

5. Mobility

5.1 STREET AND FREEWAY

Streets and freeways comprise the framework of our transportation system and play a major role in shaping the form of and quality of life within the community. When the street system is plagued by congestion and collisions it can have a major impact on the community. The roadways classification and average weekday traffic volume (2015) are shown in Figure 5-1. Mira Mesa Blvd west of I-15 has the highest weekday average traffic volume in Mira Mesa with over 84,000 vehicles passing thru near the freeway ramps, while western entrance I-15 to Miramar Road accommodates 60,000 vehicles and entrance to Sorrento Mesa at Mira Mesa Blvd east of I-805 handles 59,600 vehicles. The future Carroll Canyon Road segments will be completed in concurrence with the proposed developments in Carroll Canyon area (shown in Figure 5-4).

Freeways

The three freeways that serve Mira Mesa are I-5, I-805, and I-15. These freeways are utilized by residents and employees of Mira Mesa as well as significant pass-through regional trips.

Arterials/Collector

Although Mira Mesa is readily accessible by freeway, travel to specific points within the community by means of the surface street system can be difficult during the peak hours. In the morning and evening peak hours, congestion occurs on the freeways as workers living in other communities travel to jobs in Mira Mesa. In the evening, the surface street system backs up due to Mira Mesa commuters accessing the freeways, plus motorists coming into the Planning Area to frequent the restaurants, bars, shops and theaters after work.



Freeway Ramp Sign to I-15

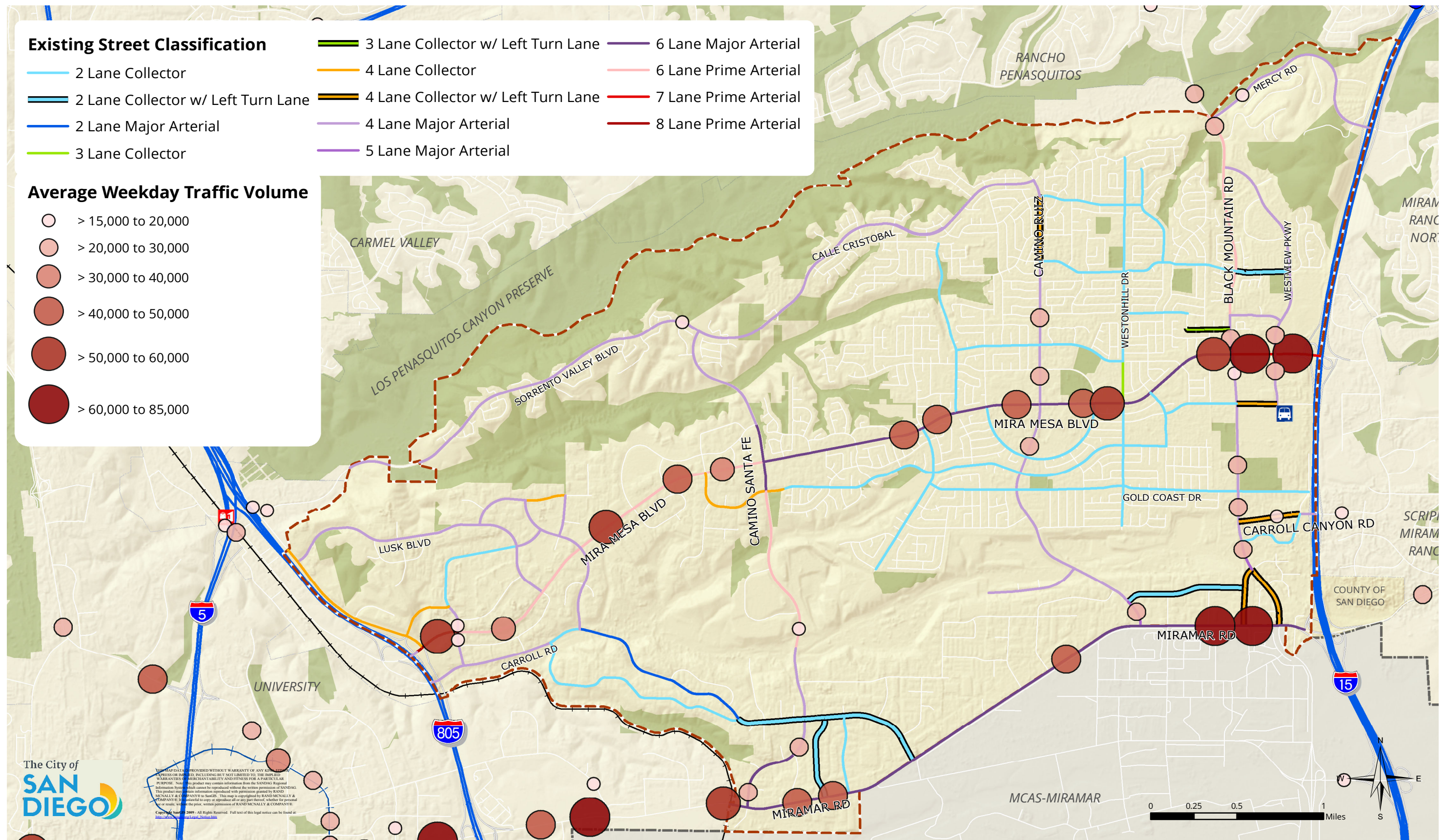


I-15 looking north



Mira Mesa Boulevard

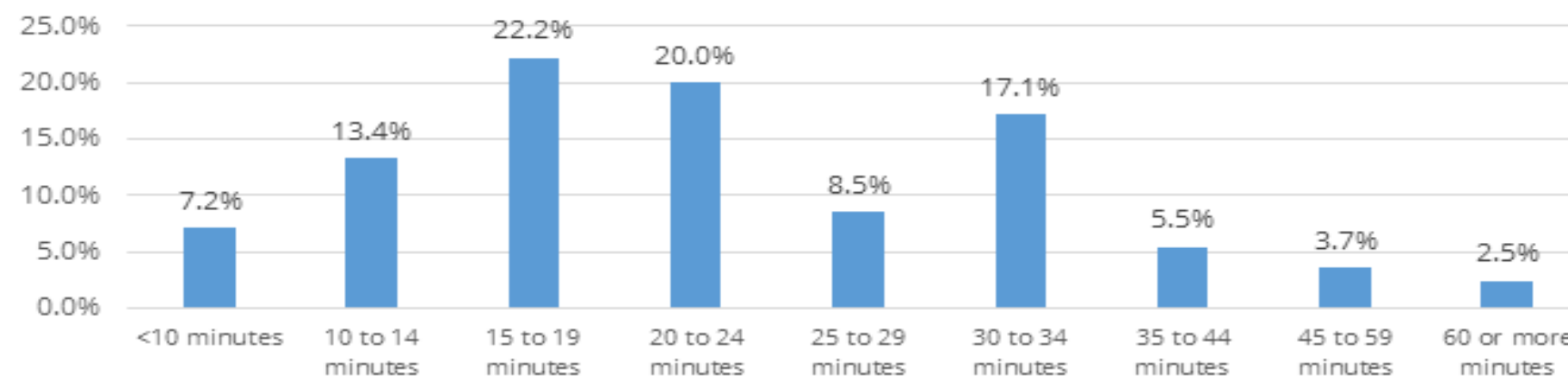
Figure 5-1: Existing Street Classification and Volume



5.2 TRANSPORTATION TO WORK

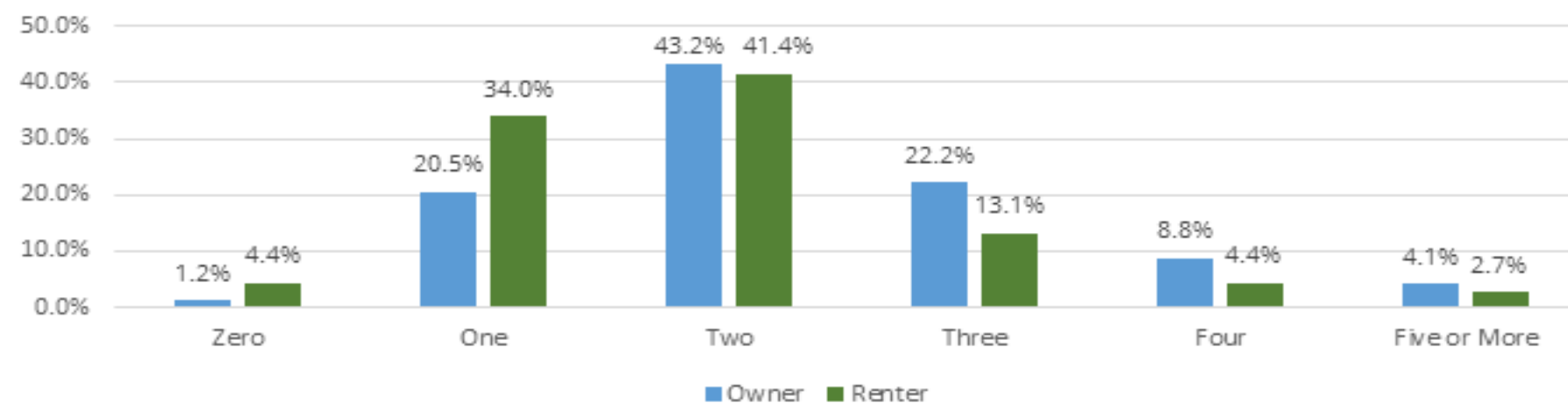
Approximately 78.7 percent of workers living in Mira Mesa drove alone to work, while 12.5 percent carpoolled, 1.6 percent took public transportation, 1.4 percent walked to work, and 0.9 percent biked to work. Overall, a typical household in Mira Mesa spends over \$10,000 annually in transportation expense as shown in Figure 5-2. According to Chart 5-1, 22.2 percent of worker commute 15 to 19 minutes to work, closely followed by 20 to 24 minutes (20%), and 30 to 34 minutes (17.1%). Little over 40 percent of household (both owner and renter) own two vehicles (Chart 5-2). Overall, households that rent own less vehicles compared to homeowners.

Chart 5-1: Average Commute Time



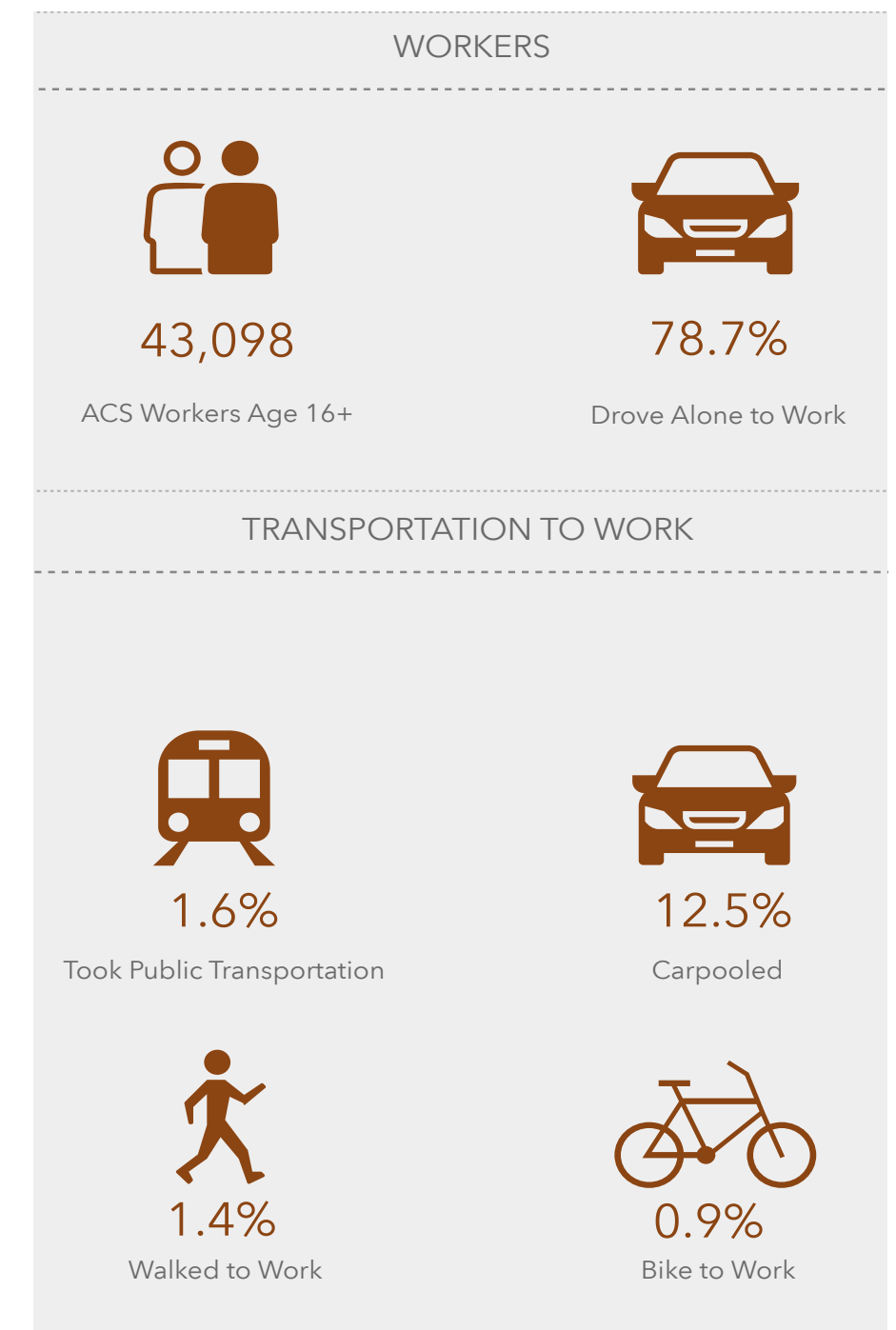
Source: ACS 2016

Chart 5-2: Vehicle Available by Tenure



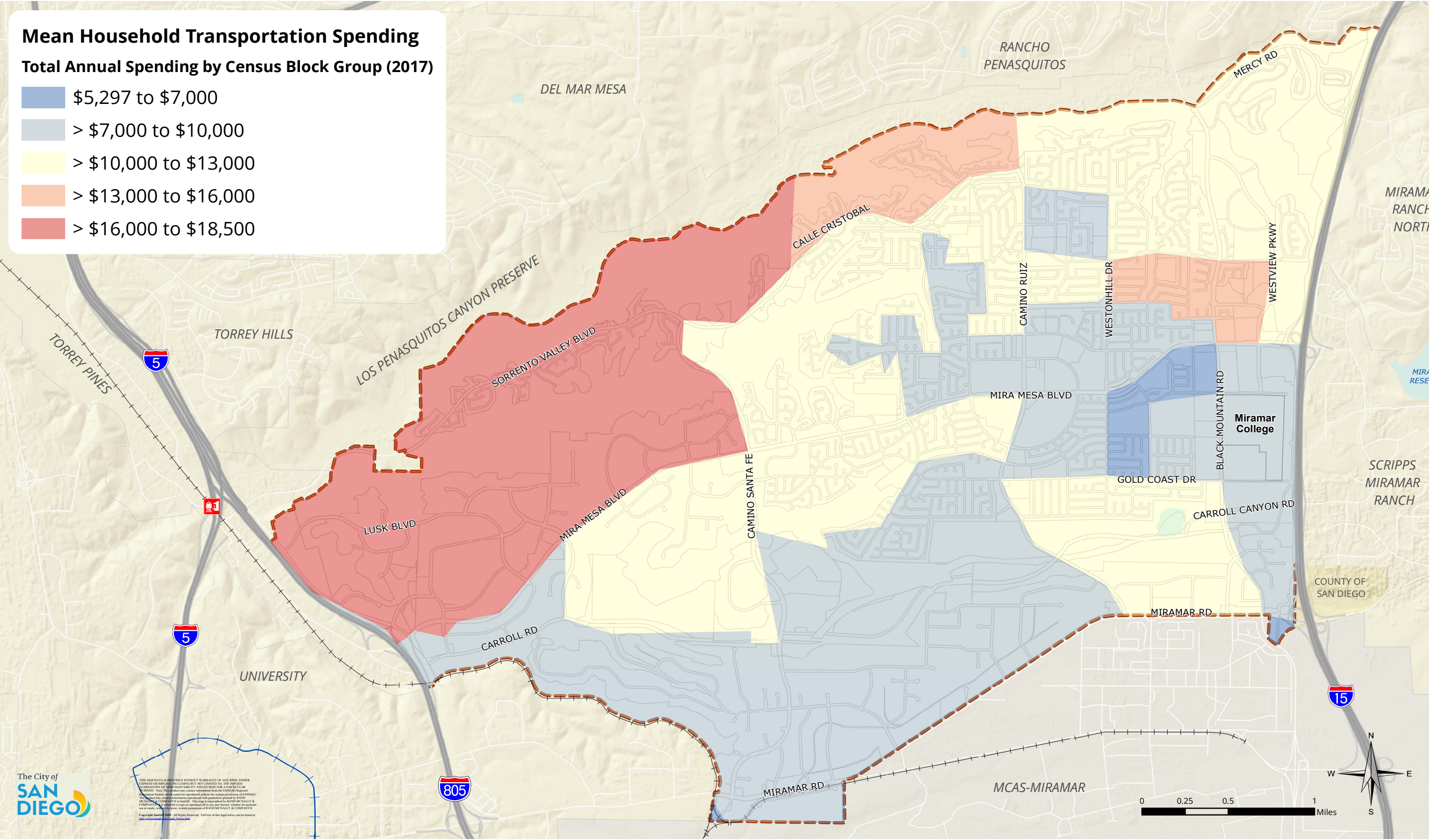
Source: ACS 2016

Chart 5-3: Journey to Work Mode Share



Source: ACS 2015; ESRI 2018

Figure 5-2: Household Transportation Expense



5.3 TRANSIT

The City of Villages strategy supports expansion of the transit system by calling for villages, 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.

Most of the community in Mira Mesa is within a half mile of a transit stop, except for residences living along Sorrento Blvd and Calle Cristobal (Figure 5-3). Ten bus lines connect Mira Mesa to the surrounding communities, including two Rapid Routes that connect to job centers in Downtown and UTC, and two limited-service shuttles that connect Sorrento Mesa and Carroll Canyon to the Sorrento Valley Coaster Station and future SANDAG Mobility Hub, respectively. Except for the two shuttle routes to and from the Sorrento Valley Coaster Station, all of the routes running through Mira Mesa connect, at some point, to the Miramar College Transit Station. The \$58 million transit center, completed in October of 2014, also includes direct access ramps to bus lanes on the I-15 for the two bus routes that run through Mira Mesa along this expressway.

As of 2018, there are no direct transit connections between the Miramar College Transit Station and the Sorrento Valley Coaster Station. However, the eight routes that go through the Miramar College Transit Station provide Mira Mesa with direct transit links to Downtown, UTC, UCSD, the VA Medical Center, Kearny Mesa, City Heights, Fashion Valley, Sabre Springs, Rancho Bernardo, and the City of Escondido. For more detailed information about Mira Mesa transit, including hours of operation, frequency, and connections, see Table 5-1.

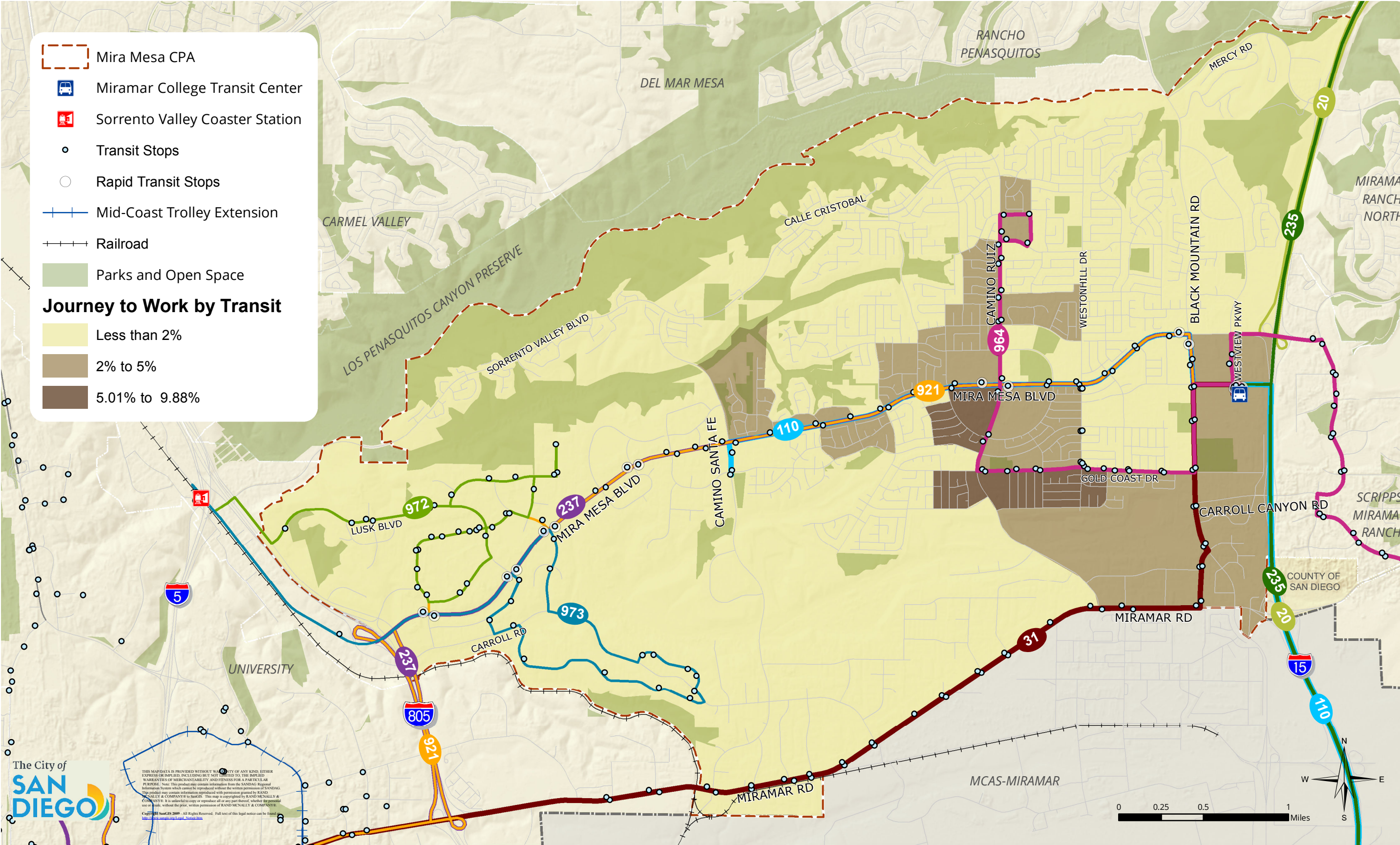


Table 5-1: Existing Transit Routes

Type	Route	Hours of Operation		Riders*	Frequency (MTS)	Thoroughfare	Direct Connections of Note
		Earliest	Latest				
Rapid Bus Routes	235	5:00am	11:59pm	2,512	Every 15 minutes peak; every 30 minutes off-peak	I-15	Escondido, Rancho Bernardo, Sabre Springs, Kearny Mesa, Normal Heights/Rapid 215, City Heights, and Downtown
	237 (am)	6:00am	10:30am	2,005	Every 15 minutes peak; every 30 minutes off-peak	Mira Mesa Boulevard	UTC/Superloop Rapid/future Midcoast Trolley, VA Medical Center, and UCSD
	237 (pm)	2:00pm	8:30pm	2,006	Every 15 minutes peak; every 30 minutes off-peak	Mira Mesa Boulevard	UTC/Superloop Rapid/future Midcoast Trolley, VA Medical Center, and UCSD
Local Bus Routes	110 (am)	6:00am	7:20am	334	Every 20 minutes	Mira Mesa Boulevard and I-15	Downtown
	110 (pm)	4:00pm	5:30pm	335	Every 30 minutes	Mira Mesa Boulevard and I-15	Downtown
	20	5:00am	10:00pm	4,242	Every 30 minutes	I-15	Kearny Mesa, Fashion Valley, Downtown
	921	5:30am	7:45pm	9,821	Every 30 minutes	Mira Mesa Boulevard	UTC/Superloop Rapid/future Midcoast Trolley
	921a	7:00am	7:45pm		Every 60 minutes	Mira Mesa Boulevard	921 connections above plus UCSD and VA Medical Center
	964	5:45am	8:15pm	4,422	Every 30 minutes	Camino Ruiz, Gold Coast Drive, Black Mountain Road	Scripps Ranch/Alliant International University
	31 (am)	5:30am	9:00am	1,521	Every 30 minutes	Miramar Road	UTC/Superloop Rapid/future Midcoast Trolley
	31 (pm)	2:30pm	7:00pm	1,521	Every 30 minutes	Miramar Road	UTC/Superloop Rapid/future Midcoast Trolley
COASTER Connection Shuttle Routes	972 (am)	6:30am	9:15am	486	Every 40 minutes	Lusk Boulevard and Morehouse Drive	Sorrento Valley COASTER Commuter Rail Station
	972 (pm)	3:30pm	6:40pm	486	Every 40 minutes	Lusk Boulevard and Morehouse Drive	Sorrento Valley COASTER Commuter Rail Station
	973 (am)	6:30am	9:15am	291	Every 40 minutes	Mira Mesa Boulevard and Nancy Drive	Sorrento Valley COASTER Commuter Rail Station
	973 (pm)	3:30pm	6:40pm	291	Every 40 minutes	Mira Mesa Boulevard and Nancy Drive	Sorrento Valley COASTER Commuter Rail Station
COASTER Commuter Rail	N/A	5:35am	12:33am	402	Varies widely, but usually one per hour	N/A	Oceanside, Carlsbad, Encinitas, Solana Beach, Oldtown San Diego, Downtown San Diego

*Total average weekday ridership in 2016

Figure 5-3: Transit Routes



Opportunities and Constraints

Most of the community in Mira Mesa is within a 10 minute walk from a bus stop (Figure 5-4). The highest public transit ridership within the community occurs at the Miramar College Transit Station serving transit routes 20, 31, 110, 235, 237, 921, and 964. Other high ridership stops include:

- Mira Mesa Boulevard at Camino Ruiz
- Black Mountain Road at Gold Coast Drive
- Mira Mesa Boulevard at Pacific Heights Boulevard
- Barnes Canyon Road at Pacific Heights Boulevard

These areas are located near large employers (such as Qualcomm), near the community core, near schools such as Miramar College as well as near businesses.

Most transit users access transit stops by walking or biking. Therefore high numbers of bicycle and pedestrian collisions near a transit stop may discourage transit riders at these locations. There are seven locations within the community where four or more collisions involving pedestrians or cyclists were reported during the five year study period (October 2012 – September 2017). These locations include:

- Three intersections along Camino Ruiz
- Three intersection along Mira Mesa Boulevard (one of which is at Camino Ruiz)
- Two intersections along Black Mountain Road (one of which is at Mira Mesa Boulevard)
- One intersection along Miramar Road

In addition to evaluating the current needs of transit it is also important to understand the future transit investments within the community to ensure that needed connections and improvements are in place to take advantage of the transit system. Planned transit investments such as the Aerial Skyway from UCSD to the Sorrento Valley employment areas, as well as a High Speed Rail Line anticipated along the eastern boundary of Mira Mesa, would significantly expand future transit service to Mira Mesa and will provide transit alternatives for residents, employees, and visitors. Other planned transit improvements such as future transit stops and Mobility Hubs throughout the community will provide additional transit coverage areas and create areas where residents can live, work and play. SANDAG's long-range transportation plan included in the San Diego Forward: The Regional Plan, anticipates providing increased services for local bus routes and support for active transportation projects that provide first-mile/last-mile connections to transit.

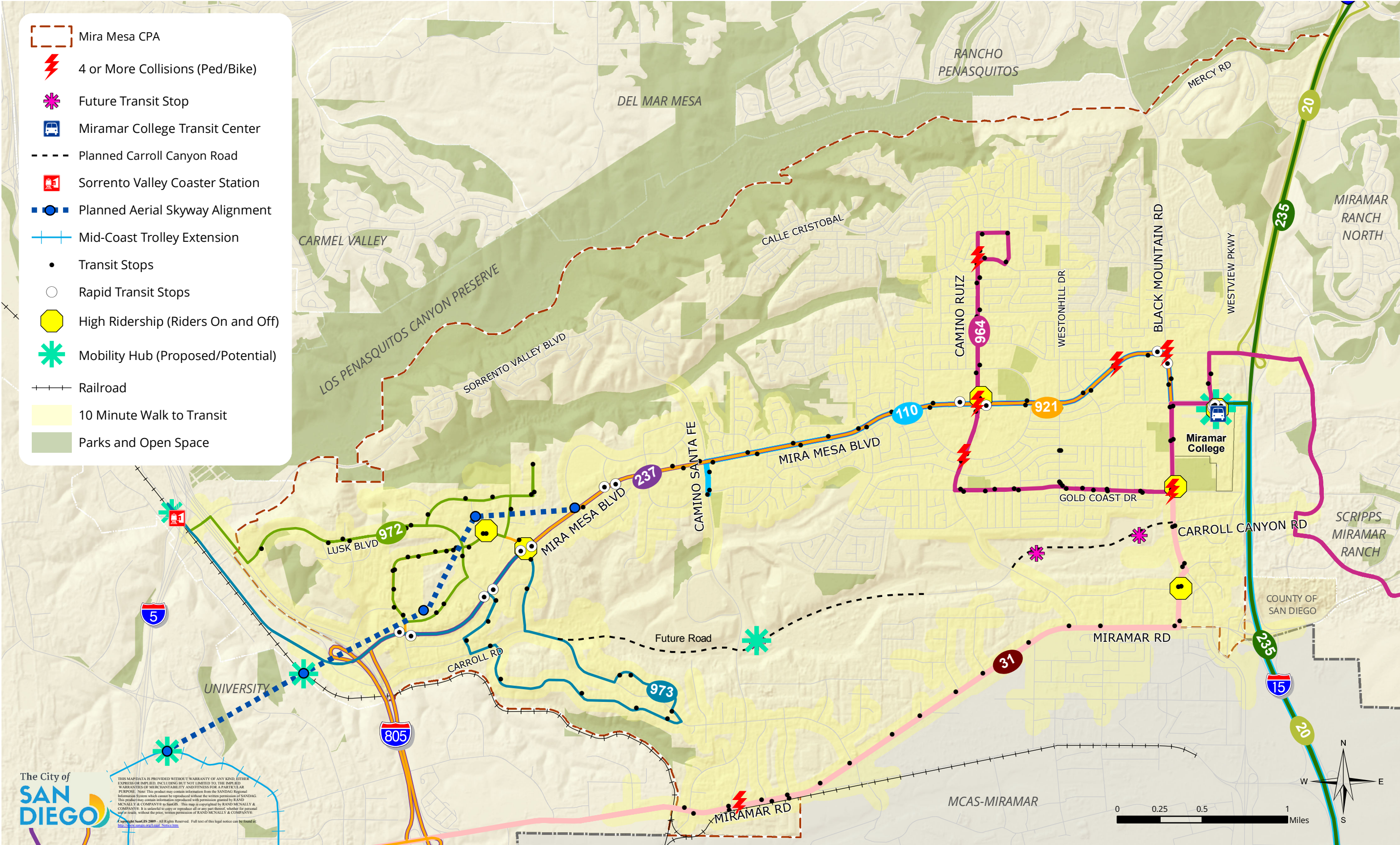


MTS Bus Route 964



Aerial Skyway proposed by SANDAG will connect UCSD to Sorrento Mesa
Photo: Portland Aerial Tram

Figure 5-4: Transit Opportunities & Constraints



5.4 BICYCLE

Bicycle infrastructure should provide for the safety and comfort of its users, and the bicycle network should be very well connected across a community. Safety and comfort are paramount considerations, since by nature, active travelers are more exposed than those inside a vehicle. Unsafe or uncomfortable conditions discourage the decision to make a trip by bike. Network connectivity is also paramount, since safe, comfortable infrastructure will not be useful if destinations cannot be reached. Journey to Work by Bicycle, Existing and Proposed Bicycle Facilities are depicted in Figure 5-5. Despite the auto-centric land use patterns in Mira Mesa, there are people that bike to work due to proximity of employment areas.

Existing and Proposed Bicycle Facilities

There are three general classifications of bicycle facilities, including:

Class I – Bike Path (also termed shared-use or multi-use paths)

Bike 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. There are no Class I bike paths in Mira Mesa.

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. There are Class II bike lanes in Mira Mesa along Mira Mesa Blvd, Sorrento Valley Blvd, Calle Cristobal, Miramar Road, Black Mountain Road, Mercy Road, Camino Santa Fe, and Camino Ruiz

Class III - Bike Route

Bike routes provide shared use with motor vehicle traffic within the same travel lane and are frequently marked with a sharrow. Designated by signs and/or pavement markings, bike routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand. There are Class III bike routes in Mira Mesa along Gold Coast Drive.

Class IV - Cycle Track

Cycle track is a bicycle facility within the roadway with a physical separation. Cycle tracks have different forms, the physical separation can include a raised median, flexible pavement markers, bollards, and on-street parking. There are currently no Class IV cycle tracks within Mira Mesa.

Bicycle Boulevards are roadways where physical improvements such as traffic calming and diversions are intended to provide priority for bicyclists. Bicycle Boulevards are typically installed on local roads with low volume of vehicles and residential speeds. There are currently no bicycle boulevards within Mira Mesa.



Bike Rack

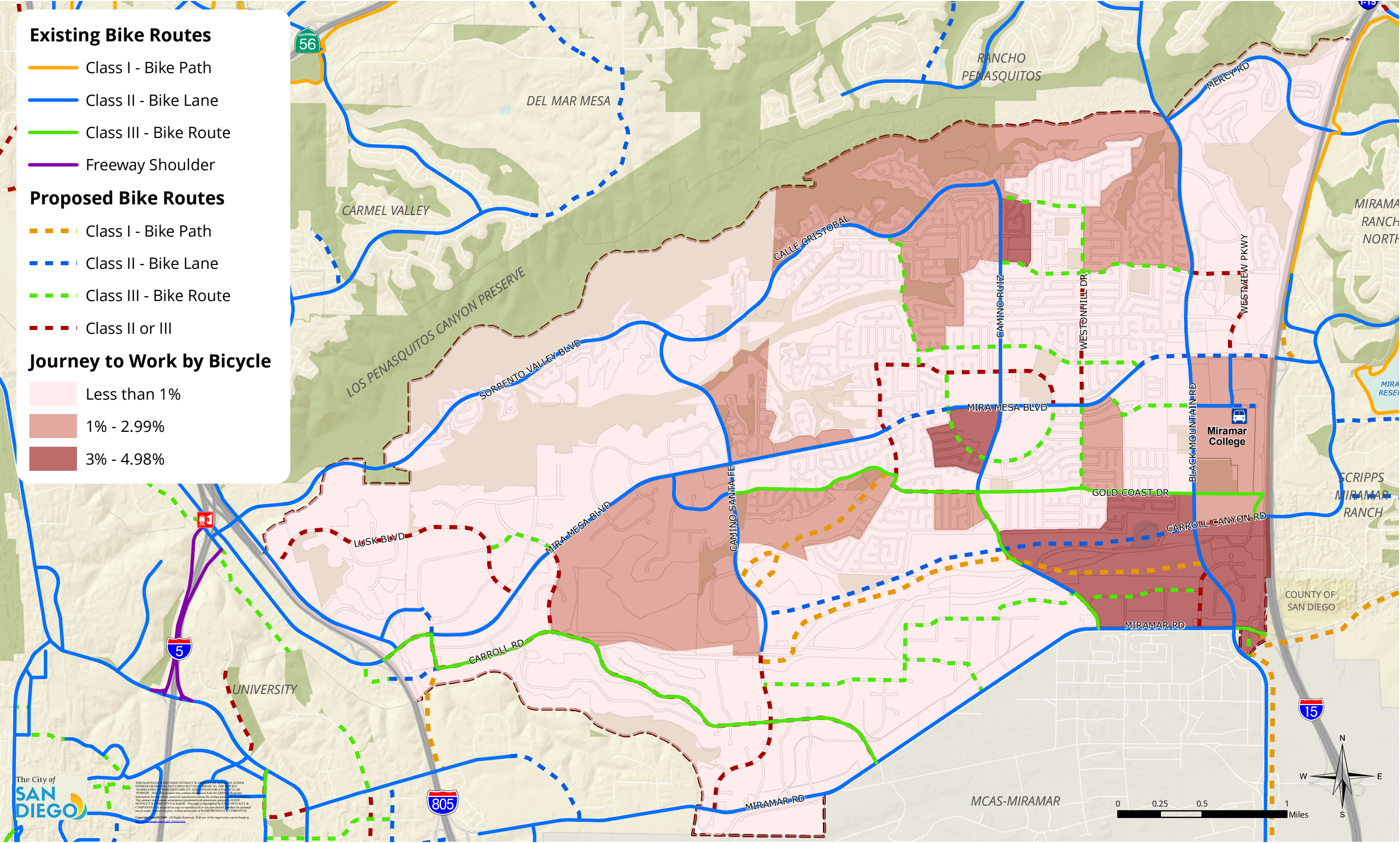


Bike Storage



Man walking with his bike on a narrow sidewalk

Figure 5-5: Bicycle Facilities



Opportunities and Constraints

The bicycle network should also be well connected across the community providing routes for residents, employees, and visitors to get to and from their destination. The decision to ride a bike for travel primarily relies on a person's perception of distance of travel, comfort (or safety) along your travel, options (or connections) to your destination and the overall experience along the bikeway.

As shown in Figure 5-6, the majority of the roadways in Mira Mesa provide high stress facilities, especially along the major east-west and north-south corridors within the community. Bicycle Level of Stress (LTS) measures the level of comfort a cyclist would experience on a roadway, taking into account speed of adjacent traffic, presence of a physical barrier from traffic, width of the bicycle facility, number of vehicular travel lanes and intersection control. 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 vehicles travelling at 35 mph or higher). In general, a lower stress bicycle facility is the preference for those considering the bike for travel.

Figure 5-6 also identifies locations within the community with 3 or more reported bicycle-involved collisions during the five-year study period (October 2012–September 2017). Four of which were located along Mira Mesa Boulevard near retail on the eastern portion of the community. These intersection include:

- Mira Mesa Boulevard at Camino Ruiz
- Mira Mesa Boulevard at Westmore Road
- Mira Mesa Boulevard at Black Mountain Road
- Mira Mesa Boulevard at Westview Parkway
- Miramar Road at Commerce Avenue/Milch Road
- Acama Street at Acama Court

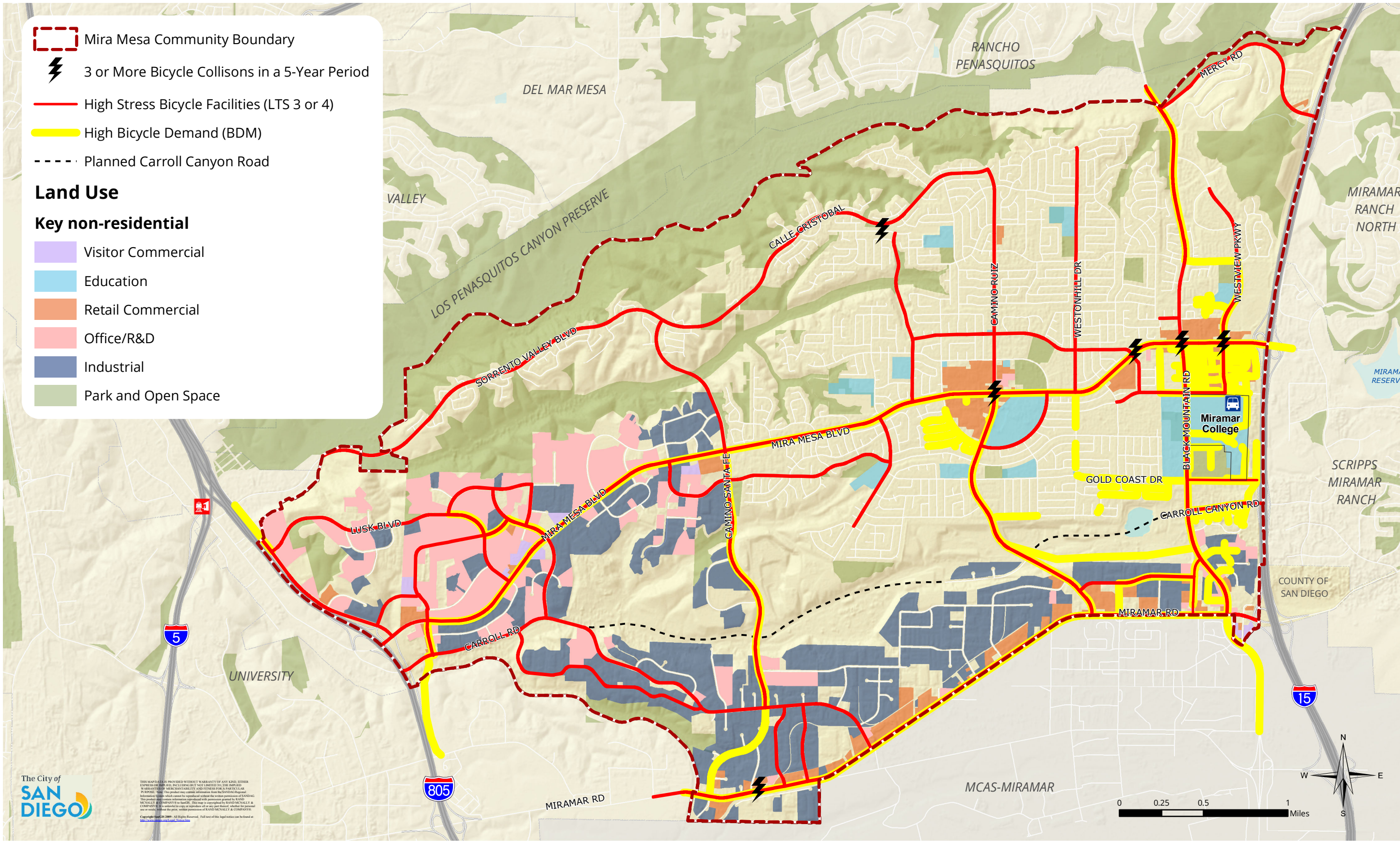


Buffered bike lane on Mira Mesa Boulevard



Students biking on sidewalk

Figure 5-6: Bicycle Opportunities and Constraints



5.5 PEDESTRIAN

Opportunities and Constraints

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 shaded with trees, 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 of neighborhoods. Figure 5-7 illustrates the percentages of people walking to work in Mira Mesa.

Figure 5-8 indicates the overall pedestrian needs in the Mira Mesa. The eastern portion of the community experiences the greatest concentration of pedestrian collisions within the community. In particular, there are nine intersections where three or more pedestrian collisions were reported during the five year study period (October 2012 – September 2017).

These intersections include:

- Five intersections along Mira Mesa Boulevard (at Westview Parkway, Black Mountain Road, Westmore Road, Shopping Center Driveway west of Camino Ruiz, Sequence Drive/Huennekens Street)
- Two intersections along Camino Ruiz
- One intersection at Carroll Canyon Road and Maya Linda Road
- One intersection at Black Mountain Road and Gemini Avenue



School sign



Students walking home

Figure 5-7: Pedestrian Mode Share

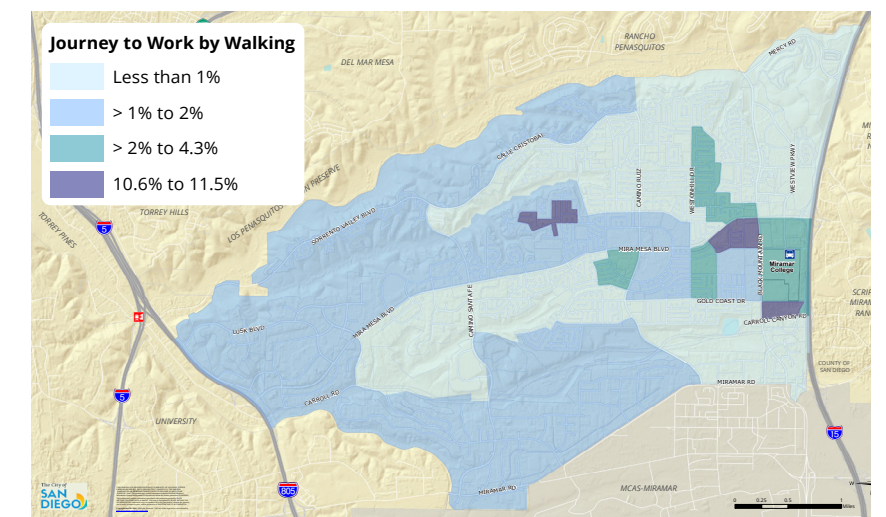


Figure 5-8: Pedestrian Opportunities and Constraints

