16:30**	121		82		0	0	203	
04:45	8	12	13	38	0	0	21	50	**16:45**	145	512	89	345	0	0	234	857
05:00	9		15		0	0	24		**17:00**	103		86		0	0	189	
05:15	6		25		0	0	31		**17:15**	108		88		0	0	196	
05:30	18		47		0	0	65		**17:30**	114		89		0	0	203	
05:45	28	61	61	148	0	0	89	209	**17:45**	116	441	79	342	0	0	195	783
06:00	17		97		0	0	114		**18:00**	84		42		0	0	126	
06:15	25		76		0	0	101		**18:15**	72		49		0	0	121	
06:30	32		141		0	0	173		**18:30**	55		39		0	0	94	
06:45	46	120	124	438	0	0	170	558	**18:45**	39	250	39	169	0	0	78	419
07:00	50		115		0	0	165		**19:00**	31		42		0	0	73	
07:15	78		144		0	0	222		**19:15**	46		28		0	0	74	
07:30	50		158		0	0	208		**19:30**	30		25		0	0	55	
07:45	105	283	178	595	0	0	283	878	**19:45**	27	134	29	124	0	0	56	258
08:00	137		168		0	0	305		**20:00**	28		26		0	0	54	
08:15	122		137		0	0	259		**20:15**	23		15		0	0	38	
08:30	75		78		0	0	153		**20:30**	19		12		0	0	31	
08:45	63	397	65	448	0	0	128	845	**20:45**	16	86	26	79	0	0	42	165
09:00	61		56		0	0	117		**21:00**	16		23		0	0	39	
09:15	48		52		0	0	100		**21:15**	9		18		0	0	27	
09:30	39		59		0	0	98		**21:30**	23		13		0	0	36	
09:45	38	186	54	221	0	0	92	407	**21:45**	13	61	12	66	0	0	25	127
10:00	40		44		0	0	84		**22:00**	15		18		0	0	33	
10:15	44		48		0	0	92		**22:15**	13		9		0	0	22	
10:30	39		54		0	0	93		**22:30**	8		9		0	0	17	
10:45	38	161	42	188	0	0	80	349	**22:45**	13	49	9	45	0	0	22	94
11:00	45		46		0	0	91		**23:00**	7		18		0	0	25	
11:15	46		41		0	0	87		**23:15**	6		7		0	0	13	
11:30	64		65		0	0	129		**23:30**	7		3		0	0	10	
11:45	46	201	49	201	0	0	95	402	**23:45**	5	25	3	31	0	0	8	56
TOTALS		1465		2311				**3776**	**TOTALS**		2789		2428				**5217**
SPLIT %		38.8%		61.2%				**42.0%**	**SPLIT %**		53.5%		46.5%				**58.0%**

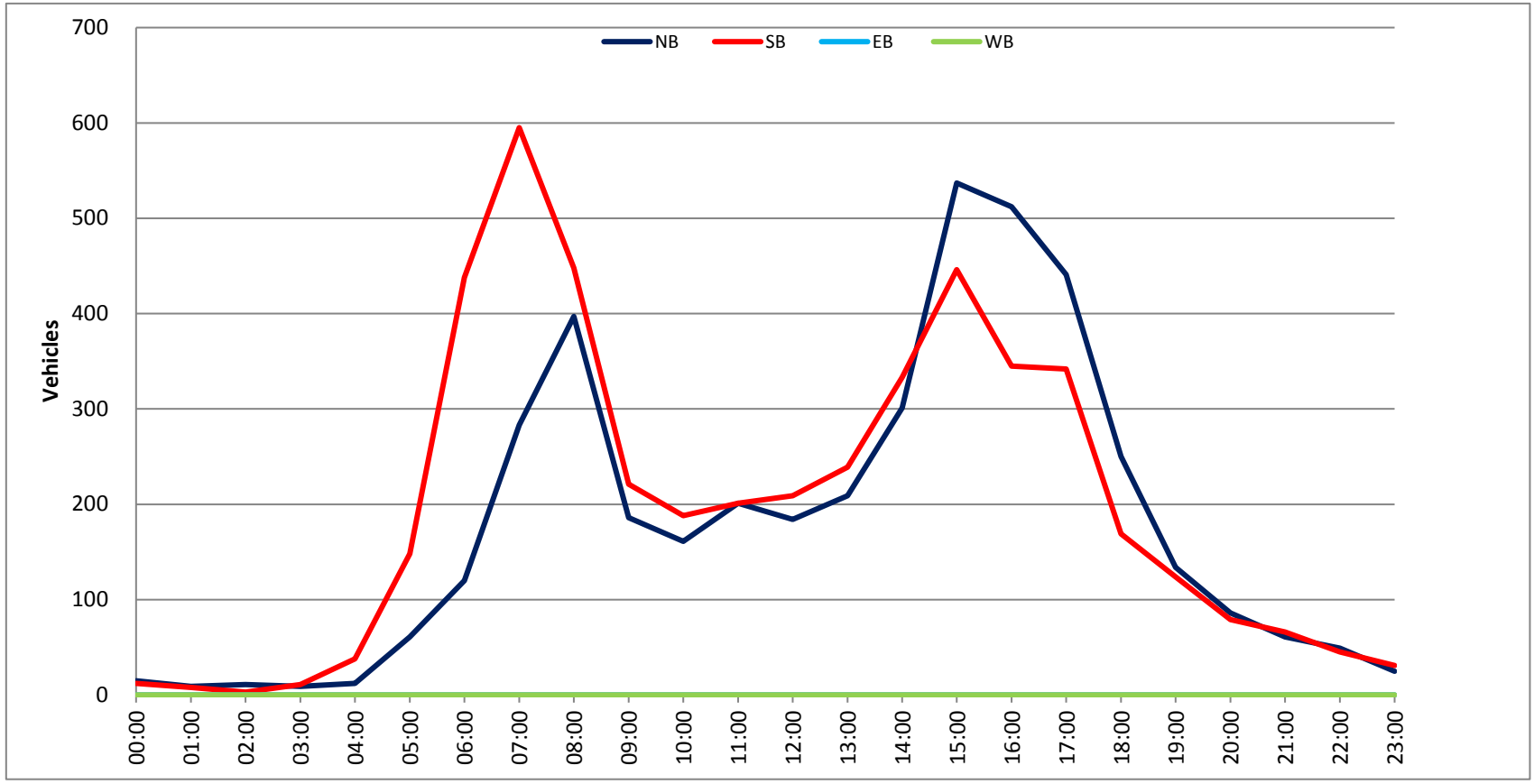
DAILY TOTALS	NB	SB	EB	WB	Total
	4,254	4,739	0	0	8,993

AM Peak Hour	07:45	07:15				**07:30**	**PM Peak Hour**	15:15	14:45					**15:00**
AM Pk Volume	439	648				**1055**	**PM Pk Volume**	544	474					**983**
Pk Hr Factor	0.801	0.910				**0.865**	**Pk Hr Factor**	0.845	0.933					**0.853**
7 - 9 Volume	680	1043	0	0		**1723**	**4 - 6 Volume**	953	687	0	0			**1640**
7 - 9 Peak Hour	07:45	07:15				**07:30**	**4 - 6 Peak Hour**	16:00	16:45					**16:00**
7 - 9 Pk Volume	439	648	0	0		**1055**	**4 - 6 Pk Volume**	512	352	0	0			**857**
Pk Hr Factor	0.801	0.910	0.000	0.000		**0.865**	**Pk Hr Factor**	0.883	0.989	0.000	0.000			**0.916**

Prepared by National Data & Surveying Services

Project #: CA19_4473_001 **City:** Vista

Location: Foothill Dr Bet. Vale Terrace Dr & Foothill **Date:** 1/7/2020



Prepared by National Data & Surveying Services

SPEED

Vale Terrace Dr Bet. E Vista Way & Ponderosa Dr

Day: Tuesday
Date: 1/7/2020

City: Vista
Project #: CA19_4473_002

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	1	5	3	9	5	0	0	0	0	0	0	0	0	**23**
01:00	0	3	6	2	1	1	0	0	0	0	0	0	0	**13**
02:00	0	1	1	1	3	1	0	0	0	0	0	0	0	**7**
03:00	0	3	11	4	2	0	1	0	0	0	0	0	0	**21**
04:00	1	6	18	8	6	2	2	0	0	0	0	0	0	**43**
05:00	0	25	46	45	47	9	0	0	0	0	0	0	0	**172**
06:00	11	62	107	115	70	13	2	0	0	0	0	0	0	**380**
07:00	6	144	249	208	97	13	1	0	0	0	0	0	0	**718**
08:00	21	153	215	161	63	10	0	0	0	0	0	0	0	**623**
09:00	9	86	163	102	42	4	0	0	0	0	0	0	0	**406**
10:00	8	85	131	143	41	7	0	0	0	0	0	0	0	**415**
11:00	7	91	165	123	47	4	0	0	0	0	0	0	0	**437**
12:00 PM	9	120	168	141	61	4	0	0	0	0	0	0	0	**503**
13:00	13	98	163	152	56	4	0	0	0	0	0	0	0	**486**
14:00	14	166	240	184	68	6	0	0	0	0	0	0	0	**678**
15:00	31	221	231	231	71	6	1	0	0	0	0	0	0	**792**
16:00	18	233	252	191	62	3	0	0	0	0	0	0	0	**759**
17:00	17	195	292	209	43	1	0	0	0	0	0	0	0	**757**
18:00	14	119	149	146	37	2	1	0	0	0	0	0	0	**468**
19:00	9	99	112	87	23	5	0	0	0	0	0	0	0	**335**
20:00	4	32	63	79	30	5	0	0	0	0	0	0	0	**213**
21:00	4	36	40	56	18	0	0	0	0	0	0	0	0	**154**
22:00	2	21	17	33	11	3	0	0	0	0	0	0	0	**87**
23:00	0	3	13	18	5	1	0	0	0	0	0	0	0	**40**
Totals	**199**	**2007**	**2855**	**2448**	**909**	**104**	**8**							**8530**
% of Totals	2%	24%	33%	29%	11%	1%	0%							100%

AM Volumes	64	664	1115	921	424	64	6	0	0	0	0	0	0	3258
% AM	1%	8%	13%	11%	5%	1%	0%							38%
AM Peak Hour	08:00	08:00	07:00	07:00	07:00	06:00	04:00							07:00
Volume	21	153	249	208	97	13	2							718
PM Volumes	135	1343	1740	1527	485	40	2	0	0	0	0	0	0	5272
% PM	2%	16%	20%	18%	6%	0%	0%							62%
PM Peak Hour	15:00	16:00	17:00	15:00	15:00	14:00	15:00							15:00
Volume	31	233	292	231	71	6	1							792

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1341		16%	989		12%	1516		18%	4684		55%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Vale Terrace Dr	Summary	18	24	24	29	33	8530

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Vale Terrace Dr Bet. E Vista Way & Ponderosa Dr

Day: Tuesday
Date: 1/7/2020

City: Vista
Project #: CA19_4473_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,461	4,069	8,530

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	5		3		8		**12:00**	0	0	72		62		134	
00:15	0	0	4		1		5		**12:15**	0	0	64		60		124	
00:30	0	0	4		3		7		**12:30**	0	0	65		62		127	
00:45	0	0	3	16	0	7	3	23	**12:45**	0	0	67	268	51	235	118	503
01:00	0	0	0		3		3		**13:00**	0	0	60		61		121	
01:15	0	0	0		3		3		**13:15**	0	0	55		46		101	
01:30	0	0	2		1		3		**13:30**	0	0	68		50		118	
01:45	0	0	3	5	1	8	4	13	**13:45**	0	0	82	265	64	221	146	486
02:00	0	0	0		0				**14:00**	0	0	70		77		147	
02:15	0	0	3		1		4		**14:15**	0	0	71		86		157	
02:30	0	0	2		0		2		**14:30**	0	0	77		120		197	
02:45	0	0	0	5	1	2	1	7	**14:45**	0	0	105	323	72	355	177	678
03:00	0	0	1		1		2		**15:00**	0	0	118		61		179	
03:15	0	0	1		2		3		**15:15**	0	0	98		126		224	
03:30	0	0	3		7		10		**15:30**	0	0	99		113		212	
03:45	0	0	2	7	4	14	6	21	**15:45**	0	0	83	398	94	394	177	792
04:00	0	0	1		1		2		**16:00**	0	0	101		75		176	
04:15	0	0	3		6		9		**16:15**	0	0	86		111		197	
04:30	0	0	6		7		13		**16:30**	0	0	88		97		185	
04:45	0	0	8	18	11	25	19	43	**16:45**	0	0	97	372	104	387	201	759
05:00	0	0	7		10		17		**17:00**	0	0	110		101		211	
05:15	0	0	15		11		26		**17:15**	0	0	110		90		200	
05:30	0	0	36		18		54		**17:30**	0	0	87		77		164	
05:45	0	0	55	113	20	59	75	172	**17:45**	0	0	98	405	84	352	182	757
06:00	0	0	42		28		70		**18:00**	0	0	69		64		133	
06:15	0	0	45		34		79		**18:15**	0	0	73		74		147	
06:30	0	0	70		47		117		**18:30**	0	0	59		40		99	
06:45	0	0	62	219	52	161	114	380	**18:45**	0	0	52	253	37	215	89	468
07:00	0	0	62		90		152		**19:00**	0	0	47		55		102	
07:15	0	0	74		79		153		**19:15**	0	0	56		38		94	
07:30	0	0	117		58		175		**19:30**	0	0	40		37		77	
07:45	0	0	131	384	107	334	238	718	**19:45**	0	0	28	171	34	164	62	335
08:00	0	0	99		110		209		**20:00**	0	0	45		26		71	
08:15	0	0	93		87		180		**20:15**	0	0	25		20		45	
08:30	0	0	64		71		135		**20:30**	0	0	27		17		44	
08:45	0	0	45	301	54	322	99	623	**20:45**	0	0	37	134	16	79	53	213
09:00	0	0	46		52		98		**21:00**	0	0	32		15		47	
09:15	0	0	57		44		101		**21:15**	0	0	32		16		48	
09:30	0	0	41		63		104		**21:30**	0	0	16		16		32	
09:45	0	0	48	192	55	214	103	406	**21:45**	0	0	18	98	9	56	27	154
10:00	0	0	55		52		107		**22:00**	0	0	15		9		24	
10:15	0	0	63		60		123		**22:15**	0	0	18		10		28	
10:30	0	0	53		38		91		**22:30**	0	0	10		5		15	
10:45	0	0	50	221	44	194	94	415	**22:45**	0	0	8	51	12	36	20	87
11:00	0	0	59		48		107		**23:00**	0	0	8		4		12	
11:15	0	0	53		53		106		**23:15**	0	0	7		1		8	
11:30	0	0	64		59		123		**23:30**	0	0	6		5		11	
11:45	0	0	39	215	62	222	101	437	**23:45**	0	0	6	27	3	13	9	40
TOTALS				1696		1562		**3258**	**TOTALS**				2765		2507		**5272**
SPLIT %				52.1%		47.9%		**38.2%**	**SPLIT %**				52.4%		47.6%		**61.8%**

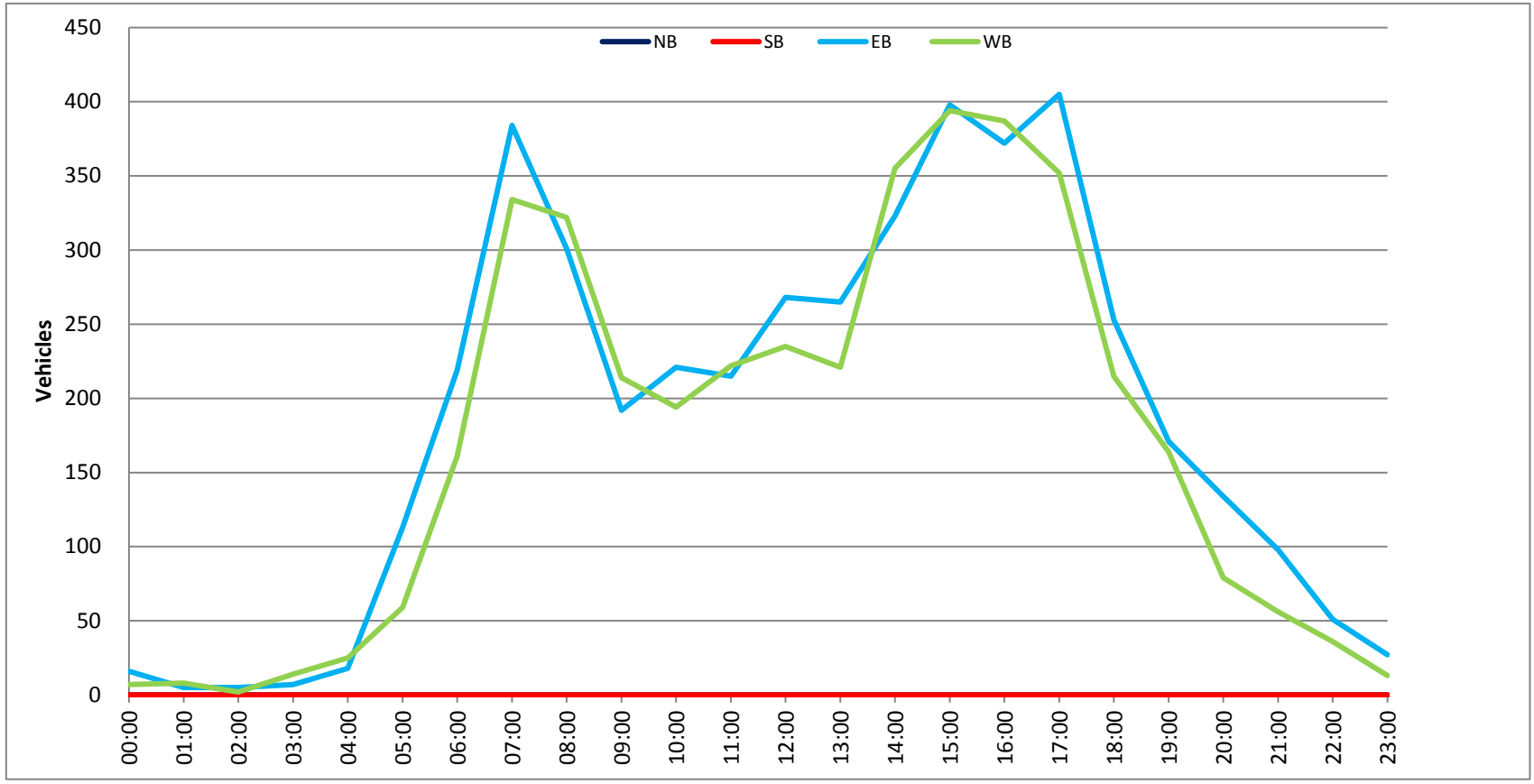
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,461	4,069	8,530

AM Peak Hour			07:30	07:45	**07:30**	**PM Peak Hour**			14:45	16:15	**16:30**
AM Pk Volume			440	375	**802**	**PM Pk Volume**			420	413	**797**
Pk Hr Factor			0.840	0.852	**0.842**	**Pk Hr Factor**			0.890	0.930	**0.944**
7 - 9 Volume	0	0	685	656	**1341**	**4 - 6 Volume**	0	0	777	739	**1516**
7 - 9 Peak Hour			07:30	07:45	**07:30**	**4 - 6 Peak Hour**			16:30	16:15	**16:30**
7 - 9 Pk Volume	0	0	440	375	**802**	**4 - 6 Pk Volume**	0	0	405	413	**797**
Pk Hr Factor	0.000	0.000	0.840	0.852	**0.842**	**Pk Hr Factor**	0.000	0.000	0.920	0.930	**0.944**

Prepared by National Data & Surveying Services

Project #: CA19_4473_002 **City:** Vista

Location: Vale Terrace Dr Bet. E Vista Way & **Date:** 1/7/2020



Prepared by National Data & Surveying Services

SPEED

Vale Terrace Dr Bet. Ponderosa Dr & Vale Terrace Pl

Day: Tuesday
Date: 1/7/2020

City: Vista
Project #: CA19_4473_003

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	2	4	7	0	2	1	0	0	0	0	**16**
01:00	0	0	0	1	4	3	3	2	0	0	0	0	0	**13**
02:00	0	0	1	0	2	1	1	1	2	0	0	0	0	**8**
03:00	0	0	0	0	0	6	5	1	3	0	0	0	0	**15**
04:00	0	0	1	1	10	16	10	3	2	0	0	0	0	**43**
05:00	0	0	0	8	27	57	36	23	2	1	0	0	0	**154**
06:00	0	0	1	13	70	141	105	30	4	0	0	0	0	**364**
07:00	0	1	0	26	178	300	147	28	2	0	0	0	0	**682**
08:00	0	0	2	20	141	251	132	26	3	0	1	0	0	**576**
09:00	0	2	6	13	101	144	70	14	1	0	0	0	0	**351**
10:00	0	1	0	26	122	153	53	16	2	1	0	0	0	**374**
11:00	0	0	3	35	103	161	58	15	2	1	0	0	0	**378**
12:00 PM	0	0	10	43	147	149	72	15	1	0	0	0	0	**437**
13:00	0	1	3	35	130	160	67	13	1	0	0	0	0	**410**
14:00	1	0	4	66	199	244	88	12	1	0	0	0	0	**615**
15:00	0	4	9	86	278	253	71	8	1	0	0	0	0	**710**
16:00	1	4	11	67	240	277	77	7	2	0	0	0	0	**686**
17:00	1	2	5	53	230	250	88	8	0	0	0	0	0	**637**
18:00	0	0	2	25	119	151	71	13	0	0	0	0	0	**381**
19:00	0	1	4	11	72	99	43	8	1	1	0	0	0	**240**
20:00	0	0	0	6	41	77	36	8	0	0	0	0	0	**168**
21:00	0	0	0	10	29	51	25	5	0	1	1	0	0	**122**
22:00	0	0	2	1	24	25	12	6	1	0	2	0	0	**73**
23:00	0	0	0	0	7	13	7	4	1	0	0	0	0	**32**
Totals	**3**	**16**	**64**	**548**	**2278**	**2989**	**1277**	**268**	**33**	**5**	**4**			**7485**
% of Totals	0%	0%	1%	7%	30%	40%	17%	4%	0%	0%	0%			100%

AM Volumes	0	4	14	145	762	1240	620	161	24	3	1	0	0	2974
% AM		0%	0%	2%	10%	17%	8%	2%	0%	0%	0%			40%
AM Peak Hour		09:00	09:00	11:00	07:00	07:00	07:00	06:00	06:00	05:00	08:00			07:00
Volume		2	6	35	178	300	147	30	4	1	1			682
PM Volumes	3	12	50	403	1516	1749	657	107	9	2	3	0	0	4511
% PM	0%	0%	1%	5%	20%	23%	9%	1%	0%	0%	0%			60%
PM Peak Hour	14:00	15:00	16:00	15:00	15:00	16:00	14:00	12:00	16:00	19:00	22:00			15:00
Volume	1	4	11	86	278	277	88	15	2	1	2			710

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1258		17%	847		11%	1323		18%	4057		54%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Vale Terrace Dr	Summary	31	36	36	42	45	7485

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Vale Terrace Dr Bet. Ponderosa Dr & Vale Terrace Pl

Day: Tuesday
Date: 1/7/2020

City: Vista
Project #: CA19_4473_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,924	3,561	7,485

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	4		1		5		**12:00**	0	0	52		49		101	
00:15	0	0	3		1		4		**12:15**	0	0	65		51		116	
00:30	0	0	3		2		5		**12:30**	0	0	51		53		104	
00:45	0	0	2	12	0	4	2	16	**12:45**	0	0	63	231	53	206	116	437
01:00	0	0	0		3		3		**13:00**	0	0	48		52		100	
01:15	0	0	0		4		4		**13:15**	0	0	49		38		87	
01:30	0	0	1		1		2		**13:30**	0	0	62		39		101	
01:45	0	0	3	4	1	9	4	13	**13:45**	0	0	66	225	56	185	122	410
02:00	0	0	1		0		1		**14:00**	0	0	60		58		118	
02:15	0	0	3		1		4		**14:15**	0	0	71		80		151	
02:30	0	0	2		0		2		**14:30**	0	0	67		117		184	
02:45	0	0	0	6	1	2	1	8	**14:45**	0	0	99	297	63	318	162	615
03:00	0	0	0		0				**15:00**	0	0	101		58		159	
03:15	0	0	0		2		2		**15:15**	0	0	88		117		205	
03:30	0	0	1		7		8		**15:30**	0	0	91		102		193	
03:45	0	0	2	3	3	12	5	15	**15:45**	0	0	66	346	87	364	153	710
04:00	0	0	1		2		3		**16:00**	0	0	94		78		172	
04:15	0	0	2		4		6		**16:15**	0	0	79		99		178	
04:30	0	0	6		6		12		**16:30**	0	0	72		97		169	
04:45	0	0	9	18	13	25	22	43	**16:45**	0	0	67	312	100	374	167	686
05:00	0	0	9		6		15		**17:00**	0	0	96		80		176	
05:15	0	0	15		8		23		**17:15**	0	0	92		80		172	
05:30	0	0	28		15		43		**17:30**	0	0	69		66		135	
05:45	0	0	55	107	18	47	73	154	**17:45**	0	0	78	335	76	302	154	637
06:00	0	0	44		24		68		**18:00**	0	0	54		52		106	
06:15	0	0	44		28		72		**18:15**	0	0	64		47		111	
06:30	0	0	69		44		113		**18:30**	0	0	44		41		85	
06:45	0	0	63	220	48	144	111	364	**18:45**	0	0	48	210	31	171	79	381
07:00	0	0	54		80		134		**19:00**	0	0	43		30		73	
07:15	0	0	81		67		148		**19:15**	0	0	46		20		66	
07:30	0	0	114		62		176		**19:30**	0	0	38		20		58	
07:45	0	0	118	367	106	315	224	682	**19:45**	0	0	23	150	20	90	43	240
08:00	0	0	94		102		196		**20:00**	0	0	36		19		55	
08:15	0	0	83		84		167		**20:15**	0	0	21		17		38	
08:30	0	0	58		57		115		**20:30**	0	0	24		11		35	
08:45	0	0	41	276	57	300	98	576	**20:45**	0	0	28	109	12	59	40	168
09:00	0	0	34		49		83		**21:00**	0	0	27		12		39	
09:15	0	0	49		37		86		**21:15**	0	0	26		12		38	
09:30	0	0	38		59		97		**21:30**	0	0	13		12		25	
09:45	0	0	38	159	47	192	85	351	**21:45**	0	0	15	81	5	41	20	122
10:00	0	0	51		41		92		**22:00**	0	0	13		8		21	
10:15	0	0	60		52		112		**22:15**	0	0	11		8		19	
10:30	0	0	51		40		91		**22:30**	0	0	11		6		17	
10:45	0	0	42	204	37	170	79	374	**22:45**	0	0	7	42	9	31	16	73
11:00	0	0	46		42		88		**23:00**	0	0	8		1		9	
11:15	0	0	44		49		93		**23:15**	0	0	7		1		8	
11:30	0	0	62		52		114		**23:30**	0	0	4		5		9	
11:45	0	0	37	189	46	189	83	378	**23:45**	0	0	2	21	4	11	6	32
TOTALS				1565		1409		**2974**	**TOTALS**				2359		2152		**4511**
SPLIT %				52.6%		47.4%		**39.7%**	**SPLIT %**				52.3%		47.7%		**60.3%**

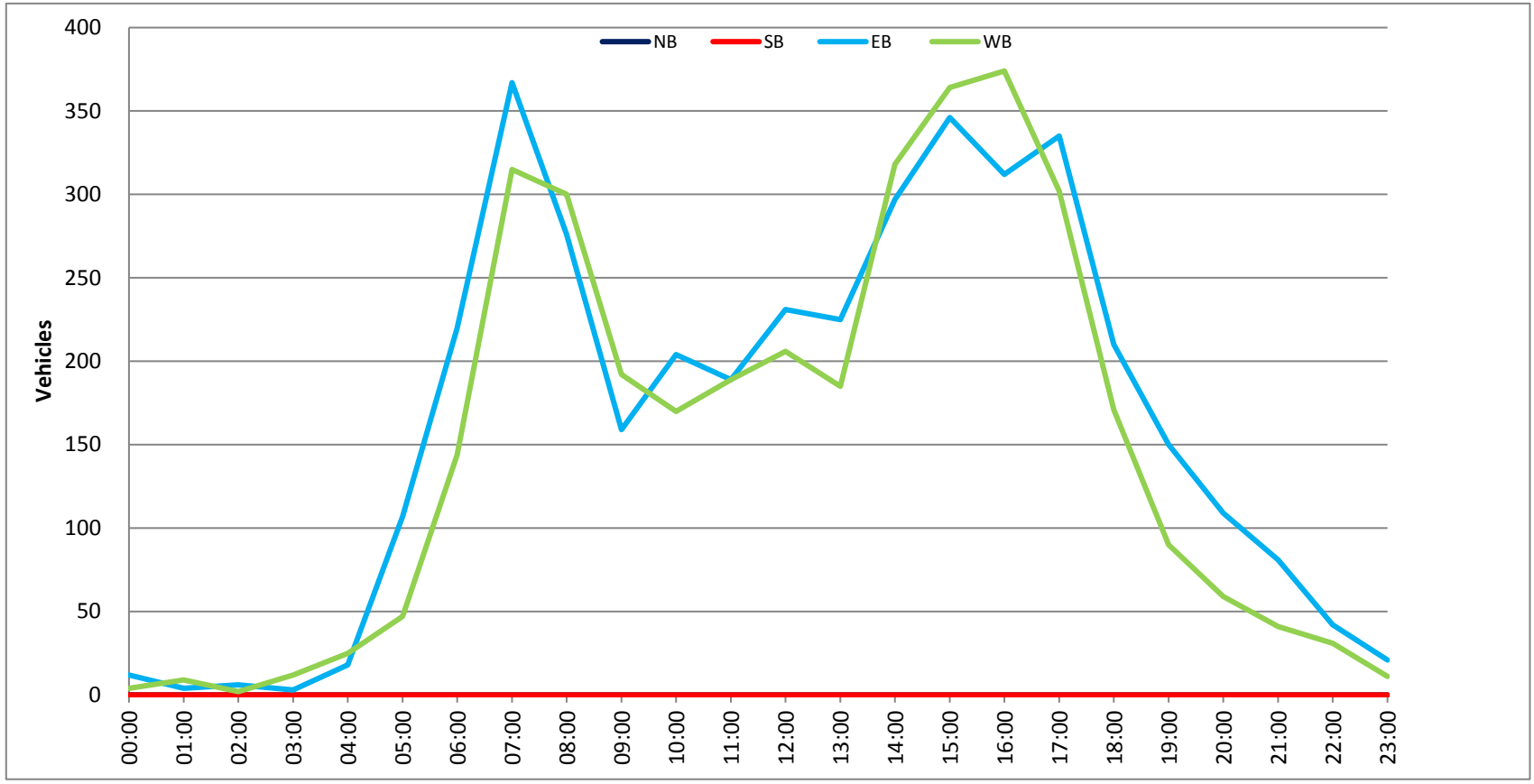
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,924	3,561	7,485

AM Peak Hour			07:30	07:30	**07:30**	**PM Peak Hour**		14:45	15:15	**15:15**
AM Pk Volume			409	354	**763**	**PM Pk Volume**		379	384	**723**
Pk Hr Factor			0.867	0.835	**0.852**	**Pk Hr Factor**		0.938	0.821	**0.882**
7 - 9 Volume	0	0	643	615	**1258**	**4 - 6 Volume**	0	647	676	**1323**
7 - 9 Peak Hour			07:30	07:30	**07:30**	**4 - 6 Peak Hour**		17:00	16:15	**16:15**
7 - 9 Pk Volume	0	0	409	354	**763**	**4 - 6 Pk Volume**	0	335	376	**690**
Pk Hr Factor	0.000	0.000	0.867	0.835	**0.852**	**Pk Hr Factor**	0.000	0.872	0.940	**0.969**

Prepared by National Data & Surveying Services

Project #: CA19_4473_003 **City:** Vista

Location: Vale Terrace Dr Bet. Ponderosa Dr & Vale **Date:** 1/7/2020



Prepared by National Data & Surveying Services

SPEED

Vale Terrace Dr Bet. Vale Terrace Pl & Foothill Dr

Day: Tuesday
Date: 1/7/2020

City: Vista
Project #: CA19_4473_004

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	4	1	0	0	1	0	0	0	0	6
01:00	0	0	0	0	0	2	0	2	1	0	0	0	0	5
02:00	0	0	0	0	2	2	1	0	0	0	0	0	0	5
03:00	1	0	1	1	1	0	6	1	1	0	0	0	0	12
04:00	0	1	2	0	6	9	6	3	1	0	0	0	0	28
05:00	0	0	1	6	21	45	30	10	5	0	0	0	0	118
06:00	0	1	3	13	47	95	91	26	6	0	1	0	0	283
07:00	0	0	2	13	69	141	114	51	7	2	0	0	0	399
08:00	3	3	8	22	96	164	130	34	7	0	0	0	0	467
09:00	1	1	4	15	30	65	66	20	3	1	0	0	0	206
10:00	2	0	1	9	35	72	46	19	4	0	0	0	0	188
11:00	0	0	1	13	33	74	71	25	5	0	0	0	0	222
12:00 PM	0	1	3	1	43	77	60	22	2	1	0	0	0	210
13:00	1	0	2	9	40	60	47	19	3	0	0	0	0	181
14:00	1	0	3	16	70	104	99	24	8	0	0	0	0	325
15:00	0	2	20	64	123	164	120	18	2	0	0	0	0	513
16:00	4	1	4	14	68	191	131	45	5	0	0	0	0	463
17:00	0	0	4	12	75	171	97	37	3	1	0	0	0	400
18:00	0	0	2	11	48	66	79	26	5	0	1	0	0	238
19:00	0	1	1	7	27	57	26	8	2	1	1	0	0	131
20:00	0	0	1	5	14	24	26	9	0	1	0	0	0	80
21:00	0	0	1	7	12	26	22	4	2	2	0	0	0	76
22:00	0	0	0	0	4	17	12	5	1	0	0	0	0	39
23:00	0	0	1	2	4	7	7	4	0	0	0	0	0	25
Totals	13	11	65	240	872	1634	1287	412	74	9	3			4620
% of Totals	0%	0%	1%	5%	19%	35%	28%	9%	2%	0%	0%			100%

AM Volumes	7	6	23	92	344	670	561	191	41	3	1	0	0	1939
% AM	0%	0%	0%	2%	7%	15%	12%	4%	1%	0%	0%			42%
AM Peak Hour	08:00	08:00	08:00	08:00	08:00	08:00	08:00	07:00	07:00	07:00	06:00			08:00
Volume	3	3	8	22	96	164	130	51	7	2	1			467
PM Volumes	6	5	42	148	528	964	726	221	33	6	2	0	0	2681
% PM	0%	0%	1%	3%	11%	21%	16%	5%	1%	0%	0%			58%
PM Peak Hour	16:00	15:00	15:00	15:00	15:00	16:00	16:00	16:00	14:00	21:00	18:00			15:00
Volume	4	2	20	64	123	191	131	45	8	2	1			513

Directional Peak Periods	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
All Speeds	Volume	%	Volume	%	Volume	%	Volume	%
	866	19%	391	8%	863	19%	2500	54%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Vale Terrace Dr	Summary	32	38	38	44	48	4620

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Vale Terrace Dr Bet. Vale Terrace Pl & Foothill Dr

Day: Tuesday
Date: 1/7/2020

City: Vista
Project #: CA19_4473_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,391	2,229	4,620

AM Period	NB		SB		EB		WB		TOTAL	
00:00	0		0		1		0		1	
00:15	0		0		0		0			
00:30	0		0		2		1		3	
00:45	0		0		2	5	0	1	2	6
01:00	0		0		0		0			
01:15	0		0		0		1		1	
01:30	0		0		0		0			
01:45	0		0		3	3	1	2	4	5
02:00	0		0		0		1		1	
02:15	0		0		2		0		2	
02:30	0		0		1		0		1	
02:45	0		0		0	3	1	2	1	5
03:00	0		0		0		0			
03:15	0		0		0		2		2	
03:30	0		0		3		4		7	
03:45	0		0		2	5	1	7	3	12
04:00	0		0		1		1		2	
04:15	0		0		3		2		5	
04:30	0		0		6		3		9	
04:45	0		0		5	15	7	13	12	28
05:00	0		0		9		8		17	
05:15	0		0		12		2		14	
05:30	0		0		23		9		32	
05:45	0		0		43	87	12	31	55	118
06:00	0		0		46		11		57	
06:15	0		0		46		16		62	
06:30	0		0		62		28		90	
06:45	0		0		46	200	28	83	74	283
07:00	0		0		41		37		78	
07:15	0		0		47		41		88	
07:30	0		0		45		40		85	
07:45	0		0		71	204	77	195	148	399
08:00	0		0		82		92		174	
08:15	0		0		63		88		151	
08:30	0		0		33		44		77	
08:45	0		0		26	204	39	263	65	467
09:00	0		0		28		34		62	
09:15	0		0		24		23		47	
09:30	0		0		20		34		54	
09:45	0		0		19	91	24	115	43	206
10:00	0		0		19		28		47	
10:15	0		0		33		25		58	
10:30	0		0		24		15		39	
10:45	0		0		21	97	23	91	44	188
11:00	0		0		19		26		45	
11:15	0		0		23		31		54	
11:30	0		0		32		34		66	
11:45	0		0		28	102	29	120	57	222
TOTALS						1016		923		**1939**
SPLIT %						52.4%		47.6%		**42.0%**

PM Period	NB		SB		EB		WB		TOTAL	
12:00	0		0		17		34		51	
12:15	0		0		26		26		52	
12:30	0		0		32		21		53	
12:45	0		0		28	103	26	107	54	210
13:00	0		0		18		30		48	
13:15	0		0		20		20		40	
13:30	0		0		25		16		41	
13:45	0		0		31	94	21	87	52	181
14:00	0		0		31		35		66	
14:15	0		0		41		39		80	
14:30	0		0		43		52		95	
14:45	0		0		48	163	36	162	84	325
15:00	0		0		64		45		109	
15:15	0		0		76		81		157	
15:30	0		0		70		85		155	
15:45	0		0		36	246	56	267	92	513
16:00	0		0		57		53		110	
16:15	0		0		51		68		119	
16:30	0		0		45		71		116	
16:45	0		0		46	199	72	264	118	463
17:00	0		0		62		40		102	
17:15	0		0		63		54		117	
17:30	0		0		52		43		95	
17:45	0		0		48	225	38	175	86	400
18:00	0		0		34		38		72	
18:15	0		0		46		37		83	
18:30	0		0		26		25		51	
18:45	0		0		19	125	13	113	32	238
19:00	0		0		23		15		38	
19:15	0		0		22		17		39	
19:30	0		0		19		14		33	
19:45	0		0		11	75	10	56	21	131
20:00	0		0		19		9		28	
20:15	0		0		11		4		15	
20:30	0		0		8		6		14	
20:45	0		0		16	54	7	26	23	80
21:00	0		0		16		8		24	
21:15	0		0		13		4		17	
21:30	0		0		11		9		20	
21:45	0		0		10	50	5	26	15	76
22:00	0		0		6		7		13	
22:15	0		0		6		3		9	
22:30	0		0		7		3		10	
22:45	0		0		5	24	2	15	7	39
23:00	0		0		6		1		7	
23:15	0		0		6		1		7	
23:30	0		0		4		3		7	
23:45	0		0		1	17	3	8	4	25
TOTALS						1375		1306		**2681**
SPLIT %						51.3%		48.7%		**58.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,391	2,229	4,620

AM Peak Hour			07:30	07:45	**07:30**
AM Pk Volume			261	301	**558**
Pk Hr Factor			0.796	0.818	**0.802**
7 - 9 Volume	0	0	408	458	**866**
7 - 9 Peak Hour			07:30	07:45	**07:30**
7 - 9 Pk Volume	0	0	261	301	**558**
Pk Hr Factor	0.000	0.000	0.796	0.818	**0.802**

PM Peak Hour			14:45	15:15	**15:15**
PM Pk Volume			258	275	**514**
Pk Hr Factor			0.849	0.809	**0.818**
4 - 6 Volume	0	0	424	439	**863**
4 - 6 Peak Hour			17:00	16:00	**16:00**
4 - 6 Pk Volume	0	0	225	264	**463**
Pk Hr Factor	0.000	0.000	0.893	0.917	**0.973**

Prepared by National Data & Surveying Services

Project #: CA19_4473_004 **City:** Vista

Location: Vale Terrace Dr Bet. Vale Terrace Pl & **Date:** 1/7/2020

National Data & Surveying Services

Intersection Turning Movement Count

Location: Vale Terrace Pl & Vale Terrace Dr
City: Vista
Control: 3-Way Stop(NB/EB/WB)

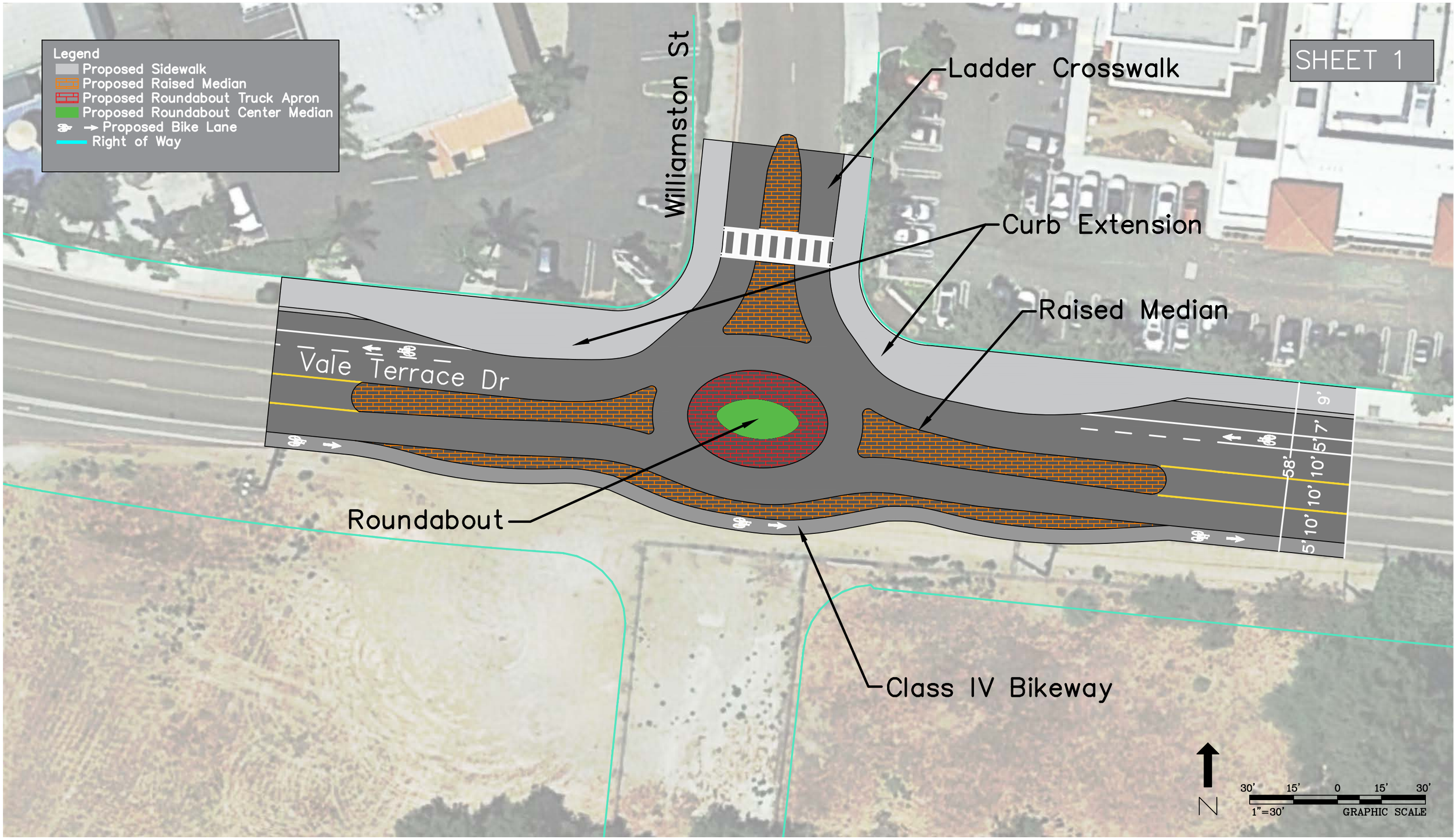
Project ID: 20-04050-001
Date: 2/26/2020

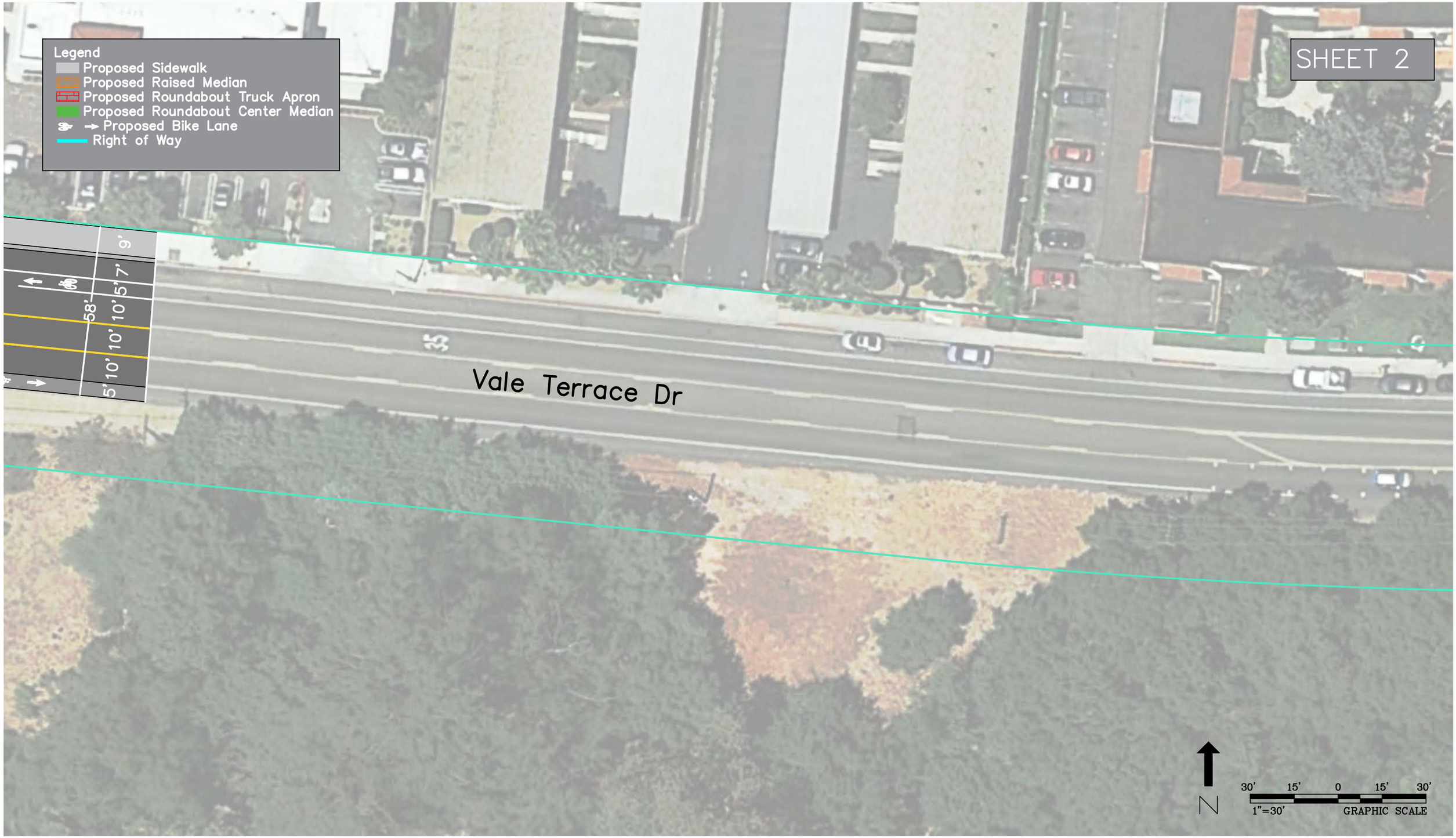
Total

NS/EW Streets:	Vale Terrace Pl				Vale Terrace Pl				Vale Terrace Dr				Vale Terrace Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	50	0	7	0	0	0	0	0	0	28	19	0	24	35	0	0	163
7:15 AM	55	0	13	1	0	0	0	0	0	36	51	0	20	35	0	0	211
7:30 AM	38	0	13	0	0	0	0	0	0	34	78	0	33	39	0	0	235
7:45 AM	41	0	18	0	0	1	0	0	0	55	75	0	31	46	0	0	267
8:00 AM	50	1	23	0	0	0	1	0	0	58	38	0	27	77	0	0	275
8:15 AM	17	0	13	0	0	0	0	0	0	60	26	0	28	44	0	0	188
8:30 AM	19	0	7	0	0	0	0	0	0	35	19	0	25	55	0	0	160
8:45 AM	34	0	4	0	0	0	1	0	0	19	22	0	18	34	0	0	132
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	304	1	98	1	0	1	2	0	0	325	328	0	206	365	0	0	1631
APPROACH %'s :	75.25%	0.25%	24.26%	0.25%	0.00%	33.33%	66.67%	0.00%	0.00%	49.77%	50.23%	0.00%	36.08%	63.92%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	184	1	67	1	0	1	1	0	0	183	242	0	111	197	0	0	988
PEAK HR FACTOR :	0.836	0.250	0.728	0.250	0.000	0.250	0.250	0.000	0.000	0.789	0.776	0.000	0.841	0.640	0.000	0.000	0.898
	0.855				0.500				0.817				0.740				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	19	0	12	0	0	0	2	0	0	31	28	0	5	35	0	0	132
2:15 PM	39	0	10	0	0	0	0	0	0	22	43	0	12	34	0	0	160
2:30 PM	63	1	17	0	0	0	0	0	0	45	32	0	11	52	0	0	221
2:45 PM	19	0	13	0	0	0	0	0	0	54	47	0	14	45	0	0	192
3:00 PM	31	0	20	0	0	0	0	0	0	61	38	0	13	41	0	0	204
3:15 PM	47	0	40	0	0	0	1	0	0	48	41	0	20	70	0	0	267
3:30 PM	37	0	25	0	0	0	0	0	0	48	50	0	16	51	0	0	227
3:45 PM	38	1	20	0	1	0	0	0	0	45	38	0	16	52	0	0	211
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	293	2	157	0	1	0	3	0	0	354	317	0	107	380	0	0	1614
APPROACH %'s :	64.82%	0.44%	34.73%	0.00%	25.00%	0.00%	75.00%	0.00%	0.00%	52.76%	47.24%	0.00%	21.97%	78.03%	0.00%	0.00%	
PEAK HR :	03:00 PM - 04:00 PM																TOTAL
PEAK HR VOL :	153	1	105	0	1	0	1	0	0	202	167	0	65	214	0	0	909
PEAK HR FACTOR :	0.814	0.250	0.656	0.000	0.250	0.000	0.250	0.000	0.000	0.828	0.835	0.000	0.813	0.764	0.000	0.000	0.851
	0.744				0.500				0.932				0.775				

Appendix C Improvement Concept


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 1
Williamston St
Ladder Crosswalk
Curb Extension
Raised Median
Vale Terrace Dr
Roundabout
Class IV Bikeway
9'
5'7'
10'
10'
58'
10'
10'
5'
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 2
9'
5'7'
10'
10'
10'
5'
58'
35
Vale Terrace Dr
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE

SHEET 3

Legend
- Proposed Sidewalk
- Proposed Raised Median
- Proposed Roundabout Truck Apron
- Proposed Roundabout Center Median
- Proposed Bike Lane
- Right of Way

End Bike Lane Merge

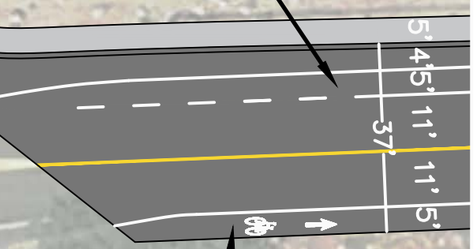
Connect to Existing Sidewalk

Vale Terrace Dr

Ponderosa Dr

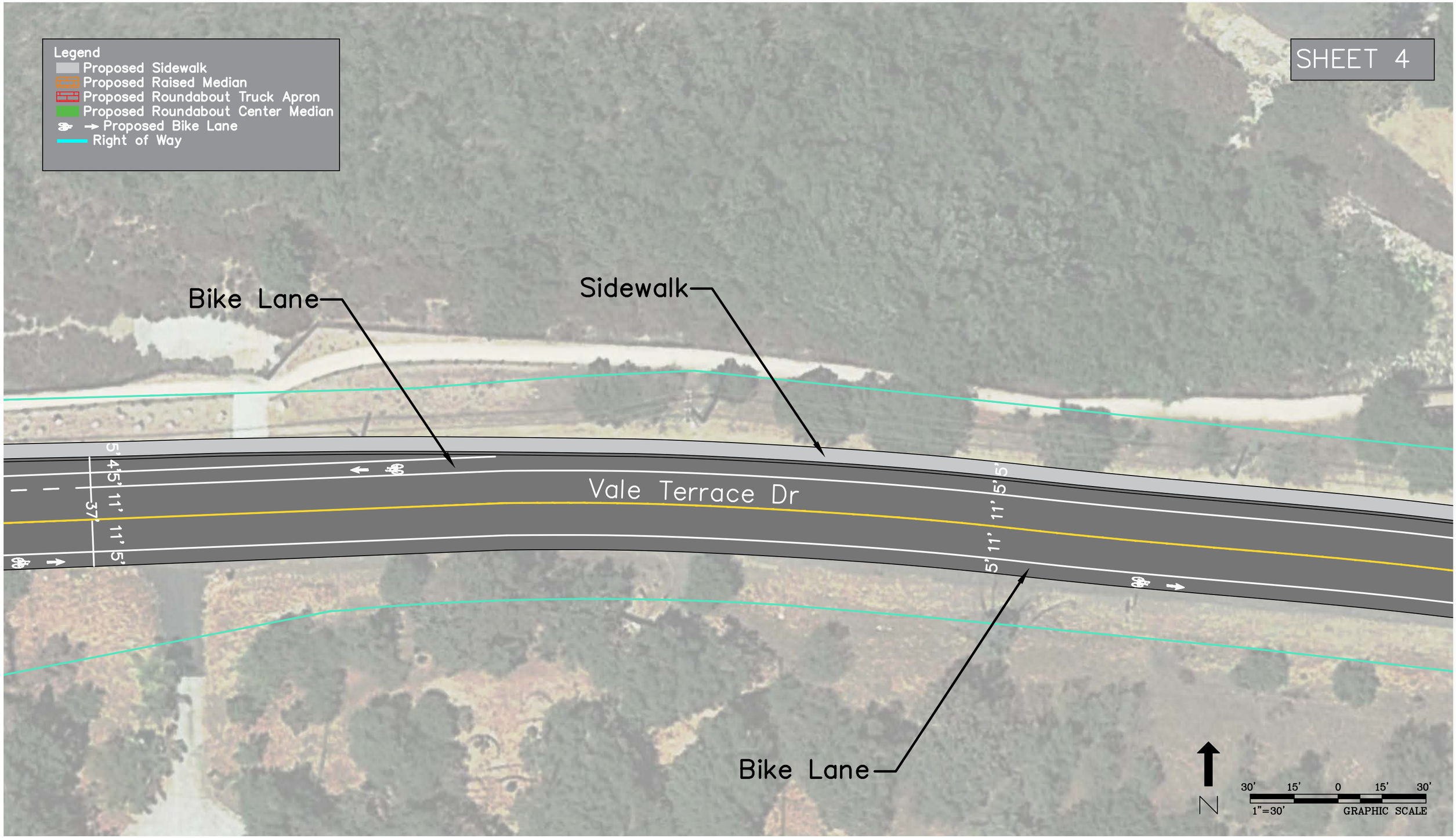
Bus Stop

Begin Bike Lane



N

30' 15' 0 15' 30'
1"=30' GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 4
Bike Lane
Sidewalk
Vale Terrace Dr
5'
45'
11'
11'
5'
37'
5'
11'
11'
5'
5'
Bike Lane
N
30'
15'
0
15'
30'
1"=30'
GRAPHIC SCALE

SHEET 5

Legend
- Proposed Sidewalk
- Proposed Raised Median
- Proposed Roundabout Truck Apron
- Proposed Roundabout Center Median
- Proposed Bike Lane
- Right of Way

Bike Lane

Sidewalk

Brengle Terrace Park
Primary Entrance

Stop Sign

38'
5' 11' 11' 5'

Vale Terrace Dr

STOP

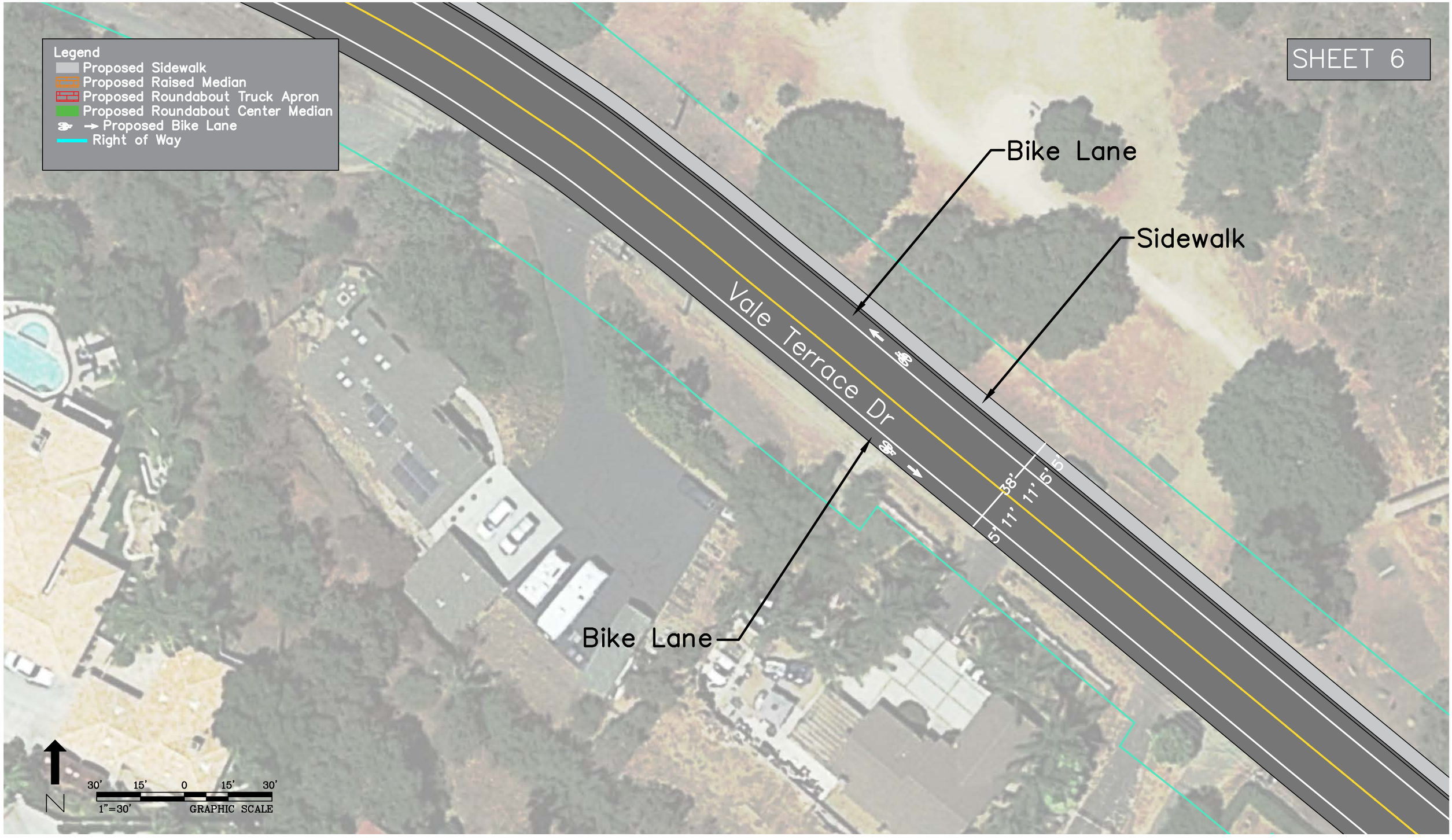
STOP

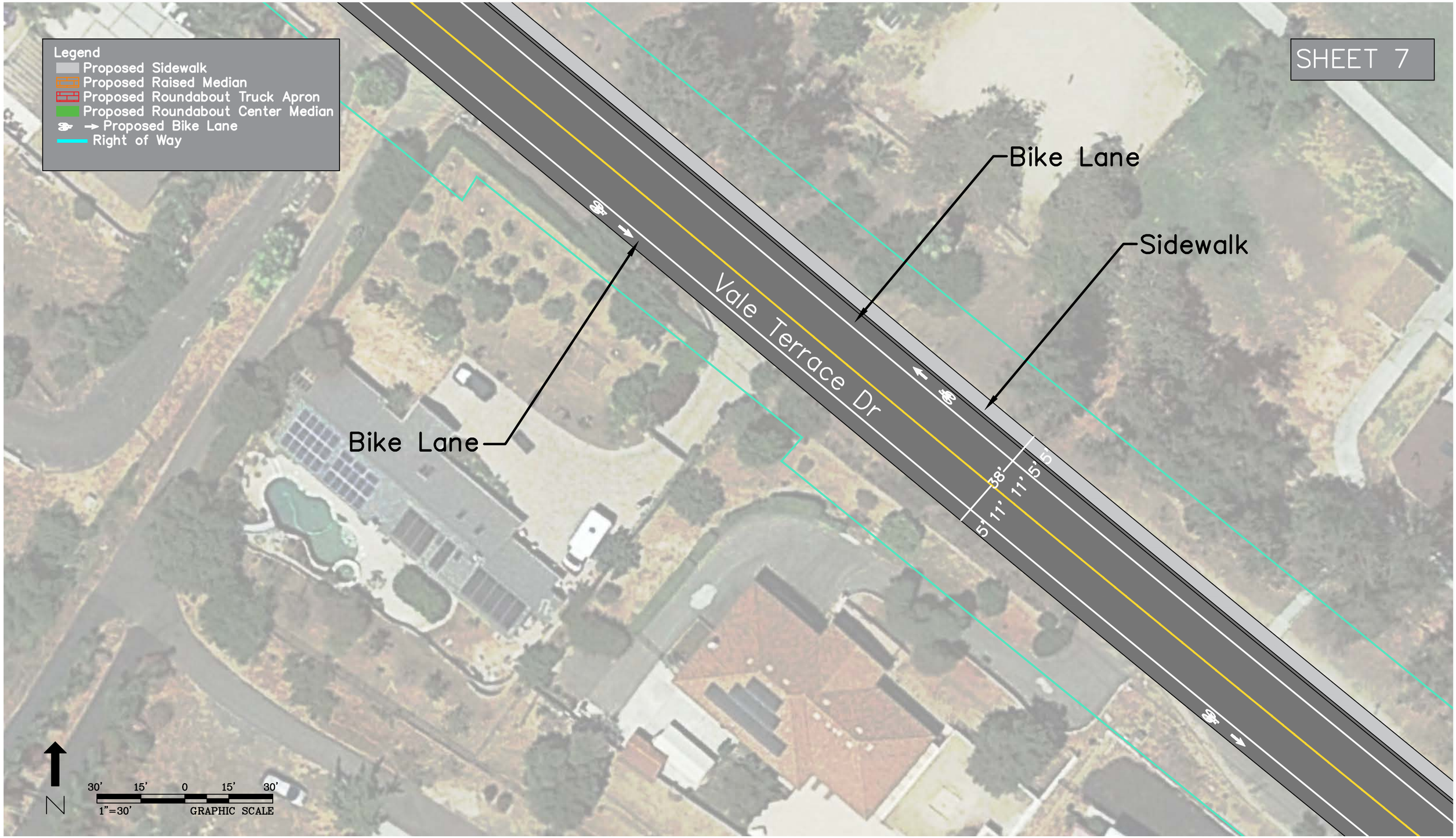
Stop Sign

Bike Lane

N

30' 15' 0 15' 30'
1"=30' GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 6
Bike Lane
Sidewalk
Vale Terrace Dr
58'
11'
11'
5'
5'
Bike Lane
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 7
Bike Lane
Sidewalk
Vale Terrace Dr
Bike Lane
5'
11'
11'
5'
38'
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE

SHEET 8

Legend
- Proposed Sidewalk
- Proposed Raised Median
- Proposed Roundabout Truck Apron
- Proposed Roundabout Center Median
- Proposed Bike Lane
- Right of Way

Bike Lane

Sidewalk

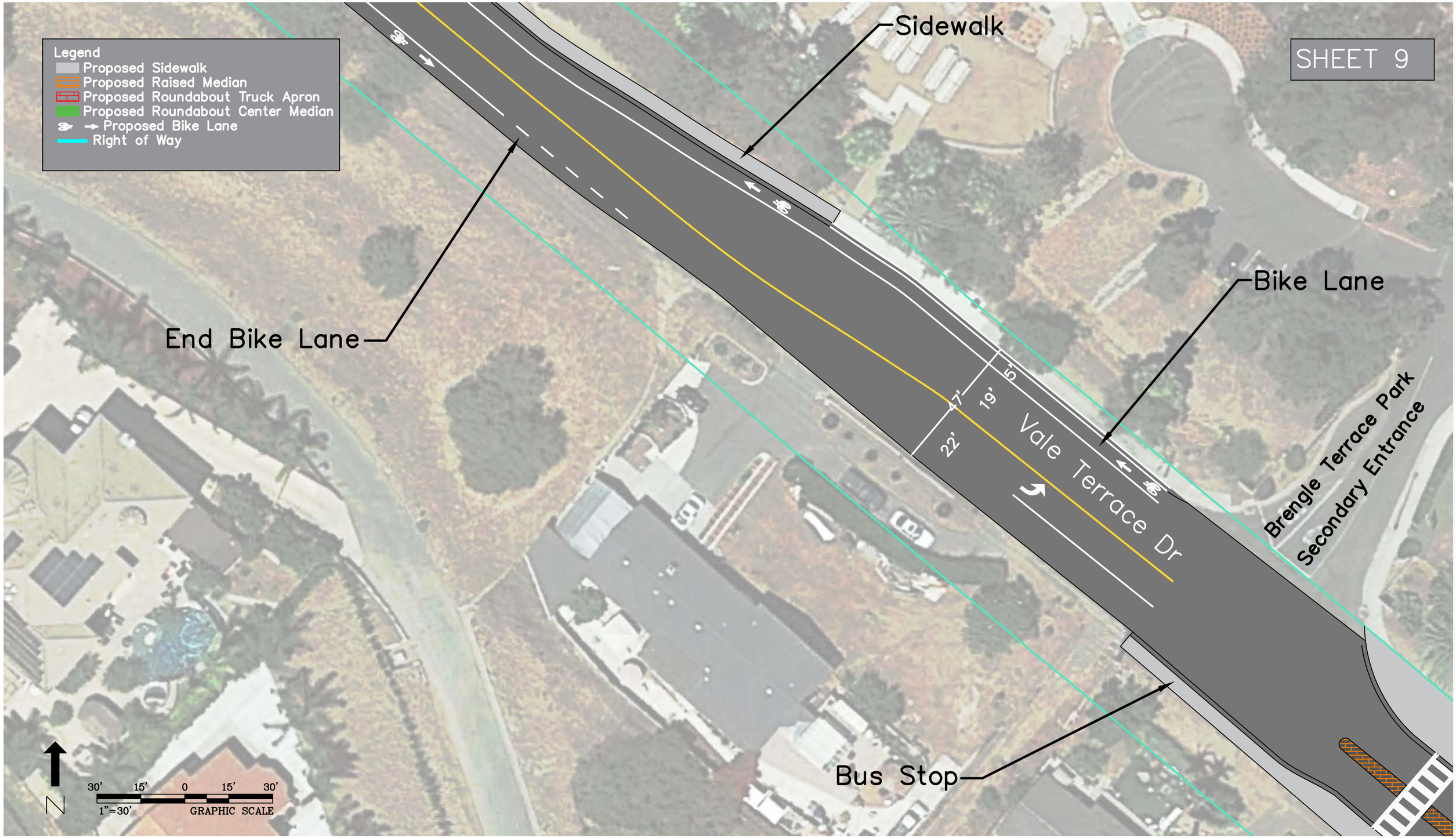
Bike Lane

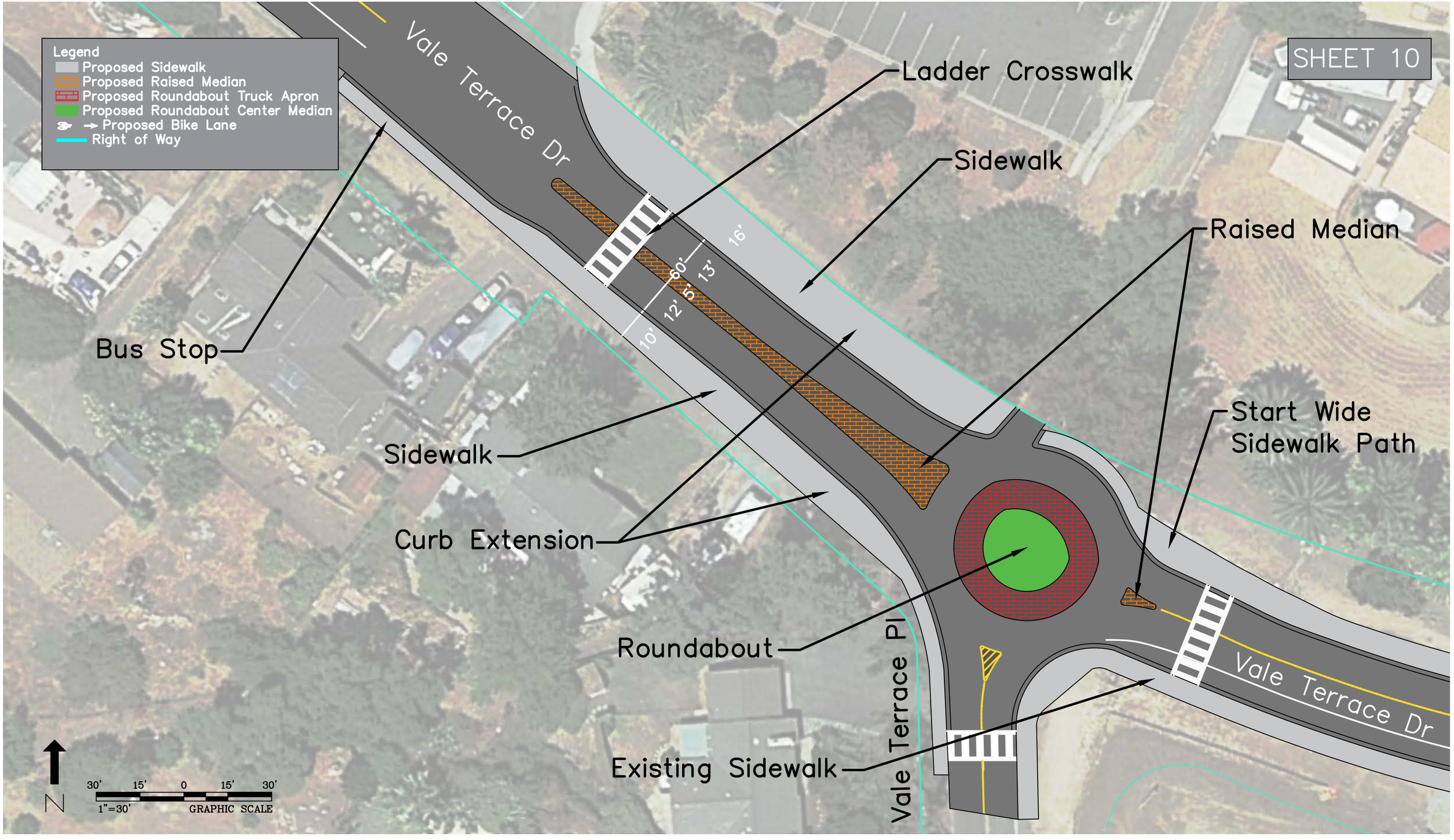
38'
5' 11' 11' 5'

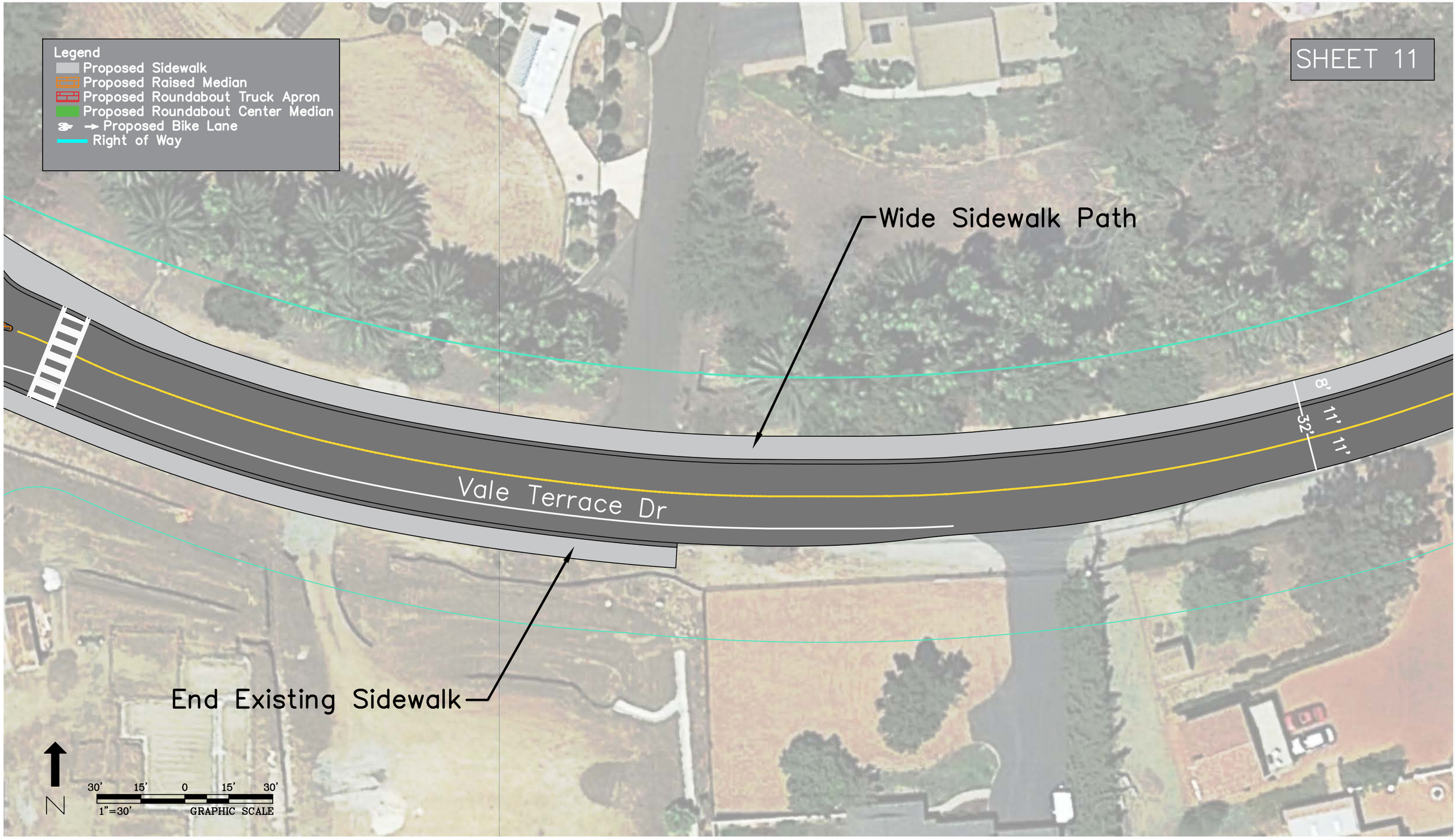
Vale Terrace Dr

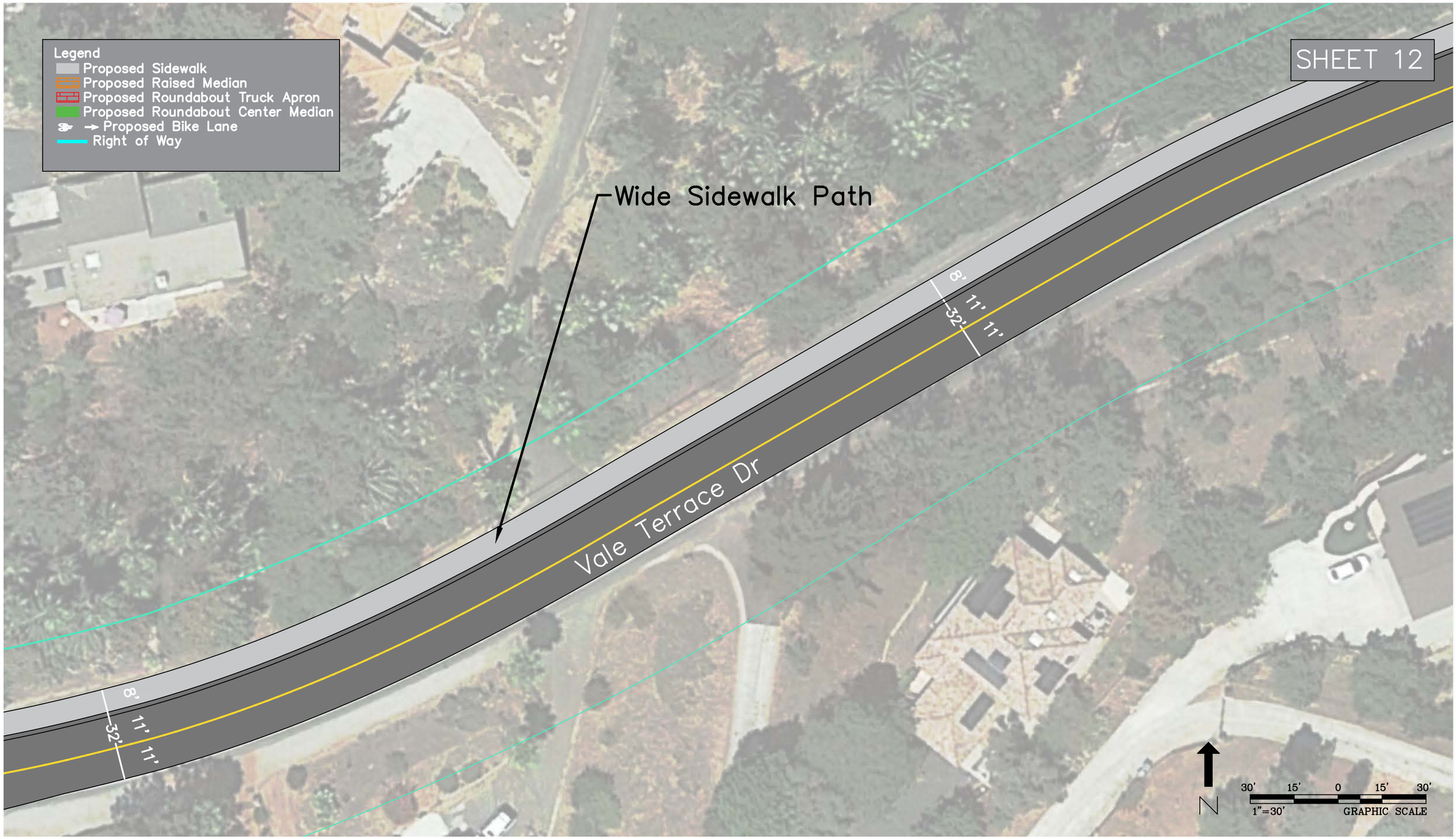
N

30' 15' 0 15' 30'
1"=30' GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 9
Sidewalk
Bike Lane
End Bike Lane
Bus Stop
Vale Terrace Dr
Brengle Terrace Park
Secondary Entrance
22'
17'
19'
5'
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 10
Vale Terrace Dr
Ladder Crosswalk
Sidewalk
Raised Median
Bus Stop
Start Wide Sidewalk Path
Sidewalk
Curb Extension
Roundabout
Existing Sidewalk
Vale Terrace Pl
Vale Terrace Dr
16'
60'
13'
6'
12'
10'
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 11
Wide Sidewalk Path
8'
11'
11'
32'
Vale Terrace Dr
End Existing Sidewalk
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 12
Wide Sidewalk Path
Vale Terrace Dr
8'
11'
11'
32'
8'
11'
11'
32'
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE

SHEET 13

Legend
- Proposed Sidewalk
- Proposed Raised Median
- Proposed Roundabout Truck Apron
- Proposed Roundabout Center Median
- Proposed Bike Lane
- Right of Way

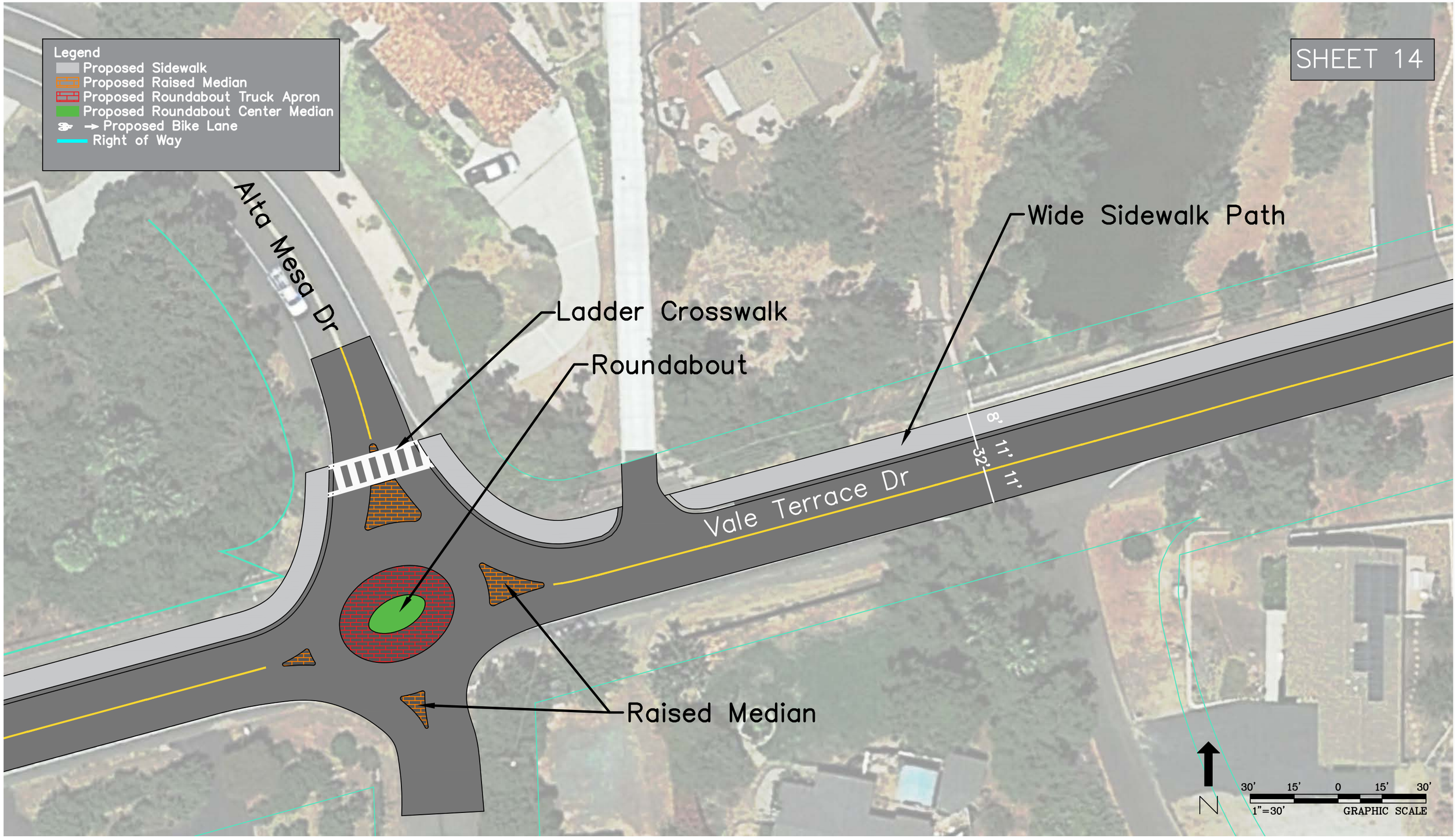
Wide Sidewalk Path

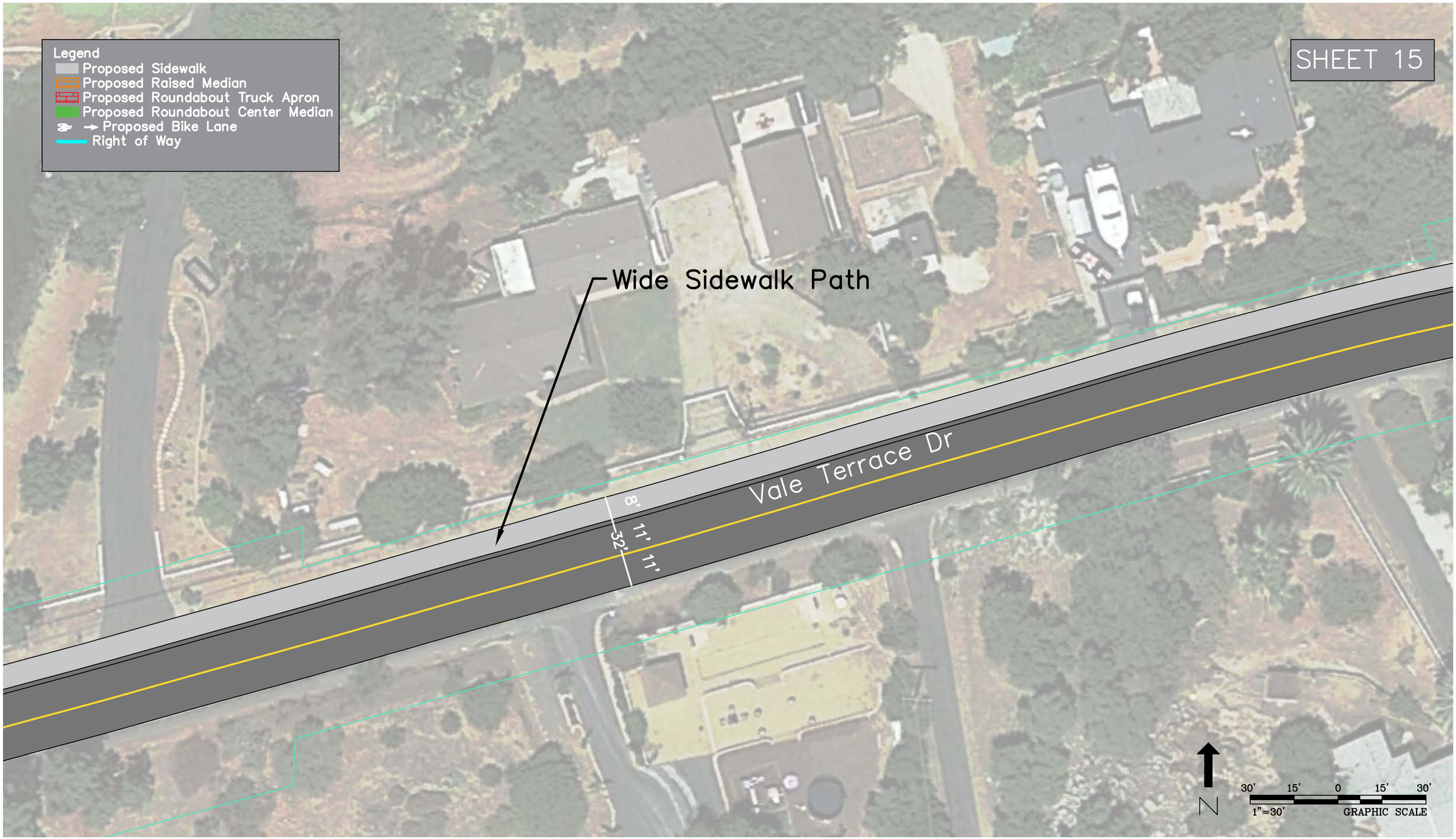
8’ 11’ 32’ 11’

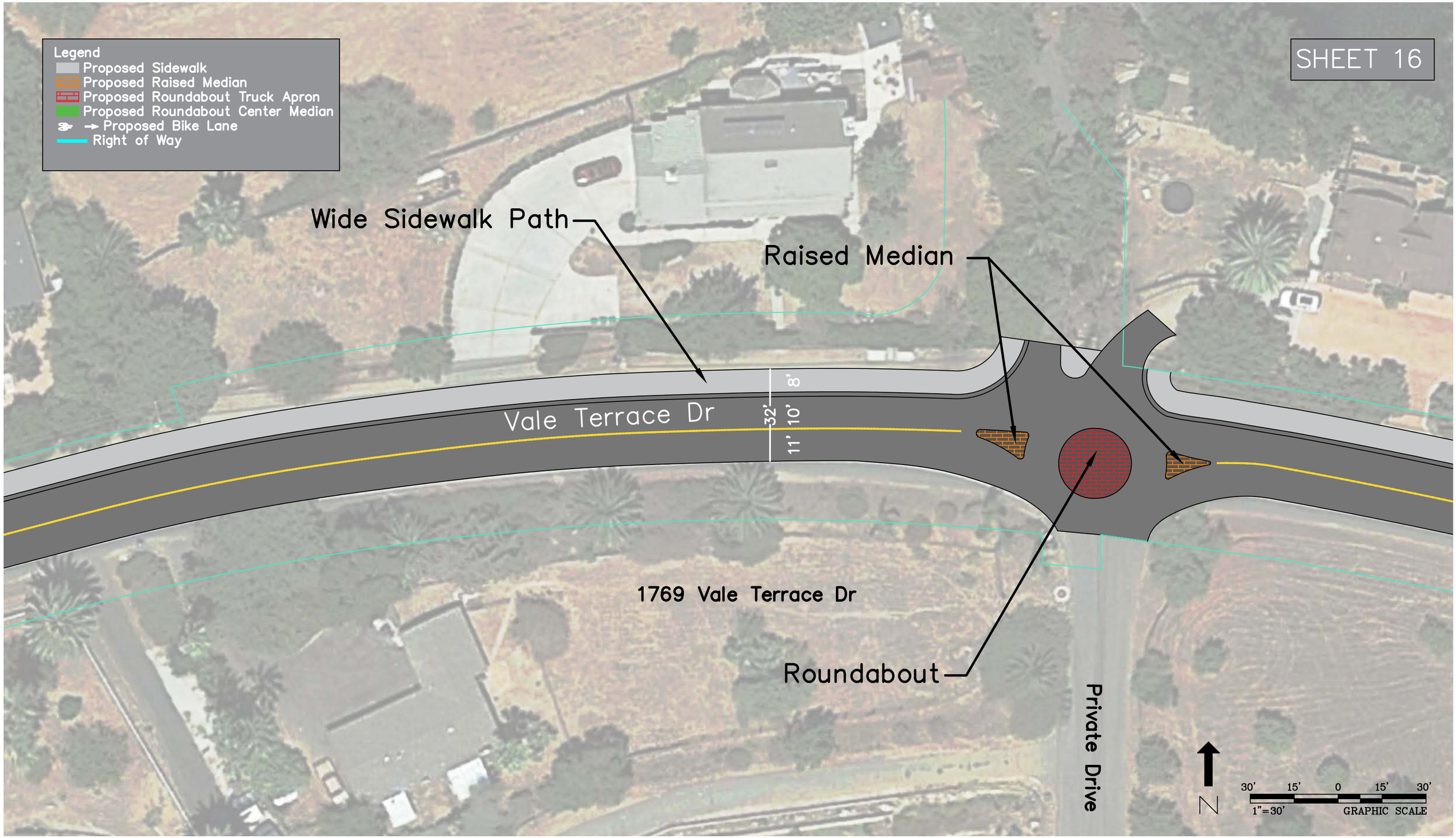
Vale Terrace Dr

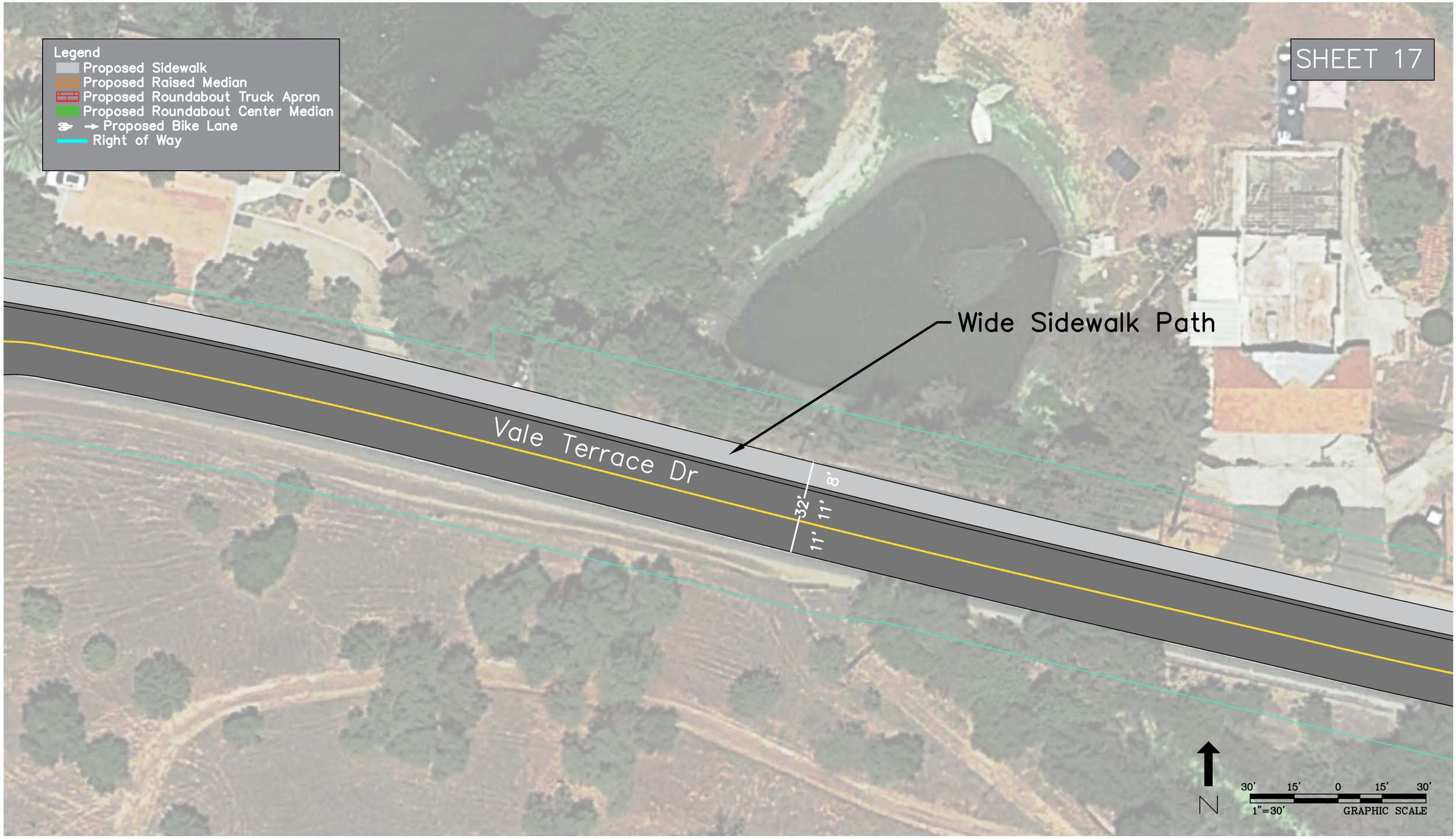
N

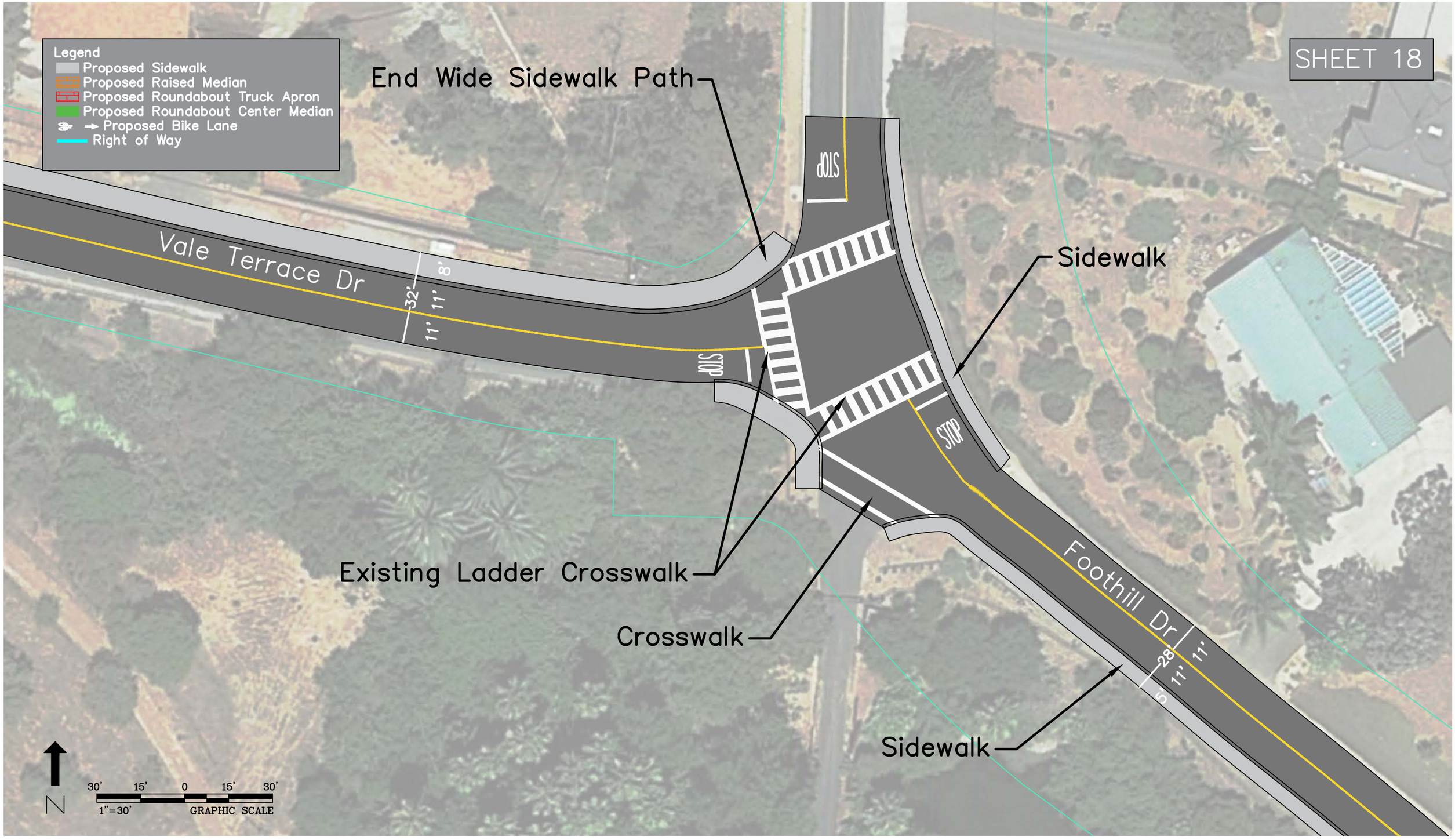
30’ 15’ 0 15’ 30’
1”=30’ GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 14
Alta Mesa Dr
Ladder Crosswalk
Roundabout
Wide Sidewalk Path
Vale Terrace Dr
8'
11'
32'
11'
Raised Median
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 15
Wide Sidewalk Path
Vale Terrace Dr
8'
11'
11'
32'
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 16
Wide Sidewalk Path
Raised Median
Vale Terrace Dr
32'
11'
10'
8'
1769 Vale Terrace Dr
Roundabout
Private Drive
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 17
Wide Sidewalk Path
Vale Terrace Dr
32'
11'
11'
8'
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 18
End Wide Sidewalk Path
Sidewalk
Existing Ladder Crosswalk
Crosswalk
Sidewalk
Vale Terrace Dr
32'
11'
11'
8'
STOP
STOP
STOP
Foothill Dr
28'
11'
11'
5'
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 19
11'
Foothill Dr
Sidewalk
28'
5'
11'
11'
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 20
Sidewalk
28'
11'
11'
5'
Foothill Dr
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE


Legend
Proposed Sidewalk
Proposed Raised Median
Proposed Roundabout Truck Apron
Proposed Roundabout Center Median
Proposed Bike Lane
Right of Way
SHEET 21
Sidewalk
Guard Rail
28'
5'
11'
11'
Foothill Dr
N
30' 15' 0 15' 30'
1"=30'
GRAPHIC SCALE

SHEET 22

Legend
- Proposed Sidewalk
- Proposed Raised Median
- Proposed Roundabout Truck Apron
- Proposed Roundabout Center Median
- Proposed Bike Lane
- Right of Way

Guard Rail

Start of Proposed Sidewalk

Foothill Dr

San Clemente Ave

Bus Stops

Entrance to School

N

30' 15' 0 15' 30'
1"=30' GRAPHIC SCALE