National City SMART Foundation

Existing Conditions Report

September 12, 2013

FY 2011/12 Community-Based Transportation Planning Grant
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National City SMART Foundation Existing Conditions

1. Project Description

National City was awarded a Community-Based Transportation Planning Grant (CBTP) from Caltrans in November 2012. The CBTP Grant Program funds are for coordinated transportation and land use planning that promotes public engagement, livable communities, and a sustainable transportation system which includes mobility, access, and safety.

A strong foundation is needed to support real changes in land use and transportation. The S.M.A.R.T. Foundation (Safe, Multi-modal, Accessible Routes to… Transit, Works School, Services and Recreation), is based upon improvements to the walkability and bikeability of a community. With limitations on funding for making dramatic changes, it is critical that this limited funding be used in areas where it can make the most difference for the health, safety and welfare of the community. Improvements that can make a real difference are related, in the short term, to improving the physical environment with new walking facilities, and in the long term, for integrating land use and transportation planning. Both of these actions require a blueprint with enough detail to identify capital improvement projects that can be prioritized and implemented.

2. Project Focus

The focus of this planning study will be on integrating pedestrian access, neighborhood enhancements, Safe Routes to School and improvements with a variety of ongoing studies, regulations and opportunities. The Smart Foundation is the basis on which non-motorized mobility and land use improvements can be made at a neighborhood level.

These Smart Foundation process includes:

- Development of Geographic Information Systems (GIS) mapping correlating pedestrian safety concerns throughout the city, with current transportation facilities and uses.
- Development of a GIS map that utilizes demographic data, land use data, transportation data as well as destinations for pedestrians including public facilities, community programs and transit facilities all intended to promote better access for those that choose to not drive vehicles.
- Review of policies, CIP projects and implementation strategies for pedestrian facilities as they affect equity for the diverse community.
- Integration of previous efforts with new planning regarding the Bikeway Master Plan, Complete Streets Analysis and Wayfinding Signage program, ADA Transition Plan and Capital Projects.
- Integration of planning efforts taking circulation and mobility related elements, smart growth and urban infill strategies.
- Coordination of proposed street expansions, extensions and improvements to make sure that the non-vehicular requirements of bikes, pedestrians, disabled access and transit access are incorporated into these future efforts, as required by complete streets legislation.
- Identification of opportunities for expanding access to public parks, open space and other recreational facilities through improved pedestrian access on a neighborhood scale.
- Review of the role that improved pedestrian facilities and integrated land use and transportation planning of alternative modes of travel can help the City in obtaining conformance with Climate Action Plan and Greenhouse Gas Emission reduction as well as lowering overall Vehicle Miles Traveled.
- Implementation of a public input plan and strategy to discuss issues with the community and recommend projects that fit the community priorities. This includes walk audits to collect data and identify areas in each neighborhood for improvements.
- Integration with Rady Children's Hospital's Safe Routes to School programs.

3. Study Area

National City is 9.2 square miles and is considered almost fully developed. Bordering National City are the cities of San Diego and Chula Vista, County of San Diego and San Diego Bay. A small unincorporated community, known as Lincoln Acres, is located in southeast National City. Three freeways travel through the City, I-5 to the west, I-805 to the east, and SR-54 travels east-west along the southern edge of the city. Interstate 5 and I-805 act as barriers for east-west bicycle and pedestrian travel through the City.

Citywide Land Use and Transportation Characteristics

A number of factors drive pedestrian and bicycle improvements. The maps on the following pages illustrate those that will be analyzed for this plan. These factors include land use, existing and future population and employment density and activity centers. These datasets have assisted in citing walk audit locations and walk zones and will assist in the analysis phases of the SMART Foundation project.

4. Origins and Destinations
Activity centers are defined as a community's major employers, office buildings, industrial sites, government sites, retail centers, hospitals, major attractions, colleges, schools or parks and open space. Commercial and retail activity centers can also be regarded as employment centers because, in addition to the customers that constitute the typical activity center users, they also represent significant numbers of employees. The civic activity centers include National City's parks and schools.

These centers particularly define trip origins and destinations, and generally include residential areas, employment centers, parks, schools and civic centers. Most cities have unique origins and destinations, as well as special events and variations in seasonal demand.

As seen on Figure 1, Activity Centers, most major employers, office buildings and industrial sites are clustered in specific areas generally associated with the main thoroughfares running through National City such as Plaza Boulevard, Highland Avenue and National City Boulevard. Employment density can be an. indicator of bikeway and pedestrian facility commuting trips, but it is also an indicator for shopping trips, especially to areas with concentrations of retail and service businesses.

Overall, activity centers tend to lie within an acceptable distance from their nearest adjacent bicycle facilities. This is supported by the locally gentle topography that drove the development pattern of a traditional street grid throughout most of the City.

Figure 1: Activity Centers

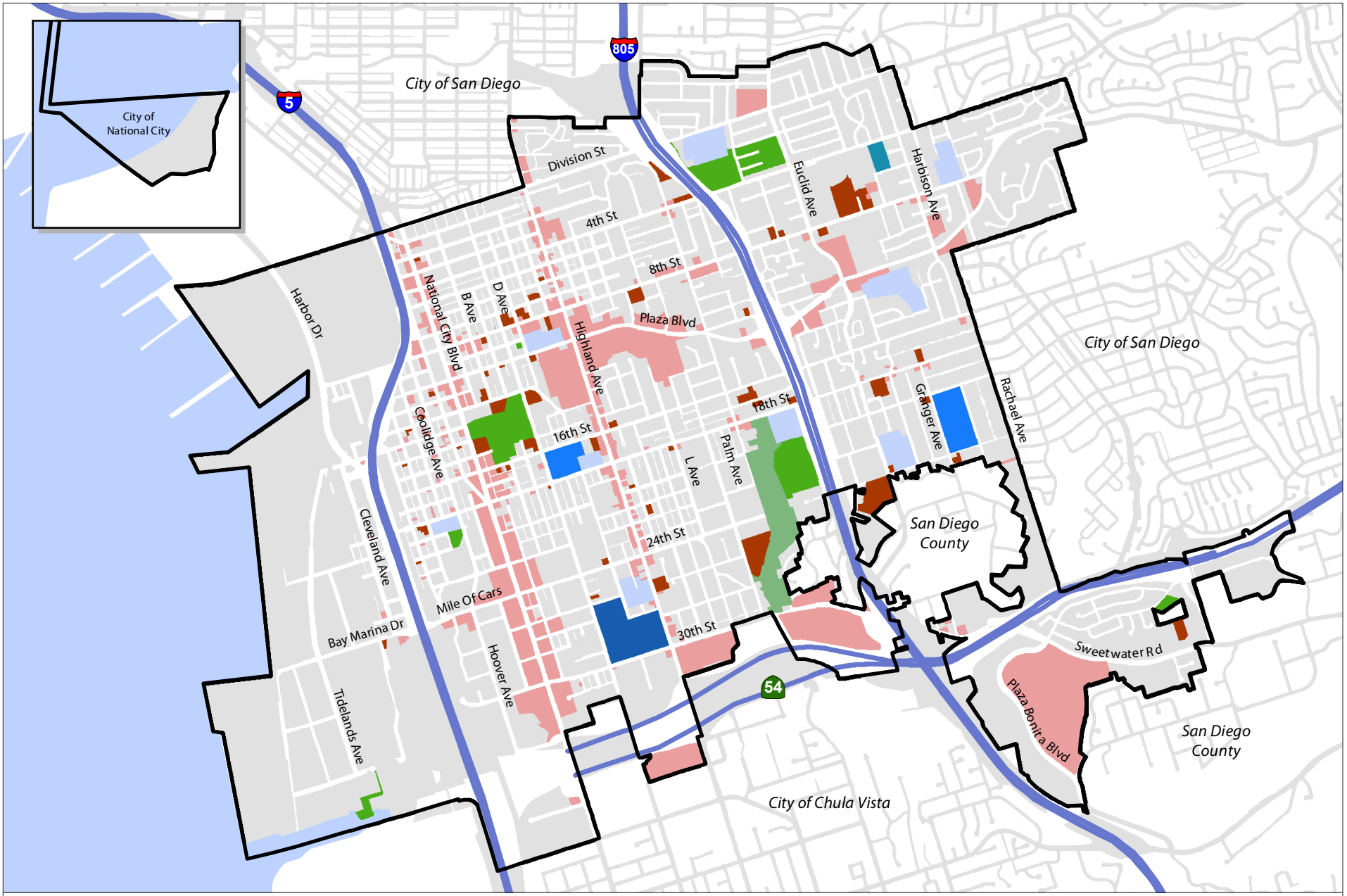


Figure 2: National City Existing Land Use

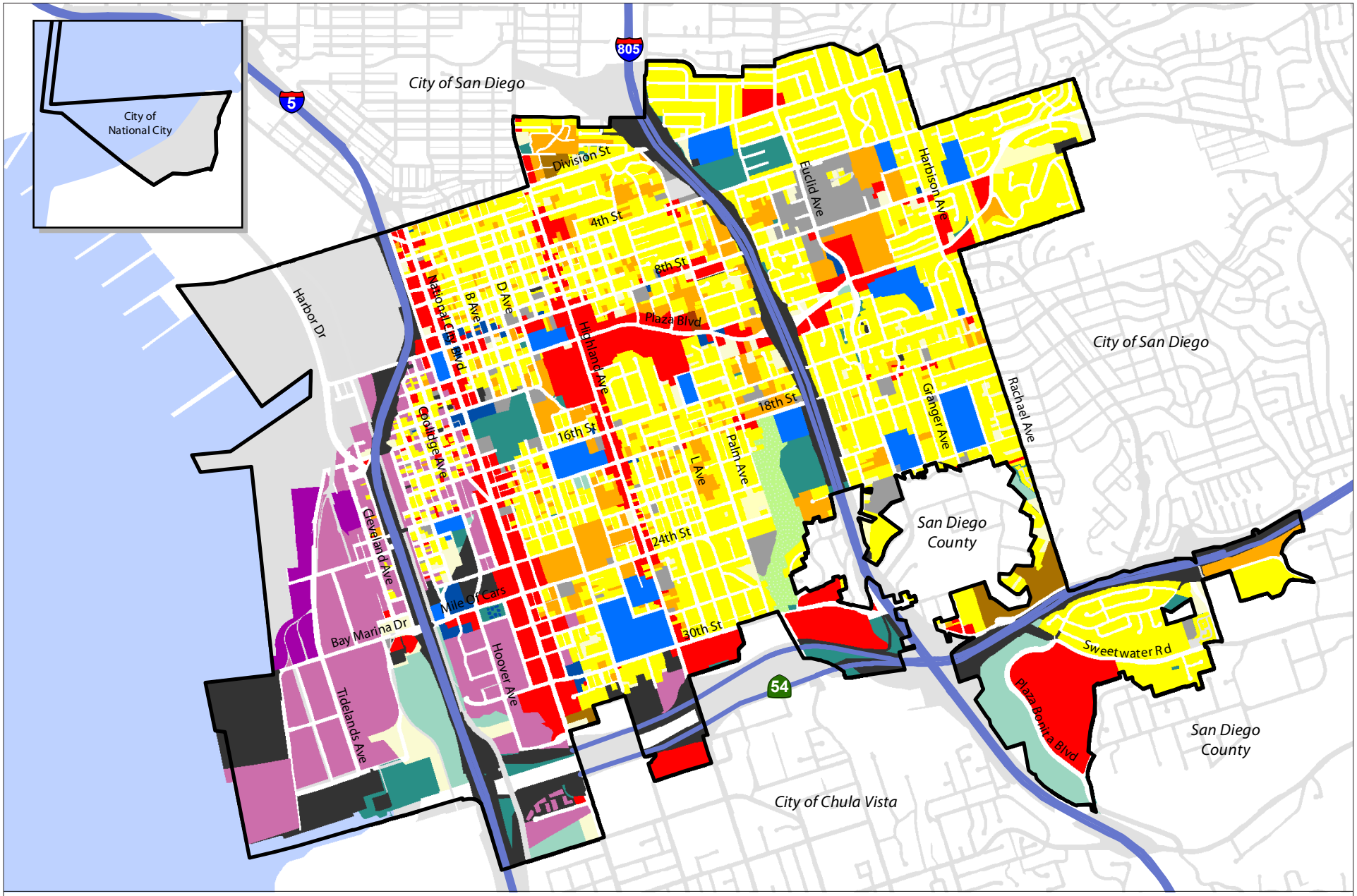


Figure 3: Planned Land Use

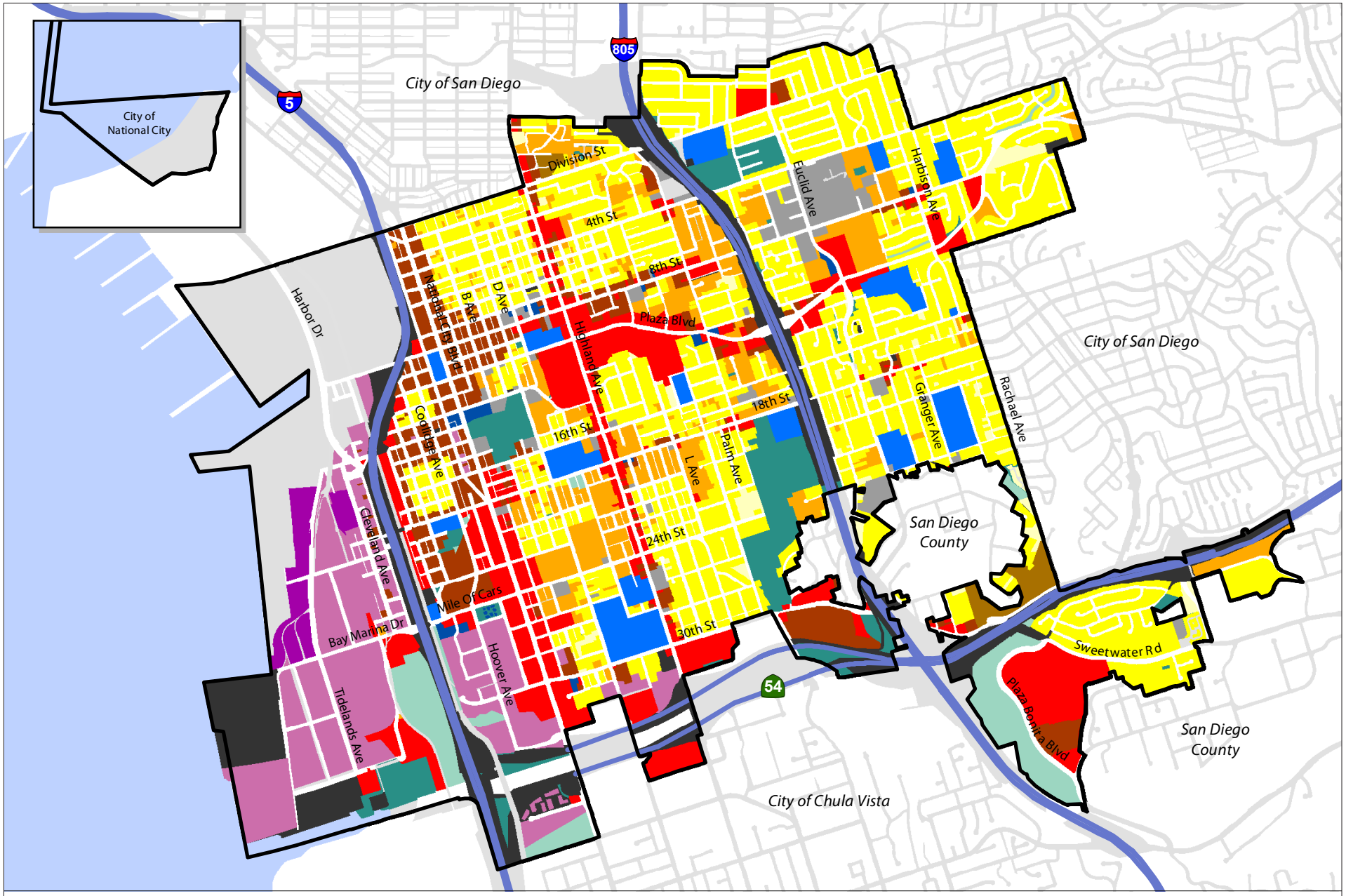


Figure 4: 2010 Population Density

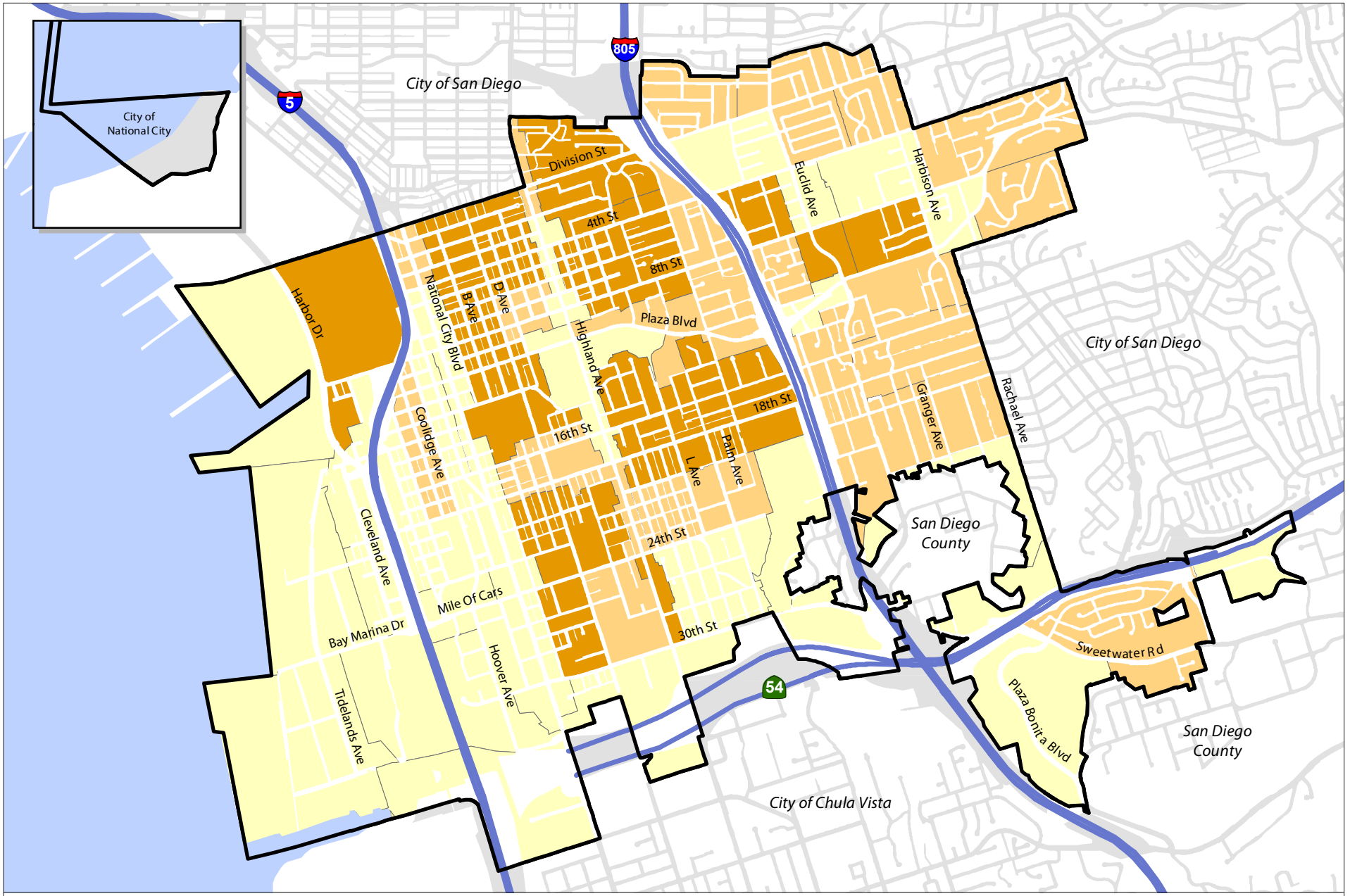


Figure 5: 2030 Population Density

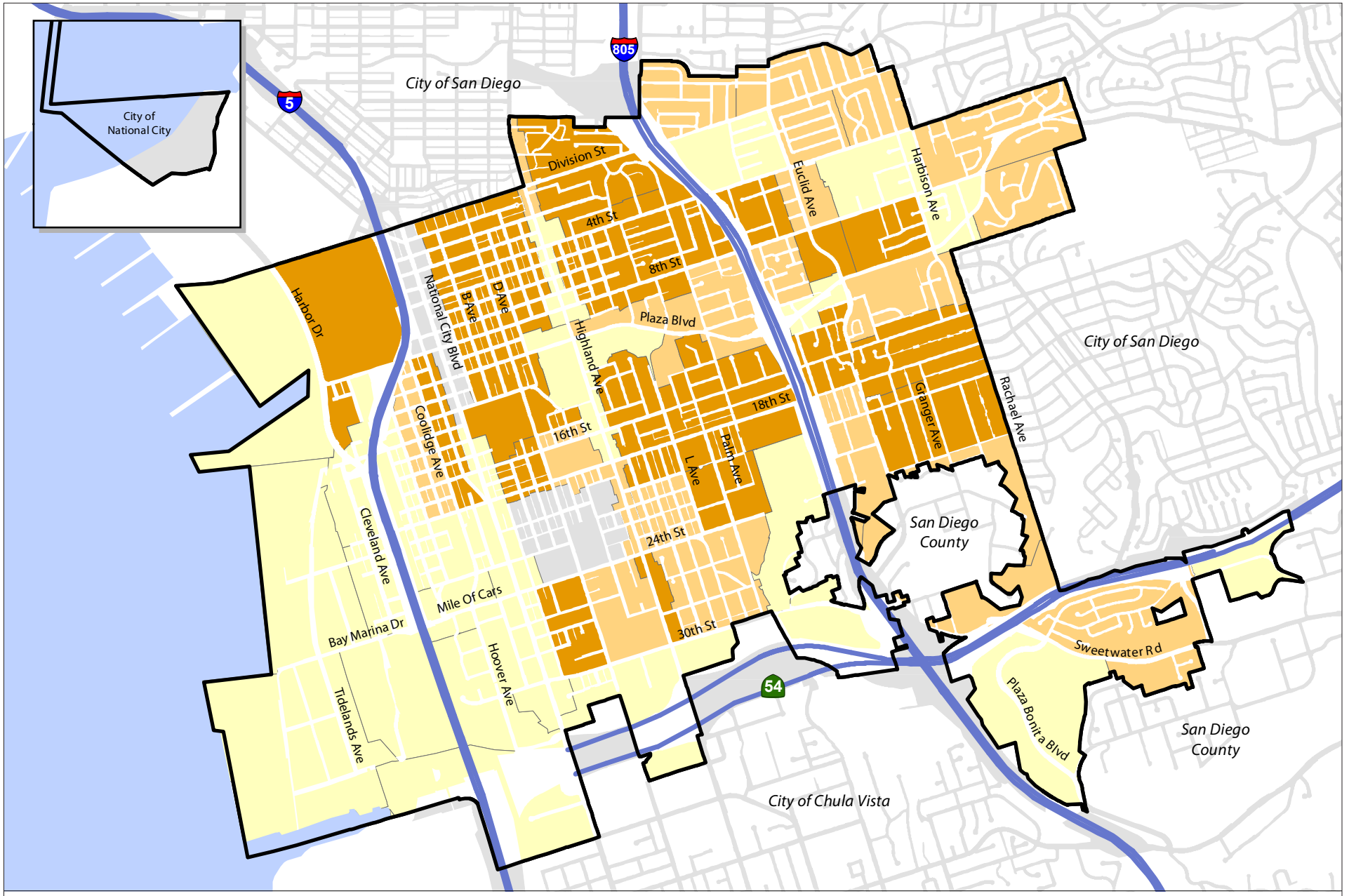


Figure 5: 2010 Employment Density

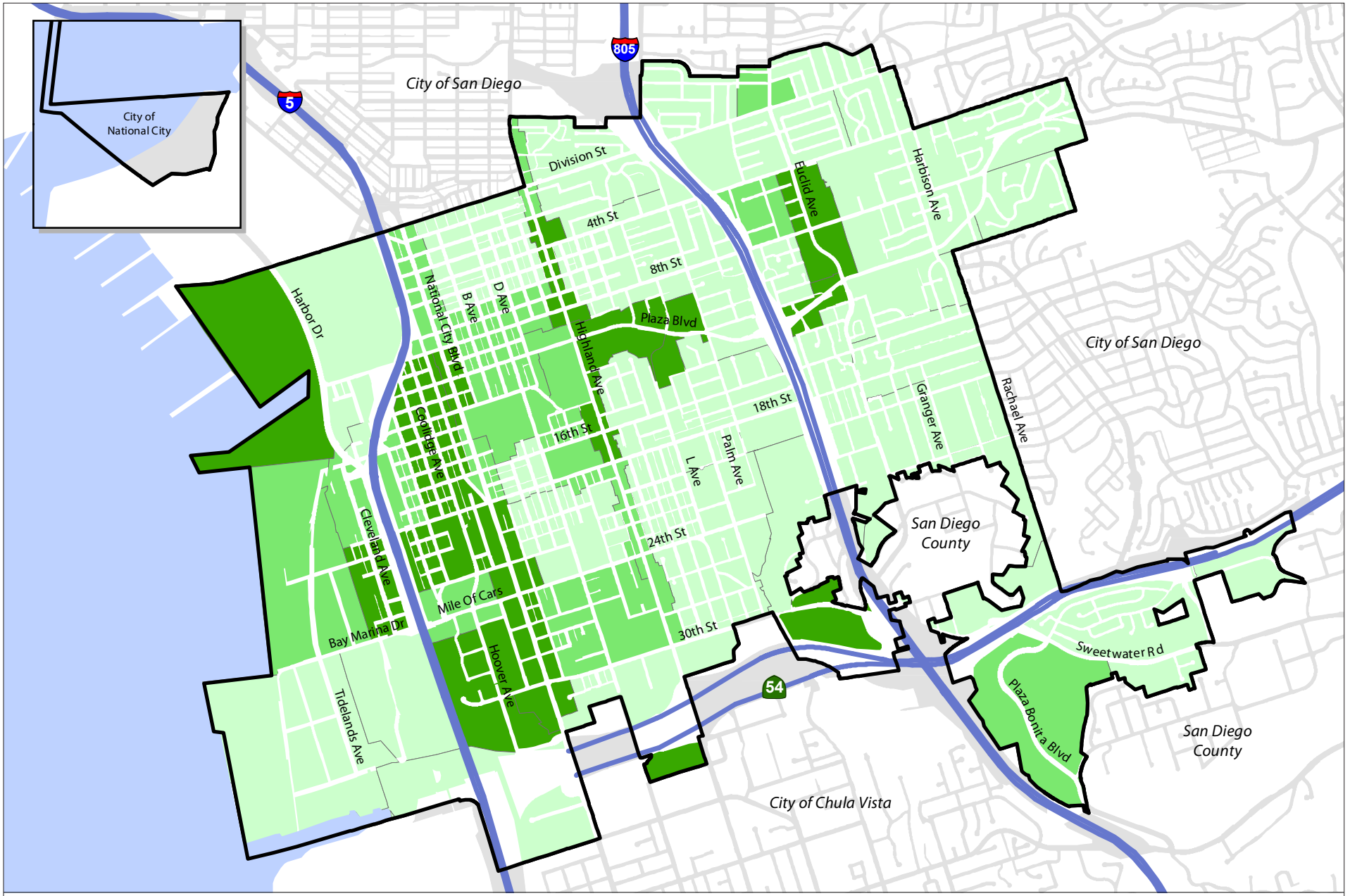


Figure 6: Zoning

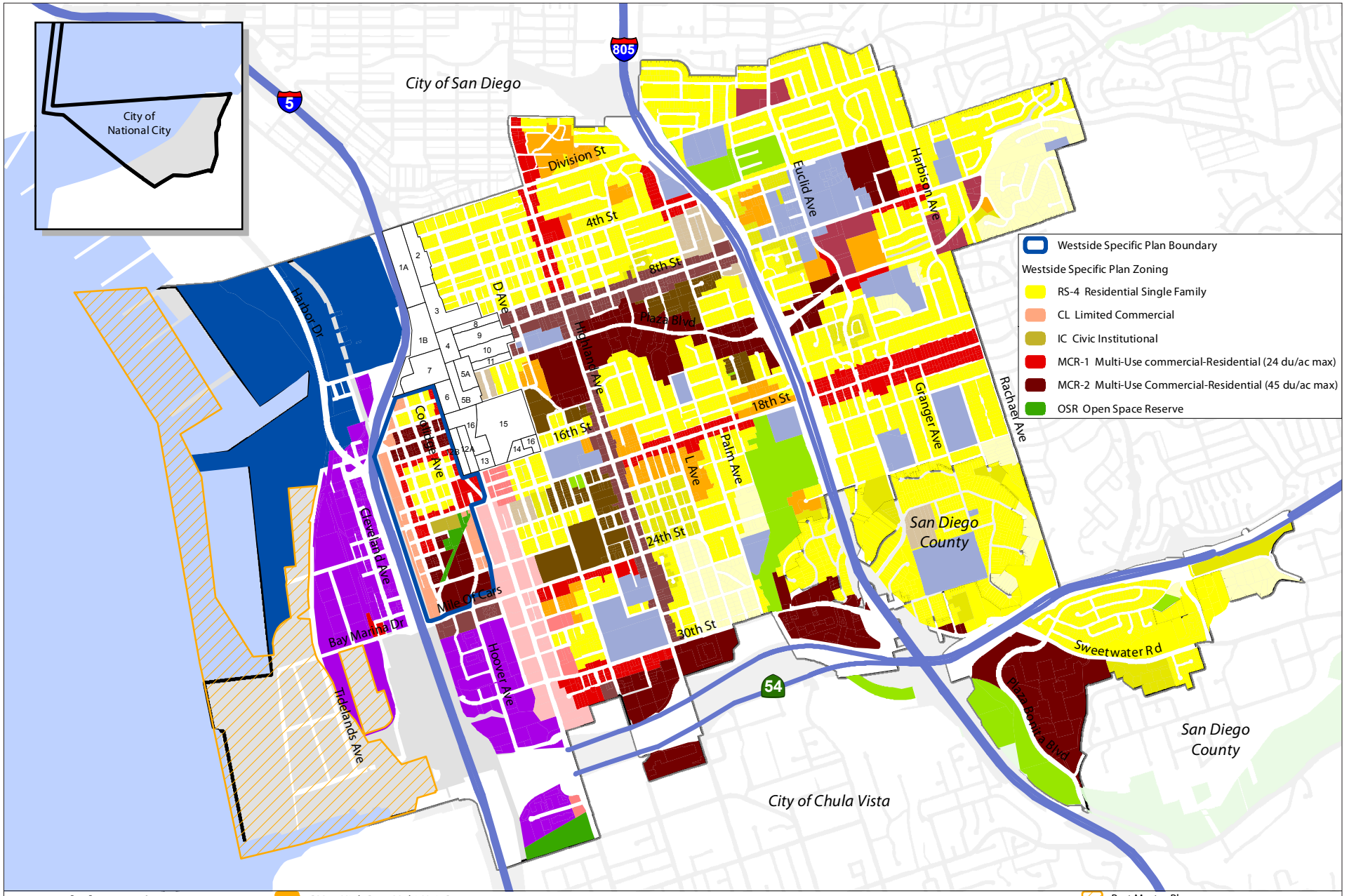


Figure 7: Existing Bicycle Facilities

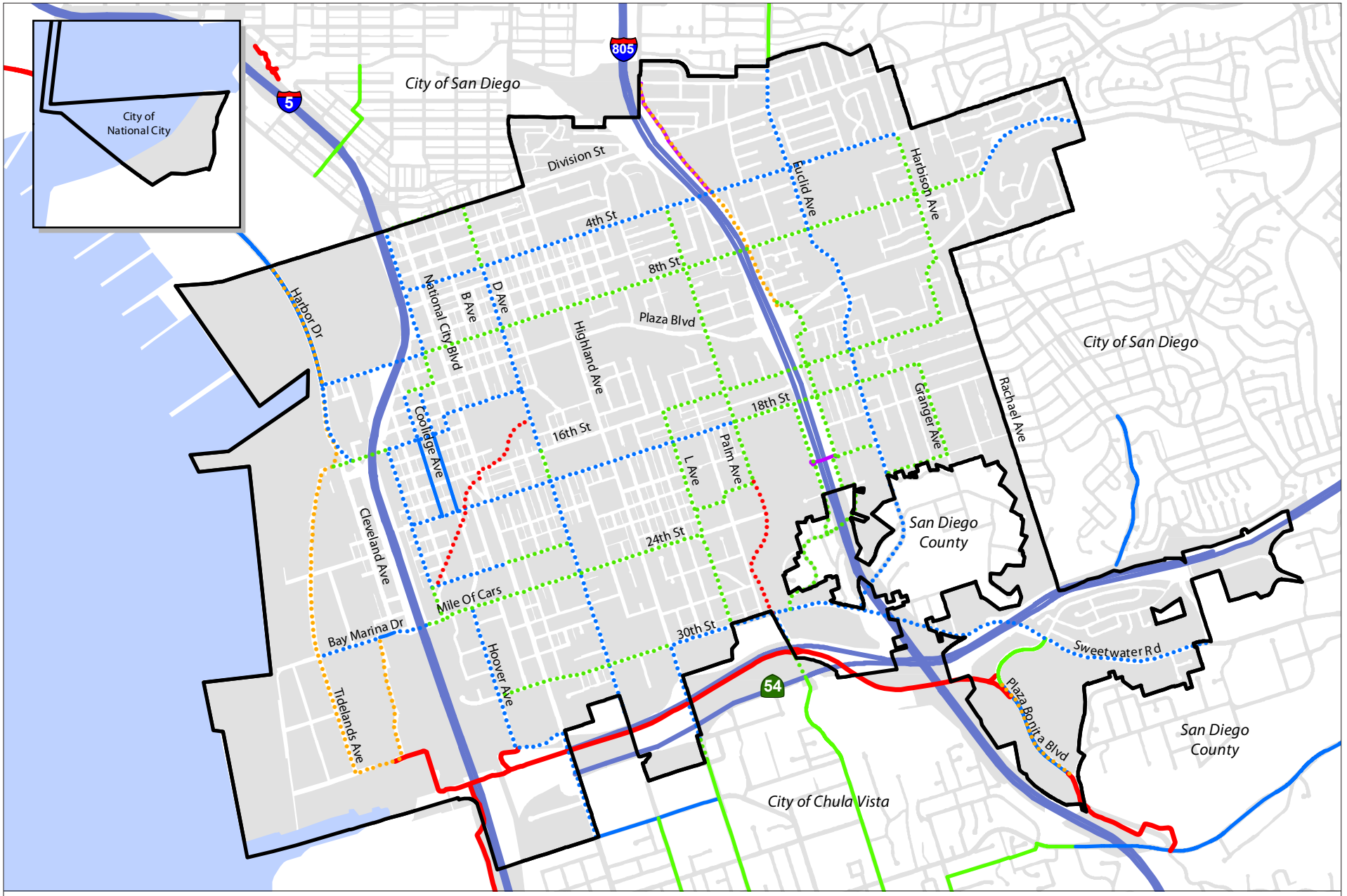


Figure 8: Number of Travel Lanes

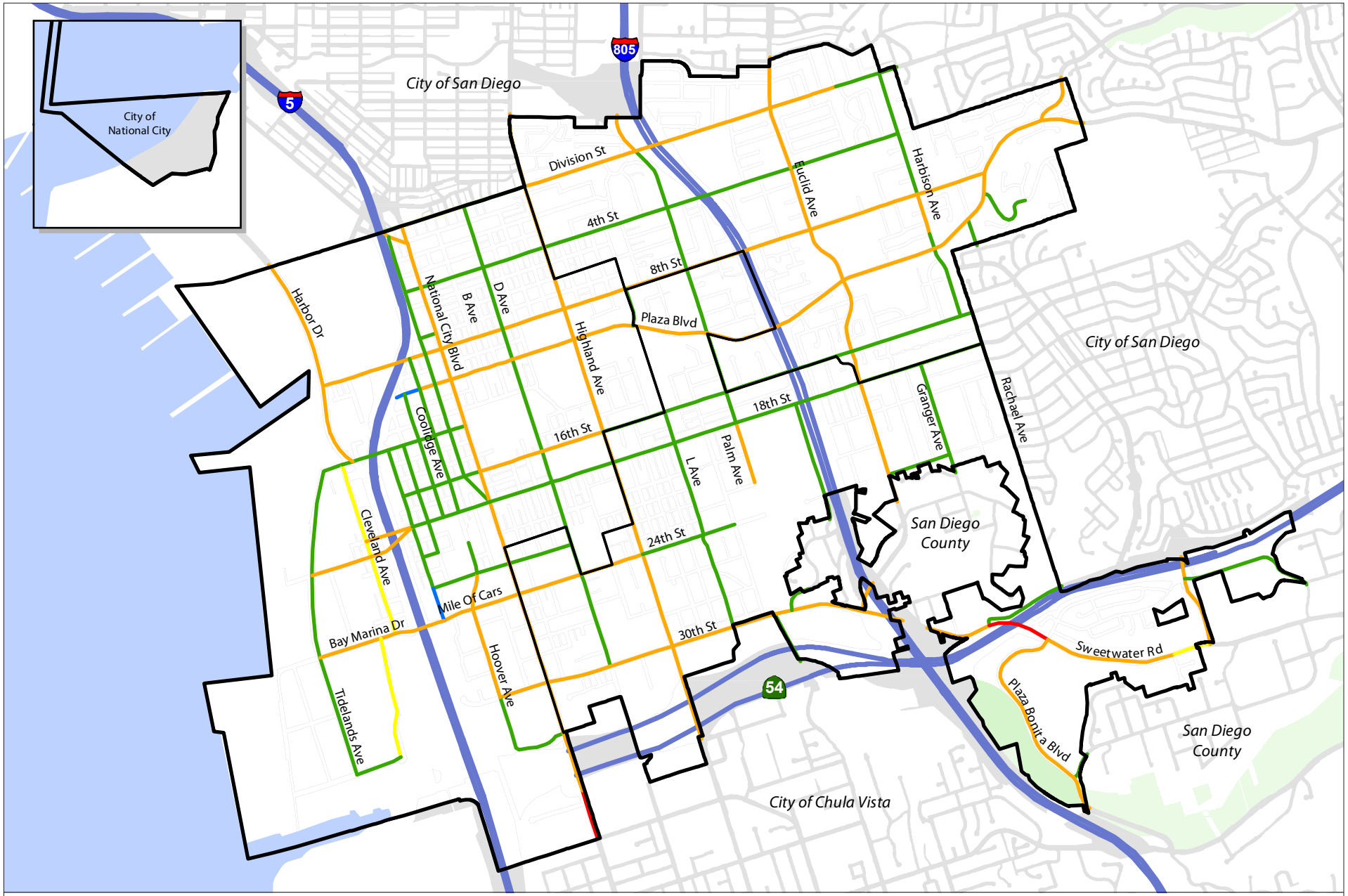


Figure 9: Average Daily Trips (ADTs)

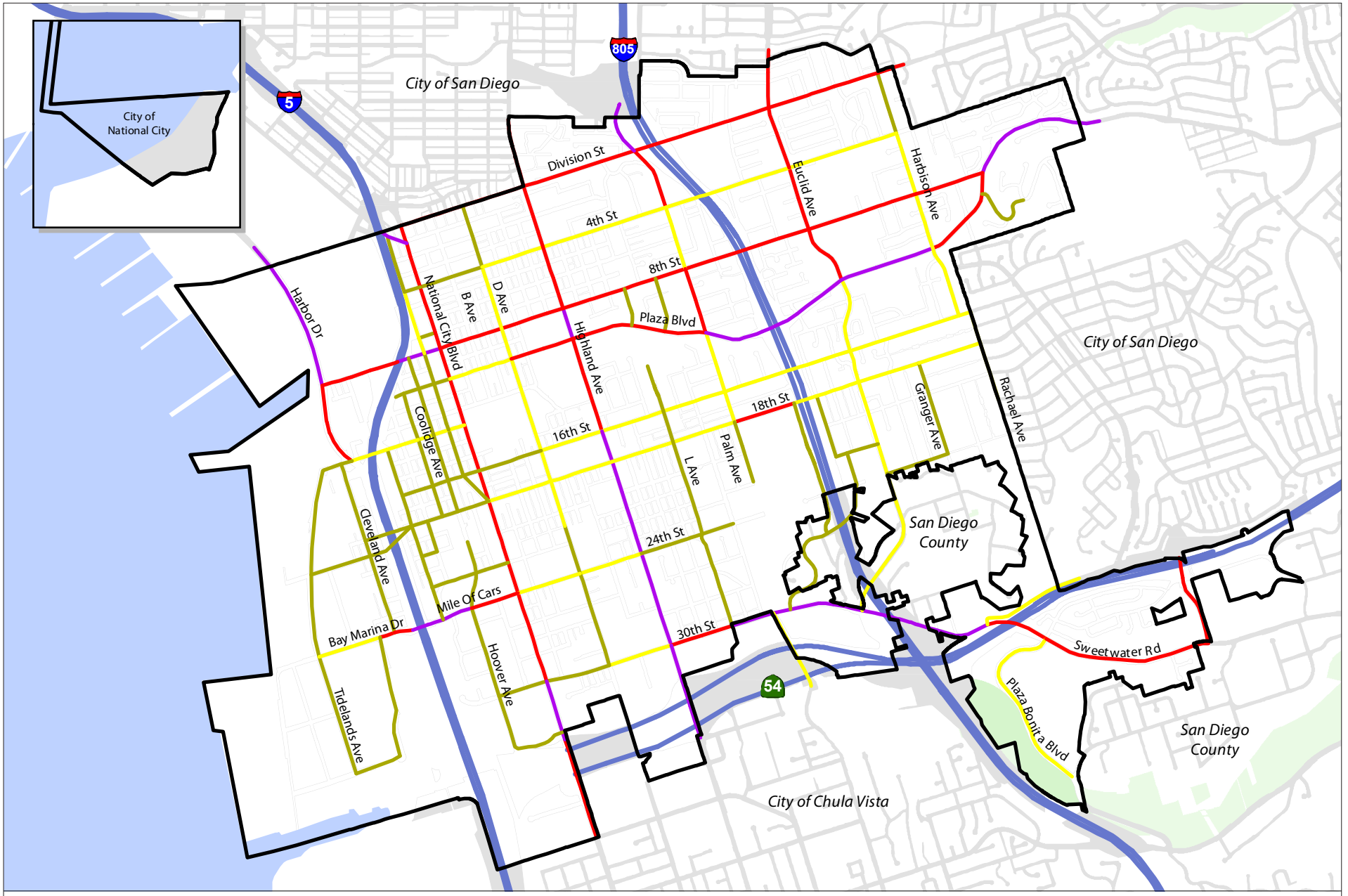


Figure 10: Roadway Classification

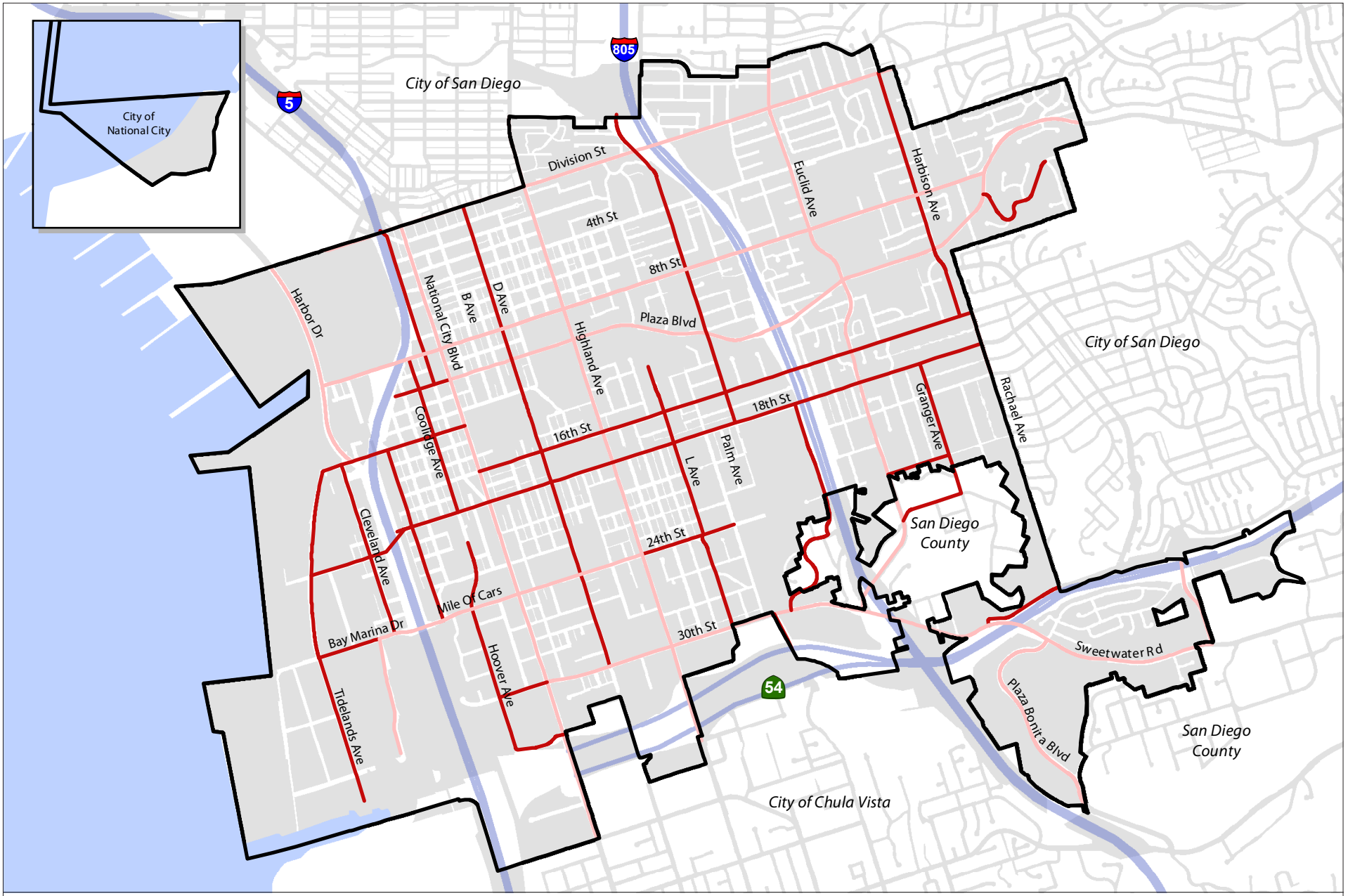
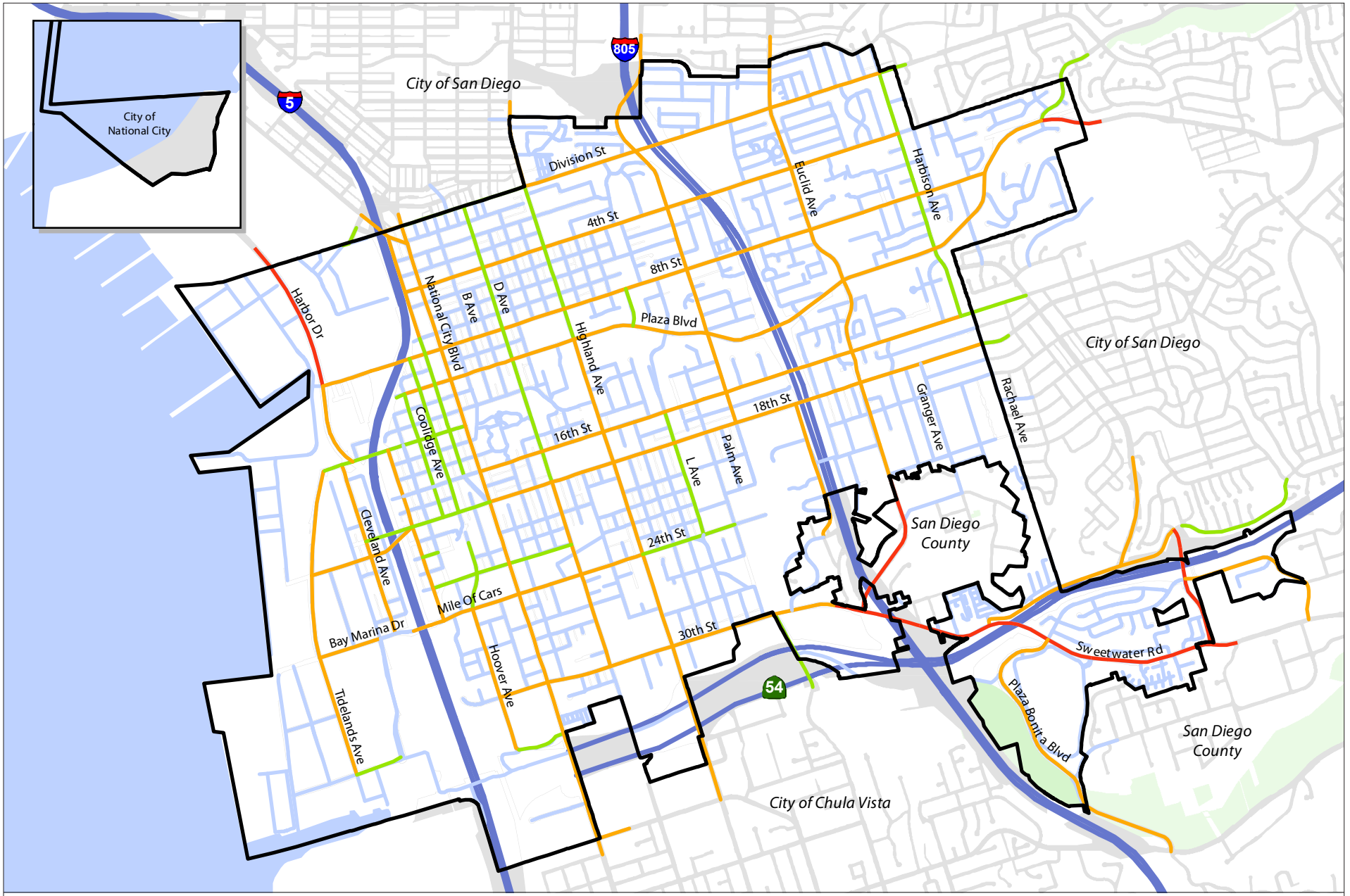


Figure 11: Posted Speed Limits



4. Public Transit

San Diego Metropolitan Transit System (MTS) serves the regional transit system with nine bus routes and a total of 211 bus stops. Additionally, the planning area includes two MTS Trolley stations, which are located on the Blue Line Trolley running from Old Town and Downtown San Diego to the US-Mexico border. The 8th Street Trolley Station is located near the intersection of 8th Street and Harbor Drive, and the 24th Street Trolley Station is located near the intersection of 22nd Street and Wilson Avenue. One transit hub located at the Westfield Plaza Bonita Mall and is part of bus routes 963.

The City also will soon be served by the South Bay Bus Rapid Transit (BRT) project. The 21-mile BRT will provide high-speed transit connections between downtown San Diego and the Otay Mesa Border Crossing along the future I-805 managed lanes and a dedicated transitway through eastern Chula Vista. The new BRT will ultimately include 15 stations providing access to regional employment centers in downtown San Diego, the Otay Mesa Business Park, and the future Eastern Urban Center, as well as serving residential communities in Chula Vista and National City.

Table 1 shows the highest volume public transit stops being used. This also includes the trolley stations, transit centers and bus stops.

Table 1: Street Classification

Rank	Station/Stop	Total
1	24th St Trolley Station	6,791
2	8th Street Station	6,290
3	Plaza Bonita Transit Center	1,290
4	Euclid Av / Plaza Bl	712
5	18th St / Highland Av	674
6	Plaza Bl / Highland Av	649
7	30th St / Highland Av	574
8	Highland Av / 8th St	364
9	43rd St / Delta St	337
10	Highland Av / E 12th St (Walmart)	289
11	Highland Av / 16th St	272
12	Euclid Av / Division St	265
13	Highland Av / Eta St	232
14	8th St / National City Bl	206
15	8th St / E Av	157

Source: MTS 2011

Figure 12: Bus Routes

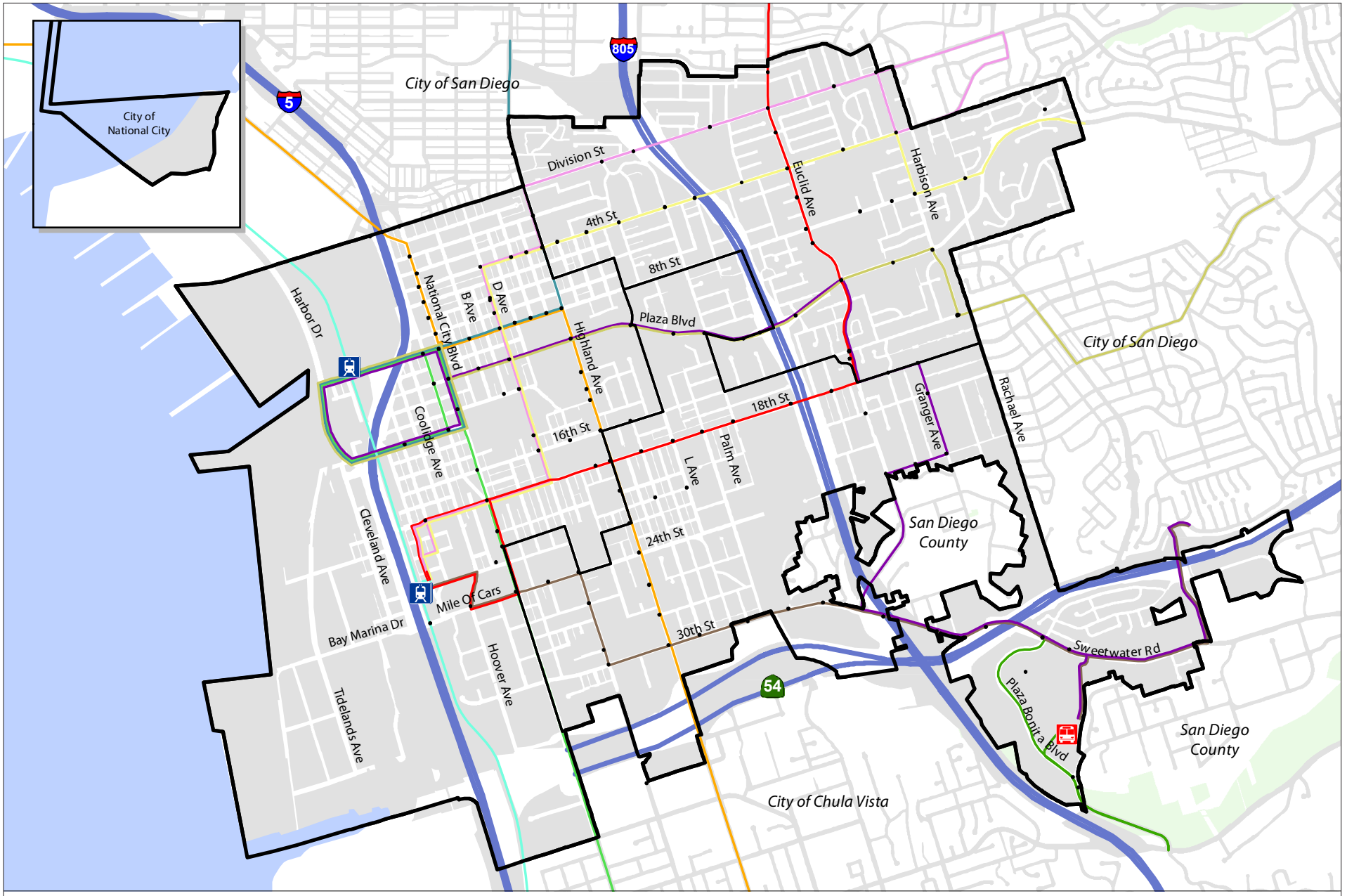
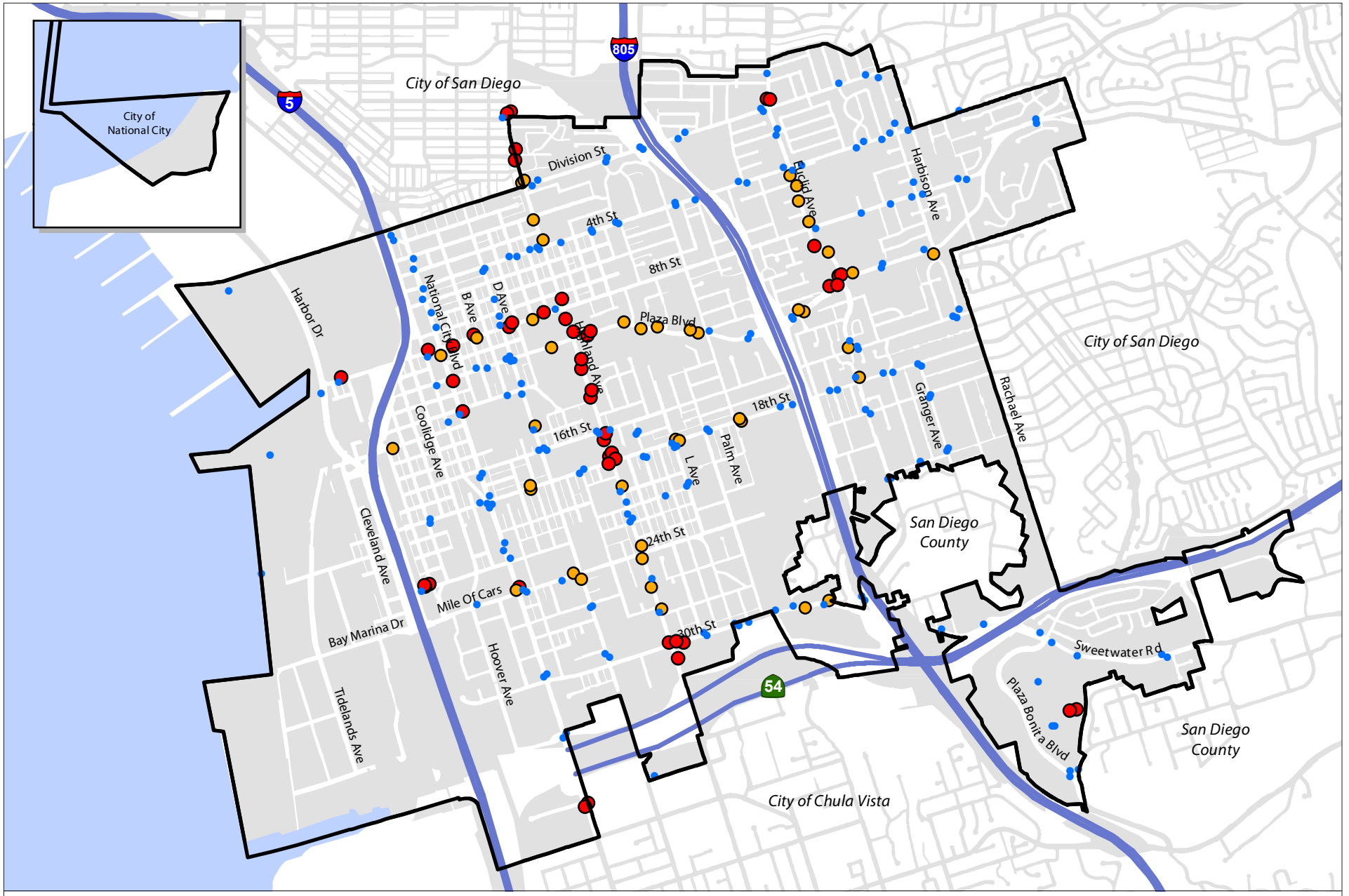


Figure 13: Public Transit Boardings and Alightings



5. Community Characteristics

The City is divided into three communities based on their regional parks; El Toyon, Kimball and Las Palmas. These communities are further divided by school district boundaries. The General Plan is built upon this "Neighborhood Unit Concept" where all residential portions of the City are to become identifiable neighborhoods focused on the local public elementary school. These nine neighborhoods can be identified in Figure 15. The focus of the walk audits and recommended projects will be within these nine neighborhoods.

The elementary schools within each community are as follows:
Kimball Park: Central, Kimball (includes Old Town) and John Otis.
El Toyon: El Toyon, Rancho De La Nacion, Ira Harbinson and Palmer Way
Las Palmas: Olivewood, Las Palmas and Lincoln Acres

Data from the City's General Plan, SANDAG and the US Census Bureau have been summarized to provide demographic characteristics based on each community. The data presented identifies the differences between each community and will be used to assist in project prioritization.

Table 2: Community Population Estimates

Community	Population 2010	Population 2030
El Toyon	20,444	23,293
Kimball	17,431	24,749
Las Palmas	18,647	22,390
Total	**56,522**	**70,432**

Source: General Plan 2012, SANDAG

Table 3: Community Employment Estimates

Community	Population 2010	Population 2030
El Toyon	3,699	4,881
Kimball	13,362	14,332
Las Palmas	5,568	5,621
Total	**22,629**	**24,834**

Source: SANDAG

Table 4: Median Income

Community	Average Median Income
El Toyon	$46,246
Kimball	$30,101
Las Palmas	$52,426
Total	**$43,620**

Source: American Community Survey 2010

Table 5: Non-Motorized Commuter Modes

Community	Total	Bicycle to Work	Public Transit to Work	Walk to Work
El Toyon	6,971	30	399	226
Kimball	6,447	24	864	349
Las Palmas	9,210	44	650	279
Total	**22,629**	**98**	**1,913**	**855**

Source: American Community Survey 2010

Table 6: Age Characteristics for Children and Seniors

Community	< 16 Years Old	17-64	> 64
El Toyon	4,977	12,712	2,690
Kimball	3,507	12,376	1,520
Las Palmas	4,560	12,121	2,059
Total	**13,044**	**37,209**	**6,269**

Source: American Community Survey 2010

Table 7: Vehicle Ownership

Community	Households without Vehicles
El Toyon	247
Kimball	827
Las Palmas	412
Total	**1,486**

Source: American Community Survey 2010

Figure 14: National City Communities

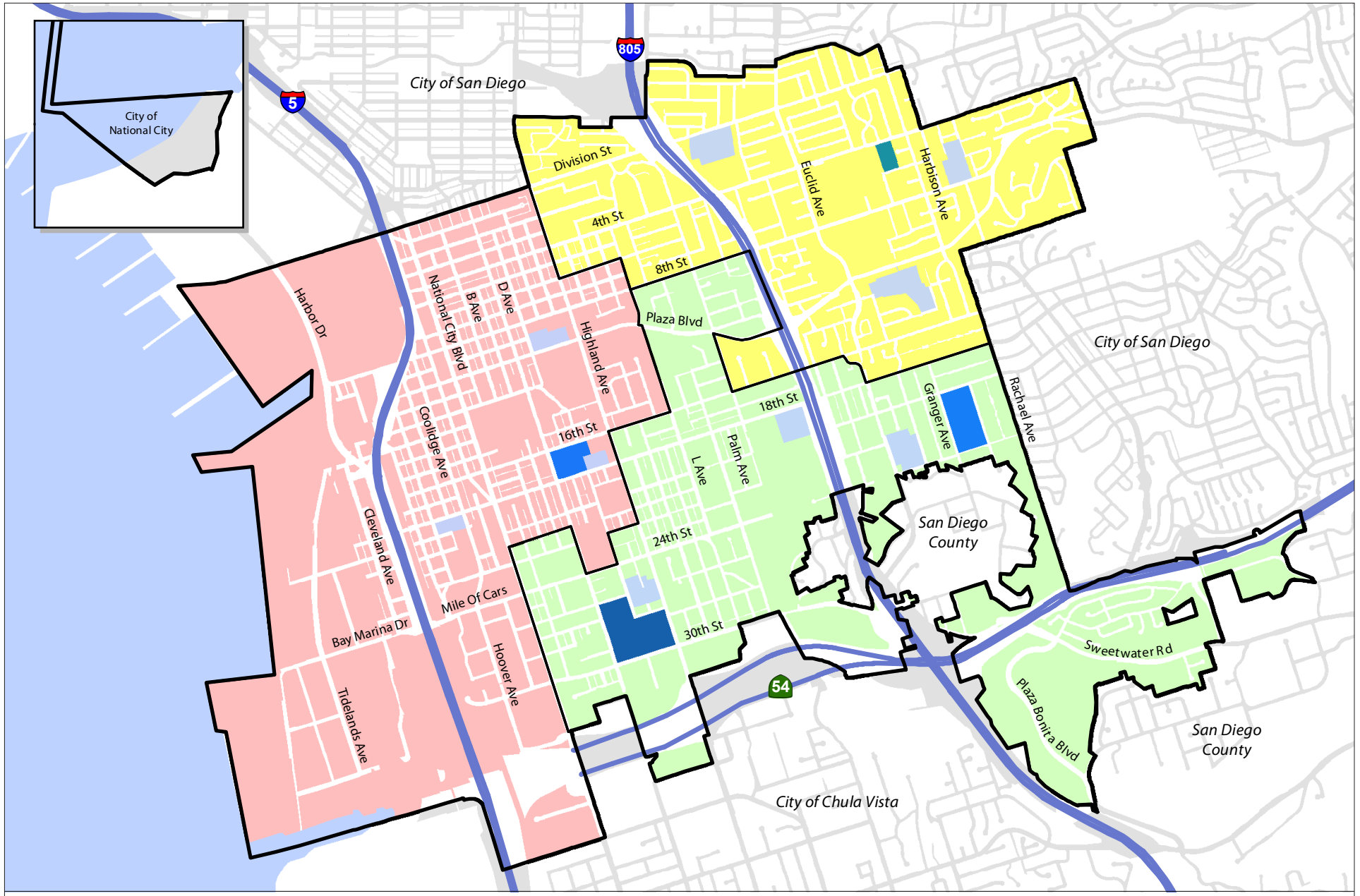


Figure 15: National City Neighborhoods

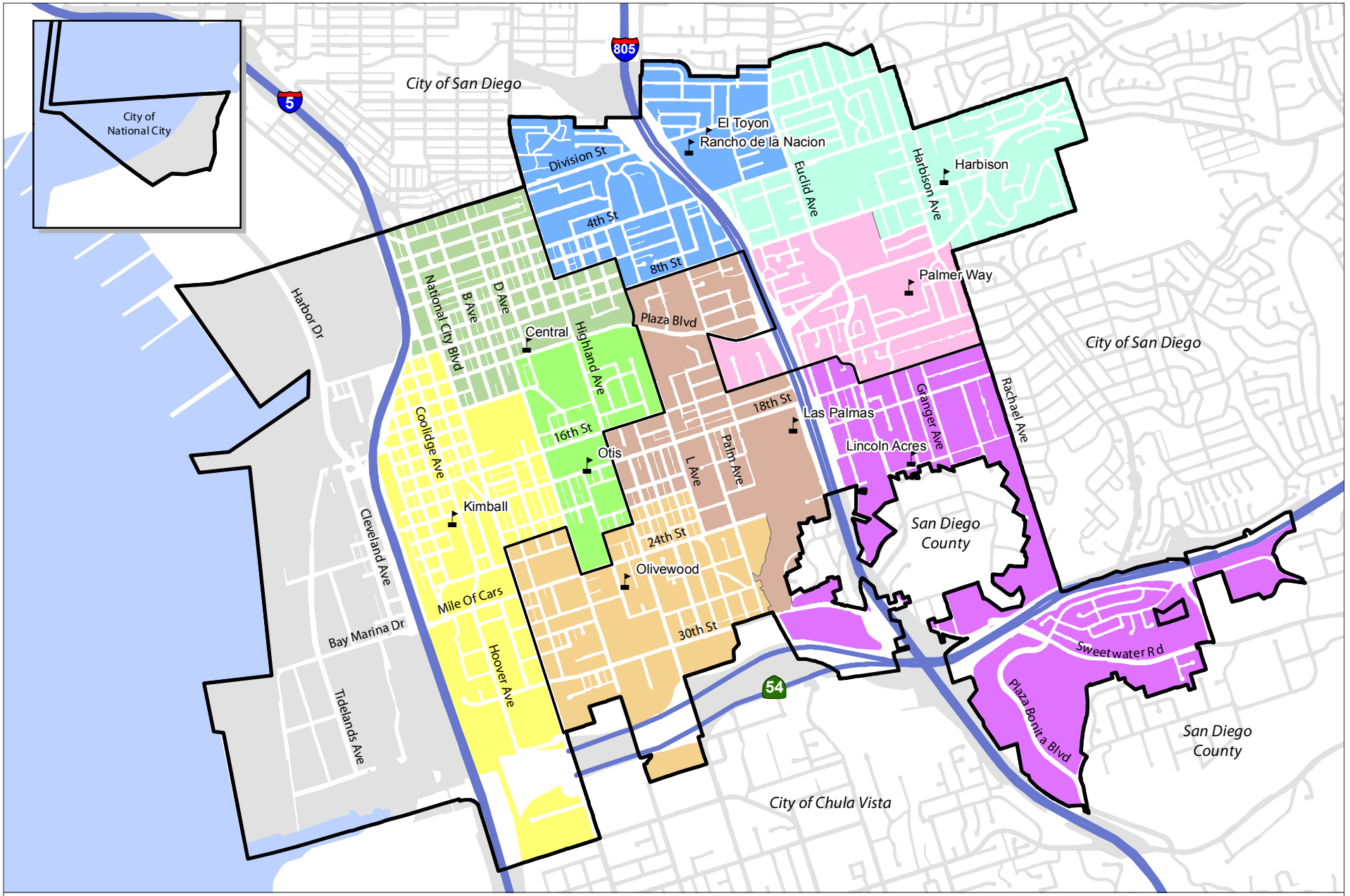


Figure 16: Median Income

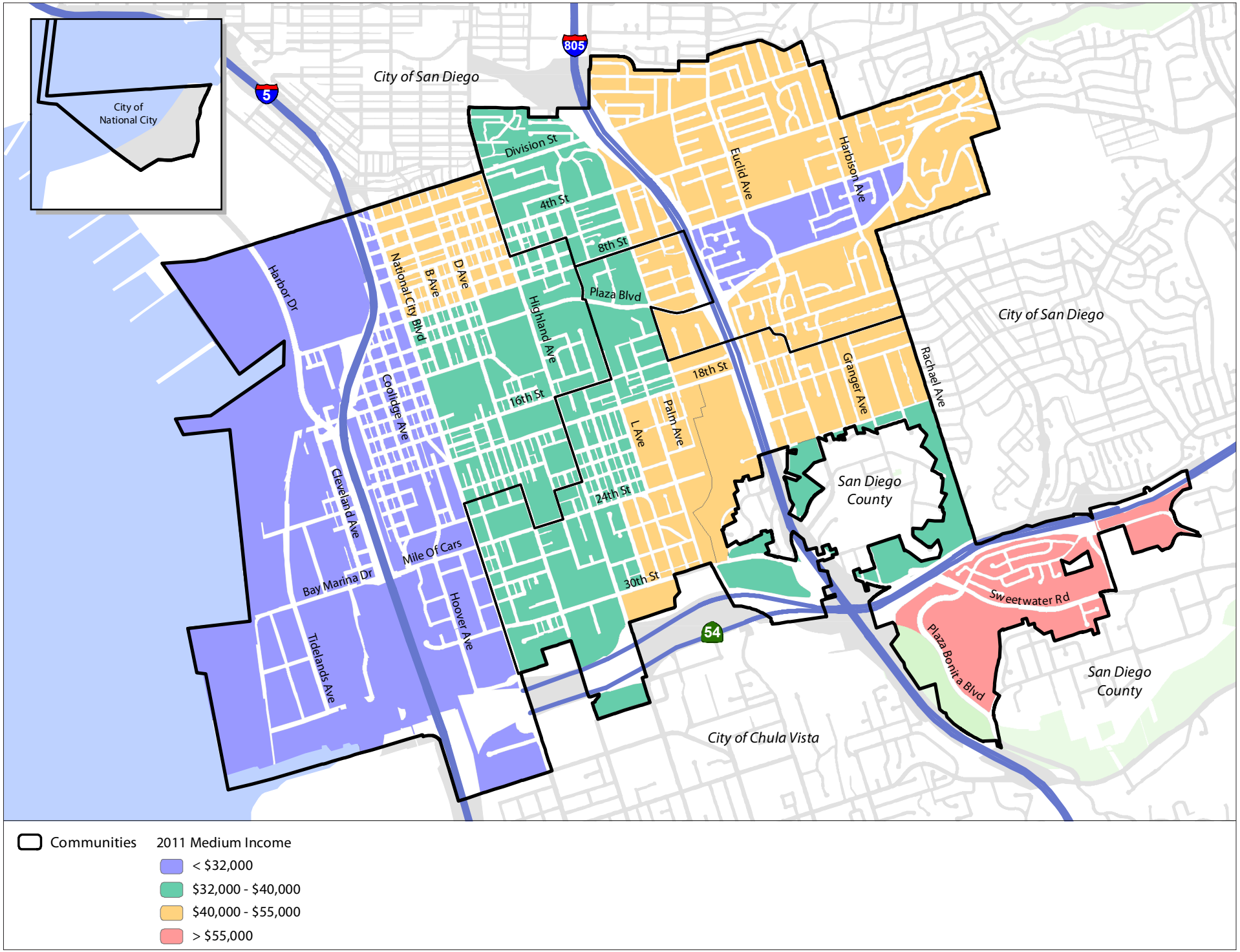


Figure 17: Bicycle to Work Density

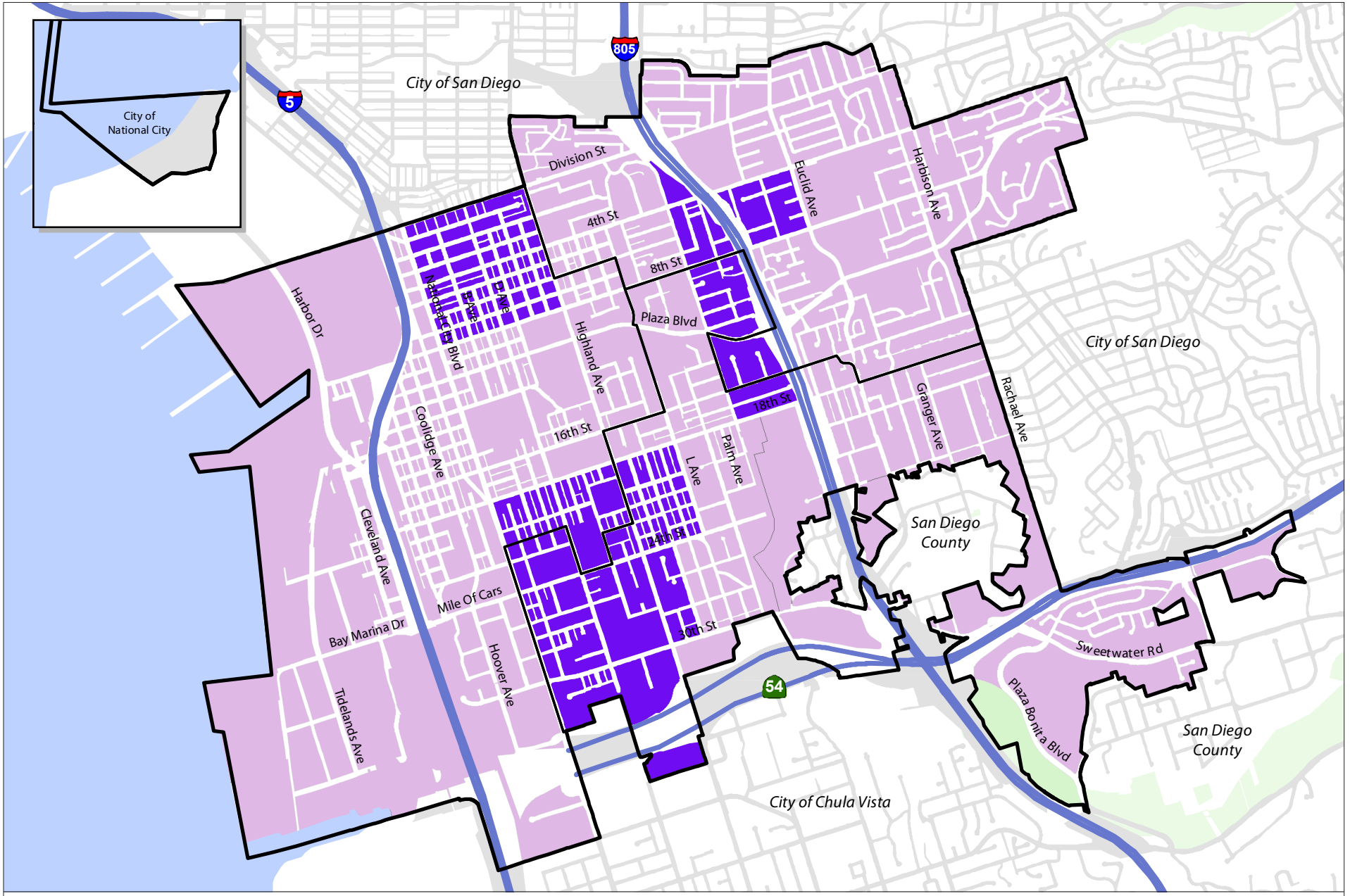


Figure 18: Public Transit to Work Density

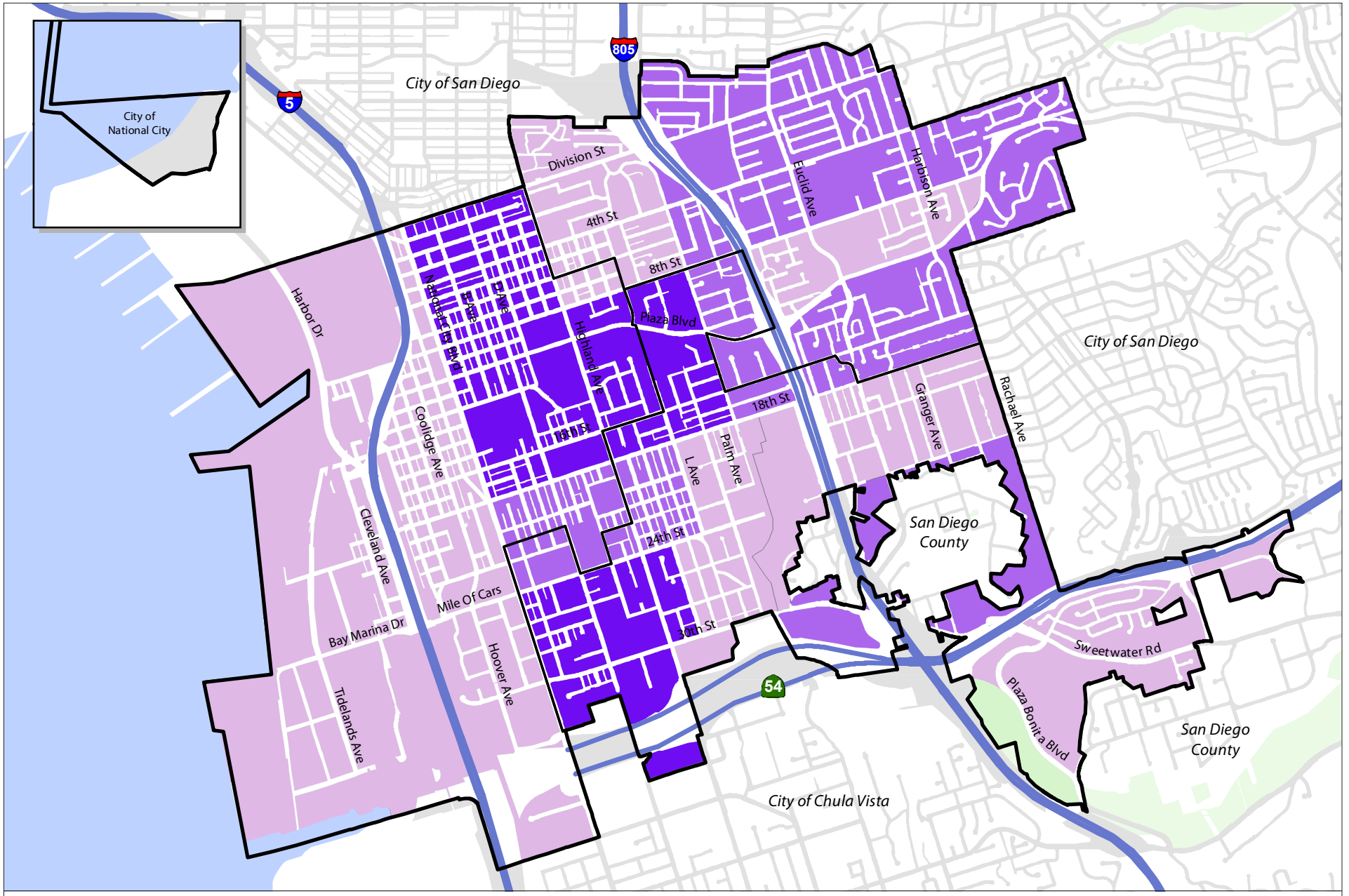


Figure 19: Walk To Work Density

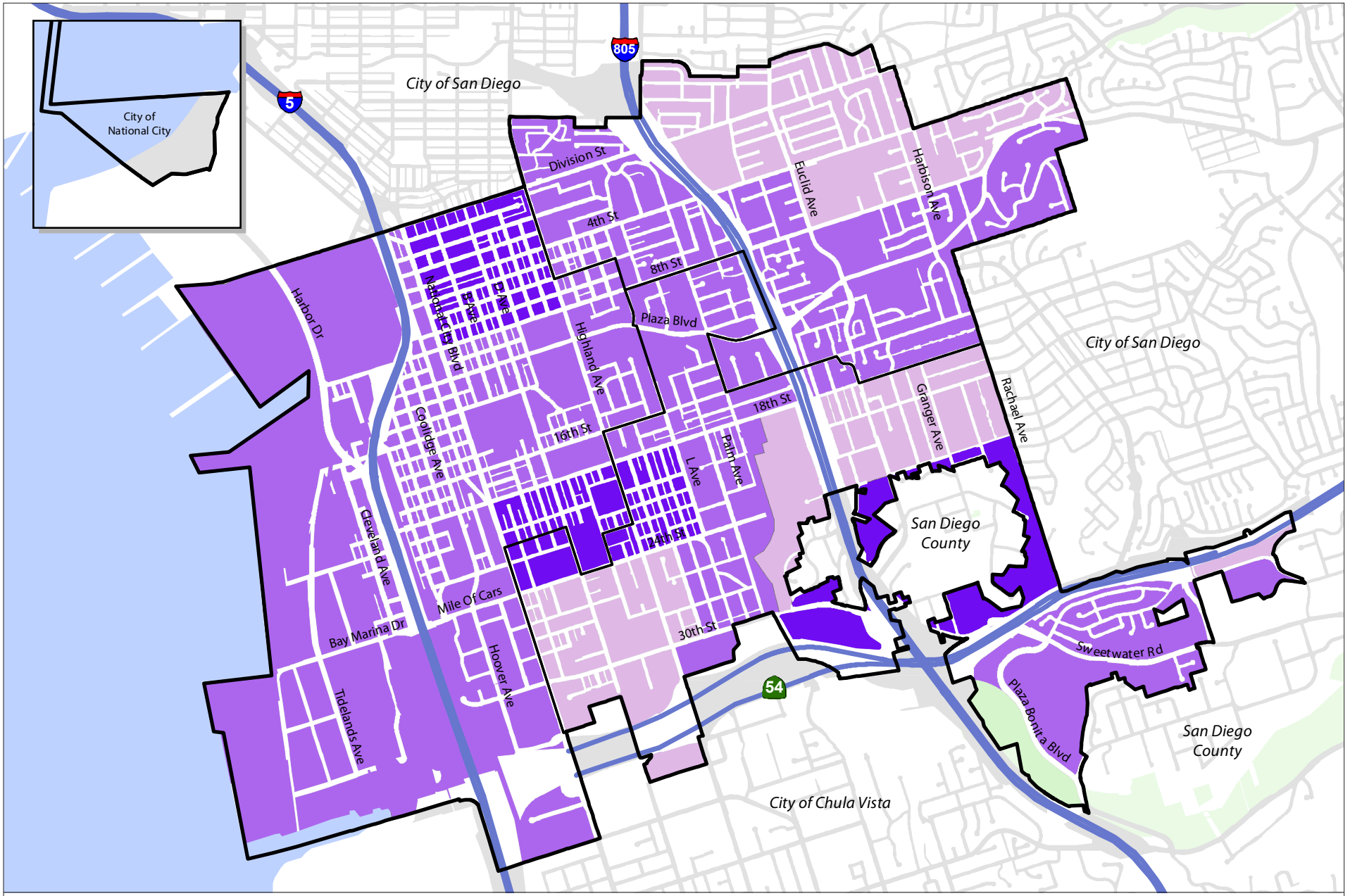


Figure 20: Age Density - 16 Years Old and Under

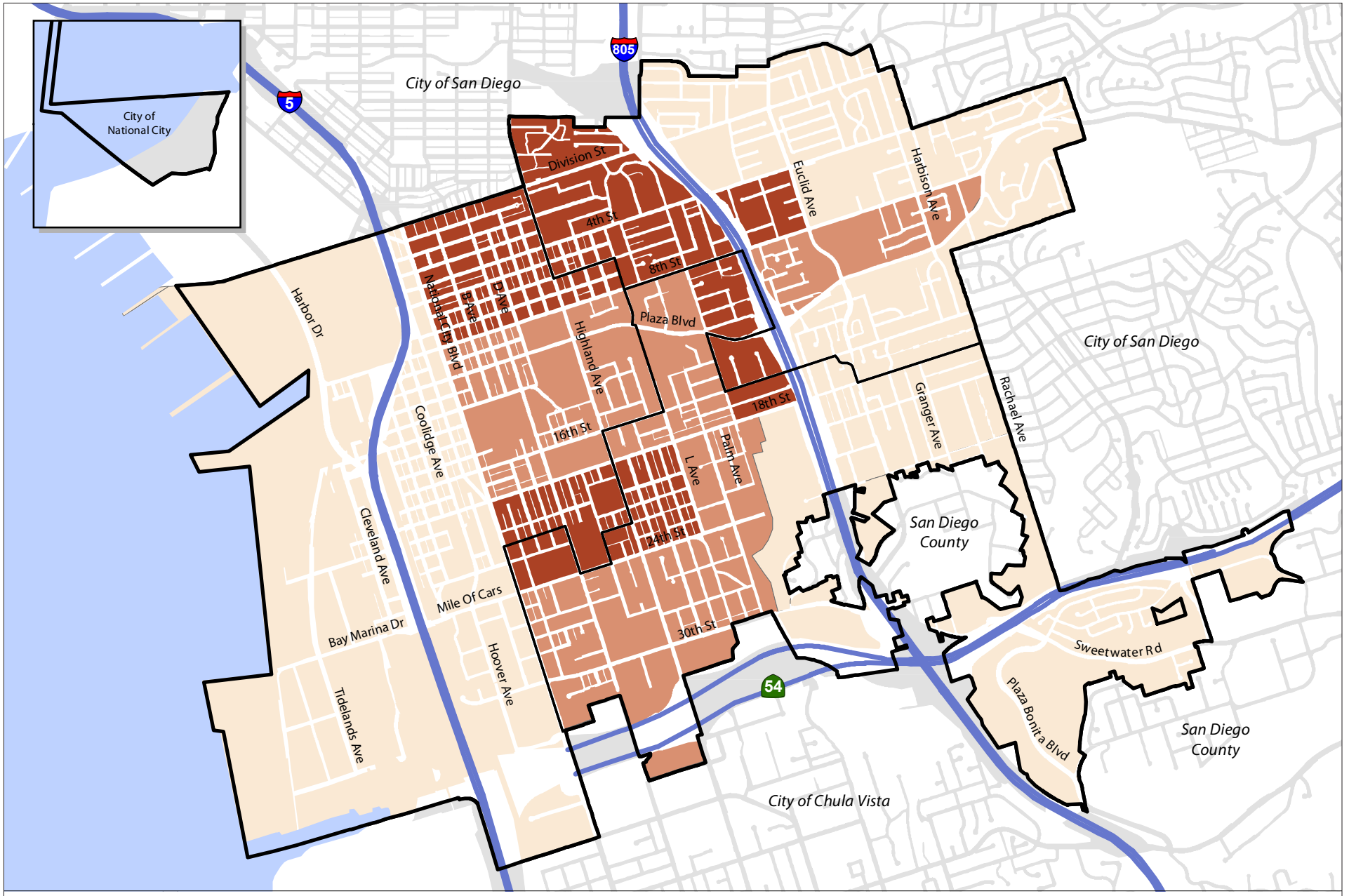


Figure 21: Age Density - 65 Years and Older

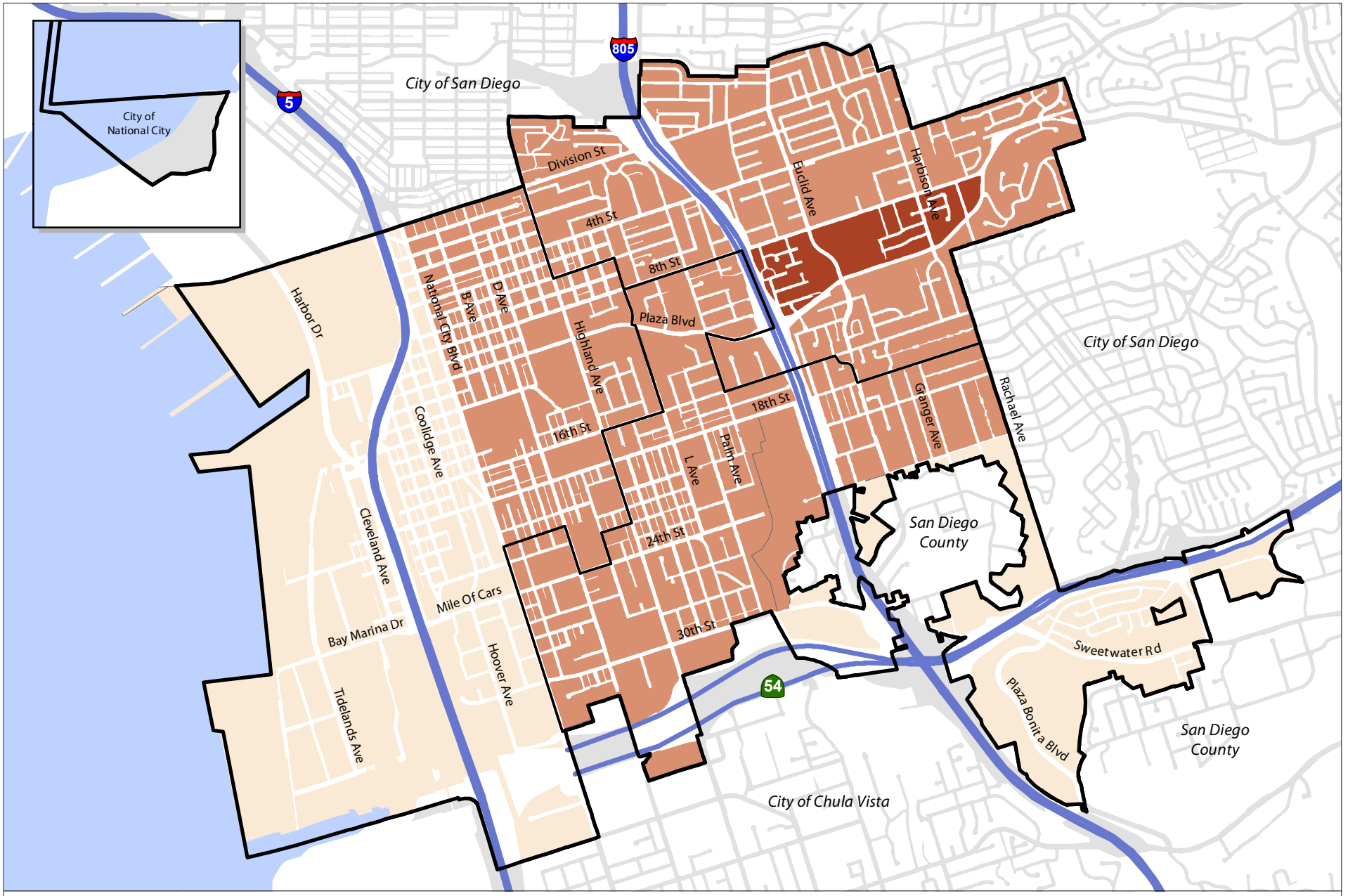
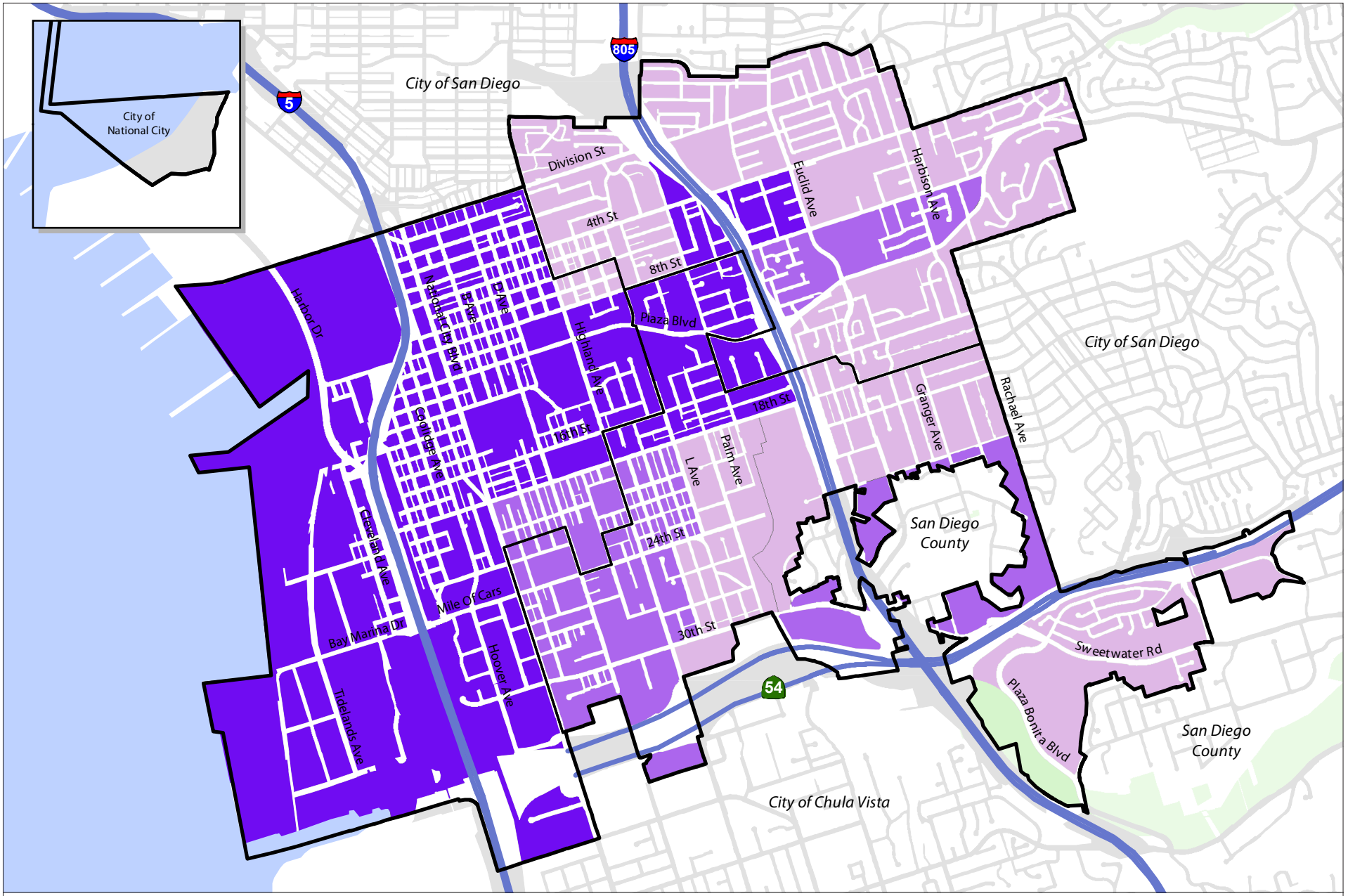


Figure 22: Vehicle Ownership



Pedestrian and Bicycle Suitability Model Overview

The Pedestrian and Bicycle Suitability Model was developed to determine the routes within National City used by pedestrians and bicyclists that are most likely to be active. The Model allows decision makers to prioritize those areas and projects which will benefit the largest number of non-motorized travelers. The Pedestrian and Bicycle Suitability Model identifies both existing and potential areas of pedestrian/cyclist activity using spatial data within a GIS database. This model is an initial run and will be modified as the project progresses.

6. Pedestrian and Bicycle Suitability Model Description

The overall Pedestrian and Bicycle Suitability Model is comprised of three basic models: the attractor, generator and detractor models. When these three interim models are combined, they create the Pedestrian and Bicycle Suitability Model (the Model).

The Model identifies the characteristics of each particular area in geographic space and assigns it a numeric value based on those characteristics. The assigned score allows the area to be ranked, with the highest scores being areas of highest priority.

7. Attractor Model Methodology

Features or places within National City to which pedestrians and cyclists are likely to visit are considered "attractors." The attractor model identifies areas of high pedestrian/cyclist activity based on an evaluation of proximity to these attractors.

Typical bicycle and pedestrian commuter trips to nearby shopping centers, restaurants and work are very short, usually between 2-5 miles each way. School age children will normally ride or walk to school no more than a few miles round trip. Only the more avid cyclists will likely commute longer distances (~20 miles round trip). Thus, the closer attractors are to residents, the more likely the attractors are to inspire trips by bike or walking. Areas within close proximity to attractors are given a higher score then those farther from attractors. A one mile maximum distance in the model was given to encompass the majority of the shorter bicycle trips and maximum pedestrian trips.

The attractor model considers the different attractor types with individualized weighted scores. For example, all schools were considered as attractors, including elementary schools, middle schools, high school and colleges. However, it is assumed that more elementary school aged children walk or rely on their bicycle as a mode of transportation to get to school compared to high school students who hold a drivers license. Therefore, proximity to an elementary school is given a higher weighted score than proximity to a high school. The point system and weighted score multipliers were derived from City input, public input through previous surveys, past applications of the model and available City data. The attractors categories considered are listed in the table below:

Table 8: Mobility Attractors

Mobility Attractors	Weighting Points	Distance Multiplier				Max Points
Mobility Distance Multipliers		5 Min (2)	10 Min (1.5)	15 Min (1)	20 Min (.5)	
Elementary Schools	5	10	7.5	5	2.5	25
Regional Commercial and Retail	4	8	6	4	2	20
Transit Station	4	8	6	4	2	20
Middle Schools	4	8	6	4	2	20
Neighborhood Commercial (Strip malls, local retail)	3	6	4.5	3	1.5	15
High volume Bus Stops (>100)	3	6	4.5	3	1.5	15
Parks and Recreation (excludes non-useable open space)	3	6	4.5	3	1.5	15
Moderate Stops (50-100)	2	4	3	2	1	10
Neighborhood Civic Facilities (Libraries, Post Office & Religious Facilities)	2	4	3	2	1	10
Low volume Bus Stops (<50)	1	2	1.5	1	0.5	5
High Schools and Colleges	1	2	1.5	1	0.5	5

8. Generator Model Methodology

While the attractor model considers where pedestrians and cyclists are likely to travel to, the generator model considers those areas where pedestrians and cyclists are likely to travel from. Areas from which non-motorized travelers are likely to originate are referred to as "generators."

The generator model utilizes demographic data as indicators of potential sources of non-motorized travelers. Existing and projected total population and employment are used, as well as other demographic data such as age and use of public transportation.

Each generator was assigned an individualized weighted score derived from City staff and public input, previous applications of the model and the factors that most influence bicycle and walking trips within the City. The data analyzed by the generator model includes SANDAG-defined transportation analysis zones (TAZs) and U.S. Census Bureau Census Block Groups. The generator categories considered are listed in the table below:

Table 9: Mobility Generators

Mobility Generators	Points	Weighted Multiplier	Final Score
Cycling Mobility: People who bike to work (1)			
> .6%	2	2	4
< .6%	1		2
Non-Vehicular Transportation: People who use public transportation to work (1)			
> 3%	2	2	4
< 3%	1		2
Walking Mobility: People who walk to work (1)			
> 3%	2	2	4
< 3%	1		2
No Vehicle Ownership (2)			
> 172	3	2	6
65 - 172	2		4
< 65	1		2
Median Income (5)			
> $23,500	3	2	6
$23,500 - $50,040	2		4
> $50,040	1		2
Age Density: Children per Acre (3)			
> 5	3	2	6
3-5	2		4
< 3	1		2
Age Density: Seniors per Acre (3)			
> 3	3	2	6
1-3	2		4
< 1	1		2
2010 Population (4)			
> 24	3	1	3
12-23	2		2
<12	1		1
Current Employment Estimates (4)			
>12	3	1	3
6-12	2		2
<6	1		1
2030 Population (4)			
> 30	3	1	3
16-29	2		2
< 16	1		1
2030 Employment (4)			
> 14	3	1	3
6-13	2		2
< 6	1		1

(1) American Community Survey 2010 5 yr Estimate. County Averages from SANDAG Regional Bicycle Plan 2050
(2) American Community Survey 2010 5 yr Estimate. One Standard Deviation above the mean.
(3) US Census 2010 data by Tracts.
(4) SANDAG Series 12. One Standard Deviation above the mean. TAZ (Transportation Analysis Zones)
(5) American Community Survey 2011 5yr Estimate. US Census 2011, Income Poverty and Health Insurance Coverage in the United States: 2011

9. Detractor (Barrier) Model Methodology

Detractors discourage or deter people from walking or riding their bikes. Relevant factors used in the model are related to the vehicular intensity and the perceived safety along a route. Streets with high traffic volumes and high speeds tend to deter people from cycling and walking due to the amount of traffic related stress experienced while traveling along the route. Known areas of high crime and high bicycle and pedestrian related collisions are also deterrents since these issues may reduce the traveler's perceived safety in the environment. These deterrents may cause people to choose alternative routes to avoid certain streets and intersections where safety may be a concern. A weighted score was assigned to each detractor category, derived from City input, public input through previous surveys, past applications of the model, and available City data.

10. Final Composite Model

The Pedestrian and Bicycle Suitability Model is a summed composite of the generator, attractor and detractor models.

The combined grid cells of the generator, attractor, and detractor models were added together to provide a total composite value for each cell. The cells with a higher composite value indicate areas that are likely to have higher pedestrian/cycling activity or value. In some cases, the areas that have a high pedestrian/cycling activity score are areas that already have facilities, but further improvement can be made to enhance the non-motorized traveling environment.

Table 10: Mobility Barriers

Mobility Barriers	Points	Weighted Multiplier	Final Score
Bicycle Related Collisions			
>= 2	-3	2	-6
1	-2		-4
Pedestrian Related Collisions			
>= 3	-3	2	-6
2-3	-2		-4
1	-1		-2
Freeway Crossings related to Cycling Travel			
	-3	1	-3
Traffic Volumes			
>20,000	-4	1	-4
10,000 - 20,000	-3		-3
5,000 - 10,000	-2		-2
1,000 - 5,000	-1		-1
Speed Limits			
45+	-3	1	-3
35-45	-2		-2
25-35	-1		-1
< 25 mph	0		0
Railroads and Light Rail			
	-1	1	1
Slope & Canyons as Barriers to Cycling Travel			
Landform Feature with Slope > 25%	-3	1	-3
Landform, Walkway or Street Slope 10-25%	-2		-2
Slope < 10%	0		0

Figure 23: Attractors

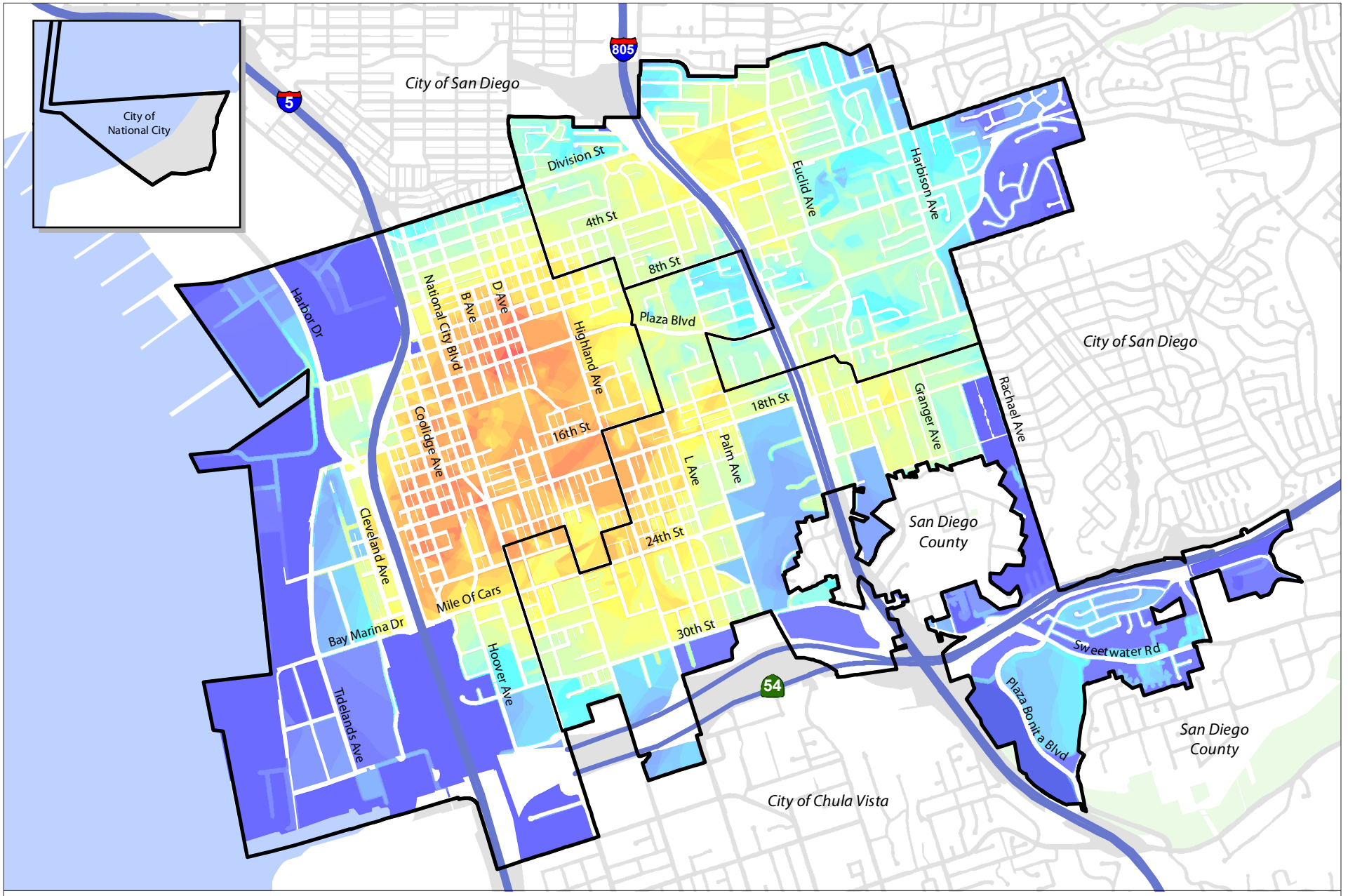


Figure 24: Generators

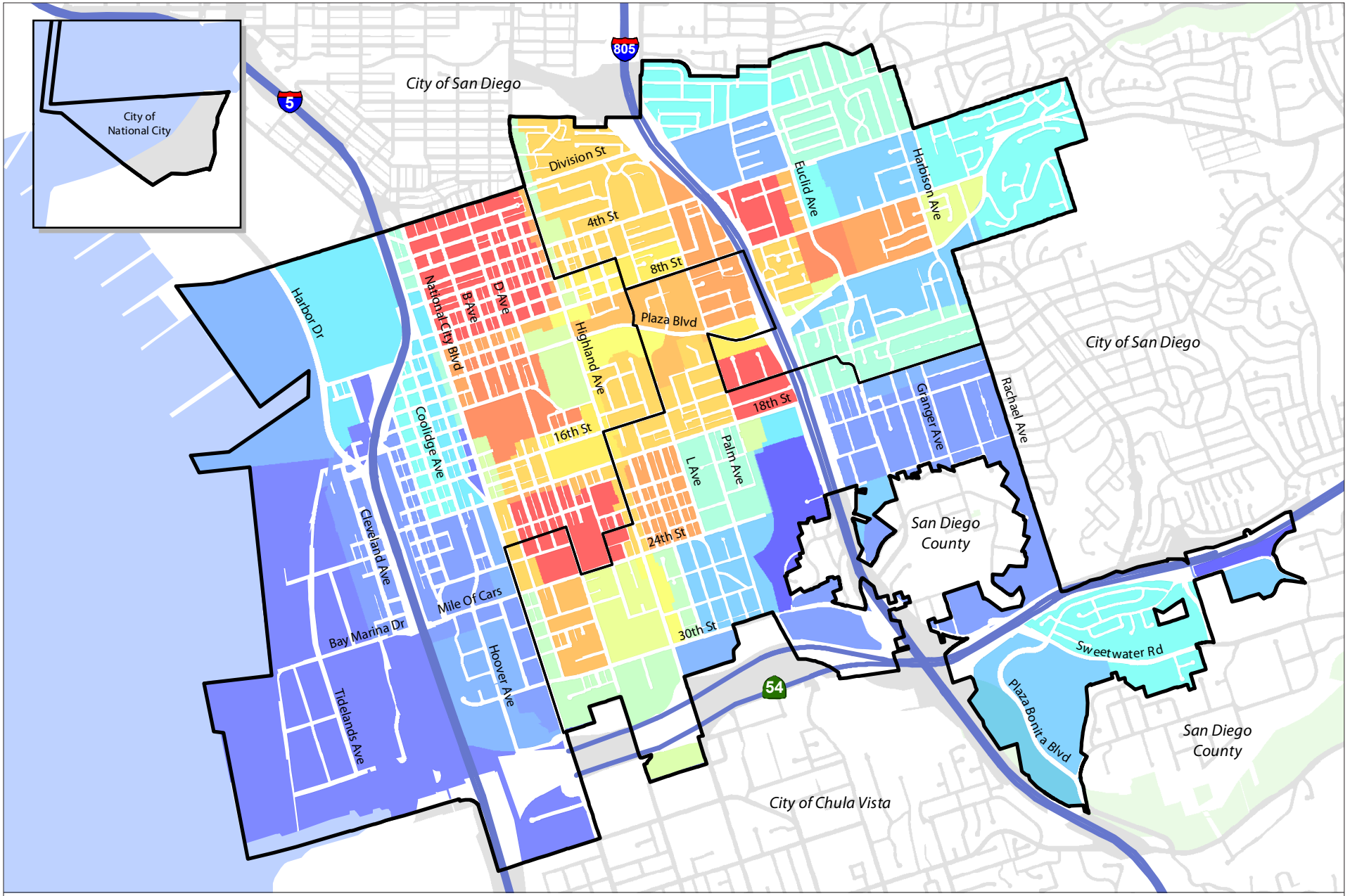


Figure 25: Detractors (Barriers)

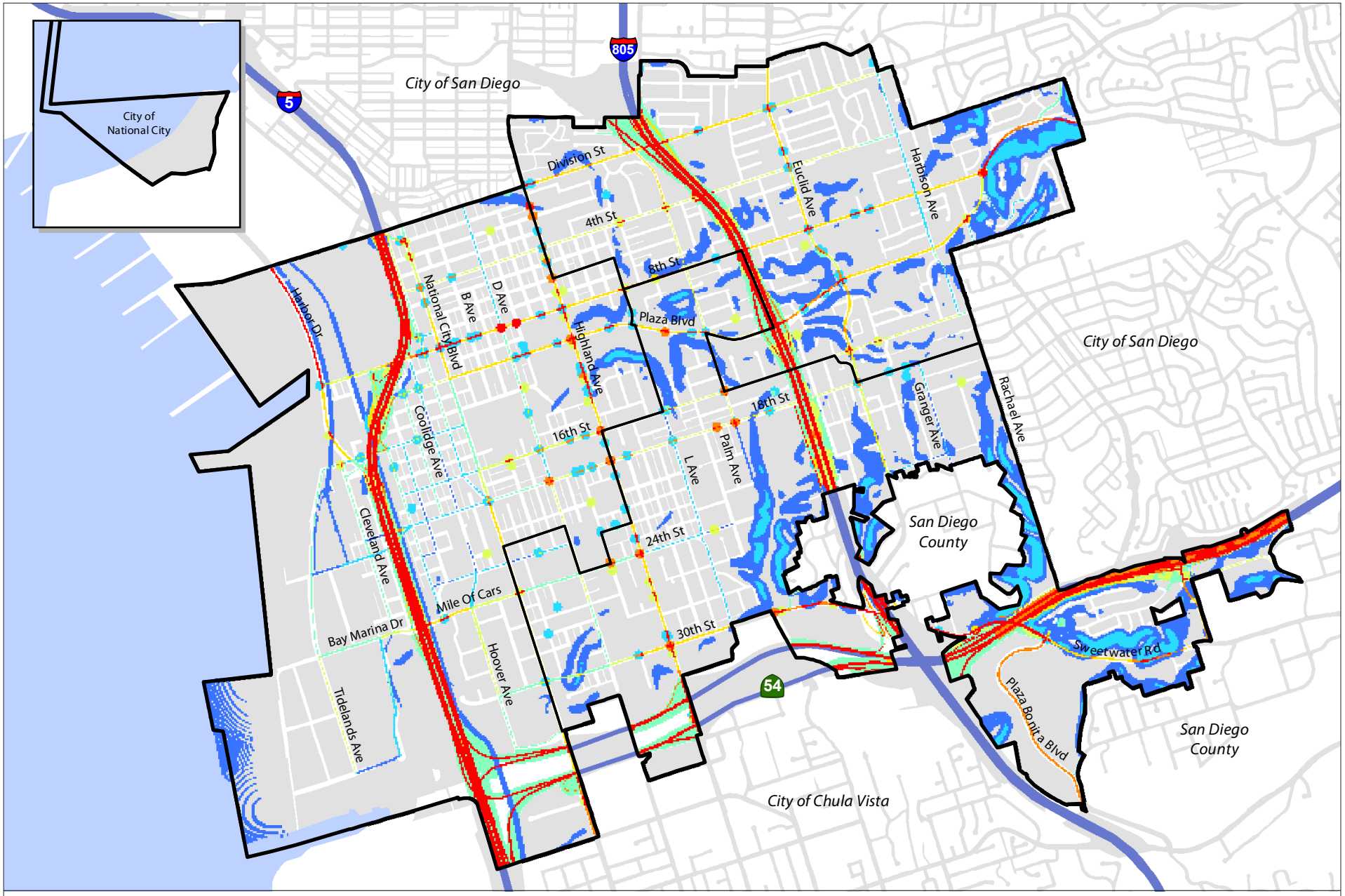
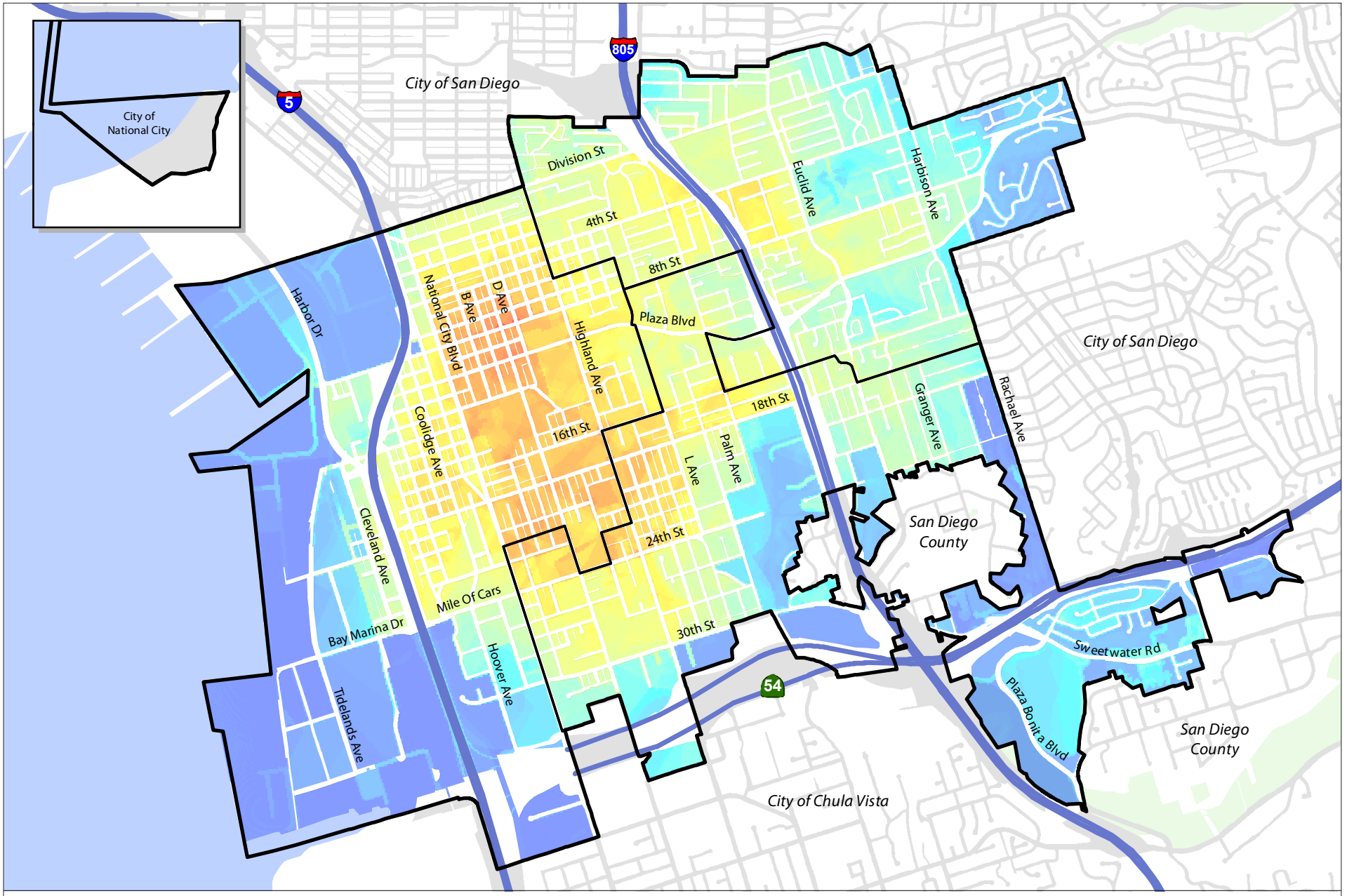


Figure 26: Composite



Safety Analysis Overview

Bicycle and pedestrian collision data were obtained from the National City Police Department. These data sets represent all reported bicycle/vehicle-related and pedestrian/vehicle related and bicycle/pedestrian related collisions occurring in National City from January 2007 through June 2013. Collisions that occurred on off-street paths are not included in the data. Collisions involving cyclists, whether they involve vehicles, other cyclists, or pedestrians, are generally under-reported, so bicycle collisions are likely to have occurred that were not included as part of this data.

During this 5 1/2 year period, there were 94 bicycle/vehicle-related collisions. There were over twice the amount for the pedestrian related collisions with 236. Of these reported collisions, 8 were fatal. The data was reviewed in terms of volume of collisions that occurred at intersections and on road segments. This data will assist in prioritizing projects in later phases. Bicycling and walking collisions were also summarized to identify other trends that may help to determine where and what kind of physical treatment can be recommended.

Table 11: Bicycle Collisions by Community

Community	Collisions
Kimball	43
Las Palmas	27
El Toyon	24
Total	**94**

Table 12: Bicycle Collisions by Year

Year	Collisions
2007	15
2008	16
2009	5
2010	10
2011	13
2012	25
2013*	10
Total	**94**

* Partial Year: January-June

Note: The high rate of bicycle collisions in the Kimball Community correlates with the bicycle commuters density, and households without vehicles.

Table 13: Bicycle Collisions by Neighborhood

Neighborhood	Collisions
Central	14
John Otis	11
Olivewood	11
Kimball	10
Rancho De La Nacion	10
Las Palmas	9
Palmer Way	7
Harbor District	7
Lincoln Acres	7
Ira Harbison	6
El Toyon	2
Total	**94**

Table 14: Bicycle Collisions by Road Segment

Road Segment	Collisions
Highland Ave	22
Plaza Bonita Rd	4
National City Blvd	4
Cleveland Ave	4
D Ave	4
Euclid Ave	3
Grove St	3
Plaza Blvd	3
L Ave	3

Table 15: Bicycle Collisions by Intersection

Intersection	Collisions
24th St and F St	2
B Ave and 16th St	2
Cleveland Ave and Civic Center Dr	2
Euclid Ave and 16th St	2
Grove St and Sweetwater Rd	2
Highland Ave and 12th St	2
Highland Ave and 30th St	2
Highland Ave and 7th St	2
Intersection with at least one collision	56
Total	**74**

Note: 79% of bicycle collisions occurred at intersections

Table 16: Bicycle Collisions by Bicyclist Age Group

Age Group	Collisions
< 16	27
17-64	63
65+	4
Total	**94**

Table 17: Bicycle Collisions by Vehicle Code Violations

Vehicle Code Violation	Collisions
Turning Movements and Required Signals	11
Entering Hwy from Private Road or Driveway	9
Misc Hazardous Violations of the Vehicle Code	8
Bicycle Driving on Wrong Side of Road	7
Bicyclist, Failure to use Right Edge Road	6
Driving on Sidewalks	4
Failure to Drive on Right Side of Roadway	4
Pedestrian Not to Suddenly Enter Path, etc	4
Red or Stop, Vehicles Stop and Limit Line	4
Left Turn Yield Until Safe or U-Turn	3
Private Road or Driveway	3
Drive the Wrong Way on a Divided Highway	2

Table 17: Bicycle Collisions by Vehicle Code Violations - continued

Vehicle Code Violation	Collisions
Entrance from stop through highway, yield until reasonably safe	2
Overtake and pass to left	2
Riding bicycle while under influence of alcohol drugs	2
Starting parked vehicles or backing	2
Stop requirements state stop line	2
Violation of basic speed law, speed unsafe for conditions	2
Yield right-of-way to pedestrians	2
Bicycle to use bicycle lane	1
Bicyclist, hitching ride with other vehicle	1
Disobeying traffic direction by authorized personnel	1
Entrance through highway, yield until reasonably safe	1
Failure to yield, turning vehicle having yielded	1
Hit and run	1
Left turn yield until safe	1
Left turn at intersections	1
Misc non-hazardous violations of the vehicle code	1
Opening and closing doors	1
Passing on right, when unlawful	1
Pedestrian traffic, red light	1
Selling bicycle without approved reflectors	1
Uncontrolled intersection, yield to first vehicle within	1
Vehicular traffic, green light	1
Total	**94**

Note: Many of these violations occur from incorrect roadway positioning or not following the proper rules of the road while riding a bicycle.

Figure 27: Bicycle Collisions

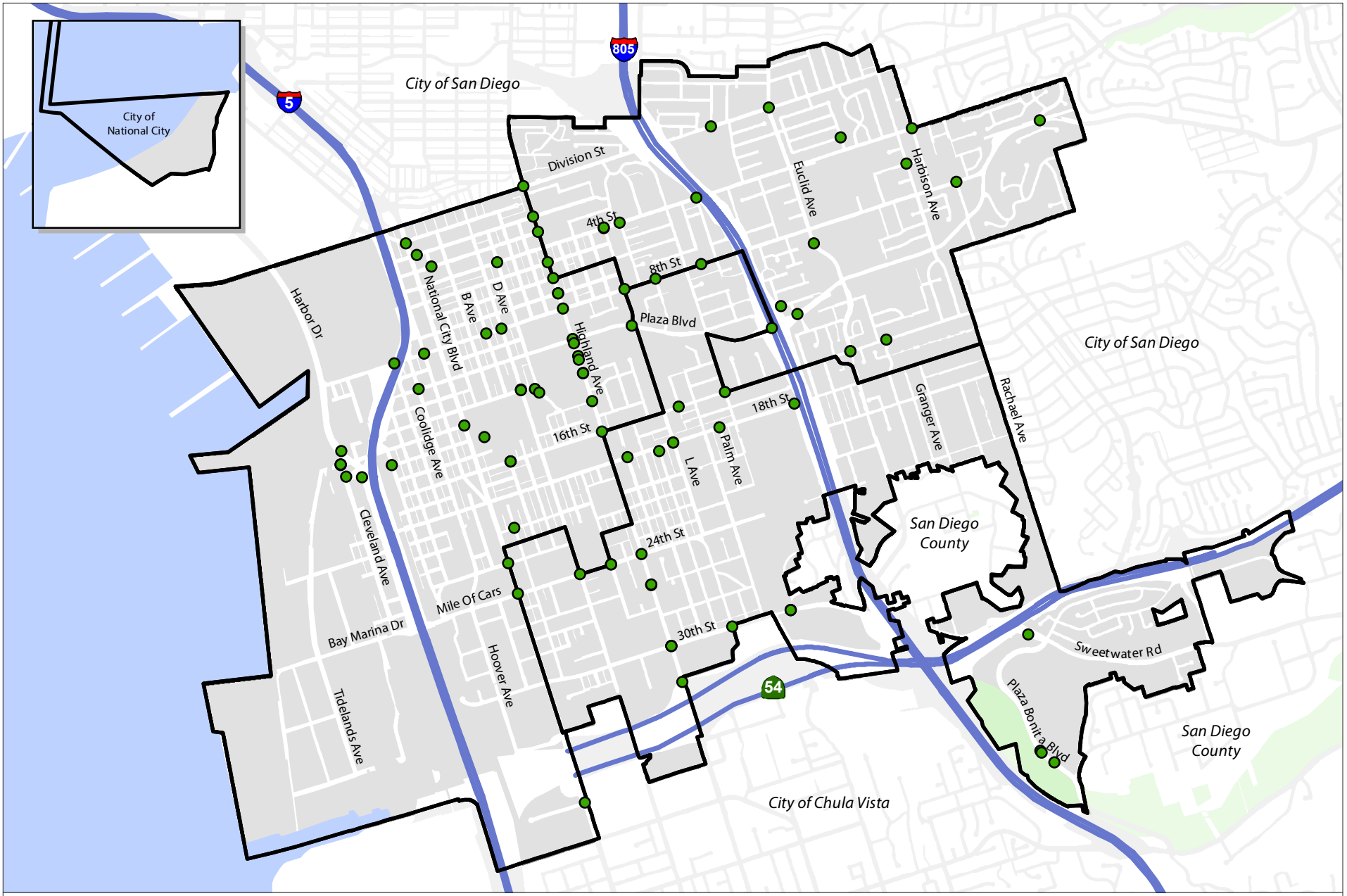


Figure 28: Bicycle Collision Density

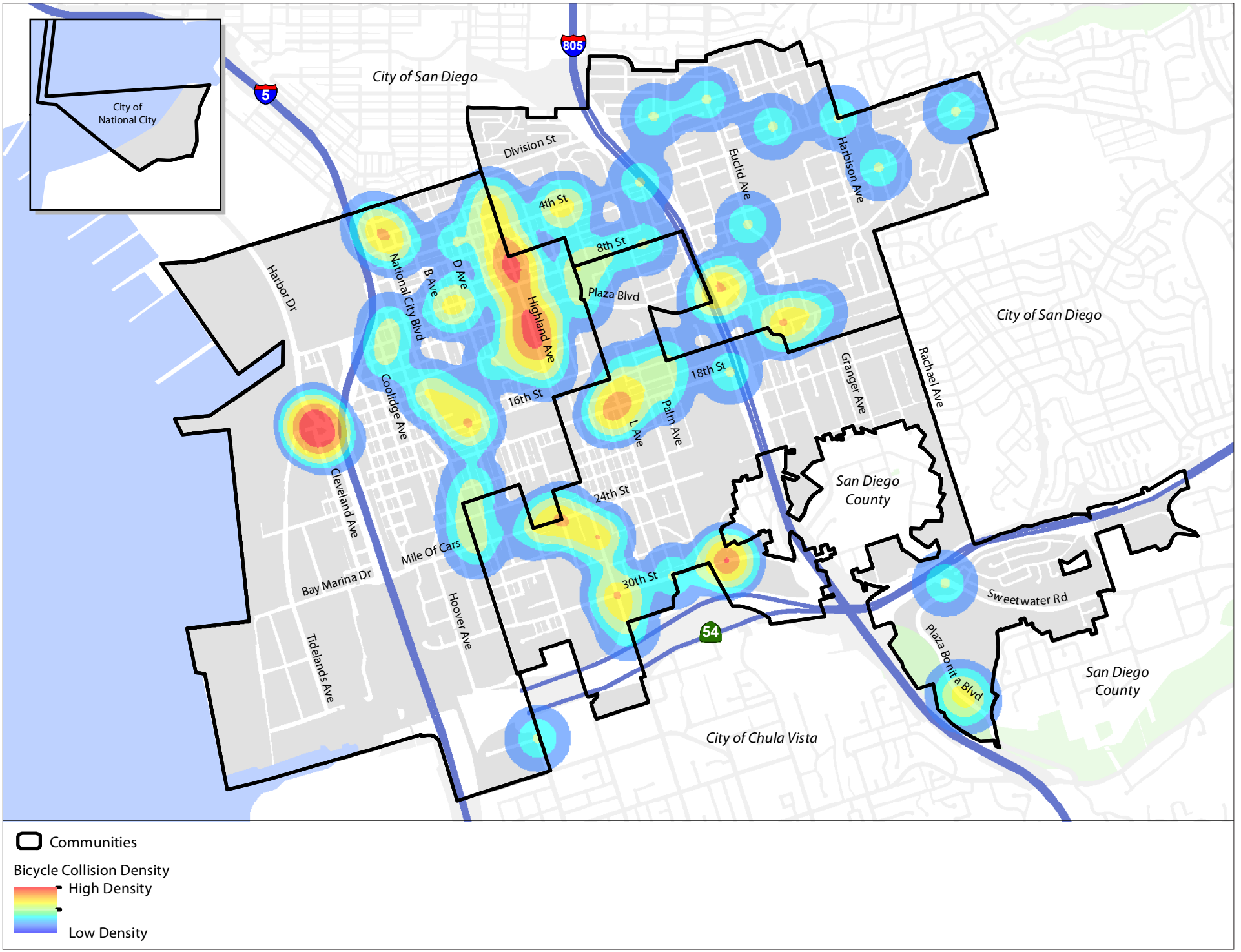


Table 18: Pedestrian Collisions by Community

Community	Collisions
Kimball	95
Las Palmas	74
El Toyon	67
Total	**236**

Table 19: Pedestrian Collisions by Year

Year	Collisions
2007	34
2008	39
2009	34
2010	34
2011	43
2012	34
2013*	18
Total	**236**

* Partial Year: January-June

Table 20: Pedestrian Collisions by Neighborhood

Neighborhood	Collisions
Central	41
John Otis	33
Las Palmas	31
Olivewood	23
Palmer Way	23
Ira Harbison	20
Lincoln Acres	20
Rancho De La Nacion	15
El Toyon	14
Kimball	14
Harbor District	2
Total	**236**

Note: The high rate of pedestrian collisions in the Kimball Community correlates with the high propensity for walking in the neighborhood, as well as the high number of households without vehicle ownership and more households without vehicles.

Table 21: Pedestrian Collisions by Road Segment

Road	Collisions
Highland Ave	57
East 8th St	14
Euclid Ave	14
Plaza Blvd	12
Division St	12
Plaza Bonita Rd	10
L Ave	8
National City Blvd	8
D Ave	7
East 18th St	5

Table 22: Pedestrian Collisions by Intersection

Intersection	Collisions
Highland Ave and Division St	5
Highland Ave and 24th St	5
Highland Ave and Plaza Blvd	5
Euclid Ave and Plaza Blvd	4
Plaza Blvd and L St	4
8th St and Roosevelt	3
8th Ave and A Ave	3
Euclid Ave and 4th St	3
Highland Ave and 4th St	3
Highland Ave and 16th St	3
Highland Ave and 18th St	3
Highland Ave and 30th St	3
Mile of Cars Way and Wilson Ave	3
Other intersections with two collisions	18
Total	**83**

Note: 35% of pedestrian collisions occurred at intersections

Table 23: Pedestrian Collisions by Pedestrian Age Group

Age Group	Collisions
< 16	62
17-64	135
65+	39
Total	**236**

Table 24: Pedestrian Collisions by Vehicle Code Violations

Vehicle Code Violation	Collisions
Yield right-of-way to pedestrians	72
Misc non-hazardous violations of the vehicle code	41
Misc non-hazardous violations of the vehicle code	20
Pedestrian Not to Suddenly Enter Path, etc	19
Starting parked vehicles or backing	11
Crossing between controlled intersections	9
Unknown/invalid charge	8
Right of Way on sidewalk	7
Pedestrian traffic, "Wait" Sign	6
Violation of basic speed law, speed unsafe for conditions	6
Pedestrian on Roadway	5
Turning Movements and Required Signals	5
Red or Stop, Vehicles Stop and Limit Line	3
DUI alcohol and/or drugs	2
DUI alcohol drugs/death causing bodily injury	2
Fail to obey traffic control device	2
Hit and run death or injury	2
Obedience to traffic control signals	2
Property damage accidents	2
Vehicular traffic, green light	2
Disobey traffic control construction site	1
Drive w/o license	1
Driving on Sidewalks	1
Entering Hwy from Private Road or Driveway	1
Evade peace officer with wanton disrergard for safety	1
Obedience to official traffic control device (pedestrian)	1
Reckless driving w/injury	1
Stop requirements state stop line	1
Tunnel of overhead crossing	1
Yield signs, yield until reasonably safe	1
Total	**236**

Figure 29: Pedestrian Collisions

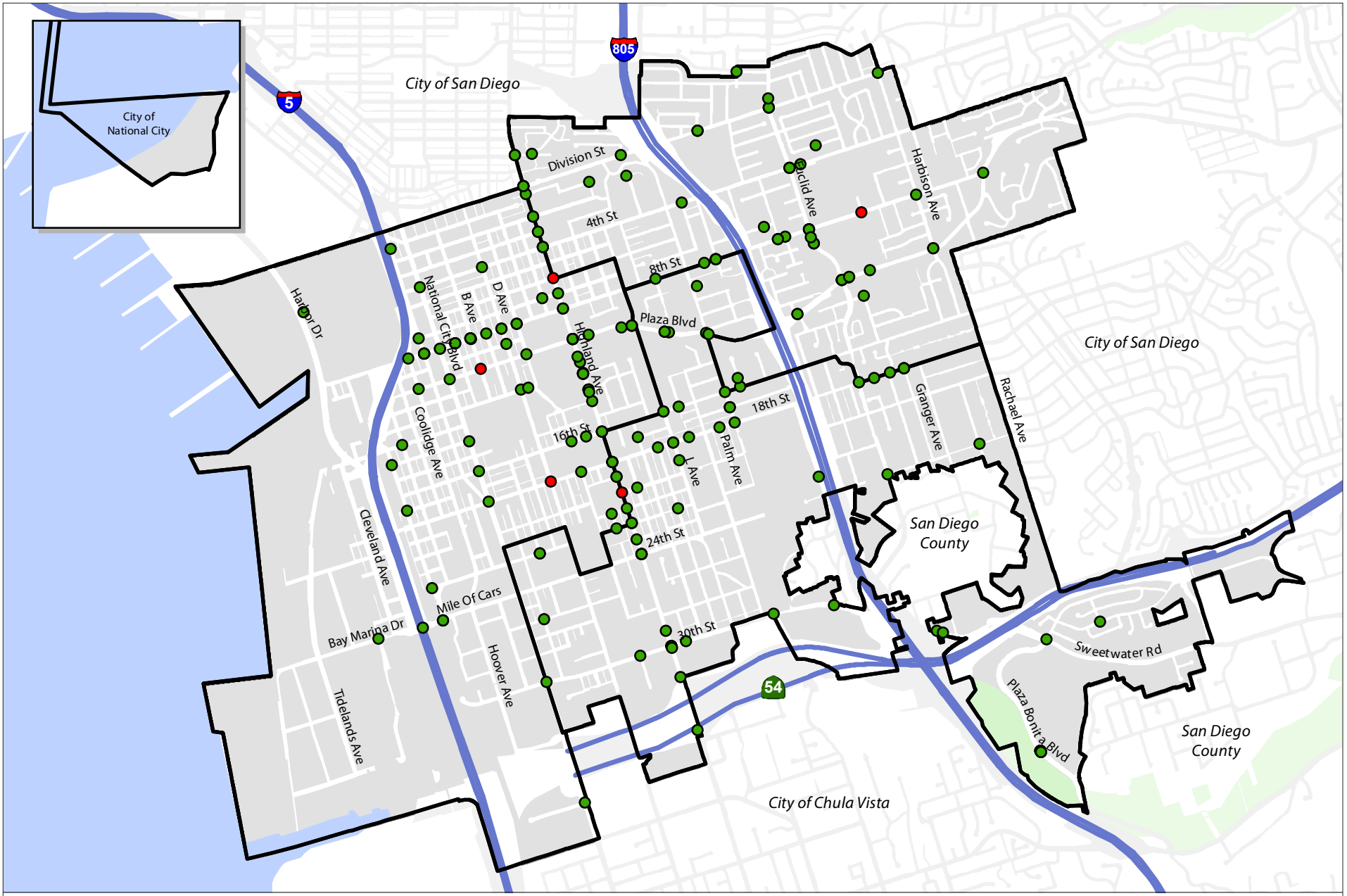
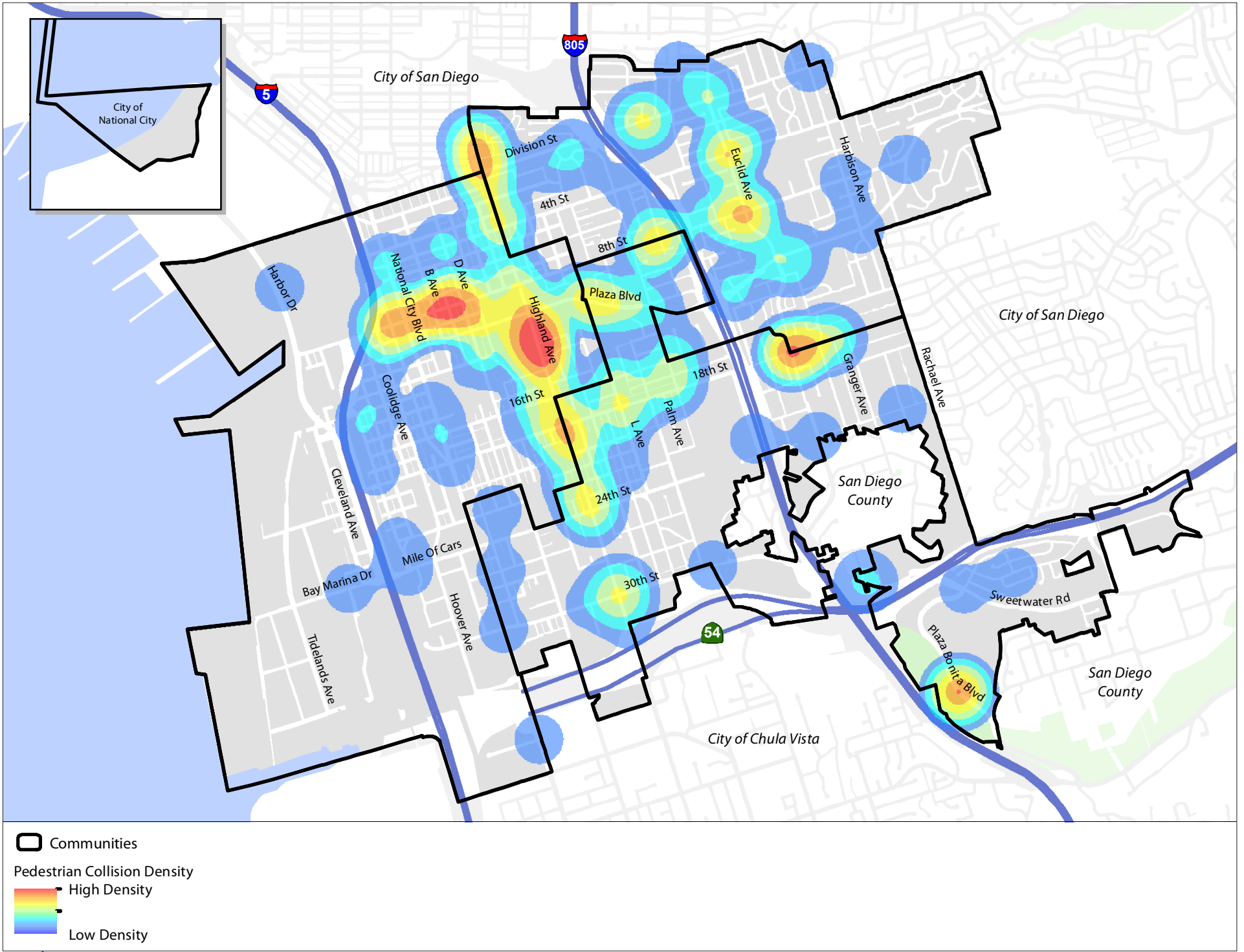


Figure 30: Pedestrian Collision Density



Safety Analysis Near Schools and Parks

The SMART Foundation Plan is working in conjunction with Rady Children's Hospital's *Safe Routes To School* program. The following analysis identifies the bicycle and pedestrian collisions near schools and parks. This information can help those efforts in identifying the schools where improvements, outreach and education can be increased to reduce collision rates.

A quarter mile walking distance from each school and park was created and intersected with the collision data to tabulate total collisions near the schools and parks. The tables indicate collisions by age and most common road segment. Age will help identify the volume of children involved. Road segment will assist in the upcoming recommendations phases.

The following tables and maps show the schools where at least one collision occurred. The schools where no collisions were identified have been excluded.

Table 25: Bicycle Collisions Near Schools

Schools	Total Bicycle Collisions	Victim Age		
		< 16	16-64	> 64
Central Elementary	7	3	4	
National City Junior High	4	2	1	1
Olivewood Elementary	4	2	2	
Sweetwater High	3	1	2	
El Toyon Elementary	2		2	
John Otis Elementary	1		1	
Las Palmas Elementary	1		1	
Ira Harbinson Elementary	1		1	
Total	**23**	**8**	**14**	**1**

Table 26: Pedestrian Collisions Near Schools

Schools	Total Pedestrian Collisions	Victim Age		
		< 16	16-64	> 64
Central Elementary	16	4	7	5
John Otis Elementary	12	5	6	1
Sweetwater High	7	2	5	
National City Junior High	6	1	5	
El Toyon Elementary	6	2	3	1
Olivewood Elementary	5	1	3	1
Palmer Way Elementary	2		2	
Kimball Elementary	2	1	1	
Las Palmas Elementary	1		1	
Granger Junior High	1	1		
Lincoln Acres Elementary	1	1		
Ira Harbinson Elementary	1		1	
Total	**60**	**18**	**34**	**8**

Table 27: Bicycle Collisions by Street Near Schools

	Central Elementary	National City Junior High	Olivewood Elementary	Sweetwater High	El Toyon Elementary	John Otis Elementary	Las Palmas Elementary	Ira Harbinson Elementary	Total Bike Collisions by Street
24th St			4						**4**
B Ave		3							**3**
Division St					2				**2**
East 18th St						1	1		**2**
East 8th St								1	**1**
Highland Ave	5	1		3					**9**
Kimball Way	2								**2**
Total by School	**7**	**4**	**4**	**3**	**2**	**1**	**1**	**1**	

Table 28: Pedestrian Collisions by Street Near Schools

Road Segment	Central Elementary	John Otis Elementary	Sweetwater High	National City Junior High	El Toyon Elementary	Olivewood Elementary	Palmer Way Elementary	Kimball Elementary	Las Palmas Elementary	Granger Junior High	Lincoln Acres Elementary	Ira Harbinson Elementary	Total Pedestrian Collisions by St
16th St				1									**1**
17th St		1						1					**2**
18th St		1											**1**
20th St		1											**1**
24th St											1		**1**
D Ave	2			1									**3**
Division St					6								**6**
E Ave	3												**3**
East 30th St			1										**1**
East 8th St	1											1	**2**
Plaza Blvd	2						2						**4**
F Ave		1	1	1									**3**
Highland Ave	8	8	5	3		5							**29**
National City Blvd								1					**1**
Newell St									1				**1**
Van Ness Ave										1			**1**
Total by School	**16**	**12**	**7**	**6**	**6**	**5**	**2**	**2**	**1**	**1**	**1**	**1**	

Figure 31: Pedestrian Collisions Near Schools

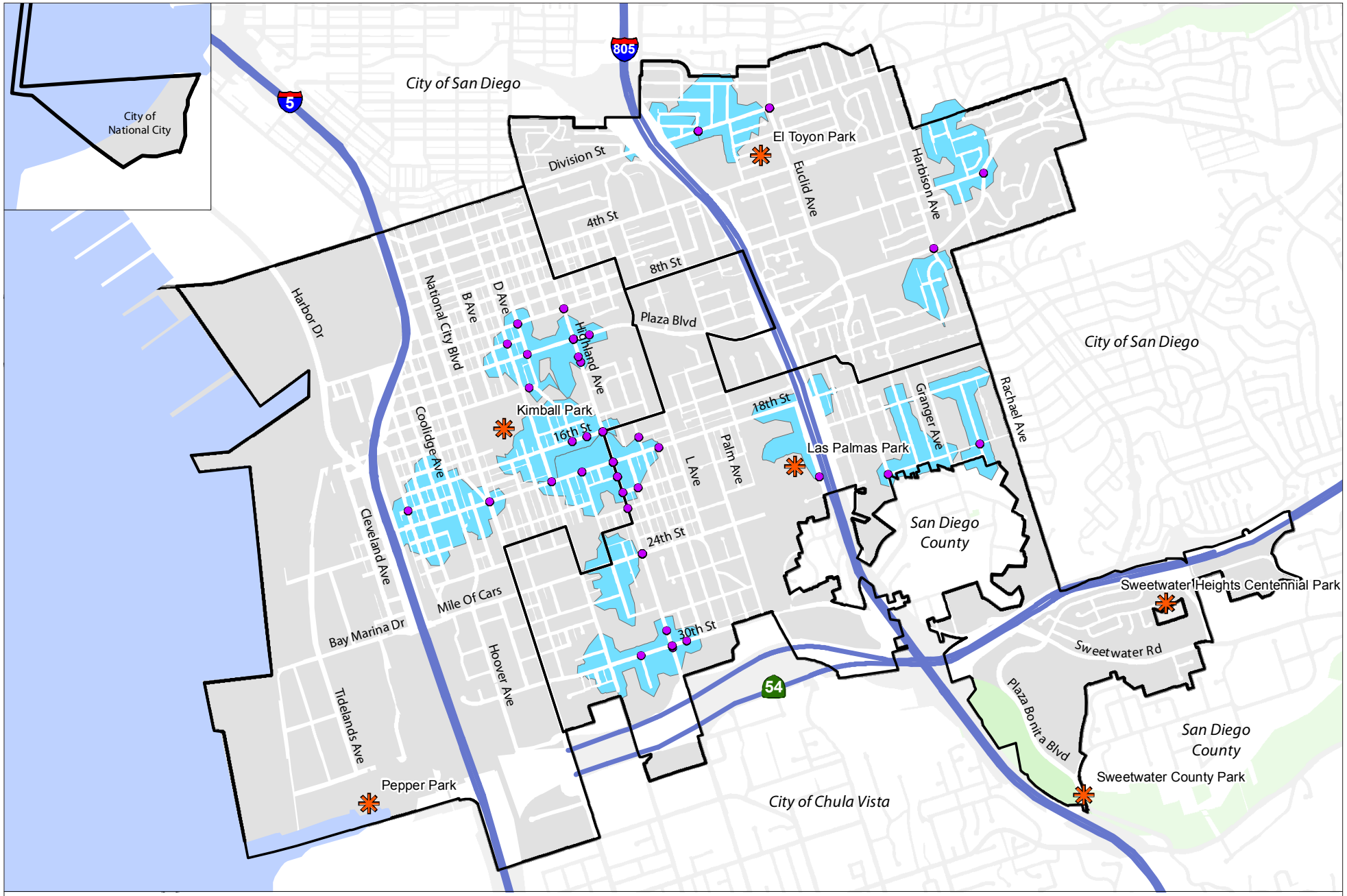


Figure 32: Bicycle Collisions Near Schools

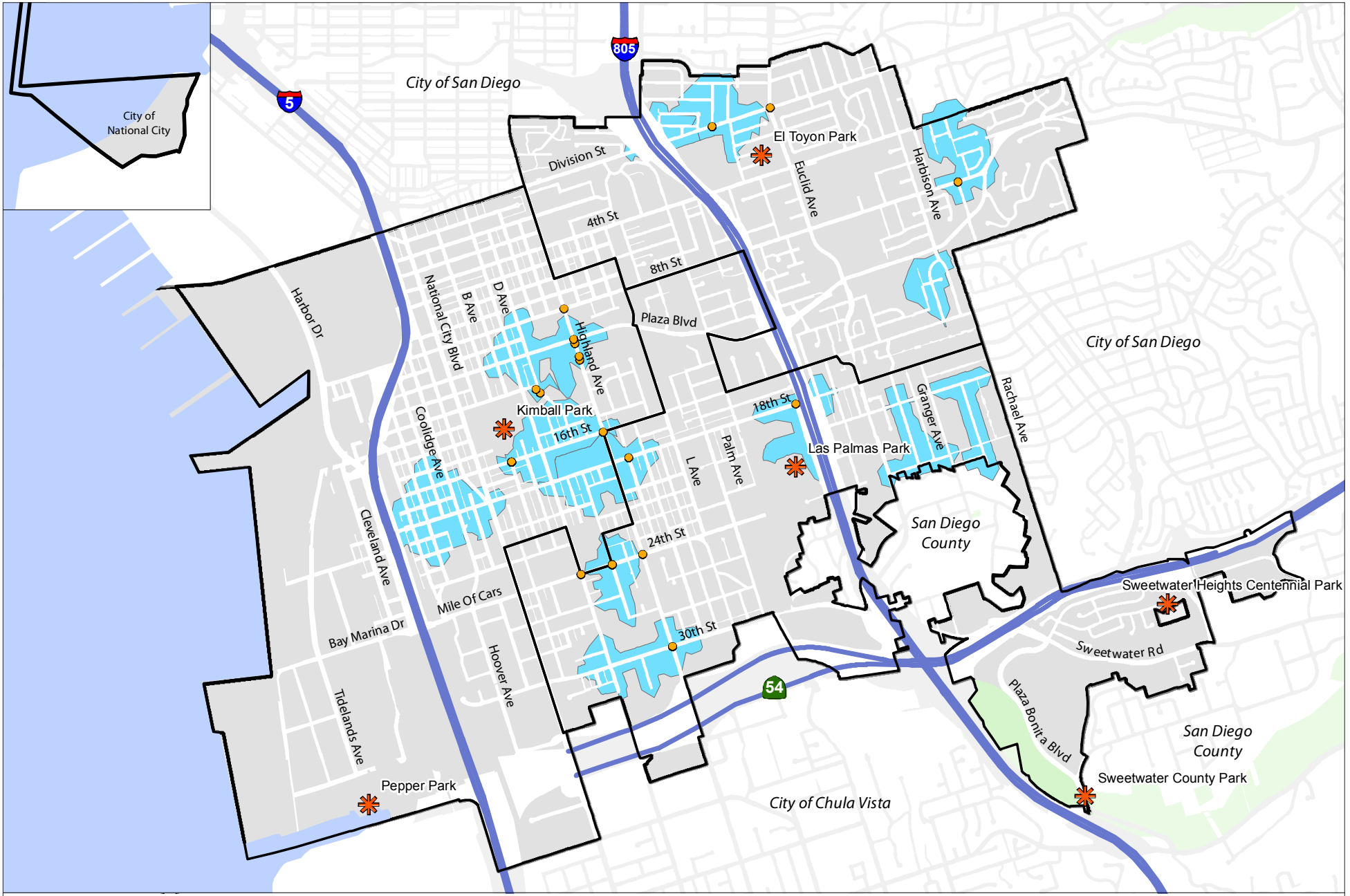


Table 29: Bicycle Collisions Near Parks

Parks	Total Bicycle Collisions	Victim Age		
		< 16	16-64	> 64
Kimball Park	6	2	4	
Sweetwater County Park	3		3	
Total by Age	**9**	**2**	**7**	

Table 30: Bicycle Collisions by Street Near Parks

Parks	Kimball Park	Sweetwater County Park	Total Bike Collision by Street
B Ave	4		**4**
D Ave	2		**2**
Plaza Bonita Rd		3	**3**
Total by Park	**6**	**3**	

Table 31: Pedestrian Collisions Near Parks

Parks	Total Pedestrian Collisions	Victim Age		
		< 16	16-64	> 64
El Toyon Park	4	1	3	
Kimball Park	2	2		
Las Palmas Park	1		1	
Sweetwater County Park	9	3	3	3
Total by Age	**16**	**6**	**7**	3

Table 32: Pedestrian Collisions by Street Near Parks

Parks	El Toyon Park	Kimball Park	Las Palmas Park	Sweetwater County Park	Total Collision by Street
D Ave		1			**1**
East 4th St	1				**1**
Euclid Ave	3				**3**
Newell St			1		**1**
Plaza Bonita Rd				9	**9**
National City Blvd		1			**1**
Total by Park	**4**	**2**	**1**	**9**	

Figure 33: Pedestrian Collisions Near Parks

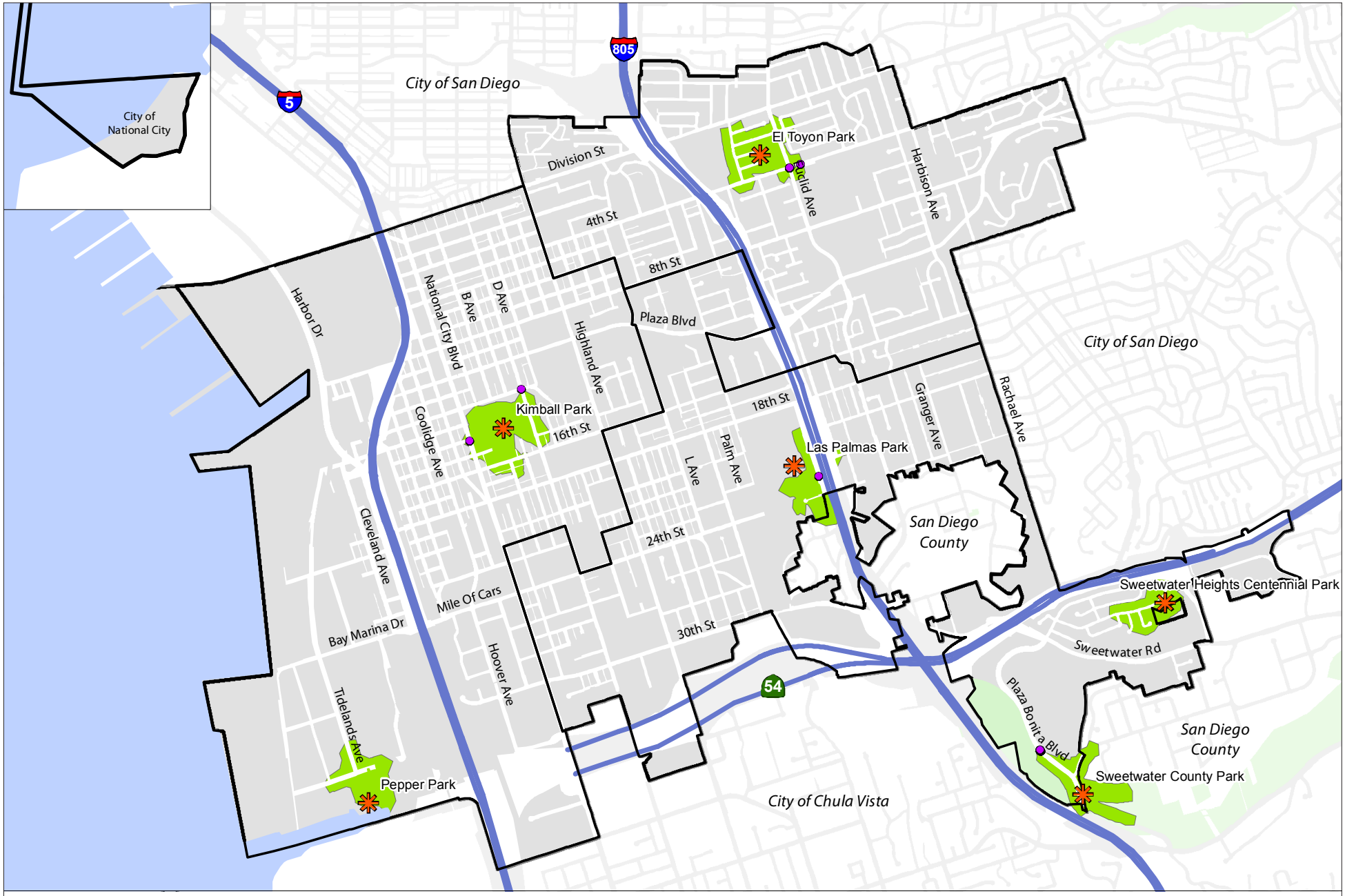
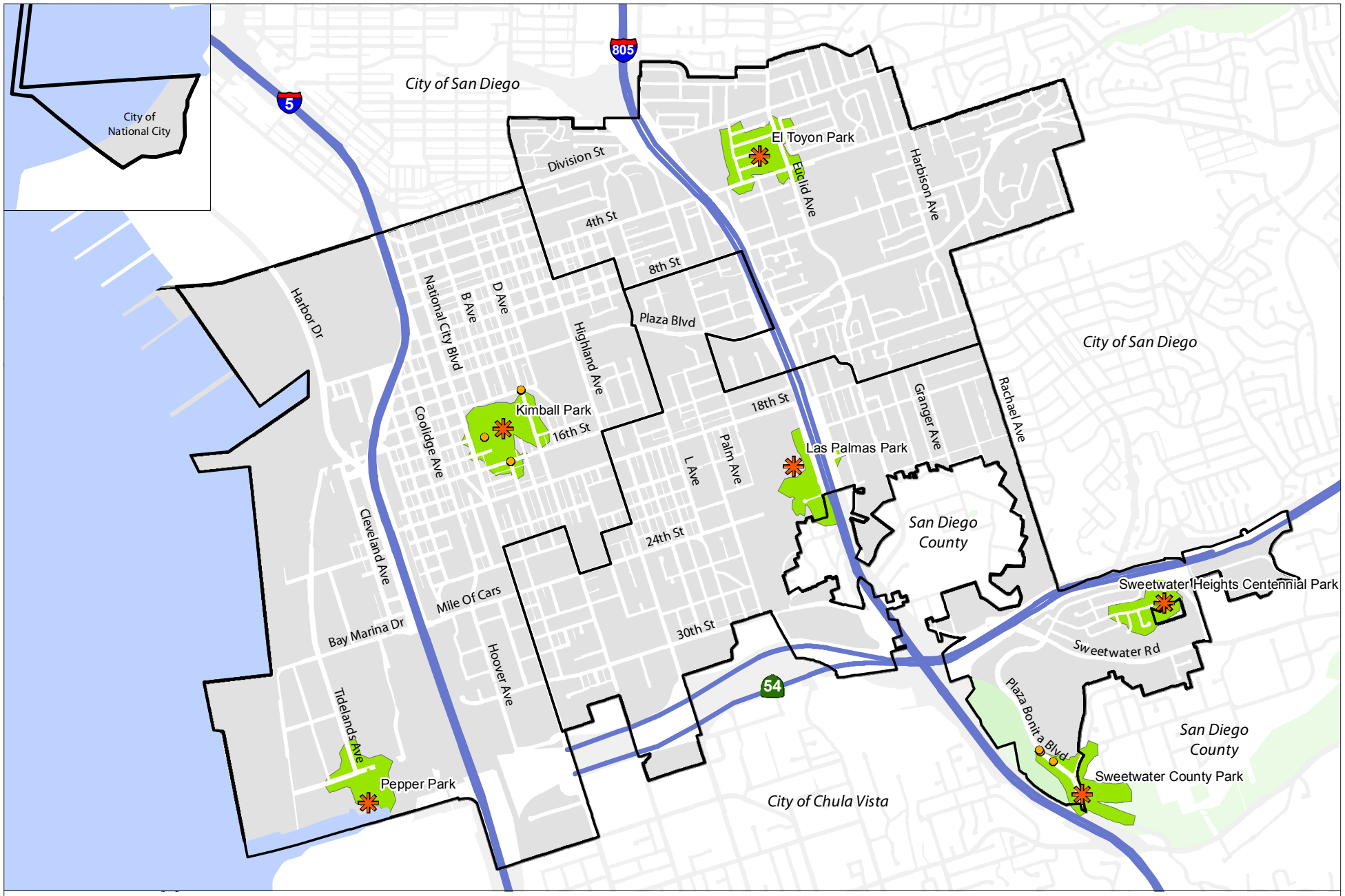


Figure 34: Bicycle Collisions Near Parks



Crime Analysis

Crime data was collected to identify areas within the City where volumes and levels of crime are occurring. It's important to include crime data as part of this analysis due to the nature of the projects and their locations. Since the projects will be studied at a small scale, identifying crime trends near a recommended project can help in improving the perceived and actual safety by including countermeasures in the design. Some examples of safety countermeasure may include additional street lighting or limiting access and egress in a certain area.

11. Crime Prevention Through Environmental Design (CPTED)

Crime Prevention Through Environmental Design is based on the theory that the proper design and effective use of the built environment can lead to a reduction in the incidence and fear of crime and in an improvement in the quality of life. The City has complete four CTPED projects to date:

1. National City Municipal Pool
The CPTED assessment only addresses public space around the exterior of the National City Pool and the immediate interior of the lobby. It is not meant to constitute an overall crime prevention survey of Las Palmas Park or the pool area.

2. Butterfly Park
This report seeks to incorporate CPTED strategies and concepts at the initial stages of the development process regarding Butterfly Park.

3. Kimball Park Lighting
This report seeks to incorporate CPTED lighting strategies and concepts in reference to the Proposed Phase I Photometric Plan for Kimball Park.

4. National City Library (Exterior Only)
The CPTED assessment only addresses public space around the exterior of the National City Library and is not meant to constitute an overall crime prevention survey of Kimball Park or the interior of the city library.

There are four key concepts in CPTED which are all interrelated:

Natural Surveillance: The placement of physical features, activities and people in such a way as to maximize visibility.

Natural Access Control: The physical guidance of people coming and going from a space by the judicial placement of entrances, exits, fencing, landscaping and lighting.

Territorial Reinforcement: The use of physical attributes that express ownership such as fencing, pavement treatments, signage and landscaping.

Maintenance: Allows for the continued use of a space for its intended purpose. It also serves as an additional expression of ownership.

The National City General Plan identifies Natural Surveillance, Natural Access Control and Territorial Reinforcement as the most common and those will be studied further in the recommendations phase.

12. Crime Level Classification

This section summarizes crime data collected between 2007-2012 from the National City Police Department. Due to the volume of crime data that has been collected, the data has been subdivided into three levels of violation. Feedback was provided by the City's Crime Analyst to determine the subcategories that are appropriate for this project.

Level one are the non-physical violent crimes which include, amongst others, robbery, vandalism, disorderly conduct, loitering, indecent exposure, possession of firearms, gang activity, and disturbing the peace.

Level two crimes are more physical and related to children such as assault, battery, child cruelty, possession of a deadly weapon, lewd and lascivious acts, sexual battery, annoying children, crimes against children, firearm discharge and unlawful sexual intercourse.

Level three are the serious crimes which include murder, rape and kidnapping.

This following table summarizes the collected crime data by community. While Figure 35 shows the locations of the crimes, the following density maps show where the high concentrations of crime are occurring. During the recommendations phase, the crime data will be analyzed in greater detail.

Table 33: Crime Levels by Community

Community	Level 1	Level 2	Level 3
El Toyon	732	466	45
Kimball	1,570	680	70
Las Palmas	1,076	650	44
Total	**3,378**	**1,796**	**159**

Source: Automated Regional Justice Information System (ARJIS) 2007-2012

Figure 35: Crime Analysis

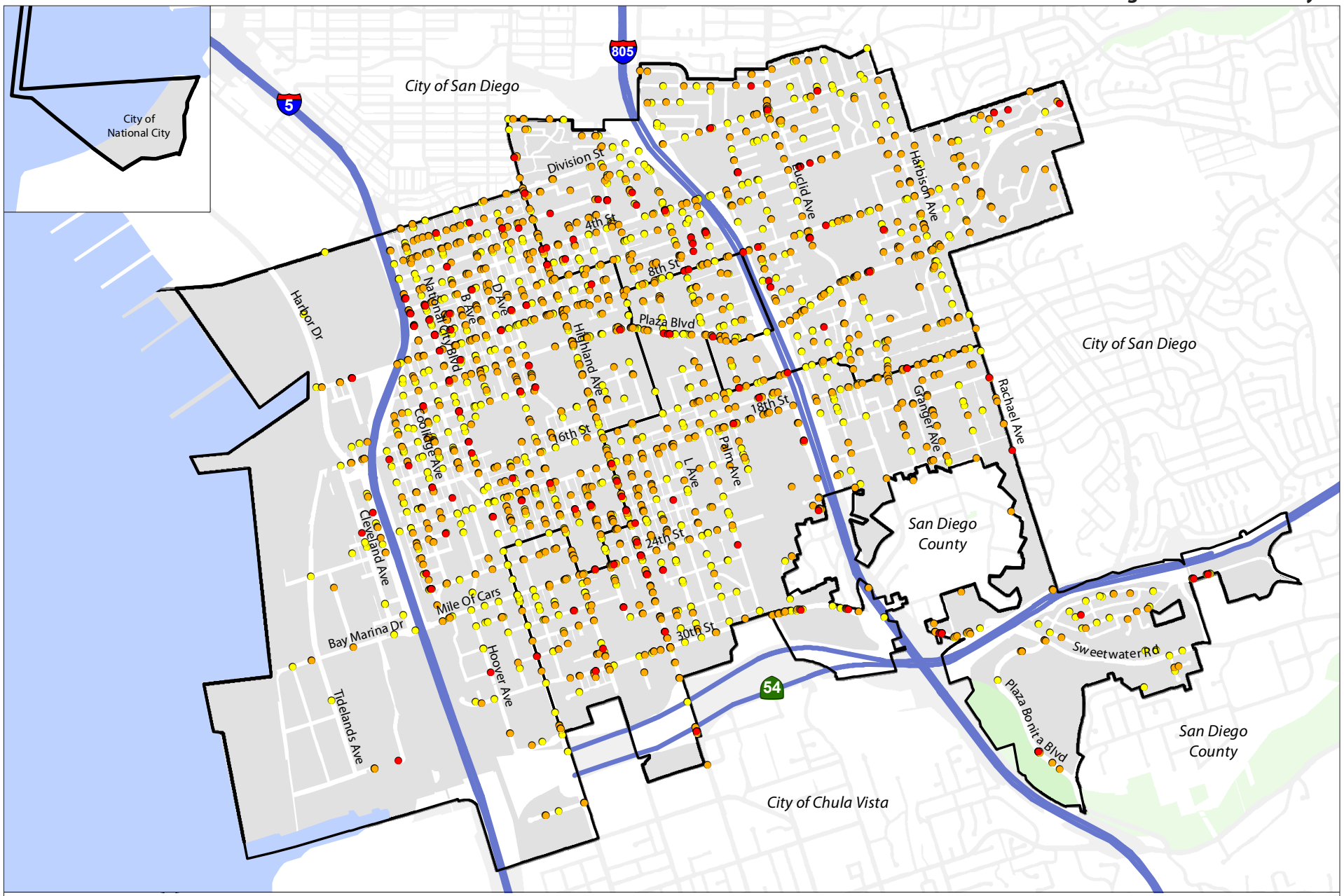


Figure 36: Level One Crime Density

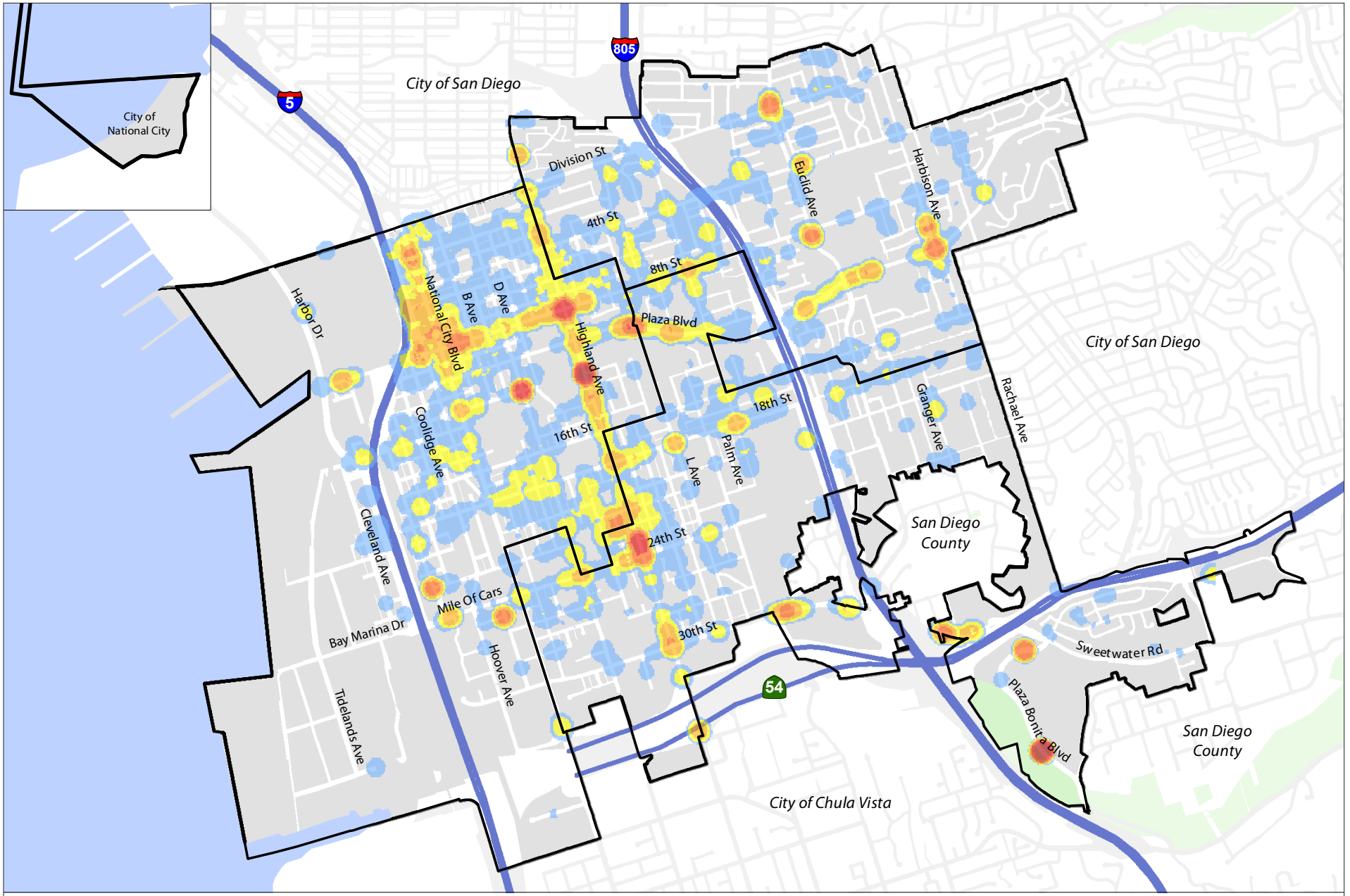


Figure 37: Level Two Crime Density

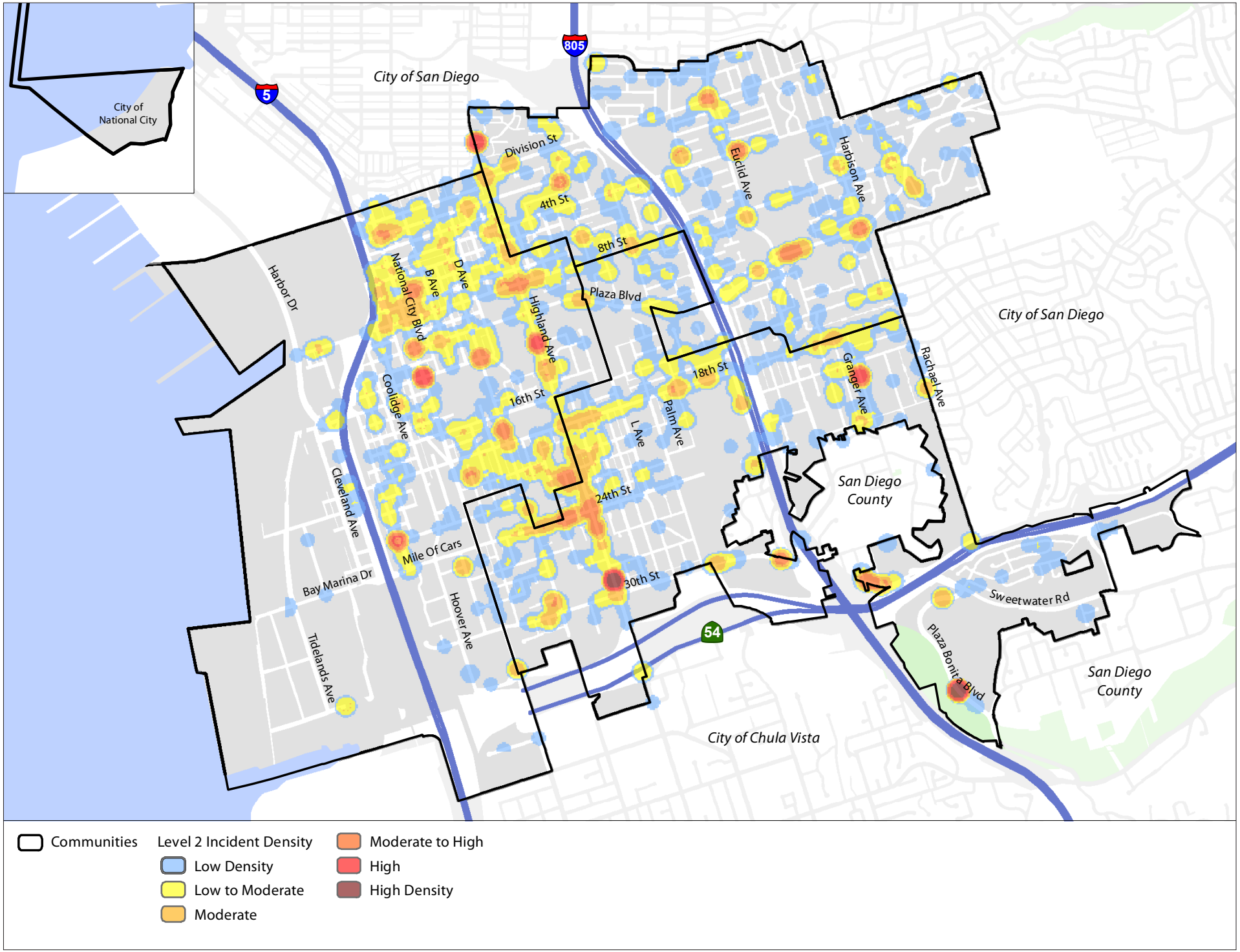
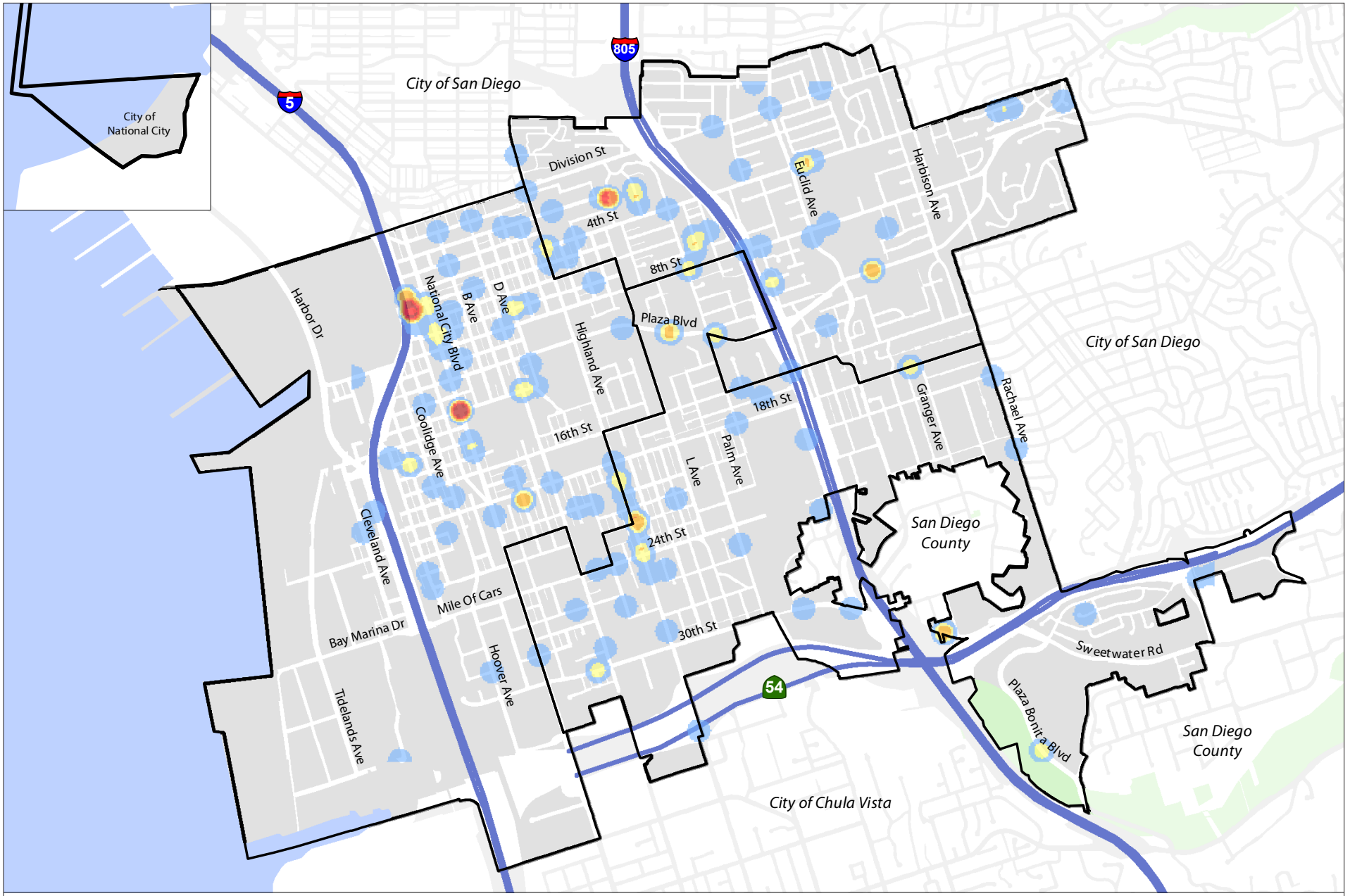


Figure 38: Level Three Crime Density



Crime Analysis Near Schools and Parks

The following analysis looks at the different levels of crime within a quarter mile from each school and park. They are categorized by the different levels developed for this project.

Table 34: Crimes Near Schools

Schools	Severity Level			
	Level 1	Level 2	Level 3	Total
Central Elementary	140	41	2	**183**
El Toyon Elementary	16	14	2	**32**
Granger Junior High	4	2	0	**6**
Ira Harbinson Elementary	17	16	0	**33**
John Otis Elementary	105	59	5	**169**
Kimball Elementary	60	16	4	**80**
Lincoln Acres Elementary	8	19	0	**27**
Las Palmas Elementary	22	26	1	**49**
National City Junior High	64	37	1	**102**
Olivewood Elementary	88	51	5	**144**
Palmer Way Elementary	40	15	0	**55**
Rancho De La Nacion Elementary	8	2	0	**10**
Sweetwater High	56	89	4	**149**
Total	**628**	**387**	**24**	**1,039**

Table 35: Crimes Near Parks

Parks	Severity Level			
	Level 1	Level 2	Level 3	Total
El Toyon Park	39	30	3	**72**
Kimball Park	87	31	5	**123**
Las Palmas Park	16	17	2	**35**
Pepper Park	3	5	0	**8**
Sweetwater County Park	120	62	2	**184**
Sweetwater Heights Centennial Park	3	3	0	**6**
Total	**268**	**148**	**12**	**428**

Figure 39: Crime Near Schools

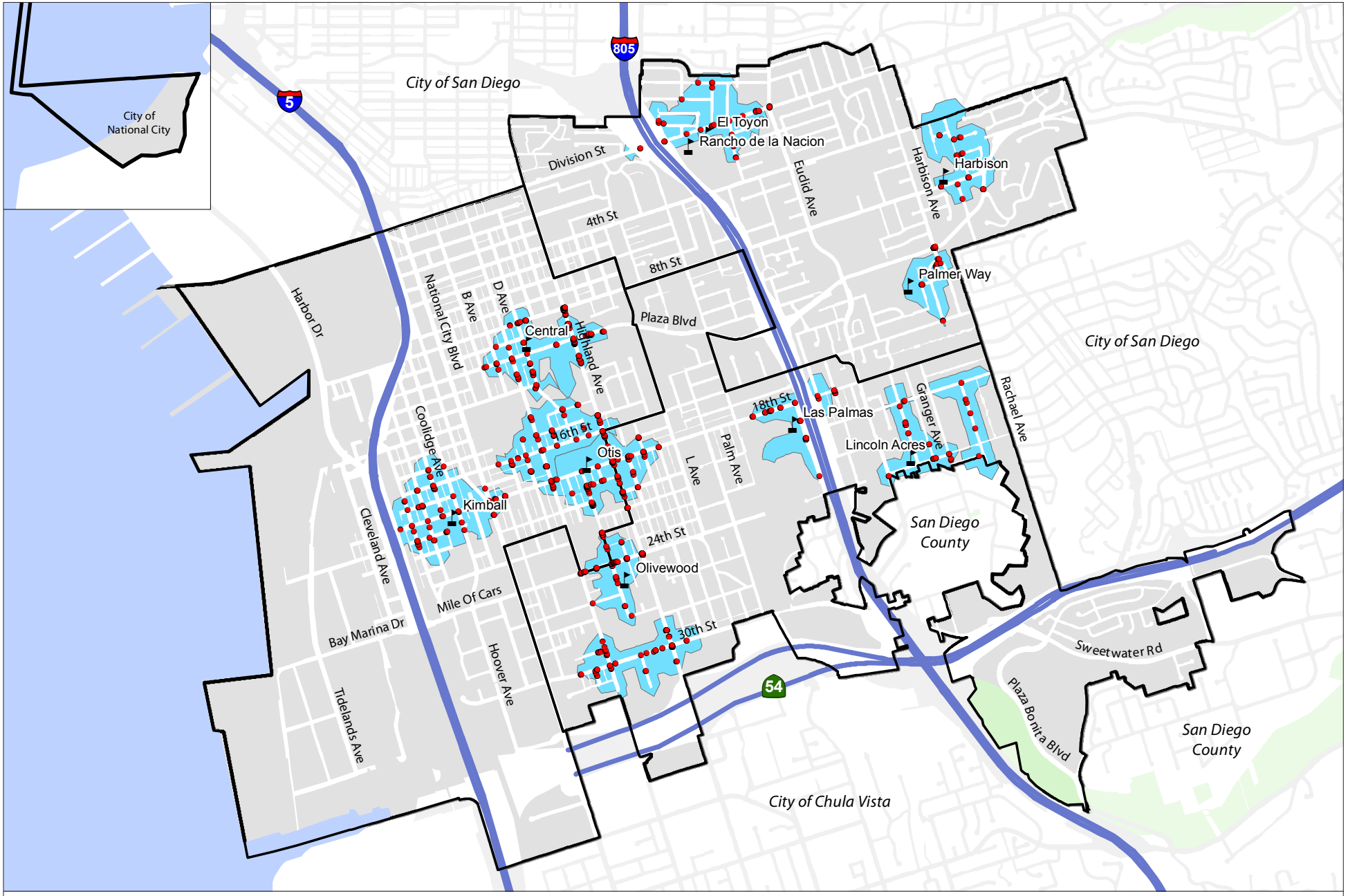
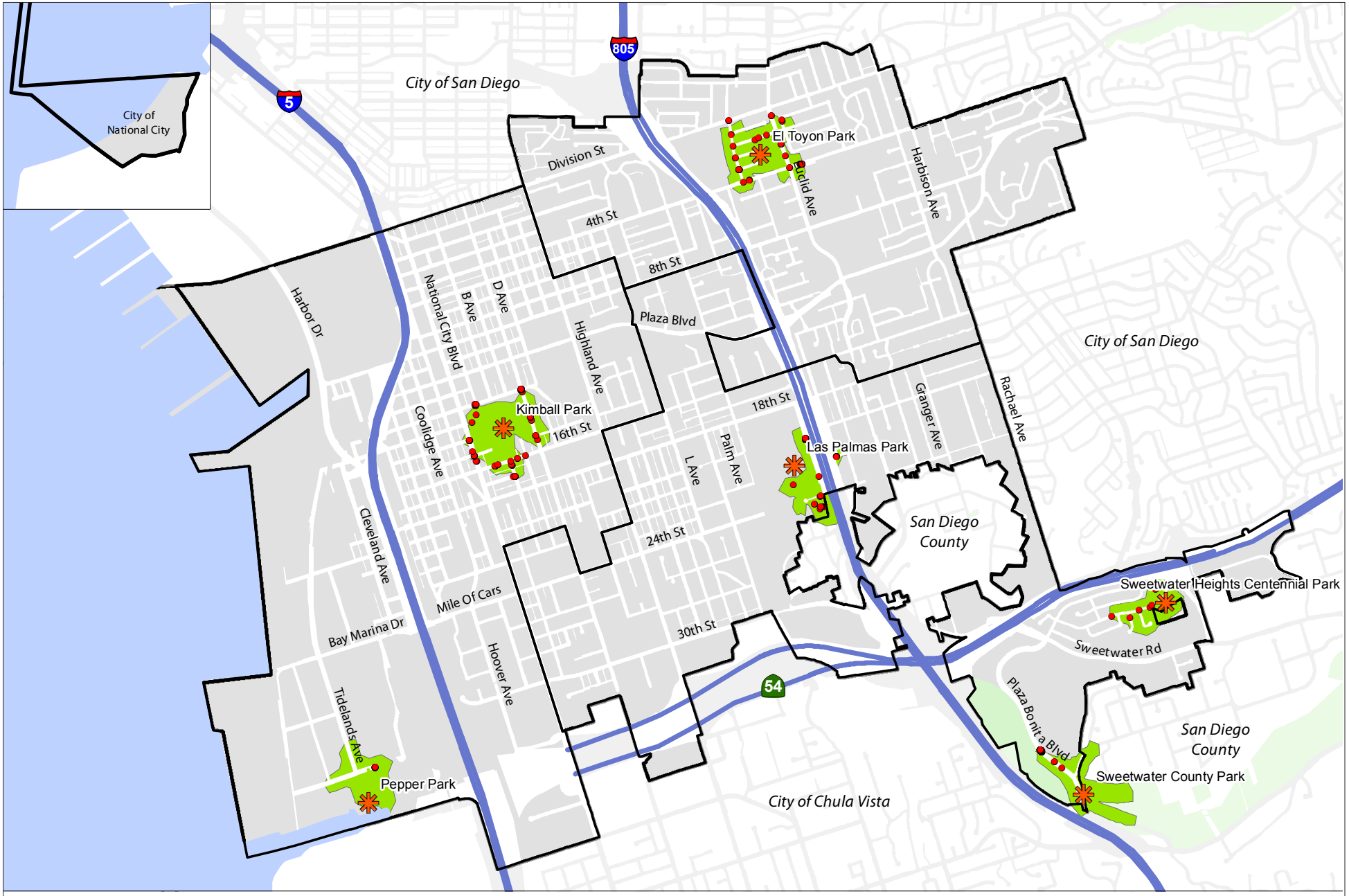


Figure 40: Crime Near Parks



Planning Context

The following are relevant goals and policies with the potential to affect components of this project. The numbering system is not sequential but is related to the General Plan numbering system

13. Existing General Plan

The General Plan identifies a preferred future for National City and steers land use and development policies in that desired direction. It serves as the foundation for all planning decisions in National City. Under California law, no specific plan, zoning, subdivision map, or public works project may be approved unless the City finds that it is consistent with the adopted general plan. The current general plan was adopted in June of 2011 and the previous General Plan was adopted in 1996. One of the main objectives of this comprehensive update is to create a dynamic and durable document that describes the interconnectedness of key urban planning issues, responds to the needs of a diverse citizenry, identifies realistic implementing actions, and establishes evaluation criteria to track National City's progress towards reaching its goals and policies.

General Plan Elements

State law requires every general plan to address seven specific topics, known as "elements," to the extent that they are locally relevant. The city must ensure that the general plan and its elements form an integrated, internally consistent, and compatible statement of development policies. These topics include the Land Use Element, Circulation Element, Housing Element, Safety Element, Noise Element, Open Space Element and Conservation Element. Additionally, state law allows cities to include optional elements that best fit its unique circumstances. Optional elements National City has chosen to include are Community Character, Agriculture, Sustainability, Nuisances, Health and Environmental Justice and Education and Public Participation.

Summarized Relevant Policies

Each element of the General plan includes Goals and Policies to guide the city through decision making. Goals and policies that are relevant to the S.M.A.R.T. Foundation project have been extracted from the Land Use, Open Space and Circulation Elements.

Goal – A general direction-setter and a description of the general desired result that the City seeks to create through implementation of the General Plan.
Policy – A specific statement that guides decision making. A policy is carried out by Implementation measures.

Goal LU-2: A mix of land uses including residential, commercial, employment, service, agricultural, open space, and recreational uses that accommodate the needs of persons from all income groups and age levels.

- Policy LU-2.4: Provide additional recreational open space areas and connect these areas to trails, bikeways, pedestrian corridors, and other open space networks, where feasible.

Goal LU-4: Complete neighborhoods that meet the community's needs for sustainable and high-quality living environments.

- Policy LU-4.2: Promote the design of complete neighborhoods that are structured to be family-friendly, encourage walking, biking and the use of mass transit, foster community pride, enhance neighborhood identity, ensure public safety, improve public health, and address the needs of all ages and abilities.

Goal LU-9: Enhanced community character and identity through good urban design that considers function, form, pedestrian scale, amenities, and aesthetics.

- Policy LU-9.1: Design developments along mixed-use and "community corridors" for the comfort and enjoyment of pedestrians and bicyclists. This includes features such as street trees, placing buildings close to the street, de-emphasizing parking lots and garages, limited driveway cuts, traffic-calming features, clearly defined street crossings, adequate lighting, and street furnishings where appropriate.
- Policy LU-9.4: Encourage an overall high quality streetscape design, where feasible, that promotes narrow roadways; bike lanes; on-street parking; minimal curb cuts; enhanced crosswalks; appropriate sidewalk widths; landscaped medians and parkways; street trees, planters, and wells; street lighting; street furniture; wayfinding; enhanced paving; public art; and other features that contribute to the desired character for National City, where appropriate.

Goal OS-7: A well-maintained system of recreational trails and related facilities throughout the city that enhance and connect open space lands, parks and recreational facilities.

- Policy OS-7.2: Encourage the creation of connected paseos and trails between community activity areas and schools and consider opportunities to enhance them with kiosks and rest stations.

Goal C-1: Coordinated land use and circulation planning.

- Policy C-1.1: Allow, encourage, and facilitate transit-oriented development, mixed-use, and infill projects in appropriate locations that reduce vehicular trips, especially near the 8th Street and 24th Street trolley stops, the future South Bay Bus Rapid Transit Station (BRT), and along major transportation corridors such as 8th Street, Highland Avenue, Plaza Boulevard, and 30th Street/Sweetwater Road.
- Policy C-1.2: Require new development to provide and enhance connectivity to existing transportation facilities via the provision of key roadway connections, sidewalks and bicycle facilities.
- Policy C-1.3: Require new development and redevelopment to provide good internal circulation facilities that meets the needs of walkers, bicyclists, children, seniors, and persons with disabilities.
- Policy C-1.5: Work with state, regional, and local transportation entities to improve and expand transportation facilities and services that link residents to important land use destinations such as workplaces, schools, community and recreation areas, and shopping opportunities.

Goal C-2: A comprehensive circulation system that is safe and efficient for all modes of travel.

- Policy C-2.1: Develop and maintain an interconnected, grid- or modified grid-based transportation system that sustains a variety of multi-modal transportation facilities.
- Policy C-2.2: Enhance connectivity by eliminating gaps and barriers in roadway, bikeway, and pedestrian networks.
- Policy C-2.3: Strive to attain an automobile Level of Service (LOS) of D or better (or an equivalent standard under another analytical methodology). An automobile LOS of E or F may be acceptable under the following circumstances:

  1) Improvements necessary to attain a automobile LOS of D or better would decrease the effectiveness of the nonautomotive components of the multi-modal circulation system (i.e. pedestrians, bicyclists, mass/public transit, etc.), or
  2) improvements necessary to increase the effectiveness of the non-automotive components of the multimodal transportation system result in a decrease in automobile LOS.
- Policy C-2.6: Enhance the quality of life in the City's neighborhoods and minimize impacts on schools, hospitals, convalescent homes and other sensitive facilities through the implementation of traffic calming measures in these areas to reduce vehicle speeds and discourage cut-through traffic.
- Policy C-2.8: Implement road diets, where appropriate, as a means to improve safety, increase efficiency of pick-up and drop-off operations at schools, and provide greater separation between pedestrians and vehicles.

Goal C-4: Increased use of alternative modes of travel to reduce peak hour vehicular trips, save energy, and improve air quality.

- Policy C-4.3: Require new uses to provide adequate bicycle parking and support facilities.
- Policy C-4.5: Encourage the use of alternative transportation modes.
- Policy C-4.6: Prioritize attention to transportation issues around schools to reduce school related vehicle trips.

Goal C-7: Increased use of public transit systems.

- Policy C-7.2: Improve bus stop and shelter facilities to increase the comfort of users.
- Policy C-7.3: Provide multi-modal support facilities at transit stops for bicyclists and pedestrians, including children and youth, the seniors, and persons with disabilities.

Goal C-8: A universally accessible, safe, and convenient pedestrian system that encourages walking.

- Policy C-8.1: Provide connectivity of wide, well-lit walking environments with safety buffers between pedestrians and vehicular traffic, when feasible.
- Policy C-8.2: Require new development and redevelopment to incorporate pedestrian-oriented street designs that provide a pleasant environment for walking.
- Policy C-8.3: Identify and implement necessary pedestrian improvements with special emphasis on providing safe access to schools, parks, community and recreation centers shopping districts, and other appropriate facilities.
- Policy C-8.4: Promote walking as the primary travel mode to schools.
- Policy C-8.5: Improve pedestrian safety at intersections and mid-block crossings.
- Policy C-8.6: Reduce architectural barriers that restrict full movement and access by less mobile segments of the population consistent with the Americans with Disabilities Act.
- Policy C-8.7: Apply universal design standards to the pedestrian system.
- Policy C-8.8: Provide a continuous pedestrian network within and between neighborhoods to facilitate pedestrian travel free from major impediments and obstacles.

Goal C-9: A safe, comprehensive and integrated bikeway system that encourages bicycling.

- Policy C-9.1: Expand and improve the bikeway system and facilities by establishing bike lanes, separated paths, and bicycle storage facilities at major destinations.
- Policy C-9.2: Require new development and redevelopment to provide safe, secure bicycle parking facilities.
- Policy C-9.3: Require new development and redevelopment to provide connections to existing and proposed bicycle routes, where appropriate.
- Policy C-9.4: Encourage existing businesses and new development or redevelopment projects to promote bicycling by provide bike rack facilities, personal lockers, and shower rooms.
- Policy C-9.5: Encourage bicycling through education and promotion programs in conjunction with the local school districts.
- Policy C-9.6: Keep abreast of bicycle facility innovations in other cities and regions, and seek to incorporate these into the bicycle network.

Previous Studies

14. Bicycle Master Plan (2012)

The National City Bicycle Master Plan provides a broad vision, strategies and actions to improve conditions for bicycling in National City. The Plan outlines a range of recommendations to increase the number of people who bike and frequency of bicycle trips, improve safety for bicyclists, and increase public awareness and support for bicycling. The Plan provides direction for expanding the existing bikeway network, connecting gaps, and ensuring greater local and regional connectivity. In addition to providing recommendations and design guidelines for bikeways and support facilities, the Plan offers recommendations for education, encouragement, enforcement, and evaluation programs. The Plan accommodates National City residents with various skill levels and incentives for bicycling.

The goals of the Plan are:

- A city where bicycling is a viable travel choice for users of all abilities,
- A safe and comprehensive local and regionally connected bikeway network,
- Environmental quality, public health, recreation and mobility benefits through increased bicycling.

These goals are supported by the National City General Plan policies that will help bicycling become a more viable transportation mode for localized trips, connection to transit, commuting, and recreation.

15. Westside Specific Plan (2010)

In March 2010, the City adopted the Westside Specific Plan with associated General Plan Amendment and Zoning Designation Changes. The Westside area, also known as Old Town, is an area bordered on the west by Interstate 5 and the east by Roosevelt Avenue stretching from W. Plaza Boulevard south to W. 24th Street. Auto services, light manufacturing, and warehouses are interspersed throughout the residential community. The goal of the Westside Specific Plan is to comprehensively address environmental and land use issues, leading to this plan that reflects residents' interest to resolve the conflicting land uses. The plan states that "a successful neighborhood also relies on a safe and efficient pedestrian environment where people enjoy walking from their homes to community activity centers, schools, shopping, parks, and transit." Guiding principles:

- Respect and encourage single-family homes and small residential development.
- Improve environmental health conditions for residents in the area.
- Limit uses adjacent to Paradise Creek to restoration, passive recreation, and open space.
- Enhance pedestrian safety and promote the walkability of the community.

Chapter 5 defines the "Community Corridors", focused roadway and pedestrian improvements, addresses neighborhood circulation and traffic safety correlated with neighborhood centers, parks, and transit.

16. Paradise Creek Revitalization Plan

The Paradise Creek Revitalization Plan (PCRP) incorporates two City Specific Plans, the Downtown Specific Plan and the Westside Specific Plan. PCRP includes 6,425 new residential units at full buildout with 20 percent being affordable. PCRP is compact mixed use, transit oriented redevelopment. This transit-oriented community development project will remediate existing underground contamination, and build 201 affordable rental homes and a public park. Active transportation and recreation amenities include a community park, playground, access to walking and bike paths and trails. The development received a Silver Catalyst Award for California's Sustainable Strategies Pilot Program and was selected as one of five federal Sustainable Communities Partnership Pilots in the country by the Environmental Protection Agency in partnership with HUD and the Department of Transportation.

17. Downtown Specific Plan (2005)

The Downtown Specific Plan (February 2005) calls for reinforcing downtown as the heart of the City. The central theme of the revitalization effort is to create a momentum of new development that will generate a mix of office, retail, entertainment, educational, and high-density residential uses. Significant new activity is planned around National City Boulevard and 8th Street, envisioned as downtown's "grand boulevards." Civic life – anchored by Kimball Park, the Education Village, Brick Row, and the new City Library – plays an important role in downtown's future. Buildout of 9,448 residential units are recognized in the Specific Plan. Overall, these proposed projects range in height from 5 stories to 22 stories and when completed will create a strong skyline for National City.

The National City Downtown Specific Plan amends the adopted General Plan, serving as a refinement of the goals of the General Plan by affixing precise design and land use standards to development and redevelopment proposals within Downtown National City. This plan includes substantial and well-considered street improvements that will serve to weave together the diverse elements of the Downtown with a streetscape of unified design and enhanced character.

Relevant Pedestrian Goals

- Create and maintain a continuous, convenient network of pedestrian facilities throughout the Downtown to reduce dependence on the automobile.
- Provide pedestrian amenities, including street furniture, landscaping, lighting, and trash receptacles, to make walking more attractive and convenient.
- Design and locate pedestrian facilities and amenities to promote the uninterrupted flow of pedestrian traffic.
- Create pedestrian links to transit and bicycle facilities to increase the convenience of transit and bicycle travel.

The plan includes general design guidelines that apply to pedestrian facilities and amenities on pages VI-11 through VI-18.

Relevant Recommendations

The City of National City is considering various improvements to their downtown area, including:

- Construction of various improvements, including raised, landscaped medians along National City Boulevard, between 7th and 12th Streets
- Reconfiguring/reorienting the Main Street/National City Boulevard at Division Street intersection to eliminate the diagonal, creating a standard intersection
- Enhancing pedestrian crossings at A Street at Civic Center and A Avenue at 8th Street
- Addition of a third lane cross section on 7th Street, between National City Boulevard and D Avenue
- Removal of on-street parking along Plaza Boulevard, from the 1-5 freeway to D Avenue (to allow for wider sidewalks)
- Addition of two traffic signals on A Avenue at 8th Street and Plaza Boulevard

The impact of the proposed improvements was evaluated for the surrounding street system. The improvements were found to improve traffic at all locations and not create any impacts to the roadways, except for the intersection of Main Street and Division Street. For this location, the following improvement is recommended.

- Installation of a traffic signal at the intersection of Main St. and Division St.

18. Westside Infill Transit Oriented Development

National City is developing the Westside Infill Transit-Oriented Development Project (WITOD) as part of its larger Paradise Creek Revitalization Plan (PCRP). WI-TOD will include 201 affordable units in four residential buildings and will expand and existing Adult Education Center. WI-TOD is adjacent to the 24th Street Trolley Station with trolley and transit access located within one-quarter mile of residential development and employment opportunities.

19. Old Town Action Plan (2010)

The Old Town Action Plan is a Neighborhood Action Plan (OT-NAP). It is an action-oriented document developed as a way to implement long-range planning goals found in the Westside Specific Plan (WSP). The OT-NAP provides a list of steps for neighborhood participants to follow in order to achieve desired outcomes. Several actionable items that pertain to bicycle and pedestrian mobility can be found on page 7. Page 10 lists steps to increase access to parks, open space, and neighborhood gardens.

20. Safe Routes to Schools

Rady Children's Hospital and National City are working together to bring Safe Routes to School initiatives to all of the elementary schools in National City. The city and hospital hope to improve health, safety and activity levels of the students in National City through an extensive outreach and encouragement program. Three sites have been selected for this program as the primary focus of education and outreach efforts. This model mirrors the plan adopted under the NC General Plan, which breaks the City into 3 communities named after the 3 Community Parks. Within this grant, one park, and the associated schools, will be addressed per year over a 3 year work plan. All community-focused education events (i.e., pedestrian and bicycle rodeos/trainings, gang awareness workshops, etc.) will be held at these sites. Education and encouragement activities will also be scheduled at each of the schools. Additionally, incentive programs will be implemented at each school which will be paired with opportunities to educate students on the health, economical, and environmental benefits of choosing active transportation.

21. Harbor District Specific Area Plan (1998)

The Community Development Commission of the City of National City has prepared this Specific Area Plan for the City's Harbor District to fulfill the requirement of the certified National City Local Coastal Program for a detailed, resource-based, environmental implementation plan to establish site specific conservation and development standards in the OSR (Open Space Reserve), CT (Tourist Commercial), MM (Medium Industrial), and OS (Open Space) districts.

The Harbor District Specific Area Plan Objectives are:(a) The conservation of Paradise Marsh, adjacent delineated wetlands, and associated plant and animal species, in coordination with the USFWS, CDFG and interested non-governmental organizations and persons.

(b) The design and implementation of permanent functional habitat buffers around Paradise Marsh and adjacent wetlands, in cooperation with the National Wildlife Refuge.

(c) Attractive, convenient, environmentally sustainable, and safe multimodal public access to existing, approved, or planned recreational facilities within the Harbor District, and in adjacent Port Planning Subareas 58 and 59, including through the extension of the Harrison Avenue Public Access Corridor and appropriate linkages with the San Diego Bayshore and Sweetwater River Bikeway systems.

(d) Site- and development-specific conservation and development standards that protect coastal habitat, public access, recreational, visual, and cultural resources, contribute to high quality appearance and design, and provide for economically feasible commercial recreational facilities and uses.

(e) Appropriately sized and located infrastructure, including traffic circulation and parking, to support permitted density and intensity of uses within the Harbor District and adjacent priority uses.

(f) Participation by the CDC in Specific Area planning, inter-agency coordination, property acquisition, and pre-project feasibility analyses to lead and assist in achieving the objectives and standards of the Plan.

22. Final Climate Action Plan

This Climate Action Plan (CAP) addresses the major sources of greenhouse gas (GHG) emissions in National City and sets forth a detailed and long-term strategy that the City and community can implement to achieve GHG emissions reduction target. Implementation of this Climate Action Plan will guide National City's actions to reduce its contribution to global climate change and will support the State of California's ambitious emission reduction targets. The CAP serves as the CEQA threshold of significance within the City for climate change, by which all applicable developments within the City will be reviewed. National City has adopted a reduction target of 15 percent below 2005/2006 baseline emission levels by the year 2020, with additional reductions by the year 2030, for both community-wide and government operations.

The following list is a selection of project relevant greenhouse gas (GHG) emission reduction measures that the City of National City will implement in order to achieve the emission reduction target for the year 2020 and additional reductions by the year 2030.

- A2.b.2 Implement bicycle corridor improvements and supportive infrastructure.
- A2.b.5 Encourage employers to institute programs that provide financial incentives for commuters to reduce their vehicle trips and use alternative transportation modes like walking, bicycling, public transit and carpooling, often as an alternative to subsidized employee parking.
- A2.d.1 Implement neighborhood traffic calming projects (e.g., replace stop controlled intersections with roundabouts).

23. AB 32 Global Solutions Act (2006)
AB 32 requires California to lower greenhouse gas emissions to 1990 levels by 2020, the equivalent of taking approximately 15 million cars off the nation's roads. To meet reduction targets, the California Air Resources Board (CARB), the lead agency responsible for implementing the act, is following a blueprint known as the AB 32 Climate Change Scoping Plan. The plan lays out the strategy and a comprehensive set of actions including the establishment of targets for transportation – related greenhouse gas emissions for regions throughout California, and pursuing policies and incentives to achieve these targets. Because transportation accounts for 38% of the State's GHG levels, lowering transportation related GHGs is a primary focus. Increasing active transportation levels is one of the key strategies for lowering transportation related GHGs.

SB 375 Sustainable Communities and Climate Protection Act (2008)
Senate Bill 375, authored by Senate President Pro Tem Darrell Steinberg, was signed into law on September 30, 2008. SB 375 is an ambitious attempt by the State to forge a closer link between transportation investments and land use decisions. The bill integrates planning processes that are currently disjointed for transportation, land use, and housing, with the goal of reducing the amount that people have to drive, along with associated GHG emissions. Highlights of SB375 include:

- Created regional targets for GHG emissions reductions from cars and light trucks.
- Required regional planning agencies to create a land use and transportation plan, Sustainable Communities Strategy (SCS), to meet the GHG targets. An SCS for the San Diego region was adopted in 2011 as part of the 2050 Regional Transportation Plan.
- Reforms the Regional Housing Needs Allocations (RHNA) and Housing Element law to match regional planning processes.
- Made new California Environmental Quality Act (CEQA) exemptions and streamlining for certain projects consistent with a regional plan that meets the targets.

The first Sustainable Communities Strategy for the San Diego region was adopted in 2011 by the San Diego Association of Governments (SANDAG) as part of its 2050 Regional Transportation Plan. Goals and actions listed to implement the SCS included the provision of health principles in evaluation criteria for existing grant programs, encouragement of development patterns that promote walking, bicycling and access to public transit – especially in existing and emerging smart growth areas, and development of a regional complete streets policy. Technical data for the SCS and GHG target reductions included, among others, strategies to increase bicycling and walking in the region.

24. AB 1358 California Complete Streets Act (2008)
"The Complete Streets Act of 2007, Assembly Bill 1358, requires the legislative body of a city or county, upon revision of the circulation element of their general plan, to identify how the jurisdiction will provide for the routine accommodation of all users of the roadway including motorists, pedestrians, bicyclists, individuals with disabilities, seniors, and users of public transportation.
For as much as the bill is about making streets safer and more convenient for everyone, other stated goals are to improve public health through increased physical activity, make efficient use of urban infrastructure, and reduce Green House Gas emissions.

In order to fulfill the commitment to reduce greenhouse gas emissions, make the most efficient use of urban land and transportation infrastructure, and improve public health by encouraging more physical activity, transportation planners must find innovative ways to reduce vehicle miles traveled and to shift from short trips in the automobile to biking, walking and use of public transit. [1]

National City created a Complete Streets policy and other supportive policies in the adoption of their updated General Plan (2011).

[1] Assembly Bill 1358, Chapter 657, Statutes 2008.

25. SB 97 CEQA Directives for GHG (2007)

Known as a "companion" bill to AB 32 and SB 375, SB 97 affects how cities evaluate climate change in Traffic Impact Studies and environmental documents. The bill required the Governor's Office of Planning and Research (OPR) to develop amendments to CEQA to address GHG emissions. These recommended amendments were then sent to the California Natural Resources Agency, the agency responsible for the CEQA Guidelines, for inclusion into the updated CEQA Guidelines that became effective March 18, 2010. As a result of SB 97, projects are now required to analyze and disclose whether they, "generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment." The appropriate methodology for describing, calculating or estimating the amount of GHG emissions resulting from a project is left to the discretion of the lead agency.

Capital Improvement Project List

	Project	Project Limits	Project Desciption	Project Status	Total Cost
1	Kimball Park	Kimball Park	Upgrades and expansion of facilities at Kimball Park include: • Shade structures for Kimball Bowl amphitheater; • Indoor-style soccer court; • Skate park; • Upgrades to the ball fields; • Playgrounds and picnic areas; • New restrooms; • Improved lighting; • Walking paths and ADA improvements; • Traffic circulation and parking improvements.	Preliminary design complete • Final design schedule: June 2012 – February 2013 • Construction schedule: April 2013 – December 2013	$3,130,000
2	4th Street Community Corridor	Roosevelt Ave and Harbison Ave	The project includes installation of bike lanes, enhanced signing and striping, traffic calming measures such as corner bulb-outs, ADA improvements, lighting and landscaping.	Preliminary design in progress • Final design schedule: September 2012 – June 2013 • Construction schedule: August 2013 – April 2014	$400,000
3	8th St Corridor Safety Enhancements	J Avenue and Palm Ave	The project includes the following traffic safety enhancements to calm traffic, reduce collisions and improve access for pedestrians: • Reduce travel lanes from four lanes to three lanes (two eastbound and one westbound) • Install left-turn pockets and a traffic signal at M Avenue to reduce rear-end and left turn vs. opposing thru traffic collisions, and provide positive protection for pedestrians at the school crossing; • Provide traffic signal modifications and ADA improvements at Palm Avenue; • Construct retaining walls for slope stabilization between K Avenue and L Avenue to enhance pedestrian safety and access by preventing soil from sluffing over the sidewalk	Final design in progress • Construction schedule: October 2012 – June 2013	$430,000
4	8th St Corridor Smart Growth Revitalization	8th Street Trolley Station and K Avenue	Phase I of the project includes undergrounding overhead utilities between National City Boulevard and Highland Avenue, and replacing the sewer between the 8th Street Trolley Station and K Avenue, just east of Highland Avenue. Phase II of the project includes traffic calming, pedestrian and streetscape enhancements between the 8th Street Trolley Station and Highland Avenue.	Phase I – Utility Undergrounding and Sewer Replacement • Final design complete • Construction contract awarded • Construction schedule: April 2012 – June 2013 Phase II – Streetscape Revitalization • Final design in progress • Construction schedule: April 2013 – June 2014	$2,300,000

5	"A" Avenue Green Street and Pedestrian Pathway Project	8th Street and 16th Street	The primary objectives of the project are as follows: 1) Create a "Green Street" that implements Low-Impact Development (LID) infiltration measures to improve water quality of urban runoff. 2) Create a safe, environmentally friendly walking path along "A" Avenue to connect Historic Brick Row, Morgan Square and the 8th Street Revitalization District to City Hall, National City Public Library and Kimball Park. 3) Provide educational opportunities through implementation of interpretative signage and creek themed art."	Final design, environmental, and public outreach for the project is scheduled to start in the Spring of 2013.	$3,300,000
6	Aquatic Center	Pepper Park	This 4,663 square foot public facility will be owned by the City of National City upon leased premises (10,000 square feet) in Pepper Park, National City, under the jurisdiction of the San Diego Unified Port District. The structure will include: • Two multi-purpose classrooms that can be opened as one larger room; • Office for facility staff; • Storefront for National City Police and/or Harbor Police; • Locker, shower and restroom spaces; • Boat and equipment storage; • Decorative lighting, landscaping and Public Art."	• Final design complete • Construction schedule: November 2012 – July 2013	$3,500,000
7	Coolidge Ave Community Corridor	W. 18th Street and Plaza Boulevard	The project will deliver pedestrian enhancements and traffic calming measures to improve walkability, reduce cut-through traffic, vehicle speeds and collisions, and provide a safer environment to encourage more children from the Old Town Neighborhood to walk to and from Kimball Elementary School.	• Final design in progress • Construction schedule: October 2012 – June 2013	$1,253,663
8	D Avenue Community Corridor - Roundabout	Division Street and E. 30th Street	The project includes installation of bike lanes, signing and striping enhancements, ADA improvements, reverse angle parking adjacent to Kimball Park, lighting and landscaping to convert D Avenue into a "Community Corridor".	• Final design in progress • Construction schedule: December 2012 – August 2013	$600,000
9	Highland Avenue Safety Improvements	Division Street and E. 8th Street	The project includes the following traffic safety enhancements within the public right of way, to calm traffic, reduce collisions and improve access for pedestrians: 1) Reduce travel lanes from four lanes to two lanes with protected left-turn pockets at intersections to reduce rear-end and left-turn vs. opposing thru traffic collisions; 2) Provide ADA improvements, enhanced signing and striping, corner bulb-outs and refuge islands to calm traffic and reduce pedestrian crossing distances at intersections; 3) Construct landscaped islands mid-block to calm traffic and beautify the corridor; 4) Convert parallel parking to angle parking on the east side of the street to provide more parking and improve access to local businesses.	• Preliminary design in progress • Final design schedule: September 2012 – June 2013 • Construction schedule: August 2013 – April 2014	$850,000

10	Las Palmas Park Improvements	Las Palmas Park	Three alternative concepts have been prepared based on funding opportunities. The list of proposed improvements is based on the most comprehensive alternative. • New YMCA Center; • Renovations to Community Pool and Camacho Gym; • Indoor-style soccer court; • Skate park; • Batting cages; • Playgrounds and picnic areas; • New restrooms; • Improved lighting; • Walking paths and ADA improvements; • Traffic circulation and parking improvements.	• Preliminary design complete • Final design schedule: June 2012 – February 2013 • Construction schedule: April 2013 – December 2013	$6,185,000
	SR2S	Citywide	Types of safety enhancements include in-roadway warning lights at crosswalks, flashing beacons, radar speed feedback signs, traffic calming bulb-outs and pedestrian refuge islands at school crosswalks, new sidewalks and ADA curb ramps, and enhanced school zone signing and striping. Grant funding has also been used to provide outreach, education and training for students and parents to encourage more families to participate in walk to school activities.	Amount awarded over the past five years.	$3,700,000
	Citywide Bus Shelter Project	Citywide	Installation of shelters, benches and trash receptacles • Shelters are solar powered • City logo to be installed on each shelter	• Construction complete	$129,147

Walk Audit Results

Existing infrastructure data was collected from the City to develop base maps for additional data collection. Walk audits were conducted through a team of volunteers, city council members and consultant staff on three consecutive Saturdays in April, originating at each of the City's regional parks.

At each of these parks, volunteers went through a brief training session and discussion on how the walk audits were to conducted and the purpose of them. The volunteers, led by staff, then walked to pre-determined neighborhoods to conduct the audits. Maps and photos were provided to take down notes and modify curb ramp and sidewalk data that needed to be changed. These walk audits also allowed the volunteers to have discussion with staff on recommendations they would like to see to improve the City's walking and bicycling environment.

While staff and volunteers were conducting the walk audits, some staff remained at the parks to pass out surveys and collect additional feedback from park patrons. The following list identifies the deficiencies that were collected on the walk audit maps. They are categorized by deficiency type.

Walkways

A. Missing walkways
B. Walkways are broken with trip hazards
C. Walkways blocked by utilities or poles leaving less than 3' walkway width
D. Walkways interrupted by steep sloping & frequent driveways
E. Dirt/unpaved side paths created by foot traffic

Street Crossings

F. Marginal ramps at corners (ramps with no truncated domes & with lip at bottom)
G. Roadway is very wide for crossing with no median refuge.
H. No marked crosswalk
I. Long distance between safe crossing points; midblock crossing needed.

Safety

J. No separation between sidewalk & traffic such as trees or parked cars
K. Multiple lanes to cross without stop signals stopping traffic
L. Blind spots at roadway intersections that block visibility of pedestrians
M. High vehicular speeds

Bicycling

N. No bike facility such as paint striping to indicate lanes
O. People riding on the sidewalk
P. No secure bike parking

Comfort and Appeal

Q. No shade from street trees
R. Limited lighting at night
S. Graffiti
T. Lacking amenities (signage, trash receptacles, benches)
U. Overgrown landscaping blocking the walkway.

The following maps show the results of the walk audits by community and deficiency category.

Walk audit volunteers at El Toyon Park

Table 36: El Toyon Community Deficiency Count

Walkways	Count
Missing walkways	20
Private road or walkway	3
Walkways broken with trip hazards	27
Walkways blocked by utilities or poles	38
Narrow sidewalks	3
Walkways interrupted by steep sloping driveways	5
Street Crossings	
Ramps with no truncated domes	55
Roadway too wide for crossing	8
No marked crosswalk	36
Long distance between safe crossing points	18
Safety	
No separation between sidewalk and traffic	10
Multiple lanes to cross without stop signals	4
Blind spots at roadway intersections	9
High vehicular speeds	27
Bicycling	
People riding on the sidewalk	3
Comfort and Appeal	
No shade from street trees	18
Limited lighting at night	7
Graffiti	2
Lacking amenities such as signage and trash bins	10
Overgrown landscaping blocking the walkway	22
Landscape maintenance needed	1
Unsightly objects such as trash	1
Loud and scary pets	6
Badly placed or constructed structures	1
Total	**334**

Table 37: Kimball Community Deficiency Count

Walkways	Count
Missing walkways	14
Private road or walkway	7
Walkways broken with trip hazards	36
Traffic becomes too congested	1
Walkways blocked by utilities or poles	31
Narrow sidewalks	1
Walkways interrupted by steep sloping driveways	35
Street Crossings	
Ramps with no truncated domes	60
Roadway too wide for crossing	3
No marked crosswalk	38
Long distance between safe crossing points	2
Safety	
No separation between sidewalk and traffic	6
Blind spots at roadway intersections	4
High vehicular speeds	20
Bicycling	
No bike facilities	1
Comfort and Appeal	
No shade from street trees	11
Limited lighting at night	8
Graffiti	3
Lacking amenities such as signage and trash bins	9
Overgrown landscaping blocking the walkway	16
Landscape maintenance needed	4
Unsightly objects such as trash	4
Loud and scary pets	2
Homeless encampment	1
Badly placed or constructed structures	15
Total	**332**

Table 38: Las Palmas Community Deficiency Count

Walkways	Count
Missing walkways	10
Walkways broken with trip hazards	47
Walkways blocked by utilities or poles	21
Narrow sidewalks	2
Walkways interrupted by steep sloping driveways	10
Street Crossings	
Ramps with no truncated domes	80
Roadway too wide for crossing	1
No marked crosswalk	34
Long distance between safe crossing points	1
Safety	
No separation between sidewalk and traffic	14
Blind spots at roadway intersections	2
High vehicular speeds	18
Bicycling	
No bike facilities	4
Comfort and Appeal	
No shade from street trees	33
Limited lighting at night	11
Graffiti	3
Lacking amenities such as signage and trash bins	7
Overgrown landscaping blocking the walkway	17
Landscape maintenance needed	1
Unsightly objects such as trash	2
Loud and scary pets	4
Badly placed or constructed structures	12
Total	**334**

Table 39: Sidewalk Summary

Community	Miles	% of Total per Community
El Toyon		
Existing	55.07	82%
Missing	12.31	18%
Total	**67.37**	
Kimball		
Existing	64.83	68%
Missing	31.14	32%
Total	**95.97**	
Las Palmas		
Existing	56.07	71%
Missing	23.35	29%
Total	**79.43**	

Source: SANDAG and KTU+A

Note: Sidewalk data was provided by SANDAG and field verified during the walk audits. These totals include sidewalk son both sides of the street.

The following photos are examples of the data collected during these walk audits.

Trip hazards in the Kimball Community

Utilities blocking the sidewalk on Palm Ave and Division St

Wide streets with minimal crosswalks at East 18th Street and Lanotian Ave

Lack of sidewalk maintenance on 21st St

Uneven sidewalk pavement on Highland Ave

Pedestrian crossing sign without a crosswalk on Euclid Ave in front of the Paradise Valley Hospital

Figure 41: Kimball Community - Walkways

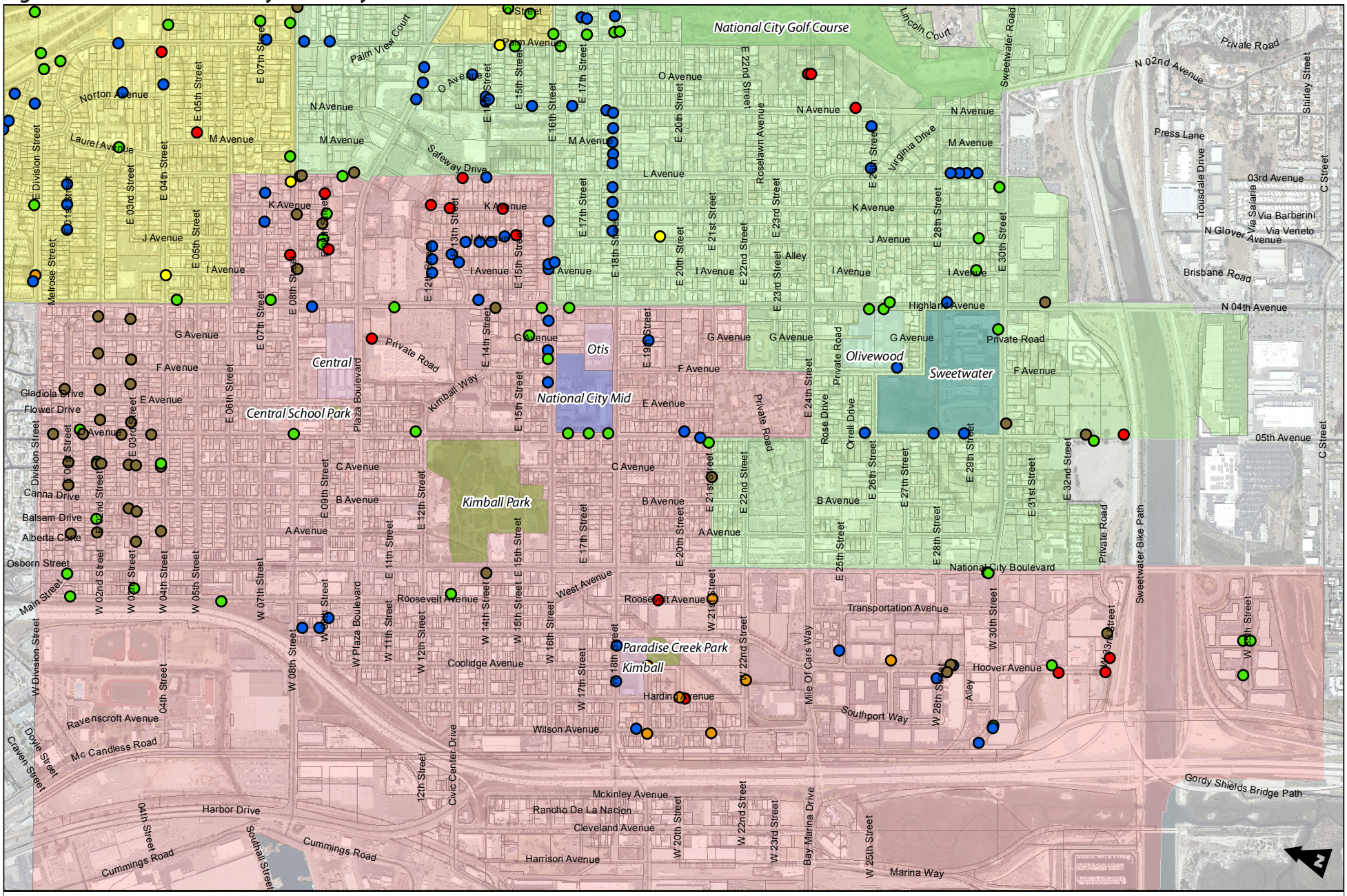
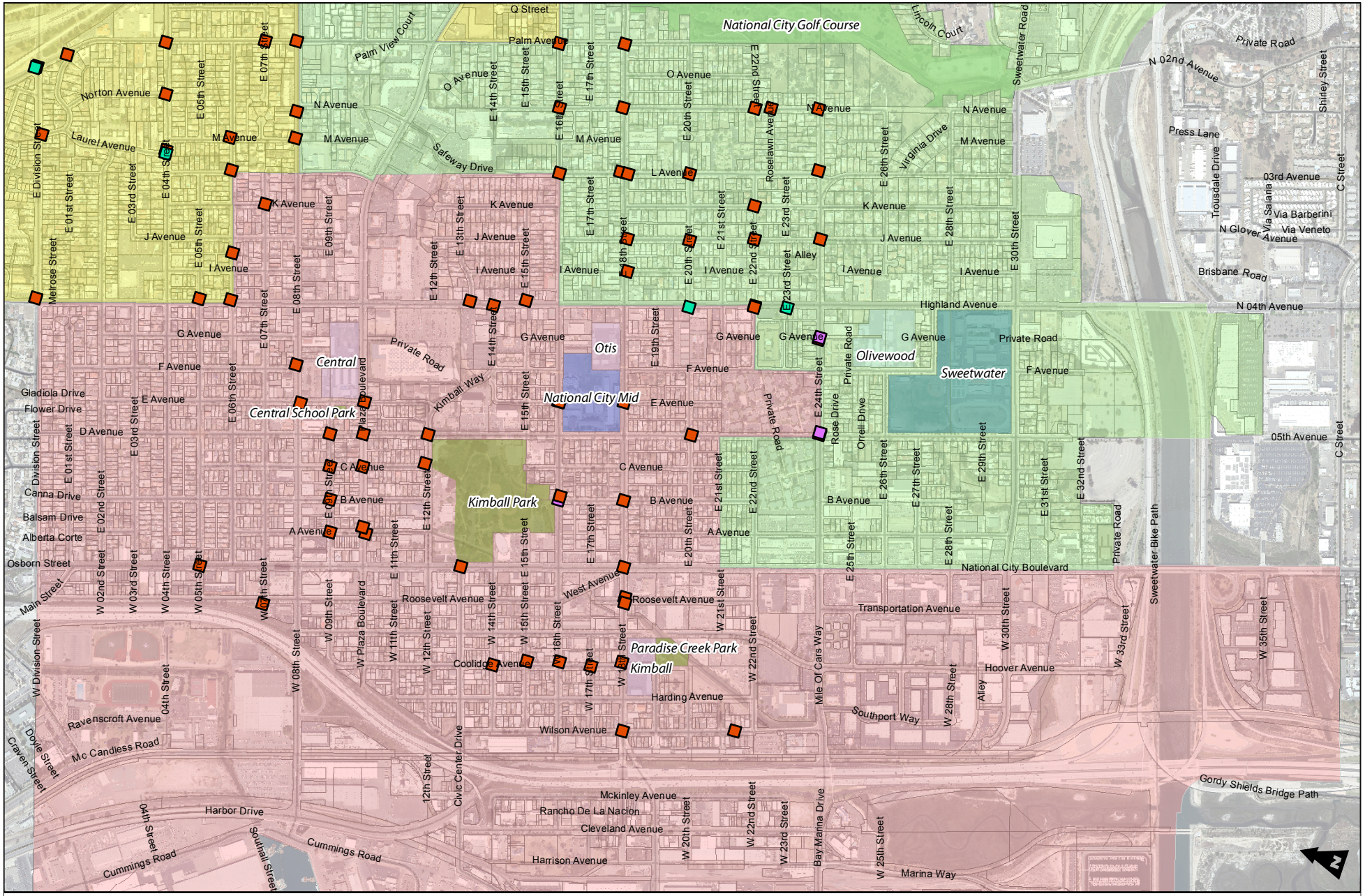


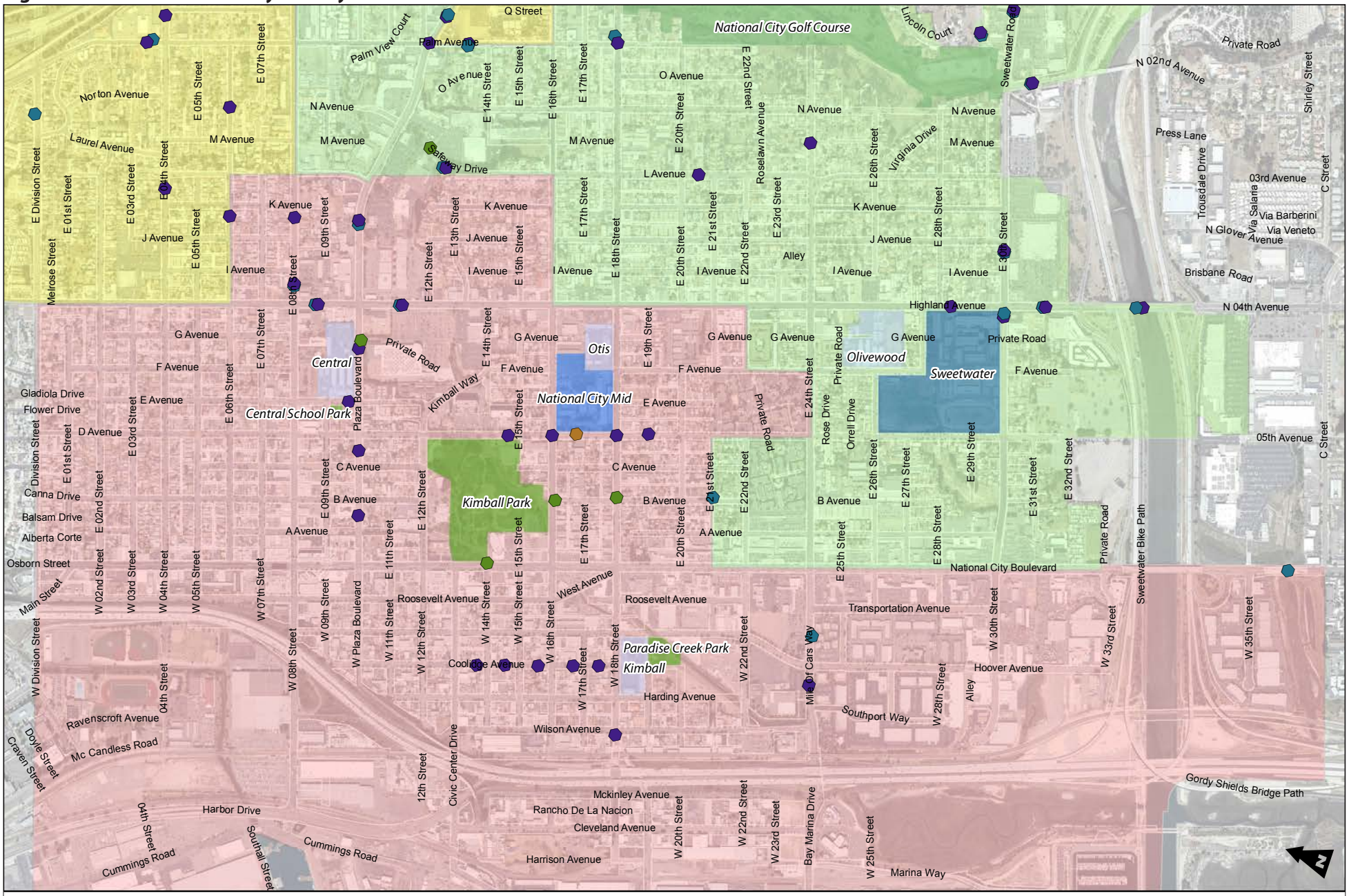
Figure 42: Kimball Community - Street Crossings



Street Crossings

- Long blocks
- No marked crosswalk

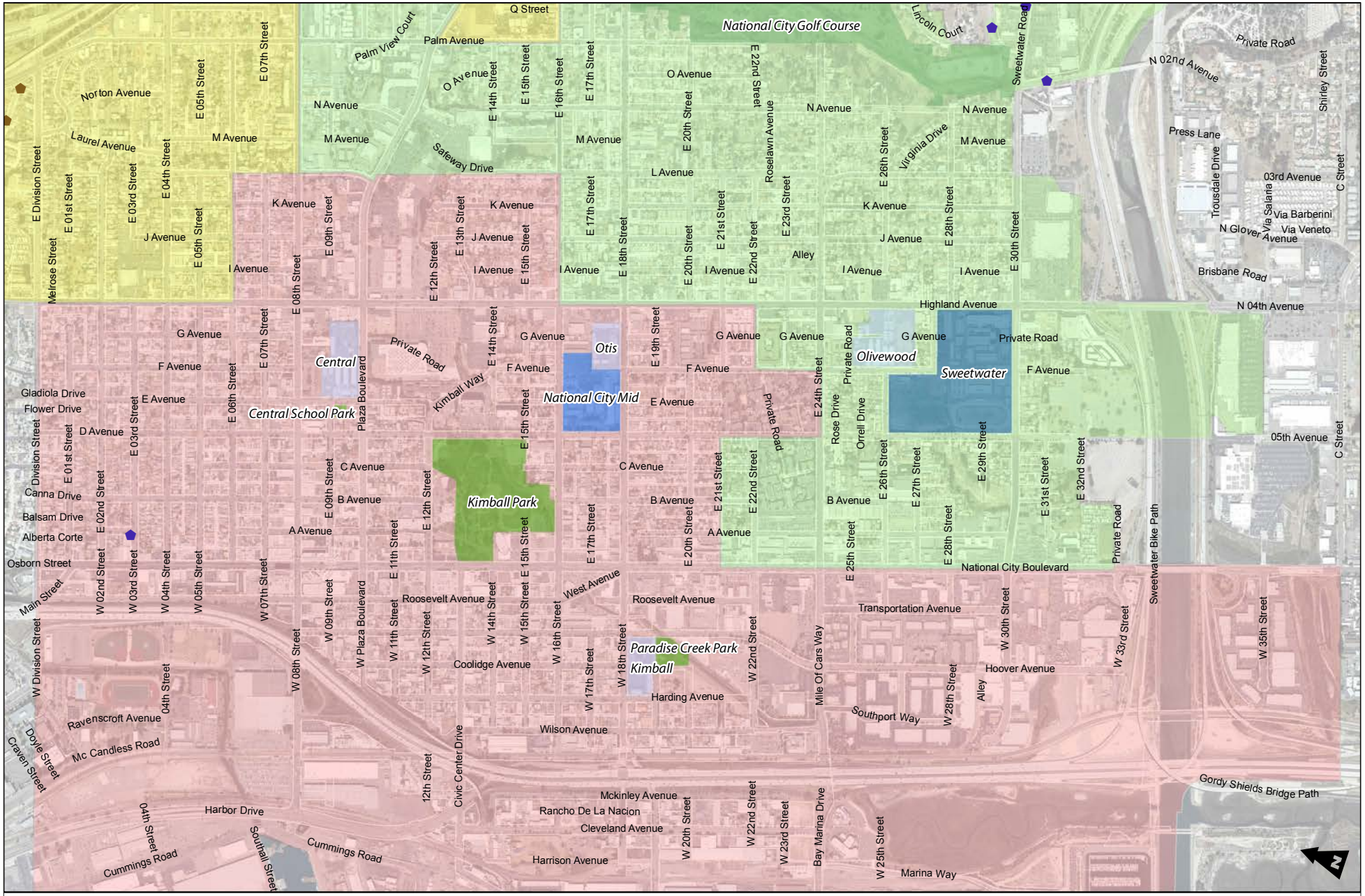
Figure 43: Kimball Community - Safety



Safety

Blind spots at roadway intersections | High vehicular speeds | No separation between sidewalk and traffic | Traffic becomes too congested

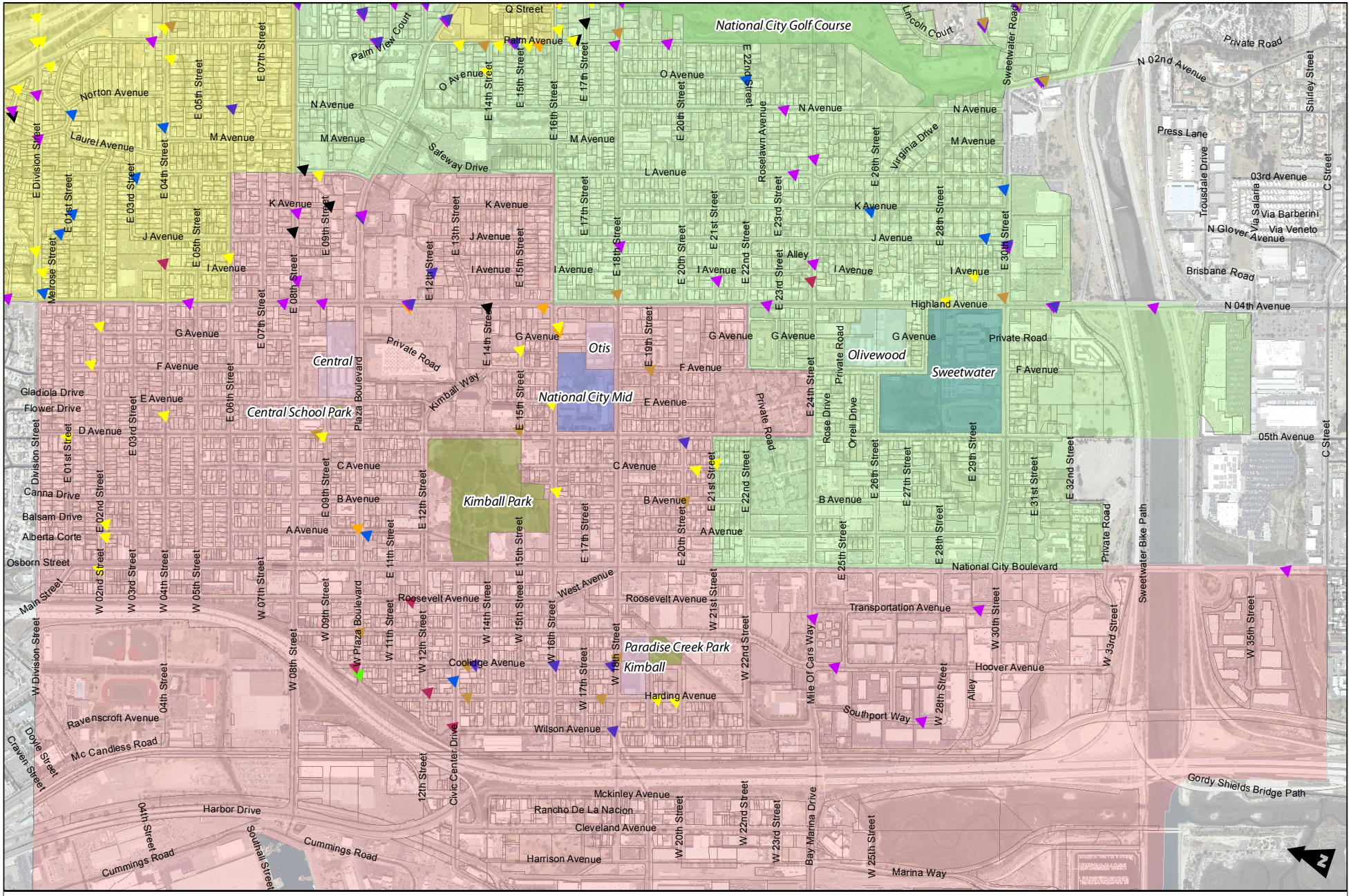
Figure 44: Kimball Community - Bicycling



Bicycling

- No bike facilities
- People riding on the sidewalk

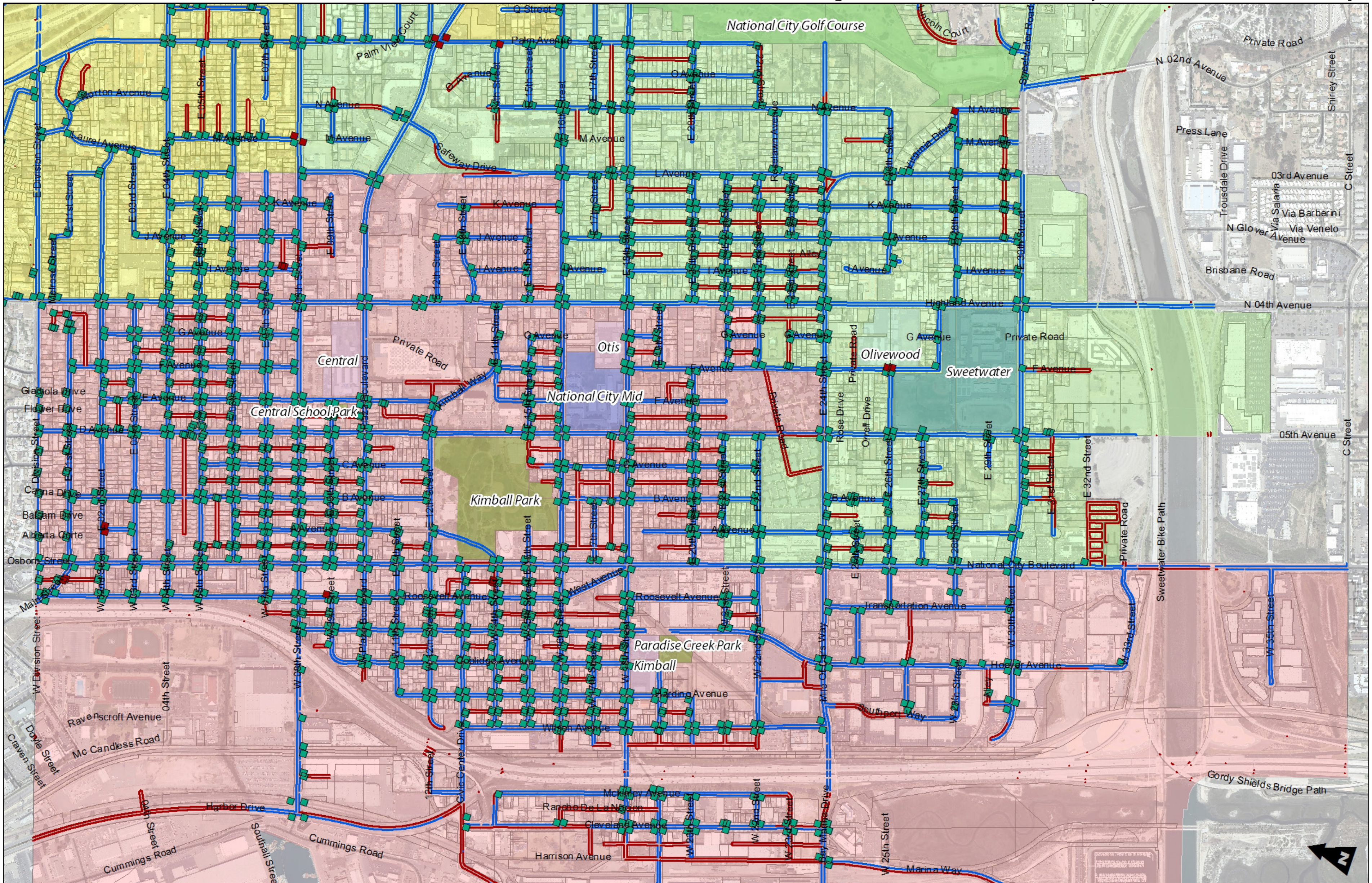
Figure 45: Kimball Community - Comfort and Appeal



Comfort and Appeal

- Graffiti
- Homeless encampment
- Lacking amenities such as signage and trash bins
- Landscape maintenance needed
- Limited lighting at night
- Loud and scary pets
- No shade due to lack of street trees
- Overgrown landscaping blocking the walkway
- Unsightly objects such as trash

Figure 46: Kimball Community - Sidewalks and Curb Ramps



Sidewalks and Curb Ramps

- Sidewalk Exists
- Sidewalk Do Not Exist
- Curb Ramps Exist
- Curb Ramps Do Not Exist

Figure 47: El Toyon Community - Walkways

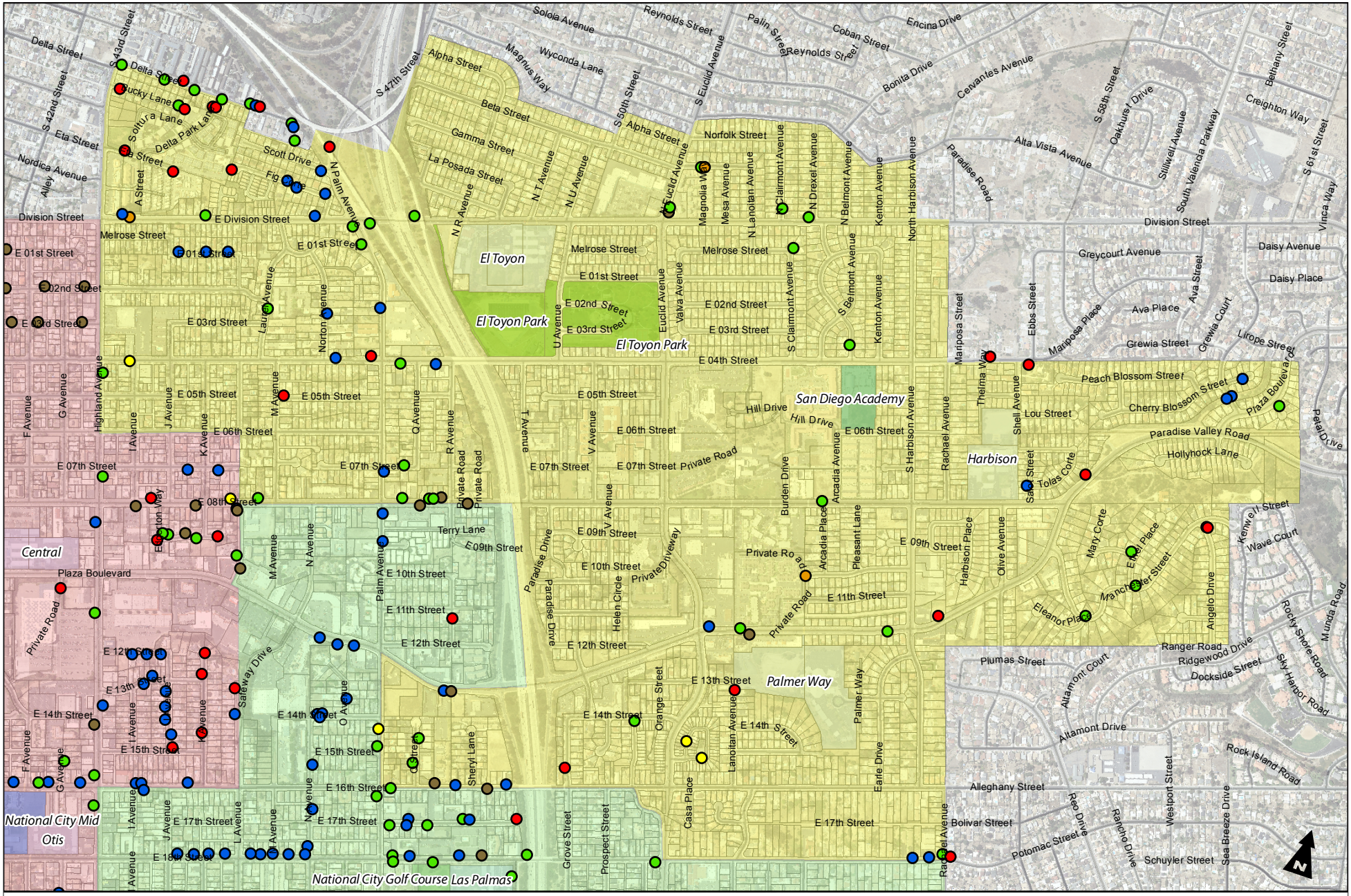


Figure 48: El Toyon Community - Street Crossings

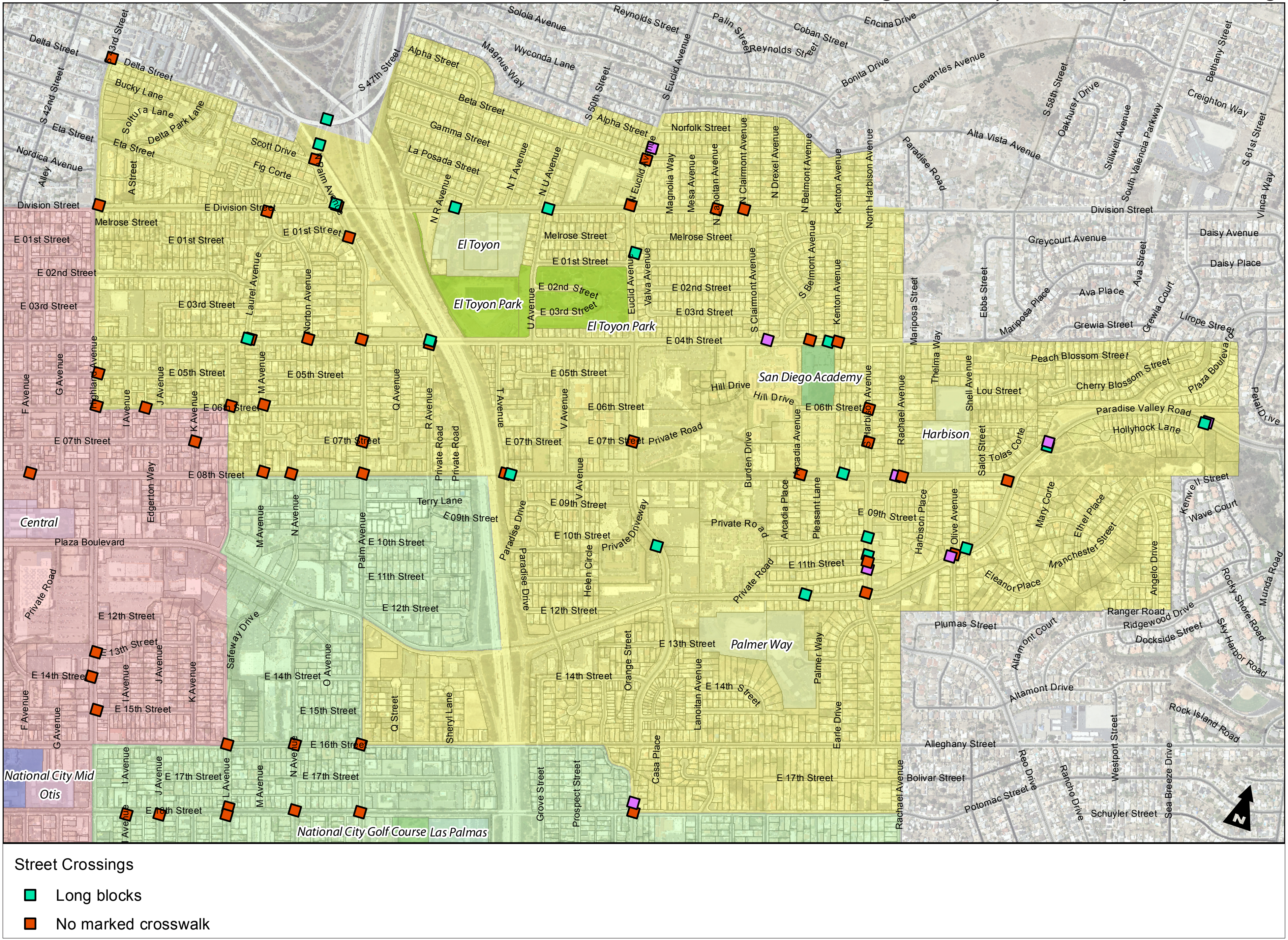
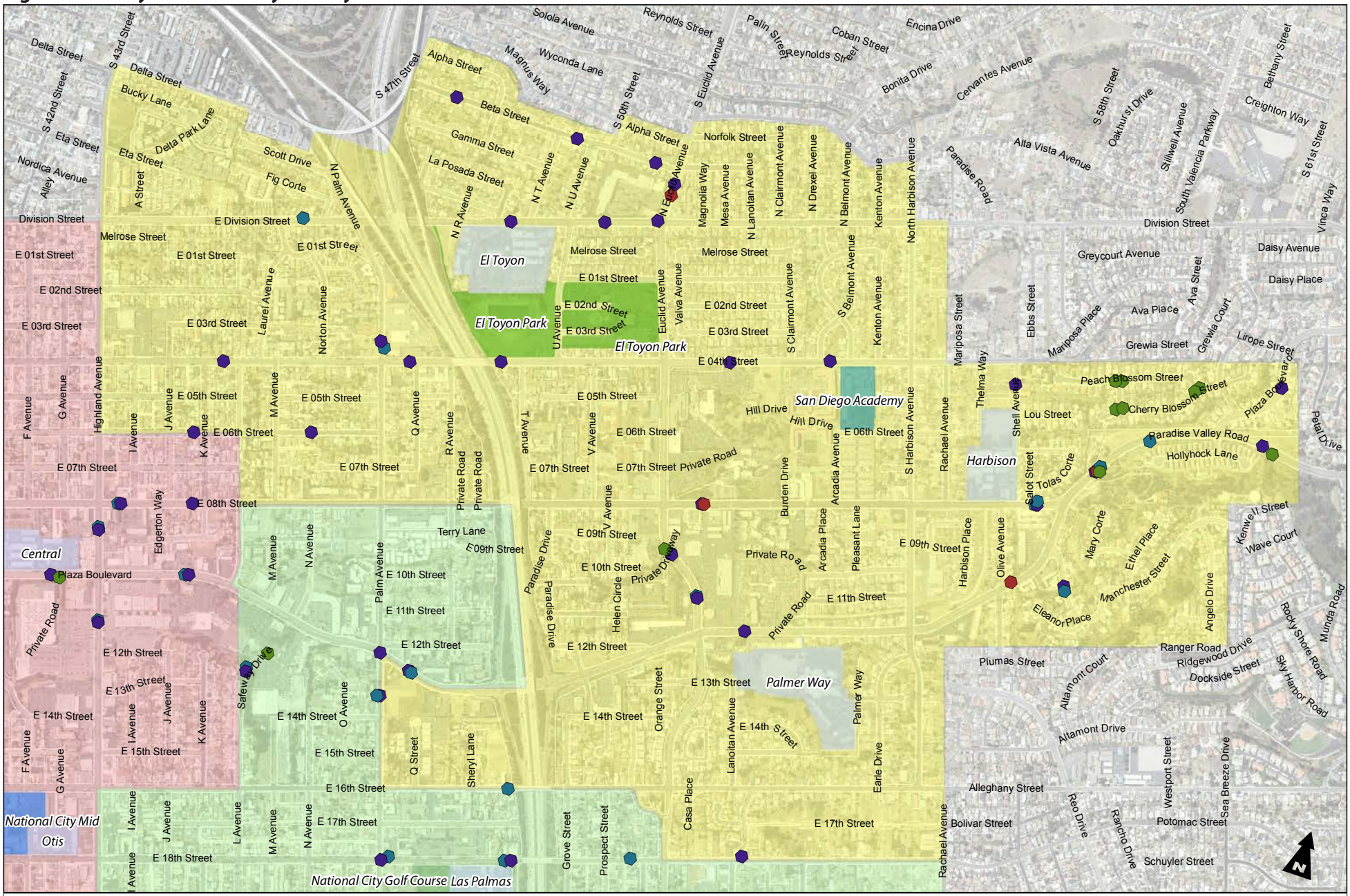


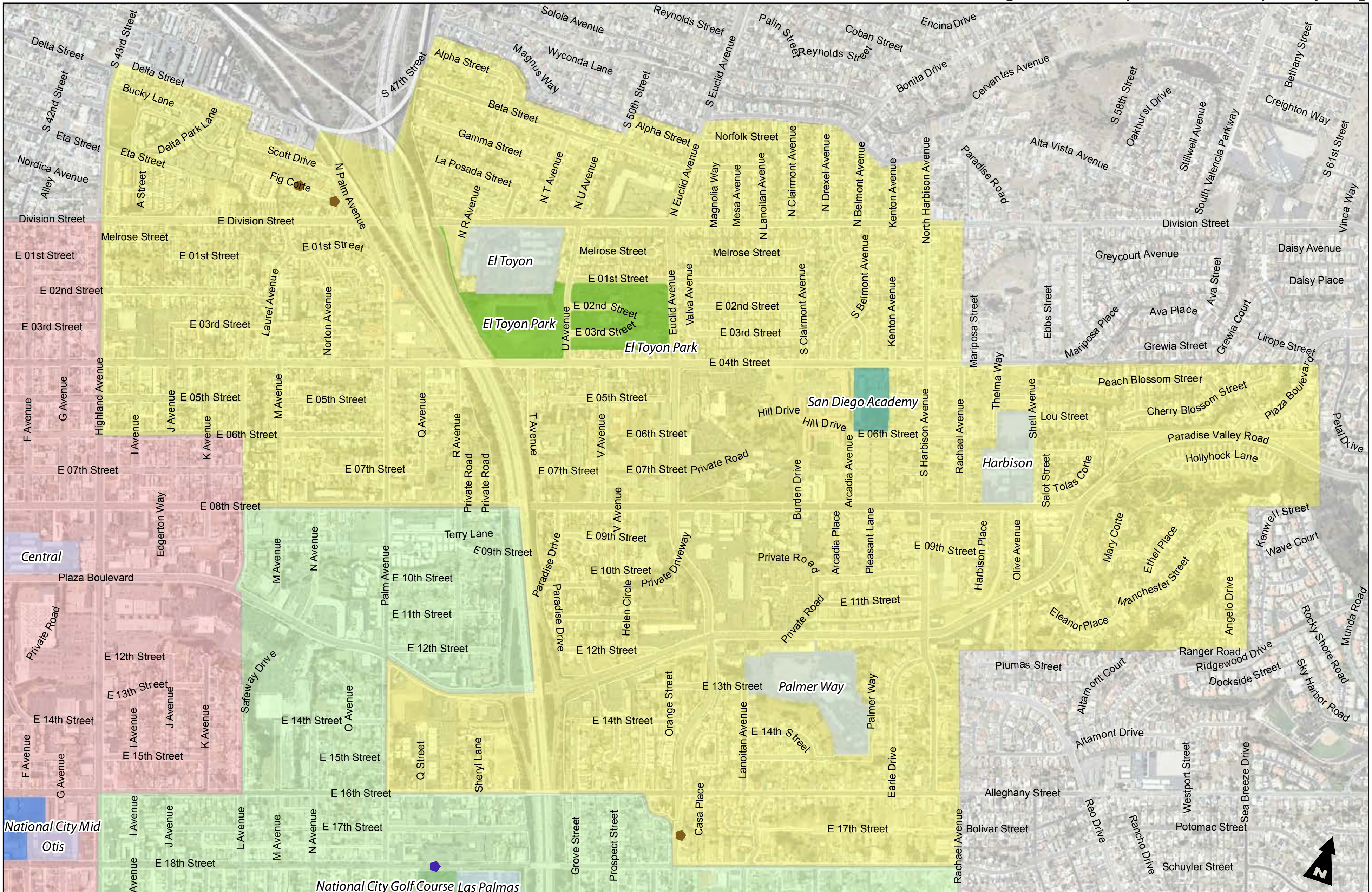
Figure 49: El Toyon Community - Safety



Safety

- Blind spots at roadway intersections
- High vehicular speeds
- Multiple lanes to cross without stop signals
- No separation between sidewalk and traffic

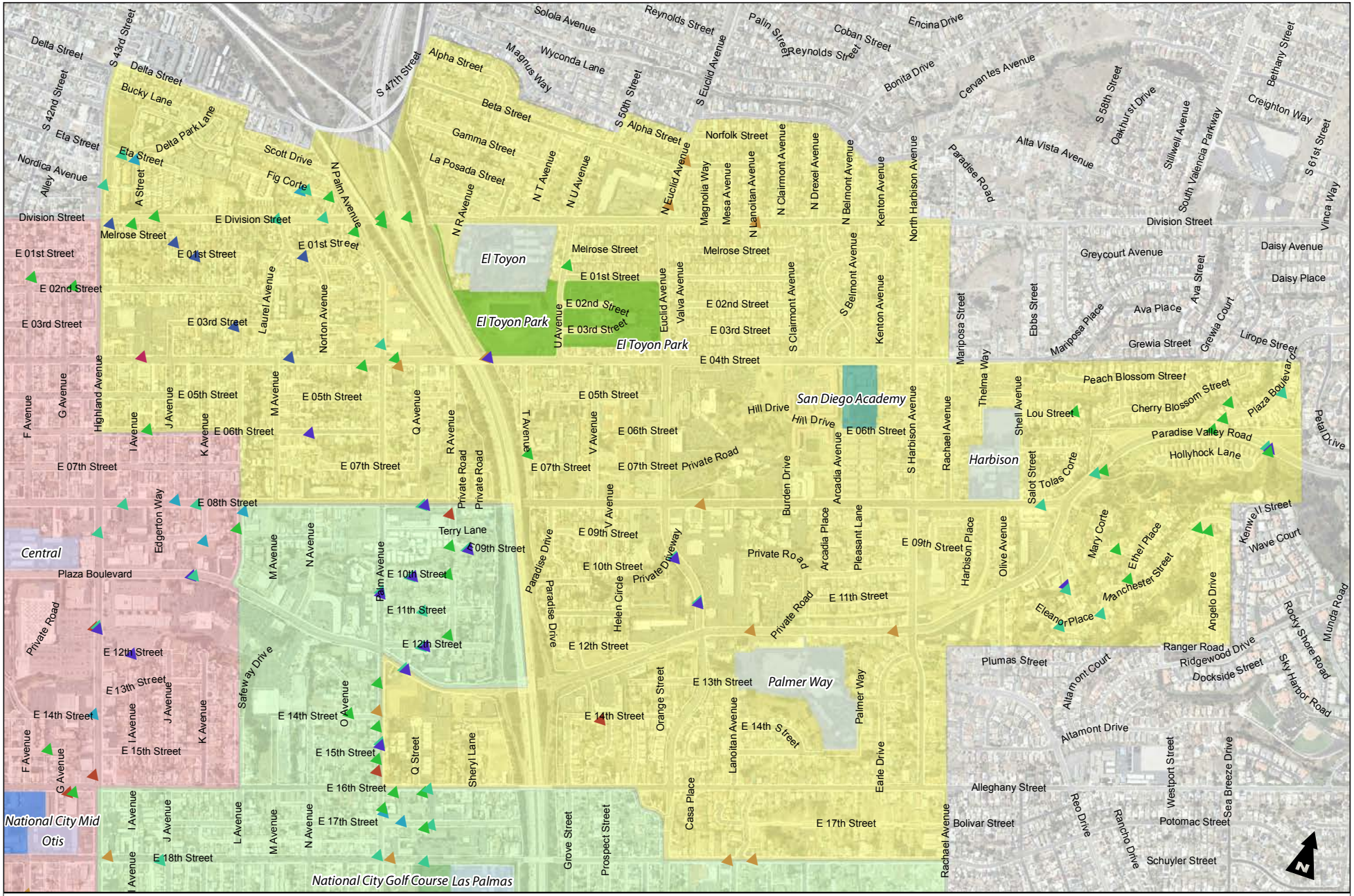
Figure 50: El Toyon Community - Bicycling



Bicycling

⬟ No bike facilities ⬟ People riding on the sidewalk

Figure 51: El Toyon Community - Comfort and Appeal



Comfort and Appeal

- Graffiti
- Lacking amenities such as signage and trash bins
- Landscape maintenance needed
- Limited lighting at night
- Loud and scary pets
- No shade from street trees
- Overgrown landscaping blocking the walkway
- Unsightly objects such as trash

Figure 52: El Toyon Community - Sidewalks and Curb Ramps

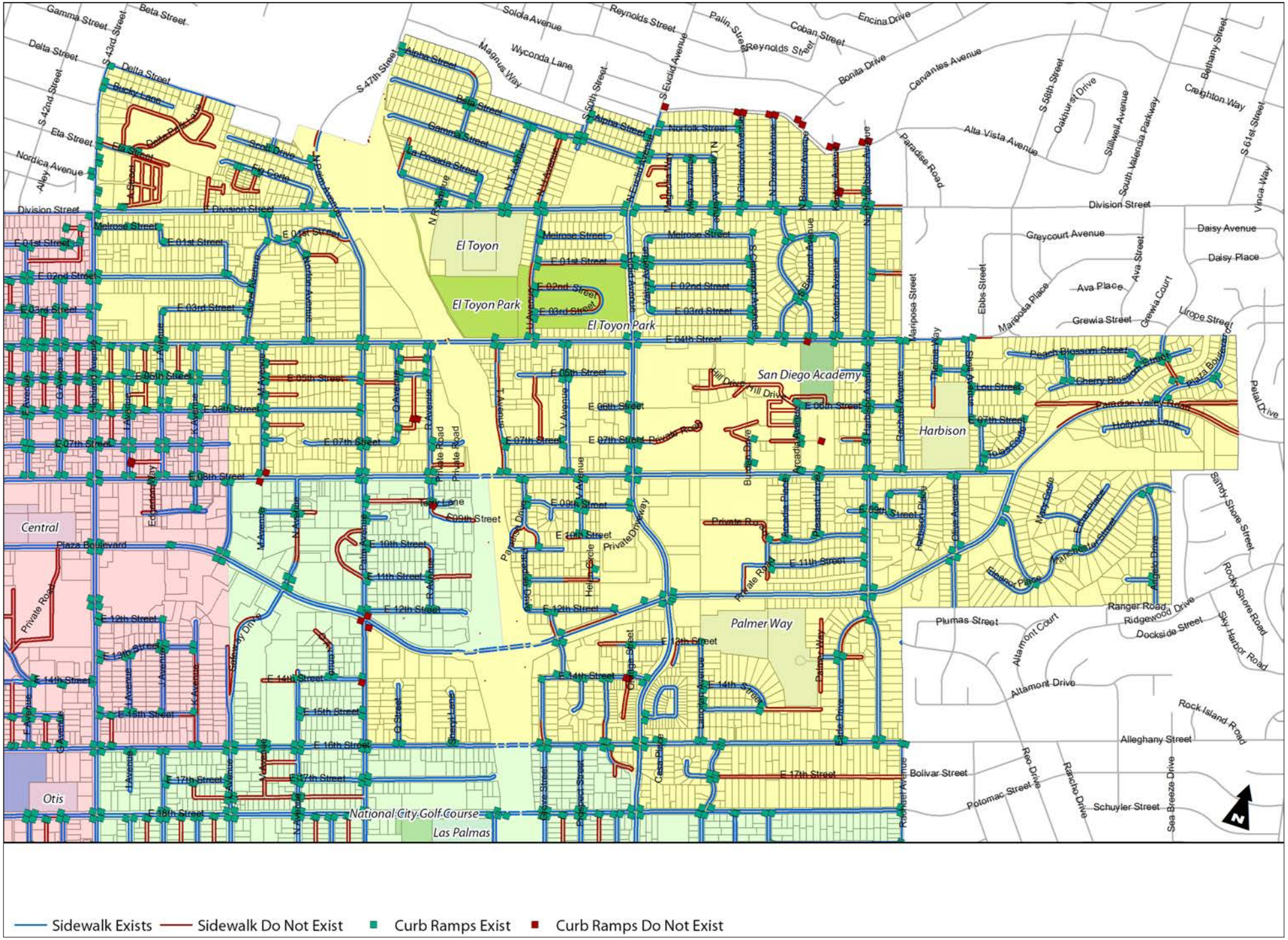
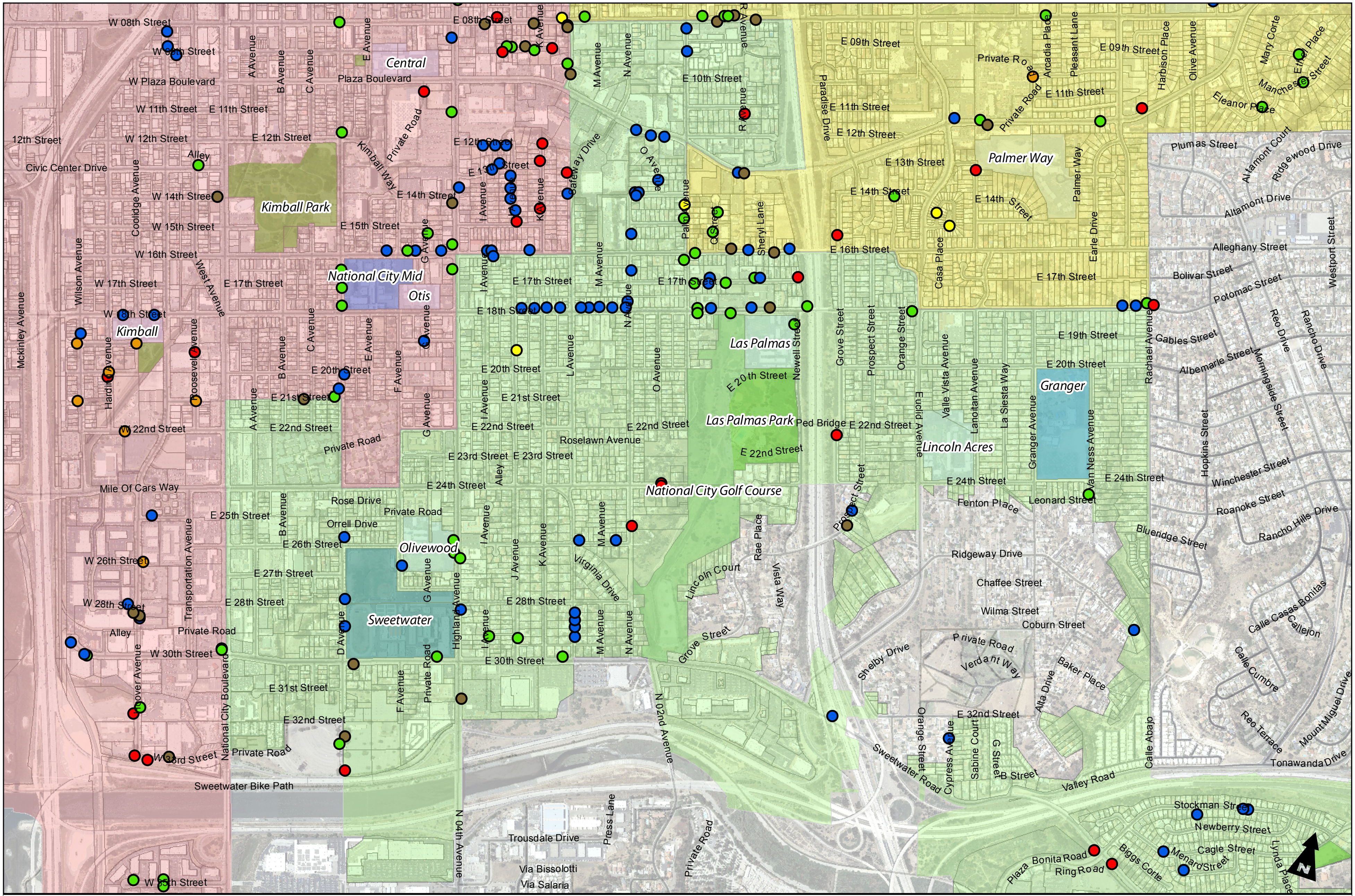


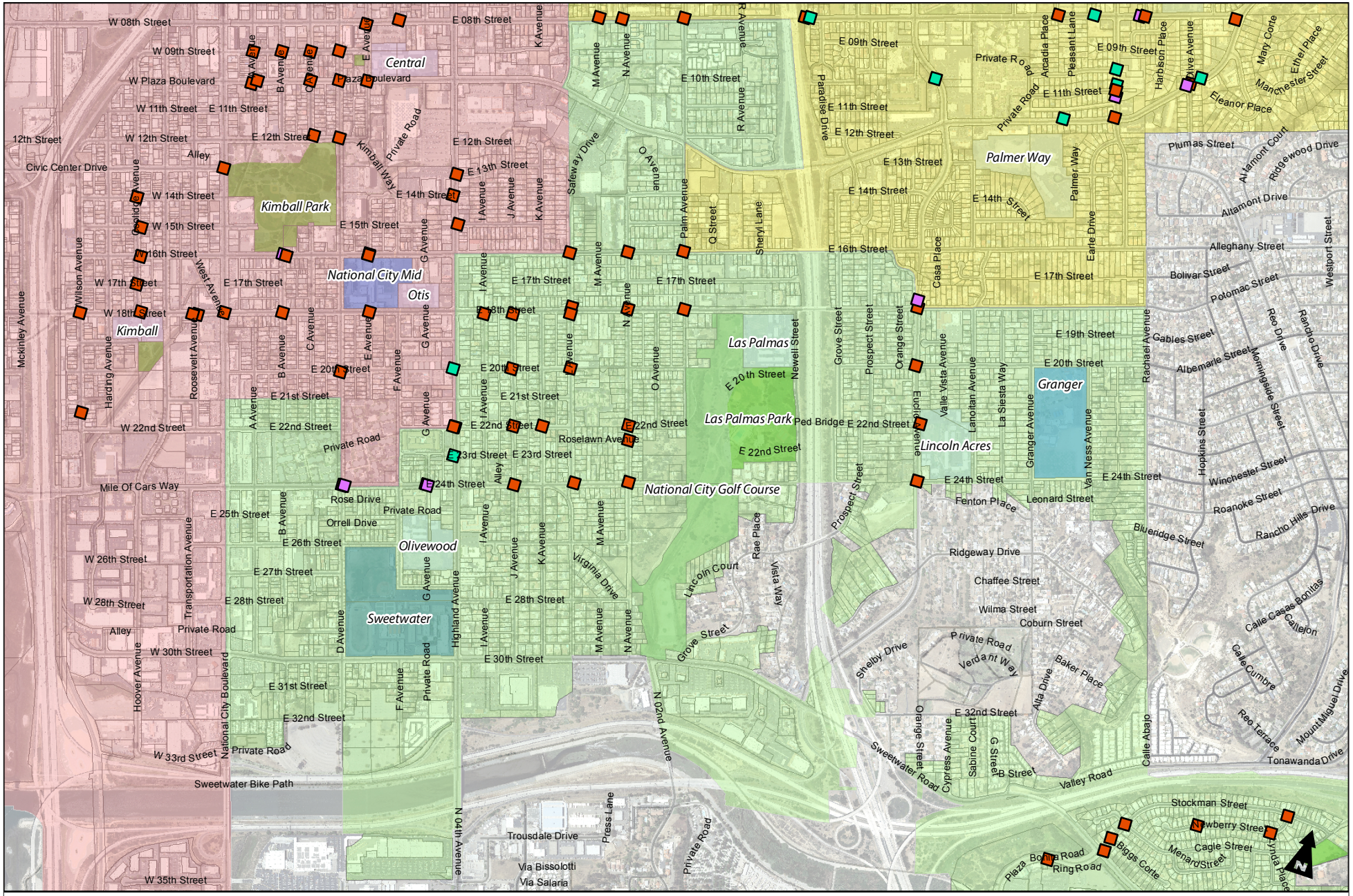
Figure 53: Las Palmas Community - Walkways



Walkways

- Missing walkways
- Narrow sidewalks
- Private road or walkway
- Walkways obstructed by utilities or poles
- Sidewalk broken or lifted
- Walkways interrupted by steep sloping driveways

Figure 54: Las Palmas Community - Street Crossings



Street Crossings

- Long blocks
- No marked crosswalk
- Wide roadways

Figure 55: Las Palmas Community - Safety

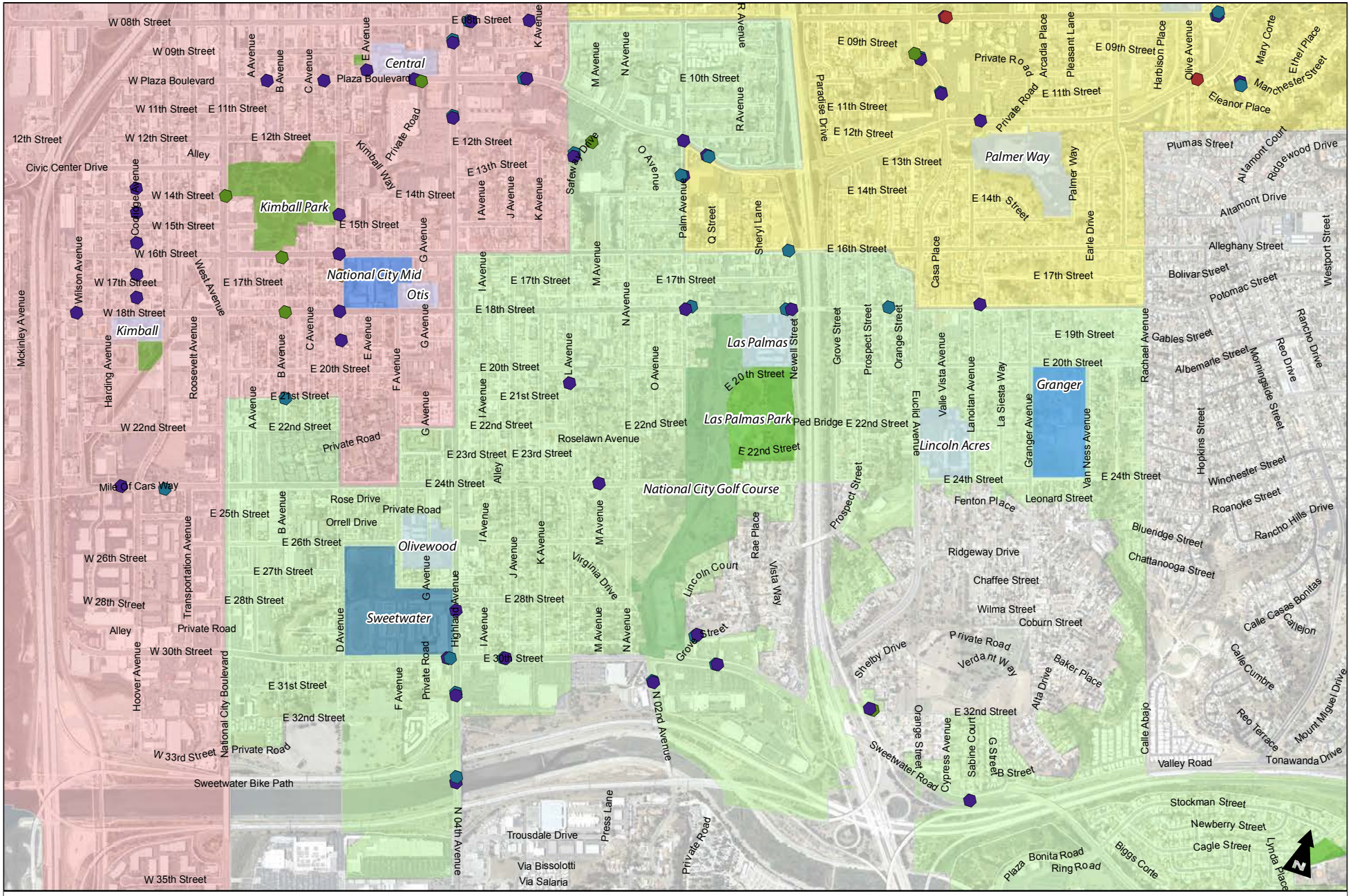
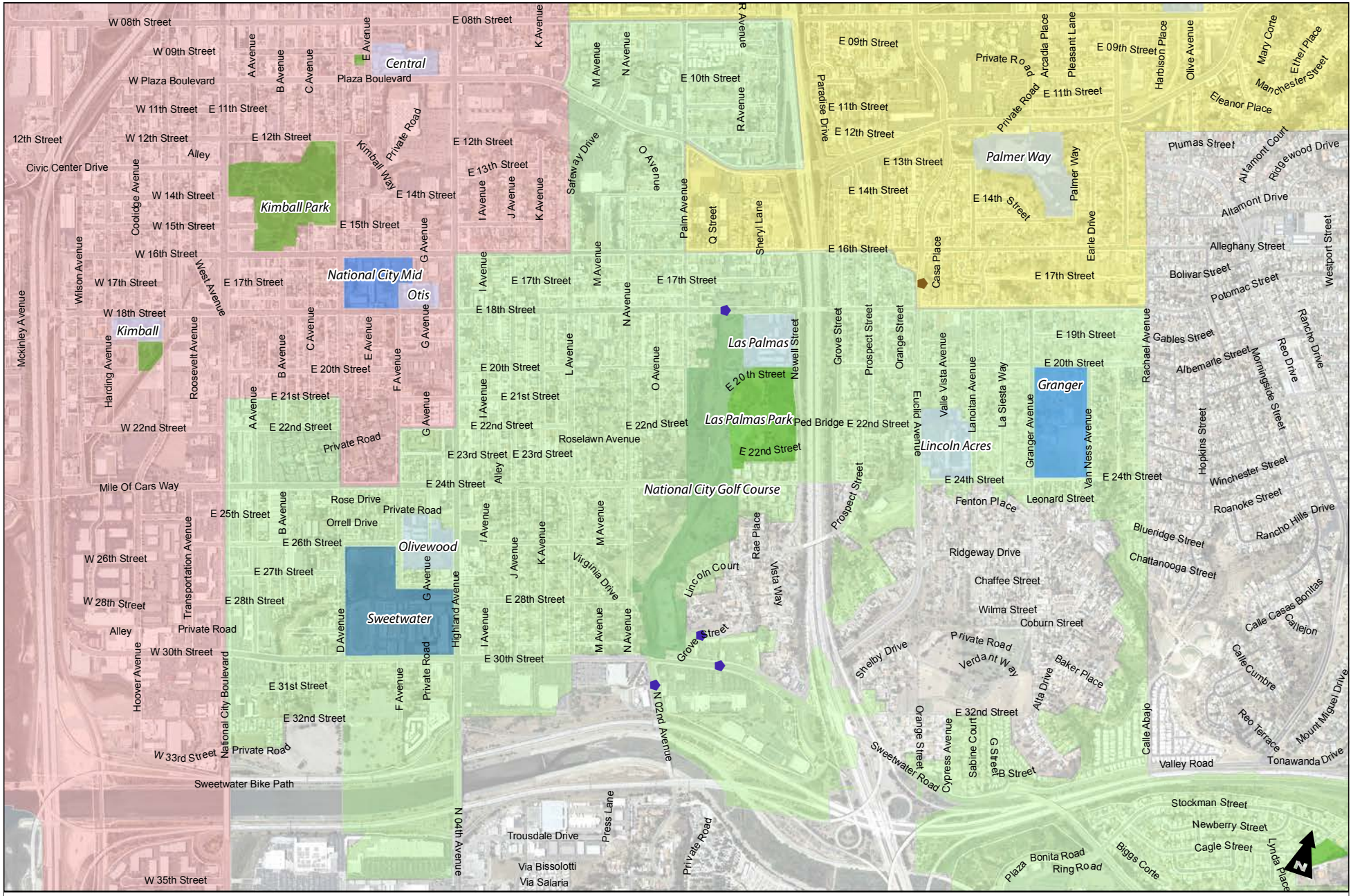


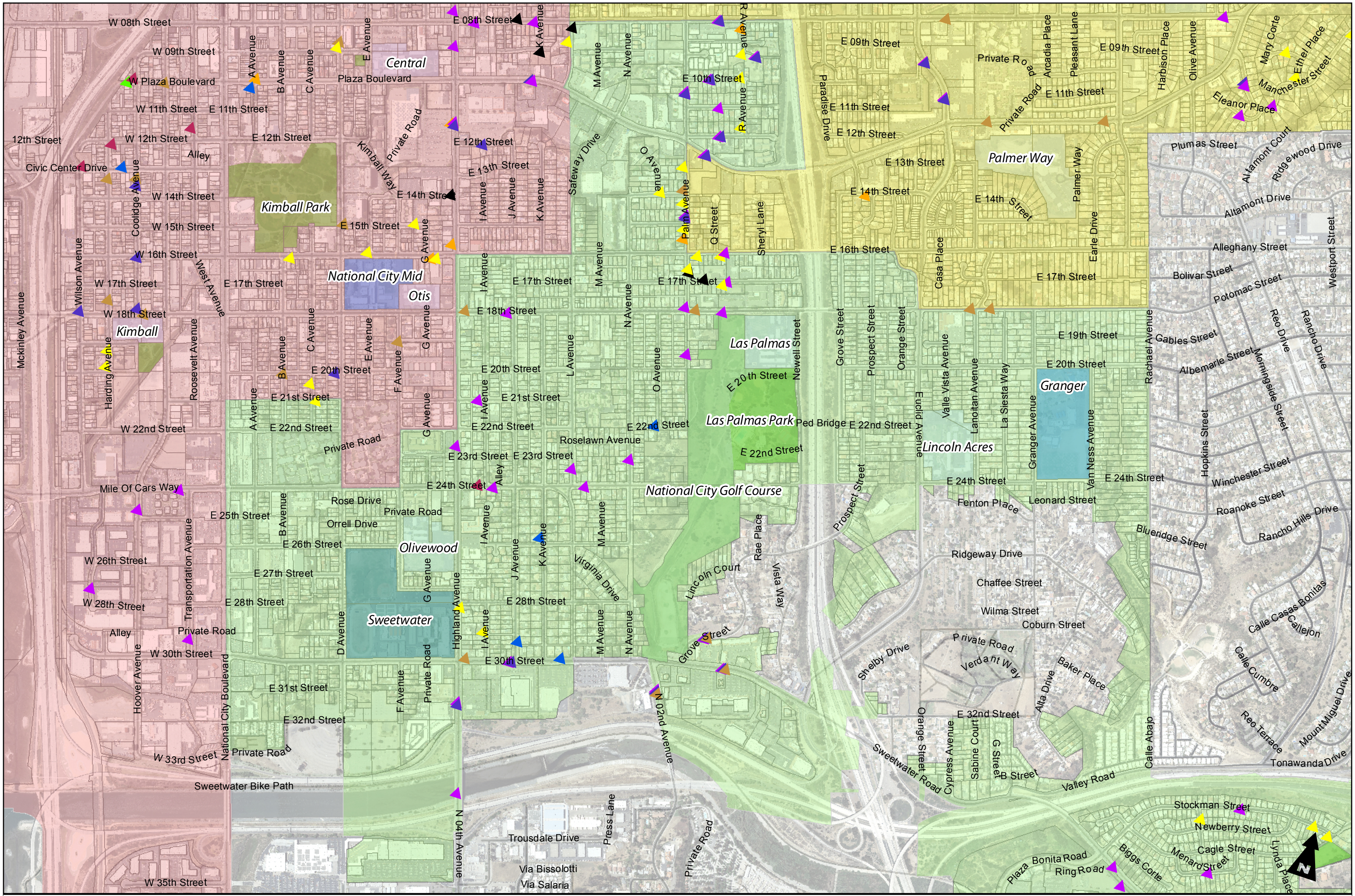
Figure 56: Las Palmas Community - Bicycling



Bicycling

- No bike facilities
- People riding on the sidewalk

Figure 57: Las Palmas Community - Comfort and Appeal



Comfort and Appeal

- Graffiti
- Homeless encampment
- Lacking amenities such as signage and trash bins
- Landscape maintenance needed
- Limited lighting at night
- Loud and scary pets
- No shade due to lack of street trees
- Overgrown landscaping blocking the walkway
- Unsightly objects such as trash

Figure 58: Las Palmas Community - Sidewalks and Curb Ramps

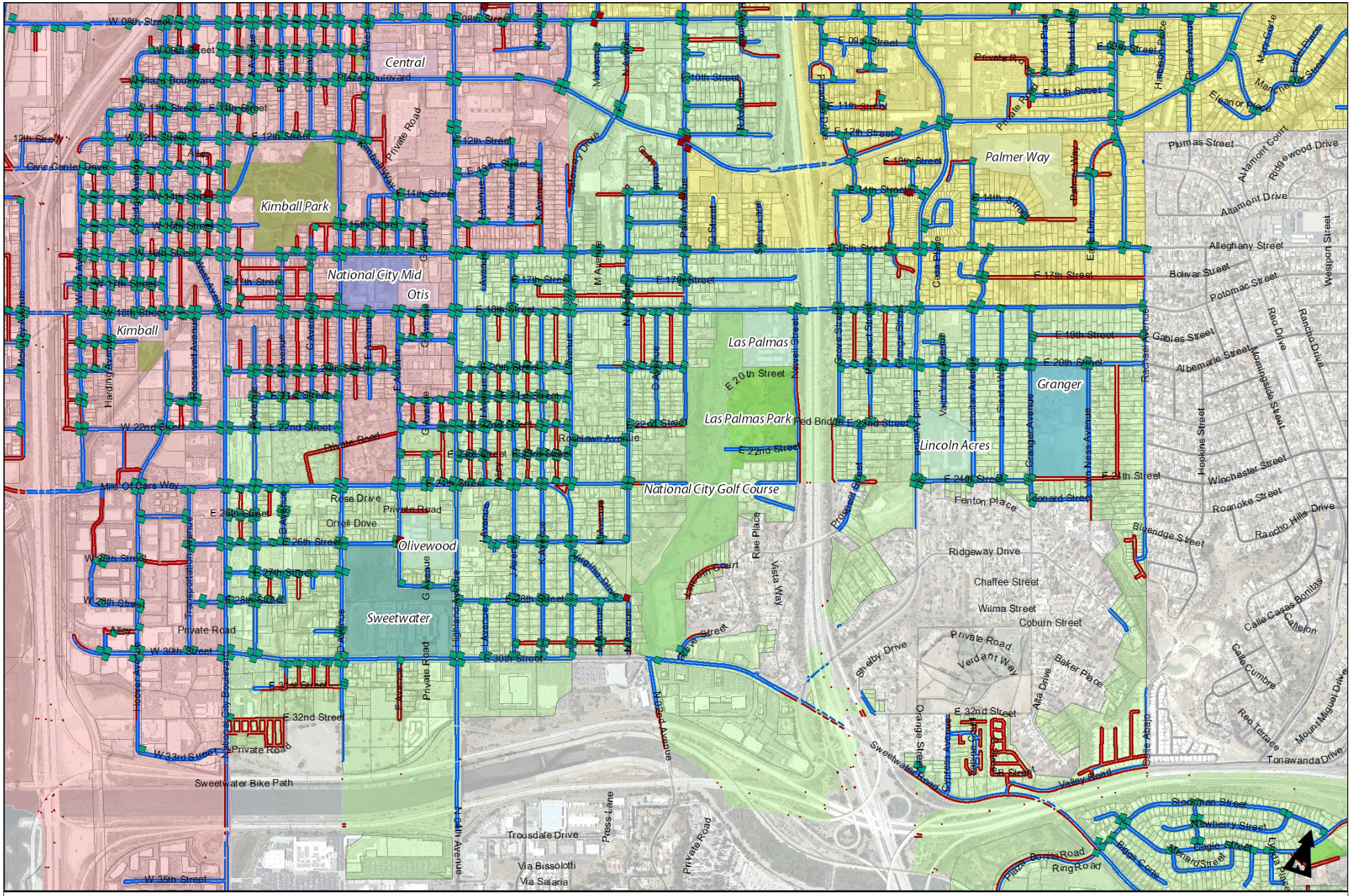
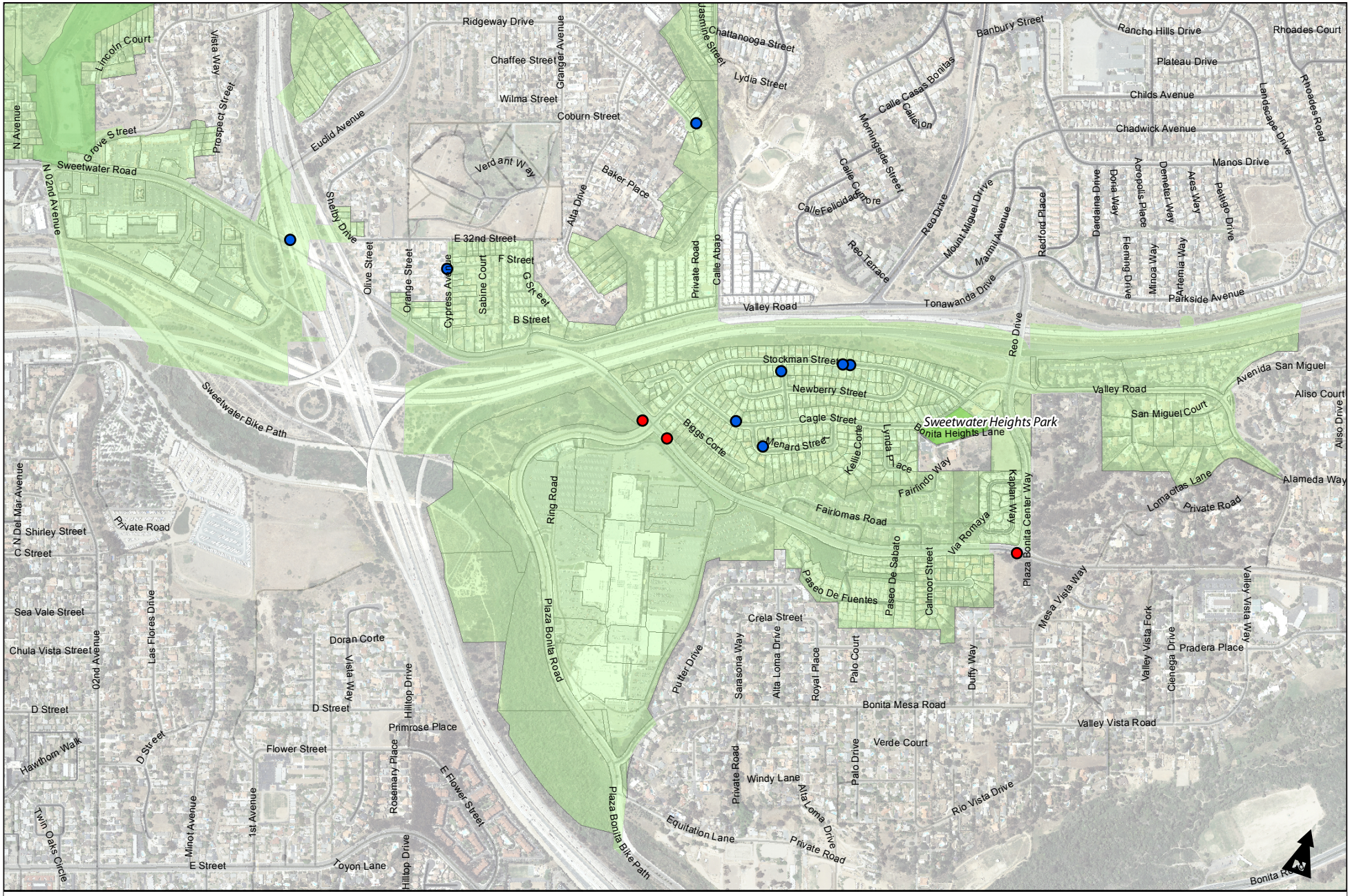
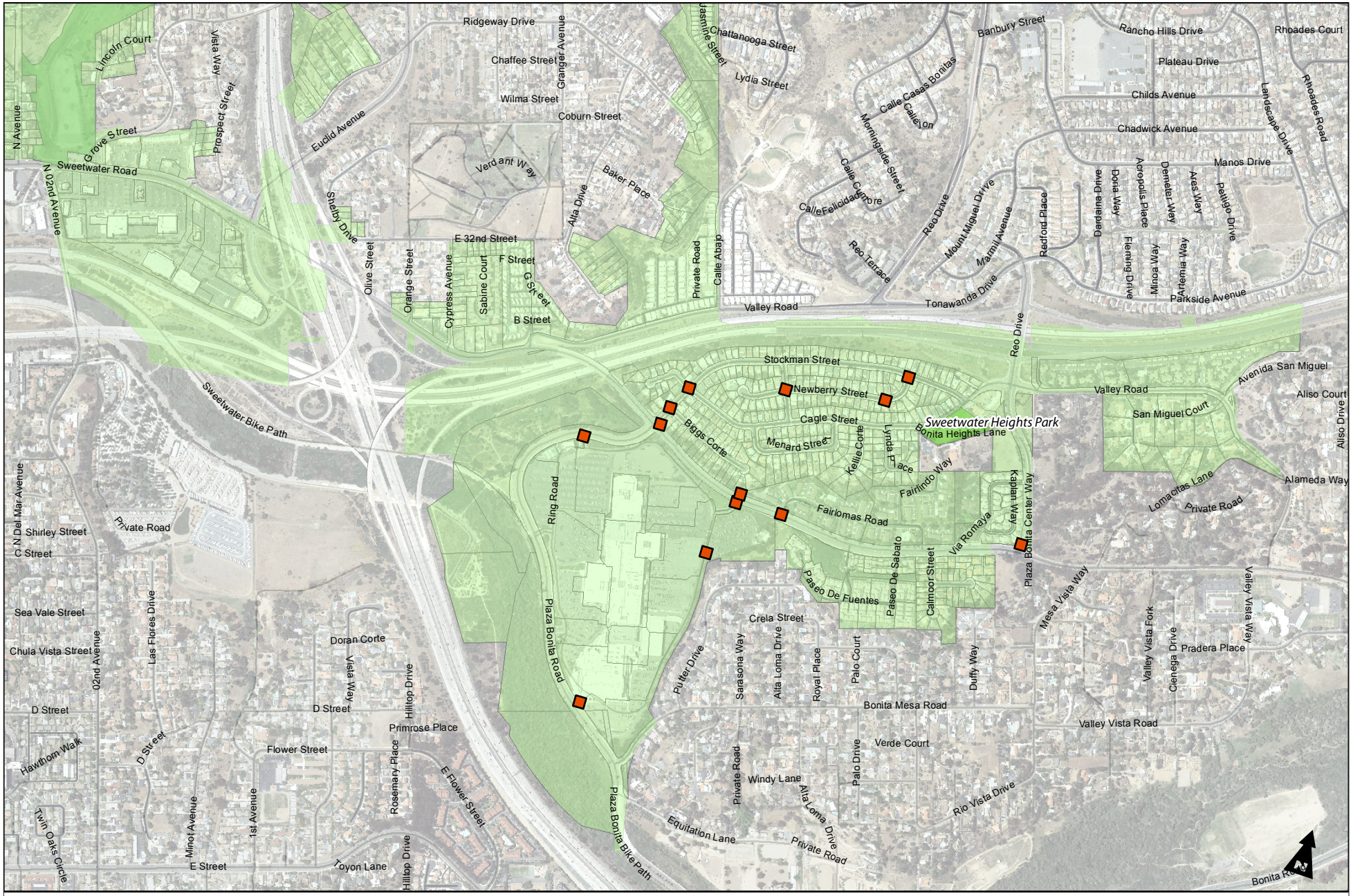


Figure 59: Las Palmas Community (Lincoln Acres) - Walkways



Walkways ● Missing walkways ● Sidewalk broken or lifted

Figure 60: Las Palmas Community (Lincoln Acres) - Street Crossings



Street Crossings

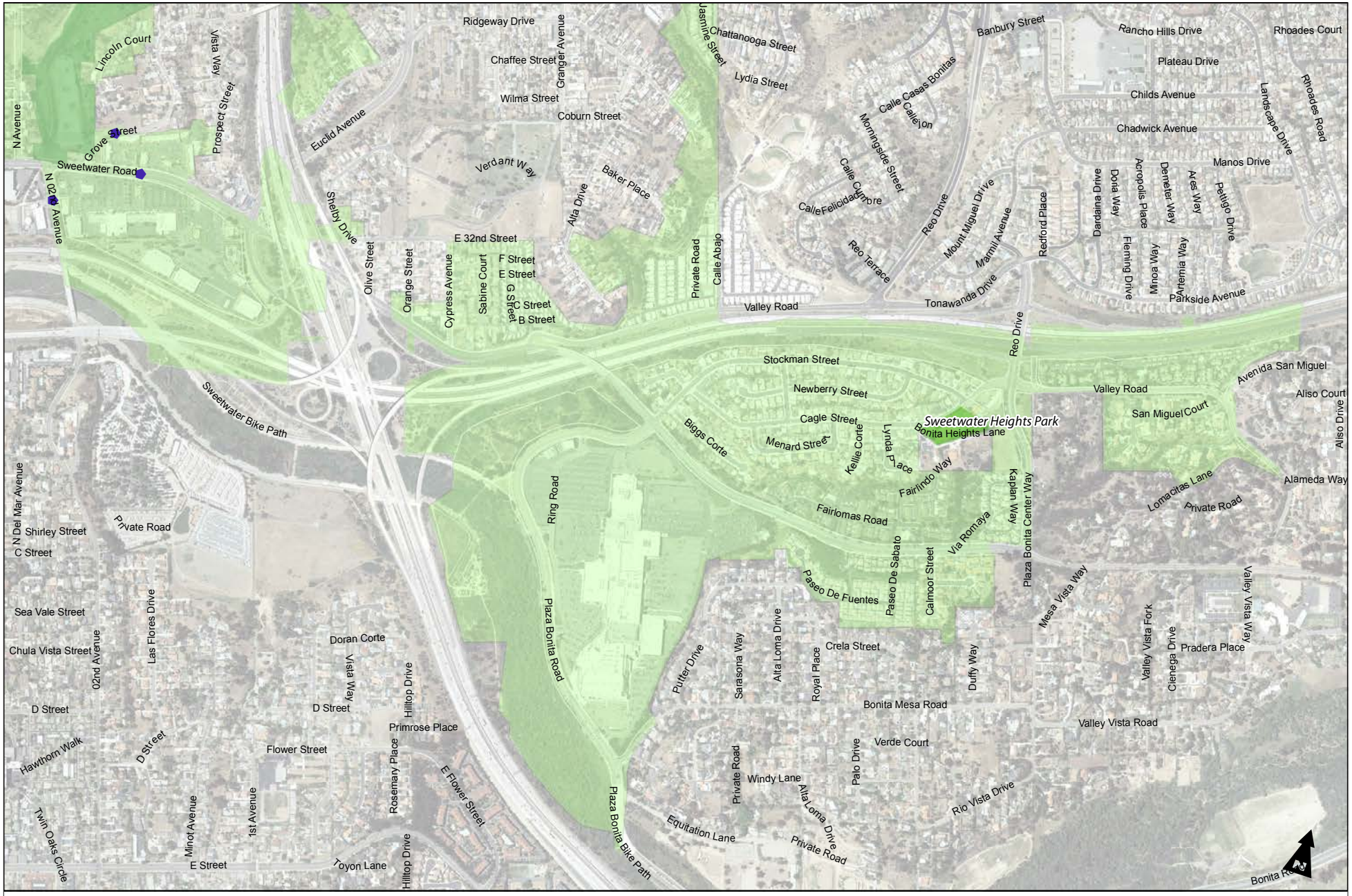
- No marked crosswalk

Figure 61: Las Palmas Community (Lincoln Acres) - Safety

Safety

- Blind spots at roadway intersections
- High vehicular speeds
- No separation between sidewalk and traffic

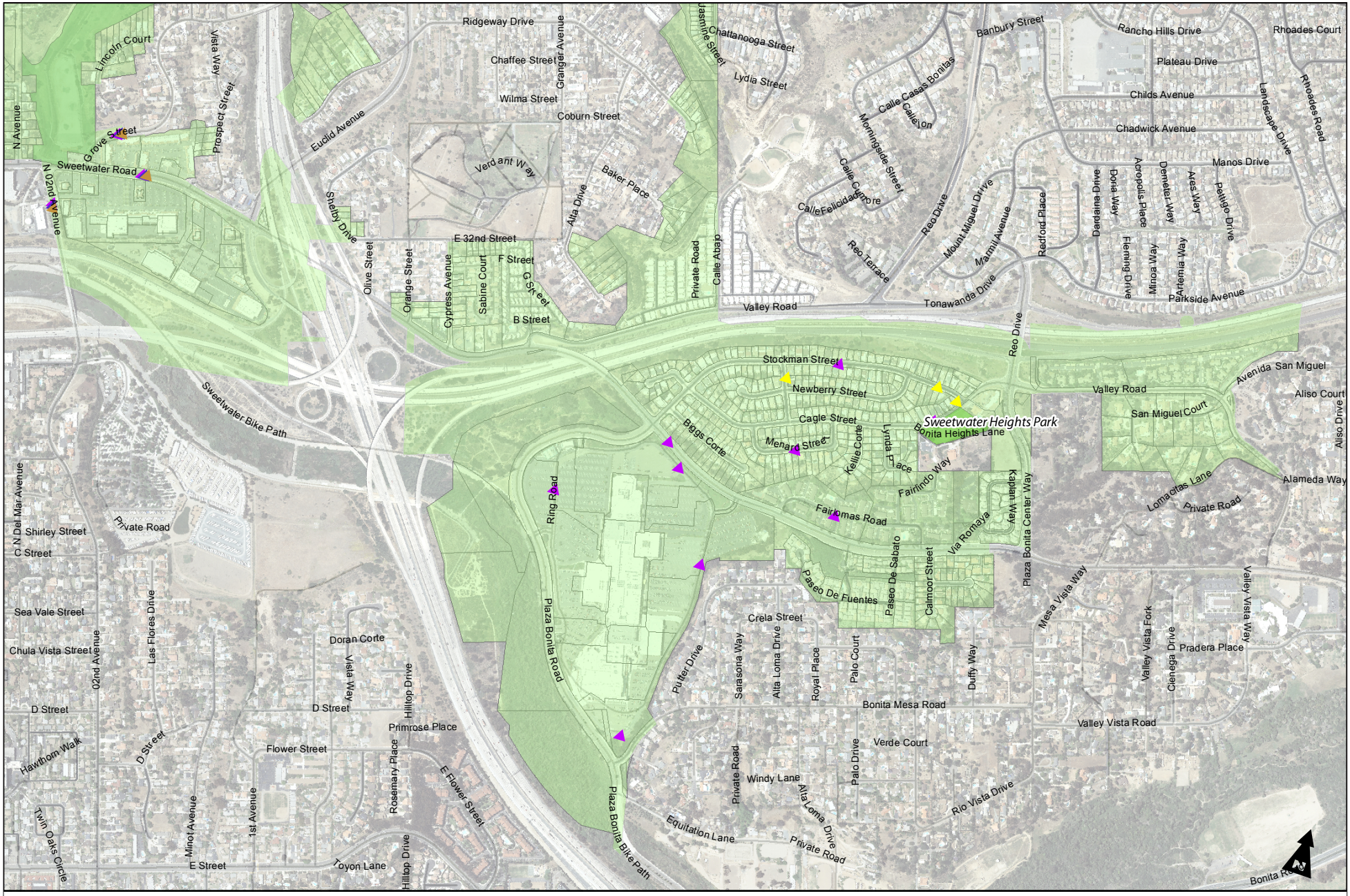
Figure 62: Las Palmas Community (Lincoln Acres) - Bicycling



Bicycling

- No bike facilities

Figure 63: Las Palmas Community (Lincoln Acres) - Comfort and Appeal



Comfort and Appeal

- Lacking amenities such as signage and trash bins
- Limited lighting at night
- No shade due to lack of street trees
- Overgrown landscaping blocking the walkway

Figure 64: Las Palmas Community (Lincoln Acres) - Sidewalks and Curb Ramps