

Valley Center Road Corridor Concept Plan

# Appendix G: Themes Technical Memorandum



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DATE: June 10, 2020

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## 1. OBJECTIVE

The focus of the Valley Center Road Corridor Concept Plan is to formalize recommendations that improve access and mobility for users of all abilities. The corridor study area extends along Valley Center Road from Cole Grade Road to Woods Valley Road. This technical memorandum explores potential solutions that address identified issues and opportunity areas identified in the existing conditions report (April 2019) and from comments received from the community (March 2019 Workshop). Various trade-offs and best practices are presented that will improve overall mobility along the corridor. As shown in Figure 1, there are a variety of travel modes along Valley Center Road that can be further improved. Three themes have been developed that provide for a combination of solutions that will be presented to the community at the second Workshop for their input through a preference survey.

The study area shown in Figure 2 covers the segment of Valley Center Road through the two Villages of Valley Center. The South Village is centered around the Valley Center Road and Mirar De Valle intersection and extends from Banbury Drive in the south to Lilac Road in the north. The North Village is centered around the Valley Center Road and Indian Creek Road intersection and extends just west of Miller Road on the west and to the area of the Valley Center Road and Vesper Road intersection on the east. The Villages are areas where higher intensity development and wider range of land uses are planned.



*Figure 1: Valley Center Road near Canyon Road at "The Curve" with Raised Medians.*

## 2. EXISTING CONDITIONS

In 2006, Valley Center Road was widened from two to four lanes, which also included construction of intermittent raised medians between Cole Grade Road and Woods Valley Road. In April 2019, an Existing Conditions Analysis was completed that assessed the physical roadway conditions and intersection traffic operations as well as documented the current pedestrian, bicycle, and transit facilities within the study area.

The results of the roadway segment analysis showed all study segments along Valley Center Road operate at acceptable levels of service (LOS D or better). The intersection analysis showed all the study locations operating at acceptable levels of service in the AM peak hour and two of the 7 study locations operating at deficient levels of service (LOS E or F) during the PM peak hour. These include the unsignalized intersections of Mirar De Valle Road / Valley Center Road and Sunday Drive / Valley Center Road.

The results of the speed survey showed that all the 85<sup>th</sup> percentile speeds along Valley Center Road exceed the posted speed limit of 45 miles per hour. The 85<sup>th</sup> percentile speeds collected represent the speed at which 85 percent of all vehicles are observed to travel at or below, measured over a specific period of time for a specific location. The 85<sup>th</sup> percentile speeds are used by agencies to set speed limits based on free-flowing traffic conditions.



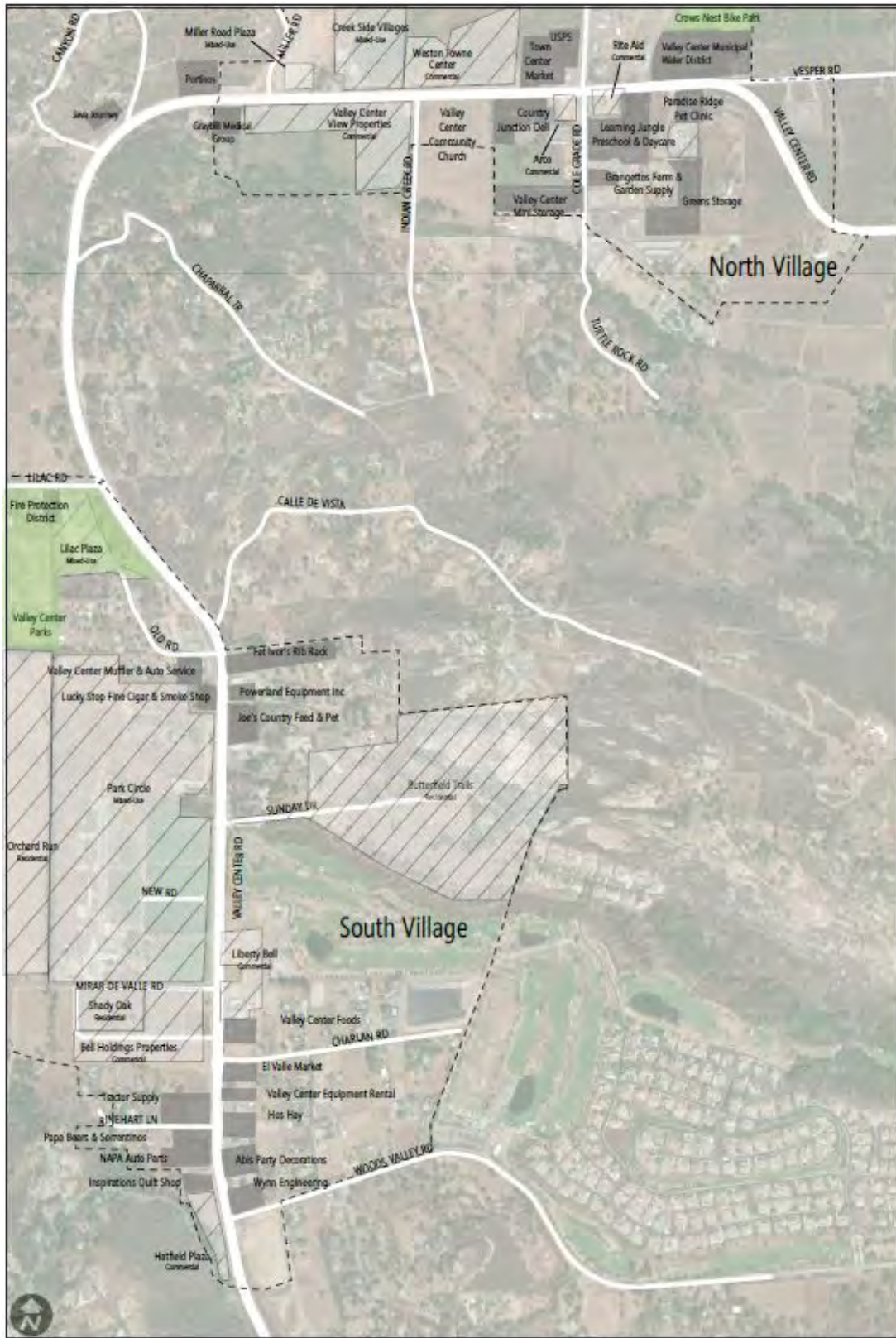


Figure 2: Study Area With North & South Village Boundaries

Crash data for a five-year period included a total of 178 crashes reported along Valley Center Road with one fatality at Miller Road. The majority of crashes were attributed to unsafe speeds, right-of-way violations, and improper turning.

Transit service is provided by North County Transit District (NCTD) Route 388 with 11 bus stops on Valley Center Road within the study area. Amenities at each bus stop vary along the corridor; however, the majority of the bus stops are Americans with Disabilities Act (ADA) compliant and have both a bench and sign.

Pedestrian conditions show that out of 28 segments, the walking environment for 9 segments were “very good”, 9 segments were “good”, 7 segments were “average”, and 3 segments were “poor”. Most pedestrians utilize the Heritage Trail, which will remain unchanged through the concept development. Existing bicycle facilities along Valley Center Road were evaluated using a Level of Stress (LTS) analysis and show that the bike lanes provided were suitable for “Strong and Fearless Bicyclists” (LTS level 4). This LTS 4 condition is heavily influenced by the lack of buffer and speed of the road.



*Figure 3: Heritage Trail with split rail fencing (looking westbound on Valley Center Rd.). The Heritage Trail will remain unchanged with all concepts.*

### **3. COUNTY PLANS, CODES & POLICIES INFLUENCING THE CONCEPT DEVELOPMENT**

The following County documents were consulted as part of the Concept Development.

#### **Valley Center Community Plan (VCCP)**

Within San Diego County, diverse communities have distinct and unique settings, history, culture, and character. As part of the County’s General Plan, the *Valley Center Community Plan* provides goals, policies, and other guidance for land use within the Valley Center Community Plan Area (CPA), in addition to serving as a reference for important community issues. The County is currently working with stakeholders on a comprehensive update to the Community Plan, which is running parallel to the Valley Center Road Village Corridor Concept Plan.

#### **San Diego County Active Transportation Plan (ATP)**

“Active Transportation” is a term used to describe any non-motorized form of travel, including biking, walking, horseback riding, etc. The County of San Diego’s *Active Transportation Plan* is a plan that balances environmental, economic, and community interests and identifies goals, objectives and actions related to:

- Improving safety to reduce auto collisions with cyclists and pedestrians;
- Increasing accessibility and connectivity with an active transportation network; and
- Improving public health by encouraging walking and biking.



*Figure 4: Illustration from County of San Diego ATP, Class IV Bikeway with Bollards Concept (referred to as flexible delineator posts in the concept development)*

The ATP includes recommendations to upgrade the existing Class II bike lanes to Class IV Separated Bikeways the length of the corridor. This recommendation was incorporated into the Mobility Element for this Valley Center Road corridor as part of the adoption of the ATP.

### **County Light Pollution Code**

The *San Diego County Code of Regulatory Ordinances* (Title 5, Chapter 2) defines any area within a 15-mile radius of Palomar Observatory as "Zone A". The project study area is within an approximate 12 to 14-mile radius of Palomar Observatory and is subject to the requirements for Zone A. According to Section 51.204, any street lighting above 4,050 lumens is prohibited and all low-pressure sodium lamps must be fully shielded. Any unshielded luminaires must be less than 2,000 lumens. Street lighting along the corridor must comply with these and other requirements for Zone A.

## **4. ENGINEERING DESIGN STANDARDS & BEST PRACTICES**

In addition to the regulation and guidance documents discussed above, the conceptual designs presented with this report consider the guidance provided in the following documents:

### **Valley Center Design Guidelines**

While design review is administered by the County's Planning & Development Services Department, development projects subject to design review are also evaluated by the Valley Center Design Review Board. Properties subject to design review for development applications include all properties within the Village boundaries and additional properties with commercial or industrial zoning located outside the Villages. This design review process is intended to preserve the rural character and environment of Valley Center while accommodating future growth. Specific design objectives and requirements are outlined in the *Valley Center Design Guidelines* and must be considered when establishing recommendations for the corridor plan as future development may be responsible for frontage improvements and subject to the standards established in these guidelines.

### **County of San Diego Public Road Standards**

The County's *Public Road Standards* serve as guidelines for the design and construction of public road improvement projects within the unincorporated County. These standards apply to both County and developer initiated public road improvement projects. Improvements to public roads are often required as conditions of land development (discretionary permit) approval.

### **Valley Center Community Right of Way Development Standards (VCCRDS)**

The *VCCRDS* is a guide to the streetscape design within the public right-of-way. The purpose is to ensure the community develops in a complimentary and consistent manner that reflects Valley Center's distinctive natural features. These standards only apply to areas outside of the travel way including curb and gutters, sidewalks and pathways, medians, shoulders, etc.

### **Traffic Control at Intersections**

As part of this project, various intersection control options were considered within the study area, including traffic signals, roundabouts, controlled pedestrian crossings, and minor street stop controls. The combinations of traffic control features will determine how traffic will flow along the corridor. Limited traffic control along the corridor has led to 85<sup>th</sup> percentile speeds above the posted speed limit for the length of the corridor. It has also resulted in challenges for drivers crossing traffic to make a left turn from the corridor and for drivers on side streets to gain access to the corridor.

Traffic signals are an effective traffic control device that clearly defines the right-of-way for vehicles at an intersection. To determine if a signal is appropriate at an isolated location, an analysis of traffic signal warrants can be conducted. These warrants provide a procedure to determine whether installation of a traffic signal is justified at a particular location. A warrant may or may not be satisfied based on conditions outlined in the *California Manual on Uniform Traffic Control Devices* (CA MUTCD), which consider such factors as vehicular volumes, pedestrian volumes, safety concerns, or signal coordination gaps to determine the viability of a traffic signal. Although a warrant provides justification for installation of a traffic signal along the corridor, other factors may also be considered. Other factors such as spacing between signals, access requirements, pedestrian activity, and others may determine a signal is needed that may not meet a CA MUTCD warrant.

Roundabouts are also traffic control devices and define the right-of-way for drivers. All drivers yield when entering the roundabout and should enter when there is a gap in traffic flow. While roundabouts are not subject to specific warrants, each proposed roundabout is justified on its own merits as the most appropriate intersection treatment. Additional details regarding roundabouts are provided in the following section.

Roundabouts and traffic signals were considered for key locations along the corridor based on:

- Controlled intersection spacing (varies by theme)
- Pedestrian and bicycle connections to bus stops
- Planned development and conditions of approval for traffic signals along the corridor
- Collision history
- Potential speed reduction features

## 5. CONCEPT ELEMENTS AND BEST PRACTICES

The following pages provide descriptions and examples of the concept elements included in the recommendations for the corridor. These concept elements have been applied to the proposed themes as shown in **Table 1**. Details about each theme are provided in Section 6.

**Table 1: Proposed Theme Concept Elements**

Elements	Theme 1	Theme 2	Theme 3
Roundabout	Single Lane		✓
	Two-Lane	✓	✓
	Single Lane w/ Taper		✓
Curb-Extension	✓	✓	
Controlled Ped. Crossing (Signal or HAWK)	✓	✓	
Raised Median	✓	✓	✓
Sidewalk	✓	✓	✓
Class IV Separated Bikeway with Bollards	✓	✓	✓
Class II Bike Lane with Buffer			✓
Gateway Feature			✓





# Single-Lane Roundabout

A single-lane roundabout is an intersection controlled by road signs where all traffic moves counterclockwise around a central island. Single-lane roundabouts provide vehicles with one entry/exit lane and one travel lane through the roundabout.

## **BENEFITS & CHALLENGES**

### **Auto:**

Access to the roundabout is usually controlled by yield signs which reduces but does not eliminate the need for vehicles to stop prior to entering the intersection. Vehicles yield to traffic that is already in the roundabout and travel counterclockwise around the center island. This continuous flow through the roundabout decreases overall travel time or delays at the intersection. Figure 5 illustrates a conceptual layout of a single-lane roundabout at Valley Center Road and Miller Road under Theme 2.

### **Safety:**

Roundabouts are one of the safest types of intersections since they are designed for lower speed driving, generally 25 to 35 MPH and all traffic is moving in the same direction. In addition, left turn movements across oncoming traffic is eliminated. Most significantly, roundabouts reduce the severity of crashes such as T-bone and head-on collisions. Figure 6 shows an example of an existing three-legged single-lane roundabout at La Jolla Boulevard and Colima Street.

### **Pedestrians:**

Roundabouts can also improve pedestrian safety by offering a short crossing distance of one-way traffic moving at slower speeds. As shown in the figures to the right, the splitter islands or raised medians provide an opportunity for pedestrians to cross one direction of traffic at a time.

### **Bicycles:**

On single-lane roundabouts, bicyclists have the option of either mixing with traffic or using the multi-use path with the pedestrians. The multi-use path accommodates both types of users around the perimeter of the roundabout. Bicyclist who use the path cross the legs of the roundabout by dismounting and crossing with pedestrians in the marked crosswalks.

### **Design, Operations & Maintenance:**

Roundabouts can be more expensive to construct than a traffic signal due to potential right-of-way constraints and the amount of new pavement area, curbs and gutters needed to meet the design standards for emergency vehicles and trucks. However, single-lane roundabouts generally have lower maintenance and operational cost compared to signalized intersections.

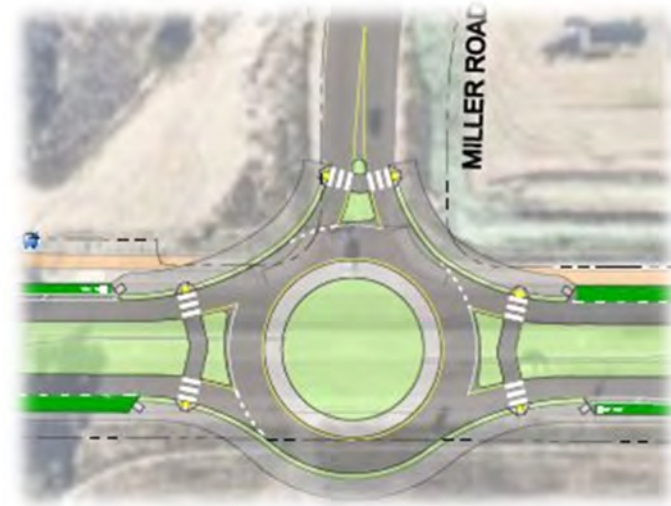


Figure 5: Theme 2 – Single Lane Roundabout at Valley Center Road & Miller Road



Figure 6: Single Lane Roundabout at La Jolla Boulevard & Colima Street



## Two-Lane Roundabout

A two-lane roundabout is an intersection controlled by signs where all traffic moves counterclockwise around a central island. Two-lane roundabouts provide vehicles with two entry/exit lanes and two travel lanes through the roundabout.

### **BENEFITS & CHALLENGES**

#### **Auto:**

At a two-lane roundabout, drivers need to decide which lane to use before approaching the roundabout. Drivers then need to yield to two lanes of traffic circulating within the roundabout. If a left-turn or U-turn is desired, the driver should use the left lane to approach and travel through the roundabout. If a driver wishes to make a right-turn, the right lane should be used to approach and travel through the roundabout. Figure 7 illustrates a conceptual layout of a two-lane roundabout at Valley Center Road and Old Road under Theme 1.

#### **Safety:**

In general, two-lane roundabouts have some of the same safety characteristics for drivers and vehicle occupants as a single-lane roundabout. However, due to the presence of two entry lanes and the need to provide wider circulatory and exit roadways, two-lane roundabouts often cannot achieve the same levels of speed reduction as a single-lane roundabout. Figure 8 shows an example of an existing two-lane roundabout at Tremont Street and Pottery Avenue in the state of Washington.

#### **Pedestrians:**

Pedestrians crossing two-lane roundabouts are exposed for a longer period and to faster vehicles when compared to a single lane roundabout. Similar to single-lane roundabouts, splitter islands at the entry point of a two-lane roundabout can be used as a refuge for pedestrians.

#### **Bicycles:**

Similar to a single-lane roundabout, a multi-use path of sufficient width can accommodate both types of users around the perimeter of the roundabout. However, bicyclist can also choose to navigate through the roundabout with vehicles.

#### **Design, Operations & Maintenance:**

Two-lane roundabouts are larger than single lane roundabouts and therefore require more right of way and are more expensive to construct. Similar to a single-lane roundabout, two-lane roundabouts generally have lower maintenance and operational costs compared to a signalized intersection.



Figure 7: Theme 1 - Two-Lane Roundabout at Valley Center Road & Old Road



Figure 8: Two-Lane Roundabout at Tremont Street & Pottery Avenue in Washington





## Single-Lane Roundabout with Taper

A single-lane roundabout with a taper generally consists of a four-lane roadway that reduces one travel lane at each approach to the single-lane roundabout and then widens back to two lanes after exiting the roundabout. This configuration allows the necessary roadway capacity along the corridor while also providing the safety and operational benefits of a single-lane roundabout.

### **BENEFITS & CHALLENGES**

#### **Auto:**

Drivers are required to merge from two to one travel lane prior to entering the single-lane roundabout. This helps reduce travel speeds approaching and traveling through the roundabout. Figure 9 shows an example of an existing one-lane roundabout with a taper approaching the roundabout at Santa Fe Drive and Devonshire Drive in the City of Encinitas. Figure 10 provides a conceptual layout from Theme 2 of a single-lane roundabout with a taper from 4 lanes to 2 lanes on the west leg of the intersection at Valley Center Road and Lilac Road.

#### **Pedestrians:**

Tapering down to one travel lane approaching and through the roundabout minimizes the crossing distance for pedestrians. This reduction in travel lanes produces slower travel speeds to maximize safety and comfort for pedestrians.

#### **Bicycles:**

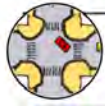
The taper would not affect the bicyclists since the bike lane is maintained in a similar manner to a single-lane roundabout without a taper. A shared bicycle-pedestrian path of sufficient width to accommodate both types of users around the perimeter of the roundabout would still be provided.



Figure 10: Theme 2 - Single-Lane Roundabout with taper at Valley Center Road & Lilac Road



Figure 9: Single-lane Roundabout with taper at Santa Fe Drive & Devonshire Drive in Encinitas



# Curb Extensions (Bulb-outs)

A curb extension, also known as a bulb-out, is a traffic calming measure that widens the sidewalk for a short distance and extends the curb space at the corners of an intersection in order to reduce the crossing distance for pedestrians. Curb extensions may be constructed at intersection corners or mid-block crosswalks.

## **BENEFITS & CHALLENGES**

### **Auto:**

Curb extensions increase visibility for pedestrians and drivers by bringing the pedestrian closer to the edge of the travel-way at a marked crossing. Curb extensions also provide visual friction which can result in more cautious driving and can result in slower vehicle speeds. Figure 11 shows a conceptual layout of curb extensions for Theme 2 at the intersection of Valley Center road and Indian Creek Road.

### **Pedestrians:**

Curb extensions improve pedestrian crossings by reducing the pedestrian crossing distance, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street. Figure 12 shows an example of curb extensions recently installed at the intersection of Camino Del Mar and 12<sup>th</sup> Street in the City of Del Mar.

### **Bicycles:**

Bicycle lanes shift from the main travel-way and are separated by a raised channelizer. At crosswalks, the bike lane angles into a ramp, so that pedestrians can cross the bike lane at a constant grade. Bicyclist should yield to pedestrians at crossings.

### **Design, Operations & Maintenance:**

Road classification, lane width, road width, sidewalks, curb radii, and on-street parking should all be considered when designing curb extensions. Appropriate signage for vehicles, bicyclists, and pedestrians should be provided at all potential conflict points. Placement of street furniture and landscaping on curb extensions should ensure that sight lines are not obstructed and properly maintained.



Figure 11: Theme 2 – Curb extensions at Valley Center Road & Indian Creek Road



Figure 12: Curb extensions at Camino Del Mar & 12<sup>th</sup> Street in Del Mar





# Controlled Pedestrian Crossing

Controlled Pedestrian Crossings are used to warn and control vehicle traffic at a marked crosswalk. Controlled Pedestrian Crossing are typically located mid-block or at an intersection where a traffic signal is not warranted for vehicular traffic.

## BENEFITS & CHALLENGES

### Auto:

Vehicles are required to stop at these controlled crossings when activated by a pedestrian. If the signal is not activated by a pedestrian, motorists are permitted to drive through the crosswalk but are cautioned to slow down and look for the presence of nearby pedestrians. Figure 13 shows a controlled pedestrian crossing at Valley Center Road and Old Road in Theme 2.

### Pedestrians & Bicycles:

These crossings provide a clear indication for the assignment of right of way at the marked crosswalk. Both the driver and the pedestrian or bike are provided a clear indication of when to stop or wait and when to proceed. The signal or HAWK is activated by the pedestrian using a push-button. Pedestrians must wait for the WALK sign to proceed. During that time, autos are provided a RED light and are required to stop.



Figure 13: Theme 2 - Controlled Ped Crossing at Valley Center Road & Old Road



Figure 15: Ped Signal Example

### High-Intensity Activated Crosswalk (HAWK) Signal:

HAWK signals are traffic devices used to assist pedestrians and bicyclists crossing a busy street. When a pedestrian activates the system by pressing a button, overhead signal flashing indicates to the motorists a pedestrian wishes to cross the street and vehicles are required to stop and wait for the pedestrian to cross. HAWKs are best in mid-block situations, not intersections where minor streets have no visibility to a signal. Figure 14 shows an existing HAWK signal on Mission Center Road in Mission Valley.

### Pedestrian Signal:

Operates as a traditional signal with the green priority given to vehicles until activated by the pedestrian. Utilizes traditional green, yellow and red vehicular indications and traditional pedestrian signal heads (with or without countdown timer). Figure 15 shows an example of a ped signal.



Figure 14: HAWK signal on Mission Center Road in Mission Valley

## ..... Raised Median

Raised medians are curbed sections that typically occupy the center of the roadway. Raised medians within a roadway such as Valley Center Road can be either landscaped or paved.

### **BENEFITS & CHALLENGES**

#### **Auto:**

Continuous raised medians may restrict vehicular access at intersections and driveways. They may be used to concentrate left-turn movements at specific locations and tend to result in an increase of the frequency of U-turns at a signalized intersection or at gaps in the median. However, raised medians can improve safety by providing a physical barrier between opposing directions of traffic thus reducing vehicle conflicts. Figures 16 and 17 show existing raised medians with landscaping along Valley Center Road.

#### **Pedestrians & Bicyclists:**

Raised medians tend to serve as a place of refuge for pedestrians and bicyclists who cross a street midblock or at intersections. In addition, raised medians allow pedestrians and bicyclists to cross one direction of traffic at a time.

#### **Safety:**

Raised medians may reduce crashes caused by conflicting traffic such as T-bone and head-on collisions.

#### **Landscaping:**

Medians with natural landscaping also serve as natural bio-swales for managing stormwater. Figure 18 shows Theme 1 with a raised landscaped median along Valley Center Road within the South Village.



Figure 18: Theme 1 - Raised Landscaped Median on Valley Center Road in South Village



Figure 16: Raised Landscaped Median on Valley Center Road west of Lilac Road



Figure 17: Raised Landscaped Median on Valley Center Road west of Cole Grade Road

## Crosswalks

A marked crosswalk is a place designated for pedestrians to cross a road. Crosswalks are typically marked on the roadway with parallel or dashed pavement markings to provide visibility to drivers. Typical crosswalks are striped with white paint. However, in school zones yellow paint should be used to mark the crossings.

### **BENEFITS & CHALLENGES**

#### **Auto:**

Marked crosswalks indicate a preferred location for pedestrians to cross a roadway, and alert motorists to anticipate pedestrians. Marked crosswalks are complemented by curb ramps and ADA access signage with improved visibility of the crossing. At signalized intersections, pedestrian countdown signal heads help inform pedestrians of how much time they have left to cross. Marked crosswalks at locations other than signalized intersections or roundabouts should be coupled with either a pedestrian signal or HAWK on Valley Center Road. Due to the high speed and four lanes of traffic, uncontrolled marked crossings are not recommended. Figure 19 shows marked pedestrian crosswalks at the intersection of Valley Center Road and Indian Creek Road for Theme 2.

#### **Pedestrians:**

High visibility crosswalks, also known as continental crosswalks, increase awareness in motorists and pedestrians at established pedestrian crossing locations. Some crossing locations include pedestrian refuge islands to shorten a pedestrian's crossing distance and provide pedestrians a refuge. A yellow crosswalk indicates a school crossing, whereas a white crosswalk indicates a standard crosswalk. An example of a marked pedestrian crosswalk is shown in Figure 20.

#### **Bicycles:**

Bicyclists should dismount their bicycle and walk in the crosswalks with pedestrians.

#### **Design, Operations & Maintenance:**

Pedestrian crosswalks are typically 10 feet in width with white or yellow markings. However, design and installation of marked crosswalks should comply with the County of San Diego Roadway Standards and California Manual on Uniform Traffic Control Devices standards. Crosswalks should remain visible and may require ongoing maintenance to minimize fading.



Figure 19: Theme 2 – Marked Crosswalk at Valley Center Road & Indian Creek Road



Figure 20: Marked Crosswalk at La Jolla Hermosa Avenue & Colima Street in La Jolla



# Sidewalks and Pathways

A sidewalk is a path with a hard surface by the side of a road. Sidewalks are often constructed of concrete or cement, though occasionally asphalt. Sidewalks must meet the minimum ADA requirements. Pathways, like the Heritage Trail, are typically wider (8 feet) than a sidewalk (4 to 5 feet) and typically consist of decomposed granite base rather than concrete. Pathways can also include physical barriers such as landscaping or fencing between the pathway and roadway, refer to Figure 21.

## BENEFITS & CHALLENGES

### Auto:

Sidewalks and pathways are designated for pedestrians and bicyclists, not vehicles. Along a roadway, sidewalks provide a dedicated ADA accessible space for users of all ages and abilities.

### Pedestrians & Bicyclists:

Sidewalks are primarily used by pedestrians but sometimes used by bicyclists, specifically younger and unexperienced riders. Sidewalks provide pedestrians and bicyclists a connection to parks, schools, restaurants, retail shops, libraries, public transit and other attractions. Figure 22 shows an example of a sidewalk with a clear path of travel for pedestrians.

Pathways create a multi-modal system for pedestrians, bicyclists, equestrians and other non-motorized travelers. However, it can be challenging for pathways to meet the minimum ADA requirements.

### Design:

Within the Valley Center Community, San Diego County Policy endeavors to provide a "Type D" pathway, as seen in Figure 8, on one side of Valley Center Road and sidewalks on the other.



Figure 22: Example of Sidewalk

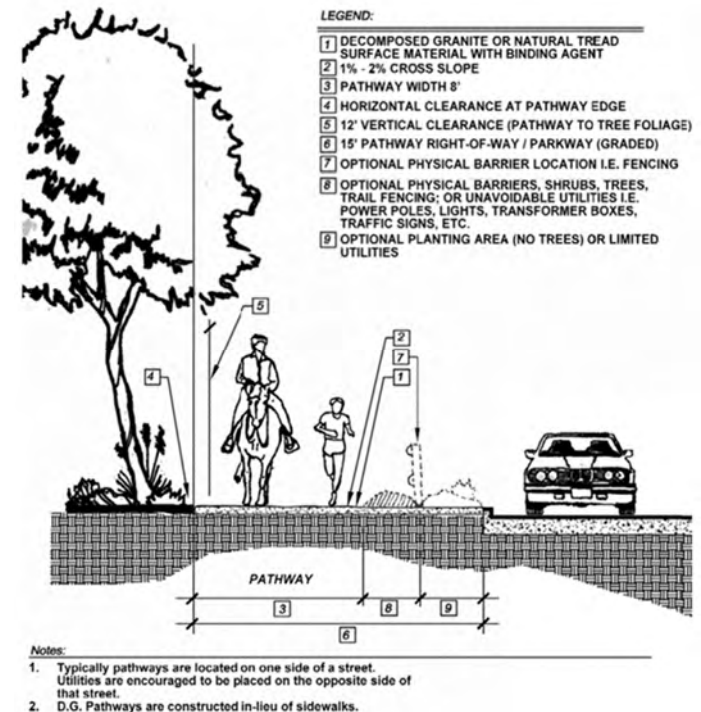


Figure 21: Valley Center Community Right of Way Design Standards. Figure 8 – Type D Pathways

## Class IV Separated Bikeway with Flexible Delineator Posts

Protected bike lanes (Class IV Bikeway), also known as cycle tracks, provide space that is exclusively for bicyclists and separated from vehicular travel lanes, parking and sidewalks. Parked cars, curbs, bollards, or planter boxes may provide physical separation between bicyclists and vehicles.

### **BENEFITS & CHALLENGES**

#### **Auto:**

Class IV bikeways are on-street bicycle facilities that include a vertical physical barrier such as flexible bollards (delineators), a raised curb, on-street parking or planter boxes between the bikeway and moving traffic. These physical barriers help increase the level of comfort to both the motorist and bicyclists.

#### **Pedestrians:**

Bicycle lanes are not intended for pedestrian use. To prevent pedestrians from using the bicycle lane, a sidewalk or trail should be provided adjacent to the bicycle lane. Pedestrians in the bicycle lane provide a risk to bicycles due to the differential between bicycle and pedestrian travel speeds. Pedestrians in the bicycle lane should be discouraged.

#### **Bicycles:**

The added separation provided by separated bikeways creates additional considerations at intersections and driveways when compared to conventional bike lanes. To preserve sightlines and identify potential conflict areas between vehicles and bicyclists, conflict areas may be marked by green dashed stripes near intersections and driveways. At driveways and minor street crossings, bicyclists would not be expected to stop if the auto traffic does not stop. Class IV bikeways with flexible delineator posts (bollards) are proposed along Valley Center Road as shown in Figure 23. Along Leucadia Boulevard in the City of Encinitas, protected bike lanes have been installed in both the eastbound and westbound directions as shown in Figure 24.

#### **Design, Operations & Maintenance:**

Along Valley Center Road, 5-foot Class IV bike lanes with 3-foot buffers are proposed. However, design and installation of Class IV bikeways should comply with the County of San Diego Roadway Standards and California Manual on Uniform Traffic Control Devices standards. Specialized street sweeping equipment might be necessary to maintain these bikeways.



Figure 23: Theme 1 – Class IV Bikeway along Valley Center Road near Miller Road



Figure 24: Class IV Bikeway with buffer and flexible delineator posts along Leucadia Boulevard looking westbound

## — Class II Bike Lanes with Buffer

Bike lanes (Class II) are defined by pavement striping and signage and effectively dedicate a portion of the roadway right-of-way for exclusive bicycle travel. Bike lanes are one-way facilities typically located on the far-right side of the road adjacent to the curb. Class II bike lanes with a buffer are conventional Class II bike lanes paired with a designated buffer space (18 inches to 3 feet) separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane.

### **BENEFITS & CHALLENGES**

#### **Auto:**

Class II bike lanes with a buffer provide a designated separation (typically 18 inches to 3 feet) between the bike lane and moving traffic. This design does not include any physical barriers so drivers will need to watch for bicyclists when turning right at cross-streets or driveways and when crossing the buffered lane to park. Figure 25 shows Class II bike lanes with buffers along Valley Center Road in Theme 2.

#### **Pedestrians:**

Bicycle lanes are not intended for pedestrian use. To prevent pedestrians from using the bicycle lane, a sidewalk or trail should be provided adjacent to the bicycle lane. Pedestrians in the bicycle lane provide a risk to bicycles due to the differential between bicycle and pedestrian travel speeds. Pedestrians in the bicycle lane should be discouraged.

#### **Bicycles:**

Class II bike lanes with a striped buffer provide a more comfortable riding environment for bicycle riders who prefer to ride adjacent to traffic as shown in Figure 26. Similar to Class IV Separated Bikeways, conflict areas between vehicles and bicyclists may be marked by green dashed stripes near intersections and driveways.

#### **Design, Operations & Maintenance:**

Under Theme 3 in the North Village, 6-foot Class II bike lanes with 3-foot buffers are proposed along Valley Center Road. However, design and construction of Class II bikeways should comply with the County of San Diego Roadway Standards and California Manual on Uniform Traffic Control Devices standards. This design would not restrict street sweeping equipment from maintaining the bike lane or parking along the curb. Class II bike lanes are proposed only in Theme 3 in the North Village because that Theme includes one auto travel lane in each direction with parallel parking along the road, to make use of the additional right-of-way. The flexible delineator posts (bollards) used in Class IV bike lanes would not be possible in this section under this Theme, due to the parked cars needing to cross the buffer to enter the travel lanes.

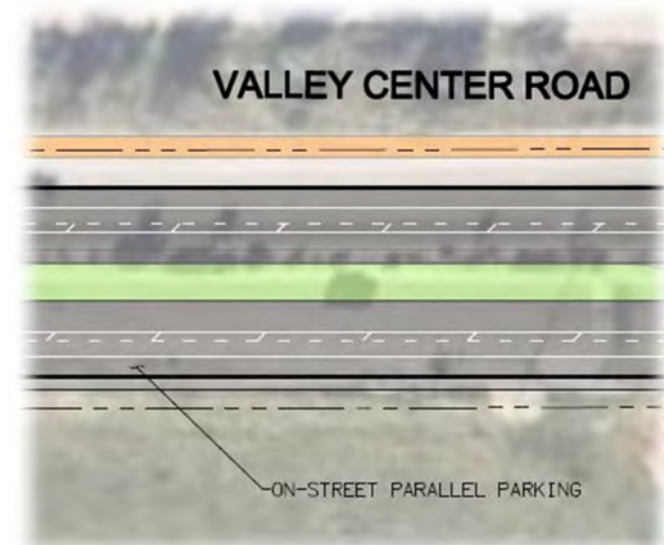


Figure 25: Theme 2 – Class II Bike Lanes along Valley Center Road in North Village.

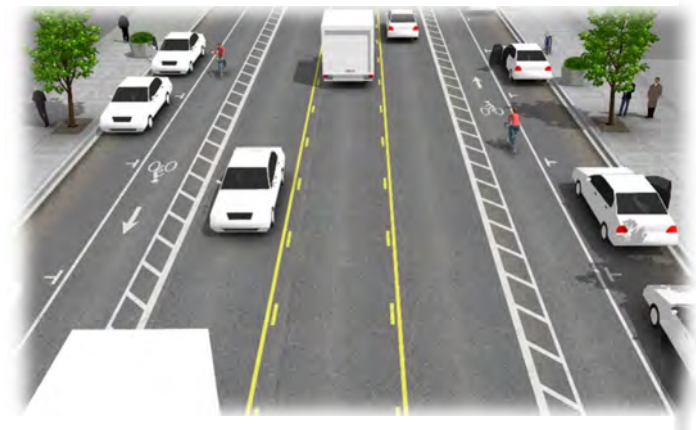


Figure 26: Example of Class II Bike Lanes With Buffer



## Gateway Feature

A gateway feature is any type of free-standing monument, archway, statue, sculpture, or sign which identifies the name of a community, city, or town.

### Benefits:

Gateway features provide a unique identifier for the community and a sense of ownership for the residents. They also increase aesthetics and comfort while enhancing the overall community. Landscaping may also be integrated into the design of the gateway feature to improve the visual elements of the monument. Figures 27 through 29 provide examples of existing gateway features.

### Challenges:

The gateway feature should not obstruct or block the view of motorists. Sightlines should be maintained along the corridor so that movement of all modes are visible.

### Design & Maintenance:

The design of the gateway feature should comply with all County guidelines and standards, including the Zoning Ordinance section 6207.b.2 on Community Identification Signs. The design should harmonize the roadway with existing topography and land uses. The gateway feature including any landscaping will need to be maintained to preserve the structural integrity, quality and beautification of the monument.



Figure 27: City of Carlsbad Gateway Feature



Figure 29: City of Escondido Gateway Feature



Figure 28: City of La Mesa Gateway Feature

## 6. CONCEPT THEMES

Three themes were developed for the corridor and are presented in this section. Each theme integrates combinations of the Concept Elements presented in Section 5.

### **Theme 1: Pedestrian and Bicycle Focus**

Theme 1 aims to maximize pedestrian and bicycle access along the corridor by providing continuous walking and bicycling facilities, providing frequent crossing locations and integrating features that reduce traffic speeds. **Table 2** summarizes the key Concept Elements included in Theme 1. The following describes the theme in greater detail.

#### **Pedestrian Access and Connectivity**

Theme 1 provides a continuous pedestrian path of travel on both sides of Valley Center Road. The Heritage Trail is located on the west and north side of the street and sidewalks are provided on the east and south side of the street from Cole Grade Road to Woods Valley Road. Per the Valley Center Community Right of Way Development Standards, in the Villages, a Type D Pathway is allowed on the west and north side of Valley Center Road and a sidewalk is allowed on the east and south side of Valley Center Road.

In the South Village, marked pedestrian crossings across Valley Center Road are provided a maximum of one quarter mile (0.25 mile) apart and are provided at signalized intersections, roundabouts and controlled pedestrian crossings. Controlled pedestrian crossings could be either include a pedestrian signal or HAWK and are proposed at Rinehart Lane and north of Sunday Drive. At the Rinehart Lane crossing, the median would be closed thereby restricting auto movements to right turns only in order to reduce the potential left turn/pedestrian conflict in the marked crossing. At both controlled pedestrian crossings, the raised median provides for a pedestrian refuge area while crossing the street.

#### **Bicycle Facilities**

Class IV Separated Bikeways with flexible delineator posts (bollards) are proposed for the length of the corridor on both sides of Valley Center Road. At or near conflict areas (i.e. unsignalized intersections and driveways) "skip stripe" and solid green pavement markings would replace the striped buffer and bollards where vehicles cross the bicycle path of travel.

At roundabouts, bicyclists may use the multi-use path to bypass riding through the roundabout or they may merge with traffic and travel through the roundabout. For bicyclists who choose to ride through the roundabout, a gap in the buffer and bollards allows them to exit the bicycle lane and to merge into traffic as they approach the roundabout. For bicyclists who choose to use the multi-use path, ramps are provided where the bikeway approaches the multi-use path. The multi-use path is the wider sidewalk around the roundabout that can be used by both pedestrians and bicyclists. The multi-use path is provided around the roundabout only and connects with either sidewalk or the Heritage Trail. If a cyclist chooses to use the multi-use path, they would dismount their bicycles and cross the legs of the roundabout with pedestrians in the marked crosswalks.

At locations with curb extensions, the bike lane shifts from a location adjacent to the travel lanes to being located between the curb and the curb extension. Where the pedestrians cross the bike lane, the bike lane angles into a ramp, allowing pedestrians to cross the bike lane at the grade of the sidewalk. Bicyclists yield to pedestrians at crossings. In accordance with the California Manual on Uniform Control Devices, W11-15 signage shows a black symbol of a left-facing bicycle above a black symbol of a left-facing walking person on a vertical rectangular yellow sign. A fluorescent yellow-green background color may be used for this sign. This could be used to help warn drivers approaching the bulb-outs that pedestrians and bicyclists may be crossing.

**Table 2: Theme 1 Concept Elements**

Elements of Theme 1		
Roundabout	Single Lane	
	Two-Lane	✓
	Single Lane w/ Taper	
Curb-Extension		✓
Controlled Ped. Crossing (Signal or HAWK)		✓
Raised Median		✓
Sidewalk		✓
Pathways		✓
Class IV Separated Bikeway with Flexible Delineator Posts		✓
Class II Bike Lane with Buffer		
Gateway Feature		



### **Traffic Control**

Traffic signals in Theme 1 are located at the following intersections along Valley Center Road: Mirar De Valle, New Road (new road of Park Circle development, just north of Mirar De Valle), Miller Road and Cole Grade Road. The traffic signals at Mirar De Valle and New Road will be constructed by the Park Circle mixed use development, which was under construction at the time this report was prepared. Depending on timing, other development projects may be required to contribute to the construction of the Mirar De Valle traffic signal. An approved discretionary permit has a condition for a traffic signal at Miller Road; however specific intersection control may be reevaluated at the time traffic warrants are met.

Two-lane roundabouts are included at Woods Valley Road and Old Road. These roundabouts aim to reduce traffic speeds entering the South Village from either end. They also provide an opportunity for art and landscape to complement the existing design elements along the corridor.

Traffic signals, roundabout and pedestrian crossings are spaced at 0.25-mile intervals in the South Village order to maximize pedestrian access across the corridor. The traffic control devices were aligned with existing transit stops as well. When necessary, the transit stops were shifted to align with crossings or shifted to outside of a signalized intersection or roundabout. Although some traffic signals may not meet warrants in either the North or South Villages, the devices are recommended to meet the overall goals of providing improved pedestrian and bicycle access along the corridor – specifically in the South Village for this theme.

### **Traffic Calming**

Three features in Theme 1 aim to reduce travel speeds along the corridor: curb extensions, roundabouts, and narrower lanes. Curb extensions are proposed at the signalized intersection of Mirar De Valle Road/Valley Center Road. They reduce the pedestrian crossing distance and help reduce traffic speeds by narrowing the width of pavement between the raised median and the curb. Where the curb extension is proposed along the edge of the travel lane, the bicycle lane shifts from a location adjacent to travel lanes to being located between the sidewalk and the curb extension. A raised pedestrian crossing across the bike lane allows pedestrians to cross at-grade from the sidewalk, across the bike lane, to the curb extension. By moving the pedestrians closer to the travel lanes to the other side of the bike lane, the crossing distance across vehicle travel lanes is reduced by 16 feet compared to the existing condition.

In addition to serving as a traffic control device, roundabouts are effective at reducing speeds of automobiles entering the South Village from either end. The travel speed approaching and through the roundabout is approximately 35 mph. The center island of the roundabout provides an opportunity to integrate art, landscape and other features that complement the rural village design into the corridor. Roundabouts also reduce the crossing distance for pedestrians. The splitter islands at the roundabout provide a refuge area so pedestrians only cross one approach of traffic at a time.

In order to provide the buffer between the bike lanes and the travel lanes, travel lanes are reduced from 12 feet to 11 feet the length of the corridor. The narrower lanes help create friction which in turn results in reduced travel speeds without affecting the capacity of the roadway.

### **Raised Median**

Theme 1 adds new sections of raised median in the South Village where there is currently a striped two-way left turn lane. In this theme, there are gaps in the raised median at the signalized intersections and at the one-way stop-controlled intersection at Charlan Road. Between Old Road and Miller Road, no changes are proposed to the medians. In the North Village, raised medians are proposed between Miller Road and Cole Grade Road with gaps in the median at Indian Creek and at Valley Center Community Church. The raised medians will restrict left-turn movements and vehicles will be required to make U-turns at the nearest available controlled intersection.

### **Other Key Features**

New streetlights would be included along the length of the corridor. Streetlight spacing and type will be determined in final design. The streetlights would adhere to the County Light Pollution Code and Valley Center Design Guidelines.

**Theme 2: Traffic Calming Focus**

Theme 2 focuses on reducing traffic speeds by modifying the physical conditions along the corridor. Roundabouts are included in both the North and South Villages, which help to reduce traffic speeds, along with an integrated system of narrower lanes and curb extensions. **Table 3** summarizes the key Concept Elements included in Theme 2. The following describes the theme in greater detail.

**Pedestrian Access and Connectivity**

Theme 2 provides a continuous pedestrian path of travel on both sides of Valley Center Road from Cole Grade Road to Woods Valley Road. The Heritage Trail is provided on the west and north side of the street and sidewalks are provided on the east and south side of the street. Per the Valley Center Community Right of Way Development Standards, in the Villages, a Type D Pathway is allowed on the west and north side of Valley Center Road and a sidewalk is allowed on the east and south side of Valley Center Road.

Marked pedestrian crossings across Valley Center Road are provided at signalized intersections, roundabouts and controlled pedestrian crossing. The controlled pedestrian crossing could either include a pedestrian signal or HAWK and is proposed at Old Road near existing transit stops. At the Old Road crossing, the median would be closed thereby restricting auto movements to right turns only in order to reduce the potential left turn/pedestrian conflict in the marked crossing. The raised median through this intersection also provides for a pedestrian refuge area while crossing the street.

**Bicycle Facilities**

Class IV Separated Bikeways with flexible delineator posts (bollards) are proposed for the length of the corridor on both sides of Valley Center Road. At or near conflict areas (i.e. unsignalized intersections and driveway) "skip stripe" and solid green pavement markings would replace the striped buffer and bollards where vehicles cross the bicycle path of travel.

At roundabouts, bicyclists may use the multi-use path to bypass riding through the roundabout or they may merge with traffic and travel through the roundabout. For bicyclists who choose to ride through the roundabout, a gap in the buffer and bollards allows them to exit the bicycle lane and to merge into traffic as they approach the roundabout. For bicyclists who choose to use the multi-use path, ramps are provided where the bikeway approaches the multi-use path. The multi-use path is a wider sidewalk around the roundabout that can be used by both pedestrians and bicyclists. The multi-use path is provided around the roundabout only and connects with either the sidewalk or the Heritage Trail. If a cyclist chooses to use the multi-use path, they would dismount their bicycles and cross the legs of the roundabout with other pedestrians in the marked crosswalks.

At locations with curb extensions, the bike lane shifts from a location adjacent to the travel lanes to being located between the curb and the curb extension. Where the pedestrians cross the bike lane, the bike lane angles into a ramp, allowing pedestrians to cross the bike lane at the grade of the sidewalk. Bicyclists yield to pedestrians at crossings.

**Traffic Control**

Three roundabouts are included in Theme 2. The roundabout at Woods Valley Road is a two-lane roundabout. Single lane roundabouts with tapers are included at the intersections at Miller Road and at Lilac Road. On the approach to the intersections at Lilac Road and at Miller Road, Valley Center Road will be tapered from two-lanes in each direction (4-lane roadway) to one lane

**Table 3: Theme 2 Concept Elements**

Elements of Theme 2		
Roundabout	Single Lane	
	Two-Lane	✓
	Single Lane w/ Taper	✓
Curb-Extension		✓
Controlled Ped. Crossing (Signal or HAWK)		✓
Raised Median		✓
Sidewalk		✓
Pathways		✓
Class IV Separated Bikeway with Flexible Delineator Posts		✓
Class II Bike Lanes with Buffer		
Gateway Feature		

entering the single-lane roundabout. Single lane roundabouts are smaller than a two-lane roundabout, so reducing the travel lanes from four to two results in a smaller roundabout at the intersections.

Traffic signals are included at Mirar De Valle, New Road, Indian Creek Road and Cole Grade Road. The traffic signals at Mirar De Valle and New Road (new road of Park Circle development, just north of Mirar De Valle) are conditioned as part of the Park Circle mixed use development that was under construction when this report was prepared. Depending on timing, other development projects may be required to contribute to the construction of the Mirar De Valle traffic signal. An approved discretionary permit has a condition for a traffic signal at Miller Road; however specific intersection control may be reevaluated at the time traffic warrants are met.

Although some traffic signals may not meet warrants in either the North or South Villages, the devices are recommended to meet the overall goals of providing slower speeds and improved access along the corridor. The limited disruptions in traffic flow along the corridor under the existing condition has resulted in speeds higher than the posted speed limit. The traffic signals will provide controlled access for left turns along the corridor and will improve driver awareness of intersections and the potential need to stop. These visual cues will help maintain driver awareness and help to reduce speeds in the corridor.

### **Traffic Calming**

Three features in Theme 2 aim to reduce traffic speeds: curb extensions, roundabouts and narrower lanes. Curb extensions are proposed at the signalized intersections along Valley Center Road: Mirar De Valle Road, New Road, and Indian Creek Road. They will reduce the pedestrian crossing distance and help reduce traffic speeds by narrowing the width of pavement between the raised median and the curb extension. Where the curb extension is proposed along the edge of a travel lane, the bicycle lane shifts from a location adjacent to travel lanes to being located between the sidewalk and the curb extension. A raised pedestrian crossing across the bike lane allows pedestrians to cross at-grade from the sidewalk, across the bike lane, to the curb extension. The crossing distance across Valley Center Road is reduced by 16 feet compared to the existing condition.

In addition to serving as a traffic control device, roundabouts are effective at reducing speeds. At Woods Valley Road, the roundabout will help reduce speeds as drivers enter the South Village, and will help establish the rural village environment by integrating landscape and art to help create a sense of place. At Lilac Road and Miller Road, the road tapers from four to two lanes approaching and through the single lane roundabouts, reducing travel speeds along the corridor. Drivers will need to slow down to merge into a single lane and to travel through the roundabouts. The two single lane roundabouts will help to reduce speeds through the existing curve in Valley Center Road, which has some of the highest reported speeds along the Valley Center Road corridor.

In order to provide the buffer between the bike lanes and the travel lanes, travel lanes are reduced from 12 feet to 11 feet the length of the corridor. The narrower lanes help create friction which in turn results in reduced travel speeds without affecting the capacity of the roadway.

### **Raised Medians**

Raised medians are proposed in the South Village between Woods Valley Road and Old Road with gaps in the median at signalized intersections and at the one-way stop-controlled intersection at Sunday Drive. Between Old Road and Miller Road, the median is modified where the four-lane section of roadway narrows to two lanes for the single lane roundabout. As a result, the existing driveway located immediately north of Lilac Road will be restricted to right turns.

In the North Village, raised medians are proposed between Miller Road and Cole Grade Road with gaps at the signalized intersection of Indian Creek Road and at Valley Center Community Church driveway. The raised medians will restrict left-turn movements and vehicles will be required to make U-turns at the nearest intersection where U-turns are permitted.

### **Other Key Features**

New streetlights would be included along the length of the corridor. Streetlight spacing and type will be determined in final design. The streetlights would adhere to the County Light Pollution Code and Valley Center Design Guidelines.

### THEME 3: VILLAGE FOCUS

Theme 3 focuses on improvements that create a unique character in each of the two villages. In the North Village, Valley Center Road is narrowed to two lanes (one in each direction) and includes roundabouts at Miller Road and Cole Grade Road. These features aim to slow traffic along the corridor to create a walkable corridor with buffered bicycle lanes and on-street parking. In the South Village, narrower lanes and traffic signals aim to improve access and connectivity within the commercial core. **Table 4** summarizes the key Concept Elements included in Theme 3. The following describes the theme in greater detail.

#### **Pedestrian Facilities**

Theme 3 provides a continuous pedestrian path of travel on both sides of Valley Center Road from Cole Grade Road to Miller Road and from Lilac Road to Woods Valley Road. Between Miller Road and Lilac Road the Heritage Trail is provided on the west side of the street, but there is no sidewalk on the east side. Per the Valley Center Community Right of Way Development Standards, in the Villages, a Type D Pathway is allowed on the west and north side of Valley Center Road and a sidewalk is allowed on the east and south side of Valley Center Road. Marked pedestrian crossings across Valley Center Road are provided at signalized intersections and roundabouts only. There are no controlled pedestrian crossings in this theme, outside of the signalized intersections.

#### **Bicycle Facilities**

Class IV Separated Bikeways with flexible delineator posts are provided between Miller Road and Woods Valley Road. At or near conflict areas (i.e. intersections and driveways) green pavement markings would replace the striped buffer and bollards where vehicles cross the bicyclists path of travel.

Between Miller Road and Cole Grade Road, buffered Class II Bike Lanes are provided to allow access to the on-street parallel parking. The buffer is provided between the travel lanes and the bicycle lane. At or near conflict areas (i.e. intersections and driveway) green pavement markings would replace the striped buffer where vehicles cross the bicyclists path of travel.

At the two roundabouts in North Village, bicyclists may use the multi-use path to bypass riding through the roundabout or they may merge with traffic and travel through the roundabout. For bicyclists who choose to ride through the roundabout, a gap in the buffer and bollards allows them to exit the bicycle lane and to merge into traffic. For bicyclists who choose to use the multi-use path, ramps are provided where the bikeway approaches the multi-use path. The multi-use path is the wider sidewalk around the roundabout that can be used by both pedestrians and bicyclists. The multi-use path is provided around the roundabout only and connects with either sidewalk or the Heritage Trail. If a cyclist chooses to use the multi-use path, they would dismount their bicycles and cross the legs of the roundabout with pedestrians in the marked crosswalks.

#### **Traffic Control**

Traffic signals are included at Woods Valley, Mirar De Valle, New Road (new road of Park Circle development, just north of Mirar De Valle), Old Road and Lilac Road. The traffic signals at Mirar De Valle and New Road will be constructed by the Park Circle mixed use development, which was under construction at the time this report was prepared. Depending on timing, other development projects may be required to contribute to the construction of the Mirar De Valle traffic signal. The series of traffic signals in the South Village aim to improve access to existing commercial and planned mixed use developments in the commercial corridor. These signals will improve pedestrian access between businesses along the corridor and improve access to existing transit stops.

**Table 4: Theme 3 Concept Elements**

Elements of Theme 3		
Roundabout	Single Lane	✓
	Two-Lane	
	Single Lane w/ Taper	✓
Curb-Extension		
Controlled Ped. Crossing (Signal or HAWK)		
Raised Median		✓
Sidewalk		✓
Pathways		✓
Travel Lanes Reduced from 4 to 2 in North Village		✓
Class IV Separated Bikeway with Flexible Delineator Posts		✓
Class II Bike Lanes with Buffer		✓
Gateway Feature		✓

Single lane roundabouts are included at Miller Road and at Cole Grade Road. Valley Center Road narrows from two-lanes in each direction (4-lane roadway) north of Lilac Road to one-lane entering the proposed single-lane roundabout at Miller Road and remains one-lane in each direction (2-lane roadway) between Miller Road and the Cole Grade Road.

### **Traffic Calming**

Three features in Theme 3 will help reduce travel speeds along Valley Center Road: road diet, roundabouts and narrower lanes. The road diet occurs in the North Village where the corridor narrows from four lanes to two lanes. This narrowing will effectively reduce the travel speeds through the corridor. The section from Cole Grade Road to Miller Road is also flanked by single lane roundabouts, which will help establish the slower speeds entering the North Village as the speed entering and through the roundabout will be about 35 mph. The combination of lane reduction and roundabouts will help maintain the slower speed along the corridor.

Between Miller Road and Woods Valley Road, narrow lanes and the raised median aim to reduce traffic speed. The existing 12-foot lanes are narrowed to 11 feet and a continuous median is provided from Miller Road to Lilac Road. The friction caused by narrowing the lanes will help reduce traffic speeds.

### **Raised Medians**

The existing two-way left turn lane through the South Village remains unchanged in this section. The existing raised medians between Mirar De Valle and Lilac Road remain unchanged in this theme. A continuous raised median is proposed between Lilac Road and Miller Road with no gaps at any driveways or intersections. As such, the intersections at Chaparral Terrace and at Canyon Road will be restricted to right turns only. The median closures at these intersections under this theme would prevent head-on or broadside collisions. Stakeholders have expressed concerns about high speeds along the curve and dangerous left turns at these intersections. In the North Village, a continuous raised median extends from Cole Grade Road to Miller Road except at Indian Creek Road. Access at driveways would be restricted to right turn only through this section. By restricting left-turn movements at driveways and intersections, vehicles will be required to make U-turns at the nearest intersection. The roundabouts at either end of the North Village section of the corridor would provide an opportunity for drivers to U-turn.

### **Other Key Features**

New streetlights would be included along the length of the corridor with pedestrian scale lighting along the Heritage Trail. Streetlight spacing and type will be determined in final design. The streetlights would adhere to the County Light Pollution Code and Valley Center Design Guidelines.

On-street parallel parking will be provided along Valley Center Road in the North Village. The additional parking is not only a benefit to the nearby retail shops and restaurants, but also acts as a traffic calming measure along Valley Center Road.

A gateway treatment is included in Theme 3, south of Woods Valley Road in the form of a monument or sign to serve as a welcome to the community.

## **7. CONCEPT DRAWINGS**

The attached figures illustrate the elements included in each of the themes and cross-sections for selected locations along the corridor. The figures are labeled as follows:

Figure EX-1	Existing Conditions
Figure 1-1	Theme 1, Concept Plan
Figure 1-2	Theme 1, Cross Sections
Figure 2-1	Theme 2, Concept Plan
Figure 2-2	Theme 2, Cross Sections
Figure 3-1	Theme 3, Concept Plan
Figure 3-2	Theme 3, Cross Sections



In addition, figures are provided that illustrate the conceptual design of the corridor in three sections:

- Section A: Woods Valley Road to south of Sunday Drive
- Section B: Sunday Drive to north of Lilac Road
- Section C: Canyon Road to Cole Grade Road

The key map below illustrates the extent of each of the sections. For each of the sections, the key elements of Existing Conditions, Theme 1, Theme 2 and Theme 3 are shown in Figure 30.



Figure 30: Theme Key Map

Valley Center Road Corridor Concept Plan

# Appendix H: Public Outreach Phase 2 Summary



# Valley Center Road Corridor Concept Plan



## Workshop 2- Themes, Input, Compilation and Summary

Workshop Date:  
August 25, 2020



Michael Baker  
INTERNATIONAL





# Workshop Summary

**Workshop #2, “Exploring Treatments by Themes,” was held August 25, 2020 from 6pm-8pm via Zoom Webinar. The workshop’s webinar format allowed for attendees to submit questions to the panelists throughout the presentation. The panel then reviewed each question, and verbally read and responded to each question asked during one of the three question and answer sessions.**

**The first section of the webinar focused on the background of the project, reviewed material and input from Workshop 1, and explained a toolbox of features considered for the corridor including roundabouts, signalized intersections, and raised medians.**

- During the first question and answer session attendees expressed concern about the roundabouts handling large traffic volumes, and large vehicles, particularly during emergency periods such as evacuations. Project staff answered these questions, assuring attendees of a roundabout’s capacity to fit large vehicles, and emergency personnel’s ability to control traffic flow during evacuations.

**The second portion of the webinar focused on the different themes and showed maps and visuals of each Section along Valley Center Road.**

- In the second question and answer session, attendees asked about the safety of roundabouts compared to signalized intersections. Panelists described how roundabouts reduce conflict points, particularly points that result in severe crashes, when compared to signalized intersections. Even though roundabouts require vehicles to merge lanes, the possibility of a severe crash is reduced. Attendees also asked about greenhouse gas emissions when a vehicle uses a roundabout compared to a signalized intersections. Panelists explained that roundabouts reduce the time vehicles are stopped at a traffic light, which is when vehicles emit the most greenhouse gases. Questions were also asked about treatments along Old Road. The panelists explained that although Old Road is not a vehicle heavy road, new treatments would make pedestrian and bicycle access easier.

**The final third of the webinar showed attendees how to leave feedback on the project website and how to contact project staff.**

- No questions were asked specific to the process for providing feedback in this session.

## **Sample of Questions Asked:**

“This area is known for large recreation vehicles and horse trailers. I’m told these recreation vehicles have trouble passing the roundabouts on 76. Have you factored in the space necessary for those vehicles?”

“Can you quantify the improvements in safety with roundabouts compared with stop lights?”

“Can you quantify the improvement in greenhouse gas emissions with roundabouts compared with stop lights?”

“Will the Heritage Trail remain through all the sections as it is today?”

“How much time will it take for traffic to pass through the 2.5 mile stretch with roundabouts vs traffic signals?”

“Won’t reducing from 4 lanes to 2 lanes approaching the 2-lane roundabouts increase accidents due to merging traffic?”

# Feedback Forms

Stakeholders and community members were given instructions on how to complete a feedback form during the presentation, on the project website and over an informational email. They were asked to give feedback on their preferred theme for each section along the Valley Center Road corridor.

- For purposes of analysis, the Valley Center Road Corridor has been split into three sections. Section A covers the corridor segment from Woods Valley Road to just south of Sunday Drive. Section B covers Sunday Drive to just south of Canyon Road. Section C covers Canyon Road to Cole Grade Road. Three themes were developed with a unique focus for each, and each theme covers all three sections of the corridor.

- Community members could explore nine **flipbooks**, which detailed the proposed elements of each theme and the potential benefits of the roadway treatments. After reviewing the flipbooks, respondents could complete a feedback form which asked them to choose their preferred theme for each section, and leave comments on the elements preferred for the chosen theme. Additionally, respondents were given space on the **feedback form** to leave general comments about the Corridor Concept Plan. Respondents then could submit their forms to the project team.

- The following pages summarize the comments left for each theme in each section. The pie charts on each page show the percentage of respondents who preferred a certain theme within a section.

**South Village (Section A)**  
Pedestrian & Bicycle Focus Theme | South Village (Section A)  
From Woods Valley Rd to just south of Sunday Dr

**What's in the Toolbox?**  
For each tool you see, there are typically multiple benefits. For information on the benefits of the tools selected, see pages 6 through 16 of the [Conceptual Themes Technical Memorandum](#)

**Elements of Theme 1**

- Two-lane Roundabout
- Curb Extensions
- Raised Medians
- Sidewalks
- Marked Crosswalks
- Class IV Separated Bikeway with Flexible Delineator Posts

Valley Center Road Corridor Concept Plan | Questions? Comments? Email [pds.communityplanupdates@sdcounty.ca.gov](mailto:pds.communityplanupdates@sdcounty.ca.gov)  
Visit <https://bit.ly/VCRoadWorkshop2> 3 of 5

Above: Page from South Village, Section A, Flipbook  
Below: Feedback Form

**Workshop #2 Feedback Form**  
(Continued on page 2)

Valley Center Road Corridor Concept Plan

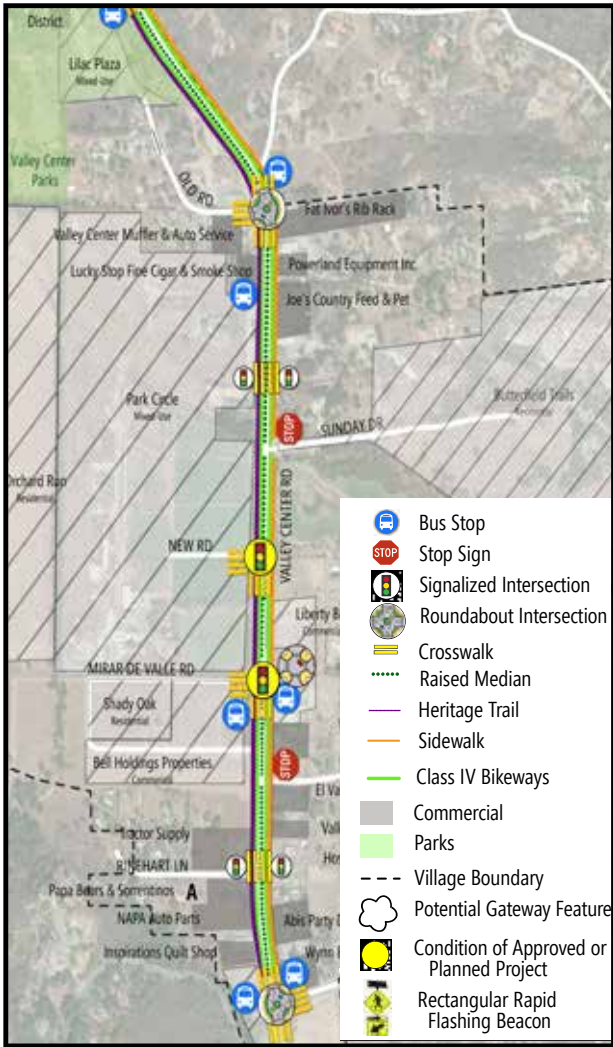
1. Which theme do you prefer by section? Below is a visual summary of each theme and its corresponding sections on Valley Center Road. Please choose one section per column. You should have reviewed a flipbook for each section and theme from the project website below. If you have not, please return to the project website and review the flipbooks before completing this question.

	South Village (Section A): Woods Valley Rd to just south of Sunday Dr	The Curve (Section B): Sunday Drive just south of Canyon Rd	North Village (Section C): Canyon Road to Cole Grade Road
	What made you choose this theme? What elements of this theme did you prefer over the others?	What made you choose this theme? What elements of this theme did you prefer over the others?	What made you choose this theme? What elements of this theme did you prefer over the others?
	<input type="text"/>	<input type="text"/>	<input type="text"/>

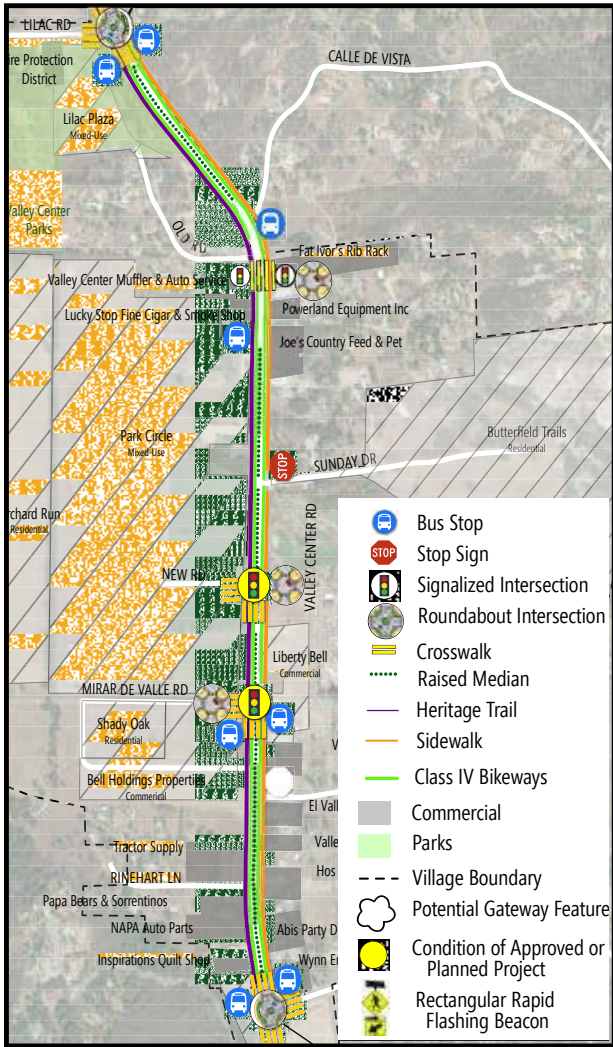
Valley Center Road Corridor Concept Plan | Email this feedback form to [pds.communityplanupdates@sdcounty.ca.gov](mailto:pds.communityplanupdates@sdcounty.ca.gov)  
Visit <https://bit.ly/VCRoadWorkshop2> OR Click submit to return your response to the County **SUBMIT**



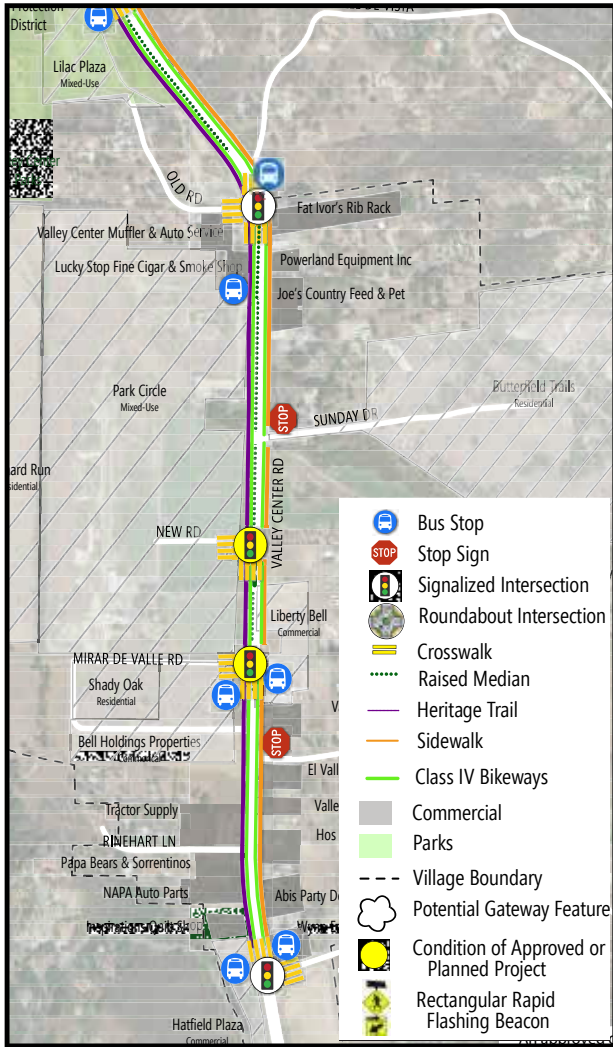
# South Village (Section A)



**Theme 1**



**Theme 2**

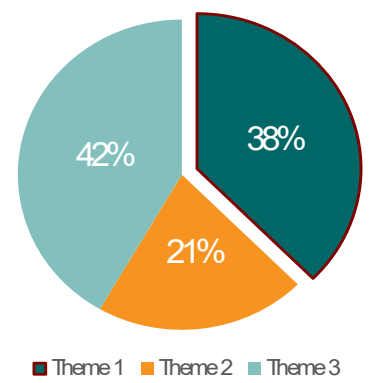


**Theme 3**





# South Village (Section A) Theme 1



Theme 1 was preferred by 9 of 24 (38%) of workshop respondents for Section A.

Respondents preferred Theme 1 for its traffic calming elements. Respondents who prefer this option tend to support the roundabout at Woods Valley Road. Some respondents would like to have seen additional roundabouts at Mirar de Valle Road and Park Circle (“New Road” on the map) as both of these roads lead to new, residential communities. Respondents raised concerns that with new development, traffic may be heavy turning onto Valley Center Road, particularly during school days. Those who preferred Theme 1 also favored the increased protection for bicyclists and pedestrians reflected in the separated bike lane, crosswalks, and pedestrian signal. Most of the comments that did not prefer Theme 1 mentioned concerns about roundabouts.

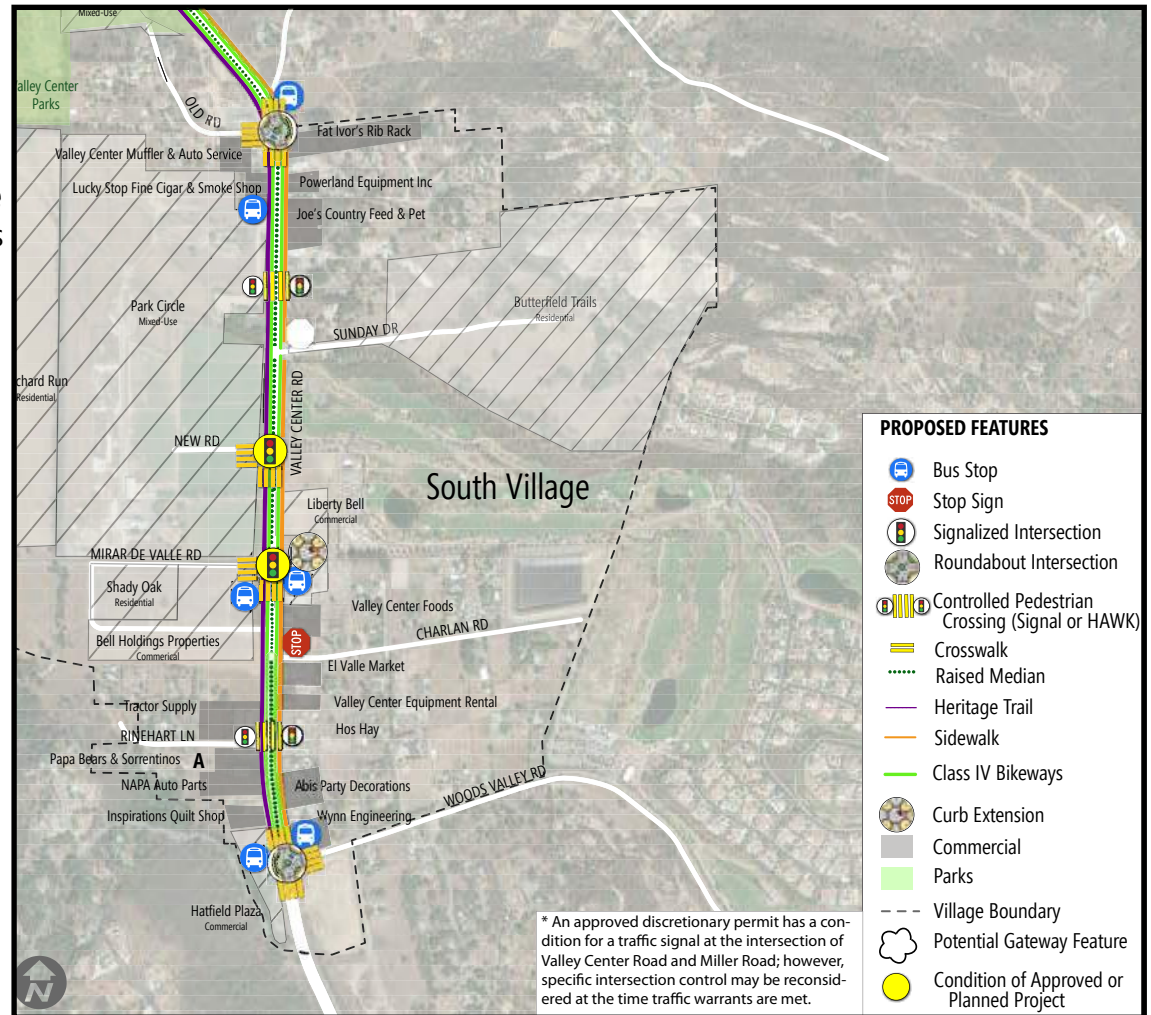
## Key Comments:

“I chose Theme 1 because of the two-lane roundabout at Woods Valley and greatest protection of bicyclists”

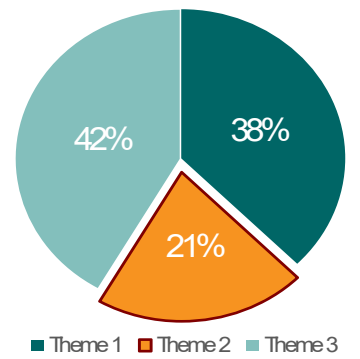
“I prefer roundabouts and safer bike paths”

“The traffic circle at Woods Valley is good idea. Why no traffic circle at Mirar de Valle Road or at the very least Park Circle Road if you have to have a light at Mirar de Valle Road?”

“I don’t like the roundabout. There are hay trucks, horse trailers, and big rigs going through our town.”



# South Village (Section A) Theme 2

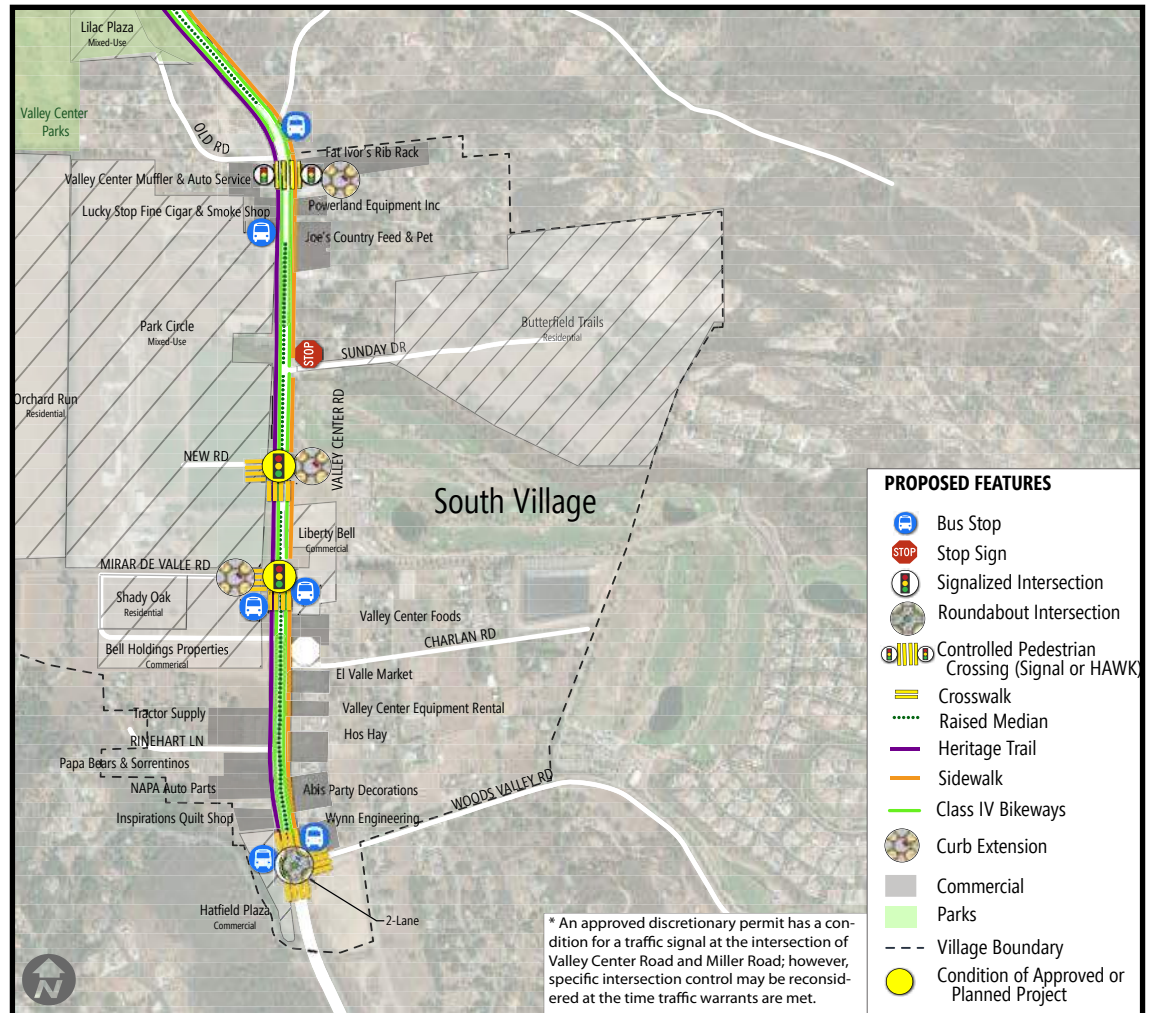


Theme 2 was preferred by 5 of 24 (21%) of workshop respondents for Section A.

Similar to Theme 1, respondents who preferred Theme 2 would like to see roundabouts at Mirar de Valle Road or Park Circle (“New Road” on the map) in addition to the proposed roundabout at Woods Valley Road. Based on certain comments it was apparent that concerns remain about a roundabout’s capacity to accommodate large trucks and trailers. Respondents wrote that they prefer roundabouts because they calm traffic, while reducing stopping which would occur at traffic signals. Comments also suggest that roundabouts could be landscaped and artistically designed to reflect the community.

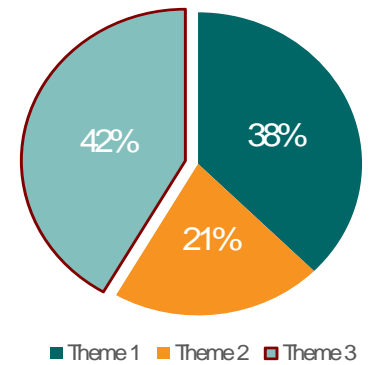
**Key Comments:**

- “I prefer Theme 2 because it has less stopping”
- “Community and local tribes will support roundabout maintenance, local artists will help design art features for centers of circles”
- “Roundabouts slow down traffic, cause fewer serious accidents, and allow more cars to get out in case of fire. I wish we could have a roundabout on Mirar de Valle Road”





# South Village (Section A) Theme 3



**Theme 3 was preferred by 10 of 24 (42%) of workshop respondents for Section A.**

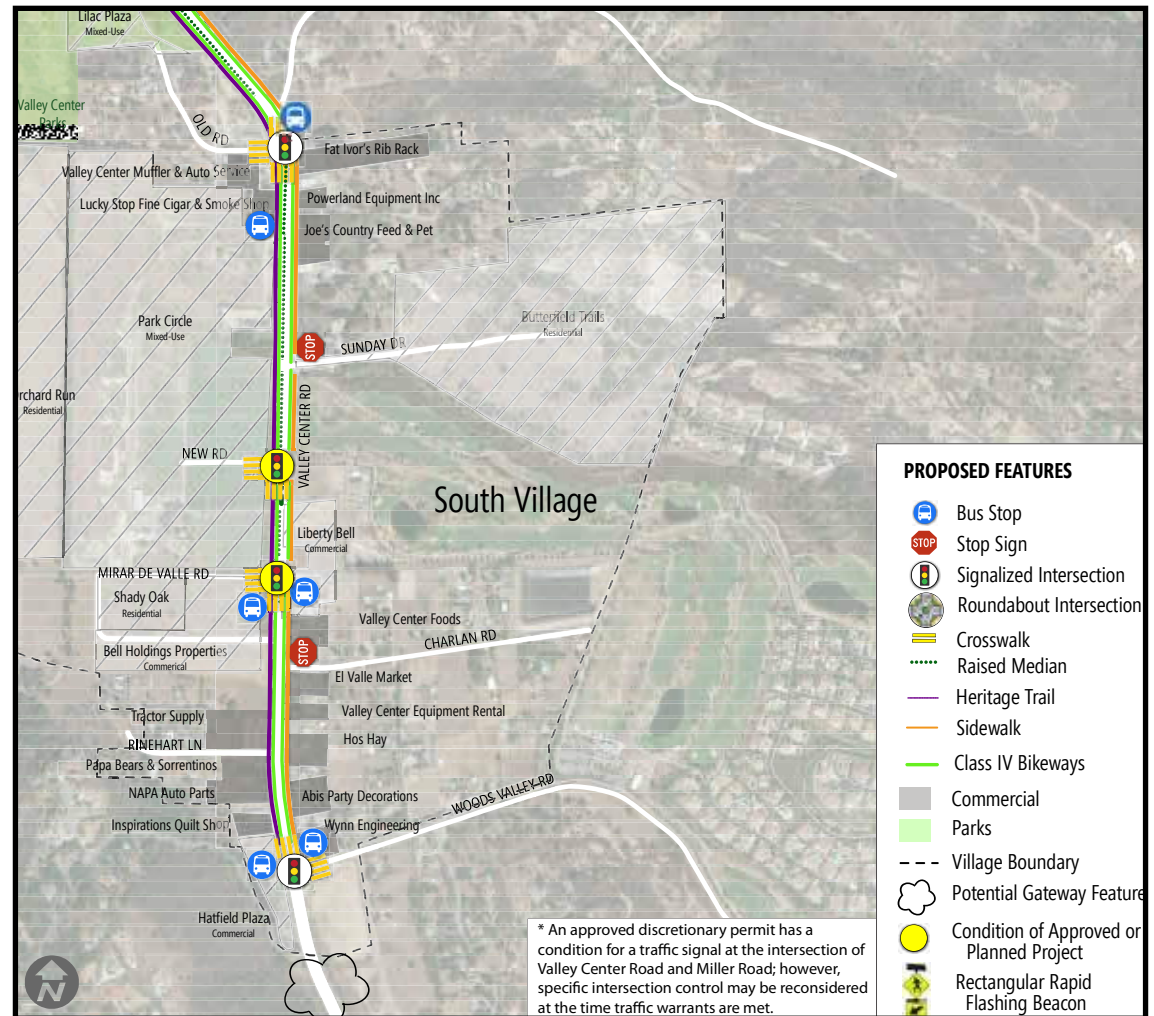
Respondents who preferred Theme 3 commented that this would be the most efficient option for vehicular travel. Some respondents felt the traffic signals would allow for easier navigation during evacuations. Respondents raised concerns that roundabouts included in other themes for South Village (Section A) will slow traffic, especially for drivers who are unfamiliar with the area, and for large vehicles like trailers and trucks. Signalized intersections, as proposed in Theme 3 are their preferred method in controlling traffic. Respondents also noted that Americans with Disabilities Act accessibility improvements are welcomed.

## Key Comments:

“This is the best option for Valley Center. It provides safe passage for everyone. If the lights are synchronized, in the event of another fire, traffic will keep moving, as this is 1 of only 2 exit routes out of VC”

“Traffic lights over roundabouts, I’m concerned about evacuating times with roundabouts.”

“Lights are more efficient.”



# The Curve (Section B)



**Theme 1**



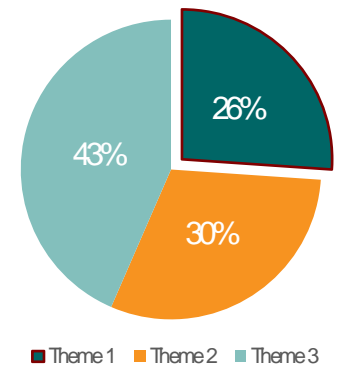
**Theme 2**



**Theme 3**



# The Curve (Section B) Theme 1



**Theme 1 was preferred by 6 of 23 (26%) of workshop respondents for Section B.**

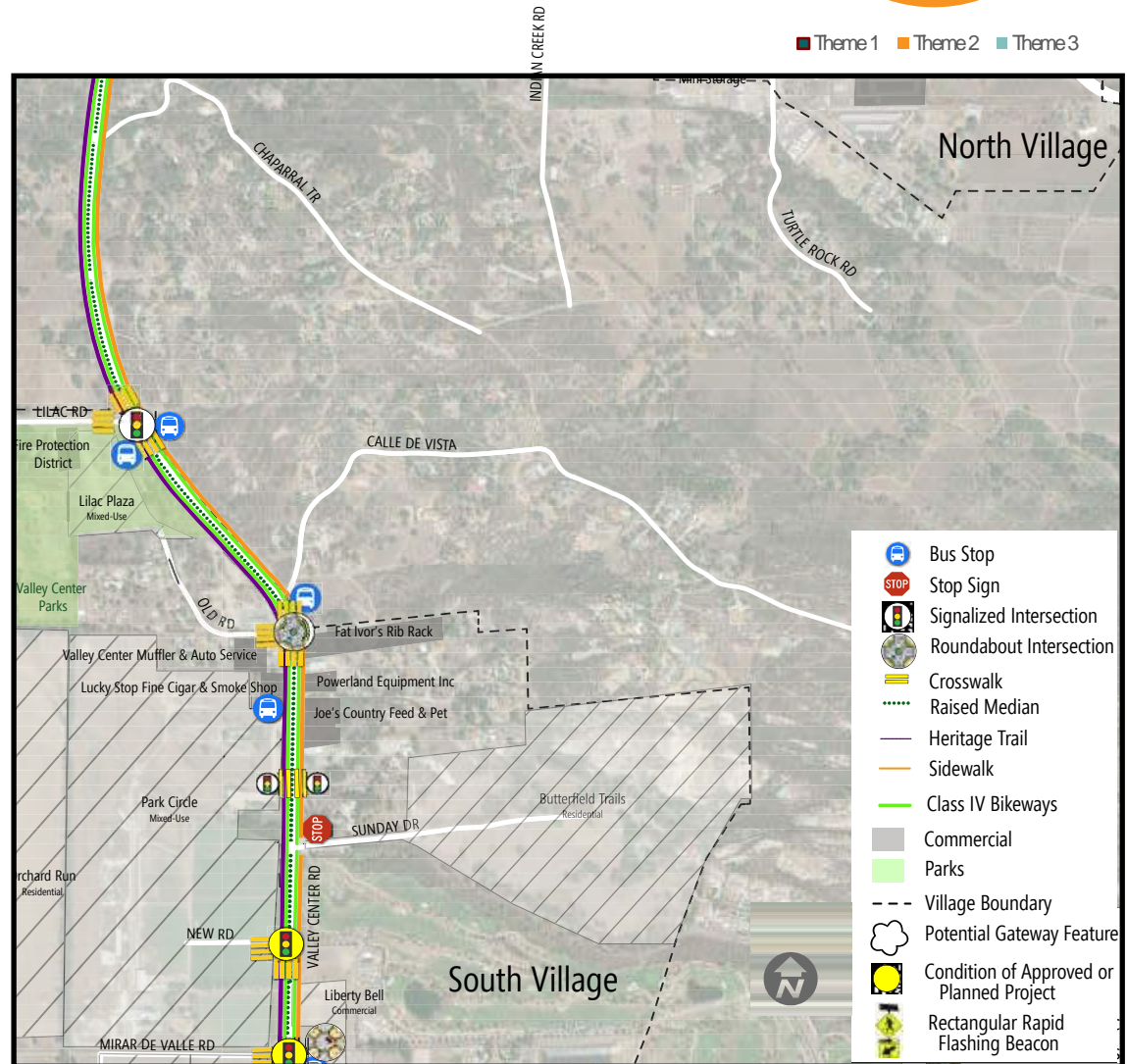
For Section B, Theme 1 was primarily selected by respondents because of the roundabout at Old Road rather than Lilac Road. Respondents noted that they'd prefer to retain the existing traffic signal at Lilac Road, and that they'd prefer adding a roundabout at Old Road to encourage walking and biking because of the surrounding scenic views. Some suggest that a roundabout at Lilac Road may make it difficult for firefighters to exit their station on Lilac Road. The proposed Class IV bike lanes (consistent with the current General Plan Mobility Element for this segment) are also a welcomed element of this theme.

## Key Comments:

"I like the wider roundabout. It seems to take the most beautiful part of Valley Center Road and make it easier to walk on."

"I prefer roundabouts and safer bike paths."

"There is already a light at Lilac Road which seems to be working fine so why go to the cost of removing it"





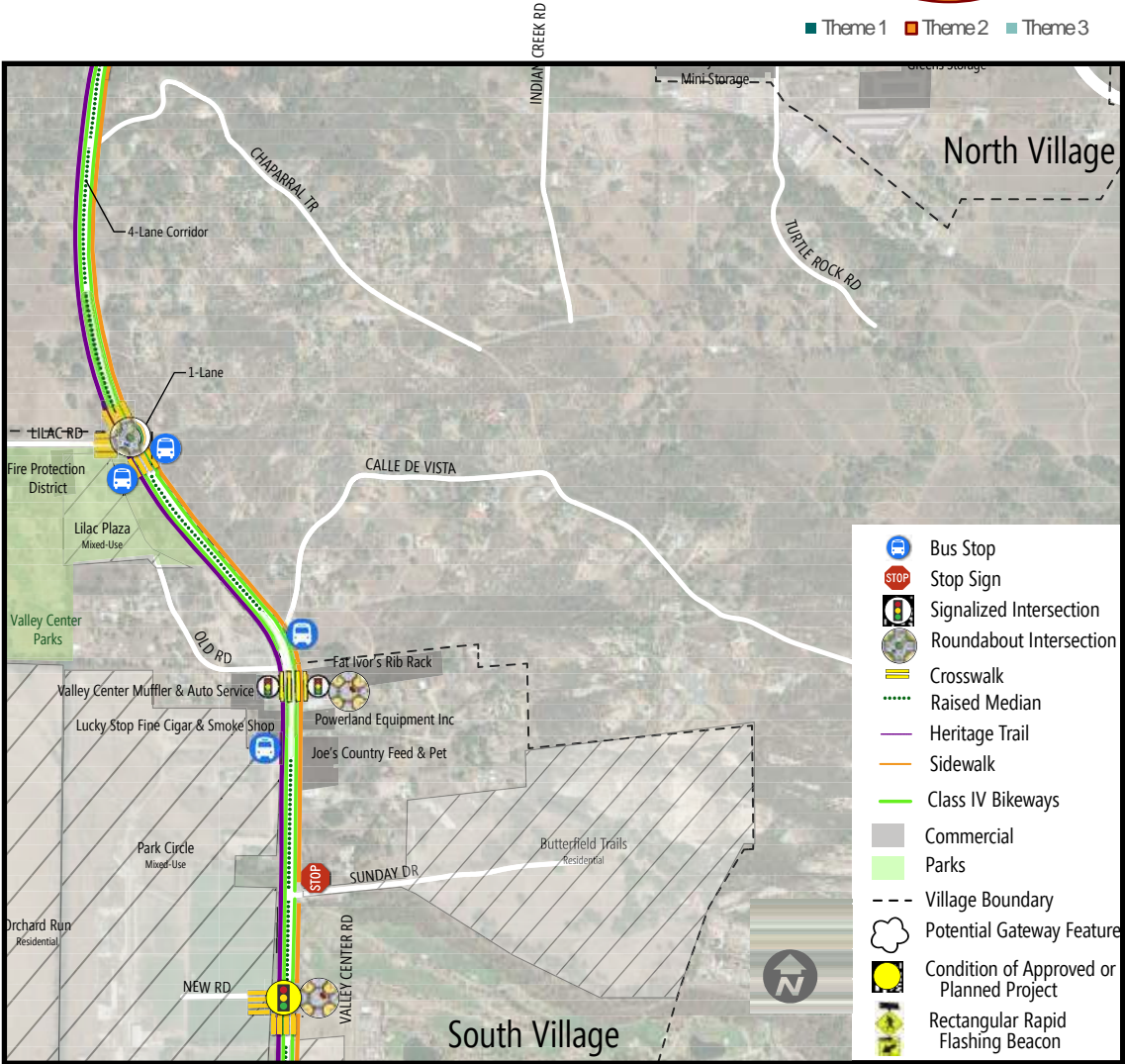
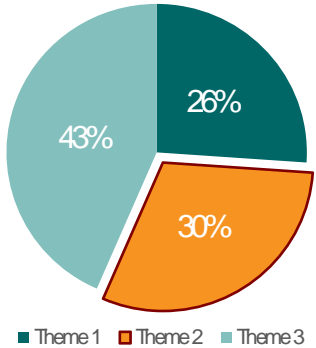
# The Curve (Section B) Theme 2

Theme 2 was preferred by 7 of 23 (30%) of workshop respondents for Section B.

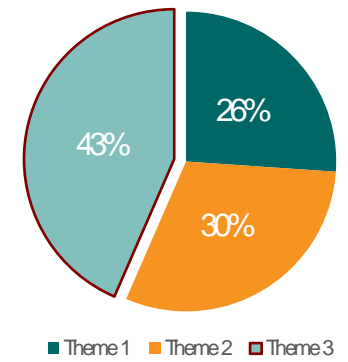
Theme 2 was preferred by certain respondents due to the location of the roundabout. Respondents said the proposed roundabout at Old Road in Theme 1 is unnecessary as the road is not heavily traveled, and the proposed pedestrian signal of Theme 2 provides an alternative at this intersection to enhance pedestrian access to the transit stop. Additionally, there were concerns about left turns onto Valley Center Road from Calle de Vista with the Old Road roundabout in Theme 1. Respondents consider the proposed roundabout at Lilac Road an effective way to keep traffic moving, rather than a traffic light.

**Key Comments:**

- “The idea of a traffic circle or light at Old Road is over-kill”
- “The traffic circle at Lilac Road is a good idea as it will also allow for better transition to VC Rd”
- “Must have roundabout at Lilac Road to keep traffic moving.”



# The Curve (Section B) Theme 3



**Theme 3 was preferred by 10 of 23 (43%) of workshop respondents for Section B.**

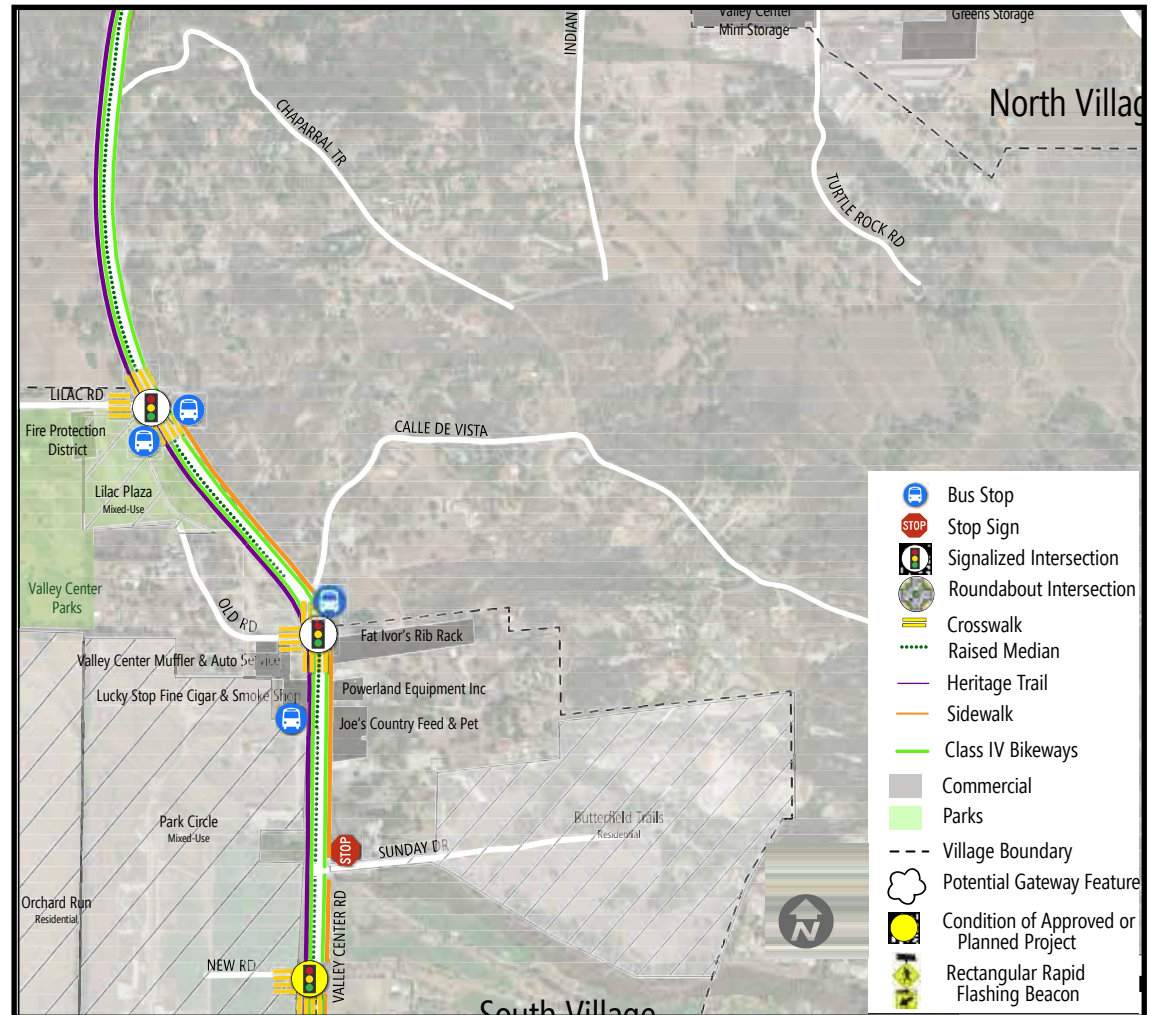
Respondents wrote that this was their preferred theme for the Curve because it includes a traffic signal, rather than a roundabout at Old Road. Respondents consider a roundabout unnecessary at Old Road because there is not enough turning traffic. Respondents also suggest that it does not seem like there is enough space to accommodate a roundabout at Old Road, and they are concerned that roundabouts will slow down evacuations. Respondents stated that this theme includes fewer bicycle and pedestrian improvements which they note may not be necessary as few people walk or bike in the area.

## Key Comments:

“No roundabouts! Lights are a better option”

“Valley Centerites aren’t here for bike lanes and pedestrian crossings. Most of us go to other towns for the things that we need”

“No roundabout at Old Road. Little turning at this point. No reason for it. Medians are a good idea.”

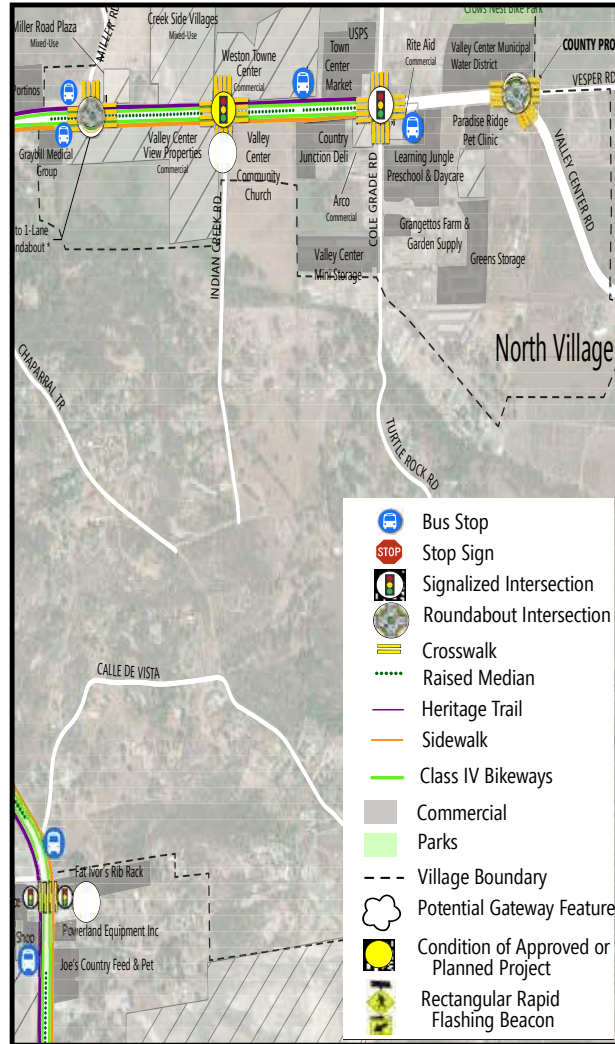




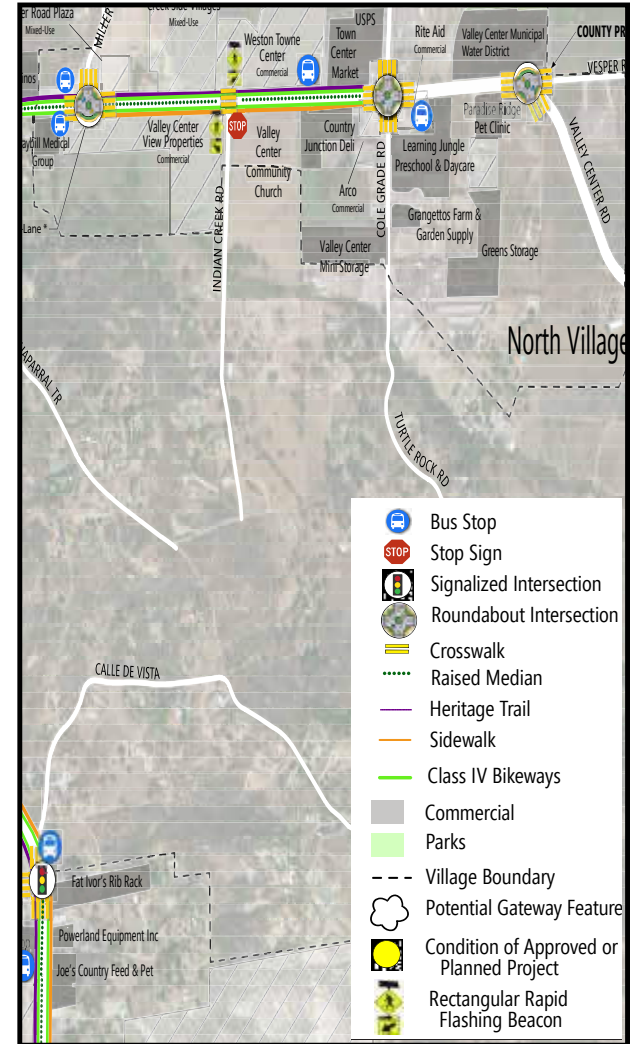
# North Village (Section C)



**Theme 1**

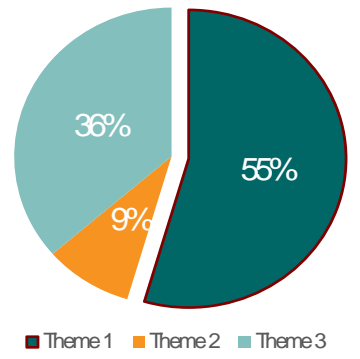


**Theme 2**



**Theme 3**

# North Village (Section C) Theme 1



**Theme 1 was preferred by 12 of 22 (55%) of workshop respondents for Section C.**

Respondents that preferred this theme did so because it does not propose eliminating travel lanes. Respondents wrote that the intersection of Valley Center Road and Cole Grade Road is very busy, and eliminating travel lanes will only increase traffic problems. Not having a traffic light at Indian Creek Road is also preferred. Theme 1 for Section C was chosen by respondents because it did not include any newly proposed roundabouts, and as respondents mentioned in other sections, some believe that roundabouts may slow down evacuations and emergency vehicles.

**Key Comments:**

"I think a light at Cole Grade Road with multiple lanes is important at this intersection. Valley Center Road and Cole Grade Road are heavy traveled, and the main route in and out of Valley Center"

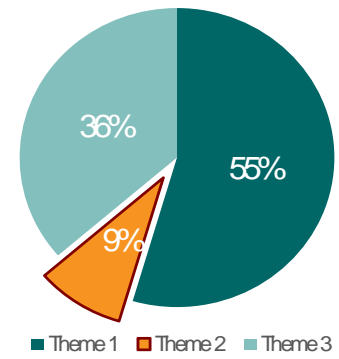
"No roundabout. Cars back up in the morning and the afternoon where many of us are turning to go down Cole Grade Road"

"I choose this because I worry about Valley Center Road being cut down to 1 lane in each direction. It also doesn't add a signal at Indian Creek Road. I would prefer 2 lane roundabouts."





# North Village (Section C) Theme 2

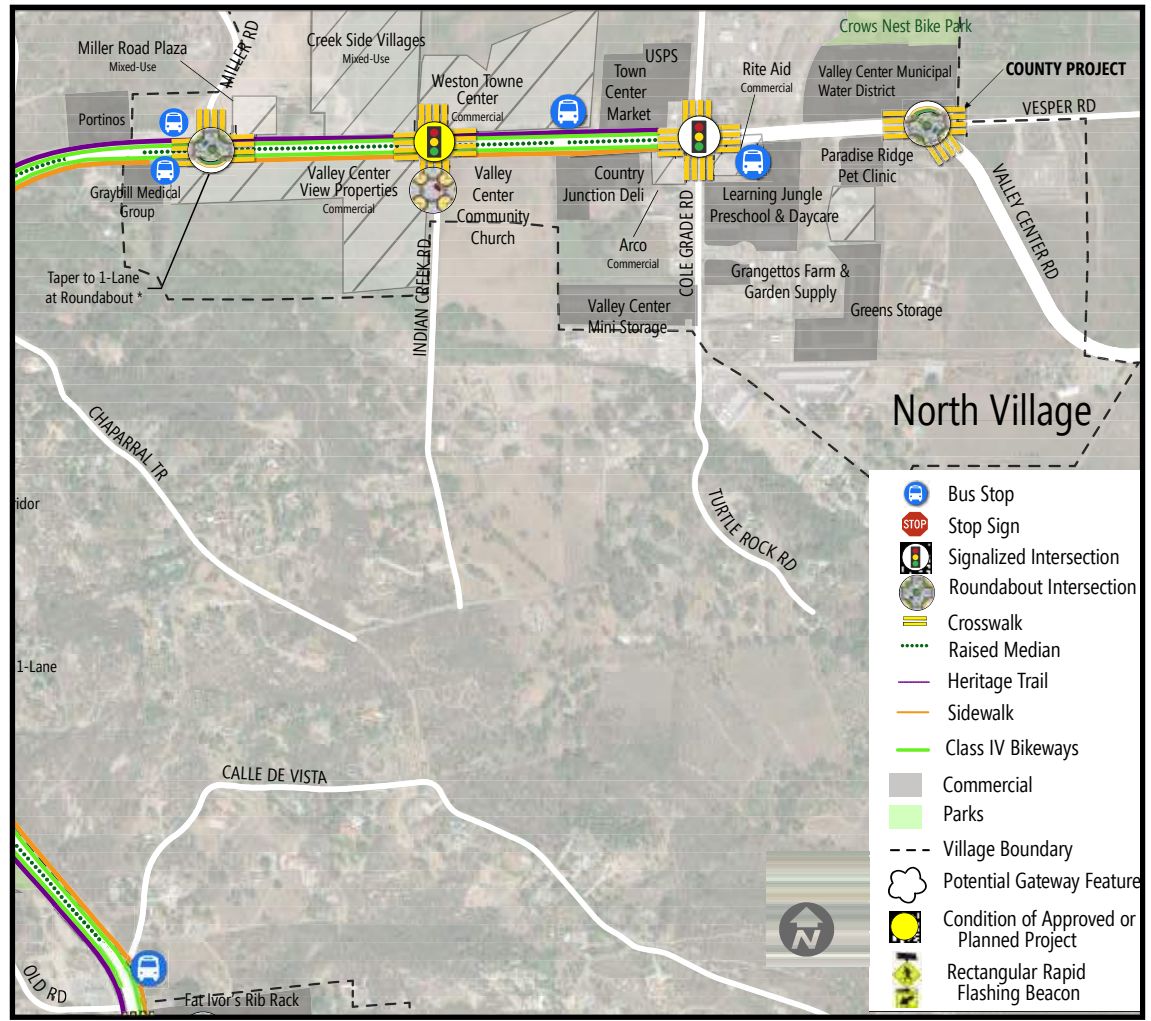


Theme 2 was preferred by 2 of 22 (9%) of workshop respondents for Section C.

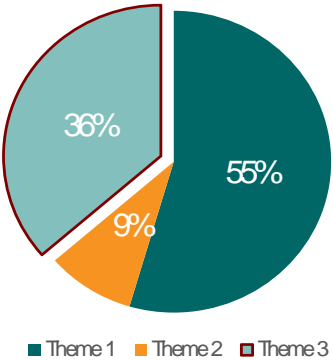
Respondents who preferred Theme 2 for Section C support the roundabouts, but are concerned with the road diet proposed in Theme 3. Other respondents, though they may have liked other components of this theme, did not prefer this theme because of the roundabouts. Others commented that they did not like the recommended traffic signal at Indian Creek Road, because the road is not busy enough, and too many traffic signals will eliminate the flow of traffic created by roundabouts.

**Key Comments:**

"I prefer the roundabouts at both Miller Road & Cole Grade Road but do not think that having a single lane of travel in both directions of the North Village would be accepted."



# North Village (Section C) Theme 3



Theme 3 was preferred by 8 of 22 (36%) of workshop respondents for Section C.

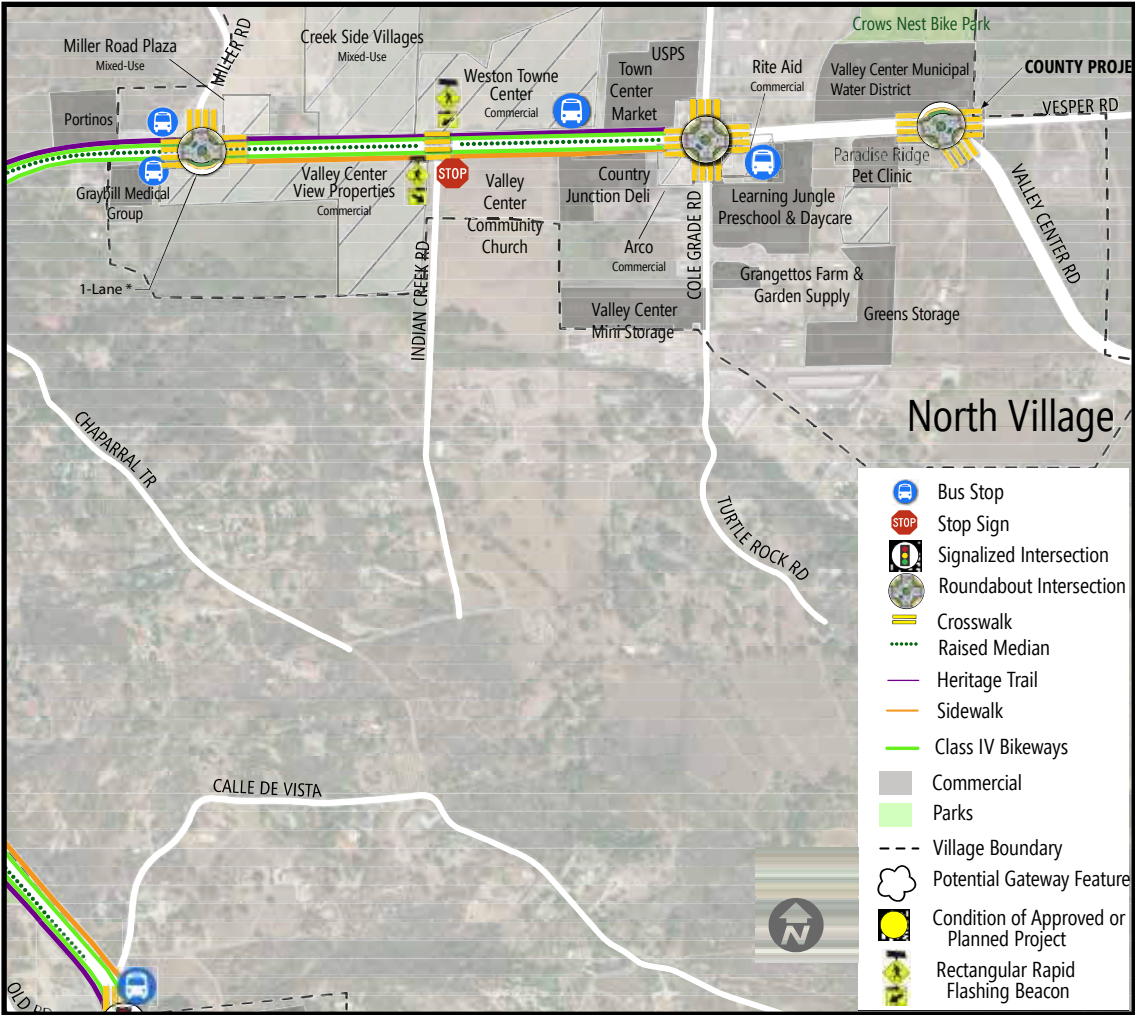
Respondents that chose Theme 3 for the North Village section noted that they like the two proposed roundabouts at Miller Road and Cole Grade Road. Respondents noted that at the existing traffic signal at Cole Grade, many drivers make dangerous right turns without stopping on red, or make illegal U-turns to enter the gas station, and believe that roundabouts could help limit this behavior. Respondents also preferred Theme 3 because it includes a Rectangular Rapid Flashing Beacon at Indian Creek Road, and not a traffic signal. Respondents stated that multiple roundabouts down Valley Center Road could also create a consistent traffic theme for those traveling to the casino.

**Key Comments:**

"I chose Theme 3 because it incorporates a roundabout at the Cole Grade Road intersection rather than a traffic signal"

"3 roundabouts will keep this area safer but I think they should be 2-lane because of high traffic back & forth to the casinos."

"A traffic circle at Miller Road will make people think, pay more attention and make the corner safer for everyone."





# General Comments



**Theme 1**  
Pedestrian & Bicycle Focus



**Theme 2**  
Traffic Calming



**Theme 3**  
Village Focus





# General Comments

**After reviewing the nine flipbooks (3 for each theme) that provide a detailed summary of the features proposed for the three sections of Valley Center Road, respondents were asked to leave general comments about the plan. Below is a list of general comments and key takeaways from the workshop:**

## Key Takeaways:

- Those who would like to see roundabouts on Valley Center Road prefer the roundabout's ability to:
  - Reduce serious accidents
  - Improve traffic flow
  - Reduce stopping which leads to greenhouse gas emissions
  - Make biking and walking safer
  - Create a more uniform driving experience
- Other respondents have concerns about the practicality of roundabouts on Valley Center Road including:
  - Traffic being slowed too much, particularly for larger trucks, trailers, and buses
  - Emergency vehicles effectively navigating a roundabout
  - The efficiency of fire evacuations
- Respondents also left comments regarding the proposed bicycle and pedestrian improvements. Those that would like to see these improvements stated:
  - They would like to see separated or buffered sidewalks for safer walking down Valley Center Road.
  - Better pedestrian facilities will improve the village feel of the corridor.
  - Bicycle lanes should be prioritized no matter the theme chosen.

- Respondents also left comments concerned about the proposed bicycle and pedestrian improvements.
  - Some are concerned with creating separated bike lanes with flexible delineator posts, as they believe these lanes may trap bicyclists to the far right of the road, making it difficult for bicyclists to turn left, and potentially making bicycling more dangerous as debris could collect in the lane.
  - Other respondents said Valley Center Road should be better improved for drivers rather than bicyclists and pedestrians.
  - Respondents suggest that many residents drive in order to purchase ranch supplies, and live on large plots of land, making biking and walking impractical for daily errands.

## General Comments:

"I think roundabouts work well in cities with multiple roads to choose from. This is not the case in Valley Center."

"Roundabouts are difficult to traverse with long trailers (such as horse trailers)."

"Roundabouts are safer for vehicles, pedestrians and bicyclists."

"In all cases, I prefer roundabouts and safer bike paths"

"We are more worried about getting hay than walking or riding bikes to get places here."

"The consistent roundabouts through the Villages and at Lilac have so many advantages! Greater safety for pedestrians and bicyclists (and even horses, if they continue to use Heritage Trail because the slower traffic is not so upsetting for the horses!)"

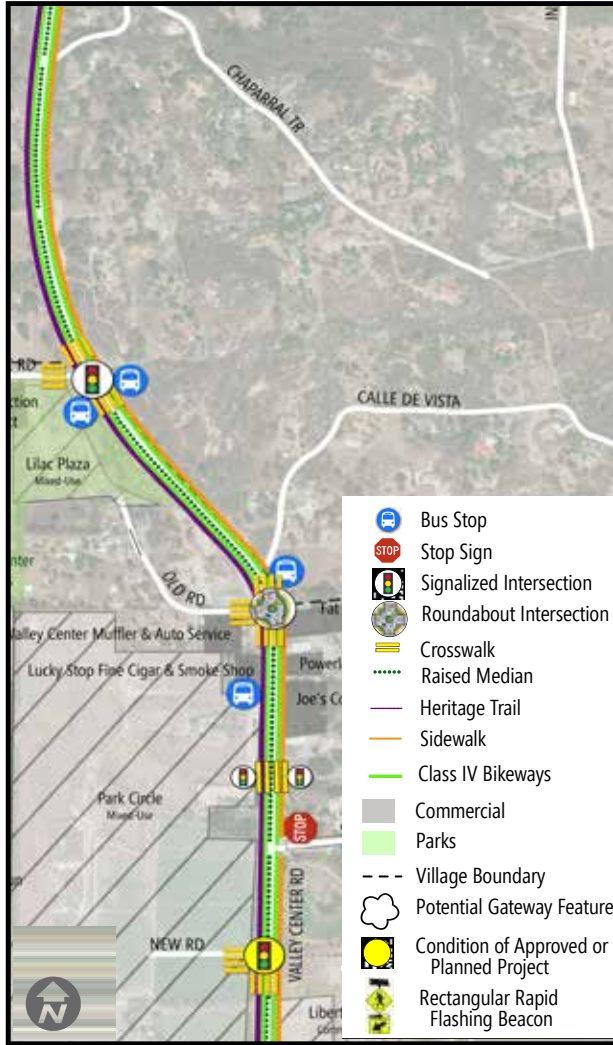
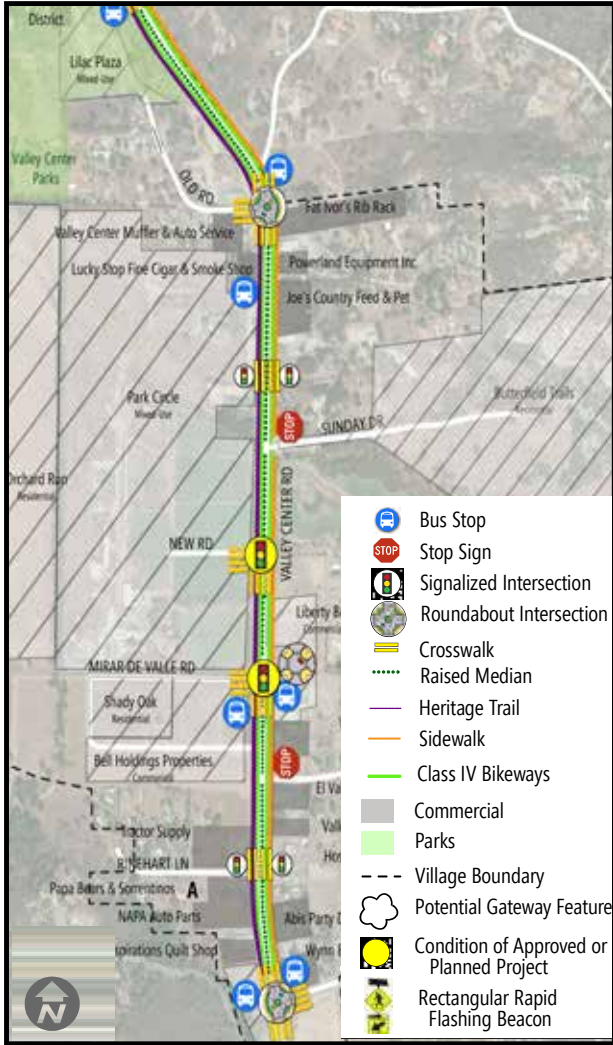
# Theme 1



South Village

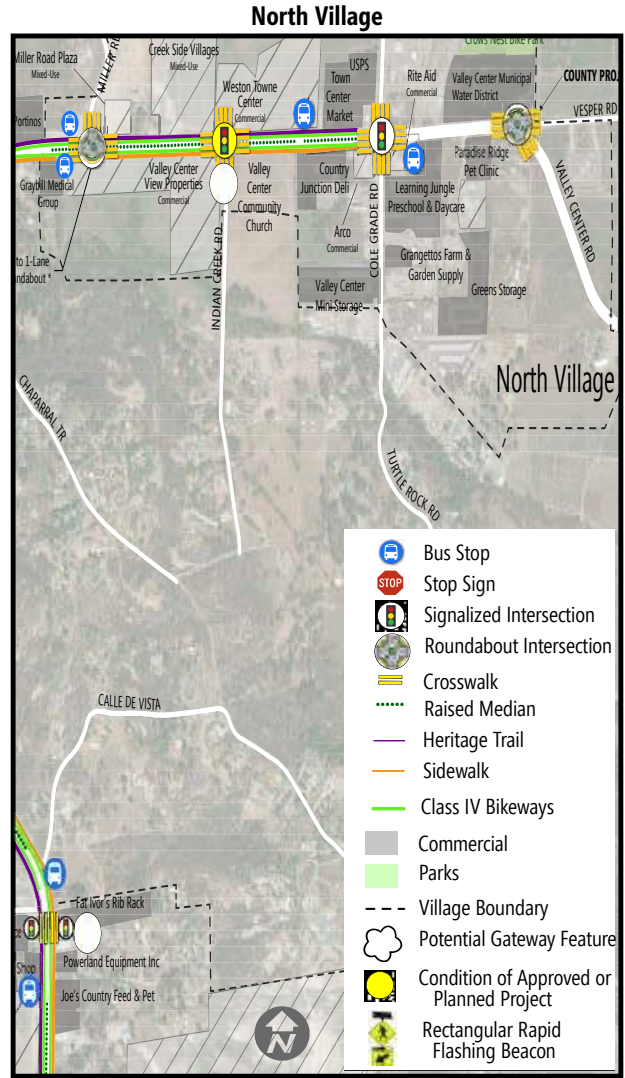
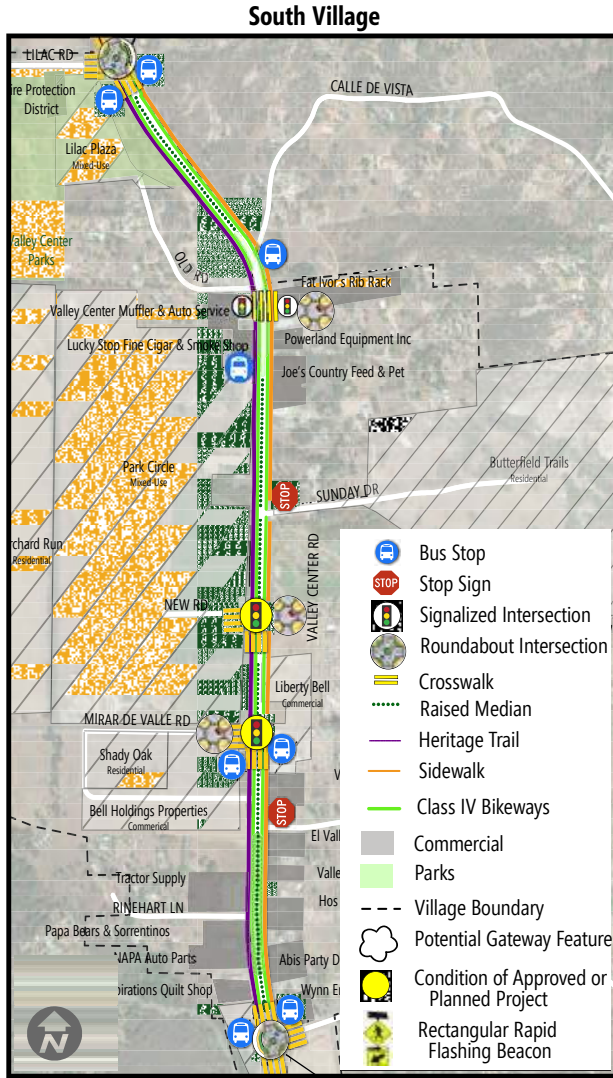
The Curve

North Village





# Theme 2

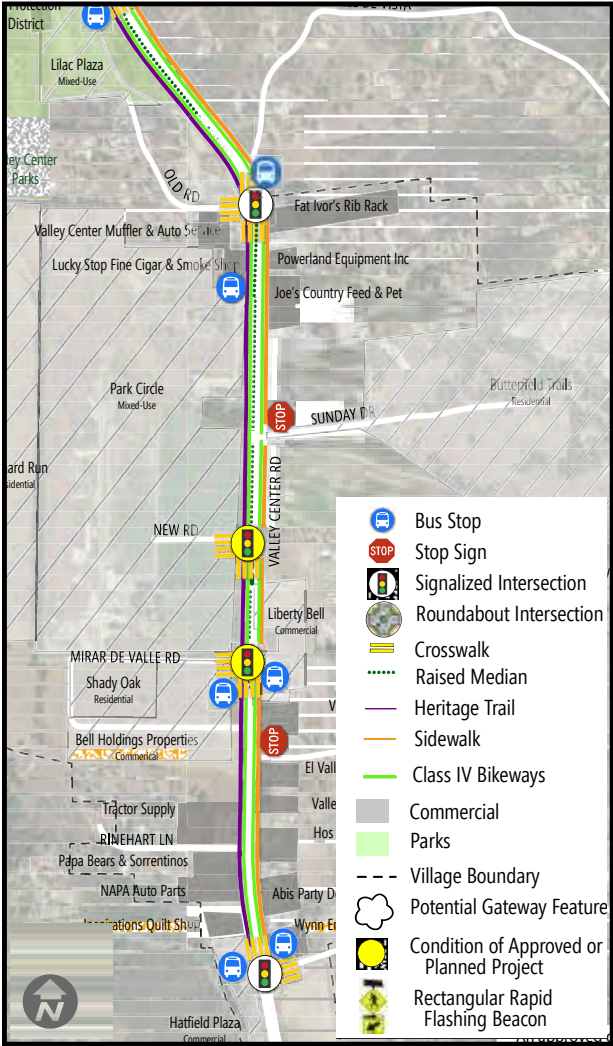




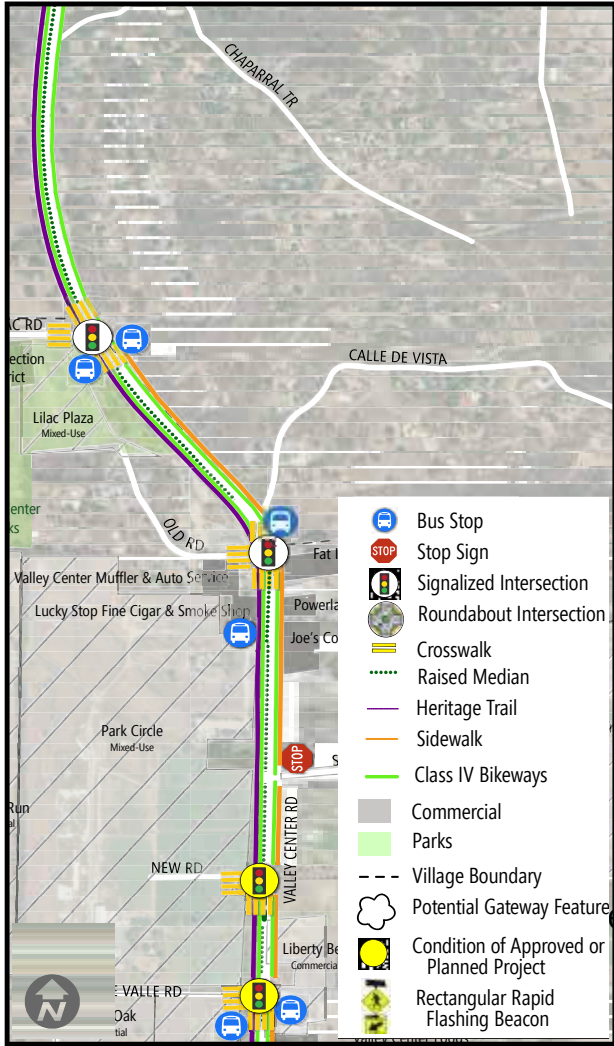
# Theme 3



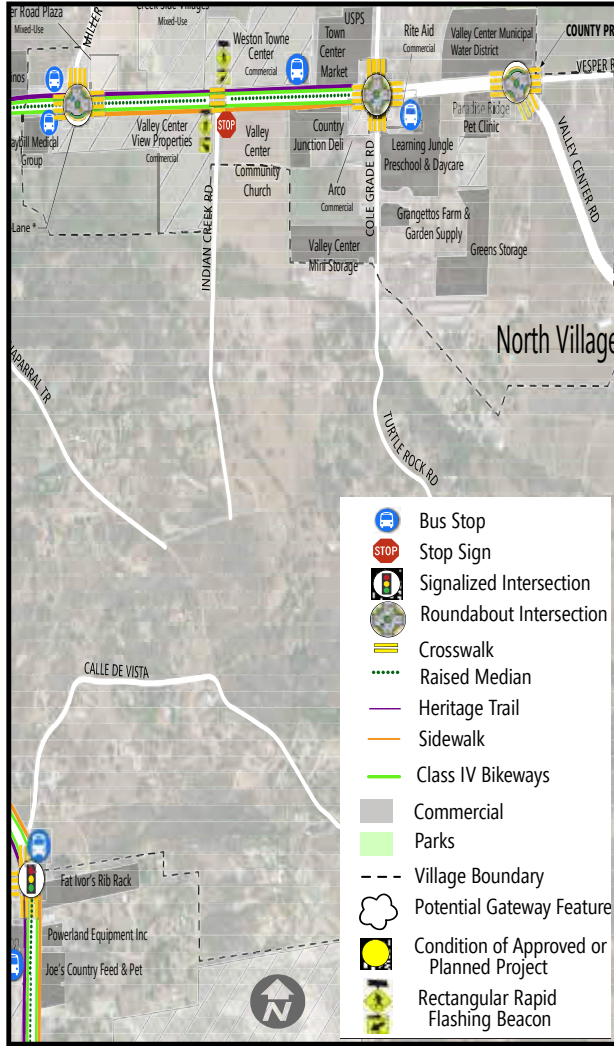
South Village



The Curve



North Village



Valley Center Road Corridor Concept Plan

# Appendix I: Existing Conditions Technical Memorandum



# Valley Center Road Village Corridor Concept Plan

## Existing Conditions Technical Memorandum

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TO: Kevin Johnston, County of San Diego

FROM: Dawn Wilson, PE TE

DATE: April 18, 2019

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### EXECUTIVE SUMMARY

This technical memorandum summarizes the existing conditions for the multimodal facilities, including automobile, pedestrian, bicycle, and transit, along Valley Center Road from Woods Valley Road to Cole Grade Road in the community of Valley Center, San Diego County. The project study area extends for approximately 2.5 miles along Valley Center Road and includes seven (7) roadway segments, three (3) signalized intersections, and four (4) side street stop-controlled intersections. The existing conditions analysis assesses the physical roadway conditions and intersection traffic operations as well as the current pedestrian, bicycle and transit facilities within the study area.

The results of the roadway segment analysis show all seven study segments along Valley Center Road currently operate at acceptable levels of service (D or better). From Woods Valley Road to Lilac Road, the average daily traffic volumes on Valley Center Road are approaching the acceptable to deficient level of service threshold (LOS D to E) which is 28,000 vehicles per day for a four-lane Boulevard. Future development in the North and South Villages and area-wide growth will increase vehicular traffic on Valley Center Road and therefore exceed the LOS D to E threshold.

A total of seven intersections along Valley Center Road were analyzed and two of the unsignalized intersections currently operate at deficient levels of service (LOS E or F) which include:

- |  |                           |
|--|---------------------------|
| 2.) Valley Center Road / Mirar De Valle Road | LOS E in the PM peak hour |
| 3.) Valley Center Road / Sunday Drive        | LOS F in the PM peak hour |

The delay at these two unsignalized intersections is reported for the stop-controlled side street, not the intersection overall. Due to the high volume of vehicular traffic along Valley Center Road, motorists find it difficult to find acceptable gaps in traffic to cross all four travel lanes before entering the intersection. Note that at Valley Center Road / Sunday Drive, there is currently one vehicle making a westbound left-turn onto Valley Center Road. At Valley Center Road / Mirar De Valle Road, there are currently fourteen vehicles making an eastbound left-turn onto Valley Center Road. Very few vehicles are affected by this delay at these two locations.

The results of the speed survey showed that all of the 85<sup>th</sup> percentile speeds along Valley Center Road exceed the posted speed limit of 45 miles per hour. The highest reported 85<sup>th</sup> percentile (58 miles per hour) occurs between Mirar De Valle Road and Sunday Drive.

Crash data was provided by the County over a five-year time period (July 2013 – June 2018) with a total of 176 crashes reported along Valley Center Road between Vesper Road and Woods Valley Road. One fatal crash occurred at Miller Road, seven crashes involved severe injuries, eighteen crashes involved other visible injuries, forty-two involved complaint of pain, and 108 crashes were property damage only. Of the 176 crashes reported, 76% of the crashes were attributed to unsafe speeds, auto right-of-way violations, and improper turning. During this five-year period, no pedestrian involved collisions and only one bicycle involved collision was reported.

Bus service is currently provided by North County Transit District (NCTD) Route 388, which provides service from the Pala Casino to the Escondido Transit Center. Regional connections to the SPRINTER, Greyhound and other transit services can be made from the Escondido Transit Center. Along Valley Center Road from Cole Grade Road to Woods Valley Road, there are currently eleven bus stops



with service provided Monday through Friday, weekends and holidays. Amenities at each bus stop vary along the corridor; however, the majority of the bus stops provide a bench, sign and are ADA compliant.

The existing pedestrian conditions were evaluated along Valley Center Road within the project study area using the Pedestrian Gap Analysis (PGA) methodology. The PGA assessed the quality of the walking environment along 28 roadway segments (in accordance with the County's Active Transportation Plan (ATP) methodology). Out of the 28 segments analyzed along Valley Center Road, the results of the PGA rated 9 segments (32%) as very good, 9 segments (32%) as good, 7 segments (25%) as average, and 3 segments (11%) as poor. The three segments that were rated "poor" are located on the east side of Valley Center Road and include Charlan Road to Mirar De Valle Road, Indian Creek Road to Old Town Center Plaza Southern Boundary and Old Town Center Plaza Northern Boundary to Cole Grade Road in the eastbound direction.

Existing bicycle facilities were assessed along Valley Center Road from Woods Valley Road to Cole Grade Road using a Level of Traffic Stress (LTS) analysis as outlined in the County ATP. The results of the LTS analysis showed the bicycle facilities on Valley Center Road from Woods Valley Road to Cole Grade Road, bicycle facilities are currently suitable for Strong and Fearless Bicyclists (LTS 4). Based on a field visit, more bicyclists were observed using the sidewalks and Heritage Trail rather than the existing Class II bike lanes on Valley Center Road.

The following sections outline the detailed analysis of the existing conditions. The methodology used to evaluate the existing conditions is described in detail in **Attachment A**.

## **EXISTING ROADWAY CONDITIONS**

The existing conditions along Valley Center Road from Woods Valley Road to Cole Grade Road were evaluated in terms of the physical roadway and intersection operating conditions. A total of seven (7) study roadway segments and seven (7) study intersections along the corridor were analyzed. A detailed field review was conducted to determine the existing intersection geometry, traffic control devices, signal phasing, and other factors that may affect intersection or roadway capacity. The results of the existing roadway conditions analysis for study roadway segments and intersections are provided below.

### **Roadway Segment Evaluation**

Valley Center Road from Woods Valley Road to Cole Grade Road is a four-lane facility with striped bike lanes on both sides of the road and a variety of median types. From Woods Valley Road to Mirar De Valle Road, Valley Center Road has a striped two-way left-turn lane allowing vehicular access to multiple businesses in the South Village, refer to **Figure 1**. Further north on Valley Center Road between Lilac Road and Cole Grade Road, Valley Center Road includes raised landscaped medians with openings at driveways and side streets to accommodate left-turning movements, refer to **Figure 2**. On-street parking is not permitted along the corridor.



Figure 1: Looking northbound near Woods Valley Road



Figure 2: Looking westbound near Cole Grade Road

To determine the existing operations of the study roadway segments along the corridor, average daily traffic (ADT) volumes for a 24-hour period were collected on Tuesday, December 4, 2018 while schools were in session at the following seven locations:

- 1.) Valley Center Road from Woods Valley Road to Mirar de Valle Road
- 2.) Valley Center Road from Mirar De Valle Road to Sunday Drive
- 3.) Valley Center Road from Sunday Drive to Old Road
- 4.) Valley Center Road from Lilac Road to Canyon Road
- 5.) Valley Center Road from Canyon Road to Miller Road
- 6.) Valley Center Road from Miller Road to Indian Creek Road
- 7.) Valley Center Road from Indian Creek Road to Cole Grade Road

**Attachment B** contains the daily traffic count worksheets.

**Valley Center Road** is a four-lane roadway oriented in a north-south direction from Woods Valley Road to Canyon Road and then transitions to an east-west direction from Miller Road to Cole Grade Road. The posted speed limit along the Valley Center Road corridor within the project study area is 45 miles per hour. The following describes the existing and Mobility Element classifications:

- **From Woods Valley Road to Mirar De Valle Road**, Valley Center Road is classified as a four-lane Boulevard with Raised Medians per the San Diego County General Plan Mobility Element. In accordance with the County's Public Road Standards, the maximum daily capacity for a four-lane Boulevard with Raised Median is approximately 30,000 vehicles per day. However, this section does not currently have a raised median. The majority of this segment has a striped two-way left turn lane, resulting in an existing functional classification of Boulevard with Intermittent Turn Lanes (maximum daily capacity of 28,000 vehicles per day).
- **From Mirar De Valle Road to Lilac Road**, Valley Center Road is classified as a four-lane Boulevard with Raised Medians per the San Diego County General Plan Mobility Element. This section of Valley Center Road has raised medians, however there are significant gaps in the median. Therefore, the existing functional classification for this segment is Boulevard with Intermittent Turn Lanes (maximum daily capacity of 28,000 vehicles per day).
- **From Lilac Road to Miller Road**, Valley Center Road is classified as a four-lane Major Road with Raised Medians per the County's Mobility Element Network. The existing condition along this portion of Valley Center Road includes a raised landscaped median with left turn pockets at key locations. The transition from Boulevard to Major Road increases the maximum daily capacity to 37,000 vehicles per day.
- **From Miller Road to Cole Grade Road**, Valley Center Road is classified as a four-lane Boulevard with Raised Medians. Through this section, medians haven been constructed that include left turn pockets at key locations. Therefore, the functional classification is consistent with the General Plan and the maximum daily capacity through this segment is 30,000 vehicles per day.

Levels of service (LOS) for roadway segments were calculated based on the capacity of the roadway determined by the existing functional classification and daily traffic volumes. **Table 1** presents the results of the existing conditions roadway segment level of service analysis. As shown, all of the roadway segments currently operate at acceptable levels of service (LOS D or better) based on daily capacity thresholds.

**Table 1: Existing Conditions Roadway Segment LOS**

Roadway	Segment	No. Lanes	Median Type	Roadway Classification <sup>1</sup>	LOS E Capacity	ADT	LOS
Valley Center Road	Woods Valley Road to Mirar de Valle Road	4	Undivided	Boulevard - 4.2B (w/ intermittent turn lanes)	28,000	24,550	D
	Mirar De Valle Road to Sunday Drive	4	Divided	Boulevard - 4.2B (w/ intermittent turn lanes)	28,000	24,412	D
	Sunday Drive to Lilac Road	4	Divided	Boulevard - 4.2B (w/ intermittent turn lanes)	28,000	24,384	D
	Lilac Road to Canyon Road	4	Divided	Major Road - 4.1A (w/ raised median)	37,000	26,069	C
	Canyon Road to Miller Road	4	Divided	Major Road - 4.1A (w/ raised median)	37,000	25,883	C
	Miller Road to Indian Creek Road	4	Divided	Boulevard - 4.2A (w/ raised median)	30,000	25,013	D
	Indian Creek Road to Cole Grade Road	4	Divided	Boulevard - 4.2A (w/ raised median)	30,000	25,064	D

**Notes:**

<sup>1</sup>Based on San Diego County Public Road Standards, 2012. LOS Thresholds are provided in **Attachment A**.  
 ADT = Average Daily Traffic; LOS = Level of Service

Although the study roadway segments along Valley Center Road are calculated to operate acceptably (LOS D or better) according to San Diego County Public Road Standards for level of service, the current daily volumes are approaching the deficient level of service threshold. The maximum daily volume to maintain LOS D for the segments classified as Boulevards with Intermittent Turn Lanes (4.2 B) is 25,000 vehicles per day. As shown, the segments from Woods Valley Road to Lilac Road are approaching this threshold.

Note that roadway segment level of service is generally used as long-range planning guideline to determine the roadway capacity and classification and are not always an accurate indicator of roadway performance. Typically, the performance and level of service of a roadway segment is heavily influenced by the ability of signalized intersections to accommodate peak hour flow. Therefore, peak hour operating conditions at the signalized and unsignalized intersections along the Valley Center Road corridor were evaluated.

**Intersection Evaluation**

To determine the existing operations of the study intersections, AM and PM peak hour intersection turning movement counts were collected on Tuesday, December 4, 2018 while schools were in session. AM peak period intersection counts were collected from 7:00 to 9:00 AM and PM peak period counts were collected from 4:00 to 6:00 PM. The vehicular counts used in this analysis reflect the highest one-hour volume of traffic in the peak period counted.

**Figure 3** shows peak period traffic counts being collected by a camera system at the intersection of Valley Center Road and Woods Valley Road.



Figure 3 – Intersection Count Location

The following intersections were analyzed in this technical memorandum:

- 1.) Valley Center Road / Woods Valley Road (Signalized)
- 2.) Valley Center Road / Mirar De Valle Road (One-Way Stop Controlled)
- 3.) Valley Center Road / Sunday Drive (One-Way Stop Controlled)
- 4.) Valley Center Road / Lilac Road (Signalized)
- 5.) Valley Center Road / Miller Road (One-Way Stop Controlled)
- 6.) Valley Center Road / Indian Creek Road (One-Way Stop Controlled)
- 7.) Valley Center Road / Cole Grade Road (Signalized)



Three of the seven study intersections are signalized and four are side-street stop controlled (referred to as one-way stop-controlled intersections in this memorandum). **Figure 4** illustrates the intersection lane configuration and traffic control at the study locations. **Figure 5** shows the AM and PM peak hour volumes at the study intersections and daily traffic volumes along the corridor. **Attachment B** contains the detailed peak hour count data.

**Table 2** summarizes the AM and PM peak hour levels of service (LOS) for all study intersections under existing conditions. Detailed analysis worksheets are contained in **Attachment C**. As shown, all study intersections are currently operating at acceptable levels of service (LOS D or better) except for the following two intersections:

- 2.) Valley Center Road / Mirar De Valle Road                      LOS E in the PM peak hour
- 3.) Valley Center Road / Sunday Drive                                LOS F in the PM peak hour

**Table 2: Existing Conditions AM/PM Peak Hour Intersection LOS**

Study Intersection		Traffic Control	Existing Conditions			
			AM		PM	
			Delay <sup>1</sup>	LOS	Delay <sup>1</sup>	LOS
1 -	Valley Center Road / Woods Valley Road	Signal	7.5	A	9.0	A
2 -	Valley Center Road / Mirar De Valle Road	OWSC	29.7	D	<b>45.2</b>	<b>E<sup>2</sup></b>
3 -	Valley Center Road / Sunday Drive	OWSC	26.7	D	<b>51.7</b>	<b>F<sup>3</sup></b>
4 -	Valley Center Road / Lilac Road	Signal	17.5	B	13.5	B
5 -	Valley Center Road / Miller Road	OWSC	27.3	D	15.2	C
6 -	Valley Center Road / Indian Creek Road	OWSC	16.9	C	26.1	D
7 -	Valley Center Road / Cole Grade Road	Signal	31.3	C	33.5	C

**Note:** Deficient intersection operation indicated in **bold**.

<sup>1</sup> Average seconds of delay per vehicle.

<sup>2</sup> Eastbound left-turns = 14 vehicles during PM peak hour.

<sup>3</sup> Westbound left-turns = 1 vehicle during PM peak hour.

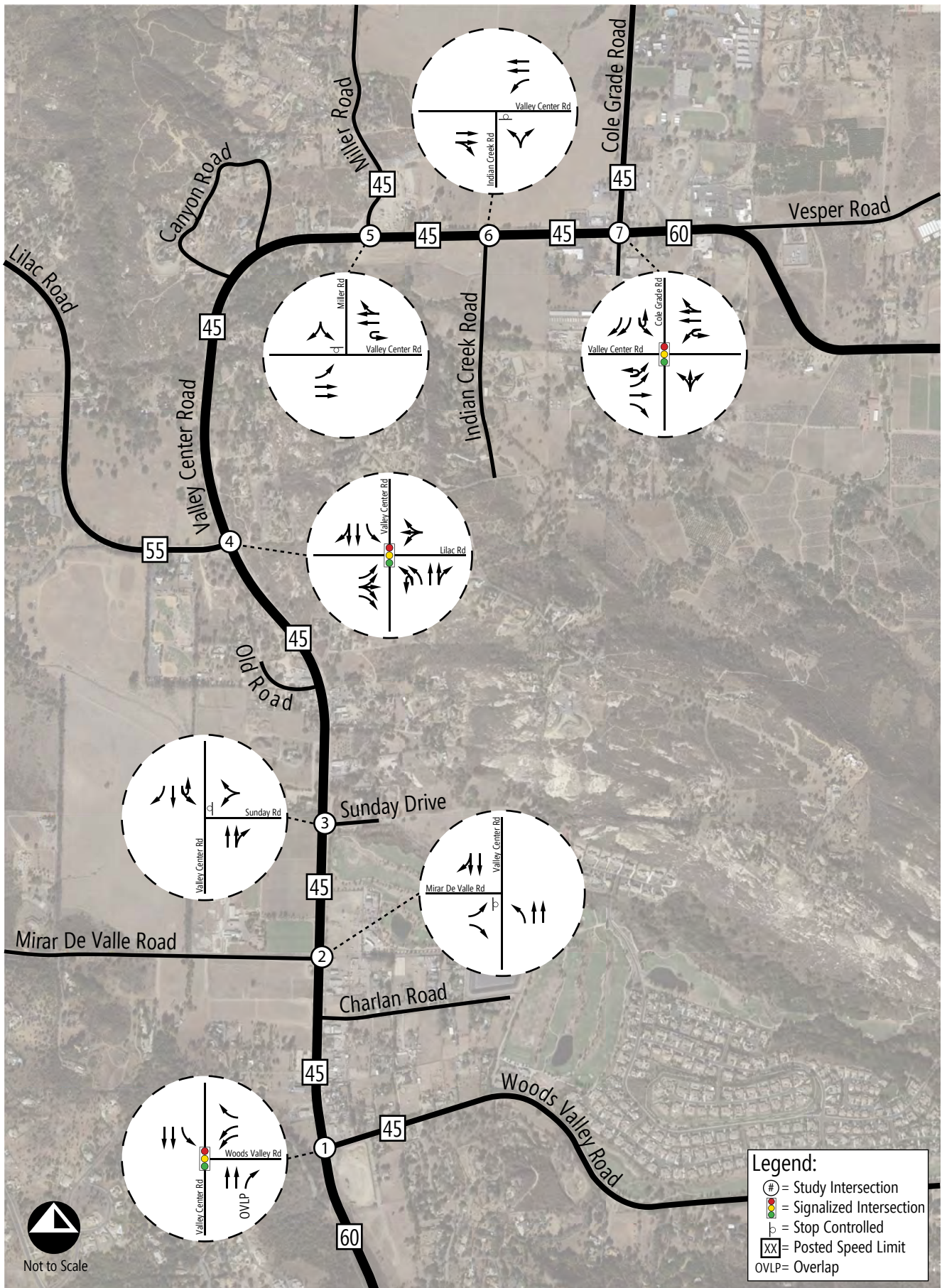
LOS = level of service.

**OWSC = One-Way Stop Control, worst approach delay and LOS reported.**

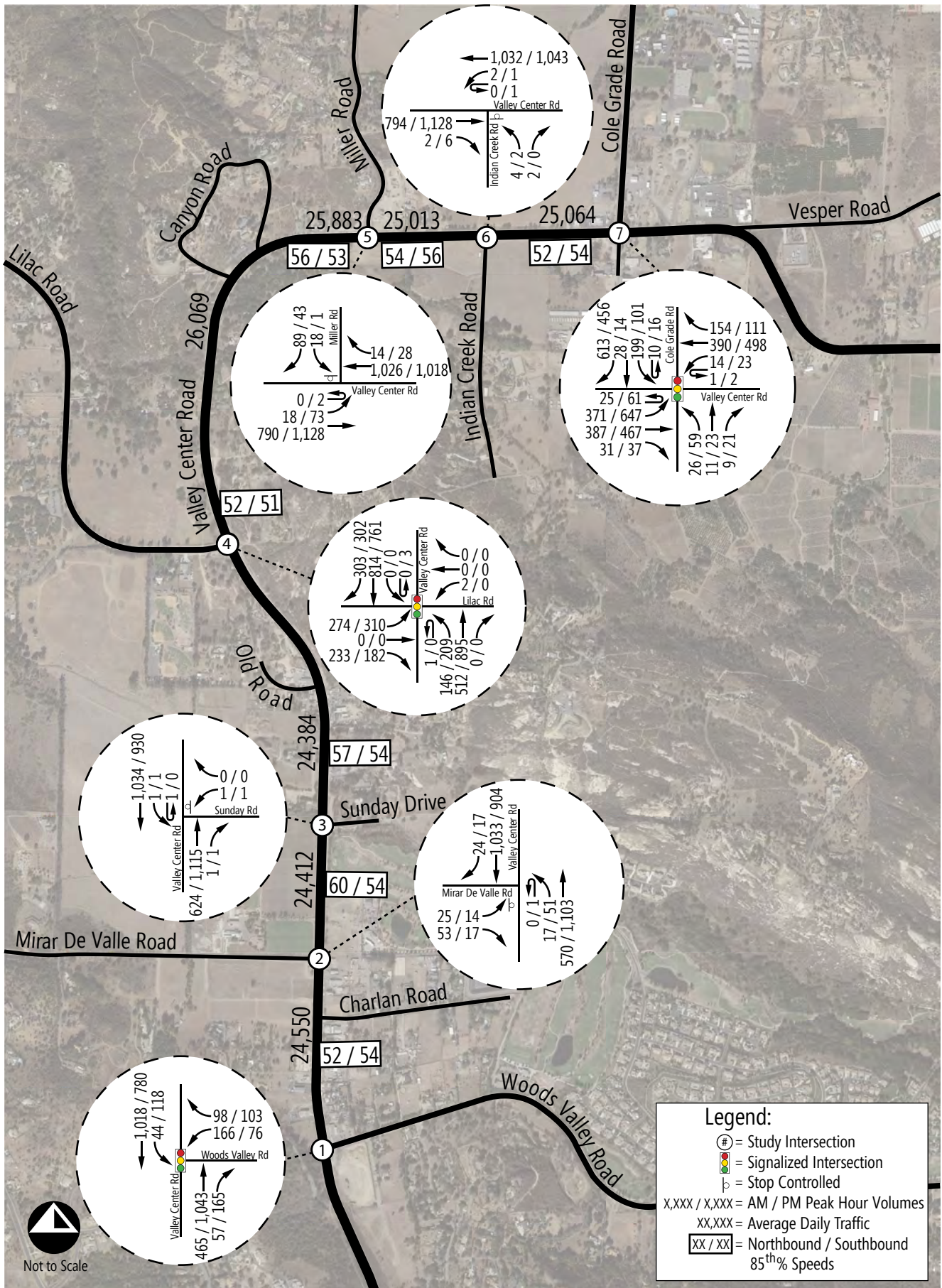
At the unsignalized intersection of Valley Center Road / Sunday Drive, one vehicle was observed in the PM peak hour making a westbound left-turn onto Valley Center Road. Due to the high volume of traffic on Valley Center Road during the PM peak hour (1,115 vehicles northbound and 930 vehicles southbound), the one vehicle is estimated to wait approximately 51.7 seconds for an acceptable gap in traffic on Valley Center Road to turn left.

At the unsignalized intersection of Valley Center Road / Mirar De Valle Road, 14 vehicles were observed making the eastbound left onto Valley Center Road during the PM peak hour. The average delay per vehicle is 45.2 seconds due to the high volume of traffic on Valley Center Road and the time required to find acceptable gaps in traffic to enter the intersection.

At both of these two intersections, the raised median on Valley Center Road requires motorist to wait for acceptable gaps in traffic in both directions for the vehicle to cross the four travel lanes. At locations where there are striped medians, the side street stop delays are less as the vehicle can use the center turn lane to cross one direction of traffic at a time.









**Planned Traffic Control Improvements**

Several projects have been considered and approved in Valley Center that have not yet been constructed. The conditions of approval for some of these projects include traffic improvements including the construction of a traffic signal. Three locations along the corridor have been conditioned for the construction of a signal:

- Valley Center Road / Mirar De Valle Road
- Valley Center Road / Street A-1 (Park Circle development)
- Valley Center Road / Miller Road

Additional analysis, including the preparation of traffic signal warrants would need to be conducted at these locations. The traffic signal warrant criteria must be met prior to installing the traffic signal.

**Travel Speed**

The 24-hour speed data was collected along the corridor on Tuesday, December 4, 2018 using tube counts. The 85<sup>th</sup> percentile speeds collected represent the speed at which 85 percent of all vehicles are observed to travel over a 24-hour period at a specific point. The collected speed data are illustrated in **Figure 5** and reported in **Table 3**. Note that all of the 85<sup>th</sup> percentile speeds reported along Valley Center Road exceed the posted 45 mph speed limit. The highest 85<sup>th</sup> percentile speed along the corridor is 58 mph which occurs between Mirar De Valle Road and Sunday Drive. The speed surveys conducted along the corridor are contained in **Attachment D**.

**Table 3: Existing Conditions Speed Data Summary**

Roadway	Segment	No. Lanes	Median Type	Roadway Classification <sup>1</sup>	Posted Speed Limit (mph)	Direction	85th % Speeds (mph) <sup>2</sup>
Valley Center Road	Woods Valley Road to Mirar De Valle Road	4	Undivided	Boulevard - 4.2B (w/ intermittent turn lanes)	45	Northbound	52
						Southbound	54
	Mirar De Valle Road to Sunday Drive	4	Divided	Boulevard - 4.2B (w/ intermittent turn lanes)	45	Northbound	60
						Southbound	54
	Sunday Drive to Lilac Road	4	Divided	Boulevard - 4.2B (w/ intermittent turn lanes)	45	Northbound	57
						Southbound	54
	Lilac Road to Canyon Road	4	Divided	Major Road - 4.1A (w/ raised median)	45	Northbound	52
						Southbound	51
	Canyon Road to Miller Road	4	Divided	Major Road - 4.1A (w/ raised median)	45	Eastbound	56
						Westbound	53
	Miller Road to Indian Creek Road	4	Divided	Boulevard - 4.2A (w/ raised median)	45	Eastbound	54
						Westbound	56
	Indian Creek Road to Cole Grade Road	4	Divided	Boulevard - 4.2A (w/ raised median)	45	Eastbound	52
						Westbound	54

**Notes:**

<sup>1</sup> Based on San Diego County General Plan, Valley Center Mobility Element Network Appendix. However, the segments from Woods Valley Road to Lilac Road are not currently built to their Mobility Element classification. Therefore, the existing functional classification is used in this table.

<sup>2</sup> Actual speeds were collected on Tuesday, Dec. 4, 2018.

## CRASH ANALYSIS

Crash data was provided by the County for a five-year period from July 2013 through June 2018. During this time period a total of 176 crashes were reported between Woods Valley Road at the southwest end of the corridor to Vesper Road on the northeast end of the corridor.

A common method for evaluating the relative safety along the corridor is the crash rate analysis. The crash rate is calculated as follows:

$$\text{Crash Rate } \textcircled{R} = 100,000,000 * C / (365 * N * V * L)$$

Where: C = Total number of crashes along the segment  
 N = Number of years of data  
 V = Number of vehicles per day (both directions)  
 L = Length of the roadway segment (in miles)

The crash rate for the segment of Valley Center Road from Woods Valley Road to Cole Grade Road is 1.37 crashes per million vehicle miles (MVM). According to Caltrans 2018 Collision Data on California State Highways, the average crash rate for four-lane divided roadways in rural areas is reported to be 1.49 crashes per MVM and 1.05 crashes per MVM in urban areas. Therefore, the crash rate along Valley Center Road is below the rural area rate for a four-lane divide road.

**Figure 6** illustrates the distribution of crashes by crash type and collision factor along the corridor. Raw crash data is provided as **Attachment E**. The following summarizes the findings of the crash analysis.

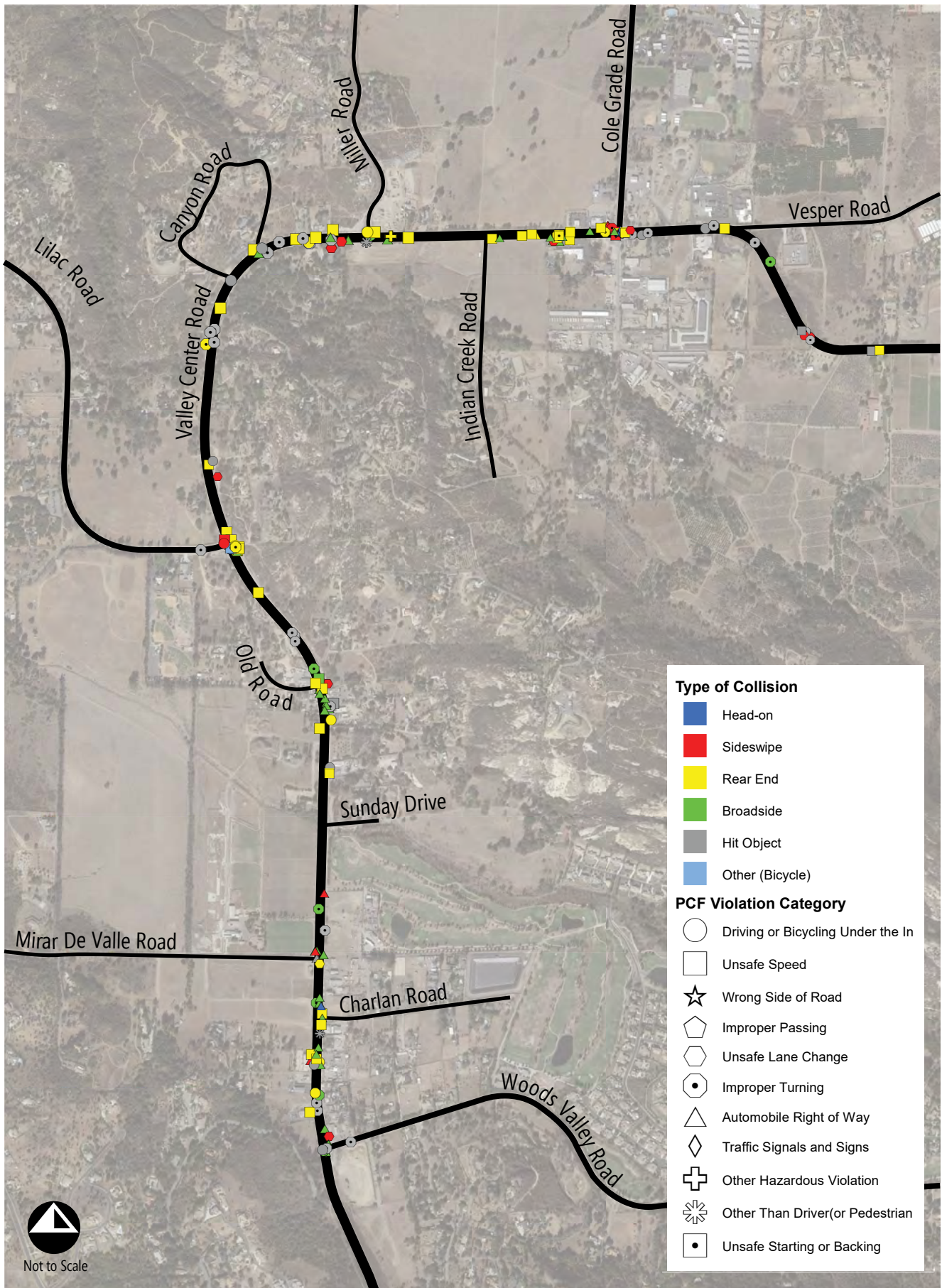
### Crash by Location and Severity

Of the 176 crashes, the majority occurred at the three signalized intersections of Cole Grade Road, Lilac Road and Woods Valley Road. Of the unsignalized intersections along the corridor, Miller Road and Vesper Road had the highest number of crashes with 23 crashes and 12 crashes respectively. **Table 4** summarize the crashes by location and severity. As shown in the table, one fatal crash occurred at Miller Road. A total of seven (7) crashes involved severe injuries and 18 involved other visible injuries. The majority of the crashes along the corridor, 108 out of 176 crashes reported, were property damage only.

**Table 4: Collision Severity by Location**

Crash Locations	Number of Crashes (2013-2018)	Crash Severity				
		Fatal	Severe	Other Visible Injury	Complaint of Pain	Property Damage Only
Woods Valley Road	27	0	1	1	8	17
Rinehart Lane	1	0	0	0	0	1
Charlan Road	4	0	0	1	0	3
Mirar de Valle Road	7	0	0	0	0	7
Old Road	14	0	1	3	1	9
Calle De Vista	4	0	0	0	1	3
Lilac Road	36	0	1	4	9	22
Chaparral Terrace	2	0	0	0	0	2
Canyon Road	1	0	0	1	0	0
Miller Road	23	1	1	5	3	13
Indian Creek Road	1	0	0	0	0	1
Cole Grade Road	44	0	0	2	16	26
Vesper Road	12	0	3	1	4	4
<b>Total</b>	<b>176</b>	<b>1</b>	<b>7</b>	<b>18</b>	<b>42</b>	<b>108</b>

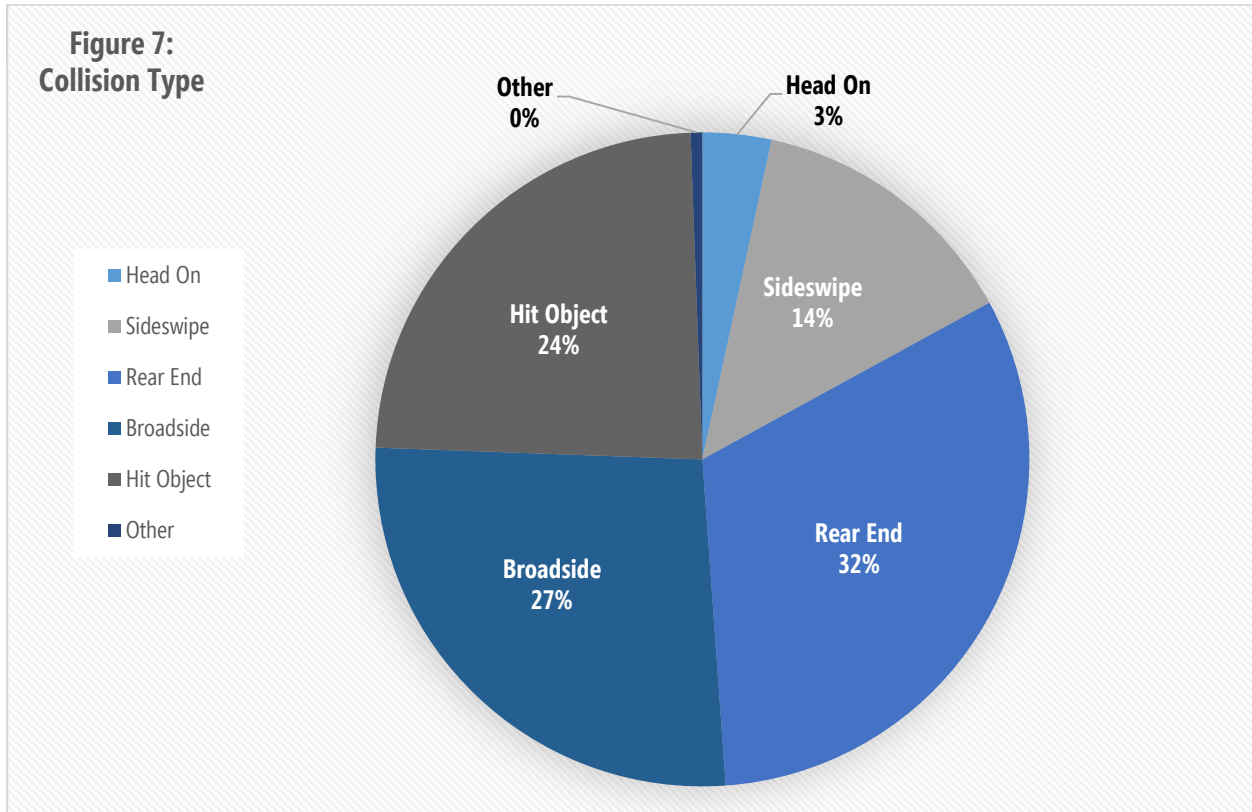
Source: County of San Diego, Crossroads Database (6/2013-6/2018)





**Crash by Collision Type**

Of the 176 crashes reported, most were rear end (56 crashes), broadside (47 crashes) or hit object (42 crashes). As shown in **Figure 7**, these three collision types account for 83% of all crashes along the corridor. A breakdown of collision type by intersection is provided in **Table 5**.



**Table 5: Collision Type by Location**

Crash Locations	Number of Crashes (2013-2018)	Collision Type					
		Head On	Sideswipe	Rear End	Broadside	Hit Object	Other
Woods Valley Road	27	1	1	8	10	7	0
Rinehart Lane	1	0	1	0	0	0	0
Charlan Road	4	0	0	1	2	1	0
Mirar de Valle Road	7	0	2	0	3	2	0
Old Road	14	0	1	3	7	3	0
Calle De Vista	4	0	1	0	2	1	0
Lilac Road	36	3	6	12	6	8	1
Chaparral Terrace	2	0	0	1	0	1	0
Canyon Road	1	0	0	0	1	0	0
Miller Road	23	1	2	10	4	6	0
Indian Creek Road	1	0	0	0	1	0	0
Cole Grade Road	44	1	8	19	10	6	0
Vesper Road	12	0	2	2	1	7	0
<b>Total</b>	<b>176</b>	<b>6</b>	<b>24</b>	<b>56</b>	<b>47</b>	<b>42</b>	<b>1</b>

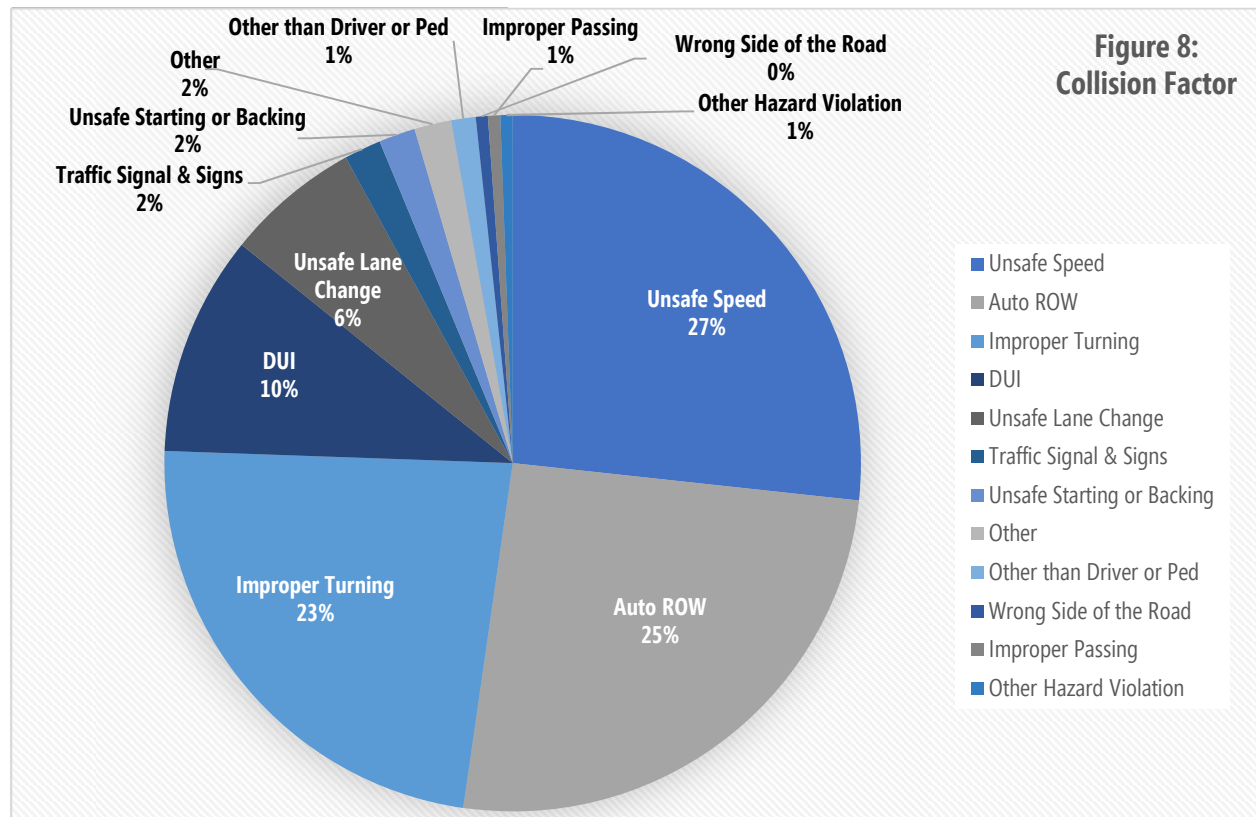
Source: County of San Diego, Crossroads Database (6/2013-6/2018)

The following is a brief discussion of issues and solutions by collision type:

- Rear End collisions typically occurred at signalized intersections. These commonly occur when a driver stops for a red light or slows for a turn and the following driver does not stop or slow. Additional turn pockets and modified signal timing are common solutions to address rear end collisions.
- Broadside collisions are a result of one vehicle crashing into another at a 90-degree angle. This typically occurs when left-turning vehicles turn in front of a through vehicle. For Valley Center Road, broadsides occurred at both signalized and unsignalized intersections. Possible corrective measures for broadside include adding left turn phasing signal, installing all-way stops or traffic signals, improve lighting and line of sight and modifications to signal timing.
- Hit Object indicates a driver collided with something other than a vehicle, pedestrian or bicyclist. It may include street signs, poles, parked vehicles, etc. For Valley Center Road, objects were hit at signalized and unsignalized intersection. Since there is no parking on Valley Center Road, reasonable improvements include improving line of sight, improving or adding street lights and moving objects further from the road.

**Crash by Collision Factor**

Of the 176 crashes reported, 76% of the crashes were attributed to unsafe speed (47 crashes), auto right-of-way violations (45 crashes) or improper turning (41 crashes). Driving under the influence (DUI) accounted for 18 of the 176 crashes reported along the corridor in the five-year period. **Figure 8** and **Table 6** summarize the collision factor data. Speed data provided with this report indicates that most drivers exceeded the posted speed limit. To reduce speed and reduce crashes associated with speed, traffic calming measures and/or geometric modifications to the road are necessary. Improper Turning and Auto ROW also correspond with the broadside collision type. Adding a raised median and consolidating the number of left turn and cross traffic locations will address the Improper Turning and and Auto ROW collision factor crashes.



**Pedestrian & Bicycle Involved Collisions**

Of the 176 collisions reported, one collision involved a bicycle. No pedestrian involved collisions were reported during the five-year period. The bicycle involved collision occurred at the intersection of Valley Center Road / Lilac Road. The collision resulted in injury and is attributed to a vehicle code violation.

**Time of Day Summary of Collisions**

Collision reports include a summary of the time of day, based on daylight, when the collision occurred. Based on the five-year data provided, the majority of the crashes reported occurred during daylight hours. A summary of crashes by time of day is provided below:

- Daylight – 106 crashes
- Dusk / Dawn – 5 crashes
- Dark - Street Lights – 31 crashes
- Dark - No Street Lights – 33 crashes
- Dark - Lights not Functioning – 1 crash

Therefore, lack of street lighting along the corridor does not appear to be a major factor in crashes on Valley Center Road.



**Table 6: Collision Factor by Location**

Crash Locations	Number of Crashes (2013-2018)	Collision Factor											
		Unsafe Speed	Auto ROW	Improper Turning	DUI	Unsafe Lane Change	Traffic Signal & Signs	Unsafe Starting or Backing	Other	Other than Driver or Ped	Wrong Side of the Road	Improper Passing	Other Hazard Violation
Woods Valley Road	27	5	8	6	4	2	2	0	0	0	0	0	0
Rinehart Lane	1	0	1	0	0	0	0	0	0	0	0	0	0
Charlan Road	4	1	1	1	0	0	0	0	0	1	0	0	0
Mirar de Valle Road	7	0	5	2	0	0	0	0	0	0	0	0	0
Old Road	14	5	6	2	1	0	0	0	0	0	0	0	0
Calle De Vista	4	0	1	3	0	0	0	0	0	0	0	0	0
Lilac Road	36	10	7	8	5	2	0	1	3	0	0	0	0
Chaparral Terrace	2	1	0	1	0	0	0	0	0	0	0	0	0
Canyon Road	1	0	1	0	0	0	0	0	0	0	0	0	0
Miller Road	23	7	3	4	4	2	0	0	0	1	1	0	1
Indian Creek Road	1	0	1	0	0	0	0	0	0	0	0	0	0
Cole Grade Road	44	14	11	7	3	5	1	2	0	0	0	1	0
Vesper Road	12	4	0	7	1	0	0	0	0	0	0	0	0
<b>Total</b>	<b>176</b>	<b>47</b>	<b>45</b>	<b>41</b>	<b>18</b>	<b>11</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>

Source: County of San Diego, Crossroads Database (6/2013-6/2018)

**EXISTING TRANSIT SERVICE**



NCTD operates the local bus service along Valley Center Road. NCTD’s Route 388 travels along Valley Center Road as shown in **Figure 9**, connecting Pala, Rincon, Valley Center and Escondido. The route travels between the Pala Casino and the Escondido Transit Center. The Escondido Transit Center provides regional connections to ten other transit services, four FLEX routes, two MTS routes, SPRINTER, Greyhound and Riverside Transit Authority (RTA).

Service is provided Monday through Friday, weekends and holidays. According to the NCTD website, the average headway is approximately two hours from 5:06 AM to 7:06 PM originating at Escondido Transit Center in the northbound direction. Originating at Pala Casino and in the southbound direction, service is from 5:59 AM to 9:04 PM.

From Woods Valley Road to Cole Grade Road, there are eleven bus stops along Valley Center Road. The existing quality for each bus stop along Valley Center Road from Woods Valley Road to Cole Grade Road was evaluated based on the presence of the following amenities:

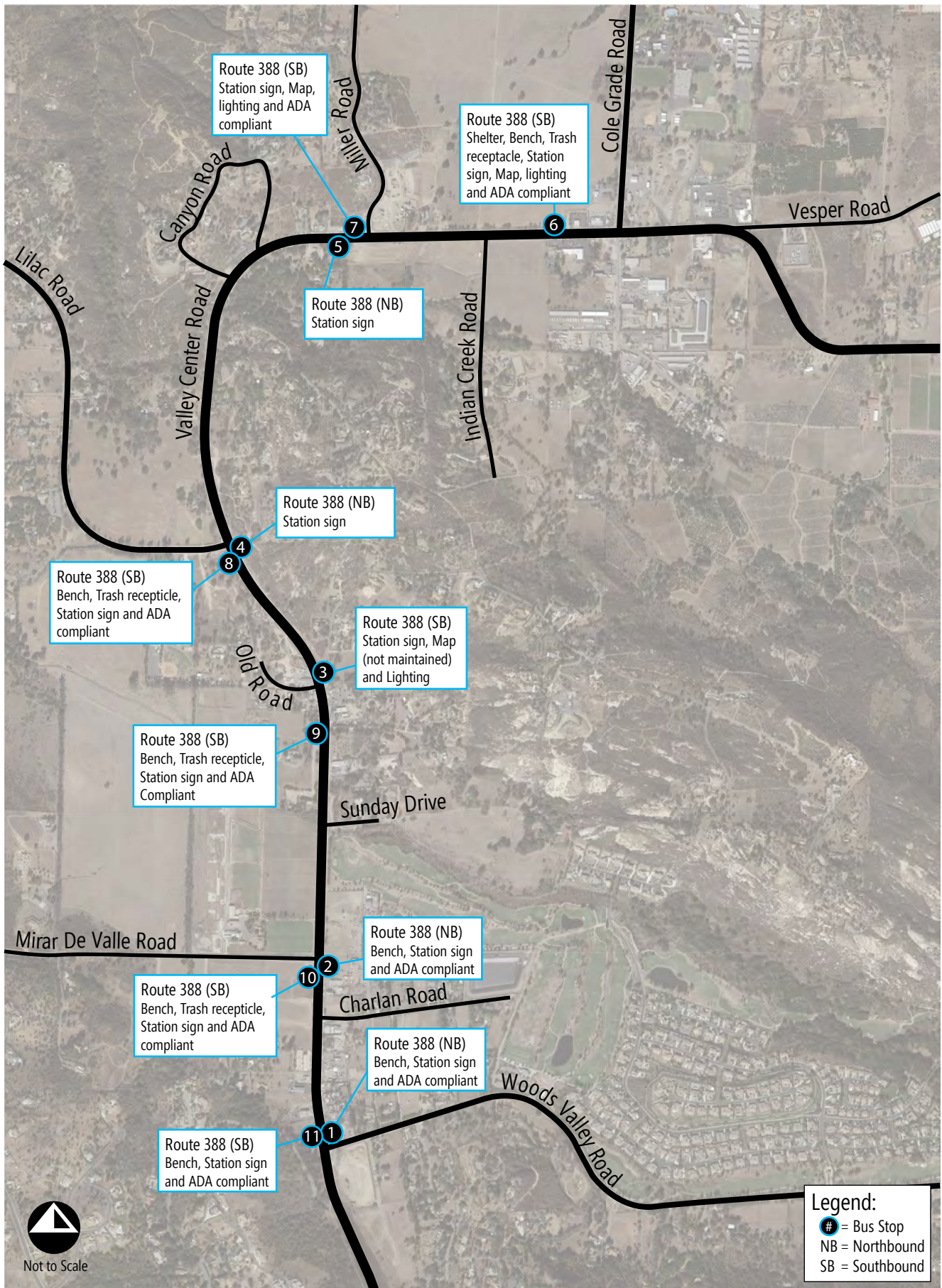
- Shelters
- Benches
- Trash receptacles
- Bus Stop Signs
- Maps/Wayfinding
- Lighting
- ADA compliancy

Figure 9: Derived from North County Transit District Rider’s Guide Effective October 7, 2018

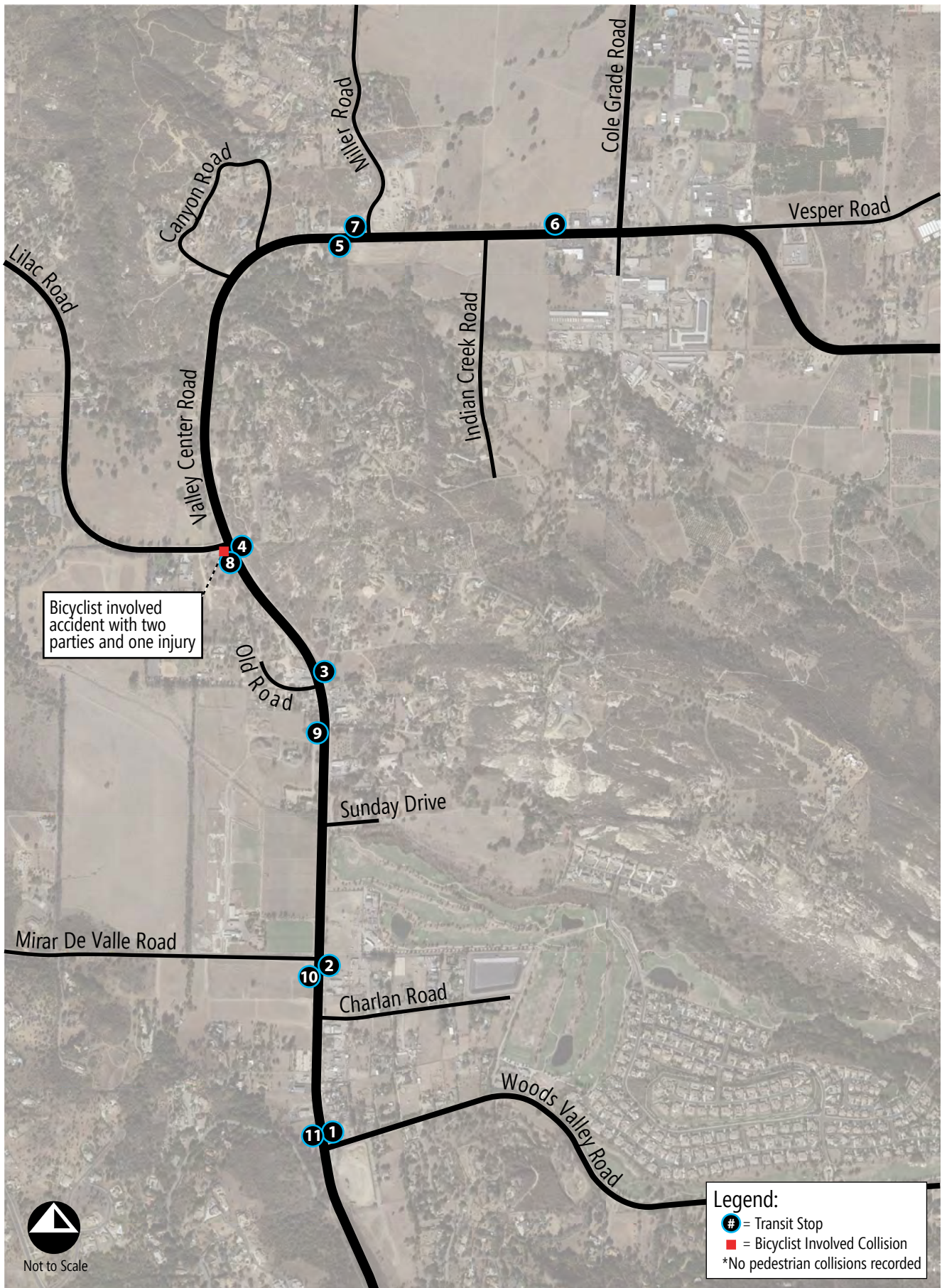
The amenities per bus stop locations are described in **Table 7** and included in **Figure 10**. Crash data was obtained from the County of San Diego to determine the pedestrian and bicycle involved collision within 500 feet of a bus stop. This data was geocoded and mapped to display collision locations along the corridor, as shown in **Figure 11**. There was one bicycle and zero pedestrian involved collisions over the five-year period.

Boarding and alighting information was provided by NCTD via email on February 7, 2019. Based on this ridership information, the most active bus stops are adjacent to the Cole Grade Road intersection where the average daily boardings is 22 and alightings is 19. For the corridor as a whole, there are an average of 43 boardings and 44 alightings per day for all stops.











**Table 7: Bus Stop Amenities along Valley Center Road**

Bus Stop (Direction)	Available Amenities						
	Shelter	Bench	Trash Receptacle	Sign	Map	Lighting	ADA Compliant
1 Woods Valley Road (NB)		✓		✓			✓
2 Mirar De Valle Road (NB)		✓		✓			✓
3 Old Road (NB)				✓	*	✓	
4 Lilac Road (NB)				✓			
5 Miller Road (NB)				✓			
6 Cole Grade Road (SB)	✓	✓	✓	✓	✓	✓	✓
7 Miller Road (SB)				✓	✓	✓	✓
8 Lilac Road (SB)		✓	✓	✓			✓
9 Old Road (SB)		✓	✓	✓			✓
10 Mirar De Valle Road (SB)		✓	✓	✓			✓
11 Woods Valley Road (SB)		✓		✓			✓

**Note:** Bus Stop locations are illustrated in **Figure 10**.

Safety near a bus stop was evaluated within 500 feet of bus stops using collision data involving pedestrians and bicyclists obtained from the County of San Diego.

\* Facilities exist but not maintained.

BREEZE buses provide public transportation along Valley Center Road via Route 388 and can carry up to 70 passengers per bus. Currently, most bus stops along the route contain minimal amenities such as a bench and route sign as shown in **Figure 12**. Some of the stops require maintenance such as the bus route map and schedule display shown in **Figure 13**.



Figure 12: Typical Bus Stops with Bench and Sign



Figure 13: Bus route map/schedule display case

## EXISTING PEDESTRIAN CONDITIONS

Existing peak hour pedestrian activity was recorded on Tuesday, December 4, 2018. **Figure 14** illustrates the existing activity (See p. 20). As shown, very few pedestrians currently walk along the corridor during the AM and PM peak hours with a maximum of ten pedestrians recorded at Cole Grade Road. Existing pedestrian conditions along Valley Center Road within the study area were analyzed using the County's PGA methodology as established in the County's ATP. A PGA is a qualitative pedestrian survey that assesses the quality of the walking environment along roadway segments. The PGA point system and analysis methodology is described in detail in Attachment A of this memorandum.

Existing pedestrian conditions along the east side/south side of Valley Center Road from Woods Valley Road to Cole Grade Road generally consist of 4-foot wide sidewalks from Woods Valley Road to approximately 370 feet north of Mirar De Valle Road. Outside of this segment, there are no pedestrian facilities on the east side of Valley Center Road. There are goat trails (i.e. walking paths resulting from pedestrian activity along the unimproved area behind the curb shown in **Figure 15**) between where the sidewalk ends in the South Village and where it begins in the North Village near the Old Town Center. Although there are no improved pedestrian paths between the sections of concrete sidewalk, the walking surface is relatively free of obstructions and there are few driveways. Therefore, the conditions along the east and south side of Valley Center Road are identified as Good to Very Good using the Gap Analysis methodology outlined in the ATP.



Figure 15: Example of Existing Goat Trail

The pedestrian facilities on the west side and north side of Valley Center Road generally consist of 3- to 7-foot-wide decomposed granite (DG) walking surfaces. The Heritage Trail (shown in **Figure 16**) extends from Woods Valley Road to Cole Grade Road. Portions of the trail are flanked by split rail fencing. Other portions have no physical barrier between the road and the walking trail. Although the trail provides a good walking environment, two key issues resulting in average ratings along the trail are the lack of marked crosswalks on Valley Center Road and tripping hazards due to unmaintained DG pathways and concrete driveways. Erosion has resulted in potential trip hazards (illustrated in **Figure 17**) and therefore contributes to the quality score presented in Table 8.

All existing curb ramps appear to meet County standards. All driveways are paved and concrete. Publicly maintained landscaping along most of the corridor is limited on the eastside with adolescent trees planted along the westside. Most of the limited shade is provided by tree canopies along residential properties. Results of the existing conditions PGA analysis are shown in **Table 8** and illustrated in **Figure 18a-18f**.

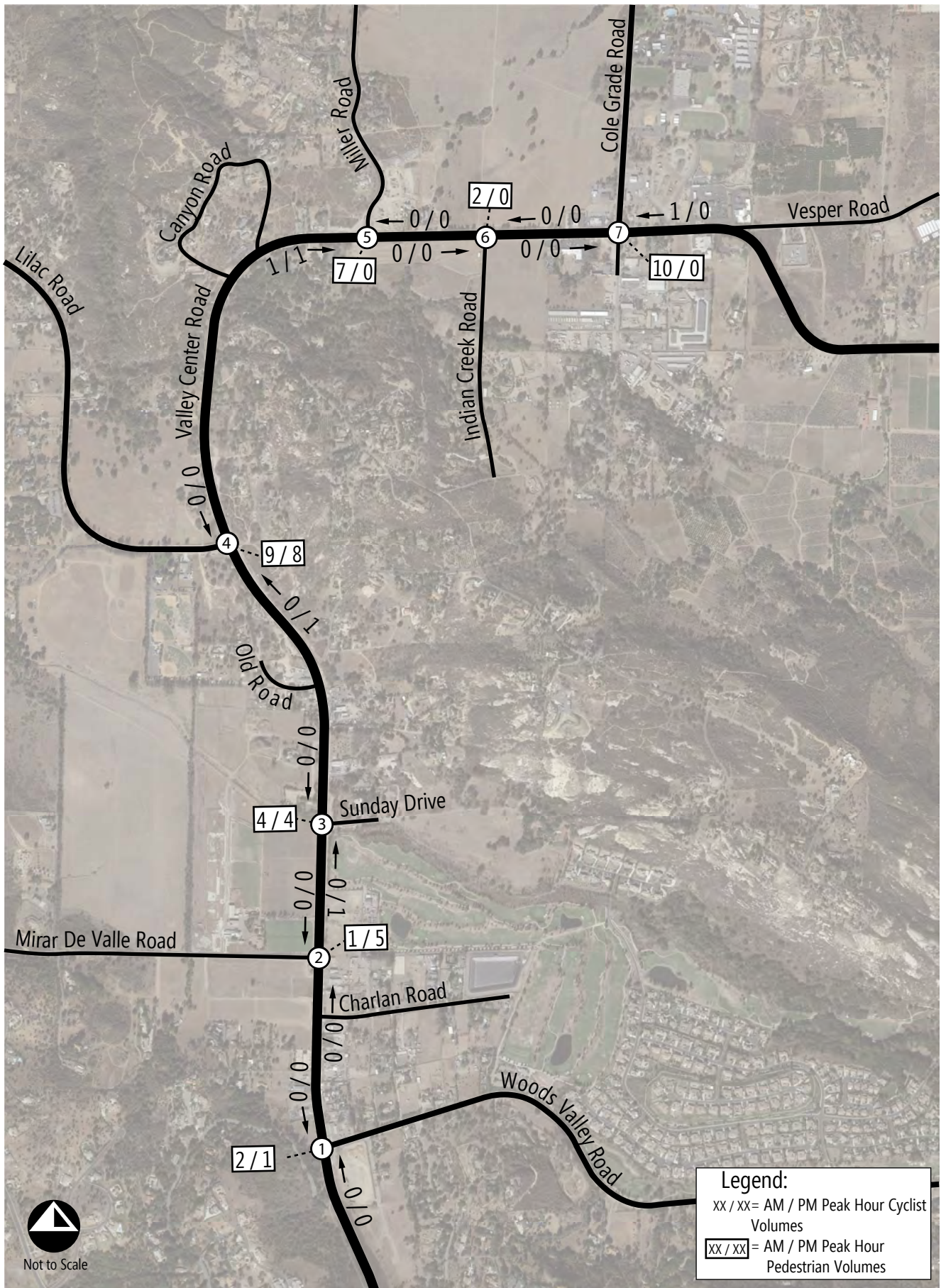


Figure 16: Heritage Trail with split rail fencing (looking westbound on Valley Center Rd.)

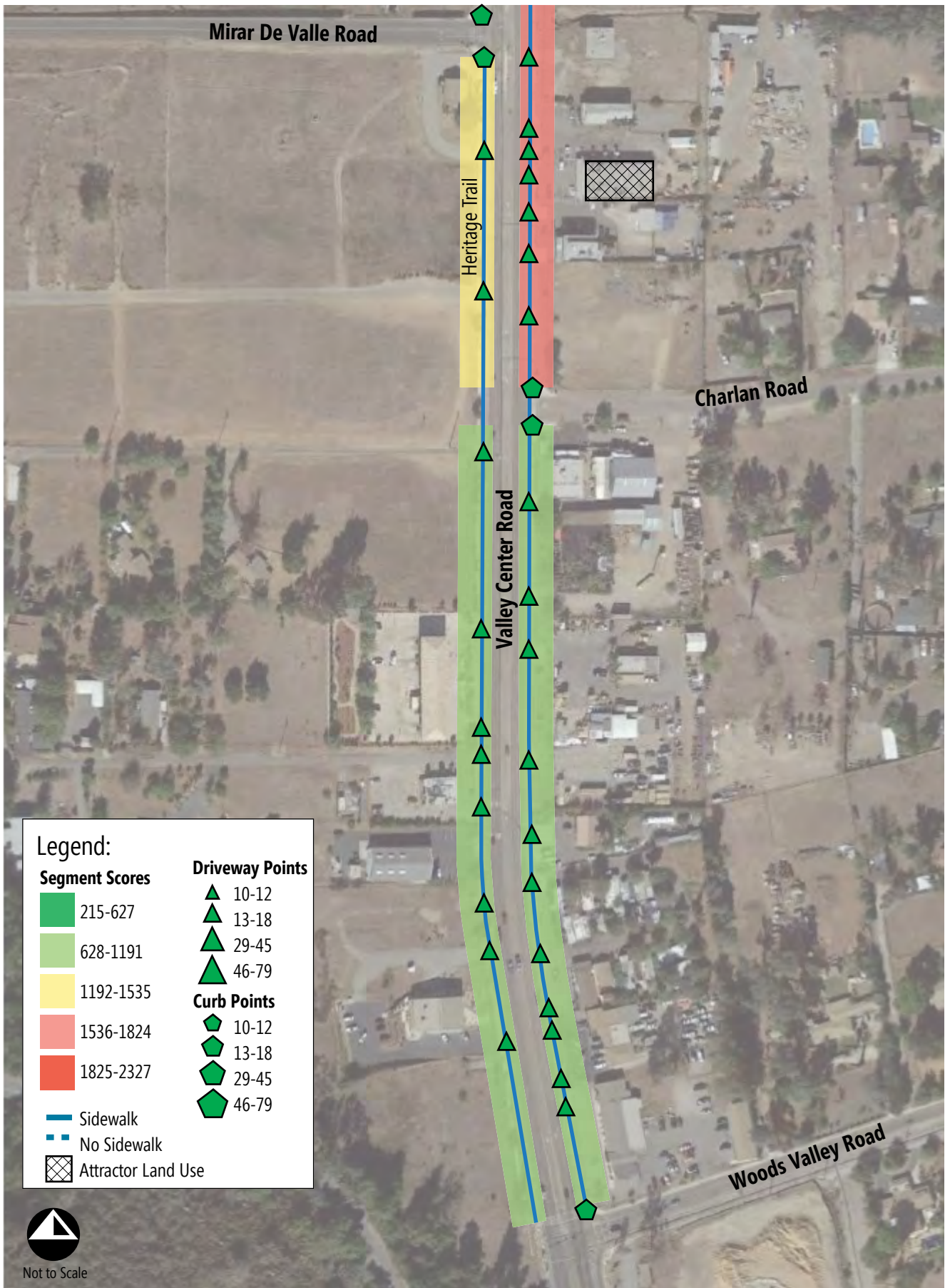


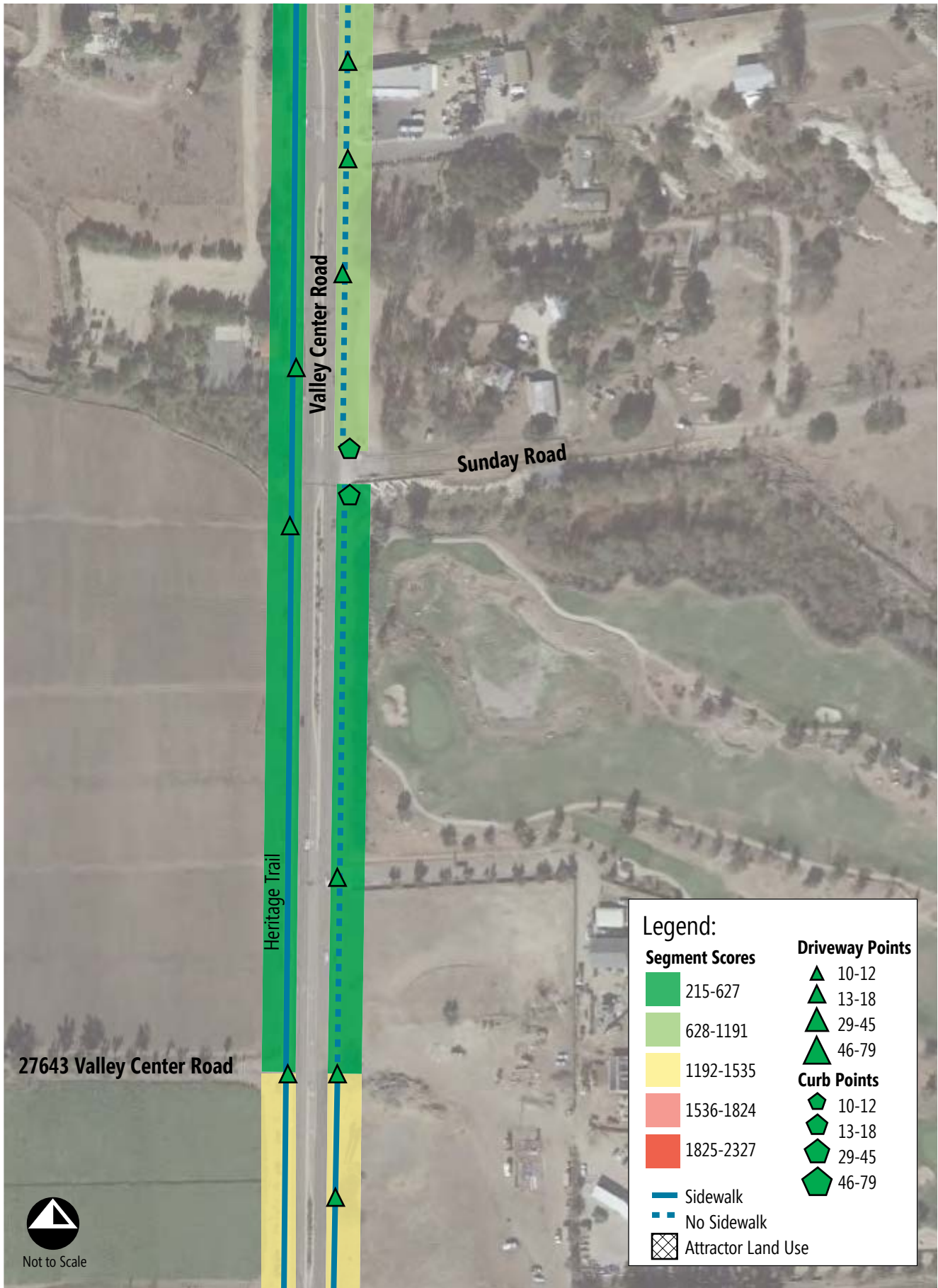
Figure 17: Example of trail erosion near concrete driveways.



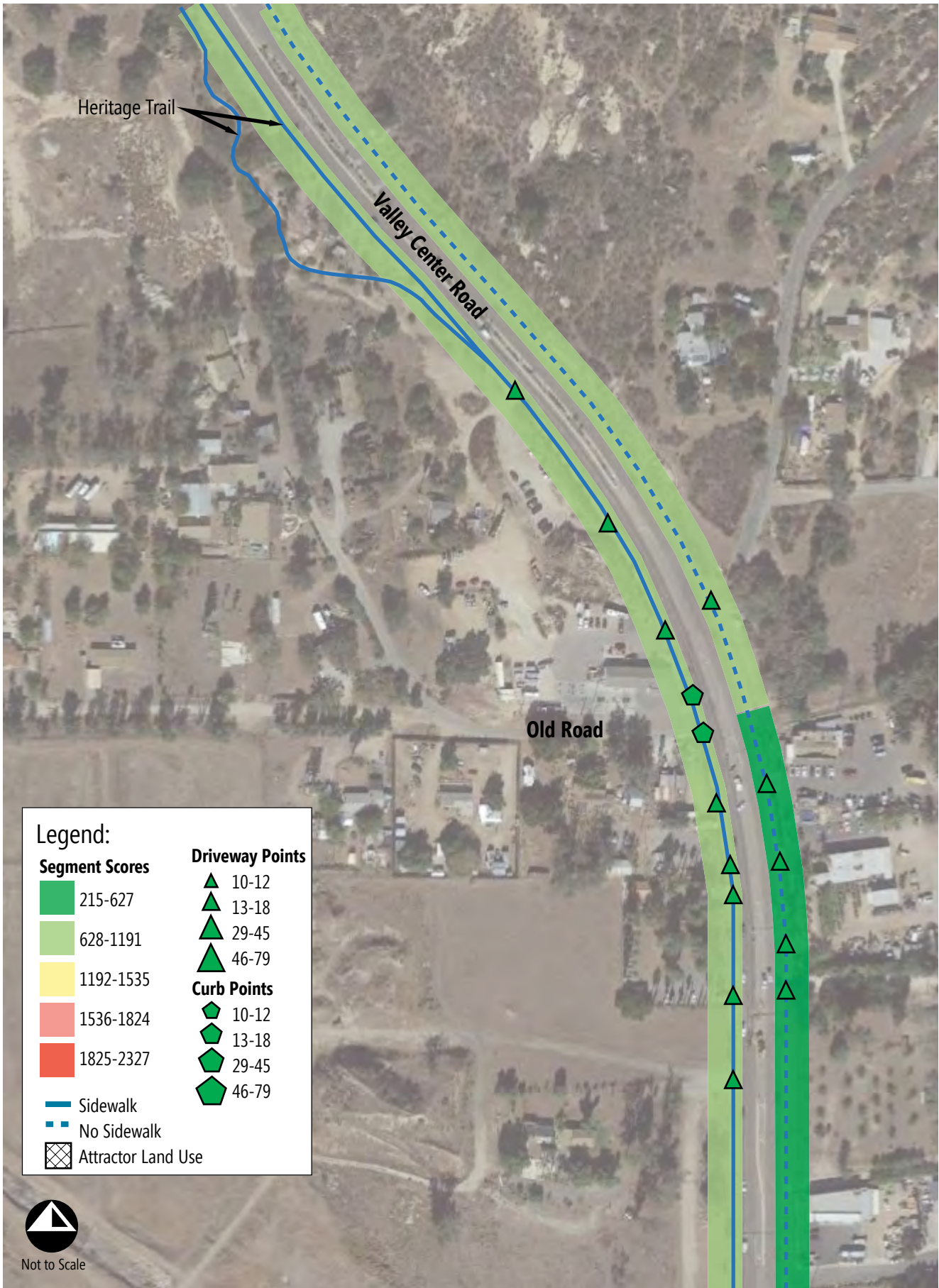




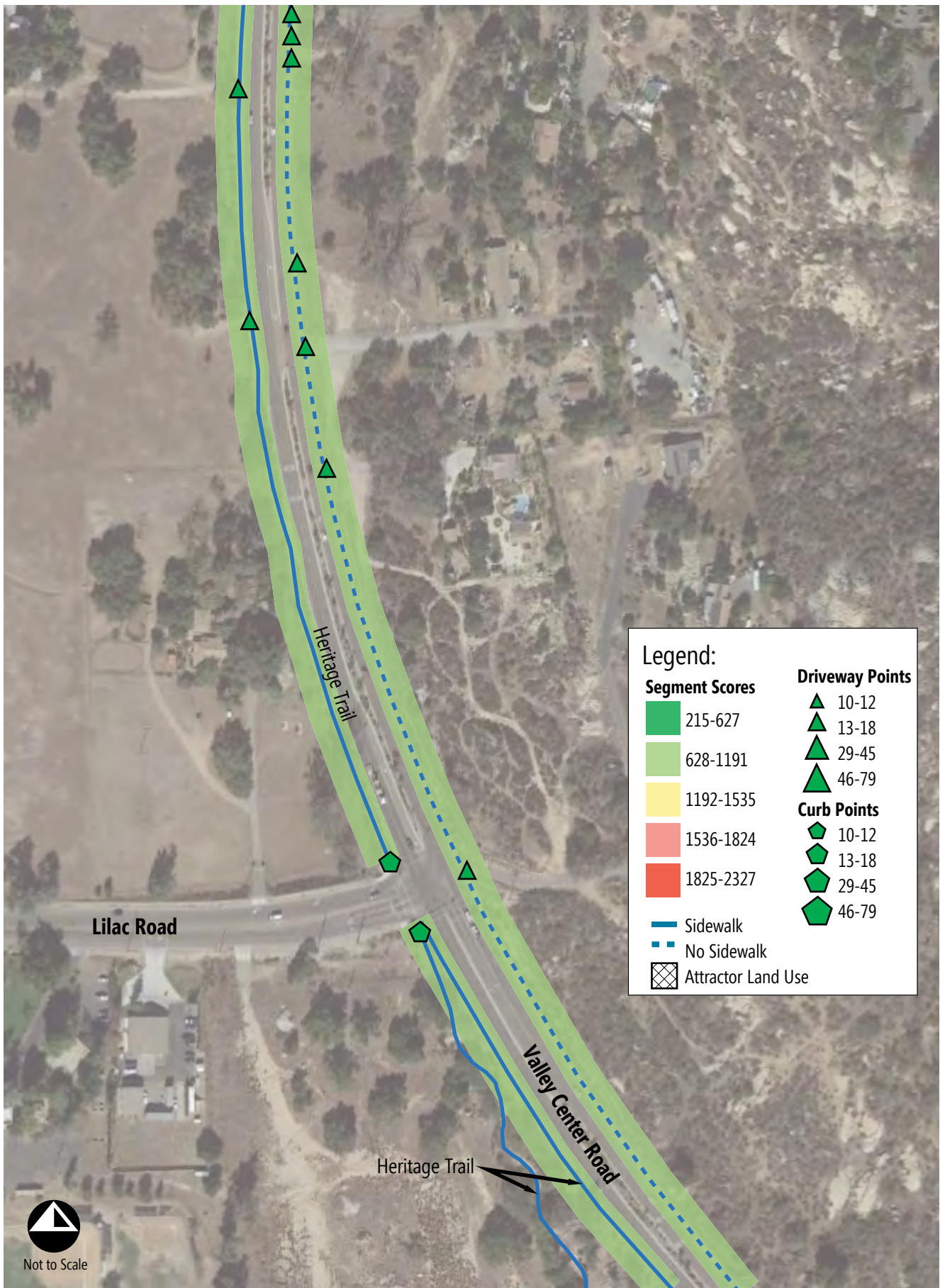








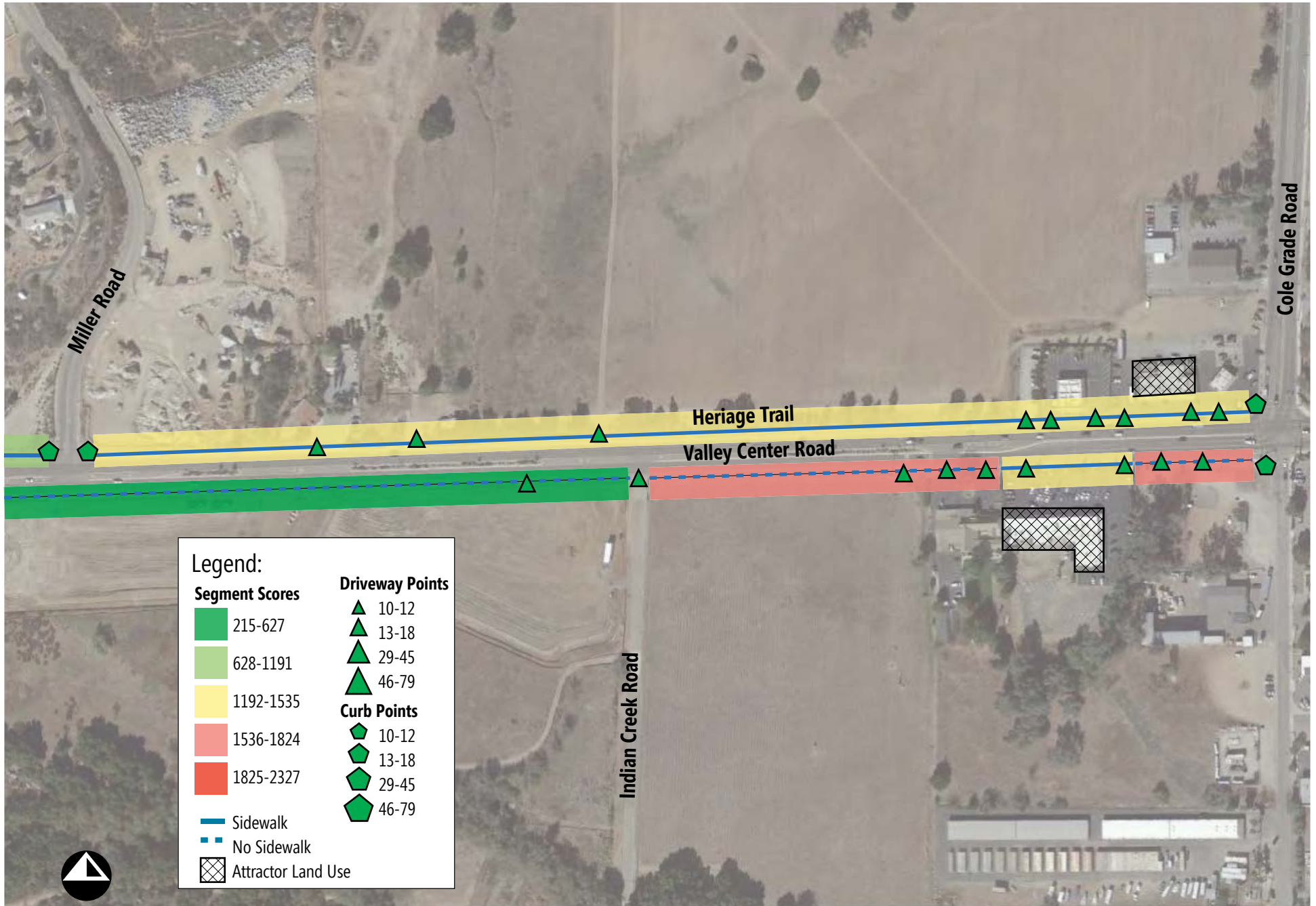












Not to Scale

**Table 8: Existing Pedestrian Conditions**

Segment		East / South Side of Valley Center Rd.		West / North Side of Valley Center Rd.	
		Total Score	Rating	Total Score	Rating
Valley Center Road	Woods Valley Road to Charlan Road	1150	Good	901	Good
	Charlan Road to Mirar De Valle Road	1646	Poor	1286	Average
	Mirar De Valle Road to 27634 Valley Center Road Driveway	1269	Average	1242	Average
	27634 Valley Center Road Driveway to Sunday Drive	608	Very Good	286	Very Good
	Sunday Drive to Old Road	690	Good	375	Very Good
	Old Road to Lilac Road	885	Good	769	Good
	Lilac Road to Valley Center Road Bridge (S)	672	Good	1043	Good
	Valley Center Road Bridge (S) to Valley Center Road Bridge (N)	392	Very Good	177	Very Good
	Valley Center Road Bridge (N) to Canyon Road (N)	470	Very Good	376	Very Good
	Canyon Road (N) to Miller Road	601	Very Good	1127	Good
	Miller Road to Indian Creek Road	557	Very Good	707	Good
	Indian Creek Road to Old Town Center Plaza Southern Boundary	1601	Poor	1375	Average
	Old Town Center Plaza Southern Boundary to Northern Boundary	1338	Average	1398	Average
Old Town Center Plaza Northern Boundary to Cole Grade Road	1717	Poor	1424	Average	

**Note:** Scores were derived from existing conditions observed on December 2018. Refer to **Attachment A** for point ranges & assignments.

Out of the 28 segments analyzed along Valley Center Road summarized in **Table 8**, the PGA rates seven (7) segments (25%) as very good, eight (8) segments (28%) as good, 10 segments (36%) as average, and three (3) segments (11%) as poor. The three segments that were rated “poor” include the east side of Valley Center Road from Charlan Road to Mirar De Valle Road, from Indian Creek Road to Old Town Center Plaza Southern Boundary, and from Old Town Center Plaza Northern Boundary to Cole Grade Road in the eastbound direction. There are no sidewalks, trails, or pedestrian facilities on these segments.

The quality of the existing marked crossing along and across Valley Center Road was evaluated by reviewing crosswalk amenities, design type and type of markings as shown in **Table 9** per County of San Diego ATP. Marked crosswalks along the corridor are only provided at signalized intersections and at a limited number of side street stop-controlled intersections. As shown, the signalized intersection crosswalk locations are rated “Strong” and the four unsignalized locations are rated “Needs Improvement” due to the lack of crosswalks along side streets. Marked crossings across Valley Center Road are more than half a mile apart, making it difficult for pedestrians to cross Valley Center Road. **Attachment F** contains the Pedestrian Gap Analysis & Intersection Crosswalk Worksheets.

**Table 9: Intersection Crosswalk Evaluation**

Study Intersection	Traffic Control	Score	Rating
1 - Valley Center Road / Woods Valley Road	Signal	4	Strong
2 - Valley Center Road / Mirar De Valle Road	OWSC	74	Needs Improvement
3 - Valley Center Road / Sunday Drive	OWSC	74	Needs Improvement
4 - Valley Center Road / Lilac Road	Signal	4	Strong
5 - Valley Center Road / Miller Road	OWSC	74	Needs Improvement
6 - Valley Center Road / Indian Creek Road	OWSC	74	Needs Improvement
7 - Valley Center Road / Cole Grade Road	Signal	4	Strong

**Note:** Scores were derived from existing conditions observed on December 2018.

OWSC = One Way Stop Control

## EXISTING BICYCLE CONDITIONS

Existing peak hour bicycle activity was collected on Tuesday, December 4, 2018. Bicycle activity data is provided in **Figure 14** (see p. 20). As shown, only one bicyclist is recorded using the bike lanes along the corridor during the AM and PM peak hours. Class II bicycle lanes are currently provided on both sides of Valley Center Road from Woods Valley Road to Cole Grade Road. There are no buffers separating the bicyclists from the vehicles along Valley Center Road. Portions of the bicycle lanes have loose fragments of asphalt due to the degrading surface of the existing roadway lanes, refer to **Figure 19**. Obstacles such as drainage inlets in the bike lane can be challenging for bicyclists as shown in **Figure 20**.

During the field verification and site observations conducted on December 21, 2018, very few bicyclists were observed using the Class II bike lanes. Those observed bicycling along the corridor rode on the sidewalk or along the Heritage Trail. The ATP recommends a Class IV separated Bikeway along Valley Center Road.

Existing bicycle facilities were assessed along Valley Center Road from Woods Valley Road to Cole Grade Road using a Level of Traffic Stress (LTS) analysis. LTS is a qualitative measure that assesses a bicyclist's level of discomfort or stress based on the quality of the bicycling environment and provided facilities. LTS scores range from LTS 1 (most comfortable, least stressful) to LTS 4 (least comfortable, most stressful). Scoring criteria used in the analysis is consistent with the methodology outlined in the County's ATP and summarized in Attachment A of this memorandum.

**Table 10** and **Figure 21** display the results of the LTS analysis conducted for the existing bicycle conditions along Valley Center Road.

As shown in Table 10, the current bicycle facilities along Valley Center Road result in a high level of bicycle stress (LTS 4) primarily attributed to the high vehicle speeds along the corridor. LTS 4 indicates that the most confident bicyclists (categorized as the "Strong and Fearless") would likely use the facility and those with less capabilities or confidence may not feel comfortable bicycling along Valley Center Road.



Figure 19: Class II bike lane with degraded surface.



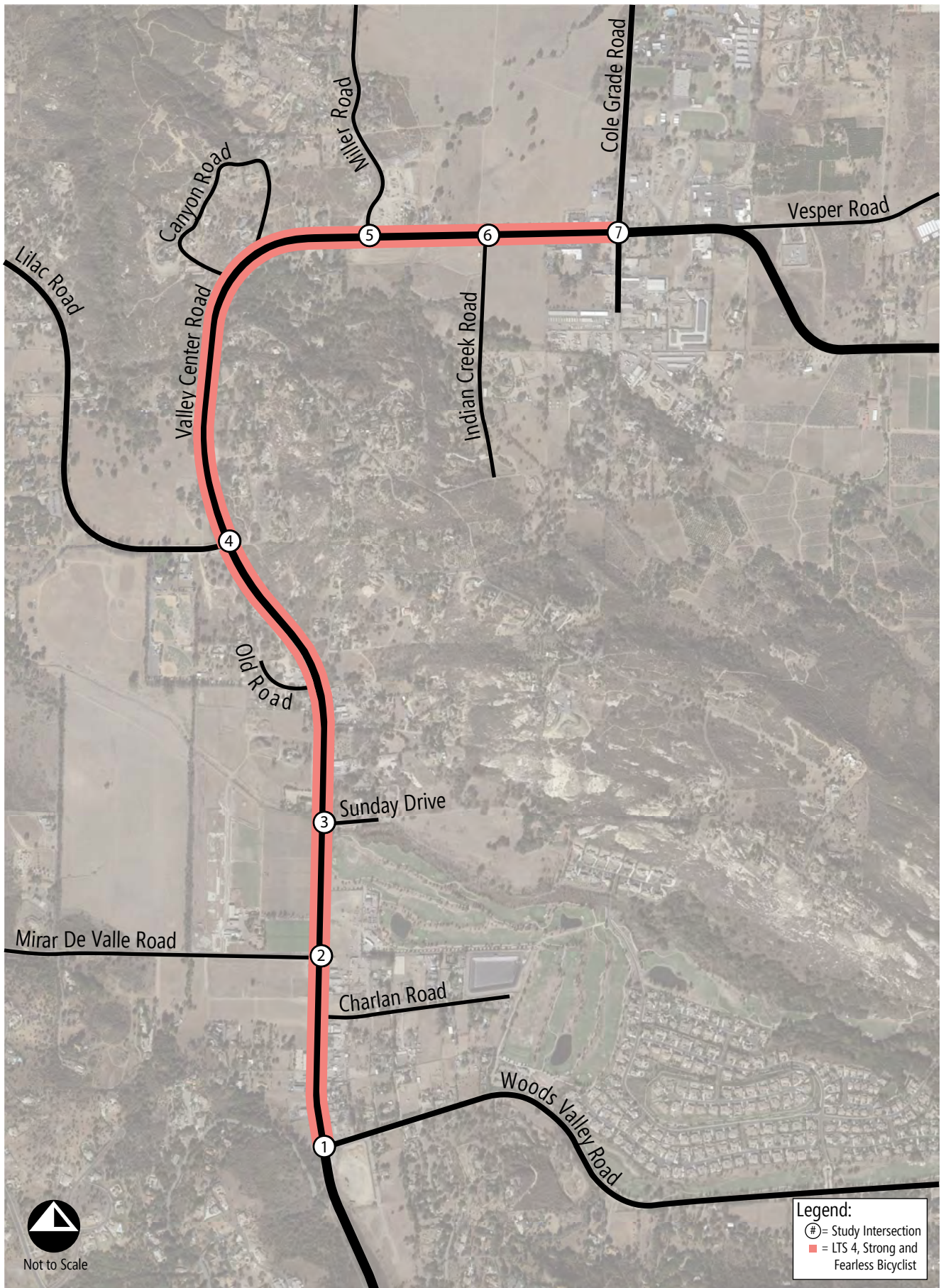
Figure 20: Class II bike lane with drainage inlet.



**Table 10: Level of Traffic Stress (LTS) Summary**

Roadway	Segment	No. Lanes	Facility Type	Roadway Classification <sup>1</sup>	Posted Speed Limit (mph)	Direction	LTS Score	Suitable for
Valley Center Road	Woods Valley Road to Mirar De Valle Road	4	Class II	Boulevard - 4.2B (w/ intermittent turn lanes)	45	Northbound	4	Strong and Fearless Bicyclists
						Southbound	4	Strong and Fearless Bicyclists
	Mirar De Valle Road to Sunday Drive	4	Class II	Boulevard - 4.2B (w/ intermittent turn lanes)	45	Northbound	4	Strong and Fearless Bicyclists
						Southbound	4	Strong and Fearless Bicyclists
	Sunday Drive to Lilac Road	4	Class II	Boulevard - 4.2B (w/ intermittent turn lanes)	45	Northbound	4	Strong and Fearless Bicyclists
						Southbound	4	Strong and Fearless Bicyclists
	Lilac Road to Canyon Road	4	Class II	Major Road - 4.1A (w/ raised median)	45	Northbound	4	Strong and Fearless Bicyclists
						Southbound	4	Strong and Fearless Bicyclists
	Canyon Road to Miller Road	4	Class II	Major Road - 4.1A (w/ raised median)	45	Eastbound	4	Strong and Fearless Bicyclists
						Westbound	4	Strong and Fearless Bicyclists
	Miller Road to Indian Creek Road	4	Class II	Boulevard - 4.2A (w/ raised median)	45	Eastbound	4	Strong and Fearless Bicyclists
						Westbound	4	Strong and Fearless Bicyclists
	Indian Creek Road to Cole Grade Road	4	Class II	Boulevard - 4.2A (w/ raised median)	45	Eastbound	4	Strong and Fearless Bicyclists
						Westbound	4	Strong and Fearless Bicyclists

**Note:** Scores were derived from existing conditions observed on December 2018.



## KEY FOCUS AREAS

After reviewing the results of the existing conditions analysis along Valley Center Road, specific issues are grouped into “key focus areas” that should be considered when identifying improvements along Valley Center Road. Key focus areas have been identified and discussed below:

### **Intersection Safety Improvements:**

Three intersections along the corridor were identified as having high crash rates. These three intersections should be evaluated further to address safety and operational concerns. A summary of the issues at these three locations is provided below:

- **Valley Center Road and Miller Road.** According to the crash data, one fatality occurred at this intersection. A total of 23 crashes have been reported which represents 13% of the 176 crashes over the last five years. Seven crashes are related to unsafe speeds and four crashes are related to improper turning. The pedestrian gap analysis indicates the crosswalk across the north leg of the intersection is deficient. Improvements at this location should focus on reducing auto crashes and improving visibility.
- **Valley Center Road and Cole Grade Road.** A total of 44 crashes were reported at this intersection which represents 25% of the 176 crashes reported along the corridor. Nineteen crashes involve rear-end collisions and ten crashes involve broadside collisions. Fourteen collisions are attributed to unsafe speeds which is the highest along the corridor. The pedestrian gap analysis indicates pedestrian facilities are rated “poor” along the south side of Valley Center Road near Cole Grade Road. Improvements at this location should focus on reducing auto crashes and improving visibility.
- **Valley Center Road and Lilac Road.** The crash reports indicate a total of 36 crashes occurred at this location which represents 20% of the 176 crashes reported along the corridor. Ten crashes are attributed to unsafe speeds and twelve are reported as rear-end collisions. The actual 85<sup>th</sup> percentile speeds at this location is 57 mph in the northbound direction and 54 mph in the southbound direction. Although the signalized intersection is currently operating at LOS B in both the AM and PM peak hours, improvements to reduce crashes and reduce speeds in this area should be considered.

### **Pedestrian Facility Improvements:**

Sidewalks are currently provided on the east side of Valley Center Road from Woods Valley Road to Mirar De Valle Road. However, there are no sidewalks, improved trails or defined pedestrian facilities along the east side of Valley Center Road from Mirar De Valle Road to Cole Grade Road which is approximately 10,500 linear feet. Pedestrian facilities are rated “poor” along the east and south side of Valley Center Road at the following two focus areas.

- **Valley Center Road from Cole Grade Road to the driveway serving the Old Town Center (approximately 275 feet west of Cole Grade Road).** This segment is adjacent to the Old Town Center which is considered an attractor since there is a deli, pharmacy and other small retail shops that people would walk to. However, there is no sidewalk, improved trail, or defined pedestrian facility on this segment. In addition, there are multiple driveways where pedestrian and vehicle conflicts can occur. Pedestrian facility improvements considered for this segment should be consistent with the rural character of the community.
- **Valley Center Road from Mirar De Valle Road to Charlan Road.** A post office and a small Market are located along this side of Valley Center Road that could attract pedestrians. Although a sidewalk is currently provided, the condition of the sidewalk is poor with multiple obstructions and weeds that impact the travel way. In addition, there are multiple driveways that create vehicle-pedestrian conflicts.



**Crosswalk Improvements:**

Marked pedestrian crosswalks across Valley Center Road are only provided at the signalized intersections at Cole Grade Road, Lilac Road and Woods Valley Road. To improve access for pedestrians and bicyclists along the corridor, additional marked crossings should be considered. Due to the width and speed of the road, additional treatments such as improved light at the marked crossing, control such as a HAWK beacon, pedestrian signal and/or flashing beacons should be installed. There are two key locations that should be considered for pedestrian crossings:

- **Valley Center Road and Mirar De Valle Road.** A bus stop, Valley Center Market and the Post Office are all located within 150 feet of the intersection on the east side of Valley Center Road. A crossing at this location would provide access to these activity centers.
  
- **Valley Center Road and Miller Road.** The bus stop is located on the south side of Valley Center Road approximately 125 feet from Miller Road with no crosswalk facilities for pedestrians to cross Valley Center Road to reach the retail center or Heritage Trail on the north side of Valley Center Road. In addition, future development is planned on the south side of the intersection that may increase pedestrian activity.

There are a total of 11 NCTD bus stops along the corridor serving both directions of travel. However, there is no controlled access for pedestrians to cross Valley Center Road at many of these locations. When considering additional intersection control and/or new pedestrian crossings, the location of and access to existing bus stops should be considered. Additional coordination with NCTD may be necessary.

**Future Development LOS Impacts:**

Development is planned along Valley Center Road in both the North and South Villages. As such, traffic generated by these developments may affect the operations of the existing side street stop-controlled intersections. As discussed in this report, the level of service for the side street stop-controlled intersection is based on available gaps in both directions of traffic. As traffic volume along Valley Center Road increases, the delay to vehicles on the side street will continue to increase. When considering alternatives for the corridor, modifications to intersection control at key locations should be considered. When considering medians along the corridor, the impact to the side streets should also be considered, as the median restricts the ability to cross one direction of traffic at a time and can impact side street delay.

Valley Center Road Corridor Concept Plan

# Appendix J: Public Outreach Phase 1 Summary



# Valley Center Road Corridor Concept Plan



## *Community Kickoff Workshop Summary*



Workshop Date:  
March 12, 2019



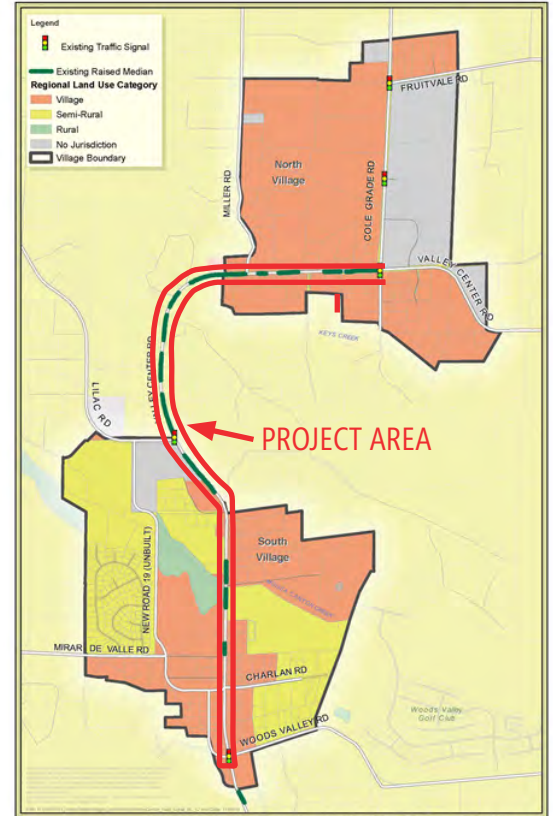


# Executive Summary

The County of San Diego is currently developing the Valley Center Road Corridor Concept Plan (Corridor Concept Plan) to enhance the safety and accessibility of Valley Center Road approximately from Cole Grade Road in the North Village to Woods Valley Road in the South Village. The plan will identify a range of recommendations to address the needs of all users, including pedestrians, bicyclists, equestrians, transit riders, and drivers.

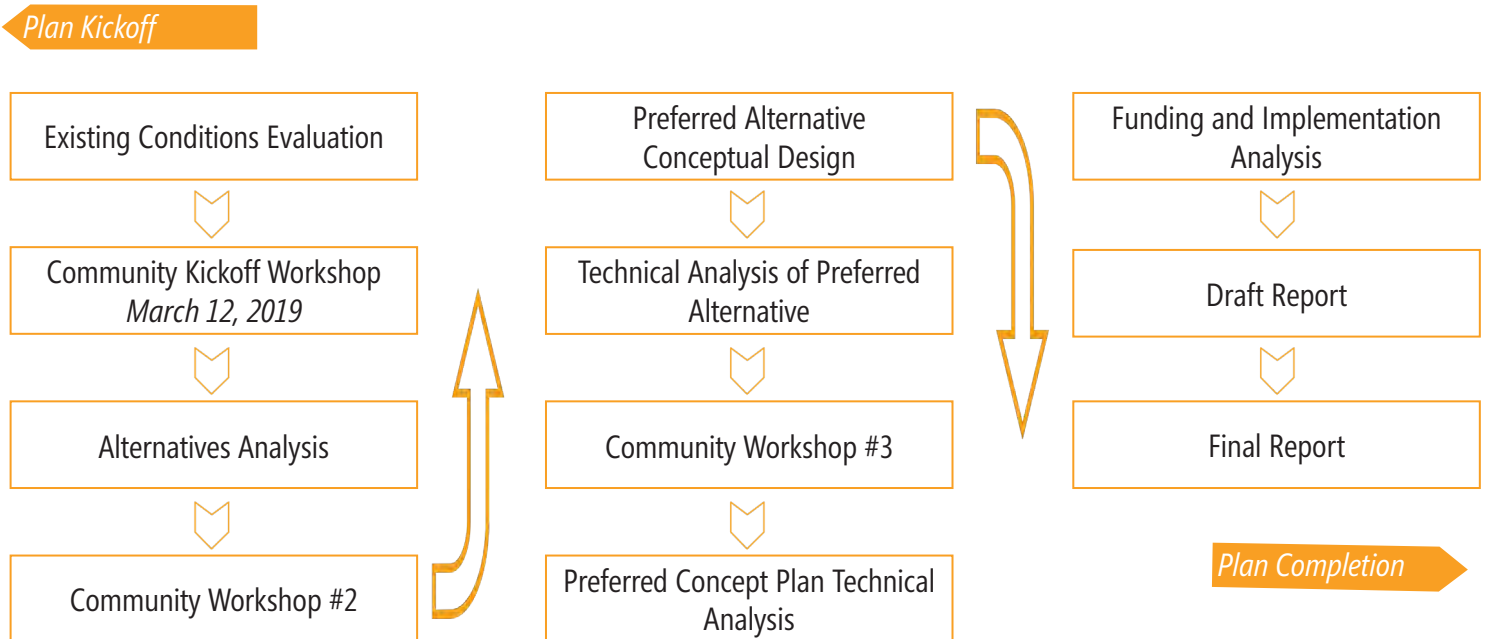
The project kicked-off in December 2018 and is anticipated to run through February 2021. This project will coordinate with the Valley Center Community Plan Update, which is also underway and will be informed by the results of the Corridor Concept Plan.

The first of the three workshops was the Community Kickoff Workshop and was held on March 12, 2019 from 6:00 – 8:30 pm at Valley Center Middle School and was attended by approximately 80 people. This document summarizes the engagement process and key findings of the Community Kickoff Workshop.



Valley Center Road & Community Villages Access Management Study Area

## Timeline



# Workshop Process

The Community Kickoff Workshop consisted of a combination of presentations and interactive exercises organized around four major components:

- Welcome, polling exercise, and project overview
- Existing conditions analysis and input
- Design treatment best practices and priorities
- Questions and answers, next steps, and concluding remarks

The goals of the Community Kickoff Workshop were to:



**UNDERSTAND** your ideas and concerns by identifying challenges and opportunities.



**SHARE** existing conditions analysis findings about Valley Center Road.



**DISCUSS** the study area boundaries.



**ESTABLISH** community priorities.

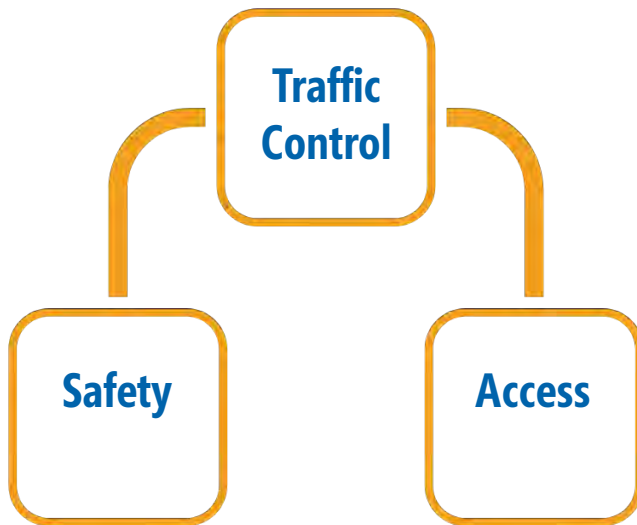


**EXPLORE** design treatments for increased safety.



**PRESENT** trade-offs and best practices for different design treatments.

During the workshop, participants shared their mobility concerns and priorities using comment cards and by participating in the two interactive exercises. Most comments were associated with the following three themes:



Workshop participants listening to the Existing Conditions Presentation



Workshop participants looking over display boards showing the number of collisions and the goals and outcomes



Workshop participants during the first interactive exercise and sharing their experiences on Valley Center Road

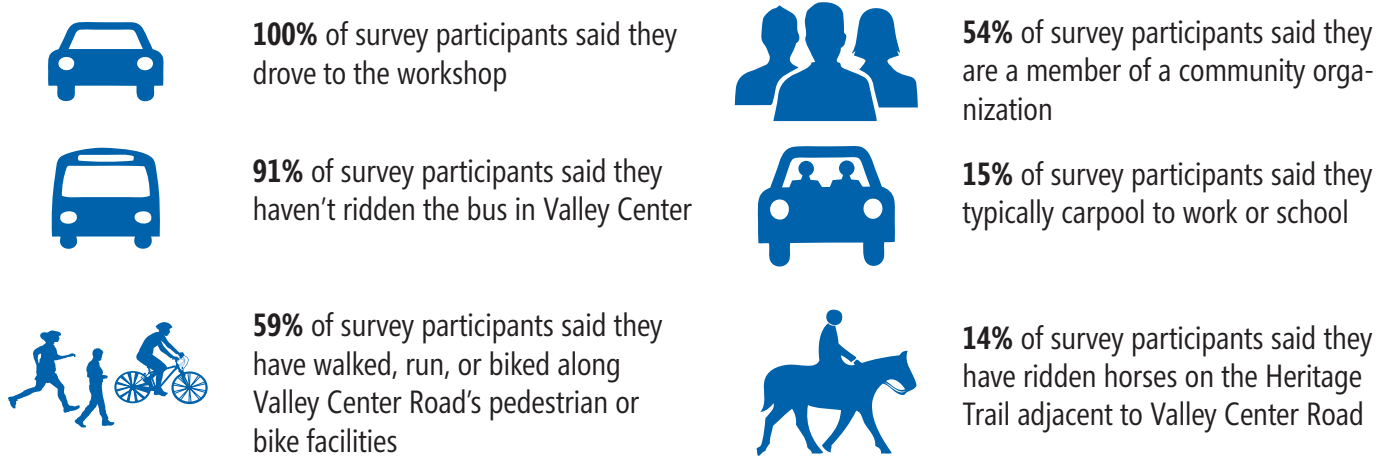
# Workshop Activities & Input Received

The workshop began in an open house format, allowing participants to view and discuss several exhibits displayed around the room. These exhibits presented the goals and intended outcomes of the workshop and summarized key findings from the existing conditions analysis. After this short viewing period, participants sat at one of eight tables where they remained for the rest of the workshop. Discussions at each table were lead by one to two facilitators. Each portion of the workshop included a presentation by the project team and an interactive exercise.

## Quick Questions - Polling Exercise

At the beginning of the workshop, participants were asked five questions in a live polling exercise. Using a cell phone or wifi-enabled device, participants answered questions about how they experience and use the corridor. The polling results were displayed in real time so that the group understood the various perspectives represented. Workshop participants were able to complete the poll on paper, if preferred.

Out of the 48 local residents who participated in the polling exercise, the following results showed:



## Existing Conditions: Where are the Issues?

The project team provided a summary of existing conditions, including analyses of intersection operations, roadway segments, crash data, speeds, as well as pedestrian, bicycle, and transit conditions.

After the presentation, each group engaged in an interactive exercise to share their thoughts on the locations with the most pressing challenges and greatest opportunities. Led by a facilitator, each group was equipped with a table-sized map, markers, pens, and post-it notes: red post-its to note negative characteristics, and green post-its to note positive characteristics. Participants were asked to write down their thoughts on the post-it notes or write on the map and discuss with the group.

Workshop participants noted the Heritage Trail as a positive characteristic and ultimately would like to see more trails and walking paths along Valley Center Road. Most participants noted challenges throughout the study area. A map is provided on the following page displaying the common themes participants noted on each map. The map is then broken into four segments displaying the positive characteristics and corridor challenges along with common comments participants noted on each map.





# What Did We Hear?



## Comment Types

- 48 Vehicle access comments
- 47 Overall safety comments
- 35 Streetscaping comments
- 22 Pedestrian access comments
- 6 Land use and surrounding development comments
- 5 Bicycle access comments
- 4 Equestrian use comments

## EXISTING STREET FEATURES

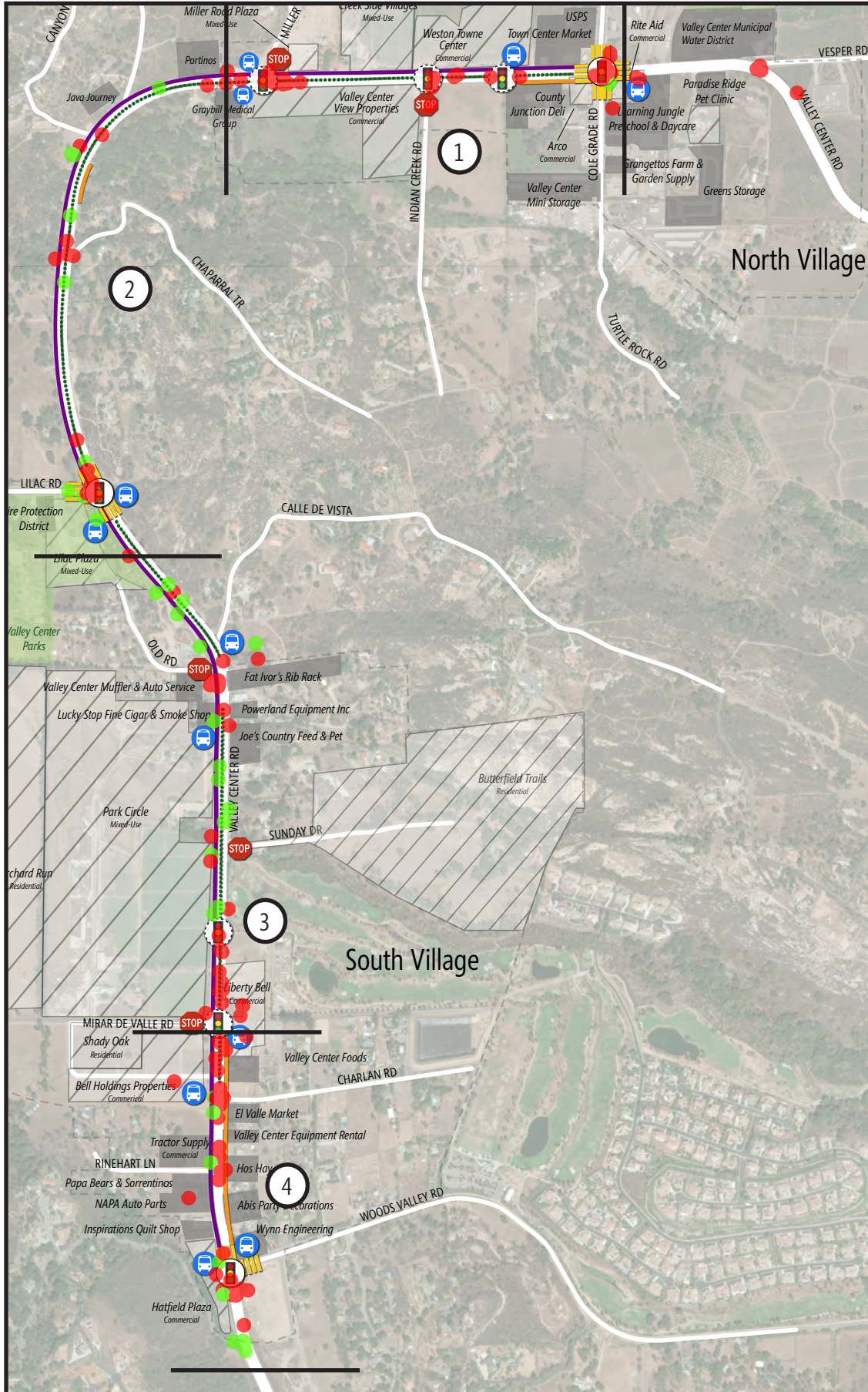
- Bus Stop
- Stop Sign
- Traffic Signal
- Crosswalk
- Median
- Heritage Trail
- Sidewalk

## PLANNED DEVELOPMENT

- Potential Traffic Signal
- Planned Development



# What Did We Hear?



## Comment Types

- Positive Characteristics
- Corridor Challenges

## EXISTING STREET FEATURES

- Bus Stop
- Stop Sign
- Traffic Signal
- Crosswalk
- Median

- Heritage Trail
- Sidewalk

- Village Boundaries
- Commercial Areas
- Parks

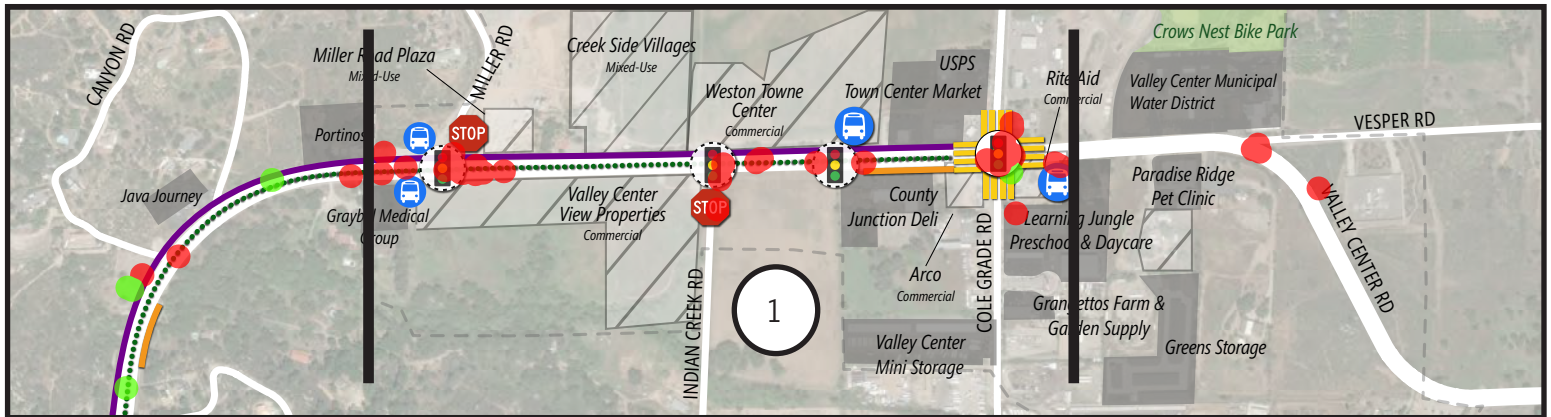
## PLANNED DEVELOPMENT

- Potential Traffic Signal
- Planned Development



# What Did We Hear?

A sampling of comments received during this first interactive exercise is provided below, grouped by corridor segments. To access all of the comments received during this exercise and the other interactive exercises for this workshop, see the project web page at: <https://www.sandiegocounty.gov/pds/CommunityGroups/vcroadstudy/>



## Positive Characteristics:

### Equestrian use comments:

- Heritage Trail and equestrian crossing button are very nice for people with horses

### Streetscaping comments:

- Landscaped median
- Heritage Trail is a delightful addition to the community

## Corridor Challenges:

### Vehicle access comments:

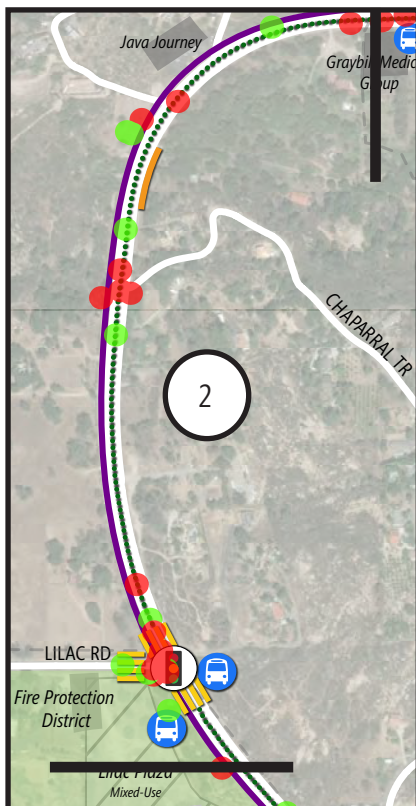
- Planned signals are too close together, there are too many signals
- The curve at Vesper Road and Valley Center Road is very dangerous
- Exiting and entering the gas station is very dangerous
- People drive too fast along this road
- U-turns by the Church, Pala Vista Market, County Junction Deli, and the medical center are very challenging
- The intersection at Valley Center Road and Cole Grade Road is very confusing, too many lanes

### Pedestrian access comments:

- This area is not pedestrian friendly

### Streetscaping comments:

- Maintain vegetation



## Positive Characteristics:

### Vehicle access comments:

- The signal at Lilac Road and Valley Center Road

### Streetscaping comments:

- Heritage Trail is really nice, especially when it departs from the road
- The trees and native plants along the Heritage Trail and the median

## Corridor Challenges:

### Vehicle access comments:

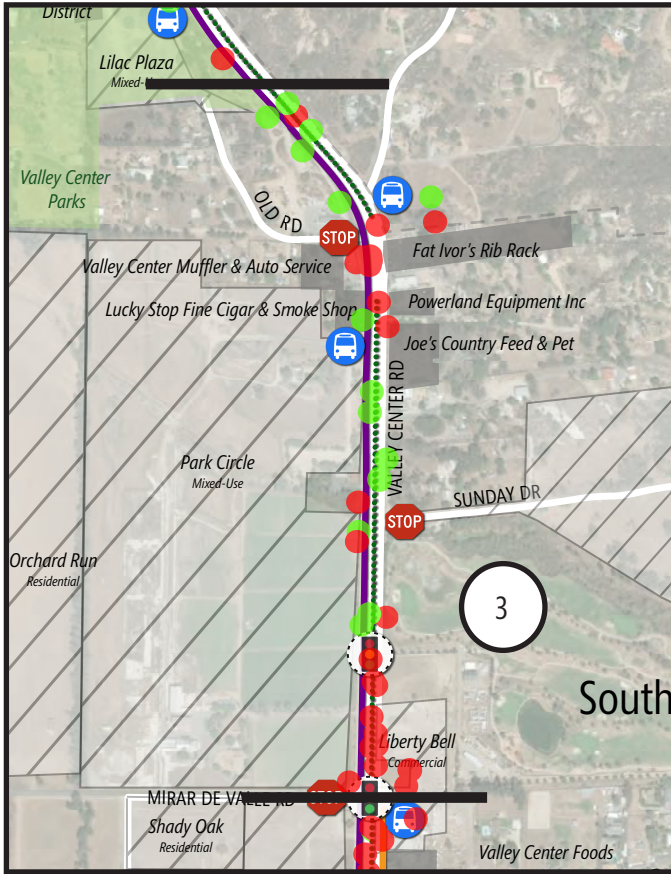
- Poor line of sight turning left on Valley Center Road from Old Road
- There is too much stop and go traffic
- Vehicles go way too fast along Valley Center Road
- Very unsafe turning onto Valley Center Road, hard to see speeding cars
- Need more dedicated right turn lanes to help flow of traffic
- More crosswalks
- Very unsafe turning from Chaparral Terrace to Valley Center Road

### Streetscaping comments:

- Erosion on the Heritage Trail and dead vegetation



# What Did We Hear?



## Positive Characteristics:

### Streetscaping comments:

- Heritage Trail is great for the community, would love to see it expand
- Vegetation along the median

### Land use/development comments:

- We love Park Circle

## Corridor Challenges:

### Vehicle access comments:

- Mixed traffic along the Heritage Trail can be difficult
- Poor line of sight trying to get on Valley Center Road
- No more signals along Valley Center Road
- Speed is too high along Valley Center Road, can't turn into businesses

### Bicycle access comments:

- More bicycle facilities are needed
- Need wider bike lanes along Valley Center Road

### Pedestrian access comments:

- More pedestrian facilities are needed
- Pedestrians have been killed trying to cross Valley Center Road

### Equestrian use comments:

- Equestrian trails should have some separation from roadway like a rail fence

### Streetscaping comments:

- Dead vegetation along Heritage Trail
- Noise makes the Heritage Trail not as peaceful

## Positive Characteristics:

### Streetscaping comments:

- Heritage Trail, would like to see it connect to other trails
- Future Valley Center Gateway would be a great addition

## Corridor Challenges:

### Vehicle access comments:

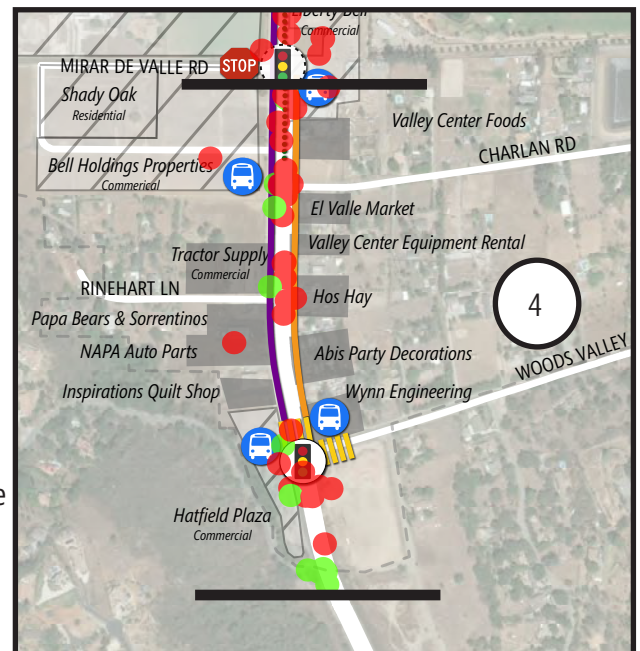
- Accidents at Woods Valley Road and Valley Center Road
- There is a lot of traffic, have to wait a long time to get through Valley Center Road
- No more planned signals at intersections
- High speeds make Valley Center Road very dangerous
- Very dangerous turning left onto Valley Center Road from Mirar de Valle Road and Banbury Drive
- Would love to see more roundabouts instead of signals

### Bicycle access comments:

- Bicycling is dangerous, there is no separation for bike riders
- Bus stop and bike lane conflicts

### Streetscaping comments:

- No median in the South Village
- Vegetation along Heritage Trail needs to be maintained



# Workshop Activities & Input Received

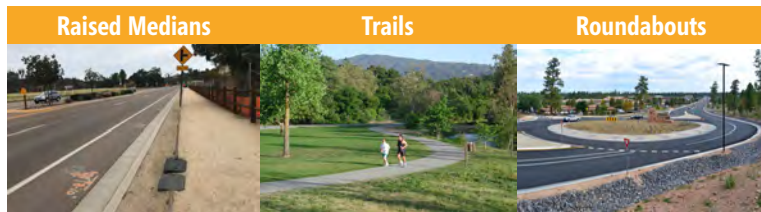
A sampling of comments received during this second interactive exercise is provided below. To access all of the comments received during this exercise and the other interactive exercises for this workshop, see the project web page at: <https://www.sandiegocounty.gov/pds/CommunityGroups/vcroadstudy/>

## CORRIDOR PRIORITIES

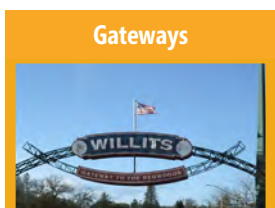
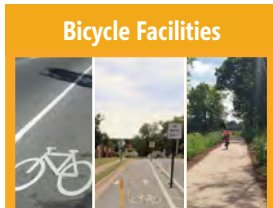
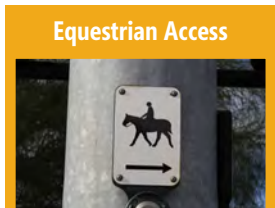
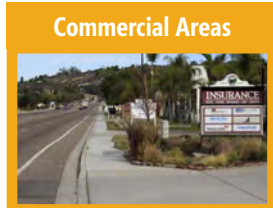
Participants were asked to identify their top three priorities they would like to see on Valley Center Road during the corridor priorities interactive exercise. Participants were given numbered stickers that were placed on two large boards displaying various roadway treatments. Below, are the top three preferred treatments workshop participants would like to see within the study area.

### TOP 3 PREFERRED TREATMENTS

Out of 139 numbered stickers placed, the top three preferred treatments are:



### OTHER REFERENCED TREATMENTS RECEIVING VOTES



## ROUNDBABOUTS VS. SIGNALS

The project team presented on the tradeoffs and best practices associated with potential design solutions for the corridor. After the presentation, participants were asked to fill out a worksheet listing the pros and cons associated with roundabouts and signalized intersections. Below, are the common themes participants noted for roundabouts and signalized intersections.

### ROUNDBABOUTS

#### PROS 45

- Slows traffic speeds, reducing collision frequency and severity
- Improves traffic flow
- Provides landscaping opportunities
- Aesthetically appealing
- Lower maintenance costs

#### CONS 46

- Unfamiliar to many drivers
- Large footprint required, especially to accommodate larger vehicles
- Expensive construction
- Slower speeds may impact mass evacuation
- May be more difficult for pedestrians to cross

### SIGNALIZED INTERSECTIONS

#### PROS 41

- Familiar to drivers (especially non-locals)
- Smaller footprint
- May be less expensive to construct
- May enable faster evacuation in an emergency
- Potentially easier/safer for pedestrians to cross

#### CONS 36

- Congestion and long wait times - more emissions
- Seem prone to collisions; greater collision severity
- Not aesthetically appealing
- Ongoing maintenance costs
- Operations are impacted during power outages



# Overall Takeaways & Next Steps

Below is a list of key takeaways from the workshop:

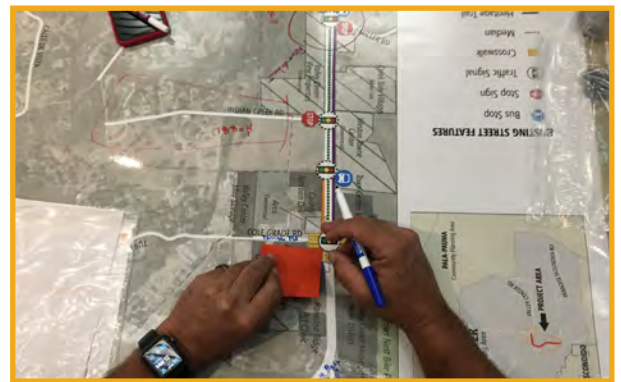
- Many attendees expressed safety concerns related to the high speeds drivers are traveling along the corridor.
- Some attendees brought up concerns about difficult turning movements along the corridor, in particular:
  - U-turns from Valley Center Road westbound, into the Old Town Center parking lot just west of Cole Grade Road
  - Right turns onto Lilac Road from southbound Valley Center Road and the need for a turn lane
  - Ingress/egress turns to and from the small commercial center at Canyon Road and Valley Center Road, near the curve in Valley Center Road
  - Additional comments noting safety issues with ingress/egress at other businesses along the corridor
  - Left turns onto Valley Center Road northbound from Old Road, with high speeds and low visibility
- Some attendees were concerned about the potential for signalized intersections being too close together, which excessively disrupts the flow of traffic and travel times.
- Some attendees noted the difficulties in riding a bike along Valley Center Road, due to the high speeds and not enough separation from cars.
- Some attendees felt that Valley Center Road and the additional road network in the Villages would not be able to handle additional future traffic volumes coming from planned development along the corridor.
- Some attendees highlighted the aesthetic improvements associated with landscaped medians.
- Some attendees pointed out the improved pedestrian atmosphere associated with the Heritage Trail along portions of Valley Center Road, while also pointing out the need to fill in the gaps along the corridor where there is currently no trail or sidewalk.
- Some attendees expressed support for a community gateway feature near Woods Valley Road.

To access all of the input received for the interactive exercises, see the project web page at: <https://www.sandiegocounty.gov/pds/CommunityGroups/vcroadstudy/>

The next steps of this project is the development of roadway concept alternatives and supporting information to inform the development of preferred alternatives.



Workshop participants introducing each other before the workshop



A workshop participant writing down a challenge during the first interactive exercise



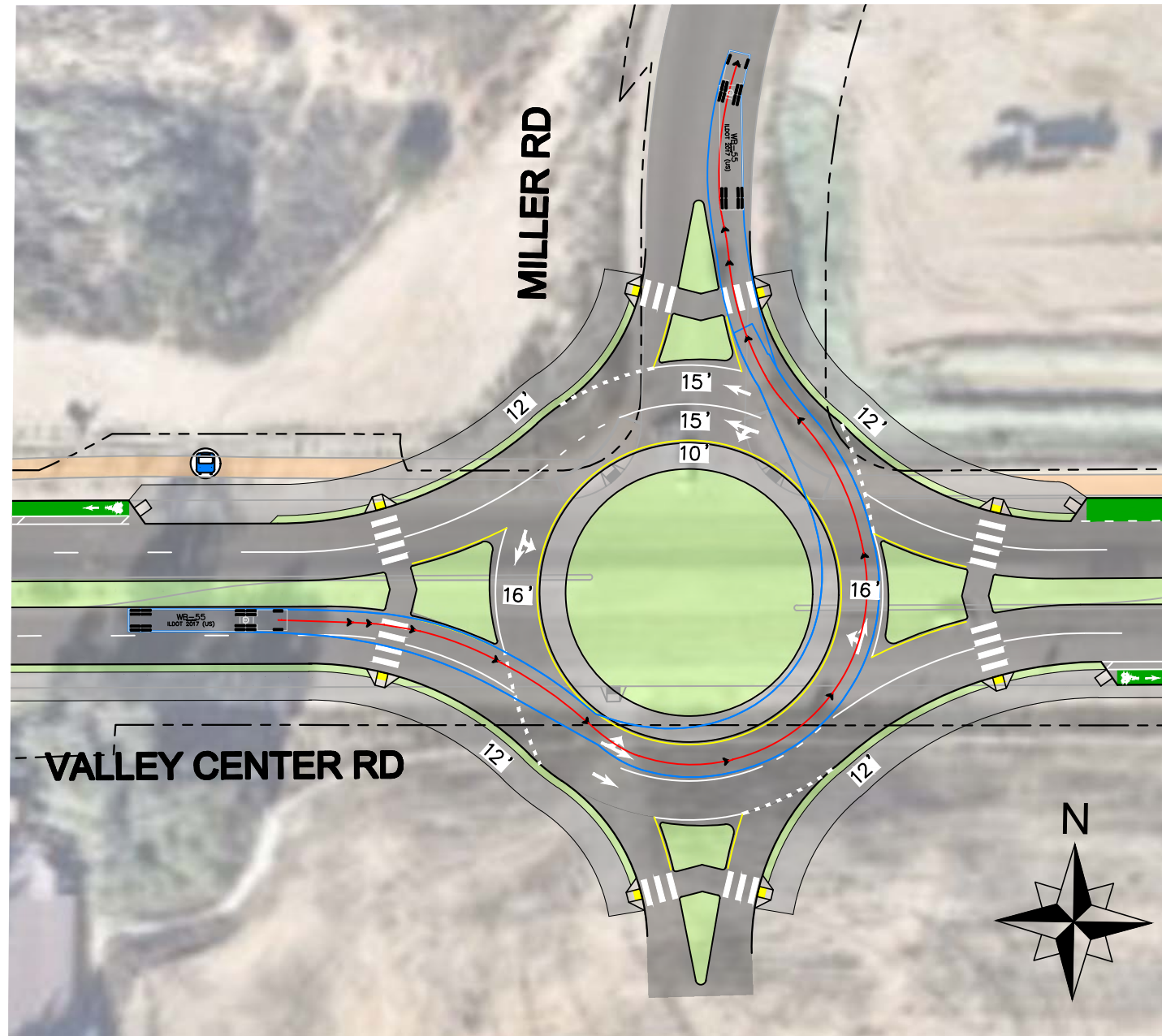
Workshop participants discussing the project area being shown on the display boards



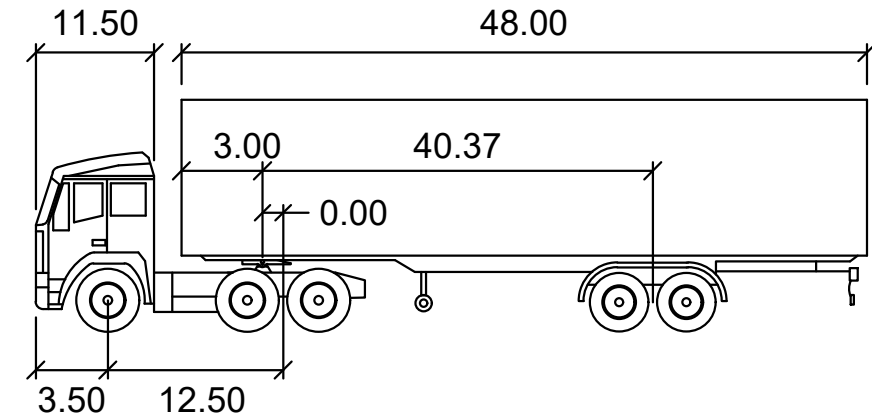
Valley Center Road Corridor Concept Plan

# Appendix K: Miller Roundabout Turn Templates for the Largest Legal Semi-Trucks Utilizing Valley Center Road





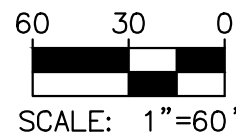
VALLEY CENTER RD - MILLER RD  
TURN TEMPLATE



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 18.1
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		
	: 65.0 Maximum		

— CENTER LINE OF THE VEHICLE  
— WHEEL TRACKING

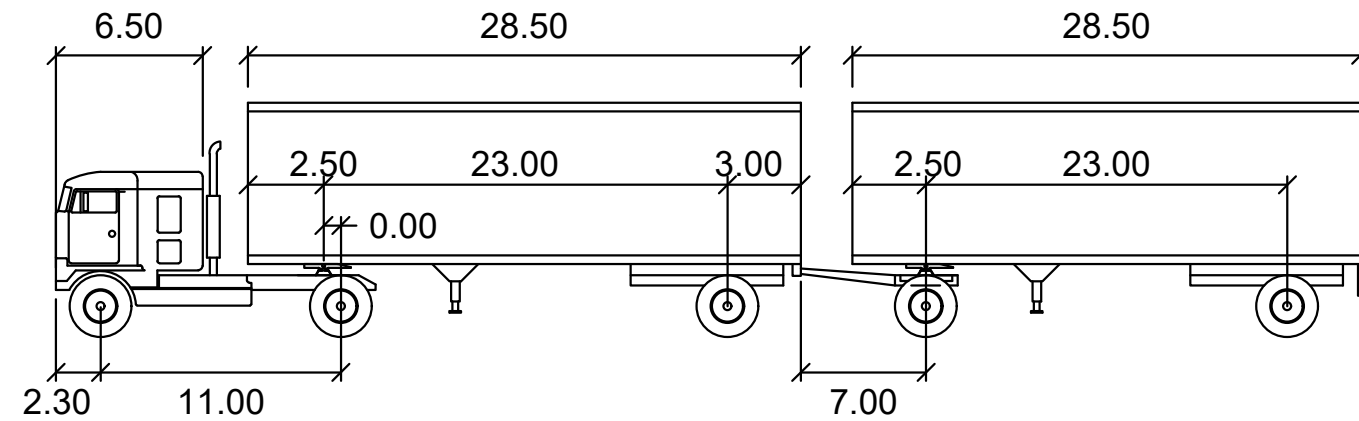
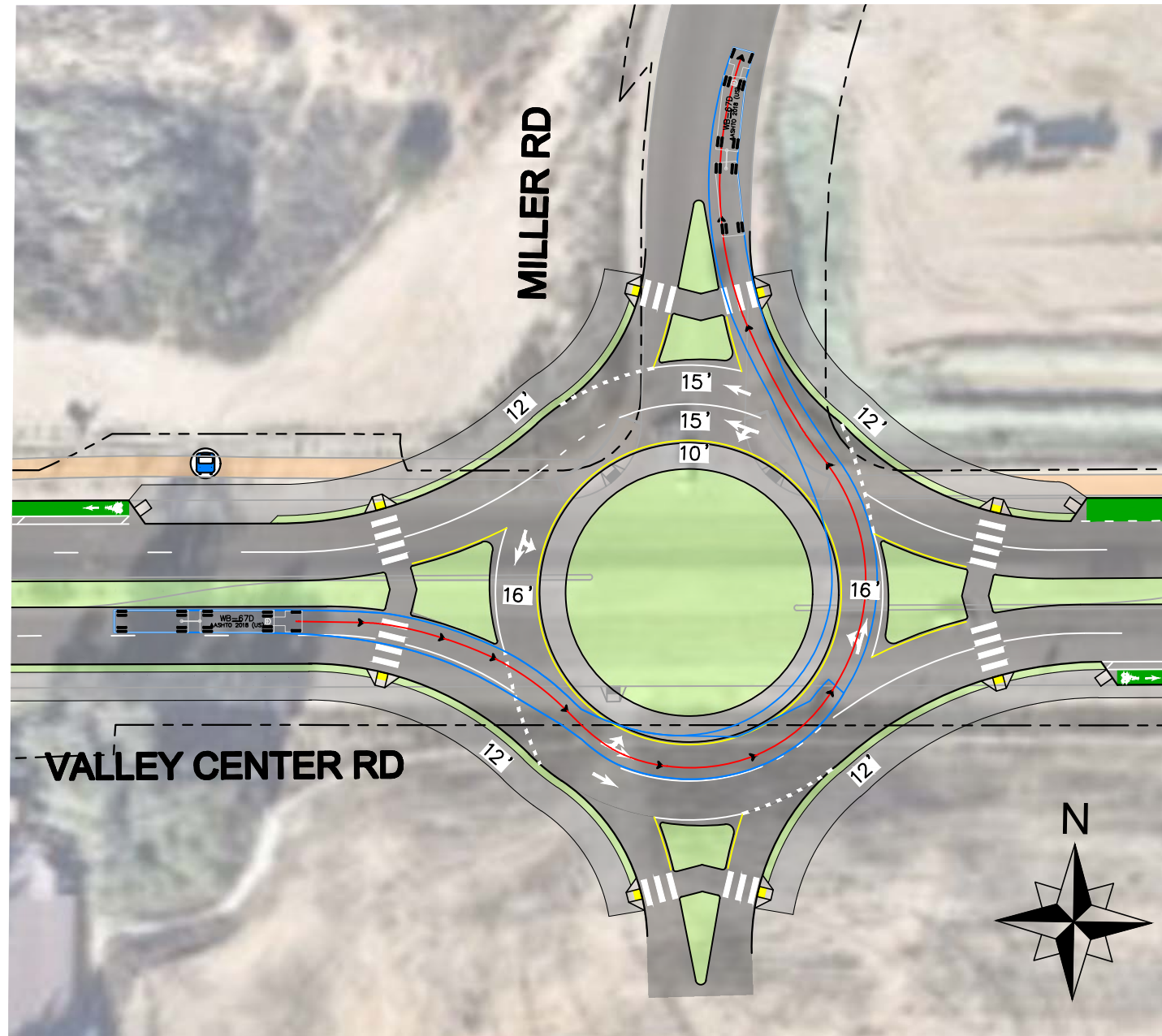


LEGEND

- |                           |                         |                      |                      |
|---------------------------|-------------------------|----------------------|----------------------|
| SIDEWALK                  | CURB                    | CROSSWALK            | BUS STOP             |
| LANDSCAPING               | BIKE LANE LINE          | TRAFFIC SIGNAL       | CURB RAMP            |
| HERITAGE TRAIL            | ROAD STRIPE             | STOP SIGN            | RAISED BIKE CROSSING |
| BIKE LANE TRANSITION AREA | BUFFER WITH DELINEATORS | RIGHT TURN ONLY SIGN | EXISTING DRIVEWAY    |
| BIKE LANE CONFLICT AREA   | RIGHT-OF-WAY            |                      | BIKE RAMP TRANSITION |

**Roundabout Turn Template: CA Legal Semitrailer - Single (65-feet)**  
Dimensions match Department of Transportation for California Legal Trucks

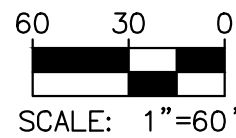
# VALLEY CENTER RD - MILLER RD TURN TEMPLATE



**WB-67D**

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 15.6
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		
	: 75.0 Maximum		

— CENTER LINE OF THE VEHICLE  
— WHEEL TRACKING



## LEGEND

- |                           |                         |                      |                      |
|---------------------------|-------------------------|----------------------|----------------------|
| SIDEWALK                  | CURB                    | CROSSWALK            | BUS STOP             |
| LANDSCAPING               | BIKE LANE LINE          | TRAFFIC SIGNAL       | CURB RAMP            |
| HERITAGE TRAIL            | ROAD STRIPE             | STOP SIGN            | RAISED BIKE CROSSING |
| BIKE LANE TRANSITION AREA | BUFFER WITH DELINEATORS | RIGHT TURN ONLY SIGN | EXISTING DRIVEWAY    |
| BIKE LANE CONFLICT AREA   | RIGHT-OF-WAY            |                      | BIKE RAMP TRANSITION |

**Roundabout Turn Template: CA Legal Semitrailer - Double (75-foot)**  
Dimensions match Department of Transportation for California Legal Trucks



Valley Center Road Corridor Concept Plan

# Appendix L: Valley Center Road Updated Crash Analysis (2019-2023)



## CRASH ANALYSIS (2019-2023)

Crash data was obtained from the Statewide Integrated Traffic Records System (SWITRS) maintained by the California Highway Patrol. The data reviewed covers a five-year period from January 2019 through December 2023. During this time period a total of 151 crashes were reported between Woods Valley Road at the southwest end of the corridor to the northeast end of the corridor in vicinity of Cole Grade Road.

A common method for evaluating the relative safety along the corridor is the crash rate analysis. The crash rate is calculated as follows:

$$\text{Crash Rate (r)} = 1,000,000 * C / (365 * N * V * L)$$

Where: C = Total number of crashes along the segment

N = Number of years of data

V = Number of vehicles per day (both directions)

L = Length of the roadway segment (in miles)

The crash rate for the segment of Valley Center Road from Woods Valley Road to Cole Grade Road is 1.27 crashes per million vehicle miles (MVM). According to Caltrans 2019 Collision Data on California State Highways, the average annual crash rate (3 year rate: 2017 to 2019) for four-lane divided roadways in rural areas is reported to be 1.03 crashes per MVM and 1.25 crashes per MVM in urban areas. Therefore, the crash rate along Valley Center Road is higher than both the rural area average rate and the urban area average rate for a four-lane divided road.

**Figure 1** illustrates the distribution of crashes by crash type and collision factor along the corridor. The following summarizes the findings of the crash analysis.

### **Crash by Location and Severity**

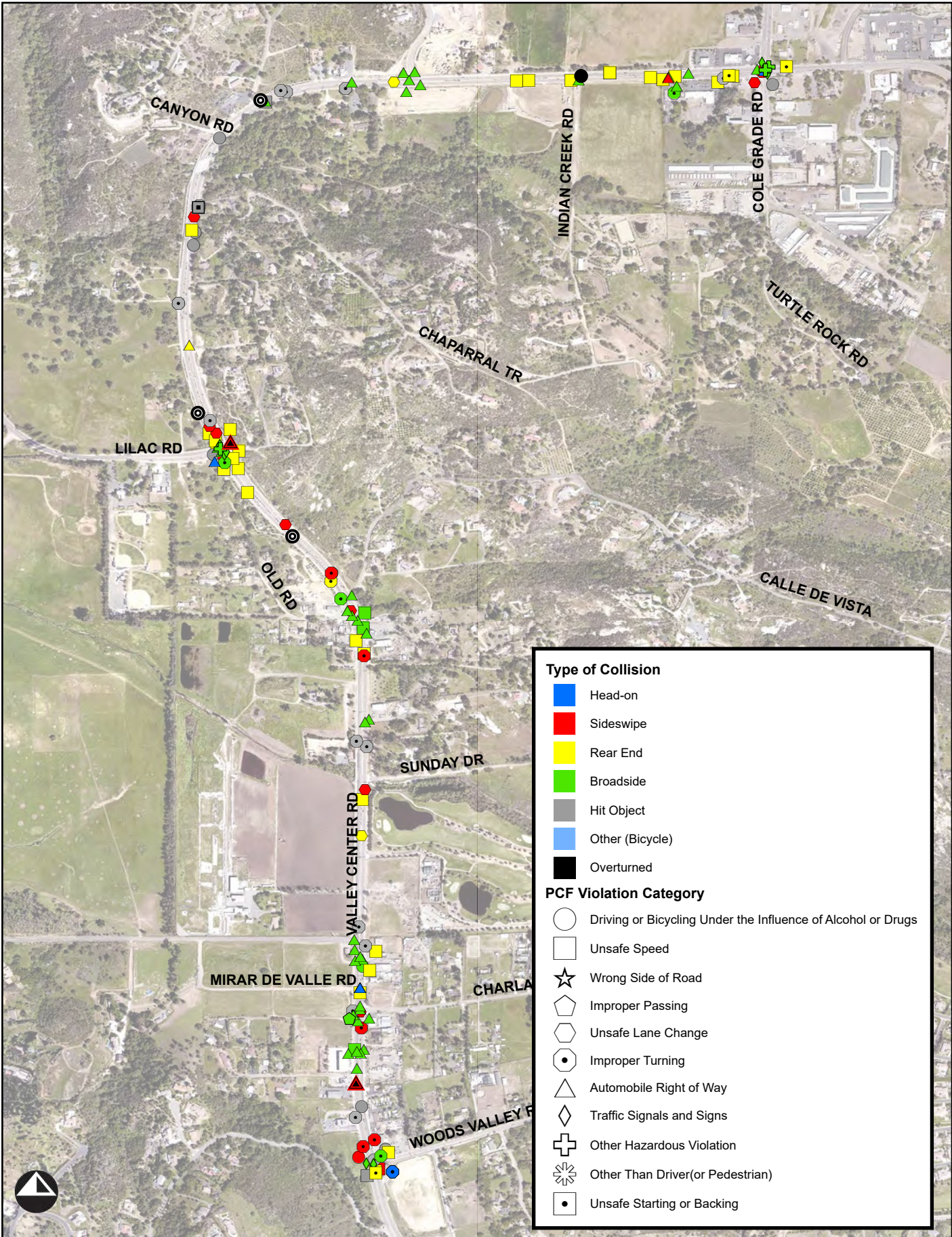
The crash data on Valley Center Road was assessed to determine the location of each incident and assigned to the nearest intersection (within approximately 250-feet). Of the 151 crashes, the majority occurred at or near the three signalized intersections of Cole Grade Road, Lilac Road and Woods Valley Road. Of the unsignalized intersections along the corridor, Chaparral Terrace and Mirar De Valle Road had the highest number of crashes with 14 crashes and 20 crashes respectively. **Table 1** summarizes the crashes by location and severity. As shown in the table, two (2) fatal crashes occurred along the corridor at Mirar De Valle Road and Lilac Road. A total of 11 crashes involved severe injuries and 24 involved other visible injuries. The most prevalent crash type along the corridor was property damage only, with 69 reported incidents out of the total 151 crashes recorded.

**Table 1: Collision Severity by Location**

Crash Locations	Number of Crashes (2019-2023)	Crash Severity				
		Fatal	Severe	Other Visible Injury	Complaint of Pain	Property Damage Only
Woods Valley Road	17	0	0	4	4	9
Rinehart Lane	3	0	0	0	2	1
Charlan Road	8	0	2	1	1	4
Mirar De Valle Road	20	1	1	2	7	9
Sunday Drive	7	0	0	1	1	5
Old Road	7	0	0	3	1	3
Calle De Vista	5	0	0	2	1	2
Lilac Road	26	1	4	2	6	13
Chaparral Terrace	14	0	2	4	3	5
Canyon Road	4	0	1	0	1	2
Miller Road	11	0	0	1	6	4
Indian Creek Road	6	0	0	2	3	1
Cole Grade Road	23	0	1	2	9	11
<b>Total</b>	<b>151</b>	<b>2</b>	<b>11</b>	<b>24</b>	<b>45</b>	<b>69</b>

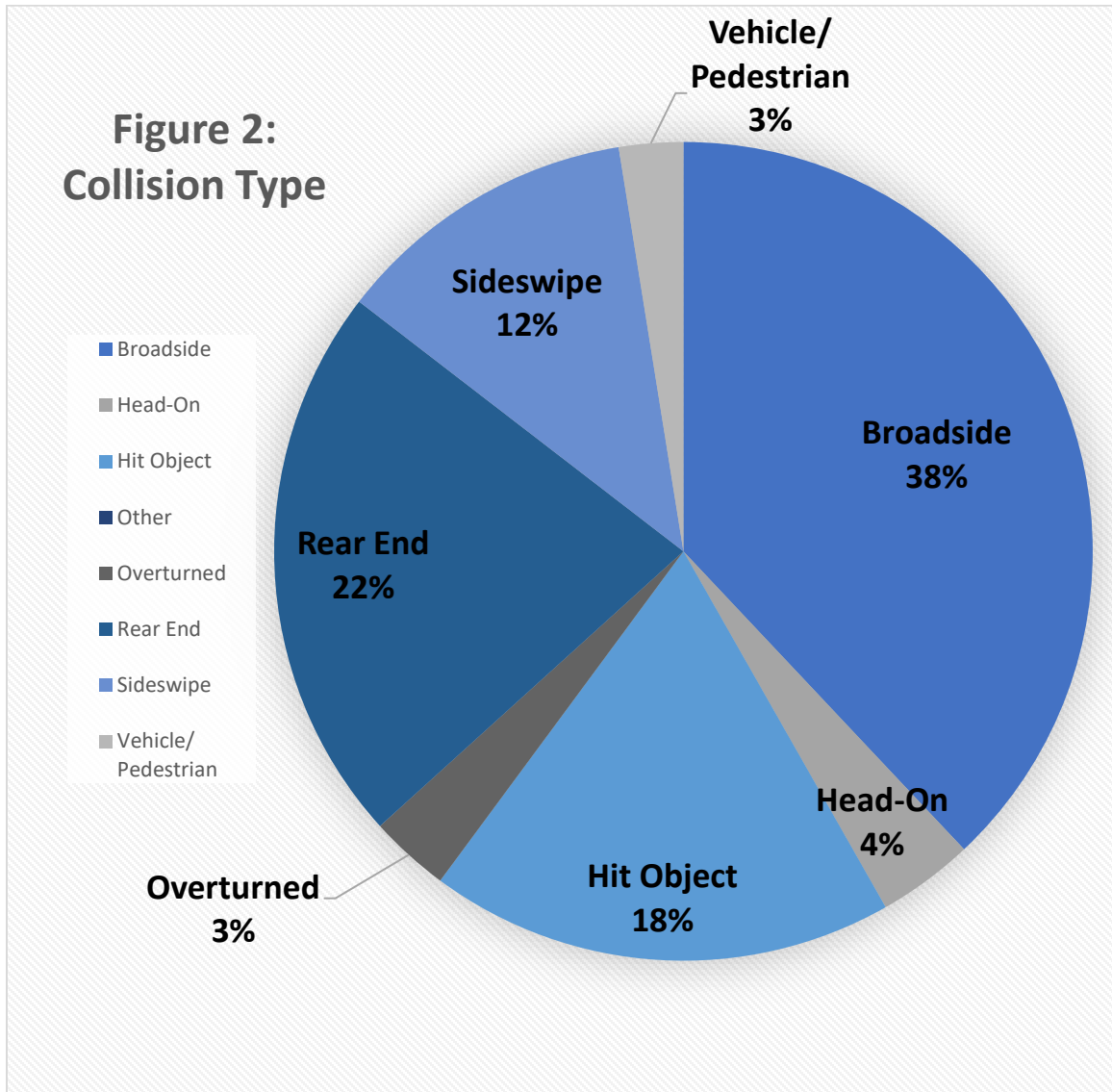
Source: SWITRS Database (1/2019-12/2023)





**Crash by Collision Type**

Of the 151 crashes reported, most were broadside (58 crashes), rear end (35 crashes), or hit object (27 crashes). As shown in **Figure 2**, these three collision types account for 78% of all crashes along the corridor. A breakdown of collision type by intersection is provided in **Table 2**.





**Table 2: Collision Type by Location**

Crash Locations	Number of Crashes (2019-2023)	Collision Type							
		Head On	Sideswipe	Rear End	Broadside	Hit Object	Overturned	Vehicle / Pedestrian	Other
Woods Valley Road	17	1	5	3	4	5	0	0	0
Rinehart Lane	3	0	1	0	3	0	0	0	0
Charlan Road	8	0	2	1	3	0	0	2	0
Mirar De Valle Road	20	2	2	2	12	3	0	1	0
Sunday Drive	7	0	1	2	2	2	0	0	0
Old Road	7	0	2	1	5	0	0	0	0
Calle De Vista	5	0	1	2	3	0	0	0	0
Lilac Road	26	0	11	6	7	5	1	1	0
Chaparral Terrace	14	1	1	5	2	4	1	0	0
Canyon Road	4	0	0	0	0	3	1	0	0
Miller Road	11	0	2	3	6	2	0	0	0
Indian Creek Road	6	0	1	2	1	1	1	0	0
Cole Grade Road	23	1	12	8	10	2	0	0	0
<b>Total</b>	<b>151</b>	<b>5</b>	<b>19</b>	<b>35</b>	<b>58</b>	<b>27</b>	<b>4</b>	<b>4</b>	<b>0</b>

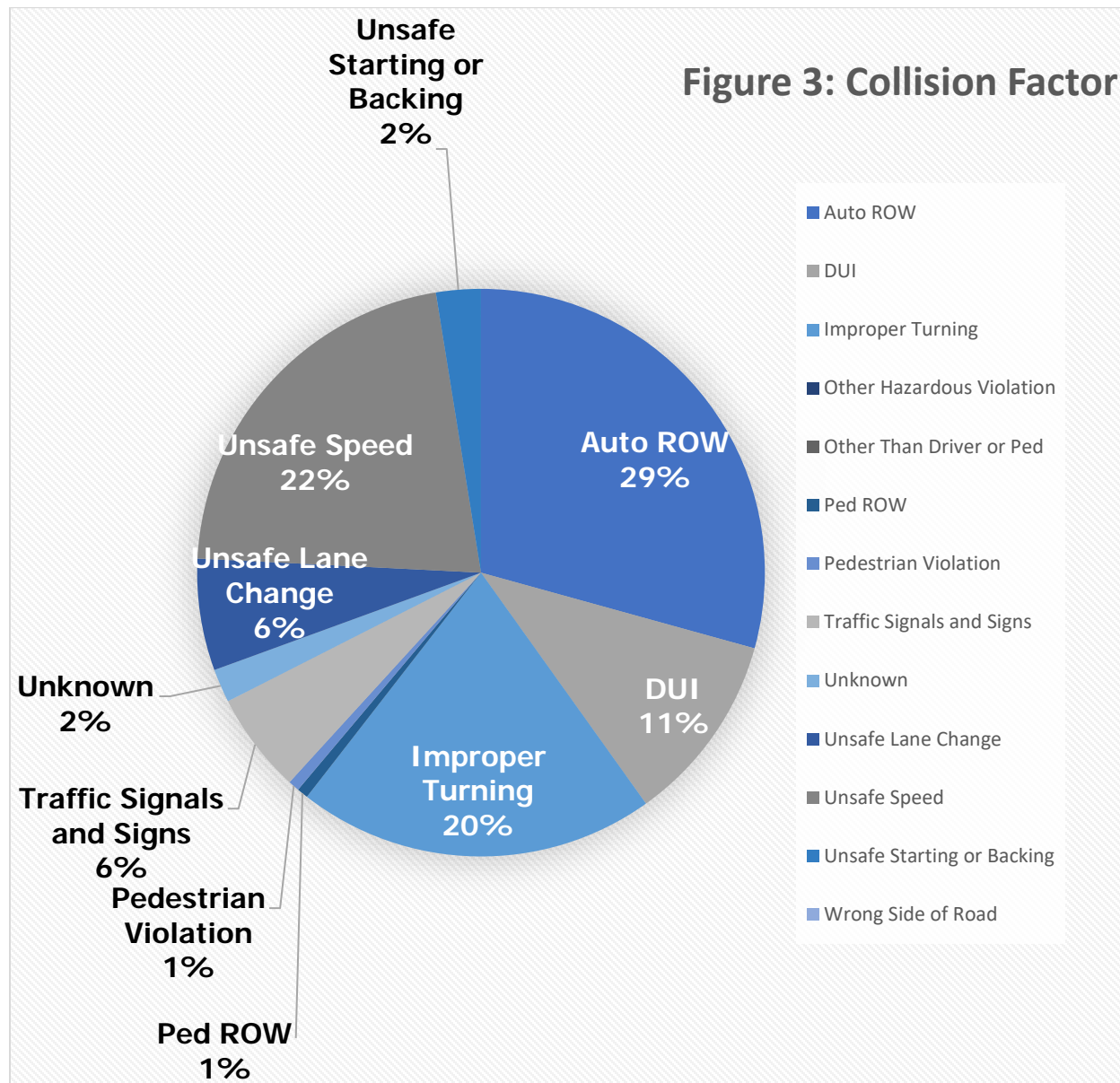
Source: SWITRS Database (1/2019-12/2023)



**Crash by Collision Factor**

Of the 151 crashes reported, 71% of the crashes (107 total incidents) were attributed to either auto right-of-way violations (43 crashes), unsafe speed (34 crashes), or improper turning (30 crashes). Driving under the influence (DUI) accounted for 15 of the 151 crashes reported along the corridor in the five-year period.

**Figure 3** and **Table 3** summarize the collision factor data. Speed data provided with the Existing Conditions memorandum for Valley Center Road indicates that most drivers exceed the posted speed limit. To reduce speed and reduce crashes associated with speed, traffic calming measures and/or geometric modifications to the road are necessary (i.e., installing a roundabout). Improper Turning and Auto ROW also correspond with the broadside collision type.



**Table 3: Collision Factor by Location**

Crash Locations	Number of Crashes (2019-20231)	Collision Factor													
		Unsafe Speed	Auto ROW	Improper Turning	DUI	Unsafe Lane Change	Traffic Signal & Signs	Unsafe Starting or Backing	Other	Other than Driver or Ped	Wrong Side of the Road	Improper Passing	Other Hazard Violation	Ped ROW	Ped Violation
Woods Valley Road	17	4	0	6	3	0	3	1	0	0	0	0	0	0	0
Rinehart Lane	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Charlan Road	8	2	3	1		1	0	0	0	0	0	1	0	0	0
Mirar De Valle Road	20	3	12	3	1	0	0	0	0	0	0	0	0	0	1
Sunday Drive	7	1	2	2	0	2	0	0	0	0	0	0	0	0	0
Old Road	7	2	2	1	1	1	0	0	0	0	0	0	0	0	0
Calle De Vista	5	2	2	1	0	0	0	0	0	0	0	0	0	0	0
Lilac Road	26	4	4	6	5	3	2	0	1	0	0	0	0	1	0
Chaparral Terrace	14	5	2	2	2	1	1	1	0	0	0	0	0	0	0
Canyon Road	4	0	0	3	1	0	0	0	0	0	0	0	0	0	0
Miller Road	11	3	6	1		1	0	0	0	0	0	0	0	0	0
Indian Creek Road	6	2	2	1	1	0	0	0	0	0	0	0	0	0	0
Cole Grade Road	23	6	5	3	1	1	3	2	2	0	0	0	0	0	0
<b>Total</b>	<b>151</b>	<b>34</b>	<b>43</b>	<b>30</b>	<b>15</b>	<b>10</b>	<b>9</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>

Source: SWITRS Database (1/2019-12/2023)

**Pedestrian & Bicycle Involved Collisions**

Of the 151 collisions reported, one collision involved a bicycle. The bicycle involved collision occurred at the intersection of Valley Center Road / Lilac Road. The collision resulted in injury and is attributed to a vehicle code violation.

Four (4) pedestrian involved collisions were reported during the five-year period. The pedestrian collisions occurred at the intersections of Valley Center Road with Charlan Road, Mirar De Valle, and Lilac Road. Of the pedestrian involved crashes, one was due to unsafe speeding, one was due to improper turning, one was due to a vehicle violating the pedestrian ROW, and one was due to a pedestrian violation. The pedestrian collision at Mirar De Valle Road resulted in a fatality and was also attributed to a pedestrian code violation.

**Time of Day Summary of Collisions**

Collision reports include a summary of the time of day, based on daylight, when the collision occurred. Based on five-year data provided, the majority of the crashes reported occurred during daylight hours. A summary of crashes by time of day is provided below:

- Daylight – 88 crashes
- Dusk / Dawn – 5 crashes
- Dark - Street Lights – 31 crashes
- Dark - No Street Lights – 27 crashes
- Dark - Lights not Functioning – 0 crash

Therefore, non-daylight conditions account for approximately 42% of the crashes along Valley Center Road.