Clairemont Community Plan Update

Mobility Element
Existing Conditions Report

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The City of SAN DIEGO

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1.0 INTRODUCTION

1.1 | Study Background and Purpose

The current Clairemont community plan was approved in 1989, with six amendments incorporated since then. The Clairemont community plan update process was initiated in 2016 to provide direction and guidance for future community growth and development.

This updated plan also serves to describe the community's vision and to identify strategies for enhancing community character and managing change. The Mobility Element is one component of the community plan and directly correlates with the Land Use Element. This relationship supports the ability to plan and provide for a balanced, multimodal transportation network that can meet future community travel demands. Planned transportation networks will be identified in the Mobility Element, developed through an analysis of existing and future travel demands and transportation systems operations, and further shaped by community input.

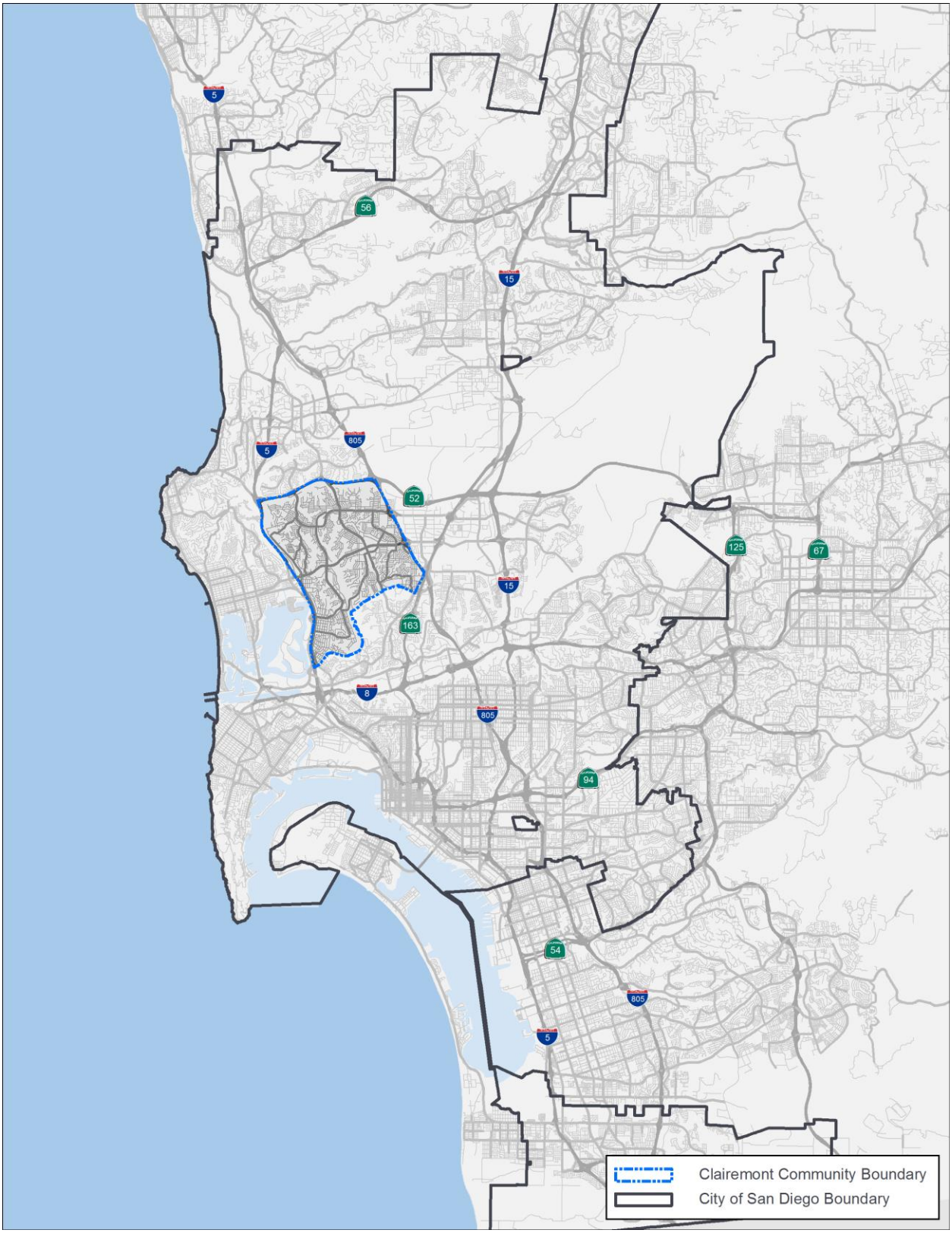
This Existing Conditions Report is the initial step towards updating the Mobility Element. This report provides an analysis of the existing physical and operational conditions related to the mobility system within the Clairemont community. The Clairemont mobility system consists of pedestrian and bicycle facilities, transit bus routes and stops, regional freeways, and local roadways. Each mode is discussed throughout the following chapters. This report also includes a description of the methodologies used to analyze each mode.

1.2 | Study Location

The Clairemont planning area includes approximately 9,000 acres in the center of the City of San Diego. The community is bound on the west by Interstate 5 (I-5) and on the east by Interstate 805 (I-805) and State Route 163 (SR-163). The northern community boundary runs along SR-52. The southern boundary generally follows Tecolote Canyon and the southern portion of Genesee Avenue. **Figure 1-1** displays the Clairemont community planning area within the San Diego region.

Clairemont is comprised primarily of residential land uses, with commercial and industrial land uses scattered throughout the community. Several topographic features – including canyons and plateaus – are present throughout the community, and can create challenges to mobility and accessibility.

Figure 1-1. Clairemont Community Vicinity



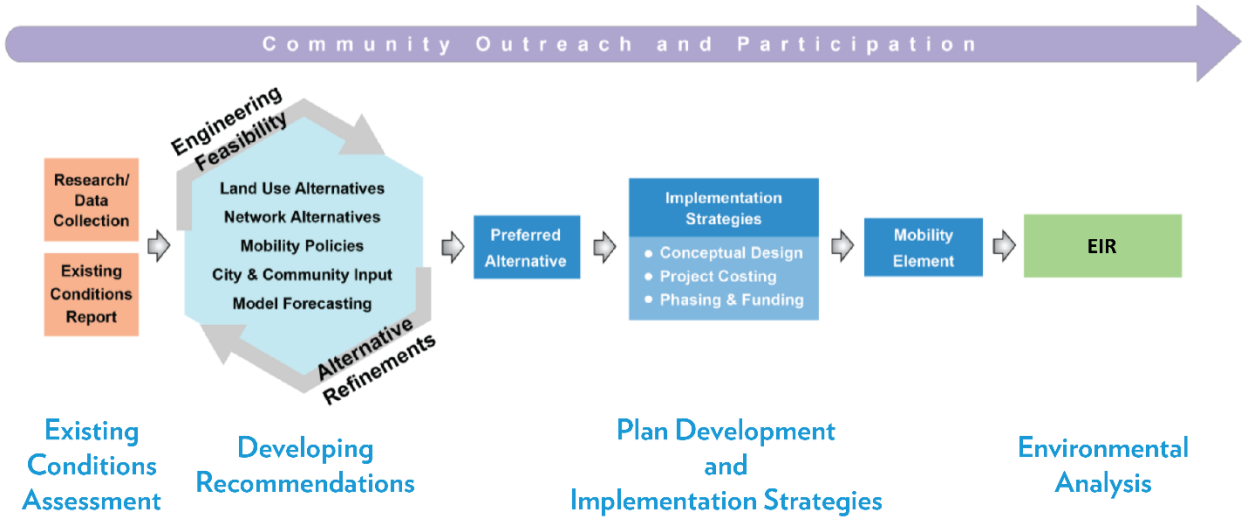
1.3 | Supporting Information

Several previously-published planning documents will be used to guide the development of proposed improvements to the mobility network in Clairemont. A more complete synopsis of these documents and their relationship to the Clairemont community are provided in Chapter 3. Additionally, the proposed improvements included in the CPU will be incorporated into future local and regional planning efforts.

1.4 | Community Plan Update Process

A four-phased planning process is being undertaken for the Clairemont Mobility Element process as depicted in **Figure 1-2** below.

Figure 1-2. Community Plan Update Process



Existing Conditions Assessment: This comprehensive existing conditions report was prepared for Clairemont addressing pedestrian, cycling, transit and vehicular systems and associated travel behaviors. Travel demands, deficiencies, opportunities and constraints were extensively analyzed and documented for each mode.

Developing Recommendations: This phase will focus on identifying and crafting a vision for overall mobility in Clairemont, and then developing policy language and mobility network recommendations to help achieve the vision. This phase will be supported by significant community, City staff, and other key stakeholder's involvement.

Plan Development and Implementation Strategies: Following the development of a preferred network, the Mobility Element document will be initiated. The Mobility Element will summarize existing conditions and issues for each mode, supporting policies, and plan proposals. Implementation strategies will also be developed at this stage, including conceptual designs, project costing, project phasing and the identification of potential funding sources.

Environmental Analysis: An Environmental Impact Report (EIR) is anticipated for the Community Plan Update. The Transportation Section of the EIR will analyze and disclose potentially significant traffic impacts, as well as mitigation measures to lessen the impacts. The EIR will be circulated for a public review period to receive

comments. The project team will provide responses to the comments and identify and disclose any modifications to the Community Plan, if applicable, before being considered by City Council.

1.5 | Organization of the Report

Following this introductory chapter, the report is organized as follows:

- **Chapter 2** describes the methodologies used to analyze existing conditions of the Clairemont mobility network
- **Chapter 3** summarizes planning documents relevant to the Clairemont Mobility Element
- **Chapter 4** describes the existing conditions for the pedestrian and cycling environments, the transit system, and roadways and freeways. An overview of Intelligent Transportation Systems (ITS), Transportation Demand Management (TDM), airports, passenger rail, and goods movement within the community is also provided.
- Chapter 5 concludes with a summary of key mobility needs to be considered as the planning process moves forward.

2.0 ANALYSIS METHODOLOGY

The following section describes the processes and methodologies used for analyzing existing conditions for pedestrian, bicycle, transit, and vehicular network conditions within Clairemont.

2.1 | Pedestrian Facilities Assessment

Existing pedestrian conditions were evaluated using a variety of metrics which are described in more detail below.

2.1.1 | PEDESTRIAN DEMAND

The City of San Diego's Pedestrian Priority Model (PPM) was used to evaluate the relative pedestrian demand within the Clairemont community. The PPM evaluates pedestrian demand based on existing land use and other characteristics within the built environment. The PPM determines demand based on three types of amenities: pedestrian trip attractors, trip generators, and trip detractors. A summary of land uses and other amenities in each category is shown below in **Table 2-1.**

Table 2-1. Factors Contributing to Pedestrian Demand

Category	Pedestrian Demand Factors
Attractors	Schools, Universities, Neighborhood Civic Facilities, Neighborhood and Community Retail, Parks and Recreation Facilities, Proximity to and Ridership at Transit Stops/Stations
Generators	Population and Employment Density, Age, Income, Disability Density, Mixed Land Density
Detractors	Collisions, Traffic Volumes, Traffic Speeds, Lack of Street Lighting, Barriers

Source: City of San Diego (2017)

Using the above factors, the PPM identifies pedestrian propensity land uses and population concentrations. The PPM also considers factors indicating potential pedestrian barriers or safety issues. Using the PPM, high pedestrian demand areas were identified and are described in more detail in **Section 4.1.1**.

The PPM was also used to determine the Pedestrian Study Area, which was used in the pedestrian quality and connectivity assessments. A more thorough explanation of the approach used to assess pedestrian quality and connectivity is included in **Section 2.1.3** and **2.1.4**, respectively.

2.1.2 | PEDESTRIAN SAFETY (INFORMATIONAL, ANALYZED FOR EXISTING CONDITIONS ONLY)

In order to further understand existing pedestrian safety issues, a pedestrian safety assessment was performed. Pedestrian safety was evaluated using collision data obtained from the City of San Diego Police Department's Crossroads software (SDPD) and the University of California Berkeley's Transportation Injury Mapping System (TIMS) for the period from January 2011 through December 2015. Collisions from both SDPD and TIMS are geocoded and mapped to display the locations of pedestrian-involved collisions within Clairemont.

The location and concentration of pedestrian-related collisions was taken into consideration when developing the Pedestrian Study Area, as locations with two or more collisions between 2011 and 2015 were included in the

pedestrian quality and connectivity assessments. A map showing the spatial distribution of pedestrian-related collisions is also included.

Several tables were also created to further understand pedestrian safety issues and trends within the community. These include high-frequency collision locations, cause of collisions, party at fault, and collision location types. The collision location types are differentiated between intersection, midblock, and approaching/departaing. Collisions that occurred within 100 feet of the center of the intersection, to account for vehicles that are queued at the intersection control, were identified as intersection collisions. Collisions that occurred between 100 feet and 350 feet from the center of the intersection were identified as approaching/departing collisions. This net 250 feet is reflective of the stopping sight distance of a vehicle travelling at 35 mph. Collisions that occurred at a distance over 350 feet away from the center of the intersection were identified as mid-block collisions.

Sidewalk and crosswalk data was obtained from the City of San Diego and mapped to display locations of missing facilities within the community. The length of missing sidewalk and the number of missing crosswalks within the Pedestrian Study Area is also summarized.

Each of the figures and tables mentioned above are located in **Section 4.1.2**.

2.1.3 | PEDESTRIAN ENVIRONMENT QUALITY EVALUATION (PEQE)

A pedestrian quality assessment was performed to understand the overall quality of existing pedestrian facilities within the Pedestrian Study Area. The Pedestrian Study Area includes areas which meet one or more of the following criteria:

- **Existing Pedestrian Demand**: areas with a PPM score that is one standard deviation above the community-specific mean
- **Pedestrian Safety**: locations with two or more pedestrian collisions over the previous five year period
- **Proximity to Transit**: areas within ½-mile of major transit stops[1]

The quality of all existing pedestrian facilities (roadway segments, intersection crossings, and mid-block crossings) within the Pedestrian Study Area were evaluated using the Pedestrian Environment Quality Evaluation (PEQE) tool. Pedestrian facilities were assessed using the criteria described below in **Table 2-2**, and given a score of High, Medium or Low, based upon the following scoring system:

- *Low: PEQE* < 4 points
- *Medium: PEQE* = 4 – 6 points
- *High: PEQE* > 6 points

Exhibits showing the existing PEQE scores for facilities within the Pedestrian Study Area are included in **Section 4.1.3**. A more detailed table summarizing the PEQE scores for select pedestrian facilities within the Pedestrian Study Area are included in **Appendix A-1**.

[1] Major transit stops are defined as stations containing a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

Table 2-2. Pedestrian Environment Quality Ranking System

Facility Type	Measure	Description/Feature	Scoring
Segment between two intersections	Horizontal Buffer	Between the edge of auto travel way and the clear pedestrian zone	0 point: < 6 feet 1 point: 6 - 14 feet 2 points: > 14 feet
	Lighting		0 point: below standard/requirement 1 point: meet standard/requirement 2 points: exceed standard/requirement
	Clear Pedestrian Zone	5' minimum	0 point: has obstructions 2 points: no obstruction
	Posted Speed Limit		0 point: > 40 mph 1 point: 30 - 40 mph 2 points: < 30 mph
		Maximum	8 points
Intersection – Individual Crossing	Physical Feature	Enhanced/High Visibility Crosswalk Raised Crosswalk/Speed Table Advanced Stop Bar Bulb out/Curb Extension	0 point: < 1 feature per ped crossing 1 point: 1 – 2 features per ped crossing 2 points: > 2 features per ped crossing
	Operational Feature	Pedestrian Countdown Signal Pedestrian Lead Interval No-Turn On Red Sign/Signal Additional Pedestrian Signage	0 point: < 1 feature per ped crossing 1 point: 1 – 2 features per ped crossing 2 points: > 2 features per ped crossing
	ADA Curb Ramp		0 point: no existing curb ramp 1 point: existing curb ramp is below standard/requirement 2 points: curb ramp meets standard/requirement
	Traffic Control		0 point: No control 1 point: Stop sign controlled 2 points: Signal/ Roundabout/Traffic Circle
		Maximum	8 points
Mid-block Crossing	Visibility		0 point: w/o high visibility crosswalk 2 points: with high visibility crosswalk
	Crossing Distance		0 point: no treatment 2 points: with bulb out or median pedestrian refuge
	ADA		0 point: no existing curb ramp 1 point: existing curb ramp is below standard/requirement 2 points: curb ramp meets standard/requirement

Facility Type	Measure	Description/Feature	Scoring
	Traffic Control		0 point: No control 1 point: Pedestrian Activated Warning Device (In-pavement, RRFB, etc) 2 points: Signal/Pedestrian Hybrid Beacon (HAWK)
Maximum			8 points

Source: City of San Diego (2017)

2.1.4 | PEDESTRIAN NETWORK CONNECTIVITY

Pedestrian network connectivity was evaluated within the Pedestrian Study Area as described above in **Section 2.1.3**. The Walkshed Ratio is calculated using the approach as described below.

Walkshed Ratio

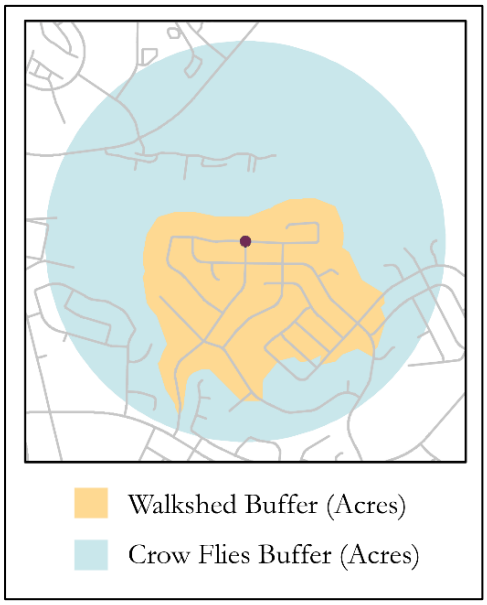
Before assessing pedestrian network connectivity within the Pedestrian Study Area, the pedestrian network itself was developed. The most current roadway GIS data, provided by SanGIS, was used as a base for developing the network. Pedestrian connections including pathways through large parking lots, pathways within Mesa Community College, parks, trails, and walkways with shopping centers were manually added to the based network to more accurately reflect the existing pedestrian network. Additionally, segments without pedestrian connections were manually removed.

Using the pedestrian network, a Walkshed Ratio was calculated for study intersections within the Pedestrian Study Area. The Walkshed Ratio assesses the level of connectivity provided at each of the studied intersections within the Pedestrian Study Area. The Walkshed Ratio was calculated by comparing the land area accessible within a ½-mile pedestrian network buffer to the land areas accessible within a ½-mile as-the-crow-flies buffer. The higher the Walkshed Ratio, the better the overall connectivity is at the intersection[2]. The Walkshed Ratio utilizes the following formula:

$$\frac{\text{Land Area Accessible within a 0.5 mile walkshed (acres)}}{\text{Land Area Accessible within a 0.5 mile crow flies buffer (acres)}}$$

An illustration of the variables that are used to compute a Walkshed Ratio is included in Figure 2-1. An overview of the existing Walkshed Ratio analysis for existing conditions at intersections within the Pedestrian Study Area is provided below in Section 4.1.4[3].

Figure 2-1. Example Walkshed Ratio



[2] 65% is typically the highest Walkshed Ratio that can be achieved in even the most ideal communities (i.e. urban downtown settings with tight grid networks). Therefore, any community with a connectivity ratio over 50% may be considered ideal.
[3] Future conditions will only show different results if new roadway or pedestrian facilities are identified as proposed improvements.

2.2 | Bicycle Facilities Assessment

Existing bicycle conditions were evaluated using a multi-faceted approach which is described in more detail below.

2.2.1 | BICYCLE DEMAND

The City of San Diego's Bicycle Demand Model (BDM) was used to evaluate facilities with high cycling demand or places warranting relatively higher considerations for bicycle infrastructure improvements within the Clairemont community. The BDM analyzes two components of demand: intra-community travel and inter-community travel. The Intra-community demand submodel is based on population characteristics combined with bicycle trip attractors and generators within the community. The inter-community demand model is based on higher intensity areas and their proximity to land uses typically associated with higher rates of cycling activity. A summary of land uses and other amenities in each category is shown below in **Table 2-3**.

Table 2-3. Factors Contributing to Bicycling Demand

Category	Cycling Demand Factors
Attractors	Schools, Universities, Neighborhood Civic Facilities, Neighborhood and Community Retail, Parks and Recreation Facilities, Proximity to and Ridership at Transit Stops/Stations
Generators	Population and Employment Density, Age, Income, Disability Density, Mixed Land Density

Source: City of San Diego (2017)

Using the BDM, high bicycling demand roadway segments were identified and are described in more detail in **Section 4.2.1**.

The BDM was also used to determine the Bicycle Study Area, which is used in the bicycle quality and connectivity assessments. A more thorough explanation of the approach used to assess bicycle quality and connectivity is included in **Section 2.2.3** and **2.2.4**, respectively.

2.2.2 | BICYCLE SAFETY (INFORMATIONAL, ANALYZED FOR EXISTING CONDITIONS ONLY)

In order to further understand existing bicycle safety issues, a bicycle safety assessment was performed. Bicycle safety was evaluated using collision data obtained from the City of San Diego Police Department's Crossroads software (SDPD) and the University of California Berkeley's Transportation Injury Mapping System (TIMS) for the period from January 2011 through December 2015. Collisions from both SDPD and TIMS were geocoded and mapped to display the locations of bicycle-involved collisions within Clairemont.

The location and concentration of bicycle-related collisions was taken into consideration when developing the Bicycle Study Area, as locations with two or more collisions between 2011 and 2015 were included in the bicycle quality and connectivity assessments. A map showing the spatial distribution of bicycle-related collisions is also included.

Several tables were also created to further understand bicycle safety issues and trends within the community. These include: high-frequency collision locations, cause of collisions, party at fault, and collision location types. The collision location types are differentiated between intersection, midblock, and approaching/departaing.

Collisions that occurred within 100 feet of the center of the intersection, to account for vehicles that are queued at the intersection control, were identified as intersection collisions. Collisions that occurred between 100 feet and 350 feet from the center of the intersection were identified as approaching/departing collisions. This net 250 feet is reflective of the stopping sight distance of a vehicle travelling at 35 mph. Collisions that occurred at a distance over 350 feet away from the center of the intersection were identified as mid-block collisions.

Each of the figures and tables mentioned above are located in **Section 4.2.2**.

2.2.3 | BICYCLE FACILITY QUALITY

This section describes the specific methodology used in the Bicycle Quality / Level of Traffic Stress (LTS) analysis. It consists of two sections:

1. **General Evaluation Criteria:** Defines the general LTS evaluation criteria for all facility types, in accordance with methodology established by the Mineta Transportation Institute in its 2012 report, "Low Stress Bicycling and Network Connectivity."[4]
2. **Key Assumptions:** Provides more detail on the key assumptions employed in this analysis.

General Evaluation Criteria

As defined by the Mineta Institute and shown in **Table 2-4**, LTS utilizes four primary criteria depending on the facility type.

Table 2-4: LTS Criteria by Facility Type

Criterion	Class I / IV Separated Facilities	Class II Bicycle Lanes	Class III and Other Shared Roadways
Speed Limit or Prevailing Speed	N/A (Generally assumed to be LTS 1)	•	•
Street Width (Auto Lanes)		•	•
Bike Lane/Parking Width		•	
Bike Lane Blockage		•	

Source: "Low Stress Bicycling and Network Connectivity," Mineta Transportation Institute, pp. 17-21.

Class I and Class IV Separated Facilities

Traditional LTS presumes separated bicycle facilities to be LTS 1, the lowest level of stress, as they are physically separated from vehicular traffic and therefore unaffected by the auto-centric criteria listed in **Table 2-5**. As explained by the Mineta Institute:

> *Bikeways that are physically separated from motor traffic have the lowest level of traffic stress between intersections, LTS 1. They include standalone paths as well as those that run alongside a road that may be called cycle tracks, sidepaths, or segregated lanes. Means of*

[4] http://transweb.sjsu.edu/project/1005.html

physical separation from motor traffic include, but are not limited to, curbs, raised medians, parking lanes, and flexible bollards.

This category includes shared-use paths as well as bicycling-only facilities. (While there can be some stress in sharing a path with pedestrians, it is not in the same class as traffic danger; it is more akin to congestion which can force a traveler to go slow, and, unlike traffic danger, is rarely a factor that keeps people from riding a bike.)[5]

Class II Bicycle Lanes

Striped Class II bicycle lanes can cover the entire range of LTS levels, and their evaluation depends upon the largest number of criteria. **Table 2-5** shows the criteria for Class II lanes located alongside a parking lane, while **Table 2-6** shows the criteria for Class II lanes not located alongside a parking lane. As explained by the Mineta Institute:

Bike lanes can exhibit the full range of traffic stress. Where they have ample width and are positioned on a road whose traffic is slow and simple (a single lane per direction), they can offer cyclists a low-stress riding environment. However, bike lanes can also present a high-stress environment when positioned on roads with highway speeds or turbulent traffic, or next to high-turnover parking lanes without adequate clearance.[6]

Assigning a segment's LTS level requires identifying the "weakest link" among all criteria:

For any given segment, these criteria aggregate following the weakest link principle: the dimension with the worst level of stress governs. For this reason, traffic stress levels in the tables that follow use notations such as "LTS > 2," which means the factor puts a floor on traffic stress at level 2. For example, if a segment's street width matches the criteria for LTS > 1, its prevailing speed matches LTS > 2, and its bike lane blockage matches LTS > 3, then the segment as a whole has LTS 3.[7]

[5] "Low Stress Bicycling and Network Connectivity," Mineta Transportation Institute, p. 17.
[6] "Low Stress Bicycling and Network Connectivity," Mineta Transportation Institute, pp. 17-18.
[7] "Low Stress Bicycling and Network Connectivity," Mineta Transportation Institute, p. 18.

Table 2-5: LTS Criteria for Class II Bike Lanes alongside a Parking Lane

Criterion	LTS > 1	LTS > 2	LTS > 3	LTS > 4
Street width (through lanes per direction)	1	(no effect)	2 or more	(no effect)
Sum of bike lane and parking lane width (includes marked buffer and paved gutter)	15 ft. or more	14 or 14.5 ft.*	13.5 ft. or less	(no effect)
Speed limit or prevailing speed	25 mph or less	30 mph	35 mph	40 mph or more
Bike lane blockage (typically applies in commercial areas	rare	(no effect)	frequent	(no effect)

Source: "Low Stress Bicycling and Network Connectivity," Mineta Transportation Institute, p. 18.
Note: (no effect) = factor does not trigger an increase to this level of traffic stress.
** If speed limit < 25 mph or Class = residential, then any width is acceptable for LTS 2.*

Table 2-6: LTS Criteria for Class II Bike Lanes Not Alongside a Parking Lane

Criterion	LTS > 1	LTS > 2	LTS > 3	LTS > 4
Street width (through lanes per direction)	1	2, if directions are separated by a raised median	more than 2, or 2 without a separating median	(no effect)
Bike lane width (includes marked buffer and paved gutter)	6 ft. or more	5.5 ft. or less	(no effect)	(no effect)
Speed limit or prevailing speed	30 mph or less	(no effect)	35 mph	40 mph or more
Bike lane blockage (typically applies in commercial areas	rare	(no effect)	frequent	(no effect)

Source: "Low Stress Bicycling and Network Connectivity," Mineta Transportation Institute, p. 18.
Note: (no effect) = factor does not trigger an increase to this level of traffic stress.

Class III and Other Shared Roadways

Class III and other shared roadways rely on two criteria—street width and speed—as shown in **Table 2-7**. This evaluation applies both to segments specifically designated as Class III (often marked by signs and sharrows) as well as to all other local roadways that are not marked specifically for bicycles and are therefore implicitly shared. As explained by the Mineta Institute:

> *Where cyclists share space on the road with motor traffic, level of traffic stress is assumed to be unaffected by signage (e.g., "Bike Route" or "Share the Road" signs), shared-lane markings, or having a wide outside lane. Studies of shared-lane markings have shown that*

they have a small beneficial effect but nothing comparable to the benefit of designating an exclusive bicycling zone by marking a bike lane.[8]

Table 2-7: LTS Criteria for Class III Shared Roadways

Speed Limit	Street Width		
	2-3 lanes	4-5 lanes	6+ lanes
Up to 25 mph	LTS 1 or 2 *	LTS 3	LTS 4
30 mph	LTS 2 or 3 *	LTS 4	LTS 4
35+ mph	LTS 4	LTS 4	LTS 4

Source: "Low Stress Bicycling and Network Connectivity," Mineta Transportation Institute, p. 21.
Note: Use lower value for streets without marked centerlines or classified as residential and with fewer than 3 lanes; use higher value otherwise.

Key Assumptions

Applying the general LTS methodology to the specific conditions of Clairemont requires several data sources and key assumptions. The sources and key assumptions for each criterion are:

- Traffic Speed: The 85th percentile speed limit for vehicular traffic, gathered from field observation.
- Street Width (Auto Lanes): The number of auto through lanes in each direction, gathered from field observation as well as functional classification data.
- Bike Lane/Parking Width: Assumed standard widths of 5 feet for all Class II bicycle lanes and 8 feet for all parking lanes alongside Class II bicycle lanes.
- Bike Lane Blockage: This criterion is categorized simply into "Frequent" and "Rare," with "Frequent" generally applying only in busy commercial districts. Assumed "Rare" for all areas with Class II bike lanes.

2.2.4 | BICYCLE NETWORK CONNECTIVITY

The overall connectivity of the bicycle network measures the accessibility it provides to the community, particularly to and from bicycle-oriented land uses. This is measured in two ways, both using the ArcGIS Network Analyst tool:

1) Bikeshed Ratio
2) Low-Stress Bicycle Connectivity

The first step is identifying the community's bicycle land uses in order to develop a bicycle study area within the community. **Table 2-8** identifies land use types associated with bicycle trip generators and attractors, as well as land uses that should not be considered in this evaluation. These land uses are consistent with the BDM's Intra-community submodel, except where noted.

This analysis identified bicycle land uses in each of the community's 82 Traffic Analysis Zones (TAZs), making the bicycle study area the entire community of Clairemont.

[8] "Low Stress Bicycling and Network Connectivity," Mineta Transportation Institute, pp. 20-21.

Table 2-8: Bicycle Land Use Categories

Generators	Attractors	Not Included as Bicycle Land Uses
Residential Land Uses[1]	Retail	Retail Catering to Automobiles/Automobile Services (car dealers, service stations, etc.)
	Office[2]	Passive or Low-Intensity Recreation (Golf Courses, etc.)/Open Space/Preserves
	Class I Bike Path Access Points	Communications/Utilities Infrastructure
	Transit Stations	Industrial/Warehousing/Junkyards/Landfills
	Parks/Recreational Uses/Beaches	Agricultural
	Schools/College/ Universities	Police/Fire Stations
	Neighborhood Civic Uses	Military Base
	Inter-community Access Points[3]	

Source: City of San Diego (2017)

Notes:

1. *The Intra-community BDM submodel includes population densities by various types, such as youth, bicycle commuters, and zero-vehicle households. This input has been simplified as "residential land use" for the purposes of the connectivity assessment since having all inputs by TAZs will facilitate GIS analysis processes.*
2. *Office land uses were not included in the PPM or the BDM, but were deemed as possibly important at the community level.*
3. *Inter-community Access Points were not included in the Intra-Community submodel since that facet of travel was modeled via the Inter-community submodel. These connection points just outside the community were deemed as important attractions for this community-level connectivity assessment.*

Bikeshed Ratio

The Bikeshed Ratio measures overall bicycle connectivity from any given point, by comparing the area reachable via the bike network within a given travel distance (the "bikeshed") to the area of an "as the crow flies" circle covering the same travel distance:

$$\frac{\text{Area accessible via the bicycle network by traveling distance X}}{\text{Area accessible "as the crow flies" by traveling distance X}}$$

A higher Bikeshed Ratio at a given point indicates that the network provides better overall bicycle connectivity from that location. Due to the presence of natural features and other constraints, 65% is typically the highest Bikeshed Ratio that can be achieved in even the most ideal communities. In general, any score over 50% is considered ideal.

This analysis examined over 1,300 points in the community's bicycle network—including intersections between segments, as well as key inflection points along segments—to provide a comprehensive picture of the community bicycle connectivity. The analysis focused specifically on the area reachable between 0.25 miles and 1.0 mile from each point. (The inner area within 0.25 miles from each point was removed, as it is assumed to be dominated by pedestrian trips.)

The ArcGIS Network Analyst tool conducted the core analysis using the Service Area function, by generating a doughnut-shaped (0.25-1.0 mile) "service area" for each point that is reachable via the bicycle network. Dividing that land area by the land area of a 0.25-1.0 "as the crow flies" doughnut (1,884.95 acres) yields the Bikeshed Ratio for each point.

Low-Stress Bicycle Connectivity

The Low-Stress Bicycle Connectivity analysis evaluates each TAZ's connectivity to the rest of the community via low-stress routes, characterized as LTS 1 or 2. The analysis assigns each TAZ a connectivity score based on the following ratio:

$$\frac{\text{Number of TAZs accessible via low-stress routes (LTS 1/2 only)}}{\text{Number of TAZs accessible via all routes}}$$

The ArcGIS Network Analyst tool conducted the core analysis in two parts using the Closest Facility function, which creates the shortest available paths to/from each TAZ. The first analysis—producing the numerator of the ratio above—constrained the network to low-stress routes only (classified as LTS 1 or 2), with LTS 3 and 4 routes not only removed as potential pathways, but also acting as barriers to crossing. The second analysis—producing the denominator of the ratio above—analyzed paths between TAZs using the entire bicycle network, with potential routes unconstrained by high-stress paths.

This results in each TAZ with bicycle land uses being assigned a percentage reflecting its level of connectivity to other TAZ's with bicycle land uses in the community.

2.3 | Transit

Existing transit conditions were evaluated using a multi-faceted approach which is described in more detail below.

2.3.1 | TRANSIT DEMAND

Transit Ridership

Transit demand is affected by both current ridership and potential ridership. Transit demand was evaluated for all stations/stops within Clairemont by examining ridership data obtained from MTS and looking at commute mode share as reported in recent US Census Bureau data.

Station Area Potential Ridership

One of the primary factors that determines transit ridership is the proximity of stations to population and employment. To determine the relative level of potential transit ridership within the community, a set of pedestrian walksheds was generated from both major and other transit stops. A pedestrian walkshed of ½-mile was generated around major transit stops, and a ¼-mile walkshed was generated around all other transit stops. Each walkshed was then overlaid on top of population and employment data to determine the number of dwelling units and jobs within walking distance from each transit stop.

Demographic data was obtained from the most recent United States Census information at the Census block level. Using this approach, housing data was obtained from the 2010 Census, and employment data was taken from the 2014 American Community Survey (ACS).

A summary of population and employment within walking distance of each transit stop is included below in Section 4.3.1.

2.3.2 | SAFETY NEAR A TRANSIT STOP/STATION (INFORMATIONAL, ANALYZED FOR EXISTING CONDITIONS ONLY)

Historic collision data was analyzed within 500 feet of each transit station/stop. Collision data was collected from a combination of sources – including the City of San Diego Police Department's Crossroads software and the University of California, Berkeley Transportation Injury Mapping System (TIMS) – for the period from January 2011 through December 2015. Collisions within Clairemont were mapped and taken into consideration when evaluating potential improvements near transit stations or stops.

A map that displays the location of each pedestrian and bicycle collision, over the most recent five-year period, within 500 feet of each transit stop was produced and is included below in **Section 4.3.2**.

2.3.3 | TRANSIT QUALITY

Station Quality: Presence of Amenities

Transit stations and stops were reviewed to identify the presence or absence of the following amenities:

- Shelters
- Benches
- Trash Receptacles
- Station Signs
- Maps/Wayfinding
- Lighting
- ADA compliancy

Table 2-9 outlines the standard amenities that should be provided at transit stations/stops based on the projected daily passenger boardings (across all routes), according to MTS bus stop features guidelines[9].

[9] *Designing for Transit: A Manual for Integrating Public Transportation and Land Development in the San Diego Metropolitan Area*. San Diego Metropolitan Transit Development Board (MTDB). 1993.

Table 2-9. Transit Amenity Standards by Ridership Levels

Amenity	Daily Passenger Boardings by Station/Stop				
	< 50	50 -100	101 -200	201 – 500	> 500
Sign and Pole	X	X	X	X	
Built-in Sign					X
Expanded Sidewalk			X	X	X
Bench		X	X	X	X
Shelter			X	X	X
Route Designations	X	X	X	X	X
Time Table				X	X
Route Map			X	X	X
System Map					X
Trash Receptacle				X	X
Lighting			X	X	X
ADA Compliant	X	X	X	X	X

Source: Design for Transit, MTS (1993)

Amenities by all stations/stops in the Clairemont study area are reported in **Section 4.3.3**, indicating station ridership levels and whether station amenity requirements are met.

Station Quality: Transit Speeds

On-time bus performance can be directly affected by vehicular traffic congestion along roadways serving bus routes. A roadway arterial speed analysis will be used to identify locations where on-time performance is currently underperforming, or may be impacted under future conditions, due to vehicular traffic congestion. To identify areas where roadway congestions affects transit on-time performance, an HCM arterial speed analysis was performed for all bus route serving roadways.

Existing and future peak hour (AM and PM) arterial speeds and LOS are reported, by direction, for all study roadways serving bus routes. The information is presented in tabular and map formats in **Section 4.4**.

2.3.4 | QUALITY CONNECTIONS TO TRANSIT

The latent demand evaluation described under “Transit Demand” indicates the number of potential transit users (residents and employees) within the vicinity of each major stop/station, using a 0.25 mile pedestrian network walkshed and a 0.75 mile bicycle network traveled.

The quality connections assessment draws from the quality walking analysis and quality cycling analysis results (using only “high and medium” quality networks based on the bicycle and pedestrian analysis) to identify quality 0.25 mile pedestrian and 0.75 mile bicycle networks surrounding major transit stations/stops. These distances were defined and based upon information in the San Diego Forward: The Regional Plan, Appendix U4 – SANDAG Regional Transit Oriented Development Strategy, and represent a five-minute travel distance for pedestrians and cyclists.

A Quality Walk Ratio and a Quality Bicycle Ratio were then developed for each major transit station/stop and presented on a map using the following equations:

$$\text{Quality Walk Ratio from Transit} = \frac{\text{Quality Walking Distance from Transit}}{\text{Crow Flies Buffer from Transit}}$$

$$\text{Quality Bike Ratio from Transit} = \frac{\text{Quality Bike Distance from Transit}}{\text{Crow Flies Buffer from Transit}}$$

The resulting Quality Walk Ratio from Transit and Quality Bicycle Ratio from Transit are presented on separate maps, for each major transit station/stop.

2.4 | Vehicular System

The vehicular system within the Clairemont community boundary will be assessed in both existing and future scenarios. The primary study area encompasses the Clairemont Community Planning Area and one segment and intersection beyond the boundary, where not separated by freeways and natural barriers, in order to capture potential transportation impacts to the adjacent communities associated with the Clairemont Community Plan Update.

Roadway Segments: All Circulation Element designated roads, and approximately one segment beyond the community planning area were evaluated for a total of 43 roadway segments.

Intersections: All of the freeway ramp intersections that provide access to the community, and intersections where both streets meet one of the following conditions were evaluated:

- Four or more lanes;
- 3-lanes roadways carrying more than 15,000 ADT; or
- 2-lane roadways carrying more than 10,000 ADT.

Additional intersections needed to conduct arterial analysis were also included for evaluation for a total of 50 study area intersections.

Freeway Segments: All freeway segments within the Community Planning Area and one interchange beyond (approximately 12 bi-directional freeway segments) were also evaluated.

2.4.1 | VEHICULAR DEMAND

Existing demand was determined using a combination of data obtained from vehicular counts conducted in support of this project.

2.4.2 | VEHICULAR SAFETY (INFORMATIONAL, ANALYZED FOR EXISTING CONDITIONS ONLY)

Historic vehicular collision data was obtained from the City of San Diego Police Department's Crossroads software (SDPD) and the University of California Berkeley's Transportation Injury Mapping System (TIMS) for the period from January 2011 through December 2015. This data was geocoded and mapped to display vehicular collision locations in Clairemont. Additional focus was placed on these locations when considering vehicle-related improvements.

Several tables were also created to further understand vehicular safety issues and trends within the community. These include high-frequency collision locations, cause of collisions, party at fault, and collision location types. The

collision location types are intersection, midblock, and approaching/departing. Intersection collisions were considered to have occurred within 100 feet of the center of the intersection to account for vehicles that are queued at the intersection control. Approaching/departing collisions were considered to have occurred between 100 feet and 350 feet from the center of the intersection. This net 250 feet is reflective of the stopping sight distance of a vehicle travelling at 35 mph. Collisions that occurred at a distance over 350 feet away from the center of the intersection were considered mid-block collisions.

2.4.3 | VEHICULAR SYSTEM OPERATIONS - QUALITY

Analysis of the vehicular systems – roadways, intersections and freeways – were prepared for this study in accordance with City of San Diego and SANTEC/ITE Traffic Impact Study Guidelines. The vehicular analysis provides an evaluation of vehicular operations at intersections and along roadway and freeway segments. A description of the methodologies employed to evaluate vehicular travel is outlined throughout this section.

Level of Service (LOS) is a quantitative measure representing the quality of service from the driver's perspective. LOS A represents optimal conditions for the driver, while LOS F represents the worst. **Table 2-10** describes generalized definitions of auto LOS A through F.

Table 2-10. Vehicular Level of Service Definitions

LOS	Characteristics
A	Primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Controlled delay at the boundary intersections is minimal. The travel speed exceeds 85% of the base free-flow speed.
B	Reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67% and 85% of the base free-flow speed.
C	Stable operation. The ability to maneuver and change lanes at mid-segment locations may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed.
D	Less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections. The travel speed is between 40% and 50% of the base free-flow speed.
E	Unstable operation and significant delay. Such operations may be due to some combination of adverse signal progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30% and 40% of the base free-flow speed.
F	Flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is 30% or less of the base free-flow speed. Also, LOS F is assigned to the subject direction of travel if the through movement at one or more boundary intersections have a volume-to-capacity ratio greater than 1.0.

Source: Highway Capacity Manual, Transportation Research Board (2010)

Roadway Segment Analysis

Roadway segment level of service standards and thresholds provided the basis for analysis of arterial roadway segment performance. The analysis of roadway segment level of service is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes. **Table 2-11** presents the roadway segment capacity and LOS standards utilized to analyze roadways evaluated in this report.

These standards are generally used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical and operational attributes. LOS D is considered acceptable for Mobility Element roadway segments in the City of San Diego. Often, a roadway segment that is analyzed to be LOS E or F based on theoretical capacity is found to operate acceptably in practice. In such cases, HCM arterial analysis may be conducted and utilized (or intersection analysis, if arterial analysis is not applicable) to provide a more accurate indication of LOS.

Table 2-11. City of San Diego Roadway Segment Daily Capacity and LOS Standards

Roadway Classification	Lanes	Cross Section	Level of Service				
			A	B	C	D	E
Freeway	8		< 60,000	< 84,000	< 120,000	< 140,000	< 150,000
Freeway	6		< 45,000	< 63,000	< 90,000	< 110,000	< 120,000
Freeway	4		< 30,000	< 42,000	< 60,000	< 70,000	< 80,000
Expressway	6	102 / 122	< 30,000	< 42,000	< 60,000	< 70,000	< 80,000
Prime Arterial	6	102 / 122	< 25,000	< 35,000	< 50,000	< 55,000	< 60,000
Major Arterial	6	102 / 122	< 20,000	< 28,000	< 40,000	< 45,000	< 50,000
Major Arterial	4	78 / 98	< 15,000	< 21,000	< 30,000	< 35,000	< 40,000
Collector (w/ two-way left turn lane)	4	72 / 92	< 10,000	< 14,000	< 20,000	< 25,000	< 30,000
Collector (w/ two-way left turn lane)	3	64 / 92	< 7,500	< 10,500	< 15,000	< 19,000	< 22,500
Collector (w/o two-way left turn lane)	4	64 / 84	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000
Collector (w/ two-way left turn lane)	2	50 / 70					
Collector (no fronting property)	2	40 / 60	< 4,000	< 5,500	< 7,500	< 9,000	< 10,000
Collector (w/o two-way left turn lane)	2	40-50/60-70	< 2,500	< 3,500	< 5,000	< 6,500	< 8,000

Sub-Collector (single-family)	2	36 / 56	-	-	< 2,200	-	-

Source: City of San Diego Traffic Impact Study Manual, Table 2, Page 8, (1998)
With input from City of San Diego Planning Deparment Mobility Staff, 2017

[1] *Cross Section: Curb to Curb width (feet) / Right-of-way width (feet)*

Peak Hour Arterial Analysis

The average travel speed is computed from the running time on the arterial segment(s) and the intersection approach delay. Average speed is strongly influenced by the number of signals per mile and the average intersection delay. On a given facility, factors such as inappropriate signal timing, poor progression, and increasing traffic flow can substantially degrade the arterial LOS.

Table 2-12 shows the LOS thresholds used for the arterial speed analysis. The computerized analysis of arterial speed analysis was performed utilizing the *Synchro 9.0 (2000 HCM methodology)* traffic analysis software (by Trafficware, 2011).

Table 2-12. Arterial Analysis Level of Service Thresholds

Arterial Class	I	II	III
Range of Free Flow Speed (mph)	45 to 35	35 to 30	30 to 25
Typical Free Flow Speed (mph)	40 mph	33 mph	27 mph
Level of Service Analysis	Average Travel Speed		
A	35	30	25
B	28	24	19
C	22	18	13
D	17	14	9
E	13	10	7
F	< 13	< 10	< 7

Source: Highway Capacity Manual, Transportation Research Board (2010)

Peak hour arterial analyses will be conducted along Clairemont Mesa Boulevard, Balboa Avenue, Clairemont Drive, and Genesee Avenue.

Peak Hour Intersection Level of Service Standards and Thresholds

This section presents the methodologies used to perform peak hour intersection capacity analysis, for both signalized and unsignalized intersections. The following assumptions were utilized in conducting all intersection level of service analyses:

- **Pedestrian Calls per Hour**: Obtained from existing pedestrian counts.
- **Heavy Vehicle Factor**: A heavy vehicle factor of two percent will be assumed for all intersections within the study area. Heavy vehicles are defined as vehicles with three or more axles. Two percent is the standard, default heavy vehicle factor provided in HCM and Synchro 9.0 software. This number will be compared with vehicle classification count data collected in support of this project. Any considerable deviations from 2% will be noted and included in the analysis.

- **Peak Hour Factor**: Obtained from existing peak hour counts.
- **Signal Timing**: Obtained from existing signal timing plans (as of January 2017).

Signalized Intersection Analysis

The signalized intersection analysis utilized in this study conforms to the operational analysis methodology outlined in *2000 Highway Capacity Manual (HCM*. This method defines LOS in terms of delay, or more specifically, average control delay per vehicle (seconds/vehicle).

The *2000 HCM* methodology sets 1,900 passenger-cars per hour per lane (pcphpl) as the ideal saturation flow rate at signalized intersections based upon the minimum headway that can be sustained between departing vehicles at a signalized intersection. The service saturation flow rate, which reflects the saturation flow rate specific to the study facility, is determined by adjusting the ideal saturation flow rate for lane width, on-street parking, bus stops, pedestrian volume, traffic composition (or percentage of heavy vehicles), and shared lane movements (e.g. through and right-turn movements sharing the same lane). The LOS criteria used for this technique are described in **Table 2-13**. The computerized analysis of intersection operations will be performed utilizing the *Synchro 9.0 (2000 HCM methodology)* traffic analysis software (by Trafficware, 2011).

Table 2-13. Signalized Intersection Level of Service HCM Operational Analysis Method

Average Control Delay per Vehicle	Level of Service (LOS) Characteristics
<10.0	LOS A occurs when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
10.1 – 20.0	LOS B occurs when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
20.1 – 35.0	LOS C occurs when progression is favorable or the cycle length is moderate. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
35.1 – 55.0	LOS D occurs when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
55.1 – 80.0	LOS E occurs when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
>80.0	LOS F occurs when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: Highway Capacity Manual, Transportation Research Board (2010)

Unsignalized Intersection Analysis

Unsignalized intersections, including two-way and all-way stop controlled intersections were analyzed using the *2000 HCM* unsignalized intersection analysis methodology. The Synchro 9.0 software supports this methodology and will be utilized to produce LOS results. The LOS for a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. The LOS for an all-way stop controlled (AWSC) intersection is determined by the computed or measured average control delay of

all movements. **Table 2-14** summarizes the level of service criteria for unsignalized intersections. Consistent with City policy, LOS D will be used in this study as the minimum acceptable LOS for peak hour intersection operations.

Table 2-14. Level of Service Criteria for Stop Controlled Unsignalized Intersections

Average Control Delay (sec/veh)	Level of Service (LOS)
<10.0	A
10.1 – 15.0	B
15.1 – 25.0	C
25.1 – 35.0	D
35.1 – 50.0	E
>50.0	F

Source: Highway Capacity Manual, Transportation Research Board (2010)

Queuing analysis was also conducted at all of the study area off-ramps, congested and/or closely spaced intersections, and each metered freeway on-ramp during peak hours.

Freeway/State Highway Level of Service Standards and Thresholds

Freeway level of service analysis is based upon procedures developed by Caltrans District 11. V/C and LOS was calculated along freeway segments only, excluding weave, diverge and merge movements. Volume data was obtained from Caltrans Traffic Volumes on California State Highways (2015). Peak hour volumes are estimated from the application of design hour ("K"), directional ("D") and heavy vehicle ("HV") factors to Average Daily Traffic (ADT) volumes.The base capacities were assumed to be 2,350 passenger-car per hour per main lane (pc/h/ln) and 1,800 pc/h/ln for auxiliary lane. A 0.92 peak-hour factor (PHF) is utilized for this analysis.

The resulting V/C ratio is then compared to acceptable ranges of V/C values corresponding to the various levels of service for each facility classification, as shown in **Table 2-15**. The corresponding level of service represents an approximation of existing or anticipated future freeway operating conditions in the peak direction of travel during the peak hour.

LOS D or better is used in this study as the threshold for acceptable freeway operations based upon Caltrans and the SANDAG Regional Growth Management Strategy (RGMS) requirements.

Table 2-15. Caltrans District 11 Freeway Segment Level of Service Thresholds

LOS	V/C	Congestion/Delay	Traffic Description
Used for freeways, expressways and conventional highways			
"A"	<0.41	None	Free flow.
"B"	0.42-0.62	None	Free to stable flow, light to moderate volumes.
"C"	0.63-0.79	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.80-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.

Used for conventional highways			
"F"	>1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.
Used for Freeways and Expressways			
"F0"	1.01–1.25	Considerable (0-1 hour delay)	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
"F1"	1.26-1.35	Severe (1-2 hour delay)	Very heavy congestion, very long queues.
"F2"	1.36-1.45	Very severe (2-3 hour delay)	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
"F3"	>1.46	Extremely severe (3+ hours of delay)	Gridlock.

Source: Highway Capacity Manual, Transportation Research Board (2010)

Ramp Metering Analysis

Ramp metering is a means of controlling the volume of traffic entering the freeway with the goal of improving the traffic operations and flow on the freeway main lanes. Freeway ramp meter analysis estimates the peak hour queues and delays at freeway ramps by comparing existing volumes to the meter rate at the given location.

Meter rates used in the analysis were obtained from Caltrans. Ramp metering analysis to calculate delays at the study area freeway on-ramps were conducted based upon procedures outlined in the *City of San Diego Traffic Impact Study Manual (1998)*.

Ramp metering analysis is conducted at all freeway on-ramps with metering that provide primary freeway outbound access for the community (approximately 11 on-ramps).

2.4.4 | VEHICULAR CONNECTIVITY

Senate Bill 743 (SB 743) was signed into law in September 2013, modifying the existing California Environmental Quality Act (CEQA) by removing auto delay, level of service (LOS), parking and other vehicular capacity measures as metrics of transportation system impacts for mixed-use, infill or transit oriented development projects. Vehicle miles travelled (VMT) is considered the new analysis metric used to measure transportation impacts. VMT is a reflection of the land use type, intensity and location in relation to the capacity and roadway connectivity of the transportation network. It is also influenced by the availability and quality of multimodal facilities, and system operations.

3.0 REVIEW OF RELEVANT LOCAL PLANNING DOCUMENTS

This chapter summarizes the planning documents used to guide and inform the development of future year circulation element alternatives for the Clairemont CPU. Where appropriate, projects and policies which are identified in the following planning documents will be considered as proposed improvements in the CPU.

The documents researched include City of San Diego plans and programs, regional planning documents, and local plans and projects as summarized below:

- City of San Diego General Plan – Mobility Element (Last Amended June 2015)
- Clairemont Mesa Community Plan (1989)
- Clairemont Mesa Public Facilities Financing Plan (2002)
- City of San Diego Capital Improvement Program (2015)
- City of San Diego Climate Action Plan (2015)
- City of San Diego Bicycle Master Plan (2013)
- City of San Diego Pedestrian Master Plan (2006)
- Morena Boulevard Station Area Planning Study (2014)
- Morena Corridor Specific Plan (ongoing)
- Balboa Avenue Revitalization Action Program (2005)
- Balboa Avenue Station Area Specific Plan (ongoing)
- City of San Diego Traffic Unfunded Needs List (2016)
- SANDAG San Diego Forward: The Regional Plan (2015)
- SANDAG San Diego Regional Bike Plan: Riding to 2050 (2010)
- Local Private Development Projects

3.1 | City of San Diego Plans, Programs, and Projects

City of San Diego General Plan – Mobility Element

Adopted in 2008 and amended in 2015, the City of San Diego's General Plan Mobility Element identifies the proposed transportation network and strategies that have been designed to meet the future transportation needs generated by planned land uses in the General Plan. The purpose of the Mobility Element is to *improve mobility through development of a balanced, multi-modal transportation network*. The Mobility Element includes several programs, including but not limited:

- Walkable Communities
- Transit
- Street and Freeway System
- Intelligent Transportation Systems
- Transportation Demand Management
- Bicycling
- Parking management
- Goods Movement/Freight
- Regional Coordination/Financing
- Passenger Rail

Within each of the above programs is series of policies designed to help achieve the goals of the program itself.

Current Clairemont Mesa Community Plan

Adopted in 1989, the Clairemont Mesa Community Plan includes a series of goals and recommendations that guided development in the community for the subsequent 28 years. The Clairemont Mesa Community Plan contains a series of goals and objectives established with input by the residents, property owners, and business owners of the Clairemont Mesa Community, and were also consistent with citywide policies and the time of its adoption. The objectives for transportation include:

- Improve the street system as necessary to accommodate the community's growth, while minimizing adverse effects on existing residential, industrial and commercial uses and the open space system.
- Develop a bicycle system that will join parks and recreational areas, schools, and commercial activity centers in the community and the City.
- Provide an efficient and high level of public transit within and surrounding the community. Design and plan land uses that will support and make use of the future light rail transit.
- Enhance pedestrian circulation, particularly between higher density residential and commercial areas and to active and passive recreational facilities.
- Enhance the community's image through streetscape improvements and community identification signs along major streets.
- Minimize adverse noise impacts on major streets.

The current Community Plan includes recommended changes to the arterial roadway, public transit, and bikeway systems within the Clairemont Mesa community. The following projects are recommendations in the current community plan but have not yet been completed:

- **Balboa Avenue**: roadway widened from 4 lanes to 6 lanes between I-5 and Clairemont Drive, modification of traffic signals, addition of a class II bike lane, and the addition of sidewalks.
- **Genesee Avenue**: Standard curb, gutter, and sidewalk should be constructed on Genesee Avenue from Sauk Avenue to north of Derrick Drive. Widen from five to six lanes between Derrick Drive and Mt. Alifan Drive as adjacent property develops or redevelops. Widen to four lanes with bike lanes from Boyd Avenue south to the community boundary.
- **Morena Boulevard**: Access from Morena Boulevard to I-5 should be improved. The current access route takes motorists from Morena to Clairemont Drive via Ingulf Street, impacting residential neighborhoods. Direct freeway access from Morena Boulevard to I-5 should be provided. A direct ramp from Morena Boulevard to Clairemont Drive should be developed to provide direct access to I-5. This would reduce the through traffic on adjacent residential streets attempting to access the freeway.
- **Morena Boulevard at Tecolote Road**: Modify intersection lane configurations to provide two northbound turn lanes, one southbound left-turn lane, one southbound through/right-turn lane, and an exclusive southbound right-turn lane.
- **Knoxville Street**: provide a connection to West Morena Boulevard. The connection will also require the widening of Morena Boulevard from Knoxville Street to Tecolote Road, including the bridge over Tecolote Creek, to provide two northbound turn lanes, one southbound left-turn lane, one southbound through/right-turn lane, and an exclusive southbound right-turn lane.
- **Mt. Alifan Drive**: The roadway has been striped to 4-lanes per the community plan improvement, however on-street parking was removed in order to provide for the additional travel lanes and therefore has not met the provision of bike lanes and parking per the Street Design Manual.

Clairemont Mesa Public Facilities Financing Plan

Adopted in April 2002, the Clairemont Mesa Public Facilities Financing Plan (PFFP) sets forth the major public facilities needs in several areas of transportation, including roadways, storm drains, traffic signals, and other facilities for the Clairemont Mesa community.

The facilities included in the PFFP were anticipated to be needed over the next approximately 20 years when the ultimate build-out of the community is expected. The PFFP inventories the existing and needed facilities within the community, and the potential financing mechanisms to fund these facilities.

The projects outlined in the Clairemont Mesa PFFP include modifications to several roadways, including Genesee Avenue, Morena Boulevard, Mt. Alifan Drive, and Balboa Avenue. Since its adoption, many of these projects have been completed. The following projects have not yet been completed:

- **Balboa Avenue:** Between I-5 and Clairemont Drive, roadway widened from 4 lanes to 6 lanes, modification of traffic signals, addition of a class II bike lane, and the addition of sidewalks.
- **Genesee Avenue**: From Sauk Avenue to 200 feet north of Derrick Drive, provide construction of standard curb, gutter, and sidewalks where these features do not currently exist
- **Genesee Avenue**: From Mt. Etna Drive to Mt. Alifan Drive, roadway widened from 5 lanes to 6 lanes, addition of class II bike lane within existing roadway right-of-way
- **Genesee Avenue**: From Boyd Avenue to southerly community boundary, roadway widened from 2 lanes to 4 lanes, addition of class II bike lane, and addition of sidewalk
- **Morena Boulevard at Tecolote Road**: Modify intersection lane configurations to provide two northbound turn lanes, one southbound left-turn lane, one southbound through/right-turn lane, and an exclusive southbound right-turn lane.
- **Knoxville Street**: roadway extended to intersect West Morena Boulevard, with a traffic signal included at the new intersection.

These projects, their potential implications, *and* the funding mechanisms that enable their construction is important to consider when developing proposed improvements as part of the Clairemont Mesa Community Plan Update.

City of San Diego Capital Improvements Program (CIP)

The City of San Diego Capital Improvements Program (CIP) is the five-year plan for all individual capital improvement projects and funding sources. CIP projects are unique construction projects that provide improvements or additions such as land, buildings, and infrastructure.

The CIP helps enhance the overall quality of life in the City by improving the physical structures, systems, and facilities that provide services to the community. CIP projects are generally large and expensive, and the assets they install, replace, or rehabilitate will likely be required for decades of public use.

The following projects within Clairemont are identified in the CIP as being within the design, bid and award, or construction phase:

- **Claremont Mesa Boulevard and Diane Avenue**: upgrade curb ramps, install signal poles with signal mast arms for NB and SB traffic, install pedestrian countdown timers, upgrade vehicle heads, and install emergency vehicle preemption equipment (EVPE).
- **Citywide Street Lights**: involves installing new street lights to City of San Diego standards to enhance safety along existing roadways.

- **Sidewalk Repair and Replacement**: involves sidewalk repair and replacement along various roadways.
- **Sidewalk Installation:** This project will install sidewalk, curb and gutter on the east side of Genesee Avenue from Chateau Drive to Sauk Avenue.
- **Balboa Avenue Corridor Improvements**: This project includes several improvements along Balboa Avenue. Within the Clairemont community, this includes traffic signal modifications and ADA upgrades at intersections with Moraga Avenue, as well as the installation of median landscaping at Mt. Alifan/ Mt. Abernathy Avenue.
- **Clairemont Boulevard and Genesee Avenue**: Install (3) new signal mast arms; install near side head FSBT.

City of San Diego Climate Action Plan

Adopted in December 2015 and amended in July 2016, the City of San Diego's Climate Action Plan (CAP) aims to reduce greenhouse gas (GHG) emissions to specific targets in the year 2020 and 2035. The CAP aims to reduce emissions in part through a variety of improvements to existing vehicular, pedestrian, bicycling, and transit networks. It includes goals to create walkable and pedestrian-friendly neighborhoods and to promote active transportation and rapid transit systems.

Several of the targets included in the CAP are related to performance within transit priority areas. Per California Senate Bill 743 (SB 743), "Transit priority area" means "an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations." A Major Transit Stop, as defined in the California Public Resources Code (CPRC) Section 21064.3, means: a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes each having a frequency of service of 15 minutes or less during the morning and afternoon peak commute periods.

Among others, the CAP specifically identifies the following actions as targets which would reduce overall GHG emissions:

- Achieve mass transit mode share of 12% by 2020 and 25% by 2035 in Transit Priority Areas.
- Achieve walking commuter mode share of 4% by 2020 and 7% by 2035 in Transit Priority Areas.
- Achieve 6% bicycle commuter mode share by 2020 and 18% mode share by 2035 in Transit Priority Areas.
- Retime 200 traffic signals by 2020.
- Install roundabouts at 15 intersections by 2020 and an additional 20 intersections by 2035.
- Reduce average vehicle commute distance by two miles through implementation of the General Plan City of Villages Strategy by 2035.

The CAP also identifies the following supporting measures for walking, biking, and transit:

- Implement bicycle improvements concurrent with street re-surfacing projects, including lane diets, green bike lanes, sharrows, and buffered bike lanes.
- Implement a bicycle sharing program with DecoBikes. Reduce the "1 mile" barrier gap by ensuring that further expansion of the bike share program is designed and implemented to reduce the distance needed to travel between transit stops and destinations.
- Identify and address gaps in the City's pedestrian network and opportunities for improved pedestrian crossings, using the City's Pedestrian Master Plan and the City's sidewalk assessment.
- Adopt City portions of SANDAG's forthcoming first mile/last mile initiative and incorporate Safe Routes to Transit strategies in Transit Priority Areas.

- Coordinate pedestrian counting programs with SANDAG and SDSU Active Transportation Research Programs.
- Develop a Parking Plan to include measures such as “unbundled parking” for nonresidential and residential sectors in urban areas.
- Prepare a Commuter Report with measures to increase commuting by transit for City employees.
- Achieve better walkability and transit-supportive densities by locating a majority of all new residential development within Transit Priority Areas.
- Develop a new priority ranking for capital improvement projects in Transit Priority Areas that will be integrated into Council Policy 800-14, Community Development Block Grant and other grant opportunities, and Public Facilities Financing Plans.
- In addition to commuting, implement infrastructure improvements including “complete streets” to facilitate alternative transportation modes for all travel trips.
- The most recent version of the California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen tool will be used as one method to identify and help prioritize, when possible, underserved communities in census tracts ranking in the top 30% of CalEnviroScreen scores, which may be locally normalized, for transit-related infrastructure improvements and capital improvements.

City of San Diego Bicycle Master Plan

Adopted in December 2013, the City of San Diego’s Bicycle Master Plan (BMP) presents a vision for bicycle transportation, recreation and quality of life in San Diego. The vision is closely aligned with the 2008 General Plan’s mobility, sustainability, health, economic, and social goals. The bicycle network, projects, policies, and programs included in the Bicycle Master Plan provide the City with a strong framework for improving bicycling through 2030 and beyond.

The goals of the BMP are to create:

- A city where bicycling is a viable travel choice, particularly for trips of less than five miles
- A safe and comprehensive local and regional bikeway network
- Environmental quality, public health, recreation and mobility benefits through increased bicycling

The BMP proposes the following key bicycle facilities within the Clairemont community planning area:

- Class I bike path south of SR-52 between I-5 and I-805, eventually connecting with the Kearny Mesa and Tierrasanta communities
- Bicycle boulevard connecting Regents Road and Linda Vista Road via Luna Avenue, Coconino Way, Merrimac Avenue, Appleton Street, Lehrer Drive, Ensign Street, Conrad Avenue, Limerick Avenue, Chandler Drive, Hathaway Street, Petit Street, Auburndale Street, Beagle Street, and Stalmer Street. This also includes a spur connection to Genesee Avenue at Auburndale Avenue along Marlesta Drive.
- Bicycle boulevard connecting Clairemont Drive and Genesee Avenue via Field Street, Mt. Acadia Boulevard, Acworth Avenue, and Boyd Avenue.
- Bicycle boulevard connecting Balboa Avenue to Mesa College Drive via Eckstrom Avenue and Ashford Street.
- Class II bicycle facility along Clairemont Drive from Mission Bay to Clairemont Mesa Boulevard (portions of which have can be Class III facilities if needed)
- Class II Bicycle facility along Morena Boulevard connecting from Linda Vista Community to Avati Drive. North of Avati Drive to Jutland is designated Class II or III whichever facility is feasible.
- Class II bicycle facility along Genesee Avenue from Linda Vista Community to University City (SR-52)

Several of the bicycle facilities identified above have been either partially or completely implemented. These include facilities along Genesee Avenue, Clairemont Drive, and Morena Boulevard. Bicycle facilities which have not been implemented to any extent will be considered as proposed improvements in the Clairemont Community Plan Update.

Existing and planned bicycle facilities per the BMP are shown below in **Figure 3-1**. **Table 3-1** includes a description and example of each bicycle facility type[10].

10 Source: City of San Diego Bicycle Master Plan (2013)

Table 3-1. Overview of Bicycle Facility Types

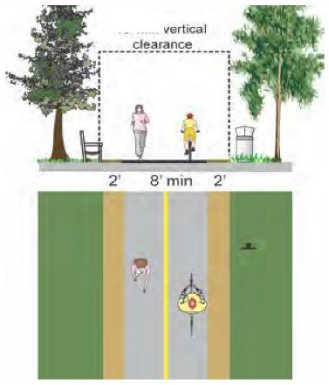
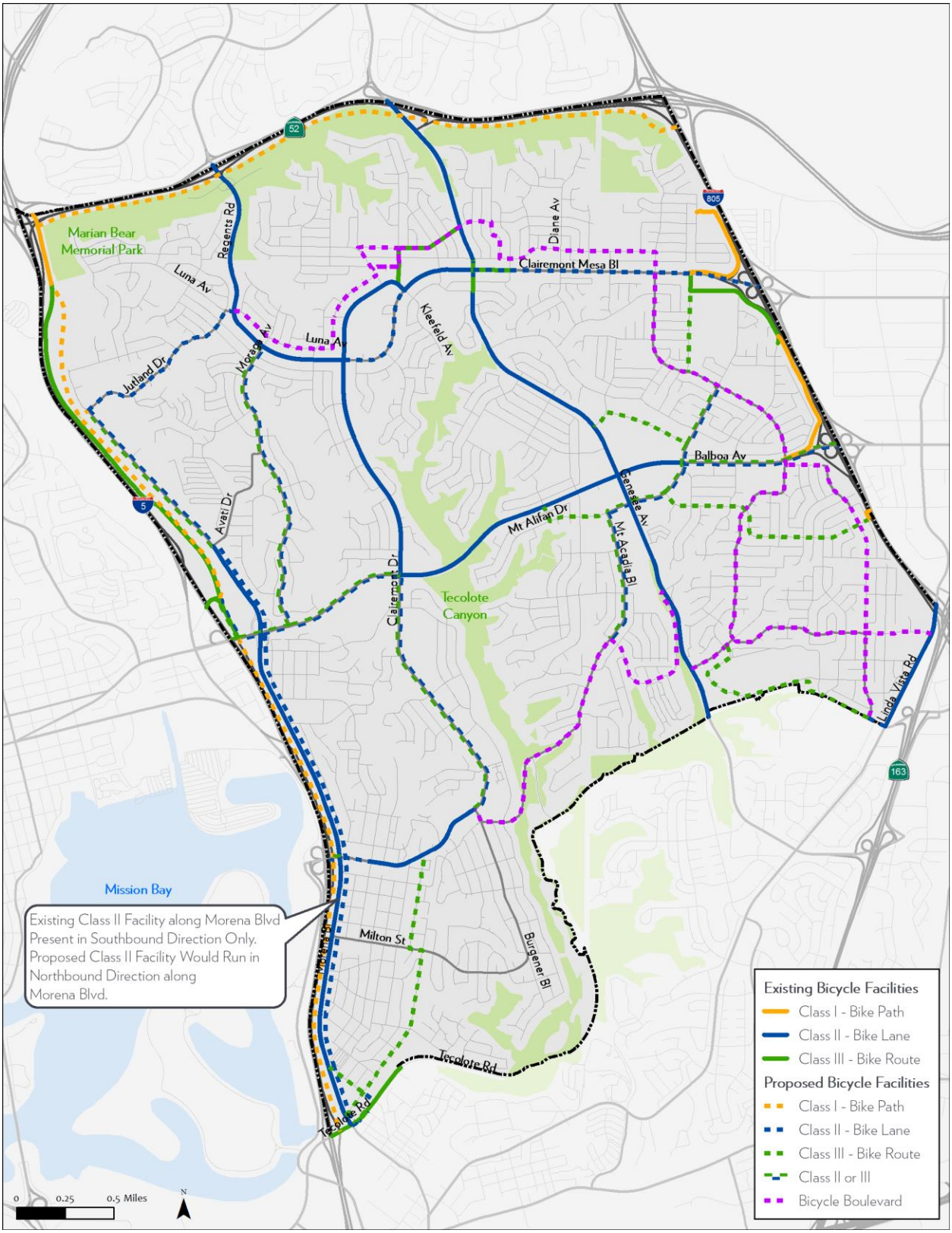
Class Description	Example Graphic
Class I - Bike Path Bike paths, also termed shared-use or multi-use paths, are paved right-of-way for exclusive use by bicyclists, pedestrians, and those using non-motorized modes of travel. They are physically separated from vehicular traffic and can be constructed in roadway right-of way or exclusive right-of-way. Bike paths provide critical connections in the city where roadways are absent or are not conducive to bicycle travel.	
Class II - Bike Lane Bike lanes are defined by pavement striping and signage used to allocate a portion of a roadway for exclusive or preferential bicycle travel. Bike lanes are one-way facilities on either side of a roadway. Whenever possible, Bike Lanes should be enhanced with treatments that improve safety and connectivity by addressing site-specific issues, such as additional warning or wayfinding signage.	
Class III - Bike Route Bike routes provide shared use with motor vehicle traffic within the same travel lane. Designated by signs, Bike Routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand. Whenever possible, Bike Routes should be enhanced with treatments that improve safety and connectivity, such as the use of "Sharrows" or shared lane markings to delineate that the road is a shared-use facility.	
Bicycle Boulevard Bicycle boulevards are streets with low motorized traffic volumes and speeds, designated and designed to give bicycle travel priority. Bicycle Boulevards use signs, pavement markings, and speed and volume management measures to discourage through trips by motor vehicles and create safe, convenient bicycle crossings of busy arterial streets.	

Figure 3-1. Existing and Planned (City of San Diego BMP) Bicycle Facilities



City of San Diego Pedestrian Master Plan

Adopted in December 2006, the City of San Diego's Pedestrian Master Plan guides the way the City plans and implements new or enhanced pedestrian projects. The Pedestrian Master Plan helps the City enhance neighborhood quality and mobility options by facilitating pedestrian improvement projects. The Plan identifies and prioritizes pedestrian projects based on technical analysis and community input, and improves the City's ability to receive grant funding for implementing these projects.

The Pedestrian Master Plan is intended to be a complementary document to the City of San Diego General Plan, the Transit Oriented Development Guidelines, the San Diego Association of Government's (SANDAG) Planning and Designing for Pedestrians, the City of San Diego Street Design Manual and more specifically, the Mobility Element of the City's General Plan.

The vision statement for the Pedestrian Master Plan is: "To create a safe, accessible, connected and walkable pedestrian environment that enhances neighborhood quality and promotes walking as a practical and attractive means of transportation in a cost-effective manner." The goals which both support the vision statement and serve as project prioritization criteria are:

- Safety: Create a safe pedestrian network free of barriers and tripping hazards that has sufficient street crossings, buffer pedestrians from vehicles and has facilities wide enough to accommodate peak pedestrian use.
- Accessibility: Make facilities accessible to pedestrians of all abilities and meet all local, state, and federal requirements.
- Connectivity: Develop a complete pedestrian network that provides direct and convenient connections for neighborhoods, employment centers, transit stations, public places and community destinations.
- Walkability: Create pedestrian facilities that offer amenities to encourage usage and to enhance the pedestrian experience.

The Pedestrian Master Plan concludes with "Phase Two Guidance" providing direction for community-level Pedestrian Master Plans (CPMP). The guidance aims to establish a level of consistency among the plans and analysis methodologies utilized.

Morena Boulevard Station Area Planning Study

In 2013-14, the City conducted a planning study – the Morena Boulevard Station Area Planning Study – that evaluated and provided recommendations for the areas adjacent to the Mid-Coast trolley stations at Tecolote Road and Clairemont Drive within the Clairemont and Linda Vista community planning areas. The purpose of the Planning Study was to address the future form of development in light of the introduction of the Mid-Coast Light Rail Transit (LRT) Trolley extension. In addition to land use and urban design recommendations, the study also focused on mobility improvements throughout the area for bicyclists, pedestrians, vehicles, and transit users.

These projects and their respective implementation strategies will be considered in the Clairemont Community Plan Update.

Morena Corridor Specific Plan

The City of San Diego is currently in the process of developing the Morena Corridor Specific Plan (MCSP). The MCSP will build upon the technical analysis and recommendations prepared and extensive public input received

from the aforementioned Morena Boulevard Station Area Planning Study. The specific plan will provide policies and recommendations for, among other things, mobility enhancements throughout the corridor.

The MCSP is currently being developed. Any policies and recommended improvements identified in the MCSP will be considered as proposed improvements in the Clairemont Community Plan Update.

Balboa Avenue Revitalization Action Program

Adopted in 2005, the Balboa Avenue Revitalization Action Program (RAP) is the product of a series of community outreach events and analysis focused on the Balboa Avenue corridor between I-5 and I-805. The analysis, design concepts, recommendations, and implementation measures included in the Balboa Avenue RAP are intended to implement the Clairemont Community Plan by enhancing the bicycle, pedestrian, and auto network within the corridor.

Balboa Avenue Station Area Specific Plan

The City of San Diego is currently in the process of developing the Balboa Avenue Station Area Specific Plan. The Plan will identify transit oriented land uses and multimodal mobility improvements within the area adjacent to the Balboa trolley station, as well as establish urban design guidelines for new public and private development.

The Balboa Avenue Station Area Specific Plan is currently being developed. Any policies and recommended improvements identified within the Clairemont Community will be considered as proposed improvements in the Clairemont Community Plan Update.

City of San Diego Transportation Unfunded Needs List (TUNL) Projects

As noted previously, the City of San Diego Capital Improvements Program (CIP) identifies projects that help enhance the overall quality of life in the City by improving, among other things, transportation infrastructure. Projects included in the CIP are funded via a variety of sources, including bonds, development impact fees, and City general funds, among others. Projects included in the TUNL list may or may not be identified in other planning documents.

Often times, sufficient funding does not exist for all mobility projects that are identified in the CIP. As such, projects without identified funding are included in the Transportation Unfunded Needs List (TUNL). The TUNL is maintained by the City to keep an inventory of projects which can be implemented should sufficient funding become available. **Table 3-2** provides a brief description, location, type, and status of current TUNL projects within the Clairemont Community Plan area.

Table 3-2: Transportation Unfunded Needs List (TUNL) Projects

ID	Source	Type	Location	Description
941	TUNL	Bicycle	SR-52 from Regents Road to I-805 Bike Path	Bike Path
3831	TUNL	Bicycle	Clairemont Drive from Denver Street to Clairemont Mesa Boulevard	Cycle Track/Buffered Bike Lanes
3833	TUNL	Bicycle	Clairemont Drive from Dolvia Drive to I-805	Cycle Track/Buffered Bike Lanes
3834	TUNL	Bicycle	Balboa Avenue from Charger Boulevard to I-805	Cycle Track/Buffered Bike Lanes
3835	TUNL	Bicycle	Clairemont Mesa Boulevard from Jutland Drive to I-805	Cycle Track/Buffered Bike Lanes
3836	TUNL	Bicycle	Genesee Avenue from SR-52 to Linda Vista Road	Class I/ Cycle Track
3837	TUNL	Bicycle	Clairemont Drive from E Mission Bay Drive to Denver Street	Class I/ Cycle Track
3838	TUNL	Bicycle	Balboa Avenue from Mission Bay Drive to I-805	Cycle Track/Buffered Bike Lanes
233	TUNL	Road	Genesee Avenue from Boyd Avenue to South Community Boundary	Widen to 4-lane major w/ Class II bike lanes
232	TUNL	Road	Balboa Avenue from Clairemont Drive to I-5	Widen to 6-lane Major, modify signals, Class II bike lanes
234	TUNL	Road	Genesee Avenue from Mt. Etna Drive to Mt. Alifan Drive	Widen to 6-lane w/ Class II bike lanes
619	TUNL	Road	Morena Boulevard at Tecolote Road	Widen Morena Boulevard north and south of Tecolote Road
237	TUNL	Road	Mt. Alifan Drive from Mt. Acadia Boulevard to Genesee Avenue	Widen to 4-lane collector w/ Class III and modify traffic signal
236	TUNL	Road	Knoxville Street Extension	Extend to West Morena Boulevard (new road)
1300	TUNL	Signal	Genesee Avenue and SR-52 WB On-Ramp	Install traffic signal
142	TUNL	Signal	Chippewa Court and Clairemont Drive	Install traffic signal
1246	TUNL	Signal	Clairemont Mesa Boulevard and Pocahontas Avenue	Install traffic signal
1148	TUNL	Signal	Balboa Avenue and Mt. Abernathy/Mt. Alifan	Install new signal poles with longer mast arms for EB and WB traffic. Upgrade all signal indications with 12 LEDs. Install (8) ped countdown timers. Remove (1) extended island noses.
1152	TUNL	Signal	Balboa Avenue and Moraga Avenue	Remove standard in median and install standard w/longer mast arm. Install (6) ped countdown timers. Upgrade (2) ped ramps. Remove extended island nose.
956	TUNL	Signal	Balboa Avenue and Clairemont Drive	Install right turn overlap for NB (2008), Upgrade ped heads to countdown timers, upgrade PPB to ADA, and modify (4) median noses and add w/b near-side signal head.
859	TUNL	Signal	Clairemont Mesa Boulevard and Genesee Avenue	Install (3) new signal mast arms; install near side head FSBT.
1273	TUNL	Signal	Clairemont Mesa Boulevard and Diane Avenue	Install (2) new poles w/mast arms NB and SB, (8) ped countdown timers and (2) ADA ped ramps.

ID	Source	Type	Location	Description
841	TUNL	Signal	Ashford Street and Mesa College Drive	Install signal mast arms, upgrade signal heads, install ped countdown timers, and upgrade curb ramps.
856	TUNL	Signal	Clairemont Drive and Iroquois Avenue	Install left turn phasing N/B and S/B. Install new signal poles with longer mast arms.
867	TUNL	Signal	Derrick Drive and Genesee Avenue	Install new poles and mast arms; remove median mounted poles (2000)
1017	TUNL	Signal	Morena Boulevard and Sea World Drive/Tecolote Road	Install signal poles and mast arms (2000). Remove median poles.
1150	TUNL	Signal	Balboa Avenue and Mt. Everest Boulevard	Install (8) ped countdown timers. Upgrade (4) ped ramps.
1146	TUNL	Signal	Balboa Avenue and Charger Boulevard/Hathaway Street	Install (6) ped countdown timers. Upgrade (5) PPBs. Remove (2) extended island noses.
837	TUNL	Signal	Appleton Street and Genesee Avenue	Install new poles with longer mast arms for NB/SB; upgrade signal heads to 12; upgrade ped ramps.”
857	TUNL	Signal	Clairemont Drive and Merrimac Avenue	Install protected left turn on Clairemont Drive.
1147	TUNL	Signal	Balboa Avenue and Cannington Drive/Mt. Albertine Avenue	Install (6) ped countdown timers.
1149	TUNL	Signal	Balboa Avenue and Genesee Avenue	Remove (2) extended island noses.
3816	TUNL	Signal	Clairemont Mesa Boulevard and Rolfe Road	Remove and install (4) ped signals and install (8) Countdown Timers.
4591	TUNL	Signal	Clairemont Drive and Clairemont Mesa Boulevard	Replace Signal Poles and Mast-Arms for EB/WB Upgrade audible to polara and install count down timers
5307	TUNL	Signal	Clairemont Mesa Boulevard and Clairemont Drive I	Installing pedestrian countdown timers. Replacing pedestrian assembly.
5308	TUNL	Signal	Clairemont Mesa Boulevard and Clairemont Drive (W)	Installing pedestrian countdown timers. Replacing pedestrian assembly.
5644	TUNL	Signal	Mt. Alifan Drive and Mt. Aguilar Drive	Install pedestrian countdown timer (6)
3516	TUNL	Street	Morena Boulevard and Ashton Street	Installation of a safety fence (chain-link) on Morena Boulevard between Ashton Street and one block to the south.
744	TUNL	Street	Balboa Avenue west of Mt. Alifan Drive	Remove the existing “S" median and replace it with a raised median to prohibit left turns in and ”out"
1	TUNL	Street	Balboa Avenue and Mt. Culebra Avenue	Remove the existing “S" median and replace it with a raised median to prohibit left turns in and ”out"
5186	TUNL	Ped	Orten Street from Frankfort Street to Galveston Street	Install sidewalk, curb ramps and driveways; both sides
742	TUNL	Ped	Balboa Avenue from Moraga Avenue to Clairemont Drive	Install sidewalk; north side
5393	TUNL	Ped	Genesee Avenue from Marlesta Drive to Park Mesa Way	Install sidewalk; east side
532	TUNL	Ped	Field Street from Deerpark Drive to Grandview Street	Install sidewalk; south side
604	TUNL	Ped	Hartford Street from Milton Street to Jellett Street	Install sidewalk; east side
5342	TUNL	Ped	Morena Boulevard from McGraw Street to Baker Street	Install sidewalk, retaining walls
5001	TUNL	Ped	Erie Street from Ingulf Street to Jellett Street	Install sidewalk, curb and gutter; both sides
5633	TUNL	Ped	Garfield Road from Cecelia Terrace to Milton Road	Install sidewalk, curb and gutter; both sides

ID	Source	Type	Location	Description
3913	TUNL	Ped	Erie Street and Lister Street	Install sidewalk; west and north sides
2454	TUNL	Ped	Clairemont Drive from Morena Boulevard to Burgener Boulevard	Install sidewalk; south side
32	TUNL	Ped	Deerpark Drive from Field Street to July Street	Install sidewalk, curb and gutter; east side
442	TUNL	Ped	Deerpark Drive from Field Street to July Street	Install sidewalk w/ popouts; west side
589	TUNL	Ped	Genesee Avenue from Chateau Drive to Sauk Avenue	Install sidewalk; east side
609	TUNL	Ped	Balboa Avenue from Clairemont Drive to Mt. Culebra Avenue	install sidewalk; both sides
235	TUNL	Ped	Genesee Avenue from Mt. Herbert Avenue to Chateau Drive	Install sidewalk; northeast side
2508	TUNL	Ped	Mt. Acadia Boulevard from Cowley Way to Via Aquario	Install sidewalk; both sides
380	TUNL	Ped	Knoxville Street from Morena Boulevard to Nashville Street	Install sidewalk; east side
304	TUNL	Ped	Morena Boulevard from Avati Drive to Costco Driveway Entrance	Install sidewalk; east side
692	TUNL	Ped	Balboa Avenue from I-5 to Morena Boulevard	Install sidewalk; north side
3842	TUNL	Ped	Balboa Avenue from Morena Boulevard to Moraga Avenue	Install sidewalk; south side
305	TUNL	Ped	Morena Boulevard from Balboa Avenue to Avati Drive	Install sidewalk; west side
348	TUNL	Ped	Clairemont Drive from Hartford Street to Clairemont Court	Install sidewalk; north side
513	TUNL	Ped	Morena Boulevard from Balboa Avenue to Avati Drive	Install sidewalk; east side
1195	TUNL	Ped	Lehigh Street from Morena Boulevard to Tonopah Avenue	Install sidewalk; both sides
4582	TUNL	Ped	Milton Street from Cecilia Terrace to Garfield Road	Install sidewalk; south side
723	TUNL	Ped	Morena Boulevard from Ashton Street to W Morena Boulevard	Install sidewalk; west side
4983	TUNL	Ped	Frankfort Street at Jellett Street	Install sidewalk; southwest corner
288	TUNL	Ped	Chateau Dr from Camber Drive to 210' NW	Install sidewalk; south side
488	TUNL	Ped	Balboa Avenue from Mt. Culebra Avenue to Mt. Everest Avenue	Install sidewalk; north side
506	TUNL	Ped	Frankfort Street from Ingulf Street to Jellett Street	Install sidewalk; east side
2486	TUNL	Ped	Denver Street from Jellett Street to Ingulf Street	Install sidewalk; west side
377	TUNL	Ped	Bunker Hill Street from Princeton Avenue to Trenton Avenue	Install sidewalk; north side
605	TUNL	Ped	Balboa Avenue from Santa Fe Street to Moraga Avenue	Install sidewalk; south side
699-700	TUNL	Ped	Bunker Hill Street from Paul Jones Avenue to Princeton Avenue	Install sidewalk; both sides
741	TUNL	Ped	Balboa Avenue from Moraga Avenue to Clairemont Drive	Install sidewalk; south side

ID	Source	Type	Location	Description
667	TUNL	Ped	Bunker Hill Street from Princeton Avenue to Trenton Avenue	Install sidewalk; north side
4496	TUNL	Ped	Hartford Street from Milton Street to end of segment	Install sidewalk; both sides
464	TUNL	Ped	Ticonderoga Street from Moultrie Avenue to Morena Boulevard	Install sidewalk; north side
915	TUNL	Ped	Cecelia Drive from Garfield Road to Illion Street	Install sidewalk; east side
5004	TUNL	Ped	2807 Lloyd Street	Install sidewalk; east side
335/681	TUNL	Ped	Illion Street from Milton Street to Kane Street	Install sidewalk; both sides
329	TUNL	Ped	Illion Street from 320' south of Orten Street to 475' south of Orten Street	Install sidewalk; north side
366/516	TUNL	Ped	Princeton Avenue from Ticonderoga Street to Brandywine Street	Install sidewalk; both sides
295/676	TUNL	Ped	Gardena Avenue from Frankfort Street to Goldboro Street	Install sidewalk; both sides
5745	TUNL	Traff Calm	Erie Street and Milton Street	Install RRFB at existing crosswalk
4964	TUNL	Traff Calm	Eckstrom Avenue and Cosmo Street	Install RRFB at existing crosswalk
5040/5953	TUNL	Traff Calm	Moraga Avenue and Idlewild Way	Install a traffic circle
5041/5954	TUNL	Traff Calm	Moraga Avenue and Fox Place	Install a traffic circle
5406	TUNL	Traff Calm	Lehrer Drive from Baxter Street to Diane Avenue	Install 3 road lumps
	SANDAG	Bicycle	2035: Clairemont Drive from Mission Bay Drive to Burgener Boulevard	Cycle Track
	SANDAG	Bicycle	2035: Coastal Rail Trail - Mission Bay from Clairemont Drive to Tecolote Road	Class I Path
	SANDAG	Transit	2035: Genesee Avenue	Rapid Transit Line 41
	SANDAG	Road	2020: Sea World Drive and I-5 Interchange	Replace existing 4-lane bridge with an 8-lane bridge w/ new on/off ramps
B15168	IMCAT	Ped	Genesee Avenue from Chateau Drive to Sauk Avenue	Install sidewalk, retaining wall, curb and gutter on east side
B13063	IMCAT	Ped	Denver Street from Ingulf Street to Milton Street	Install missing ADA compliant curb ramps, concrete sidewalks, curb and gutter, crosswalks, traffic striping, retaining walls, and relocate signs
S00831	IMCAT	Signal	Balboa Avenue Corridor	Kearny Villa Road - Traffic signal modifications, ADA upgrades and removal of free right at southwest corner; Moraga Avenue and Viewridge Avenue - traffic signal modifications and ADA upgrades; Mt. Abernathy Avenue/Mt. Alifan Drive - traffic signal modification and installation of median landscaping

ID	Source	Type	Location	Description
B15015	IMCAT	Road	Morena Boulevard from Littlefield Avenue to Ashton Street	Replace 3' median w/ raised stamped concrete and black vinyl CLF
B14048	IMCAT	Signal	Clairemont Mesa Boulevard and Diane Avenue	Install signal pole w/ mast arms for NB-SB traffic, upgrade curb ramps, and install pedestrian countdown timers

3.2 | Regional Plans

San Diego Forward: The Regional Plan

Adopted in October 2015 by SANDAG, the San Diego Forward: The Regional Plan (RTP) is an overarching blueprint for a more sustainable future. It combines a big-picture vision for how the region will grow over the next 35 years (through the year 2050) with an implementation program to help make that vision a reality. At its core, it relies on creating a transportation network that will provide more choices to people in the region, which in turn will protect the environment, create healthy communities, and stimulate economic growth.

The Regional Plan builds upon local planning efforts by emphasizing the link between land use planning and transportation planning. Closer integration of the two will result in more compact and sustainable communities, helping the region meet greenhouse gas (GHG) reduction targets. As it is implemented, the Plan will enhance the movement of both people and goods, as well as break new ground by incorporating components aimed at enhancing public health.

The vision statement for this long-range blueprint – which will carry the region through 2050 – is "to provide innovative mobility choices and planning to support a sustainable and healthy region, a vibrant economy, and an outstanding quality of life for all."

The majority of land within the Clairemont community planning area is identified as a potential transit priority project area. As such, several arterial roadways and highways within the Clairemont community are identified in the Regional Plan as focus corridors for high quality transit. Several high-capacity transit routes and other enhancements are identified in the 2050 RTP within Clairemont, including:

- **Mid-Coast Trolley Extension**: Scheduled to open in 2021, the Mid-Coast Trolley will extend the existing Blue Line service from America Plaza to the University Towne Centre (UTC) Transit Center. The trolley is planned to run along Morena Boulevard within Clairemont.
- **Trolley Route 563**: The proposed trolley line would provide high-capacity light rail transit (LRT) service between Pacific Beach and El Cajon via Clairemont and Kearny Mesa, among other communities. The proposed LRT line would operate along Balboa Avenue within Clairemont.
- **Rapid Bus Route 41**: The proposed rapid bus route would connect Fashion Valley to the UTC/University City area via Linda Vista and Clairemont. The service would run along Genesee Avenue within the Clairemont community.
- **Service Frequency Enhancements**: The RTP identifies the goal of improving frequencies to 10-minutes for local bus routes along key corridors within the Clairemont community.

San Diego Regional Bike Plan: Riding to 2050

Adopted in April 2010 by SANDAG, Regional Bike Plan identifies a vision for a regional bicycle system of interconnected bicycle corridors, support facilities, and programs to make cycling more appealing to a broader range of the population. The document includes recommendations and goals that strive to increase bicycle ridership for all purposes. It also encourages the development of Complete Streets, to improve safety for bicyclists, and to increase public awareness and support for bicycling in the region. There are four "high priority" planned regional corridor alignments within the Clairemont community, including:

- **SR-52 Bikeway**: runs parallel to SR-52 between I-5 and I-805
- **Coastal Rail Trail**: running parallel to I-5 between SR052 and the southern community boundary

- **Clairemont – Centre City Corridor**: running in both east/west and north/south directions through the community along Jutland Drive, Clairemont Drive, Genesee Avenue, and Linda Vista Road
- **Kearny Mesa – Beaches Corridor**: providing a primary east/west connection within the community along Clairemont Drive, Mt. Acadia Boulevard, Acworth Avenue, Boyd Avenue, Genesee Avenue, Marlesta Drive, Beagle Street, and Stalmer Street.

3.3 | Local Private Development Projects

Several proposed private developments have been identified within Clairemont, including the following:

- **Morena Blvd Multi Prelim**: The proposed project would include 150 multi-family residential units and has land use designations of General Commercial and Mobile Home Park. The proposed project's use is not consistent with the adopted community plan land use designations and requires an amendment to the community plan.
- **3040 Clairemont Drive Apartments PDP SDP**: The project includes 19 multi-family units on a 2.99 acre site near the intersection of Clairemont Drive and Burgener Boulevard. The project has a land use designation of Commercial. The inclusion of residential units on sites is allowed on property designated Commercial in the Clairemont community plan with commercial uses.
- **4520 Pocahontas Avenue (Stevenson School Property)**: The project proposes to demolish the school buildings, currently occupied by the Horizon Christian Academy. The proposal would subdivide the site into 54 lots comprised of 52 single-family residential lots and two home owners' association (HOA) Open Space lots. The project site is designated for School use and the community plan allows for an alternative use of Low Density Residential development (5-10) dwelling units per net acre). The site is zoned RS-1-7 and RS-1-1 and located within the institutional Overlay Zone. The Overlay Zone is applied to the site to ensure that alternative development is compatible with the surrounding single-family neighborhood. The project requires a Site Development Permit for Environmentally Sensitive Lands and a Vesting Tentative Map for the proposed subdivision.

Any new developments will need to be identified during the model calibration process to ensure the correct land use is assumed in the Series 13 (ABM) model. Additionally, any project impact mitigation measures that are identified in the traffic impact analysis for the above developments will be included in the future year base model network.

4.0 EXISTING CONDITIONS

This chapter describes activity patterns, performance and facility evaluations for all modes of travel in Clairemont, including pedestrian, bicycle, transit, and vehicular. The chapter also summarizes services associated with passenger rail, airports, goods movement, intelligent transportation systems (ITS), and travel demand management (TDM) strategies.

4.1 | Pedestrian Mobility

The following section summarizes existing pedestrian mobility conditions within the Clairemont community.

4.1.1 | PEDESTRIAN DEMAND

Pedestrian demand was evaluated using the City of San Diego Pedestrian Priority Model (PPM). The model is a composite of three submodels, including trip attractors, trip generators, and trip detractors. Higher levels of pedestrian attractors and generators, combined with higher levels of trip detractors, signify greater existing and/or latent demand for walking. The PPM process is described in more detail above in **Section 2.1.1**. **Figure 4-1** displays the Pedestrian Priority Model results for Clairemont relative to the community itself.

As shown, relatively higher pedestrian demand is seen in the southeastern corner of Clairemont, just west of the intersection of Mesa College Drive and Linda Vista Road. Higher demand is shown near commercial centers within the community, specifically along Balboa Avenue where it intersects with Clairemont Drive and Genesee Avenue, and along Clairemont Mesa Boulevard where it intersects with Clairemont Drive. Lower pedestrian demand is shown within areas which are primarily residential, as well as areas that are comprised of canyons or other significant changes in topography.

Table 4-1 draws from the US Census American Community Survey 2015 5-year estimates to compare pedestrian commute mode shares between Clairemont, the City of San Diego, and San Diego County as a whole. Clairemont has the lowest reported pedestrian commute mode share of all three geographies at 1.1%, compared to 3.0% for the City of San Diego, and 2.9% for San Diego County. Suburban development patterns as well as the topography surrounding Clairemont may be factors contributing to the lower pedestrian commute mode share.

Table 4-1. Pedestrian Commute Mode Share Comparison

	Clairemont	City of San Diego	San Diego County
Total Pedestrian Commuters	461	20,196	42,968
Total Workers	41,564	668,643	1,503,987
Pedestrian Commute Mode Share	**1.1%**	**3.0%**	**2.9%**

Figure 4-2 displays pedestrian commute rates by census block group throughout Clairemont. As shown, pedestrian commute mode share is highest adjacent to the commercial center near Clairemont Mesa Boulevard and

Clairemont Drive. This is consistent with the high pedestrian demand identified in this area by the PPM in **Figure 4-1**.

Figure 4-3, **Figure 4-4**, and **Figure 4-5** display the distribution of pedestrian volumes at intersections during the AM, midday, and PM peak hours. Midday counts were only performed at key intersections near activity centers which typically generate activity during the mid-day hours. Overall observed pedestrian volumes were slightly greater during the AM peak hour. Consistent with the pedestrian demand identified by the PPM in **Figure 4-1**, greater pedestrian volumes were generally observed at study intersections near commercial centers and near the intersection of Mesa College Drive and Linda Vista Road, which is adjacent to both Mesa Community College and Kearny High School.

Peak hour pedestrian count information is included in **Appendix D**.

Figure 4-1. Community Pedestrian Demand

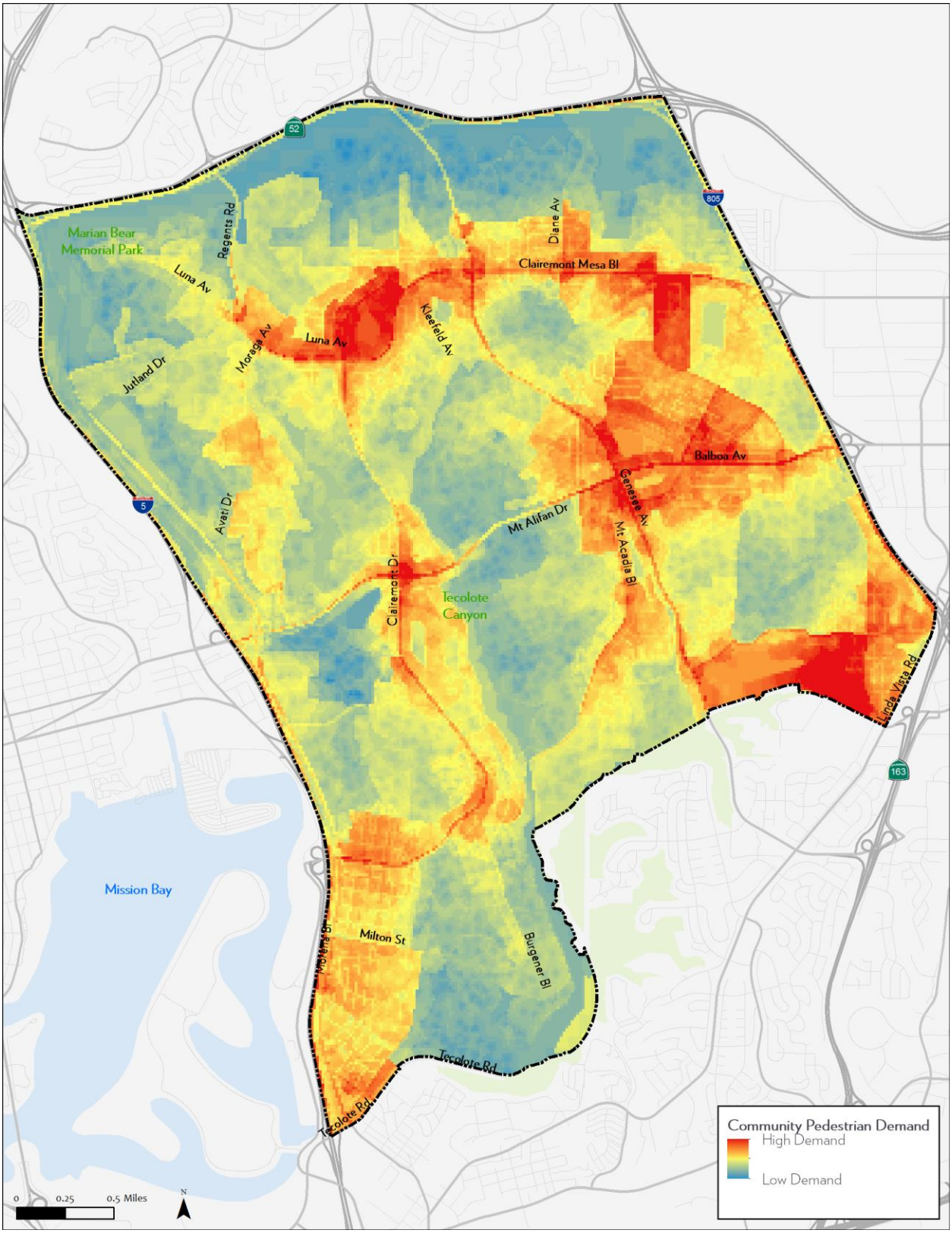


Figure 4-2. Pedestrian Commuter Mode Share by Census Block Group

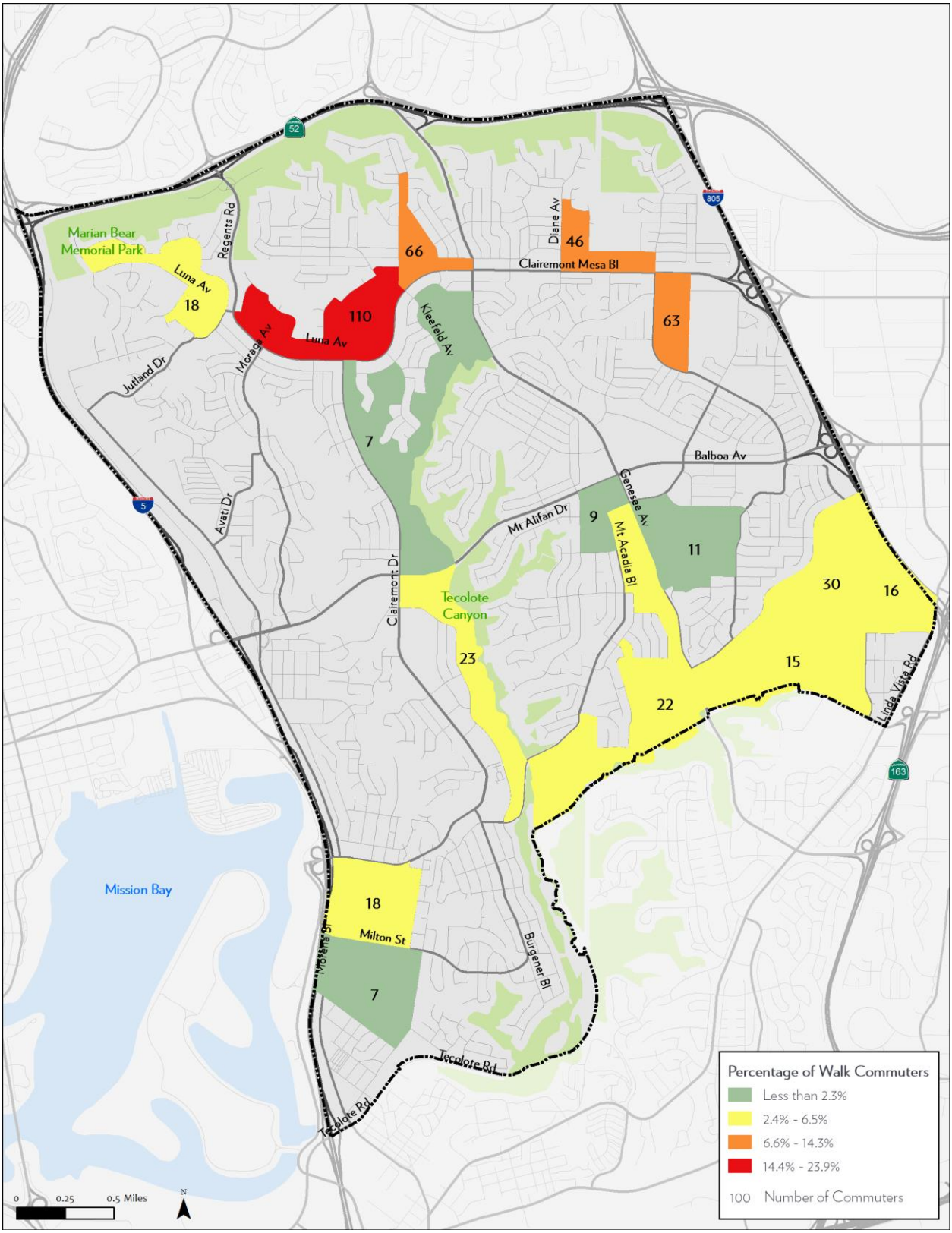


Figure 4-3. AM Peak Hour Pedestrian Counts

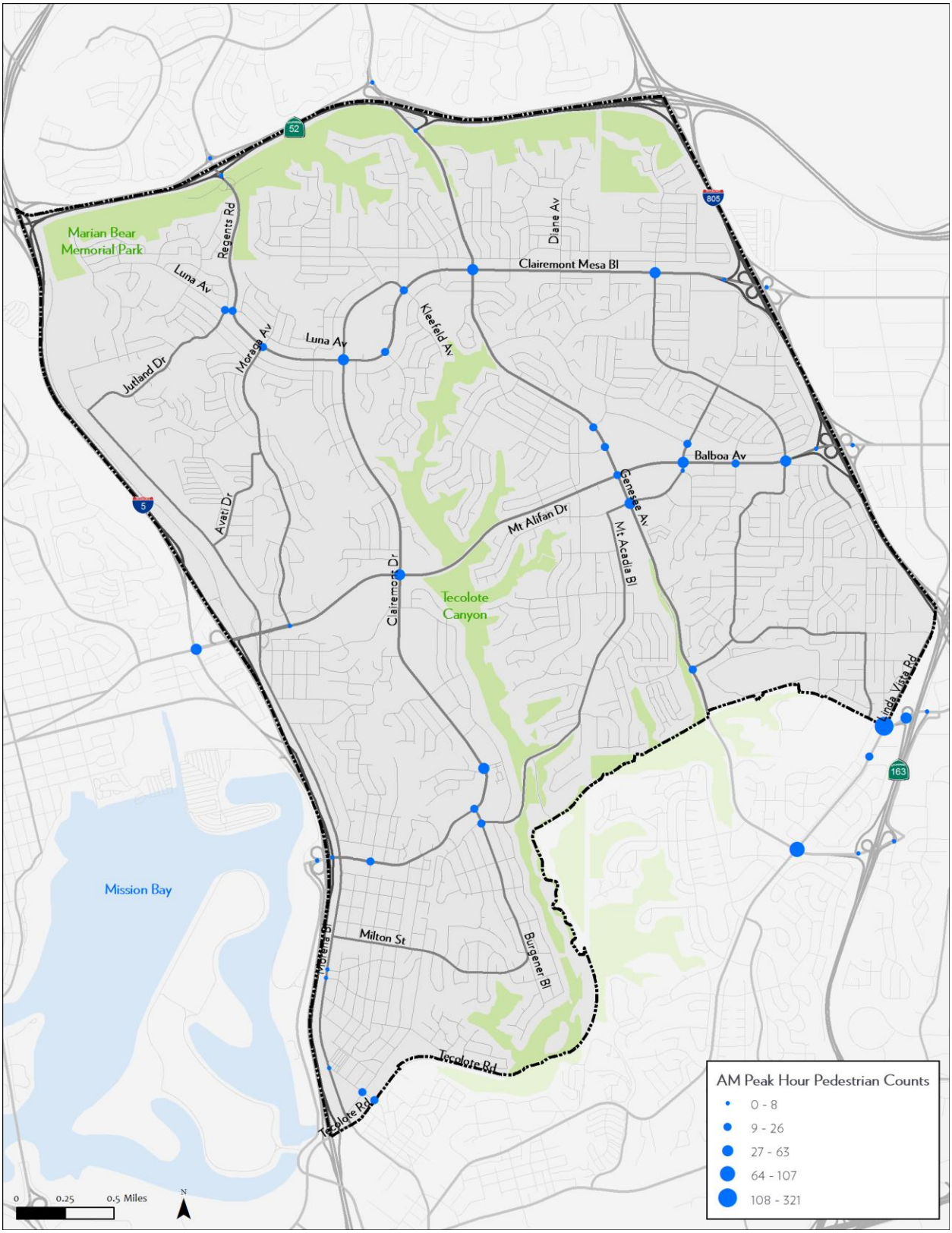


Figure 4-4. Mid-day Peak Hour Pedestrian Counts

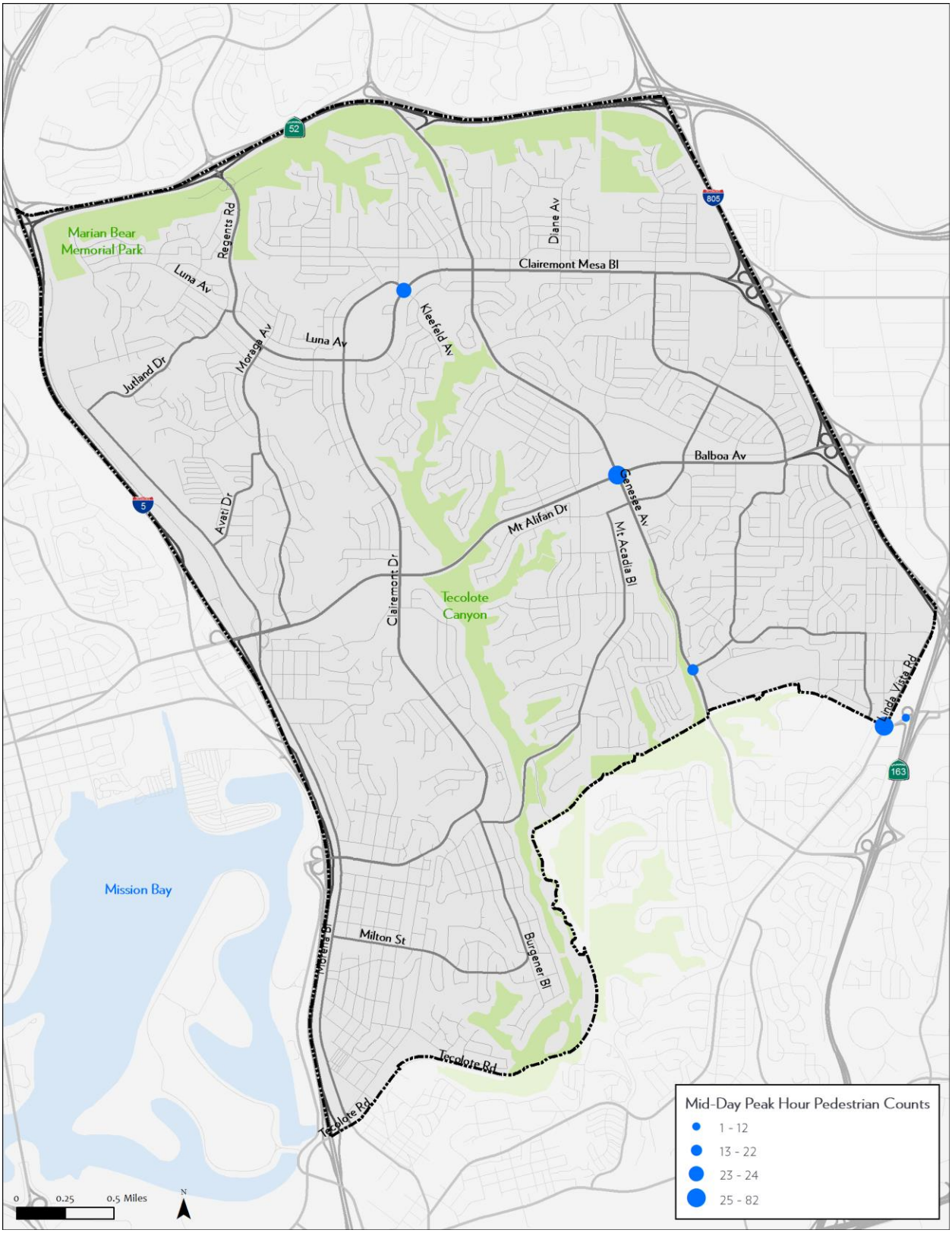
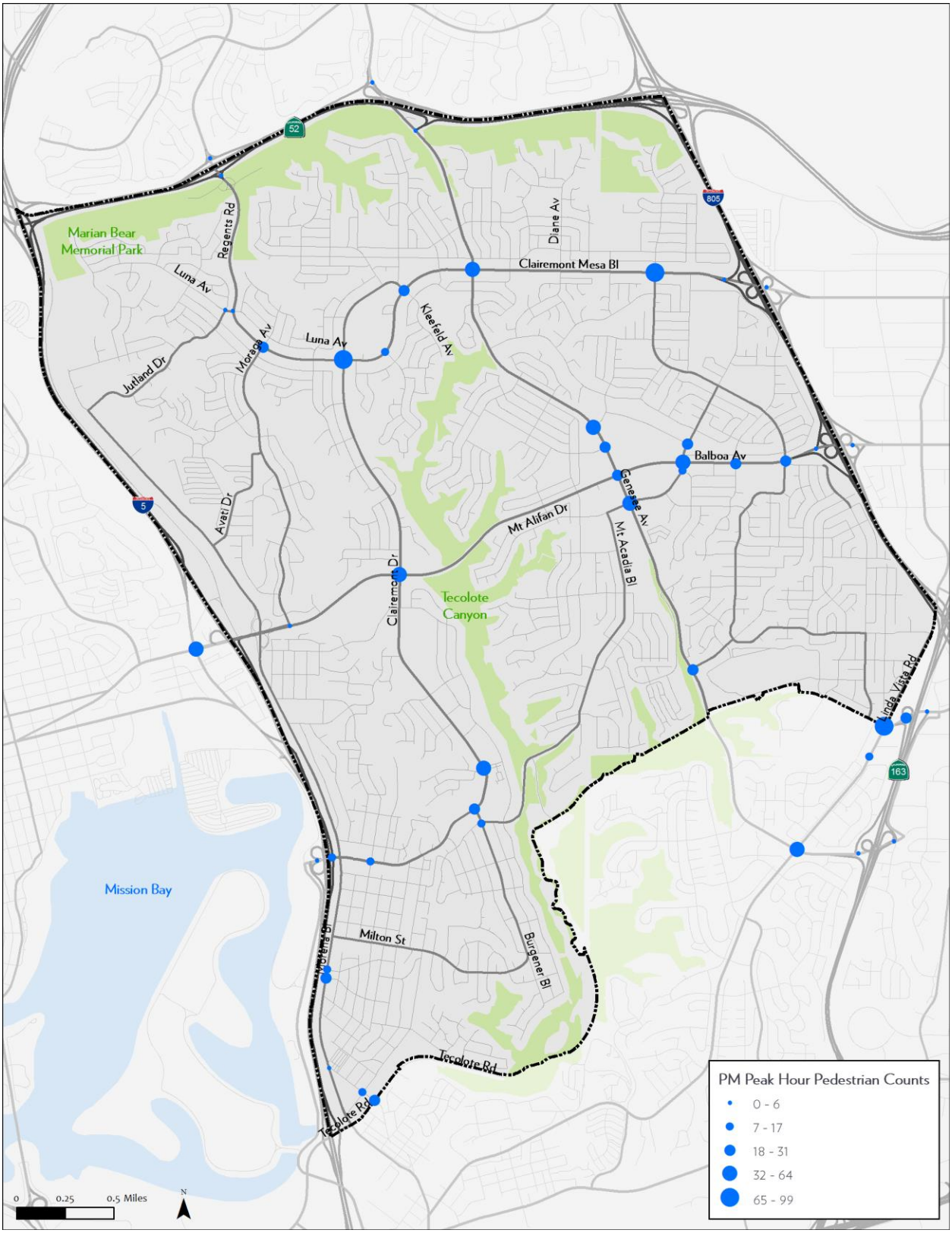


Figure 4-5. PM Peak Hour Pedestrian Counts



4.1.2 | PEDESTRIAN SAFETY

Pedestrian safety was evaluated using collision data obtained from the City of San Diego Police Department's Crossroads software (SDPD) and the University of California Berkeley's Transportation Injury Mapping System (TIMS) for the period from January 2011 through December 2015. A total of 95 pedestrian-involved collisions were reported during this five-year period in Clairemont. **Figure 4-6** displays the distribution of the pedestrian-involved collisions across the community, while **Table 4-2** identifies intersections where multiple pedestrian collisions were reported.

As shown, eleven intersections experienced multiple pedestrian-involved collisions. Three collisions occurred at the intersection of Clairemont Mesa Boulevard/Diane Avenue. The other ten intersections listed below experienced two pedestrian-related collisions within the five-year period.

Table 4-2: Most Frequent Pedestrian Collision Locations

Rank	Intersection	Collisions
1	Clairemont Mesa Boulevard and Diane Avenue	3
2	Clairemont Mesa Boulevard and Clairemont Drive/Kleefeld Avenue	2
2	Clairemont Drive and Balboa Avenue	2
2	Luna Avenue and Moraga Avenue	2
2	Clairemont Mesa Boulevard and Rolfe Road	2
2	Clairemont Mesa Boulevard and Doliva Drive	2
2	Genesee Avenue and Appleton Street/Lehrer Drive	2
2	Genesee Avenue and Mt. Alifan Drive	2
2	Genesee Avenue and Linda Vista Road	2
2	Balboa Avenue and Shopping Center Entrance	2
2	Balboa Avenue just west of Mt. Rias Avenue	2

Source: SDPD, TIMS (2016)

Pedestrian-involved collisions by location types are summarized in **Table 4-3**, differentiating between intersection, mid-block, and approaching/departing locations. The majority of pedestrian-involved collisions occurred at intersections. Approximately ten percent of pedestrian-involved collisions did not have the data necessary to determine the location type.

Table 4-3: Pedestrian Collisions by Location Types

Collision Location Type	Collisions	Percent of Total
Mid-Block	14	15%
Intersection	54	56%
Approaching/departing	16	17%
Not Stated	11	12%
Total	**95**	**100%**

Table 4-4 identifies the party-at-fault for each of the 95 pedestrian-involved collisions. Drivers were reported at at-fault for just over 40 percent of collisions, whereas pedestrians were reported at-fault in nearly 40 percent of collisions. Just over 15 percent of recorded collisions do not identify a party at-fault, or state "other" as the party at fault. An additional collision between a pedestrian and bicyclist was recorded, with the bicyclist identified as the party at fault.

Table 4-4: Pedestrian Collisions by Party at Fault

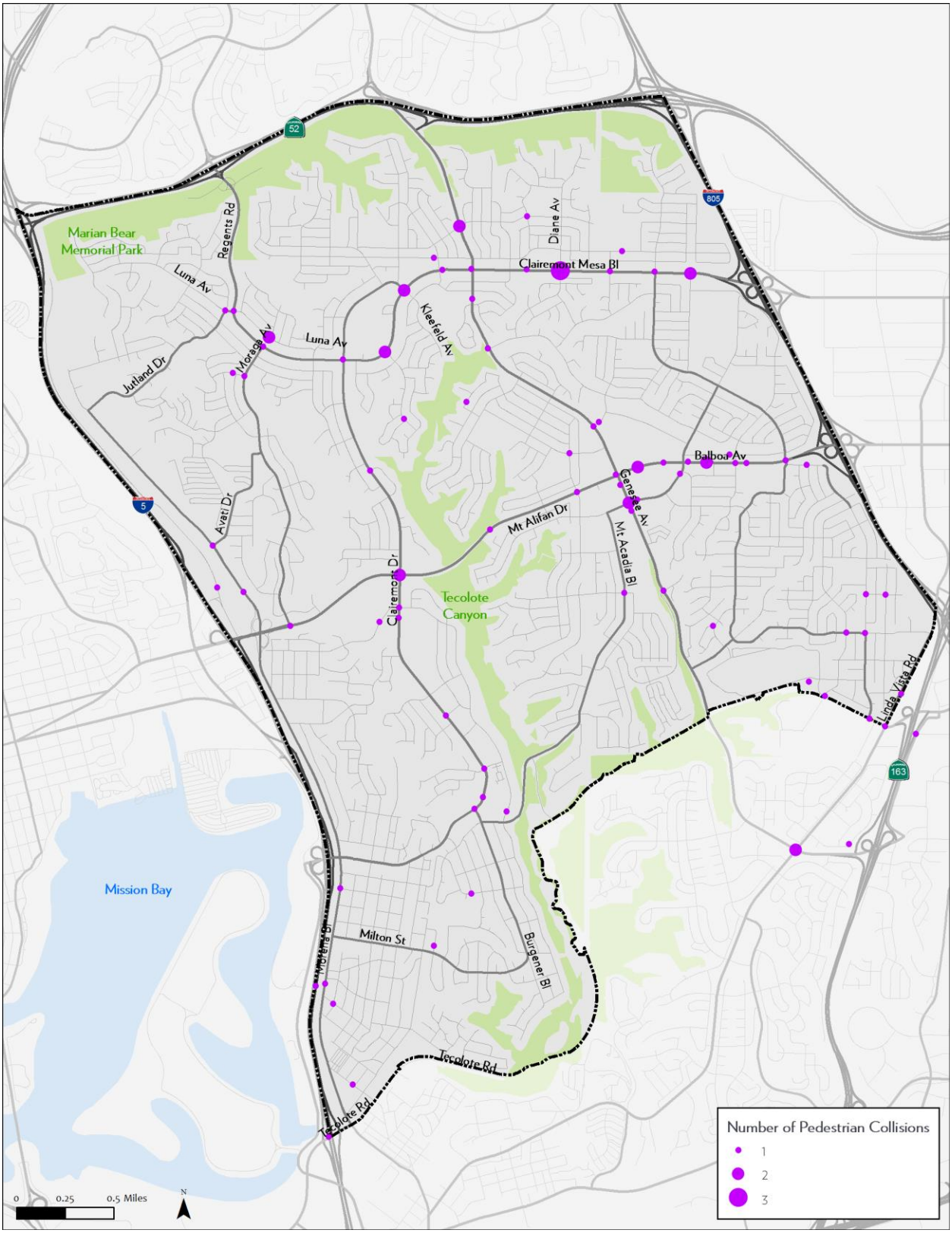
Party At Fault	Collisions	Percent of Total
Driver	41	43%
Pedestrian	37	39%
Not Stated	15	16%
Bicyclist	1	1%
Other	1	1%
Total	**95**	**100%**

Table 4-5 identifies the primary collision cause reported for the 95 pedestrian-involved collisions in Clairemont. The leading cause was attributed to pedestrian violations, which occurred in approximately one-third of pedestrian-involved collisions. The second-most frequently seen cause of collision was "pedestrian right-of-way violation," followed by "unknown" and "improper turning."

Table 4-5: Primary Pedestrian Collision Cause

Primary Collision Cause	Collisions	Percent of Total
Pedestrian Violation	32	34%
Pedestrian Right of Way Violation	19	20%
Unknown	11	12%
Improper Turning	7	8%
Automobile Right of Way Violation	6	6%
Unsafe Starting or Backing	5	5%
Not Stated	5	4%
Unsafe Lane Change	4	4%
Unsafe Speed	2	2%
Other Hazardous Violation	1	1%
Other Improper Driving	1	1%
Traffic Signals and Signs	1	1%
Wrong Side of Road	1	1%
Total	95	100%

Figure 4-6. Pedestrian Collisions (2011-2015)



4.1.3 | PEDESTRIAN ENVIRONMENT QUALITY EVALUATION (PEQE)

The Pedestrian Environment Quality Evaluation (PEQE) provides an assessment of pedestrian facilities within the Pedestrian Study Area, including roadway segments, intersections, and mid-block crossings where present. There are no existing mid-block crossings within the Pedestrian Study Area; therefore this facility type was not evaluated.

The segment analysis considers horizontal buffer, lighting, a clear pedestrian zone, and the posted speed limit. Intersection analysis includes evaluating and identifying the presence of physical features that serve as safety mechanisms, operational features, curb ramps which meet standards for the Americans with Disabilities Act (ADA), and intersection traffic control. An overview of the methodology used to calculate PEQE scores, including inputs and scoring used, is provided in **Section 2.1.3**.

Table 4-6 summarizes the PEQE analysis results for roadway segments and off-road pedestrian connections within the Pedestrian Study Area. As shown, just over 70 percent of facilities currently exhibit either medium- or high-quality conditions. Low-quality conditions were observed along 27 percent of facilities.

Many of the roadway segments within the Pedestrian Study Area are either missing sidewalks altogether, or have sidewalks that are less than 5 feet in width. Many sub-standard sidewalks are adjacent to City-owned right-of-way that is currently used for landscaping. Both the provision of sidewalks as well as increasing sidewalk widths to provide a clear pedestrian zone of 5 feet or more would likely improve the PEQE score along several Study Area roadways.

Several roadways have street lighting that does not meet minimum spacing requirements (e.g. one light every 150-300 feet). Adding street lights along key roadway segments in order to achieve minimum requirements would likely improve the PEQE score along several Study Area roadways.

Additionally, several intersections have curb ramps that do not meet ADA requirements. Upgrading curb ramps to meet ADA standards would likely improve the PEQE score along several Study Area roadways.

Table 4-6. Summary of PEQE Analysis for Roadway Segments within Pedestrian Study Area

PEQE Score	Total Length (linear feet)	Percent of Study Area Facilities
High	88,845	13%
Medium	411,314	60%
Low	185,030	27%
Total Length	**685,189**	**100%**

Table 4-7 summarizes the PEQE analysis results for intersection crossings within the study area. As shown, 75 percent of crossings exhibited medium-quality conditions, with the remaining 25 percent exhibiting low-quality conditions. No crossings exhibited high-quality conditions.

Table 4-7. Summary of PEQE Analysis for Intersection Crossings within Pedestrian Study Area

PEQE Score	Number of Crossings	Percent of Study Area Facilities
High	0	0%
Medium	80	75%
Low	26	25%
Total Number of Crossings	**106**	**100%**

Table 4-8 below summarizes the number of missing curb ramps within the pedestrian study area, as well as the length of missing sidewalks either within or along roadways which provide access to the pedestrian study area.

Table 4-8. Summary of Missing Curb Ramps and Sidewalks within or Providing Access to the Pedestrian Study Area

Item	Quantity	Length (feet)
Missing Sidewalks	NA	29,034
Missing Curb Ramps	22	NA

Maps showing the locations of missing sidewalks and existing crosswalks are included below in **Figure 4-7** and **Figure 4-8**, respectively.

The PEQE results are graphically displayed in **Figure 4-9**. As shown, roadway segments exhibiting low-quality pedestrian conditions are generally shown along major arterial roadways, but are also found along local roadways. Roadways exhibiting medium- and high-quality conditions are generally found along local roadways as well as off-road pedestrian facilities within commercial shopping areas. Detailed worksheets showing the calculation of PEQE scores for facilities within the Pedestrian Study Area are provided in **Appendix A-1**.

Figure 4-7. Locations with no Sidewalks (Within or Providing Access to Pedestrian Study Area)

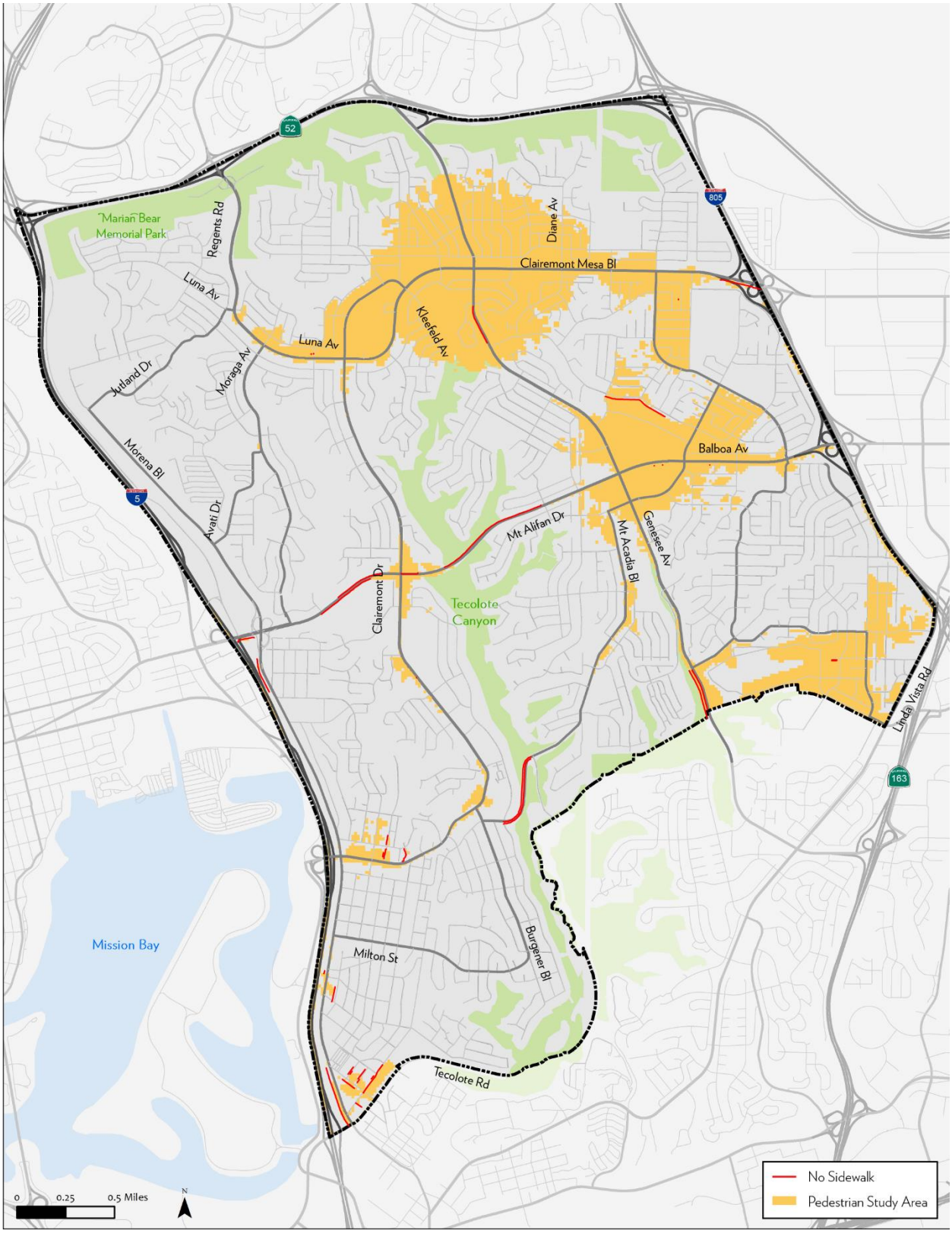


Figure 4-8. Locations with Existing Crosswalks (Pedestrian Study Area)

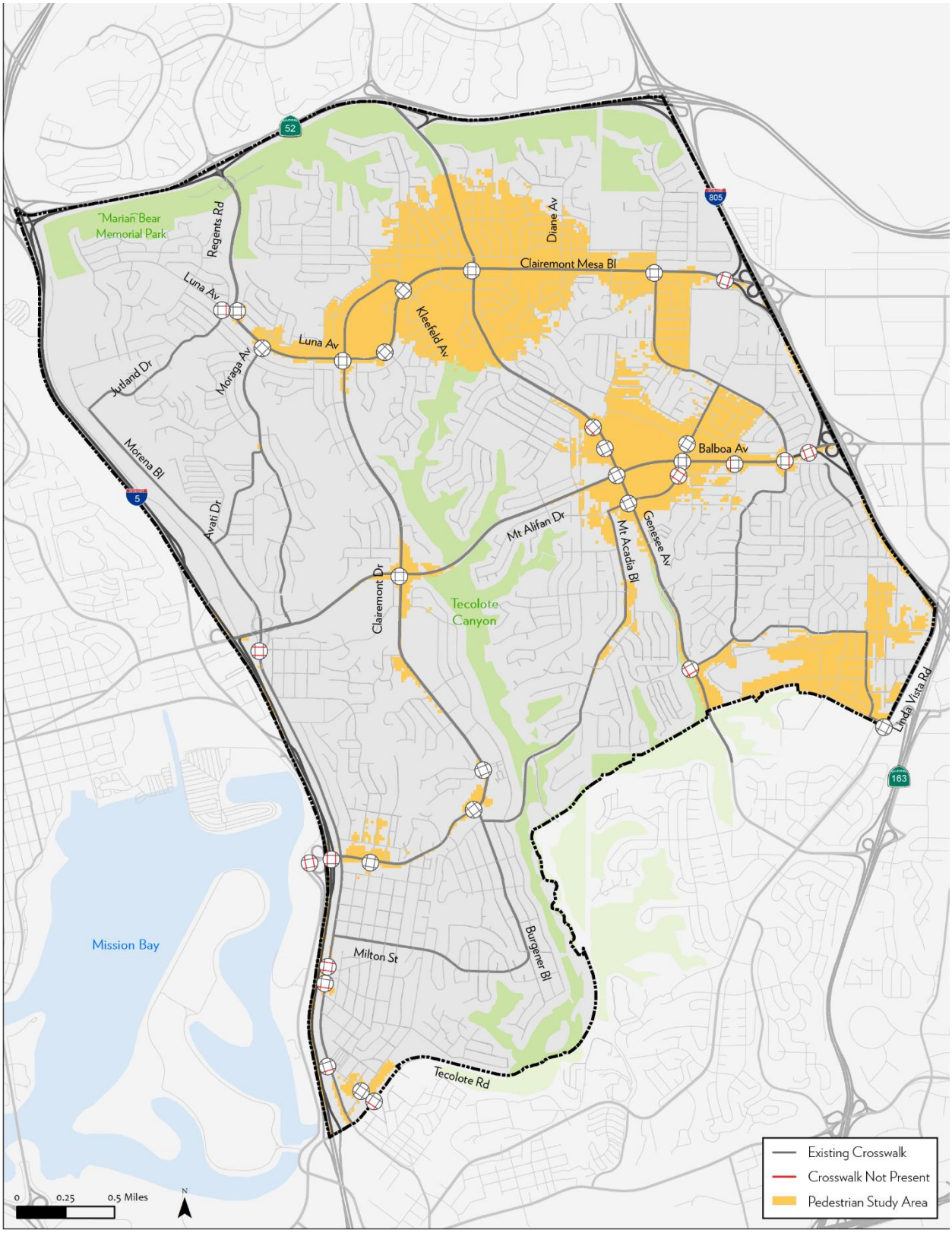
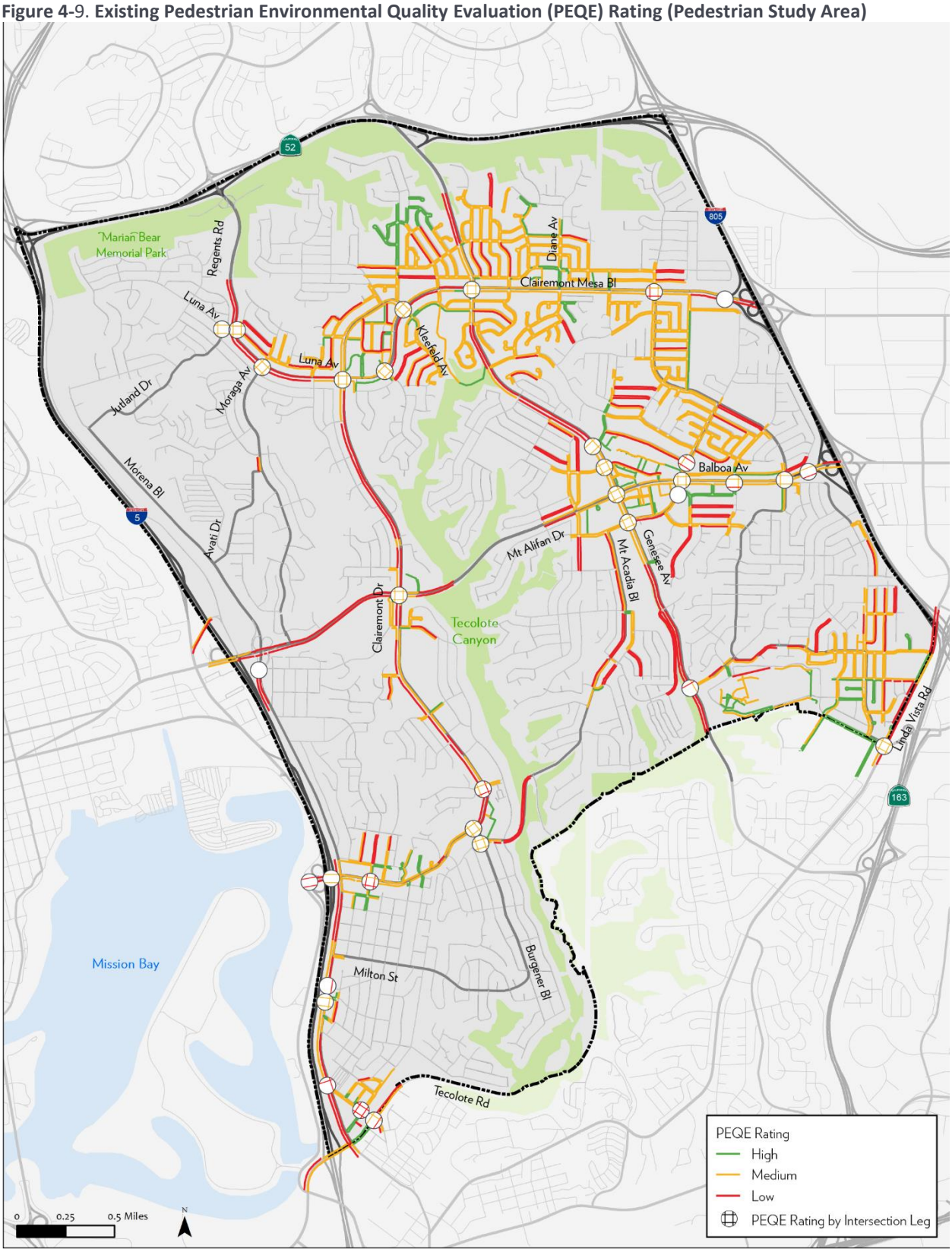


Figure 4-9. Existing Pedestrian Environmental Quality Evaluation (PEQE) Rating (Pedestrian Study Area)



4.1.4 | PEDESTRIAN NETWORK CONNECTIVITY

Walkshed Ratio

A pedestrian travelshed analysis was used to assess the level of connectivity at each pedestrian study intersection. The methodology for calculating the Pedestrian Connectivity Ratio is described in detail in **Section 2.1.4**, and utilizes the following formula:

$$\frac{\text{Land Area Accessible within a 0.5 mile walkshed (acres)}}{\text{Land Area Accessible within a 0.5 mile crow flies buffer (acres)}}$$

As noted in **Section 2.1.4**, the higher the ratio, the better the overall connectivity is at the intersection.

The pedestrian connectivity ratio for each intersection within the pedestrian study area is shown below in **Table 4-9**. **Figure 4-8** provides a spatial overview of the Pedestrian Connectivity Ratio analysis.

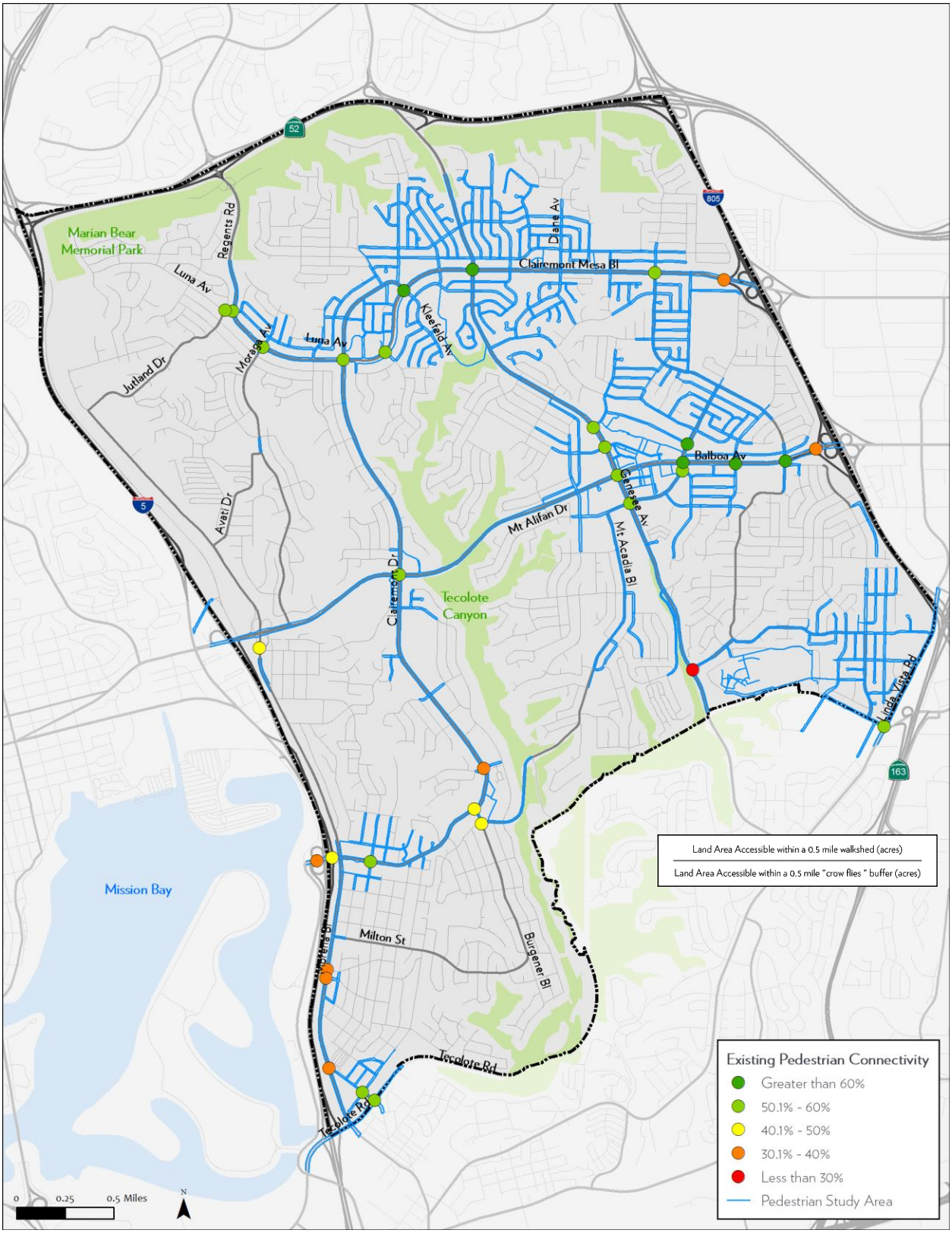
As shown in **Figure 4-10**, higher pedestrian connectivity ratios are generally present along major arterial roadways that provide access to more tightly spaced roadways within residential areas and at commercial activity centers. Lower pedestrian connectivity ratios are present at intersections that are in close proximity to barriers in the natural or built environment, such as significant changes in topography, grade-separated roadways, and the LOSSAN corridor.

Detailed worksheets showing the calculation of pedestrian connectivity ratios for pedestrian study area intersections are included in **Appendix A-2**.

Table 4-9. Pedestrian Connectivity Ratio at Pedestrian Study Intersections

Intersection ID	Intersection Name	Pedestrian Connectivity Ratio
5	Clairemont Mesa Boulevard and Luna Avenue	54%
6	Jutland Drive and Luna Avenue	56%
8	Clairemont Mesa Boulevard and Moraga Avenue	56%
9	Clairemont Drive and Clairemont Mesa Boulevard	59%
10	Rolfe Road and Clairemont Mesa Boulevard	51%
11	Clairemont Drive/Kleefeld and Clairemont Mesa Boulevard	64%
12	Genesee Avenue and Clairemont Mesa Boulevard	61%
13	Limerick Avenue and Clairemont Mesa Boulevard	59%
14	I-805 SB Ramps and Clairemont Mesa Boulevard	34%
16	Genesee Avenue and Derrick Drive	58%
17	Genesee Avenue and Mt. Etna Drive	58%
18	Genesee Avenue and Balboa Avenue	58%
19	Genesee Avenue and Mt. Alifan Drive	58%
20	Mt. Alifan Drive and Mt. Abraham Avenue	60%
21	Mt. Abernathy Avenue and Balboa Avenue	64%
22	Mt. Abernathy Avenue and Balboa Arms Drive	62%
23	Cannington Drive and Balboa Avenue	63%
24	Charger Boulevard and Balboa Avenue	62%
25	I-805 SB Ramps and Balboa Avenue	37%
27	Clairemont Drive and Balboa Avenue	58%
28	I-5 SB Ramps and Mission Bay Drive	35%
29	I-5 NB Ramps and Clairemont Drive	43%
30	Denver Street and Clairemont Drive	54%
31	Burgener Boulevard and Clairemont Drive	47%
33	Clairemont Drive and Iroquois Avenue	38%
32	Burgener Boulevard and Field Street	47%
34	Morena Boulevard and Napier Street	33%
35	Morena Boulevard and Ashton Street	32%
36	Morena Boulevard and West Morena Boulevard	37%
37	Knoxville Street and Morena Boulevard	52%
38	Tecolote Road and Morena Boulevard	56%
39	Genesee Avenue and Marlesta Drive	23%
43	Linda Vista Road and Mesa College Drive	52%
49	Morena Boulevard and Balboa Avenue EB Ramps	42%

Figure 4-10. Existing Pedestrian Connectivity Ratio



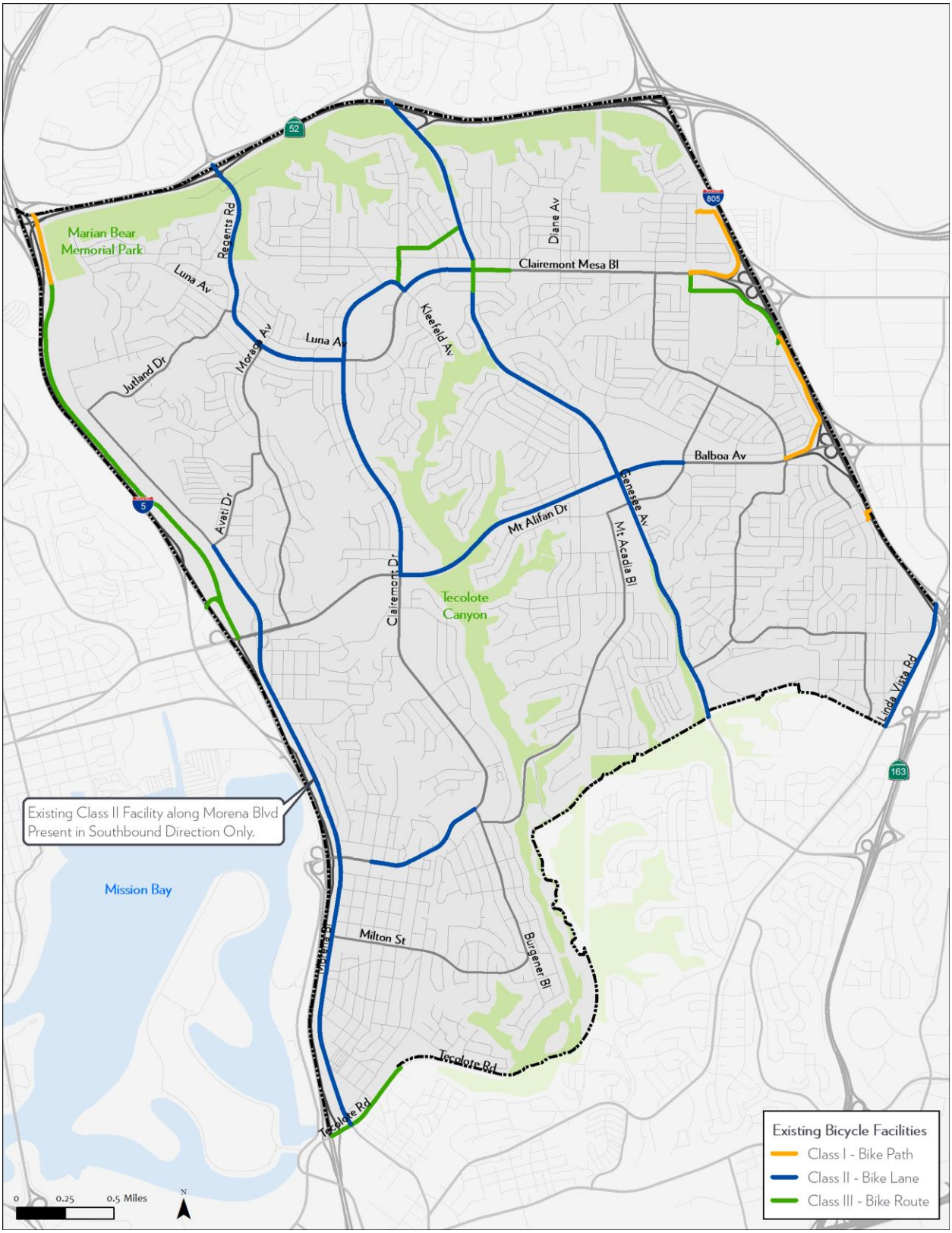
4.2 | Bicycle Mobility

The following section summarizes existing bicycle mobility conditions within the Clairemont community.

Figure 4-11 displays the location of existing bicycle facilities within the Clairemont community. The network is comprised of Class I multi-use paths, Class II bike lanes, and Class III bike routes. Class II bicycle lanes are the most common facility type in Clairemont.

As shown, the existing bicycle network contains gaps in connectivity along several of the primary arterial roadways within the community. Connectivity is generally greater in the areas north of Balboa Avenue, the southern portion of the community is less connected.

Figure 4-11. Existing Bicycle Facilities



4.2.1 | BICYCLE DEMAND

Bicycle demand was evaluated using the City of San Diego Bicycle Demand Model (BDM). The BDM is based on two components of demand: intra-community and inter-community travel. Population characteristics as well as bicycle trip attractors and generators and proximity to land uses typically associated with higher rates of cycling activity are incorporated into the BDM. The BDM process is described in more detail above in **Section 2.2.1**. **Figure 4-12** displays the Bicycle Demand Model results for Clairemont relative to the City of San Diego as a whole.

As shown, relatively higher bicycle demand is seen along major arterial corridors, including Morena Boulevard, Genesee Avenue, and intermittently along Balboa Avenue. Somewhat higher demand is also shown along portions of Clairemont Mesa Boulevard and Clairemont Drive, among others. Lower bicycling demand is generally seen within residential neighborhoods throughout the community.

Table 4-10 draws from the US Census American Community Survey 2015 5-year estimates to compare bicycle commute mode shares between Clairemont, the City of San Diego, and San Diego County as a whole. Clairemont has the lowest reported bicycle commute mode share of all three geographies at 0.6%, compared to 0.9% for the City of San Diego, and 0.7% for San Diego County. Similar to pedestrian demand, suburban development patterns and topography surrounding Clairemont may be a factor contributing to a lower bicycle commute mode share.

Table 4-10. Bicycle Commute Mode Share Comparison

	Clairemont	City of San Diego	San Diego County
Total Bicycle Commuters	232	6,256	10,027
Total Workers	41,564	668,643	1,503,987
Bicycle Commute Mode Share	**0.6%**	**0.9%**	**0.7%**

Figure 4-13 displays bicycle commute rates and the total number of bicycle commuters by census block group throughout Clairemont. As shown, bicycle commute mode share is highest in the northwest portion of the community, including areas along Morena Boulevard, Clairemont Mesa Boulevard, Clairemont Drive, and neighborhood west of the intersection of Regents Road/Clairemont Mesa Boulevard and Luna Avenue. Higher bicycle demand near Luna Avenue is somewhat inconsistent with the high bicycle demand areas identified by the BDM in **Figure 4-12**.

Figure 4-14, **Figure 4-15**, and **Figure 4-16** display the distribution of bicycle volumes at intersections during the AM, mid-day, and PM peak hours. Mid-day counts were only performed at key intersections near activity centers which typically generate activity during the mid-day hours. Overall observed bicycle volumes were slightly greater during the AM peak hour. Higher bicycle volumes were observed around the periphery of the Clairemont community, with the exception being near the commercial center near the intersection of Clairemont Mesa Boulevard and Clairemont Drive. This could be due to the presence of topographic features which create a physical barrier between Clairemont and the surrounding communities.

Peak hour bicycle count information is included in **Appendix D**.

Figure 4-12. Bicycle Demand Model Results

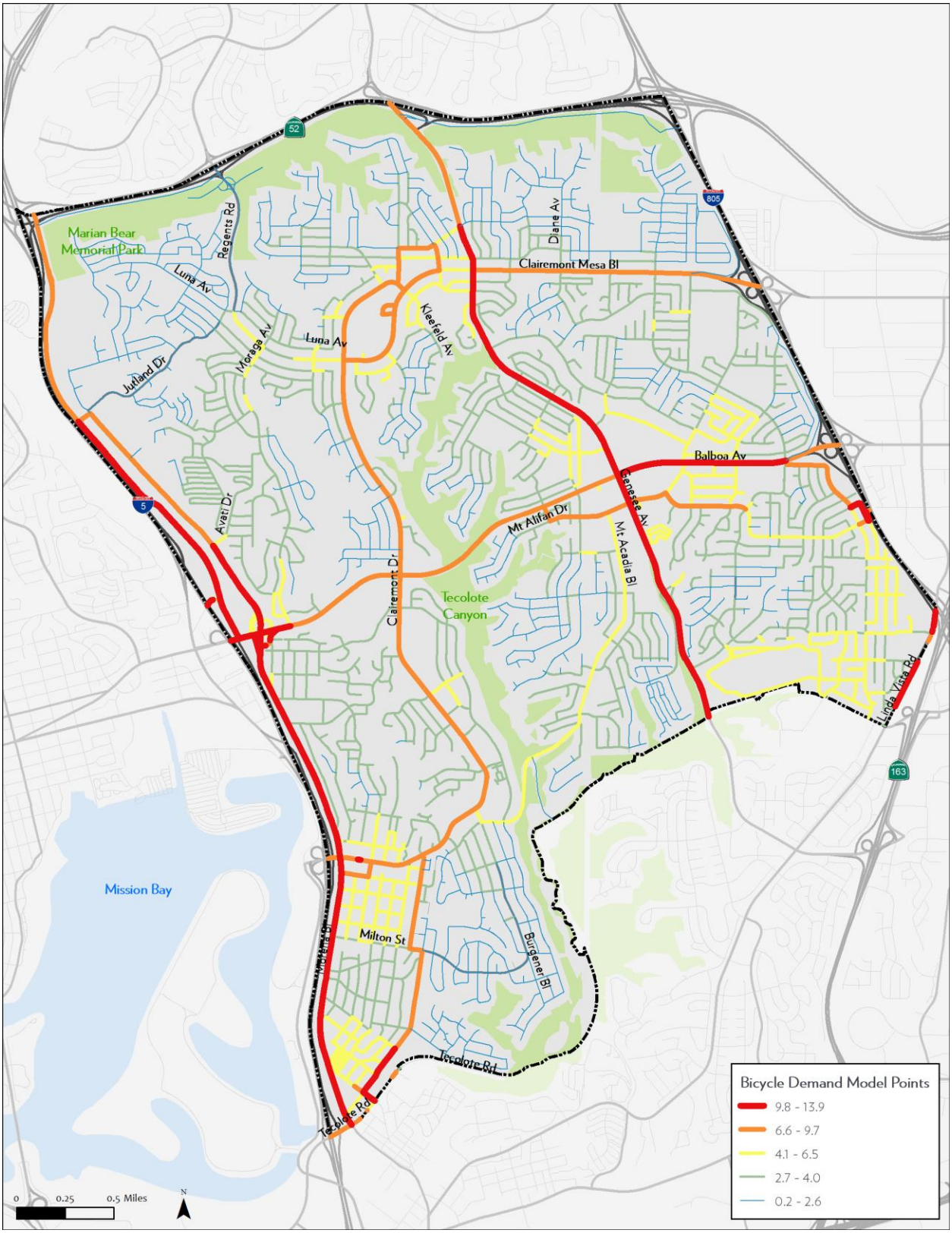


Figure 4-13. Bicycle Commuter Mode Share by Census Block Group

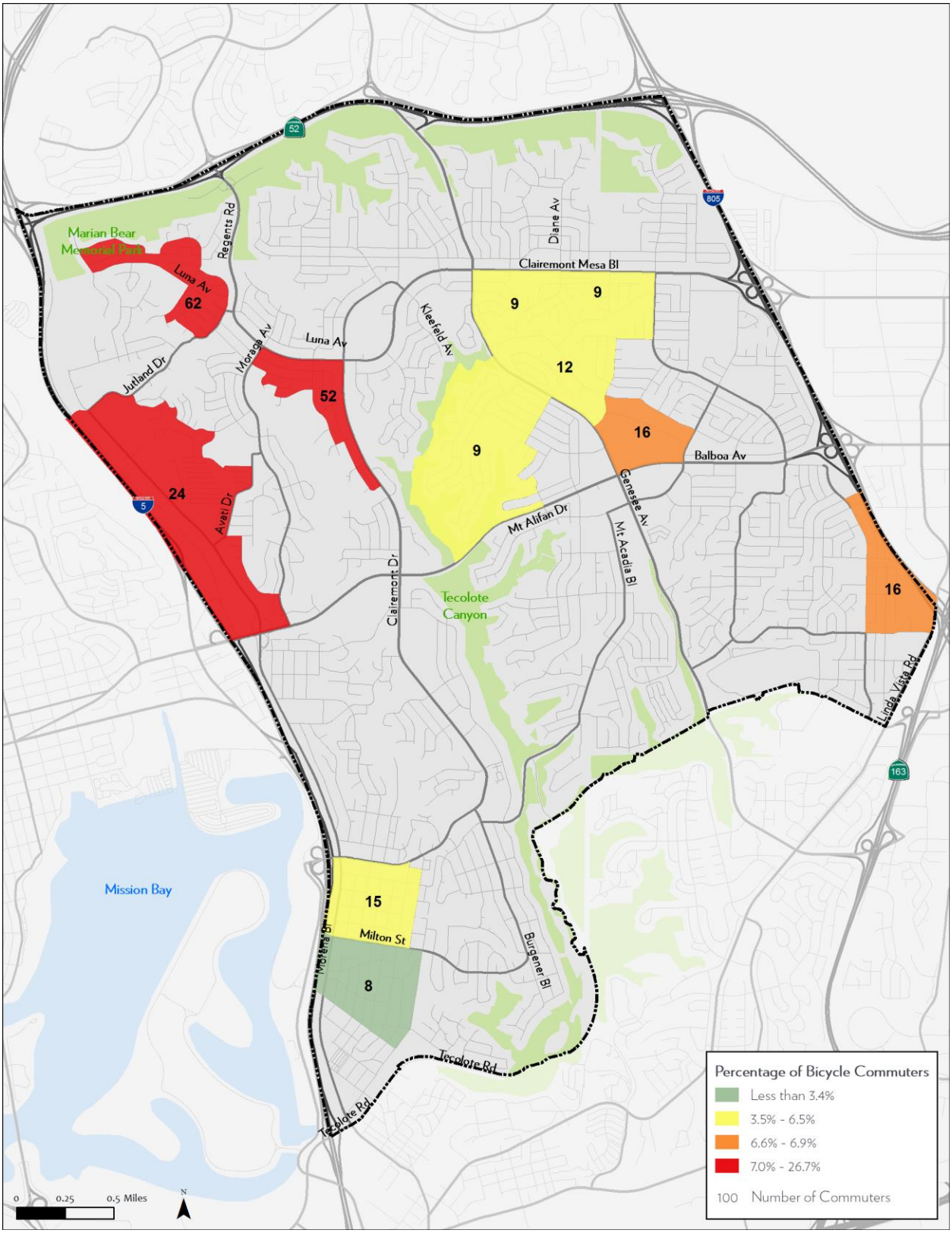


Figure 4-14. AM Peak Hour Bicycle Counts

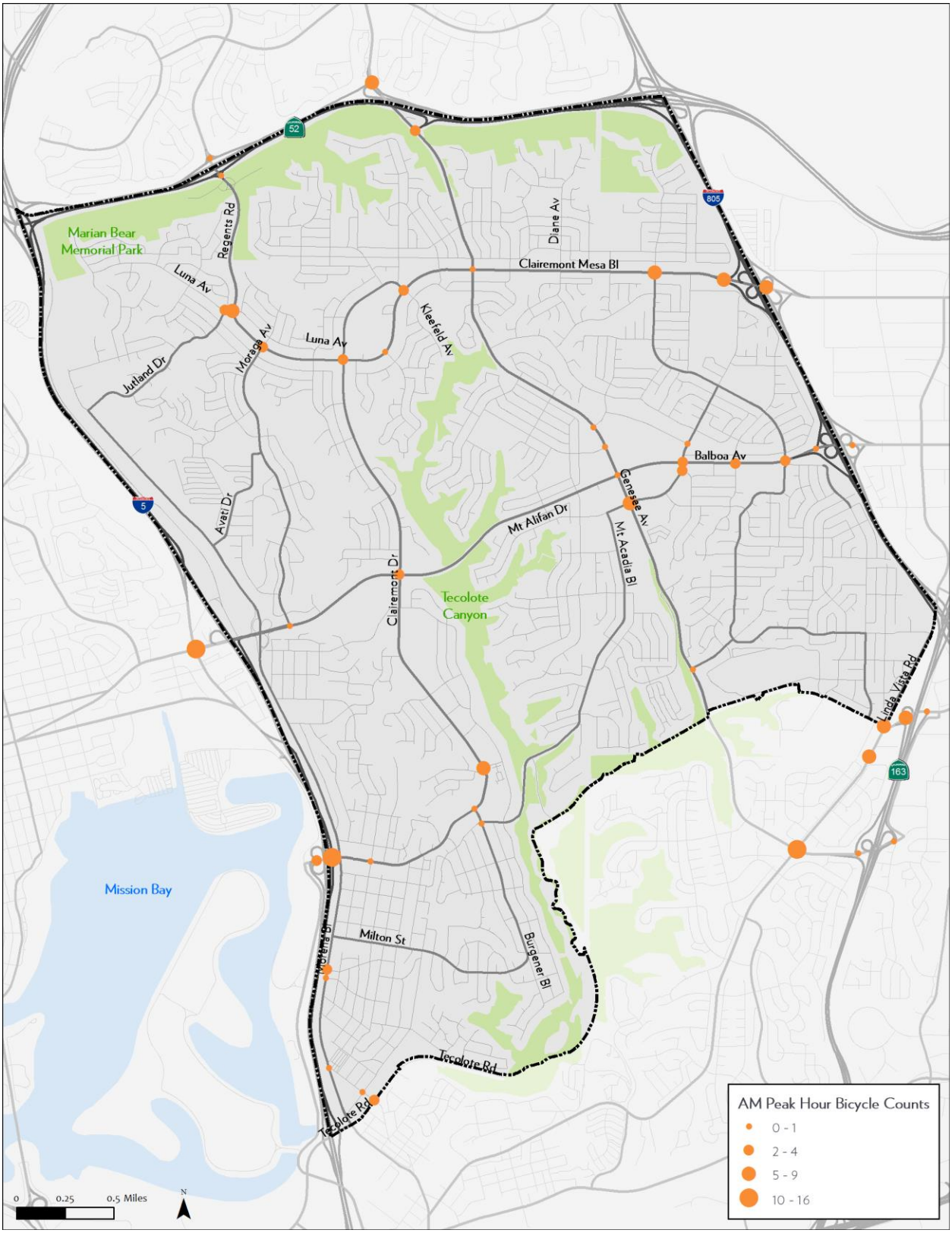


Figure 4-15. Mid-Day Peak Hour Bicycle Counts (Select locations)

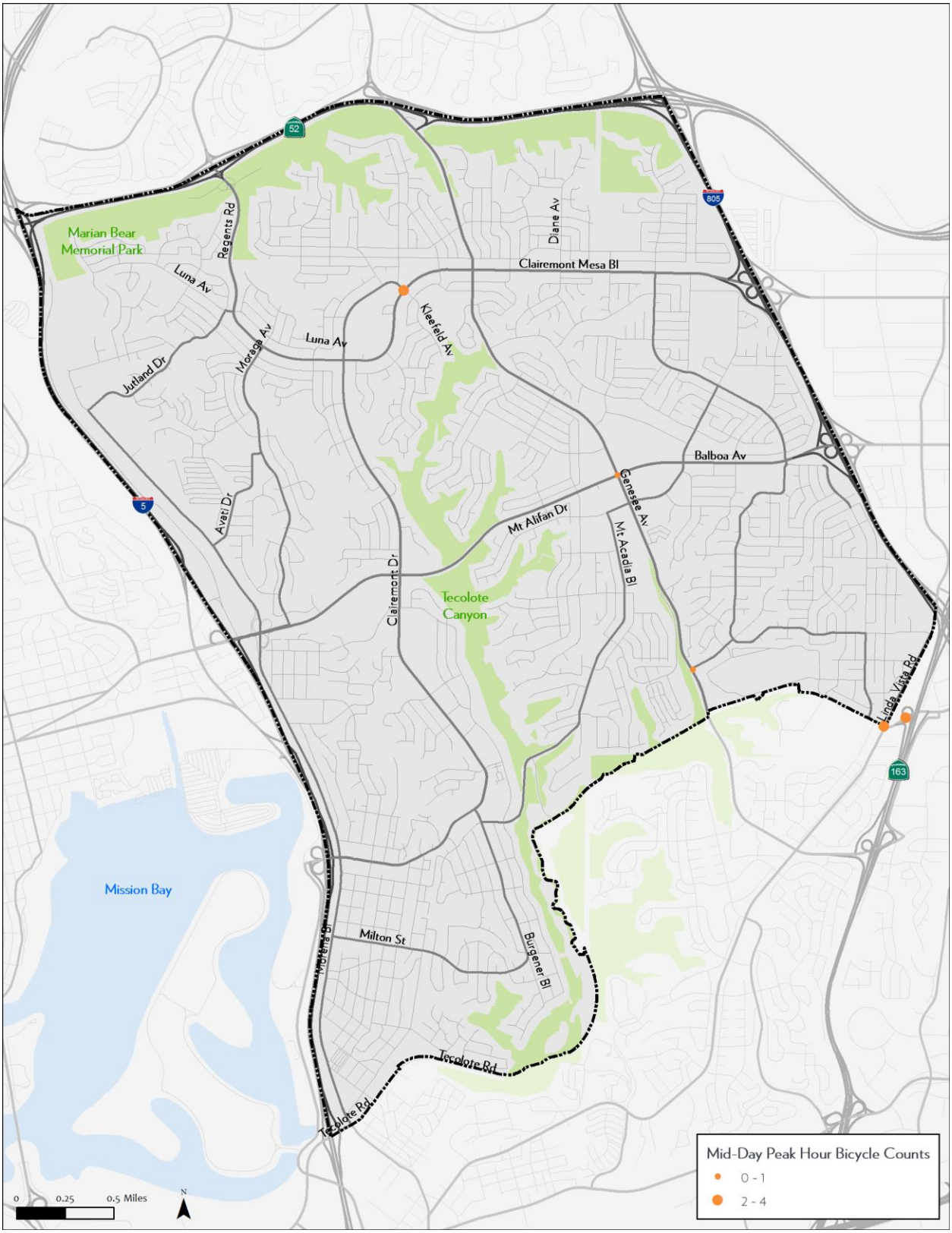
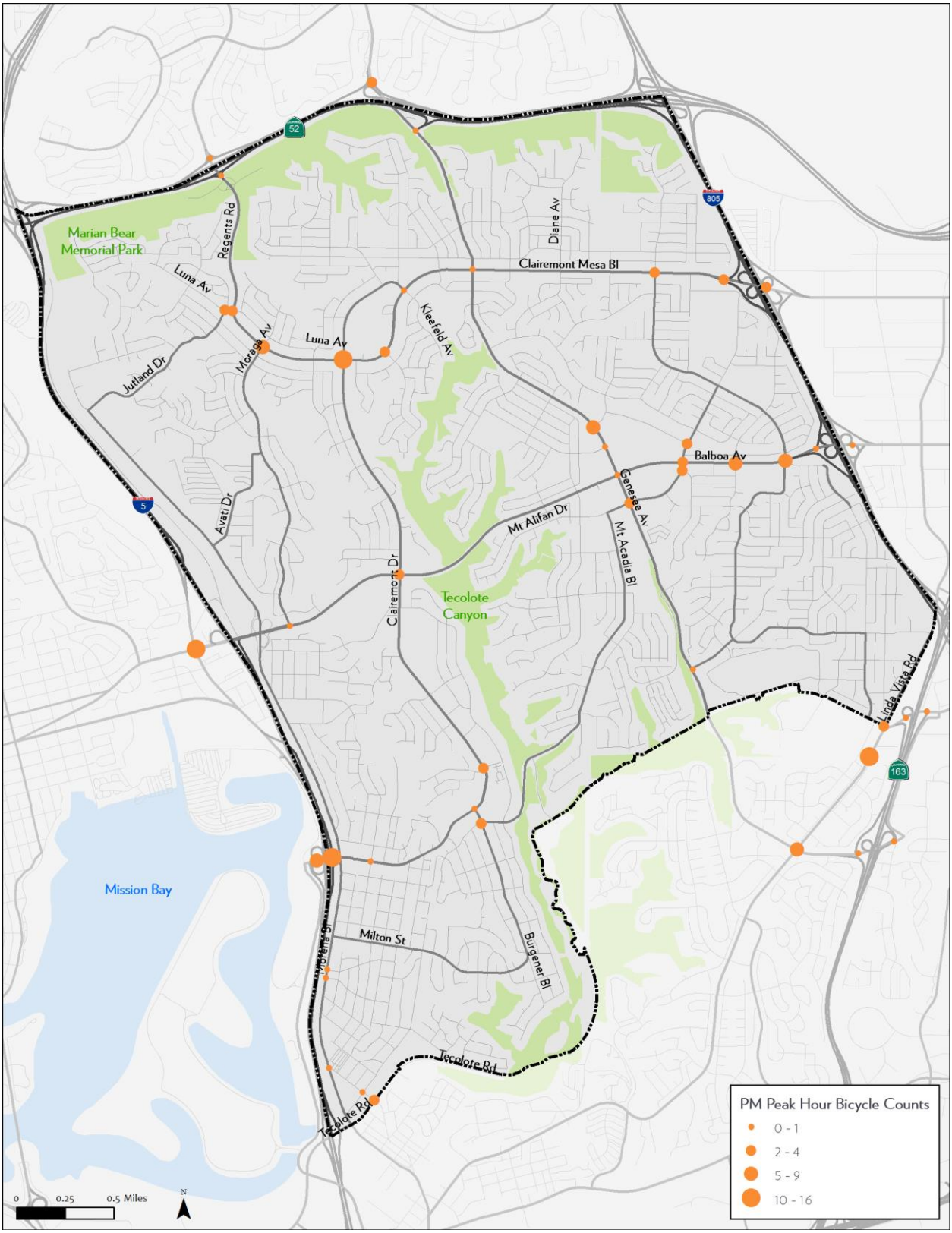


Figure 4-16. PM Peak Hour Bicycle Counts



4.2.2 | BICYCLE SAFETY

Pedestrian safety was evaluated using collision data obtained from the City of San Diego Police Department's Crossroads software (SDPD) and the University of California Berkeley's Transportation Injury Mapping System (TIMS) for the period from January 2011 through December 2015. A total of 88 bicycle-involved collisions were reported during this five-year period in Clairemont. **Figure 4-17** displays the distribution of the bicycle-involved collisions across the community, while Table 4-11 identifies intersections where multiple bicycle collisions were reported.

As shown, six intersections experienced multiple bicycle-involved collisions. Four collisions occurred at the intersection of Balboa Avenue/Mt. Alifan Drive/Mt. Abernathy Avenue. Three collisions occurred at the intersection of Clairemont Mesa Boulevard/Clairemont Drive/Kleefeld Avenue. The other four intersections listed below experienced two bicycle-related collisions within the five-year period.

Table 4-11: Most Frequent Bicycle Collision Locations (January 2011 – December 2015)

Rank	Intersection	Collisions
1	Balboa Avenue and Mt. Alifan Drive/Mt. Abernathy Avenue	4
2	Clairemont Mesa Boulevard and Clairemont Drive/Kleefeld Avenue	3
3	Genesee Avenue and Mt. Etna Drive	2
3	Balboa Avenue and Santa Fe Street	2
3	Balboa Avenue and Moraga Avenue	2
3	Clairemont Drive and Denver Street	2

Bicycle-involved collisions by location types are summarized in **Table 4-12**, differentiating between intersection, mid-block, and approaching/departing locations. The distribution of bicycle-involved collisions by location types is more tightly grouped than that of pedestrian-involved collisions. The percentage of bicycle-involved collisions for each location type ranges from 25 to 35 percent, with a larger percentage of bicycle-involved collisions occurring at intersections. Approximately 15 percent of bicycle-involved collisions did not have the data necessary to determine the location type.

Table 4-12: Bicycle Collisions by Location Types (January 2011 – November 2015)

Collision Location	Collisions	Percent of Total
Mid-Block	23	25%
Intersection	32	35%
Approaching/departing	24	27%
Not Stated	11	13%
Total	88	100%

Table 4-13 identifies the party-at-fault for each of the 88 bicycle-involved collisions. The bicyclist was reported at-fault just under 60 percent of collisions.

Table 4-13: Bicycle Collisions by Party at Fault (January 2011 – November 2015)

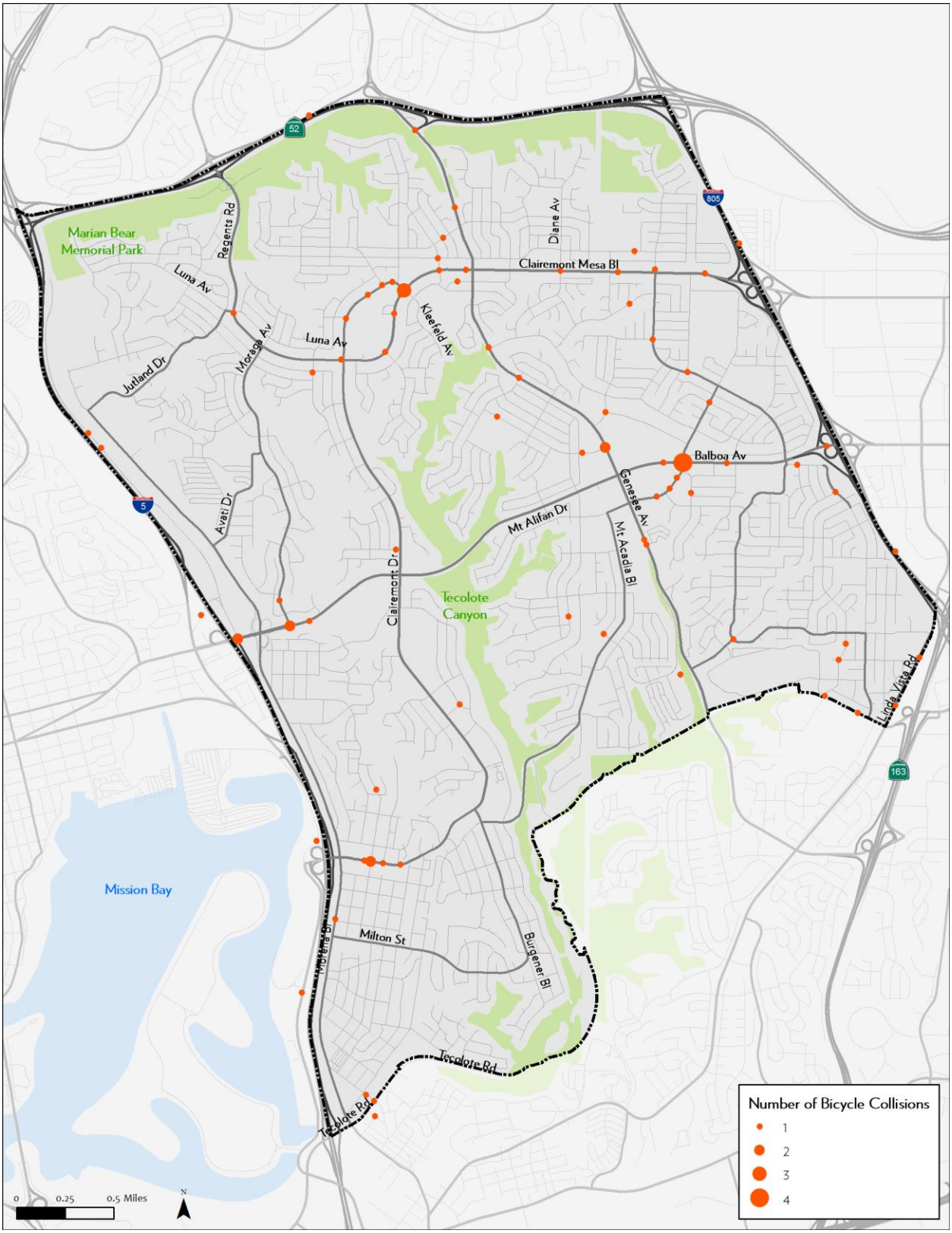
Party At Fault	Collisions	Percent of Total
Bicyclist	51	58%
Driver	30	34%
Not Stated	7	8%
Total	**88**	**100%**

Table 4-14 identifies the primary collision cause reported for the 88 bicycle-involved collisions in Clairemont. The leading cause was attributed to "automobile right-of-way violations," followed by "improper turning" and "wrong side of the road."

Table 4-14: Primary Bicycle Collision Cause (January 2011 – November 2015)

Primary Collision Cause	Collisions	Percent of Total
Automobile Right of Way Violation	19	22%
Improper Turning	13	15%
Wrong Side of Road	11	13%
Unsafe Speed	10	11%
Unsafe Lane Change	6	7%
Other	5	6%
Not Stated	4	5%
Traffic Signals and Signs	4	5%
Brakes	2	2%
Improper Passing	2	2%
Other Hazardous Violation	2	2%
Pedestrian Right of Way Violation	2	2%
Unknown	2	2%
Unsafe Starting or Backing	2	2%
Other Hazardous Movement	1	1%
Other Improper Driving	1	1%
Other Than Driver	1	1%
Other Than Driver (or Pedestrian)	1	1%
Total	**88**	**100%**

Figure 4-17. Bicycle Collisions (2011-2015)



4.2.3 | BICYCLE FACILITY QUALITY

Bicycle Level of Traffic Stress (LTS) evaluates the network of streets and bicycle paths according to the quality of the bicycling experience, based on an evaluation of surrounding roadway and traffic conditions. LTS is a widely accepted measure developed by the Mineta Transportation Institute at San Jose State University, and detailed in the 2012 report "Low Stress Bicycling and Network Connectivity."[11] The report also draws from work done by the City of Portland, Oregon, to classify bicycle riders into several types based on their tolerance for traffic.[12]

Table 4-15 defines the four LTS levels in terms of suitable rider types and the cycling experience. A score of 1 represents the lowest level of stress/highest suitability, while a score of 4 represents the highest level of stress/least suitability.

Table 4-15: Levels of Traffic Stress

Level	Suitable Rider Type	Cycling Experience
LTS 1	**"Interested but Concerned" Adults and Children**	▪ Presenting little traffic stress and demanding little attention from cyclists, and attractive enough for a relaxing bike ride. ▪ Suitable for almost all cyclists, including children trained to safely cross intersections. ▪ On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a slow traffic stream with no more than one lane per direction, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. ▪ Where cyclists ride alongside a parking lane, they have ample operating space outside the zone into which car doors are opened. ▪ Intersections are easy to approach and cross.
LTS 2	**"Interested but Concerned" Adults Only**	▪ Presenting little traffic stress and therefore suitable to most adult cyclists but demanding more attention than might be expected from children. ▪ On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a well-confined traffic stream with adequate clearance from a parking lane, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. ▪ Where a bike lane lies between a through lane and a right- turn lane, it is configured to give cyclists unambiguous priority where cars cross the bike lane and to keep car speed in the right-turn lane comparable to bicycling speeds. ▪ Crossings are not difficult for most adults.
LTS 3	**"Enthused and Confident" Adults Only**	▪ More traffic stress than LTS 2, yet markedly less than the stress of integrating with multilane traffic, and therefore welcome to many people currently riding bikes in American cities. ▪ Offering cyclists either an exclusive riding zone (lane) next to moderate-speed traffic or shared lanes on streets that are not multilane and have moderately low speed. ▪ Crossings may be longer or across higher-speed roads than allowed by LTS 2, but are still considered acceptably safe to most adult pedestrians.
LTS 4	**"Strong and Fearless"**	▪ A level of stress beyond LTS 3.

[11] http://transweb.sjsu.edu/project/1005.html
[12] https://www.portlandoregon.gov/transportation/44597?a=237507

	Adults Only	

Source: "Low Stress Bicycling and Network Connectivity," Mineta Transportation Institute, p. 14.

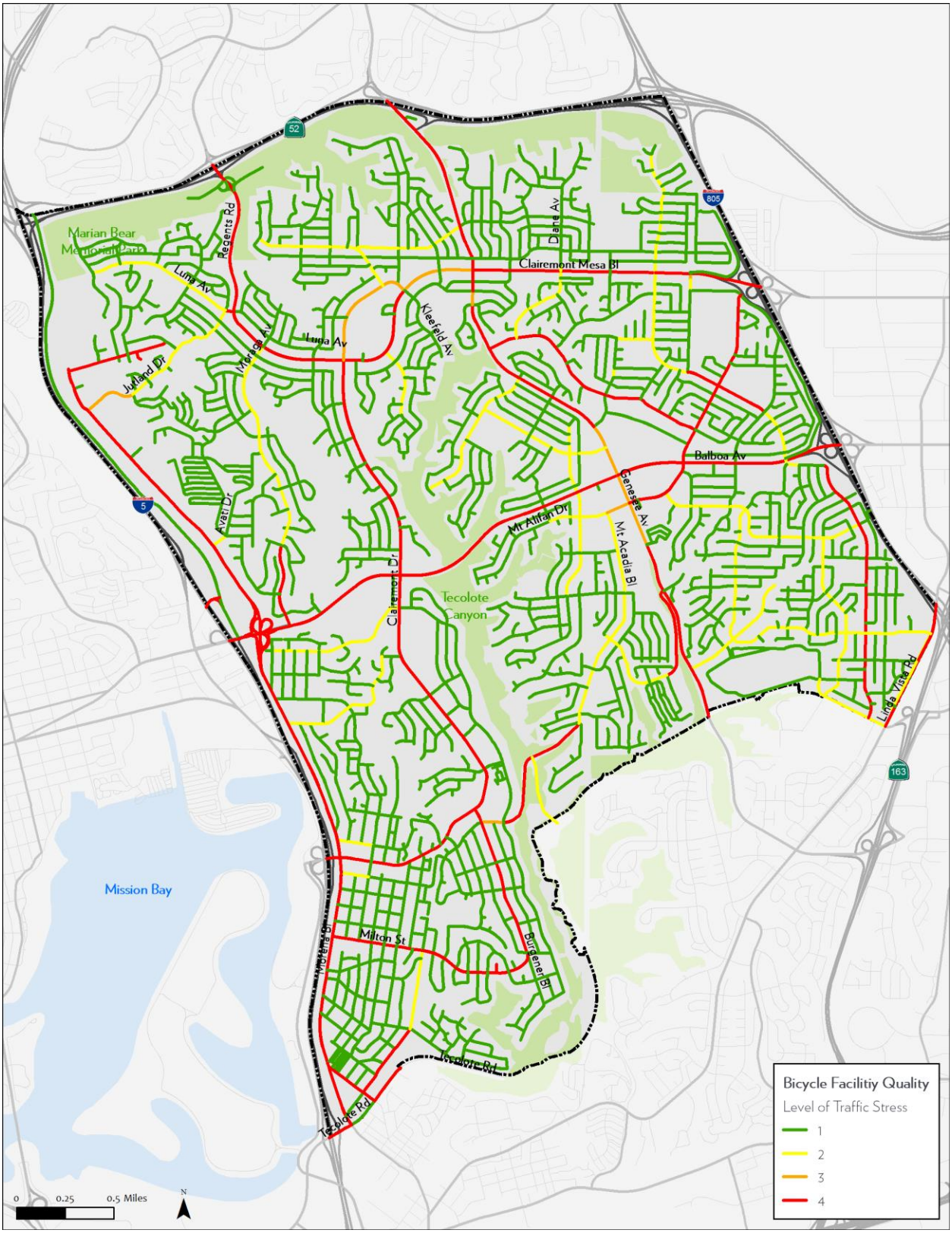
Results

Figure 4-18 shows the results of the bicycle quality analysis for all bicycle facilities and roadways in Clairemont. **Appendix B** details the specific criteria used in the analysis and the input values for each roadway segment.

The community's low-stress facilities—earning LTS 1 or LTS 2—are primarily local roads that provide internal neighborhood circulation. In general, they feature low traffic speeds (less than 30mph) and only one traffic lane in each direction.

Stress levels increase significantly along roadways with greater traffic speeds and roadway widths. In fact, the majority of roadways providing mobility across the community and to adjacent communities earned the highest-stress designation of LTS 4, including Clairemont Drive, Clairemont Mesa Boulevard, Morena Boulevard, Genesee Avenue, and Balboa Avenue. Despite the addition of Class II bicycle lanes on many of these thoroughfares, their high traffic speeds—with most segments exceeding 35-40mph—prevent the LTS score from improving.

Figure 4-18. Existing Bicycle Facility Quality (Level of Traffic Stress)



4.2.4 | BICYCLE NETWORK CONNECTIVITY

Bikeshed Ratio

The Bikeshed Ratio measures overall bicycle connectivity from any given point, by comparing the area reachable via the bike network within a given travel distance (the "bikeshed") to the area of an "as the crow flies" circle covering the same travel distance (example in **Figure 4-19**). This indicates the relative connectivity and accessibility provided by bicycle network. Due to the presence of natural features and other constraints, 65% is typically the highest Bikeshed Ratio that can be achieved in even the most ideal communities. In general, any score over 50% is considered ideal.

This analysis examined over 1,300 points in the community's bicycle network—including intersections between segments, as well as key inflection points along segments—to provide a comprehensive picture of community bicycle connectivity. The analysis focused specifically on the area reachable between 0.25 miles and 1.0 mile from each point. (The inner area between 0 miles and 0.25 miles from each point was removed, as it is assumed to be dominated by pedestrian trips.)

Figure 4-20 shows the results of the bikeshed analysis. The highest-scoring areas tend to be near major intersections and the community's more grid-like street networks, such as the eastern segments of Clairemont Mesa Boulevard and Balboa Avenue. The lowest-scoring areas are at the ends of cul-de-sacs and other truncated streets, most often due to natural constraints such as Tecolote Canyon.

Figure 4-19. Example Bikeshed Ratio

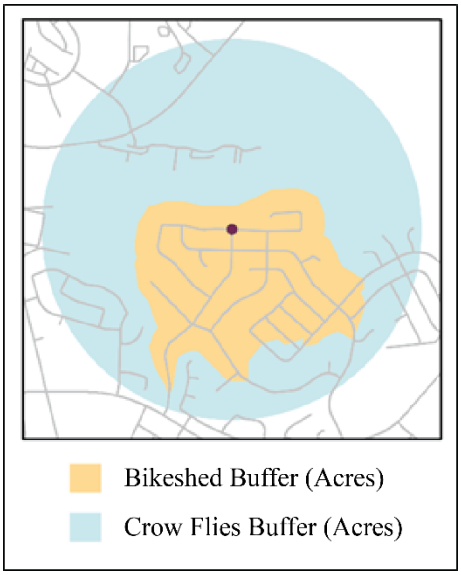
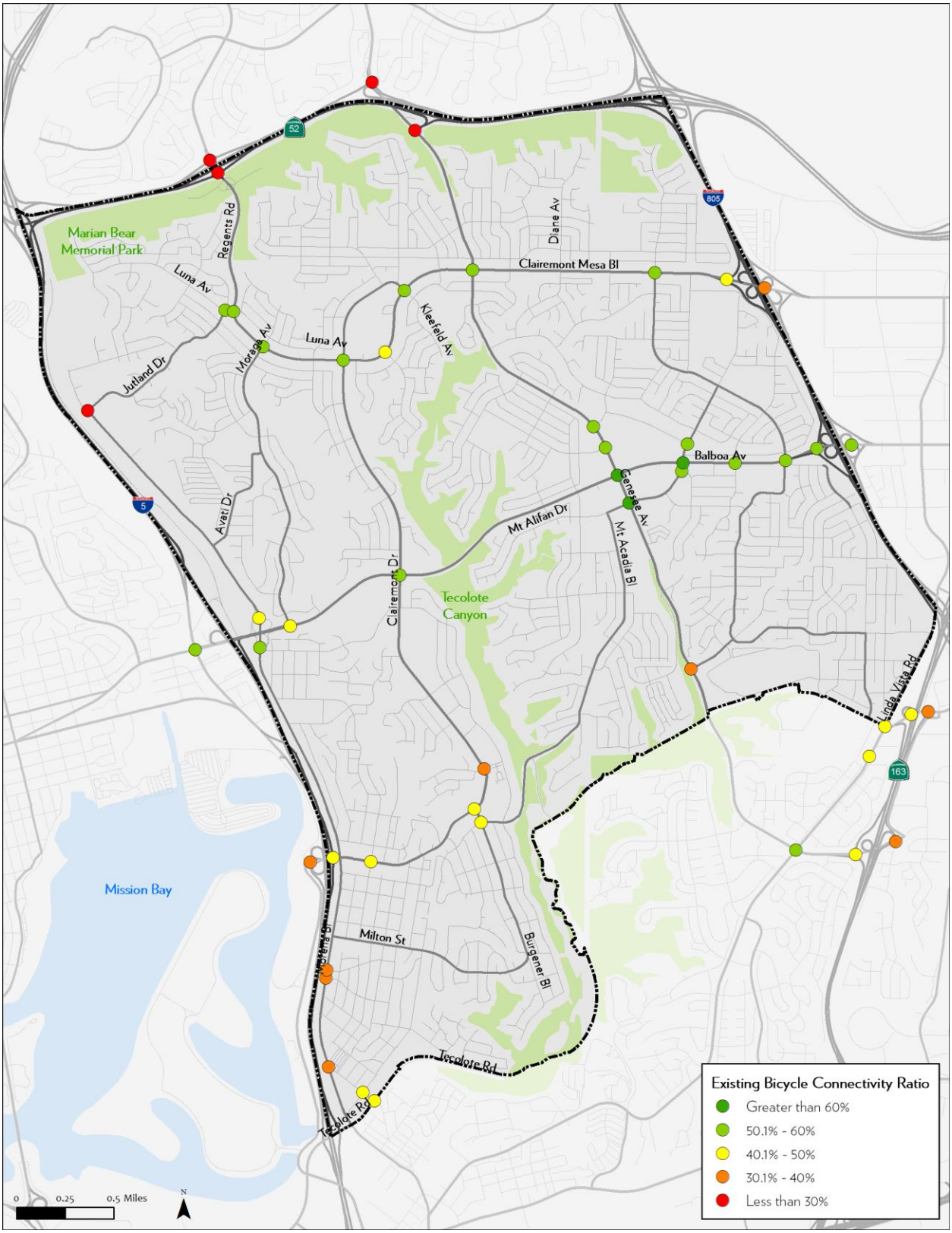


Figure 4-20. Existing Bicycle Network Connectivity (Bikeshed Ratio)



Low-Stress Bicycle Connectivity

The Low-Stress Bicycle Connectivity analysis evaluates each TAZ's connectivity to the rest of the community via low-stress routes, characterized as LTS 1 or 2. The analysis assigns each of the community's 82 TAZs a connectivity score based on the following ratio:

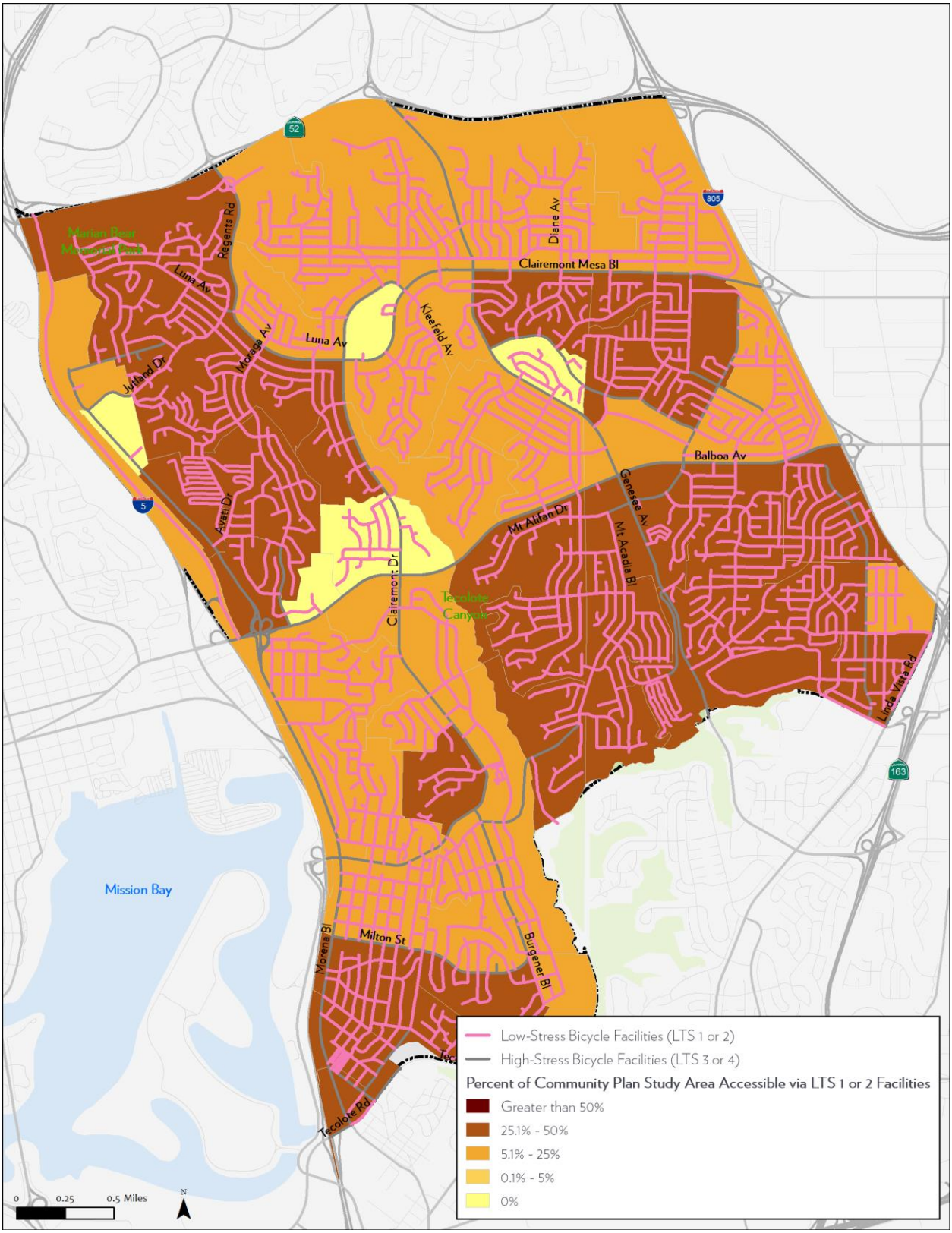
$$\frac{\text{Number of TAZs accessible via low-stress routes (LTS 1 and 2 only)}}{\text{Number of TAZs accessible via all routes}}$$

Figure 4-21 shows the results of the Low-Stress Bicycle Connectivity analysis. In general, removing LTS 3 and 4 facilities from the network effectively creates many isolated, low-stress networks within the community—with higher-stress roadways acting as barriers between them. This results in the "clustering" of TAZs with similar connectivity scores, separated by high-stress facilities such as Clairemont Drive, Genesee Avenue, Clairemont Mesa Boulevard and Balboa Avenue.

Each of these isolated clusters—while adequately connected within their boundaries—had somewhat low connectivity to the rest of the community. The highest connectivity ratios are generally located within residential neighborhoods where multiple TAZ are connected by low-stress roadways.

These results emphasize the importance of creating low-stress bicycle facilities on the community's major arterial and collector roadways. Claremont's steep topography limits the number of potential routes between points, with major roadways acting as chokepoints. Decreasing the stress level of these major roadways is the most important factor in improving the community's overall bicycle connectivity.

Figure 4-21: Existing Bicycle Network Connectivity (Low-Stress Connectivity)



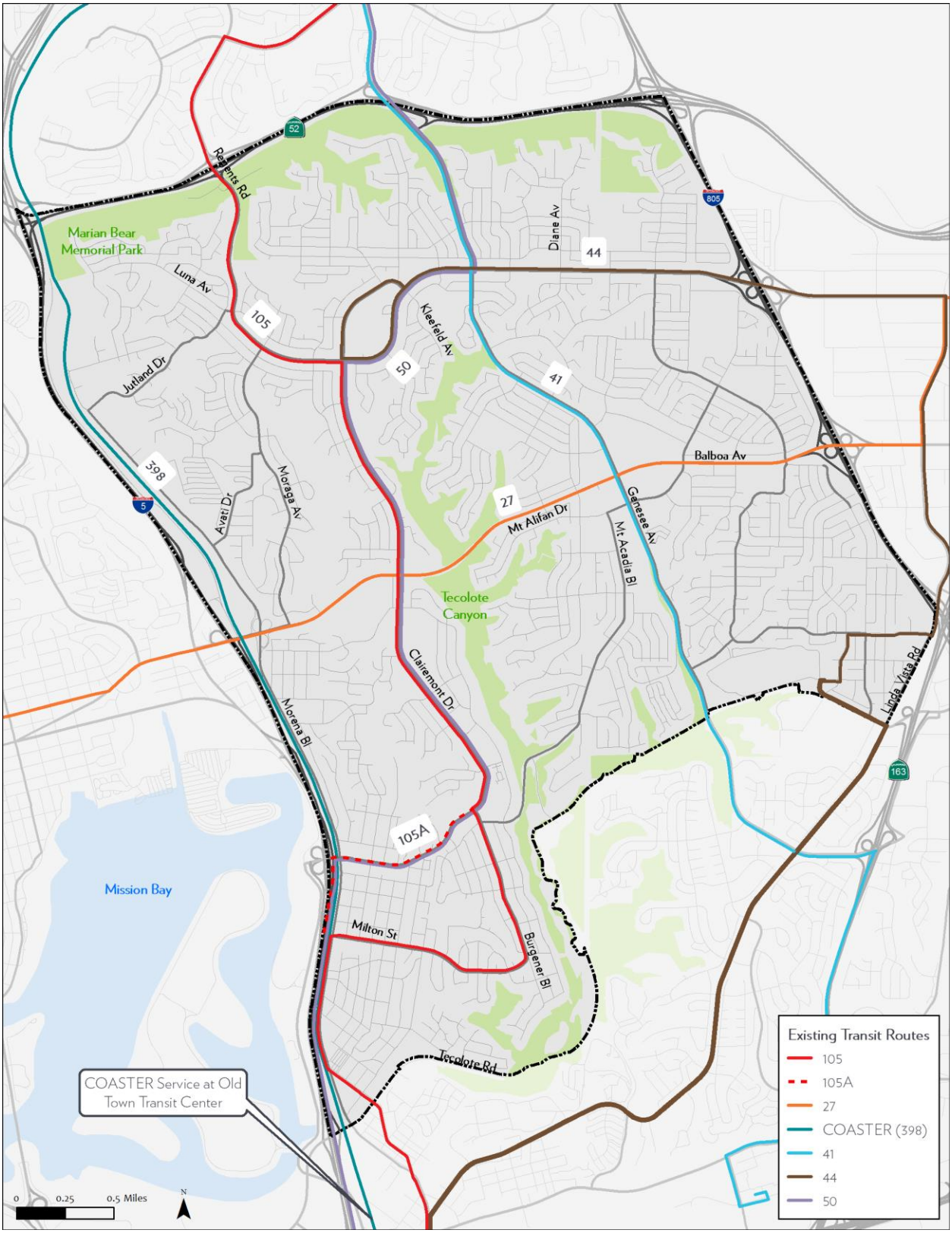
4.3 | Transit Mobility

Public transportation (transit) provides for improved mobility and directly interacts with pedestrian, bicycle and vehicular mobility. In addition to increased mobility for users, public transit also provides the benefits of reduced roadway congestion and reduced greenhouse gas emissions. However, in order to maximize transit benefits, a well-connected network must be designed based on surrounding land use patterns and density. Transit options within and passing through the Clairemont community are planned, designed, and constructed by SANDAG due to the interregional importance of an interconnected system.

Five bus routes currently serve the Clairemont community and are operated by the Metropolitan Transit System (MTS). A map of all the transit routes within the community is found in **Figure 4-22**. Detailed route information can be found in **Appendix C**. A short description of each bus route is listed below.

- ***Route 27*** runs east-west between Pacific Beach and Kearny Mesa originating at Felspar Street and Mission Boulevard in the west and terminating at the Kearny Mesa Transit Center, just east of Clairemont. Within the community, this route travels exclusively along Balboa Avenue in both directions, from I-5 to I-805.
- ***Route 41*** is a north-south running rapid transit route that originates at the Fashion Valley Mall and terminates at the Gilman Transit Center on the University of California, San Diego campus. Within the Clairemont community, the bus travels exclusively along Genesee Avenue from Linda Vista Road to SR-52.
- ***Route 44*** runs primarily north-south, but also has a portion that runs east-west towards the termination of the route. The route serves the Linda Vista, Clairemont and Kearny Mesa communities, originating at the Old Town Transit Center, running north through a portion of the Clairemont community, serving Mesa Community College. The route then continues north through the Kearny Mesa community, until reaching Clairemont Mesa Boulevard where it turns west, terminating at Clairemont Square.
- ***Route 50*** is a north-south running bus route that travels between 9th Avenue and C Street Downtown and the University Towne Centre (UTC) Transit Center in University City. Within the Clairemont community, Route 50 enters the community at I-5 and Clairemont Drive, and travels north until it reaches Clairemont Mesa Boulevard. The route turns east and meets Genesee Avenue where it turns north once more and departs the Clairemont Community.
- ***Routes 105 and 105****A* run north-south between the Old Town Transit Center and the UTC Transit Center in University City. Within Clairemont, Route 105 traverses along Morena Boulevard, Burgener Boulevard, Clairemont Drive, Clairemont Mesa Boulevard, and enters and exits the community via Regents Road. Route 105A traverses from Morena Boulevard to Clairemont Drive through Ingulf Street and Denver Street instead of Milton Street and Burgener Boulevard. It is slightly shorter than the 105 route and is in operation on Sundays.

Figure 4-22. Existing Transit Routes



4.3.1 | TRANSIT DEMAND

Transit demand was evaluated using stop-level boarding and alighting data provided by MTS, as well as data from the US Census Bureau.

Table 4-16 presents the average daily boardings and alightings by route for each transit stop with Clairemont. Most routes are bidirectional as opposed to circuitous, in which case two separate route stop summaries were created. The three bus stops with the greatest total average daily boardings and alightings, all of which are along Route 44, were as follows:

- Armstrong Place and Mesa College Drive (Stop ID: 99478)
- Mesa College Drive and Armstrong Place (Stop ID: 99479)
- Clairemont Drive and Clairemont Mesa Boulevard (Stop ID: 13192)

Table 4-16. Average Daily Boardings and Alightings by Route

Stop ID	Route Location		Direction	Boardings	Alightings	Total
	Main Street	Cross-Street				
Route 27 - Pacific Beach to Kearny Mesa						
10045	Balboa Avenue	Moraga Avenue	EB	9	5	14
10421	Balboa Avenue	Clairemont Drive	EB	91	56	146
10437	Balboa Avenue	Mt. Everest Boulevard	EB	3	21	24
10441	Balboa Avenue	Genesee Avenue	EB	41	92	133
99447	Balboa Avenue	Shopping Center Driveway	EB	12	20	32
10446	Balboa Avenue	Mt. Alifan Drive	EB	20	19	39
10451	Balboa Avenue	Mt. Albertine Avenue	EB	10	14	25
10460	Balboa Avenue	Hathaway Street	EB	11	18	30
Route 27 - Kearny Mesa to Pacific Beach						
10837	Balboa Avenue	Charger Boulevard	WB	17	13	30
11224	Balboa Avenue	Cannington Drive	WB	22	10	33
11216	Balboa Avenue	Mt. Abernathy Avenue	WB	25	20	46
99448	Balboa Avenue	Shopping Center Driveway	WB	25	33	58
11209	Balboa Avenue	Genesee Avenue	WB	90	28	118
11202	Balboa Avenue	Mt. Everest Boulevard	WB	16	3	19
11182	Balboa Avenue	Clairemont Drive	WB	58	89	146
11168	Balboa Avenue	Moraga Avenue	WB	6	11	17
Route 41 - Fashion Valley to UCSD / VA Medical Center						
12711	Genesee Avenue	Marlesta Drive	NB	126	91	217
12708	Genesee Avenue	Boyd Avenue	NB	5	8	13
12380	Genesee Avenue	Genesee Court E	NB	20	13	33
12705	Genesee Avenue	Mt. Alifan Drive	NB	74	154	228

Stop ID	Route Location		Direction	Boardings	Alightings	Total
	Main Street	Cross-Street				
12704	Genesee Avenue	Balboa Avenue	NB	122	141	263
12703	Genesee Avenue	Mt. Etna Drive	NB	42	47	88
12702	Genesee Avenue	Derrick Drive	NB	79	41	120
12701	Genesee Avenue	Mt. Foraker Avenue	NB	8	4	12
12700	Genesee Avenue	Mt. Herbert Avenue	NB	16	13	29
12368	Genesee Avenue	Chateau Drive	NB	10	4	14
12697	Genesee Avenue	Bannock Avenue	NB	17	69	85
12696	Genesee Avenue	Clairemont Mesa Boulevard	NB	159	83	243
12694	Genesee Avenue	Lehrer Drive	NB	40	12	52
12688	Genesee Avenue	SR-52 (Ramp)	NB	0	1	1
Route 41 - Fashion Valley to UCSD / VA Medical Center						
11582	Genesee Avenue	SR-52 (Ramp)	SB	0	0	0
11591	Genesee Avenue	Appleton Street	SB	13	58	71
11953	Genesee Avenue	Clairemont Mesa Boulevard	SB	112	169	282
11954	Genesee Avenue	Bannock Avenue	SB	16	10	27
11955	Genesee Avenue	Chickasaw Court	SB	0	0	1
11592	Genesee Avenue	Chateau Drive	SB	4	9	13
11964	Genesee Avenue	Mt. Herbert Avenue	SB	12	19	31
11966	Genesee Avenue	Mt. Foraker Avenue	SB	4	7	12
11967	Genesee Avenue	Derrick Drive	SB	56	79	134
11968	Genesee Avenue	Mt. Etna Drive	SB	48	58	106
11970	Genesee Avenue	Balboa Avenue	SB	154	125	279
11971	Genesee Avenue	Mt. Alifan Drive	SB	100	48	147
11972	Genesee Avenue	Genesee Court E	SB	14	16	31
11976	Genesee Avenue	Boyd Avenue	SB	5	5	10
11607	Genesee Avenue	Marlesta Drive	SB	101	110	211
Route 44 - Old Town to Clairemont Loop						
10476	Mesa College Drive	Ashford Street	WB	17	51	68
99478	Armstrong Place	Mesa College Drive	EB	106	466	572
12419	Armstrong Street	Armstrong Place	NB	0	0	0
12420	Armstrong Street	Baltic Street	NB	10	4	14
12421	Armstrong Street	Beagle Street	NB	14	38	52
99390	Stalmer Street	Angelucci Street	EB	44	66	110
10827	Clairemont Mesa Boulevard	Doliva Drive	WB	35	69	104
11212	Clairemont Mesa Boulevard	Limerick Avenue	WB	43	46	88

Stop ID	Route Location		Direction	Boardings	Alightings	Total
	Main Street	Cross-Street				
11208	Clairemont Mesa Boulevard	Longford Street	WB	15	20	35
11200	Clairemont Mesa Boulevard	Diane Avenue	WB	19	37	56
10815	Clairemont Mesa Boulevard	Frink Avenue	WB	5	13	17
11189	Clairemont Mesa Boulevard	Genesee Avenue	WB	31	136	167
11186	Clairemont Mesa Boulevard	Dubois Drive	WB	2	12	14
99385	Clairemont Mesa Boulevard	Clairemont Drive	WB	4	50	54
11941	Clairemont Mesa Boulevard	Lakehurst Avenue	WB	6	65	71
11180	Clairemont Mesa Boulevard	Rolfe Road	WB	1	19	20
13192	Clairemont Drive	Clairemont Mesa Boulevard	NB	162	167	329
12674	Clairemont Drive	Lakehurst Avenue	NB	29	1	30
13028	Clairemont Drive	4976 (Clairemont Town Square)	NB	17	1	18
10051	Clairemont Drive	Merrimac Avenue	NB	38	5	43
10426	Clairemont Mesa Boulevard	Dubois Drive	EB	22	6	28
10428	Clairemont Mesa Boulevard	Genesee Avenue	EB	156	27	183
10432	Clairemont Mesa Boulevard	Frink Avenue	EB	11	6	17
10436	Clairemont Mesa Boulevard	Diane Avenue	EB	34	20	55
10073	Clairemont Mesa Boulevard	Longford Street	EB	16	13	29
10077	Clairemont Mesa Boulevard	Limerick Avenue	EB	54	41	95
10447	Clairemont Mesa Boulevard	Doliva Drive	EB	82	37	120
99386	Linda Vista Road	Stalmer Street	SB	13	12	25
99387	Stalmer Street	Angelucci Street	WB	54	40	94
11244	Beagle Street	Argyle Street	WB	39	20	59
12023	Armstrong Street	Armstrong Place	SB	19	39	59
99479	Mesa College Drive	Armstrong Place	EB	401	64	465
10467	Mesa College Drive	Armstrong Street	EB	24	6	30
12046	Linda Vista Road	Mesa College Drive	SB	107	25	132
Route 50 - Downtown to UTC						
10419	Clairemont Drive	Denver Street	NB	13	20	33
94094	Clairemont Drive	Hartford Court	NB	5	4	9
12698	Clairemont Drive	Burgener Boulevard	NB	26	34	60
12367	Clairemont Drive	Iroquois Avenue	NB	13	11	24
12695	Clairemont Drive	Calle Neil	NB	5	5	10
12690	Clairemont Drive	Dakota Drive	NB	10	4	14
12686	Clairemont Drive	Rappahannock Avenue	NB	2	10	12
12358	Clairemont Drive	Ute Drive	NB	10	11	21
12685	Clairemont Drive	Balboa Avenue	NB	26	34	60

Stop ID	Route Location		Direction	Boardings	Alightings	Total
	Main Street	Cross-Street				
12684	Clairemont Drive	Dalles Avenue	NB	0	1	1
12356	Clairemont Drive	Feather Avenue (S)	NB	1	2	3
12676	Clairemont Drive	Indian Way	NB	3	4	7
12672	Clairemont Drive	Joplin Avenue	NB	1	4	5
10415	Clairemont Mesa Boulevard	Onondaga Avenue	EB	4	43	47
10052	Clairemont Mesa Boulevard	Rolfe Road	EB	3	13	16
10053	Clairemont Mesa Boulevard	Kleefeld Avenue	EB	11	22	33
10426	Clairemont Mesa Boulevard	Dubois Drive	EB	1	16	17
12696	Genesee Avenue	Clairemont Mesa Boulevard	NB	14	36	50
12694	Genesee Avenue	Lehrer Drive	NB	1	2	3
12688	Genesee Avenue	SR-52 (Ramp)	NB	0	0	0
Route 50 - UTC to Downtown						
11582	Genesee Avenue	SR-52 (Ramp)	SB	0	0	0
11591	Genesee Avenue	Appleton Street	SB	3	3	6
11189	Clairemont Mesa Boulevard	Genesee Avenue	WB	44	13	57
11186	Clairemont Mesa Boulevard	Dubois Drive	WB	8	2	10
99385	Clairemont Mesa Boulevard	Clairemont Drive	WB	19	9	28
11941	Clairemont Mesa Boulevard	Lakehurst Avenue	WB	13	8	21
11180	Clairemont Mesa Boulevard	Rolfe Road	WB	12	5	17
11933	Clairemont Drive	Clairemont Mesa Boulevard	SB	42	12	54
11932	Clairemont Drive	Joplin Avenue	SB	2	1	3
11936	Clairemont Drive	Indian Way	SB	3	1	4
11939	Clairemont Drive	Fox Avenue	SB	4	3	7
11944	Clairemont Drive	Balboa Avenue	SB	47	18	65
11942	Clairemont Drive	Ute Drive	SB	11	7	18
11946	Clairemont Drive	Rappahannock Avenue	SB	8	4	12
11948	Clairemont Drive	Dakota Drive	SB	10	9	19
11951	Clairemont Drive	Calle Neil	SB	5	5	10
11958	Clairemont Drive	Iroquois Avenue	SB	15	9	24
13173	Clairemont Drive	Burgener Boulevard	SB	29	19	48
10804	Clairemont Drive	Denver Street	SB	31	8	40
Route 105 - Old Town to UTC						
11176	Morena Boulevard	Knoxville Street	NB	5	16	21
11175	Morena Boulevard	Frankfort Street	NB	3	16	20
12349	Morena Boulevard	Asher Street	NB	3	6	9
12670	Morena Boulevard	Littlefield Street	NB	0	2	2

Stop ID	Route Location		Direction	Boardings	Alightings	Total
	Main Street	Cross-Street				
12351	Morena Boulevard	Napier Street	NB	3	5	8
12352	Morena Boulevard	Milton Street	NB	3	11	14
10416	Milton Street	Denver Street	EB	1	4	5
10420	Milton Street	Frankfort Street	EB	2	5	7
10424	Milton Street	Illion Street	EB	1	2	2
10057	Milton Street	Garfield Road	EB	0	1	1
10058	Milton Street	Dunhaven Street	EB	0	1	1
10060	Milton Street	Penrose Street	EB	1	0	1
10430	Milton Street	Fairfield Street	EB	0	1	1
10063	Milton Street	August Street	EB	0	4	4
12374	Burgener Boulevard	July Street	NB	2	6	8
12373	Burgener Boulevard	Lister Street	NB	2	2	4
12371	Burgener Boulevard	Jellett Street	NB	2	1	3
12369	Burgener Boulevard	Huxley Street	NB	0	1	1
10419	Clairemont Drive	Denver Street	NB	0	4	4
94094	Clairemont Drive	Hartford Court	NB	0	1	1
12698	Clairemont Drive	Burgener Boulevard	NB	33	43	76
12367	Clairemont Drive	Iroquois Avenue	NB	11	18	29
12695	Clairemont Drive	Calle Neil	NB	8	8	16
12693	Clairemont Drive	Knapp Street	NB	7	8	15
12690	Clairemont Drive	Dakota Drive	NB	8	8	16
12686	Clairemont Drive	Rappahannock Avenue	NB	2	9	11
12358	Clairemont Drive	Ute Drive	NB	8	21	29
12685	Clairemont Drive	Balboa Avenue	NB	30	41	71
12684	Clairemont Drive	Dalles Avenue	NB	1	2	3
12356	Clairemont Drive	Feather Avenue (S)	NB	4	3	7
12681	Clairemont Drive	Feather Avenue (N)	NB	1	4	5
12676	Clairemont Drive	Indian Way	NB	1	5	6
12672	Clairemont Drive	Joplin Avenue	NB	3	2	5
13192	Clairemont Drive	Clairemont Mesa Boulevard	NB	3	17	20
12674	Clairemont Drive	Lakehurst Avenue	NB	1	0	1
13028	Clairemont Drive	4976 (Clairemont Town Square)	NB	0	0	0
10051	Clairemont Drive	Merrimac Avenue	NB	0	0	0
11941	Clairemont Mesa Boulevard	Lakehurst Avenue	WB	2	0	2
11180	Clairemont Mesa Boulevard	Rolfe Road	WB	1	0	1
12673	Clairemont Mesa Boulevard	Clairemont Drive	WB	27	72	99

Stop ID	Route Location		Direction	Boardings	Alightings	Total
	Main Street	Cross-Street				
11171	Clairemont Mesa Boulevard	Pocahontas Avenue	WB	4	3	6
10800	Clairemont Mesa Boulevard	Moraga Avenue	WB	10	22	32
12346	Clairemont Mesa Boulevard	Luna Avenue	WB	22	44	66
Route 105 - UTC to Old Town						
11569	Clairemont Mesa Boulevard	Luna Avenue	EB	29	20	48
11919	Clairemont Mesa Boulevard	3305	EB	0	1	1
10407	Clairemont Mesa Boulevard	Moraga Avenue	EB	15	5	20
12992	Clairemont Mesa Boulevard	3511	EB	1	1	2
10413	Clairemont Mesa Boulevard	Pocahontas Avenue	EB	1	1	2
11933	Clairemont Drive	Clairemont Mesa Boulevard	SB	73	27	100
11932	Clairemont Drive	Joplin Avenue	SB	4	2	6
11936	Clairemont Drive	Indian Way	SB	5	1	6
99470	Clairemont Drive	Hiawatha Way	SB	2	1	3
11939	Clairemont Drive	Fox Avenue	SB	3	3	6
11581	Clairemont Drive	Dalles Avenue	SB	2	0	2
11945	Clairemont Drive	Chippewa Court	SB	2	10	12
11944	Clairemont Drive	Balboa Avenue	SB	28	26	54
11942	Clairemont Drive	Ute Drive	SB	16	8	24
11580	Clairemont Drive	3660	SB	1	1	2
11946	Clairemont Drive	Rappahannock Avenue	SB	6	3	9
11588	Clairemont Drive	3502	SB	1	1	1
11948	Clairemont Drive	Dakota Drive	SB	12	7	19
11950	Clairemont Drive	Blackfoot Avenue	SB	7	5	11
11951	Clairemont Drive	Calle Neil	SB	5	3	8
11958	Clairemont Drive	Iroquois Avenue	SB	14	18	32
13173	Clairemont Drive	Burgener Boulevard	SB	2	1	3
99465	Denver Street	Ingulf Street	SB	1	0	1
11956	Burgener Boulevard	Clairemont Drive	SB	37	26	63
11593	Burgener Boulevard	Huxley Street	SB	0	1	1
11595	Burgener Boulevard	Jellett Street	SB	0	2	2
11963	Burgener Boulevard	Lister Street	SB	1	1	2
11965	Burgener Boulevard	July Street	SB	9	3	12
11194	Milton Street	Northaven Avenue	WB	1	0	1
11191	Milton Street	Fairfield Street	WB	1	0	1
10813	Milton Street	Penrose Street	WB	0	0	1
10811	Milton Street	Dunhaven Street	WB	1	1	2
11184	Milton Street	Illion Street	WB	2	2	4

Stop ID	Route Location		Direction	Boardings	Alightings	Total
	Main Street	Cross-Street				
11181	Milton Street	Galveston Street	WB	4	2	6
11179	Milton Street	Erie Street	WB	3	3	5
10801	Milton Street	Morena Boulevard	WB	12	3	15
99467	Morena Boulevard	Milton Street	SB	0	0	0
11930	Morena Boulevard	Napier Street	SB	4	2	6
11929	Morena Boulevard	Littlefield Street	SB	3	1	4
11573	Morena Boulevard	Asher Street	SB	2	0	3
10048	Morena Boulevard	Frankfort Street	SB	16	4	20
10050	Morena Boulevard	Knoxville Street	SB	15	4	19

Source: MTS (2016)

Table 4-17 displays the public transportation mode share as reported in the US Census Community Survey 2015 5-year estimates, comparing the Clairemont community with the City of San Diego, and San Diego County as a whole. Clairemont has a higher public transit commute mode share than San Diego County (3.1% vs 3.0%), but lower than the City of San Diego which is 4.0%.

Table 4-17. Public Transportation Commute Mode Share Comparison

	Clairemont	City of San Diego	San Diego County
Total Public Transit Commuters	1,295	26,594	45,212
Total Workers	41,564	668,643	1,503,987
Public Transit Commute Mode Share	3.1%	4.0%	3.0%

Station Area Potential Ridership

As mentioned, one of the primary factors that determines transit ridership is the proximity of stations to population and employment. **Table 4-18** below summarizes the number of housing units and jobs within a ½-mile from major transit stops, and within a ¼-mile walkshed from all other transit stops.

Table 4-18. Housing and Employment near Transit

Demographic Unit	Major Transit Stops	Minor Transit Stops
Housing Units	1,494	11,218
Jobs	369	6,121

Housing and employment densities near each transit stop/station are shown below in **Figure 4-23** and **Figure 4-24**.

Figure 4-23. Housing Density near Transit

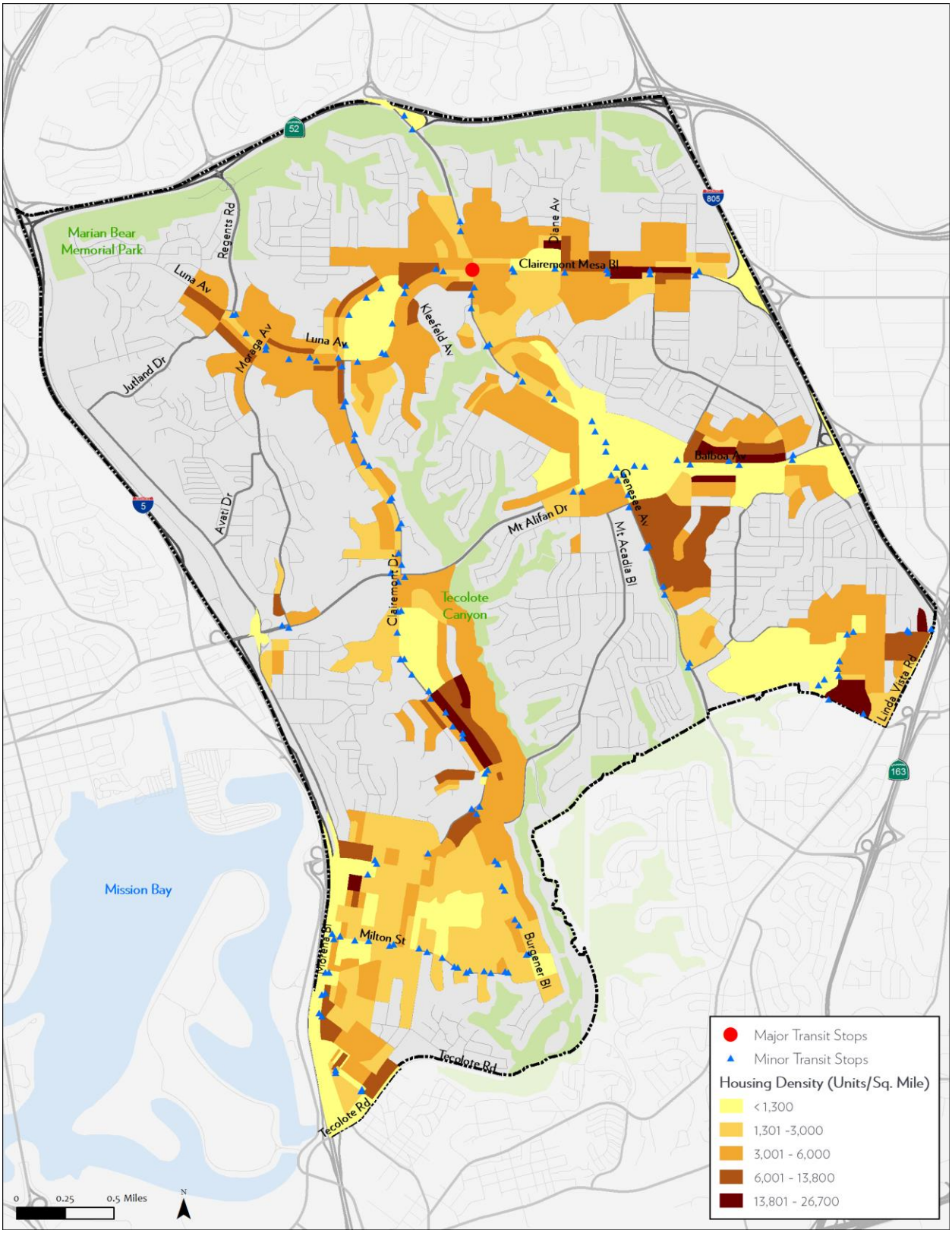
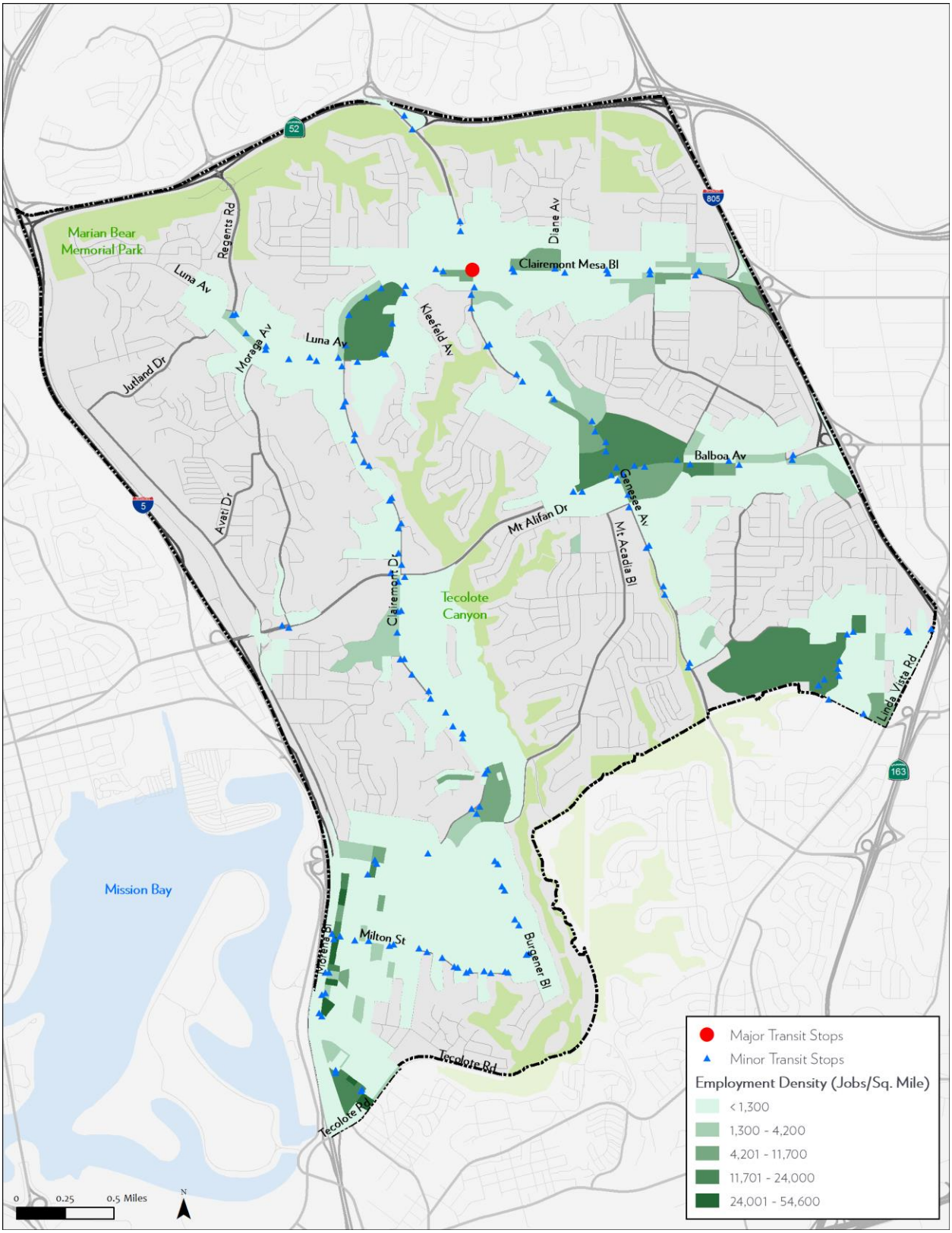


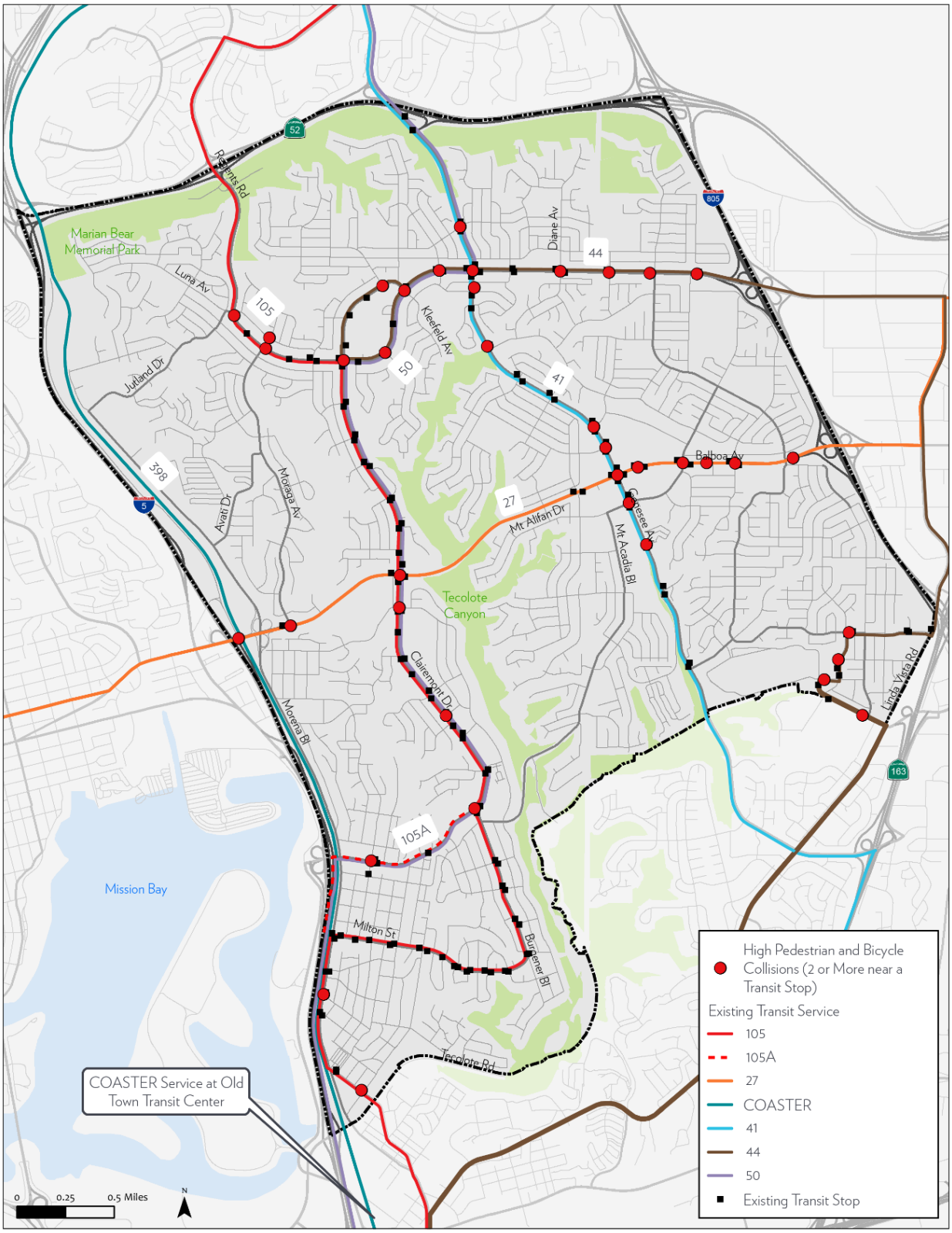
Figure 4-24. Employment Density near Transit



4.3.2 | SAFETY NEAR A TRANSIT STOP/STATION

Safety near transit stops was evaluated using data collected for both pedestrian safety and bicycle safety (**Sections 4.1.2** and **4.2.2** respectively). Pedestrian- and bicycle-involved collision data within 500 feet of transit stops were obtained from the City of San Diego Police Department's Crossroads software (SDPD) and the University of California Berkeley's Transportation Injury Mapping System (TIMS) for the period from January 2011 through December 2015. A total of 121 collisions were reported within the five-year evaluation period, including 66 pedestrian-involved collisions and 55 bicycle-involved collisions. **Figure 4-25** displays the high pedestrian-involved and bicycle-involved collision locations across the community. As shown, the majority of collisions within 500 feet of transit stops occurred along the higher-class arterial roadways within the community, including Clairemont Mesa Boulevard, Balboa Avenue, Genesee Avenue, and Clairemont Drive.

Figure 4-25. Pedestrian- and Bicycle-Involved Collisions within 500 feet of Transit (2011-2015)



4.3.3 | TRANSIT STATION QUALITY

Table 4-19 identifies the amenities provided at each stop. The MTS Designing for Transit Manual (1993) was referenced to identify required amenities based on average daily boardings to determine any deficiencies. As shown, based on average daily boardings, deficiencies were found at a number of bus stop locations. The cause for deficiencies were lack of ADA compliance, lack of a bench, and lack of an expanded sidewalk.

Transit stops with ADA compliance issues include:

- 12421 – Armstrong Street and Beagle Street
- 10467 – Mesa College Drive and Armstrong Street
- 12684 – Clairemont Drive and Dalles Avenue
- 12676 – Clairemont Drive and Indian Way
- 99470 – Clairemont Drive and Hiawatha Way
- 11945 – Clairemont Drive and Chippewa Court
- 11580 – Clairemont Drive and 3360
- 11948 – Clairemont Drive and Dakota Drive
- 12992 – Clairemont Mesa Boulevard and 3511
- 10426 – Clairemont Mesa Boulevard and Dubois Drive
- 10432 – Clairemont Mesa Boulevard and Frink Avenue
- 10815 – Clairemont Mesa Boulevard and Frink Avenue
- 11186 – Clairemont Mesa Boulevard and Dubois Drive
- 10057 – Milton Street and Garfield Road
- 10060 – Milton Street and Penrose Street
- 10430 – Milton Street and Fairfield Street
- 10063 – Milton Street and August Street
- 11194 – Milton Street and Northaven Avenue
- 10813 – Milton Street and Penrose Street
- 10811 – Milton Street and Dunhaven Street
- 11181 – Milton Street and Galveston Street
- 11179 – Milton Street and Erie Street
- 10801 – Milton Street and Morena Boulevard
- 11930 – Morena Boulevard and Napier Street
- 12697 – Genesee Avenue and Bannock Avenue
- 11582 – Genesee Avenue and SR-52 Ramp
- 11591 – Genesee Avenue and Appleton Street

Passenger bench and shelter not present at the bus stop serving the intersection of Armstrong Place and Mesa College Drive (Stop ID 99478).

Expanded sidewalks are not present at the following stations:

- 13192 – Clairemont Drive NB and Clairemont Mesa Boulevard
- 11933 – Clairemont Drive SB and Clairemont Mesa Boulevard
- 10428 – Clairemont Mesa Boulevard EB and Genesee Avenue
- 12711 – Genesee Avenue NB and Marlesta Drive
- 12704 – Genesee Avenue NB and Balboa Avenue
- 12696 – Genesee Avenue NB and Clairemont Mesa Boulevard
- 11953 – Genesee Avenue SB and Clairemont Mesa Boulevard
- 11970 – Genesee Avenue SB and Balboa Avenue

The quality of transit service, specifically bus routes operating in mixed traffic along arterial roadways, is affected by vehicular traffic congestion along roadways serving bus routes. Travel time data was collected and a roadway arterial speed analysis was conducted to determine where on-time performance may be impacted due to vehicular traffic congestion. A full analysis of travel time data and roadway arterial speed can be found in **Sections 4.4.3** and **4.4.4** respectively.

Table 4-19. Transit Amenities and Average Daily Boardings and Alightings by Stop

Stop ID	Dir.	Route Location		Routes	Boardings	Sign and Pole	Route Designation	ADA	Bench	Expanded Sidewalk	Shelter	Time Table	Route Map	Trash Container	Lighting
		Main Street	Cross-Street												
ROUTE 44 MESA COLLEGE LOOP - NB															
10476	WB	Mesa College Drive	Ashford Street	44	17	✓	✓	✓	✓						
99478	EB	Armstrong Place	Mesa College Drive	44	106	✓	✓	✓	✗	✓	✗	✓	✓	✓	✓
12419	NB	Armstrong Street	Armstrong Place	44	0	✓	✓	✓							
12420	NB	Armstrong Street	Baltic Street	44	10	✓	✓	✓							
12421	NB	Armstrong Street	Beagle Street	44	14	✓	✓	✗							
99390	EB	Stalmer Street	Angelucci Street	44	44	✓	✓	✓	✓						
ROUTE 44 MESA COLLEGE LOOP - SB															
99386	SB	Linda Vista Road	Stalmer Street	44	13	✓	✓	✓	✓						
99387	WB	Stalmer Street	Angelucci Street	44	54	✓	✓	✓	✓						
11244	WB	Beagle Street	Argyle Street	44	39	✓	✓	✓	✓						
12023	SB	Armstrong Street	Armstrong Place	44	19	✓	✓	✓							✓
99479	EB	Mesa College Drive	Armstrong Place	44	401	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10467	EB	Mesa College Drive	Armstrong Street	44	24	✓	✓	✗	✓						
	SB	Linda Vista Road	Mesa College Drive	44	107	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BALBOA AVENUE - EB															
10045	EB	Balboa Avenue	Moraga Avenue	27	9	✓	✓	✓	✓	✓					✓
10421	EB	Balboa Avenue	Clairemont Drive	27	91	✓	✓	✓	✓		✓	✓	✓	✓	✓

Stop ID	Dir.	Route Location		Routes	Boardings	Sign and Pole	Route Designation	ADA	Bench	Expanded Sidewalk	Shelter	Time Table	Route Map	Trash Container	Lighting
		Main Street	Cross-Street												
10437	EB	Balboa Avenue	Mt. Everest Boulevard	27	3	✓	✓	✓	✓						
10441	EB	Balboa Avenue	Genesee Avenue	27	41	✓	✓	✓	✓		✓	✓	✓	✓	✓
99447	EB	Balboa Avenue	Shopping Center Driveway	27	12	✓	✓	✓	✓						
10446	EB	Balboa Avenue	Mt. Alifan Drive	27	20	✓	✓	✓	✓		✓	✓	✓	✓	✓
10451	EB	Balboa Avenue	Mt. Albertine Avenue	27	10	✓	✓	✓	✓						✓
10460	EB	Balboa Avenue	Hathaway Street	27	11	✓	✓	✓	✓					✓	
BALBOA AVENUE – WB															
10837	WB	Balboa Avenue	Charger Boulevard	27	22	✓	✓	✓	✓	✓				✓	
11224	WB	Balboa Avenue	Cannington Drive	27	25	✓	✓	✓	✓						✓
11216	WB	Balboa Avenue	Mt. Abernathy Avenue	27	25	✓	✓	✓	✓		✓	✓	✓	✓	✓
99448	WB	Balboa Avenue	Shopping Center Driveway	27	90	✓	✓	✓	✓						
11209	WB	Balboa Avenue	Genesee Avenue	27	16	✓	✓	✓	✓		✓	✓	✓	✓	✓
11202	WB	Balboa Avenue	Mt. Everest Boulevard	27	58	✓	✓	✓	✓					✓	
11182	WB	Balboa Avenue	Clairemont Drive	27	6	✓	✓	✓	✓		✓	✓	✓	✓	
11168	WB	Balboa Avenue	Moraga Avenue	27	13	✓	✓	✓	✓		✓	✓	✓	✓	✓
CLAIREMONT DRIVE - NB															
10419	NB	Clairemont Drive	Denver Street	50, 105A	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
94094	NB	Clairemont Drive	Hartford Court	50, 105A	5	✓	✓	✓	✓	✓					

Stop ID	Dir.	Route Location		Routes	Boardings	Sign and Pole	Route Designation	ADA	Bench	Expanded Sidewalk	Shelter	Time Table	Route Map	Trash Container	Lighting
		Main Street	Cross-Street												
12698	NB	Clairemont Drive	Burgener Boulevard	50, 105	59	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12367	NB	Clairemont Drive	Iroquois Avenue	50, 105	24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12695	NB	Clairemont Drive	Calle Neil	50, 105	13	✓	✓	✓	✓						✓
12693	NB	Clairemont Drive	Knapp Street	105	7	✓	✓	✓							✓
12690	NB	Clairemont Drive	Dakota Drive	50, 105	18	✓	✓	✓	✓	✓					✓
12686	NB	Clairemont Drive	Rappahannock Avenue	50, 105	4	✓	✓	✓	✓	✓	✓	✓	✓		
12358	NB	Clairemont Drive	Ute Drive	50, 105	18	✓	✓	✓	✓	✓	✓	✓	✓		
12685	NB	Clairemont Drive	Balboa Avenue	50, 105	56	✓	✓	✓	✓	✓	✓	✓	✓	✓	
12684	NB	Clairemont Drive	Dalles Avenue	50, 105	1	✓	✓	✘							✓
12356	NB	Clairemont Drive	Feather Avenue (S)	50, 105	5	✓	✓	✓	✓						✓
12681	NB	Clairemont Drive	Feather Avenue (N)	105	1	✓	✓	✓							✓
12676	NB	Clairemont Drive	Indian Way	50, 105	4	✓	✓	✘	✓					✓	✓
12672	NB	Clairemont Drive	Joplin Avenue	50, 105	4	✓	✓	✓	✓	✓					✓
13192	NB	Clairemont Drive	Clairemont Mesa Boulevard	44, 105A	166	✓	✓	✓	✓	✘	✓	✓	✓	✓	✓
12674	NB	Clairemont Drive	Lakehurst Avenue	44, 105A	30	✓	✓	✓	✓	✓				✓	
13028	NB	Clairemont Drive	4976 (Clairemont Town Square)	44, 105A	17	✓	✓	✓	✓	✓					
10051	NB	Clairemont Drive	Merrimac Avenue	44, 105A	38	✓	✓	✓	✓	✓				✓	✓

Stop ID	Dir.	Route Location		Routes	Boardings	Sign and Pole	Route Designation	ADA	Bench	Expanded Sidewalk	Shelter	Time Table	Route Map	Trash Container	Lighting
		Main Street	Cross-Street												
CLAIREMONT DRIVE - SB															
11933	SB	Clairemont Drive	Clairemont Mesa Boulevard	50, 105	115	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
11932	SB	Clairemont Drive	Joplin Avenue	50, 105	6	✓	✓	✓		✓					
11936	SB	Clairemont Drive	Indian Way	50, 105	8	✓	✓	✓		✓					
99470	SB	Clairemont Drive	Hiawatha Way	105	2	✓	✓	✗							
11939	SB	Clairemont Drive	Fox Avenue	50, 105	7	✓	✓	✓	✓						✓
11581	SB	Clairemont Drive	Dalles Avenue	105	2	✓	✓	✓							✓
11945	SB	Clairemont Drive	Chippewa Court	105	2	✓	✓	✗							✓
11944	SB	Clairemont Drive	Balboa Avenue	50, 105	75	✓	✓	✓	✓	✓	✓	✓	✓	✓	
11942	SB	Clairemont Drive	Ute Drive	50, 105	27	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11580	SB	Clairemont Drive	3660	105	1	✓	✓	✗	✓						
11946	SB	Clairemont Drive	Rappahannock Avenue	50, 105	14	✓	✓	✓	✓						✓
11588	SB	Clairemont Drive	3502	105	1	✓	✓	✓	✓						
11948	SB	Clairemont Drive	Dakota Drive	50, 105	22	✓	✓	✗	✓						✓
11950	SB	Clairemont Drive	Blackfoot Avenue	105	7	✓	✓	✓	✓						✓
11951	SB	Clairemont Drive	Calle Neil	50, 105	10	✓	✓	✓							✓
11958	SB	Clairemont Drive	Iroquois Avenue	50, 105	29	✓	✓	✓	✓	✓	✓	✓	✓	✓	
13173	SB	Clairemont Drive	Burgener Boulevard	50, 105A	31	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10804	SB	Clairemont Drive	Denver Street	50	31	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
99465	SB	Denver Street	Ingulf Street	105A	1	✓	✓	✓							
CLAIREMONT MESA BL - EB															

Stop ID	Dir.	Route Location		Routes	Boardings	Sign and Pole	Route Designation	ADA	Bench	Expanded Sidewalk	Shelter	Time Table	Route Map	Trash Container	Lighting
		Main Street	Cross-Street												
11569	EB	Clairemont Mesa Boulevard	Luna Avenue	105	29	✓	✓	✓	✓						✓
11919	EB	Clairemont Mesa Boulevard	3305	105	0	✓	✓	✓	✓						✓
10407	EB	Clairemont Mesa Boulevard	Moraga Avenue	105	15	✓	✓	✓	✓						✓
12992	EB	Clairemont Mesa Boulevard	3511	105	1	✓	✓	✘							
10413	EB	Clairemont Mesa Boulevard	Pocahontas Avenue	105	1	✓	✓	✓		✓					✓
10415	EB	Clairemont Mesa Boulevard	Onondaga Avenue	50	4	✓	✓	✓	✓						✓
10052	EB	Clairemont Mesa Boulevard	Rolfe Road	50	3	✓	✓	✓							✓
10053	EB	Clairemont Mesa Boulevard	Kleefeld Avenue	50	11	✓	✓	✓	✓		✓	✓	✓	✓	✓
10426	EB	Clairemont Mesa Boulevard	Dubois Drive	44, 50	23	✓	✓	✘							✓
10428	EB	Clairemont Mesa Boulevard	Genesee Avenue	44	156	✓	✓	✓	✓	✘	✓	✓	✓	✓	✓
10432	EB	Clairemont Mesa Boulevard	Frink Avenue	44	11	✓	✓	✘							✓
10436	EB	Clairemont Mesa Boulevard	Diane Avenue	44	34	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Stop ID	Dir.	Route Location		Routes	Boardings	Sign and Pole	Route Designation	ADA	Bench	Expanded Sidewalk	Shelter	Time Table	Route Map	Trash Container	Lighting
		Main Street	Cross-Street												
10073	EB	Clairemont Mesa Boulevard	Longford Street	44	16	✓	✓	✓	✓						✓
10077	EB	Clairemont Mesa Boulevard	Limerick Avenue	44	54	✓	✓	✓	✓		✓	✓	✓	✓	
10447	EB	Clairemont Mesa Boulevard	Doliva Drive	44	82	✓	✓	✓	✓						✓
CLAIREMONT MESA BL - WB															
10827	WB	Clairemont Mesa Boulevard	Doliva Drive	44	35	✓	✓	✓	✓						✓
11212	WB	Clairemont Mesa Boulevard	Limerick Avenue	44	43	✓	✓	✓	✓					✓	✓
11208	WB	Clairemont Mesa Boulevard	Longford Street	44	15	✓	✓	✓	✓						✓
11200	WB	Clairemont Mesa Boulevard	Diane Avenue	44	19	✓	✓	✓	✓	✓				✓	✓
10815	WB	Clairemont Mesa Boulevard	Frink Avenue	44	5	✓	✓	✘							✓
11189	WB	Clairemont Mesa Boulevard	Genesee Avenue	44, 50	75	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11186	WB	Clairemont Mesa Boulevard	Dubois Drive	44, 50	10	✓	✓	✘							✓
99385	WB	Clairemont Mesa Boulevard	Clairemont Drive	44, 50	23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11941	WB	Clairemont Mesa Boulevard	Lakehurst Avenue	44, 50, 105A	21	✓	✓	✓	✓	✓					

Stop ID	Dir.	Route Location		Routes	Boardings	Sign and Pole	Route Designation	ADA	Bench	Expanded Sidewalk	Shelter	Time Table	Route Map	Trash Container	Lighting
		Main Street	Cross-Street												
11180	WB	Clairemont Mesa Boulevard	Rolfe Road	44, 50, 105A	14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12673	WB	Clairemont Mesa Boulevard	Clairemont Drive	105	27	✓	✓	✓	✓	✓				✓	✓
11171	WB	Clairemont Mesa Boulevard	Pocahontas Avenue	105	4	✓	✓	✓		✓					
10800	WB	Clairemont Mesa Boulevard	Moraga Avenue	105	10	✓	✓	✓	✓						✓
12346	WB	Clairemont Mesa Boulevard	Luna Avenue	105	22	✓	✓	✓	✓						✓
MORENA-MILTON-BURGENER - NB															
11176	NB	Morena Boulevard	Knoxville Street	105	5	✓	✓	✓	✓						✓
11175	NB	Morena Boulevard	Frankfort Street	105	3	✓	✓	✓	✓						
12349	NB	Morena Boulevard	Asher Street	105	3	✓	✓	✓	✓						
12670	NB	Morena Boulevard	Littlefield Street	105	0	✓	✓	✓							✓
12351	NB	Morena Boulevard	Napier Street	105	3	✓	✓	✓	✓						✓
12352	NB	Morena Boulevard	Milton Street	105	3	✓	✓	✓	✓	✓					
10416	EB	Milton Street	Denver Street	105	1	✓	✓	✓	✓	✓					✓
10420	EB	Milton Street	Frankfort Street	105	2	✓	✓	✓							✓
10424	EB	Milton Street	Illion Street	105	1	✓	✓	✓	✓						
10057	EB	Milton Street	Garfield Road	105	0	✓	✓	✗							
10058	EB	Milton Street	Dunhaven Street	105	0	✓	✓	✓							
10060	EB	Milton Street	Penrose Street	105	1	✓	✓	✗							
10430	EB	Milton Street	Fairfield Street	105	0	✓	✓	✗							✓
10063	EB	Milton Street	August Street	105	0	✓	✓	✗							

Stop ID	Dir.	Route Location		Routes	Boardings	Sign and Pole	Route Designation	ADA	Bench	Expanded Sidewalk	Shelter	Time Table	Route Map	Trash Container	Lighting
		Main Street	Cross-Street												
12374	NB	Burgener Boulevard	July Street	105	2	✓	✓	✓	✓						
12373	NB	Burgener Boulevard	Lister Street	105	2	✓	✓	✓							
12371	NB	Burgener Boulevard	Jellett Street	105	2	✓	✓	✓							
12369	NB	Burgener Boulevard	Huxley Street	105	0	✓	✓	✓							
MORENA-MILTON-BURGENER - SB															
11956	SB	Burgener Boulevard	Clairemont Drive	105	37	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11593	SB	Burgener Boulevard	Huxley Street	105	0	✓	✓	✓							
11595	SB	Burgener Boulevard	Jellett Street	105	0	✓	✓	✓							
11963	SB	Burgener Boulevard	Lister Street	105	1	✓	✓	✓							
11965	SB	Burgener Boulevard	July Street	105	9	✓	✓	✓	✓	✓					✓
11194	WB	Milton Street	Northaven Avenue	105	1	✓	✓	✗	✓						✓
11191	WB	Milton Street	Fairfield Street	105	1	✓	✓	✓							
10813	WB	Milton Street	Penrose Street	105	0	✓	✓	✗							
10811	WB	Milton Street	Dunhaven Street	105	1	✓	✓	✗							
11184	WB	Milton Street	Illion Street	105	2	✓	✓	✓	✓						

Stop ID	Dir.	Route Location		Routes	Boardings	Sign and Pole	Route Designation	ADA	Bench	Expanded Sidewalk	Shelter	Time Table	Route Map	Trash Container	Lighting
		Main Street	Cross-Street												
11181	WB	Milton Street	Galveston Street	105	4	✓	✓	✗							✓
11179	WB	Milton Street	Erie Street	105	3	✓	✓	✗							
10801	WB	Milton Street	Morena Boulevard	105	12	✓	✓	✗	✓						✓
99467	SB	Morena Boulevard	Milton Street	105A	0	✓	✓	✓							✓
11930	SB	Morena Boulevard	Napier Street	105	4	✓	✓	✗							✓
11929	SB	Morena Boulevard	Littlefield Street	105	3	✓	✓	✓							✓
11573	SB	Morena Boulevard	Asher Street	105	2	✓	✓	✓							✓
10048	SB	Morena Boulevard	Frankfort Street	105	16	✓	✓	✓	✓					✓	✓
10050	SB	Morena Boulevard	Knoxville Street	105	15	✓	✓	✓	✓					✓	✓
GENESEE AV - NB															
12711	NB	Genesee Avenue	Marlesta Drive	41	126	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
12708	NB	Genesee Avenue	Boyd Avenue	41	5	✓	✓	✓	✓						✓
12380	NB	Genesee Avenue	Genesee Court E	41	20	✓	✓	✓	✓		✓	✓	✓	✓	✓
12705	NB	Genesee Avenue	Mt. Alifan Drive	41	74	✓	✓	✓	✓		✓	✓	✓	✓	✓
12704	NB	Genesee Avenue	Balboa Avenue	41	122	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
12703	NB	Genesee Avenue	Mt. Etna Drive	41	42	✓	✓	✓	✓		✓	✓	✓	✓	✓
12702	NB	Genesee Avenue	Derrick Drive	41	79	✓	✓	✓	✓						✓
12701	NB	Genesee Avenue	Mt. Foraker Avenue	41	8	✓	✓	✓	✓						✓
12700	NB	Genesee Avenue	Mt. Herbert Avenue	41	16	✓	✓	✓	✓						✓
12368	NB	Genesee Avenue	Chateau Drive	41	10	✓	✓	✓	✓						✓
12697	NB	Genesee Avenue	Bannock Avenue	41	17	✓	✓	✗	✓					✓	✓

Stop ID	Dir.	Route Location		Routes	Boardings	Sign and Pole	Route Designation	ADA	Bench	Expanded Sidewalk	Shelter	Time Table	Route Map	Trash Container	Lighting
		Main Street	Cross-Street												
12696	NB	Genesee Avenue	Clairemont Mesa Boulevard	41, 50	173	✓	✓	✓	✓	✘	✓	✓	✓	✓	✓
12694	NB	Genesee Avenue	Lehrer Drive	41, 50	41	✓	✓	✓							
12688	NB	Genesee Avenue	Hwy 52 (Ramp)	41, 50	0	✓	✓	✓							
GENESEE AV - SB															
11582	SB	Genesee Avenue	Hwy 52 (Ramp)	41, 50	0	✓	✓	✘							✓
11591	SB	Genesee Avenue	Appleton Street	41, 50	17	✓	✓	✘	✓						✓
11953	SB	Genesee Avenue	Clairemont Mesa Boulevard	41	112	✓	✓	✓	✓	✘	✓	✓	✓	✓	✓
11954	SB	Genesee Avenue	Bannock Avenue	41	16	✓	✓	✓	✓	✓					✓
11955	SB	Genesee Avenue	Chickasaw Court	41	0	✓	✓	✓							✓
11592	SB	Genesee Avenue	Chateau Drive	41	4	✓	✓	✓						✓	
11964	SB	Genesee Avenue	Mt. Herbert Avenue	41	12	✓	✓	✓		✓					✓
11966	SB	Genesee Avenue	Mt. Foraker Avenue	41	4	✓	✓	✓	✓						✓
11967	SB	Genesee Avenue	Derrick Drive	41	56	✓	✓	✓	✓		✓	✓	✓	✓	✓
11968	SB	Genesee Avenue	Mt. Etna Drive	41	48	✓	✓	✓	✓		✓	✓	✓	✓	✓
11970	SB	Genesee Avenue	Balboa Avenue	41	154	✓	✓	✓	✓	✘	✓	✓	✓	✓	✓
11971	SB	Genesee Avenue	Mt. Alifan Drive	41	100	✓	✓	✓	✓		✓	✓	✓	✓	✓
11972	SB	Genesee Avenue	Genesee Court E	41	14	✓	✓	✓	✓		✓	✓	✓	✓	✓
11976	SB	Genesee Avenue	Boyd Avenue	41	5	✓	✓	✓	✓					✓	✓
11607	SB	Genesee Avenue	Marlesta Drive	41	101	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Legend:		
	✓	*Meets Min. Standard*
	✘	*Does Not Meet Min. Standard*

Stop ID	Dir.	Route Location		Routes	Boardings	Sign and Pole	Route Designation	ADA	Bench	Expanded Sidewalk	Shelter	Time Table	Route Map	Trash Container	Lighting
		Main Street	Cross-Street												
	✓	*Amenity Exceeds Minimum Standard*													
		Amenity not Required per Min. Standards													

4.3.4 | QUALITY CONNECTIONS FROM MAJOR TRANSIT STATIONS

Public transportation is most commonly accessed by active transportation, either on foot or by bike. Gaps or deficiencies in the pedestrian and bicycle networks can deter potential riders from using transit service altogether, and are commonly associated with what is known as the first- and last-mile gap. In order to better understand pedestrian and bicycle connectivity to transit, a connectivity assessment was performed for existing facilities near major transit stations/stops within the Clairemont community.

As noted previously in **Chapter 3**, a major transit station is defined in part as "the intersection of two or more major bus routes each having a frequency of service of 15 minutes or less during the morning and afternoon peak commute periods." The only location within Clairemont where these conditions are true is at the intersection of Genesee Avenue and Clairemont Mesa Boulevard where MTS Bus Routes 41 and 44 intersect.

The quality connections assessment draws from the quality walking analysis and quality cycling analysis results to identify quality ¼-mile pedestrian and ¾-mile bicycle networks surrounding major transit stations. These travelshed distances were obtained from *San Diego Forward: The Regional Plan, Appendix U4 – SANDAG Regional Transit Oriented Development Strategy*, and represent a five minute travel distance for pedestrians and cyclists.

As shown below in **Table 4-20**, the existing Quality Walk Ratio is just over 40 percent. The existing Quality Bicycle Ratio is zero percent. This is due to the fact that the existing LTS along all four legs of the intersection of Genesee Avenue and Clairemont Mesa Boulevard are 3 or 4. The existing Quality Walk and Bicycle Ratios are shown below in **Figure 4-26** and **Figure 4-27**, respectively.

Table 4-20. Summary of Quality Travel Ratios from Major Transit

Genesee Avenue and Clairemont Mesa Boulevard			
Mode of Access	Quality Distance	Total Distance	Quality Ratio
Walk	19,181	47,932	**40%**
Bicycle	0	157,476	**0%**

Figure 4-26. Existing Quality Walk Ratio from Major Transit Stations

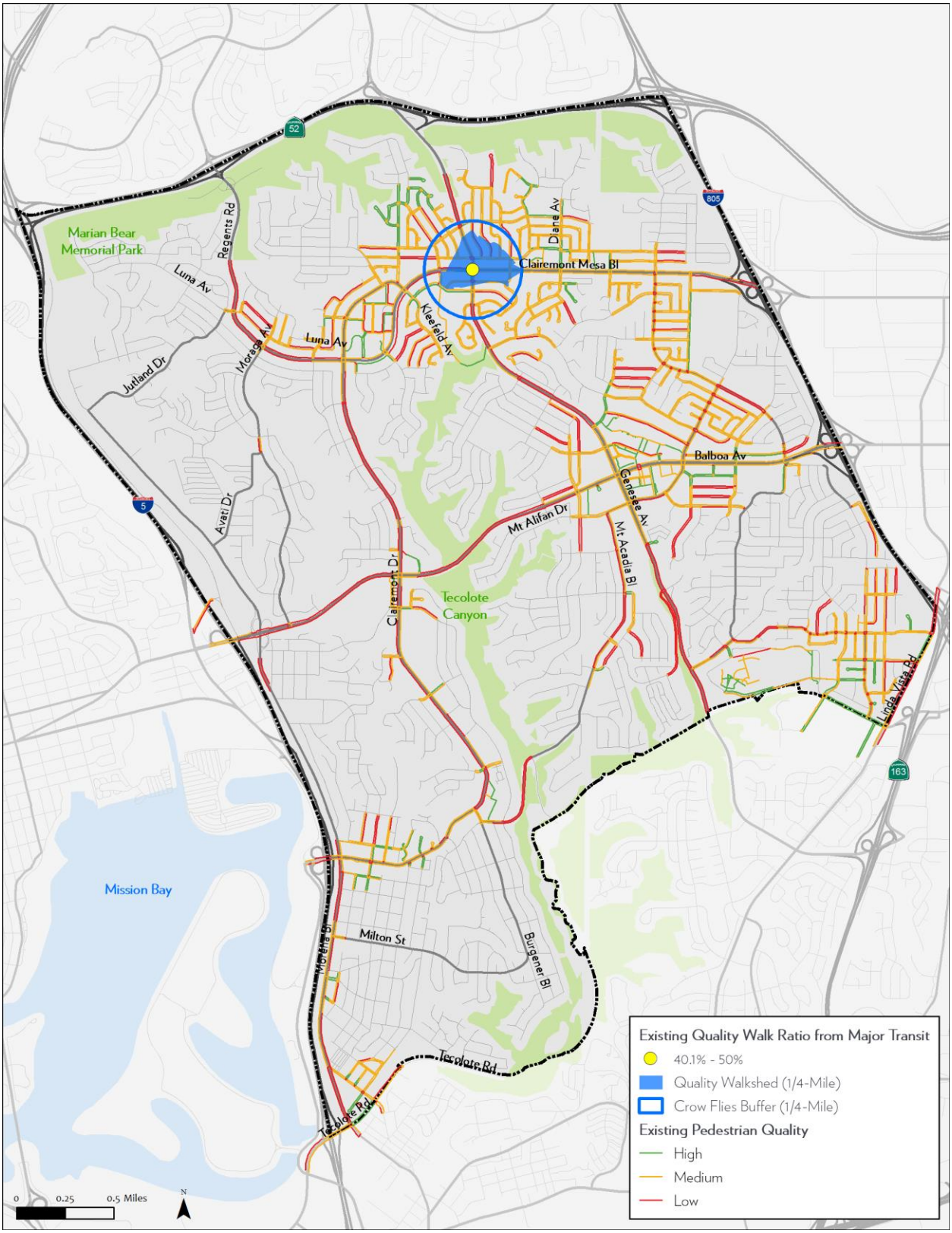
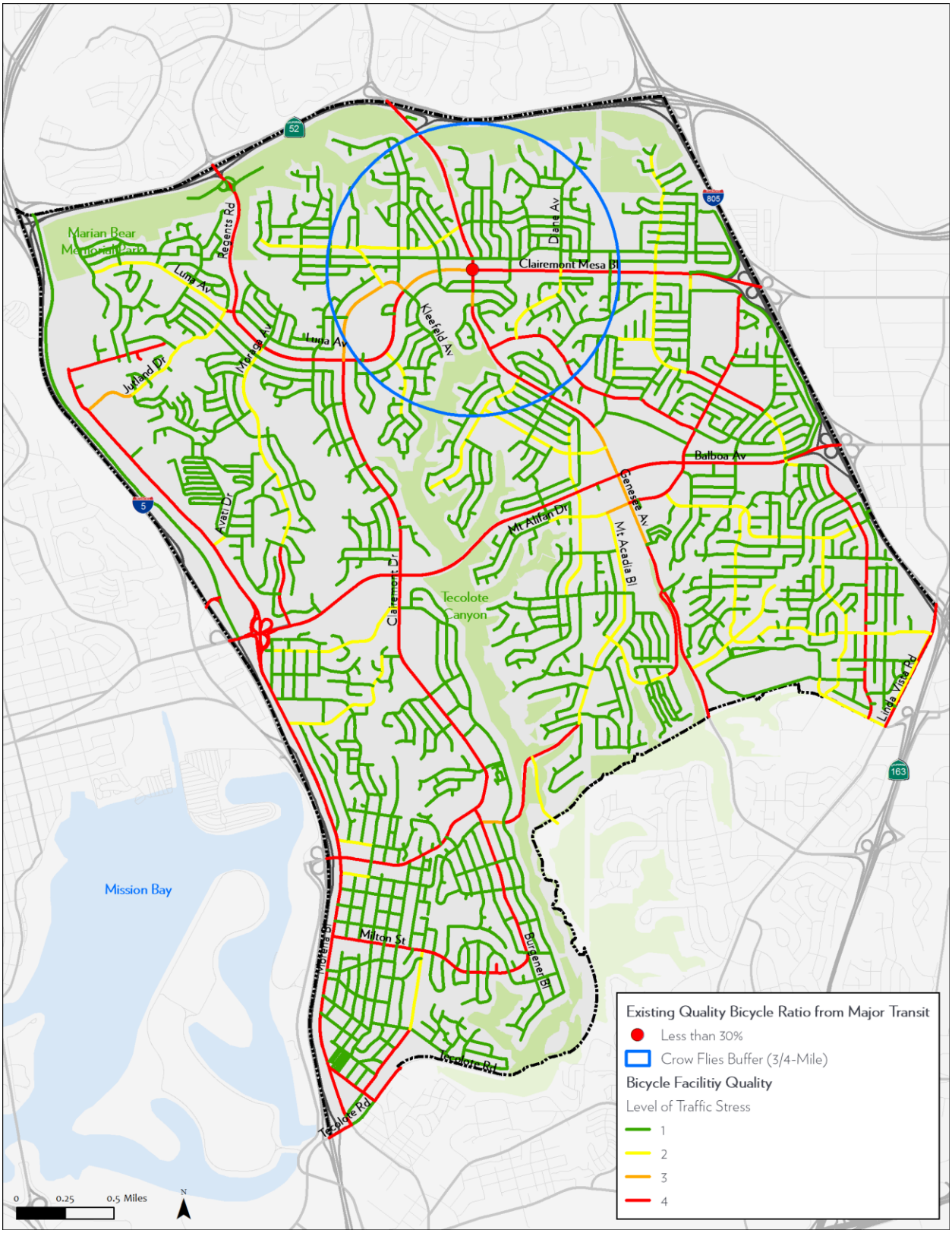


Figure 4-27. Existing Quality Bicycle Ratio from Major Transit Stations



4.4 | Vehicular Mobility

Maintaining efficient vehicular operations is vital to the economy. Local roadways and the regional freeway system provide an interconnected network used to move people and goods throughout the region.

Clairemont features an interconnected street system that provides multiple linkages to connect vehicular operations both within the community and externally to other communities. Maintaining and improving the quality of vehicular operations in addition to the needs of multiple users along the public right-of-way is vital to the community. **Figure 4-28** presents the existing roadway classification for study area roadways within the Clairemont community. Existing roadway characteristics are featured below in **Table 4-21.** Existing Roadway Segment Configuration

.

Figure 4-28. Existing Roadway Segment Configuration

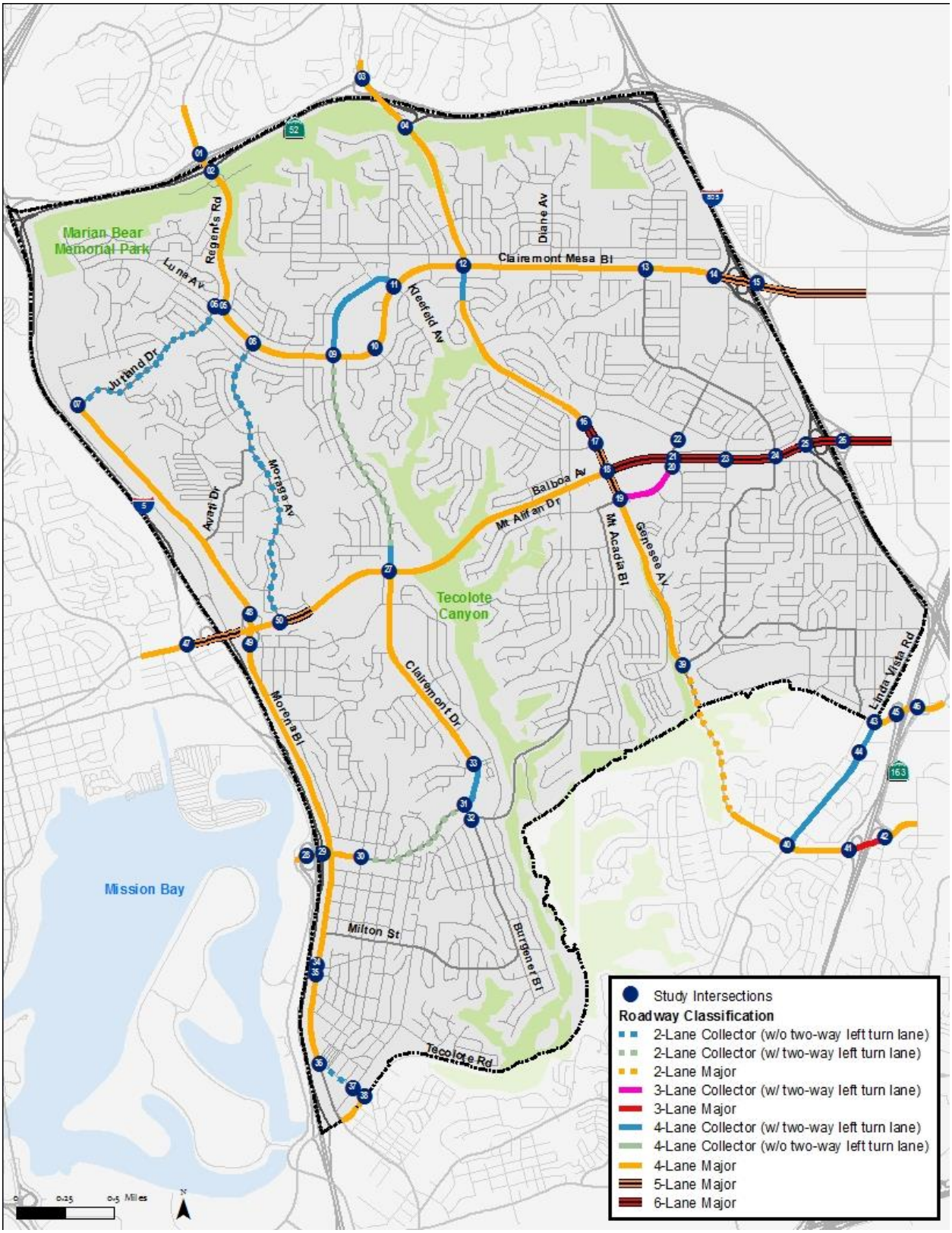


Table 4-21. Existing Roadway Segment Configuration

Road Segment	General Direction	From	To	Width (ft)	# of Lanes	Barrier Type	Shoulders ?	Bike Lanes?	Parking?
Balboa Avenue	East-West	NB Morena Boulevard Slip Off Ramp	Moraga Avenue	80	4	Divided	N	N	N
Balboa Avenue	East-West	Moraga Avenue	Clairemont Drive	70	4	Divided	N	Y	N
Balboa Avenue	East-West	Clairemont Drive	Genesee Avenue	65-80	4	Divided	N	Y	N
Balboa Avenue	East-West	Genesee Avenue	Mt. Abernathy Avenue/Mt. Alifan Drive	105	6	Divided	N	Y	N
Balboa Avenue	East-West	Mt. Abernathy Avenue/Mt. Alifan Drive	Mt. Albertine Avenue/ Cannington Drive	90	6	Divided	N	N	N
Balboa Avenue	East-West	Mt. Albertine Avenue/ Cannington Drive	Hathaway Street/Charger Boulevard	80	6	Divided	N	N	N
Balboa Avenue	East-West	Hathaway Street/Charger Boulevard	SB I-805 Slip On Ramp/SB I-805 Slip Off Ramp	100	6	Divided	N	N	N
Balboa Avenue	East-West	SB I-805 Slip On Ramp/SB I-805 Slip Off Ramp	NB I-805 Slip On Ramp/NB I-805 Slip Off Ramp	145	6	Divided	N	N	N
Balboa Avenue	East-West	NB I-805 Slip Off Ramp/NB I-805Slip On Ramp	Ruffner Street	105	6	Divided	N	Y	N
Clairemont Drive	North-South	Kleefeld Avenue	Clairemont Mesa Boulevard	70	4	Undivided	N	Y	Y
Clairemont Drive	North-South	Clairemont Mesa Boulevard	Balboa Avenue	70	2	Undivided	N	Y	Y
Clairemont Drive	North-South	Balboa Avenue	Iroquois Avenue	80	4	Undivided	N	N	Y
Clairemont Drive	North-South	Iroquois Avenue	Burgener Boulevard	80	4	Undivided	N	N	Y
Clairemont Drive	East-West	Morena Boulevard	Burgener Boulevard	70	4	Undivided	N	Y	Y
Clairemont Drive	East-West	E Mission Bay Drive	Morena Boulevard	90	4	Divided	N	N	N
Clairemont Mesa Boulevard	North-South	Luna Avenue	Moraga Avenue	80	4	Undivided	N	Y	Y

Road Segment	General Direction	From	To	Width (ft)	# of Lanes	Barrier Type	Shoulders ?	Bike Lanes?	Parking?
Clairemont Mesa Boulevard	East-West	Moraga Avenue	Clairemont Drive	80	4	Undivided	N	Y	Y
Clairemont Mesa Boulevard	East-West	Clairemont Drive	Rolfe Road	80	4	Undivided	N	N	N
Clairemont Mesa Boulevard	North-South	Rolfe Road	Clairemont Drive/ Kleefeld Avenue	80	4	Undivided	N	N	Y
Clairemont Mesa Boulevard	East-West	Clairemont Drive/ Kleefeld Avenue	Genesee Avenue	80	4	Undivided	N	N	Y
Clairemont Mesa Boulevard	East-West	Genesee Avenue	Limerick Avenue	80	4	Undivided	N	N	Y
Clairemont Mesa Boulevard	East-West	Limerick Avenue	SB I-805 Slip On Ramp/SB I-805 Slip Off Ramp	80-100	4	Undivided	N	N	Y
Clairemont Mesa Boulevard	East-West	SB I-805 Slip On Ramp/SB I-805 Slip Off Ramp	NB I-805 Slip On Ramp/NB I-805 Slip Off Ramp	130	5	Divided	N	N	N
Clairemont Mesa Boulevard	East-West	NB I-805 Slip On Ramp/NB I-805 Slip Off Ramp	Shawline Street	120	5	Divided	N	N	N
Garnet Avenue	East-West	Mission Bay Drive	SB I-5 Loop On Ramp	70	4	Divided	N	N	N
Garnet Avenue	East-West	SB I-5 Loop On Ramp	SB Morena Boulevard Slip Off Ramp	70	5	Divided	N	N	N
Genesee Avenue	North-South	Governor Drive	WB SR-52 Slip On Ramp	80-100	4	Divided	N	Y	Y
Genesee Avenue	North-South	WB SR-52 Slip On Ramp	EB SR-52 Loop Off Ramp/EB SR-52 Slip On Ramp	70-80	4	Divided	N	Y	N
Genesee Avenue	North-South	EB SR-52 Loop Off Ramp/EB SR-52 Slip On Ramp	Clairemont Mesa Boulevard	70-80	4	Divided	N	Y	Y
Genesee Avenue	North-South	Clairemont Mesa Boulevard	Derrick Drive	70-80	4	Divided	N	Y	N

Road Segment	General Direction	From	To	Width (ft)	# of Lanes	Barrier Type	Shoulders ?	Bike Lanes?	Parking?
Genesee Avenue	North-South	Derrick Drive	Mt. Etna Drive	105	6	Divided	N	Y	N
Genesee Avenue	North-South	Mt. Etna Drive	Balboa Avenue	100	5	Divided	N	Y	N
Genesee Avenue	North-South	Balboa Avenue	Mt. Alifan Drive	95	5	Divided	N	Y	Y
Genesee Avenue	North-South	Mt. Alifan Drive	Marlesta Drive	70	4	Divided	N	Y	N
Genesee Avenue	North-South	Marlesta Drive	Linda Vista Road	50-70	2	Divided	N	Y	N
Genesee Avenue	East-West	Linda Vista Road	SB SR-163 Slip On Ramp/SB SR-163 Slip Off Ramp	80	4	Divided	N	Y	N
Genesee Avenue	East-West	SB SR-163 Slip On Ramp/SB SR-163 Slip Off Ramp	Cardinal Road	50	3	Divided	N	N	N
Jutland Drive	East-West	Morena Boulevard	Luna Avenue	40	2	Undivided	N	N	Y
Linda Vista Road	North-South	Mesa College Drive	Stalmer Street	80	4	Undivided	N	Y	N
Mesa College Drive	East-West	Armstrong Street	Linda Vista Road	80	4	Divided	N	N	Y
Mesa College Drive	East-West	Linda Vista Road	SB SR-163 Slip On Ramp	80	4	Divided	N	N	N
Mesa College Drive	East-West	SB SR-163 Slip On Ramp	NB SR-163 Slip Off Ramp	80	4	Undivided	Y	N	N
Mesa College Drive	East-West	NB SR-163 Slip Off Ramp	Annrae Street	80	4	Divided	Y	N	N
Moraga Avenue	North-South	Clairemont Mesa Boulevard	Balboa Avenue	40	2	Undivided	N	N	Y
Morena Boulevard	North-South	McGraw Street	W Morena Boulevard	70	4	Divided	N	Y	Y
Morena Boulevard	North-South	W Morena Boulevard	Knoxville Street	40	2	Undivided	N	N	Y
Morena Boulevard	North-South	Knoxville Street	Tecolote Road	40	2	Undivided	N	N	N
Morena Boulevard	North-South	Jutland Drive	WB Garnet Avenue Slip Off Ramp	70	4	Undivided	N	N	N
Morena Boulevard	North-South	WB Garnet Avenue Loop Off Ramp	EB Balboa Avenue Loop Off Ramp	60	4	Undivided	N	N	N

Road Segment	General Direction	From	To	Width (ft)	# of Lanes	Barrier Type	Shoulders ?	Bike Lanes?	Parking?
Morena Boulevard	North-South	EB Balboa Avenue Slip Off and Loop On Ramps	McGraw Street	70	3	Undivided	N	Y	Y
Mt. Alifan Drive	East-West	Genesee Avenue	Balboa Avenue	60	3	Undivided	N	N	Y
Regents Road	North-South	Governor Drive	WB SR-52 Slip Off Ramp/WB SR-52 Slip On Ramp	70	4	Divided	N	Y	N
Regents Road	North-South	WB SR-52 Slip Off Ramp/WB SR-52 Slip On Ramp	EB SR-52 Slip Off Ramp/EB SR-52 Slip On Ramp	70	4	Divided	N	Y	N
Regents Road	North-South	EB SR-52 Slip Off Ramp/EB SR-52 Slip On Ramp	Luna Avenue	70	4	Divided	N	Y	N
Tecolote Road	East-West	SB I-5 Slip Off/SB I-5 Slip On Ramp	Morena Boulevard	80	4	Divided	N	Y	N

4.4.1 | VEHICULAR DEMAND

Average daily traffic counts along roadway segments and AM/PM peak hour intersection volume counts were taken to conduct an operational analysis of the existing roadway network within the community. **Figure 4-29.** presents the daily roadway segment volumes throughout the study area. **Figure 4-30** presents both existing lane configurations as well as AM and PM peak hour count volumes. The corresponding operational analysis is included in **Sections 4.4.3, 4.4.6**, and **4.4.7**.

Figure 4-29. Existing Daily Roadway Segment Volumes

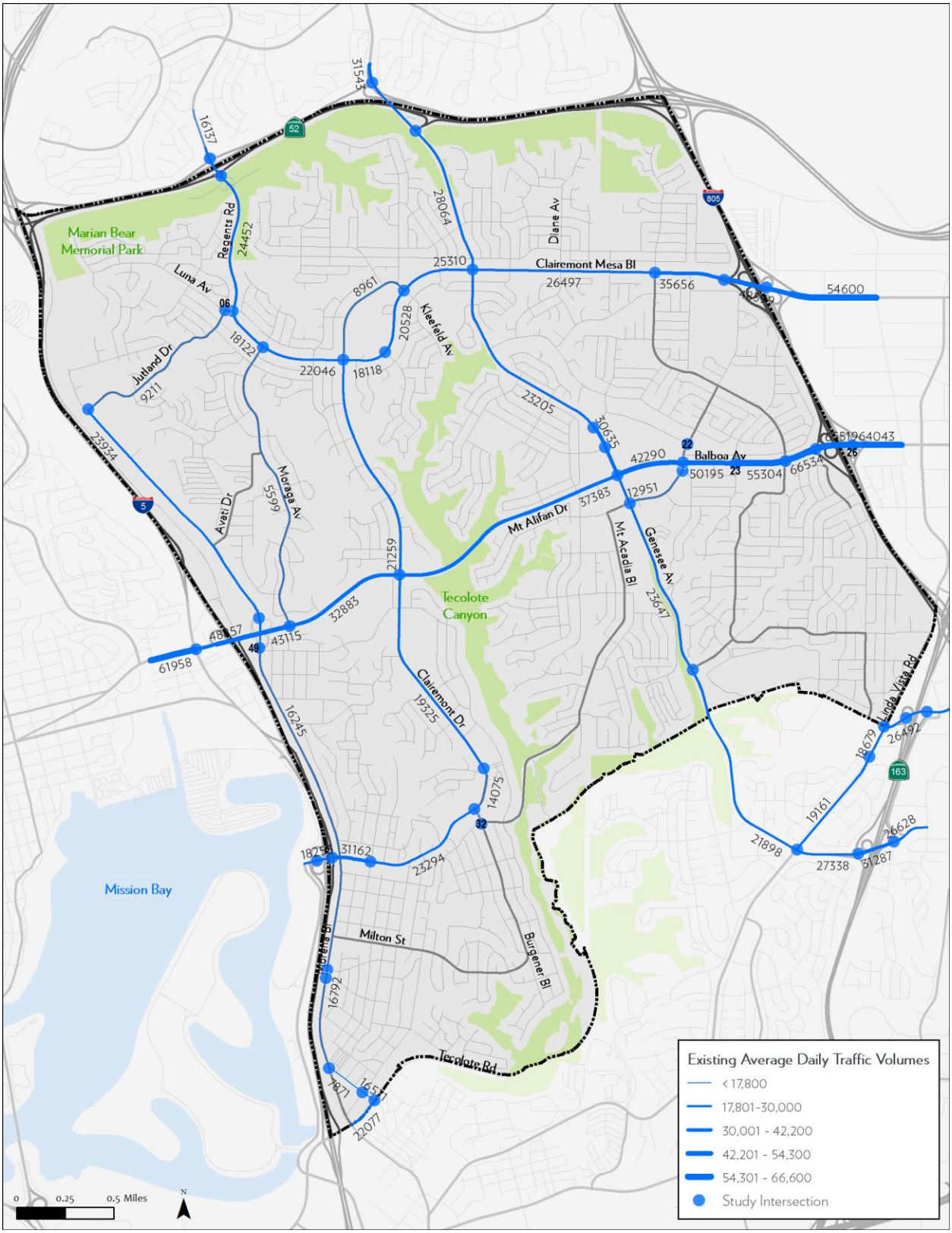
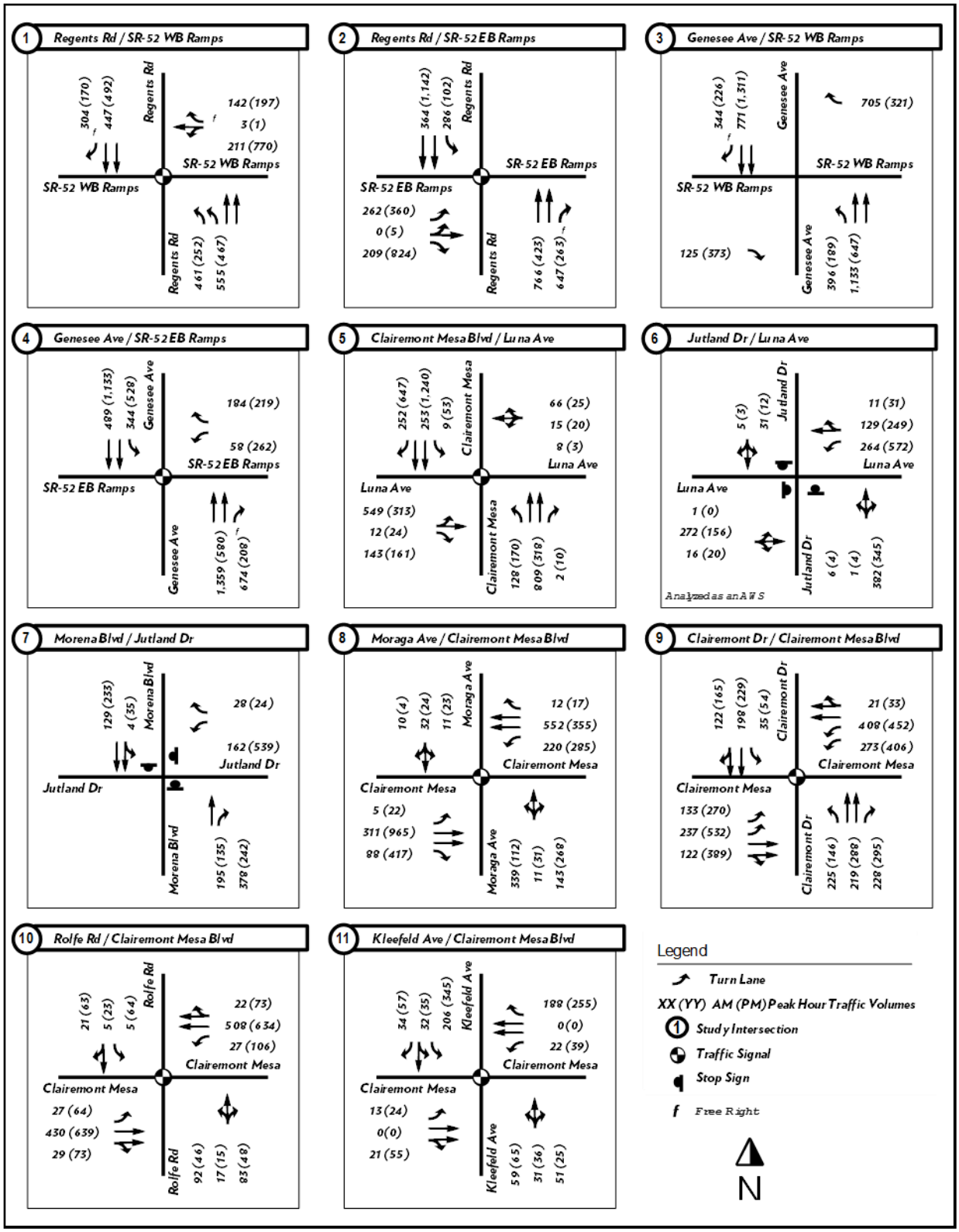
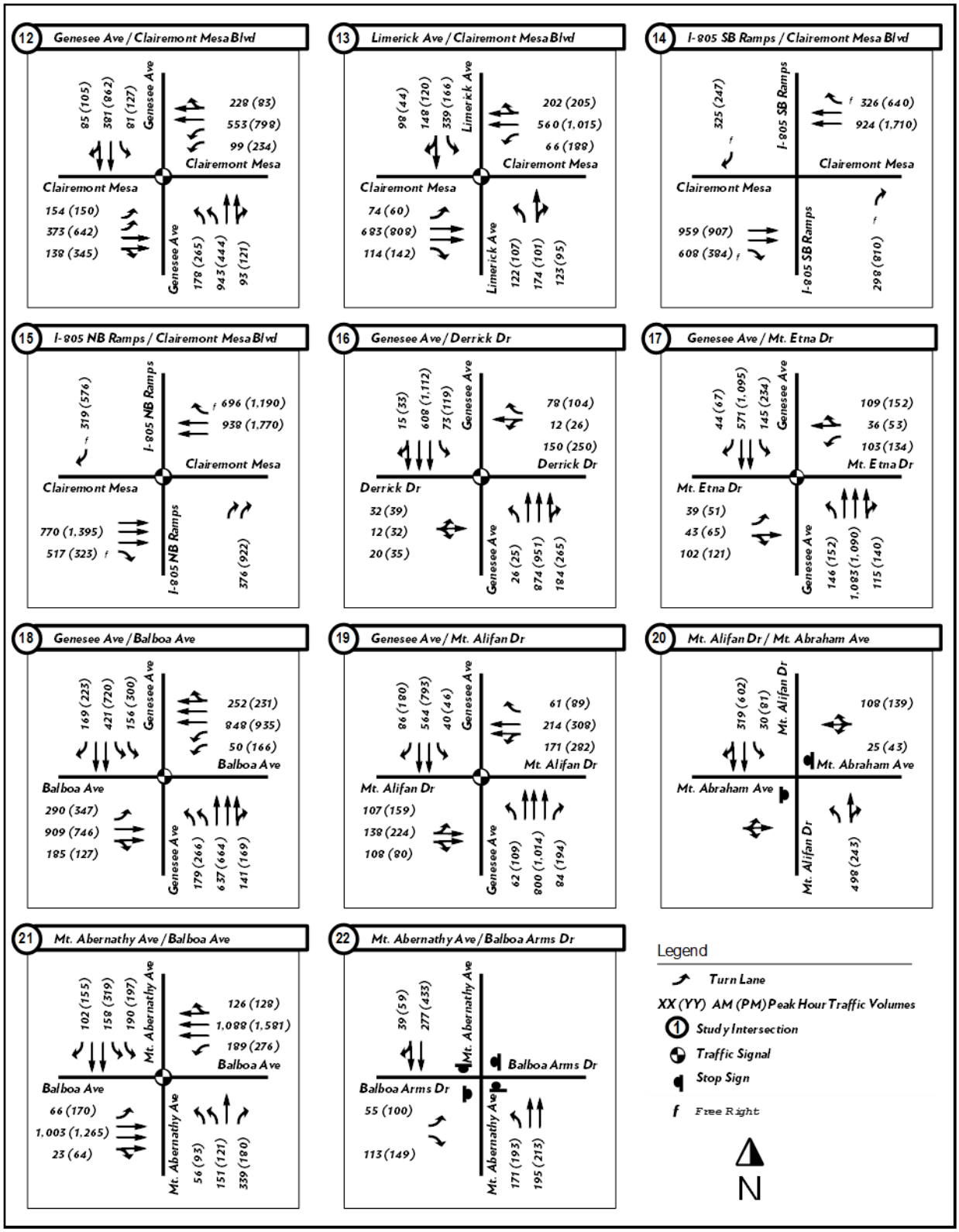


Figure 4-30. Existing Lane Configurations and Peak Hour Intersection Volumes

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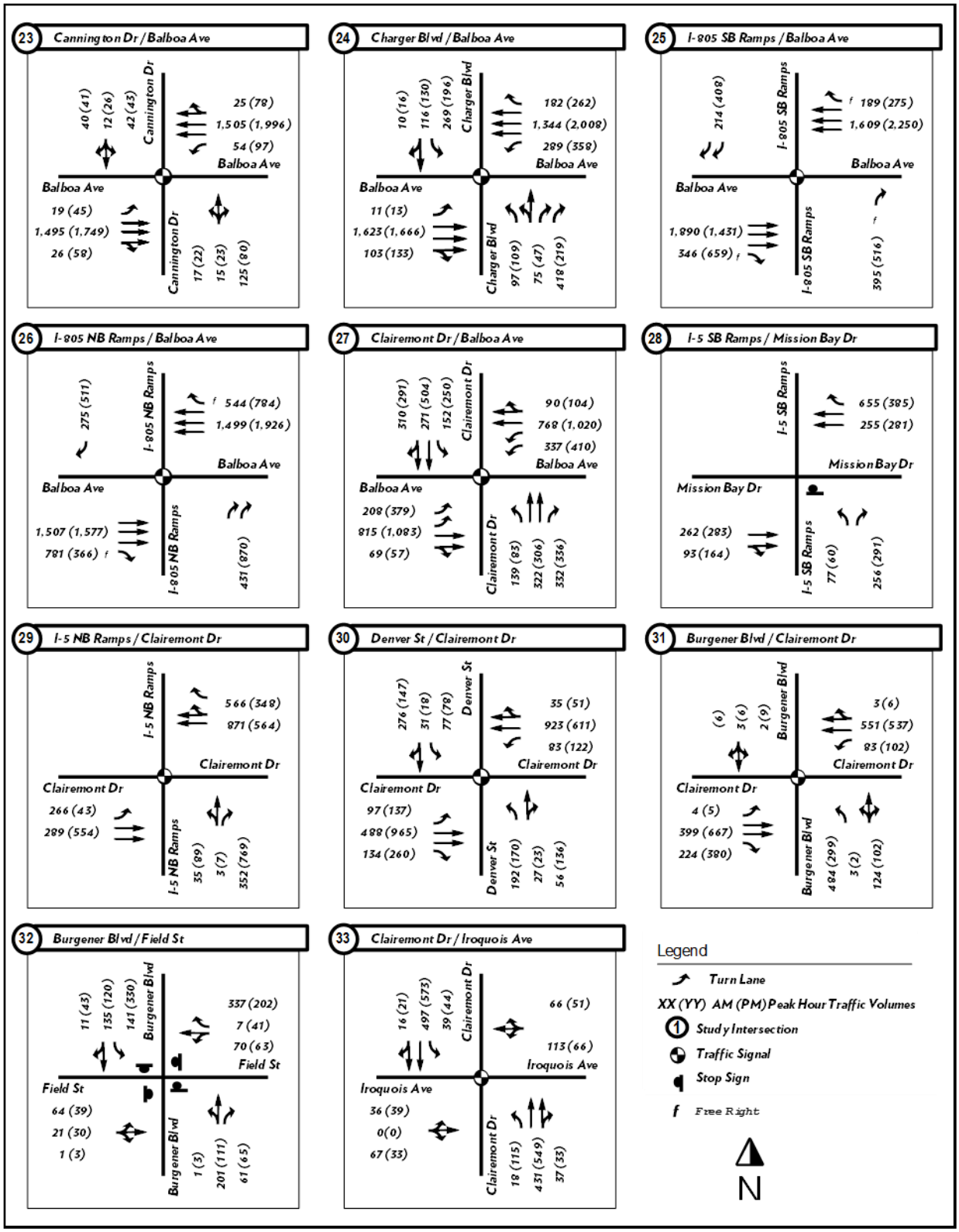
381 (862)
81 (127)
Genesee Ave
228 (83)
553 (798)
99 (234)
Clairemont Mesa
Clairemont Mesa
154 (150)
373 (642)
138 (345)
Genesee Ave
178 (265)
945 (444)
93 (121)
13 Limerick Ave / Clairemont Mesa Blvd
98 (44)
148 (120)
339 (166)
Limerick Ave
202 (205)
560 (1,015)
66 (188)
Clairemont Mesa
Clairemont Mesa
74 (60)
683 (808)
114 (142)
Limerick Ave
122 (107)
174 (101)
123 (95)
14 I-805 SB Ramps / Clairemont Mesa Blvd
325 (247)
f
I-805 SB Ramps
f 326 (640)
924 (1,710)
Clairemont Mesa
Clairemont Mesa
959 (907)
608 (384) f
I-805 SB Ramps
f
298 (810)
15 I-805 NB Ramps / Clairemont Mesa Blvd
319 (576)
f
I-805 NB Ramps
f 696 (1,190)
938 (1,770)
Clairemont Mesa
Clairemont Mesa
770 (1,395)
517 (323) f
I-805 NB Ramps
376 (922)
16 Genesee Ave / Derrick Dr
15 (33)
608 (1,112)
73 (119)
Genesee Ave
78 (104)
12 (26)
150 (250)
Derrick Dr
Derrick Dr
32 (39)
12 (32)
20 (35)
Genesee Ave
26 (25)
874 (951)
184 (265)
17 Genesee Ave / Mt. Etna Dr
44 (67)
571 (1,095)
145 (234)
Genesee Ave
109 (152)
36 (53)
103 (134)
Mt. Etna Dr
Mt. Etna Dr
39 (51)
43 (65)
102 (121)
Genesee Ave
146 (152)
1,083 (1,090)
115 (140)
18 Genesee Ave / Balboa Ave
169 (225)
421 (720)
156 (300)
Genesee Ave
252 (231)
848 (935)
50 (166)
Balboa Ave
Balboa Ave
290 (347)
909 (746)
185 (127)
Genesee Ave
179 (266)
637 (664)
141 (169)
19 Genesee Ave / Mt. Alifan Dr
86 (180)
564 (793)
40 (46)
Genesee Ave
61 (89)
214 (308)
171 (282)
Mt. Alifan Dr
Mt. Alifan Dr
107 (159)
138 (224)
108 (80)
Genesee Ave
62 (109)
800 (1,014)
84 (194)
20 Mt. Alifan Dr / Mt. Abraham Ave
319 (602)
30 (81)
Mt. Alifan Dr
108 (139)
25 (43)
Mt. Abraham Ave
Mt. Abraham Ave
Mt. Alifan Dr
498 (243)
21 Mt. Abernathy Ave / Balboa Ave
102 (155)
158 (319)
190 (197)
Mt. Abernathy Ave
126 (129)
1,088 (1,581)
189 (276)
Balboa Ave
Balboa Ave
66 (170)
1,003 (1,265)
23 (64)
Mt. Abernathy Ave
56 (93)
151 (121)
339 (180)
22 Mt. Abernathy Ave / Balboa Arms Dr
39 (59)
277 (433)
Mt. Abernathy Ave
Balboa Arms Dr
Balboa Arms Dr
55 (100)
113 (149)
Mt. Abernathy Ave
171 (193)
195 (213)
Legend
Turn Lane
XX (YY) AM (PM) Peak Hour Traffic Volumes
1 Study Intersection
Traffic Signal
Stop Sign
f Free Right
N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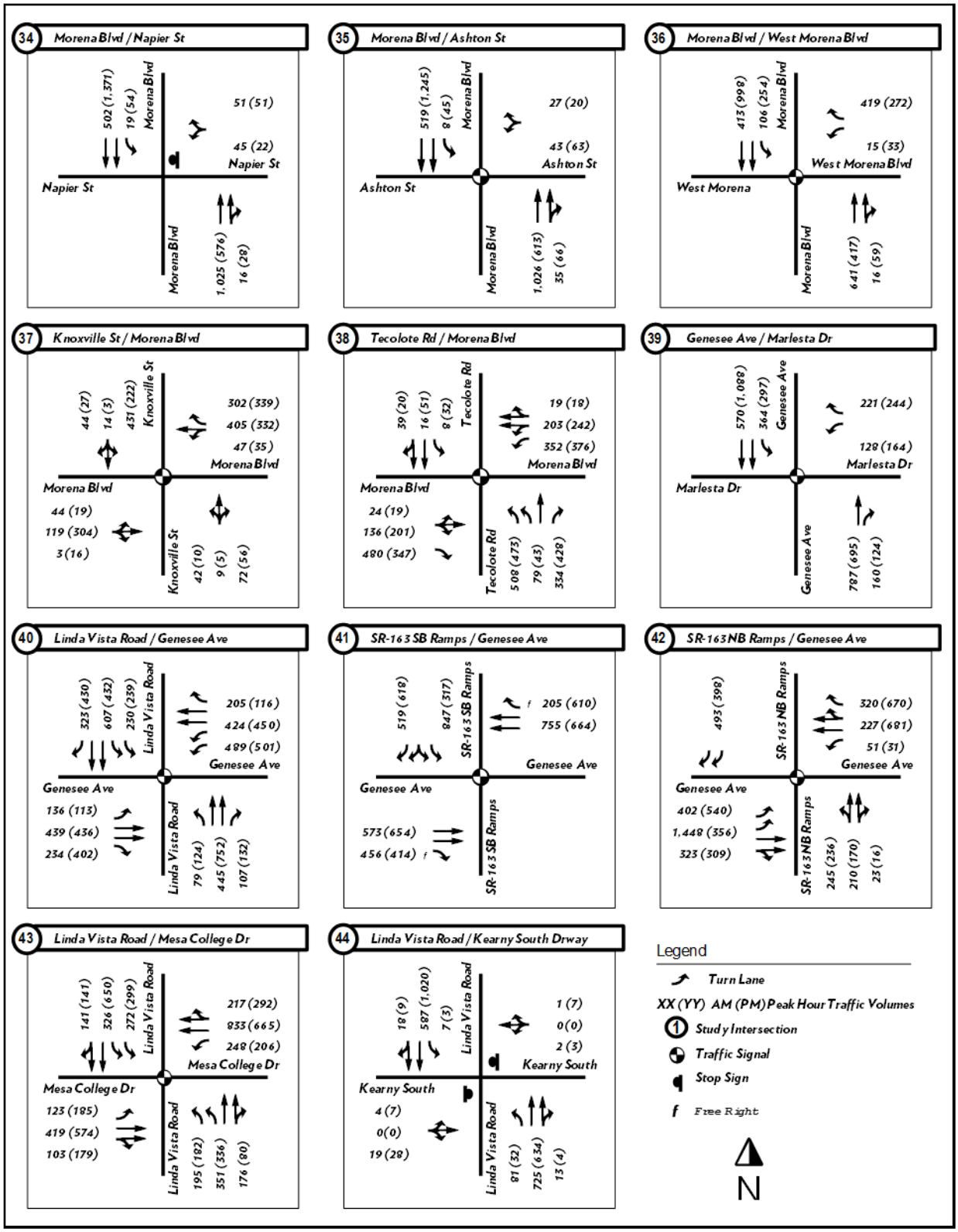
12 (26)
42 (43)
Cannington Dr
25 (78)
1,505 (1,996)
54 (97)
Balboa Ave
Balboa Ave
19 (45)
1,495 (1,749)
26 (58)
Cannington Dr
17 (22)
15 (23)
125 (80)
24 Charger Blvd / Balboa Ave
10 (16)
116 (130)
269 (196)
Charger Blvd
182 (262)
1,344 (2,008)
289 (358)
Balboa Ave
Balboa Ave
11 (13)
1,623 (1,666)
103 (133)
Charger Blvd
97 (109)
75 (47)
418 (219)
25 I-805 SB Ramps / Balboa Ave
214 (408)
I-805 SB Ramps
f 189 (275)
1,609 (2,250)
Balboa Ave
Balboa Ave
1,890 (1,431)
346 (659) f
I-805 SB Ramps
f
395 (516)
26 I-805 NB Ramps / Balboa Ave
275 (511)
I-805 NB Ramps
f 544 (784)
1,499 (1,926)
Balboa Ave
Balboa Ave
1,507 (1,577)
781 (366) f
I-805 NB Ramps
431 (870)
27 Clairemont Dr / Balboa Ave
310 (291)
271 (504)
152 (250)
Clairemont Dr
90 (104)
768 (1,020)
337 (410)
Balboa Ave
Balboa Ave
208 (379)
815 (1,083)
69 (57)
Clairemont Dr
139 (83)
322 (306)
332 (336)
28 I-5 SB Ramps / Mission Bay Dr
I-5 SB Ramps
655 (385)
255 (281)
Mission Bay Dr
Mission Bay Dr
262 (283)
93 (164)
I-5 SB Ramps
77 (60)
256 (291)
29 I-5 NB Ramps / Clairemont Dr
I-5 NB Ramps
566 (348)
871 (564)
Clairemont Dr
Clairemont Dr
266 (43)
289 (554)
I-5 NB Ramps
35 (89)
3 (7)
352 (769)
30 Denver St / Clairemont Dr
276 (147)
31 (18)
77 (78)
Denver St
35 (51)
923 (611)
83 (122)
Clairemont Dr
Clairemont Dr
97 (137)
488 (965)
134 (260)
Denver St
192 (170)
27 (23)
56 (136)
31 Burgener Blvd / Clairemont Dr
(6)
3 (6)
2 (9)
Burgener Blvd
3 (6)
551 (537)
83 (102)
Clairemont Dr
Clairemont Dr
4 (5)
399 (667)
224 (380)
Burgener Blvd
484 (299)
3 (2)
124 (102)
32 Burgener Blvd / Field St
11 (43)
135 (120)
141 (330)
Burgener Blvd
337 (202)
7 (41)
70 (63)
Field St
Field St
64 (39)
21 (30)
1 (3)
Burgener Blvd
1 (3)
201 (111)
61 (65)
33 Clairemont Dr / Iroquois Ave
16 (21)
497 (573)
39 (44)
Clairemont Dr
66 (51)
113 (66)
Iroquois Ave
Iroquois Ave
36 (39)
0 (0)
67 (33)
Clairemont Dr
18 (115)
431 (549)
37 (33)
Legend
Turn Lane
XX (YY) AM (PM) Peak Hour Traffic Volumes
1 Study Intersection
Traffic Signal
Stop Sign
f Free Right
N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Morena Blvd
Napier St
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19 (54)
51 (51)
45 (22)
1,025 (576)
16 (28)
35 Morena Blvd / Ashton St
Morena Blvd
Ashton St
519 (1,245)
8 (45)
27 (20)
43 (63)
1,026 (613)
35 (66)
36 Morena Blvd / West Morena Blvd
Morena Blvd
West Morena
413 (998)
106 (254)
419 (272)
15 (33)
641 (417)
16 (59)
37 Knoxville St / Morena Blvd
Knoxville St
Morena Blvd
44 (27)
14 (3)
431 (222)
302 (339)
405 (332)
47 (35)
44 (19)
119 (304)
3 (16)
42 (10)
9 (5)
72 (56)
38 Tecolote Rd / Morena Blvd
Tecolote Rd
Morena Blvd
39 (20)
16 (51)
8 (32)
19 (18)
203 (242)
352 (376)
24 (19)
136 (201)
480 (347)
508 (473)
79 (43)
334 (428)
39 Genesee Ave / Marlesta Dr
Genesee Ave
Marlesta Dr
570 (1,088)
364 (297)
221 (244)
128 (164)
787 (695)
160 (124)
40 Linda Vista Road / Genesee Ave
Linda Vista Road
Genesee Ave
323 (430)
607 (432)
230 (239)
205 (116)
424 (450)
489 (501)
136 (113)
439 (436)
234 (402)
79 (124)
445 (752)
107 (132)
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SR-163 SB Ramps
Genesee Ave
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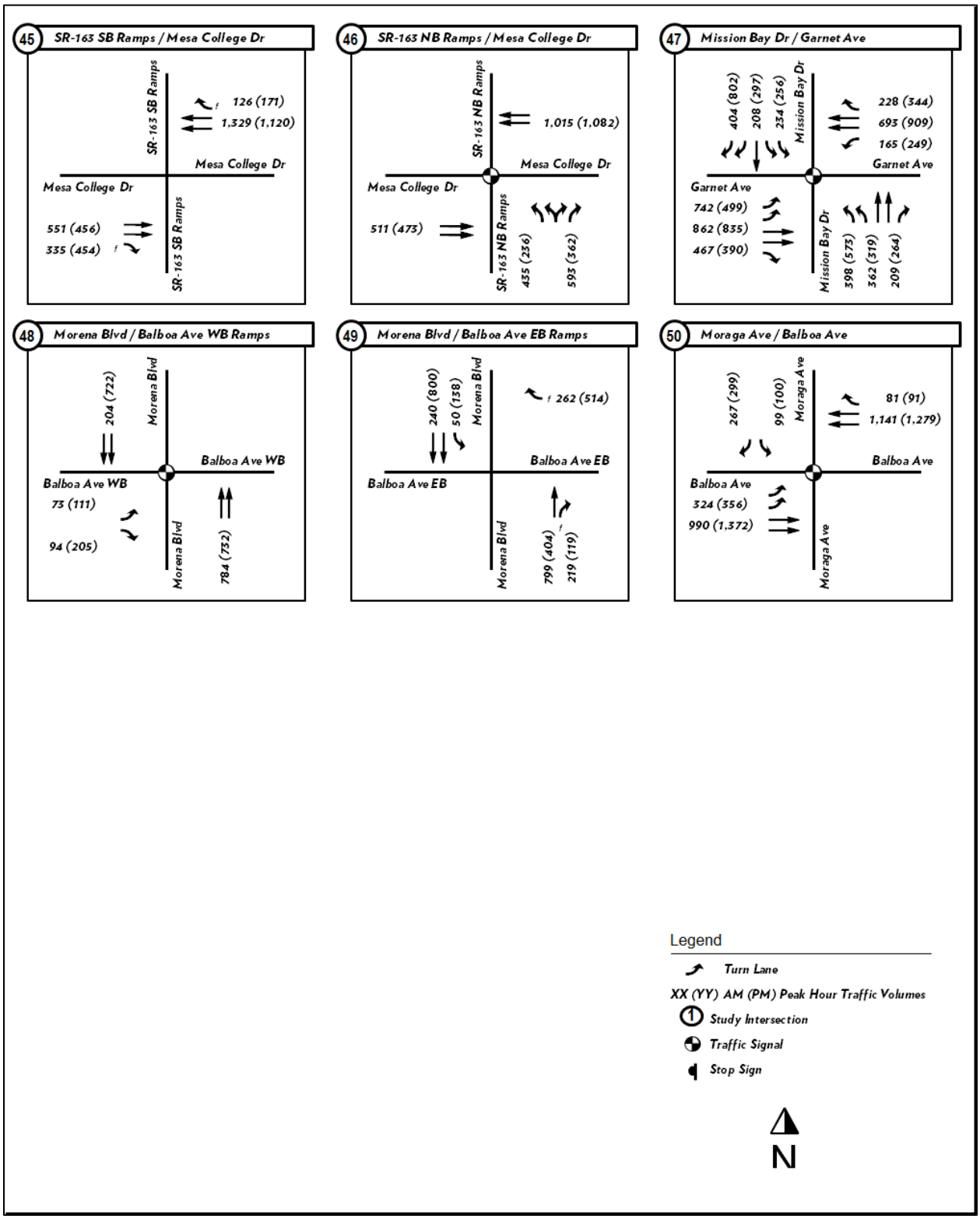
847 (517)
f 205 (610)
755 (664)
573 (654)
456 (414) f
42 SR-163 NB Ramps / Genesee Ave
SR-163 NB Ramps
Genesee Ave
493 (398)
320 (670)
227 (691)
51 (31)
402 (540)
1,448 (356)
323 (309)
245 (256)
210 (170)
23 (16)
43 Linda Vista Road / Mesa College Dr
Linda Vista Road
Mesa College Dr
141 (141)
326 (650)
272 (299)
217 (292)
833 (665)
248 (206)
123 (185)
419 (574)
103 (179)
195 (182)
351 (336)
176 (80)
44 Linda Vista Road / Kearny South Drway
Linda Vista Road
Kearny South
18 (9)
587 (1,020)
7 (3)
1 (7)
0 (0)
2 (3)
4 (7)
0 (0)
19 (28)
81 (32)
725 (634)
13 (4)
Legend
Turn Lane
XX (YY) AM (PM) Peak Hour Traffic Volumes
1 Study Intersection
Traffic Signal
Stop Sign
f Free Right
N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SR-163 SB Ramps
126 (171)
1,329 (1,120)
Mesa College Dr
Mesa College Dr
551 (456)
335 (454)
SR-163 SB Ramps
46 SR-163 NB Ramps / Mesa College Dr
SR-163 NB Ramps
1,015 (1,082)
Mesa College Dr
Mesa College Dr
511 (473)
SR-163 NB Ramps
435 (256)
595 (362)
47 Mission Bay Dr / Garnet Ave
404 (802)
208 (297)
234 (256)
Mission Bay Dr
228 (344)
693 (909)
165 (249)
Garnet Ave
Garnet Ave
742 (499)
862 (835)
467 (390)
Mission Bay Dr
398 (573)
362 (319)
209 (264)
48 Morena Blvd / Balboa Ave WB Ramps
204 (722)
Morena Blvd
Balboa Ave WB
Balboa Ave WB
73 (111)
94 (205)
Morena Blvd
784 (732)
49 Morena Blvd / Balboa Ave EB Ramps
240 (800)
50 (138)
Morena Blvd
262 (514)
Balboa Ave EB
Balboa Ave EB
Morena Blvd
799 (404)
219 (119)
50 Moraga Ave / Balboa Ave
267 (299)
99 (100)
Moraga Ave
81 (91)
1,141 (1,279)
Balboa Ave
Balboa Ave
324 (356)
990 (1,372)
Moraga Ave
Legend
Turn Lane
XX (YY) AM (PM) Peak Hour Traffic Volumes
Study Intersection
Traffic Signal
Stop Sign
N

4.4.2 | VEHICULAR SAFETY

Vehicular safety was evaluated utilizing collision data obtained from the City of San Diego Police Department's Crossroads software (SDPD) and the University of California Berkeley's Transportation Injury Mapping System (TIMS) from January 2011 through December 2015. A total of 1,873 vehicular collisions were reported during this five-year period. **Figure 4-31** displays the distribution of the vehicular collisions across Clairemont. **Table 4-22** identifies the intersections with the most reported collisions.

Table 4-22. Most Frequent Vehicular Collision Locations

Rank	Collision Location		Collisions
	Primary Street	Secondary Street	
1	Balboa Avenue	Genesee Avenue	27
2	Balboa Avenue	Mt. Alifan Drive/Mt. Abernathy Avenue	25
3	Balboa Avenue	Charger Boulevard	23
4	Clairemont Mesa Boulevard	Limerick Street	18
5	Balboa Avenue	Morena Boulevard	16
5	Linda Vista Road	Mesa College Drive	16
7	Balboa Avenue	Clairemont Drive	15
7	Clairemont Mesa Boulevard	Genesee Avenue	15
9	Balboa Avenue	I-5 NB Off Ramp/Santa Fe Street	13
10	Morena Boulevard	Avati Drive	12
10	Balboa Avenue	Moraga Avenue	12
10	Clairemont Mesa Boulevard	Clairemont Drive (E) / Kleefeld Drive	12
10	Genesee Avenue	Boyd Avenue	12
10	Linda Vista Road	Stalmer Street	12

As shown, three intersections experienced 20 or more vehicular collisions within the five-year study period. While collisions were reported throughout the community, the collisions were most common along Clairemont Mesa Boulevard and Balboa Avenue.

Table 4-23 summarizes vehicular collisions by the type of collision. Rear-end collisions were the most prevalent type of collision followed by sideswipe collisions.

Table 4-23. Vehicular Collisions by Collision Types

No.	Collision Type		
	Collision Type	Collisions	% of Total
1	Rear-End	628	34%
2	Sideswipe	351	19%
3	Other	333	18%
4	Broadside	210	11%
5	Hit Object	180	10%
6	Head-On	73	4%
7	Not Stated	51	3%
8	Overturned	47	3%
Total		**1,873**	**100%**

Vehicular collisions by location types are summarized in **Table 4-24**, differentiating between intersection, mid-block, and approaching/departing locations. The distribution of vehicular collision location types is similar to that of pedestrian-involved collisions. The majority of vehicular collisions occurred at intersections.

Table 4-24. Vehicular Collisions by Location Types

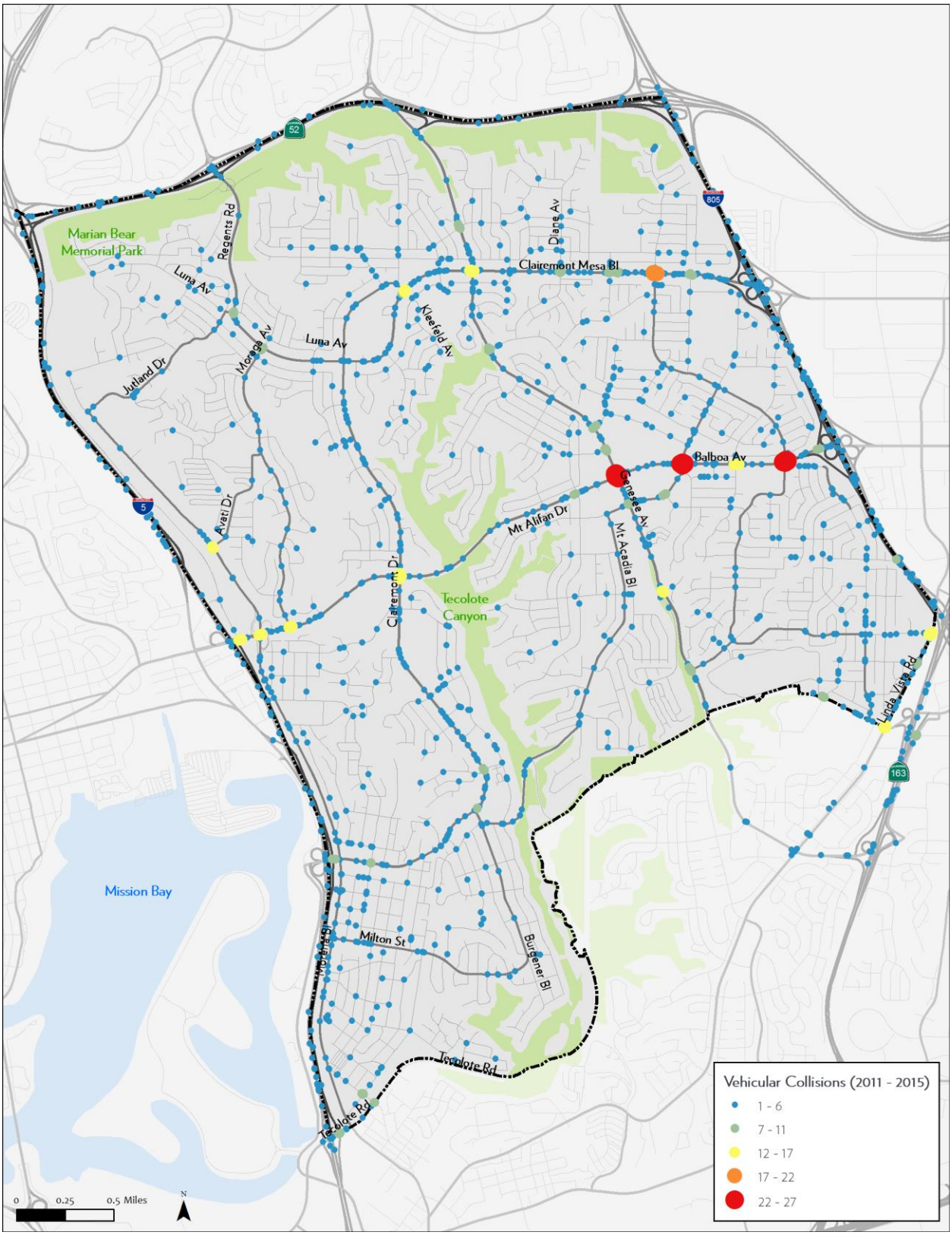
Collision Location Type	Collisions	% of Total
Intersection	1,082	58%
Approaching / Departing	443	24%
Mid-block	348	18%
Total	**1,873**	**100%**

Table 4-25 identifies the primary collision cause reported for the 1,873 vehicular collisions in Clairemont. The leading cause was unsafe speeds, which occurred in more than one-fourth of all collisions. The second-most frequent cause of collision was "improper turning," followed by "unsafe lane changes" and "automobile right-of-way violations."

Table 4-25. Primary Vehicle Collision Cause

No.	Cause of Collision		
	Collision Cause	Collisions	% of Total
1	Unsafe Speed	527	28%
2	Improper Turning	325	17%
3	Unsafe Lane Change	263	14%
4	Auto R/W Violation	178	10%
5	Unsafe Starting or Backing	129	7%
6	Not Stated	123	7%
7	Following Too Closely	74	4%
8	Traffic Signals and Signs	72	4%
9	Unknown	51	3%
10	Driving Under Influence	43	2%
11	Other Hazardous Movement	19	1%
12	Other Improper Driving	19	1%
13	Improper Passing	13	0.7%
14	Wrong Side of Road	10	0.5%
15	Other Than Driver	9	0.5%
16	Fell Asleep	5	0.3%
17	Other Equipment	5	0.3%
18	Pedestrian Violation	3	0.2%
19	Hazardous Parking	2	0.1%
20	Brakes	1	0.05%
21	Impeding Traffic	1	0.05%
22	Ped R/W Violation	1	0.05%
Total		**1,873**	**100%**

Figure 4-31. Vehicular Collisions (2011-2015)



4.4.3 | VEHICULAR QUALITY – ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

The evaluation of roadway segment operating conditions is performed using methodology described previously in **Section 2.4.3**. Operating conditions are based on the ratio of daily traffic volume (ADT) and roadway segment capacity. Roadway capacities are based on the number of lanes, speed, access points and other physical features of the road. Capacity thresholds used to determine roadway segment operating conditions are summarized previously in **Section 2.4.3**. The results from the volume to capacity (V/C) ratios are reported in terms of level of service (LOS), a quantitative measure representing the quality of service from the driver's perspective.

Table 4-26 summarizes the roadway characteristics and corresponding V/C ratio, and LOS. **Figure 4-32.** shows a graphic overview of existing roadway LOS. A detailed summary of count volumes is included in **Appendix D**.

Based on the full roadway segment analysis, 21 roadway study segments currently operate at an unacceptable level of service (LOS E or F). Those locations are as follows:

Balboa Avenue

- Morena Boulevard SB On-Ramp to Morena Boulevard NB Ramps: (LOS F)
- Morena Boulevard NB Ramps to Moraga Avenue: (LOS F)
- Clairemont Drive to Genesee Avenue: (LOS E)
- Mt. Abernathy Avenue to Mt. Albertine Avenue: (LOS F)
- Mt. Albertine Avenue to Charger Boulevard: (LOS F)
- Charger Boulevard to I-805 SB Ramps: (LOS F)
- I-805 SB Ramps to I-805 NB Ramps: (LOS F)
- East of I-805 NB Ramps: (LOS F)

Clairemont Drive

- Clairemont Mesa Boulevard to Chippewa Court: (LOS F)
- Burgener Boulevard to Denver Street: (LOS F)

Clairemont Mesa Boulevard

- Limerick Avenue to I-805 SB Ramps: (LOS E)
- I-805 SB Ramps to I-805 NB Ramps: (LOS F)
- East of I-805 NB Ramps: (LOS F)

Garnet Avenue

- West of Mission Bay Drive: (LOS F)
- I-5 SB On-Ramp to I-5 NB Off-Ramp: (LOS F)
- I-5 NB Off-Ramp to Morena Boulevard SB On-Ramp: (LOS F)

Genesee Avenue

- Marlesta Drive to Osler Street: (LOS F)
- SR-163 SB Ramps to SR-163 NB Ramps: (LOS F)

Jutland Drive

- Clairemont Mesa Boulevard to Morena Boulevard: (LOS F)

Morena Boulevard

- West Morena Boulevard to Knoxville Street: (LOS E)
- Knoxville Street to Tecolote Road: (LOS F)

Figure 4-32. Existing Roadway Segment Level of Service

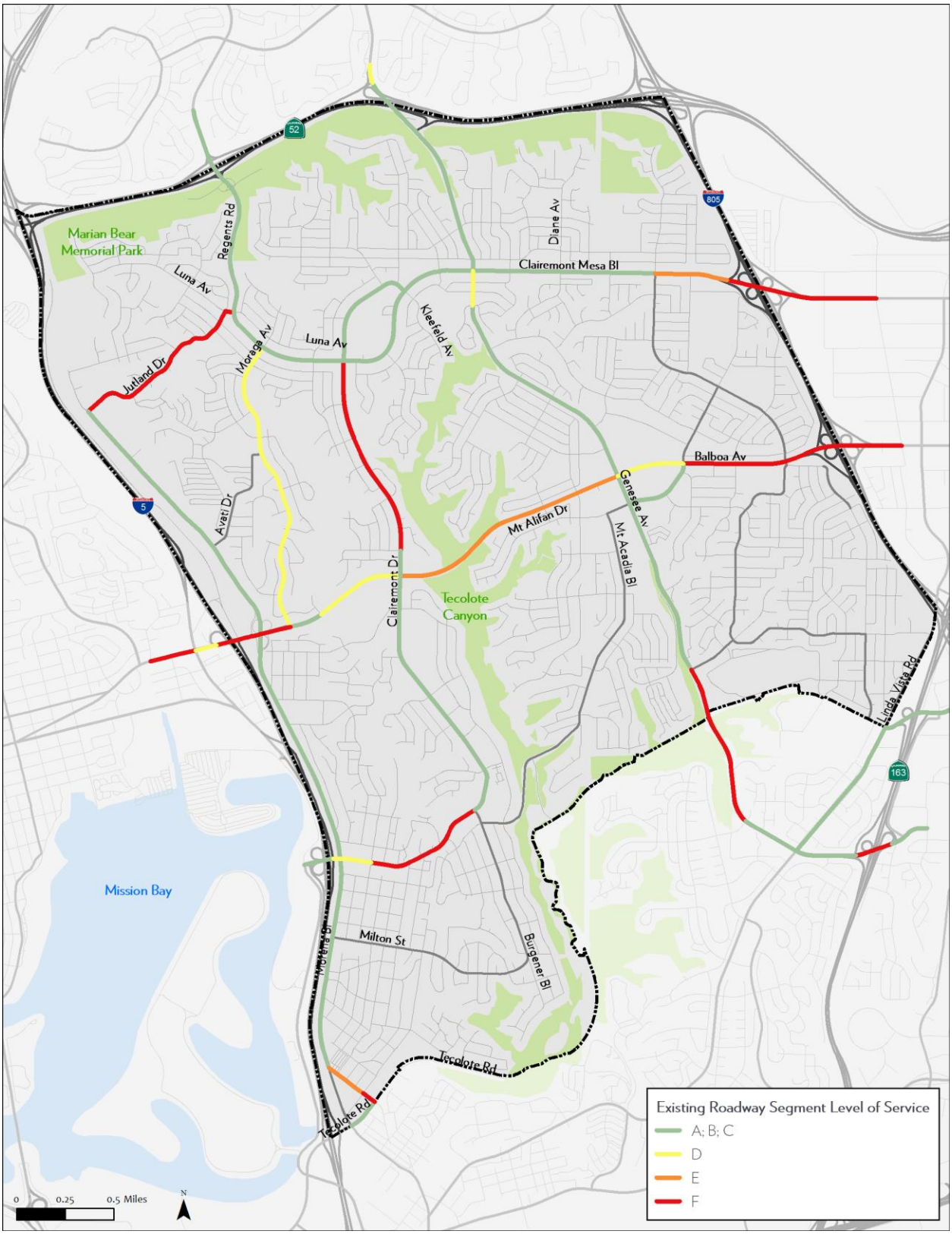


Table 4-26. Existing Roadway Segment Analysis

Roadway Segment	Existing Conditions				
	Lanes/ Functional Class	LOS E Maximum Capacity	ADT	V/C	LOS
Balboa Avenue					
1. Morena Boulevard SB Ramps to Morena Boulevard NB Ramps	4MA	40,000	49,079	1.227	**F**
2. Morena Boulevard NB Ramps to Moraga Avenue	4MA	40,000	43,115	1.078	**F**
3. Moraga Avenue to Clairemont Drive	4MA	40,000	32,883	0.822	**D**
4. Clairemont Drive to Genesee Avenue	4MA	40,000	37,383	0.935	**E**
5. Genesee Avenue to Mt. Abernathy Avenue	6MA	50,000	42,290	0.846	**D**
6. Mt. Abernathy Avenue to Mt. Albertine Avenue	6MA	50,000	50,195	1.004	**F**
7. Mt. Albertine Avenue to Charger Boulevard	6MA	50,000	55,304	1.106	**F**
8. Charger Boulevard to I-805 SB Ramps	6MA	50,000	66,534	1.331	**F**
9. I-805 SB Ramps to I-805 NB Off-ramp (WB)	6MA	50,000	65,519	1.310	**F**
10. I-805 NB Off-ramp (WB) to I-805 NB Off-ramp (EB)[1]	6MA	50,000	64,043	1.281	**F**
Clairemont Drive					
11. Kleefeld Avenue to Clairemont Mesa Boulevard	4C	30,000	8,961	0.299	**A**
12. Clairemont Mesa Boulevard to Chippewa Court	2C	15,000	21,259	1.417	**F**
13. Chippewa Court to Balboa Avenue	4MA	40,000	21,259	0.531	**C**
14. Balboa Avenue to Iroquois Avenue	4MA	40,000	19,325	0.483	**B**
15. Iroquois Avenue to Burgener Boulevard	4C	30,000	14,075	0.469	**C**
16. Burgener Boulevard to Denver Street	2C	15,000	23,294	1.553	**F**
17. Denver Street to I-5 NB Ramps	4MA	40,000	31,162	0.779	**D**
18. I-5 NB Ramps to I-5 SB Ramps[1]	4MA	40,000	18,253	0.456	**B**
Clairemont Mesa Boulevard					
19. Luna Avenue to Moraga Avenue	4MA	40,000	18,122	0.453	**B**
20. Moraga Avenue to Clairemont Drive	4MA	40,000	22,046	0.551	**C**
21. Clairemont Drive to Rolfe Road	4MA	40,000	18,118	0.453	**B**
22. Rolfe Road to Clairemont Drive / Kleefeld Avenue	4MA	40,000	20,528	0.513	**B**
23. Clairemont Drive / Kleefeld Avenue to Genesee Avenue	4MA	40,000	25,310	0.633	**C**
24. Genesee Avenue to Doliva Drive	4MA	40,000	26,497	0.662	**C**
25. Doliva Drive to I-805 SB Off-ramp (WB)	5MA	50,000	35,656	0.792	**D**
26. I-805 SB Off-ramp (WB) to I-805 NB On-ramp (EB)	5MA	45,000	48,599	1.080	**F**
27. I-805 NB On-ramp (EB) to I-805 NB Off-ramp (EB)[1]	5MA	45,000	54,600	1.213	**F**
Garnet Avenue					
28. West of Mission Bay Drive[1]	4MA	40,000	61,958	1.549	**F**

Roadway Segment	Existing Conditions				
	Lanes/ Functional Class	LOS E Maximum Capacity	ADT	V/C	LOS
29. Mission Bay Drive to I-5 SB On-Ramp[1]	5MA	45,000	37,406	0.831	D
30. I-5 SB On-Ramp to I-5 NB Off-Ramp	5MA	45,000	48,857	1.086	F
31. I-5 NB Off-Ramp to Morena Boulevard SB On-Ramp	5MA	45,000	52,073	1.157	F
Genesee Avenue					
32. Governor Drive to SR-52	4MA	40,000	31,543	0.789	D
33. SR-52 to Clairemont Mesa Boulevard	4MA	40,000	28,064	0.702	C
34. Clairemont Mesa Boulevard to Derrick Drive	4MA	40,000	23,205	0.580	C
35. Derrick Drive to Mt. Etna Drive	6MA	50,000	30,635	0.613	B
36. Mt. Etna Drive to Balboa Avenue	5MA	45,000	32,747	0.728	C
37. Balboa Avenue to Genesee Court	5MA	45,000	23,647	0.525	B
38. Genesee Court to Marlesta Drive	4MA	40,000	23,647	0.591	C
39. Marlesta Drive to Osler Street	2MA	20,000	21,898	1.095	F
40. Osler Street to Linda Vista Road[1]	4MA	40,000	21,898	0.547	C
41. Linda Vista Road to SR-163 SB Ramps[1]	4MA	40,000	27,338	0.683	C
42. SR-163 SB Ramps to SR-163 NB Ramps[1]	3MA	30,000	31,287	1.043	F
43. East of SR-163 NB Ramps[1]	4MA	40,000	26,628	0.666	C
Jutland Drive					
44. Morena Boulevard to Luna Avenue	2C NCL	8,000	9,211	1.151	F
Linda Vista Road					
45. Mesa College Drive to Korink Avenue	4C	30,000	18,679	0.623	C
46. Korink Avenue to Genesee Avenue	4C	30,000	19,161	0.639	C
Mesa College Drive					
47. Linda Vista Road to SR-163 SB Ramps[1]	4MA	40,000	26,492	0.662	C
48. SR-163 SB Ramps to SR-163 NB Ramps[1]	4MA	40,000	26,100	0.653	C
49. East of SR-163 NB Ramps[1]	4MA	40,000	24,344	0.609	C
Moraga Avenue					
50. Clairemont Mesa Boulevard to Balboa Avenue	2C NCL	8,000	5,599	0.700	D
Morena Boulevard					
51. North of Balboa Avenue	4MA	40,000	23,934	0.598	C
52. Balboa Avenue to Napier Street	4MA	40,000	16,245	0.406	B
53. Napier Street to West Morena Boulevard	4MA	40,000	16,792	0.420	B
54. West Morena Boulevard to Knoxville Street	2C	8,000	7,871	0.984	E
55. Knoxville Street to Tecolote Road	4C NCL	15,000	16,571	1.105	F
Mt. Alifan Drive					
56. Balboa Avenue to Genesee Avenue	3C	22,500	12,951	0.576	C

Roadway Segment	Existing Conditions				
	Lanes/ Functional Class	LOS E Maximum Capacity	ADT	V/C	LOS
Regents Road					
57. North of SR-52	4MA	40,000	16,137	0.403	**B**
58. SR-52 to Luna Avenue	4MA	40,000	24,452	0.611	**C**
Tecolote Road					
59. I-5 NB Ramps to Morena Boulevard	4MA	40,000	22,077	0.552	**C**

Abbreviations: 2C NCL: 2 lane collector without a continuous left-turn lane. 2MA: 2 lane Major. 2C: 2 lane Collector. 3C: 3-lane collector assumes ¾ capacity of a 4 lane collector. 3MA: 3 lane Major. 4C: 4 lane Collector. 4C NCL: 4 lane Collector without a continuous left-turn lane. 4MA: 4 lane Major. 5 MA: 5 lane Major.
1. Roadway segment is not within the community boundary, but provides access to and from the community itself.

4.4.4 | VEHICULAR QUALITY – PEAK HOUR ARTERIAL ANALYSIS

AM and PM peak hour segment level of service was analyzed for study segments, in both directions, based on average travel speeds. **Figure 4-33** and **Figure 4-34** display AM and PM peak hour automobile level of service results, respectively. The peak hour automobile analysis outputs are included in **Appendix E**. The AM and PM peak hour level of service results are also presented in **Table 4-27** and **Table 4-28** respectively**.**

As shown, the following segments operate at an unacceptable level of service (LOS E or F) during either the AM or PM peak hour:

- Balboa Avenue between Genesee Avenue and Mt. Alifan Drive – Westbound PM (LOS E)
- Balboa Avenue between Mt. Albertine Avenue and Eckstrom Avenue – Eastbound AM and PM (LOS F)
- Balboa Avenue between Eckstrom Avenue and I-805 SB Ramps – Westbound PM (LOS E)
- Clairemont Drive between I-5 NB Off-Ramp and Denver Street – Northbound AM (LOS E)
- Clairemont Drive between I-5 NB Off-Ramp and Denver Street –Southbound AM and PM (LOS F/E)
- Clairemont Mesa Boulevard between Luna Avenue and Moraga Avenue – Westbound AM (LOS E)
- Genesee Avenue between Mt. Alifan Drive and Balboa Avenue – Northbound AM and PM (LOS F)
- Genesee Avenue between Mt. Alifan Drive and Balboa Avenue – Southbound AM and PM (LOS E)
- Genesee Avenue between Balboa Avenue and Mt. Etna Drive – Northbound AM and PM (LOS E)
- Genesee Avenue between Balboa Avenue and Mt. Etna Drive – Southbound AM and PM (LOS F)
- Genesee Avenue between Mt. Etna Drive and Derrick Drive – Northbound AM and PM (LOS E/F)
- Genesee Avenue between Mt. Etna Drive and Derrick Drive – Southbound AM and PM (LOS E)

Figure 4-33. AM Peak Hour Arterial Level of Service

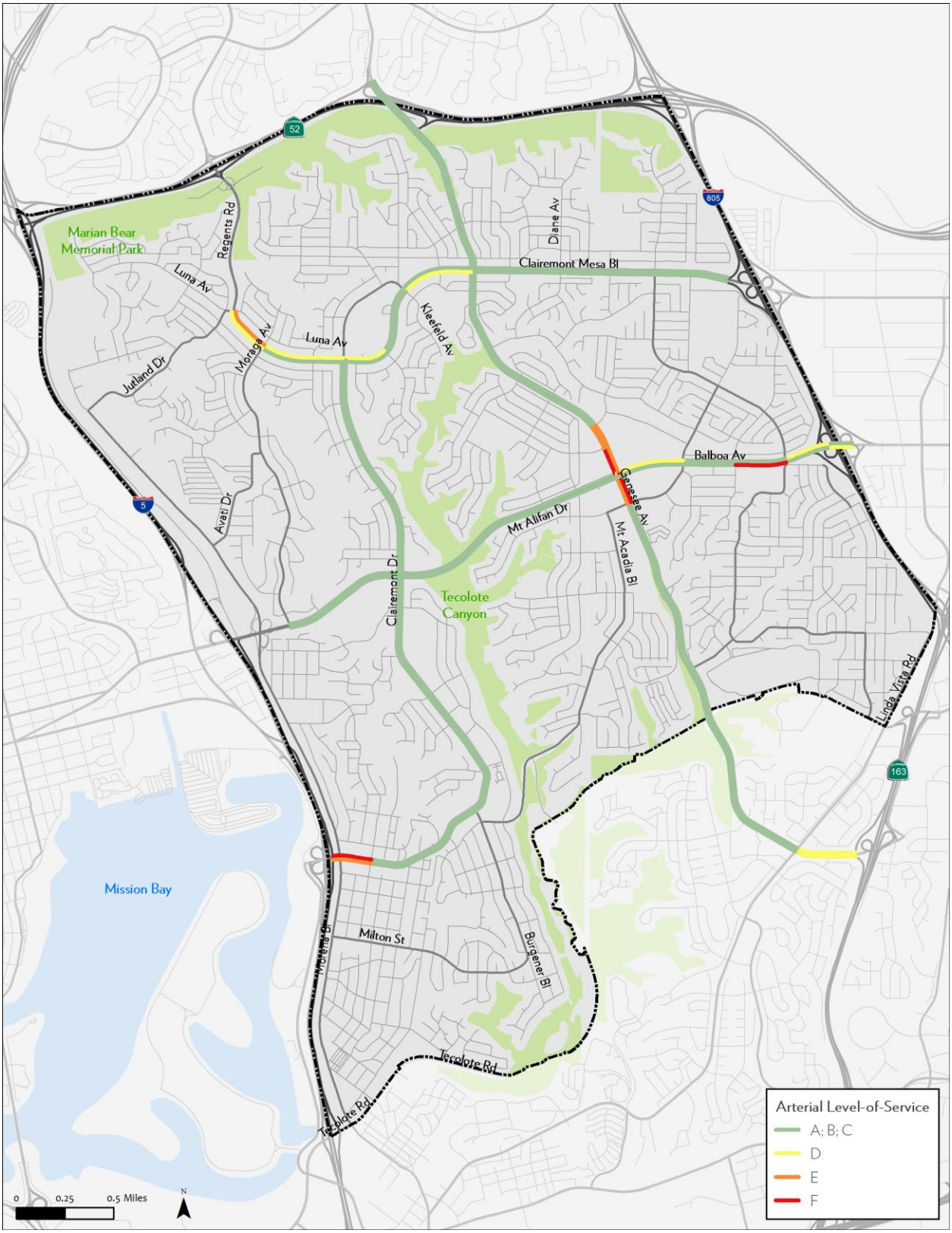


Figure 4-34. PM Peak Hour Arterial Level of Service

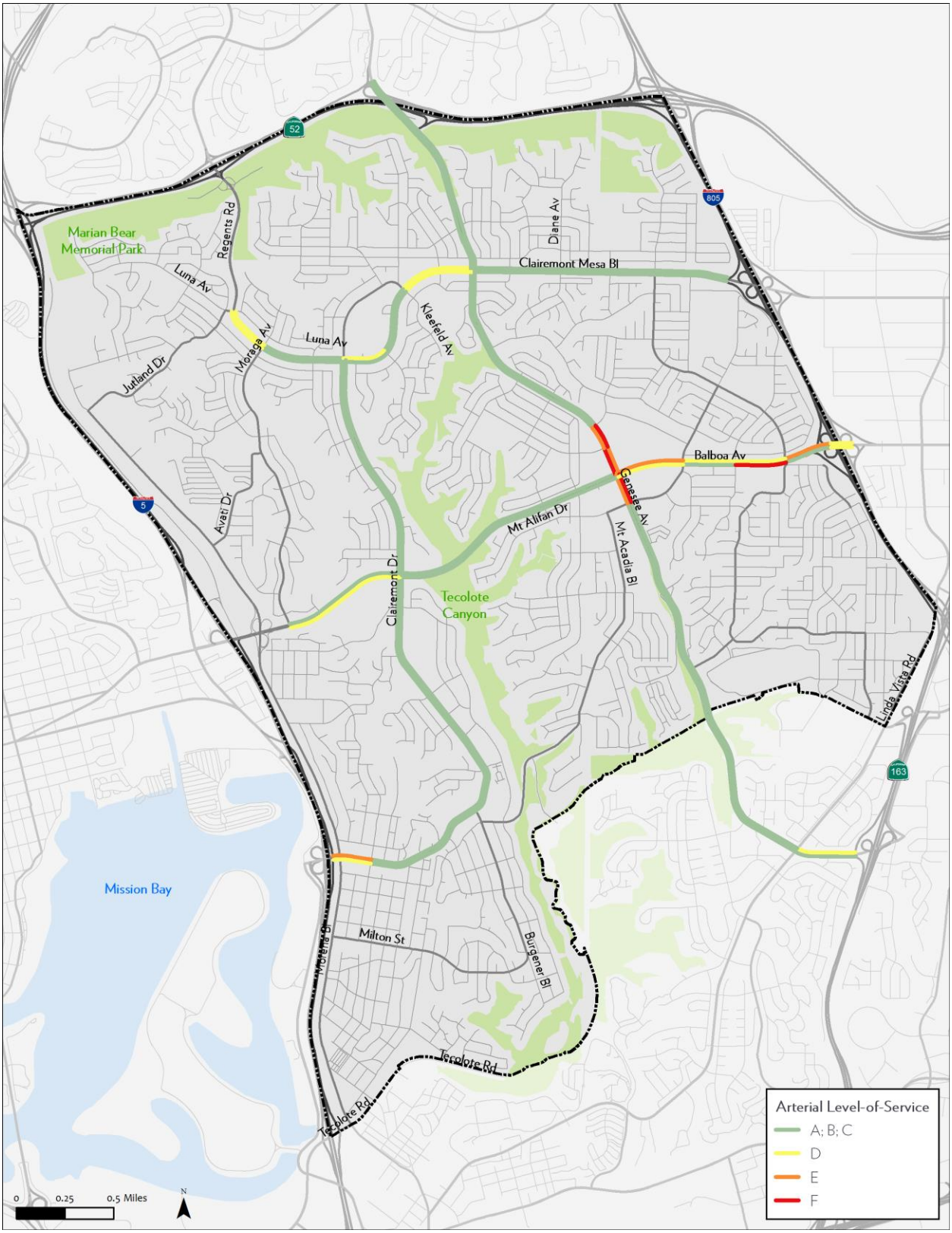


Table 4-27. Arterial Analysis AM Peak Hour

Location	Urban Street Class	Posted Speed Limit	Segment Length (miles)	Running Time per mile	Eastbound / Northbound			Westbound / Southbound		
					Sum Total Delay	Average Arterial Speed (mph)	LOS	Sum Total Delay	Average Arterial Speed (mph)	LOS
Balboa Avenue										
Between Moraga Avenue and Clairemont Drive	II	45	0.63	50.6	134.4	24.6	C	96.4	31.0	B
Between Clairemont Drive and Genesee Avenue	II	45	1.24	99.4	151.0	35.7	A	182.0	31.8	B
Between Genesee Avenue and Mt. Alifan Drive	II	45	0.36	34.2	69.0	24.9	C	87.4	21.1	D
Between Mt. Alifan Drive and Mt. Albertine Avenue	II	45	0.27	28.1	47.7	25.7	C	52.7	24.1	C
Between Mt. Albertine Avenue and Eckstrom Avenue	II	45	0.24	25.3	116.7	12.3	F	54.3	22.0	C
Between Eckstrom Avenue and I-805 SB Ramps	II	45	0.20	22.0	22.2	32.9	B	61.4	17.4	D
Between I-805 SB Ramps and I-805 NB Ramps	II	45	0.20	21.3	61.3	17.0	D	42.3	22.1	C
Clairemont Drive										
Between I-5 NB Off-Ramp and Denver Street	III	35	0.19	22.5	79.1	13.3	E	148.5	7.9	F
Between Denver Street and Burgener Boulevard	III	35	0.62	64.1	108.7	26.0	B	133.9	22.7	C
Between Burgener Boulevard and Iroquois Avenue	III	35	0.24	28.8	33.8	23.6	C	58.6	19.8	C
Between Iroquois Avenue and Balboa Avenue	III	35	1.13	116.6	198.6	25.9	B	133.8	32.6	A
Between Balboa Avenue and Clairemont Drive	III	35	1.17	119.9	177.5	28.2	B	188.9	27.2	B
Clairemont Mesa Boulevard										
Between Luna Avenue and Moraga Avenue	III	35	0.24	28.6	91.8	14.3	D	106.6	12.7	E
Between Moraga Avenue and Clairemont Drive	III	35	0.42	49.8	76.2	23.7	C	118.2	17.8	D
Between Clairemont Drive and Rolfe Road	III	35	0.23	27.2	39.2	24.6	B	63.4	18.0	D
Between Rolfe Road and Kleefeld Avenue	III	35	0.35	41.4	58.4	24.9	B	59.8	24.6	B
Between Kleefeld Avenue and Genesee Avenue	III	35	0.38	46.0	118.0	16.8	D	93.4	19.8	C
Between Genesee Avenue and Limerick Avenue	III	35	0.93	95.5	179.3	24.3	B	132.1	29.4	B
Between Limerick Avenue and I-805 NB Ramps	III	35	0.70	71.9	86.9	31.7	A	175.1	20.4	C

Location	Urban Street Class	Posted Speed Limit	Segment Length (miles)	Running Time per mile	Eastbound / Northbound			Westbound / Southbound		
					Sum Total Delay	Average Arterial Speed (mph)	LOS	Sum Total Delay	Average Arterial Speed (mph)	LOS
Genesee Avenue										
Between SR-163 SB Ramps and Linda Vista Road[1]	II	40	0.30	31.0	92.2	17.8	D	69.0	21.9	D
Between Linda Vista Road and Marlesta Drive	II	45	1.14	90.9	222.2	26.1	C	169.8	31.4	B
Between Marlesta Drive and Mt. Alifan Drive	II	45	0.91	73.1	127.5	32.8	B	82.1	42.4	A
Between Mt. Alifan Drive and Balboa Avenue	II	35	0.16	19.8	92.6	10.2	F	55.6	15.1	E
Between Balboa Avenue and Mt. Etna Drive	II	35	0.16	19.4	52.0	15.7	E	110.0	8.7	F
Between Mt. Etna Drive and Derrick Drive	II	35	0.12	15.6	51.4	13.4	E	48.0	14.1	E
Between Derrick Drive and Clairemont Mesa Boulevard	II	40	1.09	98.0	147.0	27.5	C	118.2	36.4	A
Between Clairemont Mesa Boulevard and SR-52 EB Ramps	II	45	0.78	62.8	148.2	26.8	C	120.4	30.8	B

E/F: Unacceptable LOS

1. Roadway segment is not within the community boundary, but provides access to and from the community itself.

Table 4-28. Arterial Analysis PM Peak Hour

Location	Urban Street Class	Posted Speed Limit	Segment Length (miles)	Running Time/mile	Eastbound / Northbound			Westbound / Southbound		
					Sum Total Delay	Average Arterial Speed (mph)	LOS	Sum Total Delay	Average Arterial Speed (mph)	LOS
Balboa Avenue										
Between Moraga Avenue and Clairemont Drive	II	45	0.63	50.6	159.0	21.7	D	99.2	30.4	B
Between Clairemont Drive and Genesee Avenue	II	45	1.24	99.4	192.2	30.7	B	208.8	29.0	B
Between Genesee Avenue and Mt. Alifan Drive	II	45	0.36	34.2	104.0	18.6	D	144.2	14.4	E
Between Mt. Alifan Drive and Mt. Albertine Avenue	II	45	0.27	28.1	54.7	23.5	C	66.1	20.6	D
Between Mt. Albertine Avenue and Eckstrom Avenue	II	45	0.24	25.3	148.5	10.1	F	74.3	17.6	D
Between Eckstrom Avenue and I-805 SB Ramps	II	45	0.20	22.0	22.2	32.9	B	65.2	16.7	E
Between I-805 SB Ramps and I-805 NB Ramps	II	45	0.20	21.3	45.1	21.2	D	47.5	20.5	D
Clairemont Drive										
Between I-5 NB Off-Ramp and Denver Street	III	35	0.19	22.5	67.7	15.0	D	228.5	12.3	E
Between Denver Street and Burgener Boulevard	III	35	0.62	64.1	111.5	25.5	B	130.4	26.5	B
Between Burgener Boulevard and Iroquois Avenue	III	35	0.24	28.8	40.8	24.9	B	55.6	20.5	C
Between Iroquois Avenue and Balboa Avenue	III	35	1.13	116.6	225.2	23.9	C	104.9	33.1	A
Between Balboa Avenue and Clairemont Drive	III	35	1.17	119.9	209.9	25.5	B	87.5	24.1	B
Clairemont Mesa Boulevard										
Between Luna Avenue and Moraga Avenue	III	35	0.24	28.6	80.8	15.7	D	83.0	15.4	D
Between Moraga Avenue and Clairemont Drive	III	35	0.42	49.8	72.6	24.4	B	72.2	24.5	B
Between Clairemont Drive and Rolfe Road	III	35	0.23	27.2	50.8	20.9	C	71.0	16.6	D
Between Rolfe Road and Kleefeld Avenue	III	35	0.35	41.4	66.2	23.1	C	70.6	22.2	C
Between Kleefeld Avenue and Genesee Avenue	III	35	0.38	46.0	122.0	16.4	D	120.8	16.6	D
Between Genesee Avenue and Limerick Avenue	III	35	0.93	95.5	161.1	26.1	B	147.3	27.5	B
Between Limerick Avenue and I-805 NB Ramps	III	35	0.70	71.9	105.7	28.4	B	128.9	25.1	B

Location	Urban Street Class	Posted Speed Limit	Segment Length (miles)	Running Time/mile	Eastbound / Northbound			Westbound / Southbound		
					Sum Total Delay	Average Arterial Speed (mph)	LOS	Sum Total Delay	Average Arterial Speed (mph)	LOS
Genesee Avenue										
Between SR-163 SB Ramps and Linda Vista Road1	II	40	0.30	31.0	86.4	18.7	D	57.6	24.7	C
Between Linda Vista Road and Marlesta Drive	II	45	1.14	90.9	162.3	32.3	B	154.9	33.3	B
Between Marlesta Drive and Mt. Alifan Drive	II	45	0.91	73.1	151.0	29.3	B	87.4	41.0	A
Between Mt. Alifan Drive and Balboa Avenue	II	35	0.16	19.8	69.2	12.8	F	59.6	14.4	E
Between Balboa Avenue and Mt. Etna Drive	II	35	0.16	19.4	59.6	14.1	E	115.2	8.3	F
Between Mt. Etna Drive and Derrick Drive	II	35	0.12	15.6	60.2	11.8	F	38.8	16.5	E
Between Derrick Drive and Clairemont Mesa Boulevard	II	40	1.09	98.0	171.7	29.0	B	148.1	31.8	B
Between Clairemont Mesa Boulevard and SR-52 EB Ramps	II	45	0.78	62.8	120.0	30.9	B	182.2	23.1	C

E/F: Unacceptable LOS

1. Roadway segment is not within the community boundary, but provides access to and from the community itself.

4.4.5 | VEHICULAR QUALITY – TRAVEL SPEED SURVEY

Travel speeds were recorded along four major corridors in the Clairemont community during periods of high demand to estimate real-world vehicular speeds when traffic is likely to be heaviest, as well as to identify locations of delay along key roadway facilities. The roadways analyzed were Balboa Avenue, Clairemont Mesa Boulevard, Genesee Avenue and Clairemont Drive. The AM and PM peak periods varied by roadway studied and are shown below in **Table 4-29.**

Table 4-29. Peak Periods Analyzed for Travel Speed

Roadway	AM Peak Period	PM Peak Period
Balboa Avenue	7:30 – 8:20 am	4:45 – 5:35 pm
Clairemont Mesa Boulevard	8:00 – 8:50 am	4:30 – 5:20 pm
Genesee Avenue	8:00 – 8:50 am	4:00 – 4:50 pm
Clairemont Drive	8:00 – 8:50 am	4:45 – 5:35 pm

Travel speed data was collected on February 7, 2017 and recorded utilizing the Waze travel application. Speed and position data were recorded through GPS logging software. A detailed summary of travel speed data is included in **Appendix F**.

Average speeds by direction and period for Balboa Avenue are shown below in **Figure 4-35** and **Figure 4-36** respectively.

As shown, the lowest speeds in the eastbound direction were recorded as vehicles approached Charger Boulevard in both the AM and PM peak periods. Conversely, the highest speeds in the eastbound direction were recorded approaching Mt. Everest Boulevard in both the AM and PM peak periods. For the westbound direction, the lowest speeds varied between AM and PM peak periods where the lowest AM peak period speed occurred approaching Mt. Alifan Drive while the lowest PM peak period speed occurred as vehicles approached Genesee Avenue. The location of the highest recorded speeds were consistent for both the AM and PM peak periods with top speeds occurring as vehicles approached Moraga Avenue.

Figure 4-35. Balboa Avenue Travel Speeds – Eastbound Direction

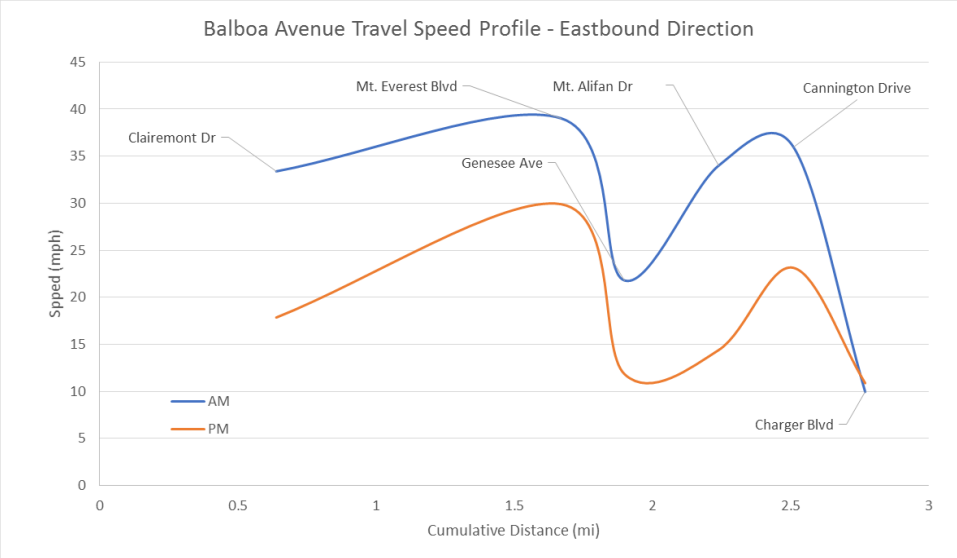
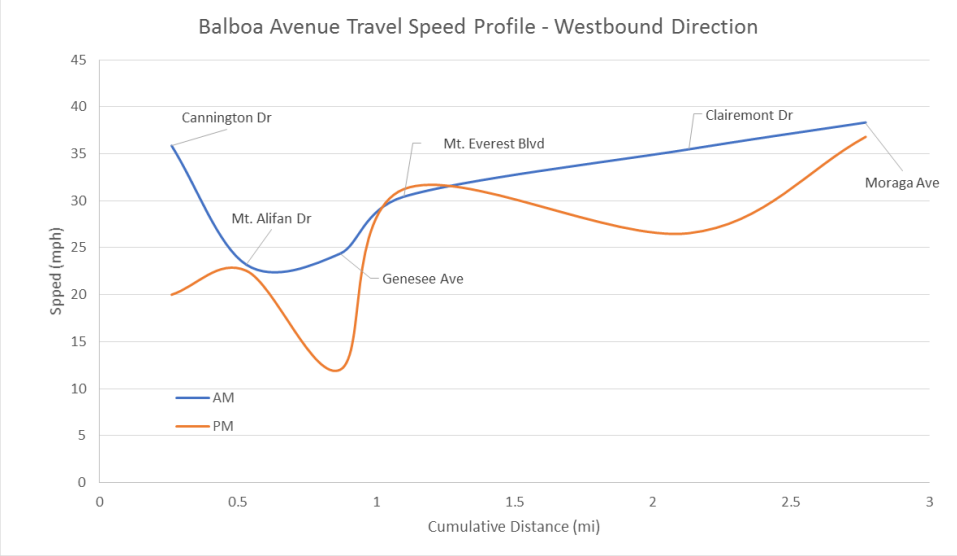


Figure 4-36. Balboa Avenue Travel Speeds – Westbound Direction



Average speeds by direction and period for Clairemont Mesa Boulevard are shown below in **Figure 4-37** and **Figure 4-38** respectively.

In the eastbound direction, speeds varied between AM and PM peak periods. In the AM peak period, vehicles reached their highest speeds approaching Luna Avenue while the lowest speeds were recorded approaching Longford Street. In juxtaposition, the highest speeds for the PM peak period were recorded as vehicles approached Longford Street while the lowest speeds were recorded as vehicles approached Moraga Avenue. In the westbound direction, the AM peak period's lowest speeds and highest speeds were recorded as vehicles approached Mt. Alifan Drive and Moraga Avenue respectively. The PM peak period's lowest and highest speeds recorded were recorded as vehicles approached Genesee Avenue and Moraga Avenue respectively.

Figure 4-37. Clairemont Mesa Boulevard Travel Speeds (Eastbound)

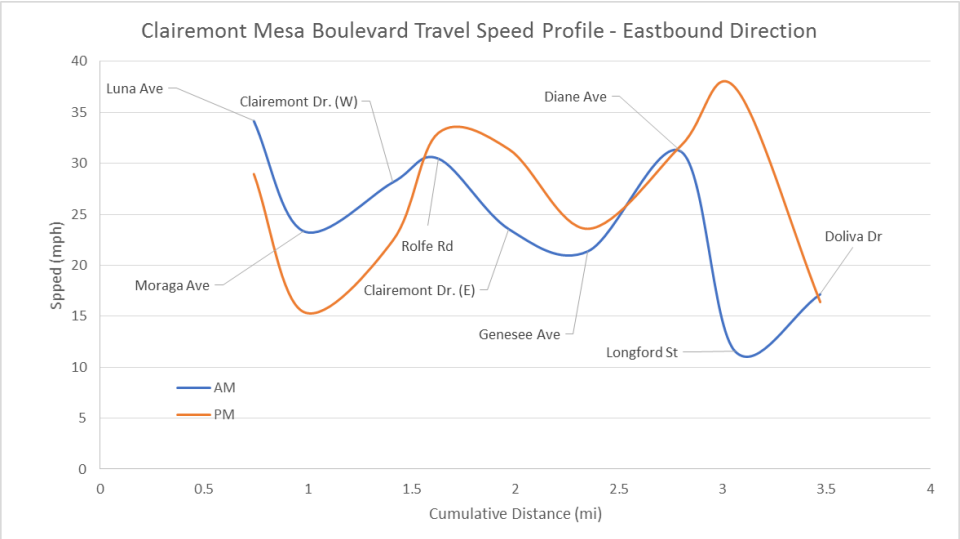
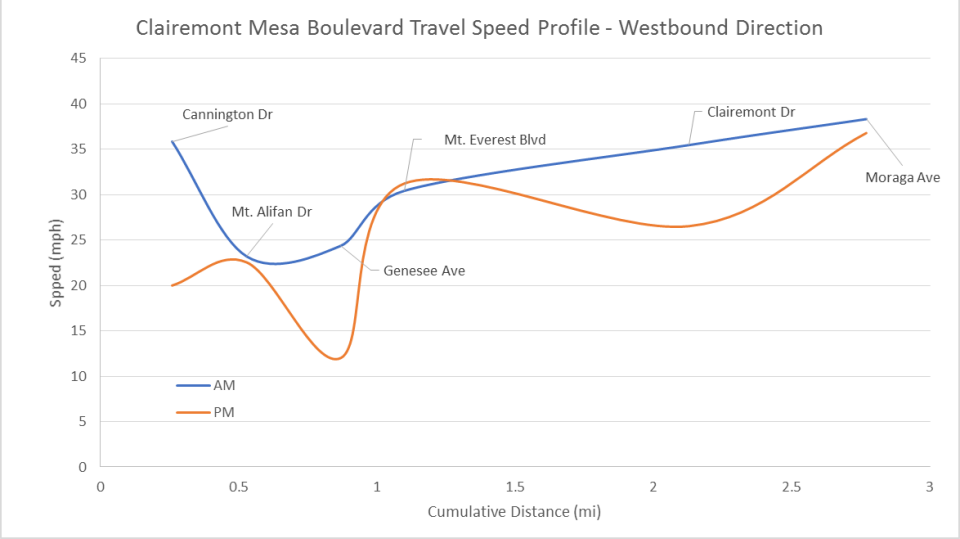


Figure 4-38. Clairemont Mesa Boulevard Travel Speeds (Westbound)



Average speeds by direction and period for Genesee Avenue are shown below in **Figure 4-39** and **Figure 4-40** respectively.

In the southbound direction, the lowest vehicular speeds were recorded approaching Balboa Avenue in the AM peak period and approaching Clairemont Mesa Boulevard in the PM peak period. The highest vehicular speeds were recorded approaching Derrick Drive in the AM peak period and Marlesta Drive in the PM peak period. In the northbound direction, the lowest vehicular speeds were recorded approaching Balboa Avenue in the AM peak period and approaching Clairemont Mesa Boulevard in the PM peak period. The highest vehicular speeds were recorded approaching Boyd Avenue in both the AM and PM peak periods.

Figure 4-39. Genesee Avenue Travel Speeds – Southbound Direction

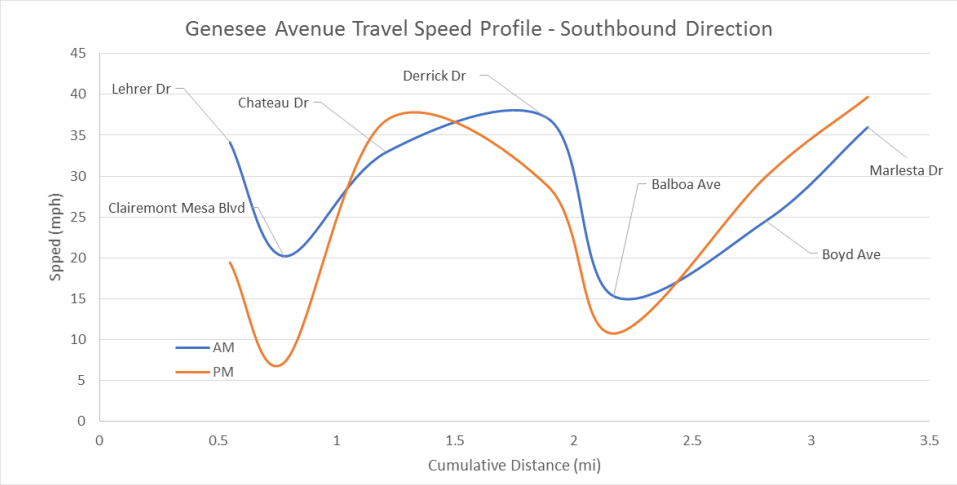
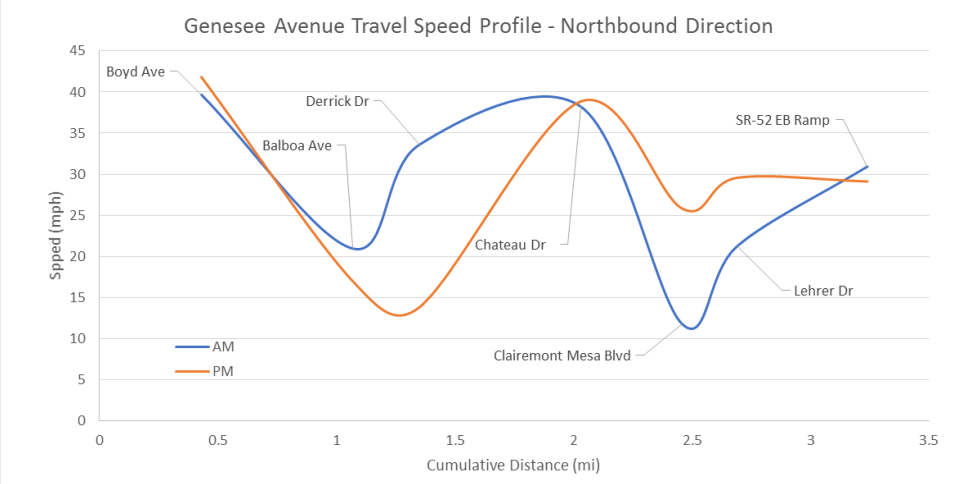


Figure 4-40. Genesee Avenue Travel Speeds – Northbound Direction



Average speeds by direction and period for Clairemont Drive are shown below in **Figure 4-41** and **Figure 4-42** respectively.

In the southbound direction, the lowest vehicular speeds were recorded approaching Clairemont Mesa Boulevard (E) in both the AM and PM peak periods. The highest vehicular speeds were recorded approaching Clairemont Mesa Boulevard (W) in the AM peak period and Dakota Drive in the PM peak period. In the northbound direction, the lowest vehicular speeds were recorded approaching Boyd Avenue in the AM peak period and approaching Derrick Drive in the PM peak period. The highest vehicular speeds were recorded approaching Chateau Drive in both the AM and PM peak periods.

Figure 4-41. Clairemont Drive Travel Speeds – Southbound Direction

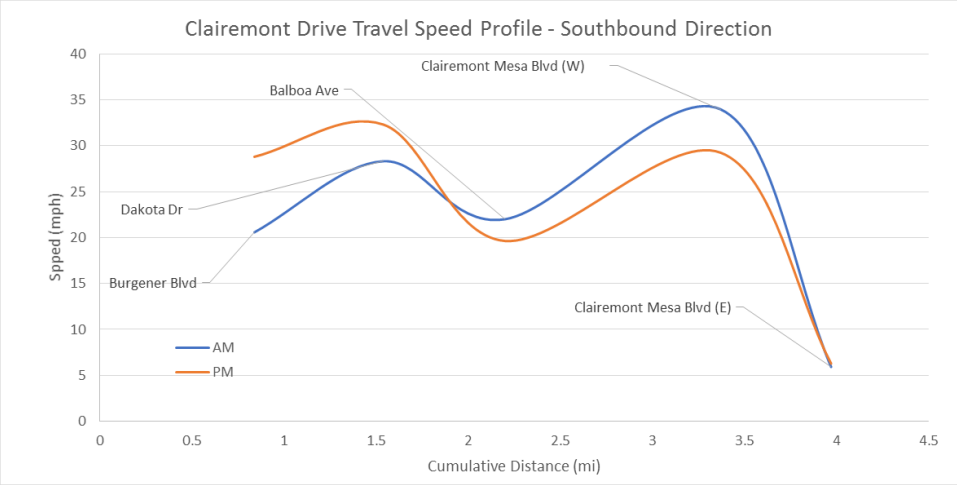
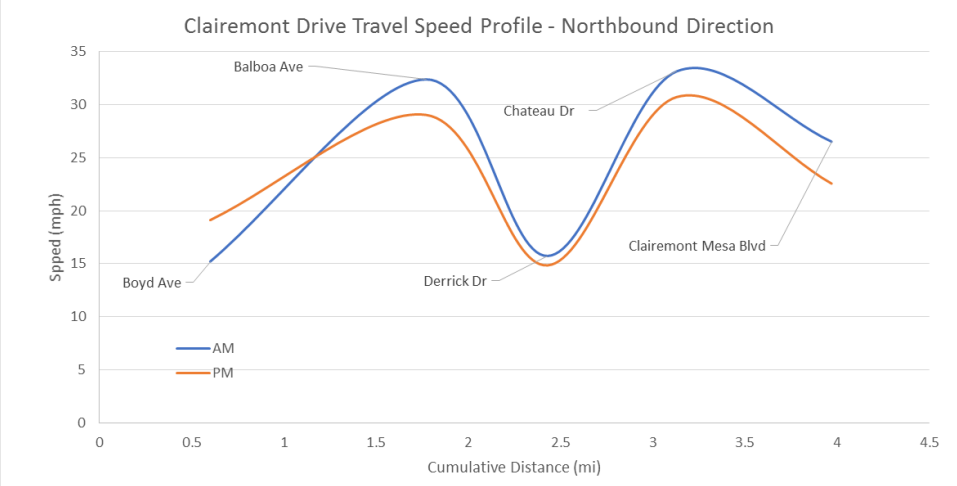


Figure 4-42. Clairemont Drive Travel Speeds – Northbound Direction



4.4.6 | VEHICULAR QUALITY – INTERSECTION ANALYSIS

The analysis of peak hour intersection performance was conducted using the Synchro analysis software program, which uses methodologies defined in the Highway Capacity Manual (HCM) to calculate results. Level of service (LOS) for intersections is determined by control delay, or the total elapsed time from when a vehicle stops at the end of a queue to the time the vehicle departs from the stop line. A more detailed overview of methodology is included previously in **Section 2.4.3**

The intersection analysis results are presented in **Figure 4-43** and **Figure 4-44** for all 50 study intersections. **Table 4-30** identifies the traffic control for each intersection, and the corresponding AM and PM peak hour delay and LOS. Detailed intersection LOS calculation worksheets are provided in **Appendix G**.

Based on the full peak hour intersection delay analysis, 5 intersections currently operate at an unacceptable level of service (LOS E or F) in either the AM or PM peak hours. Those locations are as follows:

- Intersection #1: Regents Road and SR-52 WB Ramps (PM - LOS E)
- Intersection #6: Jutland Drive and Luna Avenue (PM - LOS F)
- Intersection #7: Morena Boulevard and Jutland Drive (PM – LOS F)
- Intersection #27: Clairemont Drive and Balboa Avenue (PM – LOS E)
- Intersection #47: Mission Bay Drive and Garnet Avenue (PM – LOS E)

Figure 4-43. AM Peak Hour Intersection Level of Service

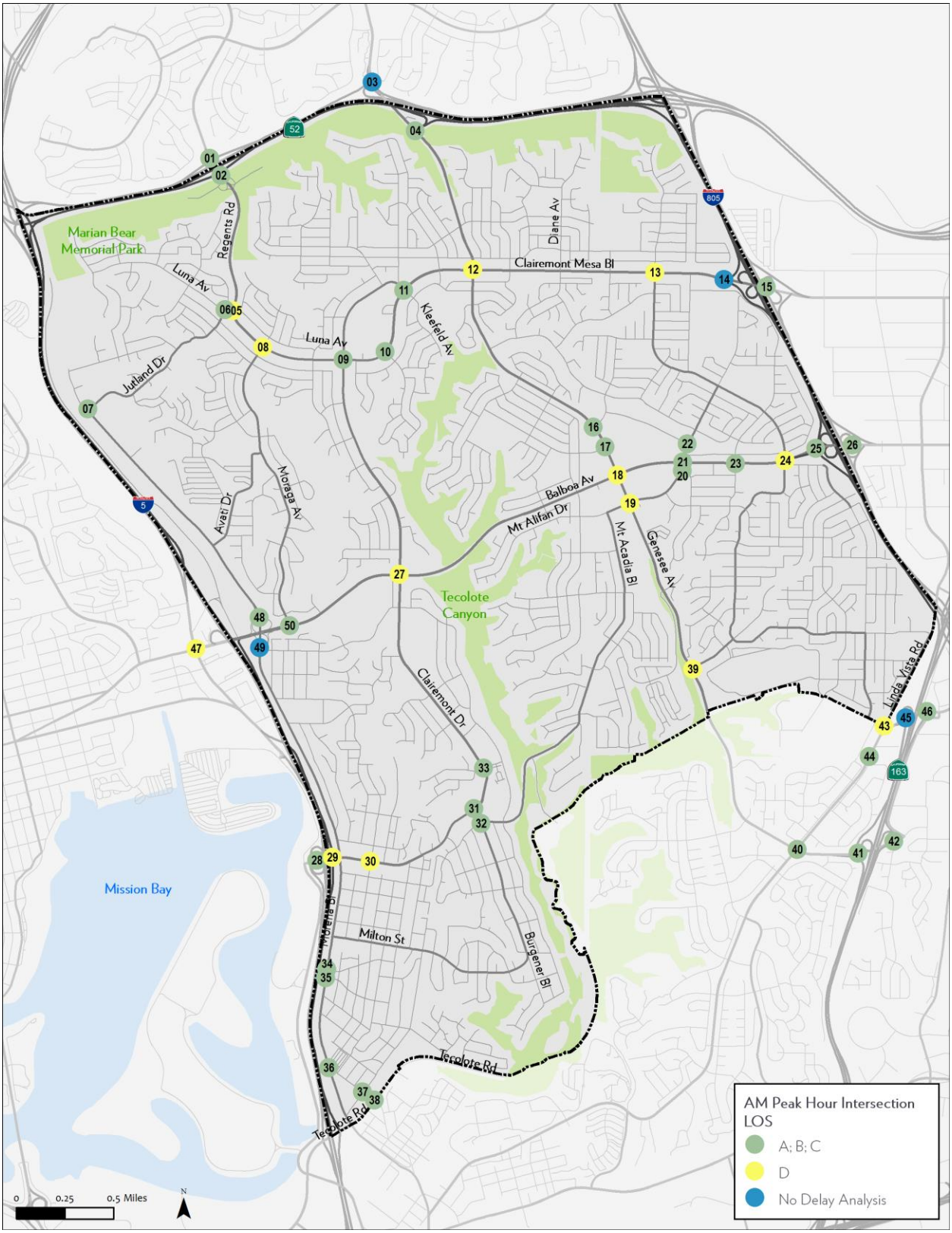


Figure 4-44. PM Peak Hour Intersection Level of Service

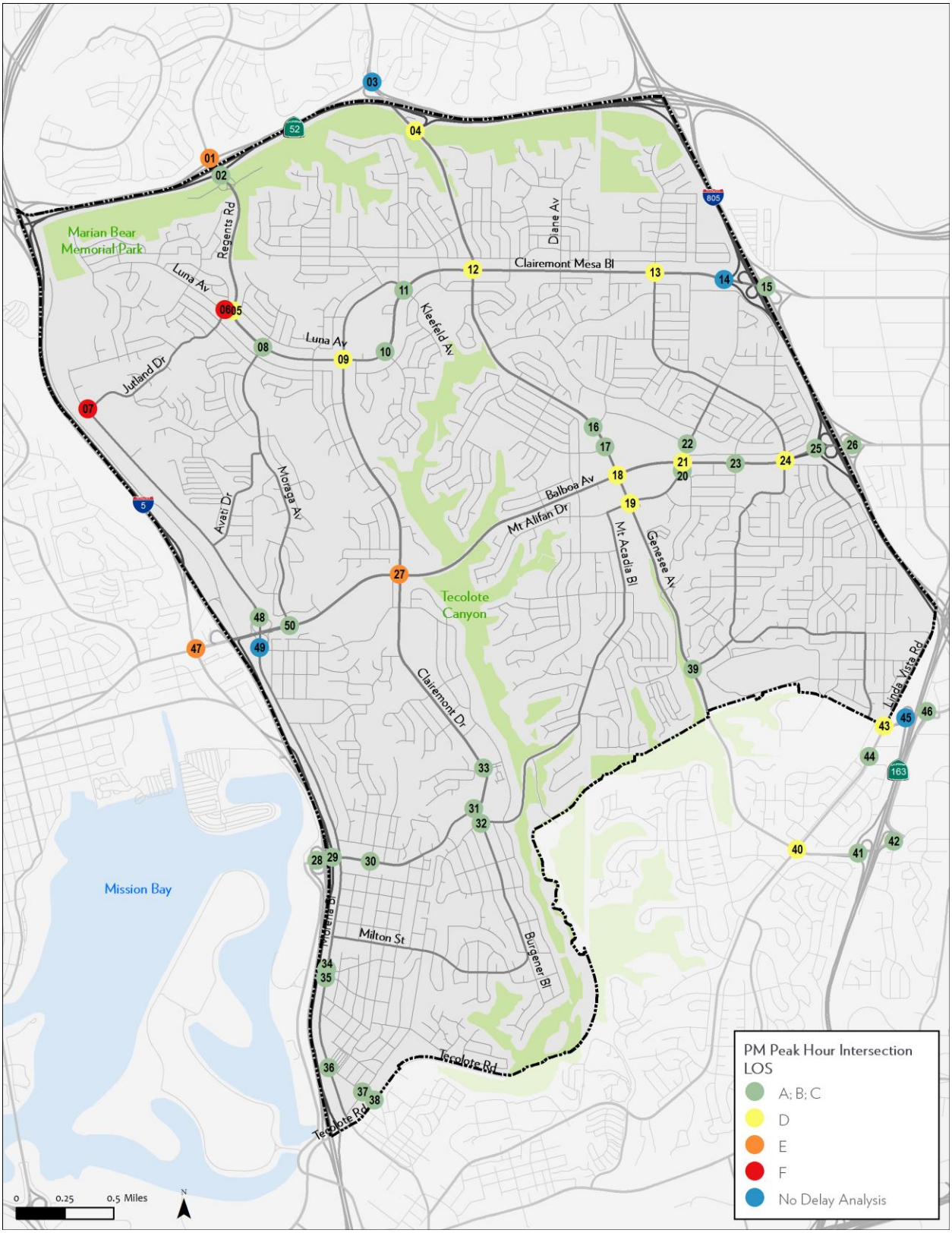


Table 4-30. Intersection Peak Hour Delay and LOS Analysis

Intersection	Control Type	Count Date	Vendor	Existing AM Peak Hour		Existing PM Peak Hour	
				Delay	LOS	Delay	LOS
1. Regents Road and SR-52 WB Ramps[1]	TS	11/30/2016	PTD	18.9	B	57.0	E
2. Regents Road and SR-52 EB Ramps	TS	11/30/2016	PTD	18.2	B	18.2	B
3. Genesee Avenue and SR-52 WB Ramps[1]	Free	11/29/2016	PTD	No Delay Analysis			
4. Genesee Avenue and SR-52 EB Ramps	TS	11/29/2016	PTD	30.5	C	44.9	D
5. Clairemont Mesa Boulevard and Luna Avenue	TS	11/29/2016	PTD	42.5	D	41.5	D
6. Jutland Drive and Luna Avenue	AWSC	11/29/2016	PTD	19.2	C	57.2	F
7. Morena Boulevard and Jutland Drive	AWSC	6/9/2016	NDS	12.3	B	88.0	F
8. Clairemont Mesa Boulevard and Moraga Avenue	TS	11/29/2016	PTD	39.9	D	31.3	C
9. Clairemont Drive and Clairemont Mesa Boulevard	TS	11/29/2016	PTD	34.2	C	39.0	D
10. Rolfe Road and Clairemont Mesa Boulevard	TS	11/29/2016	PTD	18.3	B	23.9	C
11. Clairemont Drive - Kleefeld Avenue and Clairemont Mesa Boulevard	TS	11/29/2016	PTD	23.7	C	34.2	C
12. Genesee Avenue and Clairemont Mesa Boulevard	TS	11/29/2016	PTD	35.2	D	47.4	D
13. Limerick Avenue and Clairemont Mesa Boulevard	TS	12/1/2016	PTD	50.7	D	40.2	D
14. I-805 SB Ramps and Clairemont Mesa Boulevard	Free	11/29/2016	PTD	No Delay Analysis			
15. I-805 NB Ramps and Clairemont Mesa Boulevard[1]	TS	5/19/16	AVC	12.4	B	16.7	B
16. Genesee Avenue and Derrick Drive	TS	12/7/2016	PTD	16.7	B	31.1	C
17. Genesee Avenue and Mt. Etna Drive	TS	12/7/2016	PTD	31.5	C	31.2	C
18. Genesee Avenue and Balboa Avenue	TS	12/7/2016	PTD	35.8	D	51.1	D
19. Genesee Avenue and Mt. Alifan Drive	TS	12/7/2016	PTD	38.5	D	49.1	D
20. Mt. Alifan Drive and Mt. Abraham Avenue	TWSC	12/8/2016	PTD	19.0	C	15.3	C
21. Mt. Abernathy Avenue and Balboa Avenue	TS	12/1/2016	PTD	31.9	C	38.7	D
22. Mt. Abernathy Avenue and Balboa Arms Drive	AWSC	12/1/2016	PTD	11.0	B	12.7	B
23. Cannington Drive and Balboa Avenue	TS	12/1/2016	PTD	18.6	B	26.1	C
24. Charger Boulevard and Balboa Avenue	TS	12/1/2016	PTD	41.3	D	45.5	D
25. I-805 SB Ramps and Balboa Avenue	TS	5/24/16	AVC	8.1	A	14.6	B

Intersection	Control Type	Count Date	Vendor	Existing AM Peak Hour		Existing PM Peak Hour	
				Delay	LOS	Delay	LOS
26. I-805 NB Ramps and Balboa Avenue[1]	TS	5/24/16	AVC	9.7	A	10.0	B
27. Clairemont Drive and Balboa Avenue	TS	6/9/2016	NDS	41.4	D	57.2	E
28. I-5 SB Ramps and Mission Bay Drive[1]	TWSC	12/7/2016	PTD	3.5	A	13.7	B
29. I-5 NB Ramps and Clairemont Drive	TS	12/7/2016	PTD	53.2	D	22.5	C
30. Denver Street and Clairemont Drive	TS	12/7/2016	PTD	38.0	D	24.0	C
31. Burgener Boulevard and Clairemont Drive	TS	12/7/2016	PTD	16.5	B	16.7	B
32. Burgener Boulevard and Field Street	AWSC	12/7/2016	PTD	14.3	B	13.1	B
33. Clairemont Drive and Iroquois Avenue	TS	12/7/2016	PTD	7.8	A	6.3	A
34. Morena Boulevard and Napier Street	TWSC	12/7/2016	PTD	23.6	C	23.0	C
35. Morena Boulevard and Ashton Street	TS	12/7/2016	PTD	6.4	A	6.8	A
36. Morena Boulevard and West Morena Boulevard	TS	12/7/2016	PTD	12.9	B	8.0	A
37. Knoxville Street and Morena Boulevard	TS	12/7/2016	PTD	27.6	C	9.9	A
38. Tecolote Road and Morena Boulevard	TS	12/7/2016	PTD	34.8	C	32.9	C
39. Genesee Avenue and Marlesta Drive	TS	12/7/2016	PTD	51.1	D	21.5	C
40. Linda Vista Road and Genesee Avenue[1]	TS	12/7/2016	PTD	33.2	C	44.0	D
41. SR-163 SB Ramps and Genesee Avenue[1]	TS	12/6/2016	PTD	17.2	B	12.1	B
42. SR-163 NB Ramps and Genesee Avenue/Cardinal Road[1]	TS	12/7/2016	PTD	31.4	C	22.7	C
43. Linda Vista Road and Mesa College Drive	TS	12/7/2016	PTD	51.2	D	52.7	D
44. Linda Vista Road and Kearny South Driveway[1]	TWSC	12/7/2016	PTD	21.2	C	13.2	B
45. SR-163 SB Ramps and Mesa College Drive[1]	Free	12/7/2016	PTD	No Delay Analysis			
46. SR-163 NB Ramps and Mesa College Drive[1]	TS	12/7/2016	PTD	13.1	B	9.1	A
47. Mission Bay Drive and Garnet Avenue[1]	TS	6/9/2016	NDS	48.8	D	64.3	E
48. Morena Boulevard and Balboa Avenue WB Ramps	TS	6/9/2016	NDS	5.1	A	7.1	A
49. Morena Boulevard and Balboa Avenue EB Ramps	Free	6/9/2016	NDS	No Delay Analysis			
50. Moraga Avenue and Balboa Avenue	TS	6/9/2016	NDS	17.2	B	18.2	B

1. Intersection is not within the community boundary, but provides access to and from the community itself.

4.4.7 | VEHICULAR QUALITY – INTERSECTION QUEUING ANALYSIS

Queueing analysis is an effective measure to further understand intersection operations. Excessive traffic volumes can cause overflow queueing to flow into adjacent lanes. This can then reduce the efficiency of the intersection

control and can have a detrimental effect on vehicular flow through intersections both upstream and downstream of the affected intersection. A queuing analysis was performed to identify the presence of vehicular overflow issues at all study intersections. A more detailed overview of methodology is included previously in **Section 2.4.3**.

Table 4-31 identifies the pocket length, 95% queue length and any excess queuing for each movement at the study intersections. As shown, 46 and 53 movements experience excess queuing in the AM and PM peak hours, respectively.

Table 4-31. Intersection Peak Hour Queuing Analysis

Intersection	Control Type	Turning Movement	Pocket Length (ft)	95% Queue Length (ft)		Excess Queue (ft)	
				AM	PM	AM	PM
1. Regents Road and SR-52 WB Ramps[1]	TS	WBT	1230	306	799	-	
		WBR	Free	0	0	-	-
		NBL	185	124	78	-	-
		NBT	320	22	32	-	-
		SBT	1450	82	86	-	-
		SBR	Free	0	0	-	-
2. Regents Road and SR-52 EB Ramps	TS	EBL	900	168	100	-	-
		EBT	900	170	98	-	-
		EBR	Free	0	0	-	-
		NBT	3890	215	168	-	-
		NBR	Free	0	0	-	-
		SBL	80	272	108	192	28
		SBT	320	37	454	-	134
3. Genesee Avenue and SR-52 WB Ramps[1]	Free	No Queue Analysis[2]					
4. Genesee Avenue and SR-52 EB Ramps	TS	WBL	655	68	234	-	-
		WBR	655	58	55	-	-
		NT	2820	584	223	-	-
		NBR	Free	0	0	-	-
		SBL	440	361	705	-	265
		SBT	1420	60	303	-	-
5. Clairemont Mesa Boulevard and Luna Avenue	TS	EBT	187	588	483	401	296
		EBR	187	22	115	-	-
		WBT	243	25	38	-	-
		NBL	180	143	228	-	48
		NBT	1180	404	142	-	-
		NBR	40	0	7	-	-
		SBL	160	23	91	-	-
		SBT	599	134	626	-	27
		SBR	80	61	644	-	564
6. Jutland Drive and Luna Avenue	AWSC	No Queue Analysis[2]					
7. Morena Boulevard and Jutland Drive	AWSC	No Queue Analysis[2]					
8. Clairemont Mesa Boulevard and Moraga Avenue	TS	EBL	140	15	25	-	-
		EBT	1180	155	509	-	-
		EBR	50	58	387	8	337

Intersection	Control Type	Turning Movement	Pocket Length (ft)	95% Queue Length (ft)		Excess Queue (ft)	
				AM	PM	AM	PM
		WBL	300	268	272	-	-
		WBT	2112	276	59	-	-
		WBR	90	0	0	-	-
		NBT	217	490	491	273	274
		SBT	90	37	63	-	-
9. Clairemont Drive and Clairemont Mesa Boulevard	TS	EBL	250	81	164	-	-
		EBT	2112	156	244	-	-
		WBL	250	157	245	-	-
		WBT	1117	175	252	-	-
		NBL	240	231	192	-	-
		NBT	616	90	148	-	-
		NBR	90	42	75	-	-
		SBL	140	57	94	-	-
		SBT	450	121	178	-	-
10. Rolfe Road and Clairemont Mesa Boulevard	TS	EBL	100	52	85	-	-
		EBT	1117	86	266	-	-
		WBL	200	37	153	-	-
		WBT	1742	185	385	-	-
		NBT	156	182	131	26	-
		SBL	116	12	105	-	-
		SBT	116	18	68	-	-
11. Clairemont Drive - Kleefeld Avenue and Clairemont Mesa Boulevard	TS	EBL	120	31	57	-	-
		EBT	1742	77	308	-	-
		WBL	240	28	46	-	-
		WBT	1945	285	377	-	-
		WBR	40	125	208	85	168
		NBT	166	135	157	-	-
		SBL	110	151	245	41	135
		SBT	162	154	246	-	84
		SBR	162	0	12	-	-
12. Genesee Avenue and Clairemont Mesa Boulevard	TS	EBL	230	98	106	-	-
		EBT	1945	181	363	-	-
		WBL	230	37	152	-	-
		WBT	4822	133	266	-	-
		NBL	100	101	169	1	69
		NBT	303	452	266	149	-
		SBL	150	120	179	-	29

Intersection	Control Type	Turning Movement	Pocket Length (ft)	95% Queue Length (ft)		Excess Queue (ft)	
				AM	PM	AM	PM
		SBT	4064	183	582	-	-
13. Limerick Avenue and Clairemont Mesa Boulevard	TS	EBL	180	123	68	-	-
		EBT	4822	342	427	-	-
		EBR	200	12	53	-	-
		WBL	210	121	248	-	38
		WBT	2050	395	605	-	-
		NBL	120	145	184	25	64
		NBT	911	275	213	-	-
		SBL	150	420	250	270	100
		SBT	648	193	177	-	-
14. I-805 SB Ramps and Clairemont Mesa Boulevard	Free	No Queue Analysis[2]					
15. I-805 NB Ramps and Clairemont Mesa Boulevard[1]	TS	EBT	950	87	254	-	-
		EBR	1250	0	0	-	-
		WBT	850	0	0	-	-
		WBR	850	0	0	-	-
		NBR	1360	57	452	-	-
16. Genesee Avenue and Derrick Drive	TS	EBT	204	35	107	-	-
		WBT	263	104	337	-	74
		WBR	263	0	35	-	-
		NBL	210	30	35	-	-
		NBT	578	196	329	-	-
		SBL	250	66	182	-	-
		SBT	1269	99	389	-	-
17. Genesee Avenue and Mt. Etna Drive	TS	EBL	140	67	79	-	-
		EBT	423	113	171	-	-
		WBL	140	142	241	2	101
		WBT	500	84	159	-	-
		NBL	210	214	189	4	-
		NBT	741	301	417	-	-
		SBL	310	229	192	-	-
		SBT	578	230	150	-	-
		SBR	578	25	4	-	-
18. Genesee Avenue and Balboa Avenue	TS	WBL	520	386	475	-	-
		WBT	0	507	437	507	437
		WBL	280	45	122	-	-
		WBT	1801	313	464	-	-
		NBL	210	97	213	-	3

Intersection	Control Type	Turning Movement	Pocket Length (ft)	95% Queue Length (ft)		Excess Queue (ft)	
				AM	PM	AM	PM
		NBT	757	297	100	-	-
		SBL	470	127	222	-	-
		SBT	741	185	382	-	-
		SBR	260	18	93	-	-
19. Genesee Avenue and Mt. Alifan Drive	TS	EBT	594	206	286	-	-
		WBT	1631	193	268	-	-
		WBR	140	9	28	-	-
		NBL	210	107	170	-	-
		NBT	2404	249	367	-	-
		NBR	120	34	131	-	11
		SBL	210	42	48	-	-
		SBT	757	217	226	-	-
		SBR	160	30	24	-	-
20. Mt. Alifan Drive and Mt. Abraham Avenue	TWSC	No Queue Analysis[2]					
21. Mt. Abernathy Avenue and Balboa Avenue	TS	EBL	230	89	209	-	-
		EBT	1801	252	437	-	-
		WBL	220	284	374	64	154
		WBT	1346	184	258	-	-
		NBL	70	53	79	-	9
		NBT	179	187	179	8	0
		NBR	80	163	91	83	11
		SBL	150	134	170	-	20
		SBT	437	100	211	-	-
		SBR	110	33	58	-	-
22. Mt. Abernathy Avenue and Balboa Arms Drive	AWSC	No Queue Analysis[2]					
23. Cannington Drive and Balboa Avenue	TS	EBL	210	35	63	-	-
		EBT	1923	205	338	-	-
		WBL	96	104	144	8	48
		WBT	2080	418	486	-	-
		NBT	461	101	131	-	-
		SBT	401	124	155	-	-
24. Charger Boulevard and Balboa Avenue	TS	EBL	220	22	23	-	-
		EBT	1206	653	791	-	-
		WBL	320	465	563	145	243
		WBT	986	291	590	-	-
		WBR	150	82	116	-	-

Intersection	Control Type	Turning Movement	Pocket Length (ft)	95% Queue Length (ft)		Excess Queue (ft)	
				AM	PM	AM	PM
		NBL	30	203	188	173	158
		NBT	381	206	193	-	-
		NBR	350	139	63	-	-
		SBL	60	352	257	292	197
		SBT	594	164	190	-	-
25. I-805 SB Ramps and Balboa Avenue	TS	EBT	986	0	0	-	-
		EBR	140	0	0	-	-
		WBT	775	239	374	-	-
		WBR	630	0	0	-	-
		NBR	639	0	0	-	-
		SBR	1000	59	171	-	-
26. I-805 NB Ramps and Balboa Avenue[1]	TS	EBT	820	275	226	-	-
		EBR	free	0	0	-	-
		WBT	430	0	0	-	-
		WBR	free	0	0	-	-
		NBR	1300	119	475	-	-
		SBR	free	0	0	-	-
27. Clairemont Drive and Balboa Avenue	TS	EBL	260	130	312	-	52
		EBT	3257	441	719	-	-
		WBL	260	218	334	-	74
		WBT	1860	395	699	-	-
		NBL	240	180	176	-	-
		NBT	2024	159	195	-	-
		NBR	110	293	385	183	275
		SBL	160	245	450	85	290
		SBT	1335	216	448	-	-
28. I-5 SB Ramps and Mission Bay Drive[1]	TWSC	No Queue Analysis[2]					
29. I-5 NB Ramps and Clairemont Drive	TS	EBL	220	407	64	187	-
		EBT	400	90	178	-	-
		WBT	980	594	264	-	-
		WBR	310	90	65	-	-
		NBT	915	61	111	-	-
		NBR	915	25	32	-	-
30. Denver Street and Clairemont Drive	TS	EBL	260	171	138	-	-
		EBT	909	209	288	-	-
		EBR	909	33	45	-	-
		WBL	170	118	137	-	-

Intersection	Control Type	Turning Movement	Pocket Length (ft)	95% Queue Length (ft)		Excess Queue (ft)	
				AM	PM	AM	PM
		WBT	3209	490	190	-	-
		NBL	85	198	190	113	105
		NBT	342	42	65	-	-
		SBL	100	102	76	2	-
		SBT	370	178	61	-	-
31. Burgener Boulevard and Clairemont Drive	TS	EBL	120	14	14	-	-
		EBT	3209	166	257	-	-
		EBR	170	22	31	-	-
		WBL	130	95	110	-	-
		WBT	1189	207	174	-	-
		NBL	120	246	192	126	72
		NBT	296	217	160	-	-
		SBT	87	13	28	-	-
32. Burgener Boulevard and Field Street	AWSC	No Queue Analysis[2]					
33. Clairemont Drive and Iroquois Avenue	TS	EBT	218	39	41	-	-
		WBT	258	85	56	-	-
		NBL	80	12	48	-	-
		NBT	1189	71	71	-	-
		SBL	180	19	19	-	-
		SBT	874	77	89	-	-
34. Morena Boulevard and Napier Street	TWSC	No Queue Analysis[2]					
35. Morena Boulevard and Ashton Street	TS	WBT	243	43	51	-	-
		NBT	2362	200	135	-	-
		SBL	50	14	40	-	-
		SBT	111	52	173	-	62
36. Morena Boulevard and West Morena Boulevard	TS	WBL	1072	21	34	-	-
		WBR	200	176	60	-	-
		NBT	802	155	114	-	-
		SBL	220	68	144	-	-
		SBT	2362	31	100	-	-
37. Knoxville Street and Morena Boulevard	TS	EBT	1072	146	152	-	-
		WBT	316	394	163	78	-
		WBR	316	41	39	-	-
		NBT	171	47	19	-	-
		SBT	199	480	137	281	-
	TS	EBT	316	431	403	115	87

Intersection	Control Type	Turning Movement	Pocket Length (ft)	95% Queue Length (ft)		Excess Queue (ft)	
				AM	PM	AM	PM
38. Tecolote Road and Morena Boulevard		EBR	316	60	69	-	-
		WBL	160	230	252	70	92
		WBT	303	197	217	-	-
		NBL	230	239	224	9	-
		NBT	528	90	57	-	-
		NBR	230	35	64	-	-
		SBL	170	18	50	-	-
		SBT	429	11	34	-	-
39. Genesee Avenue and Marlesta Drive	TS	WBL	695	114	137	-	-
		WBR	140	116	101	-	-
		NBT	1499	686	575	-	-
		NBR	320	36	19	-	-
		SBL	400	410	326	10	-
		SBT	1157	75	202	-	-
40. Linda Vista Road and Genesee Avenue[1]	TS	EBL	280	197	205	-	-
		EBT	1613	219	189	-	-
		EBR	1613	97	227	-	-
		WBL	190	300	377	110	187
		WBT	844	198	185	-	-
		WBR	300	57	27	-	-
		NBL	280	114	183	-	-
		NBT	632	195	313	-	-
		NBR	632	28	34	-	-
		SBL	200	155	197	-	-
		SBT	3099	280	185	-	-
		SBR	3099	45	207	-	-
41. SR-163 SB Ramps and Genesee Avenue[1]	TS	EBT	720	207	197	-	-
		EBR	Free	0	0	-	-
		WBT	300	283	201	-	-
		WBR	Free	0	0	-	-
		SBL	1077	330	196	-	-
		SBR	970	267	151	-	-
42. SR-163 NB Ramps and Genesee Avenue/Cardinal Road[1]	TS	EBL	185	270	206	85	21
		EBT	1000	1186	127	186	-
		WBL	50	98	37	48	-
		WBT	140	132	289	-	149
		WBR	140	46	61	-	-
		NBT	250	305	142	55	-

Intersection	Control Type	Turning Movement	Pocket Length (ft)	95% Queue Length (ft)		Excess Queue (ft)	
				AM	PM	AM	PM
		SBR	1010	0	0	-	-
43. Linda Vista Road and Mesa College Drive	TS	EBL	137	207	294	70	157
		EBT	137	272	405	135	268
		WBL	250	341	302	91	52
		WBT	542	620	564	78	22
		NBL	280	125	131	-	-
		NBT	892	250	221	-	-
		SBL	300	204	165	-	-
		SBT	1396	223	385	-	-
44. Linda Vista Road and Kearny South Driveway[1]	TWSC	No Queue Analysis[2]					
45. SR-163 SB Ramps and Mesa College Drive[1]	Free	No Queue Analysis[2]					
46. SR-163 NB Ramps and Mesa College Drive[1]	TS	EBT	800	115	60	-	-
		WBT	280	264	160	-	-
		NBL	1010	184	75	-	-
		NBR	1010	106	47	-	-
47. Mission Bay Drive and Garnet Avenue[1]	TS	EBL	580	532	421	-	-
		EBT	580	552	606	-	26
		EBR	130	248	290	118	160
		WBL	420	243	459	-	39
		WBT	1536	485	693	-	-
		WBR	1536	156	291	-	-
		NBL	330	253	469	-	139
		NBT	514	209	214	-	-
		NBR	130	139	248	9	118
		SBL	250	162	206	-	-
		SBT	536	280	489	-	-
		SBR	300	147	515	-	215
48. Morena Boulevard and Balboa Avenue WB Ramps	TS	EBL	100	31	43	-	-
		EBR	453	16	64	-	-
		NBT	107	53	103	-	-
		SBT	241	13	105	-	-
49. Morena Boulevard and Balboa Avenue EB Ramps	Free	No Queue Analysis[2]					
50. Moraga Avenue and Balboa Avenue	TS	EBL	280	157	173	-	-
		EBT	961	178	305	-	-
		WBT	3257	393	489	-	-

Intersection	Control Type	Turning Movement	Pocket Length (ft)	95% Queue Length (ft)		Excess Queue (ft)	
				AM	PM	AM	PM
		WBR	800	25	27	-	-
		SBL	165	94	82	-	-
		SBR	281	84	96	-	-

1. Intersection is not within the community boundary, but provides access to and from the community itself.
2. Queuing is not analyzed at unsignalized intersections per HCM methodology.

4.4.8 | VEHICULAR QUALITY – FREEWAY LEVEL OF SERVICE ANALYSIS

Four freeways run adjacent to or through the Clairemont community, providing local and regional mobility. A description of each freeway is provided within the Clairemont study area context, followed by an operational V/C analysis of freeway segments.

Interstate 5

Interstate 5 (I-5) is a north-south facility connecting San Diego County to the US-Mexico International Border to the south and Orange County to the north extending through to the states of Oregon and Washington. Within the majority of the study area, I-5 has four mainline lanes in each direction with the exception of the segment between Sea World Drive and Clairemont Drive which has 5 mainline lanes in each direction. I-5 provides access to Interstate 8 (I-8) and SR-52 interchanges. Additionally, there are on and off ramps at Tecolote Road, Mission Bay Drive, Clairemont Drive and Balboa Avenue.

Interstate 805

Interstate 805 (I-805) is a north-south facility splitting from I-5 in Sorrento Valley and running parallel to I-5 to just north of the US-Mexico International Border, where the freeways merge back together. Within the vicinity of the study area, I-5 has four mainline lanes in each direction and access via I-8, SR-52 and SR-163 freeway interchanges. Additionally, there are on and off ramps for local access at Clairemont Mesa Boulevard and Balboa Avenue.

State Route 52

State Route 52 (SR-52) is an east-west facility running from the community of Santee and SR-125 to the east and terminating at La Jolla Parkway to the west. Within the vicinity of the study area, SR-52 has two mainline lanes in each direction and access via I-5, I-805 and SR-163. Local access can be reached via on and off ramps at Regents Road and Genesee Avenue.

State Route 163

State Route 163 (SR-163) is a north-south facility running from I-15, north of SR-52 and terminating at 10th avenue in Downtown San Diego. Within the vicinity of the study area, SR-163 has four mainline lanes in each direction and access via I-8, SR-52 and SR-163 interchanges. Additionally, there are on and off ramps for local access at Mesa College Drive and Genesee Avenue.

Table 4-32 presents freeway characteristics and the level of service analysis results for segments within the vicinity of the Clairemont community. V/C and LOS was calculated along freeway segments only, excluding weave, diverge and merge movements. Volume data was obtained from Caltrans Traffic Volumes on California State Highways (2015). Peak Hour volume freeway information can be found in **Appendix H**.

Four freeway segments within the study area operate at an unacceptable LOS and are as follows:

- I-5 Northbound from Mission Bay Drive On Ramp to La Jolla Parkway Off Ramp: AM Peak Hour (LOS E)
- I-5 Southbound from La Jolla Parkway/SR-52 WB On Ramp to Mission Bay Drive Off Ramp: PM Peak Hour (LOS E)
- SR-52 Eastbound from Regents Road On Ramp to Genesee Avenue Off Ramp: PM Peak Hour (LOS E)
- SR-52 Eastbound from Genesee Avenue On Ramp to I-805 NB/I-805 SB Off Ramp: PM Peak Hour (LOS F)

Table 4-32. Freeway Mainline Analysis

Freeway	Direction	Segment	ADT[a]	# of Lanes	Capacity[b]	D[c]	K[d]	HV[e]	Volume	V/C	LOS
AM Peak Hour											
I-5	NB	Tecolote Rd./Sea World Dr. On Ramp to Clairemont Dr. Off Ramp	221,000	4M+1A	11,200	56.9%	7.0%	4.1%	9,329	0.83	D
		Clairemont Dr. On Ramp to Mission Bay Dr. Off Ramp	204,000	4M+1A	11,200	56.9%	7.0%	4.0%	8,615	0.77	C
		Mission Bay Dr. Off Ramp to Garnet Ave. Off Ramp	162,000	4M	9,400	56.9%	7.0%	4.0%	6,842	0.73	C
		Mission Bay Dr. On Ramp to La Jolla Pkwy Off Ramp	205,000	4M+1A	11,200	64.2%	7.4%	4.1%	10,373	0.93	**E**
	SB	EB Clairemont Dr. On Ramp to Tecolote Rd./Sea World Dr. Off Ramp	221,000	4M+1A	11,200	43.1%	7.9%	4.1%	8,038	0.72	C
		SB Mission Bay Dr. On Ramp to Clairemont Dr. Off Ramp	204,000	4M+1A	11,200	43.1%	7.9%	4.0%	7,423	0.66	C
		Garnet Ave. On Ramp to Mission Bay Dr. On Ramp	162,000	4M	9,400	43.1%	7.9%	4.0%	5,895	0.63	C
		La Jolla Pkwy/SR-52 WB On Ramp to Mission Bay Dr. Off Ramp	205,000	4M+1A	11,200	35.8%	7.4%	4.1%	5,785	0.52	B
I-805	NB	SR-163 NB On Ramp to EB Balboa Ave. Off Ramp	195,000	4M+1A	11,200	71.3%	5.7%	6.5%	8,362	0.75	C
		WB Balboa Ave. On Ramp to EB Clairemont Mesa Blvd. Off Ramp	193,000	4M+1A	11,200	71.3%	5.7%	6.5%	8,277	0.74	C
		WB Clairemont Mesa Blvd. On Ramp to SR-52 WB/SR-52 EB Off Ramp	183,000	4M+1A	11,200	71.3%	5.7%	6.8%	7,836	0.70	C
	SB	EB Balboa Ave. On Ramp to SR-163 SB On Ramp	195,000	4M+2A	13,000	28.7%	5.7%	6.5%	3,359	0.26	A
		EB Clairemont Mesa Blvd. On Ramp to WB Balboa Ave. Off Ramp	193,000	4M+1A	11,200	28.7%	5.7%	6.5%	3,325	0.30	A
		SR-52 EB On Ramp to WB Clairemont Mesa Blvd. Off Ramp	183,000	4M+1A	11,200	28.7%	5.7%	6.8%	3,148	0.28	A

Freeway	Direction	Segment	ADT[a]	# of Lanes	Capacity[b]	D[c]	K[d]	HV[e]	Volume	V/C	LOS
SR-52	WB	Regents Rd. On Ramp I-5 NB/I-5 SB Off Ramp	83,000	2M+1A	6,500	61.2%	7.4%	3.3%	4,027	0.62	B
		Genesee Ave. On Ramp to Regents Rd. Off Ramp	81,000	2M	4,700	61.2%	7.4%	3.3%	3,930	0.84	D
		I-805 SB On Ramp to Genesee Ave. Off Ramp	88,000	2M	4,700	48.3%	8.4%	3.1%	3,806	0.81	D
	EB	I-5 NB On Ramp to Regents Rd. Off Ramp	83,000	2M+1A	6,500	38.9%	7.4%	3.3%	2,558	0.39	A
		Regents Rd. On Ramp to Genesee Ave. Off Ramp	81,000	2M	4,700	38.9%	7.4%	3.3%	2,497	0.53	B
		Genesee Ave. On Ramp to I-805 NB/I-805 SB Off Ramp	88,000	2M	4,700	51.7%	8.4%	3.1%	4,069	0.87	D
SR-163	NB	Genesee Ave. On Ramp to Mesa College Dr. Off Ramp	163,000	4M+1A	11,200	57.0%	8.8%	3.7%	8,770	0.78	C
		Mesa College Dr. Off Ramp to I-805 NB Off Ramp	149,000	4M+2A	13,000	57.0%	8.8%	3.7%	8,017	0.62	B
	SB	EB Mesa College Dr. On Ramp to Genesee Ave. Off Ramp	163,000	4M+1A	11,200	43.0%	8.8%	3.7%	6,608	0.59	B
		I-805 NB On Ramp to WB Mesa College Dr. On Ramp	149,000	4M+1A	11,200	43.0%	8.8%	3.7%	6,040	0.54	B
PM Peak Hour											
I-5	NB	Tecolote Rd./Sea World Dr. On Ramp to Clairemont Dr. Off Ramp	221,000	4M+1A	11,200	46.3%	7.9%	4.1%	8,648	0.77	C
		Clairemont Dr. On Ramp to Mission Bay Dr. Off Ramp	204,000	4M+1A	11,200	46.3%	7.9%	4.0%	7,987	0.71	C
		Mission Bay Dr. Off Ramp to Garnet Ave. Off Ramp	162,000	4M	9,400	46.3%	7.9%	4.0%	6,343	0.67	C
		Mission Bay Dr. On Ramp to La Jolla Pkwy Off Ramp	205,000	4M+1A	11,200	38.4%	7.8%	4.1%	6,560	0.59	B
	SB	EB Clairemont Dr. On Ramp to Tecolote Rd./Sea World Dr. Off Ramp	221,000	4M+1A	11,200	53.7%	7.9%	4.1%	10,018	0.89	D

Freeway	Direction	Segment	ADT[a]	# of Lanes	Capacity[b]	D[c]	K[d]	HV[e]	Volume	V/C	LOS
		SB Mission Bay Dr. On Ramp to Clairemont Dr. Off Ramp	204,000	4M+1A	11,200	53.7%	7.9%	4.0%	9,252	0.83	D
		Garnet Ave. On Ramp to Mission Bay Dr. On Ramp	162,000	4M	9,400	53.7%	7.9%	4.0%	7,347	0.78	C
		La Jolla Pkwy/SR-52 WB On Ramp to Mission Bay Dr. Off Ramp	205,000	4M+1A	11,200	61.6%	7.8%	4.1%	10,537	0.94	**E**
I-805	NB	SR-163 NB On Ramp to EB Balboa Ave. Off Ramp	195,000	4M+1A	11,200	38.1%	7.7%	6.5%	6,049	0.54	B
		WB Balboa Ave. On Ramp to EB Clairemont Mesa Blvd. Off Ramp	193,000	4M+1A	11,200	38.1%	7.7%	6.5%	5,987	0.53	B
		WB Clairemont Mesa Blvd. On Ramp to SR-52 WB/SR-52 EB Off Ramp	183,000	4M+1A	11,200	38.1%	7.7%	6.8%	5,669	0.51	B
	SB	EB Balboa Ave. On Ramp to SR-163 SB On Ramp	195,000	4M+2A	13,000	61.9%	7.7%	6.5%	9,819	0.76	C
		EB Clairemont Mesa Blvd. On Ramp to WB Balboa Ave. Off Ramp	193,000	4M+1A	11,200	61.9%	7.7%	6.5%	9,719	0.87	D
		SR-52 EB On Ramp to WB Clairemont Mesa Blvd. Off Ramp	183,000	4M+1A	11,200	61.9%	7.7%	6.8%	9,202	0.82	D
SR-52	WB	Regents Rd. On Ramp I-5 NB/I-5 SB Off Ramp	83,000	2M+1A	6,500	37.5%	8.4%	3.3%	2,789	0.43	B
		Genesee Ave. On Ramp to Regents Rd. Off Ramp	81,000	2M	4,700	37.5%	8.4%	3.3%	2,722	0.58	B
		I-805 SB On Ramp to Genesee Ave. Off Ramp	88,000	2M	4,700	39.4%	8.4%	3.1%	3,109	0.66	C
	EB	I-5 NB On Ramp to Regents Rd. Off Ramp	83,000	2M+1A	6,500	62.5%	8.4%	3.3%	4,640	0.71	C
		Regents Rd. On Ramp to Genesee Ave. Off Ramp	81,000	2M	4,700	62.5%	8.4%	3.3%	4,528	0.96	**E**
		Genesee Ave. On Ramp to I-805 NB/I-805 SB Off Ramp	88,000	2M	4,700	60.6%	8.4%	3.1%	4,809	1.02	**F**
SR-163	NB	Genesee Ave. On Ramp to Mesa College Dr. Off Ramp	163,000	4M+1A	11,200	48.4%	8.4%	3.7%	7,081	0.63	C

Freeway	Direction	Segment	ADT[a]	# of Lanes	Capacity[b]	D[c]	K[d]	HV[e]	Volume	V/C	LOS
		Mesa College Dr. Off Ramp to I-805 NB Off Ramp	149,000	4M+2A	13,000	48.4%	8.4%	3.7%	6,473	0.50	B
	SB	EB Mesa College Dr. On Ramp to Genesee Ave. Off Ramp	163,000	4M+1A	11,200	51.6%	8.4%	3.7%	7,549	0.67	C
		I-805 NB On Ramp to WB Mesa College Dr. On Ramp	149,000	4M+1A	11,200	51.6%	8.4%	3.7%	6,901	0.62	B

Caltrans 2015 Traffic Volumes on California State Highways

Notes:
Bold *letter indicates substandard LOS E or F.*
M = Mainline. Aux = Auxiliary Lane.
[a] *Traffic volumes provided by Caltrans (2015).*
[b] *The capacity is calculated as 2,350 pc/hr/ln for mainline and 1,800 pc/hr/ln (75% of the mainline capacity) for auxiliary lane.*
[c] *D = Directional split.*
[d] *K = Peak hour %.*
[e] *HV = Heavy vehicle % provided by Caltrans (2015)*

4.4.9 | VEHICULAR QUALITY – FREEWAY RAMP METERING ANALYSIS

Ramp meter analysis was conducted at all freeway ramp locations where metering is in place for either the AM or PM peak hours. Ramp meter rates were obtained from Caltrans District 11 and are provided in **Appendix I. Table 4-33** presents the ramp metering analysis results for these ramp meter locations.

Table 4-33. Ramp Meter Analysis

Location			Lane Type	Total Demand (veh/hr) per Ramp	Meter Rate Seconds / Cycle	Total Vehicles Serviced per hour / lane	Existing Conditions			
Freeway	Street	Direction					Demand (veh/hr)	Excess Demand (veh/hr)	Delay (min)	Queue (ft)
AM Peak Hour										
Interstate 5	Sea World Drive	NB	2 SOV	1,280	9.26	778	576	0	0	0
		SB[1]	1 SOV	406	8.11	444	365	0	0	0
			1 HOV				41	0	0	0
	Clairemont Drive	NB	1 SOV	835	8.61	418	752	333	48	9.657
			1 HOV				84	0	0	0
		E to SB[1]	1 SOV	93	9.68	744	93	0	0	0
		W to SB[1]	1 SOV	655	8.11	444	590	146	20	4,234
			1 HOV				66	0	0	0
	Mission Bay Drive	NB[1]	2 SOV	1,820	7.97	904	910	6	0	174
Interstate 805	Clairemont Mesa Boulevard	E to NB[1]	1 SOV	517	8.19	440	465	25	3	754
			1 HOV				52	0	0	0
	Balboa Avenue	E to NB[1]	1 SOV	781	7.54	478	703	225	28	6,525
			1 HOV				78	0	0	0
PM Peak Hour										
Interstate 5	Sea World Drive	NB	2 SOV	1,096	8.70	828	548	0	0	0
		SB[1]	1 SOV	488	8.11	444	439	0	0	0
			1 HOV				49	0	0	0
	Clairemont Drive	NB	1 SOV	398	9.68	372	358	0	0	0
			1 HOV				40	0	0	0
		E to SB[1]	1 SOV	164	9.68	744	148	0	0	0
			1 HOV				16	0	0	0
		W to SB[1]	1 SOV	385	8.11	444	347	0	0	0
			1 HOV				39	0	0	0
	Balboa Avenue	SB[1]	2 SOV	783	9.36	769	392	0	0	0
Interstate 805	Clairemont Mesa Boulevard	E to SB	1 SOV	384	7.81	461	346	0	0	0
			1 HOV				38	0	0	0
	Balboa Avenue	E to SB	1 SOV	659	9.46	380	593	213	34	6,177
			1 HOV				66	0	0	0

Ramp Meter Source Data: Caltrans (December 2016)
Assumptions: Average Metering Rates Utilized for Peak Hour; HOV Lanes only account for 10% of total demand; SOV Lanes equally split remaining demand; Excess Demand = (Demand) - (Meter Rate) or zero, whichever is greater; Delay = (Excess Demand / Meter Rate) x 60 min /hr ; Queue = (excess Demand) x 29 ft/veh. 1. Intersection is not within the community boundary, but provides access to and from the community itself.

4.5 | Parking

Parking within the Clairemont community consists of public on-street parking, private off-street parking for local businesses and residents, and public parking lots. To determine relative parking utilization in the existing condition, a "drive-by windshield" parking occupancy survey was conducted over three time periods (AM, midday, and PM) along the primary study roadways. **Figure 4-45**, **Figure 4-46**, and **Figure 4-47** display the parking occupancy survey results for the AM, mid-day, and PM peak hours, respectively. Parking utilization was observed to be higher in the areas surrounding commercial activity centers near Clairemont Mesa Boulevard and Clairemont Drive, as well as near Balboa Avenue and Genesee Avenue. Parking along Linda Vista Road near Mesa College Drive was also heavily utilized. Generally, parking demand was greater during the PM peak hour.

Figure 4-45. Existing Parking Utilization - AM Peak Hour

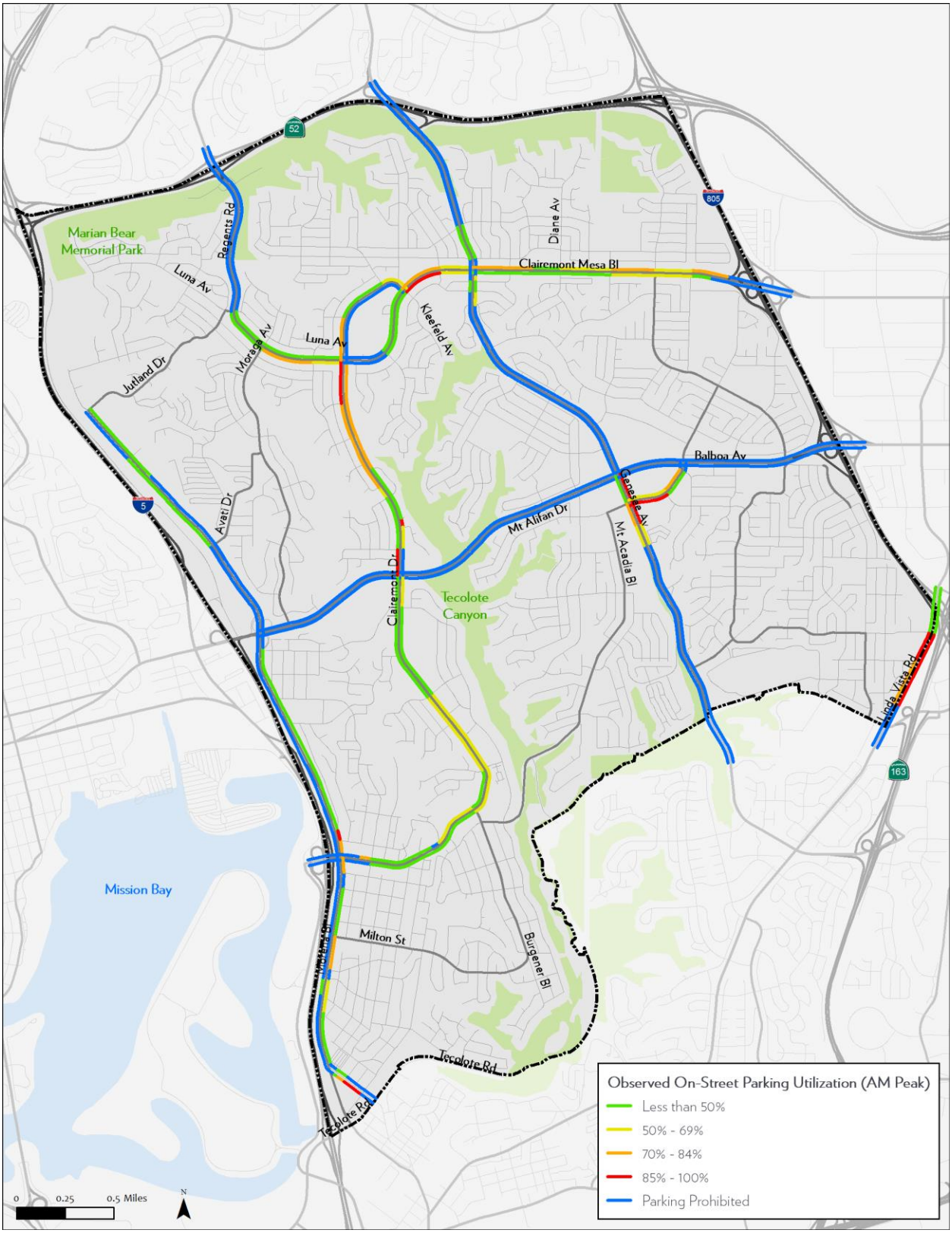


Figure 4-46. Existing Parking Utilization – Mid-Day Peak Hour

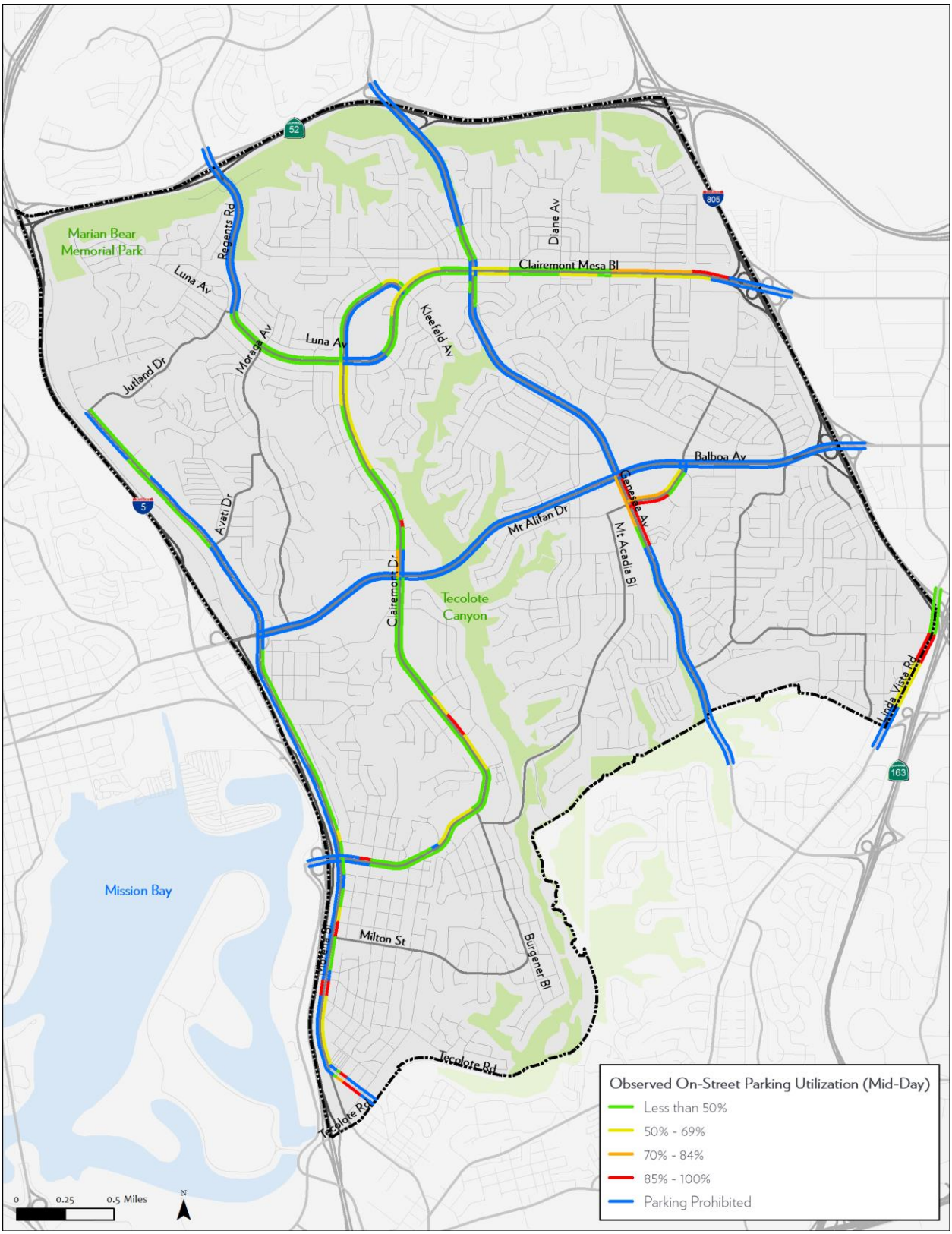
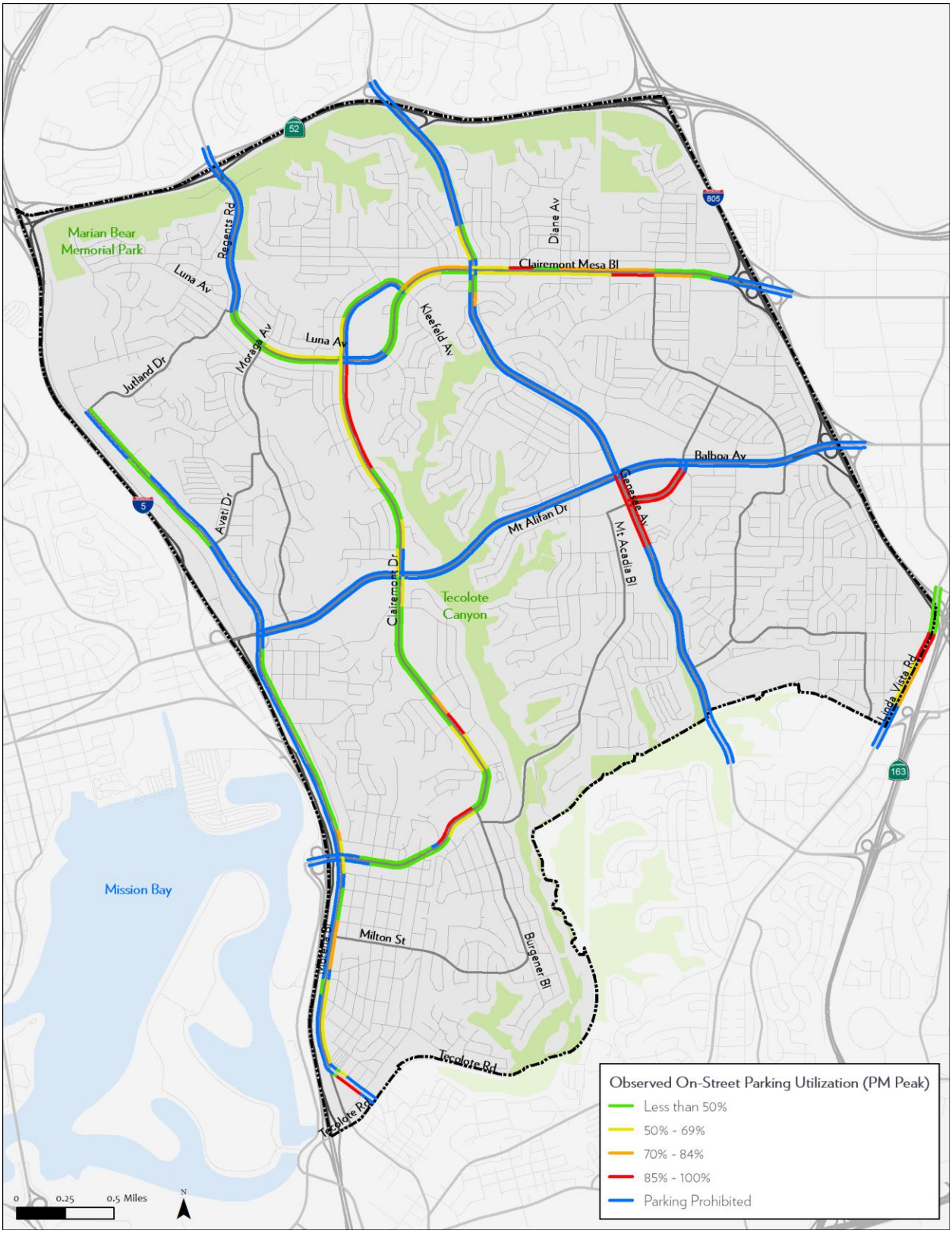


Figure 4-47. Existing Parking Utilization - PM Peak Hour



4.6 | Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) use technology to improve the movement of people and goods. ITS can provide many benefits to local and regional roadway networks, including improved roadway traffic operations, improved transit operations, relaying valuable traffic-related information, and providing guidance to drivers through dynamic message signs (e.g. locations of available parking, traffic congestion points, and accident locations).

The 2008 City of San Diego General Plan Mobility Element identifies the following goals for integrating ITS into the mobility network:

- A transportation system which operated efficiently, saves energy, and reduces negative environmental impacts.
- A safe transportation system.
- A transportation system that effectively uses appropriate technologies.

In 2014, the City of San Diego completed the Traffic Signal Communication Master Plan as a means to modernize the traffic signal system. The resulting improved coordination will increase public safety, shorten commutes, reduce greenhouse gas emissions, and increase mobility at intersections for all modes of travel. The Traffic Signal Communication Master Plan identified traffic signal communication gaps (signals without an existing communication line to connect with) that inhibit coordination. Signals at the following 14 intersections within Clairemont were identified as having communication gaps in the 2014 report:

- Morena Boulevard and Avati Drive
- Morena Boulevard and Costco Driveway
- Morena Boulevard and Balboa Avenue Westbound Ramps
- Clairemont Drive and Denver Street
- Clairemont Drive and Burgener Boulevard
- Clairemont Drive and Iroquois Avenue
- Clairemont Drive and Dakota Drive
- Clairemont Drive and Rappahannock Avenue
- Clairemont Drive and Ute Drive
- Mt. Alifan Drive and Mt. Aguilar Drive
- Mt. Acadia Boulevard and Mt. Ararat Drive
- Mesa College Drive and Armstrong Street
- Mesa College Drive and Ashford Street
- Ashford Street and Beagle Street

4.7 | Transportation Demand Management

Transportation Demand Management (TDM) programs and strategies aim to improve transportation system efficiency by reducing peak hour vehicular trips.

The 2008 City of San Diego General Plan Mobility Element identified the following TDM goals:

- Reduced single-occupant vehicle traffic on congested streets and freeways.
- Improved performance and efficiency of the street and freeway system by means other than roadway widening or construction.
- Expanded travel options and improved personal mobility.

The City of San Diego's TDM program specifically serves to improve mobility, reduce congestion and air pollution, and provide options for employees and residents to commute to and from work. Typical TDM strategies include promoting the following:

- Teleworking
- Alternative Work Schedules
- Walking
- Bicycling
- Carpooling
- Vanpooling
- Transit
- Car-Share
- Mixed-use Development
- Other Transportation Options

The City of San Diego collaborates with SANDAG to encourage participation in citywide and regional TDM measures given the fact that commute trips often cross local jurisdictional boundaries. SANDAG administers the regional TDM program known as iCommute, which provides the following programs and services:

- **Employer Services Program** – Free assistance to local business to help them develop and implement employee commuter benefit programs that lower costs, increase productivity, and help the environment.
- **Vanpool Program** – SANDAG contracts with vanpool vendors that provide vehicles, maintenance, and insurance. SANDAG also provides up to a $400 monthly subsidy to qualified vanpools.
- **Guaranteed Ride Home (GRH)** – Serves as a safety net for commuters who carpool, vanpool, ride transit, walk, or bike to work three or more times per work. GRH provides a free taxi ride or 24-hour car rental up to three times per year in the event of a family emergency, unscheduled overtime, or being stranded from a carpool or vanpool.
- **Bike Encouragement Program** – Supports bike commuting by providing Bike Month and Bike to Work Day events, and the San Diego Regional Bike Map. iCommute manages more than 800 bike lockers at more than 60 transit stations and Park & Ride lots throughout San Diego County.
- **Walk, Ride, and Roll to School** – Education and outreach program to increase the number of students who walk, bike, skate, or ride a scooter to school.
- **Carpool Match** – iCommute provides access to a database of commuters looking for a carpool match.
- **Park & Ride Map** – Map identifying the location of approximately 90 Park & Ride lots in the San Diego Region and southern Riverside County.

The iCommute program markets its various offerings through a variety of promotional campaigns, such as Bike Month and Rideshare Month. The iCommute website (www.icommutesd.com) provides links to additional resources and information that encourage alternatives to single occupant vehicle commutes.

The City of San Diego's land development policies require new developments to provide sufficient bicycle parking, employee showers and lockers, carpool parking, pedestrian paths, and a display of alternative transportation information. The City's Mobility Management section also serves as a resource to assist employers and developers in identifying and pursuing opportunities to implement TDM measures.

4.8 | Airports, Passenger Rail, and Goods Movement

The San Diego region relies on airports, passenger rail service, and a network of maritime and surface transportation routes to facilitate the movement of people and goods. Existing facilities are described in more detail below.

4.8.1 | AIRPORTS

The City of San Diego General Plan Mobility Element identifies the following goals for airports:

- An air transportation system that fosters economic growth.
- Adequate capacity to serve the forecasted passenger and cargo needs at existing airports.
- An air transportation system that is integrated with a multi-modal surface transportation system that efficiently moves people and goods.
- An international airport to serve the region's long-term air transportation and economic needs.

The San Diego International Airport at Lindberg Field is in close proximity to Clairemont, located just southwest of the community. It is the busiest single-runway commercial service airport in the nation with an average of 525 operations per day. In 2014, the San Diego International Airport served a record 18.7 million passengers, including 672,927 international passengers. The airport is operated by the San Diego County Regional Airport Authority (SDRAA). Three major plans/projects will influence future access to and from the airport, including Destination Lindberg, the San Diego International Airport Consolidated Rental Car Facility project, and the San Diego International Airport Master Plan.

Destination Lindbergh is a long-range planning effort to guide the ultimate build-out of the San Diego International Airport. The plan proposes an expanded configuration of the facility that attempts to minimize airport-related traffic impacts to adjacent communities, and improve intermodal access to the airport. The plan recommends improvements to the local and regional roadway networks providing access to the airport, as well as a new transit route to serve the airport. The Intermodal Transit Center (ITC) is proposed as an intermodal hub to facilitate airport access without the need for driving single occupant vehicles. The plans also indicate that existing trolley lines, the Coaster, Amtrak, new express bus routes, local bus routes, and the planned California High Speed Rail system will all be served by the ITC.

The San Diego International Airport Consolidated Rental Car Facility (CONRAC) project is consolidating rental car facilities currently serving the airport into a single location located west of Pacific Highway and north of Sassafras Street. The project includes extending Sassafras Street west of Pacific Highway and along the east end of the airport to serve as a point of access for rental vehicle.

The current San Diego International Airport Master Plan was adopted in 2008 to serve as the future blueprint for the airport's 661 acres. The Master Plan provides guidance for the airport to meet anticipated growth for passengers, cargo and operations. Additionally, it outlines local roadway improvements to expand vehicular capacity and enhance airport access. The SDRAA is currently in the process of updating the Airport Master Plan.

4.8.2 | PASSENGER RAIL

The COASTER commuter rail and Amtrak Pacific Surfliner provide passenger rail service at the Old Town Transit Center, located just south of Clairemont. The COASTER is operated by the North County Transit District (NCTD), and runs in a north-south direction, providing service to eight stations between Santa Fe Depot in downtown San Diego and the Oceanside Transit Center in Oceanside. The Pacific Surfliner is operated by Amtrak and runs in a north-south direction between downtown San Diego and San Luis Obispo via the greater Los Angeles area. The Old Town Transit Center is also served by the Green Line Trolley and MTS Bus Routes 8, 9, 10, 28, 30, 35, 44, 84, 88, 105, and 150.

The City of San Diego General Plan Mobility Element has identified "improving rail travel opportunities" as a goal. Any proposed enhancements to passenger rail service should be done in an effort to help achieve this goal.

4.8.3 | GOODS MOVEMENT

The City of San Diego General Plan identifies the following policies related to goods movement:

ME-J.1	Support infrastructure improvements and use of emerging technologies that will facilitate the clearance, timely movement, and security of domestic and international trade, including facilities for the efficient intermodal transfer of goods between truck, rail, marine, and air transportation modes.
ME-J.2	Preserve property for planned roadway and railroad rights-of-way, marine and air terminals, and other needed transportation facilities.
ME-J.3	Support measures to alleviate on-street truck parking and staging and peak period truck usage on freeways. These measures may include, but are not limited to: designating off-street truck staging areas; shared use of park-and-ride lots; and shared use of other public and private parking lots where appropriate.
ME-J.4	Implement measures to minimize the impacts of truck traffic, deliveries, and staging in residential and mixed-use neighborhoods.
ME-J.5	Support alternatives to transporting hazardous materials by truck.

Existing goods movement in San Diego is supported by infrastructure consisting of roadways, railways, maritime facilities and airports. Each of these types of freight are described in more detail below.

Truck Freight

The majority of goods in the San Diego region are transported by truck through the regional freeway network and local roadways. While the City of San Diego does not have a system of designated truck routes, regional truck access to Clairemont is provided via I-5, SR-52, SR-163, and I-805. Truck access is necessary throughout the community due to the dispersal of commercial and industrial designated land uses. **Table 4-34** presents the percent of trucks on local roadways within the study community. In regards to zoning, industrial zoning exists in both Rose Creek / Canyon and the Tecolote Gateway and are dependent on Morena Boulevard. The interplay between industrial zones, freeways and the arterials themselves are critical to the movement of commercial and industrial goods both within the community and out of the community.

Table 4-34. Truck Roadway Percentages

Street and Bounds	Truck Percent (%)
Balboa Avenue	
1. I-5 NB Off-Ramp to Morena Boulevard SB On-Ramp	1.9%
2. Morena Boulevard SB Ramps to Morena Boulevard NB Ramps	2.0%
3. Morena Boulevard NB Ramps to Moraga Avenue	2.3%
4. Moraga Avenue to Balboa Terrace	3.1%
5. Balboa Terrace to Clairemont Drive	3.1%
6. Clairemont Drive to Genesee Avenue	2.7%
7. Genesee Avenue to Mt. Abernathy Avenue	2.4%
8. Mt. Abernathy Avenue to Mt. Albertine Avenue	1.7%
9. Mt. Albertine Avenue to Charger Boulevard	2.3%
10. Charger Boulevard to I-805 SB Ramps	2.5%
11. I-805 SB Ramps to I-805 NB Ramps	3.7%
12. East of I-805 NB Ramps	2.5%
Clairemont Drive	
13. Kleefeld Avenue to Clairemont Mesa Boulevard	2.5%
14. Clairemont Mesa Boulevard to Chippewa Court	1.0%
15. Chippewa Court to Balboa Avenue	1.0%
16. Balboa Avenue to Iroquois Avenue	3.9%
17. Iroquois Avenue to Burgener Boulevard	5.4%
18. Burgener Boulevard to Denver Street	4.7%
19. Denver Street to I-5 NB Ramps	3.5%
20. West of I-5 NB Ramps	2.2%
Clairemont Mesa Boulevard	
21. Luna Avenue to Moraga Avenue	4.4%
22. Moraga Avenue to Clairemont Drive	1.8%
23. Clairemont Drive to Rolfe Road	1.4%
24. Rolfe Road to Clairemont Drive / Kleefeld Avenue	1.5%
25. Clairemont Drive / Kleefeld Avenue to Genesee Avenue	4.0%
26. Genesee Avenue to Limerick Avenue	6.7%
27. Limerick Avenue to I-805 SB Ramps	5.2%
28. I-805 SB Ramps to I-805 NB Ramps	5.4%
29. East of I-805 NB Ramps	4.2%
Garnet Avenue	
30. West of Mission Bay Drive	1.6%
31. Mission Bay Drive to I-5 SB On-Ramp	2.7%
32. I-5 SB On-Ramp to I-5 NB Off-Ramp	2.1%
Genesee Avenue	
33. Governor Drive to SR-52 WB Ramps	4.1%
34. SR-52 WB Ramps to Clairemont Mesa Boulevard	4.6%
35. Clairemont Mesa Boulevard to Sauk Avenue	3.1%
36. Sauk Avenue to Derrick Drive	3.1%
37. Derrick Drive to Mt. Etna Drive	2.4%
38. Mt. Etna Drive to Balboa Avenue	2.7%
39. Balboa Avenue to Mt. Alifan Drive	6.2%
40. Mt. Alifan Drive to Marlesta Drive	6.2%
41. Marlesta Drive to Osler Street	0.9%
42. Osler Street to Linda Vista Road	0.9%
43. Linda Vista Road to SR-163 SB Ramps	1.9%
44. SR-163 SB Ramps to SR-163 NB Ramps	2.2%
45. East of SR-163 NB Ramps	3.9%
Jutland Drive	
46. Clairemont Mesa Boulevard to Morena Boulevard	3.6%
Linda Vista Road	
47. Mesa College Drive to Korink Avenue	3.4%
48. Korink Avenue to Genesee Avenue	2.1%
Mesa College Drive	
49. Linda Vista Road to SR-163 SB Ramps	4.1%
50. SR-163 SB Ramps to SR-163 NB Ramps	2.2%
51. East of SR-163 NB Ramps	1.8%
Moraga Avenue	
52. Clairemont Mesa Boulevard to Balboa Avenue	4.0%
Morena Boulevard	

Street and Bounds	Truck Percent (%)
53. North of Balboa Avenue	3.4%
54. Balboa Avenue to Napier Street	5.0%
55. Napier Street to West Morena Boulevard	4.9%
56. West Morena Boulevard to Knoxville Street	4.4%
57. Knoxville Street to Tecolote Road	2.9%
Mt. Alifan Drive	
58. Balboa Avenue to Genesee Avenue	2.1%

Street and Bounds	Truck Percent (%)
Regents Road	
59. North of SR-52 WB Ramps	4.0%
60. SR-52 WB Ramps to Luna Avenue	6.7%
Tecolote Road	
61. South of Morena Boulevard	4.0%

Note: A truck is defined as any vehicle with 3 or more axles. Specific vehicle classifications can be found in the count sheets found in **Appendix D.**

Rail Freight

Rail freight passes Clairemont along the western community boundary via the Los Angeles – San Diego – San Luis Obispo Rail Corridor (LOSSAN Corridor), which is one of the busiest rail corridors nationwide. Freight operations along the corridor are operated by the Burlington Northern Santa Fe Railway Company (BNSF). BNSF operates freight rail service along the same right-of-way as Amtrak and the Coaster passenger services. BNSF transports freight to points north and east of San Diego County, such as Los Angeles and Arizona. The LOSSAN Corridor Strategic Assessment (2010) anticipates that freight rail frequencies within the corridor will double (from 4 trains a day to 8) over the next 20 years. The San Diego Imperial Valley Railroad provides additional rail freight service to the south of Clairemont, operating short-haul freight service along the Orange Line Trolley corridor through Southeastern San Diego, providing an important rail connection between the United States and Mexico.

Maritime Freight

The 10th Avenue Marine Terminal and the National City Marine Terminal, both located on the San Diego Bay, are the closest maritime cargo facilities to Clairemont. Freight is then transported via truck, rail, and air throughout San Diego County and the rest of the United States.

Air Freight

Air freight transport companies such as FedEx, DHL Express and UPS operate out of the San Diego International Airport, which serves as the region's primary airport for air freight. Air freight is then transported via truck, rail, and/or maritime modes.

5.0 MOBILITY NEEDS AND FUTURE DIRECTION

This chapter provides a summary of pedestrian, bicycle, transit, and street and freeway mobility needs determined through the existing conditions analyses.

5.1 | Pedestrian Needs

The pedestrian environment affects us all whether we are walking to transit, a store, school, or simply walking from a parked car to a building. Most people prefer walking in places where there are sidewalks with trees for shading, lighting, interesting buildings or scenery to look at, other people outside, neighborhood destinations and a feeling of safety. Pedestrian improvements in areas with land uses that promote pedestrian activities can help to increase walking as a means of transportation and recreation. Land use and street design recommendations that benefit pedestrians also contribute to the overall quality, vitality, and sense of community within a neighborhood.

Pedestrian areas for improvement identified in the Clairemont community include locations with high pedestrian collisions, sidewalk connectivity issues; as well as high existing pedestrian activity, and high pedestrian priority as identified by the City of San Diego Pedestrian Priority Model. Pedestrian opportunities and constraints are identified in **Figure 5-1.**

5.1.1 | PEDESTRIAN SAFETY

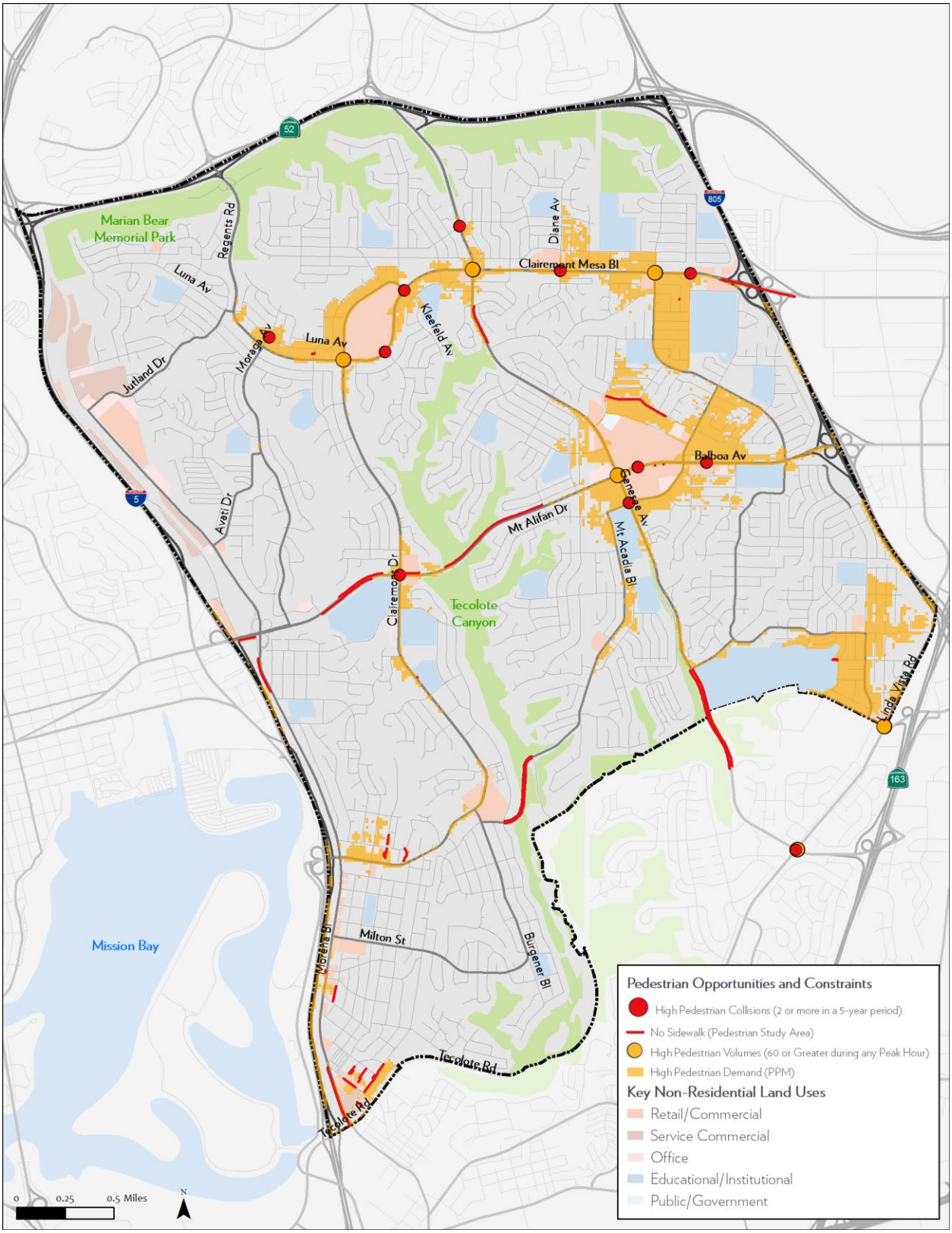
Pedestrian comfort adjacent to roadways is highly influenced by right-of-way width, vehicular volumes and speed, and adequate separation from vehicles. Pedestrian comfort and safety at intersections is influenced by lighting, crosswalk visibility, crossing distance, and traffic control measures. Additionally, personal safety and comfort considerations, such as planters, public seating, presence of illegal graffiti and sidewalk cleanliness reinforce quality of the facility.

Locations where 2 or more pedestrian collisions occurred during the five-year study period (2011-2015) are spread throughout the community. In particular there are 10 intersections where two or more pedestrian collisions were reported during the study period including:

1. Clairemont Mesa Boulevard and Doliva Drive
2. Clairemont Mesa Boulevard and Diane Avenue
3. Clairemont Mesa Boulevard and Clairemont Drive / Kleefeld Avenue
4. Clairemont Mesa Boulevard and Rolfe Road
5. Luna Avenue and Moraga Avenue
6. Balboa Avenue just west of Mt. Rias Place
7. Balboa Avenue and Shopping Center Parking Lot East of Genesee Avenue
8. Balboa Avenue and Clairemont Drive
9. Genesee Avenue and Appleton Street/ Lehrer Drive
10. Genesee Avenue and Mt. Alifan Drive

Genesee Avenue and Linda Vista Road is not within Clairemont but provides access to community therefore it was also considered in our analysis and resulted in 2 or more collisions within the 5 year study period.

Figure 5-1. Pedestrian Opportunities and Constraints



5.1.2 | SIDEWALK CONNECTIVITY

Connectivity is an important consideration when attempting to increase walking activity levels across a community. A disconnected pedestrian network discourages active trip making. Furthermore, a discontinuous network with low-quality or unsafe segments may cause a potential active traveler to choose driving. Understanding barriers to connectivity, such as low-quality or missing sidewalks, is important for guiding long-range planning recommendations.

There are many roadways with missing sidewalk, or sidewalk gaps, in Clairemont, including major segments of Balboa Avenue, Clairemont Mesa Boulevard, Morena Boulevard and Genesee Avenue. All of these streets are served by bus routes, with sidewalk gaps inhibiting transit access.

5.1.3 | PEDESTRIAN ACTIVITY

High pedestrian volumes are generally found near transit stops, retail, general commercial, and office land uses. Six intersections were identified as high pedestrian volume locations (defined as sixty or more pedestrians during peak periods), including:

1. Clairemont Mesa Boulevard and Limerick Avenue
2. Clairemont Mesa Boulevard and Genesee Avenue
3. Clairemont Mesa Boulevard and Clairemont Drive
4. Balboa Avenue and Genesee Avenue
5. Linda Vista Road and Mesa College Drive
6. Linda Vista Road and Genesee Avenue (provides access to community)

5.1.4 | PEDESTRIAN PRIORITY MODEL

Pedestrian Priority Areas were determined using the City of San Diego's Pedestrian Priority Model. The model evaluates community characteristics including demographic data, traffic volumes and speed, pedestrian collisions, presence of street lighting, location of transit stations, and land uses such as residential, office, commercial/retail, schools, and parks. The model uses these factors to identify areas where both pedestrian demand and detractors are high, thereby indicating a need to focus resources in these locations.

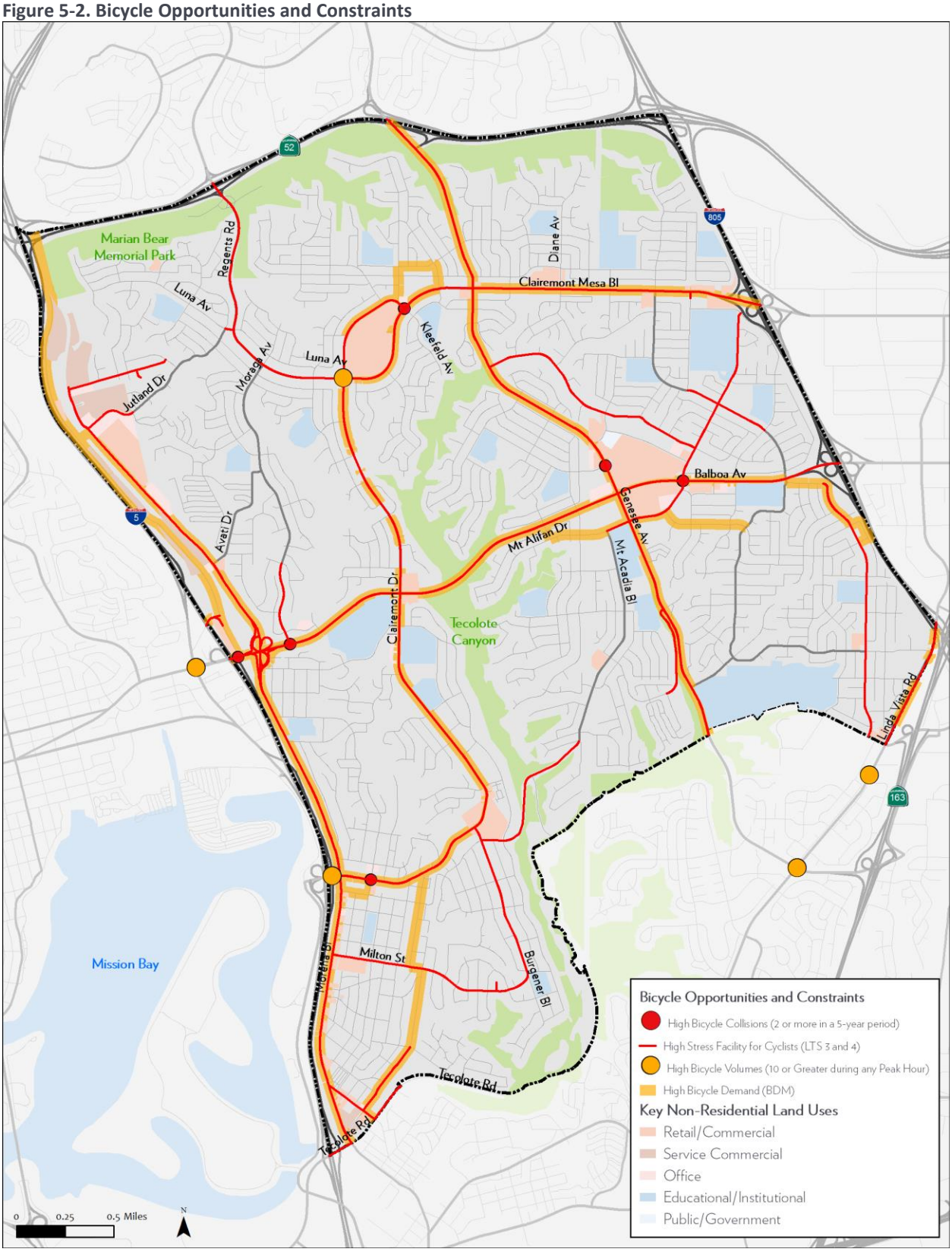
Relatively higher need or priority is expressed in commercial areas along Clairemont Mesa Boulevard and Balboa Avenue, as well near Mesa City College.

5.2 | Bicycle Needs

Bicycle infrastructure should provide for the safety and comfort of its users, and the bicycle network should be well connected across a community. Safety and comfort are paramount considerations, given that active travelers are more exposed and vulnerable than those inside a vehicle. Unsafe or uncomfortable conditions discourage the decision to make a trip by bike. Network connectivity is also important – safe and comfortable infrastructure will not be useful if destinations cannot be efficiently reached.

Bicycle areas for improvement are found throughout Clairemont. They are identified by locations with a high number of bicycle collisions, the amount of stress likely to be experienced by a bicyclist, lack of existing bicycle facilities, and high cycling demand. **Figure 5-2** depicts bicycle opportunities and constraints.

Figure 5-2. Bicycle Opportunities and Constraints



5.2.1 | BICYCLE SAFETY

Six intersections were reported as experiencing two or more bicycle-involved collisions during the five-year analysis period. These locations include:

1. Balboa Avenue and Mt. Alifan Drive / Mt. Abernathy Avenue
2. Clairemont Mesa Boulevard and Clairemont Drive / Kleefeld Avenue
3. Genesee Avenue and Mt. Etna Drive
4. Balboa Avenue and Santa Fe Street
5. Balboa Avenue and Moraga Avenue
6. Clairemont Drive and Denver Street

5.2.2 | BICYCLE LEVEL OF TRAFFIC STRESS

Bicycle Level of Traffic Stress (LTS) measures the level of comfort a cyclist would experience on a roadway, taking into account physical separation from vehicular traffic, vehicular traffic speeds along the roadway segment, number of travel lanes, and factors related to intersection approaches with dedicated right -turn lanes and unsignalized crossings. This measurement classifies streets and intersections from LTS 1 (suitable for children) through LTS 4 (suitable for riders who are comfortable sharing the road with autos traveling at 35 mph or greater).

In general, stress levels are high along most roadways in Clairemont, regardless of the presence of bicycle facilities. This is largely due to high traffic speeds, the high number of vehicular travel lanes, and limited space allocated to cyclists.

5.2.3 | BICYCLE DEMAND

Bicycle demand is estimated through a number of factors, including existing bicycle facilities, land uses (residential, office, commercial/retail, schools, and parks), location of transit stations, and demographic data. Clairemont exhibits relatively greater demand in the north-south direction. There is also high demand along the entirety of Balboa Avenue, Genesee Avenue and Morena Boulevard. These bicycle travel demand estimates are generally supported by higher observed bicycle volumes.

Typically, when observing intersections, locations are identified as high bicycle volume locations when 10 or more cyclists are observed during the peak periods. However, for the Clairemont community, there aren't any locations that would be denoted as high bicycle volume locations due to the low number of cyclists as a whole within the community.

5.2.4 | BICYCLE DEMAND MODEL

High cycling demand areas within the Clairemont community were determined using the City of San Diego's Bicycle Demand Model. The model is based on population characteristics and proximity to land uses typically associated with higher rates of cycling activity.

Relatively higher need or priority is expressed in commercial areas along Clairemont Mesa Boulevard, Balboa Avenue, Clairemont Drive, Genesee Avenue and Morena Boulevard.

5.2.5 | BICYCLE CONNECTIVITY

As noted earlier in Chapter 3, several bicycle facilities are included in future planning documents within the Clairemont community. These are summarized below in **Table 5-1**.

Table 5-1. Proposed (City of San Diego BMP) Bicycle Facilities

Facility Type	Location(s)
Class I – Bike Path	Marian Bear Memorial Park from Coastal Rail Trail to I-805
	Coastal Rail Trail: Sea World Drive/Tecolote Road to Balboa Avenue, and Damon Avenue to SR-52.
Class II – Bike Lane	Morena Boulevard to Regents Road/Clairemont Mesa Boulevard via Jutland Drive and Luna Avenue
	Clairemont Mesa Boulevard: Clairemont Drive (West) to Clairemont Drive/Kleefeld Avenue
	Clairemont Mesa Boulevard: Genesee Avenue to I-805 (community boundary)
	Morena Boulevard (Northbound): Avati Drive to Tecolote Road (community boundary)
	Morena Boulevard: Knoxville Street to Tecolote Road (community boundary)
	Clairemont Drive: Morena Boulevard underpass to Denver Street
Class III – Bike Route	Doliva Drive: Kelsing Street to Chandler Drive
	Genesee Avenue to Mt. Abernathy via Derrick Drive and Balboa Arms Drive
	Balboa Avenue to Genesee Avenue via Mt. Culebra Avenue and Mt. Acadia Boulevard
	Mt. Alifan Drive to I-805 (community boundary) via Mt. Aguilar Drive, Arverne Street, and Batista Street
	Marlesta Drive to Linda Vista Road via Mesa College Circle and Mesa College Drive
	Morena Boulevard: West Morena Boulevard to Knoxville Street
	West Morena Boulevard to Clairemont Drive via Knoxville Street, Illion Street, Milton Street, and Hartford Street
Class II or III	Morena Boulevard: Jutland Drive to Avati Drive
	Moraga Avenue: Clairemont Mesa Boulevard to Balboa Avenue
	Balboa Avenue: I-5 (community boundary) to Clairemont Drive
	Balboa Avenue: Mt. Alifan Drive /Mt. Abernathy Avenue to I-805 (community boundary)
	Acworth Avenue to Chandler Drive via Mt. Acadia Boulevard, Mt. Alifan Drive, and Mt. Abernathy Avenue
	Clairemont Drive: Balboa Avenue to Burgener Boulevard
	Clairemont Drive: Morena Boulevard underpass to I-5 (community boundary)
Bicycle Boulevard	Clairemont Drive to Genesee Avenue via Burgener Boulevard, Field Street, Mt. Acadia Boulevard, Acworth Avenue, and Boyd Avenue
	Regents Road/Clairemont Mesa Boulevard to Genesee Avenue via Luna Avenue, Coconino Way, Merrimac Avenue, Fond Du Lac Avenue, Appleton Street, Lehrer Drive, Conrad Avenue, Limerick Avenue, Chandler Drive, Charger Boulevard, Hathaway Street, Petit Street, Auburndale Street, and Marlesta Drive
	Charger Boulevard/Hathaway Street to Mesa College Drive via Eckstrom Avenue, and Ashford Street

	Auburndale Street to Linda Vista Road via Beagle Street and Stalmer Street

Source: City of San Diego (2017)

5.3 | Transit Needs

The City of Villages strategy supports expansion of the transit system by calling for multi-family housing, employment centers, and other higher-intensity uses to be located in areas that can be served by high quality transit services. This will allow more people to live and work within walking distance of transit.

Clairemont is relatively well served by transit, with large swaths of the community within a quarter mile of a transit stop. Transit opportunities and constraints are shown in **Figure 5-3**. Also, bus stops that correlate with high ridership are denoted in **Figure 5-3.**

5.3.1 | COMMUNITY CIRCULATORS

Circulators are often implemented through conditions established during a proposed development's approval process. Community circulators are most effective where there is high density development and a lot of origin and destination land uses within a small geographical area. Based on this, while community circulators can reduce surface street congestion in select areas, the Clairemont community is not an ideal planning area for this transit mode.

5.3.2 | TRANSIT PERFORMANCE

On-time performance along bus routes serving destinations throughout the community are strongly affected by the amount of congestion and level of service of intersections and roadway segments during the peak periods. Buses caught in peak hour traffic experience the same congestion as private vehicles, indicating a potential need for additional transit priority measures along congested roadway segments. These measures could include features such as: Transit Signal Priority Queue Jumps, Transit Only Lanes and Bus Bulbouts.

5.3.3 | TRANSIT RIDER SAFETY

Most transit users access transit stops by walking or biking. Therefore, it is important to evaluate pedestrian and bicycle safety in the areas in close proximity to transit stops to enhance user safety to and from transit stops. **Sections 5.1** and **5.2** discuss pedestrian and bicycle safety concerns throughout the Clairemont study area. These locations are combined in **Figure 5-3** to better illustrate bicycle and pedestrian safety issues throughout the community. Nearly 40 locations within 500 feet of transit have experienced two or more bicycle and/or pedestrian involved collisions during the five year collision analysis period. The majority of collisions occurred along the higher-class arterial roadways within the community, including Clairemont Mesa Boulevard, Balboa Avenue, Genesee Avenue, and Clairemont Drive. Specific locations include:

1. Regents Road/Clairemont Mesa Boulevard and Luna Avenue
2. Clairemont Mesa Boulevard and Moraga Avenue
3. Moraga Avenue and Luna Avenue
4. Clairemont Mesa Boulevard and Clairemont Drive (East)
5. Clairemont Mesa Boulevard and Rolfe Road
6. Clairemont Drive and Merrimac Avenue
7. Clairemont Mesa Boulevard and Clairemont Drive/Kleefeld Avenue
8. Clairemont Mesa Boulevard and Dubois Drive
9. Clairemont Mesa Boulevard and Genesee Avenue
10. Clairemont Mesa Boulevard and Diane Avenue
11. Clairemont Mesa Boulevard and Longford Street

12. Clairemont Mesa Boulevard and Limerick Avenue
13. Clairemont Mesa Boulevard and Doliva Drive
14. Genesee Avenue and Appleton Street/Lehrer Drive
15. Genesee Avenue and Bannock Avenue
16. Genesee Avenue and Chateau Drive
17. Genesee Avenue and Derrick Drive
18. Genesee Avenue and Mt. Etna Drive
19. Genesee Avenue and Balboa Avenue
20. Genesee Avenue and Mt. Alifan Drive
21. Genesee Avenue and Genesee Court East
22. Balboa Avenue and I-5 Northbound Off-Ramp
23. Balboa Avenue and Moraga Avenue
24. Balboa Avenue and Clairemont Drive
25. Balboa Avenue and Shopping Center Parking Lot East of Genesee Avenue
26. Balboa Avenue and Mt. Alifan Drive / Mt. Abernathy Avenue
27. Balboa Avenue west of Mt. Rias Place
28. Balboa Avenue and Mt. Albertine Avenue
29. Balboa Avenue and Balboa WB to I-805 SB On-Ramp
30. Clairemont Drive and Ute Drive
31. Clairemont Drive and Knapp Street
32. Clairemont Drive and Burgener Boulevard
33. Clairemont Drive and Denver Street
34. Morena Boulevard and Littlefield Street
35. Morena Boulevard and Knoxville Street
36. Beagle Street and Armstrong Street
37. Armstrong Street and Baltic Street
38. East of Mesa College Way/Mesa College Circle
39. Mesa College Drive west of Ashford Street

5.3.4 | REGIONAL CONNECTIVITY

There is a lack of high quality transit service (light rail, Bus Rapid Transit) serving the Clairemont community. Establishing a connection to high quality transit would improve regional connectivity and travel opportunities for the community via public transit; however, high quality service is dependent on higher potential ridership opportunities. For standard transit service (Bus Routes), there is good connectivity along all the major arterials throughout the community.

As noted in Section 32, several enhancements to transit service are planned for the future, including:

- **Mid-Coast Trolley Extension**: Scheduled to open in 2021, the Mid-Coast Trolley will extend the existing Blue Line service from America Plaza to the University Towne Centre (UTC) Transit Center. The trolley is planned to run along Morena Boulevard within Clairemont.
- **Trolley Route 563**: The proposed trolley line would provide high-capacity light rail transit (LRT) service between Pacific Beach and El Cajon via Clairemont and Kearny Mesa, among other communities. The proposed LRT line would operate along Balboa Avenue within Clairemont.
- **Rapid Bus Route 41**: The proposed rapid bus route would connect Fashion Valley to the UTC/University City area via Linda Vista and Clairemont. The service would run along Genesee Avenue within the Clairemont community.
- **Service Frequency Enhancements**: The RTP identifies the goal of improving frequencies to 10-minutes for local bus routes along key corridors within the Clairemont community.

5.3.5 | TRANSIT ACTIVITY (DEMAND)

As shown below in **Figure 5-3**, the majority of bus stops with relatively high ridership are located along Genesee Avenue and adjacent to Mesa College. These high-volume locations should be taken into consideration when developing concepts for future improvements for transit service and amenities.

5.4 | Street and Freeway Needs

Streets and freeways comprise the framework of our transportation system and play a major role in shaping the community and quality of life. A street system plagued by congestion can have major impacts on the community. Roadway opportunities and constraints are shown in **Figure 5-4** and **Figure 5-5** for both AM and PM peak hours, respectively.

Figure 5-3. Transit Opportunities and Constraints

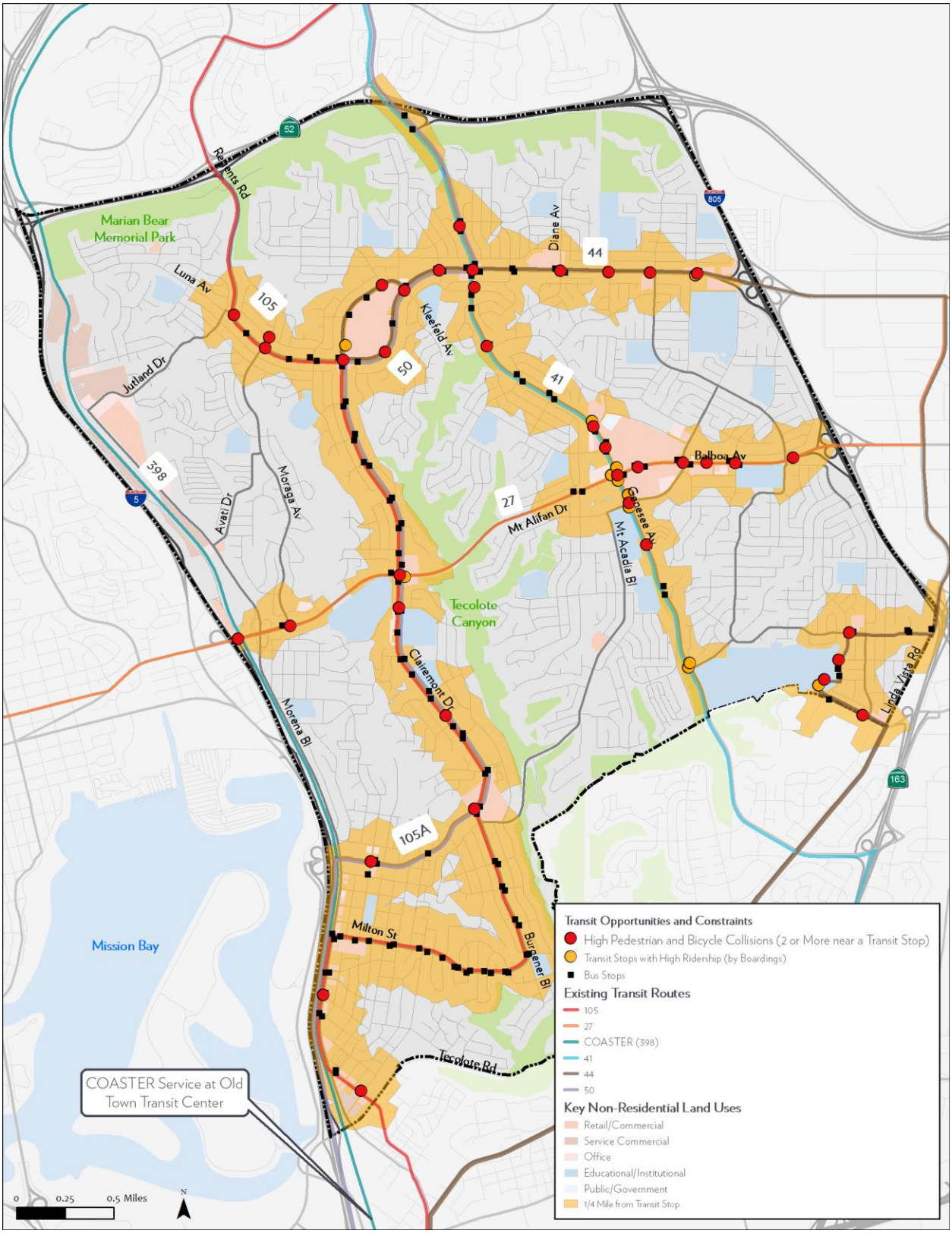


Figure 5-4. Freeway, Street, and Intersection Opportunities and Constraints (AM Peak Hour)

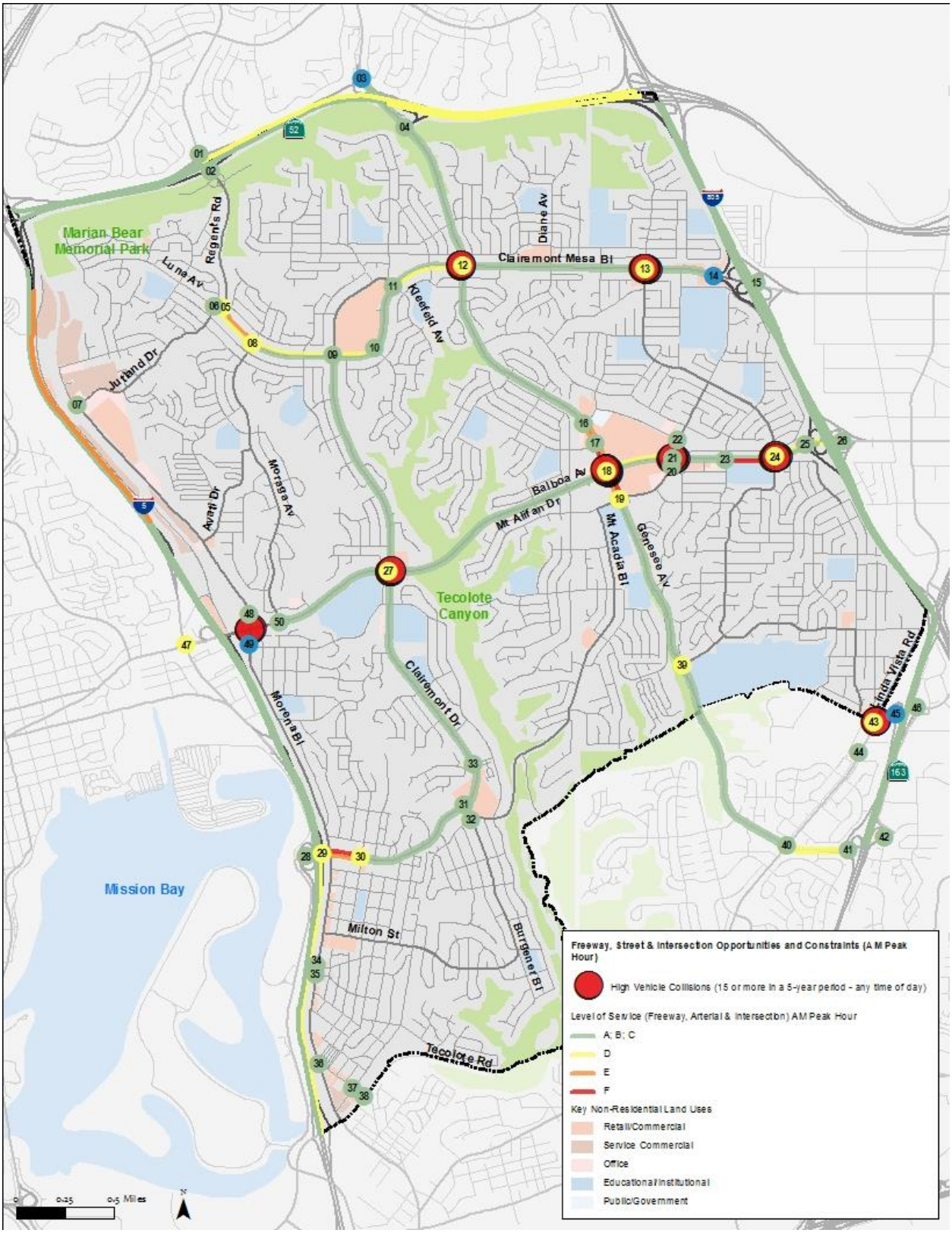
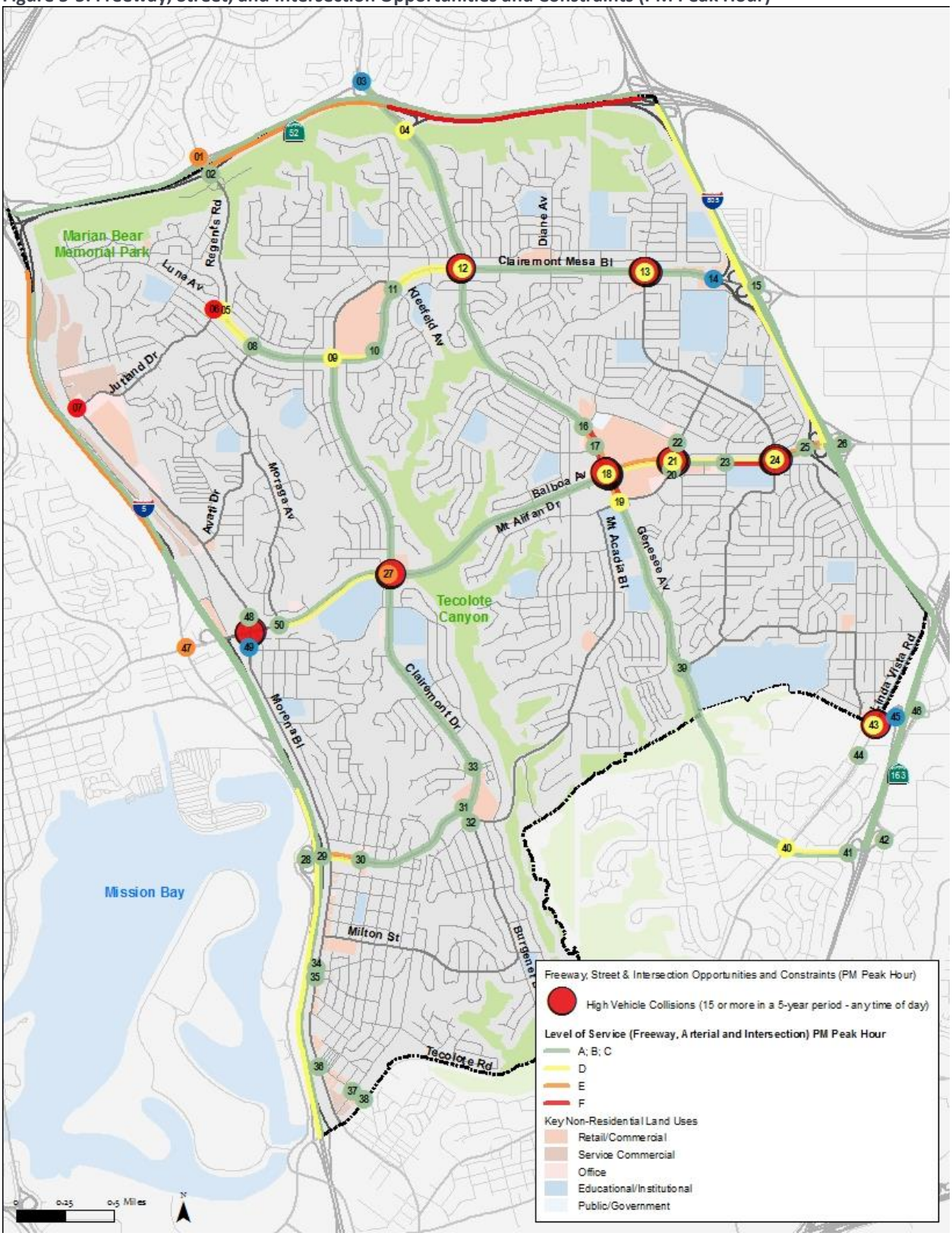


Figure 5-5. Freeway, Street, and Intersection Opportunities and Constraints (PM Peak Hour)



5.4.1 | ARTERIALS

Although Clairemont is readily accessible by freeway, travel to specific points within the community by means of arterial roadways can be difficult during the peak hours. In the morning and evening peak hours, congestion occurs on surface streets and freeways as workers travel to jobs both inside and outside of the community and students head to classes in the communities' schools and colleges.

These high vehicular traffic volumes result in a number of roadway segments operating at a substandard level of service. In particular, north-south links such as Genesee Avenue experience LOS D conditions or below. Similarly, east-west links such as portions of Clairemont Drive and Balboa Avenue experience LOS D conditions or below.

5.4.2 | FREEWAYS

The four freeways that serve Clairemont are I-5, SR-163, I-805, and SR-52. These freeways are utilized by residents, employees, and patrons of Clairemont, as well as significant regional pass-through trips. As shown in **Figure 5-4** and **Figure 5-5**, I-5 and SR-52 operate at a poor level of service during the peak commute periods along one or both directions. SR-163 and I-805 typically operate comparatively better during the peak commute periods.

5.4.3 | INTERSECTIONS

A little more than one-third of the study intersections (20 of 50) currently operate at LOS D or worse during the peak commute hours. Balboa Avenue experiences some of the worst intersection congestion during the PM peak hour. The following 20 intersections currently operate at a level of service D, E or F during the AM or PM peak hour.

1. Intersection #1: Regents Road and SR-52 WB Ramps (PM – LOS E)
2. Intersection #4: Genesee Avenue and SR-52 EB Ramps (PM – LOS D)
3. Intersection #5: Clairemont Mesa Boulevard and Luna Avenue (PM – LOS D)
4. Intersection #6: Jutland Drive and Luna Drive (PM – LOS F)
5. Intersection #7: Morena Boulevard and Jutland Drive (PM – LOS F)
6. Intersection #8: Clairemont Mesa Boulevard and Moraga Avenue (AM – LOS D)
7. Intersection #9: Clairemont Drive and Clairemont Mesa Boulevard (PM – LOS D)
8. Intersection #12: Clairemont Mesa Boulevard and Genesee Avenue (AM/PM – LOS D)
9. Intersection #13: Clairemont Mesa Boulevard and Limerick Avenue (AM/PM – LOS D)
10. Intersection #18: Balboa Avenue and Genesee Avenue (AM/PM – LOS D)
11. Intersection #19: Genesee Avenue and Mt. Alifan Drive/Mt Abernathy Avenue (AM/PM – LOS D)
12. Intersection #21: Balboa Avenue and Mt Alifan Drive/ Mt. Abernathy (PM – LOS D)
13. Intersection #24: Balboa Avenue and Charger Boulevard (AM/PM – LOS D)
14. Intersection #27: Clairemont Drive and Balboa Avenue (AM/PM – LOS D/E)
15. Intersection #29: Clairemont Drive and I-5 NB Ramps (AM – LOS D)
16. Intersection #30: Denver Street and Clairemont Drive (AM – LOS D)

17. Intersection #39: Genesee Avenue and Marlesta Drive (AM – LOS D)
18. Intersection #40: Linda Vista Road and Genesee Avenue (AM – LOS D)
19. Intersection #43: Linda Vista Road and Mesa College Drive (AM/PM – LOS D)
20. Intersection #47: Mission Bay Drive and Garnet Avenue (AM/PM – LOS D/E)

5.4.4 | SAFETY

8 intersections within Clairemont were reported to have a high number of vehicular collisions, defined as 15 or more collisions during the five-year analysis period, including:

1. Balboa Avenue and Genesee Avenue
2. Balboa Avenue and Mt. Alifan Drive/Mt. Abernathy Avenue
3. Balboa Avenue and Charger Boulevard
4. Clairemont Mesa Boulevard and Limerick Avenue
5. Balboa Avenue and Morena Boulevard
6. Linda Vista Road and Mesa College Drive
7. Balboa Avenue and Clairemont Drive
8. Balboa Avenue and Morena Boulevard Ramps

5.4.5 | PARKING

Greater management of parking spaces can help achieve mobility, environmental, and community development goals. Motorists are accustomed to "free" parking at many destinations, but in reality no parking is without cost. The real cost of parking is paid by everyone through higher rents, lower salaries, higher costs of goods and services, or taxes – regardless of how many cars we own or how much we drive. This system of "bundling" parking costs with other goods and services lowers the out-of-pocket expenses of driving and makes other types of travel seem expensive by comparison. Research suggests that when the real costs of parking passed on directly to drivers, the demand for parking typically drops, and alternative modes of transportation, where available (such as transit, carpooling, walking, and bicycling) become more attractive and viable for certain trips.

Parking Occupancy

Roadways in the Clairemont Community with high rates of observed on-street parking occupancy (over 85%) during one or more peak periods are generally located near retail, commercial, office or school land uses. In particular, segments include Genesee Avenue and Mt. Alifan Drive near Balboa Avenue, stretches of Clairemont Drive and Clairemont Mesa Boulevard, and Linda Vista Road within the community. Additionally, unique to the Clairemont large portions of the Clairemont community do not permit parking along major arterials. This includes Balboa Avenue which does not allow parking anywhere within the community, as well as Genesee Avenue where parking is restricted along the majority of the roadway. **Figure 5-6** below shows parking opportunities and constraints for parking study roadways.

Figure 5-6. Parking Opportunities and Constraints