

APPENDIX A

Technical Memorandum #1: Existing Conditions



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Existing Conditions Report

Linda Vista

Comprehensive Active Transportation Strategy (CATS)

DRAFT Report

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1.0 Introduction

1.1 Study Background and Purpose

This Existing Conditions Report summarizes the physical and operational conditions of the Linda Vista Community's bicycle and pedestrian networks, support facilities, transit facilities, and other multimodal transportation infrastructure. The report presents existing conditions analyses of pedestrian and bicycle facilities, demand, network quality and connectivity, and safety, as well as amenities present at transit facilities. The report also describes key terms and methodologies utilized for conducting these analyses, and identifies current deficiencies across the multimodal transportation networks. These analyses provide a foundation for developing and prioritizing recommendations for future network improvements which will be developed in upcoming study tasks.

1.2 Study Location

The community of Linda Vista occupies approximately 4.3 square miles and is located roughly 4 miles north of downtown San Diego. It is bounded by Interstate 5 to the west, Tecolote Canyon and Mesa College Drive to the north, State Route 163 to the east, and Friars Road to the south. Linda Vista is bisected in the north-south direction by major roadways such as Morena Boulevard, Via Las Cumbres, and Ulric Street, and traversed by Linda Vista Road in a northeasterly and southwesterly direction. **Figure 1-1** displays the community of Linda Vista within the region.

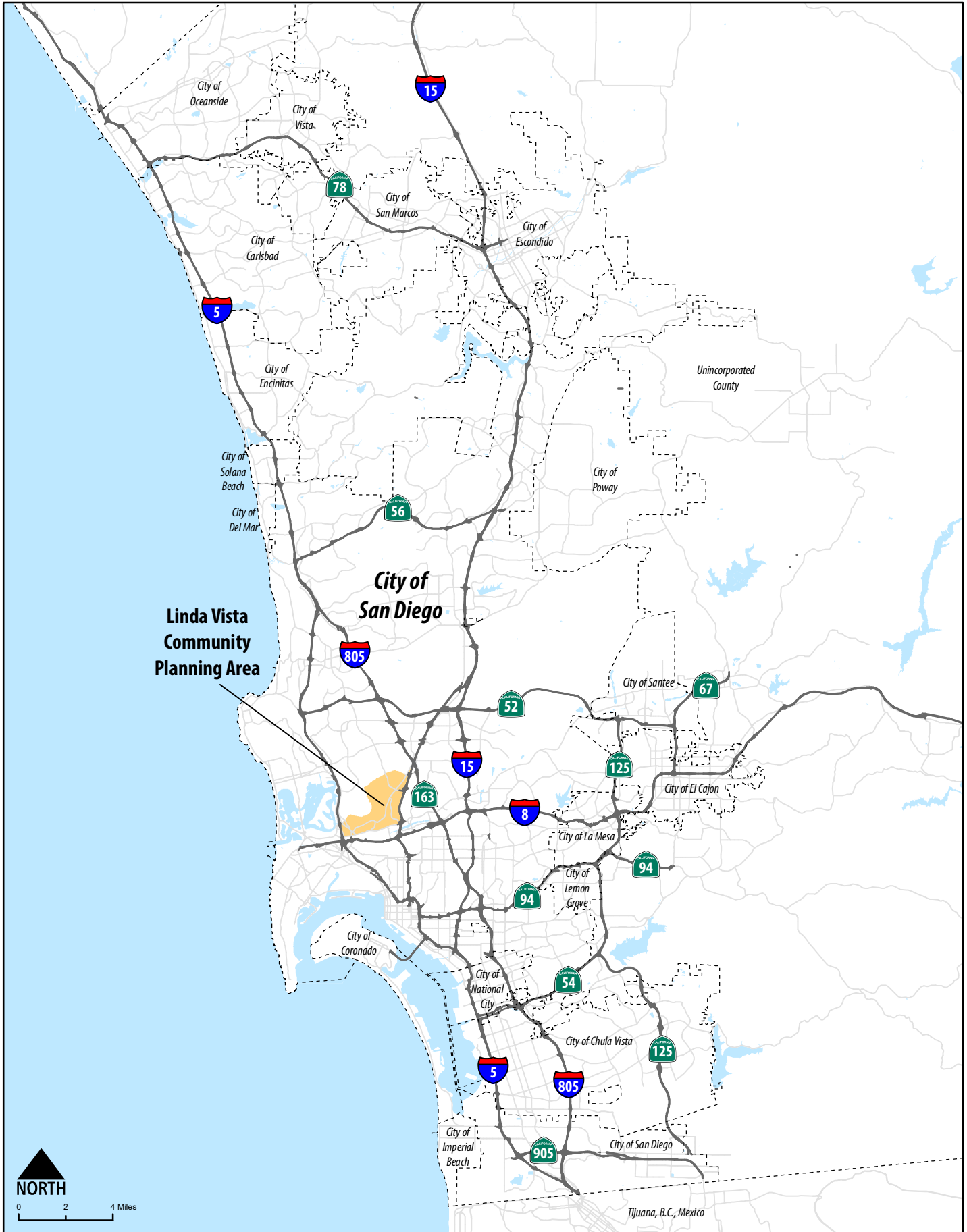


Figure 1-1
 Linda Vista within the Region

1.3 Organization of the Report

Following this introductory chapter, the remainder of the Existing Conditions Report is organized into the following chapters:

- **Chapter 2** describes the pedestrian environment in Linda Vista through assessments of demand, network quality, connectivity, and safety.
- **Chapter 3** summarizes the cycling environment in Linda Vista through assessments of demand, network quality, connectivity, and safety.
- **Chapter 4** provides an analysis of Linda Vista's transit environment, including stop amenities and station quality, collision frequency near transit stops, and the base of potential transit riders within a half-mile pedestrian network buffer.
- **Chapter 5** presents a summary of currently deficient facilities within the community, identified by the analyses performed in Chapters 2 through 4, that do not presently meet identified thresholds targets.

2.0 Pedestrian Assessment

This chapter provides an overview of existing pedestrian facilities, safety, quality, and connectivity in the Linda Vista Community. Data sources supporting this analysis include geographic information system (GIS) files accessed via SANDAG, existing planning documents, satellite imagery, mapping analyses, and confirmation through field review.

2.1 Pedestrian Priority Model

The Pedestrian Priority Model (PPM) was developed to identify locations across the City of San Diego with high “pedestrian need” or places that warrant relatively higher consideration for pedestrian infrastructure improvement. The model included three key sub-models to identify these locations: 1) pedestrian trip generation 2) pedestrian trip attraction, and 3) pedestrian trip detractors. The overarching concept is that locations with high demand for walking (as reflected by pedestrian trip generation and attraction) and high pedestrian detractors warrant higher consideration for pedestrian improvements.

A recent update to the PPM, *Pedestrian Priority Model Update and Data Documentation, Multimodal Planning Research Project*, was undertaken in 2015. The documentation related to this most recent PPM update details the methodologies, inputs, weights, and scoring categories used to derive each of the three sub-models and composite raster.

Figure 2-1 displays the final 2015 Pedestrian Priority composite model for the Linda Vista community within the City of San Diego, combining the attractors, generators, and detractors. As shown, a relatively high propensity for pedestrian travel exists along Linda Vista Road in the center of the community, bounded to the north by Genesee Avenue and to the south by Comstock Street.

2.2 Pedestrian Safety

Collision data is a valuable source of information for identifying potential pedestrian deficiencies. An analysis of collision data from the six-year period between 2008 and 2013 reveals trends and patterns in collision locations, causes, time of collision, party-at-fault, and victim age. Data was obtained from the City of San Diego’s Collision Database, and showed a total of 50 pedestrian collisions within the community over the six-year period.

Figure 2-2 displays pedestrian collisions in Linda Vista. Half of the recorded pedestrian collisions, or 25 collisions, occurred along Linda Vista Road. **Chart 2-1** displays pedestrian collisions by party-at-fault. Approximately 50 percent of collisions are attributed to motor vehicle’s fault, whereas the remaining 50 percent of collisions are attributed to the pedestrian’s fault. **Table 2-1** presents the distribution of collision cause across this six-year period. As shown, violation of a pedestrian’s right-of-way was the most common single cause of pedestrian collisions (28%), followed by unknown factors (22%), and violation of a vehicle’s right-of-way (14%).

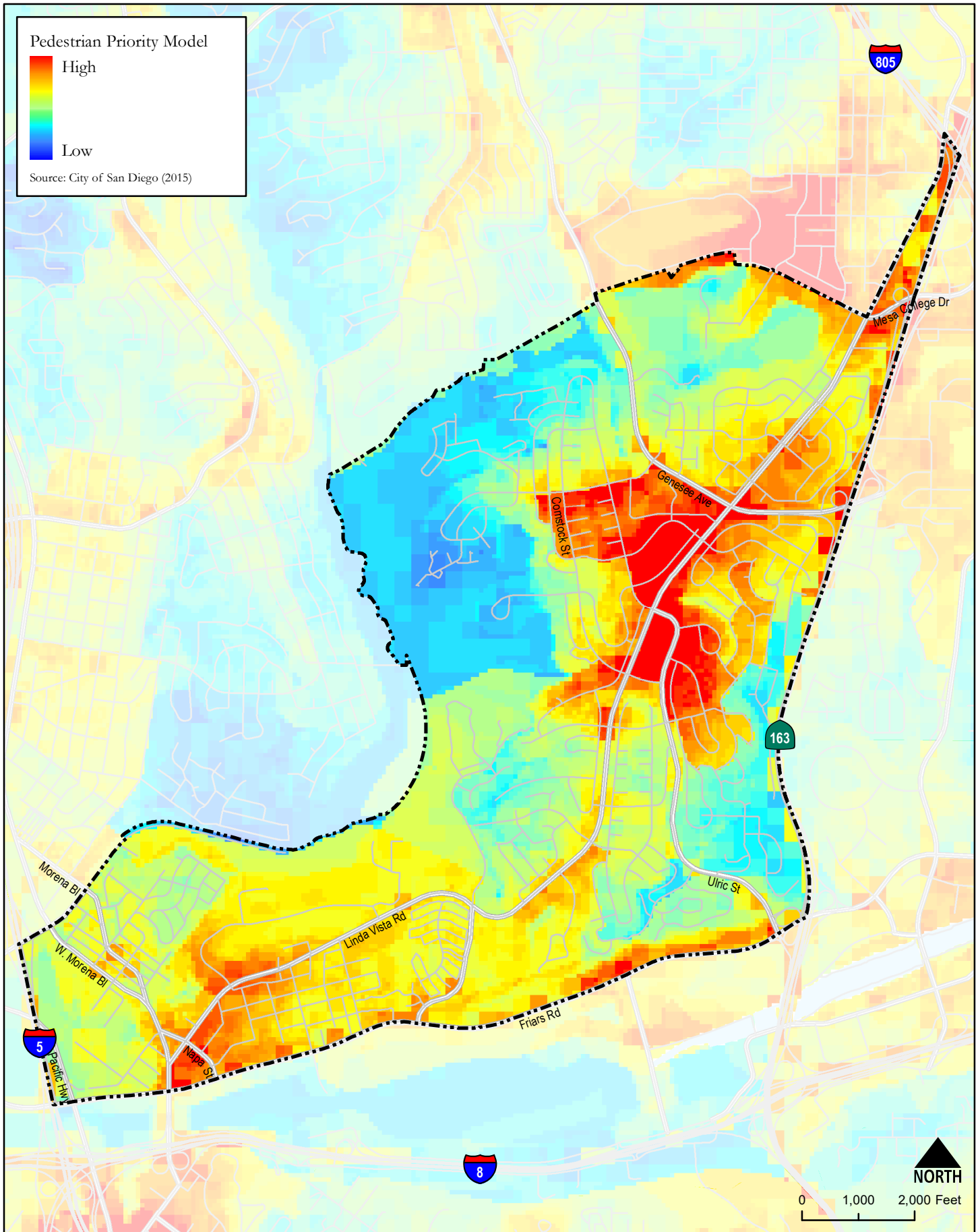


Figure 2-1
 Pedestrian Priority Model (PPM)

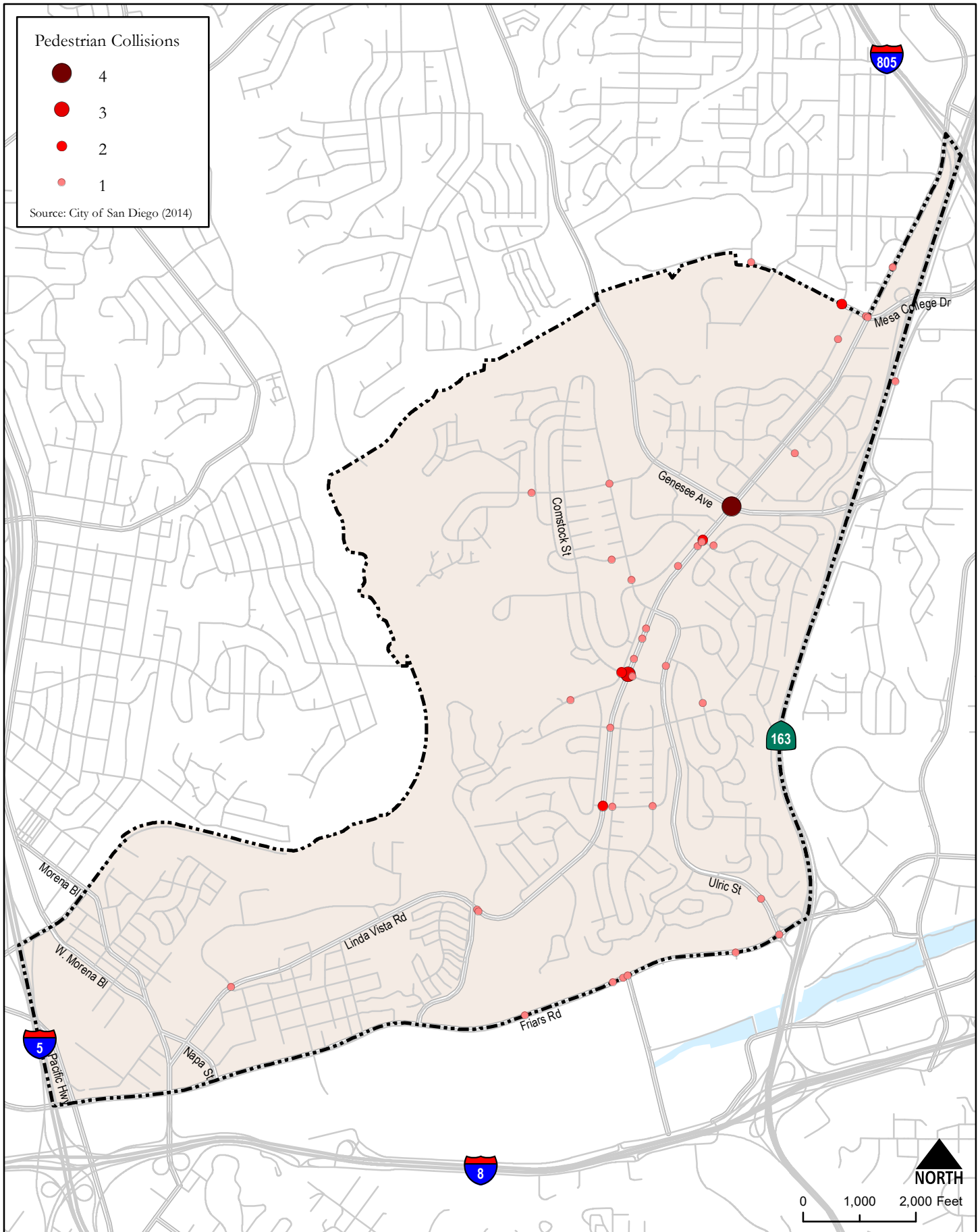
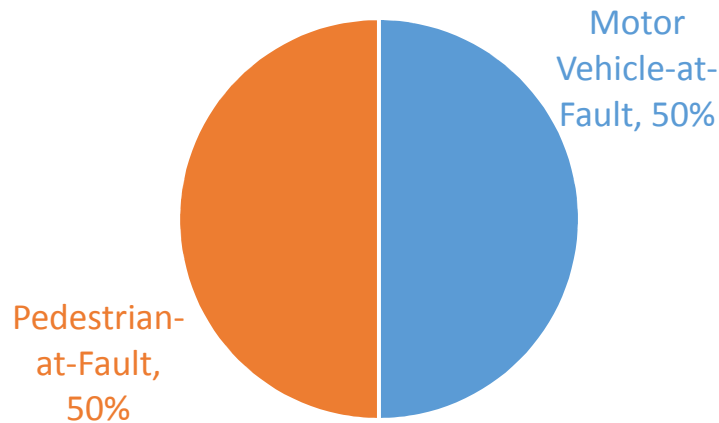


Figure 2-2
Pedestrian Collisions (2008-2013)

Chart 2-1 Pedestrian Collisions by Party-at-Fault (2008-2013)



Source: City of San Diego, 2013; Chen Ryan Associates, August 2016

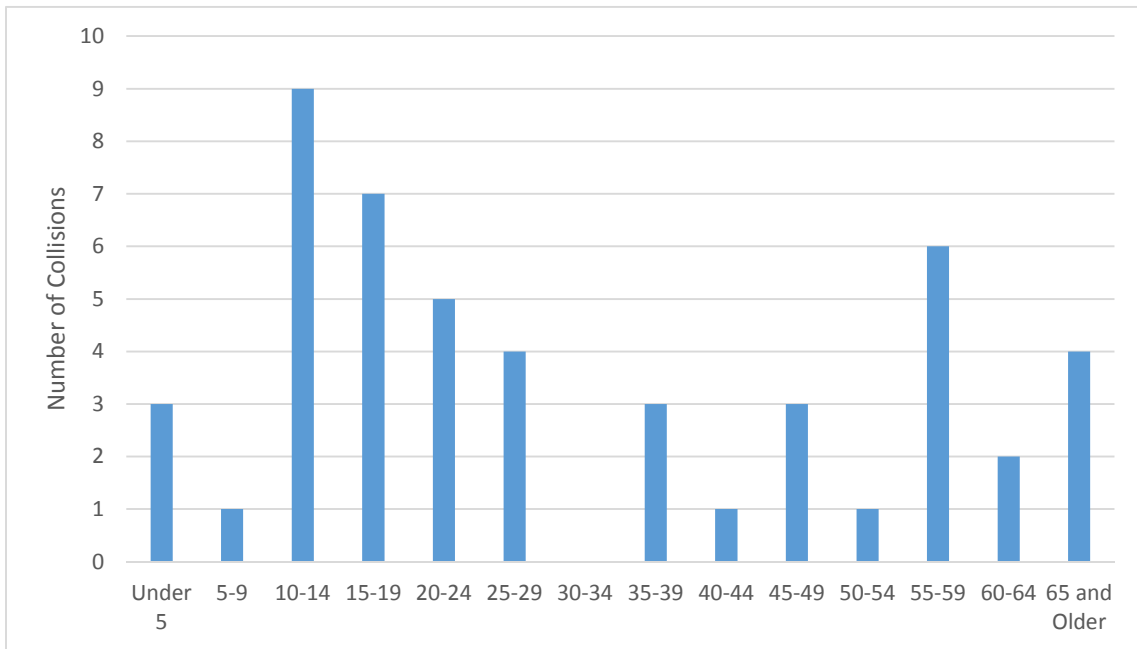
Table 2-1 Primary Pedestrian Collision Factor Categories (2008-2013)

| Primary Collision Factor | Number of Collisions | Percent of Total Collisions |
|------------------------------------|----------------------|-----------------------------|
| Violated Pedestrian's Right-of-Way | 14 | 28% |
| Unknown | 11 | 22% |
| Violated Vehicle's Right-of-Way | 7 | 14% |
| Not Paying Attention | 4 | 8% |
| Visibility Issue | 3 | 6% |
| Unknown | 3 | 6% |
| Speed Too Fast for Conditions | 2 | 4% |
| Ran Traffic Signal | 1 | 2% |
| Left Place of Safety | 1 | 2% |
| Didn't Yield to Emergency Vehicle | 1 | 2% |
| Stopped in Right-of-Way | 1 | 2% |
| Violation of Signs | 1 | 2% |
| Other Causes | 1 | 2% |
| Total | 50 | 100% |

Source: City of San Diego, 2013; Chen Ryan Associates, August 2016

Chart 2-2 presents the fifty pedestrian collisions by age group. Each age group experienced pedestrian collisions, with the exception of pedestrians ages 30-34 years. Pedestrians aged 10-14 years recorded higher numbers of collision when compared to other age groups. Thirty of the 50 pedestrian collisions, or 60%, were under the age of 30.

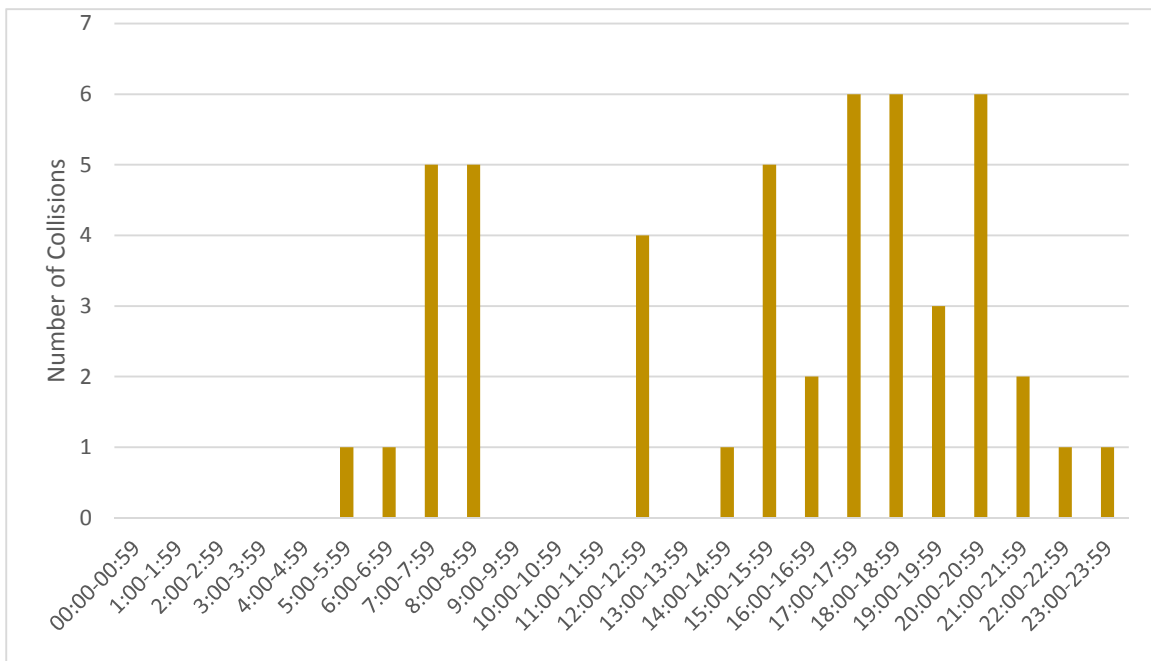
Chart 2-2 Pedestrian Collisions by Age Group (2008-2013)



Source: City of San Diego, 2013; Chen Ryan Associates, August 2016

Chart 2-3 displays pedestrian collisions distributed by time of day over the six-year period from 2008 to 2013. The timeframe with the most pedestrian collisions recorded was between 5:00PM and 9:00PM, with 21 collisions. This timeframe partly falls within the PM peak period (4:00PM to 6:00 PM), potentially indicating pedestrians traveling for commute-related purposes rather than for recreation.

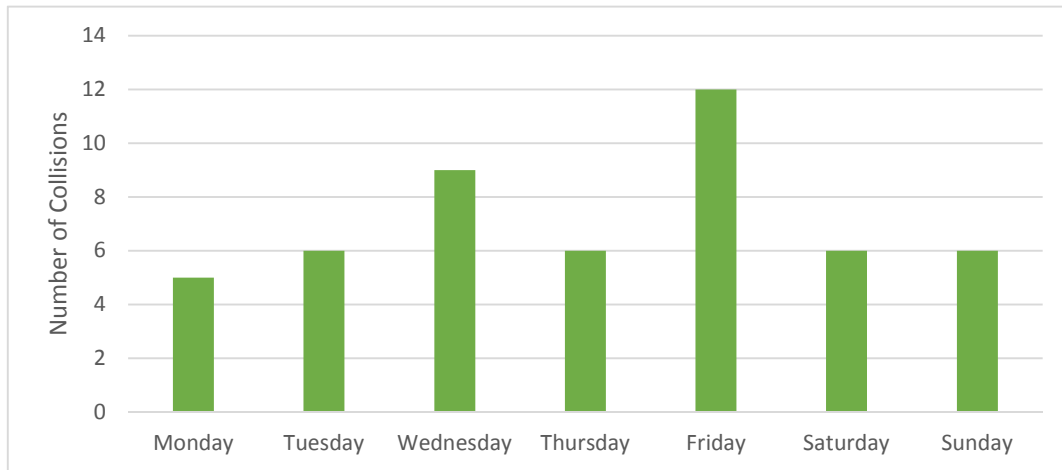
Chart 2-3 Pedestrian Collisions by Time of Day (2008-2013)



Source: City of San Diego, 2013; Chen Ryan Associates, August 2016

Chart 2-4 displays pedestrian collisions by day of week. The distribution of collisions shows relatively higher collision rates on Wednesdays and Fridays, with 9 collisions recorded on Wednesdays and 12 collisions recorded on Fridays. On other days of the week, the number of collisions was relatively consistent.

Chart 2-4 Pedestrian Collisions by Day of Week (2008-2013)



Source: City of San Diego, 2013; Chen Ryan Associates, August 2016

2.3 Pedestrian Network Quality and Connectivity

This section outlines methodologies for developing the Pedestrian Study Area network, and then evaluating the study area network using the Pedestrian Environment Quality Evaluation (PEQE) and Quality Walkshed Ratio analyses¹.

2.3.1 Developing the Pedestrian Study Area

The Pedestrian Study Area is intended to reflect overlapping areas of high pedestrian need and high pedestrian collisions. These areas were established using the Pedestrian Priority Model (PPM), historic collision data and transit ridership data. The Pedestrian Study Area incorporates all pedestrian facilities meeting the following criteria:

- a) Areas with PPM scores that are one standard deviation or more above the Linda Vista community mean PPM score.
- b) Areas with two or more pedestrian collisions over the previous 6-year period.
- c) Areas within a half-mile of major transit stops, defined as stops/stations serving rail transit, ferry terminals served by either bus or rail transit service, or the intersection of two or more major bus routes with service frequencies of 15-minutes or less during the morning and afternoon peak commute periods.

Figure 2-3 presents the resulting Pedestrian Study Area within Linda Vista.

¹ The Pedestrian Environment Quality Evaluation (PEQE) analysis was originally developed in the white paper *Active Travel Assessments – Integrating Bicycle and Pedestrian Evaluation in Long Range Planning – Task A and B of the Multimodal Planning Research Project*.

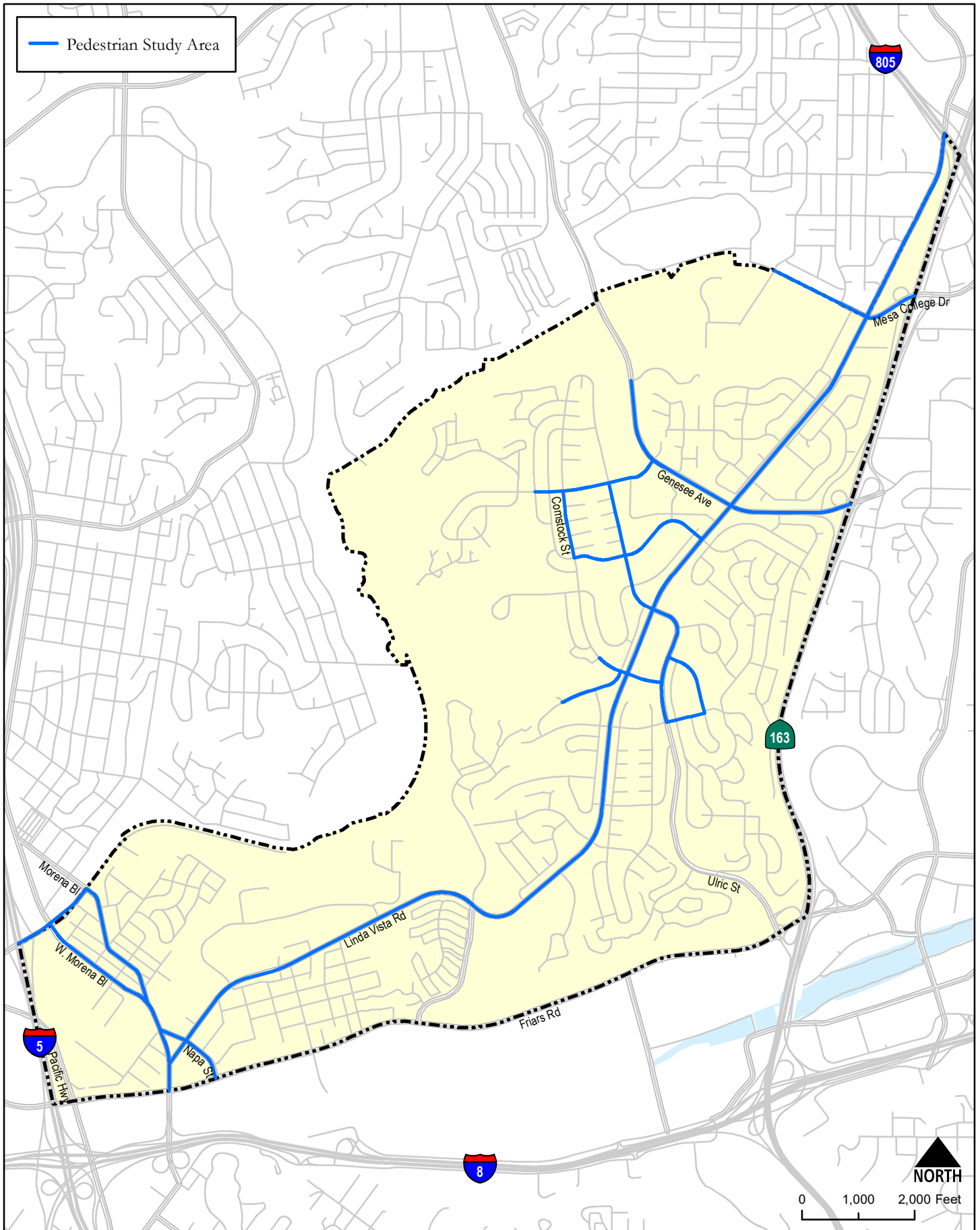


Figure 2-3
 Pedestrian Study Area

2.3.2 Pedestrian Environmental Quality Index (PEQE)

The quality of Pedestrian Study Area roadway segments, intersections, and mid-block crossings was analyzed with the Pedestrian Environment Quality Evaluation (PEQE) tool. **Table 2-2** outlines the evaluation system used to develop the PEQE scores.

Table 2-2 Pedestrian Environment Quality Evaluation Rating System

| Facility Type | Measure | Description/Feature | Scoring |
|---|-----------------------|--|--|
| Segment <i>(between two intersections)</i> | Horizontal Buffer | Between the edge of auto travelway and the edge of 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 obstructions |
| | Posted Speed Limit | -- | 0 point: > 40 mph 1 point: 30 – 40 mph 2 points: < 30 mph |
| | Maximum Points | | |
| Intersection | Physical Feature | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 |
| Intersection (Continued) | ADA Curb Ramp | -- | 0 point: below standard/requirement 2 points: meet standard/requirement |
| | Traffic Control | -- | 0 point: No control 1 point: Stop sign controlled 2 points: Signal/Roundabout/Traffic Circle |
| | Maximum Points | | |
| Mid-block Crossing | Visibility | -- | 0 point: w/o high visibility crosswalk 2 points: with high visibility crosswalk |
| | Crossing Distance | -- | 0 point: no treatment and/or > 30 feet 2 points: < 30 feet, or with bulbout/pedestrian refuge |
| | ADA Curb Ramp | -- | 0 point: below standard/requirement 2 points: meet standard/requirement |
| | Traffic Control | -- | 0 point: No control 1 point: Flashing Beacon 2 points: Signal/Pedestrian Hybrid Beacon |
| | Maximum Points | | |
| Final PEQE Scoring: | | | |
| Low: < 4 points Medium: 4-6 points High: > 7 points | | | |

Source: Chen Ryan Associates, May 2016

Table 2-3 and **Figure 2-4** displays results of the PEQE analysis. As shown, segments with a “High” ranking are generally found along Linda Vista Road north of Mesa College Drive, as well as along a short segment of Ulric Street. Generally, most roadway segments in Linda Vista are rated as “Medium,” whereas most crosswalks receive a “Low” rating.

Of the 95 total roadway segments, 9 received a “Low” rating along at least one side of the roadway. Deficient segments include:

- Linda Vista Road from study area boundary to Stalmer Street (east side),
- Genesee Avenue from Osler Street to Whitney Street (both sides),
- Genesee Avenue from Whitney Street to Linda Vista Road (both sides),
- Genesee Avenue from Linda Vista Road to Richland Street (east side),
- Genesee Avenue from Richland Street to SR-163 SB On-Ramp (EB approach) (both sides),
- Genesee Avenue from SR-163 SB On-Ramp (EB approach) to SR-163 SB Off-Ramp (both sides),
- Genesee Avenue from SR-163 SB Off-Ramp to SR-163 SB On-Ramp (WB approach) (both sides),
- West Morena Boulevard from Tecolote Road Under-Cross to Vega Street (east side),
- Tecolote Road from I-5 NB Ramps to Morena Boulevard (both sides).

Table 2-3 PEQE Segment Results

| Roadway | To | From | Northside / Eastside | | Southside / Westside | |
|--------------------|-----------------------------|-----------------------|----------------------|--------|----------------------|--------|
| | | | Score | Grade | Score | Grade |
| Linda Vista Road | Study Area Boundary | Stalmer Street | 3 | Low | 6 | Medium |
| Linda Vista Road | Stalmer Street | Baltic Street | 7 | High | 7 | High |
| Linda Vista Road | Baltic Street | Markham Street | 7 | High | 7 | High |
| Linda Vista Road | Markham Street | Mesa College Drive | 7 | High | 7 | High |
| Linda Vista Road | Mesa College Drive | Family Circle | 5 | Medium | 5 | Medium |
| Linda Vista Road | Family Circle | Korink Avenue | 6 | Medium | 6 | Medium |
| Linda Vista Road | Korink Avenue | Wheatley Street | 5 | Medium | 5 | Medium |
| Linda Vista Road | Wheatley Street | Korink Avenue | 5 | Medium | 5 | Medium |
| Linda Vista Road | Korink Avenue | Genesee Avenue | 5 | Medium | 5 | Medium |
| Linda Vista Road | Genesee Avenue | Levant Street | 5 | Medium | 5 | Medium |
| Linda Vista Road | Levant Street | Fulton Street | 5 | Medium | 5 | Medium |
| Linda Vista Road | Fulton Street | Ulric Street | 5 | Medium | 5 | Medium |
| Linda Vista Road | Ulric Street | Comstock Street | 5 | Medium | 5 | Medium |
| Linda Vista Road | Comstock Street | Tait Street | 5 | Medium | 5 | Medium |
| Linda Vista Road | Tait Street | Kramer Street | 5 | Medium | 5 | Medium |
| Linda Vista Road | Kramer Street | Glidden Street | 5 | Medium | 5 | Medium |
| Linda Vista Road | Glidden Street | Northrim Court | 5 | Medium | 5 | Medium |
| Linda Vista Road | Northrim Court | Alcala Knolls Drive | 5 | Medium | 5 | Medium |
| Linda Vista Road | Alcala Knolls Drive | Via Las Cumbres | 6 | Medium | 6 | Medium |
| Linda Vista Road | Via Las Cumbres | Alcala Park Way | 6 | Medium | 6 | Medium |
| Linda Vista Road | Alcala Park Way | Goshen Street | 6 | Medium | 6 | Medium |
| Linda Vista Road | Goshen Street | Brunner Street | 6 | Medium | 6 | Medium |
| Linda Vista Road | Brunner Street | Colusa Street | 6 | Medium | 6 | Medium |
| Linda Vista Road | Colusa Street | Marian Way | 6 | Medium | 6 | Medium |
| Linda Vista Road | Marian Way | Mollie Street | 5 | Medium | 5 | Medium |
| Linda Vista Road | Mollie Street | Metro Street | 5 | Medium | 5 | Medium |
| Linda Vista Road | Metro Street | Napa Street | 5 | Medium | 5 | Medium |
| Linda Vista Road | Napa Street | Morena Boulevard | 5 | Medium | 5 | Medium |
| Mesa College Drive | Armstrong Street | Ashford Street | 4 | Medium | 4 | Medium |
| Mesa College Drive | Ashford Street | Komet Way | 4 | Medium | 4 | Medium |
| Mesa College Drive | Wellington Street/Komet Way | Linda Vista Road | 4 | Medium | 4 | Medium |
| Mesa College Drive | Linda Vista Road | SR-163 SB Onramp (EB) | 4 | Medium | 4 | Medium |
| Mesa College Drive | SR-163 SB Onramp (EB) | SR-163 SB Onramp (WB) | 4 | Medium | 4 | Medium |
| Genesee Avenue | Park Mesa Way | Osler Street | 5 | Medium | N/A | |
| Genesee Avenue | Osler Street | Whitney Street | 3 | Low | 3 | Low |
| Genesee Avenue | Whitney Street | Linda Vista Road | 3 | Low | 3 | Low |
| Genesee Avenue | Linda Vista Road | Richland Street | 3 | Low | 4 | Medium |

Table 2-3 PEQE Segment Results

| Roadway | To | From | Northside / Eastside | | Southside / Westside | |
|------------------|---------------------------------------|------------------------------|----------------------|--------|----------------------|--------|
| | | | Score | Grade | Score | Grade |
| Genesee Avenue | Richland Street | SR-163 SB Onramp (EB) | 1 | Low | 3 | Low |
| Genesee Avenue | SR-163 SB Onramp (EB) | SR-163 SB Offramp | 1 | Low | 3 | Low |
| Genesee Avenue | SR-163 SB Offramp | SR-163 SB Onramp (WB) | 1 | Low | 3 | Low |
| Osler Street | Preece Street | Nye Street | 7 | High | 7 | High |
| Osler Street | Nye Street | Comstock Street | 7 | High | 7 | High |
| Osler Street | Comstock Street | Ulric Street | 7 | High | 7 | High |
| Osler Street | Ulric Street | Genesee Avenue | 7 | High | 7 | High |
| Ulric Street | Osler Street | Zane Court | 7 | High | 7 | High |
| Ulric Street | Zane Court | Waterman Court | 7 | High | 7 | High |
| Ulric Street | Waterman Court | Upton Court | 7 | High | 7 | High |
| Ulric Street | Upton Court | Savage Court | 7 | High | 7 | High |
| Ulric Street | Savage Court | Fulton Street | 7 | High | 7 | High |
| Ulric Street | Fulton Street | Jewett Street/Eastman Street | 7 | High | 7 | High |
| Ulric Street | Jewett Street/Eastman Street | Morley Street | 7 | High | 7 | High |
| Ulric Street | Morley Street | Linda Vista Road | 5 | Medium | 5 | Medium |
| Ulric Street | Linda Vista Road | Dunlop Street | 7 | High | 6 | Medium |
| Ulric Street | Dunlop Street | Burroughs Street | 7 | High | 7 | High |
| Ulric Street | Burroughs Street | Comstock Street | 7 | High | 7 | High |
| Ulric Street | Comstock Street | Tait Street | 7 | High | 7 | High |
| Comstock Street | Osler Street | Comstock Court | 7 | High | 7 | High |
| Comstock Street | Comstock Court | Valjean Court | 7 | High | 7 | High |
| Comstock Street | Valjean Court | Thomson Court | 7 | High | 7 | High |
| Comstock Street | Thomson Court | Roeblyn Court | 7 | High | 7 | High |
| Comstock Street | Roeblyn Court | Fulton Street | 7 | High | 7 | High |
| Comstock Street | Gifford Way | Morley Street/Kelly Street | 7 | High | 7 | High |
| Comstock Street | Morley Street | Linda Vista Road | 7 | High | 7 | High |
| Comstock Street | Linda Vista Road | Ulric Street | 7 | High | 7 | High |
| Fulton Street | Comstock Street | Ulric Street | 7 | High | 7 | High |
| Fulton Street | Ulric Street | Levant Street | 7 | High | 7 | High |
| Fulton Street | Levant Street | Eastman Street | 7 | High | 7 | High |
| Fulton Street | Eastman Street | Linda Vista Road | 7 | High | 7 | High |
| Kelly Street | Kelly Street Neighborhood Park Access | Drescher Street | 7 | High | 7 | High |
| Kelly Street | Drescher Street | Comstock Street | 7 | High | 7 | High |
| Tait Street | Ulric Street | Westinghouse Street | 7 | High | 7 | High |
| Tait Street | Westinghouse Street | Abbe Street | 7 | High | 7 | High |
| Tait Street | Abbe Street | Burroughs Street | 7 | High | 7 | High |
| Burroughs Street | Ulric Street | Westinghouse Street | 7 | High | 7 | High |
| Burroughs Street | Westinghouse Street | Tait Street | 7 | High | 7 | High |
| Napa Street | Morena Boulevard | Linda Vista Road | 5 | Medium | 5 | Medium |
| Napa Street | Linda Vista Road | Riley Street | 5 | Medium | 5 | Medium |

Table 2-3 PEQE Segment Results

| Roadway | To | From | Northside / Eastside | | Southside / Westside | |
|-----------------------|-------------------------------|-------------------------------|----------------------|------------|----------------------|------------|
| | | | Score | Grade | Score | Grade |
| Napa Street | Riley Street | Gaines Street | 5 | Medium | 5 | Medium |
| Napa Street | Gaines Street | Friars Road | 5 | Medium | 5 | Medium |
| Morena Boulevard | Tecolote Road | Viola Street | 4 | Medium | 6 | Medium |
| Morena Boulevard | Viola Street | Savannah Street | 6 | Medium | 6 | Medium |
| Morena Boulevard | Savannah Street | Naples Street/Dorcas Street | 6 | Medium | 6 | Medium |
| Morena Boulevard | Naples Street/Dorcas Street | Buenos Avenue | 6 | Medium | 6 | Medium |
| Morena Boulevard | Buenos Avenue | Morena Place | 6 | Medium | 6 | Medium |
| Morena Boulevard | Morena Place | Cushman Avenue | 5 | Medium | 5 | Medium |
| Morena Boulevard | Cushman Avenue | West Morena Boulevard | 4 | Medium | 4 | Medium |
| Morena Boulevard | West Morena Boulevard | Napa Street/Sherman Street | 6 | Medium | 5 | Medium |
| Morena Boulevard | Napa Street/Sherman Street | Grant Street/Linda Vista Road | 5 | Medium | 5 | Medium |
| Morena Boulevard | Grant Street/Linda Vista Road | Friars Road Overcross | 5 | Medium | 4 | Medium |
| West Morena Boulevard | Tecolote Road Undercross | Vega Street | 3 | Low | 5 | Medium |
| West Morena Boulevard | Vega Street | Dorcas Street | 5 | Medium | 5 | Medium |
| West Morena Boulevard | Dorcas Street | Buenos Avenue | 5 | Medium | 5 | Medium |
| West Morena Boulevard | Buenos Avenue | Morena Boulevard | 5 | Medium | 5 | Medium |
| Tecolote Road | Study Area Boundary | I-5 NB Ramps | 4 | Medium | 4 | Medium |
| Tecolote Road | I-5 NB Ramps | Morena Boulevard | 3 | Low | 3 | Low |

Source: Chen Ryan Associates, August 2016

Note: Roadway segments with a “Low” rating are noted in **bold** text.

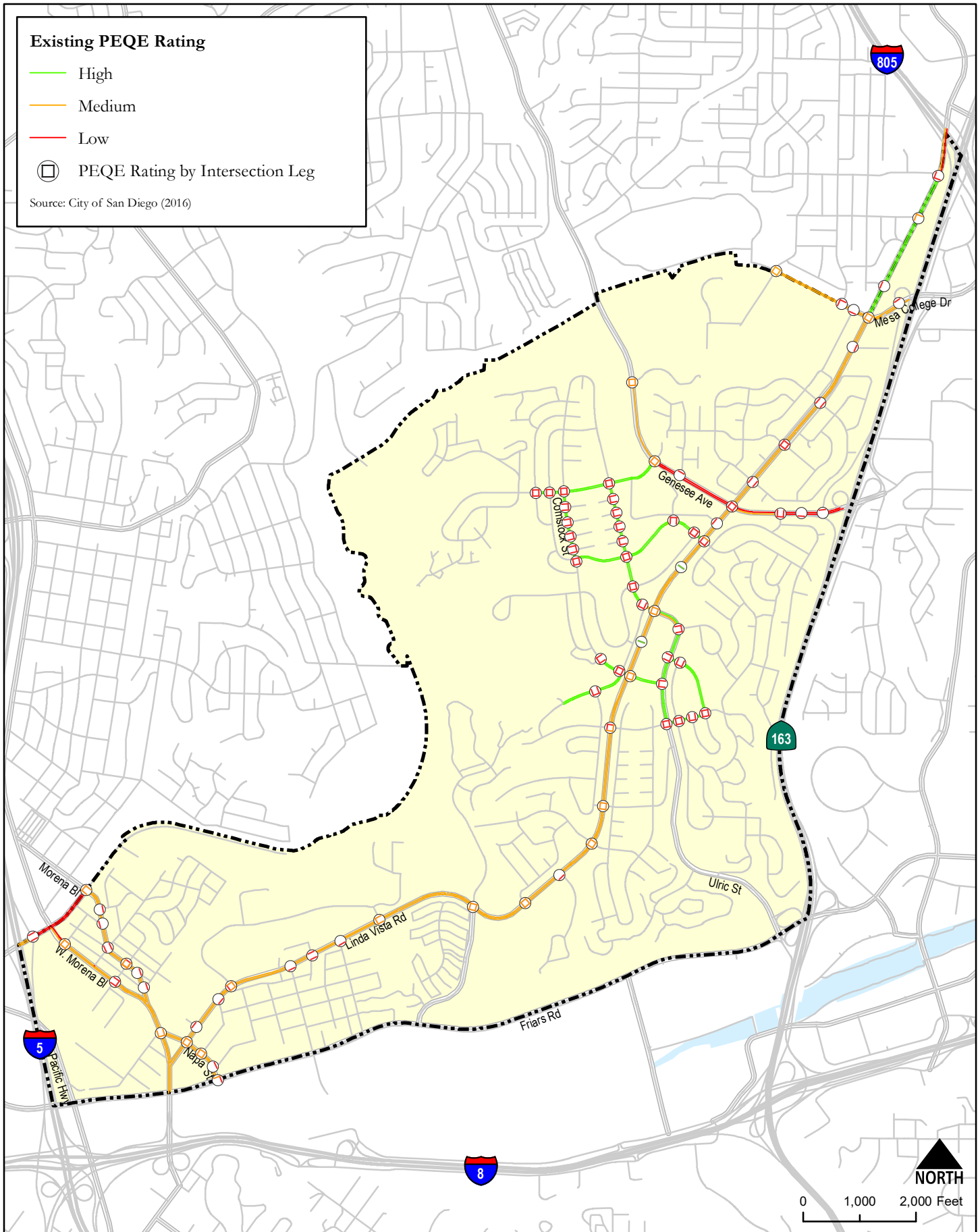


Figure 2-4
 Pedestrian Environmental Quality Evaluation (PEQE)

Table 2-4 summarizes PEQE intersection results. As shown, of the 84 total study intersections, a majority received a “Low” rating for at least one leg (63 intersections). In addition, a total of 14 intersections received a “Low” rating at all four legs, including:

- Linda Vista Road and Wheatley Street,
- Linda Vista Road and Genesee Avenue,
- Osler Street and Preece Street,
- Osler Street and Nye Street,
- Osler Street and Comstock Street,
- Osler Street and Ulric Street,
- Ulric Street and Fulton Street,
- Ulric Street and Jewett Street/Eastman Street,
- Ulric Street and Tait Street,
- Comstock Street and Fulton Street,
- Comstock Street and Morley Street/Kelly Street,
- Fulton Street and Eastman Street,
- Tait Street and Westinghouse Street,
- Tait Street and Burroughs Street, and
- I-5 NB Ramps and Tecolote Road.

Table 2-4 PEQE Intersection Results

| # | Intersection | North Leg | | South Leg | | East Leg | | West Leg | |
|----|---|-----------|--------|-----------|--------|----------|--------|----------|--------|
| | | Score | Rating | Score | Rating | Score | Rating | Score | Rating |
| 1 | Linda Vista Road and Stalmer Street | N/A | N/A | 2 | Low | N/A | N/A | 2 | Low |
| 2 | Linda Vista Road and Baltic Street | 4 | Medium | N/A | N/A | N/A | N/A | 4 | Medium |
| 3 | Linda Vista Road and Markham Street | N/A | N/A | N/A | N/A | N/A | N/A | 1 | Low |
| 4 | Linda Vista Road and Mesa College Drive | 4 | Medium | 4 | Medium | 4 | Medium | 4 | Medium |
| 5 | Linda Vista Road and Family Circle | N/A | N/A | N/A | N/A | 1 | Low | N/A | N/A |
| 6 | Linda Vista Road and Korink Avenue | N/A | N/A | N/A | N/A | 1 | Low | 1 | Low |
| 7 | Linda Vista Road and Wheatley Street | 2 | Low | 2 | Low | 2 | Low | 2 | Low |
| 8 | Linda Vista Road and Korink Avenue | N/A | N/A | N/A | N/A | 1 | Low | 1 | Low |
| 9 | Linda Vista Road and Genesee Avenue | 2 | Low | 2 | Low | 2 | Low | 2 | Low |
| 10 | Linda Vista Road and Levant Street | N/A | N/A | N/A | N/A | N/A | N/A | 1 | Low |
| 11 | Linda Vista Road and Fulton Street | 4 | Medium | 2 | Low | 2 | Low | 2 | Low |
| 12 | Linda Vista Road and Ulric Street | 4 | Medium | 4 | Medium | 4 | Medium | 4 | Medium |
| 13 | Linda Vista Road and Comstock Street | 5 | Medium | 5 | Medium | 5 | Medium | 5 | Medium |
| 14 | Linda Vista Road and Tait Street | 2 | Low | 5 | Medium | 5 | Medium | 2 | Low |
| 15 | Linda Vista Road and Kramer Street | 5 | Medium | 5 | Medium | 4 | Medium | 4 | Medium |
| 16 | Linda Vista Road and Glidden Street | 6 | Medium | 6 | Medium | 5 | Medium | 5 | Medium |

Table 2-4 PEQE Intersection Results

| # | Intersection | North Leg | | South Leg | | East Leg | | West Leg | |
|----|---|-----------|--------|-----------|--------|----------|--------|----------|--------|
| | | Score | Rating | Score | Rating | Score | Rating | Score | Rating |
| 17 | Linda Vista Road and Northrim Court | N/A | N/A | N/A | N/A | 3 | Low | N/A | N/A |
| 18 | Linda Vista Road and Alcalá Knolls Drive | 5 | Medium | 5 | Medium | 5 | Medium | 5 | Medium |
| 19 | Linda Vista Road and Via Las Cumbres | 5 | Medium | 5 | Medium | 4 | Medium | 4 | Medium |
| 20 | Linda Vista Road and Alcalá Park Way | 4 | Medium | 4 | Medium | N/A | N/A | 4 | Medium |
| 21 | Linda Vista Road and Goshen Street | N/A | N/A | 3 | Low | N/A | N/A | N/A | N/A |
| 22 | Linda Vista Road and Brunner Street | 3 | Low | 3 | Low | N/A | N/A | N/A | N/A |
| 23 | Linda Vista Road and Colusa Street | N/A | N/A | 3 | Low | N/A | N/A | N/A | N/A |
| 24 | Linda Vista Road and Marian Way | 4 | Medium | 4 | Medium | 4 | Medium | 2 | Low |
| 25 | Linda Vista Road and Mollie Street | N/A | N/A | 3 | Low | N/A | N/A | N/A | N/A |
| 26 | Linda Vista Road and Metro Street | 3 | Low | N/A | N/A | N/A | N/A | N/A | N/A |
| 27 | Linda Vista Road and Napa Street | 4 | Medium | 4 | Medium | 4 | Medium | 4 | Medium |
| 28 | Linda Vista Road and Morena Boulevard | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 29 | Mesa College Drive and Armstrong Street | 4 | Medium | 4 | Medium | 4 | Medium | 4 | Medium |
| 30 | Mesa College Drive and Ashford Street | 2 | Low | N/A | N/A | N/A | N/A | 2 | Low |
| 31 | Mesa College Drive and Komet Way | N/A | N/A | 1 | Low | N/A | N/A | N/A | N/A |
| 32 | Mesa College Drive and SR-163 SB On-Ramp (EB) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 33 | Mesa College Drive and SR-163 SB On-Ramp (WB) | 2 | Low | N/A | N/A | N/A | N/A | N/A | N/A |
| 34 | Genesee Avenue and Park Mesa Way | 5 | Medium | 5 | Medium | 4 | Medium | N/A | N/A |
| 35 | Genesee Avenue and Osler Street | 4 | Medium | 4 | Medium | 5 | Medium | 5 | Medium |
| 36 | Genesee Avenue and Whitney Street | 3 | Low | N/A | N/A | N/A | N/A | N/A | N/A |
| 37 | Genesee Avenue and Richland Street | N/A | N/A | 2 | Low | 2 | Low | 2 | Low |
| 38 | Genesee Avenue and SR-163 SB On-Ramp (EB) | N/A | N/A | 2 | Low | N/A | N/A | N/A | N/A |
| 39 | Genesee Avenue and SR-163 SB Off-Ramp | 2 | Low | N/A | N/A | N/A | N/A | N/A | N/A |
| 40 | Genesee Avenue and SR-163 SB On-Ramp (WB) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 41 | Osler Street and Preece Street | 3 | Low | 3 | Low | 2 | Low | 2 | Low |
| 42 | Osler Street and Nye Street | 3 | Low | 3 | Low | 2 | Low | 2 | Low |
| 43 | Osler Street and Comstock Street | 3 | Low | 3 | Low | 3 | Low | 3 | Low |
| 44 | Osler Street and Ulric Street | 3 | Low | 3 | Low | 3 | Low | 3 | Low |
| 45 | Ulric Street and Zane Court | 0 | Low | 0 | Low | N/A | N/A | 3 | Low |
| 46 | Ulric Street and Waterman Court | 0 | Low | 0 | Low | N/A | N/A | 3 | Low |
| 47 | Ulric Street and Upton Court | 0 | Low | 0 | Low | N/A | N/A | 3 | Low |

Table 2-4 PEQE Intersection Results

| # | Intersection | North Leg | | South Leg | | East Leg | | West Leg | |
|----|--|-----------|--------|-----------|--------|----------|--------|----------|--------|
| | | Score | Rating | Score | Rating | Score | Rating | Score | Rating |
| 48 | Ulric Street and Savage Court | 0 | Low | 0 | Low | N/A | N/A | 3 | Low |
| 49 | Ulric Street and Fulton Street | 3 | Low | 3 | Low | 3 | Low | 3 | Low |
| 50 | Ulric Street and Jewett Street/Eastman Street | 3 | Low | 3 | Low | 3 | Low | 3 | Low |
| 51 | Ulric Street and Morley Street | N/A | N/A | 3 | Low | 2 | Low | 2 | Low |
| 52 | Ulric Street and Dunlop Street | 3 | Low | 3 | Low | 3 | Low | N/A | N/A |
| 53 | Ulric Street and Burroughs Street | 0 | Low | 0 | Low | 3 | Low | N/A | N/A |
| 54 | Ulric Street and Comstock Street | 3 | Low | 3 | Low | N/A | N/A | 3 | Low |
| 55 | Ulric Street and Tait Street | 3 | Low | 3 | Low | 3 | Low | 3 | Low |
| 56 | Comstock Street and Comstock Court | 0 | Low | 0 | Low | 3 | Low | N/A | N/A |
| 57 | Comstock Street and Valjean Court | 0 | Low | 0 | Low | 3 | Low | N/A | N/A |
| 58 | Comstock Street and Thomson Court | 0 | Low | 0 | Low | 3 | Low | N/A | N/A |
| 59 | Comstock Street and Roeblyn Court | 0 | Low | 0 | Low | 3 | Low | N/A | N/A |
| 60 | Comstock Street and Fulton Street | 2 | Low | 2 | Low | 3 | Low | 3 | Low |
| 61 | Comstock Street and Gifford Way | N/A | N/A | 3 | Low | 0 | Low | 0 | Low |
| 62 | Comstock Street and Morley Street/Kelly Street | 3 | Low | 3 | Low | 2 | Low | 2 | Low |
| 63 | Fulton Street and Levant Street | 3 | Low | N/A | N/A | 2 | Low | 2 | Low |
| 64 | Fulton Street and Eastman Street | 3 | Low | 3 | Low | 3 | Low | 3 | Low |
| 65 | Kelly Street and Drescher Street | N/A | N/A | 1 | Low | 0 | Low | 0 | Low |
| 66 | Tait Street and Westinghouse Street | 3 | Low | 3 | Low | 2 | Low | 2 | Low |
| 67 | Tait Street and Abbe Street | N/A | N/A | 3 | Low | 0 | Low | 0 | Low |
| 68 | Tait Street and Burroughs Street | 3 | Low | 3 | Low | 3 | Low | 3 | Low |
| 69 | Burroughs Street and Westinghouse Street | N/A | N/A | 3 | Low | 0 | Low | 0 | Low |
| 70 | Napa Street and Morena Boulevard | N/A | N/A | 4 | Medium | 4 | Medium | 4 | Medium |
| 71 | Napa Street and Riley Street | 4 | Medium | 4 | Medium | 4 | Medium | 4 | Medium |
| 72 | Napa Street and Gaines Street | N/A | N/A | N/A | N/A | 3 | Low | N/A | N/A |
| 73 | Napa Street and Friars Road | 4 | Medium | N/A | N/A | 2 | Low | N/A | N/A |
| 74 | Morena Boulevard and Tecolote Road | 4 | Medium | N/A | N/A | 4 | Medium | 4 | Medium |
| 75 | Morena Boulevard and Viola Street | N/A | N/A | N/A | N/A | 3 | Low | N/A | N/A |
| 76 | Morena Boulevard and Savannah Street | N/A | N/A | N/A | N/A | N/A | N/A | 3 | Low |
| 77 | Morena Boulevard and Naples Street/Dorcas Street | N/A | N/A | N/A | N/A | 3 | Low | 3 | Low |
| 78 | Morena Boulevard and Buenos Avenue | 4 | Medium | 4 | Medium | 4 | Medium | 2 | Low |
| 79 | Morena Boulevard and Morena Place | 1 | Low | N/A | N/A | N/A | N/A | N/A | N/A |
| 80 | Morena Boulevard and Cushman Avenue | N/A | N/A | N/A | N/A | 1 | Low | N/A | N/A |

Table 2-4 PEQE Intersection Results

| # | Intersection | North Leg | | South Leg | | East Leg | | West Leg | |
|----|--|-----------|------------|-----------|------------|----------|------------|----------|--------|
| | | Score | Rating | Score | Rating | Score | Rating | Score | Rating |
| 81 | Morena Boulevard and West Morena Boulevard | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 82 | West Morena Boulevard and Vega Street | 4 | Medium | 4 | Medium | 4 | Medium | 4 | Medium |
| 83 | West Morena Boulevard and Buenos Ave | 2 | Low | 2 | Low | 2 | Low | N/A | N/A |
| 84 | I-5 NB Ramps and Tecolote Road | 2 | Low | 2 | Low | N/A | N/A | N/A | N/A |

Source: Chen Ryan Associates, August 2016

Note: Intersection legs with with a “Low” rating are noted in **bold** text.

Two mid-block crossings are located within the Pedestrian Study Area, both along Linda Vista Road. The first crossing is located along the roadway segment between Fulton Street and Ulric Street, whereas the second crossing is located along the roadway segment between Ulric Street and Comstock Street. **Table 2-5** reflects the PEQE results of the two mid-block crossings. Both mid-block crossings have a “High” rating.

Table 2-5 PEQE Mid-Block Segment Results

| # | Intersection | Score | Rating |
|---|---|-------|--------|
| 1 | Linda Vista Road between Fulton and Ulric | 7 | High |
| 2 | Linda Vista Road between Ulric and Comstock | 7 | High |

Source: Chen Ryan Associates, August 2016

2.3.3 Pedestrian Walkshed Ratio

A travelshed analysis was used to assess the level of pedestrian connectivity at each study intersection. A 0.5-mile pedestrian network buffer was created for each intersection. That area was then compared to the area of a 0.5-mile buffer to calculate a Pedestrian Walkshed Ratio for the intersection. The higher the Pedestrian Walkshed Ratio, the better the overall walking connectivity from the intersection. **Figure 2-5** presents the Pedestrian Walkshed Ratio for all intersections in the community of Linda Vista. As shown, the central portion of the community, generally along Linda Vista Road, has the highest walkshed ratios. Portions of the community located further away from major roadways, such as along canyon rims, have a comparatively lower ratio.

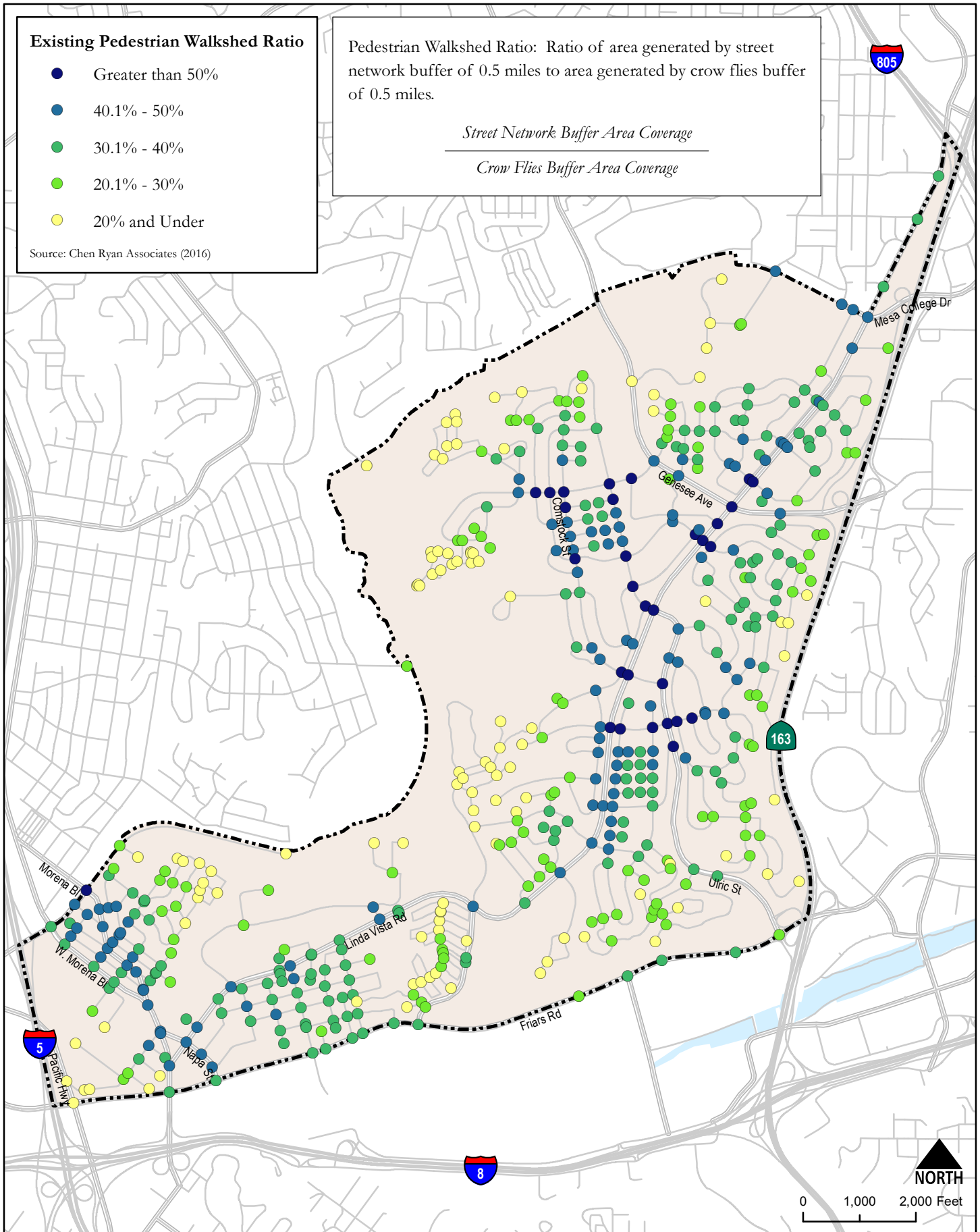


Figure 2-5
 Existing Pedestrian Walkshed Ratio

2.3.4 Quality Walkshed

Pedestrian network connectivity and quality is assessed using a combination of the pedestrian travelshed and quality assessment previously described. The following steps outline the evaluation process:

- a. *Total Walking Distance* – a 0.5-mile pedestrian network buffer is created for each study intersection, regardless of PEQE score.
- b. *Quality Walking Distance* – a 0.5-mile pedestrian network buffer is created for each study intersection, using only pedestrian facilities with a PEQE ranking of Medium or High (including roadway links and intersections, and not including mid-block crossings). PEQE scores on each side of the roadway segment are added together and assigned a quality rating using the following scale (Low: 0-7, Medium: 8-12, High: 13+), to get a single quality measure for the roadway segment. Segments with a “High” rating are considered quality segments.
- c. *Quality Walk Ratio* – The ratio of high (or High) quality connectivity to overall connectivity along pedestrian facilities is determined using the following equation:

$$\text{Quality Walk Ratio} = \frac{\text{Quality Walking Distance}}{\text{Total Walking Distance (Existing Conditions)}}$$

Figure 2-6 presents the quality walkshed ratio in the Linda Vista community. As shown, intersections with the highest quality connectivity are generally located along Linda Vista Road. Roadways further from Linda Vista Road, particularly toward the edges of the community near canyon rims, show relatively lower quality connectivity.

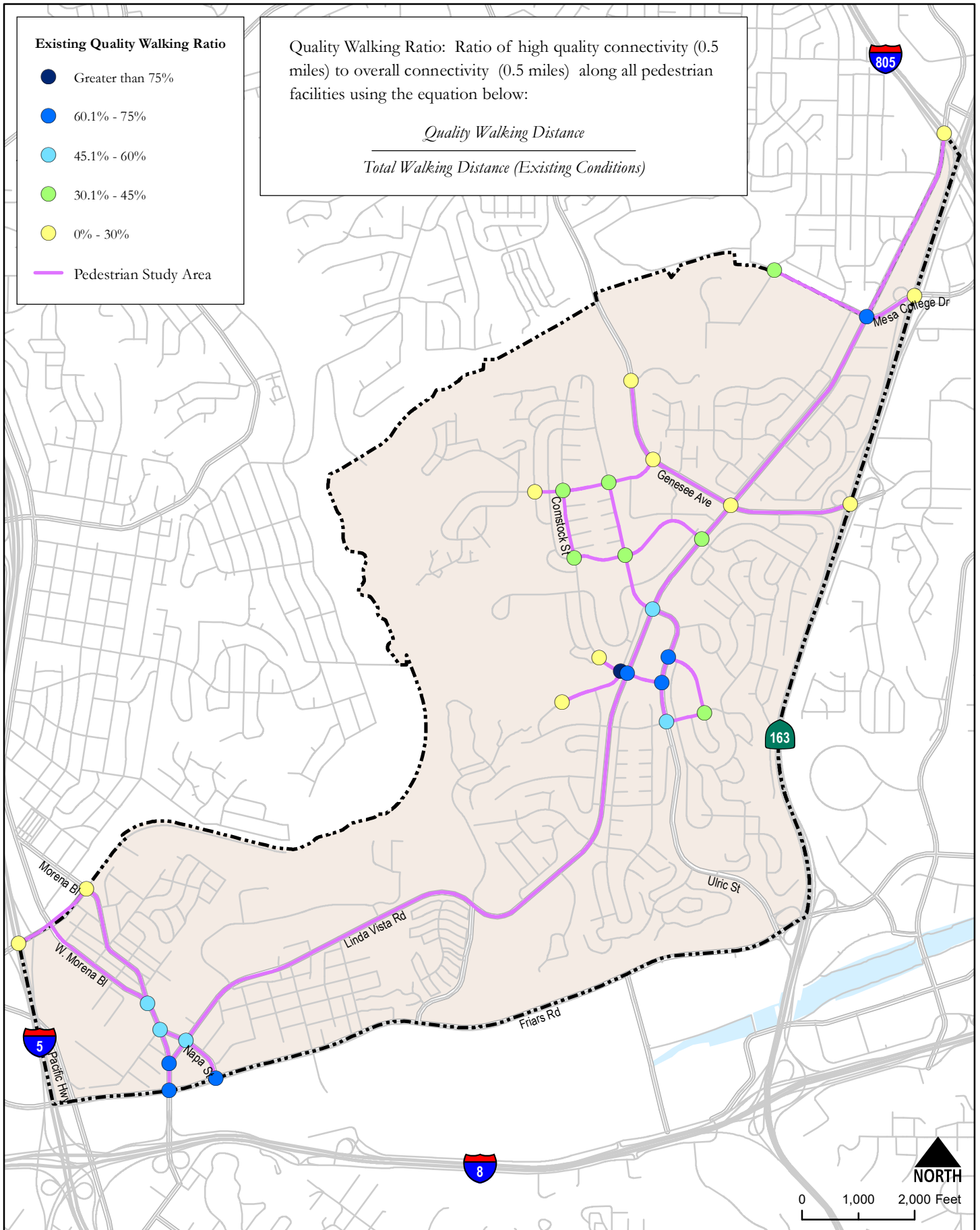


Figure 2-6
 Existing Quality Walkshed Ratio

3.0 Bicycle Assessment

The *California Highway Design Manual* defines a “Bikeway” as a facility primarily for bicycle travel. **Table 3-1** identifies the four standard bicycle facilities as recognized by the California Department of Transportation (Caltrans). The Linda Vista community’s existing bicycle network is comprised of Class I, II, III, and IV facilities. **Figure 3-1** displays the existing bicycle network by facility type in Linda Vista. As shown, Class II bike lanes are found on many of Linda Vista’s major roadways, such as Linda Vista Road, Genesee Avenue, Ulric Street, and Morena Boulevard. Class III bike routes can be found along Napa Street, Tecolote Road, and the SR-163 Overpass segment of Genesee Avenue.

3.1 Bicycle Demand Model (BDM)


The BDM was originally developed in 2010 during the Bicycle Master Plan update process to assist with prioritization of bicycle facility improvement corridors across the City. The BDM was used to identify locations across the City of San Diego with high bicycle demand or places warranting relatively higher consideration for bicycle infrastructure improvements. The BDM was recently updated in 2015.

Figure 3-2 displays the BDM results within the Linda Vista community. As shown, a relatively higher propensity for bicycle trip generation exists along the Linda Vista Road corridor, in addition to major roadways, such as Genesee Avenue, Ulric Street, Via Las Cumbres, Napa Street, and Morena Boulevard.

3.2 Bicycle Safety

Figure 3-3 displays bicycle collisions that occurred within the Linda Vista community during the six-year period between 2008 and 2013. As shown, a total of 64 bicycle collisions were recorded, with higher frequencies at the intersection of Genesee Avenue and Linda Vista Road, as well as near the intersection of Ulric Street and Linda Vista Road, and near the closely spaced and irregular intersections at Morena Boulevard, Linda Vista Road, and Napa Street.

Table 3-1 California Bikeway Classification

| Class Description | Example |
|--|--|
| <p>Class I Bikeway (Multi-Use Path) – Also referred to as shared-use paths or multi-use paths, Class I facilities are completely separated from vehicular traffic. Multi-use paths are exclusively for non-motorized use, such as bicycles and pedestrians. Bike paths can provide connections where roadways are non-existent or unable to support bicycle travel.</p> |  |
| <p>Class II Bikeway (Bike Lane) – Provides a striped lane for one-way travel on streets and highways. The striped lane creates a defined space exclusively for bicycle use. Desired widths are 5 to 6 feet.</p> |  |
| <p>Class III Bikeway (Bike Route) – Provides shared use of traffic lanes with motor vehicles, identified only by signage and street markings such as “sharrows”. Bike Routes provide connections to other bicycle facilities or to designate preferred routes for bicycle travel.</p> |  |
| <p>Class IV Bikeway (Cycle Track) – Also referred to as separated bikeways, cycle tracks provide a right-of-way designated exclusively for bicycle travel within the roadway and physically protected from vehicular traffic. Types of separation include, but are not limited to, grade separation, flexible posts, or on-street parking.</p> |  |

Source: California Highway Design Manual, 2012; Chen Ryan Associates, May 2016

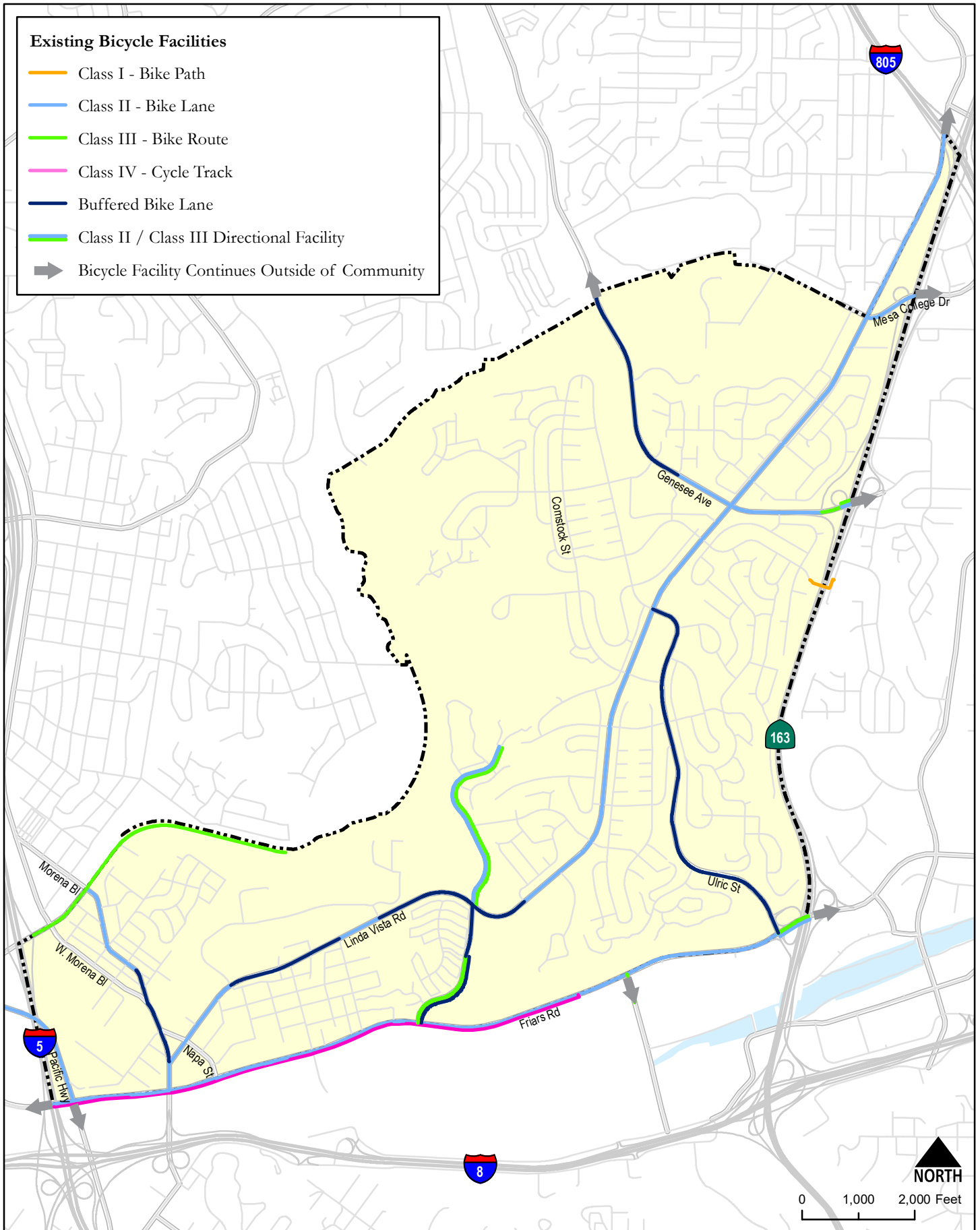


Figure 3-1
 Linda Vista Bicycle Network

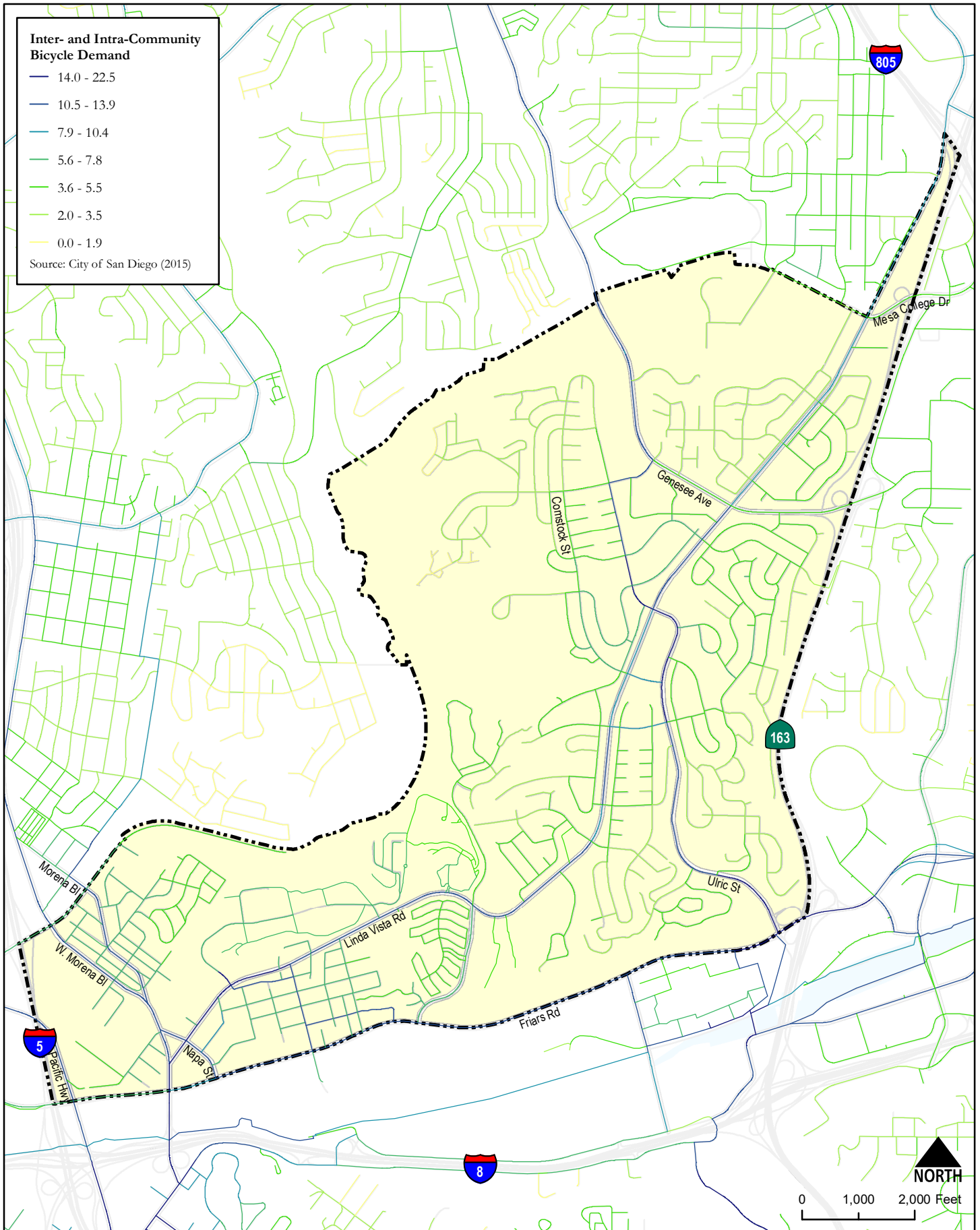


Figure 3-2
Bicycle Demand Model (BDM)

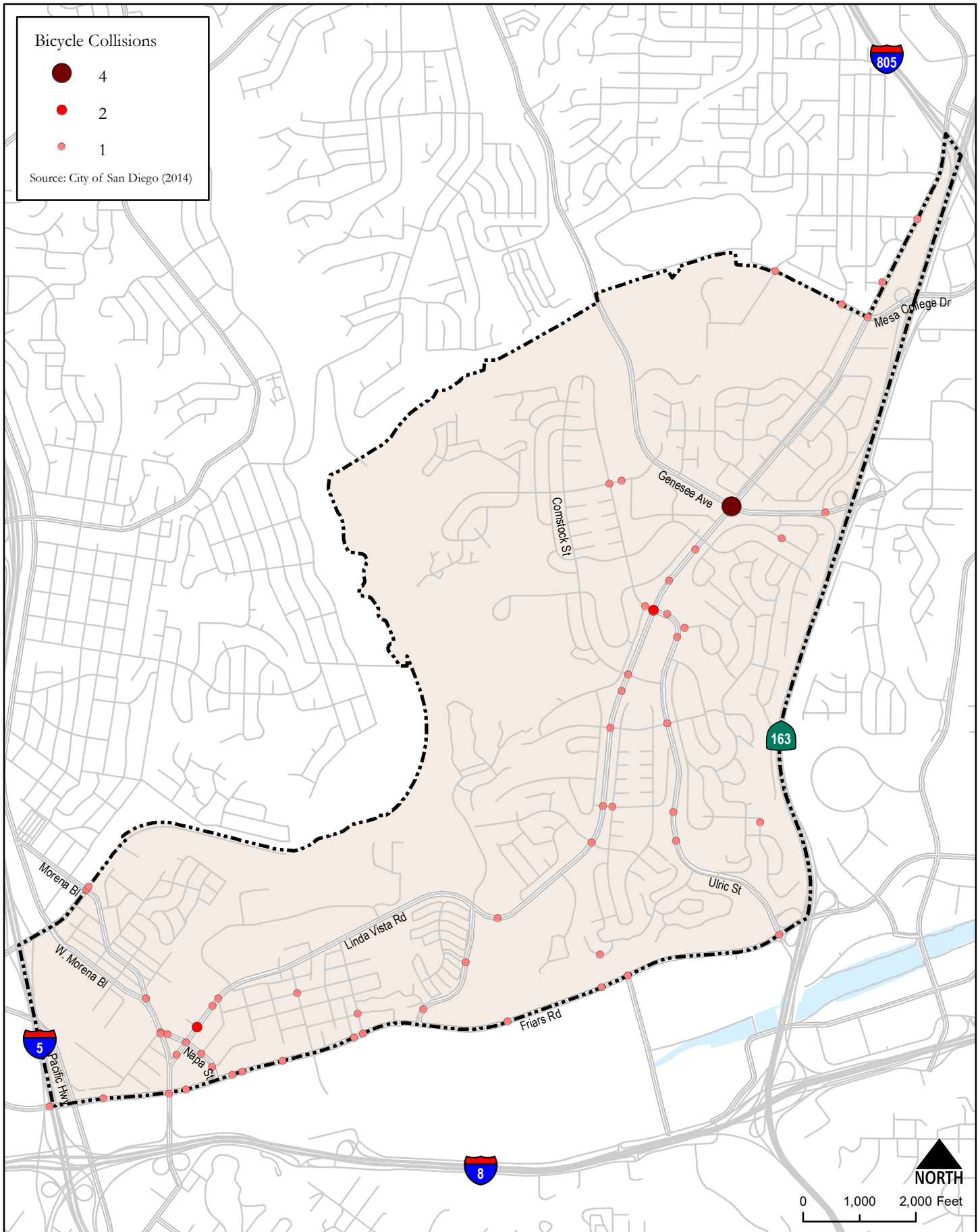
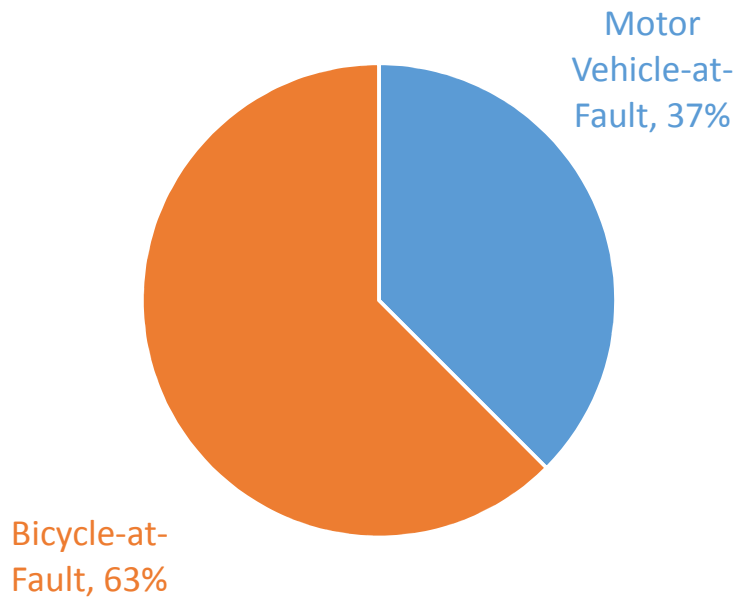


Figure 3-3
Bicycle Collisions (2008-2013)

Chart 3-1 displays bicycle collisions by party-at-fault. Approximately 63 percent of collisions are attributed to the bicyclist’s fault, whereas the remaining 37 percent of collisions are attributed to motor vehicles’ fault.

Collisions are organized by cause in **Table 3-2**. Violation of a vehicle’s right-of-way was the most common single cause of bicycle collisions (23%), followed by not paying attention (14%), and unknown factors (12%).

Chart 3-1 Bicycle Collisions by Party-at-Fault (2008-2013)



Source: City of San Diego, 2013; Chen Ryan Associates, August 2016

Table 3-2 Primary Bicycle Collision Factor Categories

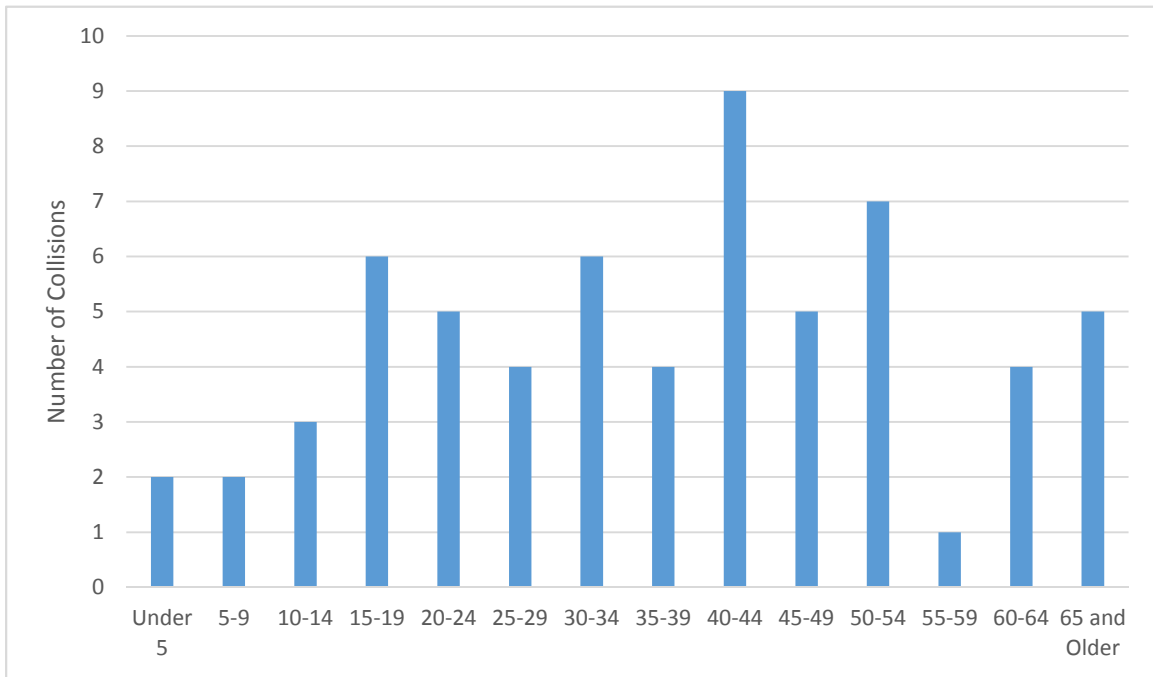
| Primary Collision Factor Category | Number of Collisions | Percent of Total Collisions |
|-----------------------------------|----------------------|-----------------------------|
| Violated Vehicle's Right-of-Way | 15 | 23% |
| Not Paying Attention | 9 | 14% |
| Unknown | 8 | 12% |
| Speed Too Fast for Conditions | 6 | 9% |
| Ran Stop Sign | 5 | 8% |
| Ran Traffic Signal | 4 | 6% |
| Fell Out/Off Vehicle | 4 | 6% |
| Improper Start | 3 | 4% |
| Lost Control of Vehicle | 3 | 4% |
| DUI | 1 | 2% |
| Wrong Side of Road | 1 | 2% |
| Distraction in Vehicle | 1 | 2% |
| Fell Asleep | 1 | 2% |
| Stopped in Right-of Way | 1 | 2% |
| Unsafe Movement | 1 | 2% |
| Wrong Way | 1 | 2% |
| Total | 64 | 100% |

Source: City of San Diego, 2013; Chen Ryan Associates, August 2016

Chart 3-2 presents the fifty bicycle collisions by age group. All age groups are shown to have experienced bicycle collisions. Bicyclists aged 40 to 44 years recorded higher collisions when compared to other age groups.

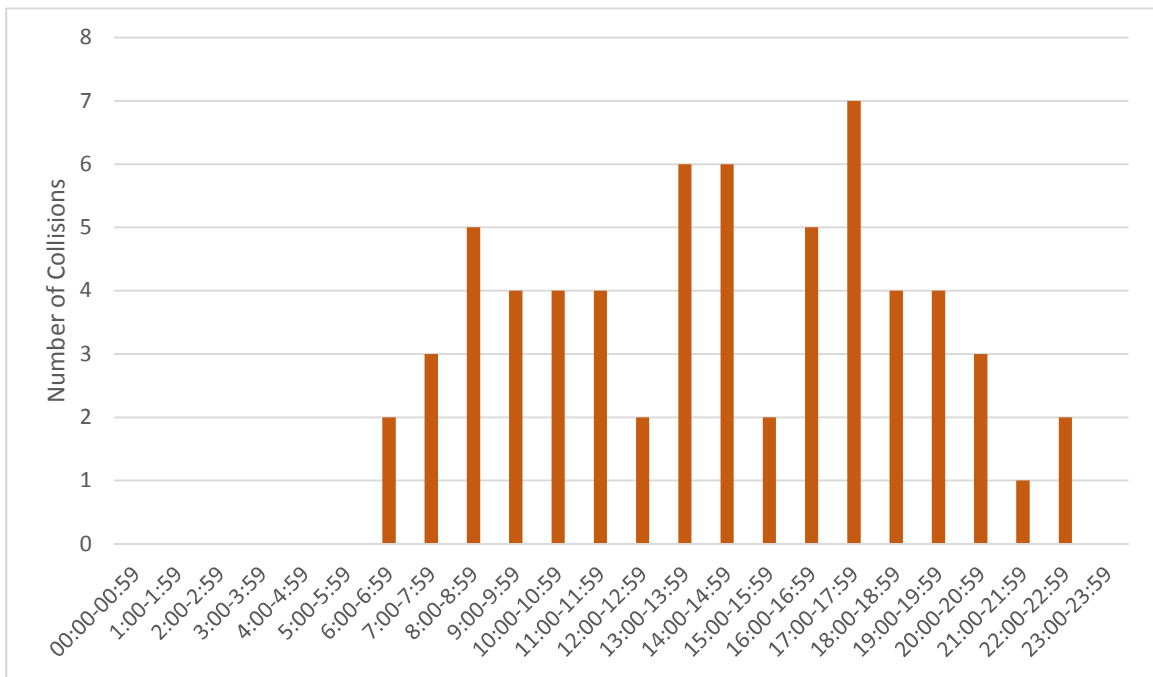
Chart 3-3 displays bicycle collisions distributed by time of day over the six-year period from 2008 to 2013. The timeframe with the most bicycle collisions recorded was between 5:00PM and 6:00PM, with 7 collisions. This timeframe partly falls within the PM peak period (4:00PM to 6:00 PM), potentially indicating bicyclists traveling for commute-related purposes, rather than for recreation.

Chart 3-2 Bicycle Collisions by Age Group (2008-2013)



Source: City of San Diego, 2013; Chen Ryan Associates, August 2016

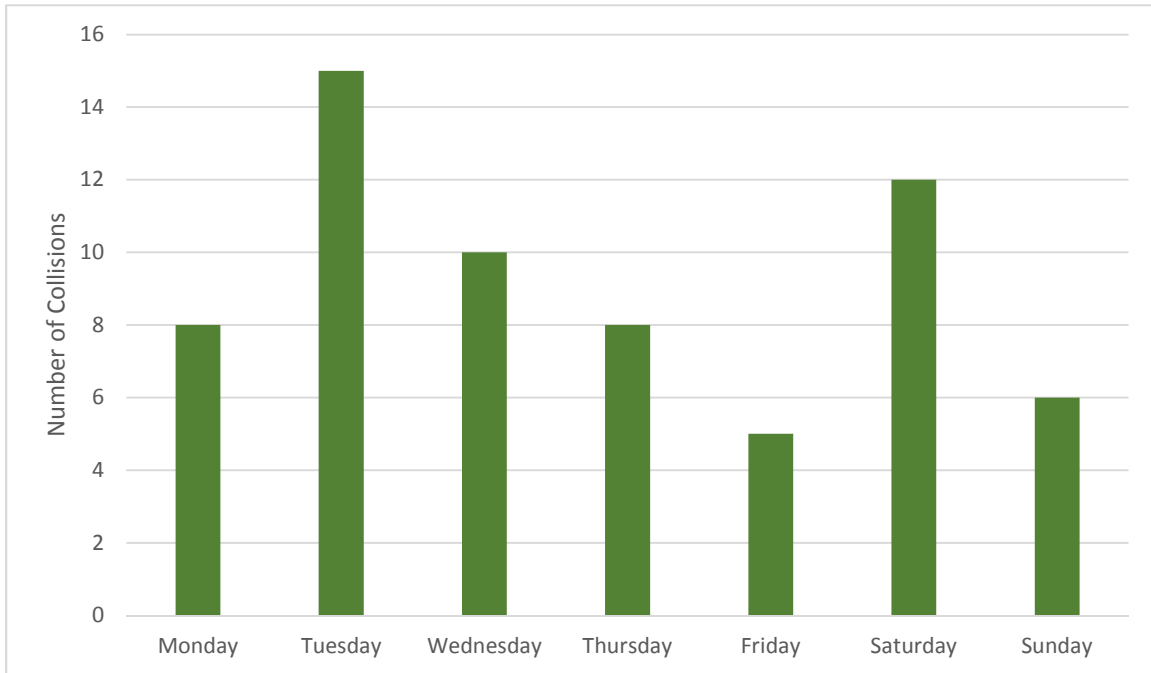
Chart 3-3 Bicycle Collisions by Time of Day (2008-2013)



Source: City of San Diego, 2013; Chen Ryan Associates, August 2016

Chart 3-4 displays bicycle collisions by day of week. The distribution of collisions shows relatively higher collision rates on Tuesdays and Saturdays, with 15 collisions recorded on Tuesdays and 12 collisions recorded on Saturdays. On other days of the week, collisions varied between 5 collisions (Fridays) and 10 collisions (Wednesdays).

Chart 3-4 Bicycle Collisions by Day of Week (2008-2013)



Source: City of San Diego, 2013; Chen Ryan Associates, August 2016

3.3 Bicycle Facility Quality

Quality of the bicycle environment is assessed using the Bicycle Level of Traffic Stress (LTS) methodology, as developed by Mekuria, et al. (2012) of the Mineta Transportation Institute and reported in *Low-Stress Bicycle and Network Connectivity*. LTS classifies the street network into categories according to the level of stress it causes cyclists, taking into consideration a cyclist’s physical separation from vehicular traffic, vehicular traffic speeds along the roadway segment, number of travel lanes, and factors related to intersection approaches with right-turn lanes and unsignalized crossings. LTS scores range from 1 (lowest stress) to 4 (highest stress).

Table 3-3 displays the four LTS categories with descriptions of traffic stress experienced by the cyclist and the cycling conditions associated with each category.

Table 3-3 Level of Traffic Stress Classifications and Descriptions

| LTS Category | LTS Description | Cycling Conditions Fitting LTS Category |
|--------------|---|--|
| LTS 1 | Presenting little traffic stress and demanding little attention from cyclists; suitable for almost all cyclists, including children trained to safely cross intersections | <ul style="list-style-type: none"> • Facility that is physically separated from traffic or an exclusive cycling zone next to a slow traffic stream with no more than one lane per direction • A shared roadway where cyclists only interact with the occasional motor vehicle with a low speed differential • Ample space for cyclist when alongside a parking lane • Intersections are easy to approach and cross |
| LTS 2 | Presenting little traffic stress but demanding more attention than might be expected from children | <ul style="list-style-type: none"> • Facility that is physically separated from traffic or an exclusive cycling zone next to a well-confined traffic stream with adequate clearance from parking lanes • A shared roadway where cyclists only interact with the occasional motor vehicle (as opposed to a stream of traffic) with a low speed differential • Unambiguous priority to the cyclist where cars must cross bike lanes (e.g. at dedicated right-turn lanes); design speed for right-turn lanes comparable to bicycling speeds • Crossings not difficult for most adults |
| LTS 3 | Presenting enough traffic stress to deter riders not comfortable with sharing the roadway with traffic | <ul style="list-style-type: none"> • An exclusive cycling zone (lane) next to moderate-speed vehicular traffic • A shared roadway that is not multilane and has moderately low automobile travel speeds • Crossings may be longer or across higher-speed roadways than allowed by LTS 2, but are still considered acceptably safe to most adult pedestrians |
| LTS 4 | Presenting enough traffic stress to deter all but the Strong & Fearless cycling demographic (estimated at <1% of the population) | <ul style="list-style-type: none"> • An exclusive cycling zone (lane) next to traffic at high-speeds, and/or multi-lane vehicular traffic • A shared roadway with multiple lanes per direction with high traffic speeds • Cyclist must maneuver through dedicated right-turn lanes containing no dedicated bicycling space and designed for turning speeds faster than bicycling speeds |

Source: Mekuria, et al. (2012)

Figure 3-4 displays the results of the LTS analysis within the Linda Vista community. As shown, LTS 4 conditions are commonly found along the community’s major roadways, such as portions of Linda Vista Road, Mesa College Drive, Genesee Avenue, portions of Ulric Street, portions of Via Las Cumbres, and portions of Morena Boulevard and West Morena Boulevard. By contrast, LTS 1 and 2 conditions are generally found along residential roadways and collectors throughout the community.

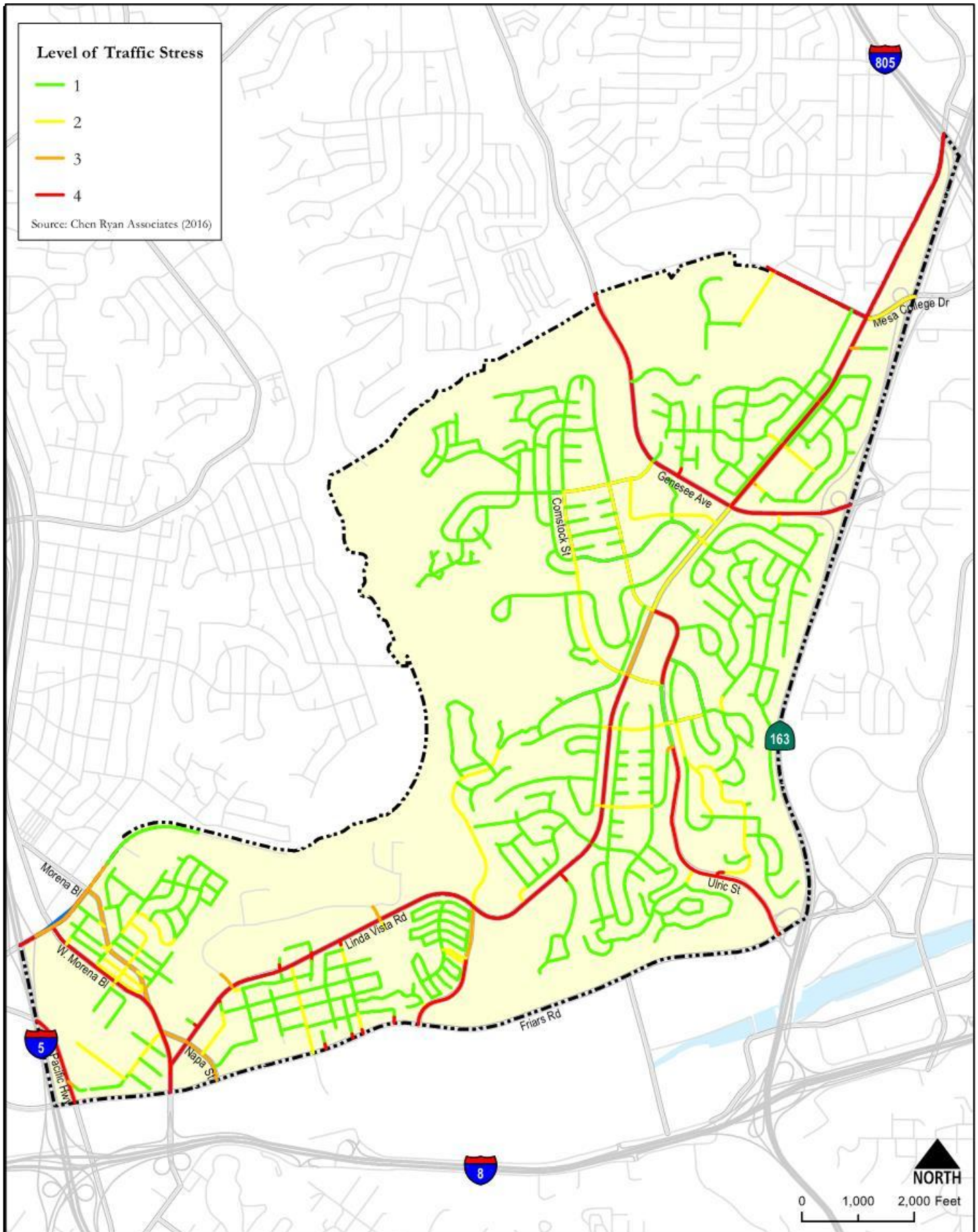


Figure 3-4
 Bicycle Level of Traffic Stress (LTS)

3.4 Bicycle Network Connectivity

A bicycle travelshed analysis was used to assess the level of connectivity from each study intersection, similar to the previously presented pedestrian travelshed analysis. A 1-mile bicycle network buffer was drawn around each intersection. That area was compared to the area of a 1-mile buffer to develop a Bikeshed Ratio for the intersection. The higher the Bikeshed Ratio at each intersection, the better the overall cycling connectivity from the intersection. **Figure 3-5** presents the Bikeshed Ratio for the community of Linda Vista. As shown, portions of the community near Linda Vista Road, particularly between Ulric Street and Genesee Avenue, have a relatively high Bikeshed Ratio, indicating a higher degree of bicycle connectivity. By contrast, portions of the community away from major roadways, and where street networks are curvilinear, such as near canyon rims, have relatively lower Bikeshed Ratios.

3.5 Composite Cycling Environment Evaluation

A composite evaluation of the cycling environment in the Linda Vista community was assessed using a combination of the bicycle facility quality and connectivity assessments, similar to the previously described pedestrian composite measure. The following steps outline the evaluation process used:

- a. *Facility Quality* – roadways with an LTS 1 or 2 score were selected from the roadway network to represent the Quality Bicycle Network.
- b. *Quality Cycling Distance* – the shortest cycling distance between the centroid of each Traffic Analysis Zone (TAZ) within and adjacent to the Linda Vista Community Planning Area border, and all other study TAZs, was calculated along the Quality Bicycle Network, as well as along all possible roadways.
- c. *Quality Walk Ratio* – The ratio of high quality opportunity (along LTS 1 or 2 facilities) to overall connectivity (along all roadways, independent of LTS score) is determined using the following equation:

$$\text{Quality Ratio} = \frac{\text{High Quality Bicycle Network}}{\text{All Bicycle Network}}$$

Figure 3-6 presents the quality connectivity analysis for the Linda Vista community. As shown, the strongest intra-community access along Quality Bicycle Network is generally found in TAZs near the central portion of the community, whereas weak intra-community access along Quality Bicycle Network generally exists near the periphery of the community.

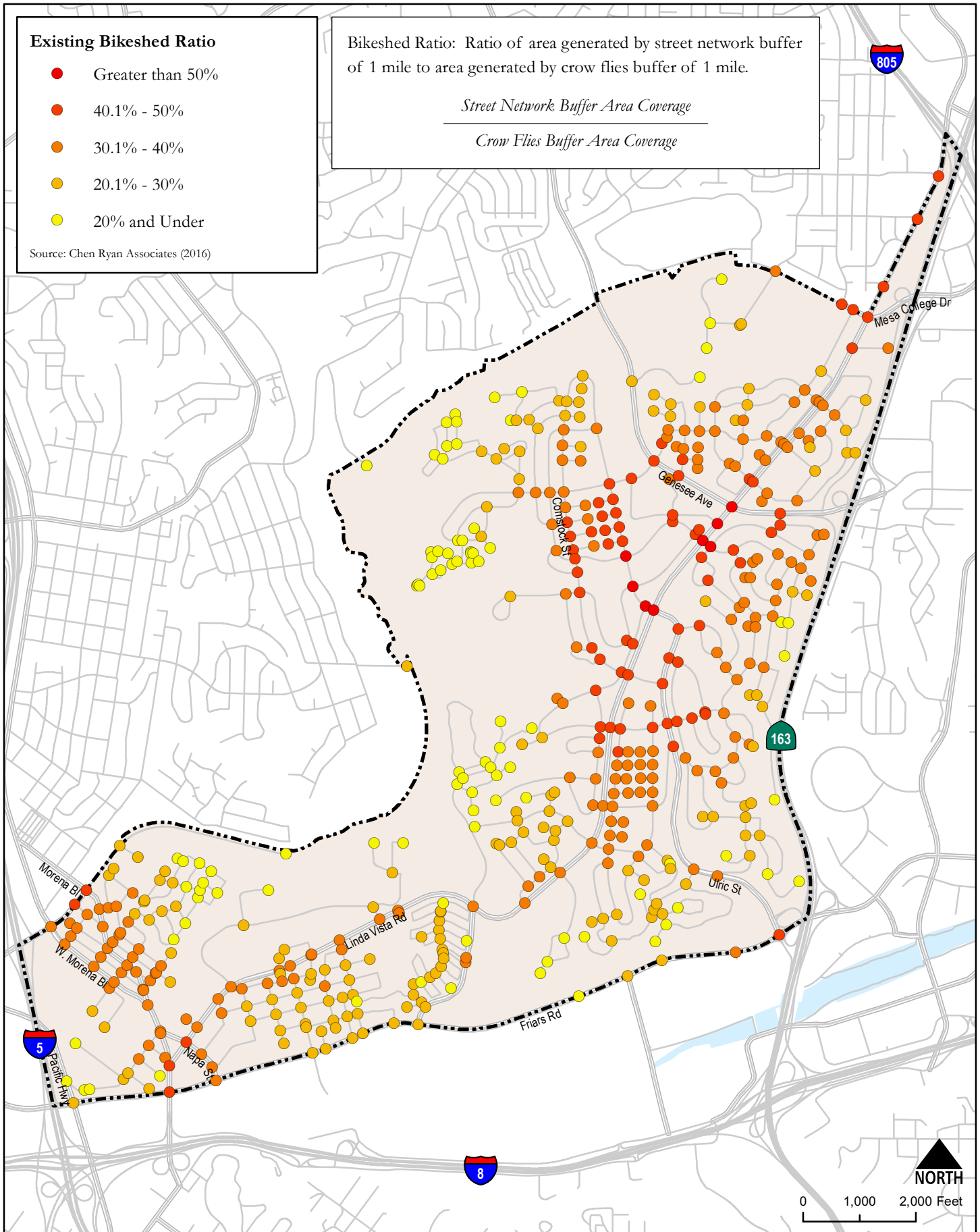


Figure 3-5
 Existing Bikeshed Ratio

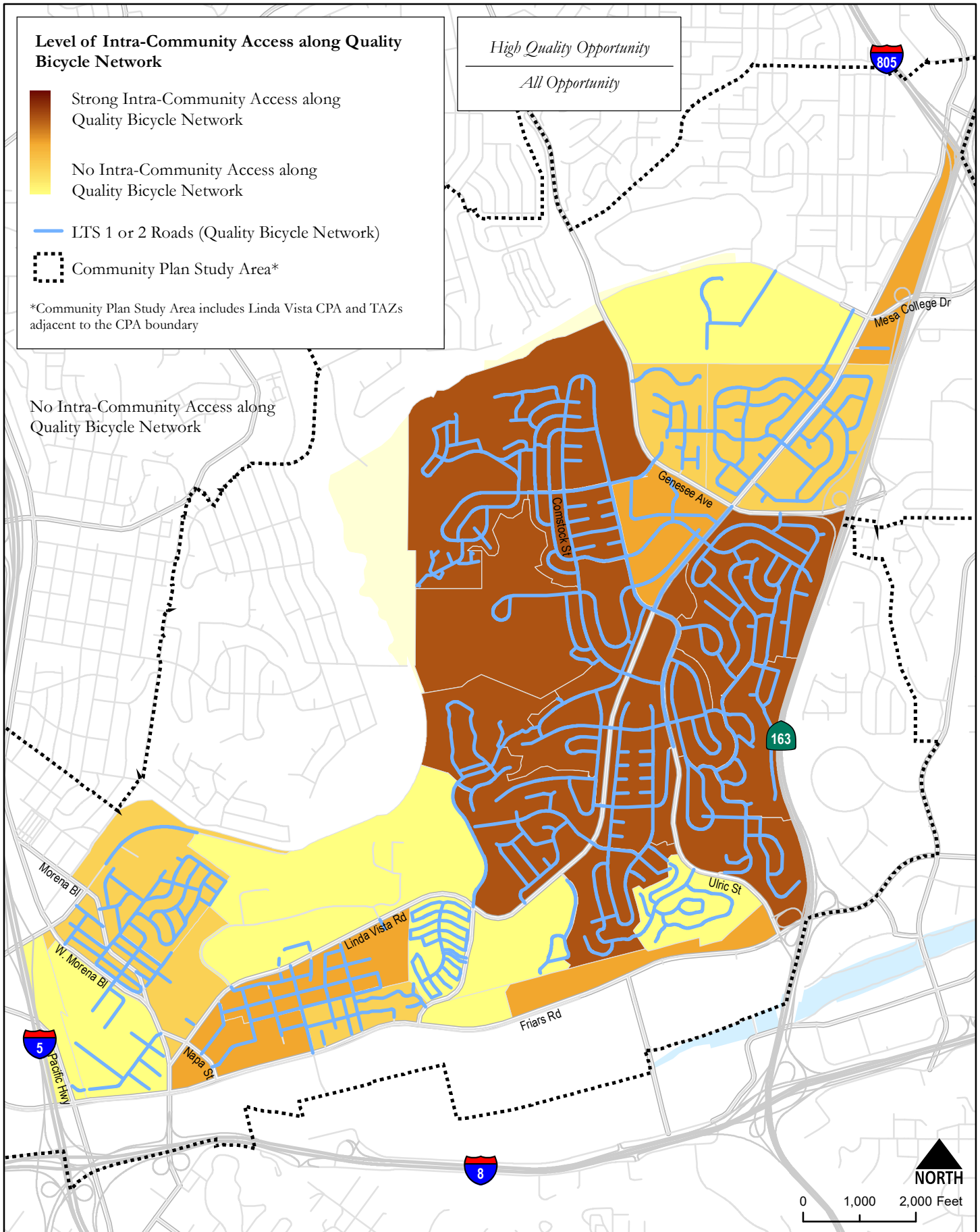


Figure 3-6
High Quality Bicycle Connectivity Analysis

4.0 Transit Assessment

This chapter provides an overview of existing transit facilities, quality of amenities, safety, and transit ridership potential in the Linda Vista Community. Data sources supporting this analysis include MTS databases, geographic information system (GIS) files accessed via SANDAG, satellite imagery, mapping analyses, and confirmation through field review.

4.1 Station Quality

Each transit station/stop was reviewed for the presence of the following amenities, based on a combination of MTS data and field verification:

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

Table 4-1 displays the standard amenities that should be provided at transit stops/stations based on daily passenger boardings across all routes.

Table 4-1 Transit Amenity Standards by Ridership Levels

| Amenity | Daily Passenger Boardings by Stop/Station | | | | |
|--------------------|---|----------|-----------|-----------|-------|
| | < 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: MTS Design for Transit (1993)

Table 4-2 displays the existing amenities at each transit stop in the Linda Vista community. A red cell indicates missing amenities that are deemed to be below standard, based on the amenity standards presented in Table 4-1. As shown, a total of eleven (11) transit stops are deficient in terms of amenities currently provided and their ridership level.

Table 4-2 Linda Vista Transit Stop Amenities by Ridership Level

| Stop ID | Intersection | Direction of Travel | Far Side / Near Side | Daily Boardings | Sign and Pole | Built-in Sign | Expanded Sidewalk | Bench | Shelter | Route Designations | Time Table | Route Map | System Map | Trash Receptacle | Lighting | ADA Compliant |
|---------|----------------------------------|---------------------|----------------------|-----------------|---------------|---------------|-------------------|-------|---------|--------------------|------------|-----------|------------|------------------|----------|---------------|
| 10062 | Linda Vista Rd / Colusa St | E/B | N | 7 | ✓ | | | | | ✓ | | | | | | ✓ |
| 10082 | Osler St / Ulric St | E/B | N | 2 | ✓ | | | | | ✓ | | | | | | ✓ |
| 10084 | Osler St / Genesee Av | E/B | N | 1 | ✓ | | | | | ✓ | | | | | | ✓ |
| 10093 | Genesee Av / Richland St | E/B | N | 14 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 10434 | Linda Vista Rd / Goshen St | E/B | F | 8 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 10442 | Linda Vista Rd / Via Las Cumbres | E/B | F | 15 | ✓ | | ✓ | ✓ | | ✓ | | | | | | ✓ |
| 10461 | Genesee Av / Linda Vista Rd | E/B | F | 47 | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| 10467 | Mesa College Dr / Armstrong St | E/B | F | 24 | ✓ | | | ✓ | | ✓ | | | | | | ✓ |
| 10476 | Mesa College Dr / Ashford St | W/B | F | 18 | ✓ | | | | | ✓ | | | | | | ✓ |
| 10806 | Morena Bl / Buenos Av | N/B | N | 3 | ✓ | | | | | ✓ | | | | | Street | ✓ |
| 10824 | Linda Vista Rd / Via Las Cumbres | W/B | N | 31 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| 10831 | Comstock St / Linda Vista Rd | W/B | N | 4 | ✓ | | | ✓ | | ✓ | | | | | | ✓ |
| 11195 | Linda Vista Rd / Brunner St | W/B | F | 12 | ✓ | | | | | ✓ | | | | | Street | ✓ |
| 11219 | Osler St / Ulric St | W/B | F | 1 | ✓ | | | | | ✓ | | | | | | ✓ |
| 11230 | Genesee Av / Linda Vista Rd | N/B | F | 121 | ✓ | | ✓ | ✓ | Red | ✓ | | Red | | | Red | ✓ |
| 11238 | Genesee Av / Richland St | W/B | Mid-Block | 38 | ✓ | | | ✓ | | ✓ | | | | | Street | ✓ |
| 11578 | Morena Bl / Savannah St | S/B | N | 15 | ✓ | | | ✓ | | ✓ | | | | | | ✓ |
| 11579 | Morena Bl / Naples St | S/B | N | 14 | ✓ | | | ✓ | | ✓ | | | | | | ✓ |

Table 4-2 Linda Vista Transit Stop Amenities by Ridership Level

| Stop ID | Intersection | Direction of Travel | Far Side / Near Side | Daily Boardings | Sign and Pole | Built-in Sign | Expanded Sidewalk | Bench | Shelter | Route Designations | Time Table | Route Map | System Map | Trash Receptacle | Lighting | ADA Compliant |
|---------|-----------------------------------|---------------------|----------------------|-----------------|---------------|---------------|-------------------|-------|---------|--------------------|------------|-----------|------------|------------------|----------|---------------|
| 11583 | Morena Bl / W Morena Bl | S/B | N | 6 | ✓ | | ✓ | ✓ | | ✓ | | | | | | ✓ |
| 11603 | Linda Vista Rd / Alcalá Knolls Dr | W/B | N | 12 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 11606 | Linda Vista Rd / Northrim Ct | S/B | N | 42 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| 11608 | Comstock St / Nye St | S/B | N | 1 | ✓ | | | | | ✓ | | | | | | ✓ |
| 11609 | Comstock St / Lanston St | S/B | N | 3 | ✓ | | | | | ✓ | | | | | Street | ✓ |
| 11611 | Comstock St / Langmuir St | S/B | F | 1 | ✓ | | | | | ✓ | | | | | | |
| 11617 | Genesee Av / Park Mesa Wy | S/B | Mid-Block | 2 | ✓ | | | | | ✓ | | | | | Street | |
| 11618 | Linda Vista Rd / Morley Way | S/B | N | 160 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| 11620 | Linda Vista Rd / Ulric St | S/B | N | 40 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ |
| 11622 | Ulric St / Tait St | S/B | N | 33 | ✓ | | | | | ✓ | | | | | | ✓ |
| 11630 | Linda Vista Rd / Genesee Av | S/B | N | 27 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ |
| 11648 | Linda Vista Rd / Korink Av (N) | S/B | N | 1 | ✓ | | ✓ | | | ✓ | | | | ✓ | | ✓ |
| 11949 | Linda Vista Rd / Napa St | S/B | F | 18 | ✓ | | | | | ✓ | | | | | Street | ✓ |
| 11952 | Linda Vista Rd / Mildred St | S/B | F | 11 | ✓ | | | ✓ | | ✓ | | | | | Street | ✓ |
| 11978 | Comstock St / Osler St | S/B | F | 8 | ✓ | | | | | ✓ | | | | | | |
| 11979 | Comstock St / Valjean Ct | S/B | F | 1 | ✓ | | | | | ✓ | | | | | | |
| 11983 | Linda Vista Rd / Kramer St | S/B | F | 16 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 11984 | Linda Vista Rd / Tait St | S/B | F | 44 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ |

Table 4-2 Linda Vista Transit Stop Amenities by Ridership Level

| Stop ID | Intersection | Direction of Travel | Far Side / Near Side | Daily Boardings | Sign and Pole | Built-in Sign | Expanded Sidewalk | Bench | Shelter | Route Designations | Time Table | Route Map | System Map | Trash Receptacle | Lighting | ADA Compliant |
|---------|----------------------------------|---------------------|----------------------|-----------------|---------------|---------------|-------------------|-------|---------|--------------------|------------|-----------|------------|------------------|----------|---------------|
| 11990 | Linda Vista Rd / Comstock St | S/B | F | 52 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 11999 | Osler St / Genesee Av | W/B | F | 4 | ✓ | | | | | ✓ | | | | | | ✓ |
| 12006 | Ulric St / Fashion Hills Bl | S/B | F | 7 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 12007 | Linda Vista Rd / Fulton St | S/B | F | 116 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| 12008 | Ulric St / Linbrook Dr | S/B | F | 4 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 12021 | Linda Vista Rd / Wheatley St | S/B | F | 4 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 12046 | Linda Vista Rd / Mesa College Dr | S/B | F | 122 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ |
| 12359 | Morena Bl / Cushman Av | N/B | N | 3 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 12360 | Morena Bl / Napa St | N/B | N | 32 | ✓ | | ✓ | ✓ | | ✓ | | | | ✓ | Street | ✓ |
| 12362 | Linda Vista Rd / Napa St | E/B | N | 143 | ✓ | | ✓ | ✓ | | ✓ | | | | | | ✓ |
| 12363 | Linda Vista Rd / Mildred St | N/B | N | 12 | ✓ | | | ✓ | | ✓ | | | | | | ✓ |
| 12390 | Comstock St / Osler St | N/B | N | 3 | ✓ | | | | | ✓ | | | | | | ✓ |
| 12392 | Comstock St / Valjean Ct | N/B | N | 1 | ✓ | | | | | ✓ | | | | | | |
| 12394 | Comstock St / Fulton St | N/B | N | 1 | ✓ | | | | | ✓ | | | | | | |
| 12403 | Genesee Av / Osler St | W/B | N | 76 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ |
| 12410 | Ulric St / Linbrook Dr | N/B | N | 3 | ✓ | | | | | ✓ | | | | | | ✓ |
| 12437 | Linda Vista Rd / Family Cr | N/B | Mid-Block | 9 | ✓ | | ✓ | ✓ | | ✓ | | | | | | ✓ |
| 12680 | Morena Bl / Viola St | N/B | F | 5 | ✓ | | ✓ | ✓ | | ✓ | | | | | | ✓ |

Table 4-2 Linda Vista Transit Stop Amenities by Ridership Level

| Stop ID | Intersection | Direction of Travel | Far Side / Near Side | Daily Boardings | Sign and Pole | Built-in Sign | Expanded Sidewalk | Bench | Shelter | Route Designations | Time Table | Route Map | System Map | Trash Receptacle | Lighting | ADA Compliant |
|---------|------------------------------------|---------------------|----------------------|-----------------|---------------|---------------|-------------------|-------|---------|--------------------|------------|-----------|------------|------------------|----------|---------------|
| 12707 | Linda Vista Rd / Alcalá Knolls Dr | N/B | F | 3 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 12710 | Linda Vista Rd / Northrim Ct | N/B | F | 32 | ✓ | | ✓ | ✓ | | ✓ | | | | ✓ | | ✓ |
| 12712 | Comstock St / W Jewett St | N/B | F | 3 | ✓ | | | | | ✓ | | | | | | ✓ |
| 12714 | Comstock St / Langmuir St | N/B | F | 2 | ✓ | | | | | ✓ | | | | | | ✓ |
| 12719 | Linda Vista Rd / Kramer St | N/B | F | 22 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 12721 | Linda Vista Rd / Tait St | N/B | F | 32 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 12724 | Linda Vista Rd / Comstock St | N/B | F | 65 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ |
| 12727 | Genesee Av / Park Mesa Wy | N/B | F | 2 | ✓ | | | ✓ | | ✓ | | | | | | ✓ |
| 12730 | Linda Vista Rd / Morley Way | N/B | F | 105 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| 12732 | Linda Vista Rd / Ulric St | N/B | F | 67 | ✓ | | ✓ | | | ✓ | | | | | ✓ | ✓ |
| 12736 | Comstock St / Ulric St | W/B | F | 8 | ✓ | | ✓ | ✓ | | ✓ | | | | | | ✓ |
| 12738 | Ulric St / Tait St | N/B | F | 12 | ✓ | | | | | ✓ | | | | | | ✓ |
| 12743 | Linda Vista Rd / Fulton St | N/B | F | 63 | ✓ | | ✓ | ✓ | | ✓ | | | | ✓ | Street | ✓ |
| 12747 | Linda Vista Rd / Genesee Av | N/B | F | 55 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 12761 | Linda Vista Rd / Wheatley St | N/B | F | 3 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |
| 13174 | Comstock St / Linda Vista Rd | E/B | F | 53 | ✓ | | ✓ | ✓ | | ✓ | | | | ✓ | | ✓ |
| 13175 | Genesee Av / Osler St | E/B | F | 23 | ✓ | | ✓ | ✓ | | ✓ | | | | | | ✓ |
| 13389 | Friars Rd / Avenida De Las Tiendas | W/B | F | 4 | ✓ | | ✓ | | | ✓ | | | | | | |

Table 4-2 Linda Vista Transit Stop Amenities by Ridership Level

| Stop ID | Intersection | Direction of Travel | Far Side / Near Side | Daily Boardings | Sign and Pole | Built-in Sign | Expanded Sidewalk | Bench | Shelter | Route Designations | Time Table | Route Map | System Map | Trash Receptacle | Lighting | ADA Compliant |
|---------|------------------------------------|---------------------|----------------------|-----------------|---------------|---------------|-------------------|-------|---------|--------------------|------------|-----------|------------|------------------|----------|---------------|
| 13435 | Linda Vista Rd / USD Main Drwy | E/B | N | 10 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| 13436 | Linda Vista Rd / USD Main Entrance | W/B | F | 35 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| 75044 | Morena/Linda Vista Trolley Station | W/B | N/A | 453 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 75045 | Morena/Linda Vista Trolley Station | W/B | N/A | 564 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 94059 | Ulric St / Fashion Hills Bl | N/B | N | 3 | | | | | | | | | | | | |
| 99100 | Linda Vista Rd / Genesee Av | S/B | F | 8 | ✓ | | | | | ✓ | | | | | Street | ✓ |
| 99386 | Linda Vista Rd / Stalmer St | S/B | N | 12 | ✓ | | | | | ✓ | | | | | | ✓ |
| 99853 | Morena Bl / Sherman St | S/B | N | 33 | ✓ | | ✓ | ✓ | | ✓ | | | | | Street | ✓ |

Source: FY2014 SANDAG Passenger Counting Program, MTS Design for Transit Manual (1993), Chen Ryan Associates; August 2016

Notes:

- 1) A red cell indicates missing amenities required by the MTS Design for Transit Manual, based on average daily boardings.
- 2) A gray cell denotes amenities that are not required by the MTS Design for Transit Manual, based on average daily boardings.

4.2 Safety Near Transit Stops

Figure 4-1 displays pedestrian and bicycle collisions that occurred within five hundred (500) feet of a transit stop in Linda Vista, during the six-year period between 2008 and 2013. As shown, higher collision frequencies are present near the intersection of Genesee Avenue and Linda Vista Road, where 8 collisions were recorded near the 5 bus stops at that intersection, as well as near the intersection of Comstock Street and Linda Vista Road, where 9 collisions were recorded near the 4 bus stops at that intersection.

4.3 Potential Transit Ridership

Potential transit ridership was assessed through examination of total housing units and jobs located within walking distance (a 0.5-mile network buffer) of the transit stop. This data is summarized in Table 4-3. As shown, the five transit stops with the largest number of jobs and dwelling units within a half-mile radius are:

- Linda Vista Road & Alcala Knolls Drive eastbound (7,741 total jobs and dwelling units),
- Linda Vista Road & Alcala Knolls Drive westbound (7,734 total jobs and dwelling units),
- Linda Vista Road & Via Las Cumbres eastbound (7,307 total jobs and dwelling units),
- Linda Vista Road & Northrim Court southbound (7,222 total jobs and dwelling units), and
- Linda Vista Road & Via Las Cumbres westbound (7,181 total jobs and dwelling units).

Table 4-3 Jobs and Dwelling Units Within 0.5 Mile of Transit

| Stop ID | Intersection | Jobs | Dwelling Units | Total Jobs and Dwelling Units |
|---------|-----------------------------------|------|----------------|-------------------------------|
| 12727 | Genesee Av & Park Mesa Way (NB) | 74 | 224 | 298 |
| 11617 | Genesee Av & Park Mesa Way (SB) | 78 | 231 | 309 |
| 12390 | Comstock St & Osler St (NB) | 127 | 852 | 979 |
| 11978 | Comstock St & Osler St (SB) | 129 | 866 | 995 |
| 94059 | Ulric St & Fashion Hills Bl (NB) | 145 | 852 | 997 |
| 12006 | Ulric St & Fashion Hills Bl (SB) | 154 | 848 | 1,002 |
| 12410 | Ulric St & Linbrook Dr (NB) | 190 | 814 | 1,004 |
| 12761 | Linda Vista Rd & Wheatley St (NB) | 267 | 780 | 1,047 |
| 12008 | Ulric St & Linbrook Dr (SB) | 226 | 852 | 1,078 |
| 11648 | Linda Vista Rd & Korink Av | 349 | 743 | 1,092 |
| 12021 | Linda Vista Rd & Wheatley St (SB) | 281 | 815 | 1,096 |
| 11999 | Osler St & Genesee Av (WB) | 217 | 882 | 1,099 |
| 12403 | Genesee Av & Osler St (NB) | 264 | 841 | 1,105 |
| 13175 | Genesee Av & Osler St (SB) | 272 | 848 | 1,120 |
| 12392 | Comstock St & Valjean Ct (NB) | 174 | 950 | 1,124 |
| 11979 | Comstock St & Valjean Ct (SB) | 174 | 951 | 1,125 |

Table 4-3 Jobs and Dwelling Units Within 0.5 Mile of Transit

| Stop ID | Intersection | Jobs | Dwelling Units | Total Jobs and Dwelling Units |
|---------|--|-------|----------------|-------------------------------|
| 11219 | Osler St & Ulric St (WB) | 172 | 962 | 1,134 |
| 11609 | Comstock St & Lanston St | 229 | 973 | 1,202 |
| 12712 | Comstock St & W Jewett St | 233 | 988 | 1,221 |
| 10084 | Osler St & Genesee Av (EB) | 218 | 1,029 | 1,247 |
| 10082 | Osler St & Ulric St (EB) | 220 | 1,067 | 1,287 |
| 12714 | Comstock St & Langmuir St (NB) | 363 | 1,070 | 1,433 |
| 12394 | Comstock St & Fulton St | 303 | 1,185 | 1,488 |
| 11608 | Comstock St & Nye St | 304 | 1,192 | 1,496 |
| 10093 | Genesee Av & Richland St (EB) | 495 | 1,015 | 1,510 |
| 11238 | Genesee Av & Richland St (WB) | 484 | 1,028 | 1,512 |
| 11611 | Comstock St & Langmuir St (SB) | 418 | 1,181 | 1,599 |
| 12437 | Linda Vista Rd & Family Cir | 661 | 961 | 1,622 |
| 75045 | Morena/Linda Vista Station (WB) | 1,095 | 711 | 1,806 |
| 10461 | Genesee Av & Linda Vista Rd (EB) | 508 | 1,389 | 1,897 |
| 11984 | Linda Vista Rd & Tait St (SB) | 325 | 1,576 | 1,901 |
| 11230 | Genesee Av & Linda Vista Rd (WB) | 513 | 1,416 | 1,929 |
| 12747 | Linda Vista Rd & Genesee Av (NB) | 520 | 1,485 | 2,005 |
| 12046 | Linda Vista Rd & Mesa College Dr | 922 | 1,128 | 2,050 |
| 12721 | Linda Vista Rd & Tait St (NB) | 405 | 1,654 | 2,059 |
| 10467 | Mesa College Dr & Armstrong St | 1,200 | 895 | 2,095 |
| 11630 | Linda Vista Rd & Genesee Av (SB - near side) | 558 | 1,540 | 2,098 |
| 10476 | Mesa College Dr & Ashford St | 1,082 | 1,095 | 2,177 |
| 11990 | Linda Vista Rd & Comstock St (SB) | 550 | 1,690 | 2,240 |
| 75044 | Morena/Linda Vista Station (EB) | 1,343 | 902 | 2,245 |
| 99100 | Linda Vista Rd & Genesee Av (SB - far side) | 626 | 1,625 | 2,251 |
| 12736 | Comstock St & Ulric St | 566 | 1,688 | 2,254 |
| 99386 | Linda Vista Rd & Stalmer St | 1,205 | 1,061 | 2,266 |
| 11618 | Linda Vista Rd & Morley Way (SB) | 624 | 1,662 | 2,286 |
| 12730 | Linda Vista Rd & Morley Way (NB) | 628 | 1,667 | 2,295 |
| 13174 | Comstock St & Linda Vista Rd (EB) | 571 | 1,731 | 2,302 |
| 12724 | Linda Vista Rd & Comstock St (NB) | 582 | 1,721 | 2,303 |
| 10831 | Comstock St & Linda Vista Rd (WB) | 571 | 1,759 | 2,330 |
| 12738 | Ulric St & Tait St (NB) | 507 | 1,824 | 2,331 |
| 11622 | Ulric St & Tait St (SB) | 506 | 1,837 | 2,343 |
| 11620 | Linda Vista Rd & Ulric St (SB) | 733 | 1,655 | 2,388 |

Table 4-3 Jobs and Dwelling Units Within 0.5 Mile of Transit

| Stop ID | Intersection | Jobs | Dwelling Units | Total Jobs and Dwelling Units |
|---------|---|-------|----------------|-------------------------------|
| 12732 | Linda Vista Rd & Ulric St (NB) | 710 | 1,775 | 2,485 |
| 12743 | Linda Vista Rd & Fulton St (NB) | 767 | 1,775 | 2,542 |
| 12007 | Linda Vista Rd & Fulton St (SB) | 809 | 1,778 | 2,587 |
| 11983 | Linda Vista Rd & Kramer St (SB) | 1,819 | 1,413 | 3,232 |
| 12719 | Linda Vista Rd & Kramer St (NB) | 1,813 | 1,427 | 3,240 |
| 13436 | Linda Vista Rd & USD Main Entrance (WB) | 2,552 | 968 | 3,520 |
| 13435 | Linda Vista Rd & USD Main Drwy (EB) | 2,653 | 947 | 3,600 |
| 12680 | Morena Bl & Viola St | 3,184 | 498 | 3,682 |
| 10434 | Linda Vista Rd & Goshen St | 2,587 | 1,135 | 3,722 |
| 11578 | Morena Bl & Savannah St | 3,269 | 479 | 3,748 |
| 11949 | Linda Vista Rd & Napa St (SB) | 2,909 | 938 | 3,847 |
| 11579 | Morena Bl & Naples St | 3,393 | 484 | 3,877 |
| 10806 | Morena Bl & Buenos Av | 3,488 | 558 | 4,046 |
| 12359 | Morena Bl & Cushman Av | 3,521 | 672 | 4,193 |
| 11583 | Morena Bl & W Morena Bl | 3,570 | 670 | 4,240 |
| 11195 | Linda Vista Rd & Brunner St | 2,951 | 1,358 | 4,309 |
| 12362 | Linda Vista Rd & Napa St (NB) | 3,310 | 1,002 | 4,312 |
| 10062 | Linda Vista Rd & Colusa St | 2,995 | 1,424 | 4,419 |
| 11952 | Linda Vista Rd & Mildred St (SB) | 3,268 | 1,232 | 4,500 |
| 12363 | Linda Vista Rd & Mildred St (NB) | 3,313 | 1,262 | 4,575 |
| 13390 | Friars Rd & Via De La Moda | 3,736 | 878 | 4,614 |
| 13389 | Friars Rd & Avenida De Las Tiendas | 4,006 | 817 | 4,823 |
| 99853 | Morena Bl & Sherman St | 4,210 | 908 | 5,118 |
| 12360 | Morena Bl & Napa St | 4,177 | 953 | 5,130 |
| 12710 | Linda Vista Rd & Northrim Ct (NB) | 5,575 | 1,459 | 7,034 |
| 10824 | Linda Vista Rd & Via Las Cumbres (WB) | 6,017 | 1,164 | 7,181 |
| 11606 | Linda Vista Rd & Northrim Ct (SB) | 5,772 | 1,450 | 7,222 |
| 10442 | Linda Vista Rd & Via Las Cumbres (EB) | 6,094 | 1,213 | 7,307 |
| 11603 | Linda Vista Rd & Alcalá Knolls Dr (WB) | 6,556 | 1,178 | 7,734 |
| 12707 | Linda Vista Rd & Alcalá Knolls Dr (EB) | 6,559 | 1,182 | 7,741 |

Source: Chen Ryan Associates, August 2016

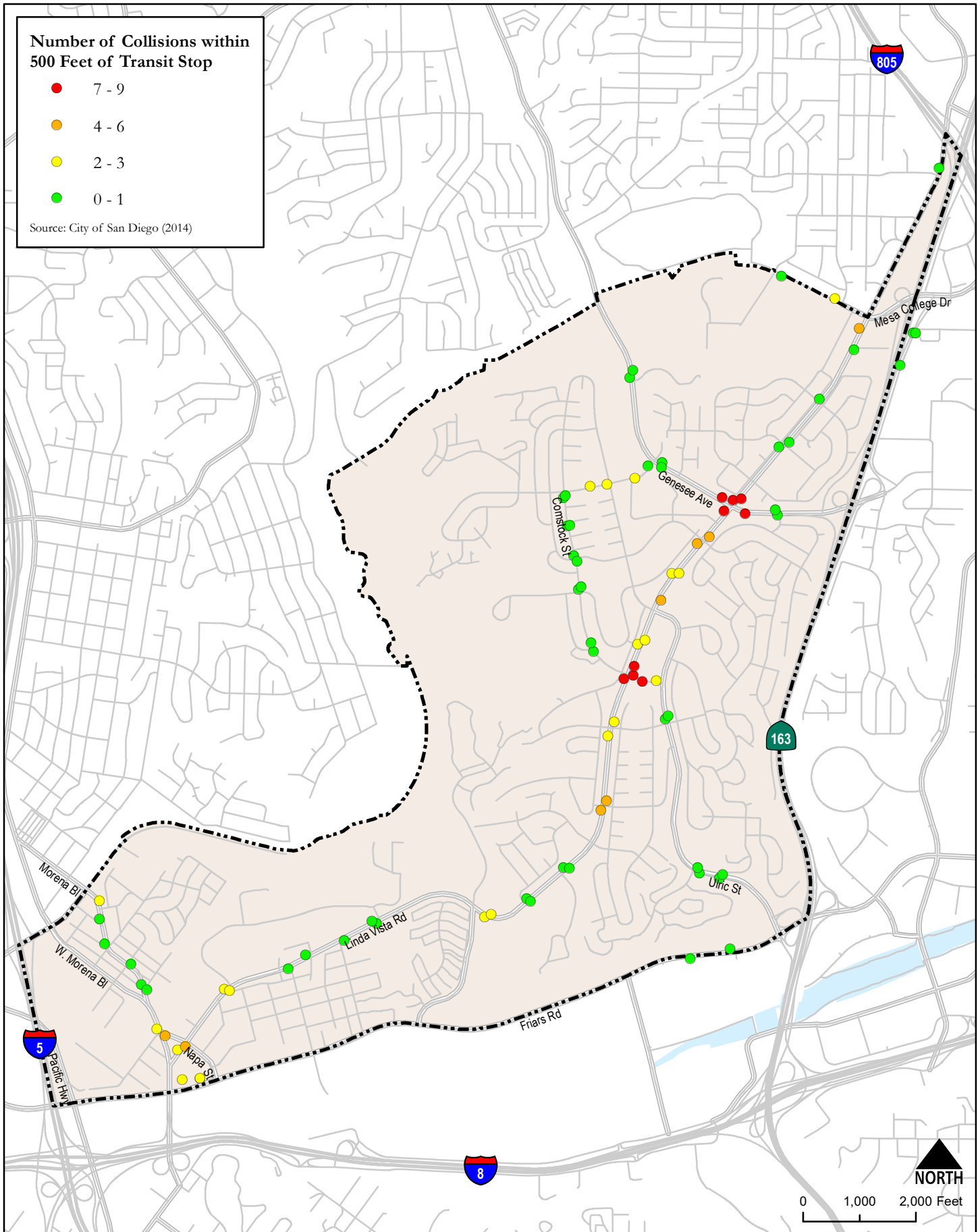


Figure 4-1
Pedestrian and Bicycle Collisions
within 500 Feet of Transit Stops (2008-2013)

5.0 Multimodal Evaluation

This chapter presents evaluation thresholds developed by the City of San Diego to define deficiencies in terms of network quality and connectivity for walking and cycling, as well as station quality for the transit system.

5.1 Evaluation Thresholds

Table 5-1 displays thresholds for the quality and connectivity metrics evaluated in Sections 2.0, 3.0, and 4.0.

Table 5-1 Multimodal Analysis and Evaluation Thresholds

| Mode | Analysis | Type | High | Medium | Low |
|------------|-------------------|--------------------|-------------------------------|-----------------------------------|------------------------------|
| Pedestrian | PEQE | Quality | 7+ Points | 4-6 Points | 3 or fewer points |
| | Travelshed | Connectivity | 50%+ coverage | 30% - 49% coverage | < 30% coverage |
| | Quality Ratio | Network Evaluation | 0.90+ | 0.70-0.89 | < 0.70 |
| Bicycle | LTS | Quality | LTS 1&2 | LTS 3 | LTS 4 |
| | Travelshed | Connectivity | 50%+ coverage | 30% - 49% coverage | < 30% coverage |
| | Quality Paths | Network Evaluation | > 50%+ of BLUs are accessible | 30% to 49% of BLUs are accessible | < 30% of BLUs are accessible |
| Transit | Station Amenities | Quality | Meets Standards | N/A | Does Not Meet Standards |

Source: Chen Ryan Associates, August 2016

The goal for all modes is to achieve the “High” threshold; however, “Medium” conditions are acceptable along all facilities within the City. Improvements should be considered for all modes that are either currently performing or anticipated to perform in the Low range. A summary of roadway facilities that fall below the target threshold for each evaluation metric is presented in the next section for walking, cycling, and transit, respectively.

5.2 Pedestrian Deficiencies

Intersections and roadway segments that received a “Low” PEQE rating are summarized in **Table 5-2** and **Table 5-3**, respectively. As shown, a total of 9 segments are deficient along one or both sides of the roadway. Similarly, a total of 62 intersections are deficient along one or more leg.

Table 5-2 Deficient PEQE Roadway Segments

| No. | Roadway | From | To | Side of Roadway |
|-----|------------------|---------------------------------|---------------------------------|-----------------|
| 1 | Linda Vista Rd | Study Area Boundary | Stalmer St | East |
| 2 | Genesee Ave | Osler St | Whitney St | Both |
| 3 | Genesee Ave | Whitney St | Linda Vista Rd | Both |
| 4 | Genesee Ave | Linda Vista Rd | Richland St | North |
| 5 | Genesee Ave | Richland St | SR-163 SB On-Ramp (EB Approach) | Both |
| 6 | Genesee Ave | SR-163 SB On-Ramp (EB Approach) | SR-163 SB Off-Ramp | Both |
| 7 | Genesee Ave | SR-163 SB Off-Ramp | SR-163 SB On-Ramp (WB Approach) | Both |
| 8 | West Morena Blvd | Tecolote Rd Under-Cross | Vega St | East |
| 9 | Tecolote Rd | I-5 NB Ramps | Morena Blvd | Both |

Source: Chen Ryan Associates; August 2016

Table 5-3 Deficient PEQE Intersections

| No. | Intersection | PEQE Rating | | | |
|-----|---------------------------------------|-------------|-----------|----------|----------|
| | | North Leg | South Leg | East Leg | West Leg |
| 1 | Linda Vista Road and Stalmer Street | N/A | Low | Low | Low |
| 2 | Linda Vista Road and Markham Street | N/A | N/A | N/A | Low |
| 3 | Linda Vista Road and Family Circle | N/A | N/A | Low | N/A |
| 4 | Linda Vista Road and Korink Avenue | N/A | N/A | Low | Low |
| 5 | Linda Vista Road and Wheatley Street | Low | Low | Low | Low |
| 6 | Linda Vista Road and Korink Avenue | N/A | N/A | Low | Low |
| 7 | Linda Vista Road and Genesee Avenue | Low | Low | Low | Low |
| 8 | Linda Vista Road and Levant Street | N/A | N/A | N/A | Low |
| 9 | Linda Vista Road and Fulton Street | Medium | Low | Low | Low |
| 10 | Linda Vista Road and Tait Street | Low | Medium | Medium | Low |
| 11 | Linda Vista Road and Northrim Court | N/A | N/A | Low | N/A |
| 12 | Linda Vista Road and Goshen Street | N/A | Low | N/A | N/A |
| 13 | Linda Vista Road and Brunner Street | Low | Low | N/A | N/A |
| 14 | Linda Vista Road and Colusa Street | N/A | Low | N/A | N/A |
| 15 | Linda Vista Road and Marian Way | Medium | Medium | Medium | Low |
| 16 | Linda Vista Road and Mollie Street | N/A | Low | N/A | N/A |
| 17 | Linda Vista Road and Metro Street | Low | N/A | N/A | N/A |
| 18 | Mesa College Drive and Ashford Street | Low | N/A | N/A | Low |
| 19 | Mesa College Drive and Komet Way | N/A | Low | N/A | N/A |

Table 5-3 Deficient PEQE Intersections

| No. | Intersection | PEQE Rating | | | |
|-----|--|-------------|-----------|----------|----------|
| | | North Leg | South Leg | East Leg | West Leg |
| 20 | Mesa College Drive and SR-163 SB On-Ramp (WB) | Low | N/A | N/A | N/A |
| 21 | Genesee Avenue and Whitney Street | Low | N/A | N/A | N/A |
| 2 | Genesee Avenue and Richland Street | N/A | Low | Low | Low |
| 23 | Genesee Avenue and I-805 SB On-Ramp (EB) | N/A | Low | N/A | N/A |
| 24 | Genesee Avenue and I-805 SB Off-Ramp | Low | N/A | N/A | N/A |
| 25 | Osler Street and Preece Street | Low | Low | Low | Low |
| 26 | Osler Street and Nye Street | Low | Low | Low | Low |
| 27 | Osler Street and Comstock Street | Low | Low | Low | Low |
| 28 | Osler Street and Ulric Street | Low | Low | Low | Low |
| 29 | Ulric Street and Zane Court | Low | Low | N/A | Low |
| 30 | Ulric Street and Waterman Court | Low | Low | N/A | Low |
| 31 | Ulric Street and Upton Court | Low | Low | N/A | Low |
| 32 | Ulric Street and Savage Court | Low | Low | N/A | Low |
| 33 | Ulric Street and Fulton Street | Low | Low | Low | Low |
| 34 | Ulric Street and Jewett Street/Eastman Street | Low | Low | Low | Low |
| 35 | Ulric Street and Morley Street | N/A | Low | Low | Low |
| 36 | Ulric Street and Dunlop Street | Low | Low | Low | N/A |
| 37 | Ulric Street and Burroughs Street | Low | Low | Low | N/A |
| 38 | Ulric Street and Comstock Street | Low | Low | N/A | Low |
| 39 | Ulric Street and Tait Street | Low | Low | Low | Low |
| 40 | Comstock Street and Comstock Court | Low | Low | Low | N/A |
| 41 | Comstock Street and Valjean Court | Low | Low | Low | N/A |
| 42 | Comstock Street and Thomson Court | Low | Low | Low | N/A |
| 43 | Comstock Street and Roeblyn Court | Low | Low | Low | N/A |
| 44 | Comstock Street and Fulton Street | Low | Low | Low | Low |
| 45 | Comstock Street and Gifford Way | N/A | Low | Low | Low |
| 46 | Comstock Street and Morley Street/Kelly Street | Low | Low | Low | Low |
| 47 | Fulton Street and Levant Street | Low | N/A | Low | Low |
| 48 | Fulton Street and Eastman Street | Low | Low | Low | Low |
| 49 | Kelly Street and Drescher Street | N/A | Low | Low | Low |
| 50 | Tait Street and Westinghouse Street | Low | Low | Low | Low |
| 51 | Tait Street and Abbe Street | N/A | Low | Low | Low |
| 52 | Tait Street and Burroughs Street | Low | Low | Low | Low |
| 53 | Burroughs Street and Westinghouse Street | N/A | Low | Low | Low |

Table 5-3 Deficient PEQE Intersections

| No. | Intersection | PEQE Rating | | | |
|-----|--|-------------|-----------|----------|----------|
| | | North Leg | South Leg | East Leg | West Leg |
| 54 | Napa Street and Gaines Street | N/A | N/A | Low | N/A |
| 55 | Napa Street and Friars Road | Medium | N/A | Low | N/A |
| 56 | Morena Boulevard and Viola Street | N/A | N/A | Low | N/A |
| 57 | Morena Boulevard and Savannah Street | N/A | N/A | N/A | Low |
| 58 | Morena Boulevard and Naples Street/Dorcas Street | N/A | N/A | Low | Low |
| 59 | Morena Boulevard and Buenos Avenue | Medium | Low | Low | Low |
| 60 | Morena Boulevard and Morena Place | Low | N/A | N/A | N/A |
| 61 | Morena Boulevard and Cushman Avenue | N/A | N/A | Low | N/A |
| 62 | West Morena Boulevard and Buenos Ave | Low | Low | Low | N/A |
| 63 | I-5 NB Ramps and Tecolote Road | Low | Low | Low | Low |

Source: Chen Ryan Associates; August 2016

5.3 Bicycle Deficiencies

Roadway segments that received a rating of LTS 4 are presented in **Table 5-4**. Nine segments were found to be deficient within the Study Area, primarily along large, heavily travelled roadways.

Table 5-4 Deficient LTS Roadway Segments

| No. | Roadway | Segment |
|-----|-----------------|--|
| 1 | Mesa College Dr | All segments within community boundary |
| 2 | Genesee Ave | All segments within community boundary |
| 3 | Linda Vista Rd | I-805 to Wheatley St |
| 4 | Linda Vista Rd | Comstock St to Morena Blvd |
| 5 | Ulric St | David St to Friars Rd |
| 6 | Via Las Cumbres | Camino Costanero to Friars Rd |
| 7 | W. Morena Blvd | Tecolote Rd to Morena Blvd |
| 8 | W. Morena Blvd | Friars Road Over-Cross to approximately 300 feet north of Friars Road Over-Cross |
| 9 | Tecolote Rd | I-5 to Morena Blvd |

Source: Chen Ryan Associates; August 2016

In addition to deficient segments, certain roadway network locations adjacent to major intersections received an LTS 4 rating. Although LTS is primarily a segment-specific analysis, an intersection’s impact on traffic stress is considered when one or more legs are unsignalized. **Table 5-5** summarizes these 10 additional deficient locations. As shown, roadway network features adjacent to side-street stop controlled intersections along Linda Vista Road, Friars Road, and Ulric Street are ranked with an LTS 4 rating.

Table 5-5 Deficient LTS Intersections

| No. | Roadway | Cross Street |
|-----|--------------|----------------|
| 1 | Metro St | Linda Vista Rd |
| 2 | Josephine St | Linda Vista Rd |
| 3 | Brunner St | Linda Vista Rd |
| 4 | Goshen St | Linda Vista Rd |
| 5 | Northrim Ct | Linda Vista Rd |
| 6 | Linbrook Dr | Ulric St |
| 7 | Donahue St | Friars Rd |
| 8 | Fresno St | Friars Rd |
| 9 | Goshen St | Friars Rd |
| 10 | Gaines St | Friars Rd |

Source: Chen Ryan Associates; August 2016

5.4 Transit Deficiencies

Table 5-6 summarizes the 11 transit stops within the Study Area that currently lack one or more amenities required by MTS' 1993 *Design for Transit Manual*, based on stop-specific ridership level. As shown, a lack of ADA compliance is the most common deficiency.

Table 5-6 Deficient Transit Stops

| No. | Stop ID | Intersection | Direction of Travel | Far Side / Near Side | Deficiency(ies) |
|-----|---------|------------------------------------|---------------------|----------------------|------------------------------|
| 1 | 11230 | Genesee Av / Linda Vista Rd | N/B | F | Shelter, Route Map, Lighting |
| 2 | 11611 | Comstock St / Langmuir St | S/B | F | ADA Compliance |
| 3 | 11617 | Genesee Av / Park Mesa Way | S/B | Mid-Block | ADA Compliance |
| 4 | 11978 | Comstock St / Osler St | S/B | F | ADA Compliance |
| 5 | 11979 | Comstock St / Valjean Ct | S/B | F | ADA Compliance |
| 6 | 12046 | Linda Vista Rd / Mesa College Dr | S/B | F | Lighting |
| 7 | 12362 | Linda Vista Rd / Napa St | E/B | N | Shelter, Route Map, Lighting |
| 8 | 12392 | Comstock St / Fulton St | N/B | N | ADA Compliance |
| 9 | 12394 | Genesee Av / Osler St | W/B | N | ADA Compliance |
| 10 | 12732 | Linda Vista Rd / Ulric St | N/B | F | Seating |
| 11 | 13389 | Friars Rd / Avenida De Las Tiendas | W/B | F | ADA Compliance |

Source: MTS Design for Transit Manual (1993), Chen Ryan Associates; August 2016

In summary, the deficiencies identified in the study set the stage for defining a set of project study areas – both roadway segments and intersections – that will become a focal point of near-term implementation. The selection of these project study areas will also incorporate considerations of other factors such as the following:

- Locations receiving comments for needing improvement during the public outreach process,
- Locations adjacent to schools (also including the University of San Diego),
- Locations adjacent to parks, and
- Locations adjacent to freeways where high speed transitions and other pedestrian and bicycle conflicts occur.